RICOH UNIVERSITY
Learning ◆ Knowledge ◆ Performance

# D074/D075/M044
# SERVICE MANUAL

LANIER RICOH savin

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***Ricoh Americas Corporation***

# LEGEND

| PRODUCT CODE | COMPANY | | |
|---|---|---|---|
| | LANIER | RICOH | SAVIN |
| D074 | Pro C651EX | Pro C651EX | Pro C651EX |
| D075 | Pro C751EX | Pro C751EX | Pro C751EX |
| M044 | Pro C751 | Pro C751 | Pro C751 |

# DOCUMENTATION HISTORY

| REV. NO. | DATE | COMMENTS |
|---|---|---|
| * | 09/2011 | Final Original Printing |
| | | |
| | | |
| | | |

# D074/D075/M044

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# D074/D075/M044 SERVICE MANUAL APPENDICES

SEE D074/D075/M044 SERVICE MANUAL APPENDICES SECTION FOR DETAILED TABLE OF CONTENTS

# BOOKLET FINISHER SR5040/FINISHER SR5030 (D512/D513)

SEE SECTION D512/D513 FOR DETAILED TABLE OF CONTENTS

# LCIT RT5060 (D516)

SEE SECTION D516 FOR DETAILED TABLE OF CONTENTS

# MULTI BYPASS TRAY BY5010 (D517)

SEE SECTION D517 FOR DETAILED TABLE OF CONTENTS

# MULTI FOLDING UNIT FD5010 (D521)

SEE SECTION D521 FOR DETAILED TABLE OF CONTENTS

# DECURLER UNIT DU5010 (D544)

SEE SECTION D544 FOR DETAILED TABLE OF CONTENTS

# FIERY COLOR CONTROLLER E-41A (D525)

SEE SECTION D525 FOR DETAILED TABLE OF CONTENTS

# READ THIS FIRST

## Safety, Symbols, Trademarks

### Conventions

These manuals cover three machines: M074, M075, and M044.

- The M074 and M075 are the copier versions. They both have the ARDF and scanner unit.
- The M044 is the printer version. It has neither ARDF nor scanner unit.

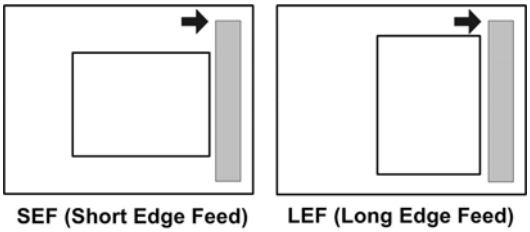
The following notations are used in text to indicate were a component, SC code, SP code, etc. apply to a specific machine.

| Notation in Text | Meaning |
|---|---|
| D074 | Applies to D074 only |
| D075 | Applies to D075 only |
| D074/D075 | Applies to D074/D074 but not M044 |
| M044 | Applies to M044 only |

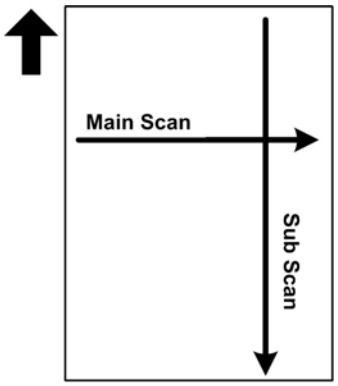
**Symbols Used in Text**

| Symbol | What it means |
|---|---|
| | Binding screw (shoulder hexagonal head) |
| | Binding screw (round flathead) |
| | Black screw (heavy, fusing unit, TCRU) |
| | Bushing |
| | C-ring |
| | Connector |
| | E-ring |
| | FFC (Flat Film Connector) |

| Symbol | What it means |
|---|---|
| | FFC (Flat Film Connector) |
| | Gear |
| | Harness clamp |
| | Harness clamp (metal: fusing unit) |
| | Hook (or tab release) |
| | Knob screw (black) |
| | Knob screw (sliver) |
| | Pivot screw |
| | Screw (common screw) |
| | Shoulder screw |
| | Spring |
| | Standoff |
| | Stud screw |
| | Tapping screw (for plastic) |
| | Timing belt |




The notations "SEF" and "LEF" describe the direction of paper feed. The arrows indicate the direction of paper feed.



d074c002

In this manual "Main Scan" means "Horizontal" and "Sub Scan" means "Vertical", both relative to the direction of paper feed.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the machine or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine

Note

- This information provides tips and advice about how to best service the machine.

## Commonly Used Terms and Abbreviations

Here is a list of commonly used terms and abbreviations that are used throughout the Field Service Manual and Appendices.

| Terms | Meaning |
|---|---|
| (ccw) | Counter-clockwise rotation of a drum, roller, gear, etc. |
| (cw) | Clockwise rotation of a drum, roller, gear, etc. |
| BW | Black and white (monochrome) copying or printing |
| Bank | Paper Bank (1st, 2nd Tray of the main machine) |
| CIT | Cover Interposer Tray (D518) (option) |
| FC | Full Color copying or printing |
| FIN | Finisher (D512/D513) (option) |
| HCS | High Capacity Stacker (D515) (option) |
| ITB | Image Transfer Belt |
| JG | Junction Gate |
| LCIT | Large Capacity Input Tray |
| LD | Laser Diode (Laser Unit) |
| LDB | Laser Diode Board (Laser Unit) |
| LE | Leading Edge |
| LSDB | Laser Synchronization Detection Board (Laser Unit) |
| MFU | Multi Folding Unit (D521) (option) |
| MUSIC | Mirror Unit Skew Interval Correction |
| PCDU | Photoconductor Development Unit |
| PFU | Paper Feed Unit (for Tray 1 and Tray 2: Pickup and feed rollers, sensors, solenoids) |
| PTB | Paper Transport Belt |

| Terms | Meaning |
|---|---|
| PTR | Paper Transfer Roller |
| PTU | Paper Transfer Unit |
| RB | Ring Binder (D519) (option) |
| TCRU | Trained Customer Replacement Units |
| TE | Trailing Edge |
| TM | Toner Mark sensors, the three sensors of the ITB sensor array. They detect MUSIC patterns on the ITB. In this manual, these are the ID/MUSIC sensors, but you may see "TM" in the SP mode. |
| TM/P | "Toner Mark/Photo"-sensor. The “P” refers to the center sensor of the ITB sensor array. In this manual, "ID/MUSIC sensors" is used. However, you may see "TM/P" in the SP mode. |
| TRM | Trimmer Unit (D520) (option) |
| VTU | Vertical Transport Unit (paper feed between paper banks and right drawer) |
| YCMK | Yellow, Cyan, Magenta, blacK |

# General Safety Instructions

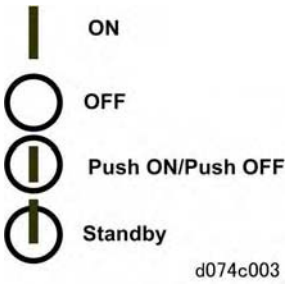
For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.




**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.

# Responsibilities of the Customer Engineer

## Customer Engineer

Maintenance shall be done only by trained customer engineers who have completed service training for the machine and all optional devices designed for use with the machine.

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use with the machine.

# Before Installation, Maintenance

## Shipping and Moving the Machine

**⚠CAUTION**

- Work carefully when lifting or moving the machine. If the machine is heavy, two or more customer engineers may be required to prevent injuries (muscle strains, spinal injuries, etc.) or damage to the machine if it is dropped or tipped over.
- Personnel moving or working around the machine should always wear proper clothing and footwear. Never wear loose fitting clothing or accessories (neckties, loose sweaters, bracelets, etc. ) or casual footwear (slippers, sandals, etc.) when lifting or moving the machine.
- Always unplug the power cord from the power source before you move the machine. Before you move the product, arrange the power cord so it will not fall under the machine.

## Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

### Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Safety Devices

**⚠WARNING**

- Never remove any safety device unless it requires replacement. Always replace safety devices immediately.
- Never do any procedure that defeats the function of any safety device. Modification or removal of a safety device (fuse, switch, etc.) could lead to a fire and personal injury. Always test the operation of the machine to ensure that it is operating normally and safely after removal and replacement of any safety device.
- For replacements use only the correct fuses or circuit breakers rated for use with the machine. Using replacement devices not designed for use with the machine could lead to a fire and personal injuries.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to prevent contamination of food, drinks, etc. which could cause illness.
- Clean the floor completely after accidental spillage to prevent slippery surfaces that could cause accidents leading to hand or leg injuries. Use dry rags to soak up spills.

### Lithium Batteries

**⚠WARNING**

- Always replace a lithium battery on a PCB with the same type of battery prescribed for use on that board. Replacing a lithium battery with any type other than the one prescribed for use on the board could lead to an explosion or damage to the PCB.
- Never discard used batteries by mixing them with other trash. Remove them from the work site and dispose of them in accordance with local laws and regulations regarding the disposal of such items.

### Ozone Filters

**⚠CAUTION**

- Always replace ozone filters as soon as their service life expires (as described in the service manual).
- An excessive amount of ozone can build up around machines that use ozone filters if they are not replaced at the prescribed time. Excessive ozone could cause personnel working around the machine to feel unwell.
- To avoid possible accumulation of ozone in the work area, locate the machine in a large well ventilated room that has an air turnover rate of more than 50 $m^3$/hr/person.

## Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

**⚠WARNING**

- Never incinerate used toner or toner cartridges.
- Toner or toner cartridges thrown into a fire can ignite or explode and cause serious injury. At the work site always carefully wrap used toner and toner cartridges with plastic bags to avoid spillage before disposal or removal.

**⚠CAUTION**

- Always dispose of used items (developer, toner, toner cartridges, OPC drums, etc.) in accordance with the local laws and regulations regarding the disposal of such items.
- To protect the environment, never dispose of this product or any kind of waste from consumables at a household waste collection point. Dispose of these items at one of our dealers or at an authorized collection site.
- Return used drums to the service center for handling in accordance with company policy regarding the recycling or disposal of such items.

**⚠CAUTION**

- The development unit cooling system circulates propylene glycol from a sealed tank through hoses that pass behind cooling plates on the sides of each development unit.
- The coolant tank is located at the bottom of the cooling box on the back of the main machine.
- Always obey local laws and regulations if you need to dispose of a tank or the propylene glycol coolant.
- The tank must never be emptied directly into a local drainage system, river, pond, or lake.
- Contact a professional industrial waste disposal organization and ask them to dispose of the tank.

### Points to Confirm with Operators

At the end of installation or a service call, instruct the user about use of the machine. Emphasize the following points.

- Show operators how to remove jammed paper and troubleshoot other minor problems by following the procedures described in the operating instructions.
- Point out the parts inside the machine that they should never touch or attempt to remove.
- Confirm that operators know how to store and dispose of consumables.
- Make sure that all operators have access to an operating instruction manual for the machine.
- Confirm that operators have read and understand all the safety instructions described in the operating instructions.
- Demonstrate how to turn off the power and disconnect the power plug (by pulling the plug, not the cord) if any of the following events occur: 1) something has spilled into the product, 2) service or repair of the product is necessary, 3) the product cover has been damaged.
- Caution operators about removing paper fasteners around the machine. They should never allow paper clips, staples, or any other small metallic objects to fall into the machine.

## Special Safety Instructions for Toner

### Accidental Physical Exposure

**⚠CAUTION**

- Work carefully when removing paper jams or replacing toner bottles or cartridges to avoid spilling toner on clothing or the hands.
- If toner is inhaled, immediately gargle with large amounts of cold water and move to a well ventilated location. If there are signs of irritation or other problems, seek medical attention.
- If toner gets on the skin, wash immediately with soap and cold running water.
- If toner gets into the eyes, flush the eyes with cold running water or eye wash. If there are signs of irritation or other problems, seek medical attention.
- If toner is swallowed, drink a large amount of cold water to dilute the ingested toner. If there are signs of any problem, seek medical attention.
- If toner spills on clothing, wash the affected area immediately with soap and cold water. Never use hot water! Hot water can cause toner to set and permanently stain fabric.

## Handling and Storing Toner

**⚠WARNING**

- Toner, used toner, and developer are extremely flammable.
- Never store toner, developer, toner cartridges, or toner bottles (including empty toner bottles or cartridges) in a location where they will be exposed to high temperature or an open flame.

**⚠CAUTION**

- Always store toner and developer supplies such as toner and developer packages, cartridges, and bottles (including used toner and empty bottles and cartridges) out of the reach of children.
- Always store fresh toner supplies or empty bottles or cartridges in a cool, dry location that is not exposed to direct sunlight.

## Toner Disposal

**⚠WARNING**

- Never attempt to incinerate toner, used toner, or empty toner containers (bottles or cartridges). Burning toner can explode and scatter, causing serious burns.
- Always wrap used toner and empty toner bottles and cartridges in plastic bags to avoid spillage. Follow the local laws and regulations regarding the disposal of such items.
- Dispose of used toner and toner cartridges at one of our dealers or at an authorized collection site. Always dispose of used toner cartridges and toner bottles in accordance with the local laws and regulations regarding the disposal of such items.

# Safety Instructions for the Machine

## Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine and peripheral power cords are unplugged.
2. The plug should be near the machine and easily accessible.
3. Note that some components of the machine and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
5. If the [Start] key is pressed before the machine completes the warm-up period (the [Start] key starts blinking red and green), keep hands away from the mechanical and the electrical components, because the machine starts making copies as soon as the warm-up period is completed.
6. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.

**⚠WARNING**

- To avoid the danger of fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.

## Health Safety Conditions

1. Never operate the machine without the ozone filters installed.
2. Always replace the ozone filters with the specified types at the proper intervals.
3. To avoid possible accumulation of ozone in the work area, locate the machine in a large well ventilated room that has an air turnover rate of more than 30$m^3$/hr/person.
4. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

## Observance of Electrical Safety Standards

1. The machine and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.
2. The NVRAM on the system control board has a lithium battery which can explode if replaced incorrectly. Replace the NVRAM only with an identical one. The manufacturer recommends replacing the entire NVRAM. Do not recharge or burn this battery. Used NVRAM must be handled in accordance with local regulations.

## Safety and Ecological Notes for Disposal

1. Never incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
2. Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.
4. When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

**⚠CAUTION**

- The danger of explosion exists if a battery of this type is incorrectly replaced.
- Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

## Laser Safety

d074c004

1. The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field.
2. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment.
3. The laser subsystem is replaceable in the field by a qualified Customer Engineer.
4. The laser chassis is not repairable in the field.
5. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

**⚠WARNING**

- Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.
- Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes.

## Safety Instructions for the Fiery Controller

### Fuse

**⚠CAUTION**

- The Fiery controller uses a double pole fuse. If this fuse blows, be sure to replace it with an identical fuse.

## Batteries

- Always replace a battery with the same type of battery prescribed for use with the Fiery controller unit. Replacing a battery with any type other than the one prescribed for use could cause an explosion.
- Never discard used batteries by mixing them with other batteries or other refuse.
- Always remove used batteries from the work site and dispose of them in accordance with local laws and regulations regarding the disposal of such items.

## Trademarks

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- PowerPC® is a registered trademark of International Business Machines Corporation.
- Fiery is a registered trademark of Electronics for Imaging (EFI), Inc.
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# NEW FEATURES

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# 1. NEW FEATURES

## 1.1 MAIN MACHINES

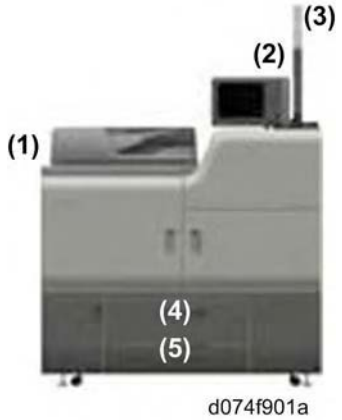
### 1.1.1 MODEL NUMBERS AND NAMES

The "Production No." numbers in the 1st column of the table below are used exclusively in the manuals to refer to different machines. The names in the 2nd columns are not used in the service manuals.

| Production No. | Model Name | PPM |
|---|---|---|
| **D074** | Pro C651EX | 65 ppm |
| **D075** | Pro C751EX | 75 ppm |
| **M044** | Pro C751 | 75 ppm |

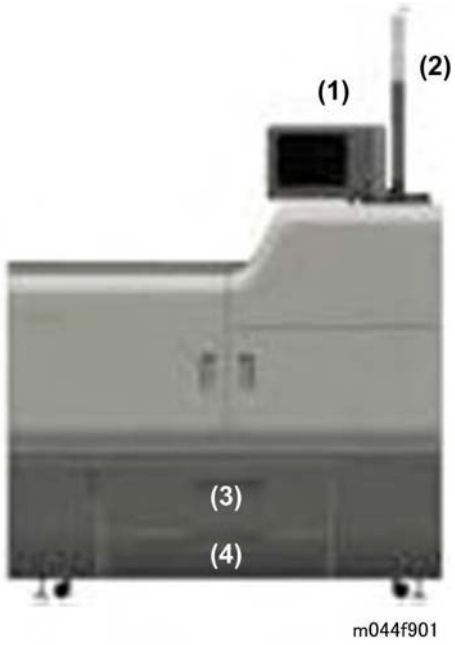
## 1.1.2 BASE MACHINE

### *D074/D075*




| No. | Copier D074 (65 ppm)/D075 (75 ppm) |
|---|---|
| **(1)** | ARDF |
| **(2)** | Touch-panel operation with LCD (SVGA) |
| **(3)** | Attention light (standard), no installation required. |
| **(4)** | 1st Tray, tandem tray, fixed size A4 (or LT)<br>1000 + 1000 sheets (80 g/$m^2$) |
| **(5)** | 2nd Tray, universal cassette, 500 sheets (80 g/$m^2$) |

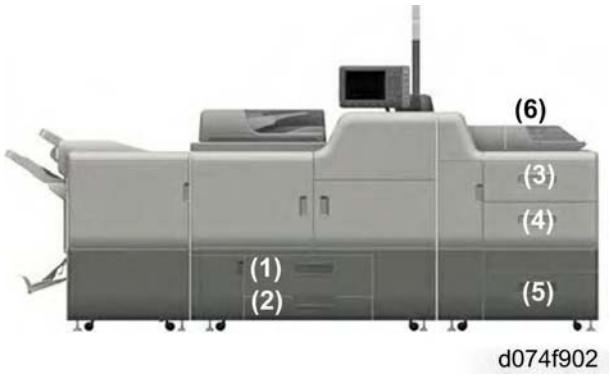
***M044***




| | |
|---|---|
| **(1)** | Touch-panel operation with LCD (SVGA) |
| **(2)** | Attention light (standard), no installation required. |
| **(3)** | 1st Tray, tandem tray, fixed size A4 (or LT)<br>1000 + 1000 sheets (80 g/$m^2$) |
| **(4)** | 2nd Tray, universal cassette, 500 sheets (80 g/$m^2$) |

## 1.1.3 BASE CONFIGURATION

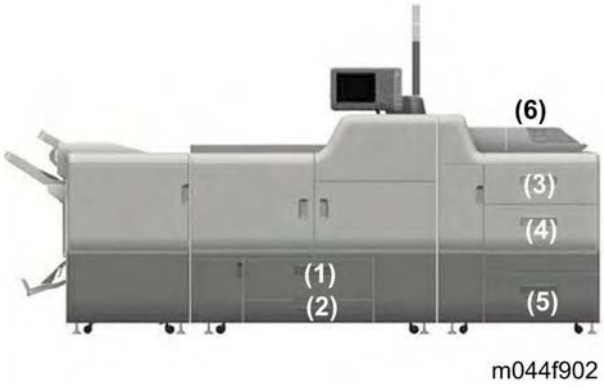
### *D074/D075*




| No. | Paper Source | Paper Capacity | Total |
|---|---|---|---|
| **(1)** | Main 1st Tray | 1000 + 1000 | 2000 |
| **(2)** | Main 2nd Tray | 500 | 500 |
| **(3)** | LCIT 1st Tray | 1000 | 1000 |
| **(4)** | LCIT 2nd Tray | 2000 | 2000 |
| **(5)** | LCIT 3rd Tray | 1000 | 1000 |
| **(6)** | Bypass Tray | 500 | 500 |
| | | **Total (80g/m$^2$)** | **7000** |

- Only one LCIT is available
- Two finisher models are available: The D512 which performs corner stapling and booklet stapling, and the D513 which performs corner stapling only.
- The finisher (7) in the illustration above is the Booklet Finisher D512.

***M044***

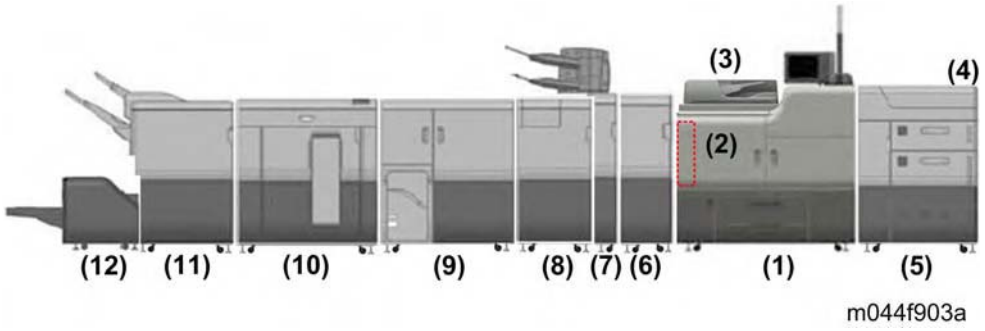



| No. | Paper Source | Paper Capacity | Total |
|---|---|---|---|
| **(1)** | Main 1st Tray | 1000 + 1000 | 2000 |
| **(2)** | Main 2nd Tray | 500 | 500 |
| **(3)** | LCIT 1st Tray | 1000 | 1000 |
| **(4)** | LCIT 2nd Tray | 2000 | 2000 |
| **(5)** | LCIT 3rd Tray | 1000 | 1000 |
| **(6)** | Bypass Tray | 500 | 500 |
| | | **Total (80g/m$^2$)** | **7000** |

- Only one LCIT is available.
- Two finisher models are available: The D512 which performs corner stapling and booklet stapling, and the D513 which performs corner stapling only.
- The finisher (7) in the illustration above is the Booklet Finisher D512 .

## 1.1.4 FULL SYSTEM

### *D074/D075*




| No. | Unit | Comment |
|---|---|---|
| (1) | Main machine D074/D075 | Copier |
| (2) | Decurler Unit (D544) | Inside the left side of the main machine. |
| (3) | ARDF | Feeds originals for copying |
| (4) | Multi Bypass Tray (D517) | Requires LCIT |
| (5) | A3/DLT LCIT (D516) | Only one LCIT available |
| (6) | Buffer Pass Unit (D548) | Not shown. This is a cooling unit, recommended for use with the Multi Folding Unit. |
| (7) | Cover Interposer Tray (D518) | Feeds covers from two trays |
| (8) | Multi Folding Unit (D521) | Straight through, or 6 types of folds |
| (9) | Ring Binder (D519) | Ring binding with 50/100 sheet plastic rings |
| (10) | High Capacity Stacker (D515) | Stacking capacity: 2500 to 5000 sheets |
| (11) | Finisher (D512) | Corner/booklet stapling |
| (12) | Trimmer Unit (D520) | Automatically trims edges of booklets |

- The illustration above does not show the Buffer Pass Unit and the Decurler Unit.
- A later section ("Main Machine and Peripherals") gives more information about system peripherals and configurations.
- The two tone color scheme, dark and light gray, with rounded corners and soft lines are

distinctive features of these machines.

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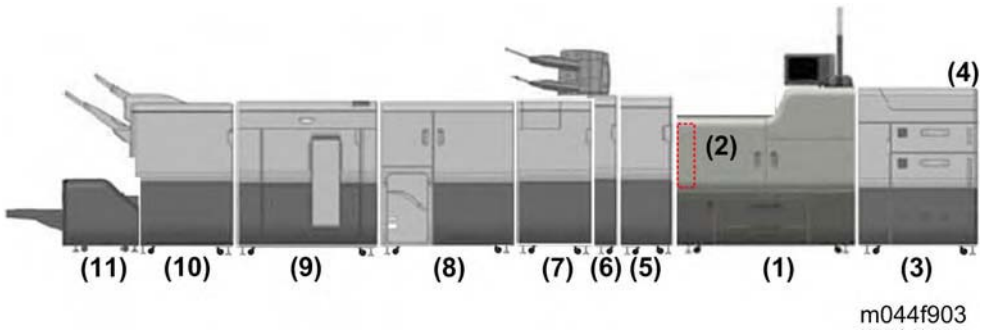
- Most screws are recessed or hidden with easily removed plastic covers to enhance the overall smooth appearance of the main machine and peripheral units.

### *M044*




| No. | Unit | Comment |
|---|---|---|
| (1) | Main machine M044 | Printer |
| (2) | Decurler Unit (D544) | Inside the left side of the main machine. |
| (3) | A3/DLT LCIT (D516) | Only one LCIT available |
| (4) | Multi Bypass Tray (D517) | Requires LCIT |
| (5) | Buffer Pass Unit (D548) | Not shown. This is a cooling unit, recommended for use with the Multi Folding Unit. |
| (6) | Cover Interposer Tray (D518) | Feeds covers from two trays |
| (7) | Multi Folding Unit (D521) | Straight through, or 6 types of folds |
| (8) | Ring Binder (D519) | Ring binding with 50/100 sheet plastic rings |
| (9) | High Capacity Stacker (D515) | Stacking capacity: 2500 to 5000 sheets |
| (10) | Finisher (D512) | Corner/booklet stapling |
| (11) | Trimmer Unit (D520) | Automatically trims edges of booklets |

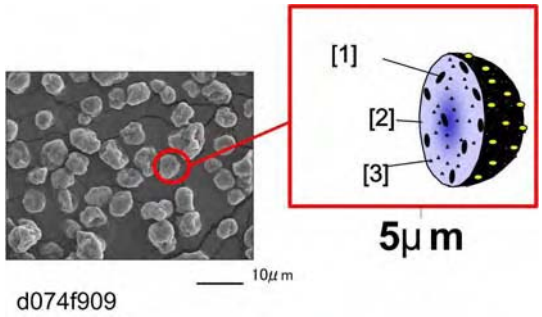
- A later section ("Main Machine and Peripherals") gives more information about system peripherals and configurations.
- The two tone color scheme, dark and light gray, with rounded corners and soft lines is a distinctive features of this machine.

d074f905

- Most screws are recessed or hidden with easily removed plastic covers to enhance the overall smooth appearance of the main machine and peripheral units.

## 1.1.5 NEW FEATURES

### *New Toner*




This machine uses new toner (SPR-Ce). This toner is an extremely fine oil-less chemical toner of uniform particle size. This enables a smoother toner surface after fusing, and good adhesion to thick paper. A grain of toner, approximately 5 µm in diameter, is comprised of [1] wax, [2] polyester resin, and [3] colorant.

- This new toner has a low melting point. Less energy is consumed by the fusing unit and image quality is improved.
- No lubrication oil is required in the fusing unit.
- The new toner also allows printing on a wider range of media, including cotton and linen texture paper.

### *Thicker Print Media*

The machine automatically adjusts the printing speed for heavy stock paper (paper thicker than 220 g/m$^2$). The printing speed can be slowed down by as much as 30% for some types of thick paper.

### *Better Paper Folding*

The optional Multi Folding Unit can be used with this machine. It can fold paper in the range 64 to 105 g/m$^2$, including coated paper. Multiple page folding with up to three sheets can be done with paper in the range 64 to 80 g/m$^2$. The Multi Folding Unit performs six types of folds, including Z-folding.

### *Wide Range of Peripheral Units*

The lineup of main peripheral units available for this machine includes:

- Decurl Unit
- A3/DLT LCIT
- Buffer Pass Unit
- Multi Bypass Tray
- Cover Interposer Tray
- Multi Folding Unit
- Ring Binder
- High Capacity Stacker
- Finisher
- Trimmer Unit

These peripheral units are available with earlier machines. However, for this machine they have rounded covers to match those of the main machine, and some of them have been modified slightly to improve their performance. (☛p.2-7)

### *Fiery Base Controller*

The base controller of this machine is the Fiery standard controller [1] (Color Controller E-41A), with FACI [2] available as an option. (The FACI Kit allows the operator to manage jobs more efficiently near the machine.)

- Although this machine also has the GW controller, there are no GW printer applications. All printing features are provided by the Fiery E-41A external controller.
- The D074/D075 is equipped with both GW and Fiery scanner functions. Both features are available at any time when the GW and Fiery controllers are connected via the same network.
- However, @Remote can acquire only a limited amount of information via the Fiery controller network port. For full functionality with @Remote, the system must be connected via the GW controller network as well. (This means the machine needs two IP addresses for full function support with @Remote.)

### *GW Controller*

The Data Overwrite Security and Data Encryption applications will be provided together from the factory on one SD card. The machine will be shipped with this SD card in Slot 1 (application slot).

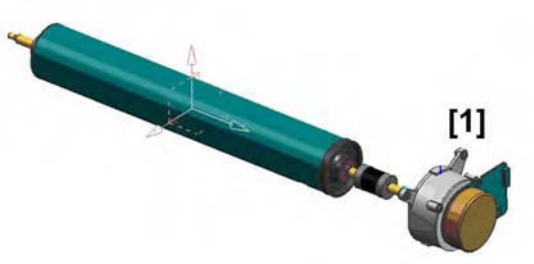
### *New Drum Design*

The drums have been enhanced to improve performance and lengthen service life (1200K for the D074 and 1350 K for the D075/M044). The external layer of the drum is composed of durable material that is resistant to wear. Its electrostatic properties have also been improved to promote stable charging during long print jobs.

### *Single Direction Development*

The development unit uses "trickle developing" where toner in each toner bottle is pre-mixed with a small amount of developer. In the single-direction development system, the function of the development auger is split between a development auger and a recovery auger. The recovery auger collects developer of reduced characteristics to prevent its re-use. Recovered developer is delivered to the agitator auger directly. This system prevents density fluctuation during high color coverage and large volume printing.

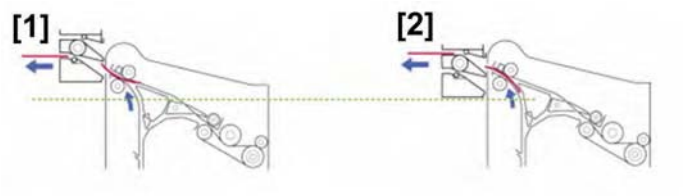
### *Drum Drive Control*




d074f913

This machine uses a continuous feedback system to adjust the rotation speed of each drum motor. A drum drive sensor mounted on the drive shaft and inside the motor casing [1] of the development motor monitors fluctuation in drum speed and feeds this information back to the machine. The machine adjusts for any deviation from the prescribed speed to maintain the correct drum speed. This system minimizes color registration errors. This motor casing should never be disassembled.

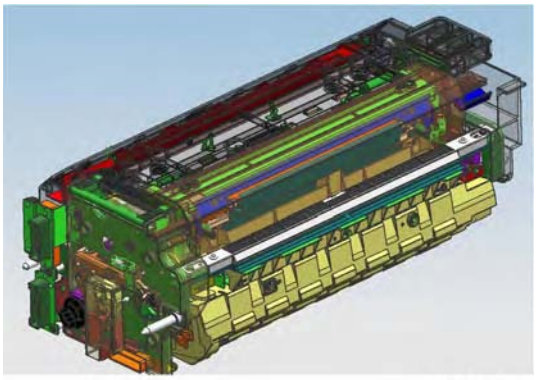
**Decurl Unit**




d074f914

A decurl unit (available as an option) fits compactly into the left side of the main machine. The decurl unit has no purge tray (the purge tray is built into the main machine). The decurl unit is designed to correct both convex and concave curling, a common problem with thin paper, and prints with high toner coverage. The decurl unit has two paper paths. The lower paper path [1] corrects face curling (concave curling), and the upper path [2] corrects back curling (convex curling). The decurl unit is raised and lowered with an operator setting to select the paper path, depending on which type of correction is needed.

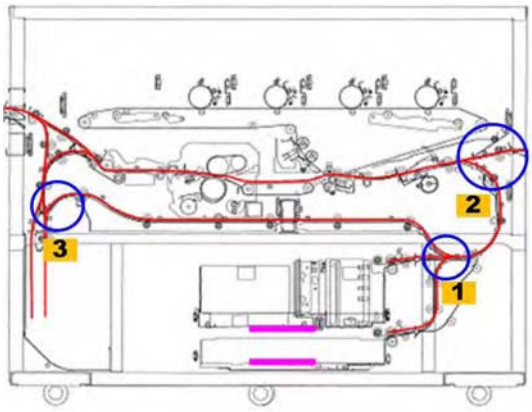
### *Improved Fusing*



d074f915

The fusing unit is compact. Although the fusing unit is relatively light at 17 kg (37 lb.), it is capable of exerting enough pressure for printing on thick and heavily textured paper. The fusing unit can be lifted and carried easily by one service technician. The fusing unit has a web cleaning mechanism to clean the fusing belt.. There is no oil lubrication system for the fusing belt.

## *Improved Paper Path*




d074f916

To support printing on 300 g/m$^2$ paper and duplex printing on paper up to 256 g/m$^2$, the arcs in the curvature of the paper path are wider at three critical turning points:

- [1] Paper feed (2nd tray, 1st tray, and duplex path junction where these paths merge)
- [2] Paper entrance from LCIT and paper registration
- [3] Inverter/duplex path. The number of shift rollers has been increased from two to four to accommodate postcards and large-size thick paper.

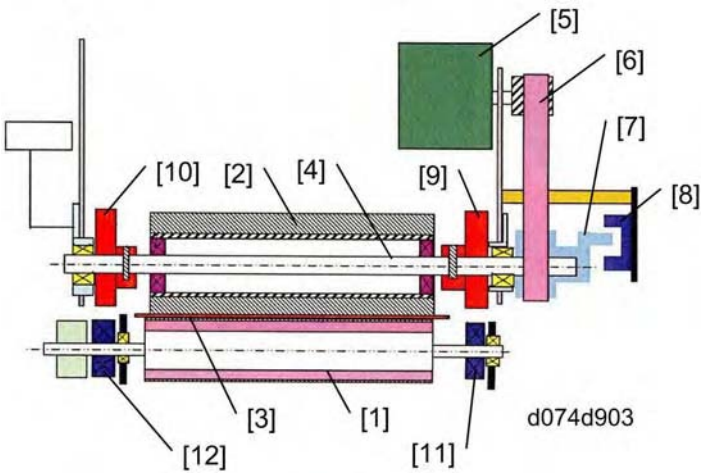
## *Purge Tray*

d074f926

After a jam occurs, paper in the paper path that has not yet exited the main machine is shunted to the purge tray on the left side of the main machine. This eliminates the time consuming task of searching for every sheet remaining in the main machine or LCIT after a jam occurs downstream. The operator can remove the paper at the jam point as instructed and then collect other sheets from the purge tray by opening the left front door. The purge tray is behind the left front door and next to the used toner bottle.

### *New ITB/PTR Separation Mechanism*

There is a new motor in the ITB unit that functions as a PTR separation mechanism.




When the right drawer is closed, a strong spring below the PTR unit rotates two cams up that lock the PTR [1] in the up position against the bias roller [2] of the ITB unit above.

The ITB [3] and paper pass between the bias roller above and PTR below.

The bias roller rotates freely around the cam shaft [4]. When the PTR separation motor [5] turns on, the belt [6] turns the cam shaft counter-clockwise until the actuator [7] of the PTR separation sensor [8] rotates out of the sensor gap (this stops the motor). At this point, the front [9] and rear [10] cams are pushing down on the front [11] and rear [12] collars of the PTR. This separates the PTR from the bias roller. When the machine switches on the separation motor again, it rotates the cam shaft and cams clockwise and up. This releases the pressure of the cams on the PTR below, and the PTR and bias roller come together.

The cams are rotated down to separate the bias roller and the PTR at the following times:

- **Ready mode**. After the machine enters Ready mode. This keeps the PTR separated from the bias roller. If the rollers were to remain in contact while the machine is idle, the hard surface of the PTR would deform the shape of the soft bias roller.
- **Thick Paper**. Just before thick paper enters the nip of the bias roller and PTR, the cams are rotated down briefly to widen the nip for the thicker paper, and then rotated up again to close the nip. This action eliminates "shock jitter" which can occur when the leading edge of thick paper enters a narrow nip.
- **Belt Lubrication Mode**. The cams are rotated down to open the nip for lubrication of the belt after the ITB has been replaced, for example.

The cams remain up and the rollers pressed together in all other cases, for color and monochrome printing, process control, and MUSIC adjustments, and so on. This mechanism is unique in that the mechanism that separates the rollers has been moved from the PTR unit to the ITB unit. The PTR separation motor, PTR separation sensor, and cam shaft are in the ITB unit. The PTR separation motor and separation sensor are on the front of the ITB unit. In

previous machines, this mechanism consisted of a PTR lift motor in the PTR unit below the ITB unit.

## 1.1.6 EASE OF USE

### *Paper Library*

The Paper Library presents paper settings that can be set up easily and then saved as profiles for future use. For more about this feature, please refer to the Operation Instructions.

### *Operation Panel*

d074f968

The operation panel features an easy-to-access design with a 10.4 inch LCD and touch-panel. The tilt and angle of the operation panel can be easily adjusted by the operator to reduce glare on the LCD. The standard position of the operation panel can be extended and tilted down so that the machine can be operated with the operator seated. This special adjustment must be done by a service technician.

### *Toner Bottles*

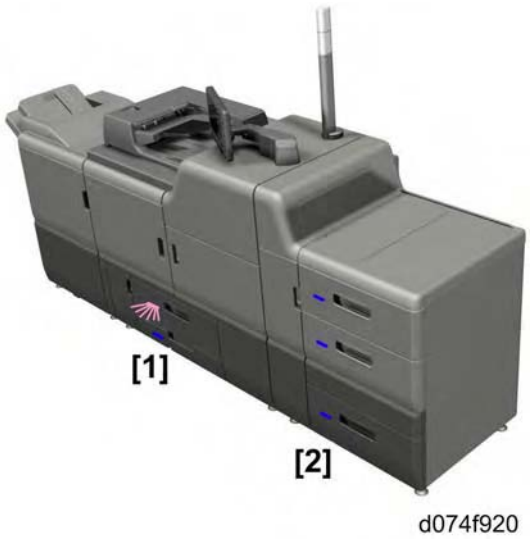
d074f927

The toner bottles are designed for easy handling and replacement. The large knob handles on the ends of the toner bottles make them easy to grip for removal. They can be replaced by the

operator from a seated position.

### *Maximized Operation Time*

### *Active Tray Indicators*




All five paper trays, the two trays of the main machine [1] and three trays of the LCIT [2], have LEDs that light and remain on while the tray is feeding paper. This alerts the operator about which tray is being used. If an indicator is on, the tray cannot be opened as long as paper is feeding from that tray. The operators can re-fill any tray that is not in use while the machine is printing.

### *Attention Light*

d074f921

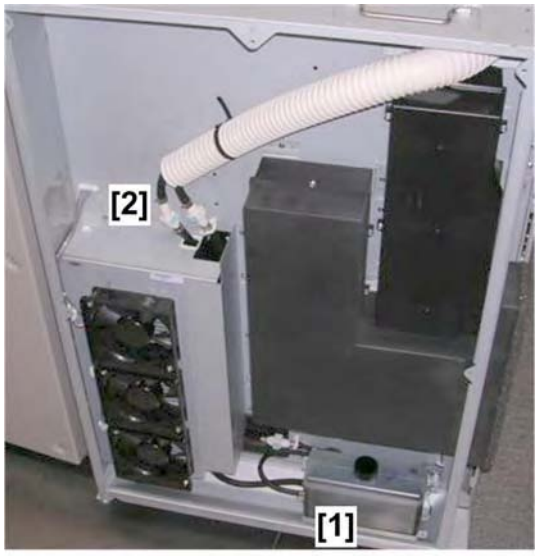
To minimize down time in a high-volume printing environment, the attention light alerts operators immediately when a problem occurs so they can respond quickly. The attention light is slightly higher, making it easier to see from any direction. The attention light is standard (not an option).

### *TCRU (Trained Customer Replaceable Units)*

The TCRU system is designed to allow trained operators to replace key components of the machine that are designated as "TCRU units" without the assistance of a service technician. This greatly reduces down time if a key component requires replacement. A total of eight units can be replaced by TCRU trained operators:

- Drum cleaning unit (PCDU)
- OPC Drum (PCDU)
- Charge roller unit (PCDU)
- Fusing unit
- Fusing cleaning unit
- Paper transfer roller unit
- ITB cleaning unit
- Paper feed roller sets (two sets, one for each tray of the main machine, three sets, one for the each tray of the LCIT, and one set for the bypass tray on top of the LCIT)

## *Liquid Cooling System*




d074f922

In addition to the air cooling ducts and fans, this machine is equipped with a liquid cooling system that keeps the temperature of the developer in the PCDUs at the correct level for optimum performance. Liquid coolant is pumped from a tank [1] and circulated across the cooling jackets of each development unit through two hoses [2]. The coolant keeps the toner/developer at optimum temperature. This system has two advantages over a circulating air cooling system.

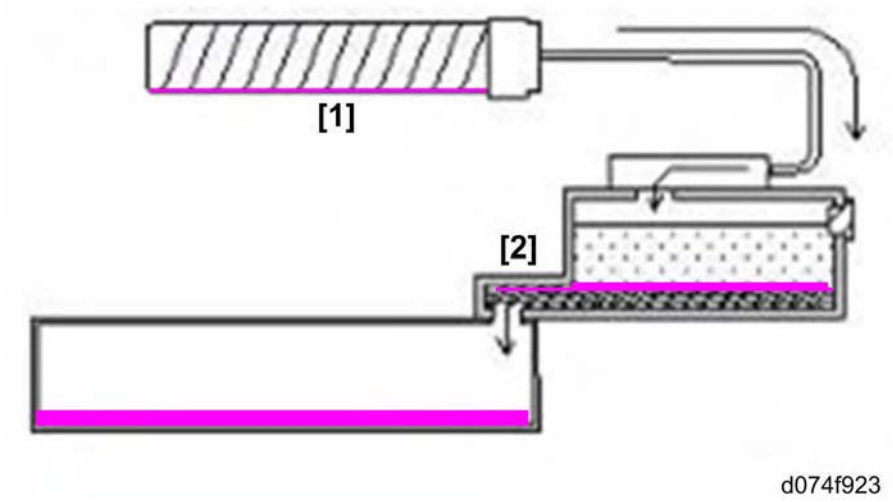
- First, the liquid cooling system requires much less space.
- Second, the liquid cooling system maximizes operation time because the machine does not need to halt operation temporarily for a PCDU to cool if temperature exceeds the upper limit.

The liquid cooling unit is a robust design. Its tubing is guaranteed for 20 years of use at 70°C (158°F).

Rate of evaporation of coolant:

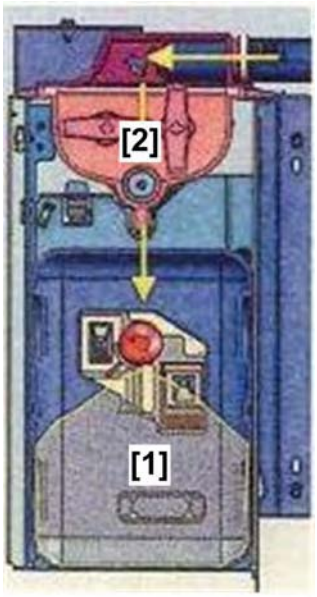
- 150 cc/7 years at 32°C (90°F) running 24 hours/day with FC duplexing.
- 86 cc/7 years at 25°C (77°F) running 24 hours/day with FC duplexing.

### *Non-Interruptive Toner Replenishment*




An empty toner bottle [1] can be replaced while the machine is printing. After the machine signals toner end for a bottle, there is still enough toner in the sub hopper [2] for the machine to print 480 sheets (A4 LT @ 5% coverage). The gives the operator sufficient time to replace an empty bottle without shutting down the machine.

### *Non-Interruptive Used Toner Bottle Replacement*




d074f924

After the used toner bottle [1] becomes full, it can be removed and replaced with an empty bottle while the machine is operating. The reservoir [2] above the bottle can continue to receive and hold used toner while the bottle is out of the machine. (A spring loaded stopper tightly seals the toner port between the reservoir and bottle when the bottle is removed.) The bottle replacement is done by the service technician (or operator if an empty toner bottle is available). However, the service technician must remove the full bottle and empty it at the service center. A full toner bottle will not be emptied at the work site.

**@Remote**

This machine supports @Remote. Both the embedded @Remote function (Cumin) or external device (such as Basil) are available for this machine. Either can be enabled (or installed) at the work site. @Remote monitors information about the machine and relays this data (counters, supply levels, device status, device failures, etc.) via the @Remote Gateway to a remote service center. This information is used to optimize servicing.

## 1.1.7 OTHER NEW FEATURES

### *Laser Unit*

The skew motor in the laser unit adjusts the position of the mirrors to correct color registration. This is a new motor. In previous machines, a small motor attached to the BTL did this adjustment. The new VCSEL technology also improves mechanical performance by reducing the number of revolutions of the polygon motors. This extends the service life of the motors and also reduces motor noise.

Only two SP settings are required after a laser unit is replaced. There are no service parts inside the laser unit. If a problem occurs in the field, the laser unit is replaced.

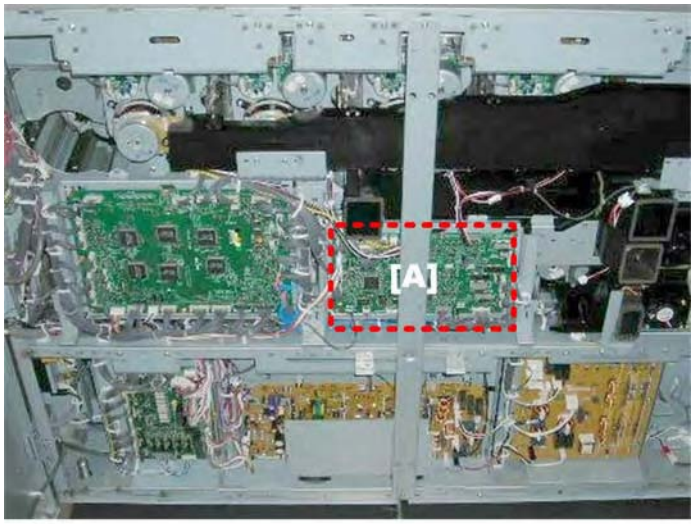
### *Process Control*

New toner control technology samples MUSIC patterns rapidly at specified intervals. Increasing the number of samples from the patterns ensures even density in filled areas. (In previous machines, patterns were sampled during process control after each printed sheet.)

### *New Boards*

d074r786

- **TDRB** (Transfer Drive Relay Board) [A]. This is a new board located in the center of the ITB unit that controls operation of the ITB components.




d074r787

- **TDCU**. (Transfer Drive Control Unit) [A]. Located on the back of the machine, controls operation of the fusing motor, drum motors, development motor, PTR motor, and transfer timing motor. Also controls the following via the TDRB: ITB sensor, ITU set sensor, and ITB motor.

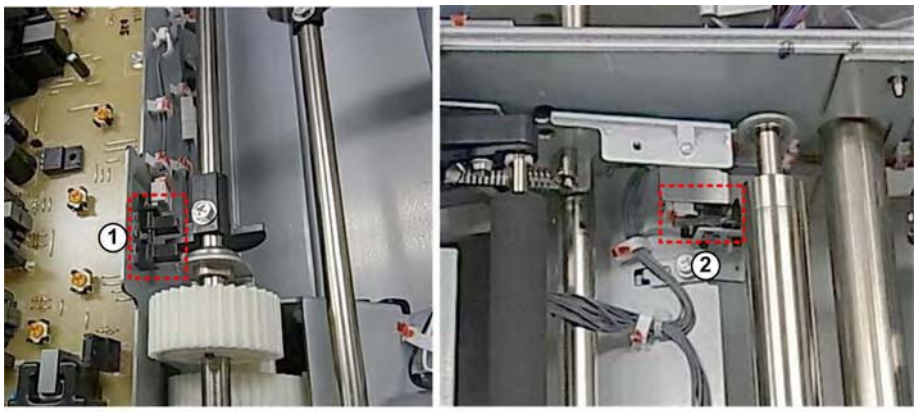
d074r788

- **Power Packs**. Three power packs for processes around the drum are arranged across the back of the machine for easier access: (1) CB Power Pack (CK) [charge and development bias for C and K], (2) Potential Sensor Power pack (x4 one above each drum), and (3) CB Power Pack (YM) [charge and development bias for Y and M].

d074r785

- **IOB [A]/ BCU [B]**. The BCU is mounted behind the IOB. The IOB swings down so that the BCU can be checked and serviced without removing the IOB.

**New Sensor**




d074r789

- **2nd Tray Motor Sensor.** In the ITB unit, in addition to the 2nd tray lift motor sensor 1 ① (above the 2nd tray lift motor), a 2nd Lift Motor (K) Sensor 2 ② has been added at the rear right corner of the ITB unit.

# PRODUCT INFORMATION

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# 2. PRODUCT INFORMATION

## 2.1 SPECIFICATIONS

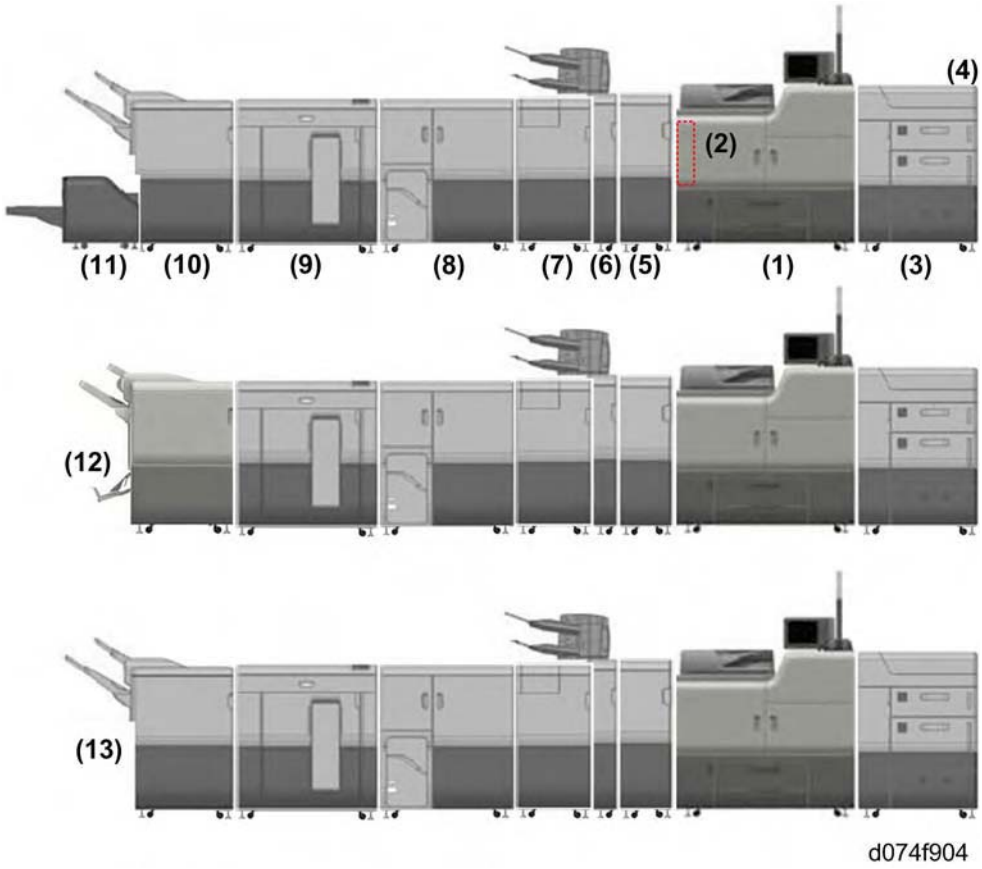
See "Appendices" for the following information:

- Main Specifications
- Peripheral Specifications

# 2.2 MAIN MACHINE AND PERIPHERALS

## 2.2.1 MAIN PERIPHERALS

### *D074/D075*




| No. | Unit | Comment |
|---|---|---|
| (1) | Main machine D074/D075 | Copier |
| (2) | Decurler Unit (D544) | Inside the machine |
| (3) | A3/DLT LCIT (D516) | Only one LCIT available |
| (4) | Multi Bypass Tray (D517) | Requires LCIT |

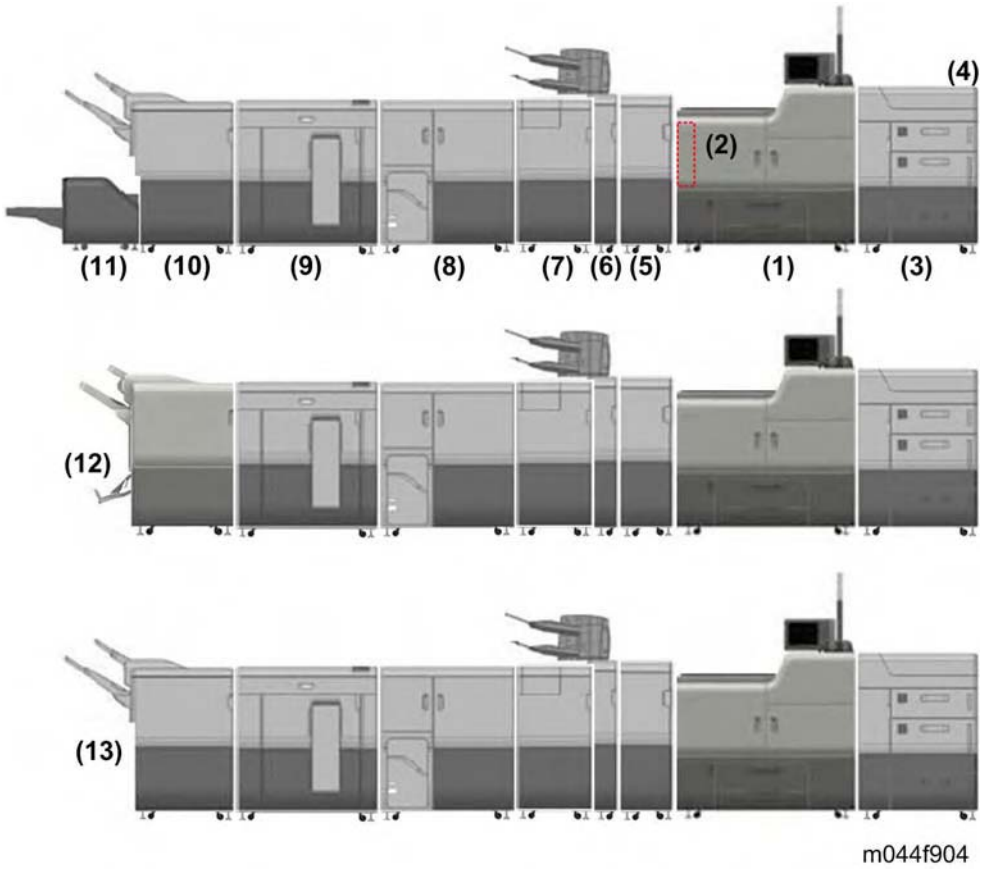
| No. | Unit | Comment |
|---|---|---|
| (5) | Buffer Pass Unit (D548)*1 | Cools paper with 8 fans before it goes to down-stream peripherals. This option is recommended for use with the High Capacity Stacker. |
| (6) | Cover Interposer Tray (D518) *1 | Feeds covers from two trays |
| (7) | Multi Folding Unit (D521) | Straight through, or 6 types of folds |
| (8) | Ring Binder (D519) *1 | Ring binding with 50/100 sheet plastic rings |
| (9) | High Capacity Stacker (D515) *1 | Stacking capacity: 2500 to 5000 sheets |
| (10) | Booklet Finisher (D512) | Booklet stapling with Trimmer Unit. |
| (11) | Trimmer Unit (D520) *1 | Automatically trims open edges of booklets |
| (12) | Finisher (D512) | Booklet stapling without Trimmer Unit. |
| (13) | Finisher (D513) | Corner stapling only. |

*1: These peripherals are released at the same as the Pro C751 (M044) launch.

**Notes:**

- If the Trimmer Unit (11) is not installed, the booklet tray for the Booklet Finisher (D512) must be installed to hold stapled booklets. (The booklet tray must be removed in order to install the Trimmer Unit.)
- The Trimmer Unit (11) cannot be installed with the Finisher (D513) (13). This finisher performs only corner and flat stapling (no booklet stapling). The Trimmer Unit processes booklet-stapled stacks only.
- If the Multi Folding Unit (7) is installed, the Booklet Finisher (10) or Finisher (13) must also be installed.

## *M044*




| No. | Unit | Comment |
|---|---|---|
| (1) | Main machine M044 | Printer |
| (2) | Decurl Unit (D544) | Installed inside the machine |
| (3) | A3/DLT LCIT (D516) | Only one LCIT available |
| (4) | Multi Bypass Tray (D517) | Requires LCIT |
| (5) | Buffer Pass Unit (D548) | Cools paper with 8 fans before it goes to down-stream peripherals. This option is recommended for use with the High Capacity Stacker. |
| (6) | Cover Interposer Tray (D518) | Feeds covers from two trays |
| (7) | Multi Folding Unit (D521) | Straight through, or 6 types of folds |

| No. | Unit | Comment |
|---|---|---|
| (8) | Ring Binder (D519) | Ring binding with 50/100 sheet plastic rings |
| (9) | High Capacity Stacker (D515) | Stacking capacity: 2500 to 5000 sheets |
| (10) | Booklet Finisher (D512) | Booklet stapling with Trimmer Unit. |
| (11) | Trimmer Unit (D520) | Automatically trims open edges of booklets |
| (12) | Finisher (D512) | Booklet stapling without Trimmer Unit. |
| (13) | Finisher (D513) | Corner stapling only. |



**Notes:**

- If the Trimmer Unit (11) is not installed, the booklet tray for the Booklet Finisher (D512) must be installed to hold stapled booklets. (The booklet tray must be removed in order to install the Trimmer Unit.)
- The Trimmer Unit (11) cannot be installed with the Finisher (D513) (13). This finisher performs only corner and flat stapling (no booklet stapling). The Trimmer Unit processes booklet-stapled stacks only.
- If the Multi Folding Unit (7) is installed, the Booklet Finisher (10) or Finisher (13) must also be installed.

## 2.2.2 OTHER OPTIONS (NOT SHOWN ABOVE)

| Type | Option | Comment |
|---|---|---|
| Main Machine | Original Tray | Holds originals to be copied |
| | Key Counter | Key counter device for customers |
| | USB 2.0/SD Slot Type E (TBD) | Allows direct sending of jobs to USB 2.0 or SD card storage. |
| | A3/11"x17" Tray Unit (B331-12) | Converts 1st tray (tandem tray) to large capacity tray. |
| Finisher (D512/D513) | Punch Unit (D449) | Installed inside the Finisher (D512/D513) |
| Controller Option | VM Card | VM ware (Calypso) |
| | @Remote | Basil/UZ-A1 |

**Notes**

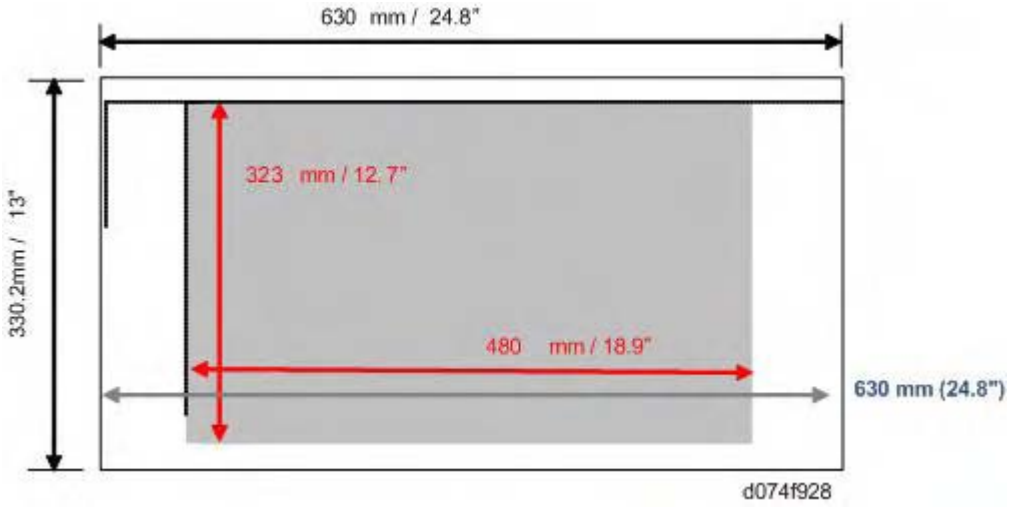
- The USB Host and Cumin-N (for @Remote) are standard (no installation required).
- Cumin-M and File Format Converter are not available.

# 2.3 GUIDANCE FOR THOSE WHO ARE FAMILIAR WITH PREDECESSOR PRODUCTS



## 2.3.1 MAIN MACHINE SPECIFICATIONS

**Maximum Printing Area**




The maximum printing area is 320 x 480 (12.6 x 18.9 in.). Length can be expanded up to 630 mm (24.8 in.) with SP 5150-1. This allows full-bleed printing with A3 (11 x 17 in.) to preserve crop marks and borders.

**Warm-up Time**

Warm-up time: 300 sec. This is longer than many previous machines, such as the D014/D015 which has a warm-up time of less than 90/75 sec.)

### *ARDF*

The ARDF on the D074/D075 is basically the same as that used with the D014/D015. However, there are some minor differences:

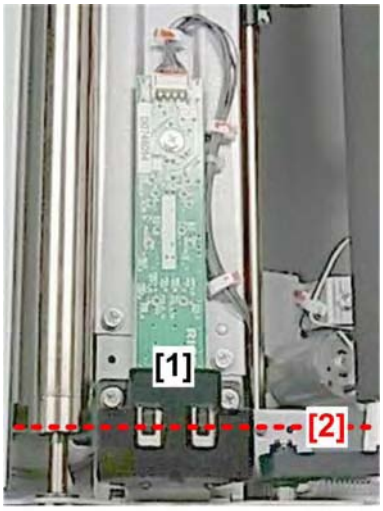
- Design changes in the front cover, rear cover, feed cover, and handles.
- Color of the external covers has changed.
- Shoulder screws are rounded.
- Harness routing has changed.
- Length and color of the interface cable have changed.
- Speed is faster (426 mm/s), compared to D014/D015 (394 mm/s)
- Magnification range is 66% to 400% (D014/D015 is 50% to 400%)

### *Laser Unit*

The machine automatically "reads" a new laser unit and only two SP code settings are required. With previous machines when a laser unit was replaced, the technician had to set several SP codes for the new laser unit. With older machines, the SP settings that had to be entered were printed on a label attached to the new unit. This procedure has been eliminated.

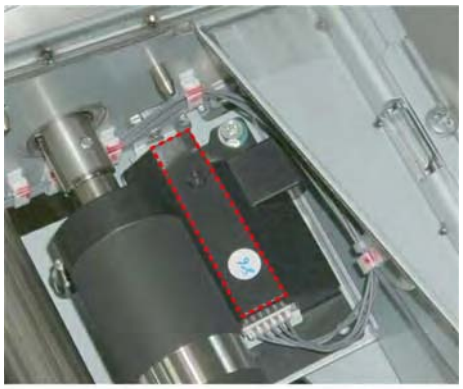
### *ITB Unit*

- This machine uses two motors that raise and lower the ITB. One motor operates the left tray (YMC) and one motor operates the right tray (K).



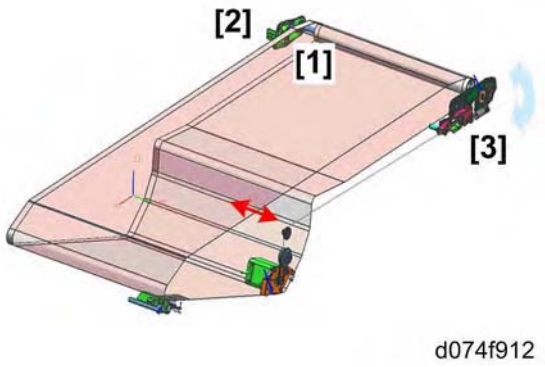

d074f929

- A belt speed sensor [1] reads an encoder strip under the front edge of the ITB [2] to monitor the speed of the belt. (The photo above shows a top view of the sensor with the ITB removed. The red dotted line represents the front edge of the ITB.) This is not a new mechanism. But in previous machines, the encoder strip was on the back edge of the belt and the encoder sensor was at the left rear corner of the ITB unit. In this machine, the encoder strip is on the front edge of the belt and the encoder sensor is at the front right corner of the ITB unit. The ITB must be installed with the encoder strip at the front edge of the belt. The image transfer belts of some previous machines could be installed in either direction because there was no encoder strip on either edge of the belt.
- In the D016, the belt centering sensor was comprised of a photosensor mounted above the belt and above a free-swinging actuator touching the edge of the belt. The sensor detected belt deviation from center by measuring the angle of reflection from the top of the actuator.



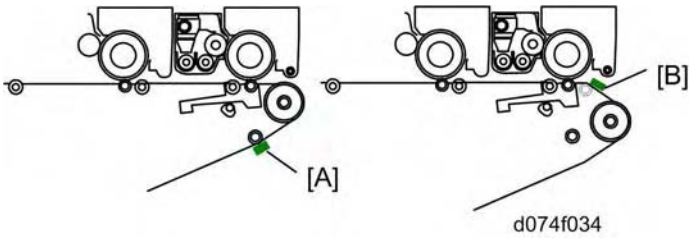
d074f933

The belt centering sensor for this machine is simpler. A small CIS inside the cover (shown above with the ITB removed) is below the rear edge of the belt. It monitors the position of the belt directly. The pendulum actuator mechanism has been replaced with this new detection mechanism.




d074f912

- This machine uses the same steering control mechanism used in the D016 that checks and corrects the positioning of the ITB to keep it centered to prevent color offset in images. An ITB feedback sensor (a photosensor), located at the right upper corner [1] of the ITB unit constantly monitors the position of the ITB. If the ITB shifts forward or backward, the steering control motor [2] (located on the left front of the ITB unit) corrects the position of the belt with the steering control mechanism [3]. This system eliminates physical wear on the edge of the belt that would be caused by an ITB guide fence.




d074f034

- The location of the ITB sensor array (ID and MUSIC sensors) has changed. In previous machines, the ITB sensor array [A] is located farther downstream and below the ITB. In this machine, the ITB sensor array [B] is located above the ITB on the right end of the ITB unit below the K_PCDU.

## *Paper: Trays, Transport, etc.*

**Paper Transport Unit**

The paper is held onto the paper transfer belt by three fans: Rear, Front, Center (not two fans).

Compared to previous machines:

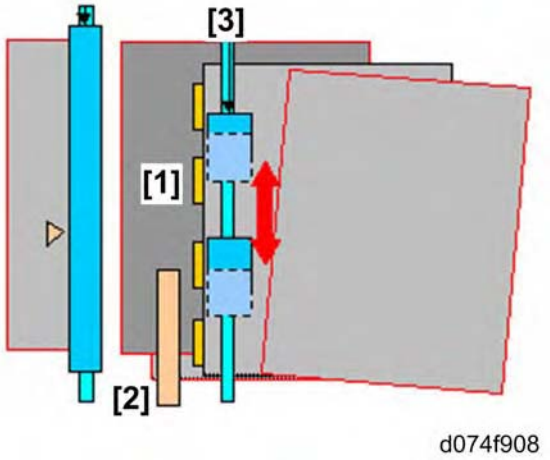
- The paper transport unit frame of this machine is made of plastic, making it lighter for TCRU operators to handle.
- The unit is easier to remove with its drive intact

**Paper Cooling Unit**

Previous machines have four belts in the paper cooling unit. To improve the accuracy and efficiency of paper feed, one large belt is used in these machines.

**Paper Registration**

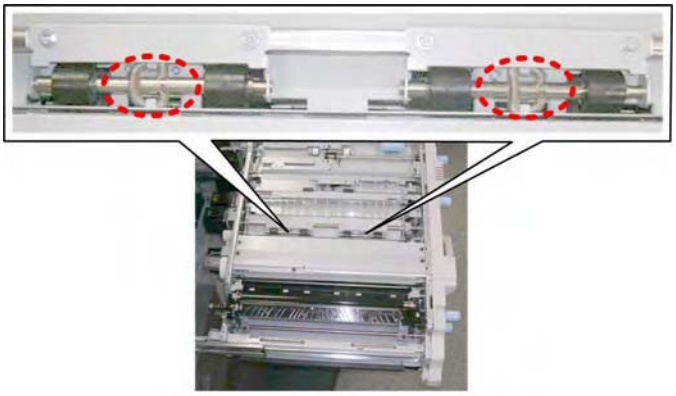
The high-precision paper registration unit of earlier machines has been adopted for use in this machine. The position of the paper in the paper path is corrected twice by the paper registration unit in the main machine, once to correct for skew in the sub scan direction and once for side-to-side registration in the main scan direction.




- **Skew correction**. The paper pauses very briefly in the registration unit, as its leading edge hits a raised registration gate [1] to buckle the paper and align it.
- **Side-to-side adjustment**. After the registration gate lowers, the paper passes through the shift roller unit. In this unit, a CIS [2] detects the paper's front edge to determine if the paper has shifted forward or back. If adjustment is needed, the shift roller unit [3] holds the paper and moves forward or back to adjust the paper position before the paper feeds to the paper transfer roller.

The combination of laser VCSEL technology and double paper registration correction ensures that paper is always precisely positioned in the paper path. Paper registration is done once in the main machine. There is no paper registration correction mechanism in the optional LCIT.

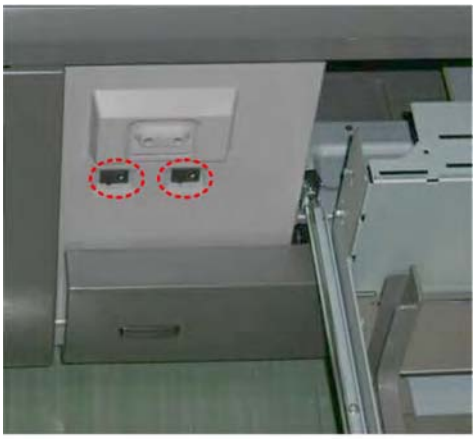
**Shift Unit**



d074f936

The visible springs at the top of the shift unit were weak in previous machines. These springs have been replaced with stronger springs. The photo above shows the old springs. The new springs are black.

**Heaters**



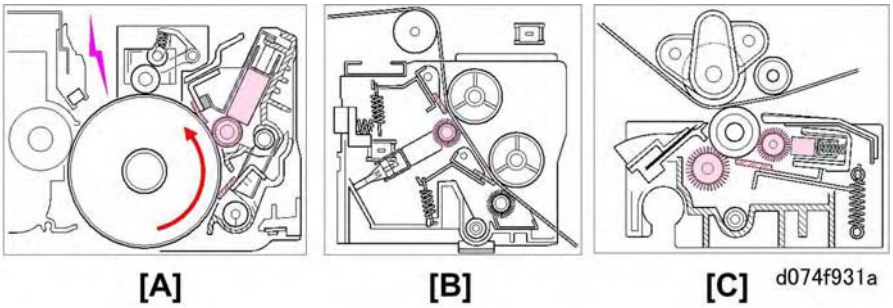
d074f930

There are two heater switches on the front of the machine. The left switch controls the operation of the paper bank heaters of the main machine and the LCIT heaters. The right switch controls the operation of the ITB heaters.

- When these switches are set to ON, the heaters switch on when the main machine is switched off (or enters energy save mode), and then switch off when the main machine is switched on again (or leaves energy save mode).
- When these switches are set to OFF, the heaters do not switch on when the main machine is switched off (or enters energy save mode). Both heaters are switched OFF before the machine leaves the factory.
- When these switches are set to ON and SP5965-1 is set to "1", the heaters always remain on.

## *Common Cleaning Mechanisms*

One basic cleaning and lubrication mechanism is used in key components of the machine.




A cleaning blade [1], lubrication bar [2], lubrication roller [3], and lubrication blade [4] comprise the cleaning mechanisms (with some variation) in the following units:

- [A] Drum cleaning unit
- [B] ITB cleaning unit
- [C] PTR cleaning unit

Note

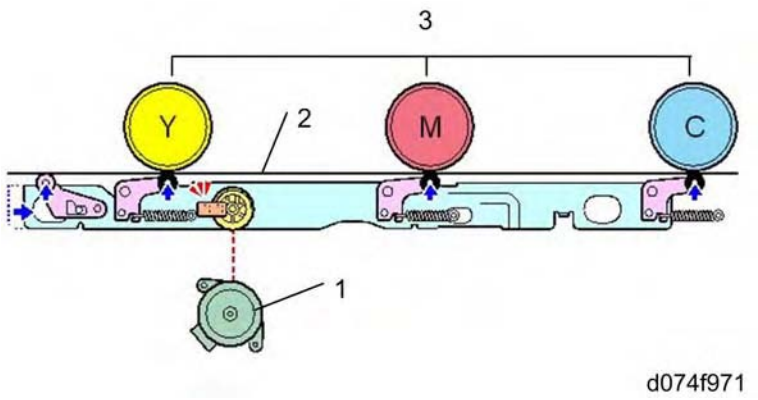
- Only the PTR cleaning unit has a cleaning brush roller (5).

All of these units use a dry lubricant (Zinc Stearate) supplied by a lubrication bar and lubrication roller.

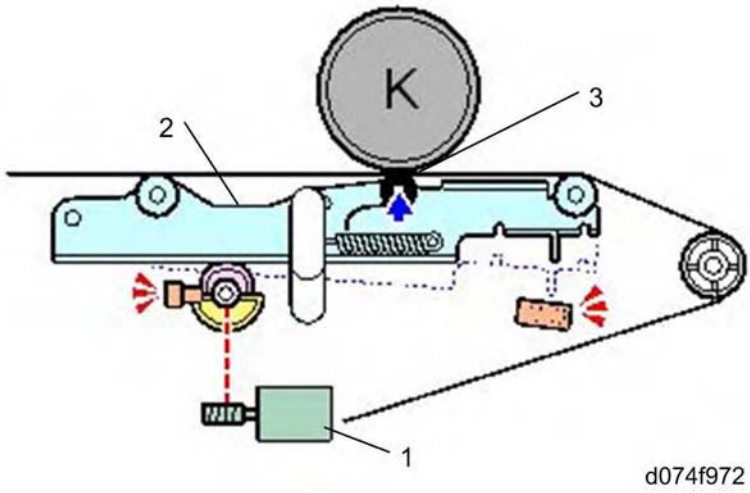
### *Retraction to Reduce Wear*

As in previous machines, this machine employs mechanisms to separate important parts subject to pressure and wear during normal operation. These mechanisms reduce wear on parts and prolong service life of important components.

- **ITB and OPC drum separation mechanism**

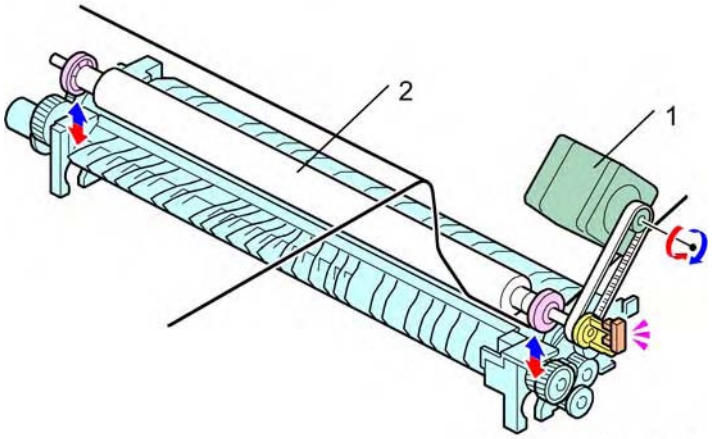



The 1st lift motor (1) raises and lowers the 1st tray (2). The tray is raised against the bottoms of the YMC drums for full color printing. The tray is lowered for black and white printing, and remains down while the machine is idle. This prevents wear on the drums and the ITB and prevents deformation of the ITB bias rollers below the drums.




The 2nd lift motor (1) raises and lowers tray 2 (2). The tray is raised against the bottom of the black drum only while the machine is operating. The tray remains down while the machine is idle. This reduces wear on the ITB and prevents deformation of the ITB bias roller below the drum.

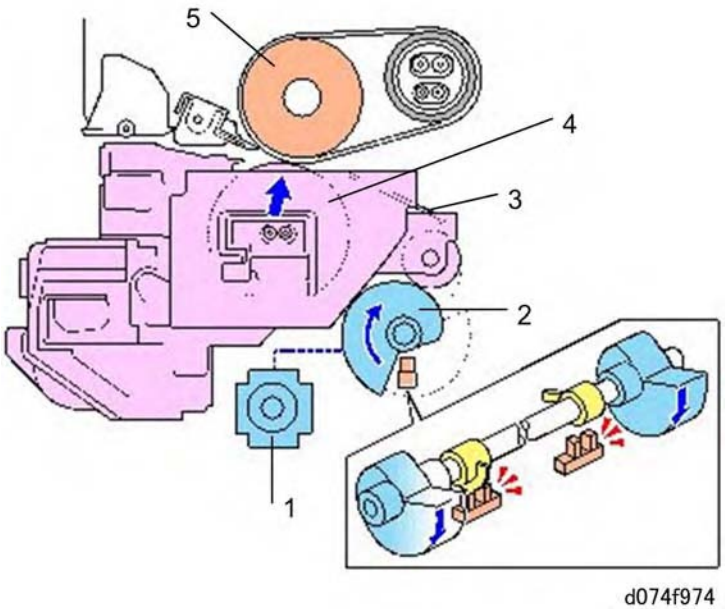
- **ITB and PTR separation**




d074f973

A PTR separation motor (1) raises and lowers the ITB bias roller (2). The roller remains down against the PTR roller below to transfer the toner image from the ITB to the paper between the rollers. While the machine is idle, the motor rotates two cams to raise the ITB bias roller away from the PTR below. This prevents deformation of the soft ITB bias roller. In this machine, the ITB bias roller is raised and lowered. In previous machines, the PTR was raised and lowered to separate the rollers.

- **Pressure and hot roller separation**



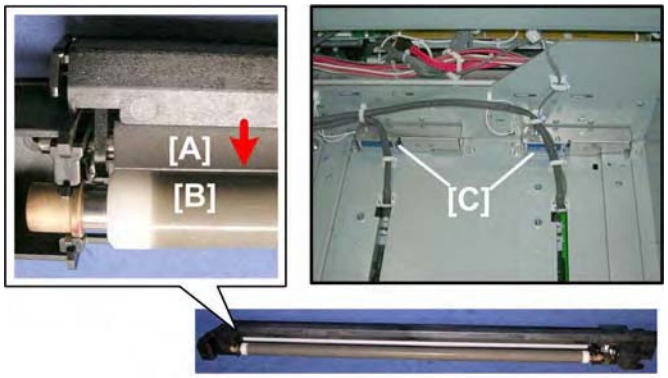

d074f974

A pressure roller lift motor (1) rotates large cams (2) that raise and lower the pressure roller lift arm (3). The lift arm applies pressure to the pressure roller (4) below the stationary hot roller (5) above. During a job, this mechanism can vary the pressure applied to the paper and fusing belt between the nip of the pressure roller and hot roller. When the machine is idle, the cams are rotated down to prevent the deformation of the soft sponge surface of the hot roller.

## *Photo Conductor Development Units (PCDU)*

### Charge Unit

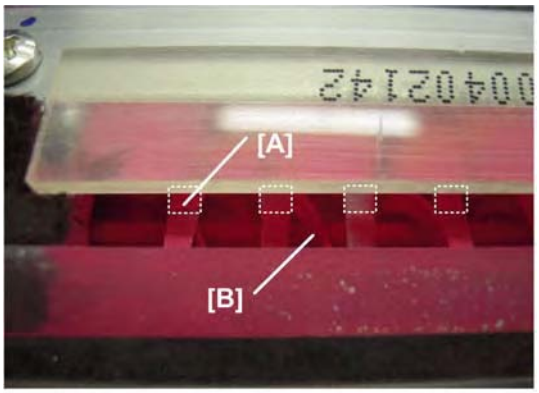
- This machine uses charge rollers to charge the drums. There are no charge corona units. This reduces the amount of ozone created in and around the machine.




d074f937

- There is a charge roller cleaning roller [A] above each charge roller [B] in each PCDU. This cleaning roller is lowered to clean the charge roller every 1,000 prints. The solenoids [C] that operate these rollers are mounted behind the laser units.

### Drum Cleaning Unit




d074f935

- Mylars [A] have been added above the used toner transport coil [B] in each PCDU. The slight vibration set up by the auger turning against the mylar prevents used toner from clumping when it is transported out of the back of the unit.
- The brush cleaning roller in the drum cleaning unit has been eliminated. The drum cleaning unit is comprised of the drum cleaning blade, lubrication bar, lubrication roller, and lubrication blade.

### *Fusing Belt Cleaning*

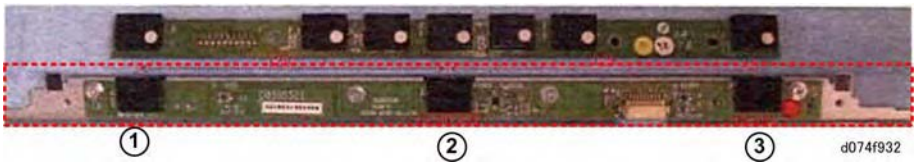
- The fusing cleaning unit of previous machines had a fusing belt cleaning roller between the fusing belt below and the cleaning fabric above. The roller scavenged toner, dust, etc. from the surface of the fusing belt. In this machine the cleaning roller has been eliminated. The cleaning fabric touches the surface of the fusing belt directly.
- There is no oil supply mechanism for lubricating the fusing belt in this machine.

### *GW Controller Options*

The base controller for this machine is the Fiery controller. However, the GW controller is still provided.

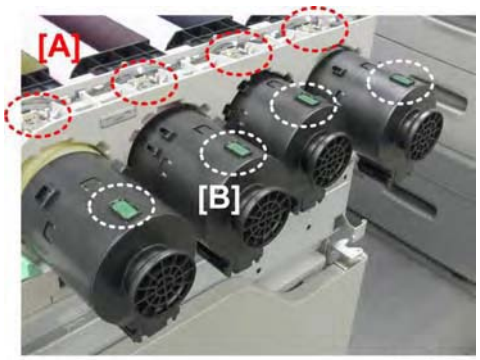
- Data Overwrite and HDD Encryption will be provided with the machine in Slot 1. Both must be enabled with User Tools.
- A VM card option will also be available.
- The GW controller is still required for @Remote because the functionality of the Fiery controller with @Remote is limited.

### *Process Control*




- The number of sensors in the ITB sensor array has been reduced. The D016, for example, had seven sensors as shown above: three MUSIC sensors and four ID sensors. This machine has only three sensors. Only the middle sensor ② functions as an ID sensor, but all three sensors function as MUSIC sensors.
- There are two temperature/humidity sensors used during process control. One is located on the left, below the used toner bottle motor. Another is on the right near the K_PCDU. In previous machines, the left sensor was higher and near the Y_PCDU.

### *RFID with Toner Bottles*




d074f938

This machine uses RFID (Radio Frequency IDentification) technology. Each reader PCB [A] is paired with a tag PCB [B] on top of each toner bottle. The tag PCBs are the toner bottle ID chips. The reader PCBs can read/write data to/from the ID chips.

## 2.3.2 PERIPHERALS

### *General*

- The covers of all peripheral units have been re-designed to match the shape and color of the main machine.
- The breaker switches have been removed from all peripheral units (with the exception of the Ring Binder which still has a breaker switch). The only breaker switches in the system are on the main machine and the Ring Binder.

### *Decurl Unit*

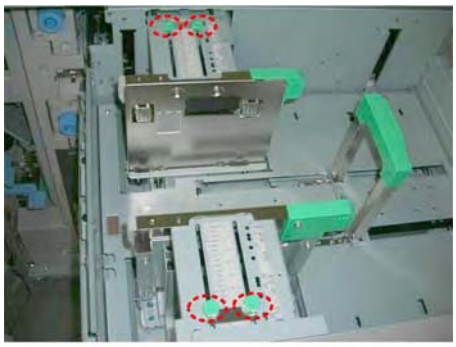
d074f939

- The Decurl Unit is inside the left side of the main machine.

## *LCIT*

d074f946

The illustration above shows the LCIT without the Multi Bypass Unit installed on top.



d074f940

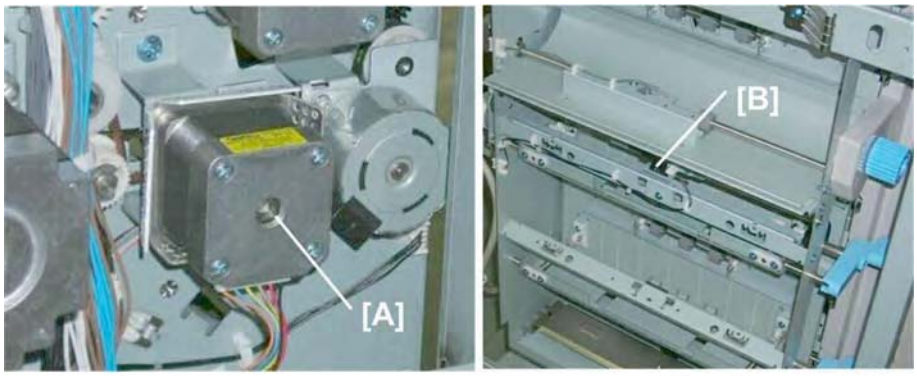
**Side fence adjustment**

The side fence adjustment mechanism of the LCIT has been re-designed to make it easier to change paper sizes. The side fences can be adjusted just by loosening the screws and sliding the fences. The screws do not need to be removed.

**No CIS unit**

There is no CIS adjustment at installation. The LCIT has no CIS unit. The side-to-side registration is done with a CIS in the main machine. The LCIT does not have a CIS unit for paper registration. Side-to-side registration is performed once in the registration unit of the main machine.

**New paper release mechanism**




d074f941

There is a new mechanism at the paper exit to retract the exit idle roller from the paper. This releases the paper for side-to-side registration in the main machine. The mechanism consists of a retractor motor [A] on the back of the unit and the idle roller HP sensor [B] at the LCIT paper exit.

**Jam release lever**

d074f942

The LCIT jam release mechanism has been re-designed for "one-action" removal.

**Rollers**

d074f943

The LCIT rollers are black but their construction and shape are the same as the previous model.

**Coated Paper**

The LCIT can handle coated paper without replacement of the pick-up rollers, feed rollers, and separation rollers.

## *Multi Bypass Tray*

d074f947

The Multi Bypass Tray is installed on top of the LCIT.

**New Lift Motor**

d074f944

The Bypass Tray lift motor has been replaced with a new motor.

## *Buffer Pass Unit*

d074f945

Installed on the left side of the main unit, this option provides a paper path that allows paper and toner to cool before it is fed to downstream peripherals. This prevents toner from sticking to other sheets of paper after stacking. It has a total of 8 fans. The DC motor is slightly slower than the motor of the previous model. This option is recommended for use with the Multi Folding Unit.

## *Cover Interposer Tray*

d074f948

**Paper Path**

The CIT is taller than the previous model. The paper feed path is 20 mm longer but there are no added rollers.

**Installation**

- The black mylar is no longer required for connection to the next peripheral unit downstream.
- The separate joint brackets (x2) for docking have been replaced with a T-bar just like all the other peripherals.

**Lift Motor**

d074f949

The lift motor has been replaced with a new type of motor.

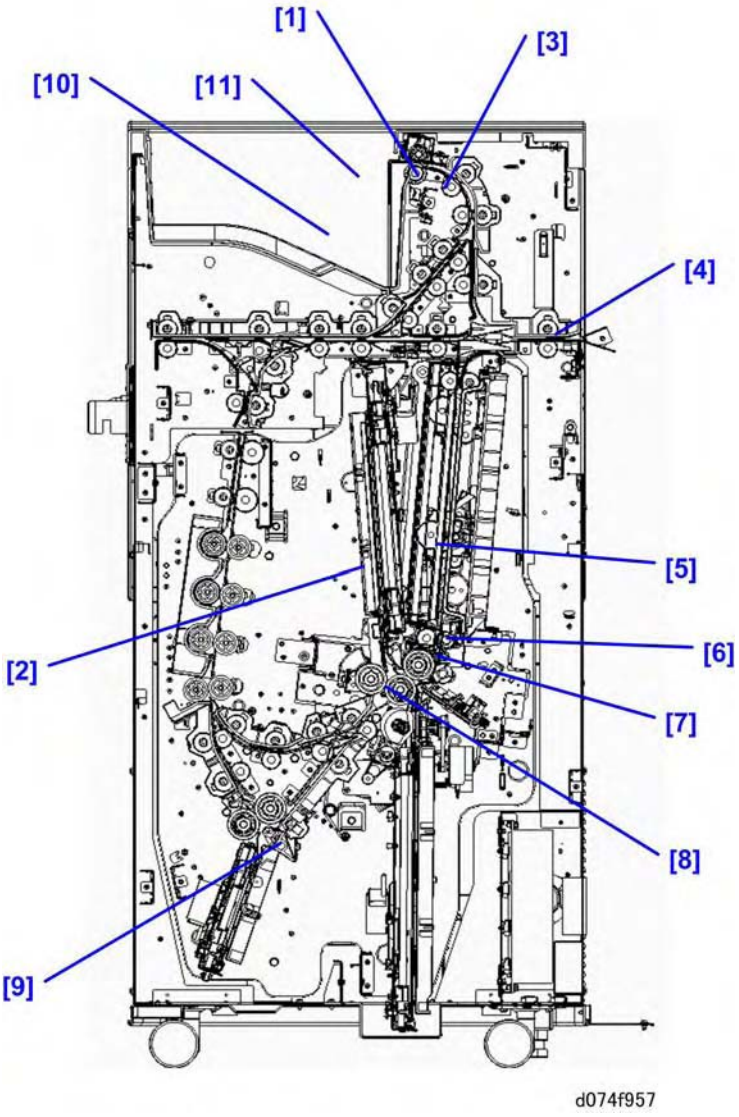
## *Multi Folding Unit*

d074f953

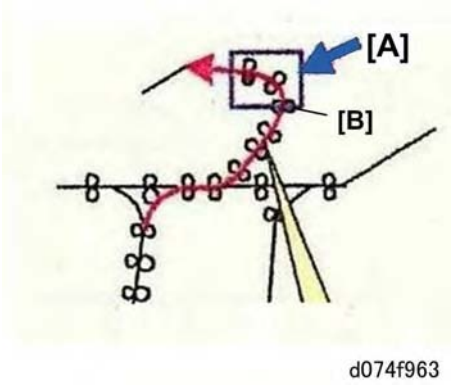
**General Changes**

- Glossy paper mode (half speed). 1st fold motor, crease motor have been replaced by motors capable of slower speeds to accommodate half-speed mode for glossy paper.
- Elimination of stripe tracks at the leading edges of folded coated paper. The ribs of the gate-fold guide plate have been removed and replaced with a smooth surface.
- Up to 3 sheets of paper can now be folded (64 to 80 g/$m^2$)
- Coated paper can be folded.
- The relay guide is now the same as other peripheral units.
- Two accessories have been discarded (proof tray auxiliary trays).

**Modifications to Improve Performance**

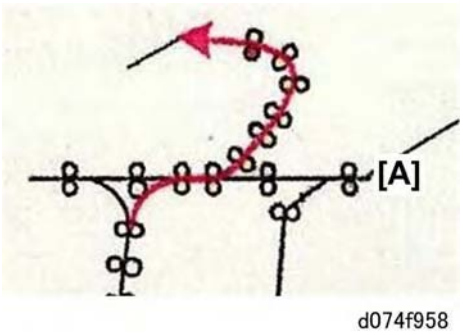



| | |
|---|---|
| **[1]** | **Roller marks on coated paper**. The exit roller has been replaced with the same type of roller used in the High Capacity Stacker to reduce roller marks on coated paper. |
| **[2]** | **Gate folded (FM6) cloth coated paper fold position**. The gap before and after the guide plate of the 2nd stopper has been widened to accommodate cloth coated paper for gate folding. |



d074f963

| | |
|---|---|
| **[3]** | **Improved feed-out of small Z-folded paper**. An extra drive roller [A] above the exit roller [B] at the top tray exit has been added to improve feed-out of small Z-Folded (FM1) paper. |



d074f958

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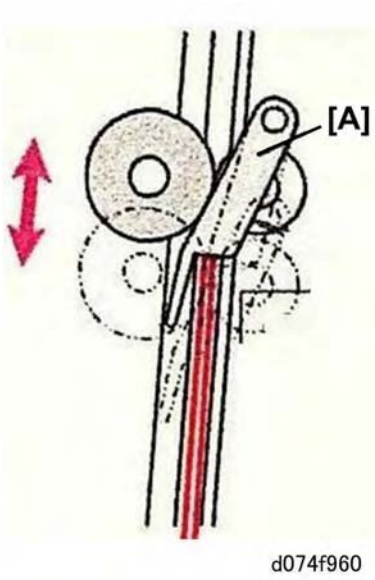
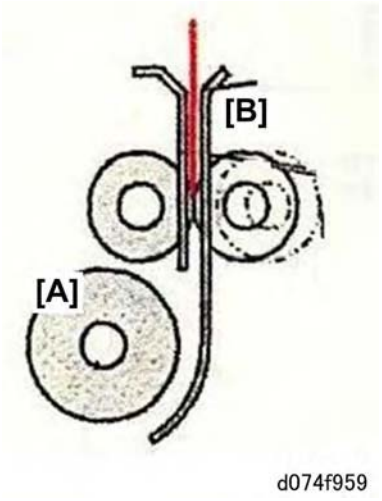
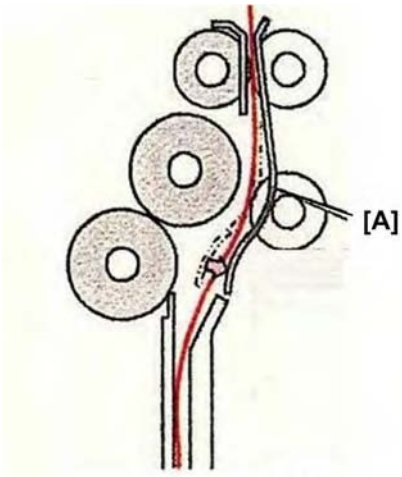
|---|---|
| **[4]** | **Improvement in multiple folding**. The entrance roller [A] and other transport rollers are driven independently. This allows effective control of the line speed while paper is fed from the main machine. |




| | |
|---|---|
| **[5]** | **Elimination of roller marks during multiple folding**. The movement of the TE stop pawl [A] raises and lowers the paper for registration. At the same time, the transport rollers stop rotating to prevent the rollers from marking the paper. |




| | |
|---|---|
| **[6]** | **Elimination of possible damage to leading edges of paper**. Above the 1st feed roller [A], the guide plate [B] above the nip has been lengthened, and the width of the path has been narrowed to prevent distortion of the leading edges of paper. |




d074f965

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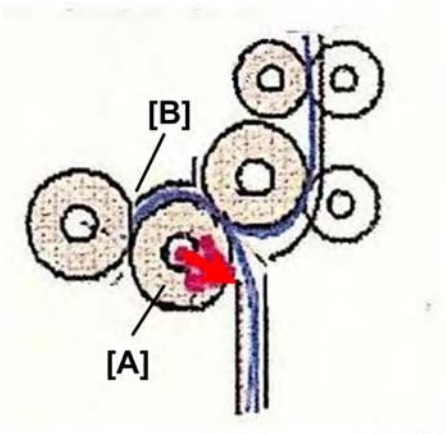
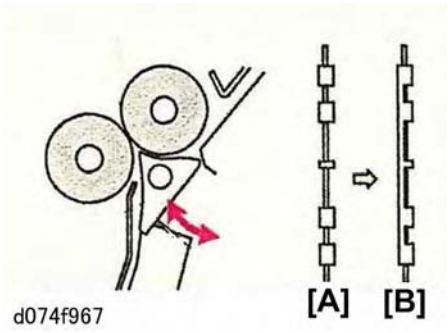
|---|---|
| [7] | **Improved folding for coated paper**. The guide plate [A] can be moved to widen the space in the turn of the transport path for easier folding with the fold plate. |



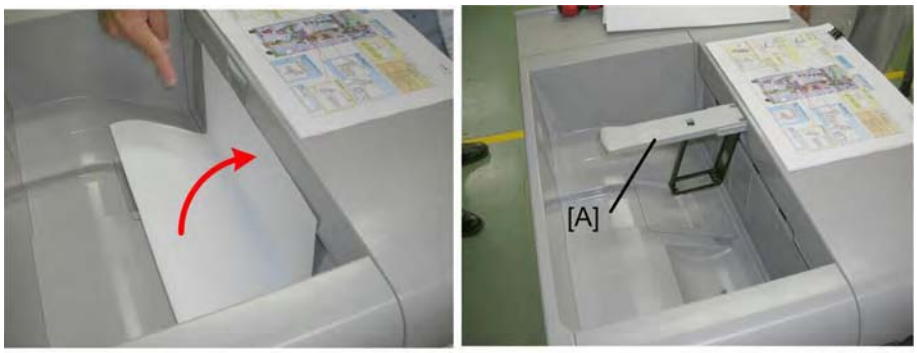

d074f961

| | |
|---|---|
| [8] | **Elimination of roller marks when two sheets are folded**. When two sheets are folded at the same time, the 2nd fold roller [A] pulls away to widen the 2nd nip [B]. |




| | |
|---|---|
| **[9]** | **Elimination of wrinkling in gate-folded large paper sizes**. The shape of the FM6 pawl [A] has been changed [B] to prevent the wrinkling of large paper sizes during FM6 (gate) folding. |

| | |
|---|---|
| **[10]** | **Early top tray full alert with FM1 folding large paper sizes**. An auxiliary tray [A] is provided to keep Z-folded paper (FM1) flat in the tray so that a trailing edge does not trigger an early tray-full alert in the top tray. |




d074f962

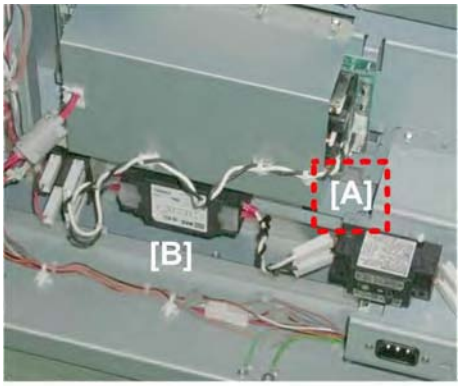
| | |
|---|---|
| **[11]** | **Early top tray full alert with FM3 folding**. The trailing edge of a multi-folded sheet can occasionally open and trigger an early top tray alert. A flexible fold depressor [A] is provided as an accessory to prevent folded paper (especially FM3 Letter Fold-out sheets) from triggering an early tray full alert in the top tray. |

## *Ring Binder*

d074f950

The differences in the Ring Binder Unit are very minor:

- The rear and top covers are metal.




d074f951

- The surge PCB [A] has been removed and a noise filter [B] has been added.

### *High Capacity Stacker*

d074f952

Minor changes in the High Capacity Stacker:

- The operation and LED panel have been moved from right to left side at front edge.
- The door catch has changed slightly (a "bump" roller has been added.)
- Capacity: 5,000 sheets (SRA3, A4 LT) on the shift tray, and 250 sheets on the proof tray. Total: 5,250 sheets.
- This machine allows installation of **only one** High Capacity Stacker in the system. (Some previous models allowed two High Capacity Stackers.)
- One roll-away cart is provided with the stacker. Additional carts are available as options.

### *Finishers and Punch Unit*

d074f954

This machine supports two finishers:

- D512 Booklet Finisher (shown above) that performs both corner and booklet stapling. (Max. stack: 20 sheets with paper 80 g/m$^2$)
- D513 Staple Finisher that performs corner stapling only.

Minor changes:

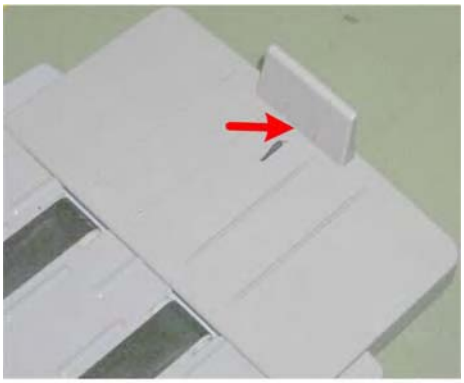
- Side-to-side registration can be adjusted manually on the finisher. The side-to-side registration with an SP code at installation has been eliminated.
- The stacking buffer where paper is shunted long enough for the unit to staple the downstream stack can hold 5 sheets of paper.

### *Trimmer Unit*

d074f955

Minor changes:

- **Transport belt**. The color of the transport belt was changed to white. This prevents dirty images on A3 Full-bleed paper.
- **Entrance guide**. The shape of the movable entrance guide has been modified to prevent pages from slipping.

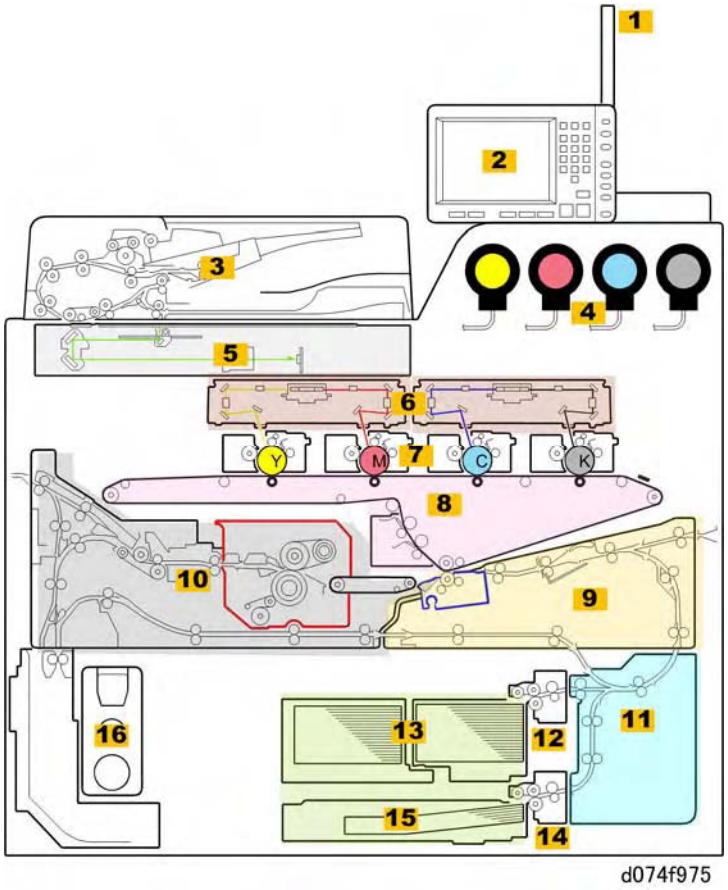


d074f956

- **New sensor**. A new sensor has been added inside the booklet tray. The new sensor detects when the end stopper is installed or removed for limitless output on the tray.

# 2.4 OVERVIEW

## 2.4.1 MACHINE LAYOUT

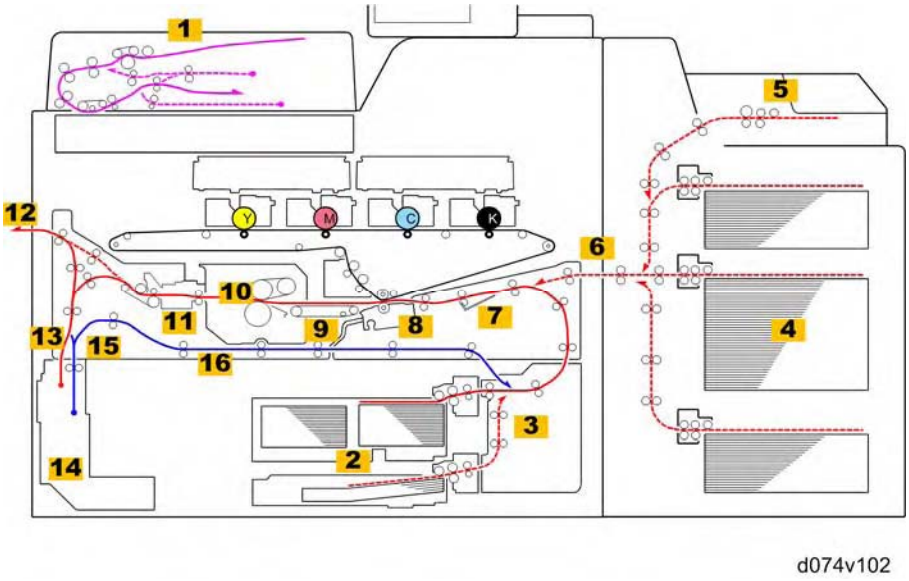



| | | | |
|---|---|---|---|
| 1 | Attention Light | 9 | Right Drawer |
| 2 | Operation Panel | 10 | Left Drawer |
| 3 | ARDF (D074/D075) | 11 | Vertical Transport Unit |
| 4 | Toner Bank | 12 | PFU (Tray 1) |
| 5 | Scanner Unit (D074/D075) | 13 | Tray 1 (Tandem Tray) |
| 6 | Laser Units | 14 | PFU (Tray 2) |
| 7 | PCDUs | 15 | Tray 2 (Universal Tray) |
| 8 | ITB Unit | 16 | Used Toner Bottle |

- **Attention Light**. Provided with the machine (not an option) but requires installation.
- **Operation Panel**. Requires installation. Standard installation for operating the machine while standing, or easy-access installation for operating the machine from a sitting position.
- **ARDF**. Standard auto reverse document feeder (D074/D074).
- **Toner Bank**. Holds four toner bottles, one for each color (YMCK).
- **Scanner Unit**. Color or black-and-white scanning (D074/D075).
- **Laser Units**. There are two laser units. Each laser unit handles two colors (YM, CK).
- **PCDUs**. Photoconductor development units. One for each color (YMCK). Each unit contains the drum (and charge unit), development unit, and cleaning unit.
- **ITB Unit**. Image Transfer Belt Unit. The image is transferred from the drum to the ITB and then transferred from the ITB to the paper.
- **Right Drawer.** Holds the paper registration unit, PTR (Paper Transfer Roller) unit, and the right-half of the duplex path.
- **Left Drawer**. Holds the PTB (Paper Transport Belt), fusing unit, paper cooling unit, exit unit, and the left half of the duplex path.
- V**ertical Transport Unit**. Feeds paper from the paper bank (Tray 1, Tray 2) to the registration unit above.
- **PFU (Tray 1)**. Paper Feed Unit for Tray 1. Contains the pickup roller, feed rollers, separation roller, and grip rollers that feed paper from Tray 1.
- **Tray 1 (Tandem Tray)**. Contains a left tray and a right tray. When paper runs out in the right tray, the left stack is shifted to the right tray to continue feeding paper when a large job is in progress. Tray 1 can be opened to replenish the left tray while paper continues to feed from the locked right tray. Feeds LT/A4 paper.
- **PFU (Tray 2)**. Paper Feed Unit for Tray 2. Contains the pickup roller, feed rollers, separation roller, and grip rollers that feed paper from Tray 2.
- **Tray 2 (Universal Tray)**. Adapts to a variety of paper sizes. The inner tray can be easily removed. Automatic paper size detection.
- **Used Toner Bottle**. Holds used toner transported from the PCDU development units, PCDU cleaning units, ITB cleaning unit, and PTR cleaning unit. The machine can continue to print while the bottle is removed.

## 2.4.2 PAPER PATHS

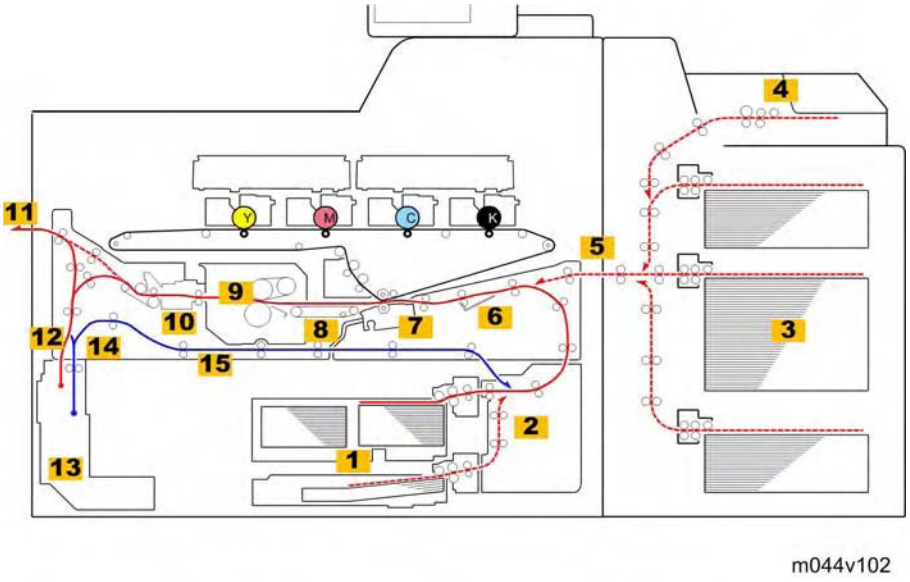
**D074/D075**




| No. | Item | Comment |
|---|---|---|
| 1 | Original Path | ARDF (D074/D075 Only) |
| 2 | Paper Bank | Tray 1 (Tandem: 2,000 sheets), Tray 2 (Universal: 500 sheets) |
| 3 | Vertical Paper Path | Path for paper from where paper from the paper bank and duplex path converge. |
| 4 | LCIT | Tray 3 (1,000 sheets), Tray 4 (2,000 sheets), Tray 5 (1,000 sheets) |
| 5 | Multi Bypass Unit | Tray 6 (500 sheets) |
| 6 | Paper Entrance | From LCIT and Multi Bypass Unit (options) |
| 7 | Paper Registration Unit | Corrects paper skew and side-to-side registration for all paper (including paper fed from the LCIT/Multi Bypass Unit) |
| 8 | Paper Transfer | Toner image transferred from ITB to paper |

| No. | Item | Comment |
|---|---|---|
| 9 | Transport Belt | Transports paper between paper transfer roller and fusing unit. Three fans hold the paper in the paper path. Fans (not rollers) are used to hold the paper in the paper path because the toner is not yet fused. |
| 10 | Fusing Unit | Fuses the toner image to paper |
| 11 | Paper Cooling | Cools paper to reduce curl before it exits or descends to the duplex paper path |
| 12 | Paper Exit | Common paper exit for all paper |
| 13 | Inverter/Exit Tray | Paper is fed into this tray, and reverse fed to invert it for face-down output. |
| 14 | Purge Tray | Bottom of the inverter/exit tray. All paper in the paper path of the main machine is shunted here when a jam occurs downstream. |
| 15 | Paper Invert/Switchback | Paper is stopped and reverse fed here to feed it into the duplex paper path for printing the 2nd side of the sheet. |
| 16 | Duplex Paper Path | Transports paper back to the upper horizontal feed path for paper registration and printing on the second side. |

**M044**

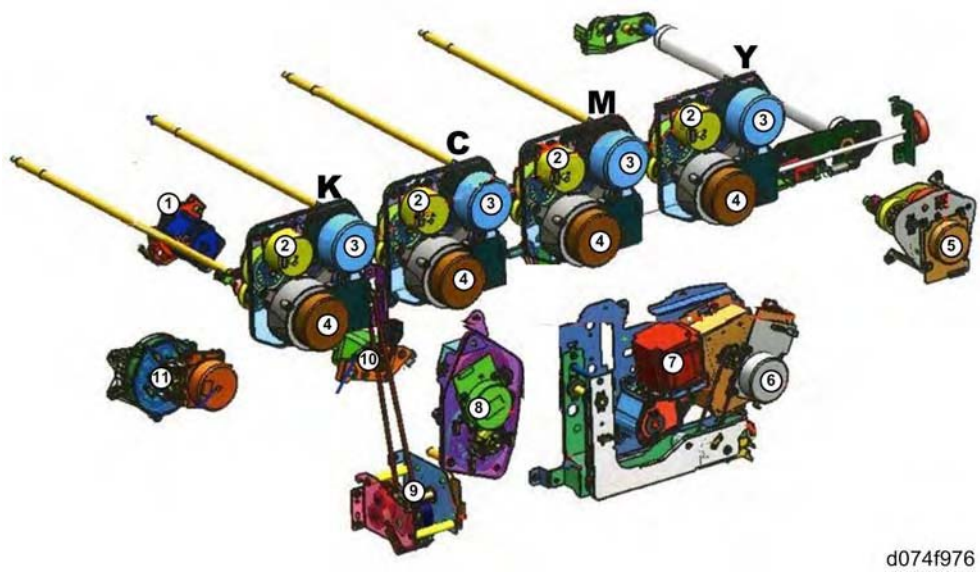



| No. | Item | Comment |
|---|---|---|
| 1 | Paper Bank | Tray 1 (Tandem: 2,000 sheets), Tray 2 (Universal: 500 sheets) |
| 2 | Vertical Paper Path | Path for paper from where paper from the paper bank and duplex path converge. |
| 3 | LCIT | Tray 3 (1,000 sheets), Tray 4 (2,000 sheets), Tray 5 (1,000 sheets) |
| 4 | Multi Bypass Unit | Tray 6 (500 sheets) |
| 5 | Paper Entrance | From LCIT and Multi Bypass Unit (options) |
| 6 | Paper Registration Unit | Corrects paper skew and side-to-side registration for all paper (including paper fed from the LCIT/Multi Bypass Unit) |
| 7 | Paper Transfer | Toner image transferred from ITB to paper |
| 8 | Transport Belt | Transports paper between paper transfer roller and fusing unit. Three fans hold the paper in the paper path. Fans (not rollers) are used to hold the paper in the paper path because the toner is not yet fused. |
| 9 | Fusing Unit | Fuses the toner image to paper |

| No. | Item | Comment |
|---|---|---|
| 10 | Paper Cooling | Cools paper to reduce curl before it exits or descends to the duplex paper path |
| 11 | Paper Exit | Common paper exit for all paper |
| 12 | Inverter/Exit Tray | Paper is fed into this tray, and reverse fed to invert it for face-down output. |
| 13 | Purge Tray | Bottom of the inverter/exit tray. All paper in the paper path of the main machine is shunted here when a jam occurs downstream. |
| 14 | Paper Invert, Switchback | Paper is stopped and reverse fed here to feed it into the duplex paper path for printing the 2nd side of the sheet. |
| 15 | Duplex Paper Path | Transports paper back to the upper horizontal feed path for paper registration and printing on the second side. |

## 2.4.3 MAIN MOTORS

Here is a list of the main motors inside the machine. This list is not complete, but this perspective drawing shows you the approximate location of the main motors viewed from the back of the machine.




| No. | Name |
|---|---|
| ① | ITB Lift Motor K (on back of ITB unit) |
| ② | Drum Cleaning Motors |
| ③ | Development Motors |
| ④ | Drum Motors |
| ⑤ | Exit Motor |
| ⑥ | Fusing Motor |
| ⑦ | Pressure Roller Lift Motor |
| ⑧ | PTR Motor |
| ⑨ | Used Toner Collection Motor (Main) |
| ⑩ | Belt Centering Motor (on back of ITB unit) |
| ⑪ | ITB Drive Motor (on back of ITB unit) |

**Notes**:

- There is a drum cleaning motor, development motor, and drum motor for each PCDU (YMCK).

d074r005

- To access most of these motors for servicing, both rear doors must be opened. Some boards and air ducts may also require removal.

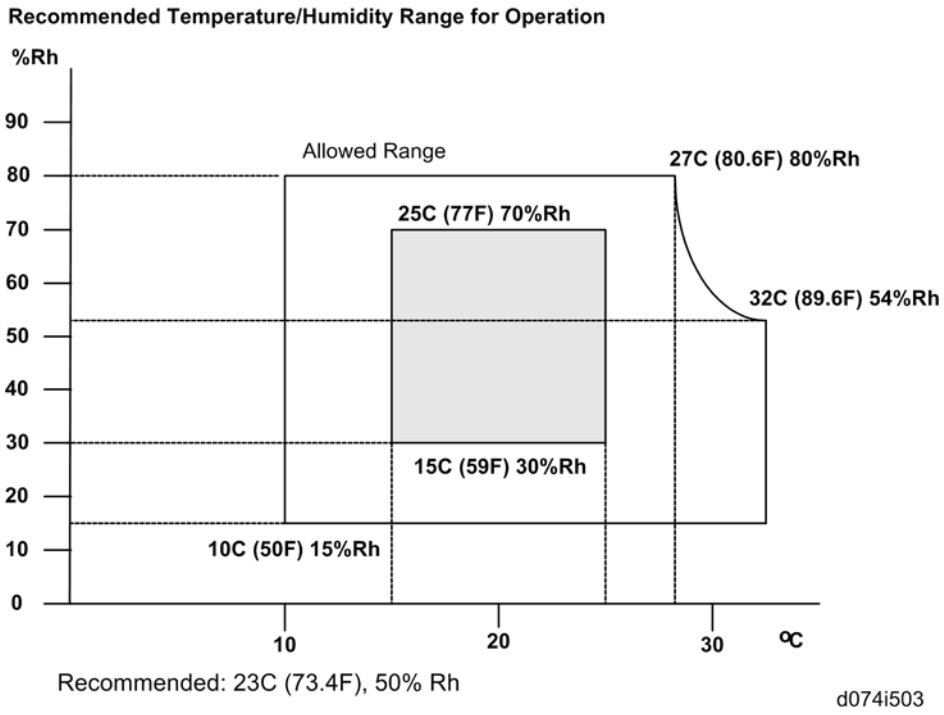
# INSTALLATION

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 1 | 01/24/2012 | Do not install over 6500 feet above sea level |
| 38 | 12/06/2011 | Installation Power On |
| 41 | 12/06/2011 | Fiery Controller Setup |
| 52 | 3/27/2012 | Color registration check |
| 53 | 3/27/2012 | Ruled line check |
| 60 | 3/27/2012 | Image skew check |
| 63 | 3/27/2012 | Front and rear image density check |
| 234 ~ 237 | 03/08/2012 | Added Optional Counter I/F Type A |
| 238 ~ 247 | 03/15/2012 | Added Output Tray Type C751 (D720) |

# 3. INSTALLATION

## 3.1 INSTALLATION REQUIREMENTS

### 3.1.1 OPERATING ENVIRONMENT




| Item | Details |
|---|---|
| Target Temperature & Humidity | 23°C (73.4°F), 50% RH |
| Temperature range | 10° to 32°C (10° to 90°F) |
| Humidity range | 15 to 80% RH |
| Ambient illumination | Less than 1500 lux |
| Ventilation | Air turnover rate of more than 30$m^3$/hr/person |
| Ambient dust | Less than 0.10 mg/$m^3$ |

Important

- If the machine is installed in a location where the ambient temperature is more than 30°C (86°F), do not run full color printing longer than 2 hours, and never turn the main power switch off immediately after a long print job. Leave the machine on so that the fans can expel the hot air from the machine and cool the electronic components.
- If this machine is to be used in a location where both temperature and humidity are high, the tray heaters should be turned on. The tray heaters for the paper bank are built in. Just open the 1st and 2nd tray and turn them on.

1. If the installation site has air-conditioners or heaters, put the machine in a location that agrees with these conditions:
   - Where there are no sudden temperature changes from low to high, or high to low.
   - Where the machine will not be directly exposed to cool air from an air conditioner in the summer.
   - Where the machine will not be directly exposed to reflected heat from a heater in the winter
2. Do not put the machine where it will be exposed to gases like ammonia that can cause corrosion.
3. Put the machine on a strong level surface. The front and rear of the machine must be level ±2.5 mm (0.1").
4. Never put the machine where it can be subjected to strong vibration.
5. Never connect the machine to a power source shared with other electrical devices.
6. The machine can generate an electromagnetic field which can cause interference with radio or television reception.

⇒ 7. Do not install the machine at any location over 2000m (6500 feet) above sea level.

## 3.1.2 POWER REQUIREMENTS

**⚠WARNING**

- Make sure that the wall outlet is near the mainframe.
- Keep the area around the power outlet open and free of clutter so the operator can get to it easily and quickly.
- Make sure the plug connection to the power outlet is tight..
- Do not connect more than one electrical device to the same power outlet.
- Be sure to ground the machine.
- Never place anything on the cord and never wrap the cord around itself or around another object.



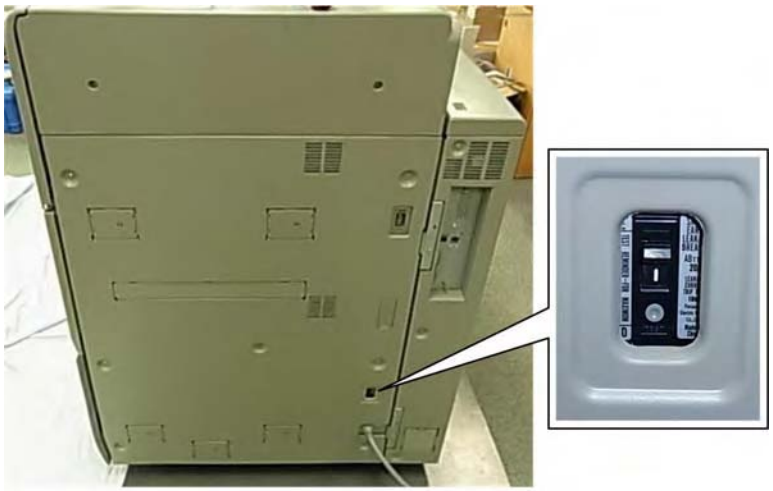
### *Input voltage level*

| | |
|---|---|
| North America | 208 to 240V, 50/60 Hz: More than 20 A |
| Europe/Asia | 220/230/240V, 50/60 Hz: More than 16 A |

Permissible voltage fluctuation: ±10%

### *Breaker Switch*

The machine is equipped with a breaker switch located at the rear, lower right corner. Inspect and test the breaker switch at least once a year.



d074i801

Important

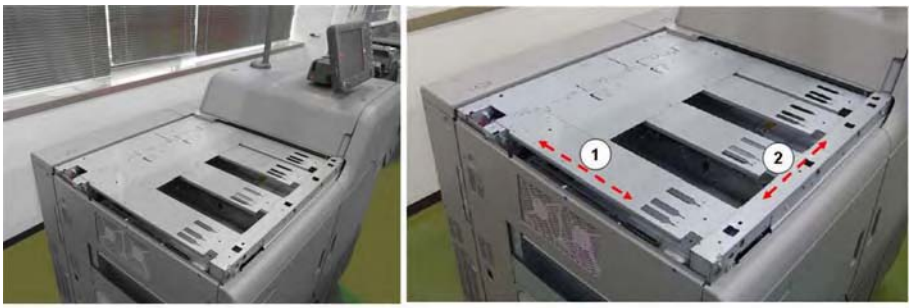
- If the breaker switch appears dirty and covered with soot, it probably requires replacement.

## 3.1.3 MACHINE LEVEL

**D074/D075**

d074i802

**M044**




m044i802

The covers should be removed before leveling the machines.

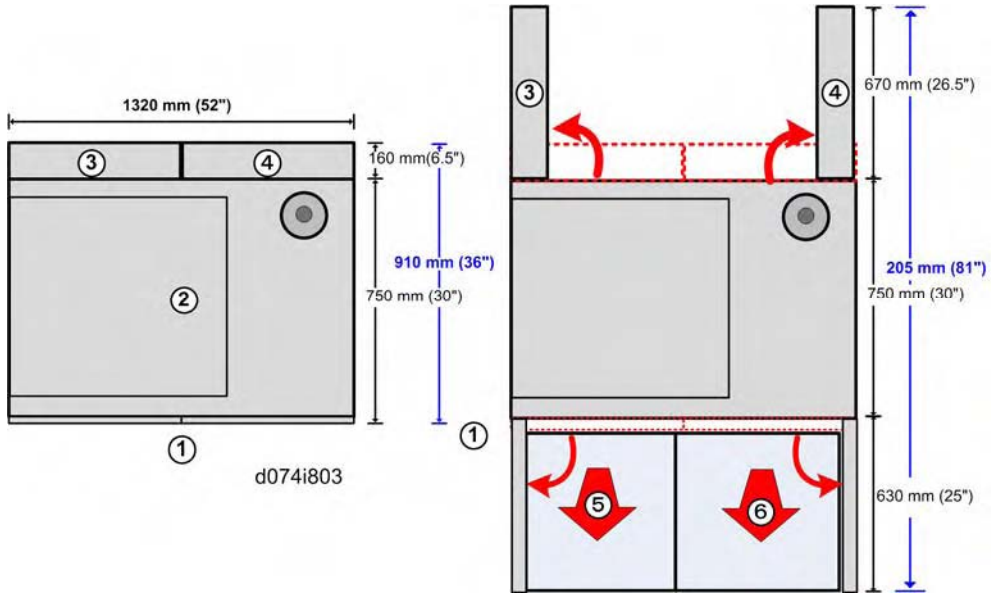
| | | |
|---|---|---|
| ① | Front to rear | Less than 5.0 mm (0.2") away from level |
| ② | Right to left | Less than 5.0 mm (0.2") away from level |

The machine feet can be rotated to raise and lower each corner of the machine until it is level.

## 3.1.4 SPACE REQUIREMENTS

Put the mainframe near the power source. Consideration should be given not only to machine operation, but servicing the machine as well, with front doors and rear boxes fully open.

### *Space Around the Main Machine*



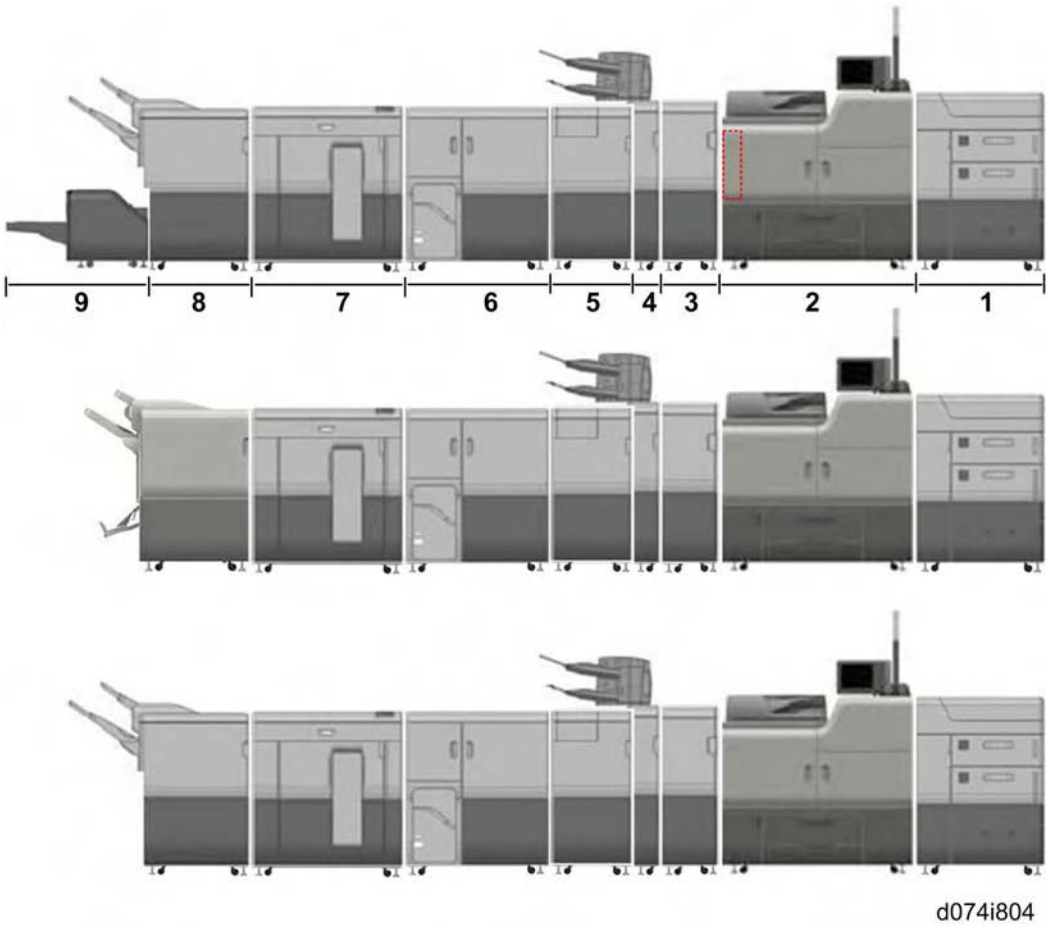

The illustration above is a top view of the main machine. This illustration is not drawn to scale. Measurements are rounded up slightly, but they will allow you to estimate how much space will required to work around the machine and service the machine without moving it.

- Approximately 670 mm (26.5 in.) clearance required behind the machine with both rear boxes open.
- Approximately 630 mm (25 in.) at the front of the machine with both front doors open.

| No. | Part | Range of Movement |
|---|---|---|
| ① | Front Doors | Both doors swing open to the front |
| ② | Main Machine | Remains stationary. |
| ③ | Cooling Box | Swings open to the rear ( x3) |
| ④ | Controller Box | Swings open to the rear ( x3) |
| ⑤ | Left Drawer | Slides open to the front for servicing (fusing unit, etc.) |
| ⑥ | Right Drawer | Slides open to the front for servicing (registration unit, etc.) |

- The rear boxes (cooling box and controller box) are on hinges and can be swung open to the rear in order to service parts on the back of the machine (motors, sensors, etc.).
- The front doors swing open to the front, and then the left drawer or right drawer (or the ITB unit as well) can be pulled out the front of the machine on their rails for servicing.

## *Total Space Required*




| No. | Unit | mm | in. |
|---|---|---|---|
| 1 | A3/DLT LCIT | 880 | 35 |
| 2 | Main machine | 1320 | 52 |
| 3 | Buffer Pass Unit*[1] | 330 | 13 |
| 4 | Cover Interposer Tray*[1] | 164 | 7 |
| 5 | Multi Folding Unit | 470 | 19 |

| No. | Unit | mm | in. |
|---|---|---|---|
| 6 | Ring Binder*[1] | 870 | 35 |
| 7 | High Capacity Stacker**[1] | 900 | 36 |
| 8 | Finisher | 990 | 39 |
| 9 | Trimmer Unit*[1] | 1115 | 44 |
| | **Total 1 (mm, in.)** | 7,422 mm | 292 in. |
| | **Total 2 (m, ft.)** | 7.4 m | 25 ft |

***[1]**: These peripherals are schedule for release with the M044..

**Notes:**

- The Decurl Unit is not listed because it is installed inside the left side of the main machine.
- The Multi Bypass Tray is not listed because it is installed on top of the LCIT.
- The Buffer Pass Unit (3) is required for the Multi Folding Unit (5).
- Only one High Capacity Stacker (7) can be installed in the line.
- If the Trimmer Unit (9) is not installed, the booklet tray for the Booklet Finisher (D512) must be installed to hold stapled booklets. (The booklet tray must be removed in order to install the Trimmer Unit.)
- The Trimmer Unit (9) cannot be installed with the Finisher (D513). This finisher performs only corner and flat stapling (no booklet stapling). The Trimmer Unit processes booklet-stapled stacks only.

## 3.1.5 SWITCHING THE SYSTEM ON/OFF

### *Main Power and Operation Power Switch*

**Main Power Switch**

The main power switch is located inside the front left door. This machine should be left on at the end of the work day.

**⚠CAUTION**

- This switch should always be turned off before servicing the machine.

**Operation Switch**

The operation switch is located on the operation panel. This is the switch that the operator uses to turn the machine on and off and the beginning and end of each work day.

**⚠CAUTION**

- Never turn off the main power switch when its power LED is lit or flashing.
- To prevent damage to the hard disk or memory, push the operation switch to turn the power off, wait for the power LED to go off, and then turn the main power switch off.
- Never turn off the main power switch of the mainframe before shutting down the Fiery controller.

The correct shut down procedure for the Fiery controller is described below.

### *Power On with Fiery Controller*

1. Turn on the main power switch of the main machine.
2. Turn on the switch on the back of the Fiery Controller box.
3. Press and turn on the switch on the front of the Fiery Controller box.

### *Turning the System Off*

**On the Fiery controller operation panel:**

1. Press the [Fiery] tab.
2. Press the [Restart Fiery] button.
3. Press the [Shut Down" button.

**On the Main Machine**

1. Push the operation switch on the operation panel to turn the power off.
2. Wait for the operation switch power LED to stop flashing.

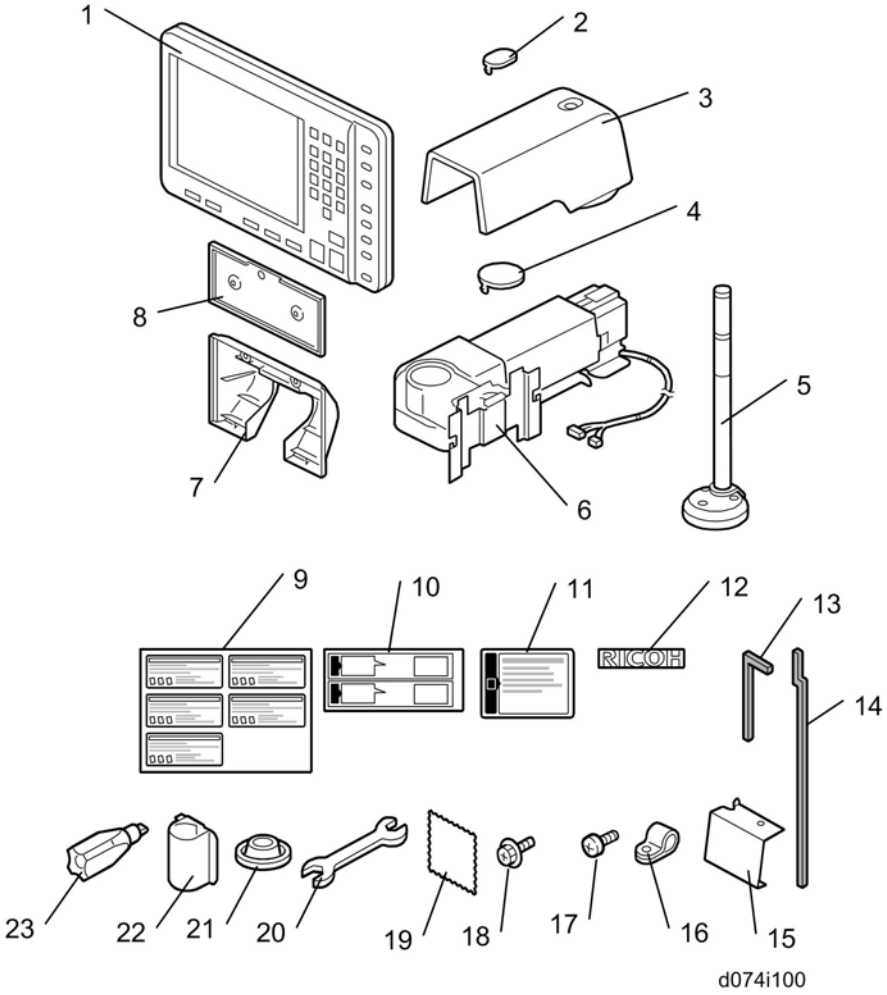
   Important

   - Never turn off the main power switch when the power LED is lit or flashing.
3. After the power LED goes off, open the left front door.
4. Turn the main power switch off.

# 3.2 MAIN MACHINE

## 3.2.1 ACCESSORIES

**D074/D075/M044**




| No. | Description | Q'ty |
|---|---|---|
| 1. | Operation Panel | 1 |
| 2. | Screw Cover - Small | 1 |
| 3. | Arm Cover | 1 |
| 4. | Screw Cover - Large | 1 |
| 5. | Attention Light | 1 |

| No. | Description | Q'ty |
|---|---|---|
| 6. | Arm | 1 |
| 7. | Rear Cover - Convex | 1 |
| 8. | Rear Cover - Flat | 1 |
| 9. | Original Set Decals (D074/D075) | 1 |
| 10. | Paper Set Decals | 1 |
| 11. | Ink Jet Paper Caution Decal (NA only) | 1 |
| 12. | Logo Plate (NA only) | 1 |
| 13. | Sponge Strip - L | 1 |
| 14. | Sponge Strip - Long Hooked | 1 |
| 15. | Harness Cover | 1 |
| 16. | Nylon Clamp | 1 |
| 17. | Screws (M4x6) | 4 |
| 18. | Screws (M4x8) | 11 |
| 19. | Cleaning Cloth (D074/D075) | 1 |
| 20. | Wrench | 1 |
| 21. | Shoes | 4 |
| 22. | Fusing Roller Knob Holder | 1 |
| 23. | Fusing Roller Knob | 1 |

## 3.2.2 INSTALLATION FLOW

| Procedure |
|---|
| **Installation: Power Off** |
| Unpack |
| Install Attention Light |
| Install Operation Panel |
| Connect ARDF (D074/D075) |
| Attach Fusing Roller Knob Holder |
| Level the Main Machine |
| Test Breaker Switch |
| Install Toner Bottles |
| **Installation: Power On** |
| Connect Main Machine to Power Source and Power On |
| Start Toner Fill |
| SP3051-001 (Manual Toner Fill) |
| Initialize Process Control |
| SP3020-001 (Process Setup) |
| SP3012-001 to check whether initialization was successful |
| Exit SP Mode and Power Off |
| **Fiery Controller Connection** |
| **Fiery Controller Setup** |
| **Paper Library Data Installation** |
| **Finishing the Installation** |

## 3.2.3 INSTALLATION: POWER OFF

**CAUTION**

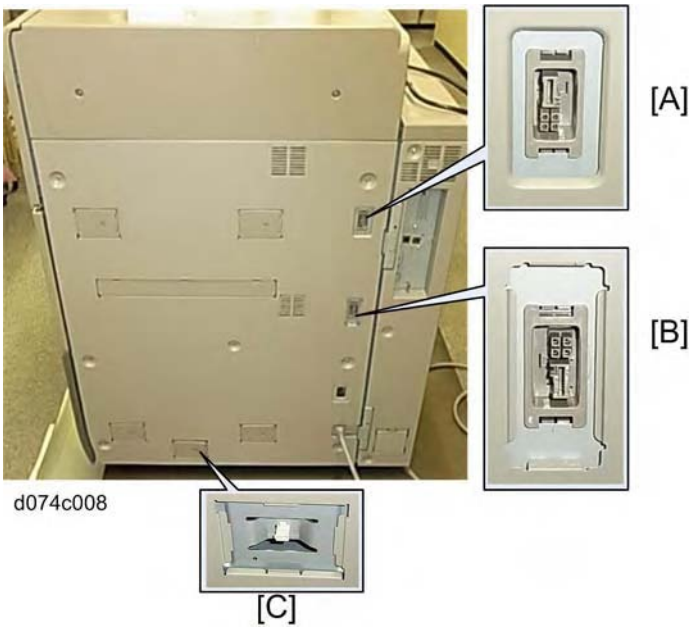
- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.

### *Rating Voltages for Connection Points*

**CAUTION**

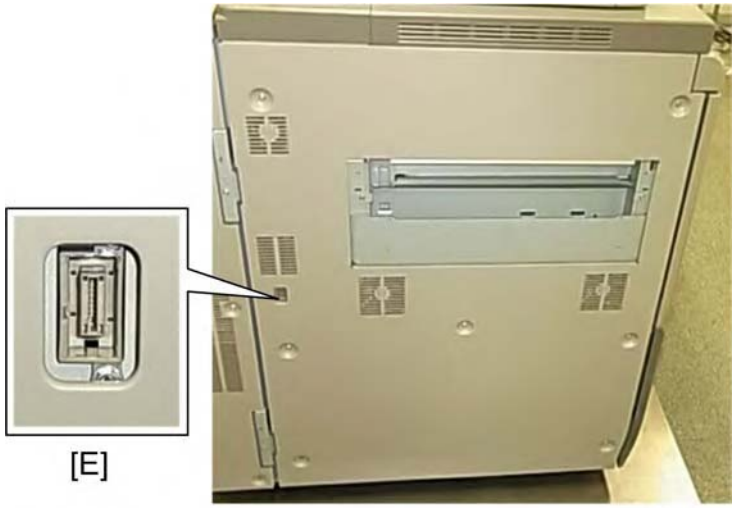
- Be sure to plug cable connectors into the correct sockets.

**Right Side**




- ARDF Max. DC24V (D0074/D075)
- LCIT [B]: Max. DC24V
- LCIT Anti-condensation Heaters [C]: Max. AC 230V ±10%

**Left Side**

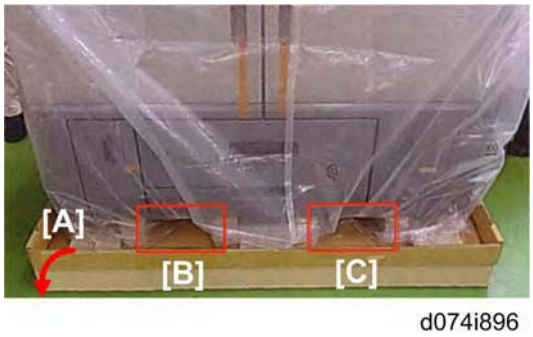



- Finisher [E]: Max. DC24V

## *Unpack*

### Removal from Pallet

The main machine must be removed from its pallet with a forklift.




1. Knock down the front edge of the cardboard [A].
2. Insert the arms of the forklift at [B] and [C].

**Shrink Wrap, Bubble Wrap**

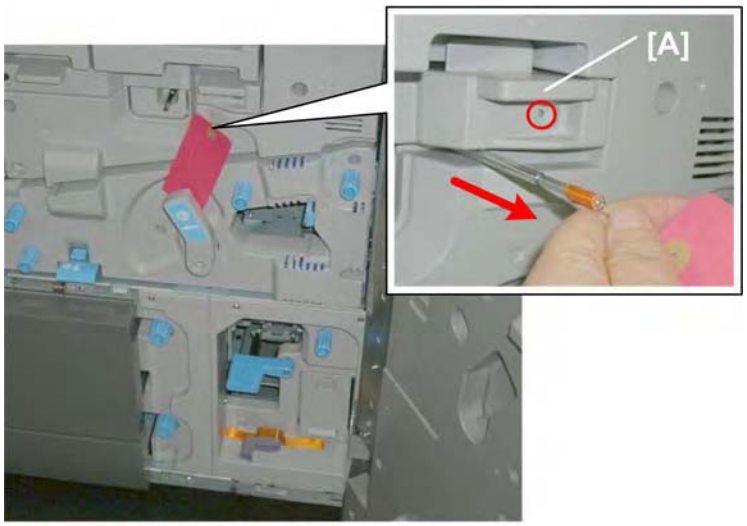
d074i808

3. Remove shrink wrap [A] and bubble wrap [B].

**External Tape**

4. Remove the tape from the front and right side.
5. Remove tape at the rear and left side.

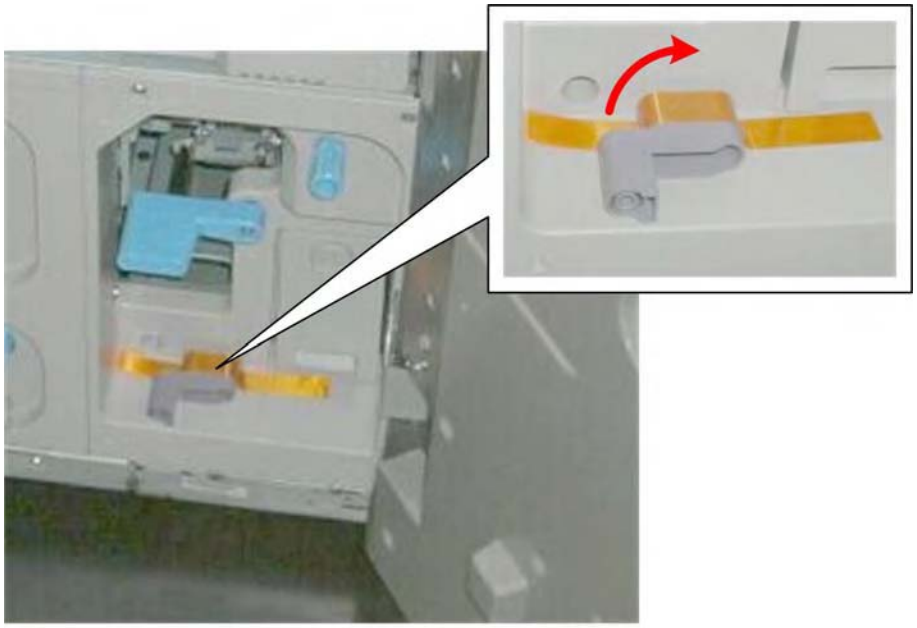
**Shipping Rod**




d074i812

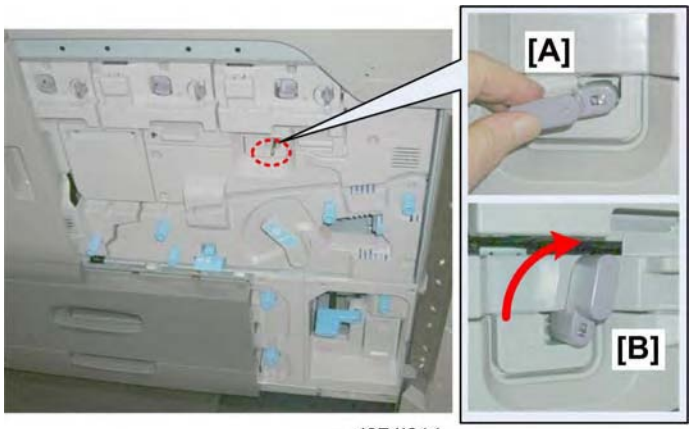
6. Open the front door.
7. Remove cover [A] ( x2).
8. Pull out the shipping rod.

**ITB Lever**



d074i813

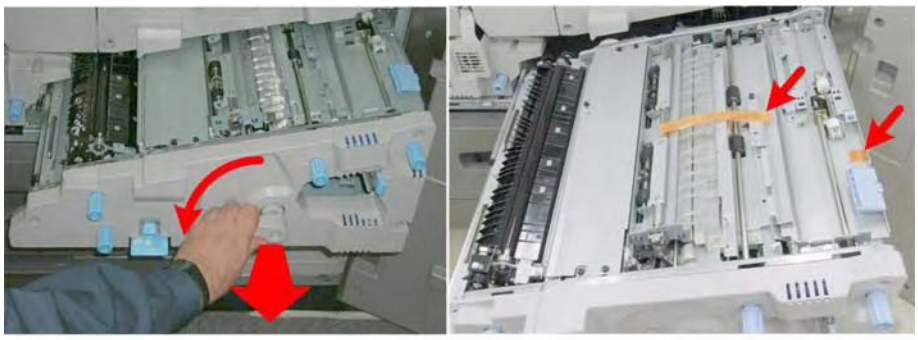
9. Remove the tape and ITB lever.




d074i814

10. Attach the ITB lever [A] to the tip of the bare shaft.
11. Rotate the lever up [B] to lock the ITB in place.

**Right Drawer**



d074i895

12. Lower the handle.
13. Pull the right drawer out until it stops.
14. Remove the tape.

**Paper Trays**

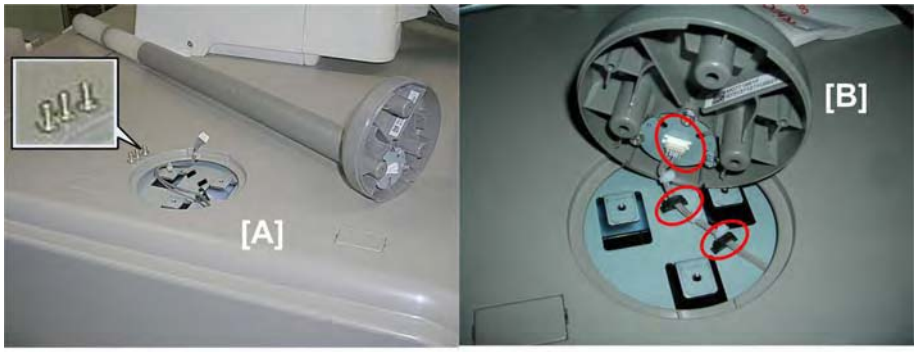
15. Pull out the top tray and remove any tape and packing material.
16. Pull out the bottom tray and remove any tape and packing material.

**Factory Settings Sheet**

d074r992

17. The Factory Settings Sheet is stored at the factory under the used toner bottle.
18. Remove the sheet and keep it in a safe place.

### *Attention Light*




d074i815

1. The attention light is installed on the top rear edge [A] with accessory screws (x3 M4x6).

Note

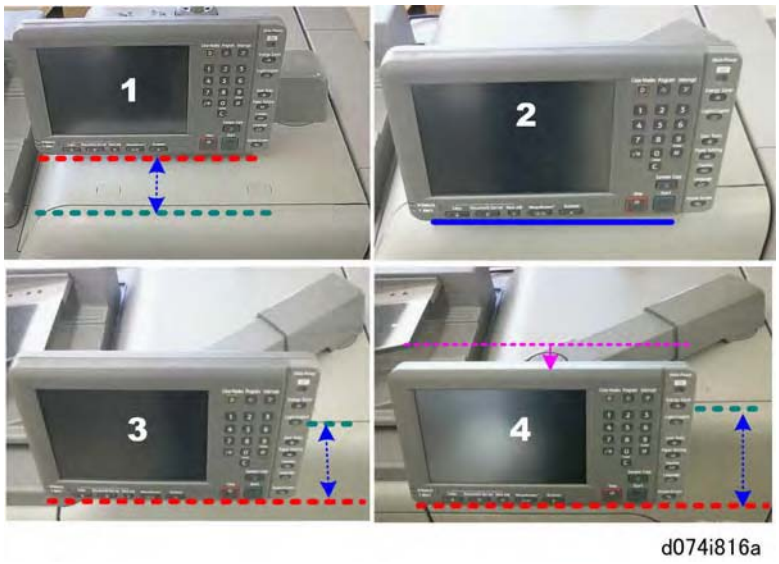
- The three screws must be removed from their holes (these screws are not accessories).

2. Connect the light [B] (x1, x2).

d074i816

3. Set the base of the light [A] in the socket so that the back of the socket [B] fits into the knockout.
4. Fasten the base to the main machine (x3).

## *Operation Panel Installation*



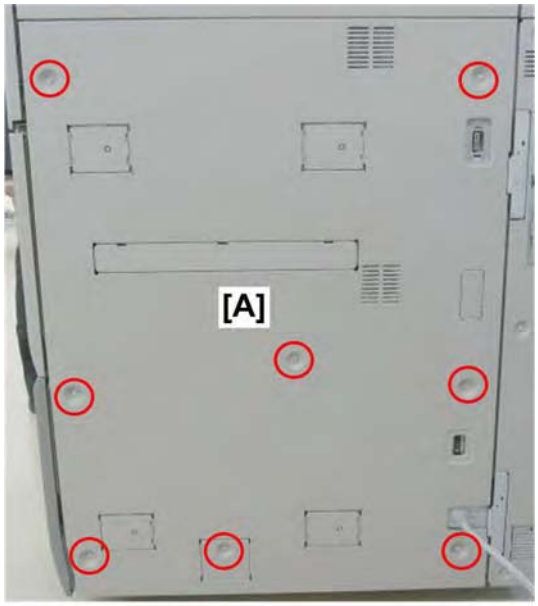

d074i816a

There are four possible ways to configure the operation panel when it is installed.

| Config. | Description |
|---|---|
| **1** | **Standard**. The support arm is perpendicular to the right side of the machine and the operation panel is recessed from the front of the machine. |
| **2** | **Standard Diagonal**. The support arm is set at an angle so that the operation panel is flush with the front of the machine. |
| **3** | **Standard Diagonal Extended**. The support arm is set an angle (same as Configuration 2) and the arm is extended so that the operation panel extends beyond the front of the machine. |
| **4** | **Easy Access (Sitting Position)**. This is the same as Configuration 3 but the operation panel is removed and re-hung on lower hooks so it is lower. This allows access to the operation panel from a sitting position. |

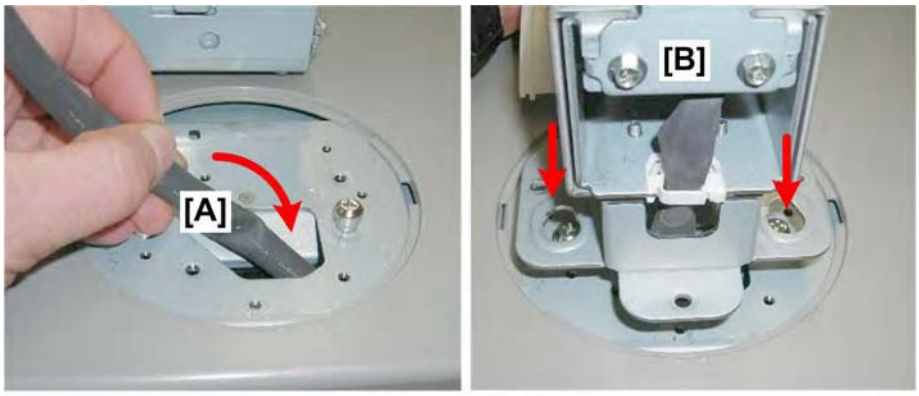
- This installation procedure describes how to install the operation panel with Configuration 1 or 4.
- For more about how to install the operation panel with Configuration 2 or 3, refer to the Replacement and Adjustment section. (☛p.5-57)

## *Install Operation Panel: Standard Installation*



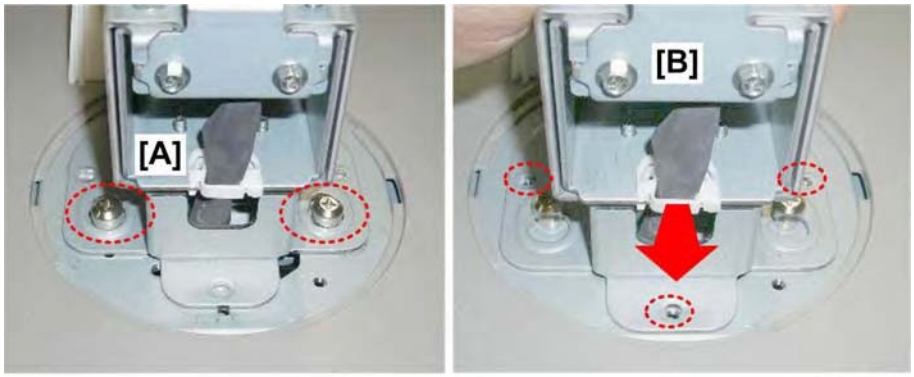

d074i860

1. Remove the right cover [A] ( x8).



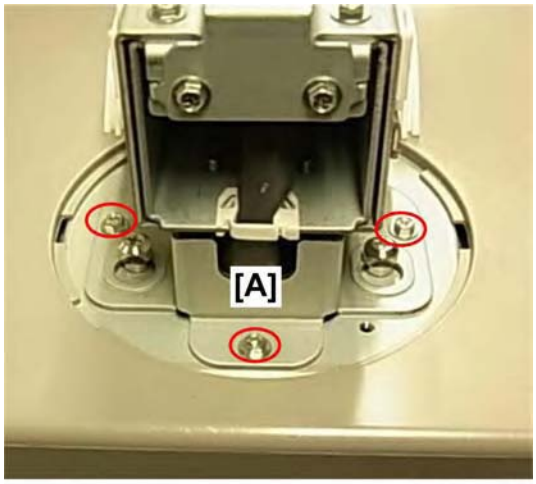

d074i863

2. Set the arm on the machine and route the harness [A] down through the hole.
3. Reach inside the right side of the machine and pull the harness down to take up all of the slack.
4. Set the base of the arm [B] on the shoulder screws.



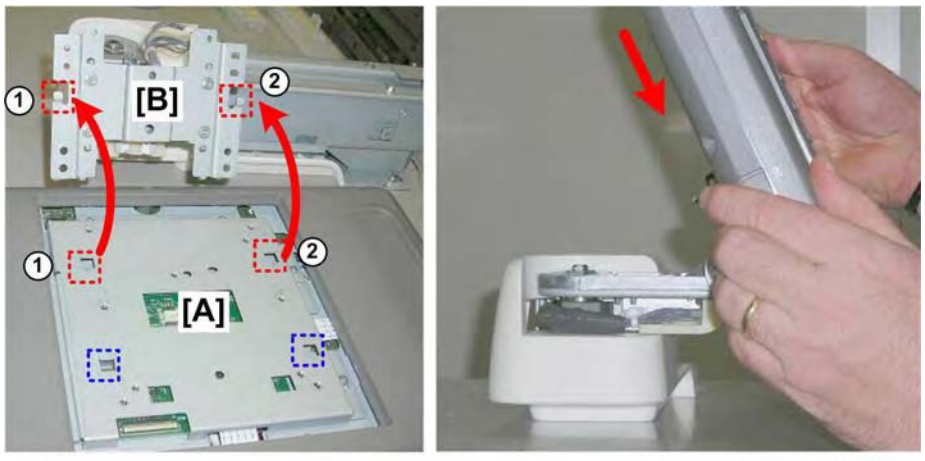

d074i864

5. Make sure that the base of the arm [A] is flat and that the wide ends of the keyholes on both sides are centered on the shoulder screws.
6. Push the base of the arm [B] to the left to lock the narrow ends of the keyholes onto the shoulder screws.
7. Make sure that the three screw holes in the base are aligned with the three holes below.




d074i865

8. Fasten the base of the arm [A] ( x3).

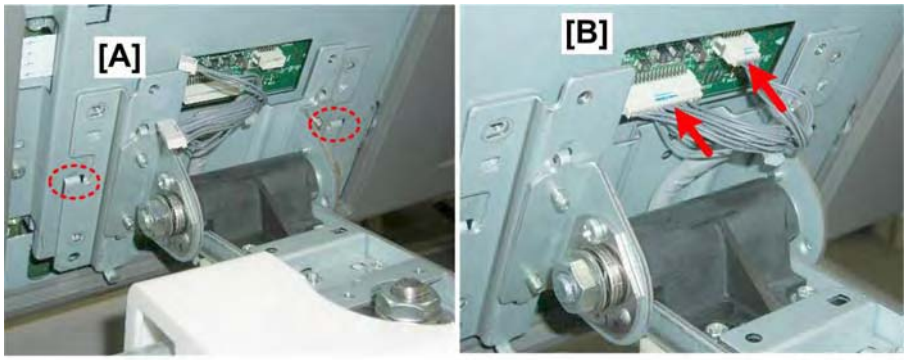



d074i866

9. Set the back of the operation panel [A] in front of the mounting plate [B].

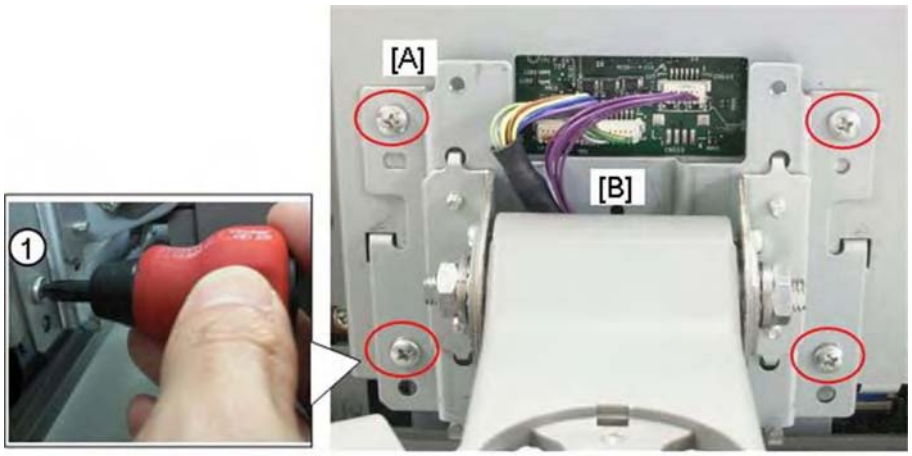
- There are four cutouts on the back of the operation panel [A] and two hooks on the mounting plate [B]
- The bottom cutouts ①, ② in the operation panel [A] are attached to the two hooks ①, ② on the mounting plate [B].
- The other two cutouts on the back of the operation panel [A] (marked blue in the photo above) are not used.

10. Attach the operation panel to the mounting plate as shown on the right.




d074i867

11. At the back of the operation panel, make sure that both hooks are connected securely.
12. Connect the harnesses at [B] ( x2).

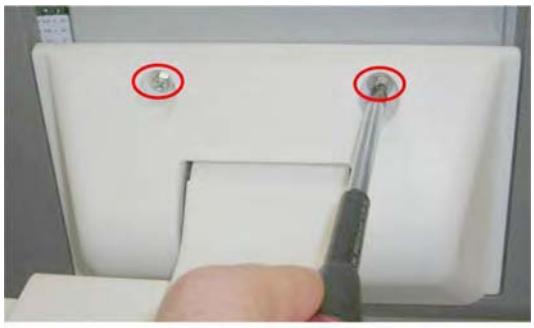



d074i868

13. Fasten the back of the operation panel [A] to the mounting bracket [B] ( x4 M4x6). You will need a short screwdriver to attach the screw at ①.

Important

- You must use the M4x6 screws to fasten the operation panel at this step. If you use the longer screws (M4x8) they could touch and damage the operation panel board.



d074i871

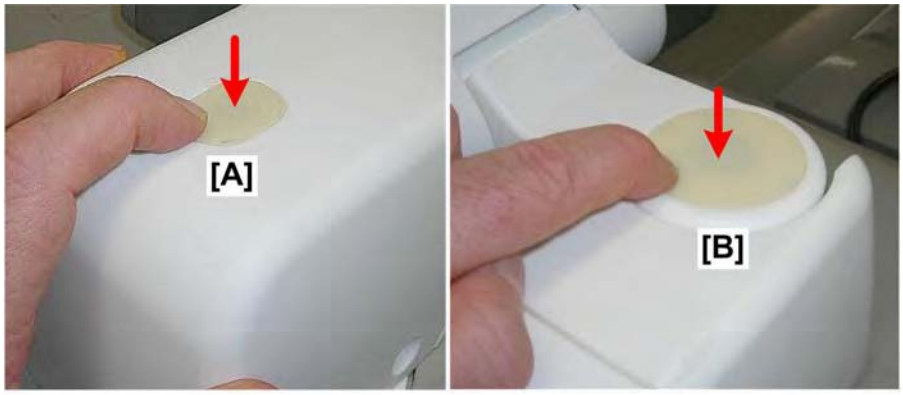
14. Attach the convex rear cover to the back of the operation panel ( x2).

d074i872

15. Attach the flat rear cover above the lower cover ( x2).

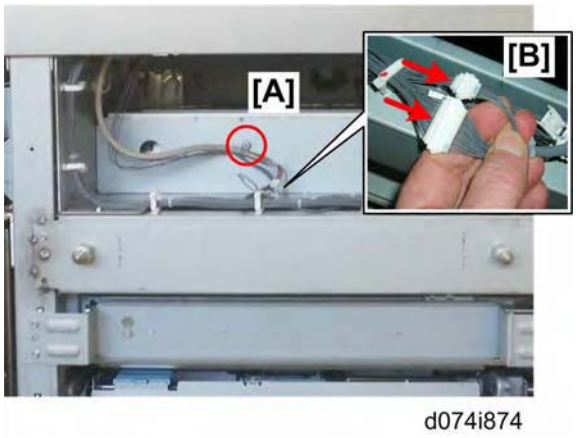
d074i872a

16. Attach the arm cover ( x2).




d074i873

17. Attach the screw covers on the top of the support arm, small screw cover at [A] and large cover at [B].



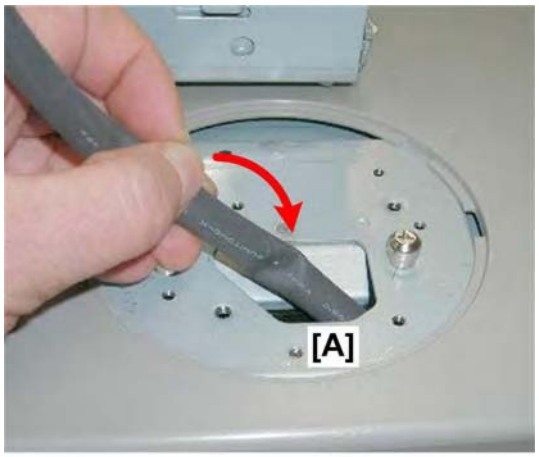

d074i874

18. On the right side of the machine where the right cover was removed:
    [A] Fasten the nylon clamp ( x1).
    [B] Connect the operation panel harnesses ( x2).
19. Re-attach the right cover ( x7).

## *Operation Panel: Easy Access Installation*

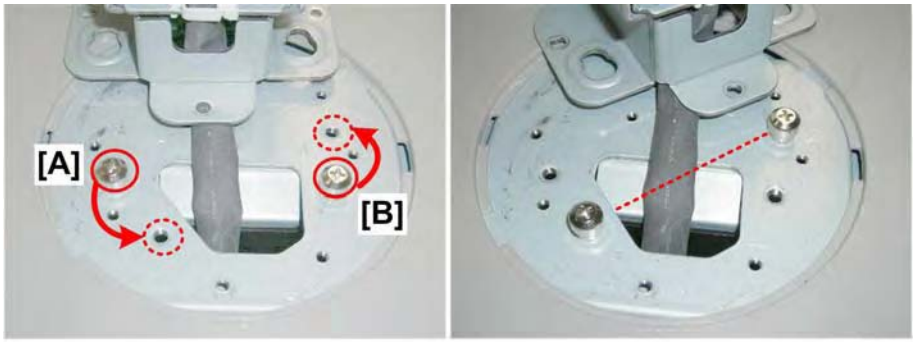
Follow this procedure to install the operation panel for easy access so it can be used from a sitting position.

1. Do Steps 1 to 4 of the previous procedure for the standard installation.



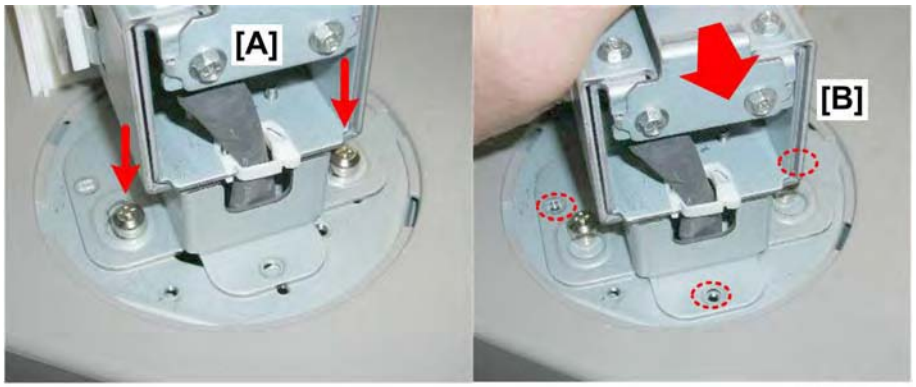

d074i863a

2. Route harness [A] down through the hole.




d074r289a

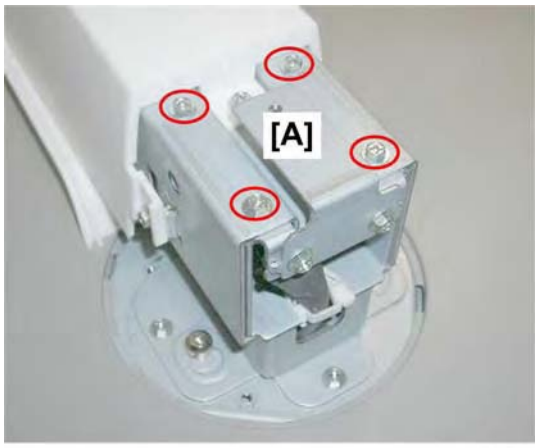
3. Remove shoulder screw [A] and re-fasten it at the lower hole (x1).
4. Remove shoulder screw [B] and re-fasten it at the upper hole (x1). The screws should now be diagonally opposite one another as shown above.




d074r290

5. Set the base of the arm [A] on the shoulder screws.

6. Make sure the base of the arm is flat against the top of the machine.
7. Push the support arm to the right to lock the base onto the shoulder screws. You can see the three holes of the base aligned with the holes below.



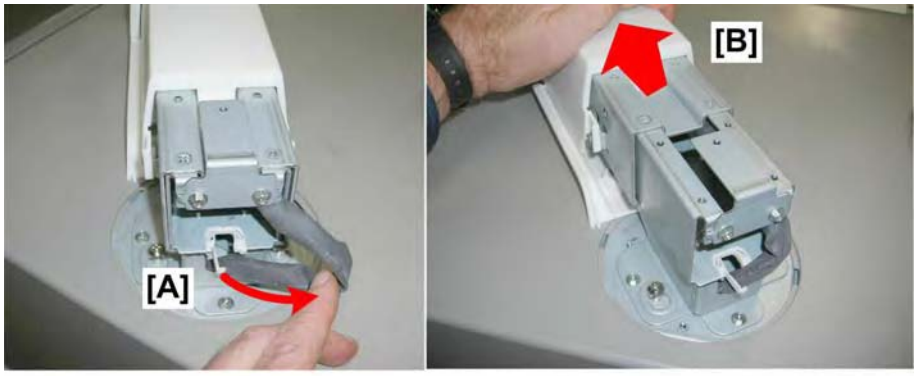

d074r291

8. Attach the base [A] ( x3).

Important

- Make sure that these screws are fastened tightly.

9. Remove the screws on top of the support arm [B] ( x4). **Keep these screws.**




d074r292

10. At the bottom of the base [A], open the clamp and pull a short length of the harness out of the hole to create some slack in the harness (x1).
11. Slowly push the arm [B] to the left to extend it.

d074r293

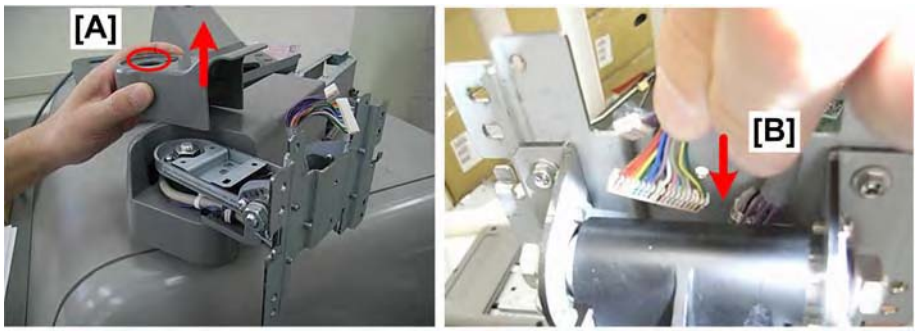
12. Push the arm [A] to the left until the holes on the top of the arm are aligned with the four holes below.
13. At [A] re-attach the screws you removed in Step 9 ( x4).

Important

- Make sure that these screws are fastened tightly.

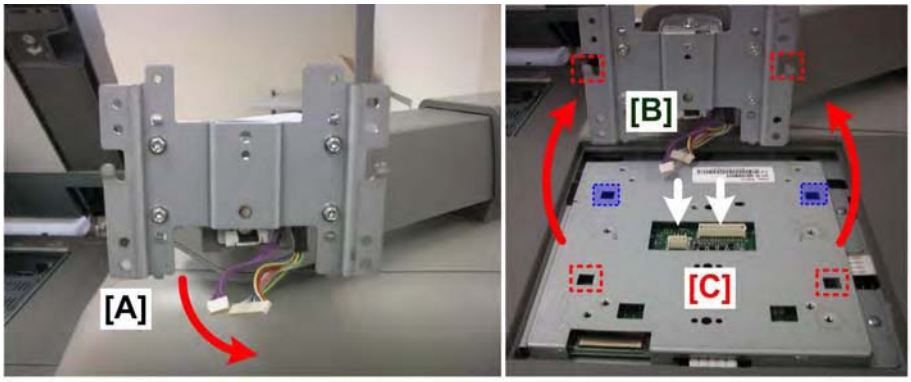
14. At the base of the arm [B], push the harness into the hole and close the clamp (x1).

**Display Installation for Easy Access**




d074r294

1. Remove cover [A] ( x1).
2. Push harness [B] down behind the mounting plate.

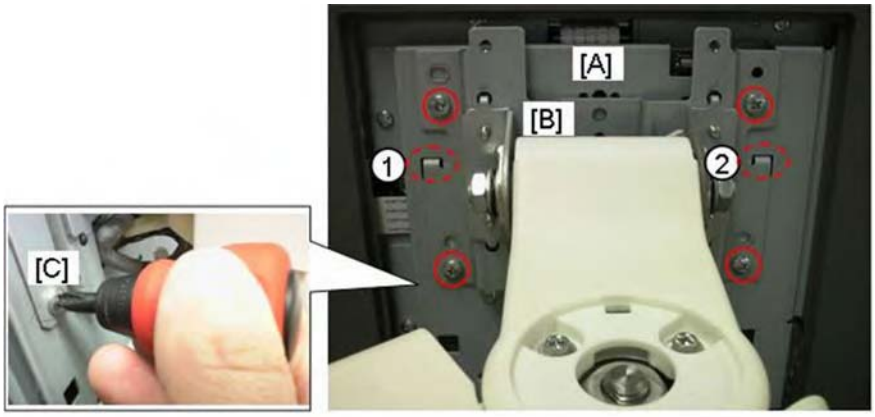



d074r294a

3. Position the back of the operation panel near the mounting plate.
4. Connect the operation panel harness [B] (x2).
5. Raise the operation panel and hang the cutouts [C] (marked with red dotted lines) on the hooks (also marked with red dotted lines) .

Important

- You must hang the operation panel using the cutouts [C]. Do not use the cutouts closest to the mounting plate (marked with blue squares).

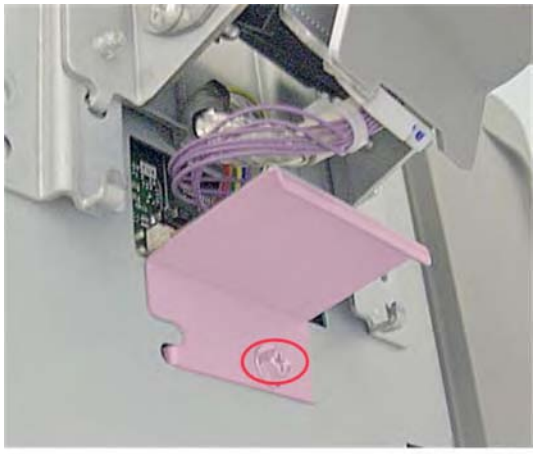



d074r295

6. Check the hooks at ① and ② to make sure that the operation panel [A] is hung correctly on the mounting plate [B].
7. Fasten the operation panel and mounting plate together (x4 M4x6). (You will need a short screwdriver to attach screw [C]).

Important

- You must use the M4x6 screws to fasten the operation panel at this step. If you use the longer screws (M4x8) they could touch and damage the operation panel board.



d074r869a

8. Fasten the harness cover to the back of the operation panel ( x1).

d074i869b

9. **Loosen** the swivel screw so that you have the full range of horizontal movement for adjusting the position of the operation panel. **Do not remove this screw!**

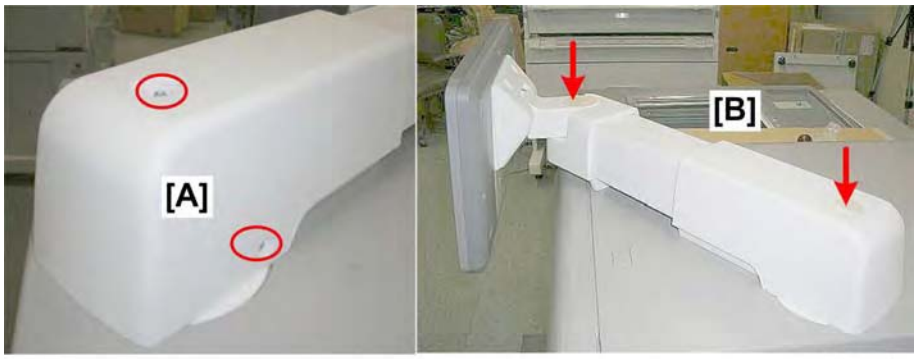
**Cover Attachment**

d074r296

1. Attach the convex plate [A] at the top ( x).
2. Attach the flat plate [B] at the bottom ( x).

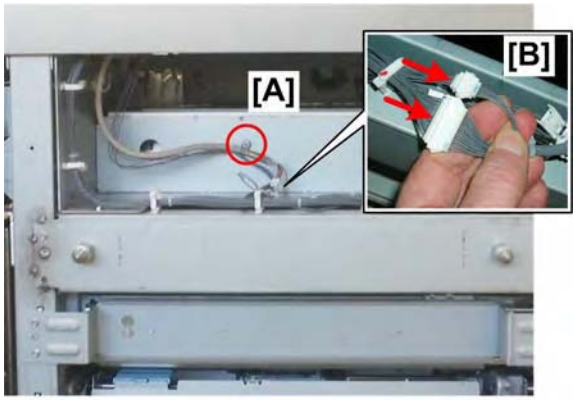
Important

- In Configurations 1, 2, 3, the convex plate [A] is attached below, and the flat plate [B] is attached above.
- For this installation (Configuration 4), the positions of these plates are reversed as shown above. (The convex plate is attached above and the flat plate below.)



d074r297

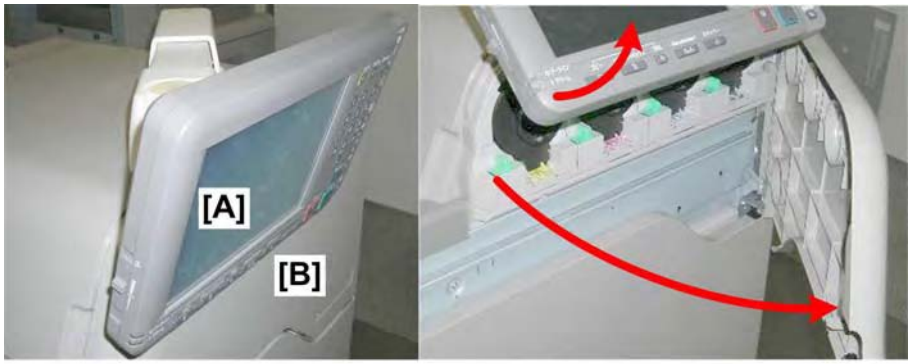
3. Attach the arm cover [A] ( x2).
4. Attach the large and small screw covers [B].
5. Attach the support arm outer cover [B] ( x2).



d074i874

6. On the right side of the machine where the right cover was removed:
   [A] Fasten the nylon clamp ( x1).
   [B] Connect the operation panel harnesses ( x2).
7. Re-attach the right cover ( x7).

**Opening the Toner Bank Door**




d074r298

- With the operation panel [A] fully depressed, the toner bank door [B] cannot be opened.
- To open the toner bank door, swing the operation panel up, and then open the door.

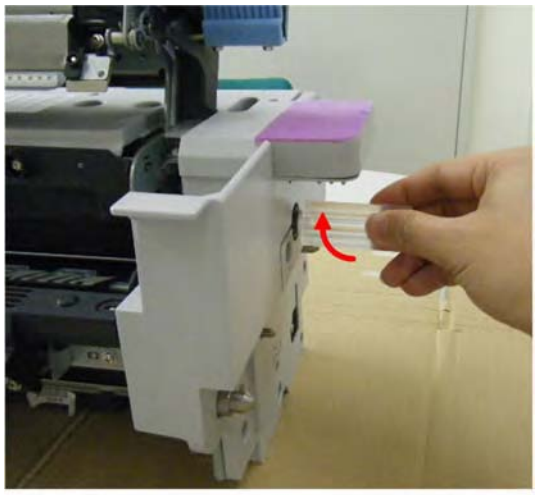
## *Connect ARDF (D074/D075)*

d074i817

1. Connect the ARDF I/F cable on the right side of the machine.

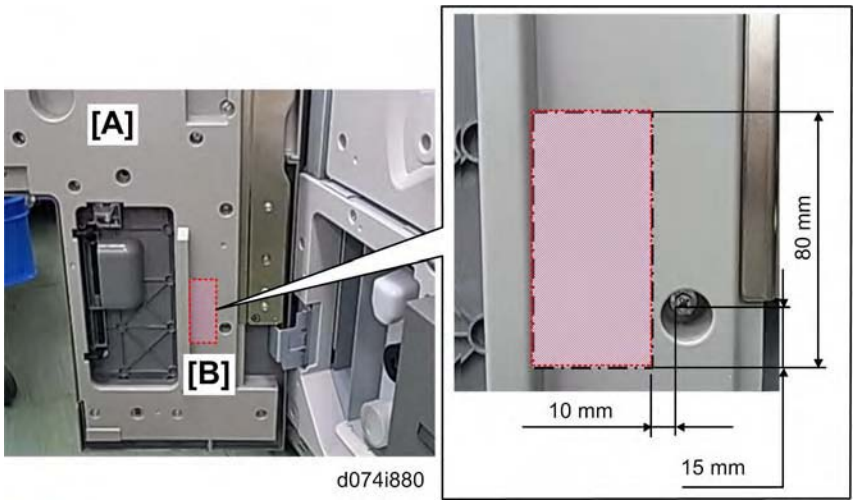
### *Attach Fusing Roller Knob Holder*

A fusing roller knob is provided as an accessory.



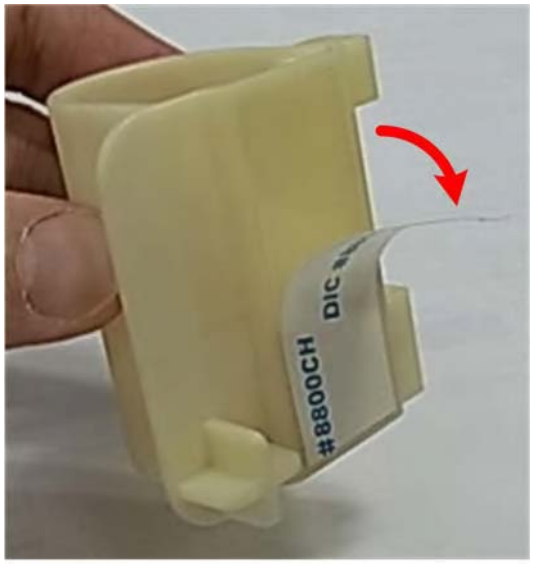
d074r303a

This knob can be attached as shown and rotated by hand to feed jammed paper out of the fusing unit. This knob is stored in a holder that must be attached to the inside surface of the left front door. (Procedure described below.)



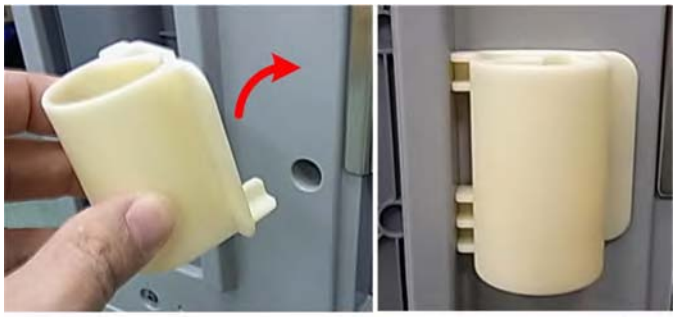

d074i880

1. Open the left front door [A].
2. Use a clean cloth and alcohol to clean the surface around [B] on the inner surface of the left front door.



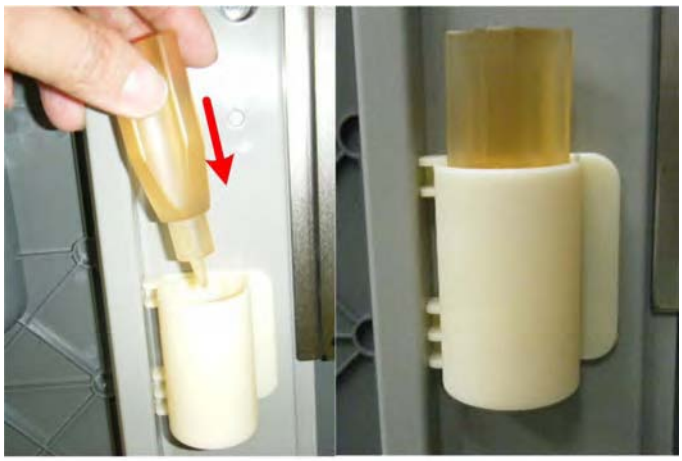

d074i881

3. Peel the strip from the back of the holder to expose its adhesive surface.



d074i882

4. Attach the holder to the door.



d074i883

5. Set the knob in the holder and close the door.

## *Level the Main Machine*

The machine must be leveled front-to-rear and side-to-side within ±2.5 mm/1000 mm.

1. Install the leveling shoes, one at each corner of the main machine. Adjust the height of the legs so that the machine is level left-to-right.
2. Adjust the height of the legs so that the machine is level front-to-back.

Important

- These leveling adjustments are critical. The level of all the peripheral options (LCIT, Finisher, etc.) must be adjusted to match the level adjustment of the main machine.



## *Test Breaker Switch*

d074i854

The breaker switch is at the bottom corner of the rear right side of the machine. The optional ring binder also has a breaker switch.

The breaker switches should be tested at installation and after that at least once a year:

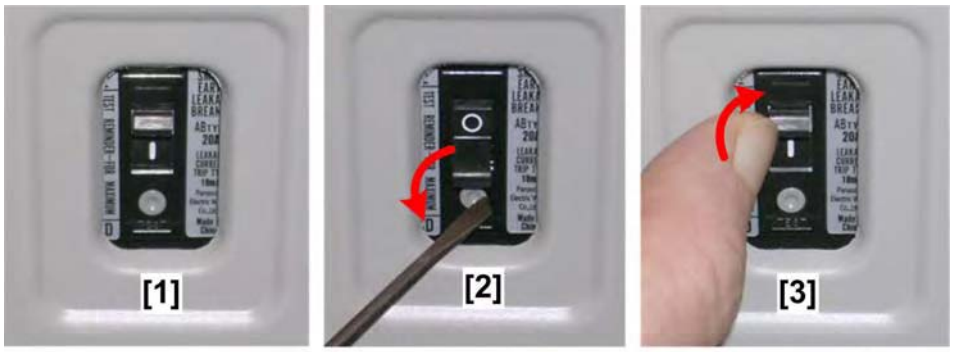
- After prolonged use, if the breaker switch is covered with soot, this could indicate that the switch has malfunctioned or been damaged.
- To prevent damage to the breaker switch, installation of a voltage stabilizer (constant voltage transformer) is recommended for work sites where there is significant fluctuation in the AC power source.

**To test the breaker switch:**

1. Plug the power cord into its power source.

Important

- Do not turn on the main machine. The main machine must be off.




2. To test the breaker switch:.
   - [1] is the normal position of the breaker switch test button.
   - Use the tip of a small screwdriver or pen to push the breaker test button. The breaker switch should flip to the "**O**" position [2]. This indicates that the breaker switch is operating normally.
   - If the breaker switch does not flip to the "**O**" position, the switch must be replaced.
   - Push the switch up to the "**|**" position [3] for normal operation.

Important

   - The main machine will not turn on if the breaker switch is not returned to the "**|**" position as shown at [1].

## *Install Toner Bottles*

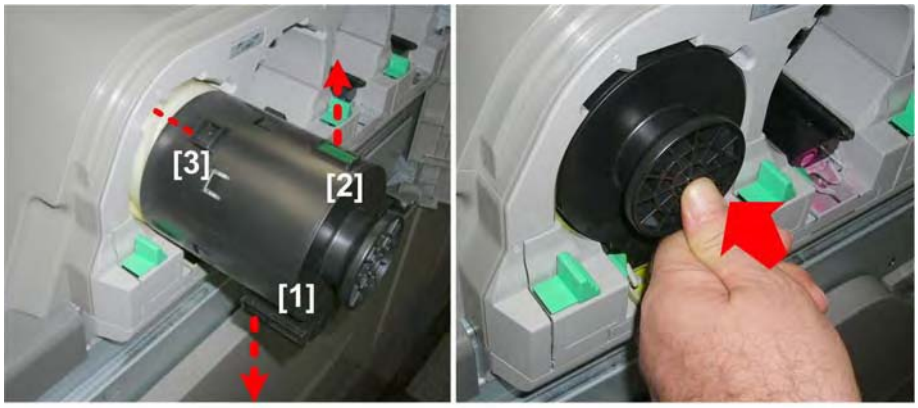
Important

- The toner bottles contain pre-mixed toner and developer.

**Toner Bottle Installation**

d074i818

1. Open the toner bank door [1].
2. Remove the yellow toner bottle [2] from its package.
3. Rock the bottle gently on its long axis to loosen the contents of the toner bottle.




d074i819

4. Insert the bare end of the bottle into the machine.
5. Turn the bottle so that the toner port [1] is down and the RFID chip [2] is up, with the protrusions [3] lined up with the grooves of the cover.

Important

- The front end of each toner bottle has protrusions that fit snugly into grooves in each color holder. These grooves are arranged in a unique pattern to prevent installation of a toner bottle accidentally in the wrong position.
- If a bottle does not slide easily into the holder, make sure that the green RFID chip is facing up and the protrusions on the front end of the bottle match the pattern of the cutouts around the mouth of the holder.

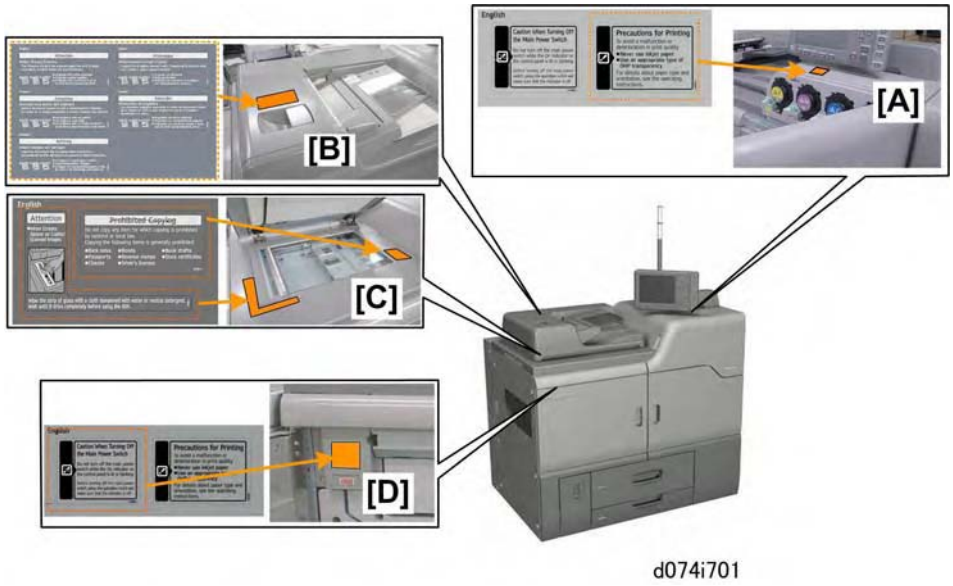
6. Push the bottle in until you hear it click and lock.

d074i820

7. Repeat Steps 2 to 6 to install the other toner bottles from left to right in this order: Y, M, C, K. Be sure to rock each toner bottle along its length before you insert it.

## *Attach Decals*

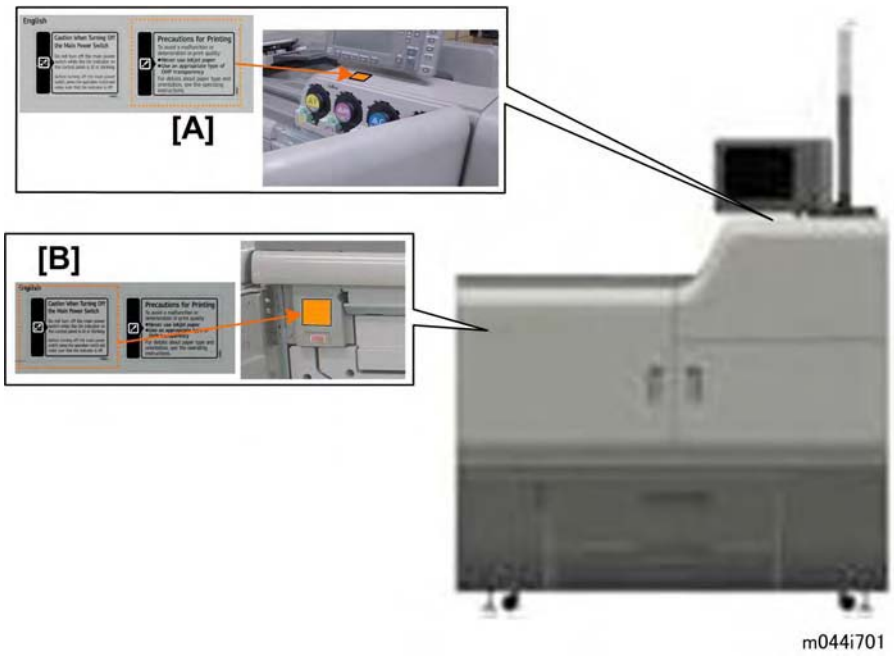
**D074/D075**




d074i701

1. Attach the decals at the locations shown above.
   [A] Precautions for Printing decal
   [B] Original Set Precautions decal
   [C] Cleaning, Prohibited Copying decals
   [D] Caution When Turning Off the Main Power Switch decal

**M044**




1. Attach the decals at the locations shown above.
   [A] Precautions for Printing decal
   [B] Caution When Turning Off the Main Power Switch decal

## 3.2.4 INSTALLATION: POWER ON

### ⇒ *Connect Main Machine to Power Source and Power On*

1. Connect the power cord of the main machine to the power source.
2. Turn on the main power switch.

   Note

   - The main power switch is behind the open left front door.
3. After turning on the main power switch, close both of the front doors and **wait for the unit to come to Ready** (approximately five minutes).
4. Continue to the next procedure (start toner fill).

### *Start Toner Fill*

1. Execute SP3051-1.
2. Watch the operation panel.
3. When you see "Complete", this means the machine has filled the sub hoppers of the toner supply unit.

### *Initialize Process Control*

1. Leave the front doors closed.
2. Execute **SP3020-001** to start process control. (Process control sets the machine for optimum operation based on the conditions around the drums.)
3. Watch the operation panel. When you see "Complete", the process control settings are done.
4. Check with **SP3012-001** to make sure that initialization was successful.

### *Exit SP Mode and Power Off*

1. Exit the SP mode.
2. Push the operation power switch on the operation panel to switch the machine off.
3. Switch the main power switch off.

## 3.2.5 FIERY CONTROLLER CONNECTION AND SETUP

### *Connect EFI Box to Main Machine*

Note

- Refer to the Fiery controller service manual for more details about the installation requirements for the controller.

1. Make sure the main power switch behind the left front door is off.
2. Set the Fiery controller box on the floor.

d074i857

3. Connect the shielded cable to the lower network cable slot of the Fiery Controller box.

Important

- You must use the shielded cable provided with the accessories to connect the Fiery Controller box and the main machine.

d074i858

4. Connect the other end of the shielded cable to the controller box of the main machine. The correct connection point is marked "External CTL".

d074i858a

5. Connect the cable from the client network to the upper network cable slot.

### *Connect the EFI Box Power Cord*

d074i856

1. Connect the power cord to the back of the controller box.
2. Connect the other end of the power cord to a power source.

### *Power On with Fiery Controller*

1. Turn on the main power switch of the main machine.

d074i858b

2. Turn on the switch on the back of the Fiery Controller box.

d074i858c

3. Press and turn on the switch on the front of the Fiery Controller box.

## 3.2.6 FIERY CONTROLLER SETUP

### *Fiery Controller Selection*

1. Enter the SP mode.
2. Set **SP5193-001** to “1” (Fiery controller).

### *Fiery Language Selection*

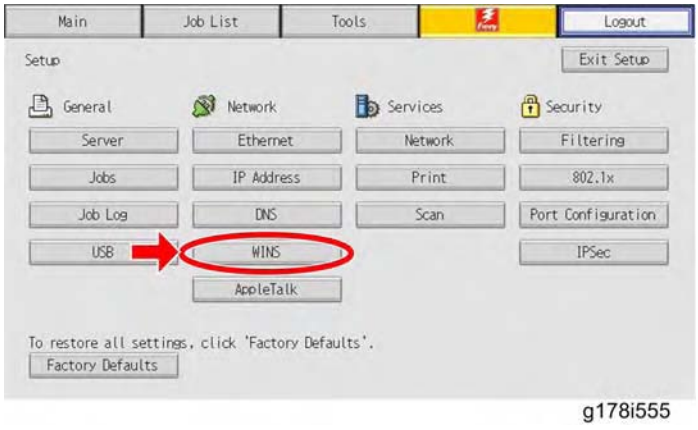
If the operator wants to use a language other than English to operate the Fiery controller, the language selection must be done first. To select a different language, the Fiery system must be re-installed. For details, the Field Service Manual for the Color Controller: E-41A.

## *Fiery Controller Settings*

You must do the Fiery controller settings immediately after you turn the machine on for the first time.

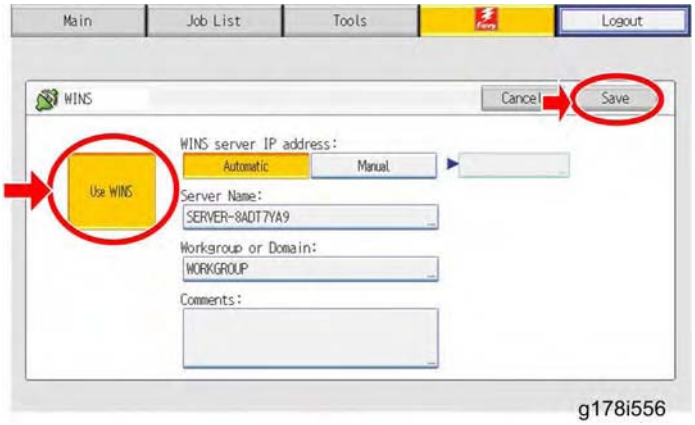
- Make sure that that the Activity light on the Controller LCD is flashing green and then go to the machine's operation panel.

1. Wait for the "Please wait" message to go off.
2. Press the "Fiery" tab on the LCD after the Fiery operating menu has appeared.
3. Press the "Setup" button on the operation panel.
4. The "Login" screen appears.
5. Press the "Password" button to open the soft keyboard.
6. Enter "Fiery. 1" with the soft keyboard, and then press the "OK" button.
   - Password entry is case sensitive (the machine distinguishes between lower case and upper case letters).
   - Use the "Shift" button to enter a capital letter.
7. The setup screen appears after you enter the password correctly.



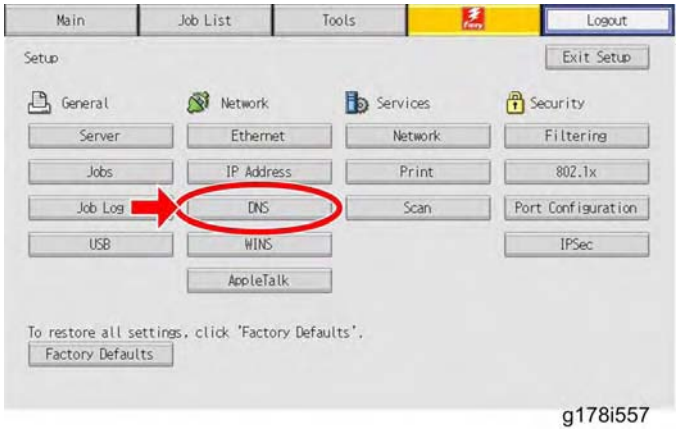
g178i555

8. Press the "WINS" button.



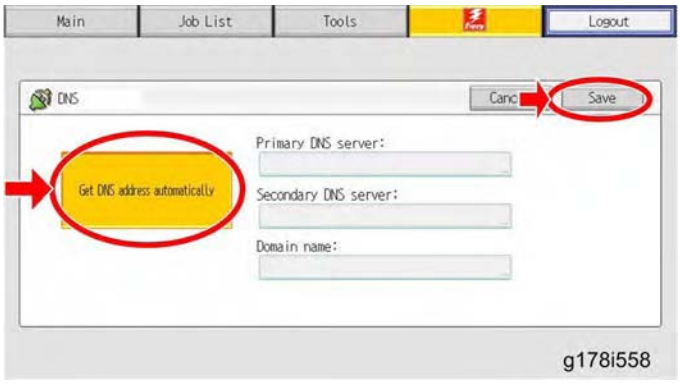
g178i556

9. Press the "Use WINS" button to disable this function then "Save".



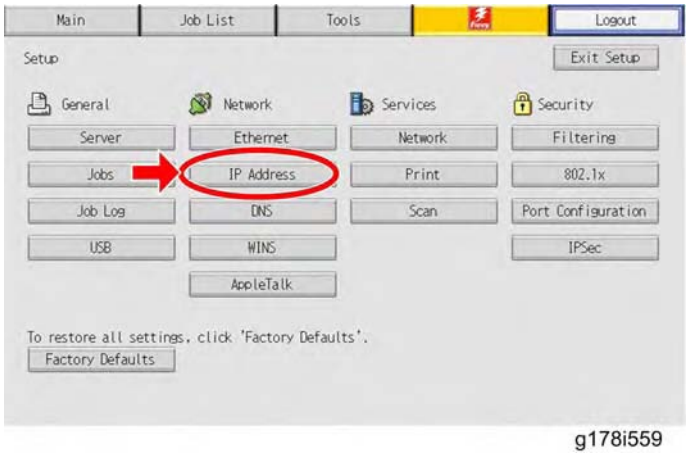
g178i557

10. Press the "DNS" button.



g178i558

11. Press "Get DNS address automatically" to disable this function, and then press "Save". The button color turns gray to indicate that this button is disabled.

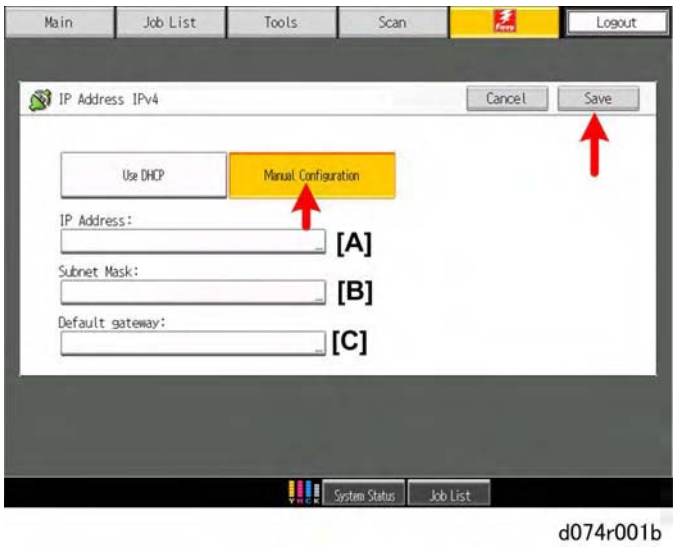


g178i559

12. Press "IP Address" to enter the IP address.

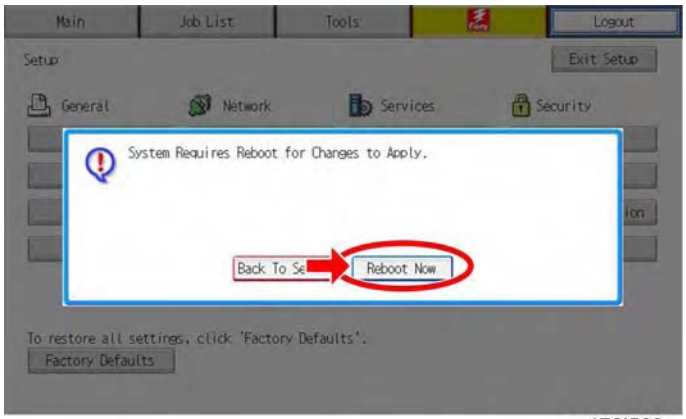
g178i560

13. Press "IPvd Address".




d074r001b

14. Press the "Manual Configuration Button".
15. Press the "IP Address" bar [A] to enter the IPv4 address, and then enter the IPv4 address.
    - The soft keyboard appears
    - Enter the IP address with the soft keyboard, and then press the "OK" button.
16. Press the "Subnet Mask" bar [B] to enter the subnet mask IP, and then enter the subnet mask IP.
    - The soft keyboard appears.
    - Enter the IP address with the soft keyboard, and then press the "OK" button.
17. Press the "Default gateway" bar [C] to enter the default gateway IP address, and then enter the default gateway IP address.
    - The soft keyboard appears.
    - Enter the IP address with the soft keyboard, and then press the "OK" button.
18. Press the "Save" button after IP address setting has been completed.
19. Press the "Go Back" button, then the "Exit Setup" button.




g178i563

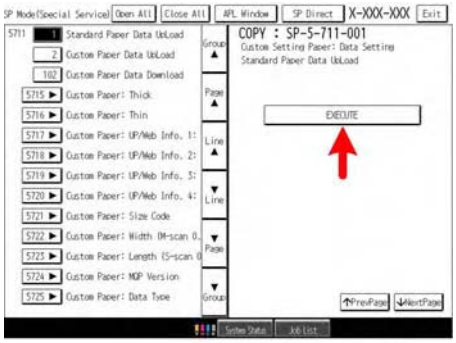
20. Press the "Reboot Now" button.
21. The Fiery server and copier system automatically turn off to reboot.



## 3.2.7 PAPER LIBRARY DATA INSTALLATION

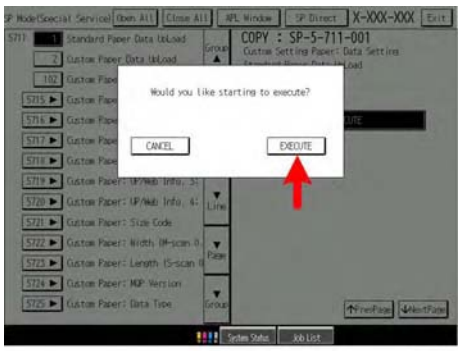
Follow this procedure to install the Paper Library data.

1. Create a folder in the root directory of an SD card and name the folder "mqp".
2. Copy the paper database file into the "mqp" folder, and then rename the copied file "library.mqp".
3. Make sure that the machine is turned off.
4. Insert the SD card which has the "library.mqp" file into SD card Slot 2 (lower slot) on the right side of the controller box.
5. Turn on the machine.
6. Make sure that the data version of the SD card is newer than the data version of the flash ROM on the controller. If not, prepare the latest data version of the Paper Library on an SD card.
   - The version of the data on the SD card can be checked with **SP5711-202.**
   - The version of the data in the flash ROM on the controller can be checked with **SP5711-201**.




d095i612a

7. Enter SP5-711-001, and then touch [EXECUTE].




d095i612b

8. Next, touch [EXECUTE] again.

d095i613

9. When the machine displays "Completed" and prompts you to re-boot, touch [Exit] to leave the SP mode.
10. Turn off the machine and remove the SD card from SD card Slot 2.
11. Turn on the machine.
12. Check the Paper Library data version with SP5-711-201 (Flash ROM) to confirm that the Paper Library data has been updated.

## 3.2.8 PAPER TRAYS

### *Loading the Paper Trays*

Load each paper tray.

1. Move the side fence and bottom fence to the correct positions for the paper.
2. Attach the paper size decals to the front of the paper cassette trays and the tandem tray.
3. Load the left side of Tray 1 (tandem tray).
4. Close Tray 1 and confirm that the machine moves the stack in the left side of the tray to the empty right side of the tray.
5. Fill Tray 1 and Tray 2 with paper with the A4/LT paper provided with the machine.

Note

- The size of the paper in Tray 2 is detected automatically.

### *Tray Paper Settings*

1. Press the [Paper Settings] key on the operation panel.
2. Select the Tray icon.

d095i809

3. Select the paper type and paper weight for each tray.

Note

- The paper type and paper weight for the paper provided with the machine should be set to "Plain Paper" and "Weight 2".

## 3.2.9 PRINTING AN SMC REPORT

Print the SMC report. This is a complete list of all SP settings and defaults.

1. Go into the SP mode.
2. Do **SP5990-6** to print a list of the non-default SP code settings for future reference.
   - The SP5990-1 (All) printout is about 140 pages single-sided.
   - SP5990-6 (non-default) requires only about 5 sheets.
3. Keep the SMC report in a safe location with the factory setting sheet under the used toner bottle.

## 3.2.10 TEST COLOR PRINT (D074/D075)

1. Make sure that A3 or DLT paper is in one of the trays. Use the same type of paper that the customer normally uses for color output.
2. Place a "Color Chart C-4" on the exposure glass.
3. Select the Full Color mode and print one copy of the chart. (This is the copy that you will use in the ACC procedure if calibration is necessary.)
4. Check the quality of the copy with the operators.
   If the quality of the color is satisfactory, ACC adjustment is not necessary.
   -or
   If the quality of the color is not satisfactory, do the ACC adjustment described in the next section.

## 3.2.11 ACC ADJUSTMENT (D074/D075)

Automatic color calibration (ACC) is done at the factory with the procedure below.

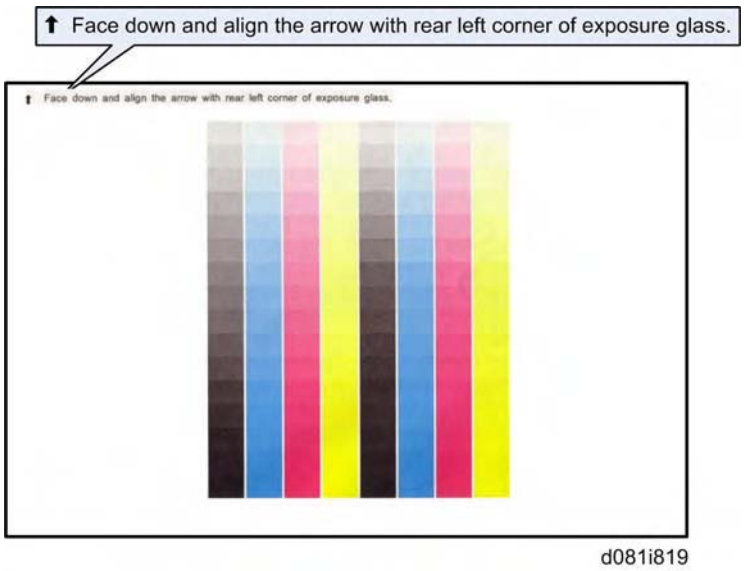
- Do this procedure only if the color quality is not satisfactory.
- If you do this procedure at installation, use the A4/LT paper provided with the machine.

1. Make sure that you have a copy of the C4 Color Chart before you begin, and write "Before ACC adjustment" in the Memo box.
2. Push [User Tools].
3. To print a color pattern, select "Maintenance"> "Auto Color Calibration".
4. Touch [Start].

| |
|---|
| Machine will start self-check before printing test pattern<br>Press [Start Printing]. |

5. Touch [Start Printing].

| |
|---|
| Now self-checking.<br>Test pattern will be printed.<br>Please wait. |




The machine does process control, and then it prints a test pattern.

| |
|---|
| Place Test Pattern on the exposure glass correctly.<br>Then press [Start Scanning] |

6. Remove the C-4 test chart placed on the exposure glass during the previous procedure.
7. Place the color test pattern face-down that you made in Step 4 and 10 sheets of blank paper on the color test pattern.
8. Make sure that the arrow and notation on the color test pattern ("Face down and align the arrow with the rear left corner of the exposure glass.") is at the rear left corner.
9. Touch [Start Scanning] on the display. The machine scans the pattern once.
   - If you see this message the "Scanning failed..." message after you press [Start Scanning], check the position of the pattern on the exposure glass.
   - Make sure that the arrow on the test pattern is in the upper left corner of the exposure glass.
10. Remove the pattern from the exposure glass and replace it with the C-4 Color Chart.
11. Touch [Exit] three times to return to the Copy mode screen.
12. Make another Full Color copy of the C4 Color Chart, and write "After ACC adjustment" in the Memo box..

d074i799

13. Compare the results of the first copy marked "Before ACC adjustment" and the and the second copy marked "After ACC adjustment".
    If the results of the second copy after ACC adjustment are better than the results of the copy before adjustment, you are finished.
    -or-
    If the results of the second copy are worse than the results of the first copy:
    - Push the [User Tools] key.
    - Touch "Maintenance"> "Auto Color Calibration"> "Previous Setting".
14. If the operator is satisfied with neither the first nor second copy:

- Enter the SP mode and do SP3011-2 to execute process control.
- Do this procedure again from Step 2.

## 3.2.12 MUSIC COLOR REGISTRATION ADJUSTMENT

1. Push [User Tools].
2. Touch [Maintenance]> [Color Registration].
3. Touch [OK].

This completes color registration.

## 3.2.13 CHECKING THE PRINT QUALITY

The print quality must be checked after installation before the customer starts to use the machine. Here is a list of the points that must be checked and adjusted if necessary.

- **Color Image Check**. Make sure that the PS test page has solid colors without imperfections (no blotches, no scratches). Confirm that the density differences in the PS test pattern are clearly visible.
- **Color Registration Check**. Make sure that the grid lines on the test pattern are superimposed correctly.
- **Ruled Line Check**. Make sure that the grid lines on the test pattern are not scratched.
- **Image Shift Check between 1st and 2nd Pages**. Print a test pattern and fold it in half vertically and horizontally. Make sure that the vertical and horizontal center lines on the printed test pattern are not shifted with respect to the fold lines.
- **Image Skew Check**. Make sure the distance between the image edge and paper edge at two points in the main-scan direction and two points in the sub-scan direction are the same.
- **Front and Rear Image Density Check**. Check printing density on the front and back of pages by checking another test print.

The procedures for each of these checks are described below.

## *Color Image Check*

**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color COPY digital 28 lb (105gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine

**Procedure**

1. Turn on the main power switch.
2. Press the "Fiery" tab on the LCD.
3. Press the "Printable Info" button.
4. Press the "PS Test Page" button, and then the "OK" button.

5. Confirm that each 100% pattern [A] has a solid color without imperfections (no blotches, no scratches).
6. Make sure that the difference in the density between the 60% [B] and 50% [C] patterns is clearly obvious.

**Recovery**

Do one or both of these procedures if you see a problem on the printout.

1. If you detected a solid color problem in the 100% patterns, enter the SP mode, and then execute process control manually with SP3011-2 (Density Adjustment).
2. If you could not see any difference between the 50% and 60% patterns, execute color calibration with the "Fiery Controller".

## *Color Registration Check*

**Procedure for Copier (D074/D075)**

1. Turn on the main power switch.
2. Set a sheet of paper on the original tray of ADF.
3. Enter “Adjustment Settings for Operators” and select “0703 Switch Print Screen”.
4. Press “Copier” and then touch [OK].
5. Enter the SP mode and then select SP2109-3.
6. Select Pattern 8 (Grid Pattern Large), and then touch [OK].
7. Select a paper Tray and print mode (simplex or duplex).
8. Select the "Full Color" mode.

   Important

   - Make sure that the "Full Color" mode is selected. Otherwise, the color registration check cannot be done correctly.
9. Press the [Start] key on the operation panel.
10. Confirm that the grid lines for each color are superimposed correctly.

**Recovery**

Do this procedure if you see the lines do not overlap correctly.

1. Exit from SP2109-3 and then select **SP3011-4** (Full MUSIC).
2. Do SP2109-3 to print out Grip Pattern Large and then check the test pattern again.

**Procedure for Printer (M044)**

1. Turn on the main power switch.
2. Enter the SP mode and then select **SP2109-3**.
3. Select Pattern 8 (Grid Pattern Large), and then touch [OK].
4. Press the "APL Window" button at the top of the LCD.
5. Select a paper tray and print mode (simplex or duplex).
6. Prepare the PC for printing.
7. Print a test page with the Fiery printer driver.
8. Confirm that the grid lines for each color are superimposed correctly.

   Note

   - Do not use the [Print] button on the LCD to print the test pattern. Only a black and white image will be output if you use the [Print] button on the LCD. The color registration check requires a color image output.
   - Make sure that the test page has black, red, green, and blue colors.

**Recovery**

Do this procedure if you see the lines do not overlap correctly.

1. Exit from SP2109-3 and then select **SP3011-4** (Full MUSIC).
2. Do SP2109-3 to print out Grip Pattern Large and then check the test pattern again.

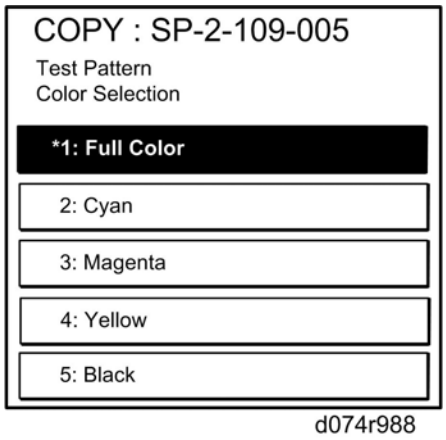
## *Ruled Line Check*

**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color COPY Digital 28 lb (105gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine.

⇒ **Procedure for Copier (D074/D075)**

1. Turn on the main power switch.
2. Set a sheet of paper on the original tray of ADF.
3. Enter “Adjustment Settings for Operators” and select “0703 Switch Print Screen”.
4. Press “Copier” and then touch [OK].
5. Enter the SP mode and then select **SP2109-003**.
6. Select the Pattern No. 8 (Grid Pattern Large), and then touch [OK].
7. Print out the grid pattern sample for each single color with **SP2109-5**.



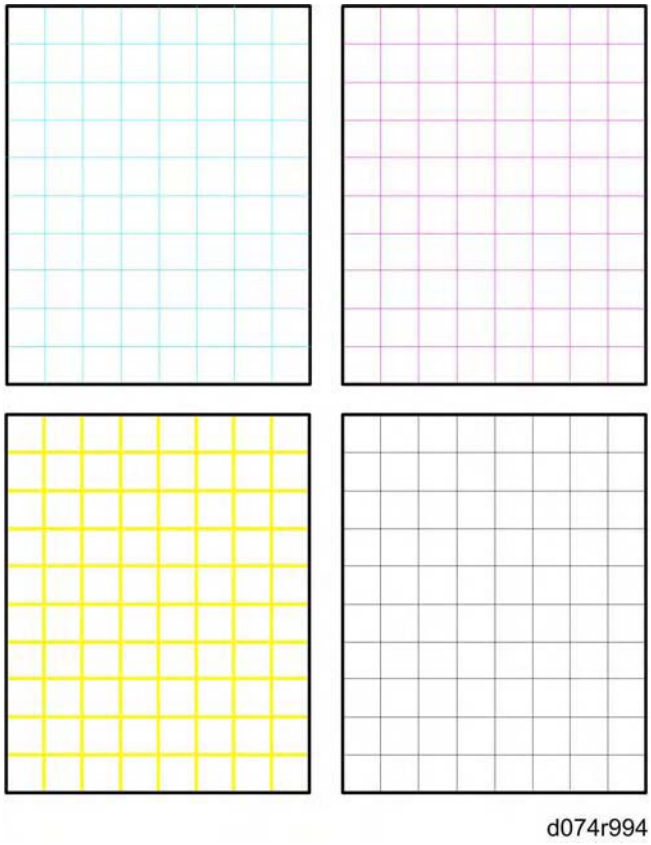
d074r988

8. Select a paper Tray and print mode (simplex or duplex).
9. Select the "Full Color" mode.

Important

- Make sure that the "Full Color" mode is selected. Otherwise, the color registration check cannot be done correctly.

10. Press the [Start] key on the operation panel. A grid pattern prints for the selected color.
11. Repeat this procedure for each color (2: C, 3: M, 4: Y, 5: K).




11. Check that the grid lines for each single color test pattern are not scratchy.

**Recovery**

Do this procedure if you see any scratches in the lines.

1. Enter the SP mode and execute **SP3011-2** (Density Adjustment).
2. Repeat the Ruled Line Check.

**Procedure for Printer (M044)**

1. Turn on the main power switch.
2. Enter the SP mode and then select **SP2109-3**.
3. Select Pattern 8 (Grid Pattern Large), and then touch [OK].
4. Print out the grid pattern sample for each color with **SP2109-5**.
5. Press the "APL Window" button at the top of the LCD.
6. Select a paper tray and print mode (simplex or duplex).
7. Prepare the PC for printing.
8. Print a test page with the Fiery printer driver. A grid pattern prints for the selected color.
9. Repeat this procedure for each color (2:C, 3:M, 4:6, 5:K).
10. Confirm that the grid lines for each color test pattern are not scratched.

Note

- Do not use the [Print] button on the LCD to print the test pattern. Only a black and white image will be output if you use the [Print] button on the LCD. The color registration check requires a color image output.

- Make sure that the color is correct for each test pattern.

**Recovery**

Do this procedure if you see the lines do not overlap correctly.

1. Exit from SP2109-3 and then select **SP3011-4** (Full MUSIC).
2. Do SP2109-3 to print out Grip Pattern Large and then check the test pattern again.

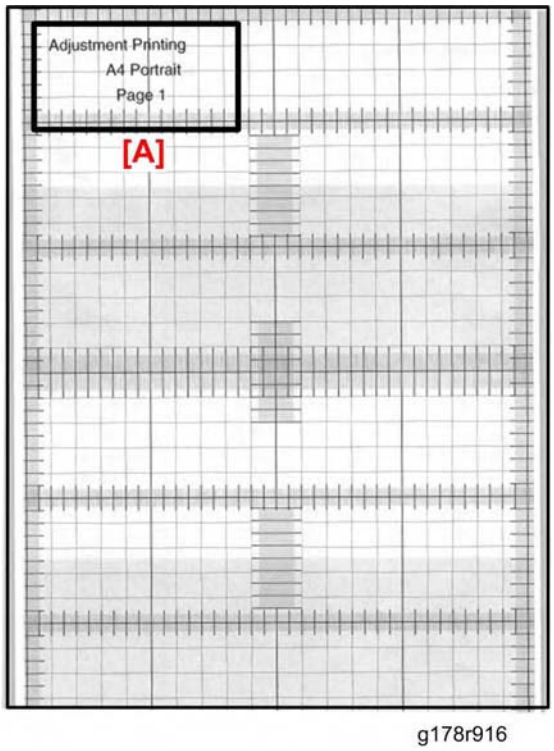
## *Image Shift Check between the 1st and 2nd Pages*

**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color Copy Digital 28 lb (105gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine

**Procedure**

1. Turn on the main power switch.
2. Press the "User Tool" button, and then the "Adjustment Settings for Skilled Operators" button.
3. **For the D074/D075 only:**
   - Select "0703: Switch Print Screen"
   - Select "Printer", then touch [OK] (Default: Copy).
4. Select “0101:Adjust Image Position With Feed Direction”.
5. Press the "To Print Screen" button on the top of the LCD.
6. Select Tray and duplex print mode.
7. Press the [Print] button, and then [OK] to print the "Adjustment Printing" test pattern.

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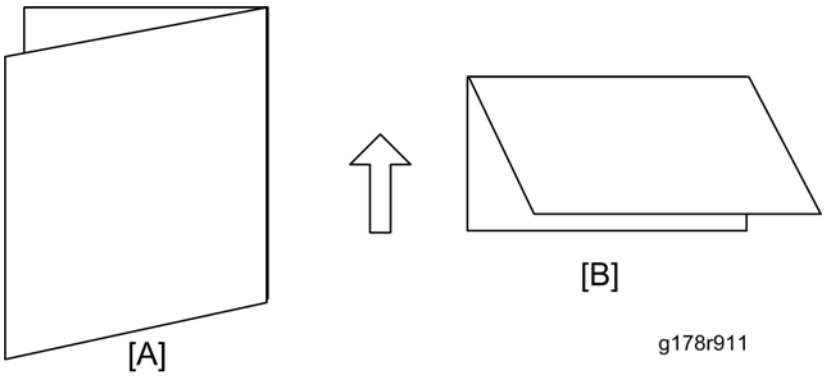
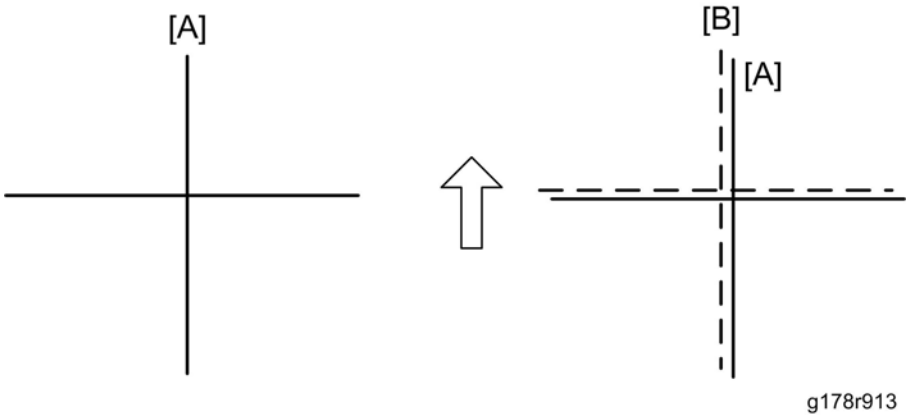
Note

- The information [A] indicates the paper size and side (1st or 2nd).




8. Fold the printed test pattern in half vertically [A] and horizontally [B].

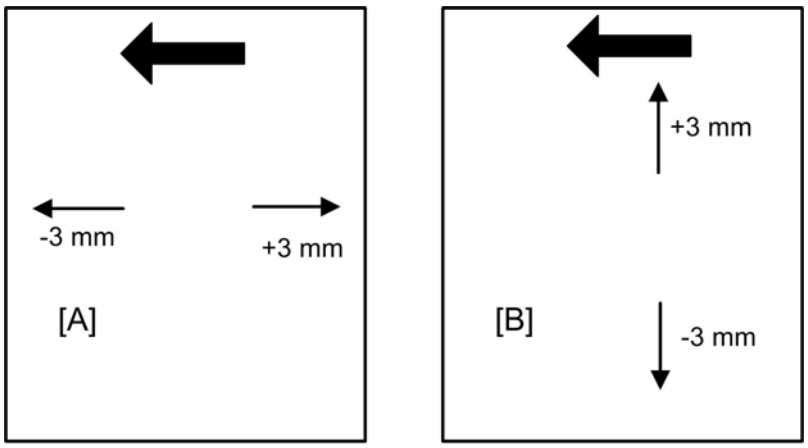



9. Check the vertical and horizontal center lines [A] on the 1st page of the printed test pattern (shown as solid lines in the above diagram).
   - Make sure these lines are not shifted away from the fold lines [B] (shown as dotted lines in the above diagram).
   - Acceptable shift range: ≦ 1 mm
   - The diagram on the left above shows no image shift.
   - The diagram on the right shows a test pattern where the lines have shifted.
10. Check the 2nd side of the test pattern to see if the lines have or have not shifted as on the 1st page. Acceptable shift range: ≦ 1 mm

**Before You Begin Adjustment**

- Adjustments for sub-scan shift and main-scan shift are required at machine installation.
- To adjust the sub-scan shift and main-scan shift, use the user program mode or SP mode described below.
- The adjustment for sub-scan shift can be done for each paper weight.
- The adjustment for main-scan shift can be done for each paper tray.

**Adjustment**



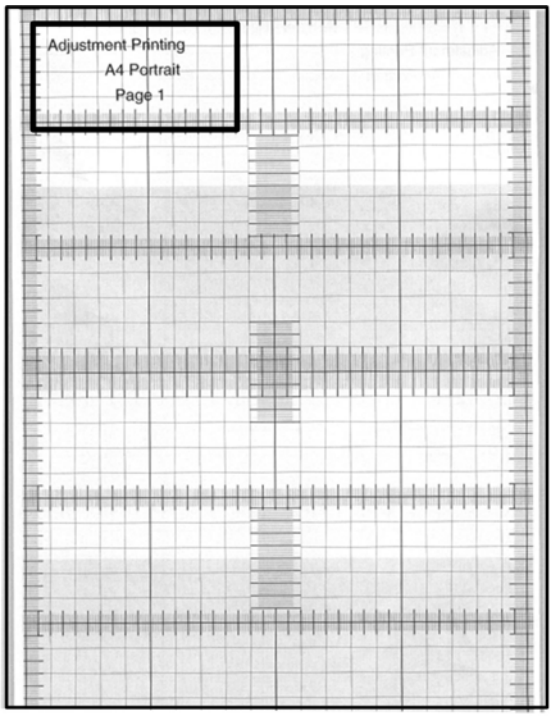

g178r914

1. Adjust the sub-scan shift [A] on the 1st page with "0101:Adjust Image Position With Feed Direction" of the UP Skilled Operators mode or **SP1001-001** to -007.
2. To adjust the sub scan shift [A]:
   Use "0101: Adjust Image Position With Feed Direction" on the Skilled Operators mode to adjust the sub scan shift.
   -or-
   Execute SP1001-1 to 7.
   - Enter a minus (-) value to shift the image towards the leading edge.
   - Enter a plus (+) value to shift the image towards the trailing edge.
3. To adjust the main-san shift [B] on the 1st and 2nd pages:
   Use "0102:Adjust Image Position Across Feed Direction" in the Skilled Operators mode
   -or-
   Execute SP1003-1 to 7.
   - Enter a minus (-) value to shift the image towards the front edge.
   - Enter a plus (+) value to shift the image towards the rear edge.
4. Print out the test pattern in the User Tools mode and then check the printed test pattern.

Note

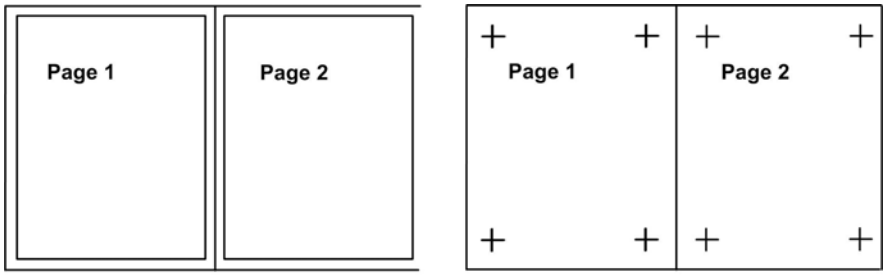
- Side 1 and Side 2 can be adjusted together in the Skilled Operator mode with this machine.
- If fine adjustment is needed, we recommend using the Custom Paper Profile.
- Side 1 and Side 2 can be fine adjusted separately (main scan, sub scan, magnification) with the Custom Paper Profile feature described below.

**Adjustment with Custom Paper Profile**




g178r916a

The main does not use the Custom Paper Profile when it prints the pattern above.
Tray image adjustment is done using the Custom Paper Profile after image shift is checked in the customer print job, and then adjustment is done in Advanced Settings.




d074r989

The frame and crop mark data are printed on both sides of the paper when a print job is done to check the amount of shift between the front and back of the paper

**Procedure**

1. Before you start, check the content of the duplex printed paper of the tray for which the adjustment is to be done.
2. On the operation panel touch [User Tools] > [Login], and then after logging in touch [Admin] > [Paper Setting].
3. Select the tray for which the adjustment is to be done.
4. Select the Custom Paper Profile, and then touch [Advanced Settings].
   A list of items that can be adjusted is listed in the table below. For more details about adjustment ranges and other details, please refer to the "Adjustment Item Menu Guide:

TCRU/ORU.

| No. | Item | Description |
|---|---|---|
| 08 | Adj Image Position ofSide1 With Feed | Adjust the horizontal position of the image to be printed on the side 1 of the paper. |
| 09 | Adj Image Position ofSide2 With Feed | Adjust the horizontal position of the image to be printed on the side 2 of the paper. |
| 10 | Adj Image Position ofSide1 Across Feed | Adjust the vertical position of the image to be printed on the side 1 of the paper. |
| 11 | Adj Image Position ofSide2 Across Feed | Adjust the vertical position of the image to be printed on the side 2 of the paper. |
| 15 | Adj Magnification of Side1Across Feed | Adjust the vertical image scaling on the side 1 of the paper according to the paper expansion or shrinkage. |
| 16 | Adj Magnification of Side1With Feed | Adjust the horizontal image scaling on the side 1 of the paper according to the paper expansion or shrinkage. |
| 17 | Adj Magnification of Side2Across Feed | Adjust the vertical image scaling on the side 2 of the paper according to the paper expansion or shrinkage. |
| 18 | Adj Magnification of Side2With Feed | Adjust the horizontal image scaling on the side 2 of the paper according to the paper expansion or shrinkage. |

5. Touch [OK] after you change a setting to save it and return to the Profile screen.
6. Do a test print and check the results.

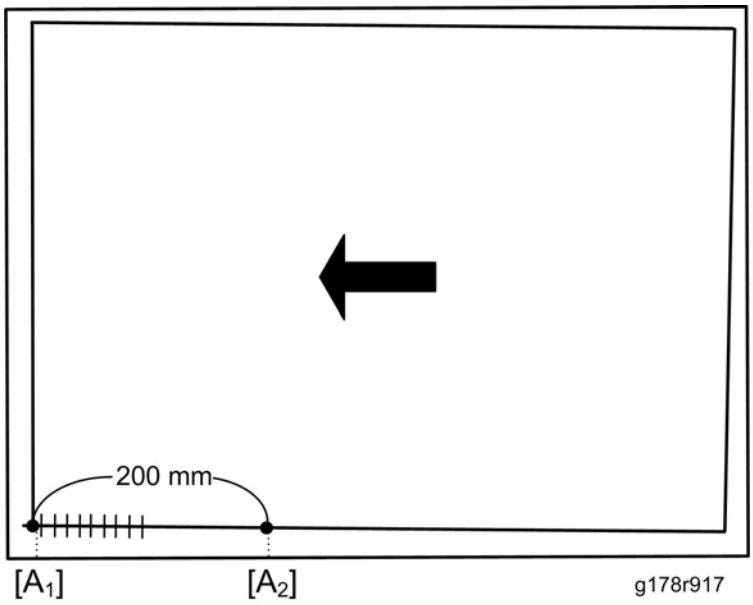
## *Image Skew Check*

**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color COPY Digital 28 lb (105gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine

**Procedure: Measurement Using the "Adjustment Printing" Test Pattern**

1. Turn on the main power switch.
2. ⇒ Enter “Adjustment Settings for Operators” and select “0703 Switch Print Screen”. Press “Printer” and then touch [OK] (D074/D075).
3. Touch the "COPY Window" (D074/D075) or "APL Window" (M044) button at the top of the display.
4. Select a tray and the duplex print mode.
5. Touch [Print] to print the "Adjustment Printing" test pattern.



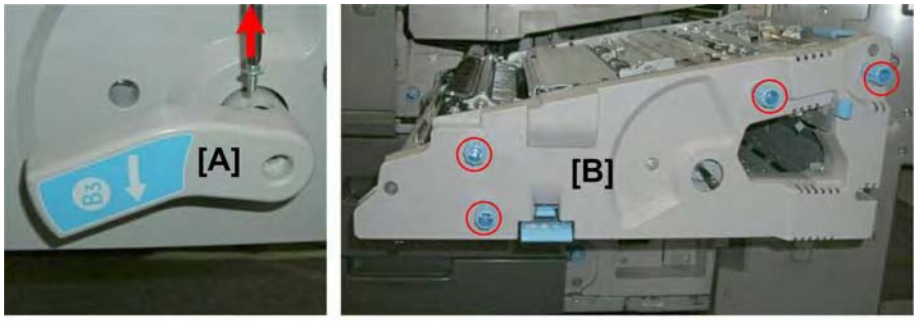

6. Measure the distance in the main scan direction between the image edge and paper edge at points [$A_1$] and [$A_2$] shown above.
   Acceptable range: [$A_1$] - [$A_2$] < ±0.5 mm (A4 or LT SEF or more)

**Procedure: Measurement Using "Trimming Area" Test Pattern**

1. Turn on the main power switch.
2. Open **SP5070-1** (Switching Print Application), and then select "6" (Printer) (D074/D075).
3. Do **SP2109-3** and select Pattern 14 (Trimming Area), and then touch [OK].
4. Touch "COPY Window" (D074/D075) or "APL Window" (M044) at the top of the display.
5. Select a tray and the duplex mode.
6. Touch [Print] to print the Trimming Area test pattern.
7. Measure the distance in the main scan direction between the image edge and paper edge at points [A1] and [A2] shown above.
   Acceptable range: $[A_1]$ - $[A_2]$ < ±0.5 mm (A4 or LT SEF or more)

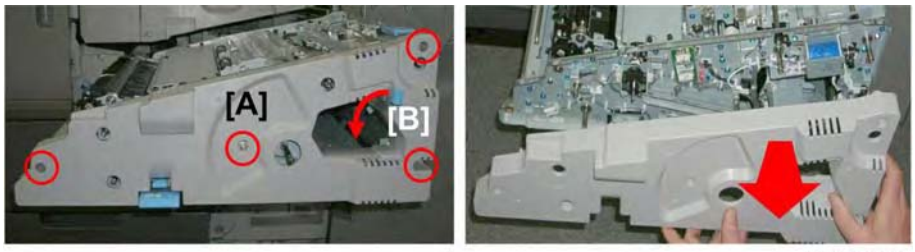
**Procedure: Adjustment**

1. After checking the gap between $[A_1]$ and $[A_2]$ described above, turn off the power of the machine, and then pull out the power cord.
2. Pull out the right drawer until it stops.



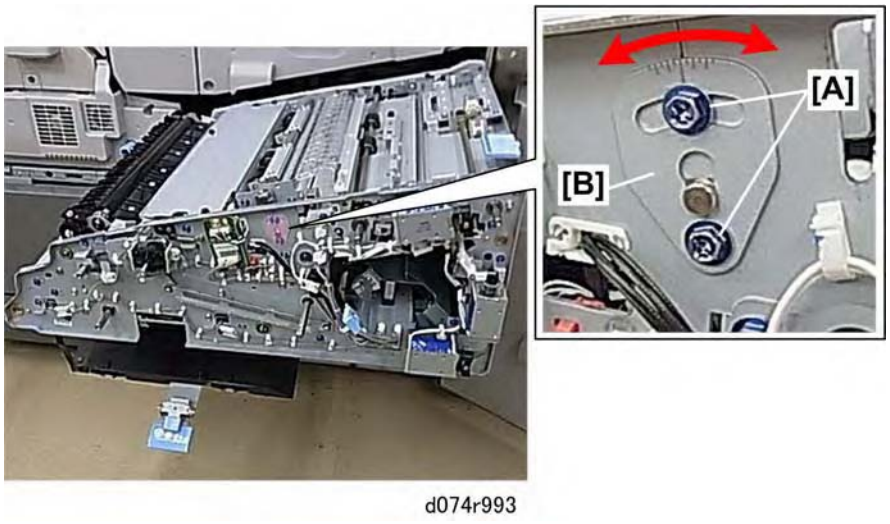
d074r037

3. Remove handle **B3** [A] ( x1).
4. Remove the knobs [B] (x4) ( x1 each)

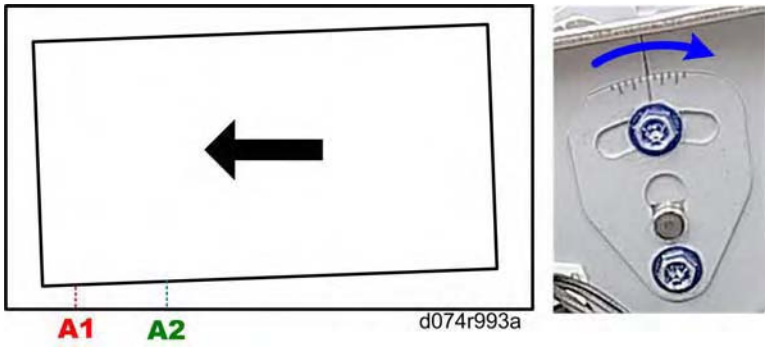


d074r038

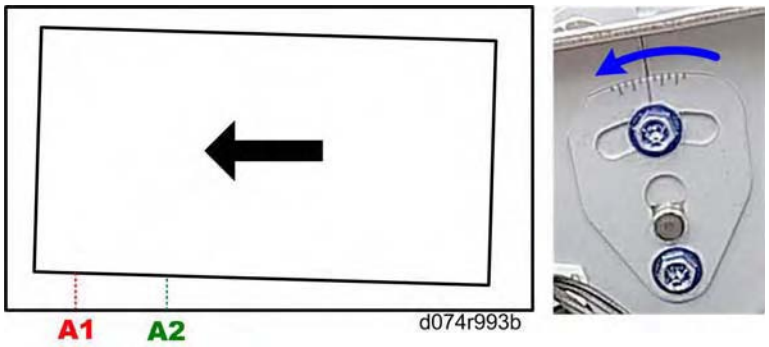
5. Disconnect the faceplate [A] ( x4).
6. Lower plate [B] so that it floats free.
7. Remove the faceplate. You may need to release plate [B] to free the faceplate.




8. Loosen the screws [A] on adjustor [B].
9. Move adjustor [B] left or right to adjust the image skew.




- If [A1] < [$A_2$] move the adjustor to the right to compensate for the size of the gap (A2 - A1). **One notch on the scale = 0.15 mm**




- If [A1] > [A2] move the adjustor to the left to compensate for the size of the gap (A1 - A2). **One notch on the scale = 0.15 mm**

10. Tighten the screws on the adjustor, and then re-assemble the machine.
11. Re-connect the power cord, and then turn on the machine.
12. Check the image skew again.

## *Front and Rear Image Density Check*

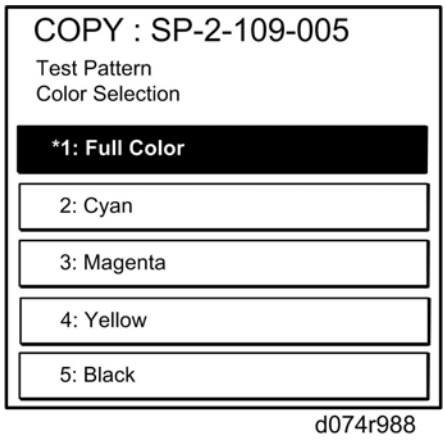
**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color COPY Digital 28 lb (105 gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine

⇒ **Procedure for D074/D075**

Do this procedure to check the ruled lines on the output.

1. Turn on the main power switch.
2. Set a sheet of paper on the original tray of ADF.
3. Enter “Adjustment Settings for Operators” and then select “0703 Switch Print Screen”.
4. Press “Copier” and then touch [OK].
5. Enter the SP mode and open **SP2109-003**.
6. Select the No. 26 (Full Dot Pattern) in the test pattern list, and then touch [OK].




7. Print out the solid image for each single color with SP2109-005: 2:Cyan, 3:Magenta, 4:Yellow, 5:Black.

Important

- Do not select "1: Full Color" when a solid image is printed out. Too much toner coverage can cause the fusing unit to malfunction.

8. Select a paper Tray and print mode (simplex or duplex).
9. Select the "Full Color" mode.

Important

- Make sure that the "Full Color" mode is selected. Otherwise, the color registration check cannot be done correctly.

10. Press the [Start] key on the operation panel.
11. Confirm that there is no difference in the density of the solid image on the front and rear for each color.

## *Front and Rear Image Density Check*

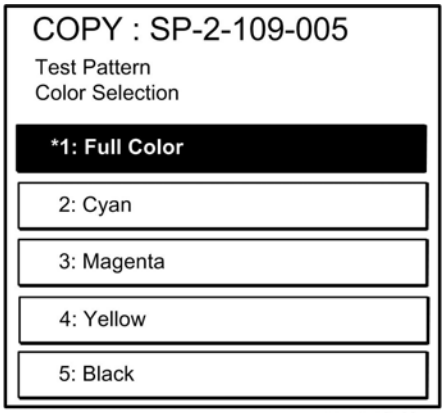
**Before You Begin...**

- Use "T6000 (70W)", Mondi: Color Copy 100gsm or Hammermill Color COPY Digital 28 lb (105 gsm) paper to check the image quality of the printout.
- To do these checks at installation, use the accessory paper provided with the machine

**Procedure for D074/D075**

Do this procedure to check the ruled lines on the output.

1. Turn on the main power switch.
2. Set a sheet of paper on the original tray of ADF.
3. Enter the SP mode and open **SP2109-003**.
4. Select the No. 26 (Full Dot Pattern) in the test pattern list, and then touch [OK].




5. Print out the solid image for each single color with SP2109-005: 2:Cyan, 3:Magenta, 4:Yellow, 5:Black.

Important

- Do not select "1: Full Color" when a solid image is printed out. Too much toner coverage can cause the fusing unit to malfunction.

6. Do SP5070-1 (Switching Print Application), select "3" (Copy), and then touch "COPY Window".
7. Select a paper Tray and print mode (simplex or duplex).
8. Select the "Full Color" mode.

Important

- Make sure that the "Full Color" mode is selected. Otherwise, the color registration check cannot be done correctly.

9. Press the [Start] key on the operation panel.
10. Confirm that there is no difference in the density of the solid image on the front and rear for each color.

**Procedure for M044**

1. Turn on the main power switch.
2. Enter the SP mode and open **SP2109-3.**
3. Select Pattern No. 26 (Full Dot Pattern), and then touch [OK].
4. Print out the solid image for each color with SP2109-5 (2:Cyan, 3:Magenta, 4:Yellow, 5:Black).

   Important

   - Do not select "1: full Color" when a solid image is printed out. Too much toner coverage can cause the fusing unit to malfunction.
5. Touch "APL Window" at the top of the LCD.
6. Select a paper tray and print mode (simplex or duplex),
7. Prepare the PC for printing.
8. Print a test page with the Fiery printer driver. A solid image prints for the selected color.
9. Confirm that there is no difference in the density of the solid image on the front and rear for each color.

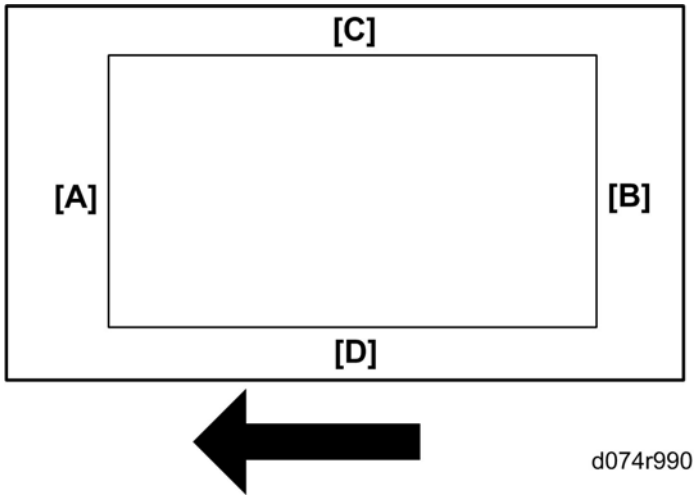
   Note

   - Do not use the [Print] button on the LCD to print the test pattern. Only a black and white image will be output if you use the [Print] button on the LCD. The color registration check requires a color image output.
   - Make sure that the color is correct for each test pattern.

**Recovery**

If there is a problem in the test, do these SP codes.

- **SP2113-001 (K)**
- **SP2113-002 (C)**
- **SP2113-003 (M)**
- **SP2113-004 (Y)**



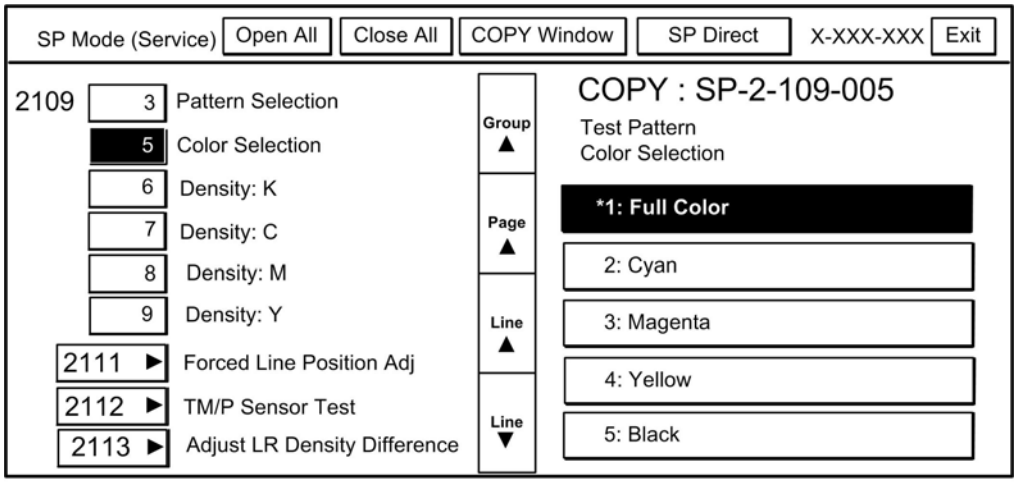

In the illustration above the black arrow shows direction of feed and:

| | |
|---|---|
| [A] | Leading edge |
| [B] | Trailing edge |
| [C] | Top |
| [C] | Bottom |

**Supplementary Explanation on the Front and Rear Image Density Check**

Full coverage test patterns can be created using two colors for further verification of the front and rear image density check.

1. Open SP2109-3 and select a test pattern to print.
2. Open SP2109-5 and select "1" (Full Color).
3. Open SP2109-6 to 9 and confirm that each is set to default "15" (Density 100%).




d074r991

For example, if you do the test prints with the settings below, the two colors of the C and Y toner will create full-green coverage.

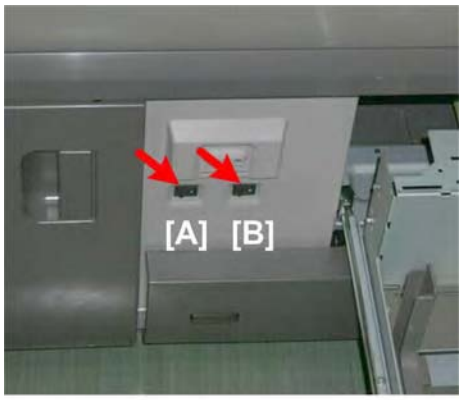
- Select SP2109-003 "No.26 (Full Dot Pattern)".
- Select SP2109-005 "1" (Full Color)
- Open SP2109-006 (Density: K) and -008 (Density: M), and then change both settings from "15" to "0".
- Open SP2109-007 (Density: C) and -009 (Density: Y), and then make sure that both settings are set to "15" (default settings).

## 3.2.14 TCRU SETTING

If the client is participating in the TCRU program, the TCRU feature must be initialized so the TCRU setting menus can be displayed.

1. Go into the SP mode.
2. Execute **SP5185-001** (TCRU: Set Machine).

## 3.2.15 TRAY HEATERS




d074f978

There are two heater switches on the front of the machine.

- The left switch [A] controls the operation of the paper bank heaters of the main machine and the LCIT heaters. This heater prevents the collection of moisture around the paper feed trays. It should be switched on when there the machine is subject to high humidity.
- The right switch [B] controls the operation of the ITB unit heaters. This heater keeps the area around the ITB warm to facilitate cold starts. It should be switched on in areas where it is cold, especially in the early morning hours.
- If the temperature sensor (a thermostat) inside the machine will automatically shut the heaters off if the internal temperature becomes too high.

When these switches are ON:

- The heaters turn on when the main machine is turned off (or enters energy save mode).
- The heaters turn off when the main machine is turned on again (or leaves energy save mode).

When these switches are OFF:

- The heaters do not turn on when the main machine is turned off (or enters energy save mode).
- Both heaters are turned OFF before the machine leaves the factory.

When these switches are ON and SP5965-1 is set to "1", the heaters always remain on.

1. Open the top tray.
2. Press the left switch [A] to set up the main machine tray bank heaters and the LCIT heaters.
3. Press the right switch [B] to set up the ITB unit heaters.

Important

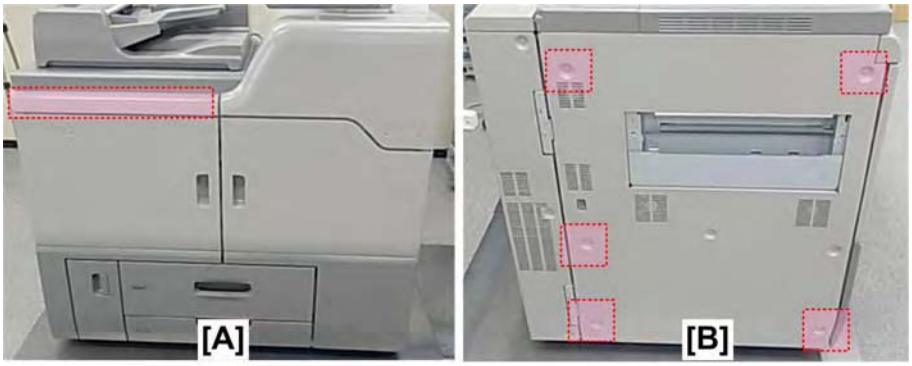
- Do not switch on the heaters unless they are needed.
- Please explain to the operator that while the heaters can improve machine performance when humidity is high or temperatures are low, the heaters will consume slightly more power.
- Set SP5965-1 to "1" if you want to have the heaters on at all times. Use this setting only if the work area is extremely humid or exceptionally cold.

## 3.2.16 MOVING THE MACHINE

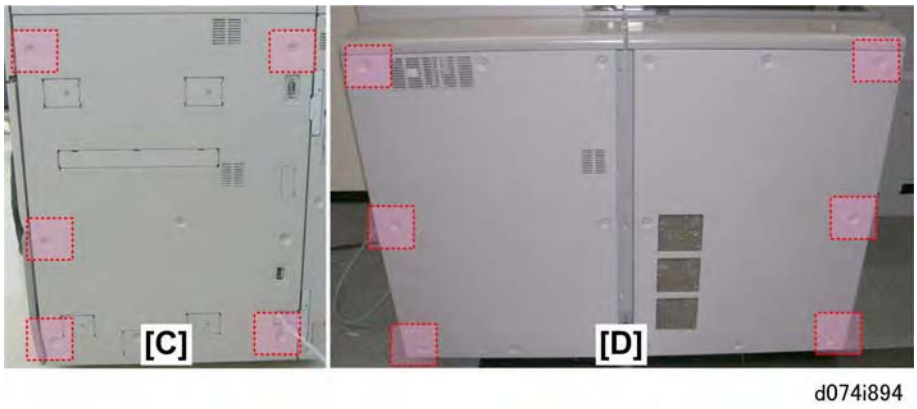
The machine is extremely heavy. When it is necessary to move the machine even a short distance to re-locate it, apply pressure only on the areas that are marked with red squares in the illustrations below.



### *Pushing the Machine*

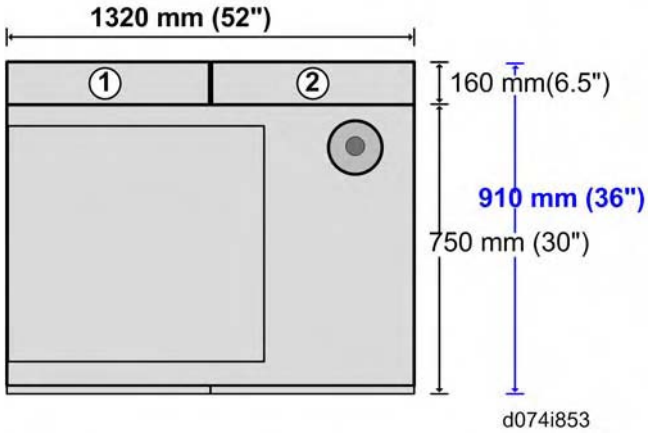



| | |
|---|---|
| [A] | Front |
| [B] | Left Side |




| | |
|---|---|
| [C] | Right Side |
| [D] | Rear |

## *Removing the Rear Boxes*




If the machine cannot fit through a door, the cooling box ① and controller box ② can be removed. With both boxes removed the machine is 750 mm (30 in.) wide.

**Cooling Box**

d074i831

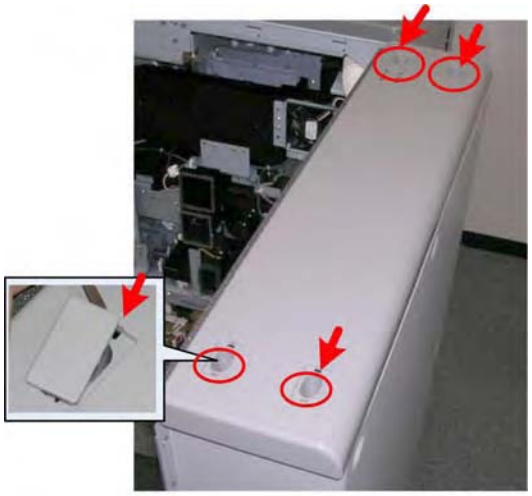
1. If the ARDF is connected, disconnect it (D074/D075).

d074i832

2. Remove the screws on the flat edge of the cooling box door [1] ( x3).

d074i833

3. Slowly, swing the cooling box open.

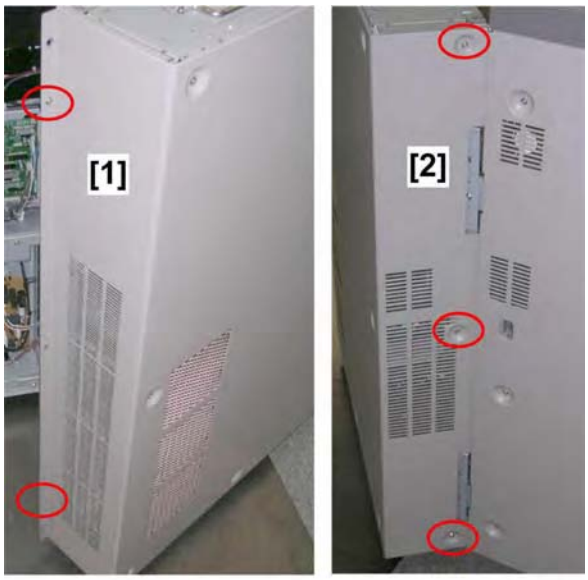


d074i834

4. On top of the box, remove the screw covers (x4) and screws (x4).

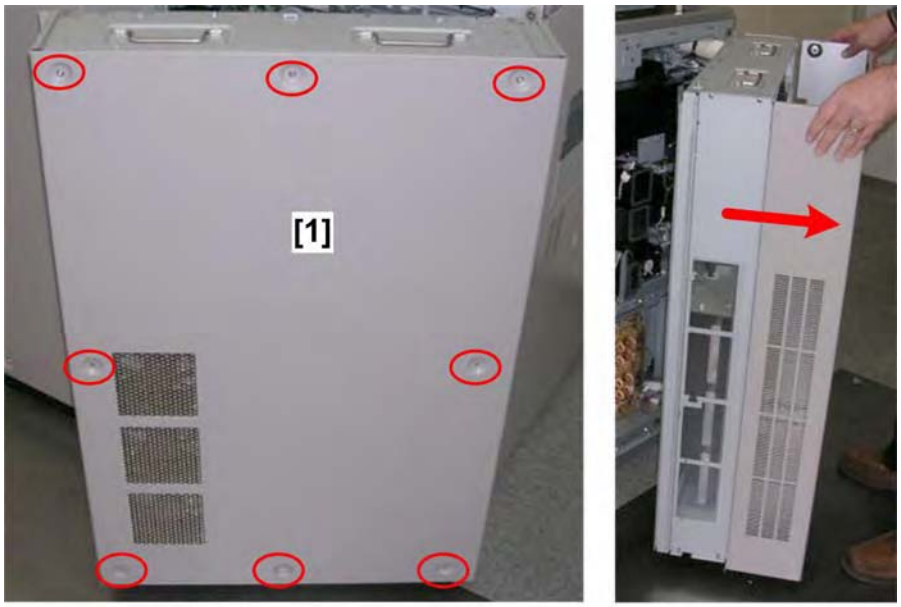
d074i835

5. Remove the top cover.



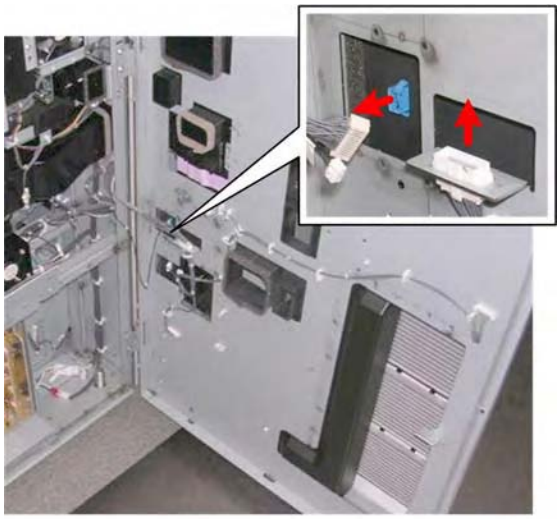

d074i836

6. On the open side of the box [1], remove the screws (x2).
7. On the hinged side of the box [2], remove the screws (x3).



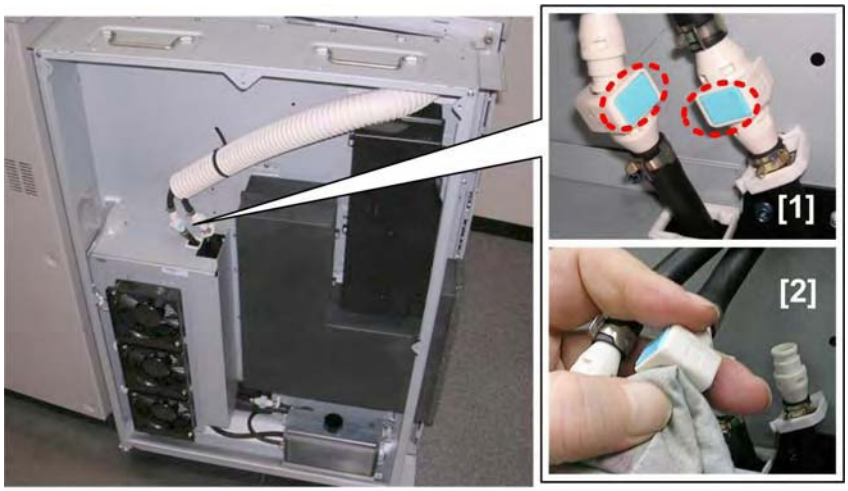

d074i837

8. On the back of the cooling box [1], remove the screws ( x8).
9. Remove the cooling box cover.



d074i838

10. Disconnect the harnesses ( x2).

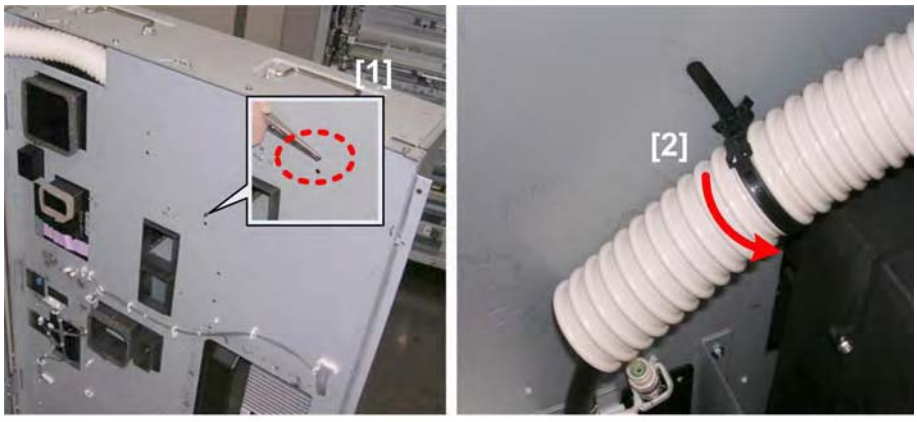



d074i839

11. Depress the release buttons [1] on both coolant hoses to disconnect them.
12. Use a cloth to soak up any fluid leakage from the hoses.

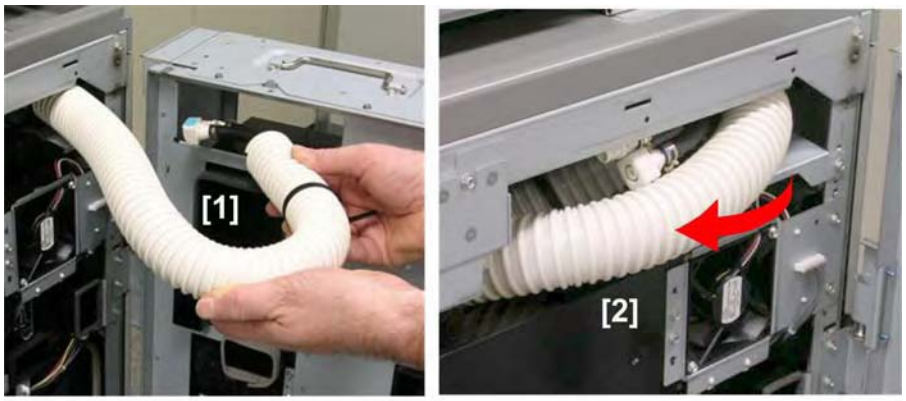
Important

- There will be a small amount of leakage.
- If there is a large amount of leakage, re-connect the hoses and disconnect them again.
- Cover the ends of the hoses with a plastic bag when you move the machine, to prevent drops of the liquid from getting on the customer's floor.



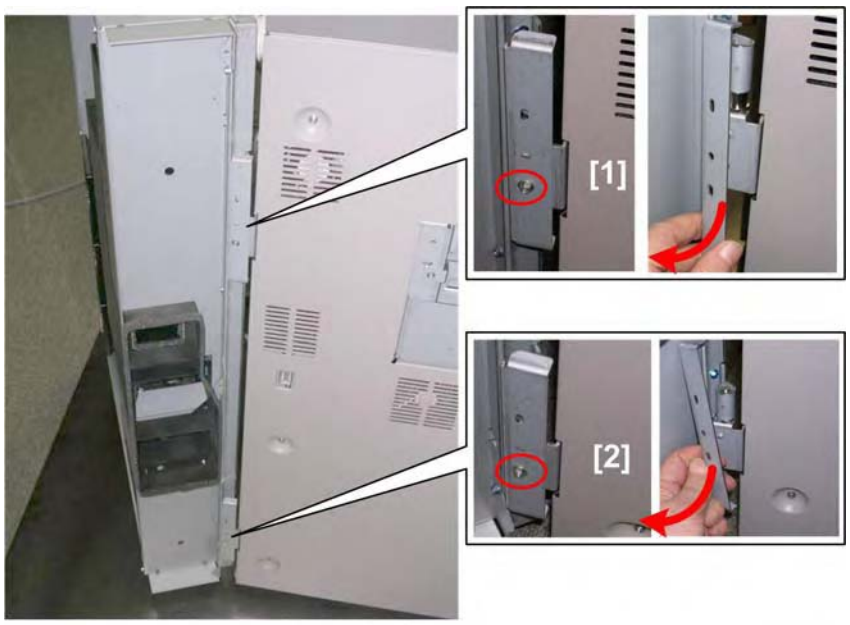

d074i840

13. On the inside panel, release the hose conduit band at [1] (x1).
14. Pull the hose conduit [2] away from the box.




d074i841

15. Slowly pull the hose conduit and hoses [1] out of the cooling box.
16. Stow the conduit [2] inside the machine.




d074i842

17. Remove upper hinge cover [1] ( x1).
18. Remove lower hinge cover [2] ( x1).

d074i843

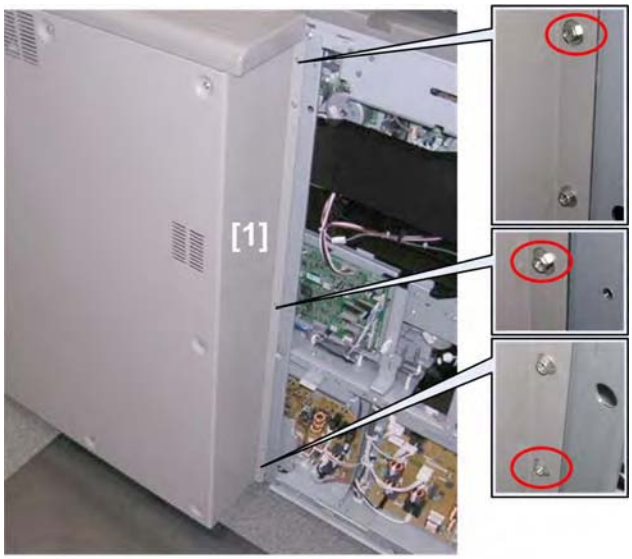
19. Raise the handles.

Note

- The cooling box weighs about 16 kg (36 lb).

20. Lift the box off its hinges and set it down.

**Controller Box**




d074i844

1. Remove the screws from the flat edge of the controller box door ( x3).

d074i845

2. Slowly, swing the controller box open.

d074i846

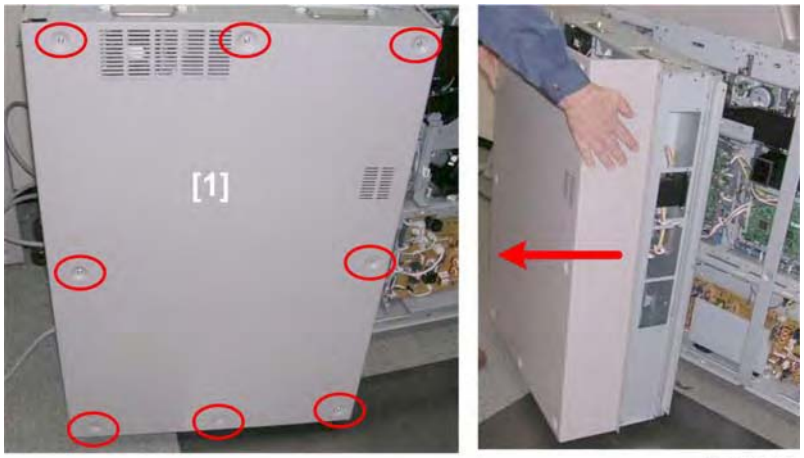
3. On top of the box, remove the screw covers (x4) and screws ( x4).

d074i847

4. Remove the top cover.

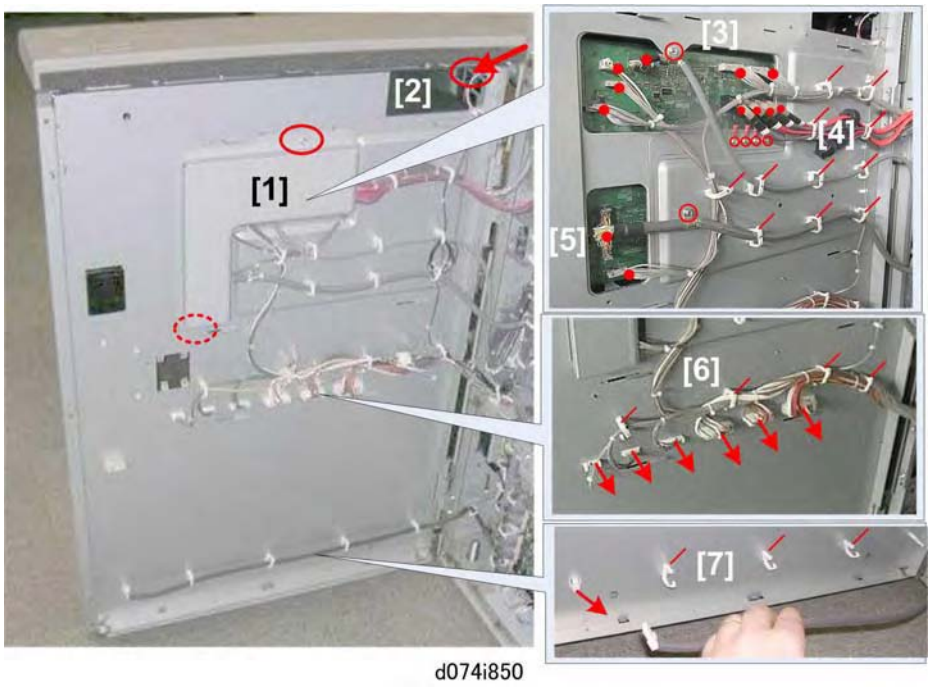
d074i848

5. On the hinged side of the box [1], remove the screws ( x3).
6. On the open side of the box [2], remove the screws ( x2).




d074i849

7. On the back of the controller box [1], remove the screws ( x8).
8. Remove the controller box cover.
9. Swing the controller box open.




d074i850

10. Remove plate [1] ( x2).
11. Disconnect fan harness [2] ( x1, x1).

Important

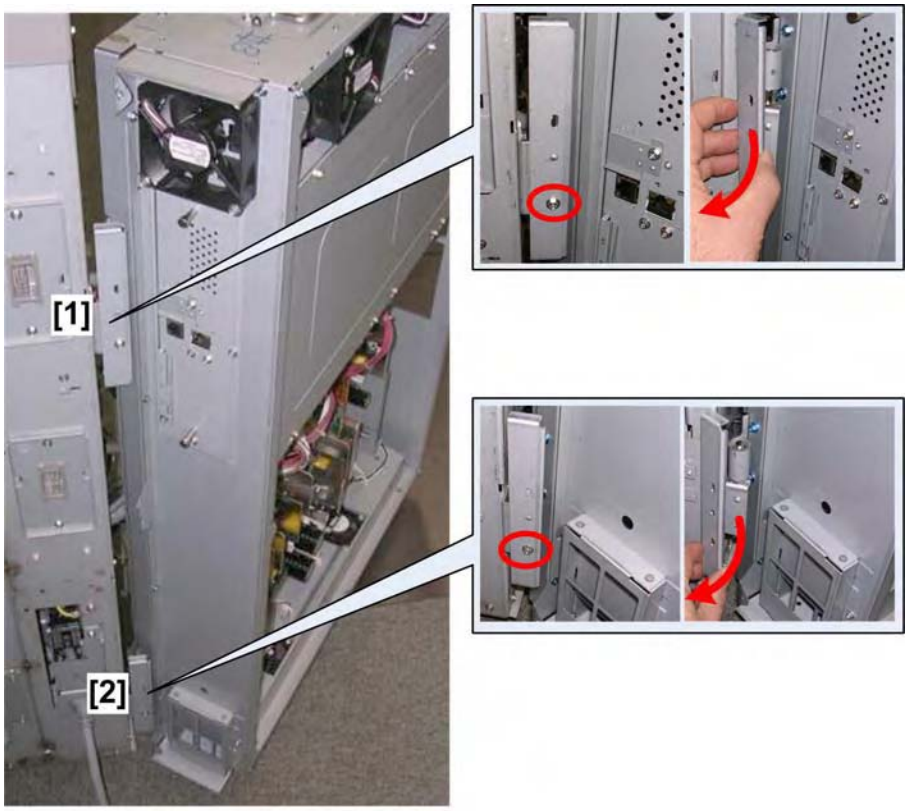
- The fan harness is thin and much smaller than the other harnesses. Be sure to disconnect it.

12. Disconnect:
    [3] Harnesses (x5, x8) and the ground clamp ( x1).
    [4] HDD connectors and ground wires (x4,x2, x4).
    [5] Harnesses, ground wire, clamps (x2, x1,x3).
    [6] Harnesses, clamps (x6,x4)
    [7] Harness (x1,x3)

    Note

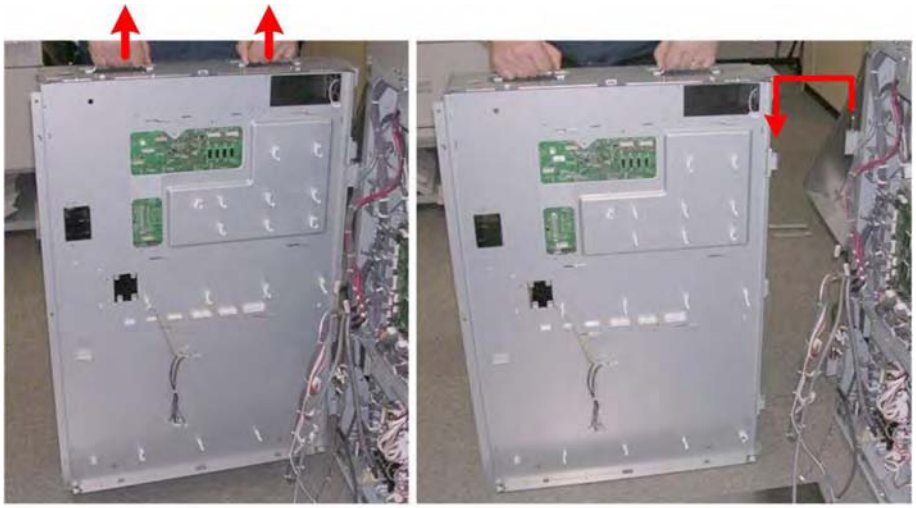
    - There are 7 fan harness connectors at [6]. They can be re-connected in any order.

13. At [7], disconnect the harness (x1, x4).




d074i851

14. Remove upper hinge cover [1] ( x1).
15. Remove lower hinge cover [2] ( x1).



d074i852

16. Raise the handles [1].

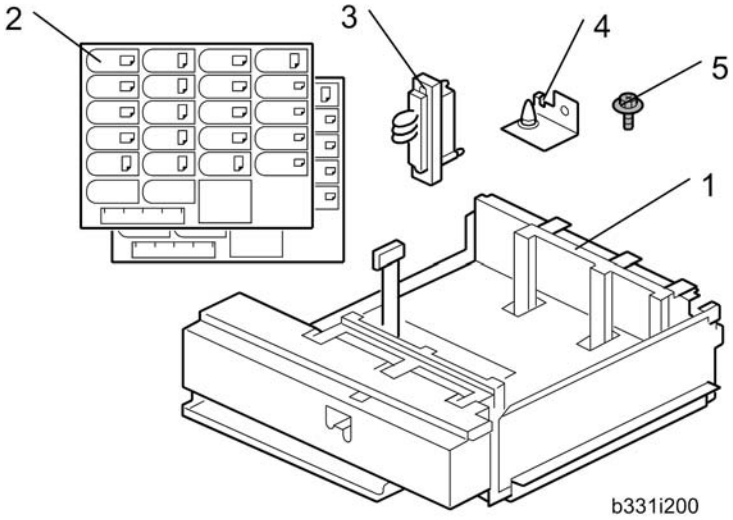
Note

- The cooling box weighs about 21 kg (47 lb).

17. Lift the box [2] off its hinges and set it down.

# 3.3 A3/11"X17" TRAY UNIT (B331-14)

## 3.3.1 ACCESSORIES



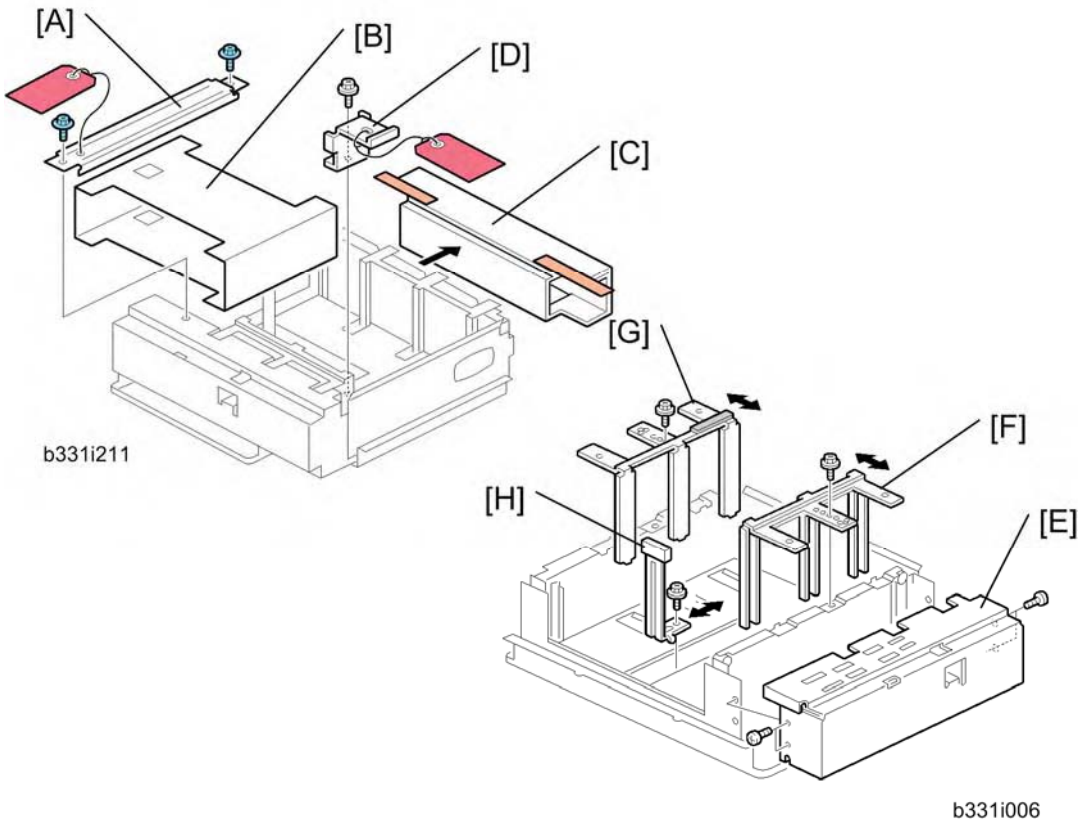

Check the quantity and condition of the accessories in the box against the following illustration and list.

| No. | Description | Q'ty |
|---|---|---|
| 1. | A3/DLT Tray | 1 |
| 2. | Paper Size Decals | 2 |
| 3. | Short Connector | 1 |
| 4. | Pin Bracket | 1 |
| 5. | Screw | 2 |

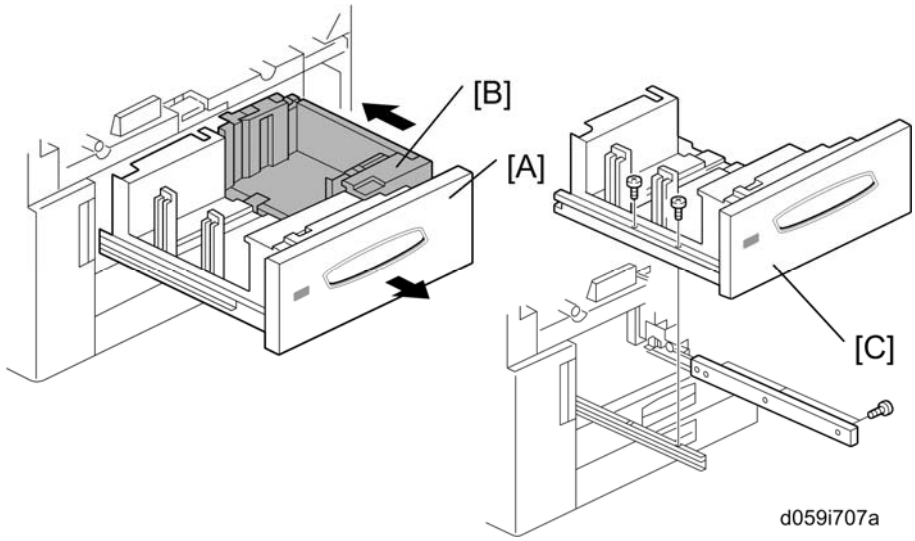
## 3.3.2 INSTALLATION

**CAUTION**

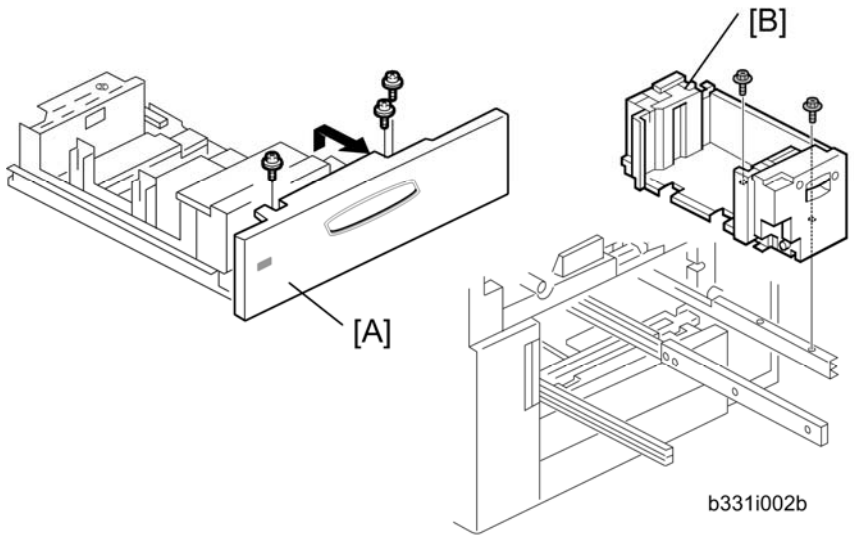
- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.



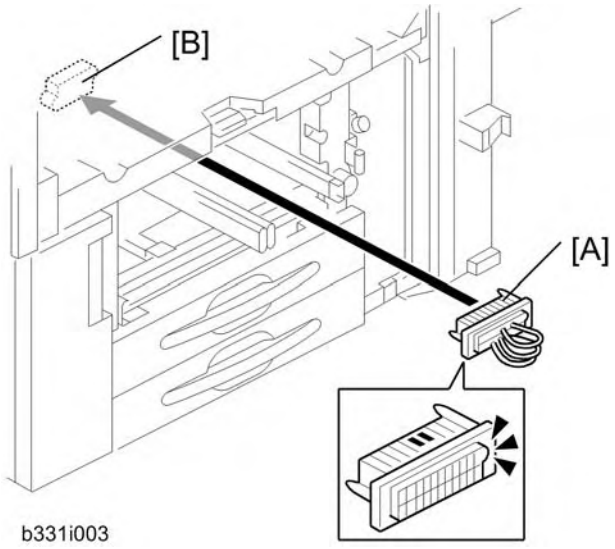

1. Remove the stay [A] ( x2).
2. Remove the retainers [B] [C] and the shipping material [D] ( x1).
3. Check the position of the front and back side fences and make sure that they are set for DLT or A3.
4. If you need to adjust the positions of the side fences for the paper to be loaded in the tray, remove the front panel [E] ( x4).
5. Remove the fences and adjust their positions for the paper to be loaded:
   [F] Front fence ( x1)
   [G] Back fence ( x1)
   [H] End fence ( x1)




6. Open the front doors.
7. Pull out the tandem feed tray [A] completely.
8. Push the right tandem tray [B] into the machine.
9. Remove the left tandem tray [C] ( x2 left, x3 right).



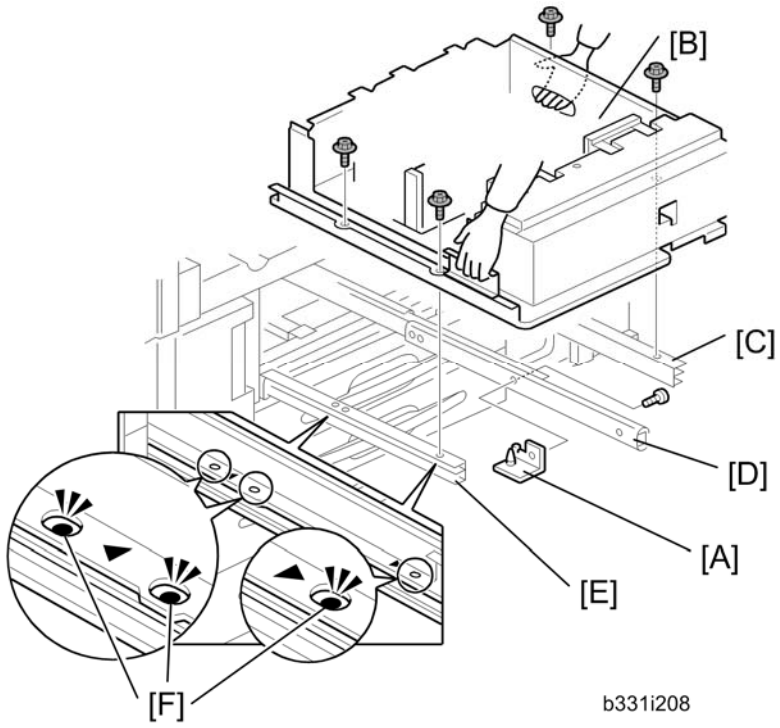

10. From the left tandem tray, remove the front cover [A] ( x3).
11. Pull out the right tandem tray [B] then remove it ( x2).



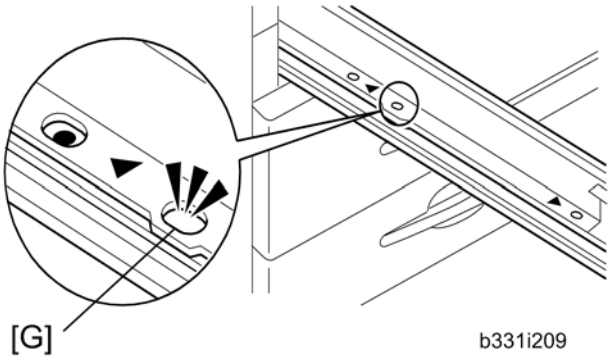

12. Insert the short connector [A] into the socket inside the machine [B].

Note

- Hold the connector as shown in the illustration.

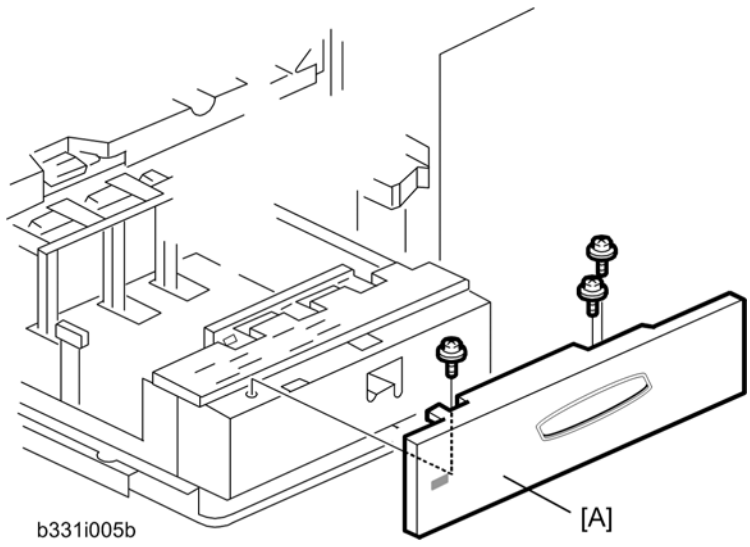



13. Using the screw removed in Step 9, attach the pin bracket [A] to the center rail.
14. Using the screws removed in Steps 11 for the right rail and screws provided in the accessories for the left rail, install the tray [B] on the right rail [C], center rail [D], and left rail [E].
    - Make sure that three screw holes [F] are visible before tightening the tray.




- If one of the three screw holes is not visible [G], the paper tray cannot be opened after the paper tray is closed.
- Tighten the screw holes indicated by triangle marks.
- Make sure that the pin on the bracket [C] is put through the hole in the bottom plate of the tray.






15. Re-install the front cover [A] ( x3).
16. Use **SP5959-2** to select the paper size for Tray 1 (A3 or DLT).
17. After selecting the paper size, switch the machine off and on to change the indicator on the operation panel.

# 3.4 DECURLER UNIT (D544)

## 3.4.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.

| No. | Description | Q'ty |
|---|---|---|
| 1. | Main Board unit | 1 |
| 2. | Harness A (for motor) | 1 |
| 3. | Harness B (for sensor) | 1 |
| 4. | Screw (M4×8) | 12 |
| 5. | Clamp (Black) | 1 |
| 6. | Clamp (White) | 2 |
| 7. | Sheet for upper/lower path adjustment | 1 |
| 8. | Safety plate | 1 |
| 9. | Connector guide plate A | 1 |

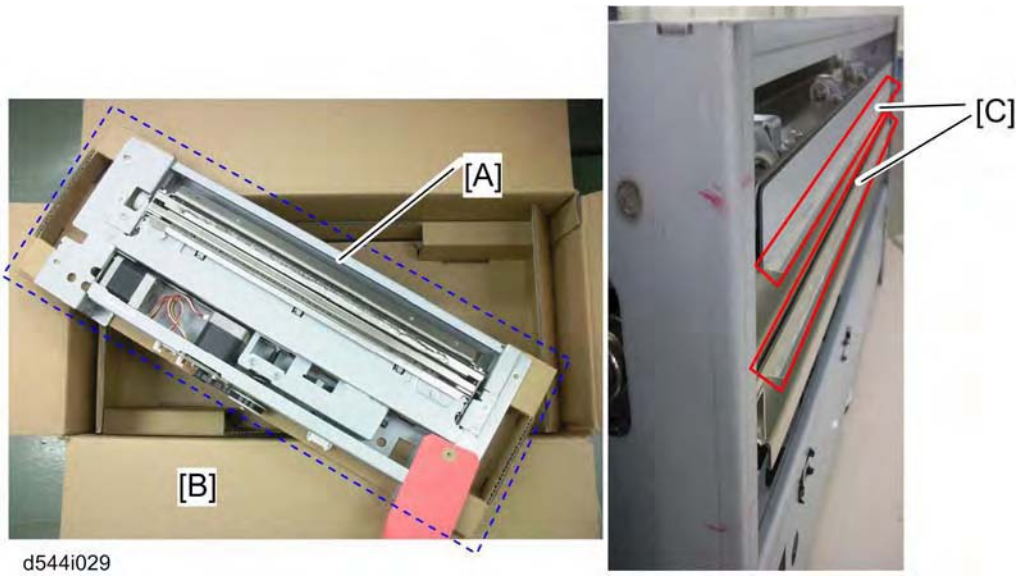
| No. | Description | Q'ty |
|---|---|---|
| 10. | Connector guide plate C | 1 |
| 11. | Decurler Unit | 1 |

## 3.4.2 INSTALLATION

**CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.






1. Prepare a place to lay the Decurler Unit [A].
2. Lay the Decurler Unit [A] on the carton box [B] as shown above so that the entrance gate of the decurler unit does not touch any object or the floor.
   - Keep this position before attaching this unit to the main machine.

   **CAUTION**

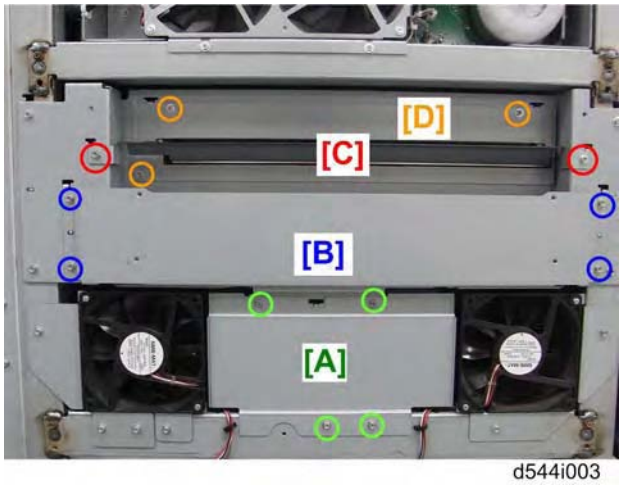
   - Do not lay the Decurler Unit on the floor with the entrance gate of the decurler unit facing downward. Otherwise, the mylars [C] on the entrance gate may be bent or folded.

d544i002

3. Remove the left cover of the main machine ( x7).

Important

- Support the cover with your hand when you remove the last screw, to prevent the cover from falling.



d544i003

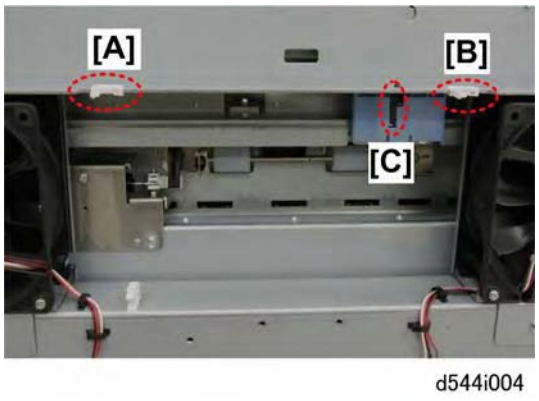
4. Remove:

[A] Bracket ( x4).

[B] Side stay ( x4).

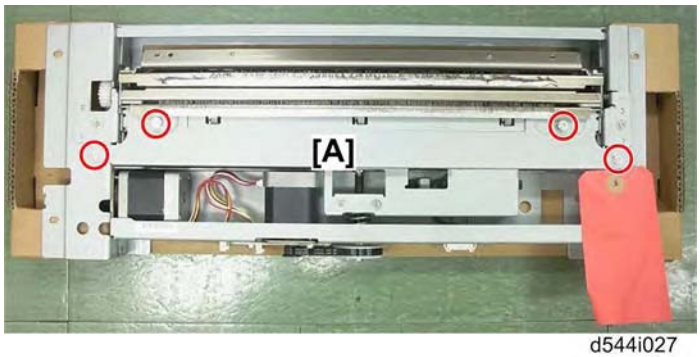
[C] Guide plate ( x2).

[D] Noise reduction plate ( x3).



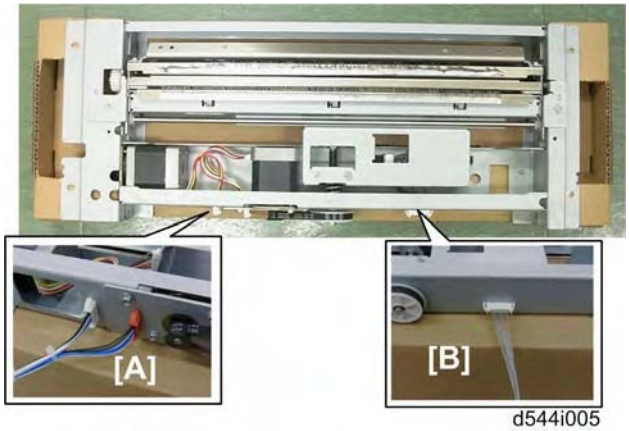
d544i004

5. Attach **white** clamps [A] and [B] (x2).
6. Attach **black** clamp [C] (x1).



d544i027

7. Remove shipping plate [A] from the Decurler Unit ( x4).



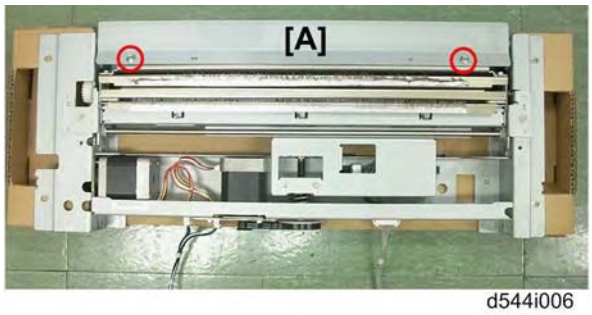
d544i005

8. Lay the Decurler Unit down at the location prepared in Step 1.
9. Connect accessory harness A at [A] (x2).

Important

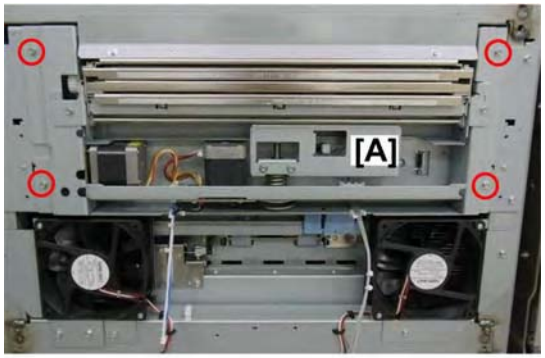
- The connectors at [A] have the same shape. Connect the **white** connector on the **left** (white-to-white) and the **red** connector on the **right** (red-to-red) as shown above.

10. Connect accessory harness B at [B] (x1).



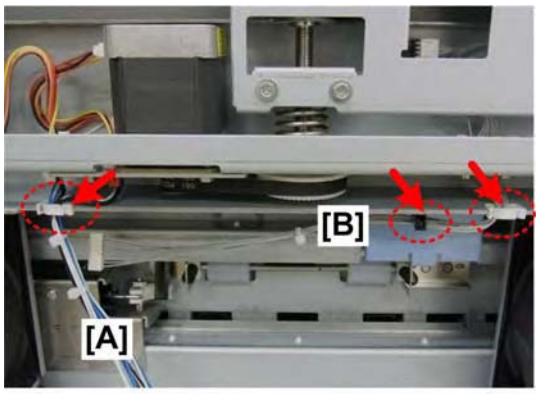
d544i006

11. Align the safety plate [A] with the embossed guide and fasten it ( x2).



d544i007

12. Install the Decurler Unit [A] on the left side of the main machine ( x4).

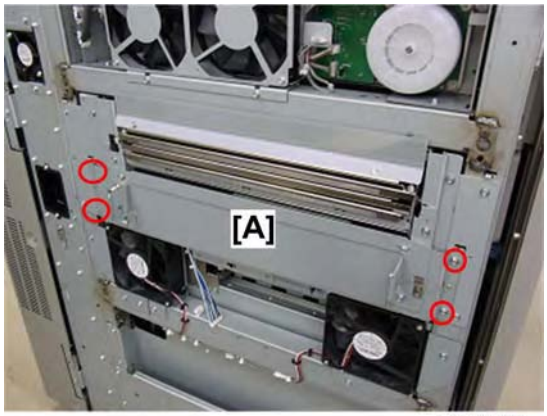


d544i008

13. Route accessory harness A [A] (for the motor) through the white clamp, and close the clamp (x1).
14. Route accessory harness B [B] (for the sensor) through the black clamp and the white clamp, and close the clamps (x2).

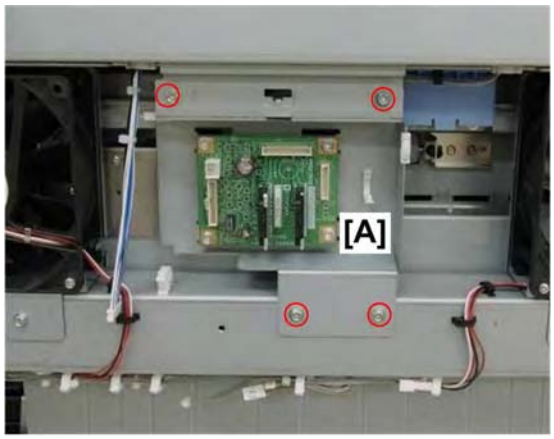
d544i009

15. On the front side at both ends of the connection bracket of the first downstream unit, remove the screws and replace them with the accessory screws provided ( x2 M4x8).



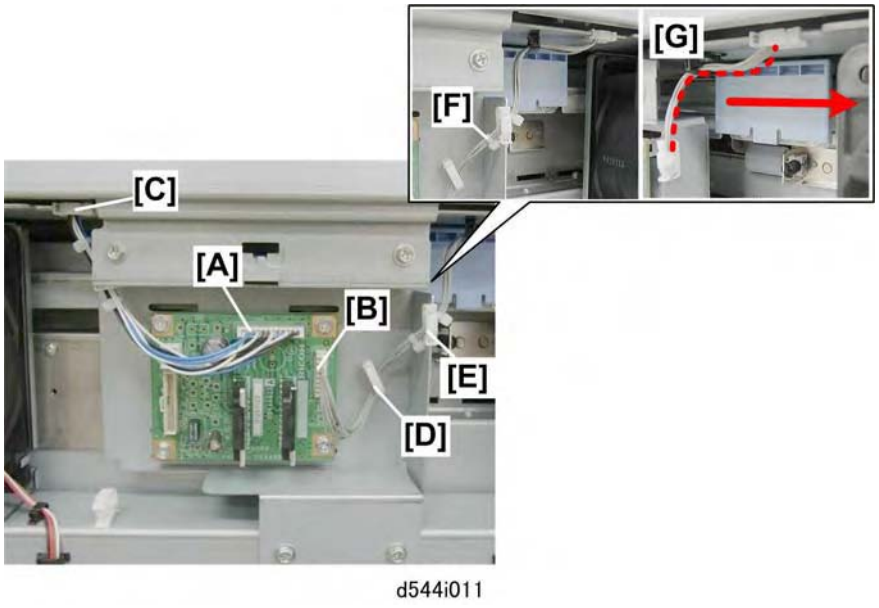

d544i028

16. Re-attach the bracket [A] ( x4).




d544i010

17. Align the bracket [A] of the board unit with the embossed guide and fasten it ( x4).

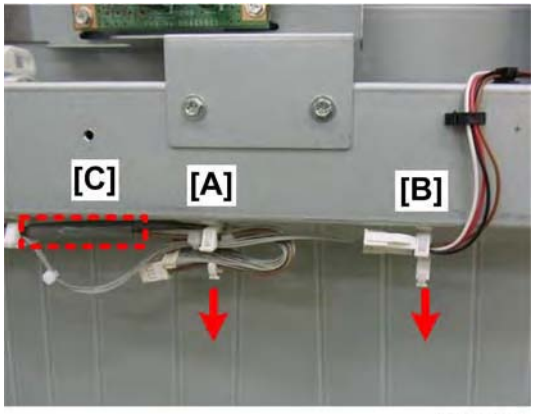



d544i011

18. Connect accessory harness A at [A] (x1).
19. Connect accessory harness B at [B] (x1).
20. Route harness A through white clamp [C] and close the clamp (x1).
21. Route harness B through clamps [D] and [E] and close the clamps (x2).
22. At [F], make sure that the band is on the left side of the clamp.

Important

- There must be no slack in harness B at [G]. This prevents the harness from interfering with the left drawer when it is pulled out.




d544i025

23. Release the unconnected harnesses at [A] and [B] from the main machine (x2).

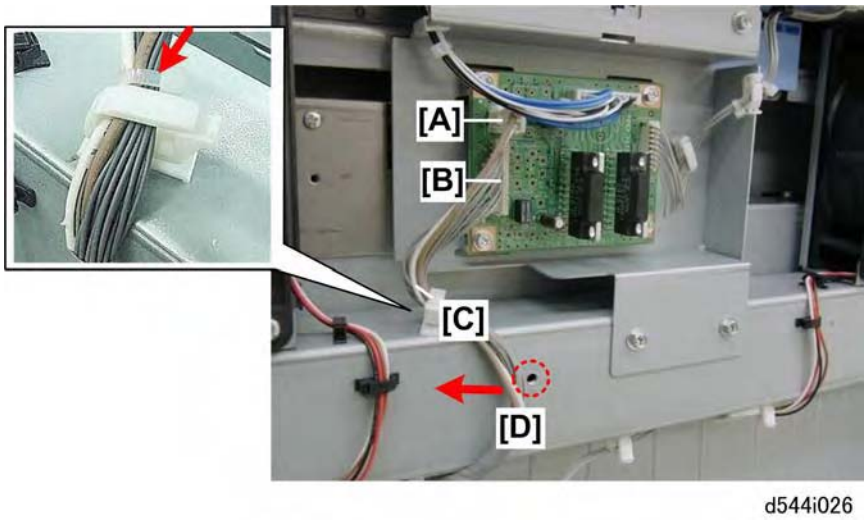
Important

- Do not remove the heavy tape at [C] This tape prevents the harnesses from interfering with re-installation of the left cover.

24. Close the clamps again around the connected fan harnesses.

Important

- These fan harnesses must be clamped correctly at their original positions.




25. Connect the harnesses [A] and [B] to the board (x2).
26. Clamp the harness at [C] (x1).
27. Check the following:
    - Make sure that the sealed band on the harness [C] is positioned above the clamp as shown above.
    - The taped portion of the harness [D] should be positioned away from the right cover screw hole as shown. This prevents the harness from interfering with re-installation of the cover.

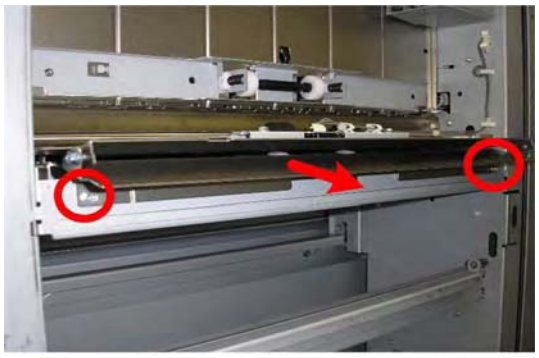
## *Installing the Guide Plate*

Important

- There are two connector guide plates "A" and "C".
- You must select the correct guide plate for the peripheral unit that will be connected to the left side of the main machine.
- Each guide plate is marked to tell you which guide plate to install. Refer to the table below.

| Downstream Unit | Letter Embossed on Plate |
|---|---|
| Multi Folding Unit | **A** |
| Ring Binder | |
| Cover Interposer Tray | |
| Finisher (D512 or D513) | **C** |
| High Capacity Stacker | |
| Buffer Pass Unit | Not Required |

1. If the Buffer Pass Unit is to be installed, skip this section and go to the next section.

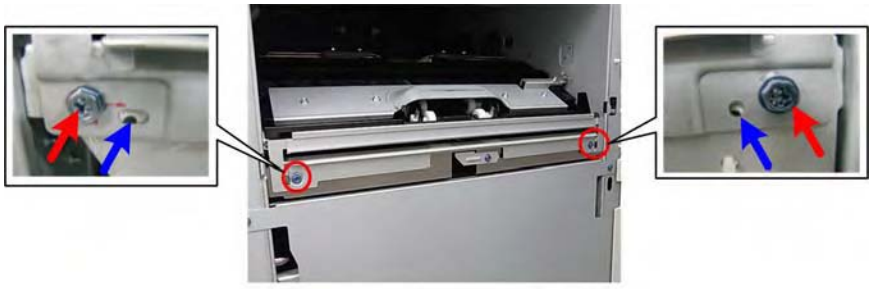


d999i013

2. Remove the guide plate from the right side of the downstream unit ( x2). **Keep these screws in a safe place!**

d999i014

3. Select the correct guide plate ("**A**" or "**C**") for the peripheral unit. The guide plate in the illustration above is marked "A" (for Multi Folding Unit, Ring Binder, or Cover Interposer Tray).



d999i015

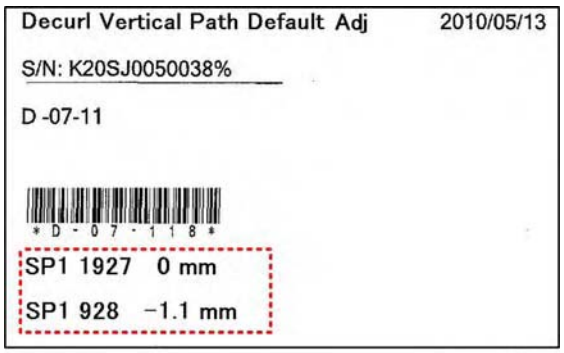
4. Attach the guide plate with the screws removed in Step 2.

   When you attach guide plate **A** to the downstream unit:

   - There are two sets of holes on guide plate **A**.
   - Attach the screws to the outer holes (marked above by the red arrows) if the next downstream unit is the Multi Folding unit.
   - Attach the screws to the inner holes (marked by the blue arrows) if the Ring Binder or Cover Interposer Tray is the next downstream unit.

## *SP Settings*

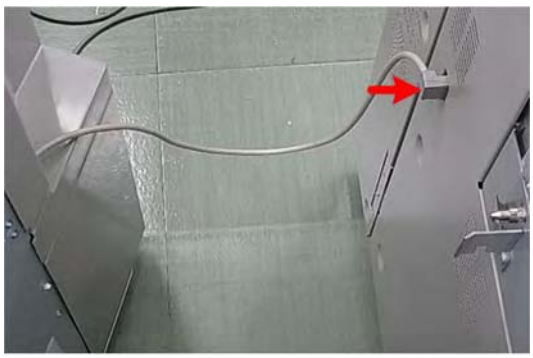
1. Switch on the machine and enter the SP mode.




d999i016

2. Refer to the accessory sheet and enter the settings for SP1927 and SP1928.
3. Exit SP mode and turn off the main machine.

## *Docking*



d999i018

1. Connect the downstream peripheral unit to the main machine.
2. Dock the downstream peripheral unit.
3. Turn on the main machine.
4. Make sure that the front door of the main machine and decurler unit are both closed.
5. Do **SP5804-210**. This sets the upper path in the decurler unit as the default paper path.

Important

- If either door is open when you execute SP5804-210, the machine will issue SC593.
- In this occurs, execute SP5804-209, make sure both doors are closed, then cycle the machine off/on and execute SP4804-210 again.

6. Turn off the main machine.
7. Check if the upper path of the decurler unit is positioned as the default paper path.

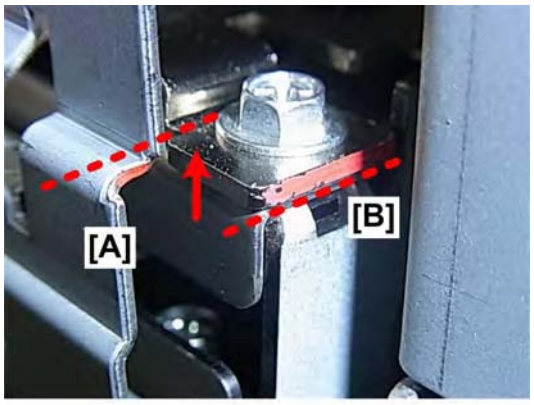
Note

- Two procedures are described below. Do the procedure for whichever peripheral unit you are installing.

**Guide Plate A**

Follow this procedure if plate "A" is installed for:

- Multi Folding Unit
- Ring Binder
- Cover Interposer Tray



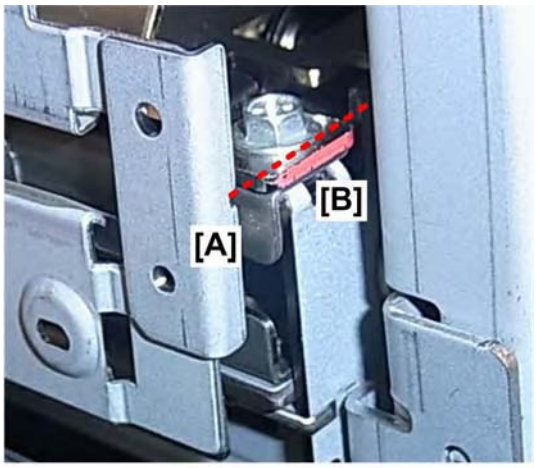

d999i020

1. Look down between the machine and unit and locate the red reference points.
   - [A] is the red reference point on the downstream unit.
   - [B] is the red reference point on the Decurler Unit.
2. Remove the rear cover of the peripheral unit.
3. Adjust the leveling bolts on the left side of the main machine (front and rear corners) until reference points [A] and [B] are at the same height.

**Guide Plate C**

Follow this procedure if plate "C" is installed for:

- High Capacity Stacker
- Finisher (D512 or D513)




d999i021



1. Look between the machine and unit and locate the reference points.
   - [A] is the cutout on **guide plate C** attached to the main machine.
   - [B] is the red reference point on the on the Decurler Unit.
2. Remove the rear cover of the finisher.
3. Adjust the leveling bolts on the left side of the main machine (front and rear corners) until the cutout [A] and reference point [B] are at the same height.

## 3.4.3 CURL CORRECTION

### *SP Mode Adjustments*

Turn on the machine and do some test prints and check for excessive curling.

Important

- Do test prints with paper feed from each paper tray.

d999i022

d999i023

**Back Curl [A]**

Back curling (convex curling) occurs when the leading and trailing edges of the sheets curl under.

**Face Curl [B]**

Face curling (concave curling) occurs when the leading and trailing edges of the sheets curl up.

**Curl Correction**

Curl correction is done with settings in the SP mode. There are six SP codes for curl correction, one for each paper tray.

| Paper Source | | SP No. | Range |
|---|---|---|---|
| Tray 1 | 1st Tray: Main Machine | SP1906 001 | [0 to 5 / **3** / 1] |
| Tray 2 | 2nd Tray: Main Machine | SP1906 002 | |
| Tray 3 | Top Tray: LCIT | SP1906 003 | |
| Tray 4 | Middle Tray: LCIT | SP1906 004 | |
| Tray 5 | Bottom Tray: LCIT | SP1906 005 | |
| Tray 6 | Multi Bypass Tray: On top of LCIT | SP1906 006 | |

**1st Tray Main Machine: SP1906 001**

This is the list of settings (range) for Tray 1. These settings are identical for each paper tray.

| Setting | Used For | Sample |
|---|---|---|
| 1 | Slight Face Curl | Sample [B] in previous illustration. |
| 2 | Excessive Face Curl | |
| 3 | None. This is the normal default setting. | No pressure applied by soft roller. |
| 4 | Slight Back Curl | Sample [A] in previous illustration. |
| 5 | Excessive Back Curl | |

### *Tray Heaters*

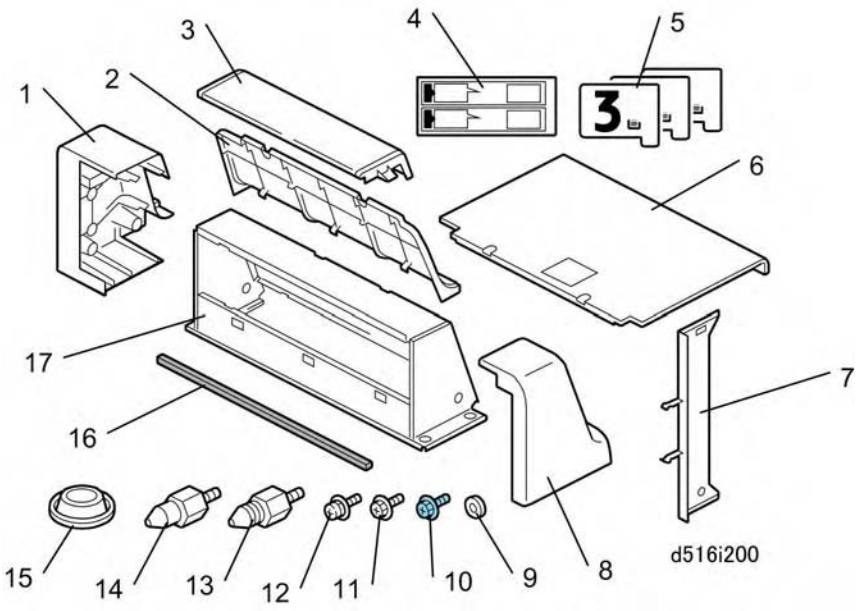
If the machine is being used where humidity is high:

- Turn on the tray heaters of the main unit. This will prevent moisture from collecting around and in the paper trays while the machine is idle or switched off.
- If the LCIT is installed, recommend installing the optional tray heaters in the LCIT. This will prevent moisture from collecting around and the paper trays in the LCIT while the machine is idle or switched off.

# 3.5 A3/DLT LCIT (D516)

## 3.5.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Rear Cover | 1 |
| 2. | Side Cover | 1 |
| 3. | Top Cover | 1 |
| 4. | Decals - Paper Set | 3 |
| 5. | Tray Number Decals | 3 |
| 6. | Flat Cover (for Bypass Tray D517) | 1 |
| 7. | Tab Fences | 3 |
| 8. | Front Cover | 1 |
| 9. | Washer | 1 |
| 10. | Screws (M4x8) - Blue | 2 |

| No. | Description | Q'ty |
|---|---|---|
| 11. | Screws (M4x8) - Silver | 10 |
| 12. | Binding Screw (with lock washer) | 1 |
| 13. | Upper Joint Pins (Grooved) | 2 |
| 14. | Lower Joint Pins (Smooth) | 2 |
| 15. | Leveling Shoes | 4 |
| 16. | Sponge Strip | 1 |
| 17. | Frame – Sheet Metal | 1 |

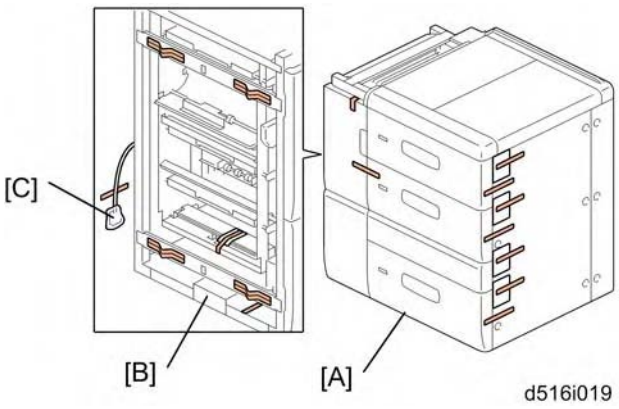


## 3.5.2 INSTALLATION

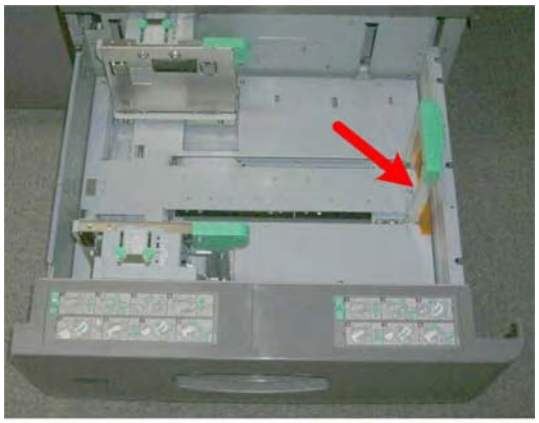
**⚠CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.

### *Tapes, Retainers*



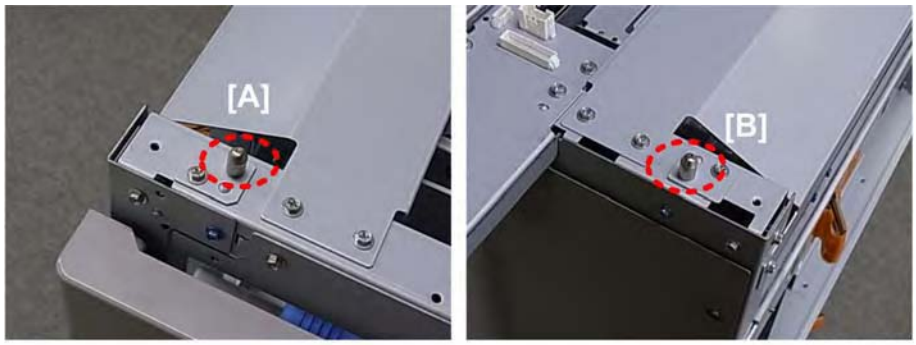

1. At the front [A] and right, remove all visible tapes.
2. On the left [B], remove visible tapes.
3. Remove tape and cover from the I/F connector [C].



d516i020

4. Open each drawer and remove the tape.

## *Covers*

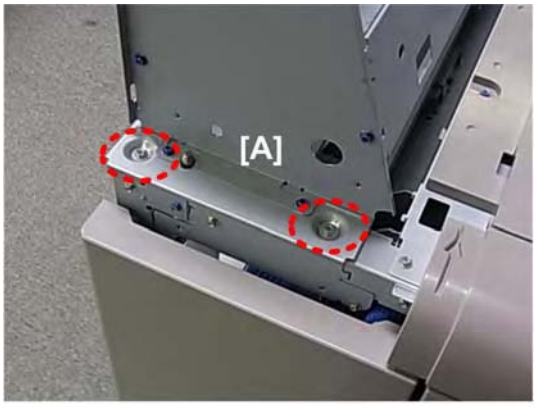



d516i001

1. Locate the positioning pins at the front [A] and rear [B].

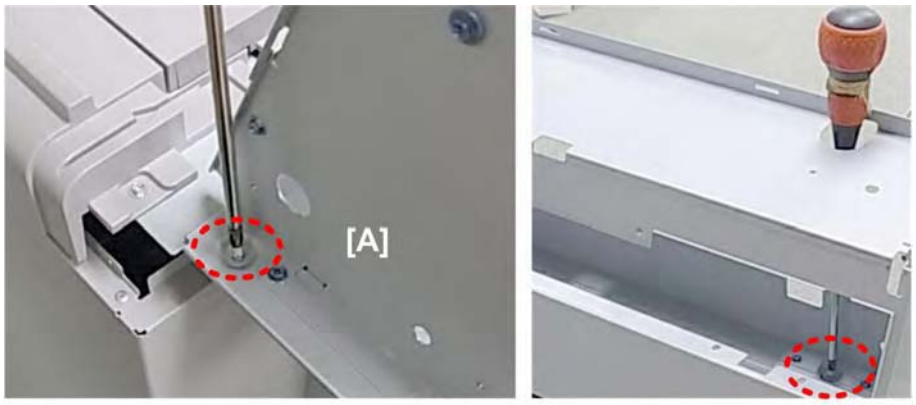
d516i002

2. Position the holes on the bottom of the frame with the positioning pins at the front and back, and set the frame [A] on the left side of the unit.
3. Make sure that the holes and positioning pins [B] are engaged at the front and back.



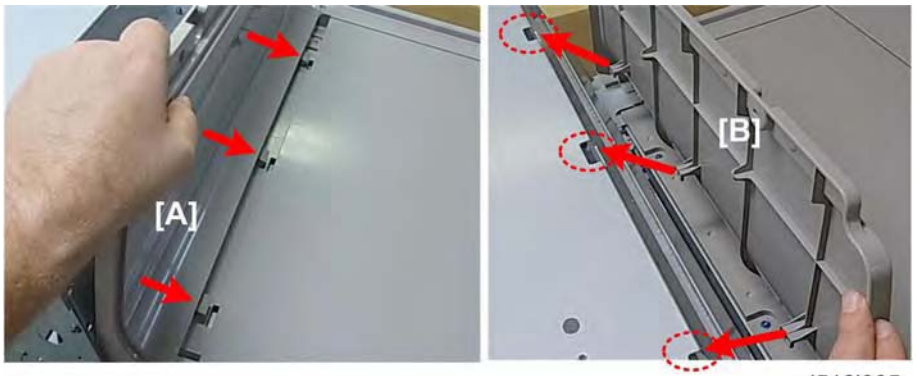

d516i003

4. At the front, fasten the base of the frame [A] ( x2 M4x8).




d516i004

5. At the rear, fasten the base of the frame [A] ( x2 M4x8).




d516i005

6. Attach the right cover to the right side of the frame.
   - First, set the bottom tabs of the right cover [A] into the cutouts in the flat plate.
   - Next, set the claws on the left side of the right cover [B] into the holes in the frame.

d516i006

7. Check the left side under the top of the frame [A], and make sure that the claws and holes are matched correctly and that the right cover is flat against the right side of the frame.
8. Fasten the right cover [B] to the frame ( x2 M4x8).

d516i007

9. Set the top cover on top of the frame.
   - Insert the claws [A] on the left underside of the top cover into the holes in the frame.
   - At the same time, insert the tabs on the top left edge of the top cover [B] into the holes in the frame.

d516i008

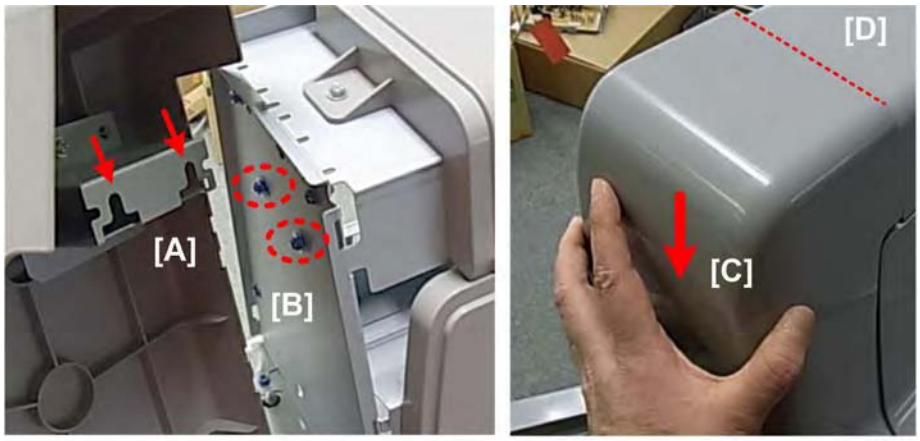
10. Make sure the top cover is flat against the frame.

d516i009

11. Fasten the top cover at the front [A] and rear [B] ( x2 M4x8).

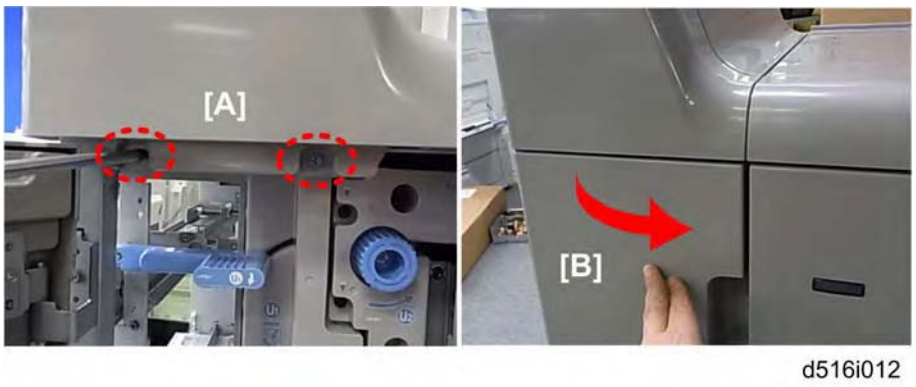
d516i010

12. Open the front door.

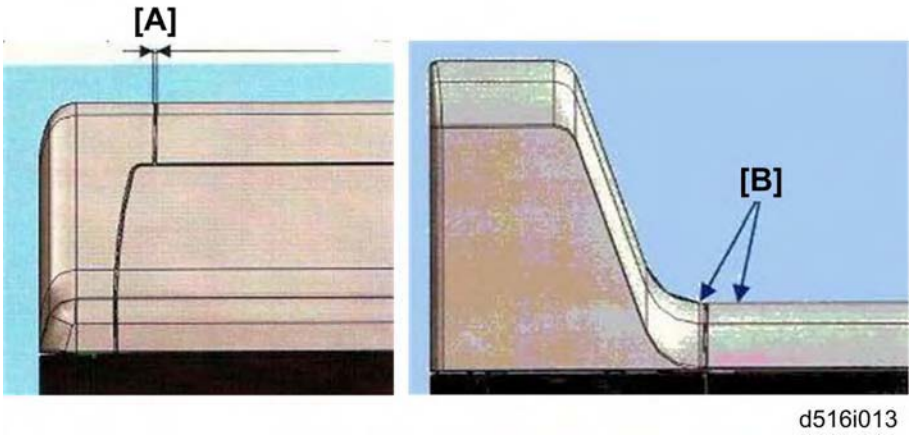



d516i011

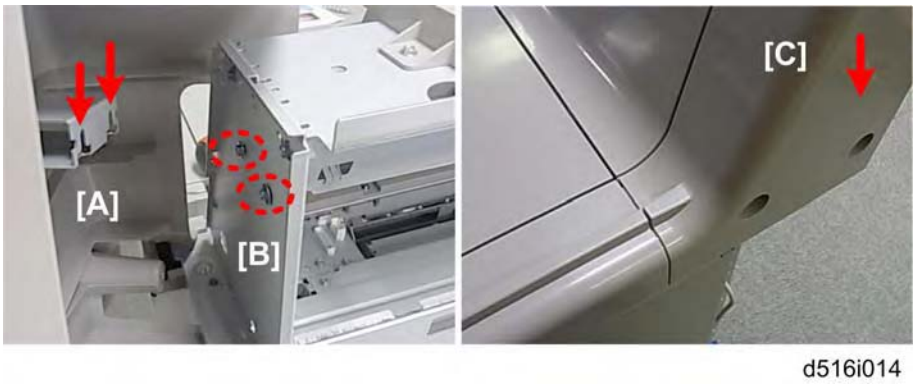
13. Hang the keyholes in the bracket on the back of the front cover [A] onto the shoulder screws of the front frame plate [B].
14. Slide front cover [C] down until the top is flat and level with the top of the top cover [D].



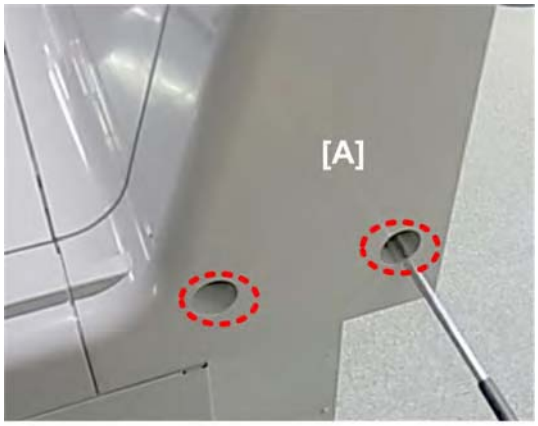

15. Attach the front cover [A] ( x2 M4x8)
16. Close the front door [B].




17. Make sure the front cover is set correctly.
    - Top right edge [A]
    - Bottom right edge [B]

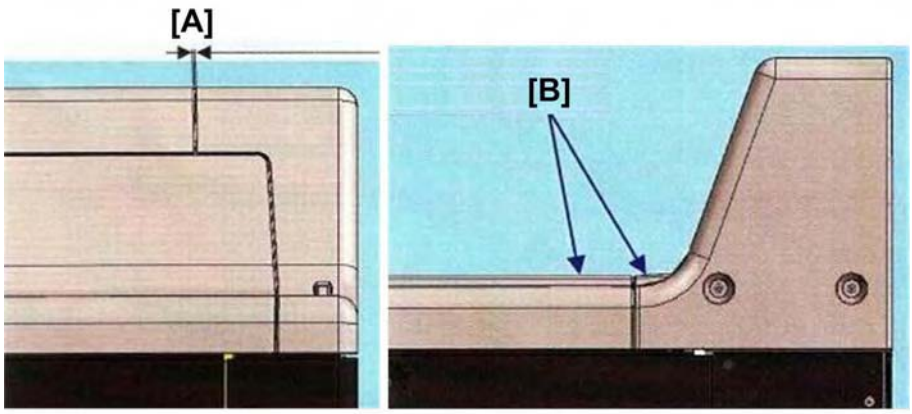



18. Hang the keyholes in the bracket on the back of the rear cover [A] onto the shoulder screws of the rear frame plate [B].
19. Slide the cover [C] down so that the cover joints are at the same level.




d516i015

20. Fasten the rear cover [A] ( x2 M4x8).




d516i016

21. Make sure the rear cover is set correctly.
    - Top left edge [A]
    - Bottom left edge [B]

d516i017

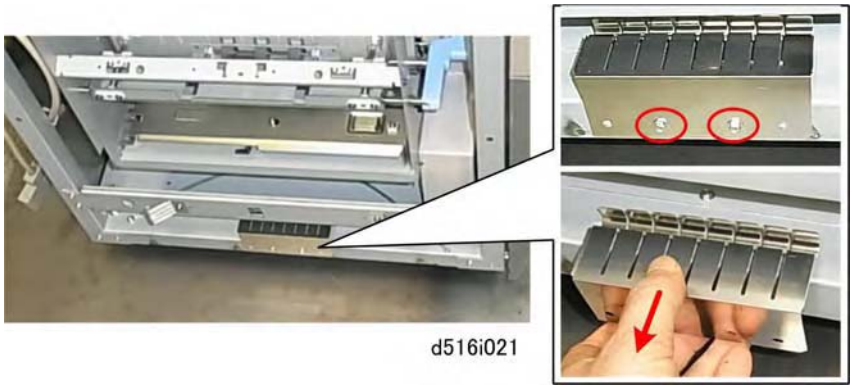
22. Peel the tape from the back of the sponge strip.
23. Attach the sponge strip [A] to the top left edge of the unit.

## *Docking*

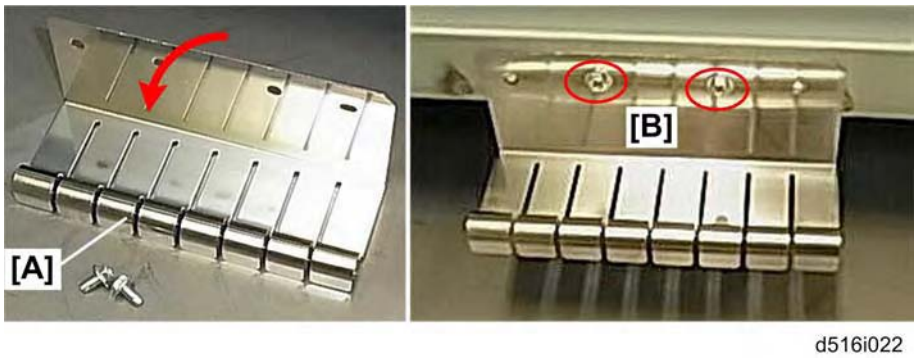
Important

- If you are going to install the Multi Bypass Tray or the LCIT tray heaters (or both), do this now before you dock the LCIT to the right side of the main machine.
- (☛p.3-120)

**Ground Plate**

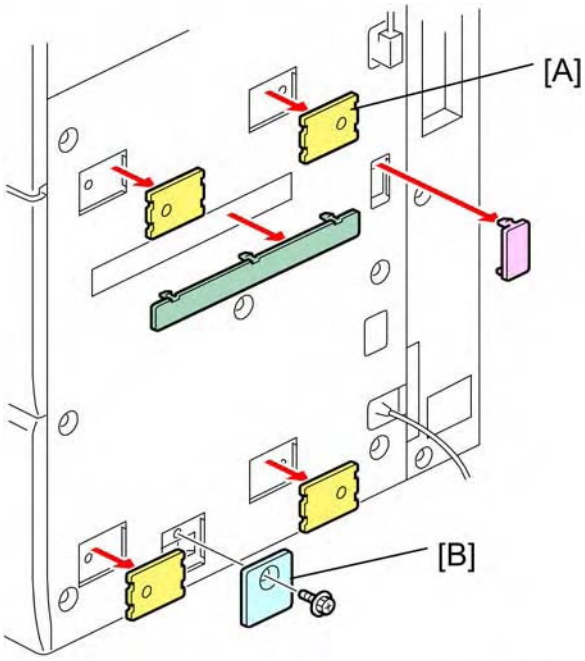



1. At the base of the left side of the unit, remove the ground plate (x2). Keep these screws.



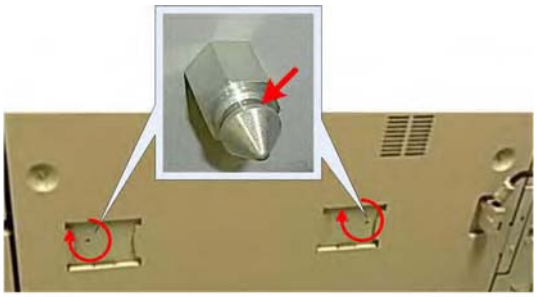

2. Turn the plate over so that the tines [A] are pointing down.
3. Re-attach the plate [B] at the same holes, using the screws that you just removed (x2).

**Covers, Joint Brackets**



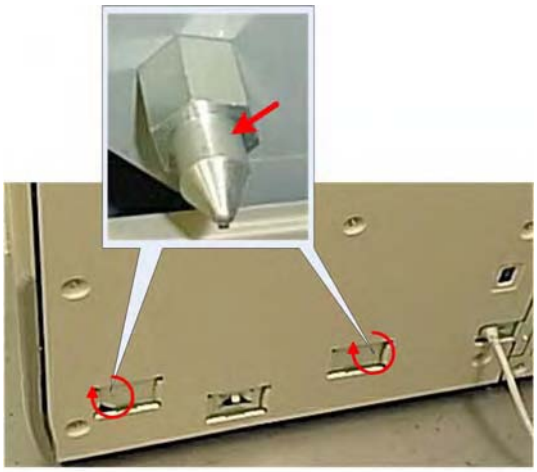

d516i023

4. Use the tip of a small screwdriver [A] to remove the six snap-off cover plates from the left side of the main machine.
5. The heater connection point cover [B] requires removal of one screw ( x1).



d516i024

6. Attach the two joint pins with the grooved heads to the top two holes.

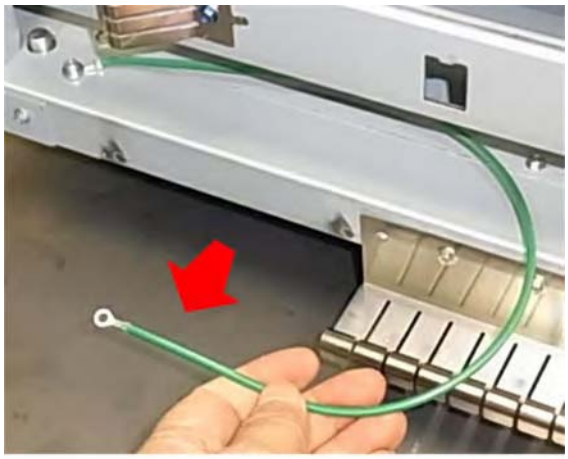


d516i025

7. Attach the two joint pins with the smooth heads to the bottom two holes.

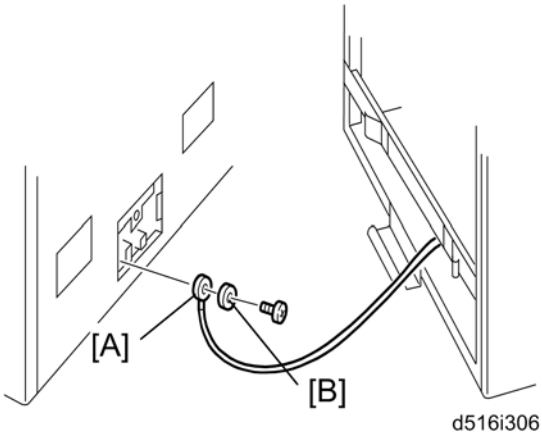
**Ground Wire**

- If the LCIT tray heaters are to be installed, follow steps from 8 to 12. If not, skip these steps.



d516i026

8. Pull the ground wire out of the machine.
9. Push the unit toward the side of the main machine until the unit and main machine are about 30 cm (1 ft.) apart.




d516i306

10. Attach the ground wire [A] with the washer [B] to the base of the main machine (ground screw; x1).

Note

- The ground screw is provided with the accessories of the LCIT. It has a wide flat head and one washer permanently attached.

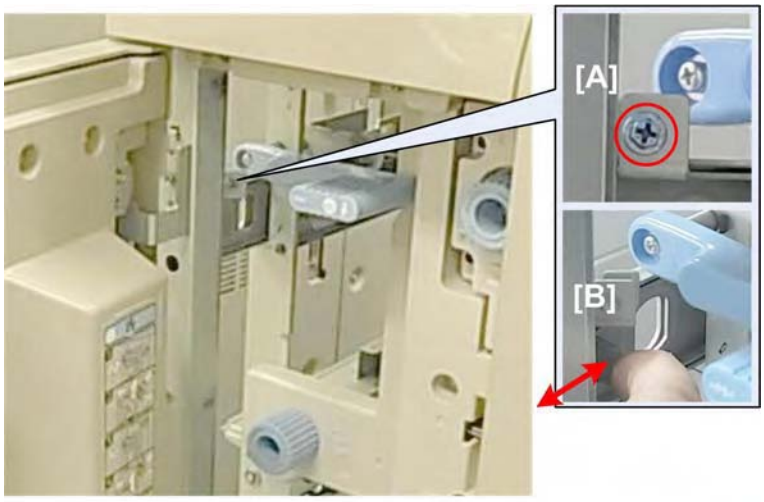
d516i028

11. Locate the ground wire [A] between the main machine and LCIT.
12. Push it into the base of the LCIT [B] and confirm that it is straight.

Important

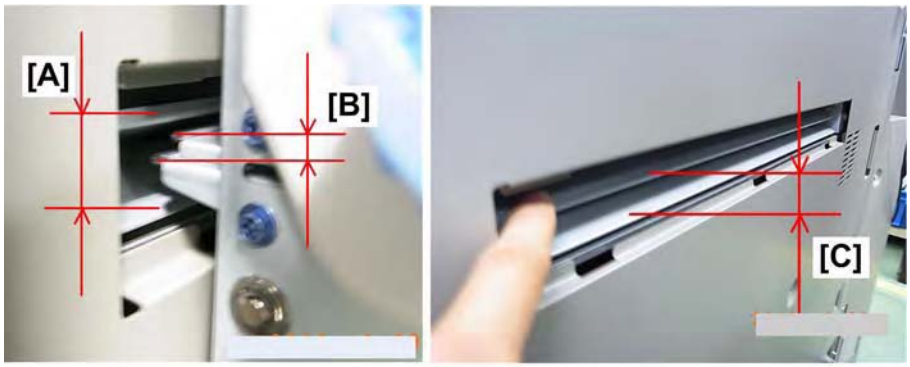
- In order prevent damage to the ground wire, make sure that it is straight so that it will not be pinched between the main machine and LCIT after they are pushed together.

**Docking**



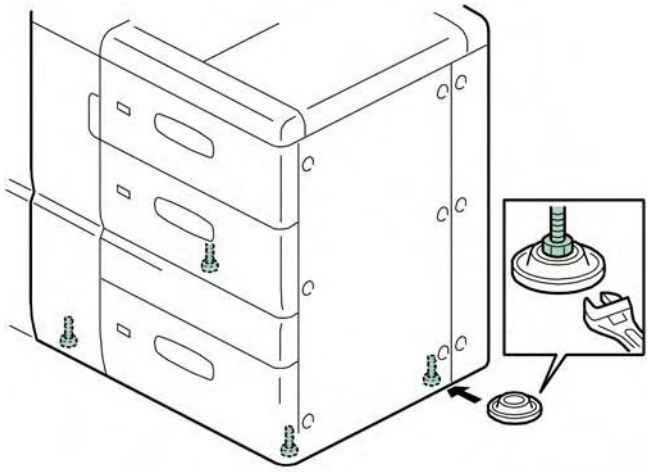
d516i029

13. Open the front door of the LCIT.
14. Remove the lock screw [A] ( x1). **Keep this screw!**
15. Pull the spring loaded lever [B] forward and let it snap back to confirm that it is moving freely.




d074i886

16. Push the LCIT close to the right side of the main machine.
17. On the left side of the main machine [A], check the height of the LCIT paper exit [B].
18. Move the main machine entrance plate [C] up and down and confirm that it does not contact the paper exit of the LCIT.



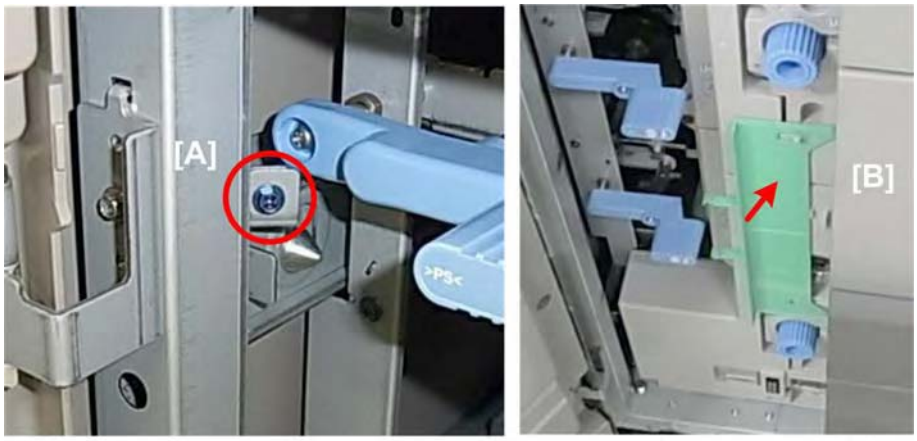
d516i202

19. If the main machine entrance plate does touch the LCIT exit, adjust the height of the LCIT. (☛p.3-218)

d516i030



20. Line up the joint brackets on the main machine with the holes in the LCIT.
21. Slowly push the LCIT against the main machine. You will hear the lock bar of the LCIT lock onto the upper joint pins on the right side of the main machine.




d516i031

22. Open the front door.
23. Re-attach the lock screw [A] ( x1).
24. Hang one tab fence [B].

Note

- Three tab fences are provided, but only one can be stored inside the LCIT. Give the remaining two tab fences to the operator for safekeeping.

**I/F Cable Connection**

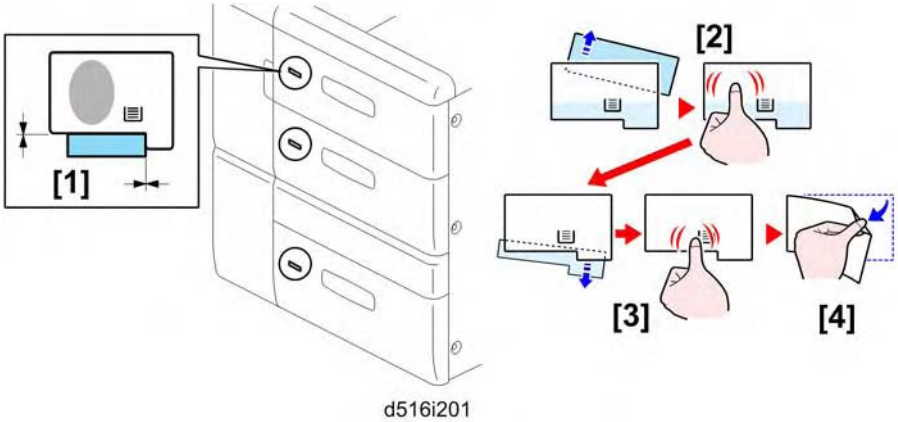
d516i032

25. Attach the LCIT I/F cable to the right side of the machine.

## *Tray Number Decals*

One tray number decal is provided for each tray. Follow this procedure to attach each decal.

| Tray | Decal No. |
|---|---|
| Top | **3** |
| Middle | **4** |
| Bottom | **5** |




d516i201

1. Attach the decal [1] above the tray LED.
2. Pull the back strip [2] from behind the upper part of the decal, and then press where the strip was removed.
3. Pull the back strip [3] from behind the lower part of the decal, and then press where the

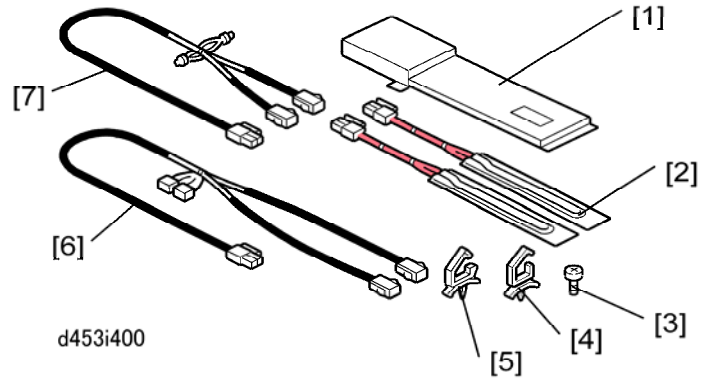
strip was removed.

4. Pull the clear sheet [4] from the surface of the decal.

## 3.5.3 LCIT (D516) TRAY HEATERS

### *Accessories*

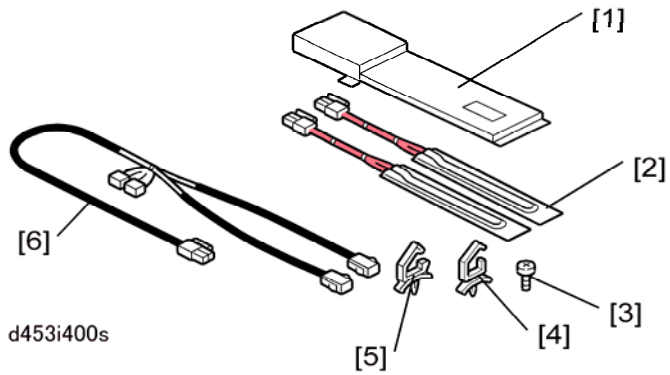
Check the accessories against the list below.




| No. | Description | Qty |
|---|---|---|
| 1. | Cover Plate | 1 |
| 2. | Heaters (230V 18W) | 2 |
| 3. | Screws (M4x6) | 7 |
| 4. | Harness Clamps (small) | 2 |
| 5. | Harness Clamps (large) | 2 |
| 6. | Relay Harness (long) | 1 |
| 7. | Relay Harness (short) | 1 |

Important

- The accessory kit contains items for this and other LCIT units.
- Only the items shown below are required for this LCIT.

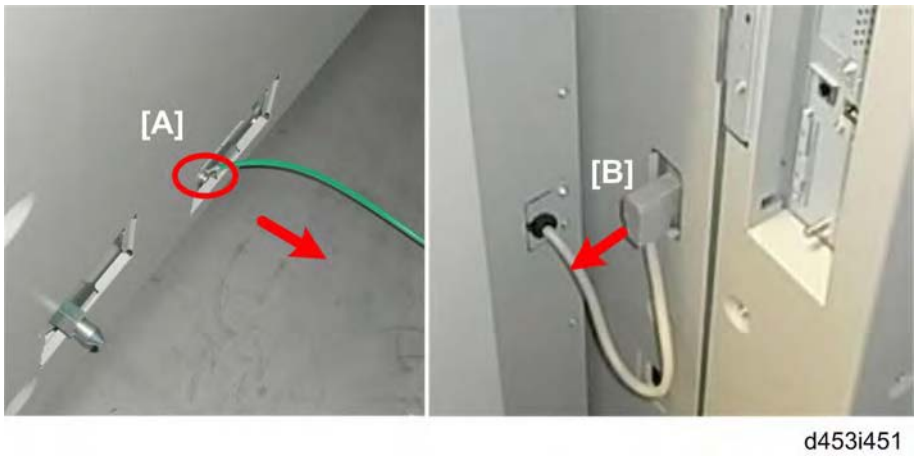



## *Installation*

**CAUTION**

- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

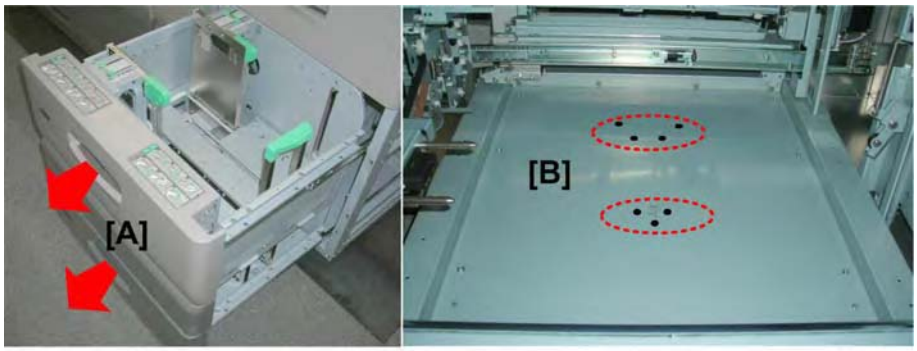
1. If there is paper in the paper trays, open each tray and remove the paper.




2. If the LCIT is already installed, disconnect it and pull it about 30 cm (12 in.) away from the side of the main machine.
3. Disconnect ground wire [A].
4. Disconnect the LCIT I/F connector [B].
5. Pull out the top drawer. (This makes it easier to remove the right cover of the LCIT.)

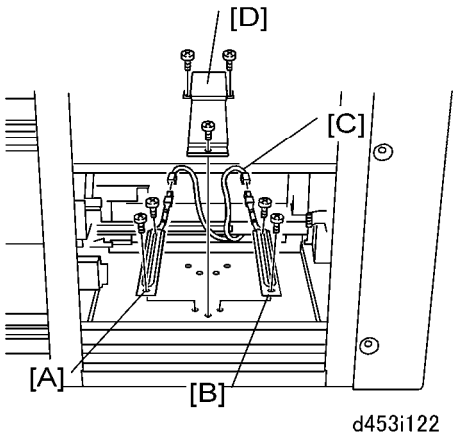
d453i452

6. Remove the screws from the right cover of the LCIT ( x6).
7. Hold the bottom of the right cover, push it to the left to disconnect the hooks at the top edge of the cover, and pull it away.
8. Close the top tray.




d453i453

9. Pull out the middle tray and bottom tray [A] until they stop.
10. Look into the right side of the LCIT and locate the holes [B] where the heaters will be installed.

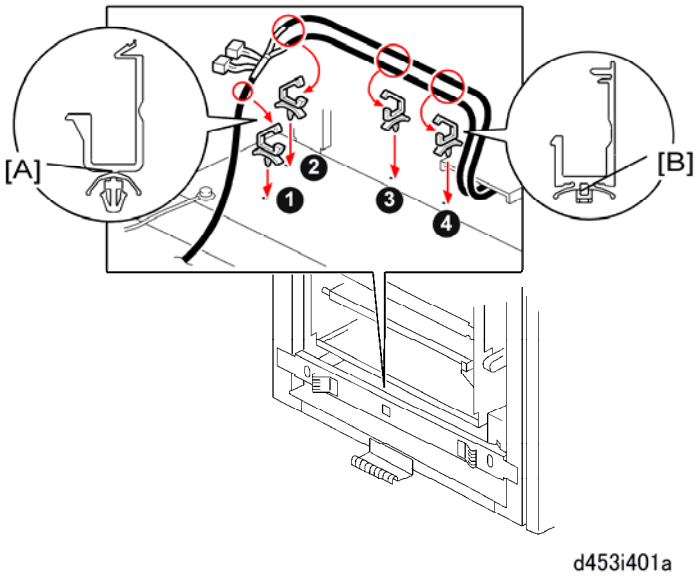



d453i122

11. Attach the front heater [A] ( x2).
12. Attach the rear heater [B] ( x2).
13. Pass the relay harness [C] through the right side of the LCIT and connect it to the heaters

(x2).

14. Attach the cover plate [D] ( x3).
15. Load paper in the paper trays.
16. Push the trays into the LCIT.
17. Reattach the right cover ( x6).

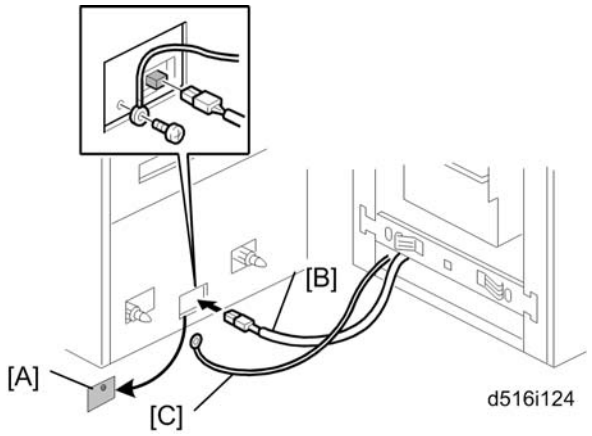



18. Close the clamps around the harnesses (x4).

Note

- Be sure to use the correct type of clamps. On the left use type [A], and on the right use type [B].

19. Set the harnesses in the clamps, then close them (x4).




20. Remove the cover [A] ( x1).
21. Attach the LCIT relay harness [B] to the mainframe.
22. Reconnect the ground wire [C] to the mainframe ( x1).
23. Dock the LCIT to the mainframe.
    - Lock bar ( x1)
    - Interface cable

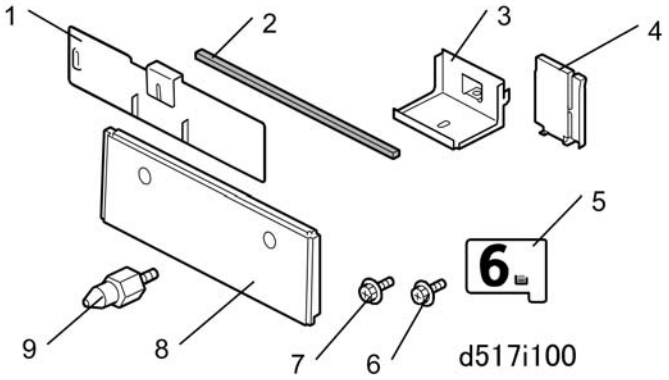
Important

- Confirm that the relay harness and the ground wire are not pinched between the mainframe and the LCIT.
- Be sure to pull out the top tray before you try to re-install the right cover. (It is easier to re-install the cover with the top tray open.)

# 3.6 MULTI BYPASS TRAY (D517)

## 3.6.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Tab Sheet Fence | 1 |
| 2. | Sponge Strip | 1 |
| 3. | Bracket | 1 |
| 4. | End Fence | 1 |
| 5. | Decal (Tray 6) | 1 |
| 6. | Screws (M4x8) | 2 |
| 7. | Screws (M4x6) | 4 |
| 8. | Left Cover | 1 |
| 9. | Joint Pins | 2 |

## 3.6.2 INSTALLATION

**CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.

### *Before You Begin...*

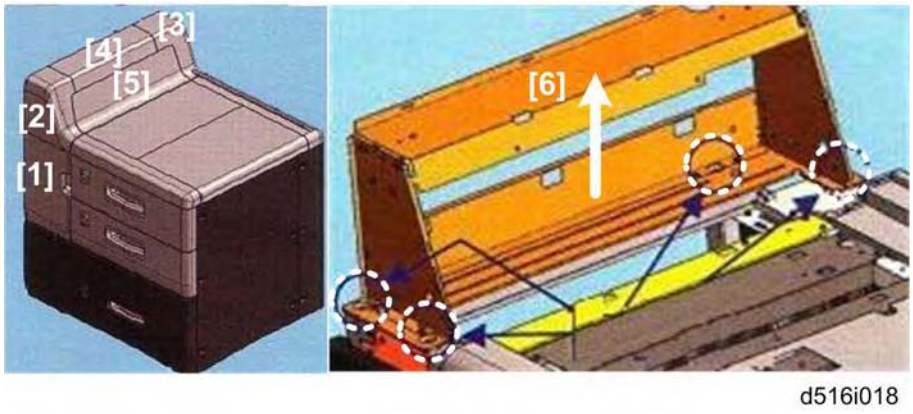
- The Multi Bypass Unit must be installed on the LCIT before the LCIT is docked to the mainframe.
- If the LCIT is already installed, it must be disconnected from the mainframe before installation of the Multi Bypass Unit.



### *If the LCIT Has Already Been Installed...*

Skip to the next section if you are installing the LCIT and bypass tray together.

1. If the LCIT is connected to the machine, disconnect it.
2. To prevent damage to the connectors and ground wire, before pulling the LCIT away from the mainframe:
   - Pull the LCIT about 20 cm (8") away from the main machine.
   - Disconnect the connectors and the ground wire ( x1 M4x8)
   - Pull the LCIT completely away from the machine.
3. Remove the sheet metal frame on the left top edge of the LCIT, and its covers:




d516i018

4. Open the front door [1].
5. Remove the covers:
   - [2] Front cover ( x2 M4x8).
   - [3] Rear cover ( x2 M4x8).
   - [4] Top cover ( x2 M4x8).

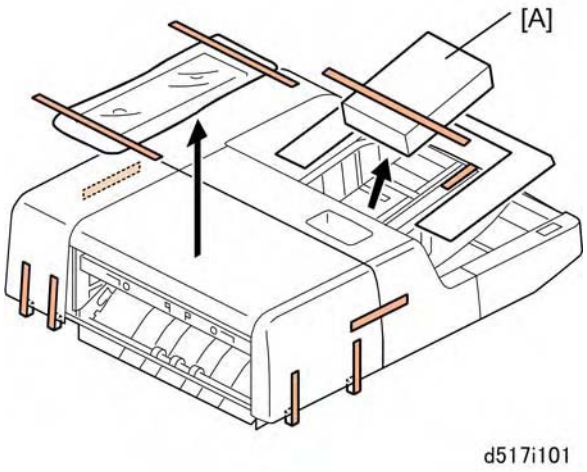
- [5] Side cover ( x2 M4x8)

6. Remove the frame [6]

Important

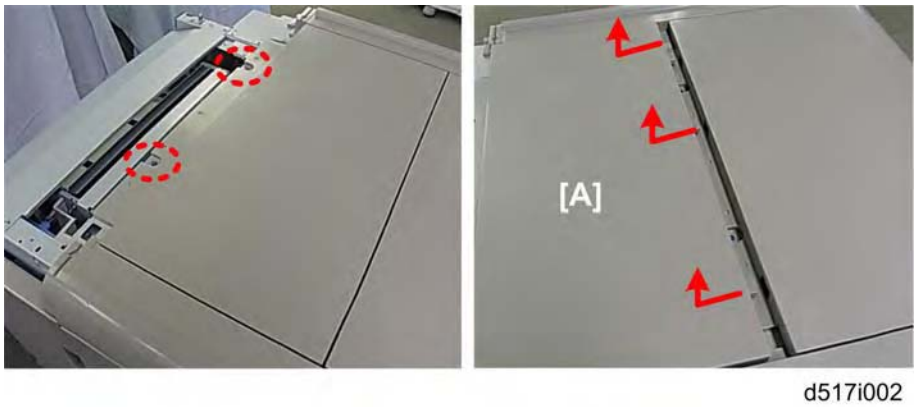
- Do not remove the sponge strip from the left side of the frame.

## *Unpacking*

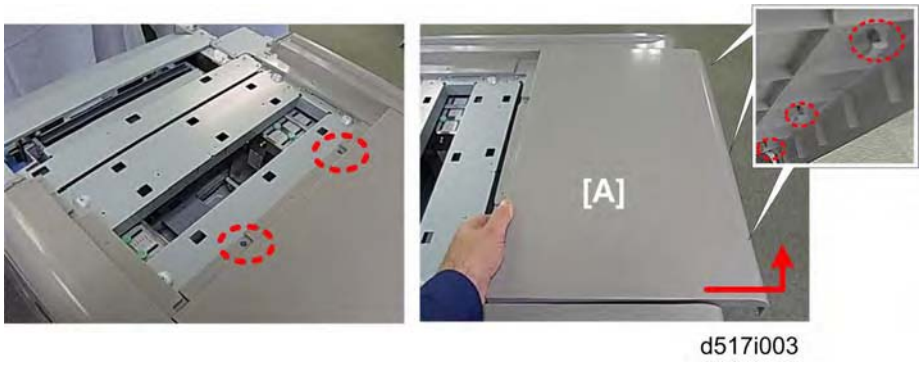



1. Remove the accessory packet [A] and open it.
2. Remove all tape and shipping materials.

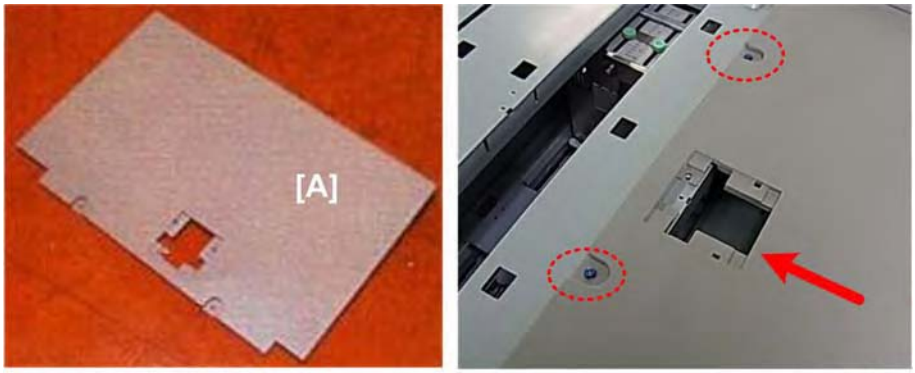
## *Flat Covers*




1. Remove the left top cover [A] ( x2 M4x8).

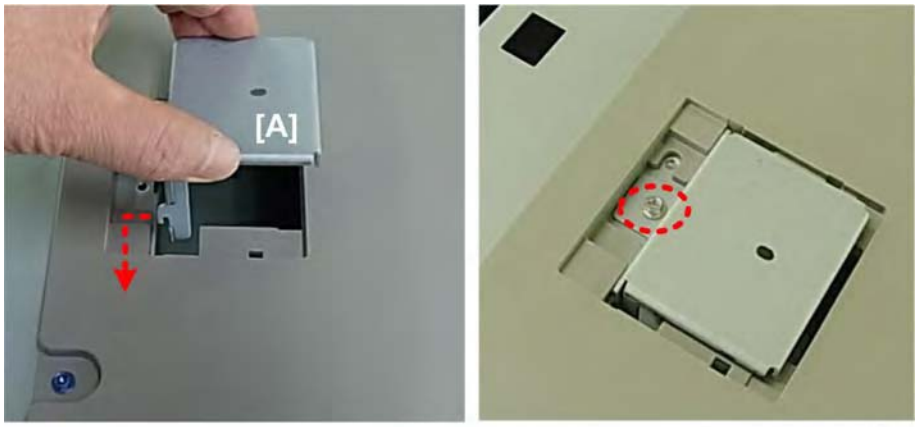


2. Disconnect the right top cover [A] ( x2 M4x8). **Keep these screws!** You need them to attach the next cover.
3. Slide the cover to the right to disconnect the claws under the right edge, then lift it off.




d517i004

4. Attach the top cover [A] with the screws removed from the previous flat cover ( x2 M4x8).
   - This large cover is provided with the LCIT accessories.
   - This large cover (like the previous cover) has three large claws under the right edge. Make sure these claws engage in the holes in the LCIT frame.



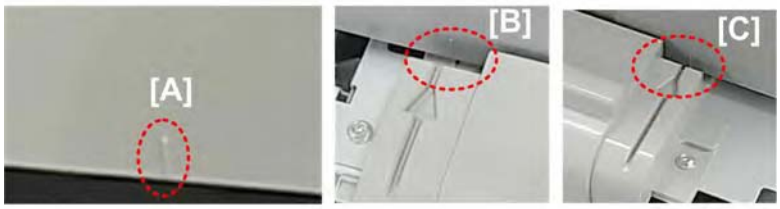

d517i005

5. Set the bracket [A] and fasten it ( x1 M4x6).

## *Mounting and Connecting the Bypass Unit*

d517i006

1. Attach the joint pins [A] and [B].




d517i007

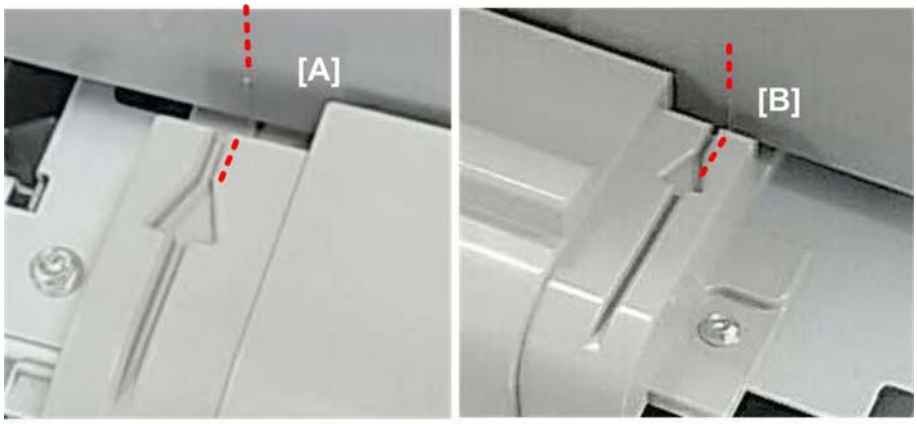
2. Locate the alignment marks for the bypass unit.
   - Two thin vertical lines [A] on the bypass unit (one on the front, one on the rear).
   - Two arrows on the LCIT frame cover [A] at the front, [B] at the rear.
   - These lines and arrows must be aligned correctly when you mount the bypass tray on top of the LCIT.

**⚠CAUTION**

   - The bypass unit weights 20 kg (44 lb.). You may need assistance to set the bypass unit on top of the LCIT.

d517i008

3. Pick up the bypass unit on its left side [A] and right side [B].




d517i007a

4. Set the bypass unit on top of the LCIT. Align the thin lines on the front [A] and rear [B] of the bypass covers with the arrows on the front and rear sides of the LCIT frame.

Important

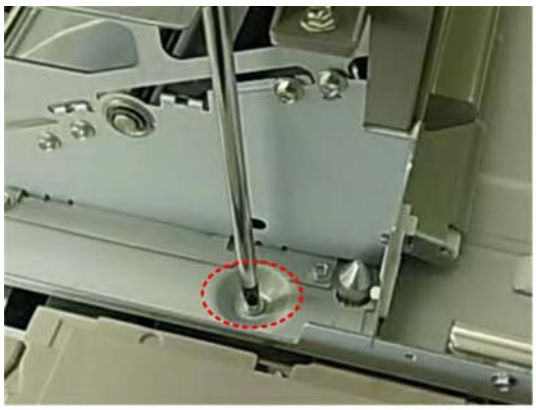
- Aligning these points ensures that the holes on the bottom of the bypass unit will slip easily over the vertical joint pins on the LCIT.

d517i009

5. Open the bypass unit.

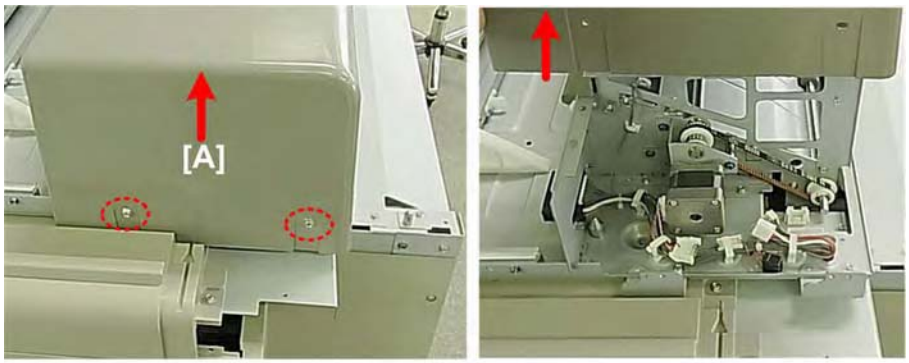
d517i010

6. Remove the front cover [A] ( x1 M4x8).



d517i011

7. Fasten the front side of the bypass unit ( x1 M4x6).

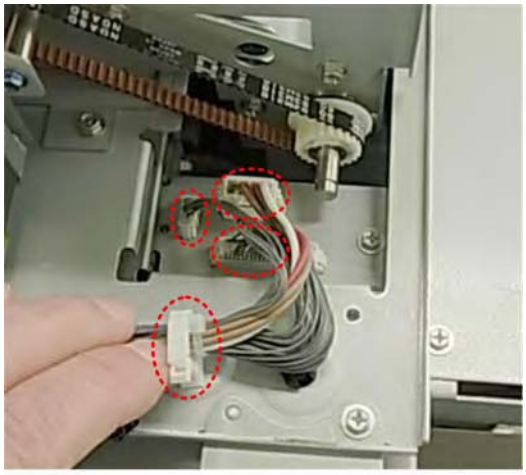



d517i012

8. Remove the rear cover [A] ( x2 M4x8).

d517i013

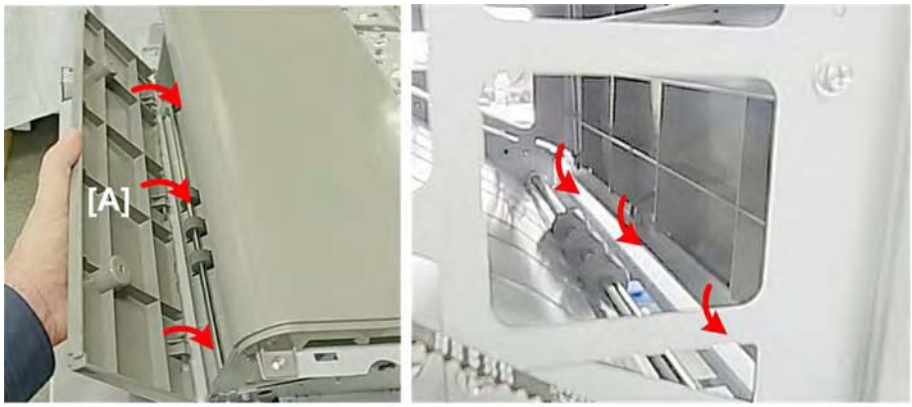
9. Fasten the rear side [A] of the bypass unit ( x1 M4x6).
10. Free the harnesses [B] (x1).



d517i014

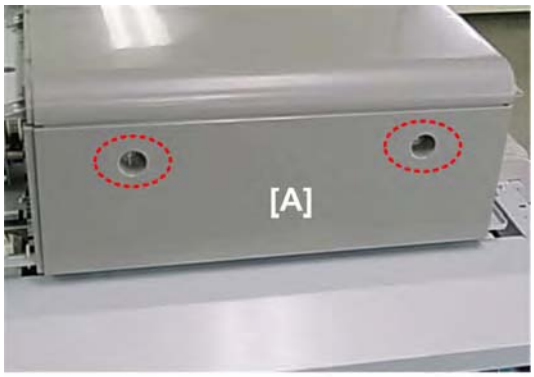
11. Connect and clamp the harnesses (x3, x1).

## *Bypass Covers*




d517i015

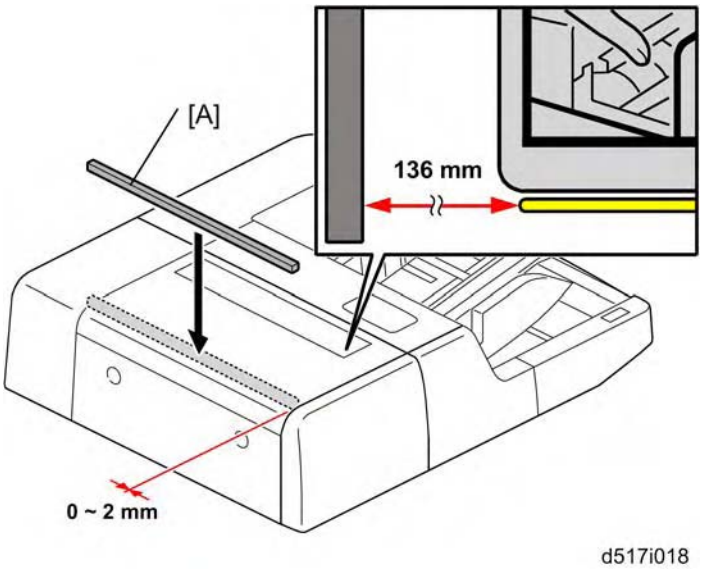
1. Set the left cover [A]. Make sure that the claws are set correctly in their holes.




d517i016

2. Fasten the left cover [A] ( x2, M4x8).

3. Re-attach:
   [A] Front cover ( x1 M4x8)
   [B] Rear cover ( x2 M4x8)

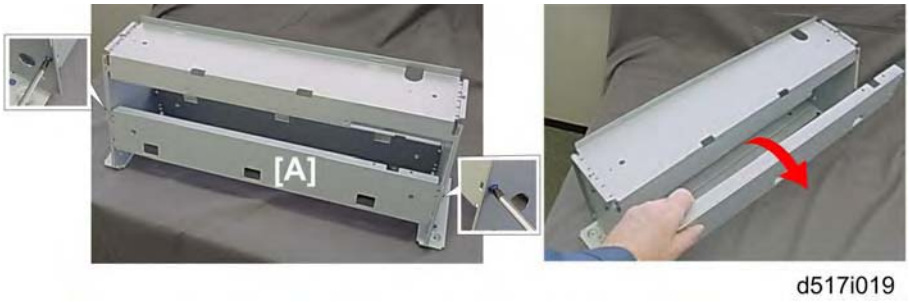



4. Remove the tape from the sponge strip [A].
5. Position the sponge strip to the left side of the bypass unit.

## *LCIT Covers*

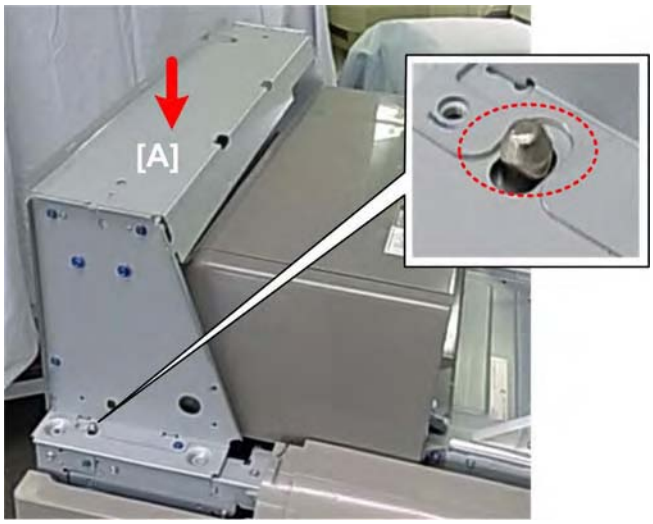
Note

- The frame, covers, screws and sponge strip in this section are provided with the LCIT accessories.

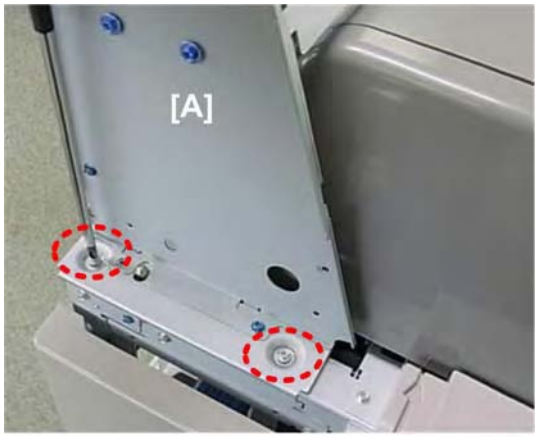



d517i019

1. Remove the right stay [A] from the frame ( x2 M4x8).




2. Position the holes on the bottom of the frame with the positioning pins at the front and back, and set the frame [A] on the left side of the unit.
3. Make sure that the holes and positioning pins are engaged at the front and back.




d517i021

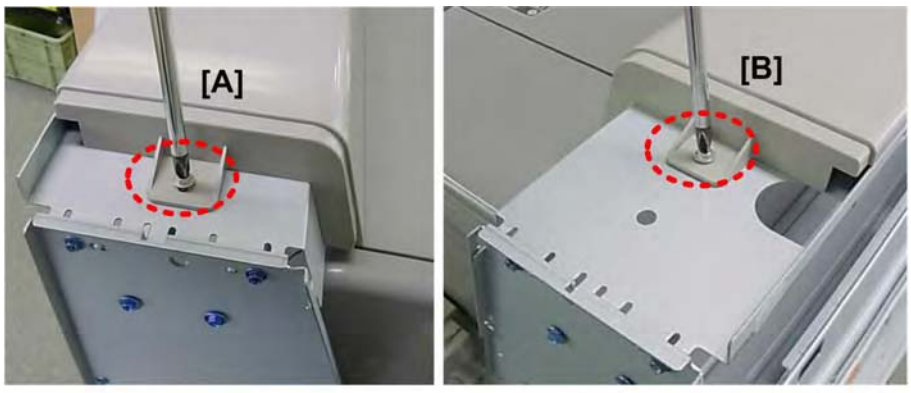
4. At the front, fasten the base of the frame [A] ( x2 M4x8).

d517i022

5. At the rear, fasten the base of the frame [A] ( x2 M4x8).

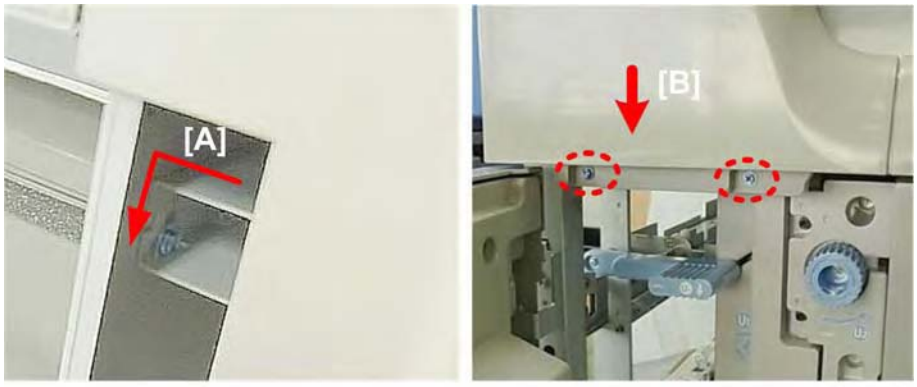
d517i023

6. Set the top cover on top of the frame.
   - Insert the claws [A] on the left underside of the top cover into the holes in the frame.
   - At the same time, insert the tabs on the top left edge of the top cover [B] into the holes in the frame.



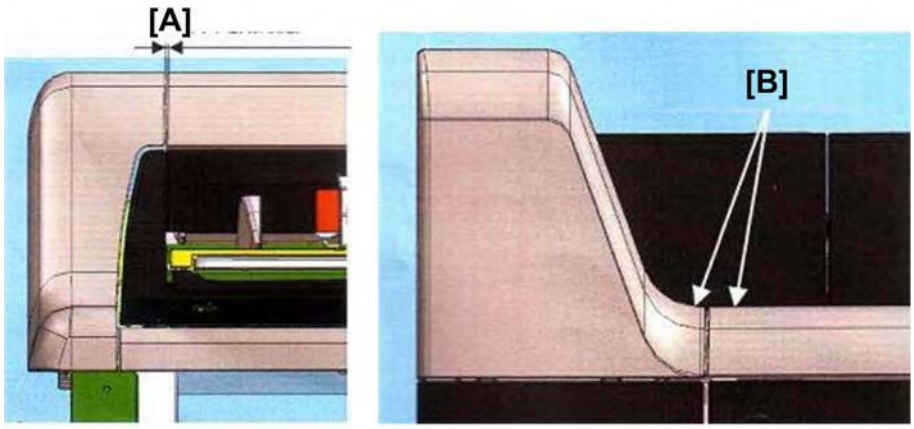

d517i024

7. Fasten the top cover.
   [A] Front ( x1 M4x8)
   [B] Rear ( x1 M4x8)



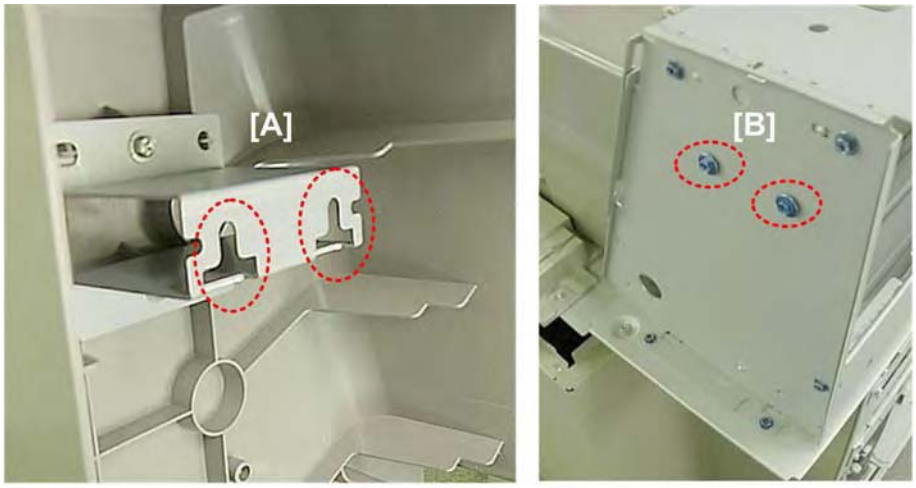

d517i025

8. Open the front door.
9. Hang the keyholes in the bracket [A] on the back of the front cover onto the shoulder screws of the front frame plate.
10. Slide the front cover [B] down until the top is flat and level with the top of the top cover.
11. Fasten the front cover ( x2 M4x8).
12. Close the front door.



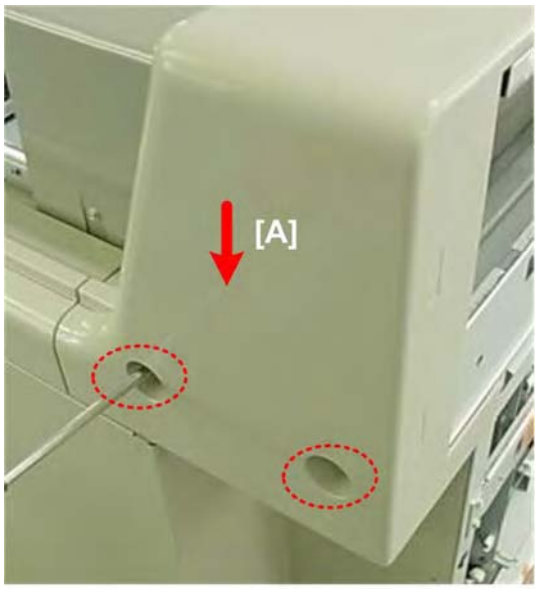

d517i026

13. Make sure the front cover is set correctly.
    - Top front edge [A]
    - Bottom front edge [B]



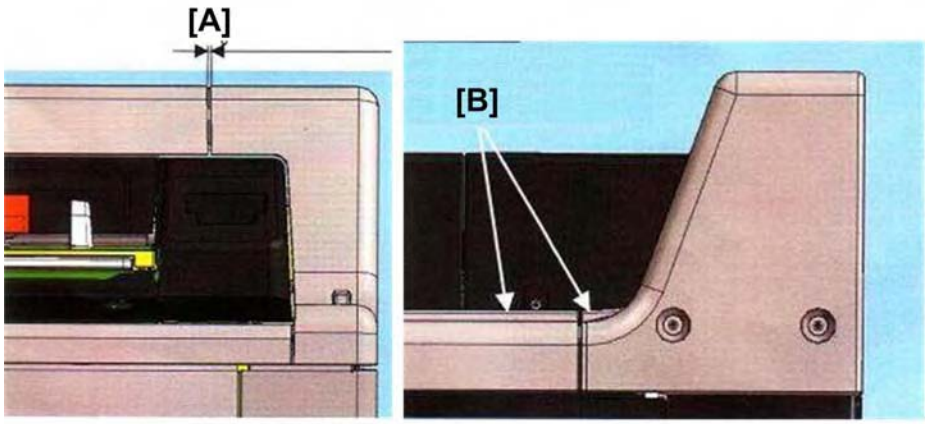

d517i027

14. Hang the keyholes in the bracket on the back of the rear cover [A] onto the shoulder screws of the rear frame plate [B].



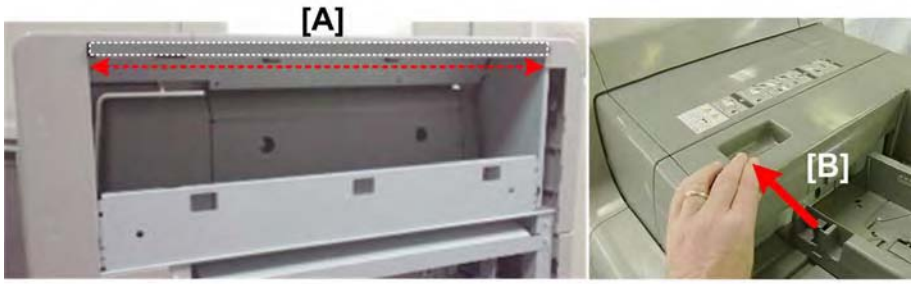

d517i028

15. Slide the cover [A] down so that the cover joints are at the same level.
16. Fasten the rear cover ( x2 M4x8).




d517i029

17. Make sure the rear cover is set correctly.
    - Top rear edge [A]
    - Bottom rear edge [B]



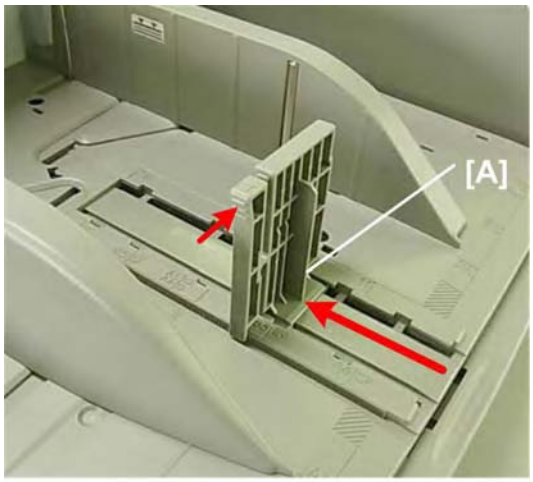

d517i030

18. Peel the tape from the back of the sponge strip if the sponge strip has not been attached to the LCIT.
19. Attach the sponge strip [A] to the left edge of the frame.
20. Close the bypass unit [B].

## *End fence and tab sheet fence*

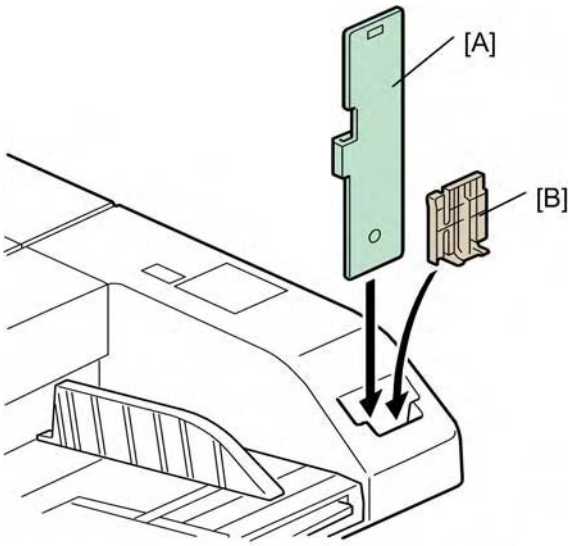
Note

- The items in this section are bypass unit accessories.




d517i031

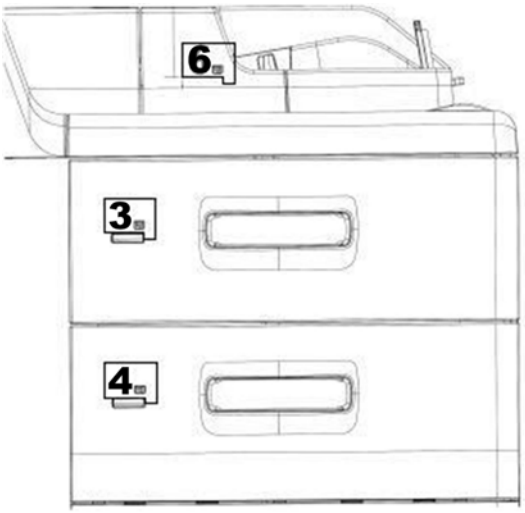
1. Set the end fence [A].




d517i033

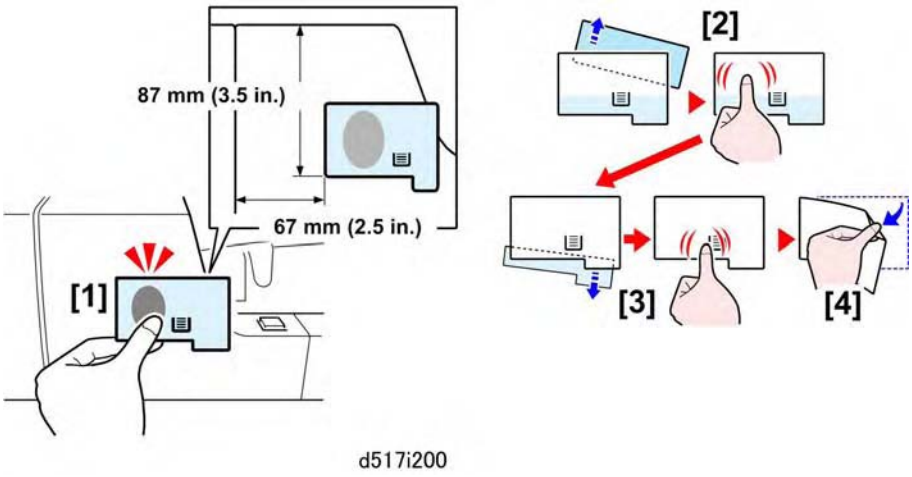
2. Store the tab sheet fence [A] as shown. Also store the end fence [B] here if the customer does not need to use it at this time.

### *Attaching the Tray Number Decals*




d517i199

1. Attach the number decals to the front of the unit as shown above.




d517i200

2. First, attach the "6" decal [1] at the position shown.
3. Pull the back strip [2] from behind the upper part of the decal, and then press where the strip was removed.
4. Pull the back strip [3] from behind the lower part of the decal, and then press where the strip was removed.
5. Pull the clear sheet [4] from the surface of the decal.
6. Follow the same procedure to attach the "3" and "4" decals.

## *Docking, Height Adjustment*

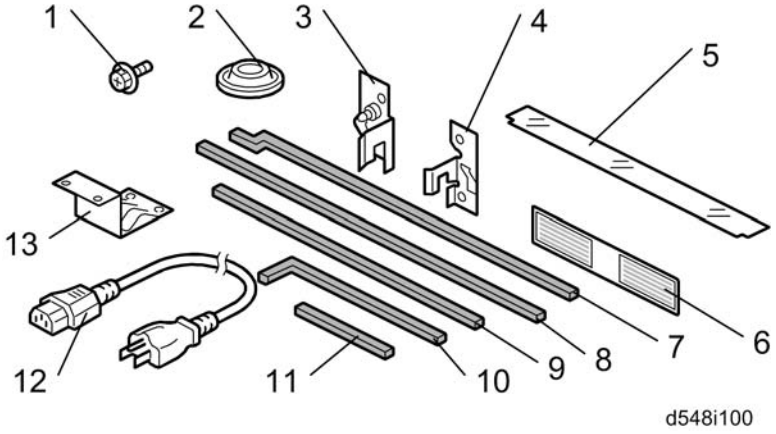
Follow the procedures in the LCIT installation section to complete this installation.

- Docking (☛p.3-108)
- Height adjustment (☛p.3-218)

# 3.7 BUFFER PASS UNIT TYPE 5010 (D548)

## 3.7.1 ACCESSORY CHECK

Check the quantity and condition of the accessories in the box against the following list:



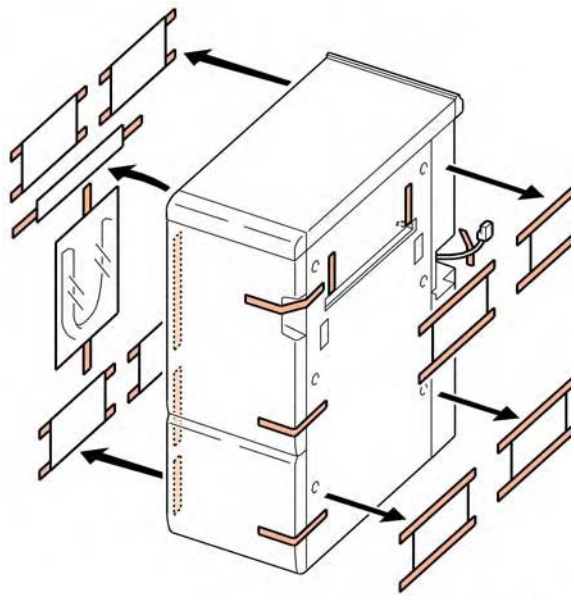

| No. | Description | Q'ty |
|---|---|---|
| 1. | Screws | 6 |
| 2. | Leveling Shoes | 4 |
| 3. | Docking Bracket (L) | 1 |
| 4. | Docking Bracket (R) | 1 |
| 5. | Mylars | 4 |
| 6. | Caution Decal for Multi Power Sources | 1 |
| 7. | Sponge Strip - Long Hooked | 1 |
| 8. | Sponge Strip - Long Straight | 1 |
| 9. | Sponge Strip - Medium Straight | 3 |
| 10. | Sponge Strip - L | 1 |
| 11. | Sponge Strip - Short Straight | 1 |
| 12. | Power Cord | 1 |
| 13. | Ground Plate | 1 |

## 3.7.2 INSTALLATION

**⚠CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.
- The buffer pass unit is unstable and can fall over easily. To avoid personal injury or damage to the unit, use caution when you pull out the buffer pass unit drawer until the unit has been docked to the main machine.
- The power cord that comes with the buffer pass unit is for use with this equipment only. Do not use it with other appliances. Doing so could result in fire or electric shock.

### *Unpacking*



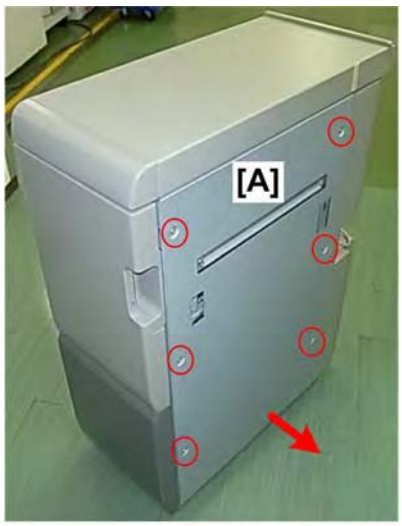
d548i101

1. Remove all visible external tapes on the external surfaces.
2. Open the front door and remove all visible tapes.

**⚠CAUTION**

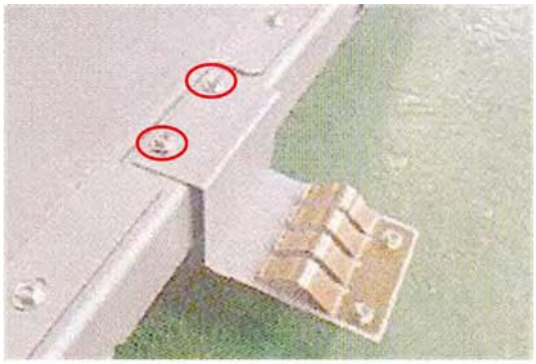
- There are no tapes inside the unit.
- The unit is top heavy and unstable. Use caution when you pull out the buffer pass unit drawer until this unit has been docked to the main machine.

### *Ground Plate, Unit Entrance Mylars*




d666i010

1. Remove the right cover of the buffer pass unit ( x6).



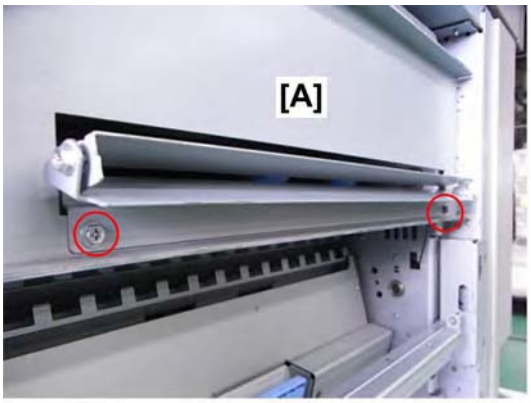
d666i011

2. Attach the ground plate ( x2).

## *Buffer Unit Entrance Mylars*

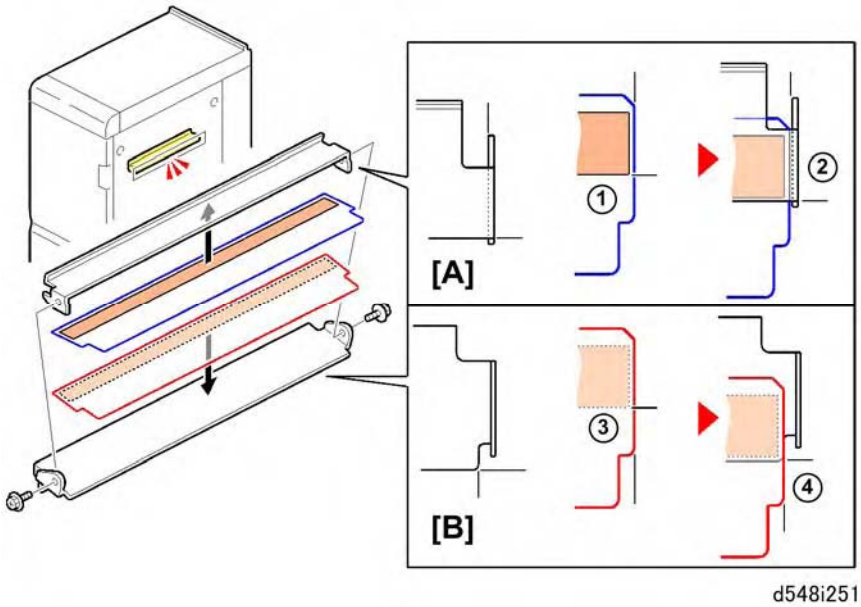
This procedure describes how to attach two mylars to the entrance guide of the Buffer Unit.

1. Check the main machine and determine if the Decurler Unit option is installed.
   - If the Decurler Unit option is installed, do not install the mylars. Re-attach the right cover, and go to 'Docking the Unit'.
   - If the Decurler Unit is not installed, follow this procedure to attach two mylars to the entrance guide of the Buffer Unit.




d548i250

2. On the right side of the Buffer Unit, remove the entrance guide [A] ( x2).



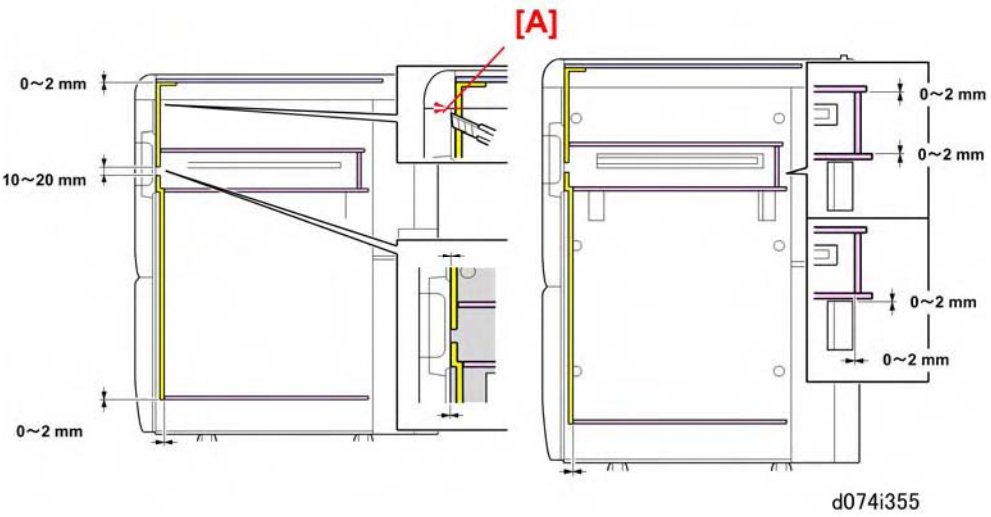

d548i251

3. One mylar is attached to the underside of the upper plate of the Buffer Unit entrance guide [A].
   - Select one mylar ① and remove the tape.
   - Position the mylar as shown ② and attach it to the underside of the upper plate.
4. One mylar is attached to the topside of the bottom plate of the Buffer Unit entrance guide [B].

- Select one mylar ③ and remove the tape.
- Position the mylar as shown ④ and attach it to the topside of the lower plate.

5. Re-attach the entrance guide, and then re-attach the right cover.

## *Sponges*




1. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

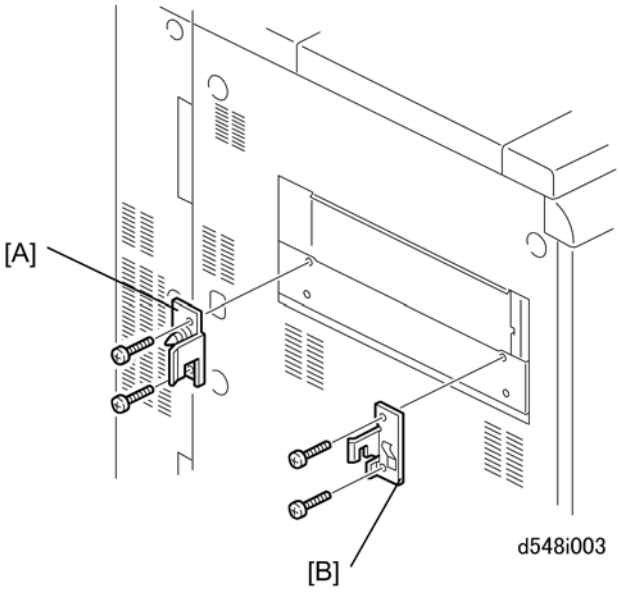
Note

- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The other strips are accessories provided with this peripheral unit.

2. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

## *Docking the Unit to the Mainframe*

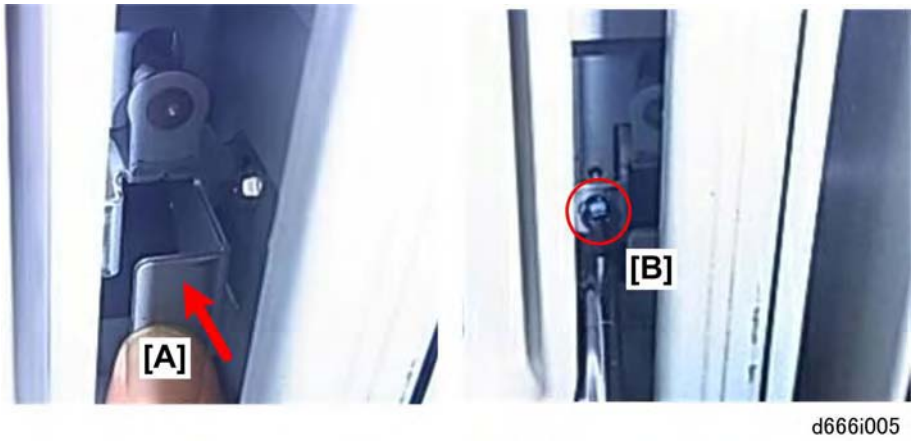
**Joint Brackets**




1. Attach the docking brackets to the main machine:
   [A] Rear ( x2)
   [B] Front ( x2)
2. Open the front door.

**Docking**

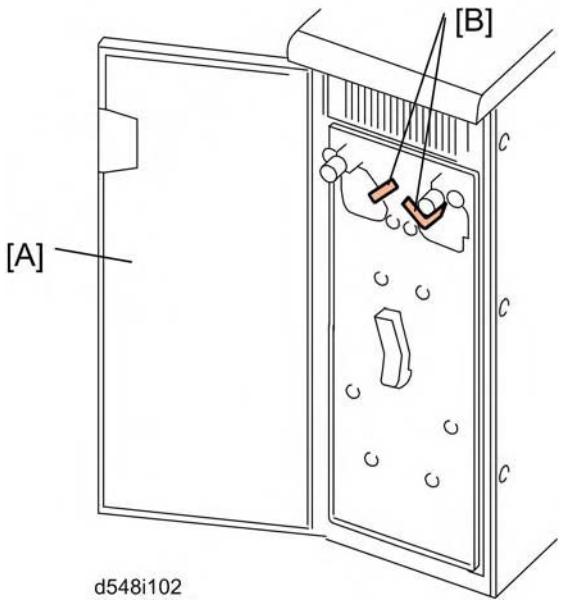
1. Pull out the locking lever ( x 1).
2. Push the buffer pass unit against the main machine.



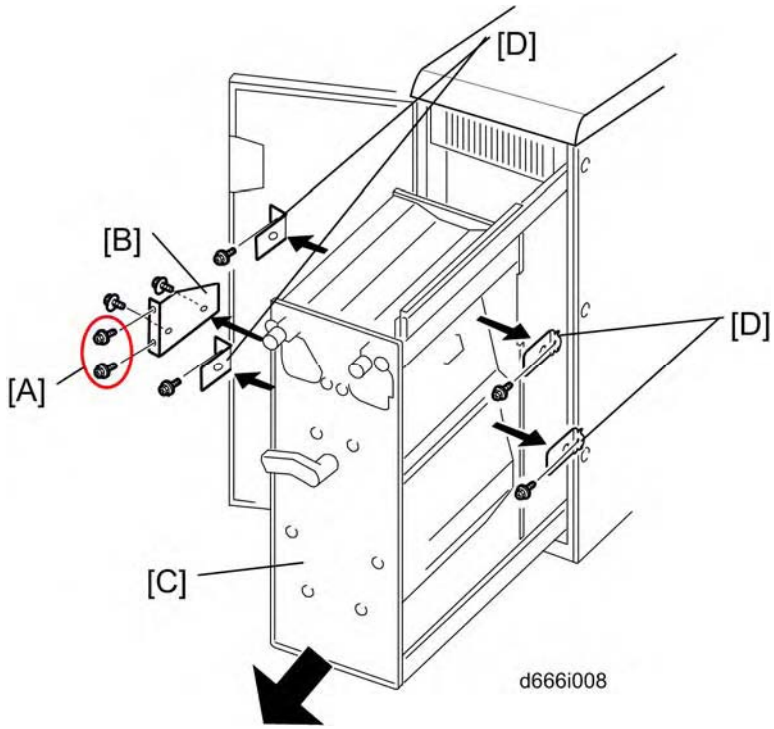

3. Push in the lock lever and fasten it with the screw just removed ( x 1).

4. Connect the I/F cable of the buffer pass unit to the socket of the main machine.

### *Removing the Shipping Brackets*




1. Open the front door [A] and remove tapes [B].




2. Remove two screws [A] on the clamp bracket [B].
3. Slowly pull out the buffer pass unit drawer [C].

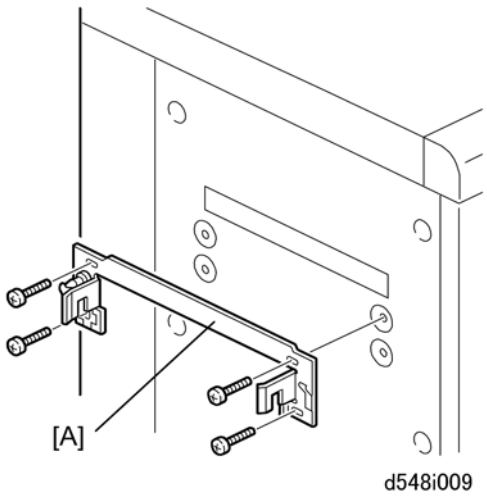
**CAUTION**

- Work carefully! The unit is unstable with the drawer pulled out and can tip over easily before it is docked to the main machine.

4. Remove the clamp bracket [B] ( x 2).
5. Remove the four shipping brackets [D] ( x 1 each).
6. Push in the buffer pass unit drawer [C].
7. Close the front door.

## *Connecting the Downstream Peripheral*

### Connection Bracket



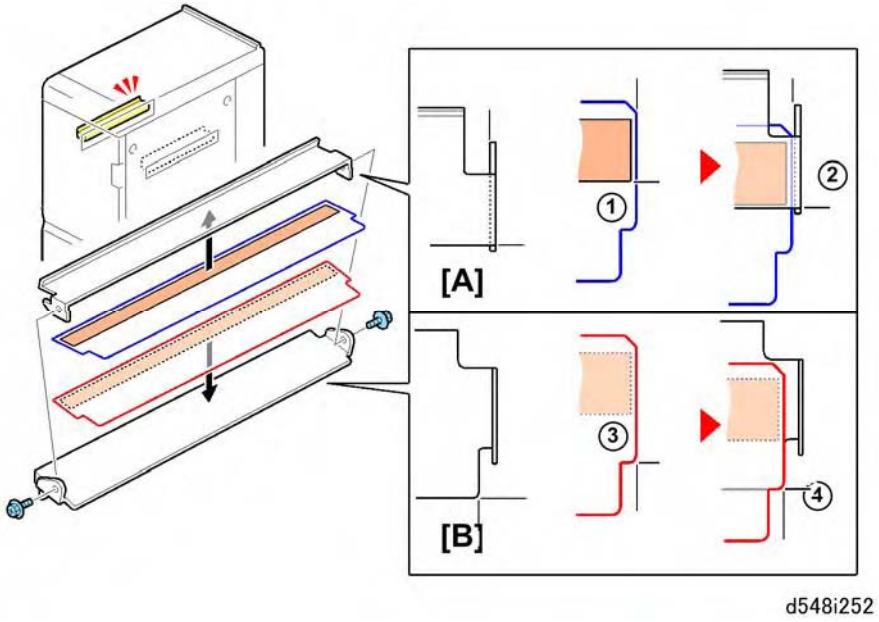
1. Attach the docking bracket provided with the downstream peripheral to the left side [A] of the buffer pass unit ( x4).

**Downstream Unit Mylars**

Important

- Two mylars must be attached to the upper and lower plates on the entrance guide of the downstream unit.

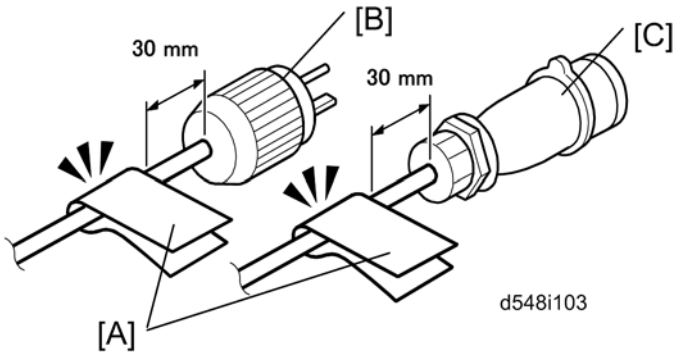
1. Remove the entrance guide of the downstream unit ( x2).




2. One mylar is attached to the underside of the upper plate of the downstream unit entrance guide [A].
   - Select one mylar ① and remove the tape.
   - Position the mylar as shown ② and attach it to the underside of the upper plate.
3. One mylar is attached to the topside of the bottom plate of the downstream entrance guide [B].
   - Select one mylar ③ and remove the tape.
   - Position the mylar as shown ④ and attach it to the topside of the lower plate.
4. Re-attach the entrance guide, and then re-attach the right cover.
5. Re-attach the entrance guide to the downstream unit ( x2).

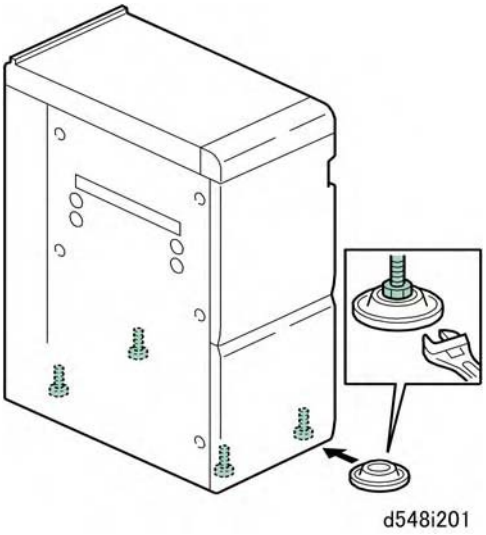
## *Connect the Power Cord*

1. Connect the power cord to the buffer pass unit and connect the other end of the cord to a power outlet.




2. Approximately 30 mm (1 in.) from the plug, attach the caution decal [A] for multi power sources to power plug [B] (NA) or [C] (EU) of the main machine.

## *Leveling the Unit*

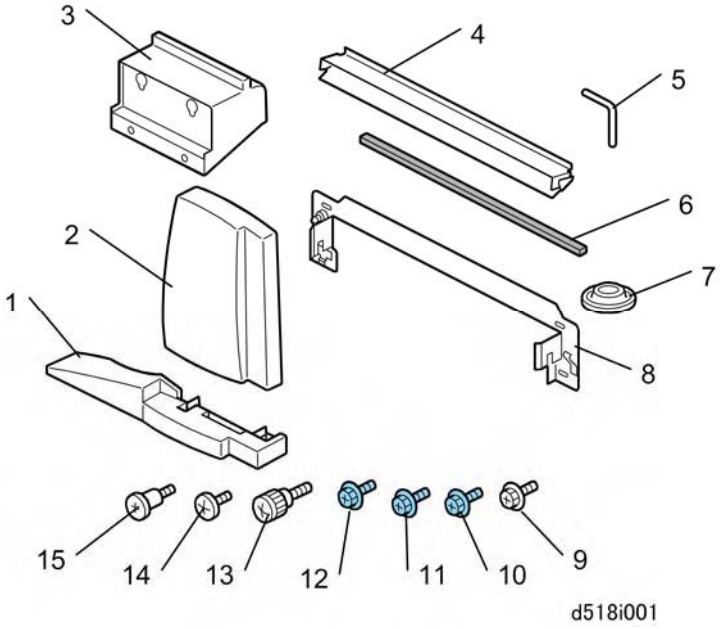



1. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
2. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
3. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)

# 3.8 COVER INTERPOSER TRAY (D518)

## 3.8.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Base Cover (Tray Unit) | 1 |
| 2. | Front Cover | 1 |
| 3. | Spacer | 1 |
| 4. | Relay Guide Plate | 1 |
| 5. | "L" Hinge Pins (Tray Unit Front Cover) | 2 |
| 6. | Sponge Strip | 1 |
| 7. | Leveling Shoes | 4 |
| 8. | Joint Bracket | 1 |
| 9. | Screw (M4x8) | 4 |

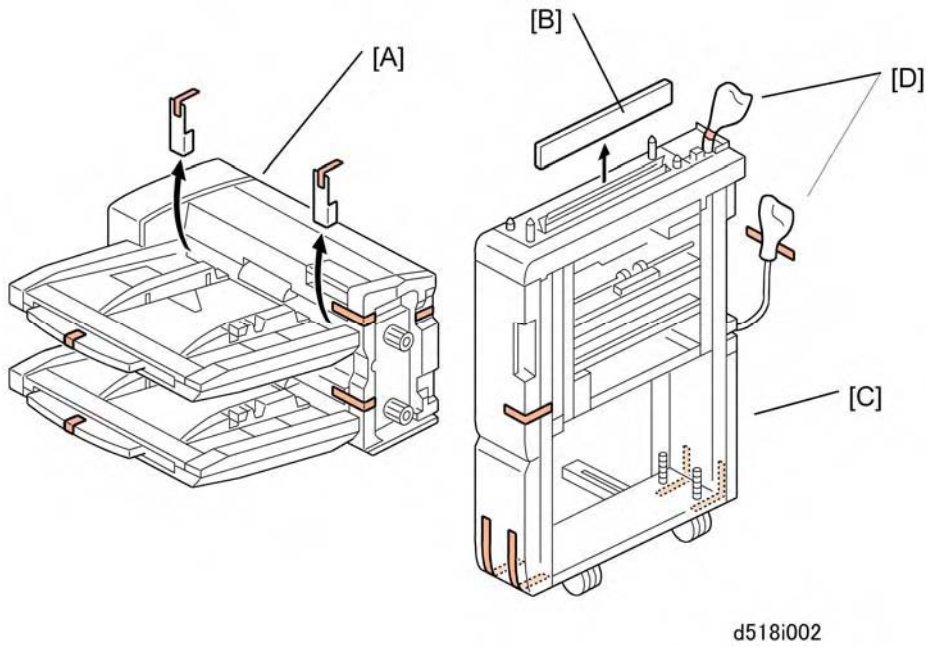
| No. | Description | Q'ty |
|---|---|---|
| 10. | Screw (M3x8) | 1 |
| 11. | Screw (M3 x 6) | 2 |
| 12. | Screw (M4 x 8) | 2 |
| 13. | Knob Screw | 3 |
| 14. | Flat Knob Screw (M3 x 8) | 1 |
| 15. | Shoulder Screw | 2 |

## 3.8.2 INSTALLATION

**CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.

### *Tapes*



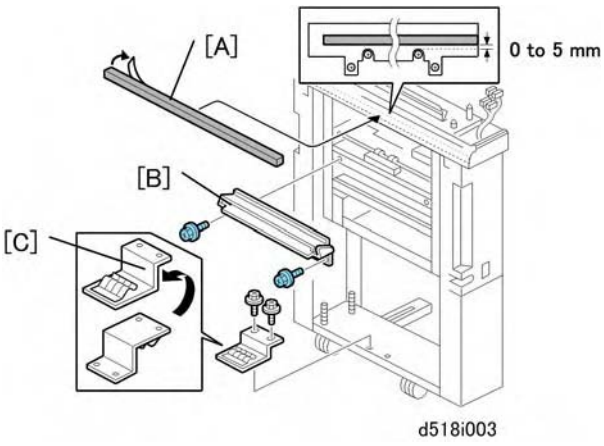

1. Remove all the tape and shipping materials from the tray unit [A].
2. Remove all tape and shipping material [B] from the transport unit [C].
3. Remove tape and covers from both connectors [D].

## *Sponge Strips, Relay Guide Plate, Ground Plate*

Important

- There are two procedures for installation of the sponge strips.
- Follow "Procedure 1" below if the Cover Interposer Tray will be connected to the Buffer Pass Unit.
- Follow "Procedure 2" if the Cover Interposer Tray will be connected directly to the main machine (more sponge strips are required).

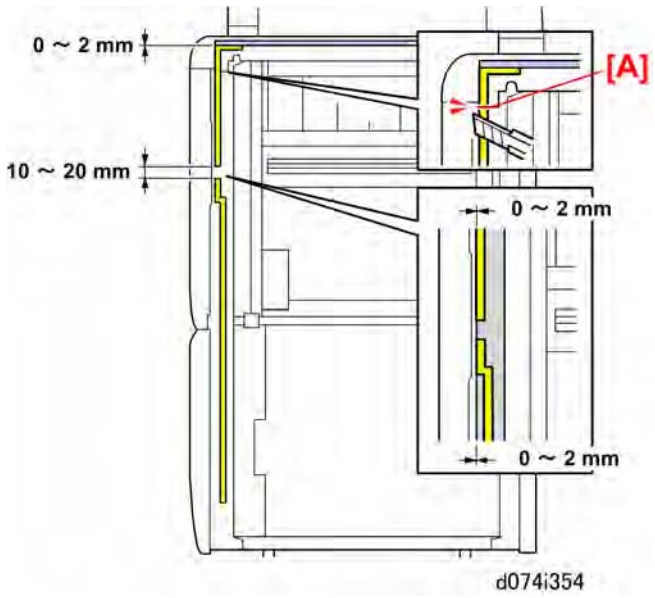
**Procedure 1**




1. Peel the tape from the back of the sponge strip [A] and attach it as shown.
2. Attach the relay guide plate [B] ( x2).
3. Remove the ground plate [C] from the bottom cross-piece ( x2).
4. Turn the ground plate over.
5. Reattach the ground plate with the same screws as shown ( x2).

**Procedure 2**

1. Attach the relay guide plate and ground plate as described in "Procedure 1" above.



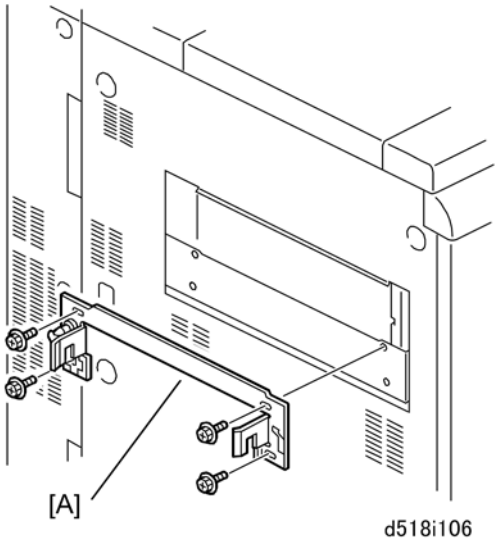
2. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

Note

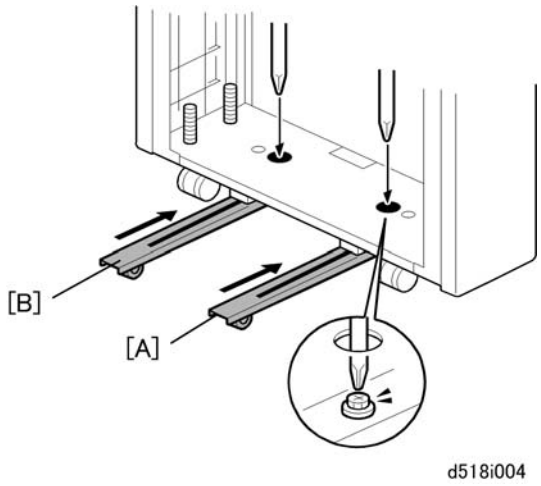
- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The horizontal sponge strip is provided with the Cover Interposer Tray.

3. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

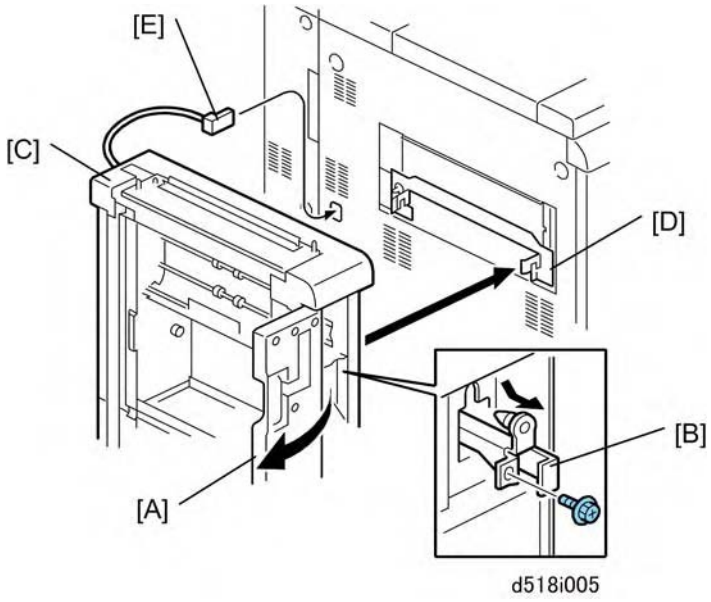
## *Docking*




1. If the upstream unit is the main machine, remove the interface connector cover.
2. Attach the joint bracket [A] to the upstream unit ( x4).




3. Push the unit close to the upstream unit.
4. Loosen the screws for the rear runner [A] and front runner [B]
5. Push the runners in and re-fasten them with the screws.






6. Open the front door [A] of the cover interposer tray.
7. Remove the screw of the lock bar [B]. **Keep this screw.**
8. Pull out the lock bar until it stops.
9. Push the unit [C] against the upstream unit so that the lock bar is below the joint bracket [D].
10. Connect the unit's cable [E] to the upstream unit.
11. Push in the lock bar [B] and fasten it with the screw removed in **Step 7**.
12. Close the front door.

### *Dock the Downstream Peripheral Unit*

Important

- The tray unit of the cover interposer tray is supported by both the cover interposer transport unit and the top of the downstream peripheral unit.
- The next peripheral device downstream must be docked to the cover interposer tray relay unit (the base) before the cover interposer tray unit can be installed.

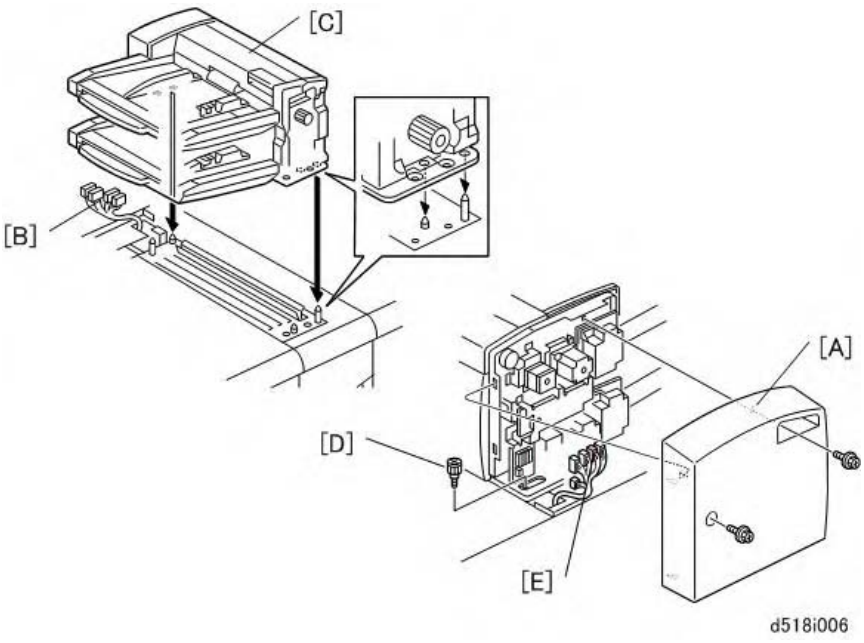
Go to the appropriate section to dock the next downstream peripheral unit before installing the tray unit of the cover interposer tray:

- Multi Folding Unit (☛p.3-157)
- Ring Binder (☛p.3-166)
- High Capacity Stacker (☛p.3-181)
- Finishers (☛p.3-192)

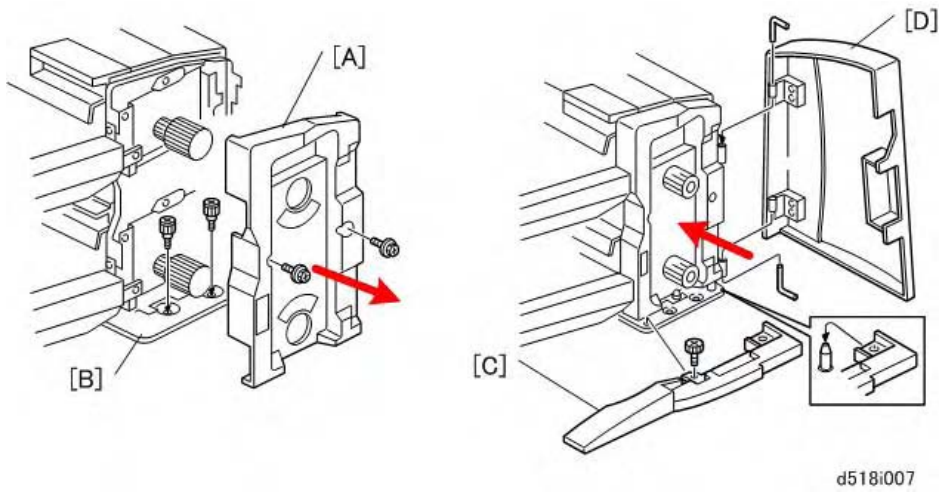
**CAUTION**

- Never attempt to mount the tray unit of the cover interposer tray until the next downstream peripheral unit has been docked to the transport unit (base) of the cover interposer tray.
- To prevent bending the frame of the tray unit and damaging its alignment, always remove the tray unit from the cover interposer tray transport unit at the following times: 1) Before disconnecting either the cover interposer tray or the next downstream peripheral unit, or 2) Before doing any maintenance on either the cover interposer tray or the next downstream peripheral unit.

## *Mounting the Tray Unit*




1. Remove the rear cover [A] ( x2). **Keep these screws**.
2. Confirm that the connectors [B] are free.
3. Place the tray unit [C] on top of the cover interposer transport unit and the downstream unit.
4. Attach the knob screw [D] ( x1).
5. Connect the harness connectors [E] ( x5).
6. Reattach the rear cover with the screws removed in Step 1.




7. Remove the front inner cover [A] from the tray unit ( x2).
8. Fasten the tray unit to the top of the transport unit with the knob screws [B] ( x2).
9. Attach the base cover [C] (Flat knob screw; x1).

Important

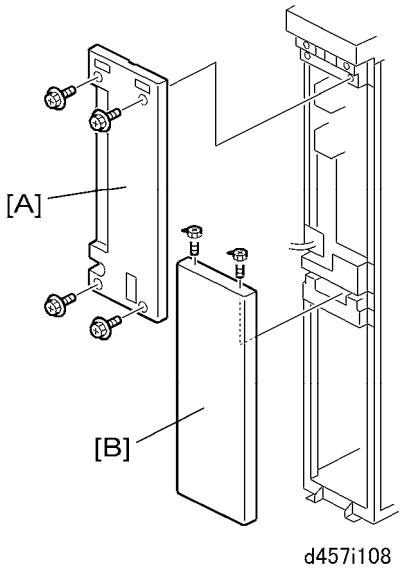
- Make sure the holes in the cover match the positions of the reference pins.

10. Use the two "L" hinges to attach the door [D] to the front inner cover [A].

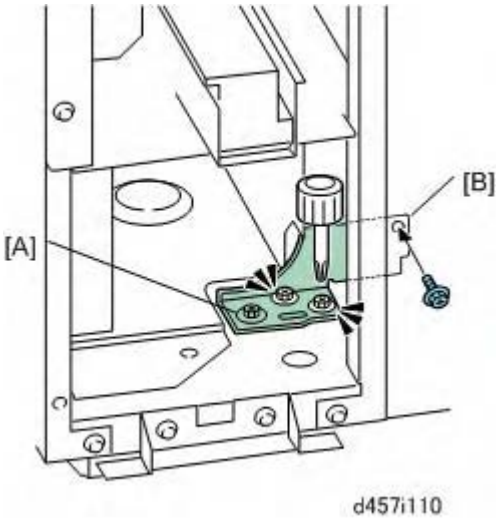
Note

- It is easier to connect the door to the front inner cover before re-attaching the cover to the tray unit.

11. Re-attach the front inner cover [A] (with door attached) ( x2).
12. If the Buffer Pass Unit is installed, remove its rear cover.

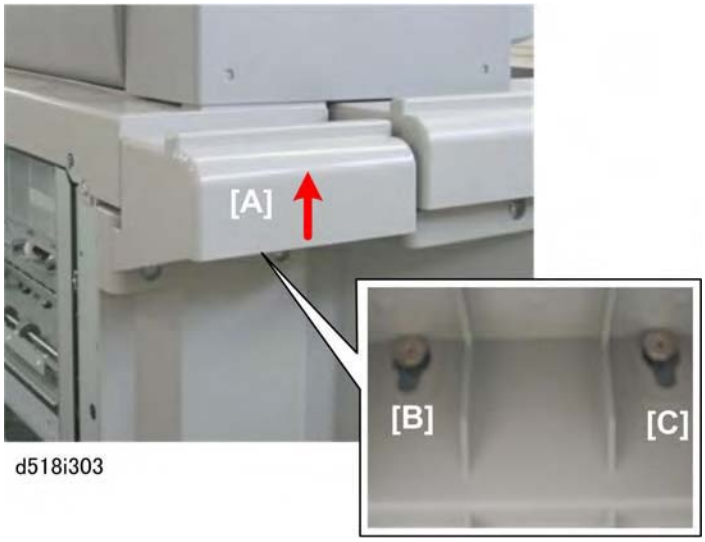



13. At the back of the cover interposer tray, remove:
    [A] Upper cover ( x4)
    [B] Lower cover ( x2)




14. With the rear covers of both the buffer pass unit and cover interposer unit removed, use a short screwdriver to loosen bracket [A] ( x2).
15. Fasten the bracket to the buffer pass unit at [B] ( x1).
16. Tighten the screws ( x3).
17. Re-attach the rear covers.

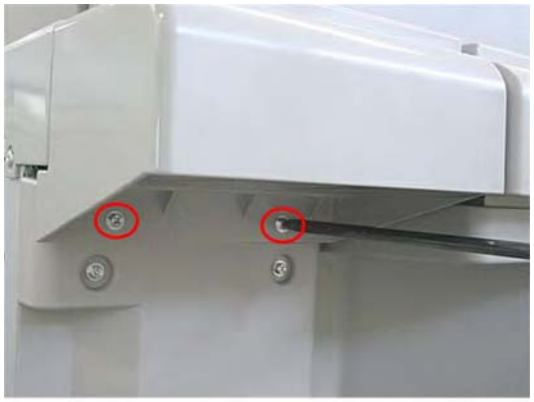
18. Attach the shoulder screws to the front of the unit ( x2).



d518i303

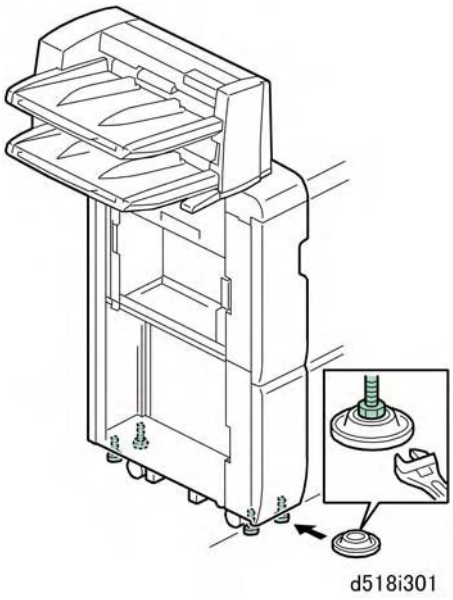


19. Set the spacer [A].
    - Hang wide ends of the keyholes of the side of the spacer over the heads of the shoulder screws.
    - Slide the spacer up to set the heads of the shoulder screws in the narrow end of the keyholes [B] and [C].


d518i304

20. Fasten the spacer to the unit ( x2 M4x8)

## *Finishing the Installation*

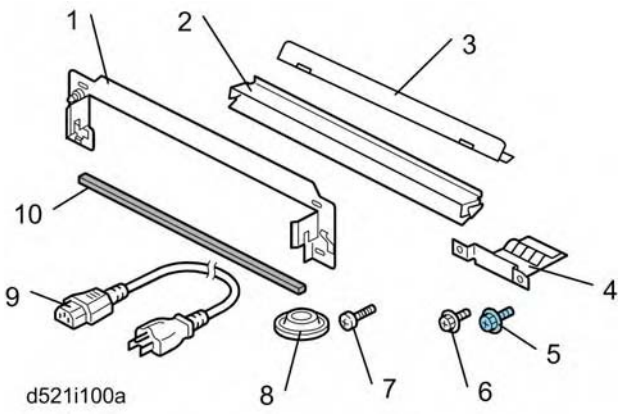



1. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
2. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
3. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)

# 3.9 MULTI FOLDING UNIT (D521)

## 3.9.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Joint Bracket | 1 |
| 2. | Paper Guide | 1 |
| 3. | Mylar (for downstream unit) | 1 |
| 4. | Ground Plate | 1 |
| 5. | Screws M3x6 | 2 |
| 6. | Screws M3x6 | 2 |
| 7. | Screws M4x14 | 4 |
| 8. | Leveling Shoes | 5 |
| 9. | Power Cord*[1] | 1 |
| 10. | Sponge Strip | 1 |

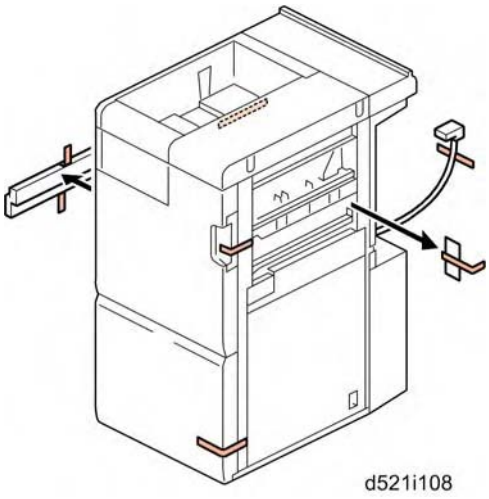
*[1]: In China, do not use the power cord provided with this unit. Contact your supervisor and use the power cord specified for use in China.

## 3.9.2 INSTALLATION

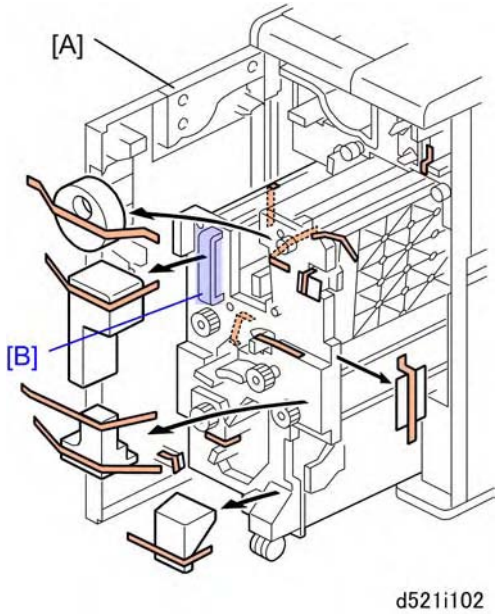
**⚠CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.

### *Tapes*




1. Remove all tape and packing material from the front, left, rear, and right sides.



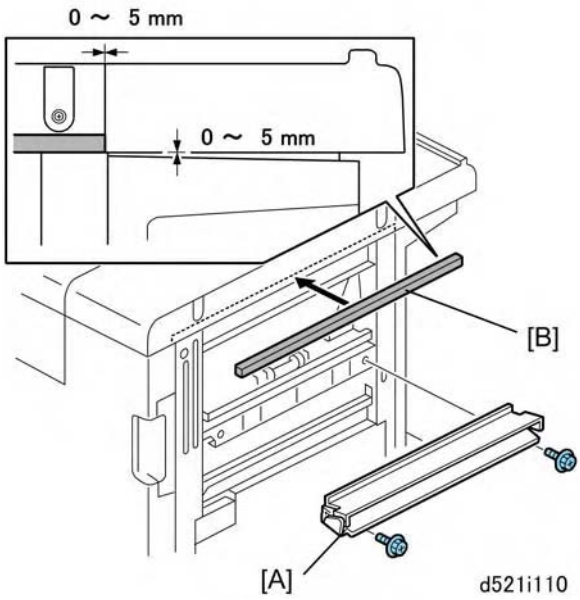

2. Open the front door [A].
3. Grip handle [B] and slowly pull the fold unit out of the machine.
4. Remove all tape and packing material from inside.

## *Paper Guide, Sponge Strips*

Important

- There are two procedures for installation of the sponge strips.
- Follow "Procedure 1" below if the Multi Folding Unit will be connected to another peripheral unit.
- Follow "Procedure 2" if the Multi Folding Unit will be connected directly to the main machine (more sponge strips are required).

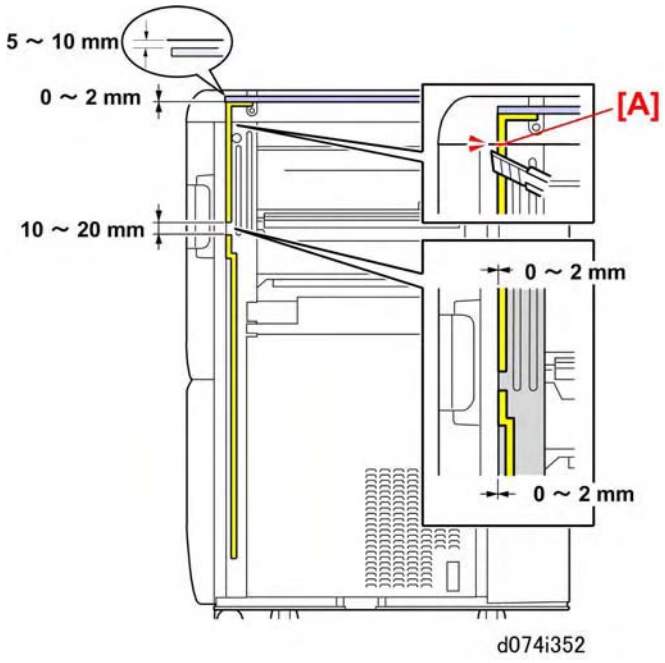
**Procedure 1**




1. Attach the paper guide [A] ( x2 M3x6).
2. Peel the tape from the sponge strip [B] and attach the strip to the top right edge of the unit.

**Procedure 2**

3. Attach the paper guide as described in "Procedure 1" above.



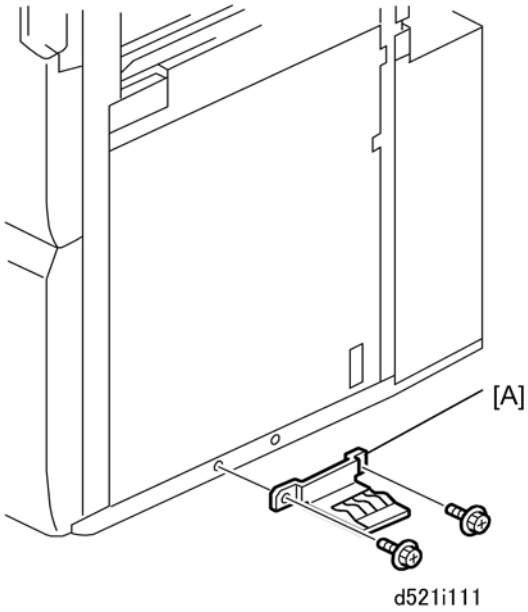

4. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

Note

- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The horizontal sponge strip is provided with the Multi Folding Unit.

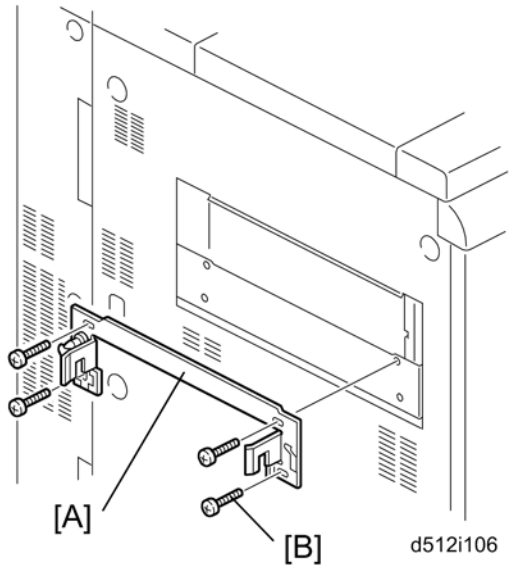
5. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

## *Ground Plate*

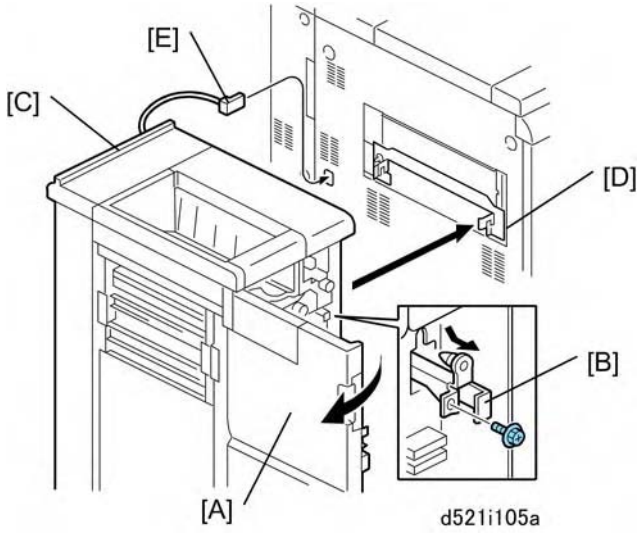



1. Attach the ground plate [A] to the lower right edge of the unit ( x2 M3x6).

## *Docking*



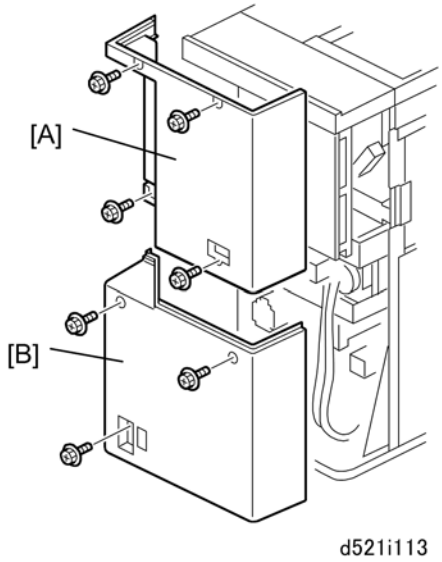

1. Fasten the joint bracket [A] to the left side of the upstream unit ( x4 M4x14).



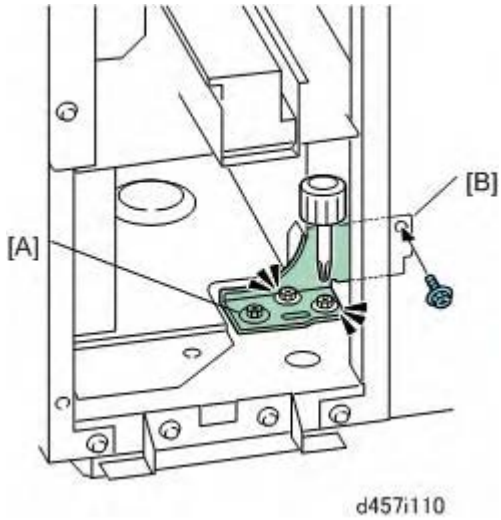

2. Open the front door [A].
3. At the front right corner, remove the screw of the lock bar [B] ( x1 M3x6). **Keep this screw.**
4. Push in the lock bar.
5. Slowly push the unit [C] against the left side of the upstream unit (or main machine) so that the lock bar is directly and squarely under the arms of the joint bracket.
6. Pull out the lock bar so it slides up into the notches in the arms on both ends of the joint bracket [D].
7. Fasten the lock bar by re-attaching the screw removed in **Step 3** ( x1).
8. Connect the I/F cable [E] to the upstream unit (or main machine).

Note

- If you are docking to the main machine, you must first remove the plastic cap at the I/F cable connection point.




9. Remove:
   [A] Rear upper cover ( x4)
   [B] Rear lower cover ( x3)




10. Use a short screwdriver to loosen bracket [A] ( x2).
11. Fasten the bracket to the upstream unit at [B] ( x1).
12. Tighten the screws ( x3).
13. Re-attach the rear covers.

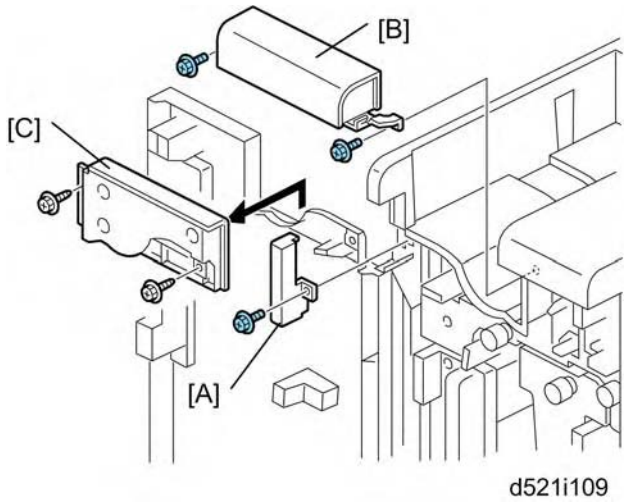
## *Removing Parts for the Cover Interposer Tray (D518)*

Three parts must be removed before the tray unit of the cover interposer tray can be mounted on top of the Multi Folding Unit.

1. Open the front door.

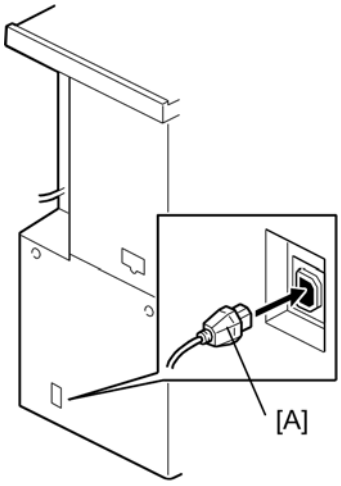
Important

- The following parts require removal only if the upstream unit is the Cover Interposer Tray (D518).
- These parts must be removed so that the tray unit of the Cover Interposer Tray will fit on top of the Multi Folding Unit.




2. Remove:
   [A] Bracket ( x1)
   [B] Cross-piece ( x2)
   [C] Metal plate from the door ( x2)
3. After removing [B] and [C], reattach [A].

## *Power Cord*




d521i107

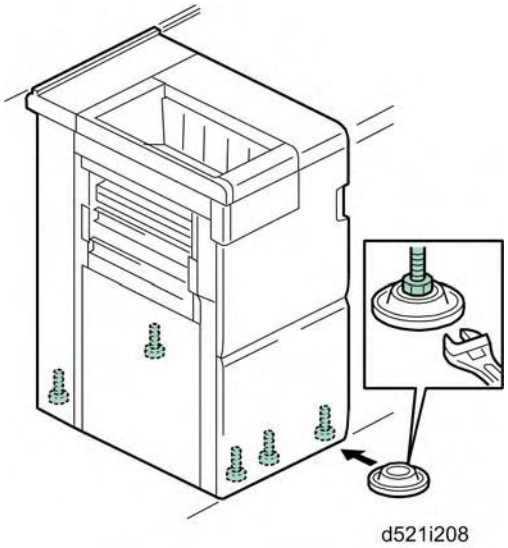
1. Insert the power cord socket [A] into the power connection point.

Important

- In China, do not use this power cord provided with this unit. Contact your supervisor and use the power cord specified for use in China.

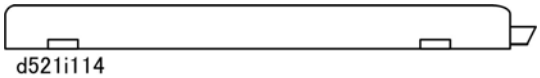
2. Connect the power supply cord plug to a power outlet.

## *Finishing the Installation*



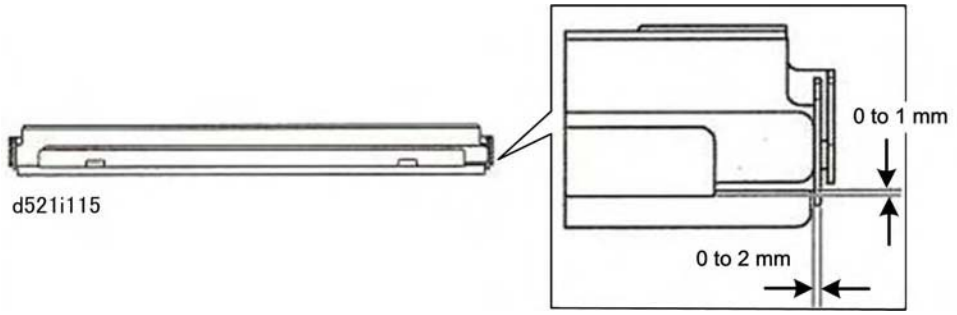
d521i208

1. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
2. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
3. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)



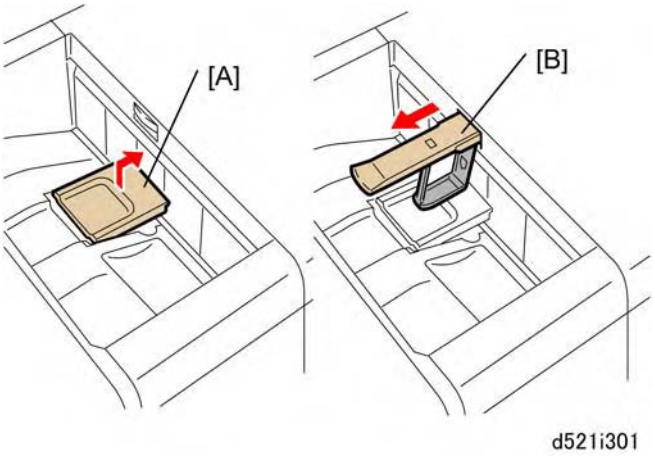
d521i114

4. Peel the tape from the accessory mylar strip.




5. Attach the mylar to the top of the downstream paper guide as shown above (top view).

### *Auxiliary Tray, Fold Depressor*




1. Set the auxiliary tray [A] or flexible page depressor [B] when required.

Note

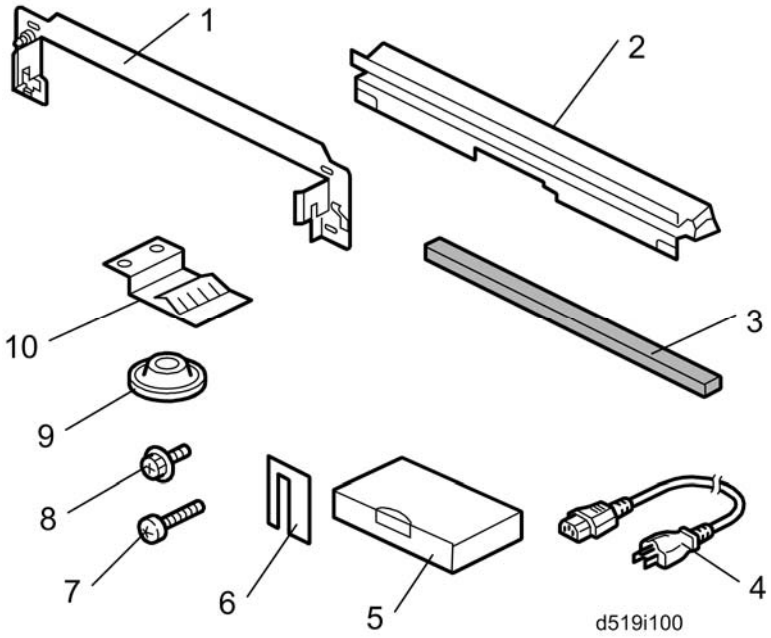
- These items are available. They are not accessories.
- The auxiliary tray [A] keeps Z-folded paper (FM1) flat in the tray so that the trailing edges do not trigger an early tray full alert in the top tray.
- The flexible page depressor [B] prevents folded paper (especially FM3 Letter Fold-out sheets) from opening out and triggering an early tray full alert in the top tray.
- Both items can be installed together. Install [A], and then install [B].

# 3.10 RING BINDER (D519)

## 3.10.1 ACCESSORIES

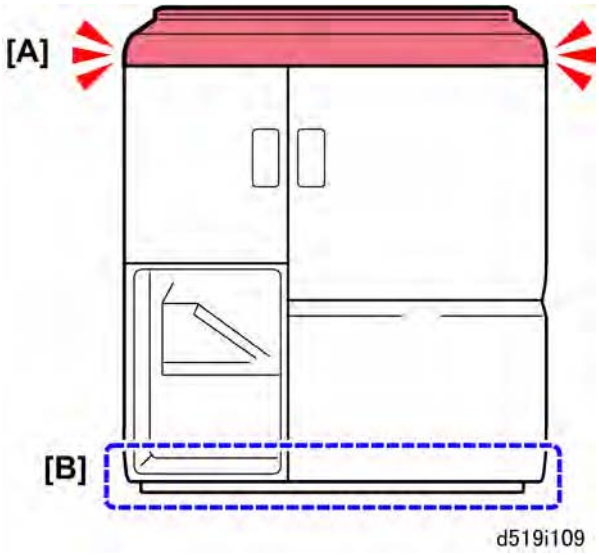
Check each accessory against the list below to make sure that you have everything.

| No. | Item | Q'ty |
|---|---|---|
| 1. | Docking Bracket | 1 |
| 2. | Entrance Guide Plate | 1 |
| 3. | Sponge Strip | 1 |
| 4. | Power Cord | 1 |
| 5. | Ring Opener | 1 |
| 6. | Ring Supply Level Indicator | 1 |
| 7. | Screws (M4 x 14) | 4 |
| 8. | Tapping Screws (M3 x 6) | 4 |
| 9. | Leveling Shoes | 4 |
| 10. | Ground (Earth) Plate | 1 |






## 3.10.2 BEFORE YOU BEGIN




The ring binder weighs 140 kg (308 lb.).

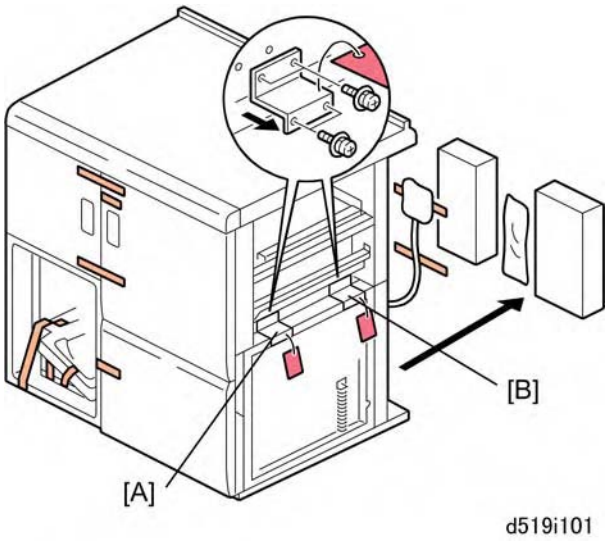
**IMPORTANT**: To prevent bending or breaking the top cover, never lift the unit by its top cover [A]. Always raise the unit from the base [B].

## 3.10.3 INSTALLATION PROCEDURE

**CAUTION**

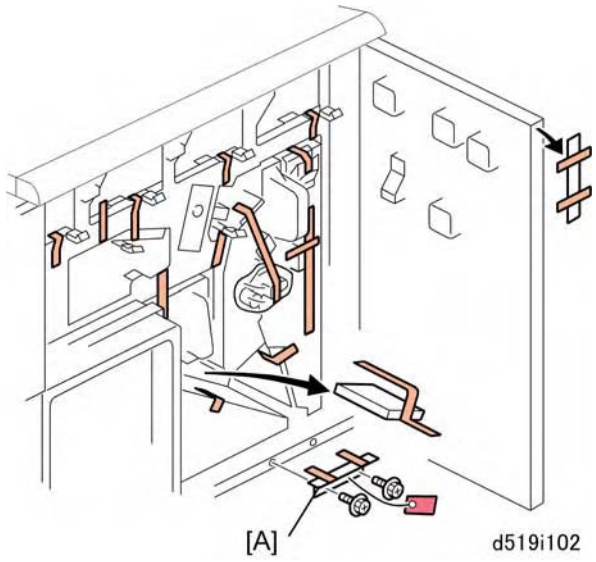
- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

### *Remove All Shipping Materials*

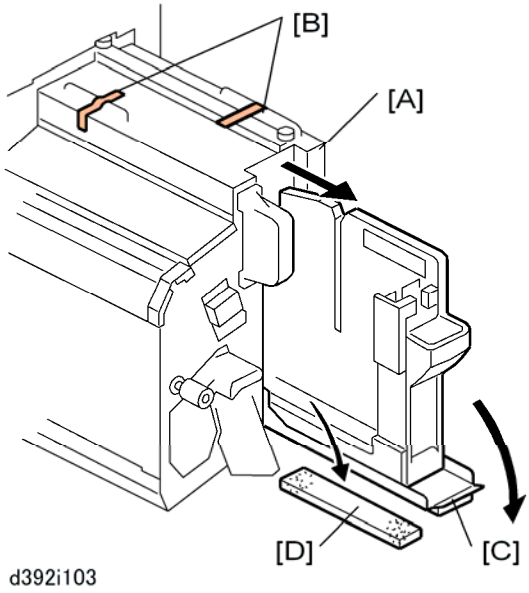



1. Remove all visible tapes, cushion, two accessory boxes, and wrapping material attached to the outside of the unit.
2. Remove:
   [A] Brace x1 ( x4)
   [B] Brace x1 ( x4)

   Important
   - Do not discard these braces. They must be reattached to the unit before it is moved or shipped to another location.




3. Open the right door and left door.
4. Remove all tapes and packing material.
5. Remove the brace and red tag [A] ( x2).



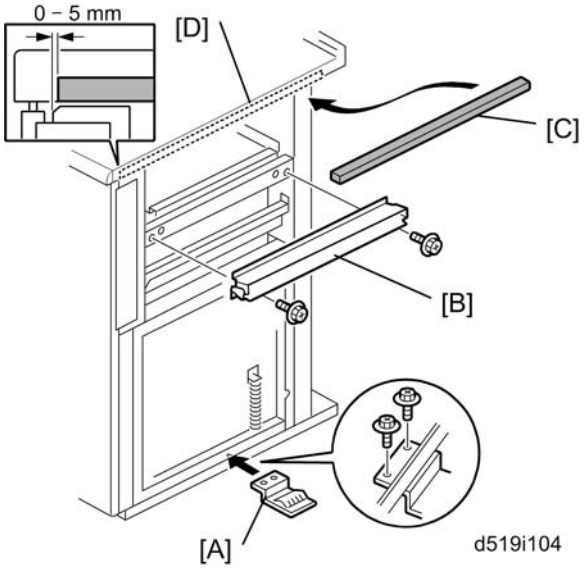

6. Pull the binder unit [A] out of the unit until it stops.
7. Remove the tape [B] on top of the unit.
8. Pull down the ring cartridge handle and cover [C].
9. Pull the ring cartridge out and remove the cushion [D].
10. Push the ring cartridge in and close its cover.
11. Push the binder unit into the unit.
12. Close the left front door and right front door.

## *Prepare the Unit for Docking*

Important

- There are two procedures for installation of the sponge strips.
- Follow "Procedure 1" below if the Ring Binder will be connected to another peripheral unit.
- Follow "Procedure 2" if the Ring Binder will be connected directly to the main machine (more sponge strips are required).

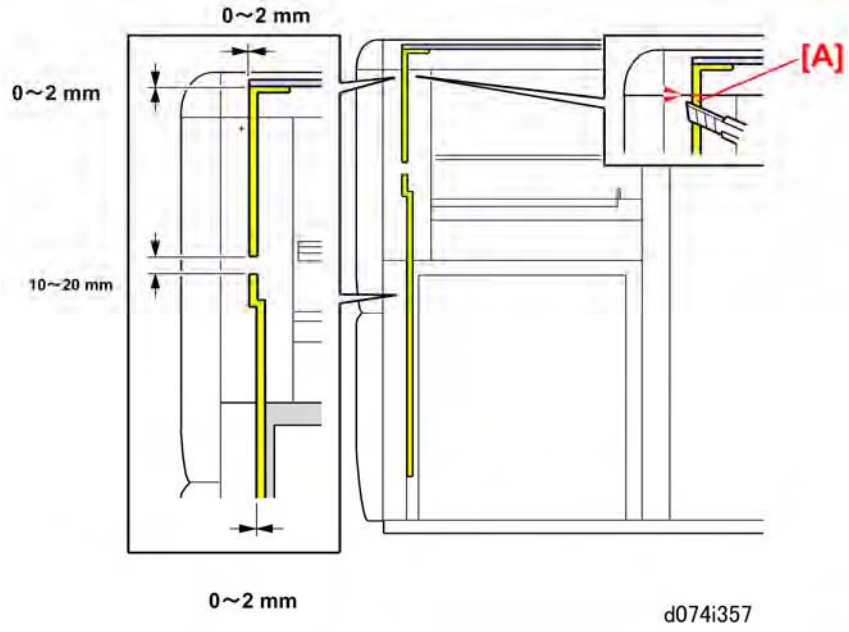
**Procedure 1**




1. Attach the ground plate [A] ( x2).
2. Attach the entrance guide plate [B] ( x2).
3. Remove the tape from the back of the sponge strip [C].
4. Attach the sponge strip to the top edge [D] of the unit as shown above.

**Procedure 2**

1. Attach the ground plate and entrance guide as described in "Procedure 1" above.





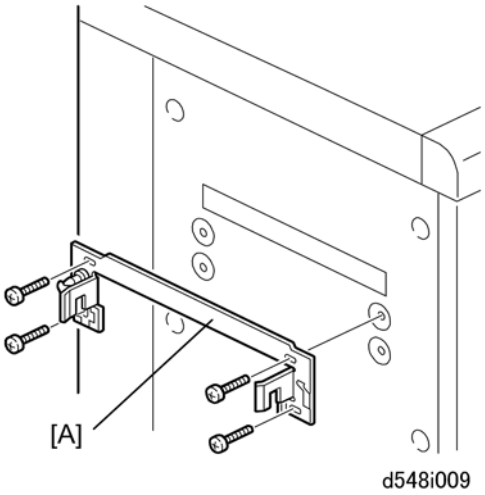

2. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

Note

- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The horizontal sponge strip is provided with the Ring Binder.

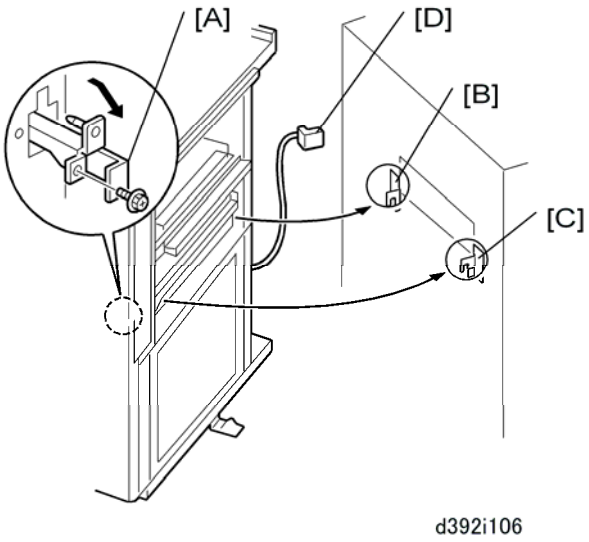
3. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

## *Prepare the Main Machine for Docking*



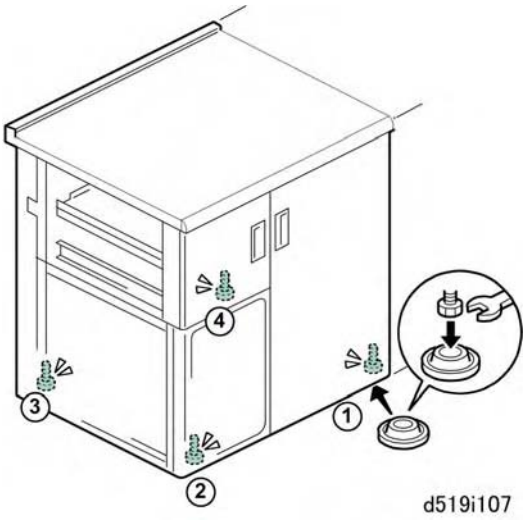

1. Attach the docking bracket [A] (M4x14 x4).

## *Dock the Unit to the Main Machine*




1. Open the right door of the unit.
2. Pull out the locking lever [A] ( x1).
3. Align the right side of the unit with the docking brackets [B] and [C] on the left side of the main machine, and then slowly push the unit onto the brackets.
4. Connect the unit's I/F cable [D] to the main machine.
5. Push in the locking lever and check that it slides into the slots of the docking brackets.
6. Check that the top edge of the unit is parallel with the left edge of the main machine.
7. Refasten the locking lever [A] ( x1) and close the right front door.

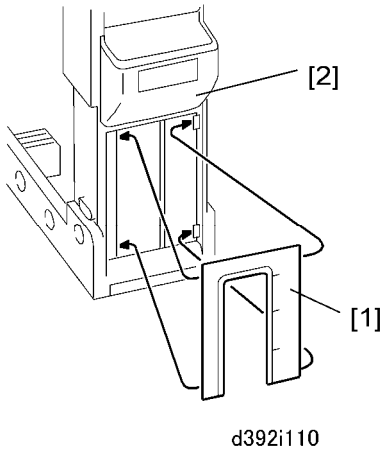
### *Install the Shoes and Level the Unit*




1. Set the leveling shoes (x4) under the feet of the unit.
2. Open the right front door and left front door.
3. Place a level on the frame.
4. Use a wrench to turn the nut at each foot until the machine is level.

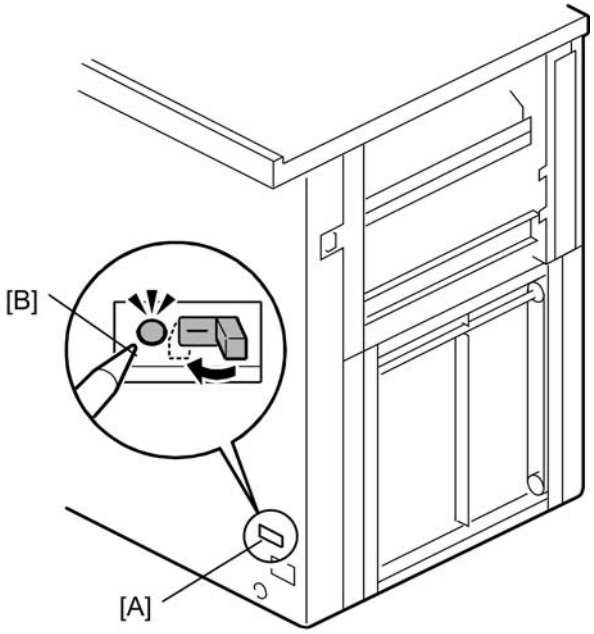
### *Attach Ring Supply Level Indicator*

1. Open the front door.
2. Pull out the ring binder.
3. Lift the ring supply cartridge out of the top of the binder unit.




4. Set the ring supply level indicator [1] behind the tabs on the side of the ring supply cartridge [2].

### *Test the Breaker Switch*




1. If the main machine is on, turn it off.
2. Confirm that the breaker switch [A] is set to the right.

   Note

   - The breaker switch is at the bottom of the left rear corner near the power cord. When it is set to the right, you should see a straight line (-).
3. Connect the power cord to the finisher, then connect the other end to a power supply outlet.
4. Use the sharp point of a pen [B] or similar tool to push in the breaker switch until it snaps to the off position. (You should see "**0**".)
5. If the breaker does not snap to the off position:
   - Check that the power cord is correctly connected to the finisher and power supply.
   - Push the breaker switch again to see if it snaps to the off position.
   - If the breaker switch does not snap to the off position, it must be replaced.
6. Be sure to reset the breaker switch to the on (**-**) position.

## 3.10.4 CENTERING PAPER IN THE PAPER PATH

At installation you must confirm that the paper is exiting the ring binder correctly and do the necessary correction if required. There are two checks:

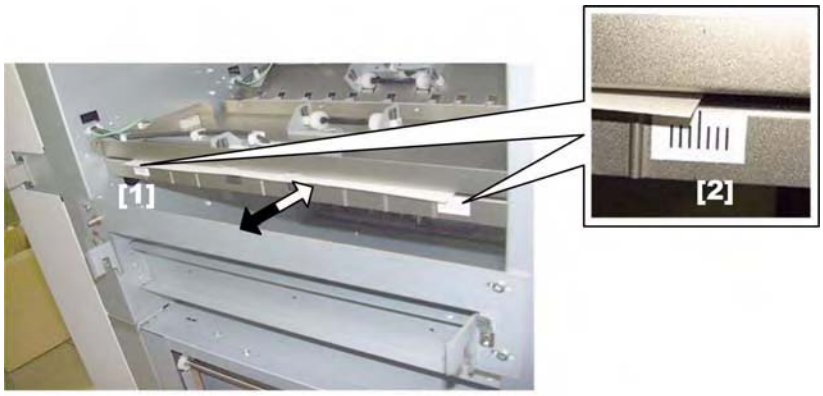
- The paper should be centered in the paper path.
- The paper should feed straight out of the ring binder.

### *Checking and Correcting Side-to-Side Registration*

#### Checking Side-to-Side Registration

Do this check to confirm that the paper is centered in the paper path.

1. Make sure that the I/F cable of the ring binder unit is connected.
2. If the finisher is connected to the left side of the ring binder, disconnect it and pull it away from the left side of the ring binder.
3. Execute a run by feeding paper (A4 or LT) from Tray 2 of the host machine (punching only, no ring binding).

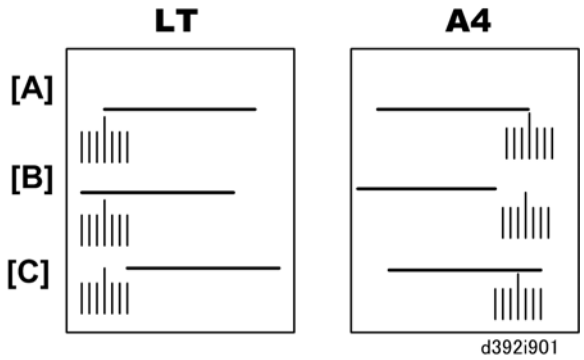



d3912r0204a

4. During the run, each sheet of paper briefly protrudes about 5 to 10 mm before it switches back into the ring binder and feeds to the punch unit, as shown above.
   - There are two scales on the left side of the ring binder below the paper exit.
   - The rear scale [1] is for LT-size paper and the front scale [2] is for A4-size paper. Be sure to read the correct scale for the paper size in use.
5. Check the position of the paper on the scale to determine if the paper is centered.

Important

- Read the rear scale for LT-size paper and the front scale for A4-size paper.
- The scale lines are spaced 1 mm apart.
- The edges of the paper should be at the center line and not deviate more than ±2 mm.

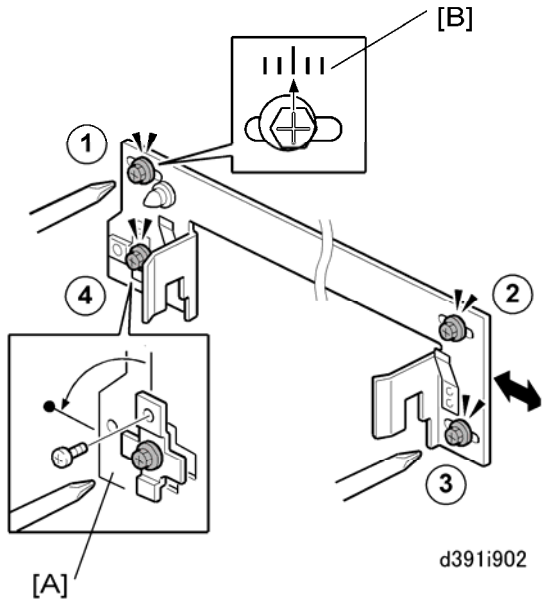



| | |
|---|---|
| [A] | Leading/trailing edges centered. No adjustment necessary. |
| [B] | Leading/trailing edges offset to the rear more than 2 mm. Adjustment required. |
| [C] | Leading/trailing edges offset to the front more than 2 mm. Adjustment required. |

6. If the edge of the paper is on the scale at the center [A], no adjustment is required.
   -or-
   If the edge of the paper is ±2 mm off the center line on the scale, adjustment is required. Do the procedure in the next section.

**Correcting Side-to-Side Registration: Bracket Adjustment**

1. Disconnect the ring binder from the upstream unit.




2. On the docking bracket attached to the upstream unit, loosen screws ①, ②, ③, and ④.
3. Remove bracket [A] ( x1), rotate it 90 degrees, and re-fasten the screw. Changing the position of this bracket aligns the oval cut-out horizontally and frees the joint bracket so it

can slide side-to-side.

4. Look at the scale [B].
5. Slide the bracket to the left or right and tighten the screw.

   If the deviation from center was toward the front, slide the bracket to the rear and tighten the screw (1).

   -or-

   If the deviation from center was toward the rear, side the bracket to the front and tighten screw ①.
6. Tighten screws ②, ③, and ④.
7. Do another test run to check the results of the adjustment.

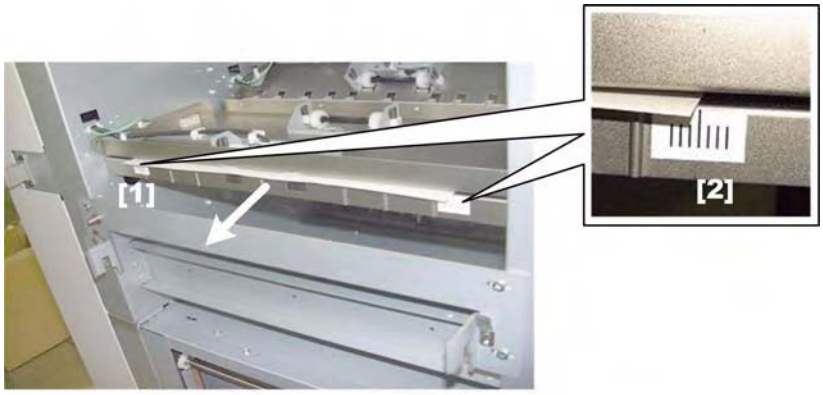


## *Checking and Correcting Skew*

### Checking for Paper Skew

Do this check to confirm that the paper is not skewed in the paper path.

1. Make sure that the I/F cable of the ring binder unit is connected.
2. If the finisher is connected to the left side of the ring binder, disconnect it and pull it away from the left side of the ring binder.
3. Execute a straight-through run (no ring binding, no punching) with A3 or DLT from Tray 2 of the host machine.

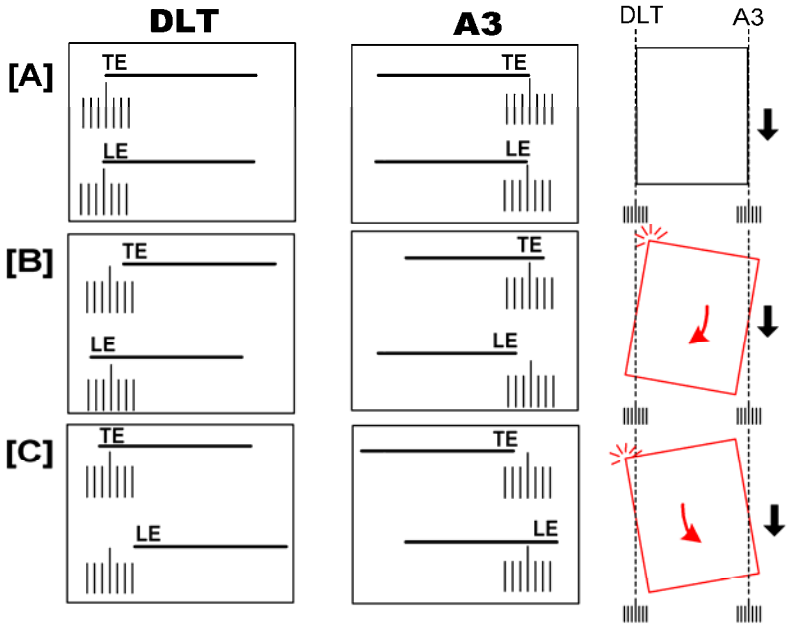



d3912r0204b

4. During the run, each sheet of paper exits the side of the ring binder, as shown above.
   - There are two scales on the left side of the ring binder below the paper exit.
   - The rear scale [1] is for DLT-size paper and the front scale [2] is for A3-size paper. Be sure to read the correct scale for the paper size in use.
5. Check the position of the paper on the scale to determine if the paper skews as it exits.

   Important

   - Read the rear scale for DLT-size paper and front scale for A3-size paper.
   - The scale lines are spaced 1 mm apart.
   - The paper must not deviate more than ±2 mm on the scale.




d392i904

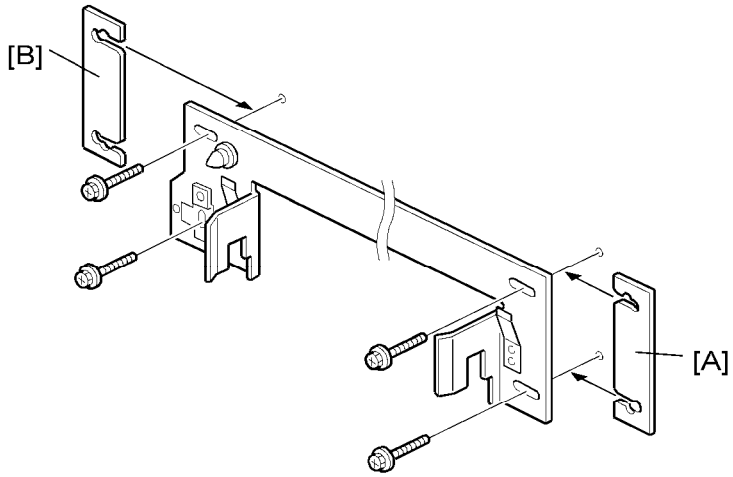
| | |
|---|---|
| [A] | Centered. No adjustment necessary. |
| [B] | Trailing edge skew to the front, total skew more than ±2 mm. Adjustment required. |
| [C] | Trailing edge skew to the rear, total skew more than ±2 mm. Adjustment required. |

**Correcting Skew**

1. Disconnect the ring binder from the upstream unit.

d392i905

2. Remove the spacers from the right side of the ring binder at the base ( x2).




d392i906

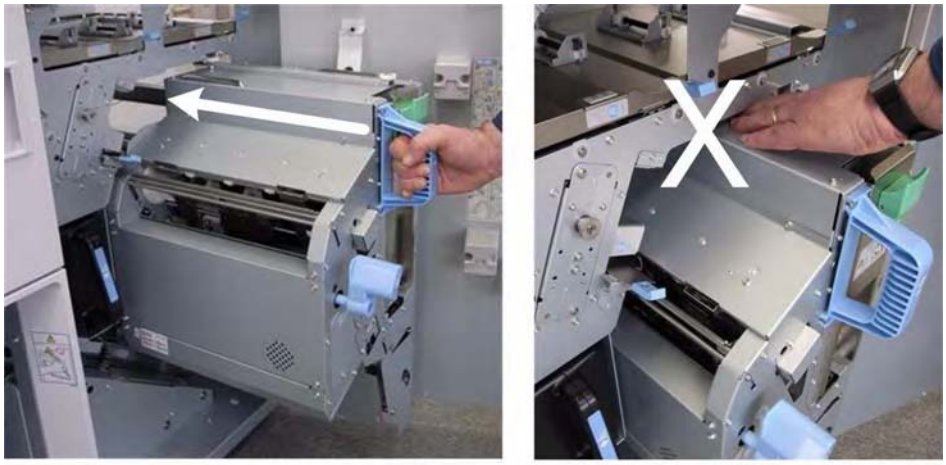


3. On the docking bracket attached to the upstream unit, loosen the screws.
4. Insert a spacer and tighten the screws.
   If the trailing edge is skewing toward the **front** of the machine, insert a spacer [A] under the **rear** end of the bracket and tighten the screws.
   -or-
   If the trailing edge is skewing toward the **rear** of the machine, insert a spacer [B] under the **front** end of the bracket and tighten the screws.
5. To another run to check the adjustment. If skew is still present, insert another spacer.

## 3.10.5 AFTER INSTALLATION

Confirm that the operators understand the following important points:

- Decals attached to the machine that provide guidance for removing paper jams. Point out the decal locations.
- Detailed instructions on removing ring jams are provided in the operating instructions under "Removing Jammed Ring Combs".
- When pulling out and pushing in the binder unit on its rails, always grip the binder unit by its handle (**Mc8**).



d392r902

**CAUTION**

- Always grip handle **Mc8** when pulling out or pushing in the binder unit.
- Never touch any other surface of the binder unit when it is moving on its rails.
- To avoid injury to the fingers, never push on the top of the binder unit to slide it back into the finisher as shown above.

d519i910

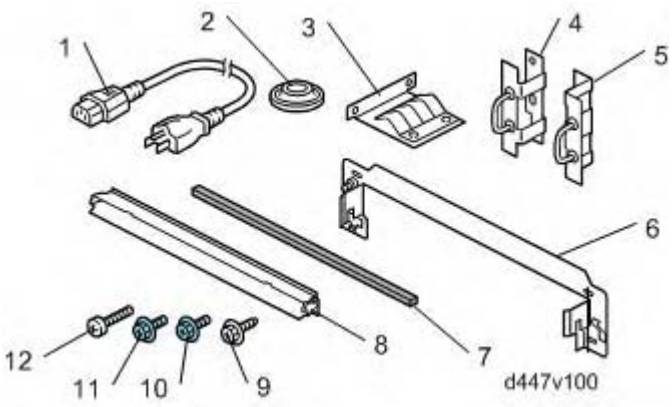
- Never store paper, extra rings, manuals or any other material below the output tray. Obstacles in this area (shown in red in the illustration below) will interfere with the raising and lowering of the tray and cause an error.

# 3.11 HIGH CAPACITY STACKER (D515)

## 3.11.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustrations and lists.

**High Capacity Stacker (D515)**

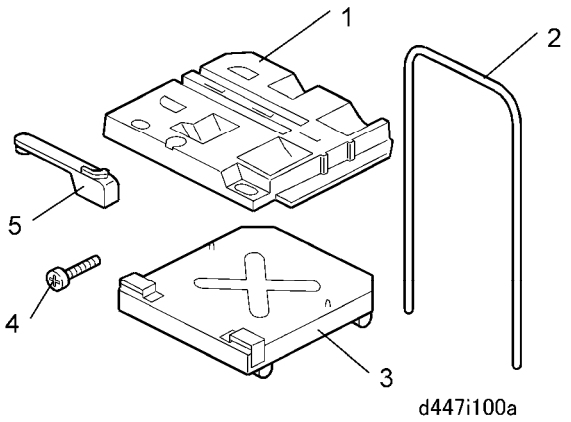



| No. | Description | Q'ty |
|---|---|---|
| 1. | Power Cord*[1] | 1 |
| 2. | Leveling Shoes | 4 |
| 3. | Ground Plate | 1 |
| 4. | Lock Hasp – Left*[2] | 1 |
| 5. | Lock Hasp – Right | 1 |
| 6. | Joint Bracket | 1 |
| 7. | Sponge Strip | 1 |
| 8. | Paper Guide | 1 |
| 9. | Screws M4x8 | 2 |
| 10. | Screws M3x6 | 4 |
| 11. | Screws M4x6 | 2 |
| 12. | Screws M4x14 | 4 |

*1: In China, do not use this power cord provided with this unit's accessories. Contact your supervisor and use the power cord specified for use in China.

*2: A lock is not provided.

**Roll-Away Cart Type 5010 (D456-17)**



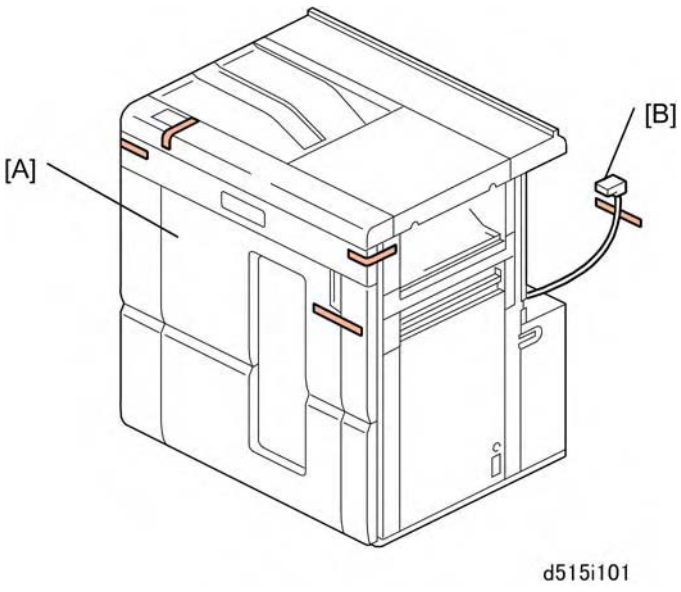

| No. | Description | Q'ty |
|---|---|---|
| 1. | Paper Tray | 1 |
| 2. | Tray Cart Handle | 1 |
| 3. | Tray Cart Base | 1 |
| 4. | Screws M10x25 | 2 |
| 5. | Paper Press Lever | 1 |

## 3.11.2 INSTALLATION

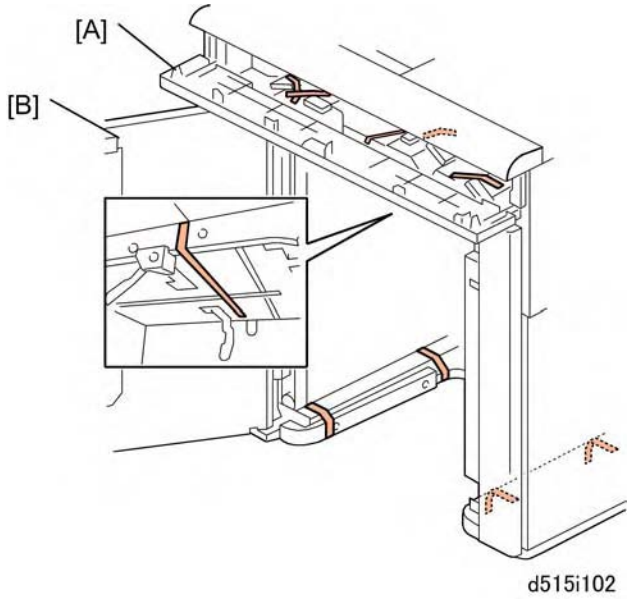
**⚠CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

### *Shipping Tapes*




1. Remove all visible tape from the front [A] and back [B].



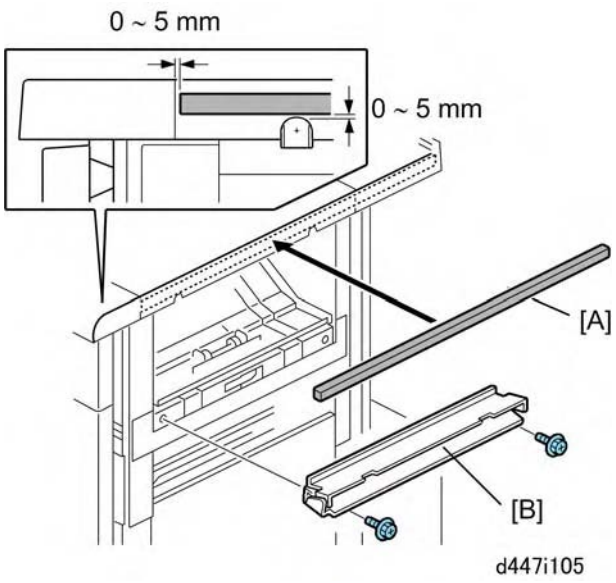

2. Open the front panel [A] and remove all visible tapes.
3. Open the front door [B] and remove all visible tapes.

## *Paper Guide, Sponge Strips, Ground Plate*

Important

- There are two procedures for installation of the sponge strips.
- Follow "Procedure 1" below if the High Capacity Stacker will be connected to another peripheral unit.
- Follow "Procedure 2" if the High Capacity Stacker will be connected directly to the main machine (more sponge strips are required).

**Procedure 1**

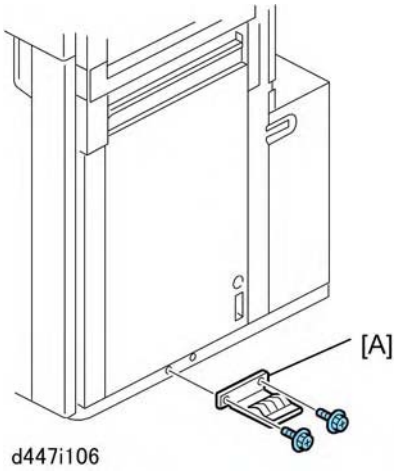



1. Remove the tape from the sponge strip [A] and attach the strip to the top right edge of the unit.

   Note

   - The sponge strip closes the gap between the High Capacity Stacker and the upstream unit to prevent paper or other objects from falling between the units.

2. Fasten the paper guide [B] to the right side of the unit ( x2).



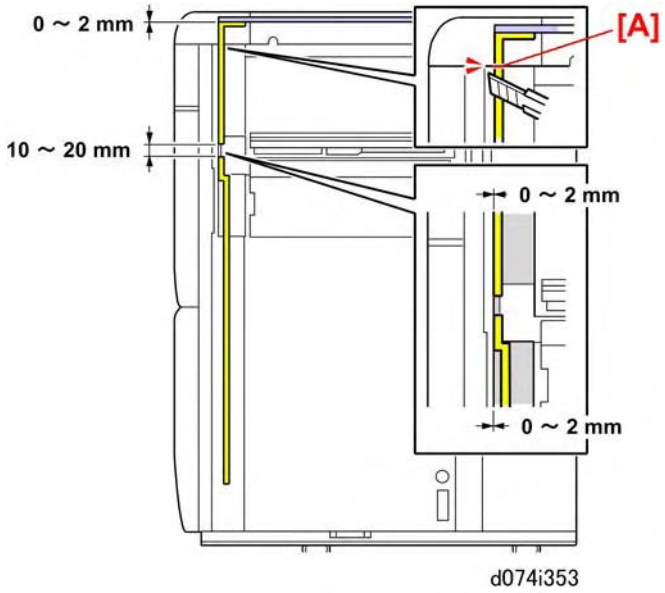
3. Attach the ground plate [A] to the bottom right edge of the unit ( x2 M3x6).

Important

- If the High Capacity Stacker will be docked to the left side of the main machine, more sponge strips must be attached.

**Procedure 2**

1. Attach the paper guide and ground plate as described in "Procedure 1" above.



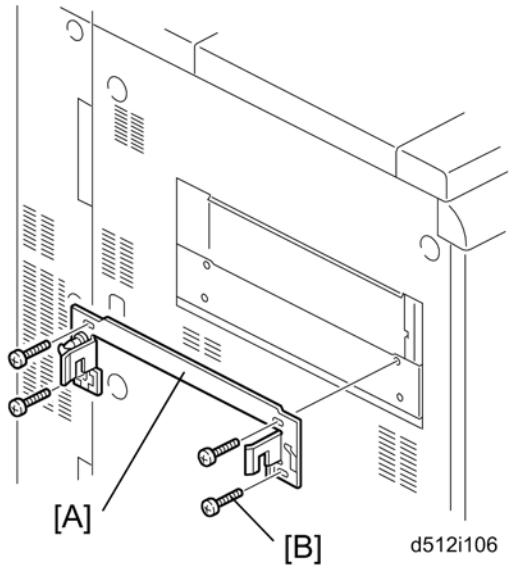

2. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

Note

- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The horizontal sponge strip is provided with the High Capacity Stacker.

3. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

## *Docking*

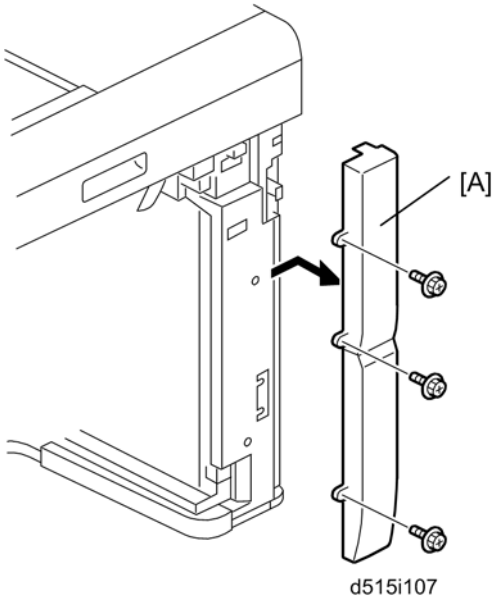



1. Fasten the joint bracket [A] to the upstream unit ( x4).

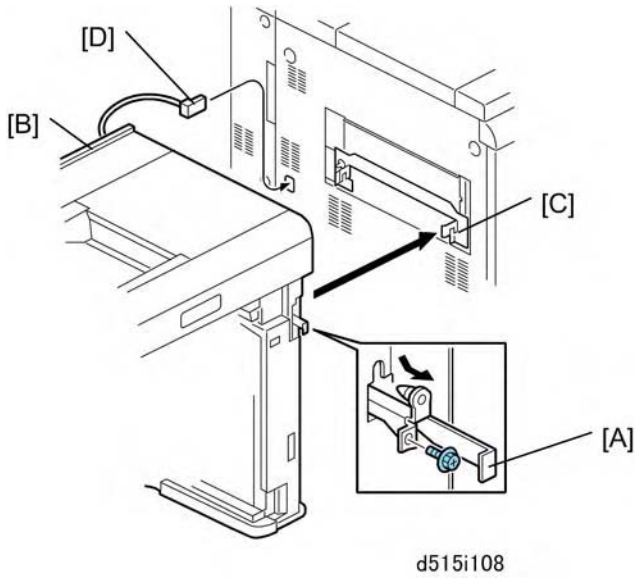
Important

- If this unit is to be installed on the left side of the Multi Folding Unit, use three M4x20 screws and one M4x14 screw.
- The screw [B] (front-lower) must be "M4x14". The other three screws must be "M4x20". Otherwise, these screws may interfere with the upstream unit.
- M4x20 screws are provided with the Multi Folding Unit.

2. Open the front door.

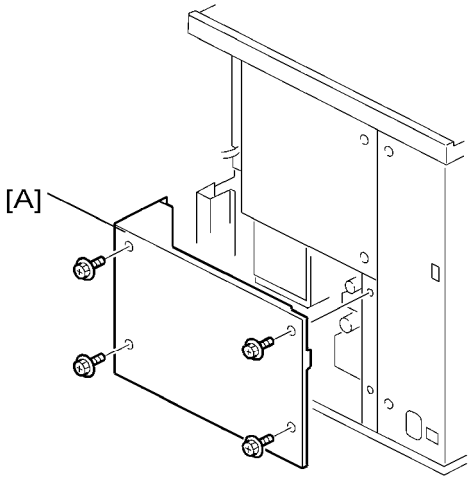



3. Remove the front right cover [A] ( x3).



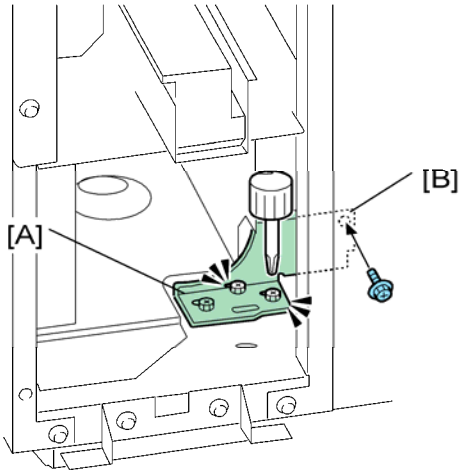

d515i108

4. At the front right corner, remove the screw of the lock bar [A] ( x1 M3x6). **Keep this screw.**
5. Pull the lock bar toward you until it stops.
6. Slowly push the unit [B] against the left side of the upstream unit (or main machine) so that the lock bar is directly and squarely under the arms of the joint bracket [C].
7. Push the lock bar in completely so that it slides up into the notches in the arms on both ends of the joint bracket.
8. Fasten the lock bar by re-attaching the screw removed in **Step 4**. ( x1).
9. Attach the I/F cable [D] to the upstream unit.



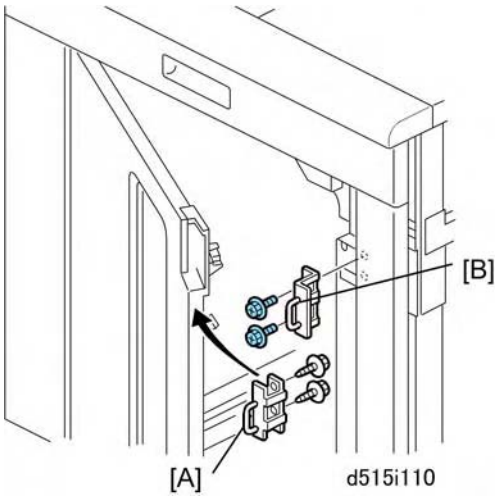

d447i109

10. Remove the right rear lower cover [A] ( x4).



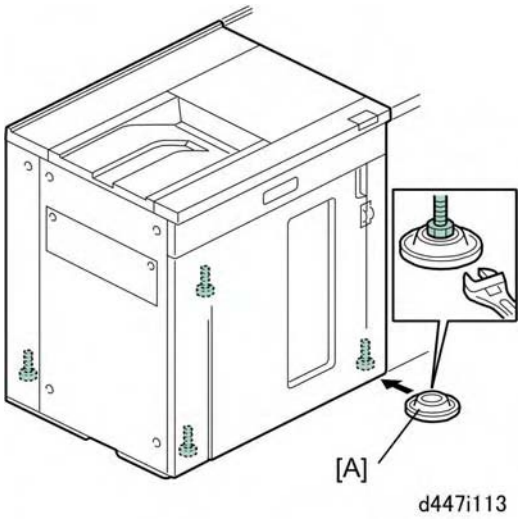

11. Use a short screwdriver to loosen bracket [A] ( x2).
12. Fasten the bracket to the upstream unit at [B] ( x1).
13. Tighten the screws ( x3).
14. Re-attach the rear covers.

### *Lock Hasps*




1. Fasten left lock hasp [A] ( x2) to the door.
2. Fasten right lock hasp [B] to the door frame ( x2).

### *Height Adjustment*




1. Set the leveling shoes [A].
2. Adjust the height of the unit and make sure that it is level.

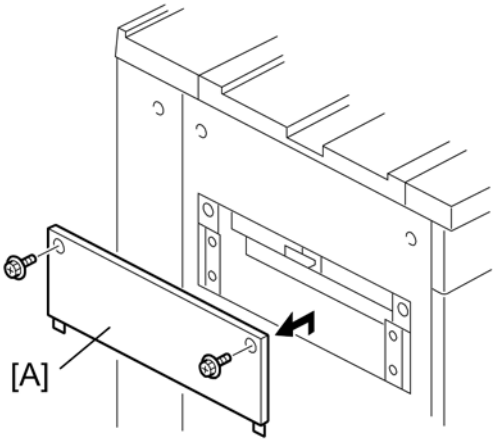
### *Finishing the Installation*

1. Connect the power cord to the unit.

   Important

   - In China, do not use this power cord provided with this unit's accessories. Contact your supervisor and use the power cord specified for use in China.
2. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
3. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
4. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)

## *Docking: Downstream*



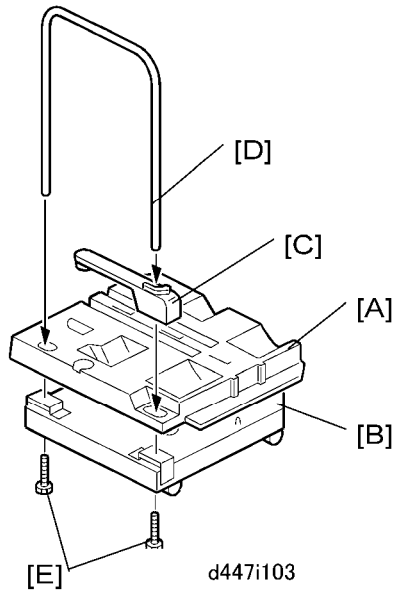

d515i112

Important

- Do this procedure only if another peripheral device will be installed downstream.

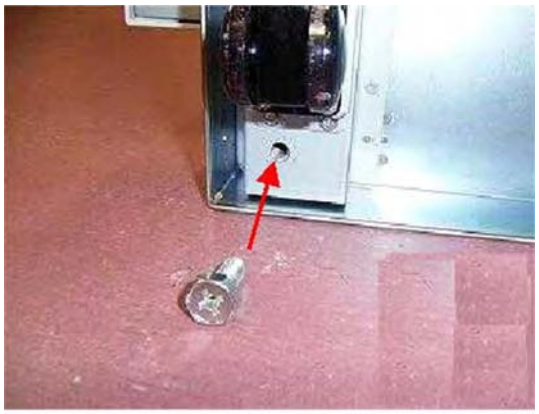
1. Remove the left exit cover [A] from the left side of the unit ( x2).

## *Roll-Away Cart (D456)*



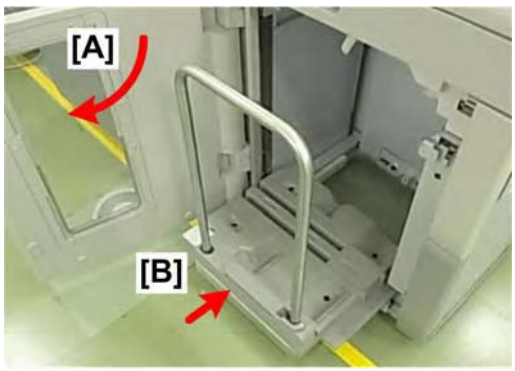

d447i103

1. Align the holes in the brackets of the paper tray [A] with the studs on the tray base [B].
2. Set the holes over the studs.
3. Set the paper press lever [C] into the recessed cut-out in the paper tray.
4. Insert the ends of the tray cart handle [D] into the handle holes. One end of the handle passes through the paper press lever on the paper tray.



d447i115

5. Lay the assembly down with the handles on the floor.
6. Fasten the end of each handle ( x 1 each, M10x25).
7. Make sure that both screws [E] are fastened securely.
8. Set the cart upright on its casters.



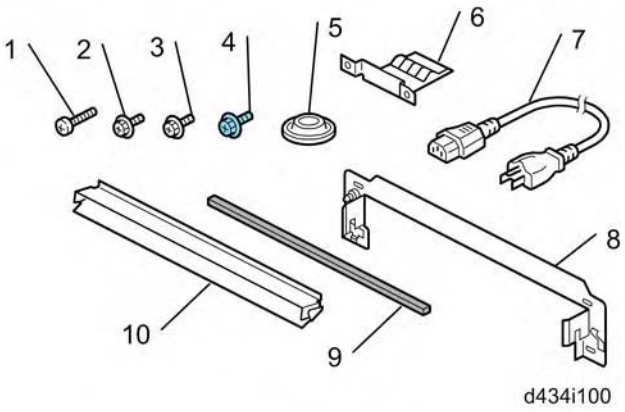

d515i111

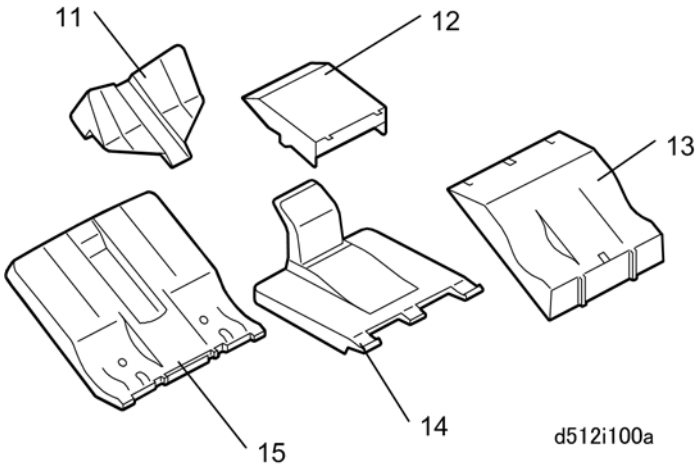
9. Open the front door [A].
10. Push the tray cart [B] into the unit and close the door.

# 3.12 FINISHERS (D512/D513)

## 3.12.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Screws M4x14 (Joint Bracket) | 4 |
| 2. | Screws M3x8 (Shift Tray) | 4 |
| 3. | Screws M3x6 (Ground Plate) | 2 |
| 4. | Screws M3x6 (Paper Guide) | 2 |
| 5. | Leveling Shoes | 4 |
| 6. | Ground Plate | 1 |

| No. | Description | Q'ty |
|---|---|---|
| 7. | Power Cord*[1] | 1 |
| 8. | Joint Bracket | 1 |
| 9. | Sponge Strip | 1 |
| 10. | Paper Guide | 1 |
| 11. | Auxiliary Tray – Glossy Paper | 1 |
| 12. | Auxiliary Tray – Z-Fold Paper | 1 |
| 13. | Auxiliary Tray – Coated Thin Paper | 1 |
| 14. | Booklet Tray (D512) | 1 |
| 15. | Shift Tray | 1 |



*1: In China, do not use this power cord provided with this unit's accessories. Contact your supervisor and use the power cord specified for use in China.

## 3.12.2 INSTALLATION

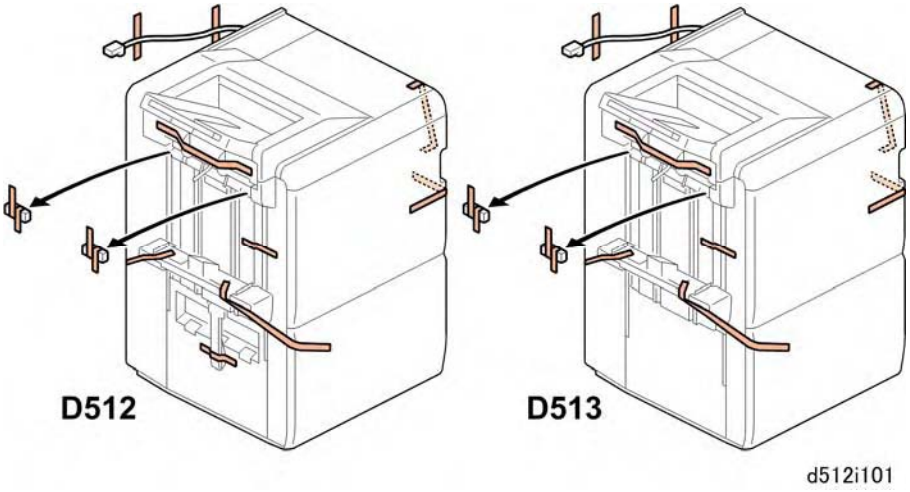
**CAUTION**

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

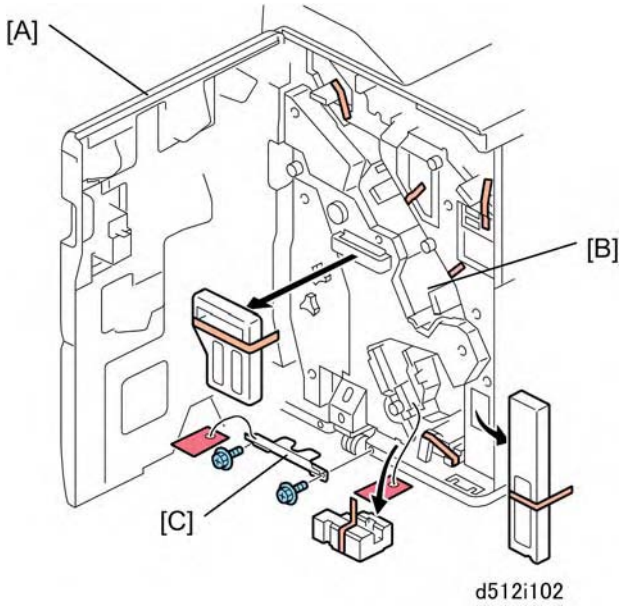
### *Tapes, Retainers, Shipping Plates*

Important

- The shipping plates prevent the staple unit from moving during transport. The plates should be kept and re-attached before the unit is transported to another location.



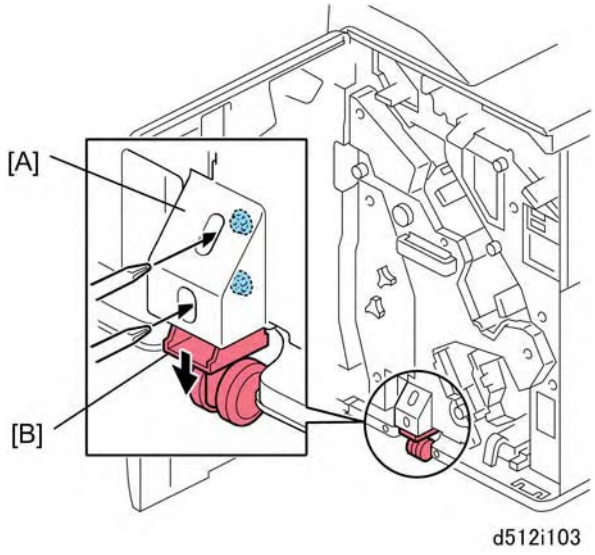

1. Remove all tapes and packing material from the external coves.




2. Open the front door [A].
3. Remove:

   [B] Tapes, retainers inside

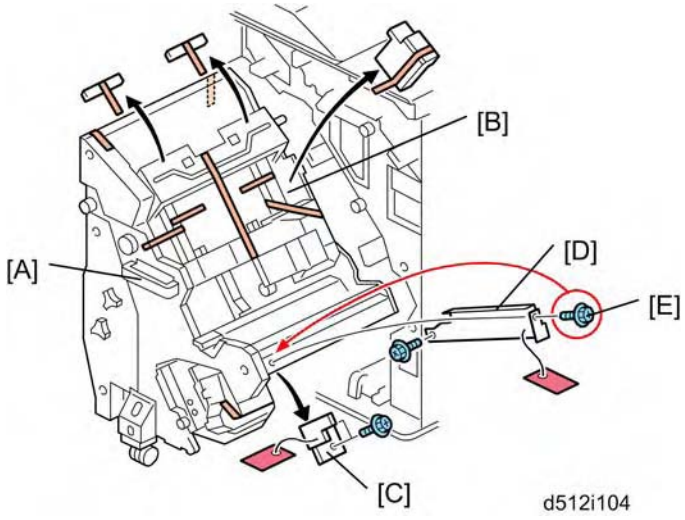
   [C] Tag, wire, shipping plate ( x2)




4. Loosen the screws of the caster cover [A] ( x2).
5. Push the caster [B] down until it touches the floor.
6. With the caster touching the floor, tighten the caster cover screws.

**CAUTION**

- This prevents the unit from tipping over when you pull out the staple unit.

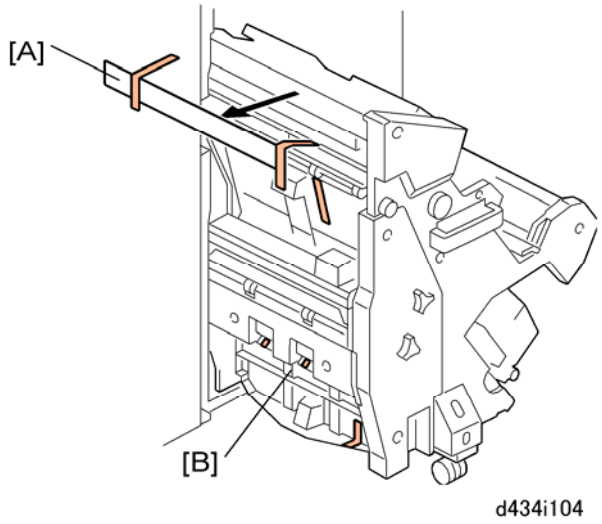



7. Grip handle [A] and slowly pull the staple unit out until it stops.
8. Remove:

   [B] All tapes, retainers

   [C] Tag, wire, shipping plate ( x2)

   [D] Tag, wire, shipping plate ( x2)
9. Re-attach screw [E] where it was removed.



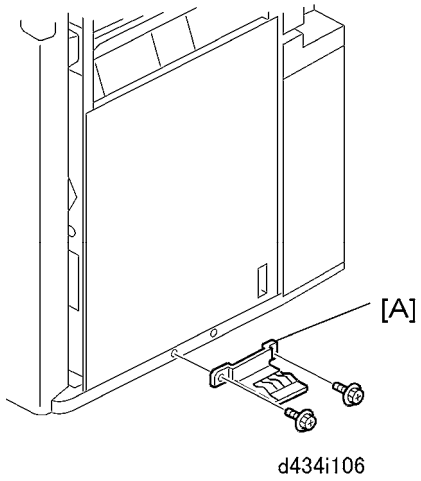

10. Remove:
    [A] Tapes, retainer
    [B] Tapes

## *Ground Plate, Sponge Strips*

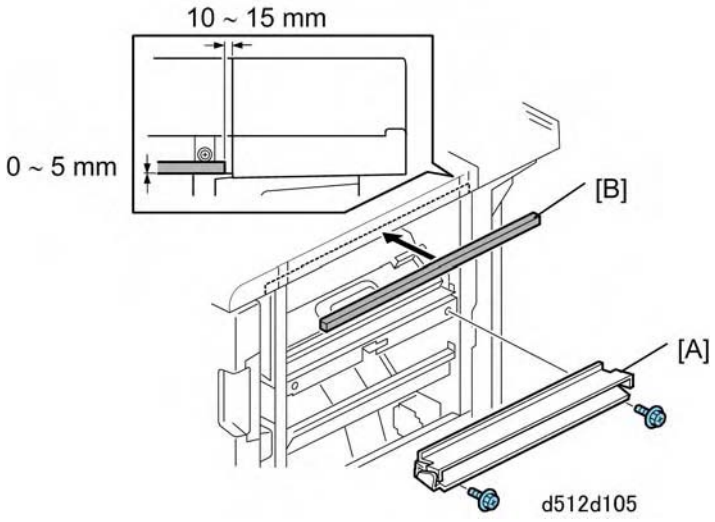
Important

- There are two procedures for installation of the sponge strips.
- Follow "Procedure 1" below if the "Finisher" will be connected to another peripheral unit.
- Follow "Procedure 2" if the "Finisher" will be connected directly to the main machine (more sponge strips are required).

**Procedure 1**



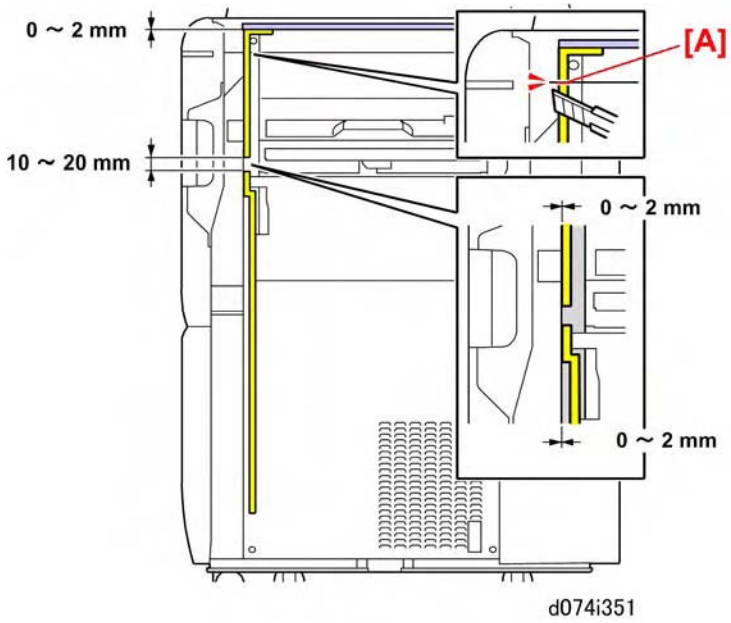

1. Attach the ground plate [A] to the bottom right edge of the unit ( x2 M3x6).




2. Attach the paper guide [A] ( x2 M3x6).
3. Peel the tape from the sponge strip [B] and attach the strip to the top right edge of the unit.

**Procedure 2**

1. Attach the paper guide and ground plate as described in "Procedure 1" above.



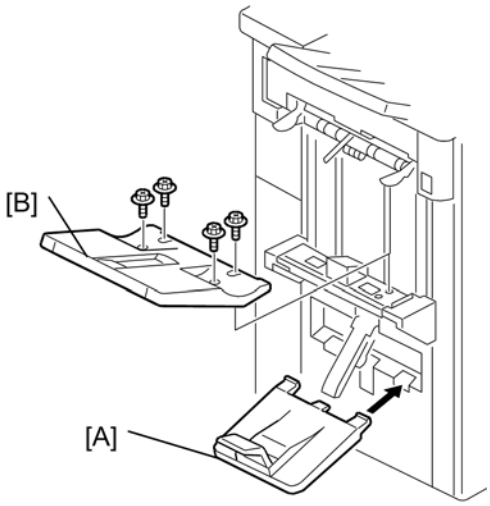

2. Remove the tape from each sponge strip and attach them to the right side of the unit as shown above.

Note

- The two yellow sponge strips in the illustration are provided as accessories with the main machine. The horizontal sponge strip is provided with the Finisher.

3. After attaching all sponges, use a sharp cutter to cut the sponge on the corner at [A].

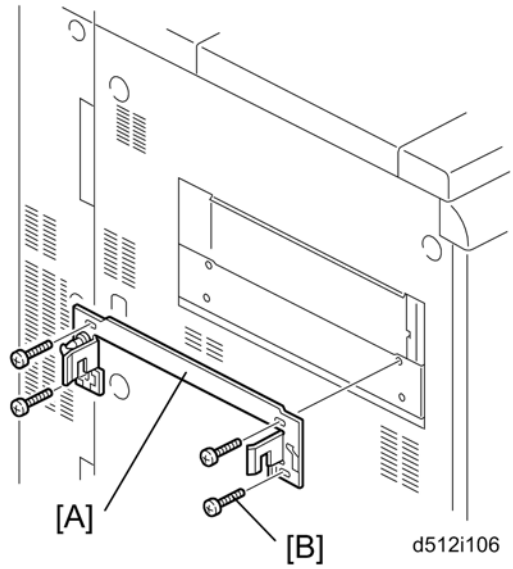
## *Booklet Tray, Shift Tray*




d512i107

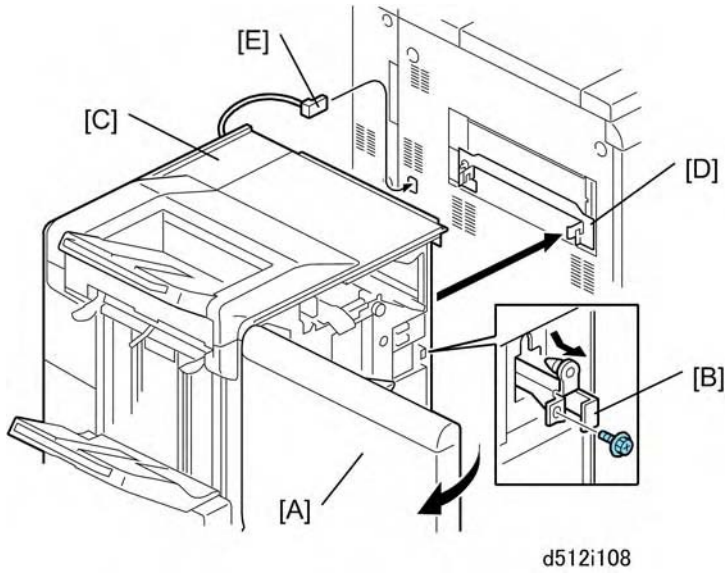
1. Attach the booklet tray [A] to the notch in the left cover (no screws).
2. Attach the shift tray [B] to the left side of the unit ( x4 M3x8).

## *Docking*

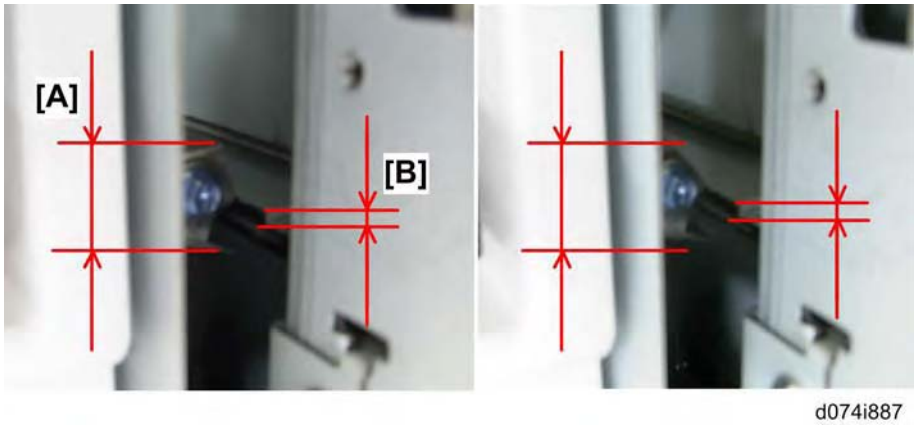



d512i106

1. Fasten the joint bracket [A] to the upstream unit ( x4 M4x14).

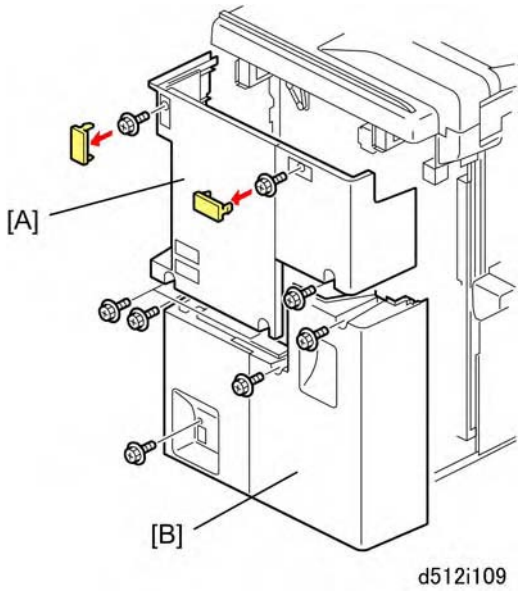



2. Open the front door [A] of the unit.
3. At the front right corner, remove the screw of the lock bar [B] (x1 M3x6). **Keep this screw.**
4. Pull the lock bar toward you until it stops.
5. Slowly push the unit [C] to the left side of the upstream unit (or main machine) so that the lock bar is directly and squarely under the arms of the joint bracket [D].
6. Attach the I/F cable [E] to the upstream unit.

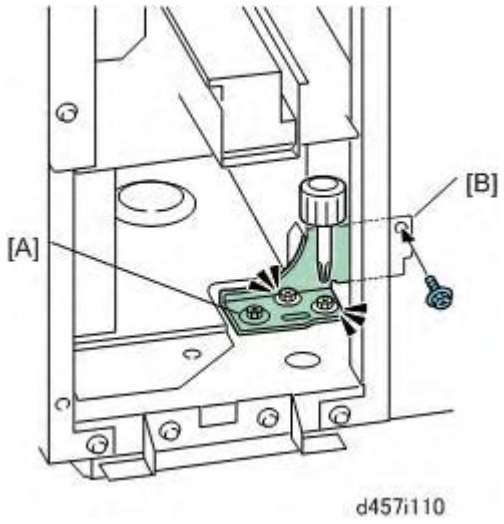



7. Push the finisher close to the side of the upstream unit.
8. Confirm that the height of the finisher entrance [A] is at the same height as the upstream unit's paper exit [B].
9. Push the finisher closer to the side of the upstream unit, and then once again confirm that the height of the finisher entrance still matches the height of the upstream unit exit.
10. If the exit and entrance are not at the same height, adjust the height of the finisher. (p.3-218)
11. Push the finisher against the side of the upstream unit.
12. Push the lock bar in completely so that it slides up into the notches in the arms on both ends of the joint bracket.

13. Fasten the lock bar by re-attaching the screw removed in **Step 3**. ( x1)



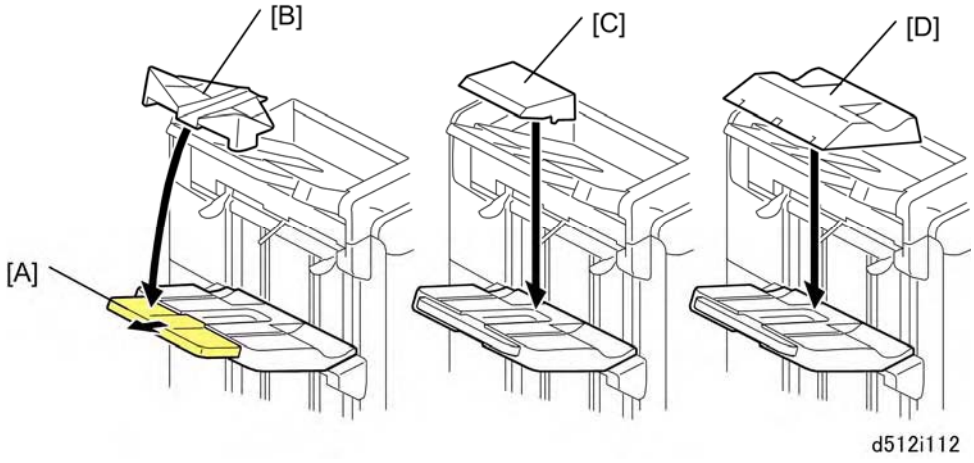

14. Remove:
    [A] Rear upper cover (Capsx2, x5)
    [B] Rear lower cover ( x4)




15. Use a short screwdriver to loosen bracket [A] ( x3).
16. Fasten the bracket to the upstream unit at [B] ( x1).
17. Tighten the screws ( x3).
18. Re-attach the rear covers.

### *Auxiliary Trays*

1. Instruct the operator about when to use these auxiliary trays, as explained below.




- Before feeding glossy paper, pull out the extension [A] of the shift tray and mount the glossy paper auxiliary tray [B].
- Before feeding Z-folded paper from the Multi Folding Unit, set the Z-fold auxiliary tray [C] on the shift tray.
- Before feeding coated thin paper from the Multi Folding Unit, set the coated thin paper auxiliary tray [D].

### *Finishing the Installation*

1. Connect the power cord to the unit

Important

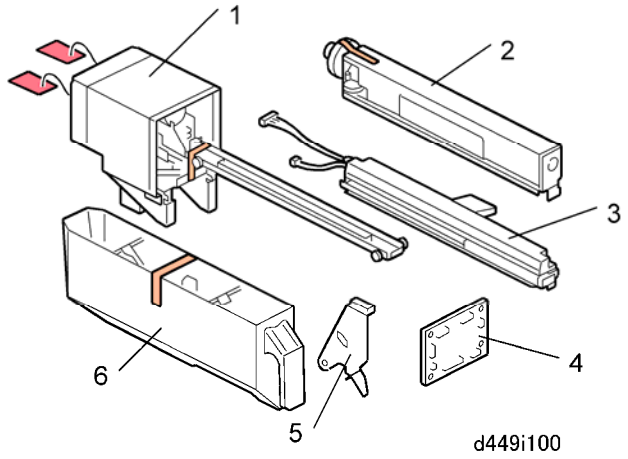
- In China, do not use this power cord provided with this unit's accessories. Contact your supervisor and use the power cord specified for use in China.

2. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
3. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
4. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)

## 3.12.3 PUNCH UNIT PU5020 NA, EU, SC (D449-17, -27, -28)

### *Accessories*

Check the quantity and condition of the accessories in the box against the following illustration and list.



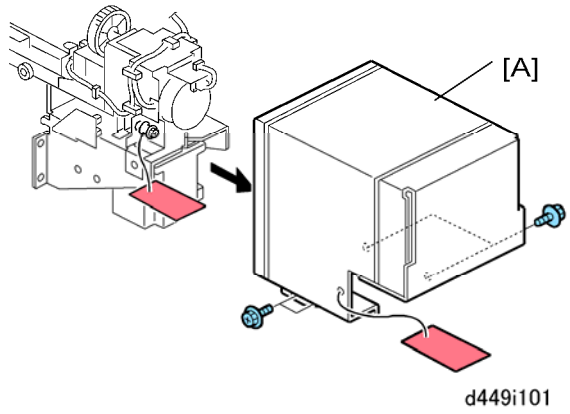

| No. | Description | Q'ty |
|---|---|---|
| 1. | Punch Drive Unit | 1 |
| 2. | Punch Unit | 1 |
| 3. | Punch Registration Unit | 1 |
| 4. | Punch Control Board | 1 |
| 5. | Sensor Arm and Sensor | 1 |
| 6. | Punch-out Hopper | 1 |
| 7. | Harness: Long | 1 |
| 8. | Harness: Board Relay | 1 |
| 9. | Spring | 1 |
| 10. | Step Screw | 1 |
| 11. | Screws M3x6 | 9 |

## 3.12.4 INSTALLATION

**CAUTION**

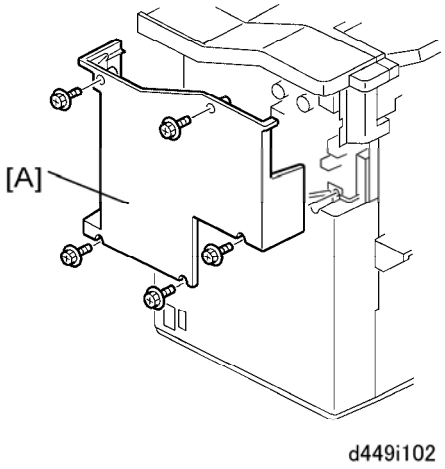
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

**Shipping Materials**



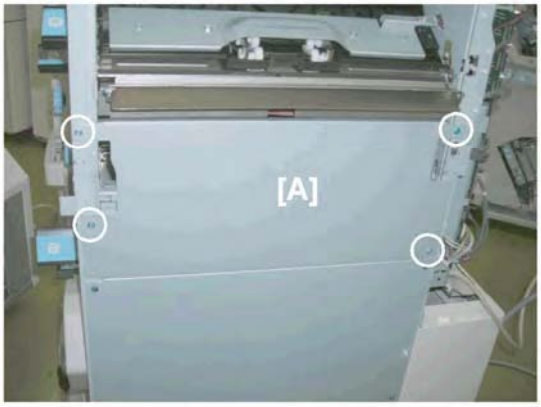

1. Remove motor protector plate [A] ( x4).

**Rear Cover**




1. Remove upper rear cover [A] ( x4).

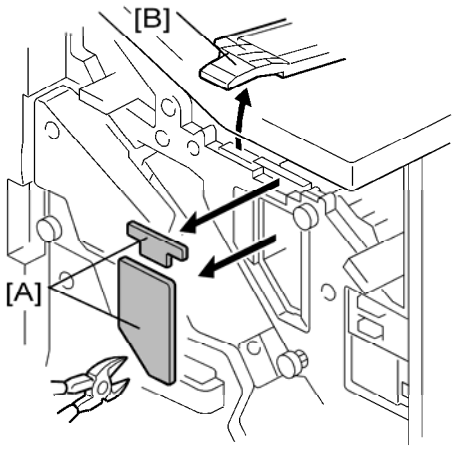
**Right Upper Panel**




d449i117

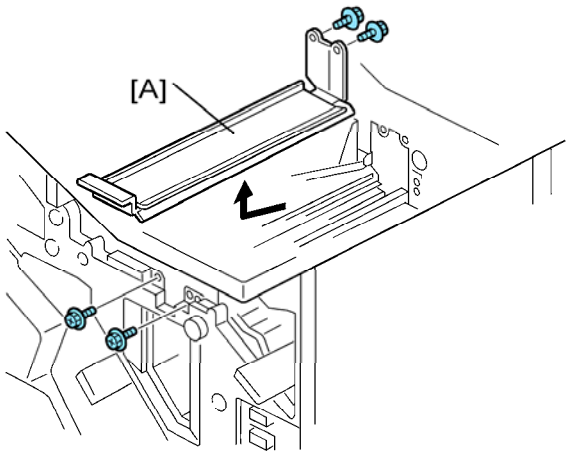
1. Remove the right upper panel [A] ( x4).

**Punch Registration Unit**



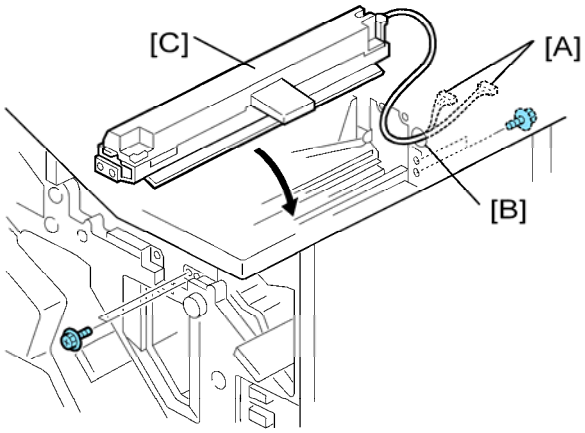

d449i103

1. Use a pair of nippers to remove knockouts [A].
2. Raise and open lever "**RB3**" [B].




d449i104

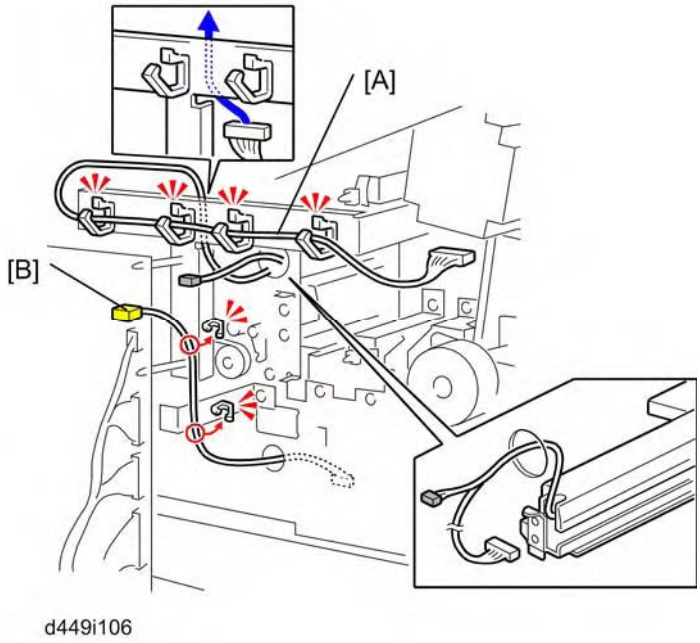
3. Remove plate [A] and discard it ( x4).




d449i105



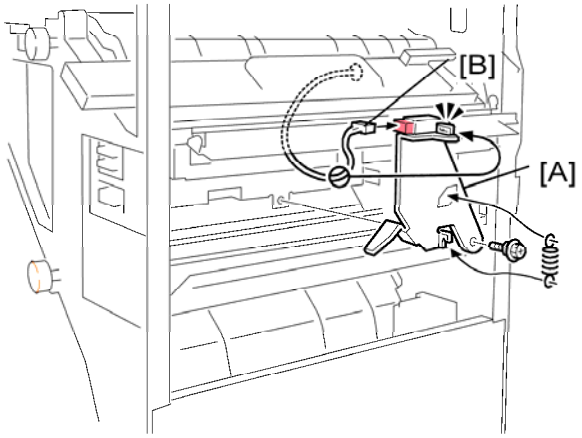
4. Insert the harness connectors [A] through the hole [B].
5. Make sure the harness connectors are through the hole completely and visible at the rear of the machine.
6. Set and fasten the punch registration unit [C] ( x4, 2 screws each at front and back).




d449i106

7. Clamp harness [A] ( x4).
8. Clamp harness [B] ( x2).

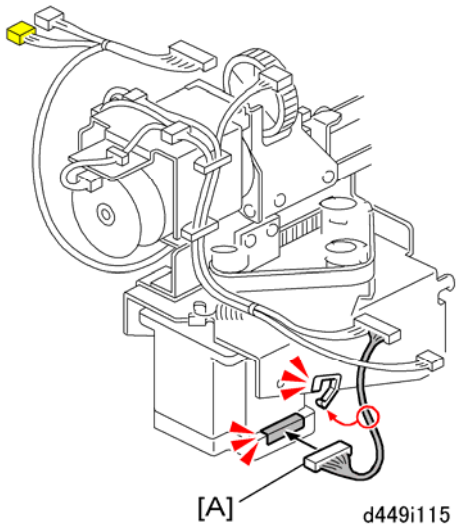
**Sensor Arm**




d449i107

1. Attach sensor arm [A] ( x1 Step Screw, Spring x1).
2. Make sure the sensor arm swings freely on the step screw and spring.
3. Attach harness [B] to the sensor on top of the arm.

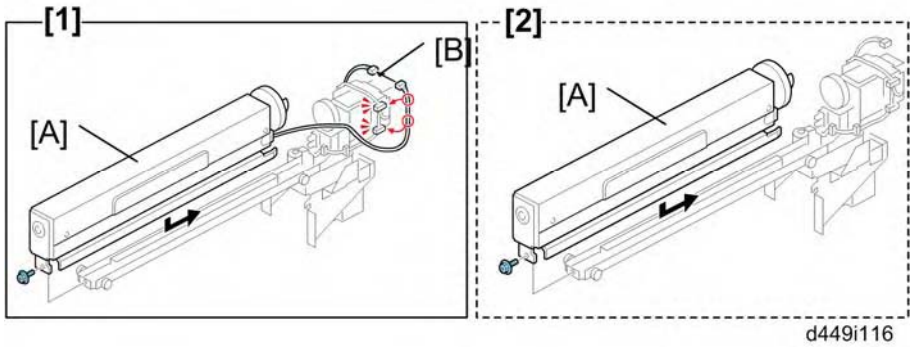
**Punch Drive Unit, Punch Unit**



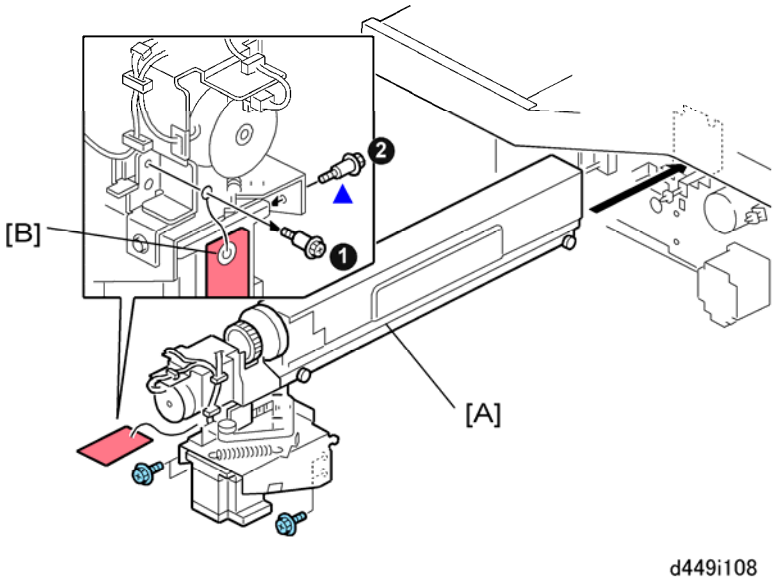

d449i115

1. On the punch unit, connect harness [A] ( x1, x1).

2.



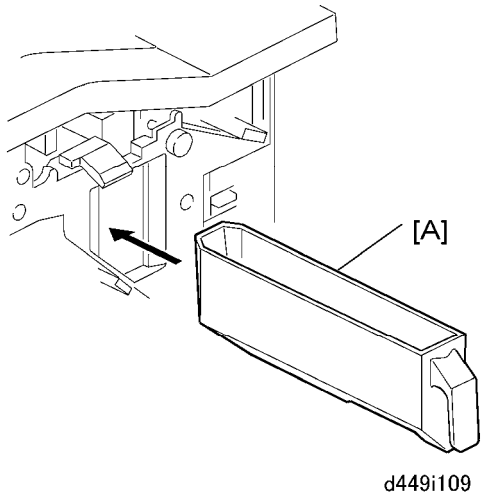

3. Attach the punch mechanism [A] to the rails of the punch unit ( x1).
   - If you are installing the punch unit for Europe [1], connect the harness [B] ( x1, x2).
   - The punch unit for North America [2] has no punch switching motor, so this harness is not required.



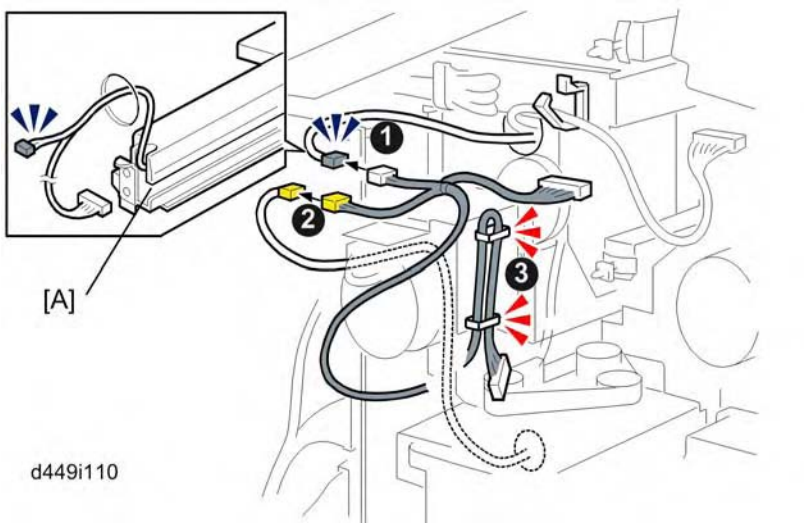

4. At the front, insert the punch unit [A] into the finisher and fasten it ( x4).
5. Remove the shoulder screw with red tag [B], and detach the tag and wire.
6. After removing the screw from hole ①, re-attach it at hole ②.

Important

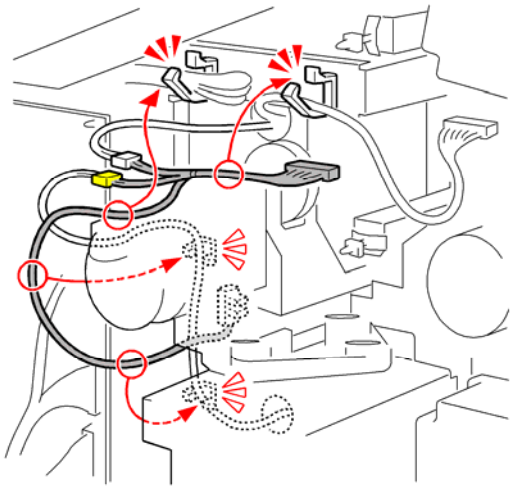
- This screw must remain attached to the punch unit.
- Before removing the punch unit from the finisher, the screw must be removed from hole ② and re-attached at hole ①. This stabilizes the punch unit and prevents it from wobbling from side to side while it is being removed and handled after removal.




7. At the front, slide the punch-out hopper [A] into the finisher.



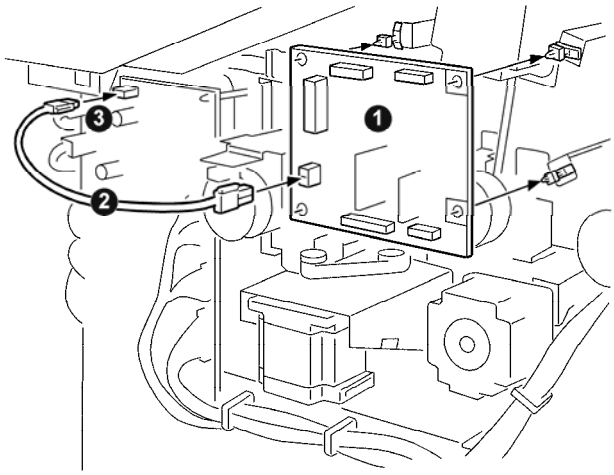

8. Route the harnesses from the CIS unit [A] through the hole.
9. Connect the harnesses at ① and ② ( x2).
10. If you are installing the punch unit for Scandinavia, fasten the extra connector (not used) at ③ ( x1).



d449i110a

11. Finish clamping the harnesses as shown above.

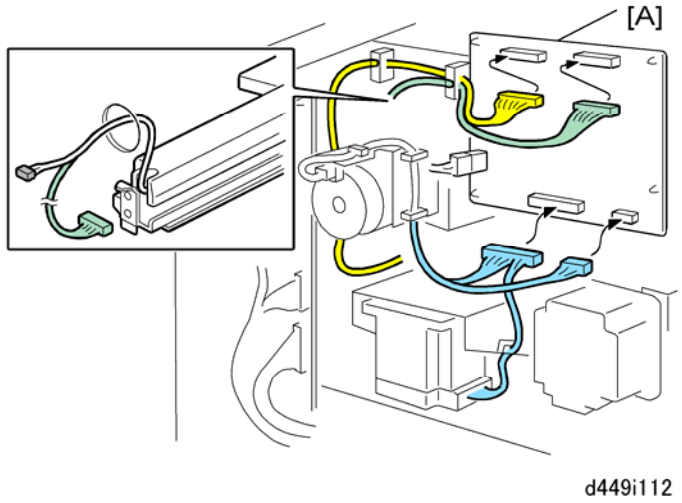
**Punch Control Board**



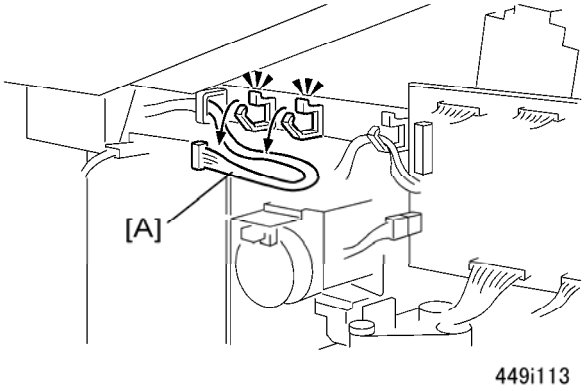

d449i111

1. Install the punch control board ① (Standoffs x4, no screws).
2. Connect the punch relay harness ② to the punch control board and punch main control board ③.

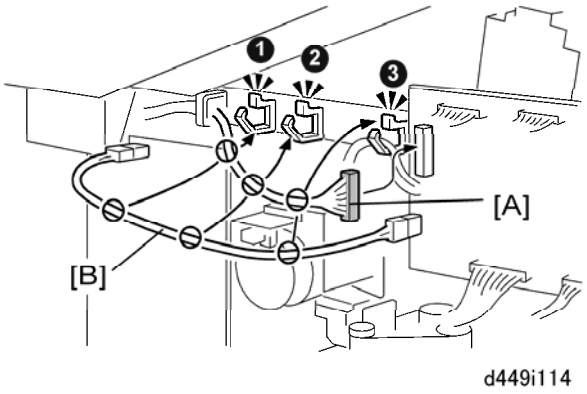
**Final Connection**




1. Fasten the connectors to the punch unit PCB [A] ( x2).




2. Release harness [A] from the frame ( x2).




3. Connect harness [A] to the punch control board ( x1).
4. Gather harness [A] and the board relay harness [B] and clamp them ( x3).

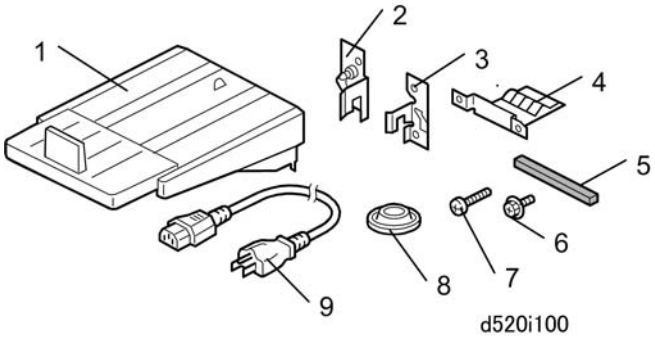
# 3.13 TRIMMER UNIT (D520)

Important

- The Trimmer Unit can be installed only with the Booklet Finisher (D512) (not the Finisher D513).

## 3.13.1 ACCESSORIES

Check the quantity and condition of the accessories in the box against the following illustration and list.




| No. | Description | Q'ty |
|---|---|---|
| 1. | Output Tray*1 | 1 |
| 2. | Joint Bracket – Left (Marked "L") | 1 |
| 3. | Joint Bracket – Right (Marked "R") | 1 |
| 4. | Ground Plate | 1 |
| 5. | Sponges | 2 |
| 6. | Screws (M3x6 for Ground Plate) | 2 |
| 7. | Screws (M4x10 for Joint Bracket) | 4 |
| 8. | Leveling Shoes | 4 |
| 9. | Power Cord | 1 |

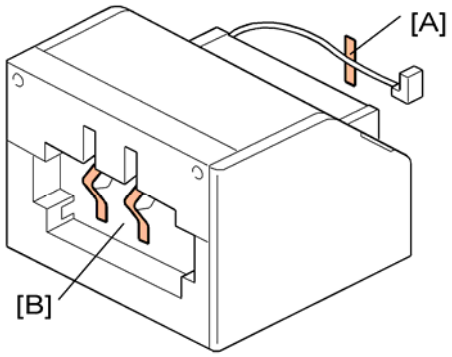
*1: Screws (x2) for the output tray are attached to the left side of the unit.

## 3.13.2 INSTALLATION

**CAUTION**

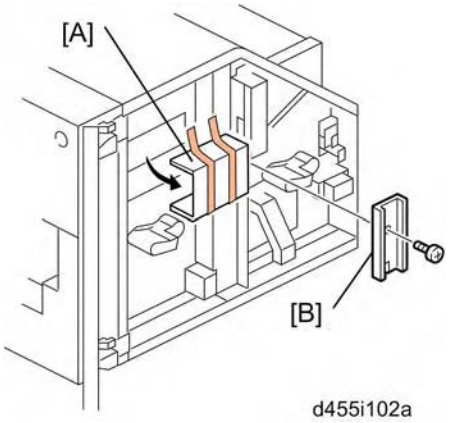
- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

### *Tapes, Stopper Plate*




d455i101

1. Remove the tape on the right side to free the I/F cable [A].
2. Remove the tape from the left side [B].



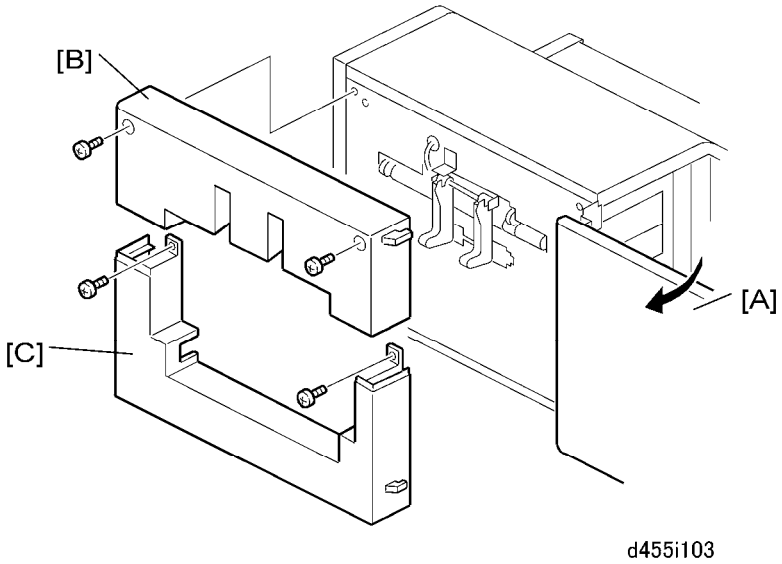

d455i102a

3. Open the front door and remove the retainer [A].
4. Remove the stopper plate [B] ( x1).

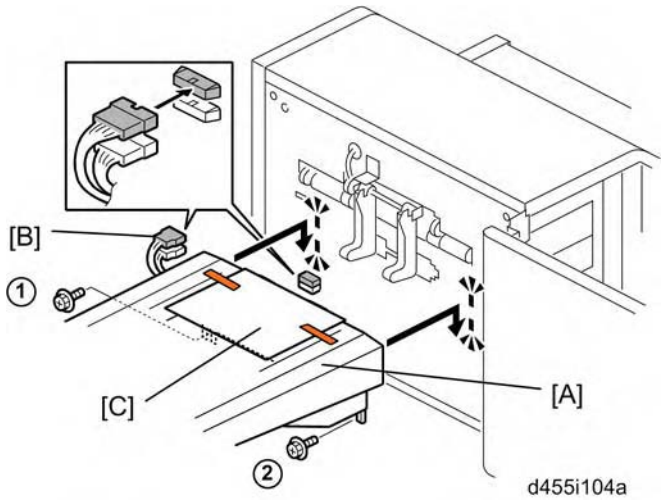
Note

- Keep the stopper plate. It should be re-installed before transporting the unit to a new location.

### *Output Tray*




1. Make sure that the front door [A] is open.
2. Remove:
   [B] Left upper cover( x2)
   [C] Left lower cover ( x2)



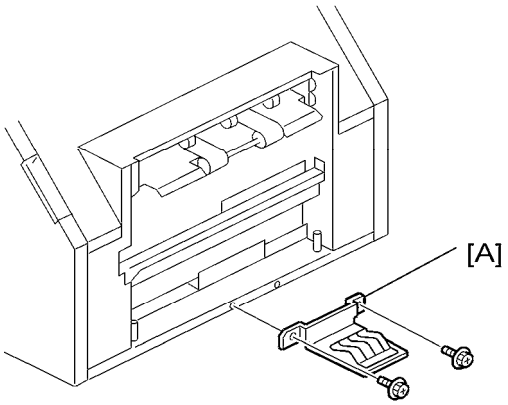

3. Remove the screws ① and ② from the left side.
4. Use the removed screws to attach the output tray [A].
5. Connect the output tray at [B].
6. Remove the sheet [C] of paper.

Important

- Do not remove this sheet [C] of paper before connecting the output tray to the trimmer unit.

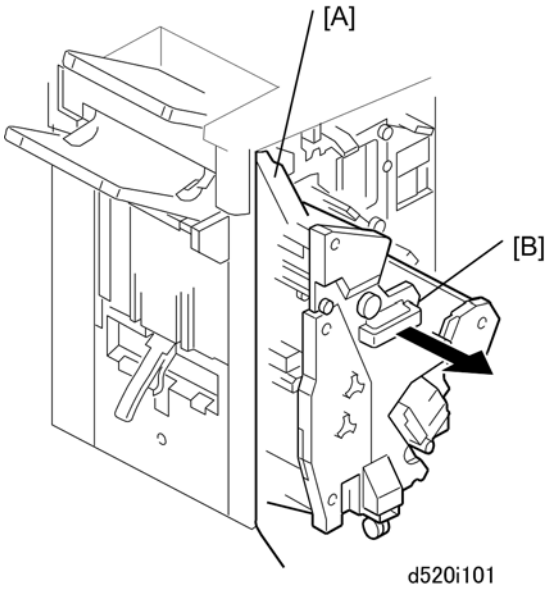
7. Reattach the left lower cover and left upper cover.

## *Ground Plate*

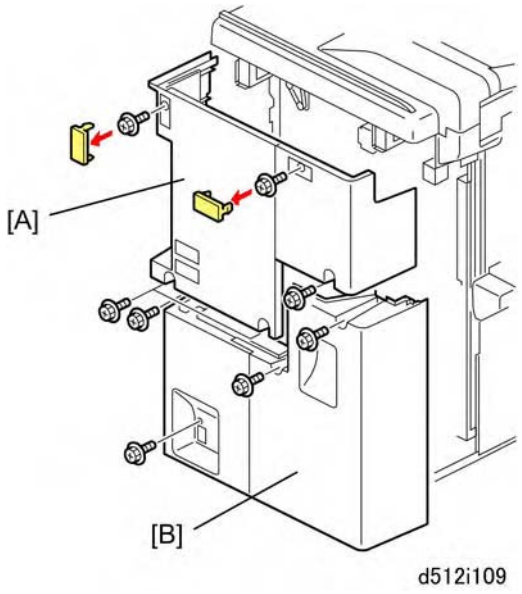



1. Attach the ground plate [A] to the right bottom edge ( x2 M3x6).

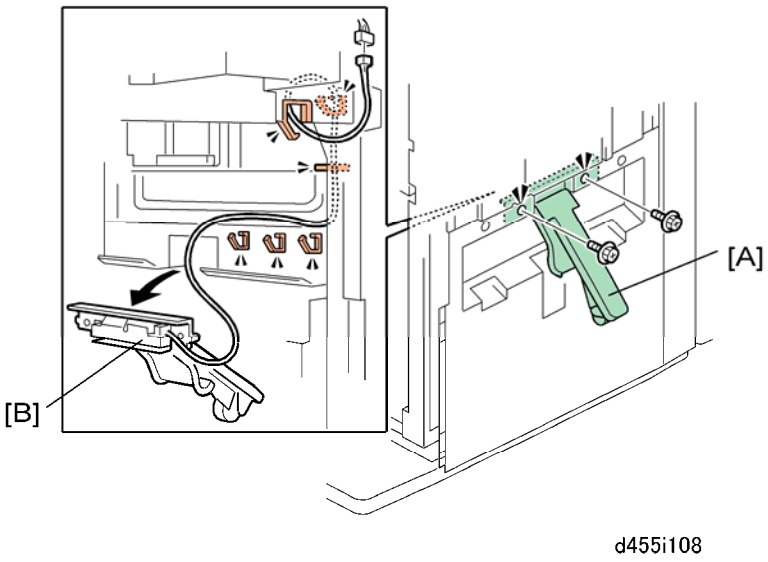
## *Preparing the Booklet Finisher (D512) for Docking*




1. Open the front door [A] of the finisher.
2. Pull out the staple unit [B].

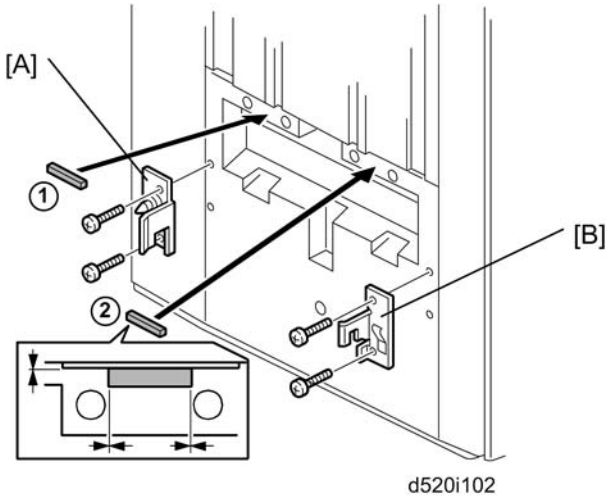



3. At the rear of the finisher, remove:
   [A] Rear upper cover (Capsx2, x5)
   [B] Rear lower cover ( x4)

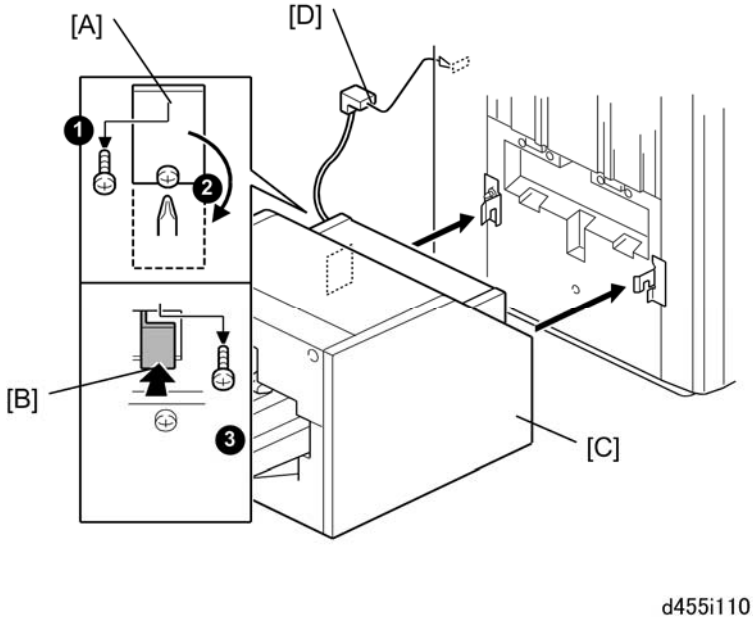



4. Unfasten the booklet tray sensor actuator arm [A] ( x2).
5. Disconnect the actuator arm [B] and remove it (x5, x1).
6. Store the actuator arm in a safe location for future use.
7. Reinstall the rear upper and lower cover.

## *Docking*



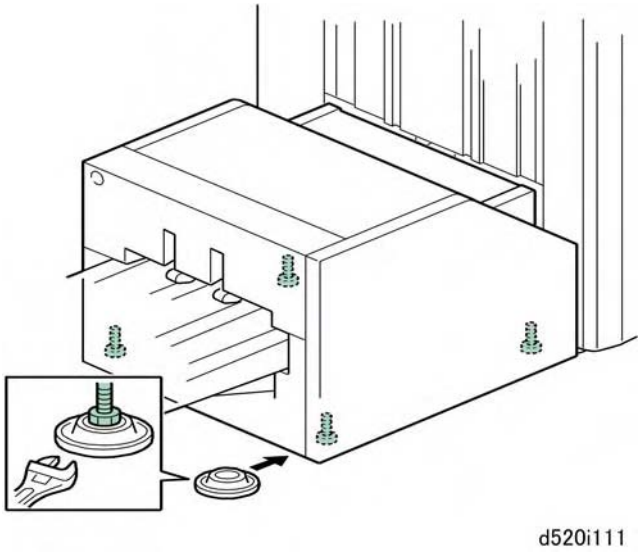

1. Attach:
   [A] Left joint bracket, marked "**L**" ( x2, M4x10)
   [B] Right joint bracket, marked "**R**" ( x2, M4x10)
2. Peel the tape from the back of the sponges and attach sponges ① and ②.




3. At the rear, remove screw ① from plate [A].
4. Loosen screw ② and lower the plate so that you can see the lock bar [B].
5. Remove the lock bar screw ③ ( x1 M3x6). **Keep this screw.**
6. Push the lock bar [B] until it is unlocked.
7. Slowly push the unit [C] against the left side of the finisher so that the lock bar is directly and squarely under the arms of the joint brackets.
8. At the rear, pull the lock bar [B] toward you so that it slides up into the notches in the arms of the joint brackets.

9. Fasten the lock bar by re-attaching the screw removed in **Step 5**. ( x1).
10. Connect the unit I/F cable [D] to the finisher.
11. Connect the plug of the power cord to the power source.

## *Finishing the Installation*



d520i111

1. Set the leveling shoes and adjust the height of the unit. (☛p.3-218)
2. Load some B4 paper in the 2nd tray of the main machine, and make several copies.
3. Check paper skew and side-to-side registration and correct if necessary. (☛p.3-220)

# 3.14 COMMON ADJUSTMENTS

## 3.14.1 HEIGHT AND LEVEL ADJUSTMENT

### *Before you begin:*

- The main machine should be installed first and adjusted to level front-to-back, and side-to-side.
- Note the settings on the leveling gauge. Due to the length of the paper path with optional peripheral units installed, it is extremely important that every unit be leveled to match the front-to-back and side-to-side measurements of the main machine.
- The height and level of each peripheral unit must be adjusted at installation.
- The height and level of each unit must be adjusted before testing for the presence of skew and checking that side-to-side registration is correct.

### *Setting the Leveling Shoes*

Important

- Do this procedure near each caster where an adjustable bolt is provided.
- The number of leveling shoes will differ, depending on which unit you are leveling.

d059i821

1. Turn the **lower** nut to lower the bolt.

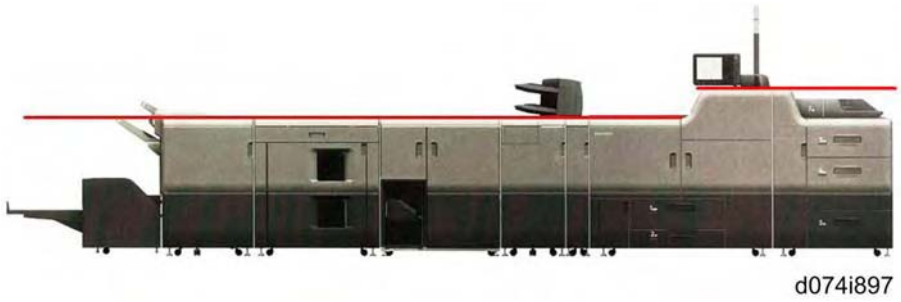
Note

- The upper bold is spot-welded to the frame and does not move.

2. Set a leveling shoe below the bolt.

d059i822

3. Continue to turn the lower nut until it stops against the shoe.
4. Set a level on the front, rear, and side edges to determine if the unit is level.
5. Adjust the height at each corner until the unit is level.



d074i897

6. Check the results of the adjustments.
   - The top of the first peripheral unit on the left must be at the same height as the left side of the main machine.
   - The tops of the other peripheral units on the left where the units are joined must be at the same height.
   - The top of the LCIT on the right must at the same height as the right side of the main machine.

▪

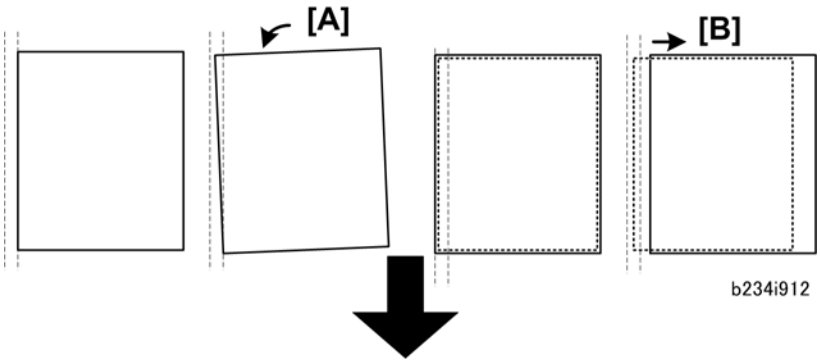
d074i898

- Make sure that the plate at the paper exit on the left side of the main machine [A] moves freely and is not bent. It must be able to move to handle thick paper.
- Between the right side of the main machine and the LCIT, make sure that the LCIT guide plate moves freely and does not interfere with the main machine guide plate.

## 3.14.2 SKEW AND SIDE-TO-SIDE REGISTRATION

### *Overview*

The paper feed path is extremely long when many peripheral units are installed. In such a long path, the cumulative effect of paper skew or deviation in side-to-side registration may require adjustment.

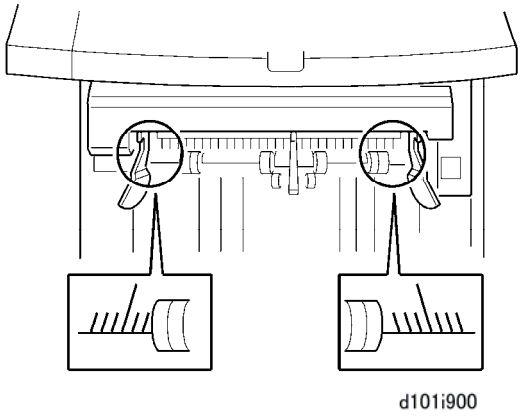



b234i912

- Skew [A] occurs when the trailing edge of the paper rotates away from the direction of paper feed.
- If side-to-side registration shift [B] occurs, the sheet remains straight but shifts left or right away from center of the paper path.

Important

- Before adjusting skew manually, be sure to enter the SP mode and set SP1206 to "2" (OFF).

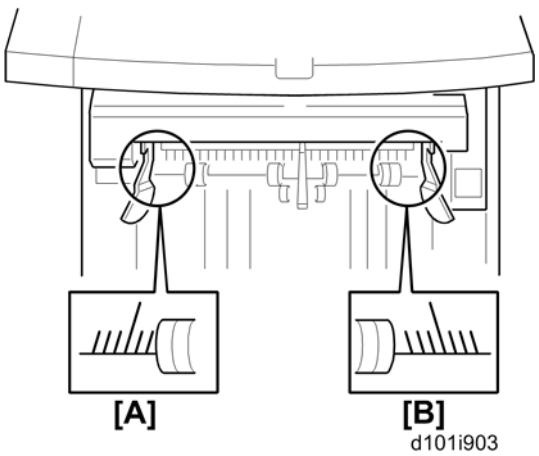



**Scales**

- Skew and side-to-side registration are checked with graduated scales (shown above) where paper exits the units.
- The scales are provided so that you can visually check and measure the amount of skew or deviation in side-to-side registration.
- A scale for detecting skew and checking side-to-side registration ("S-to-S") is provided on the following peripheral units.
- Correction for both skew and side-to-side registration are possible.



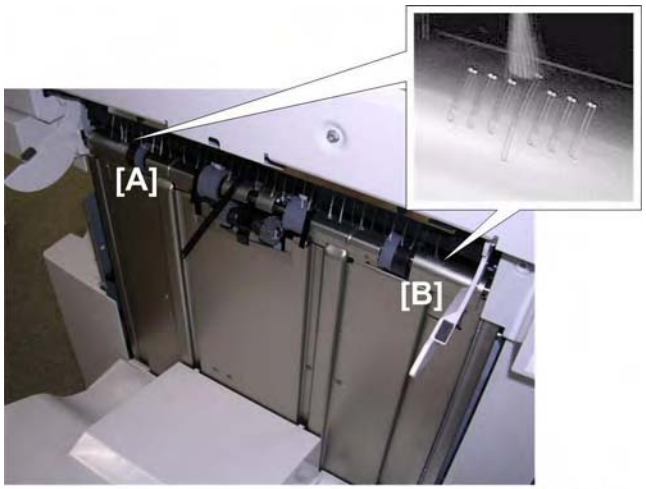
| Name | Skew | S-to-S | Comment |
|---|---|---|---|
| LCIT | --- | **---** | Correction is done in the registration unit of the main machine. |
| Other Peripheral Units | **Yes** | **Yes** | Correction for both skew and side-to-side registration are possible when the unit is attached to the upstream unit with the single bracket. |



Use either the rear scale or front scale, depending on the type of paper used in your area:

- Rear [A]: **DLT** SEF (LT LEF for Ring Binder)
- Front [B]: **A3** SEF (A4 LEF for Ring Binder)

The illustrations below show where the scale for each peripheral unit is located:




d059i813

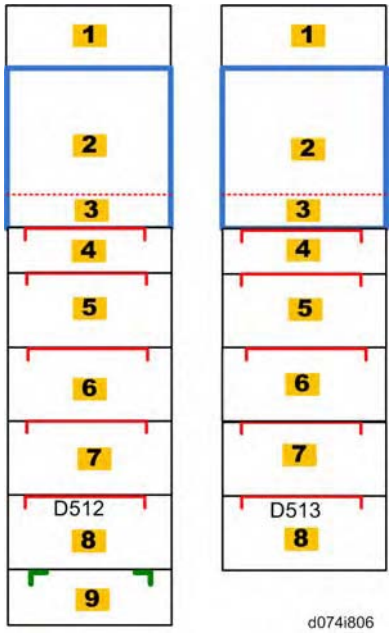
- [A]: DLT/ [B]: A3

The illustration above shows the scale on the left side of the Booklet Finisher (D512) tray. The same scale is at approximately the same position (paper exit) for the following units:

- Multi Folding Unit: Proof Tray, or Left Exit
- Ring Binder: Left Exit
- High Capacity Stacker: Proof Tray

In the illustration below:

- The RED lines indicate the single-piece brackets where adjustments can be done to eliminate skew and to correct side-to-side registration.
- The GREEN lines indicated 2-piece joint brackets where adjustment is not possible between the finisher and trimmer unit.




| Unit | Name | Comment |
|---|---|---|
| **[1]** | LCIT | |
| **[2]** | Main Machine | |
| **[3]** | Decurler Unit (inside main machine) | Inside main machine |
| **[4]** | Cover Interposer Tray | |
| **[5]** | Multi Folding Unit | |
| **[6]** | Ring Binder | |
| **[7]** | High Capacity Stacker | |
| **[8]** | Finisher (D513 or D512) | D513 or D512 |
| **[9]** | Trimmer Unit (Joint Brackets x2) | Joint Brackets x2 |

**Note**: The Trimmer Unit [9] does not have the single bracket for the upstream unit that allows side-to-side adjustment with shims (described below).

Here are some general rules for testing and adjusting for paper skew or a shift in side-to-side registration.

1. After installation of each peripheral device, do some test prints and check for the presence of skew, and check that side-to-side registration is correct.

2. When you detect a problem with skew or side-to-side registration, do the adjustment on the joint bracket attached to the peripheral unit **upstream of the unit where the problem occurred**.
3. Side-to-side registration is corrected by shifting the upstream joint bracket left or right. (See the next procedure.)
4. Skew is eliminated by inserting spacers (shims) under the rear or front end of the joint bracket. These attached by screws to the peripheral units before they leave the factory.

### *Checking Side-to-Side Registration*

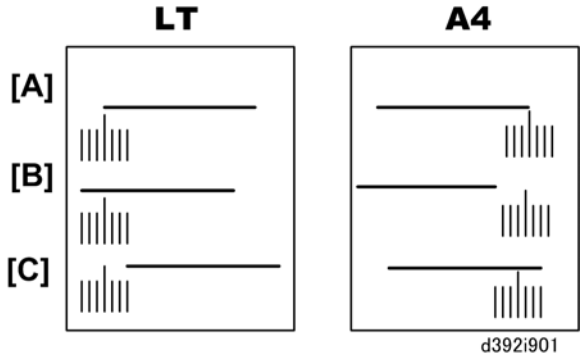
Do this procedure to confirm that the paper is centered in the paper path.

1. Make sure that the I/F cable of the unit is connected to the upstream unit.
2. Disconnect the unit to the left of the unit to be tested.
3. Execute a run by feeding paper from Tray 2 of the host machine.

   Note

   - If you are testing the Ring Binder, execute the run by feeding paper (A4 or LT LEF) from Tray 2 of the host machine (punching only, no ring binding). (The Ring Binder cannot accept a larger paper size.) Feed A3 SEF for other units.
4. When each sheet exits, check the position of the paper on the scale to see if the paper is centered.
   - Read the **rear scale** for **DLT**-size paper.
   - Read the **front scale** for **A3**-size paper.
   - If you are testing the ring binder, read the **rear scale** for **LT LEF** paper and the **front scale** for **A4 LEF** paper. With the Ring Binder, the paper does not exit. It will switch back and feed to the punch unit.
   - The scale lines are spaced 2 mm apart.
5. The paper must not deviate more than ±2 mm on the scale.

6.




| | |
|---|---|
| [A] | Leading/trailing edges centered. No adjustment necessary. |
| [B] | Leading/trailing edges offset to the rear by more than 2 mm. Adjustment required. |
| [C] | Leading/trailing edges offset to the front by more than 2 mm. Adjustment required. |

If the edge of the paper is on the scale at the center [A], no adjustment is required.

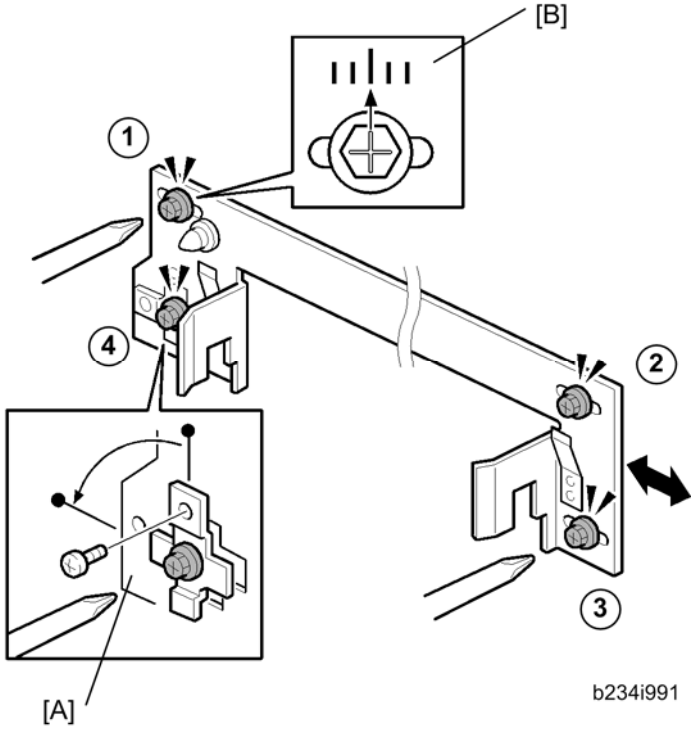
-or-

If the edge of the paper is ±2 mm off the center line on the scale, adjustment is required. Do the procedure in the next section.

### *Correcting Side-to-Side Registration*

Each peripheral unit for this machine has the same single-piece connection bracket shown below. This adjustment can be done for every unit on the connection bracket attached to the upstream unit

1. Enter the SP mode and set SP1206 to "2" (OFF).
2. Disconnect the peripheral unit from the upstream unit.




3. On the joint bracket attached to the upstream unit, loosen screws ①, ②, ③, and ④.
4. Remove bracket [A] ( x1), rotate it 90 degrees, and re-fasten the screw. Changing the position of this bracket aligns the oval cut-out horizontally and frees the joint bracket so it can slide from side to side.
5. Look at the scale [B].
6. Slide the bracket to the left or right and tighten the screw.
7. If the deviation from center was toward the front, slide the bracket to the rear and tighten screw ①.

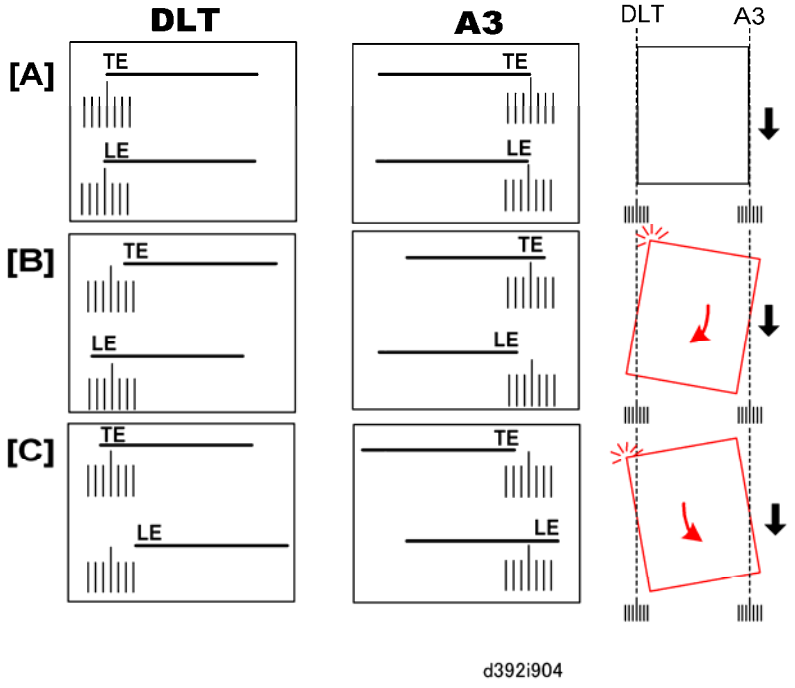
   -or-

   If the deviation from center was toward the rear, side the bracket to the front and tighten screw ①.
8. Tighten screws ②, ③, and ④
9. Do another test run, so that you can check the results of the adjustment.
10. When you are finished, enter the SP mode and re-set SP1206 to "1".

### *Detecting Paper Skew*

Do this check to detect the presence of skew in the paper path.

1. Make sure that the I/F cable of the unit is connected to the upstream unit.
2. If a peripheral unit is connected on the left side, disconnect it and pull it away.
3. Execute a straight-through run.
4. Check the scale where each sheet exits.
   - The **rear scale** is for **DLT**-size paper.
   - The **front scale** [2] is for **A3**-size paper.
   - Be sure to read the correct scale for the paper size in use.




| | |
|---|---|
| [A] | Centered. No adjustment necessary. |
| [B] | Trailing edge skew to the front, total skew more than ±2 mm. Adjustment required. |
| [C] | Trailing edge skew to the rear, total skew more than ±2 mm. Adjustment required. |

## *Correcting Skew*

1. Enter the SP mode and set SP1206 to "2" (OFF).
2. Disconnect the peripheral unit from the upstream unit.
3. Locate and remove the spacers from the peripheral unit where the problem occurred.

**Locating and Removing Spacers**

The photos below show where you can find the spacers for each unit.

**Multi Folding Unit (D521)**

d454i111

**High Capacity Stacker (D515)**

d059i817

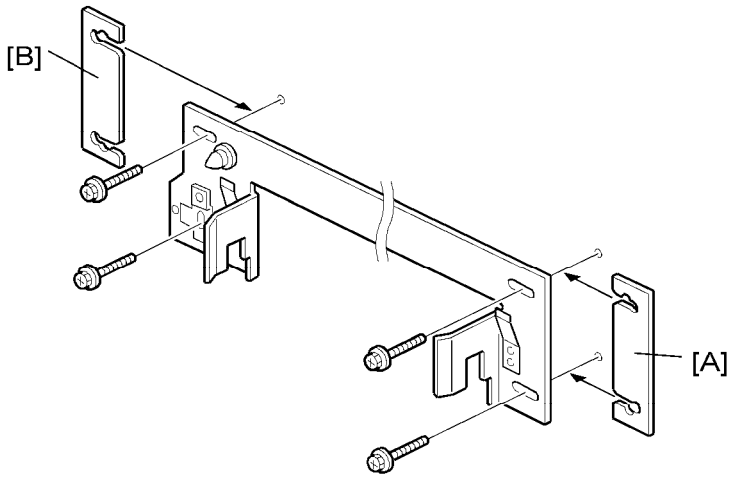
1. Open the front door.
2. Remove the right lock hasp [A] ( x2).
3. Remove the right front cover [B] ( x2).
4. Remove the spacers ( x1).

**Finisher (D512/D513)**

d059i818

1. Open the front door ( x1).
2. Remove the spacers ( x1).

**Inserting Spacers**




d392i906

1. Loosen the screws ( x4) of the joint bracket attached to the peripheral upstream of the unit where the problem occurred.
2. Insert a spacer and tighten the screws.
   If the trailing edge of the paper is **skewing toward the front** of the machine, insert a spacer [A] under the **rear end of the bracket** and tighten the screws.
   -or-

If the trailing edge is **skewing toward the rear** of the machine, insert a spacer [B] under the **front end of the bracket** and tighten the screws.

3. Do another run to check the adjustment. If skew is still present, insert another spacer.
   - Each spacer is 2 mm thick.
   - Only two spacers are provided, so the maximum adjustment is 4 mm (using two spacers).
4. Enter the SP mode and re-set SP1206 to "1".

# 3.15 GW CONTROLLER OPTIONS

## 3.15.1 OVERVIEW

### *Available Options*

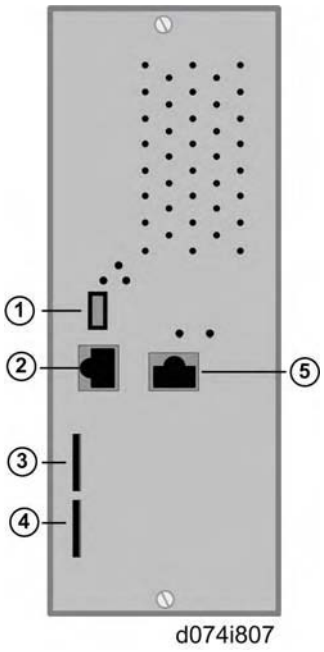
The VM Card (an SD card) is the only option available for this machine.

Note

- The Security & Encryption SD card contains both the HDD Encryption and Data Overwrite Security applications. This SD card is shipped with the machine in SD card Slot 1.



### *Controller Board Slots*




| No. | Name | Function |
|---|---|---|
| ① | USB Host | Japan only |
| ② | Web Monitor | Connection point for Web Monitor |
| ③ | Slot 1 | Applications: Data Overwrite Security, HDD Encryption |
| ④ | Slot 2 | VM Card, Service slot for firmware update |
| ⑤ | EFI | Gigabit Ethernet. Connection for Fiery Controller |

### *Application Move*

“Move Exec” (SP5873-1) moves one application program from the original SD card to another SD card. The application program is moved from Slot 2 to Slot 1.

1. Turn off the main power switch.
2. Remove the SD card slot cover ( x1).
3. Insert the original SD card with the application in Slot 2.
4. Insert the SD card to receive the application in Slot 1.
5. Turn on the main power switch.
6. Enter the SP mode and do SP5873-1 “Move Exec”.
7. Follow the messages on the operation panel to complete the procedure.
8. Exit the SP mode.
9. Turn off the main power switch.
10. Remove the original SD card from Slot 2.
11. Leave the other SD card in Slot 1.
12. Turn on the main power switch.
13. Check that the application program runs normally.
14. Tell the customer to store the original SD card in a safe place.

### *Undo Exec*

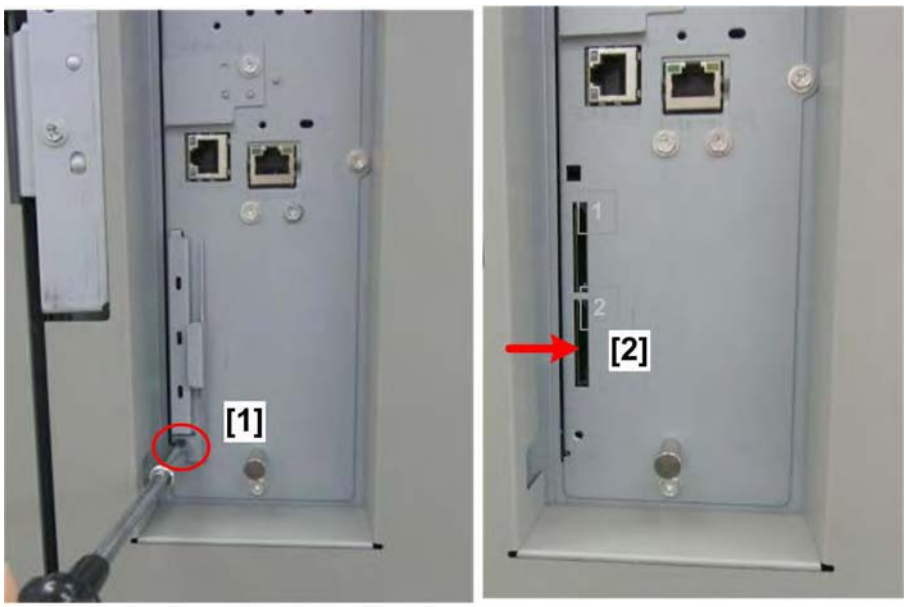
“Undo Exec” (SP5873-2) restores an application to its original SD card. The application is moved from Slot 2 to Slot 1.

1. Turn off the main power switch.
2. Remove the SD card slot cover ( x1).
3. Insert the SD card that currently holds the application in Slot 2.
4. Insert the original SD card to receive the restored application in Slot 1.
5. Turn on the main power switch.
6. Enter the SP mode and do SP5873-2 “Undo Exec”.
7. Follow the messages on the operation panel to complete the procedure.
8. Exit the SP mode.
9. Turn off the main power switch.
10. Remove both SD cards.
11. Insert the SD card with the restored application in Slot 1.
12. Turn on the main power switch.
13. Check that the application operates normally.

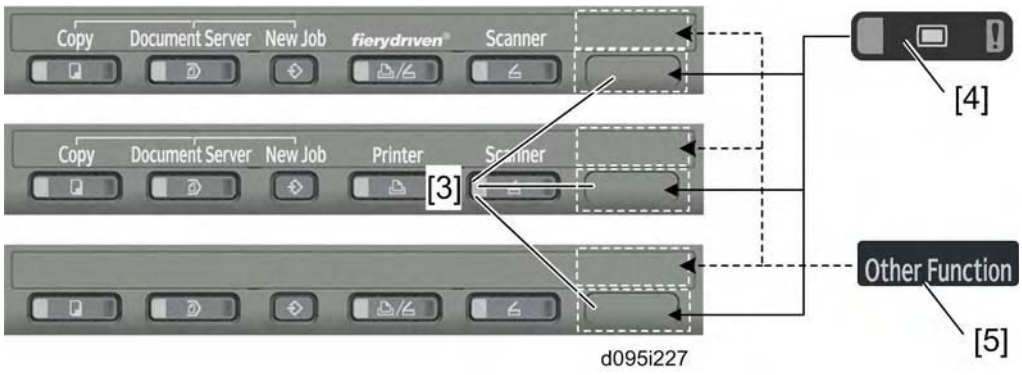
## 3.15.2 VM CARD TYPE R (D554) D074/D075

The VM card application cannot be moved to another SD card. However, other applications can be moved onto the VM card.

1. Turn off the machine.




2. Remove the SD card slot cover [1] (x1).
3. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 2 (lower slot) until you hear a click.
4. Reattach the SD card slot cover.
5. Switch the machine on.




6. On the operation panel, remove the bottom blank keytop [3] and replace it with the keytop provided [4].
7. For NA and AA models, attach the decal [5] to the copier.

# ⇒ 3.16 OPTIONAL COUNTER I/F TYPE A

## 3.16.1 OVERVIEW

Use the following procedure to install the external key card.

Note

- This model supports the external key card only (external key counter is not supported).

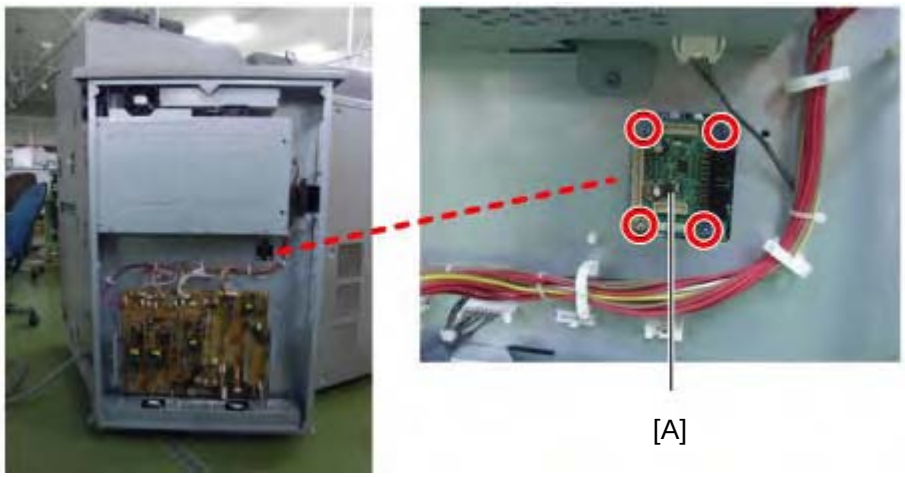
## Procedure

1. Procure a RICOH manufactured relay board.

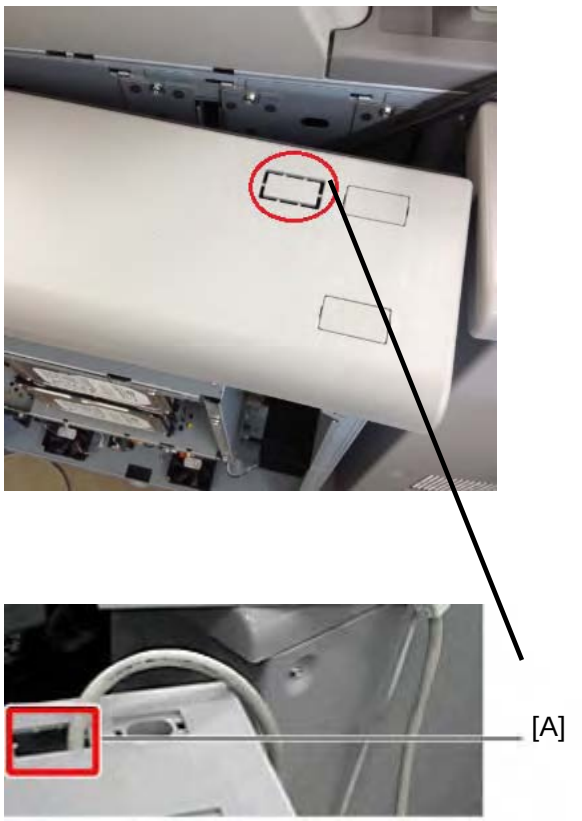
   "B87011 (EDP 413012) OPTIONAL COUNTER I/F TYPE A"

2. Turn the main switch off.
3. Remove the controller box cover by following the procedure described in the service manual section:

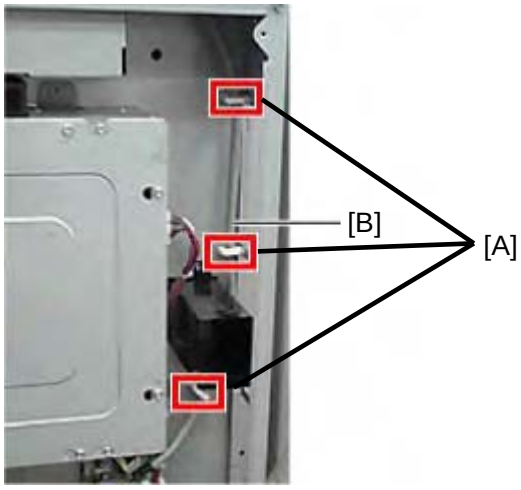
   *4. Replacement and Adjustments > Common Procedures > Removing Doors, Covers > Controller Box Covers*



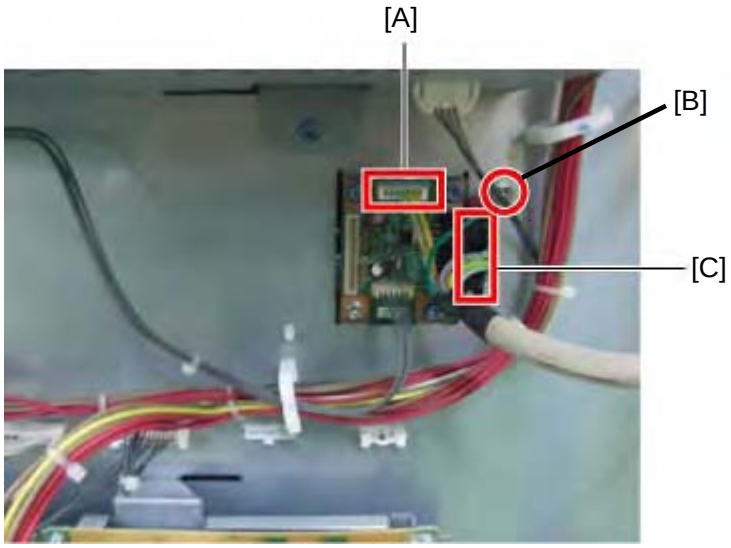

4. Install the board onto the controller box (screws x4).




5. Route a key card cable through the hole [A] on the top of the controller box.

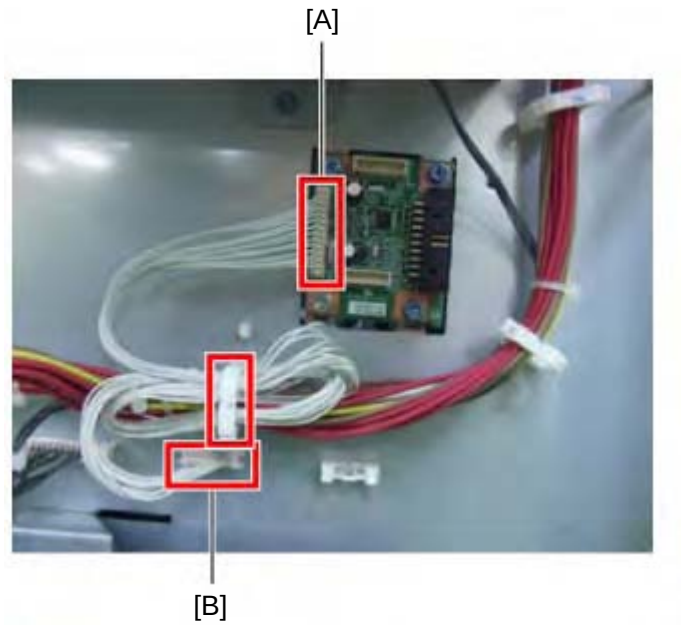



6. Route the cable [B] and fasten it with the three clamps [A] on the controller box.




7. Connect the harnesses of the key card cable to the connector [A] and [C]. [A] is for a 7pin connector and [C] is for a 20 pin connector.
8. Fasten the ground wire [B] with a screw.

For RK mode

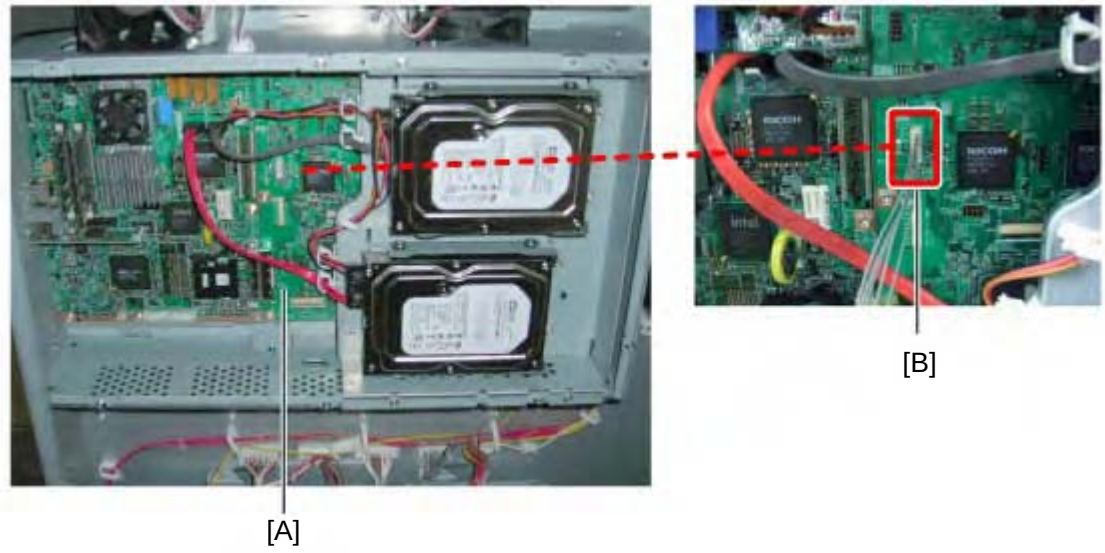



9. Connect the accessory harness to the connector CN3 [A] on the interface board.
10. Connect the other end of the harness to the connector [B] on the control box.
11. Fasten the connector as shown in the photo above.

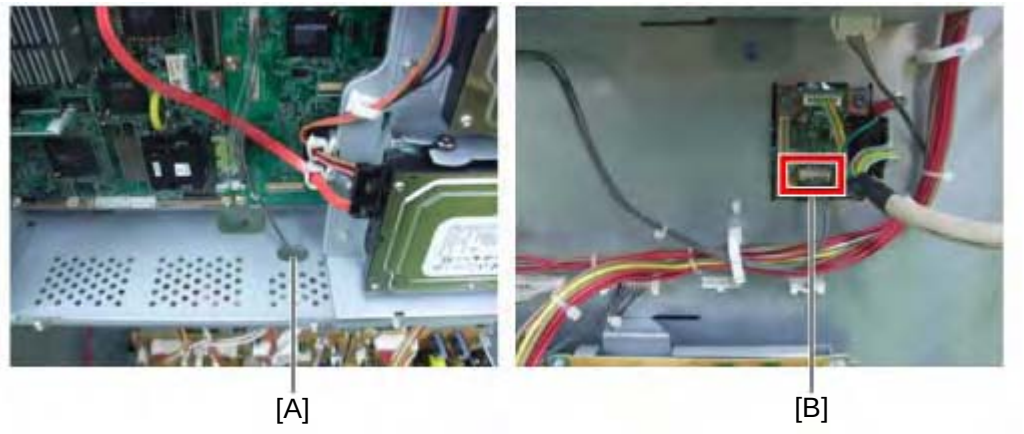
For MF mode

12. Remove the controller board cover as described in your service manual in the section:

*4. Replacement and Adjustments > Main Boards, HDD Units > Controller Board (GW), NVRAM, Controller Board Fan*



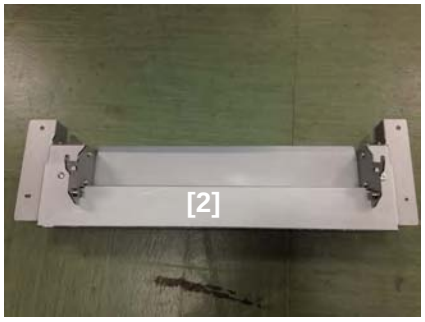

13. Connect the accessory harness to the connector [B] on the controller board [A].



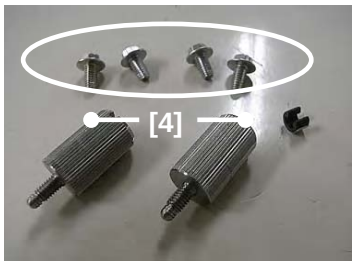

14. Route the harness through the hole [A] and connect the other end of the harness to the interface board [B].

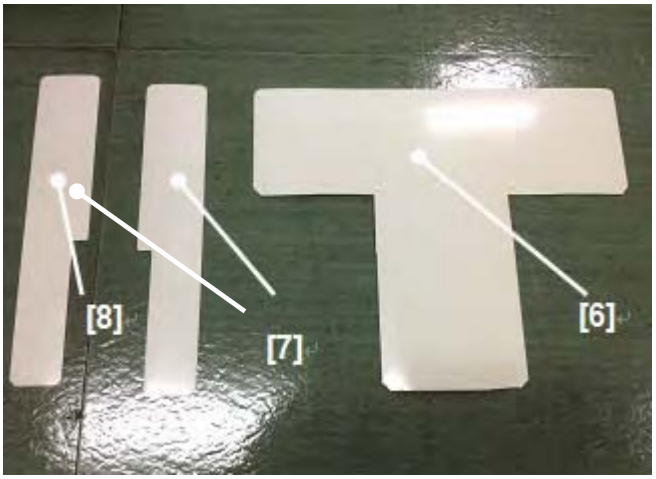
# ⇒ 3.17 OUTPUT TRAY TYPE C751 (D720)

## 3.17.1 ACCESSORIES



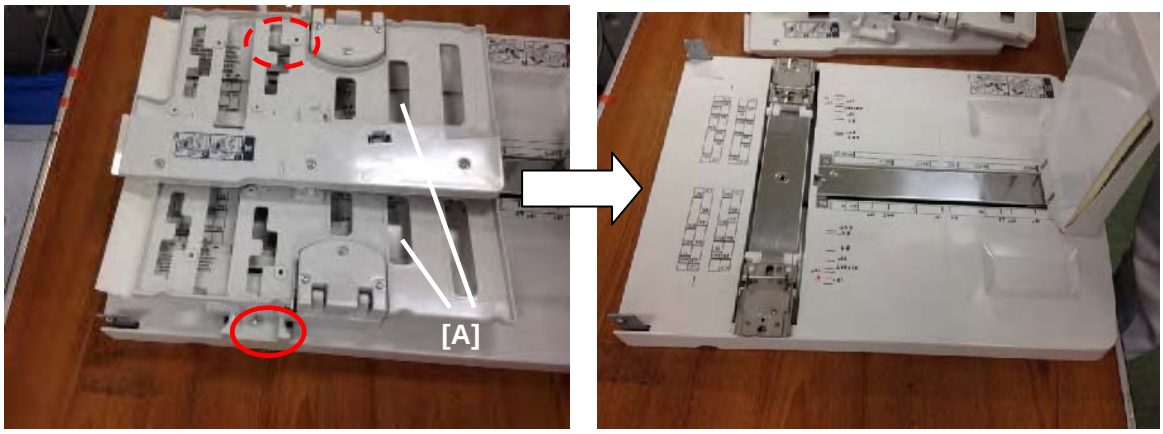

[3]



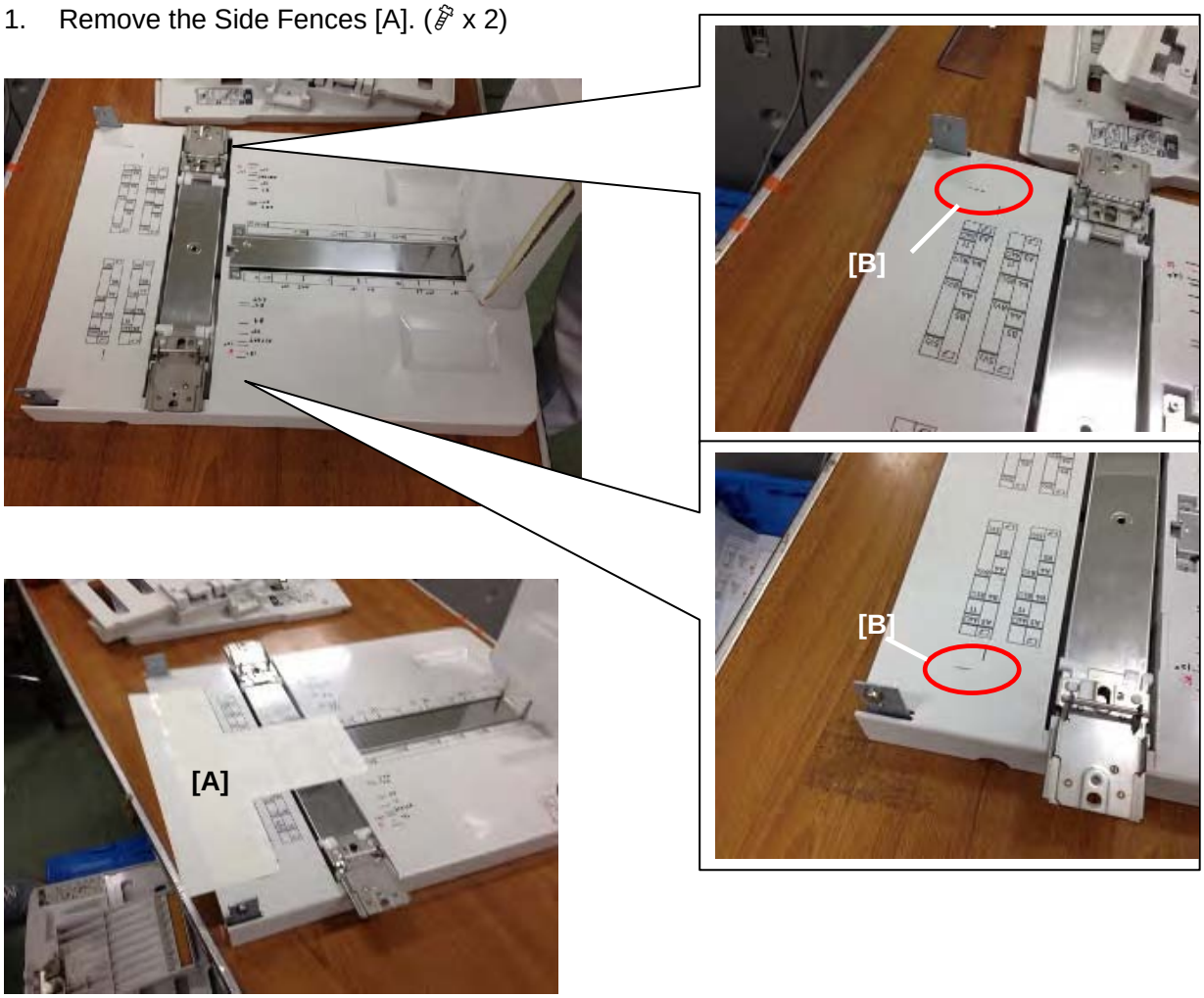



| No. | Part NO. | Description | Q'ty |
|---|---|---|---|
| 1 | D7204580 | Duct: Upper: Ass'y | 1 |
| 2 | D7204570 | Fix Stand: Ass'y | 1 |
| 3 | 04514008N | Tapping Screw:4X8 | 4 |
| 4 | D7204579 | Knob Screw: Table | 2 |
| 5 | 07200020G | Retaining Ring - M2 | 2 |
| 6 | D7204547 | Guide: Lower | 1 |
| 7 | D7204548 | Guide: Side Fence: Front: Lower | 1 |
| 8 | D7204549 | Guide: Side Fence: Rear: Lower | 1 |

## 3.17.2 INSTALLATION PROCEDURE

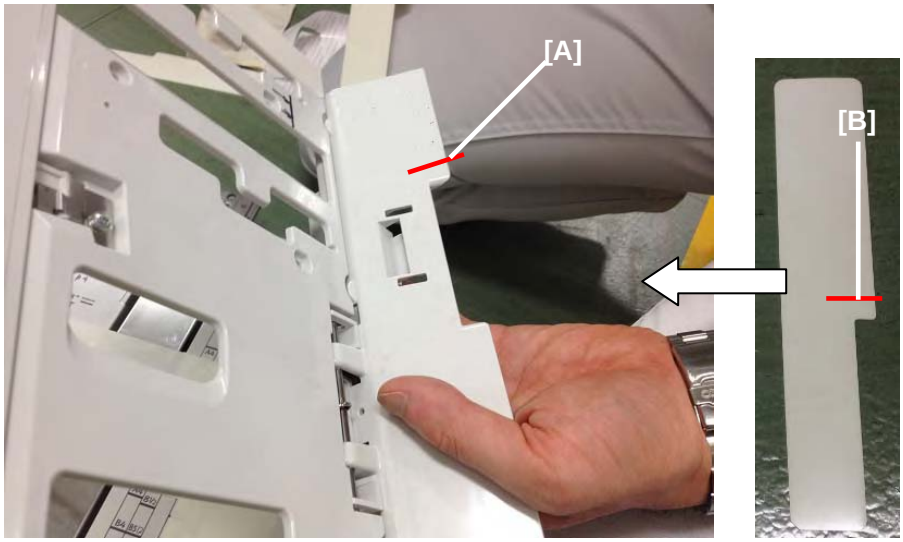



1. Remove the Side Fences [A]. (x 2)



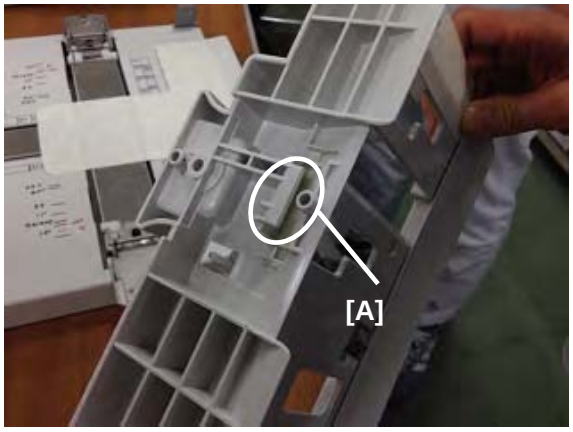

2. Wipe the surface of the tray with alcohol and attach the Top Mylar [A]

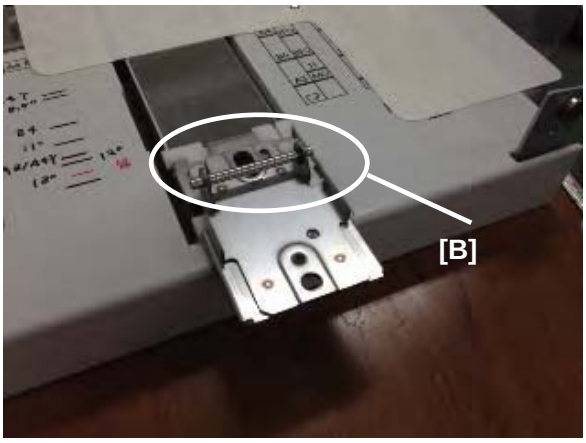
**Note**: Make sure to align the edge of the mylar to the position lines [B].



3. Wipe the surface of the side fences with alcohol and attach the Side Mylars. Make sure to align the edges of the Side Mylars [B] to the edges [A] of the side fences.

4. Repeat the above step for the other side.



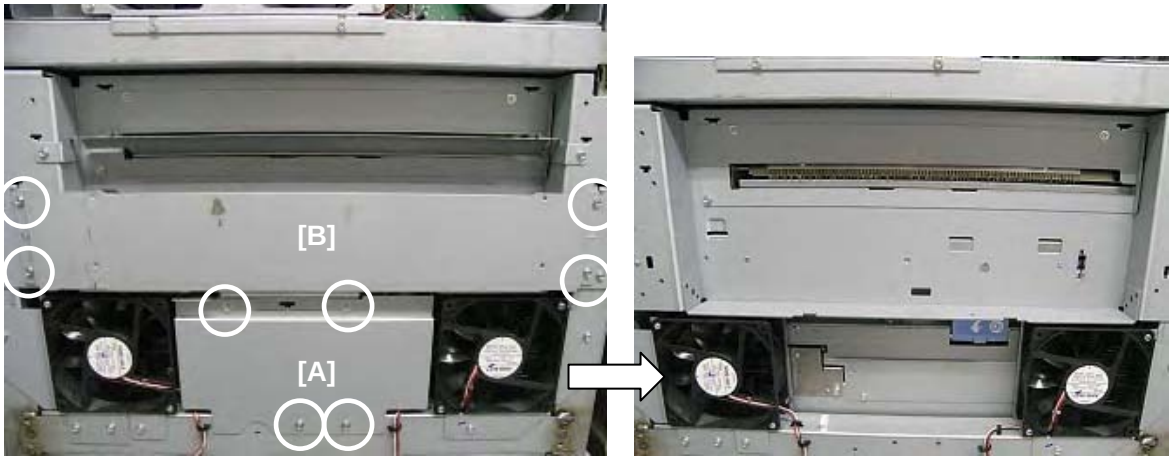



5. Attach the Side Fences to the tray by hooking the slit [A] to the hinge [B].

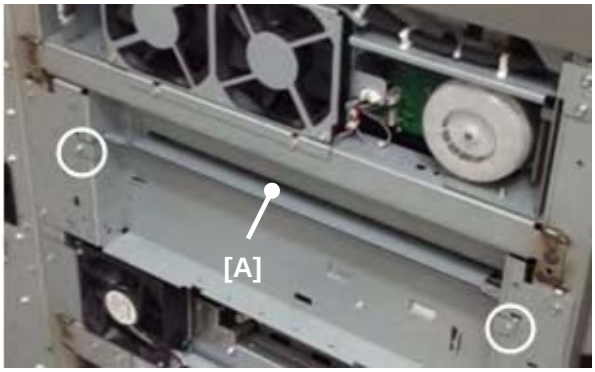
**The tray should look like this.**

⚠**CAUTION**: Make sure that the main machine is switched OFF and that its power cord is disconnected before doing the following procedure.

6. Remove the Left Cover [A] (🔩 x 7).

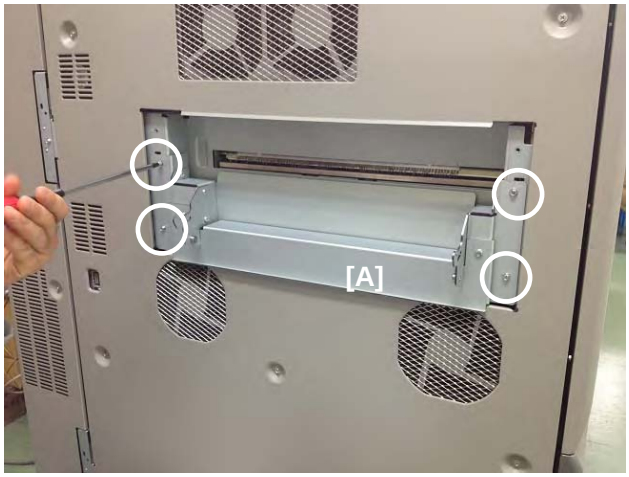



7. Remove the Bracket [A] (🔩 x 4) and the Side Stay [B] (🔩 x 4).

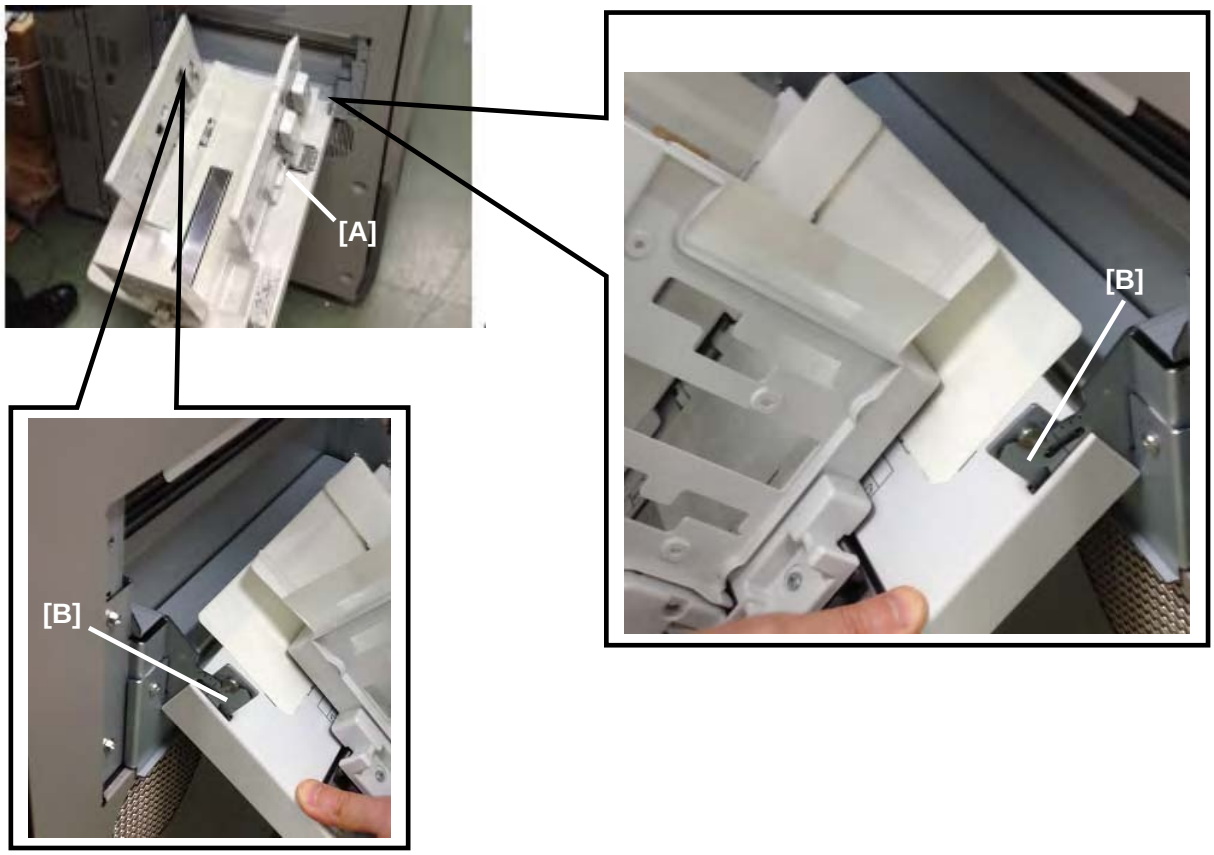



8. Remove the Guide Plate [A] (🔩 x 2).

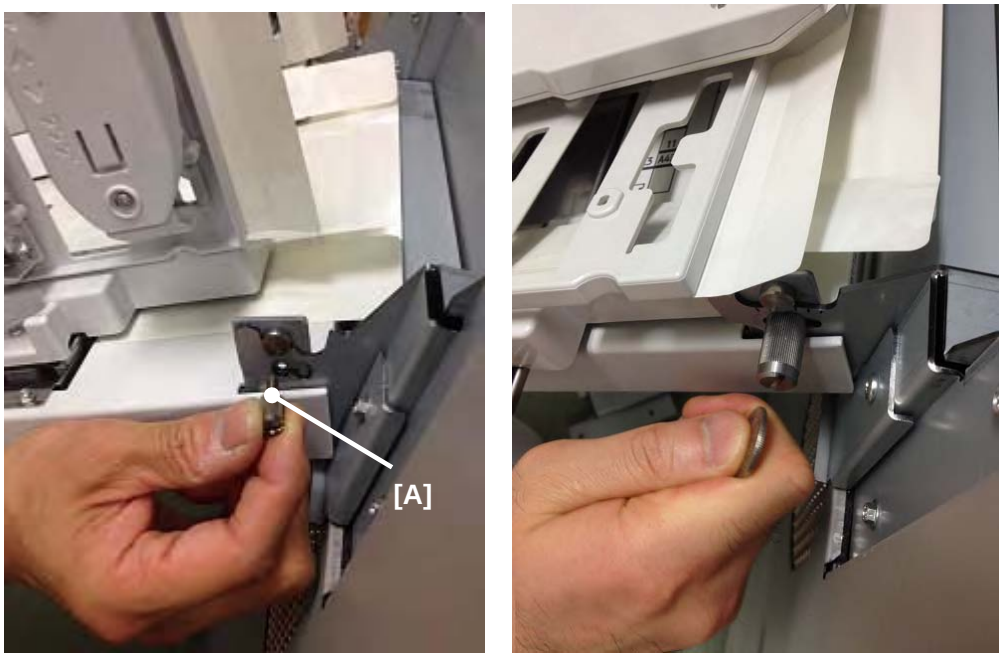
9. Attach the Left Cover [A] (🔩 x 7).



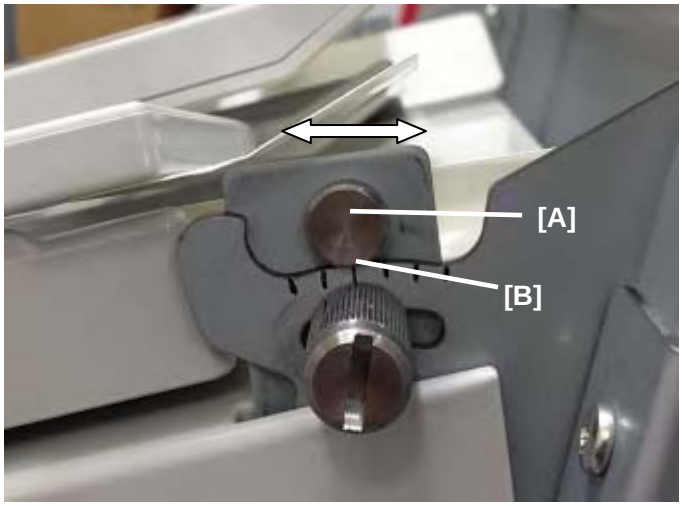

10. Attach the Docking Bracket [A] included in the Accessories (4 x 🔩 M4 x 8).




11. Mount the Paper Tray [A] on the Copier/Printer by hooking it on the hinges [B].



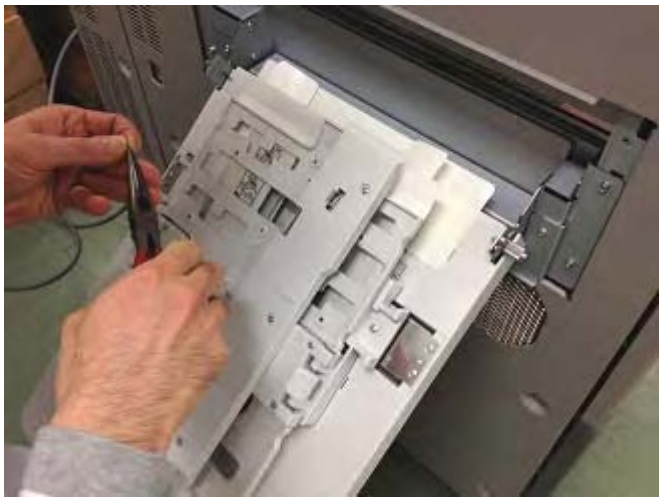

12. Fasten the Knob Screws [A], included in the Accessories, to the hinges on both sides. Use thick blade screw driver or a coin to securely fasten the Knob Screw.



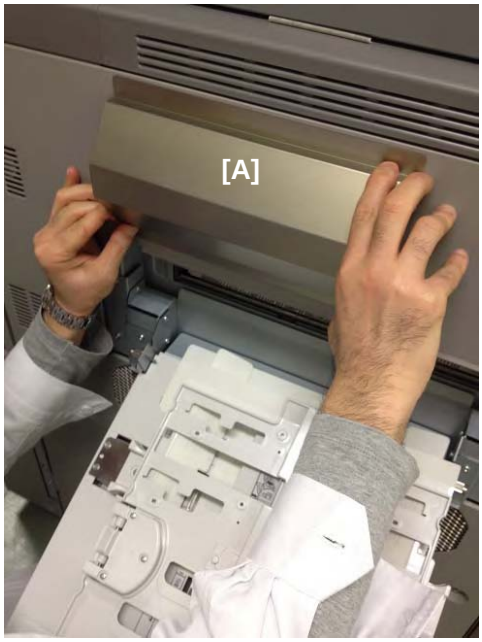


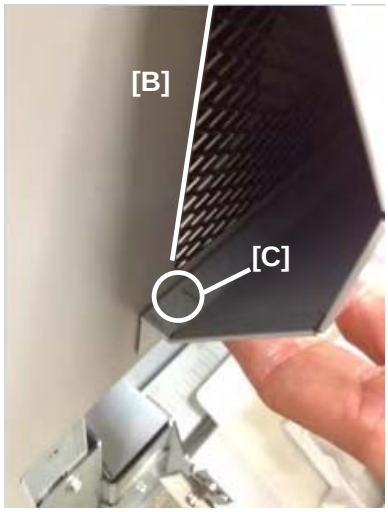

**Note**

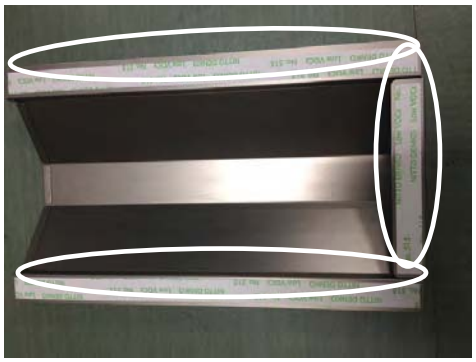
Set the angle of the tray to its default position by aligning the center of the projection [A] to the longest line [B] indicated on the bracket.



13. Attach the E-Type Ring [A] to both Knob Screws.



14. Attach the Duct Cover [A] (3 double stick tapes) so that the positioning line [C] aligns with the edge of the duct [B].

**The Output Tray Type C751 should look like the photo below when the installation has been completed.**

# PREVENTIVE MAINTENANCE

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 8 | 7/30/2012 | Damping Cushion |
| 19 | 2/1/2012 | LCIT D516 trays |

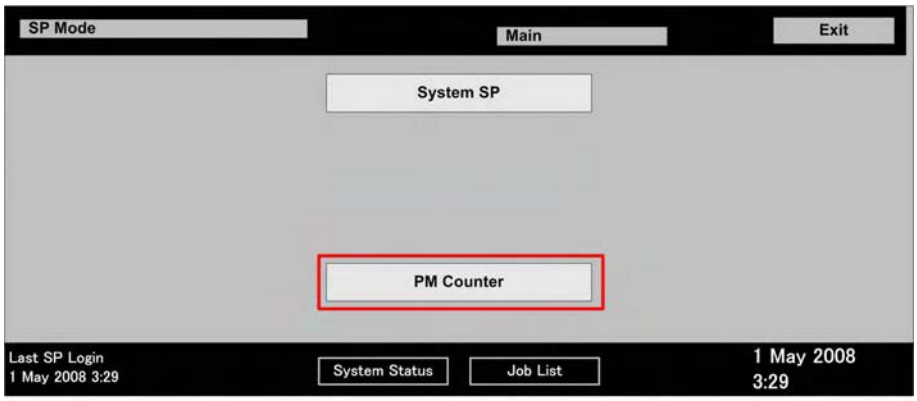
# 4. PREVENTIVE MAINTENANCE

## 4.1 PM COUNTER DISPLAY

The PM Counter main menu and submenu allows you to review the PM counts for both units and individual components.

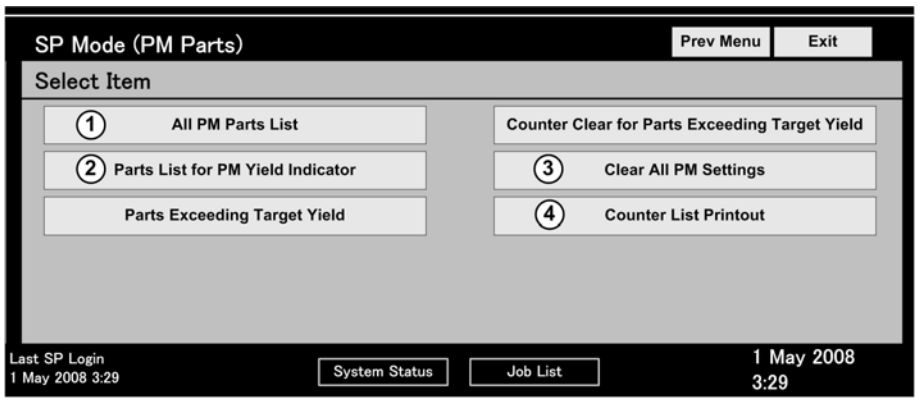
### 4.1.1 OPENING THE PM COUNTER

1. Enter the SP mode.




d074p901

2. Touch [PM Counter].




d074p902

**All PM Parts List.** Displays all PM items (all PM items, not only PM units). Lists all PM items regardless of PM yield indicator settings.

**Parts list for PM yield indicator**. Displays on the items with their PM yield indicator settings set to "Yes".

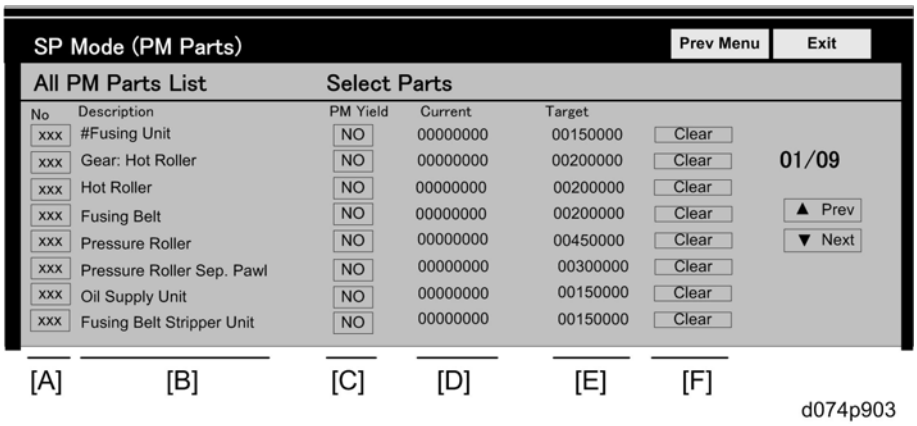
**Clear all PM settings.** Resets all PM counter settings to "0" at the same time. PM items can be reset one by one with the [Clear] button.

**Counter list print out.** Prints the PM counter on paper.

## 4.1.2 PM PARTS SCREEN DETAILS

### *All PM Parts list: Main Menu*

The "All PM Parts list" displays all PM units and individual items. This list shows all PM items, regardless of their "PM yield indicator settings".




d074p903

[A]: Number buttons. Pressing a number button opens a submenu.

[B]: Descriptions. The # mark denotes a "unit" (not individual item).

[C]: PM yield buttons. Function is the same as the "PM yield indicator settings" button.

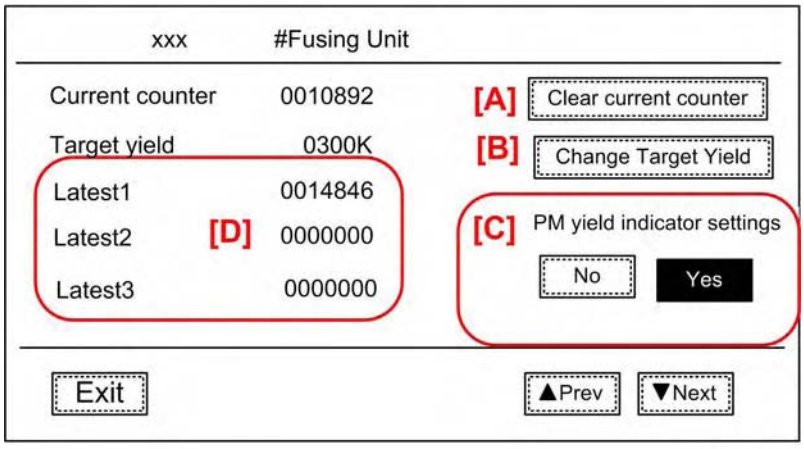
[D]: Current PM counter value.

[E]: Target PM interval. This can be changed by pressing a number button [A].

[F]: PM counter clear button. Function is the same as the [Clear current counter] button.

### *Number Button Submenu*

Press any number button to open the submenu for a part. In the example below, the number button [001] #Development Unit was pressed.




d074p904

[A]: Clear current counter. Press to reset the selected PM counter (in this example 001 #Development Unit) to "0". You can also clear the settings by pressing the [Clear] button on the right side of the PM Counter Main Menu ([F] in the previous section).

[B]: Change target yield. Press the change the target PM yield. To change the setting:

- Press [Change target yield]
- Enter the number for the new target with the 10-key pad.
- Press [#] on the operation panel.

[C]: PM yield indicator settings. [Yes] is the default. Press [No] to remove the current item from the "Parts list for PM yield indicator".

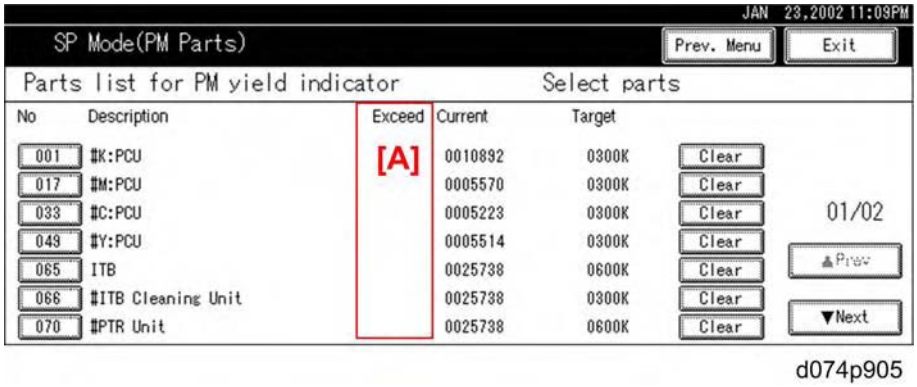
- When set to "Yes", items marked with the # mark (# = a unit) will not have their individual items displayed automatically in the "Parts list for PM yield indicator list".
- When set to "No", items marked with the # mark (# = a unit) only the individual components will appear in the list (the units will not appear).

[D]: PM counter history. This is a summary of the most recent counts

- Latest 1. The latest PM count since the unit (or part) was replaced.
- Latest 2. The previous PM count since the unit (or part) was replaced.
- Latest 3. The previous but one PM count since the unit (or part) was replaced.

## *Parts List for PM Yield Indicator*

This list shows the PM Parts Main Menu with only items set to "Yes" displayed.




Note the following:

- The # mark denotes a unit.
- Items without the # (for example, 065 ITB) denote individual components.
- An asterisk (*) will appear in the Exceed column [A] to show items that have exceeded their target PM yields.

# 4.2 PM TABLES FOR MAIN MACHINES

## 4.2.1 PM PARTS LIST KEY

| Column | Meaning | Notations | |
|---|---|---|---|
| **Part** | Name of the component, unit | Name of the part | |
| **By** | Person responsible | **S** | Service technician |
| | | **U** | User |
| | | **T** | TCRU trained user at work site |
| **At** | Interval for checking, cleaning, replacement | Example: 300K where K = 1000, or 300,000 printed sheets. (Recorded in Log Counter) | |
| **Action** | What must be done | **I** | Inspect |
| | | **C** | Clean |
| | | **L** | Lubricate |
| | | **R** | Replace |
| **Comment** | What to use | Materials required for cleaning, lubrication | |

## 4.2.2 OPTICS (D074/D075)

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| White Plate (under ARDF) | S | 600K | I/C | Optics cloth |
| 1st Mirror | S | 600K | I/C | Optics cloth |
| 2nd Mirror | S | 600K | I/C | Optics cloth |
| 3rd Mirror | S | 600K | I/C | Optics cloth |
| Original Width Sensors (APS) | S | 600K | I/C | Dry cloth |
| Exposure Glass*[1] | S, U | 300K | I/C | Ricoh cleaner |
| Exposure Lamp | S | 300K | I/C | Dry cloth |
| Guide Rail (2-level both ends) | S | 600K | I/C | Alcohol damp cloth |
| ARDF Exposure Glass*[1] | S, U | 300K | I/C | Ricoh cleaner |
| Dust Filter | S | 600K | I/C | Blower brush |
| Toner Shield Glass*[1] | S | 300K | I/C | Optics cloth |

*[1]: Clean these parts at every service call.

## 4.2.3 DEVELOPMENT

| Part | | By | At | Action | Comments |
|---|---|---|---|---|---|
| Developer | D074 | S | 750K | R | Vacuum clean old toner from toner collection roller. |
| | D075/M044 | S | 900K | R | |
| Filter | D074 | S | 750K | R | |
| | D075/M044 | S | 900K | R | |
| Gears | | S | 300K | C | |
| Toner Supply Unit | | S | 300K | I/C | |
| Heat shield plate | --- | S,U | --- | C | Clean every time the PCDU is pulled out. |

## 4.2.4 AROUND THE DRUM

| Part | | By | At | Action | Comments |
|---|---|---|---|---|---|
| Drum Cleaning Unit*1 | | **S,T** | | | |
| Cleaning Blade | | S | 300K*2 | R | This blade does not include the side seals below. Replace both parts at the same time. |
| Side Seals | | S | 300K*2 | R | These are required for installing a new drum cleaning blade. |
| Lubrication Roller | | S | 300K*2 | R | |
| Lubrication Bar | | S | 300K*2 | R | |
| Lubrication Blade | | S | 300K*2 | R | This blade does not include the side seals below. Replace both parts at the same time. |
| Side Seals | | S | 300K*2 | R | These are required for installing a new drum lubrication blade. |
| Lubrication Roller Coupling | | S | 300K*2 | R | |
| Gears | | S | 300K*2 | R | |
| Charge Unit*1 | | S, **T** | 300K | R | |
| Drum*1 | D074 | S, **T** | 980K | R | |
| | D075/M044 | S, **T** | 1100K | | |
| Potential Sensor | | S | 600K | I/C | Dry cloth |
| QL | | S | 600K | I/C | Dry cloth |

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| Used Toner Bottle | S, U | Full | R or I/C | When tank becomes full. |
| ⇒ Damping Cushion | S | 300K*[2,3] | R | Newly added.<br>2pcs/unit<br>See Technical Service Bulletin:<br>D074/D075/M088 - 034<br>HIGH FREQUENCY BANDING - 2.5~2.7 MM PITCH BANDING |

| | |
|---|---|
| ***[1]:** | TCRU qualified operators can replace these units. Service Technicians can replace the unit and also disassemble the unit and replace individual parts. |
| *[2]: | The PM life of these parts is calculated by referring to the rotations of the drum. The PM Parts Replacement message is displayed when the drum rotations reach the timing equal to 300K sheets outputs with 25 P/J, A4 LEF (LT LEF) and simplex mode. As a result, the timing of the PM Parts Replacement message may be different from the PM counter (number of outputs) of the drum. |
| ⇒ *[3]: | The damping cushion does not have a PM counter but requires replacements at 300K. Combine the PM for this part with other components of the drum cleaning unit that also require replacements at 300K. |

## 4.2.5 IMAGE TRANSFER UNIT

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| ITB | S | 1600K | R | |
| Transfer Belt Speed Sensor | S | 300K | I/C | Water damp cloth; SP adjustment needed after cleaning |
| ID Sensor | S | 300K | I/C | Water damp cloth |
| Belt Centering Sensor | S | 600K | I/C | Blower brush |
| ITB Unit Internal Rollers | S | 600K | I/C | Water damp cloth |
| Bias Roller | S | 1800K | R | |
| ITB Cleaning Unit*1 | **T** | | | |
| ITB Cleaning Blade | S | 600k | R | |
| ITB Lubrication Roller | S | 600K | R | |
| ITB Lubrication Bar | S | 600K | R | |
| ITB Lubrication Blade | S | 600K | R | |

| | |
|---|---|
| *1: | TCRU qualified operators can replace this unit. Service Technicians can replace the unit and also disassemble the unit and replace individual parts. |

## 4.2.6 PAPER TRANSFER UNIT

| Part | | By | At | Action | Comments |
|---|---|---|---|---|---|
| PTR Cleaning Unit*1 | | **T** | | | |
| PTR Cleaning Blade | | S | 300K | R | |
| PTR Lubricant Bar | D074 | S | 450K | R | |
| | D075/M044 | S | 500K | R | |
| PTR Anti-Static Brush | | S | 300K | R | |
| PTR | | S | 300K | R | |
| Paper Sensors | | S, **T** | 300 | I/C | Dry cloth to wipe away paper dust, toner |

| | |
|---|---|
| ***1:** | TCRU qualified operators can replace this unit and clean paper sensors. Service Technicians can replace the unit and also disassemble the unit and replace individual parts. |

## 4.2.7 FUSING UNIT

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| Fusing Unit*1 | **T** | | | |
| Fusing Belt | S | 650K | R | |
| Hot Roller | S | 650K | R | |
| Pressure Roller | S | 650K | R | |
| Pressure Roller Bearings | S | 650K | R | |
| Hot Roller Separation Plate | S | 300K | I/C | |
| Pressure Roller Separation Plate | S | 300K | I/C | Dry cloth to wipe away paper dust, toner |
| Fusing Unit Entrance Guide | S | 300K | I/C | |
| Pressure Roller Contact Thermistor | S | 650K | I/C | |
| Heating Roller Contact Thermistor | S | 650K | I/C | |
| Hot Roller Contact Thermistor | S | 650K | I/C | |
| Main Gears | S | 650K | L | FLUOTRIBO MG grease |
| Hot Roller Bearings | S | 650K | L | |
| Heating Roller Bearings | S | 650K | I/C | |
| Web Cleaning Unit*1 | **T** | | | |
| Cleaning Web | S | 450K | R | |
| Web Tension Roller | S | 450K | R | |
| Web Stopper | S | 450K | R | |

*1: TCRU qualified operator can replace these units. Service Technician can replace the unit and also disassemble the unit to clean and replace individual parts.

## 4.2.8 FILTERS

| Part | | By | At | Action | Comments |
|---|---|---|---|---|---|
| Dust Filter | | S | 600K | R | |
| Ozone Filters | D074 | S | 1200K | R | |
| | D075/M044 | S | 1350K | R | |

## 4.2.9 MAIN PAPER FEED

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| 1st Pick-up Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 1st Feed Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 1st Separation Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 2nd Pick-up Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 2nd Feed Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 2nd Separation Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| | | 1000K | R | |
| 2nd Feed Guide Plate (x1) | S | 100K | I/C | Dry cloth |
| 2nd Feed Sensor (x1) | S, U | 100K | I/C | Blower brush |
| 2nd Vertical Transport Sensor (x1) | S | 100K | I/C | |
| 2nd Paper End Sensor (x1) | S, U | 100K | I/C | |
| 2nd Grip Drive Roller (x1) | S | 100K | I/C | Water damp cloth |
| 2nd Grip Idle Roller (x1) | S | 100K | I/C | |
| Vertical Transport Drive Roller (x3) | S | 100K | I/C | |
| Vertical Transport Idle Roller (x3) | S | 100K | I/C | |

## 4.2.10 MAIN PAPER TRANSPORT

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| Transfer Timing Drive Roller (x1) | S | 100K | I/C | Water damp cloth |
| Transfer Timing Idle Roller (x1) | S | 100K | I/C | |
| Transfer Timing Sensor (x1) | S | 100K | I/C | Blower brush |
| Shift Drive Roller (x1) | S | 100K | I/C | Water damp cloth |
| Shift Idle Roller (x1) | S, U | 100K | I/C | |
| Registration Timing Drive Roller (x1) | S | 100K | I/C | Dry cloth |
| Registration Timing Idle Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| Registration Timing Sensor (x1) | S, U | 100K | I/C | Blower brush |
| Registration Entrance Drive Roller (x1) | S | 100K | I/C | Water damp cloth |
| Registration Entrance Idle Roller (x1) | S, U | 100K | I/C | |
| Entrance Drive Roller (LCT) (x1) | S | 100K | I/C | Dry cloth |
| Entrance Idle Roller (LCT | S, U | 100K | I/C | |
| Dust Collection Unit (x1) | S | 100K | I/C | Empty bin, wipe with dry cloth |
| Double-Feed Sensor (x2) | S | 100K | I/C | Blower brush |
| Upper Relay Sensor (x2) | S | 100K | I/C | |
| Relay Sensor (LCT) (x2) | S | 100K | I/C | |
| CIS Sensor (x1) | S | 100K | I/C | |
| Guide Plate Sensor (x1) | S, U | 100K | I/C | |
| Relay Drive Roller (Main) (x1) | S | 100K | I/C | Water damp cloth |
| Relay Idle Roller (Main) (x1) | S, U | 100K | I/C | |

## 4.2.11 INVERTER, EXIT

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| Cooling Roller (x1) | S | 100K | I/C | Water damp cloth |
| Cooling Belt (x1) | S, U | 100K | I/C | |
| Exit Anti-Static Brush (x1) | S, U | 100K | I/C | Dry cloth, replace if deformed |
| Exit Drive Roller (Main) (x1) | S, U | 100K | I/C | Water damp cloth |
| Exit Idle Roller (Main) (x1) | S, U | 100K | I/C | |
| Exit Transport Roller (x1) | S, U | 100K | I/C | Dry cloth |
| Inverter Relay Roller (x1) | S | 100K | I/C | Water damp cloth |
| Inverter Exit Roller (x1) | S | 100K | I/C | |
| Exit Sensor (x3) | S, U | 100K | I/C | Blower brush |
| Inverter Roller (x1) | S | 100K | I/C | Water damp cloth |

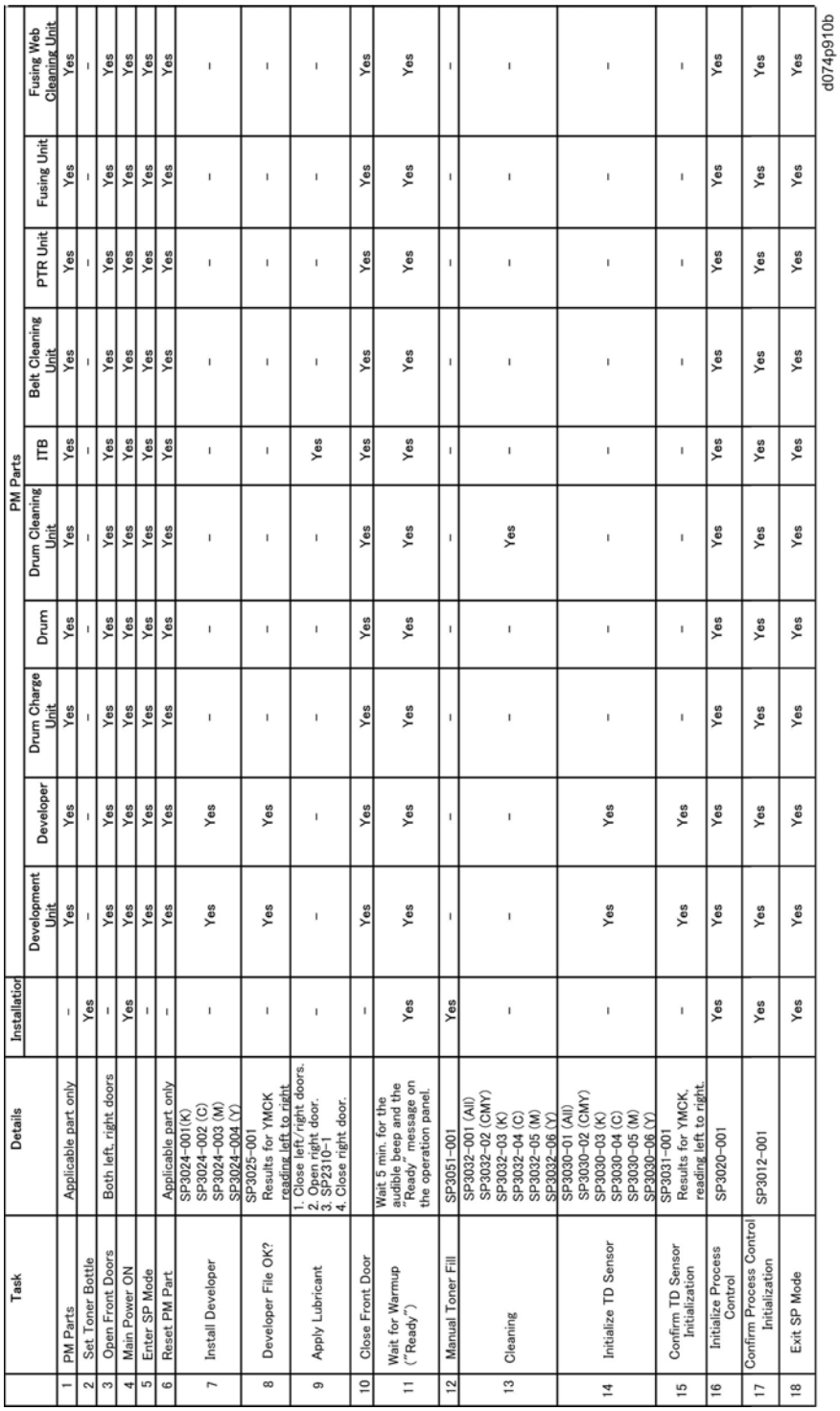
## 4.2.12 DUPLEXER

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| Duplex Anti-Static Brush (x1) | S, U | 100K | I/C | Dry cloth. Replace if deformed. |
| Duplex Switchback Roller (x1) | S, U | 100K | I/C | Water damp cloth |
| Duplex Switchback Sensor (x1) | S, U | 100K | I/C | Blower brush |
| Purged Paper Sensor (x1) | S, U | 100K | I/C | |
| Duplex Transport Rollers (x8) | S, U | 100K | I/C | Water damp cloth |
| Duplex Timing Rollers (Drive, Idle) (x2) | S, U | 100K | I/C | |
| Duplex Transport Sensors (x2) | S, U | 100K | I/C | Blower brush |

## 4.2.13 ARDF (D074/D075)

| Part | By | At | Action | Comments |
|---|---|---|---|---|
| External Covers | S | 120K | I/C | Alcohol or water, dry cloth |
| Feed Belt | S | 120K | R | |
| Pick-up Roller | S | 120K | R | |
| Separation Roller | S | 120K | R | |
| Original Length Sensors | S | 120K | C | Blower brush |
| Skew Correction Sensor | | | | |
| Interval Sensor | | | | |
| Registration Sensor | | | | |
| Paper Exit Sensor | | | | |
| Lower Inverter Sensor | | | | |
| Separation Sensor | | | | |
| Upper Inverter Sensor | | | | |
| White Cover | S, U | 120K | C | Alcohol or water, dry cloth |
| Transport Belt | S | 120K | R | |
| Feed Drive Gears | S | 120K | L | G501 Grease |
| Grip Roller | S | 120K | C | Alcohol or water, dry cloth |
| Transport Rollers | | | | |
| Scanner Rollers (Entrance/Exit) | | | | |
| Exit Rollers | | | | |
| Inverter Rollers (Lower, Exit, Upper) | | | | |
| Idle Rollers | S | 120K | C | Alcohol or water, dry cloth |

## *SP Setting Summary*



| | Task | Details | Installation | PM Parts | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Development Unit | Developer | Drum Charge Unit | Drum | Drum Cleaning Unit | ITB | Belt Cleaning Unit | PTR Unit | Fusing Unit | Fusing Web Cleaning Unit |
| 1 | PM Parts | Applicable part only | – | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 2 | Set Toner Bottle | | Yes | – | – | – | – | – | – | – | – | – | – |
| 3 | Open Front Doors | Both left, right doors | – | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4 | Main Power ON | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 5 | Enter SP Mode | | – | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 6 | Reset PM Part | Applicable part only | – | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 7 | Install Developer | SP3024-001(K)<br>SP3024-002 (C)<br>SP3024-003 (M)<br>SP3024-004 (Y) | – | Yes | Yes | – | – | – | – | – | – | – | – |
| 8 | Developer File OK? | SP3025-001<br>Results for YMCK reading left to right | – | Yes | Yes | – | – | – | – | – | – | – | – |
| 9 | Apply Lubricant | 1. Close left/right doors.<br>2. Open right door.<br>3. SP2310-1<br>4. Close right door. | – | – | – | – | – | – | Yes | – | – | – | – |
| 10 | Close Front Door | | – | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 11 | Wait for Warmup ("Ready") | Wait 5 min. for the audible beep and the "Ready" message on the operation panel. | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 12 | Manual Toner Fill | SP3051-001 | Yes | – | – | – | – | – | – | – | – | – | – |
| 13 | Cleaning | SP3032-001 (All)<br>SP3032-02 (CMY)<br>SP3032-03 (K)<br>SP3032-04 (C)<br>SP3032-05 (M)<br>SP3032-06 (Y) | – | – | – | – | – | Yes | – | – | – | – | – |
| 14 | Initialize TD Sensor | SP3030-01 (All)<br>SP3030-02 (CMY)<br>SP3030-03 (K)<br>SP3030-04 (C)<br>SP3030-05 (M)<br>SP3030-06 (Y) | – | Yes | Yes | – | – | – | – | – | – | – | – |
| 15 | Confirm TD Sensor Initialization | SP3031-001<br>Results for YMCK, reading left to right. | – | Yes | Yes | – | – | – | – | – | – | – | – |
| 16 | Initialize Process Control | SP3020-001 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 17 | Confirm Process Control Initialization | SP3012-001 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 18 | Exit SP Mode | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

d074p910b

This is a quick reference table that tells you which SP codes to execute for PM part and unit replacements.

# 4.3 PM TABLES FOR PERIPHERALS

| Column | Meaning | Notations | |
|---|---|---|---|
| **Part** | Name of the component, unit | Name of the part | |
| ***K** | Interval for checking, cleaning, replacement | Example: 300K where K = 1000, or 300,000 printed sheets. (Recorded in Log Counter) | |
| | | **I** | Inspect |
| | | **C** | Clean |
| | | **L** | Lubricate |
| | | **R** | Replace |
| **Note** | What to use, etc. | Materials required for cleaning, lubrication | |



## ⇒ 4.3.1 LCIT (D516)

The PM interval is for the number of sheets that have been fed.

| Part | 500K | 1000K | Note |
|---|---|---|---|
| Transport guide plate | I/C | 300K | Clean with damp, clean cloth |
| Grip rollers (drive, idle rollers) | I/C | | |
| Transport rollers | I/C | | |
| Pick-up rollers (3rd, 4th, 5th tray)*1 | I/C | I/R | |
| Paper feed roller (3rd, 4th, 5th tray) *1 | I/C | I/R | |
| Separation rollers (3rd, 4th, 5th tray) *1 | I/C | I/R | |

1. At 300K, display the PM Counts for the pick-up, feed, and separation rollers.
2. Replace if "Target" has been exceeded.

| | |
|---|---|
| *1 | These rollers can be replaced by a TCRU trained operator for each tray. |

## 4.3.2 MULTI-BYPASS TRAY (D517)

The PM interval is for the number of sheets that have been fed.

| Part | 500K | 1000K | Note |
|---|---|---|---|
| Transport guide plate | I/C | | |
| Grip rollers (drive, idle rollers) | I/C | | |
| Pick-up roller*1 | I/C | I/R | |
| Paper feed roller*1 | I/C | I/R | |
| Separation roller*1 | I/C | I/R | |

- At 1000K, display the PM Counts for the pick-up, feed, and separation rollers.
- Replace if "Target" has been exceeded.

| | |
|---|---|
| *1 | These rollers can be replaced by a TCRU trained operator for each tray. |

## 4.3.3 DECURLER UNIT (D544)

| Part | 500K | Note |
|---|---|---|
| Transport guide plate | I/C | Clean with damp (alcohol or water) cloth |
| Decurler rollers (drive, idle roller | I/C | |
| Transport rollers (drive, idle roller) | I/C | |
| Purge tray paper sensors (x3) | I/C | |

## 4.3.4 COVER INTERPOSER TRAY (D518)

The PM interval is for the number of sheets that have been fed.

| Part | 60K | As Needed | Note |
|---|---|---|---|
| Drive rollers | | C | Dry cloth |
| Idle rollers | | C | |
| Feed belt | R | | |
| Separation roller | R | | |
| Pick-up roller | R | | |
| Sensors | | C | Blower brush. |
| Drive gears | | I | Lubricate with very small amount of G501. |



## 4.3.5 MULTI-FOLDING UNIT (D521)

| Part | PM Visit | Notes |
|---|---|---|
| Rollers (drive, idle rollers) | I/C | Alcohol, clean cloth |
| Anti-static brush | I/C | |
| Shafts | I/C | Lubricate with silicone oil if noisy. |
| Sensors | I/C | Blower brush |
| Positioning roller | I/C | Inspect for scratches or nicks |
| Fold rollers (1st, 2nd, 3rd) | I/C | Alcohol, clean cloth |
| Crease rollers (drive, idle roller) | I/C | |

## 4.3.6 RING BINDER (D519)

Periodically inspect and clean the parts listed in the table below.

| Item | | Action |
|---|---|---|
| **Horizontal Transport Path** | | |
| | Anti-static brushes | Blower brush |
| | Horizontal transport path sensors | Blower brush |
| | Drive rollers, idle rollers | Damp cloth |
| **Switchback Unit** | | |
| | Anti-static brushes | Blower brush |
| | Switchback area sensors | Blower brush |
| | Drive rollers, idle rollers | Damp cloth |
| **Binder Unit** | | |
| | Paddle roller | Blower brush |
| | Transport path sensors | Blower brush |
| | Drive rollers, idle rollers | Damp cloth |

## 4.3.7 HIGH CAPACITY STACKER (D515)

| Part | 500K | PM Visit | |
|---|---|---|---|
| Rollers (drive, idle rollers) | I/C | I/C | Alcohol, clean cloth |
| Anti-static brush | I/C | I/C | |
| Shafts | I/C | I/C | Lubricate with silicone oil if noisy. |
| Sensors | I/C | I/C | Blower brush |
| Sub jogger fences | I/C | I/C | Alcohol, clean cloth |
| Main jogger fences | I/C | I/C | |
| LE stopper | I/C | I/C | |

## 4.3.8 BOOKLET FINISHER (D512/D513)

### *Main*

| Part | 5000K | 25000K | |
|---|---|---|---|
| Rollers (drive, idle) | I/C | | Alcohol, clean cloth |
| Discharge brush | I/C | | |
| Shafts | I/C | | Lubricate with silicone oil if noisy |
| Sensors | I/C | | Blower brush |
| Jogger fences | I/C | | Tighten screws |
| Staple trimmings hopper | I/C | | Empty hopper |
| Alignment brush roller | | I/R | See below |
| Positioning roller | | I/R | |
| Drag roller (sponge) | | I/R | |

- At 25000K, display the PM Counts for the alignment brush roller, positioning roller, and drag sponge roller.
- Replace if "Target" has been exceeded.

### *Punch Unit*

| Part | 20000K | |
|---|---|---|
| Punch unit | I/C | ▪ Display PM Count for punch unit.<br>▪ Replace if "Target" has been exceeded. |

***Staplers***

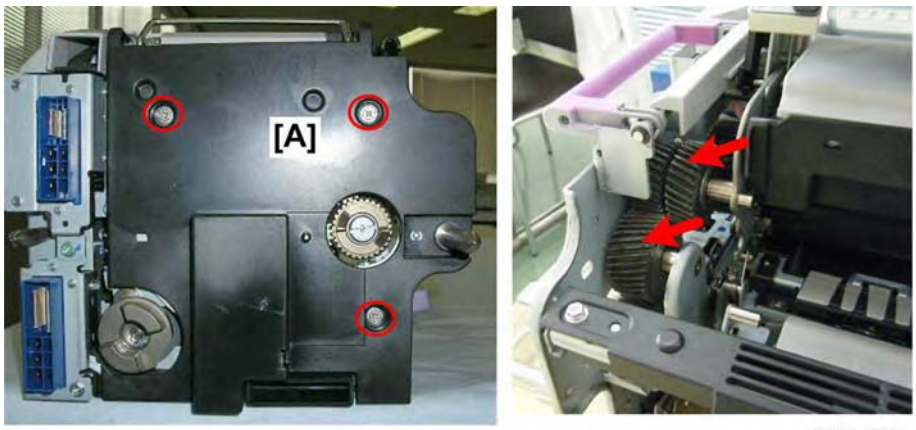
| Part | 50000K | 200000K | |
|---|---|---|---|
| Corner stapler | I/R | | ▪ Display PM Count.<br>▪ Replace if "Target" exceeded. |
| Booklet Staplers (x2) | | I/R | |

## 4.3.9 TRIMMER UNIT (D520)

| Part | PM Visit | |
|---|---|---|
| Rollers (drive, idle rollers) | I/C | Water, clean cloth |
| Belts | I/C | |
| Discharge brush | IC | Cloth, blower brush |
| Roller shafts | | Lubricate with silicone oil if noisy |
| Sensors | I/C | Blower brush |
| Paper trimmings hopper | I/C | Empty, make sure the operator knows how to empty the hopper |
| Trimming Blade | R | Replace the blade after 400K. SP7989 (Trim Count) displays the total count. |

# 4.4 LUBRICATION POINTS

## 4.4.1 FUSING UNIT MAIN DRIVE GEARS



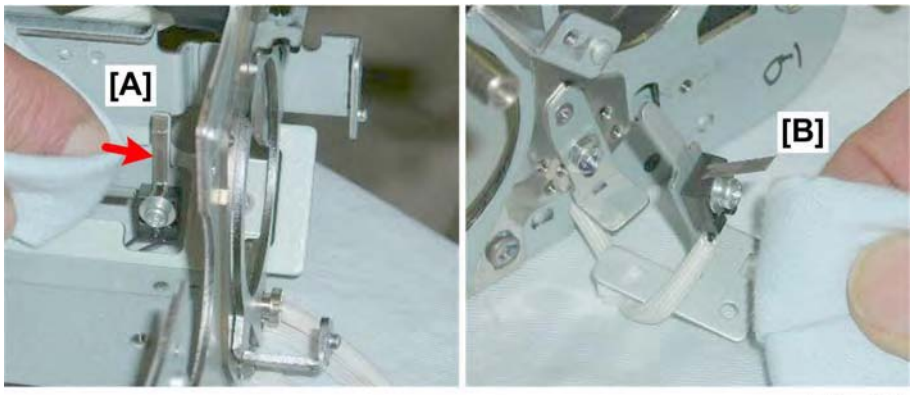

d074r303

1. Remove the rear plate [A] ( x3).
2. Apply FLUOTRIBO MG Grease to the two gears marked by red arrows. Apply about 2 g at both points.

## 4.4.2 CLEANING, LUBRICATION AROUND FUSING UNIT HEATING ROLLER

Do the following procedures before reassembling the fusing unit.

| Part Name | Interval | Action |
|---|---|---|
| Heating Roller Thermistors (x2) | 650K | Clean |




d074r405

1. Use a dry cloth to remove toner and paper dust from the surface of the thermistors:
   [A] Front

[B] Rear

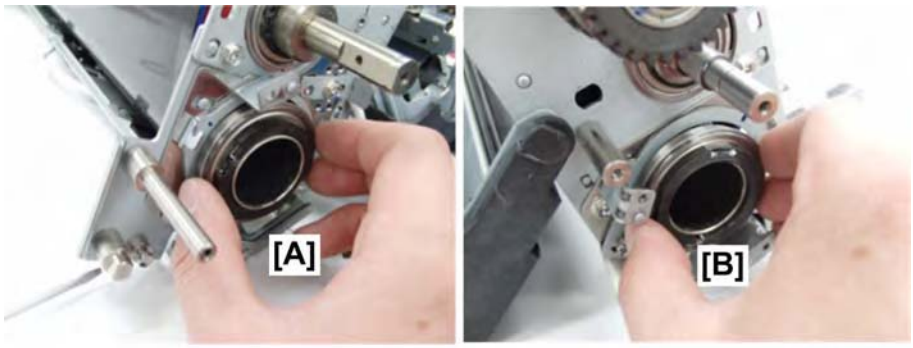
d074r405a



2. Rotate the races to make sure the contact surfaces of the bearings and race turn freely. If the races do not rotate freely, they must be replaced.
3. Insert the heating roller at the front end of the unit.

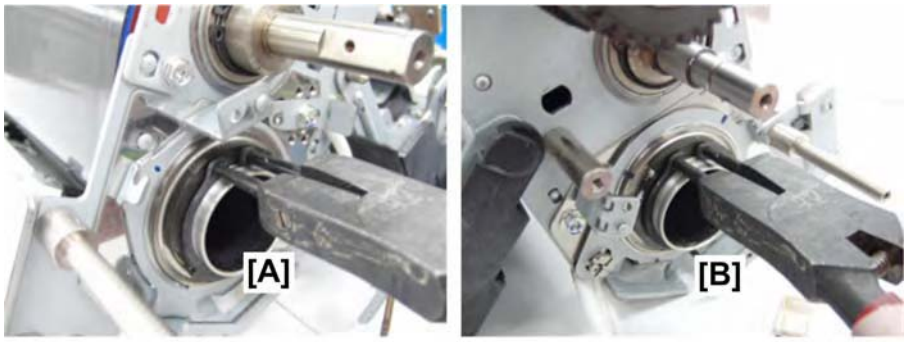
d074r404d

4. The flanges must be set so that both edges of the fusing belt rim overlap the collar of the flanges.




d074r404e

5. Re-attach the bearing races at the front [A] and rear [B].



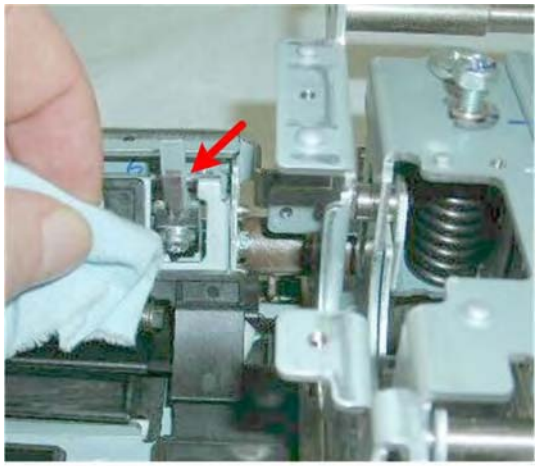
d074r404f

6. Re-attach the C-rings at the front and rear.

## 4.4.3 CLEANING AND LUBRICATION AROUND PRESSURE ROLLER

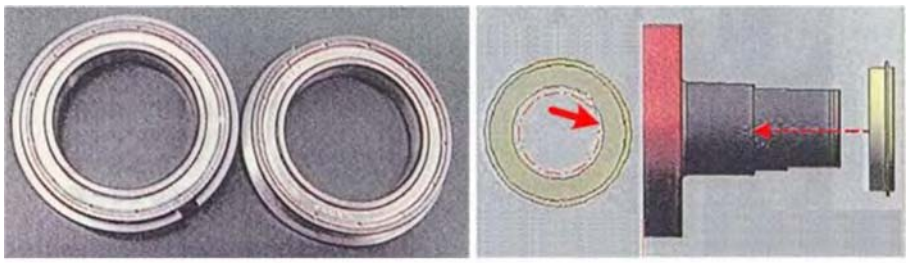
Do these procedures before re-assembling the fusing unit.

| Part Name | Interval | Action |
|---|---|---|
| Pressure roller thermistor | 650K | Clean |


d074r407

1. Use a dry cloth to remove toner and paper dust from the sensitive surface of the thermistor.

| Part Name | Interval | Action |
|---|---|---|
| Pressure Roller Bearing Races (x2) | 650K | Lubricate |



d074r408

2. Use a small brush to apply FLUROTRIBO MG Grease to the pressure roller bearing races.

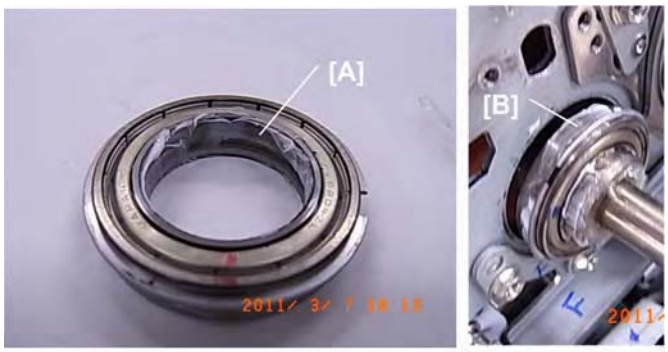
## 4.4.4 LUBRICATION AROUND HOT ROLLER

d074r997

1. Use a small brush to apply FLUOTRIBO MG grease to the front bearing race:
   [A] Inner surface of bearing race
   [B] Set bearing race and apply to outer surface

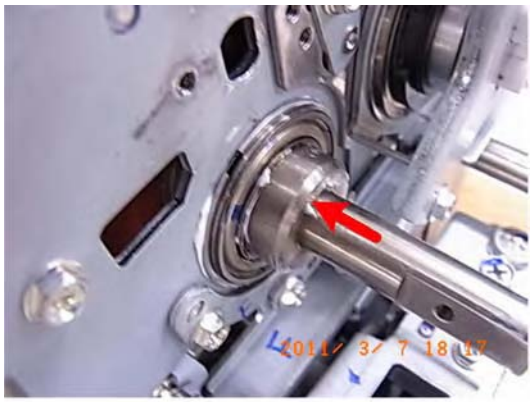
d074r998

2. Install the front bearing race.




d074r999

3. Use a small brush to apply FLUOTRIBO MG grease to the rear bearing race:
   [A] Inner surface of bearing race
   [B] Set rear bearing race and apply to outer surface



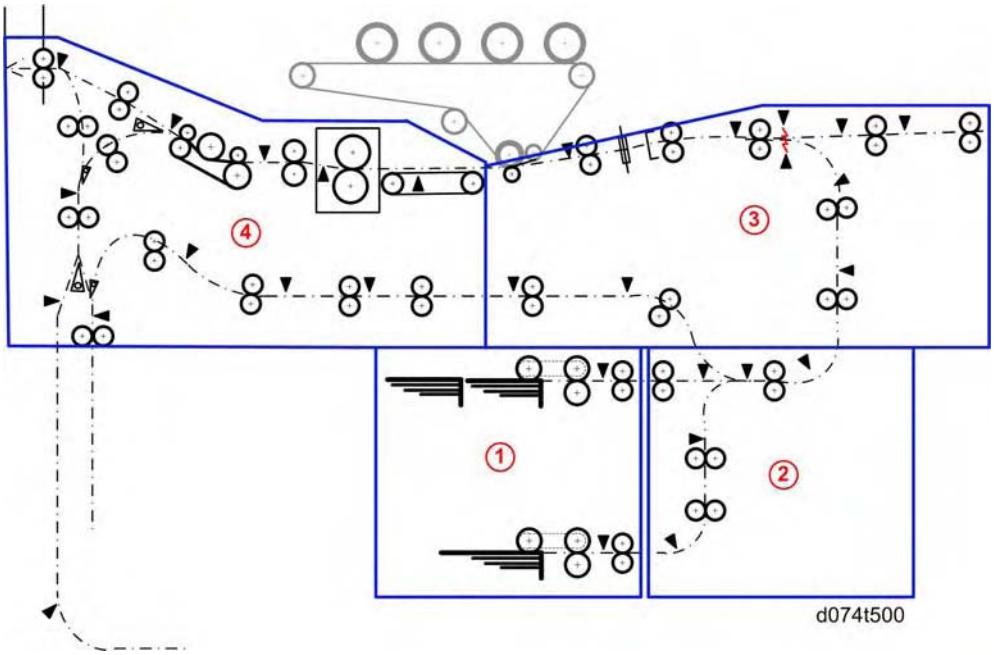
d074r001a

4. Install the rear bearing race.

# 4.5 CLEANING POINTS

## 4.5.1 OVERVIEW

This section describes how to clean the rollers and sensors in the paper path with minimal disassembly. Four units comprise the paper path.




| | | |
|---|---|---|
| ① | Paper Bank | Paper supply, 1st Tray, 2nd Tray |
| ② | Vertical Transport Unit | Relays paper to right drawer |
| ③ | Right Drawer | Paper registration, PTR unit, 2nd half of duplex path |
| ④ | Left Drawer | PTB, fusing unit, paper cooling unit, 1st half of duplex path |

## 4.5.2 INSPECTION AND CLEANING

### *Before You Begin*

Here are some rules to follow for cleaning rollers and sensors.

**Roller Cleaning**

- Clean rollers with a dry cloth.
- Try to avoid touching the surfaces of the rollers with bare hands.

**Sensor Cleaning**

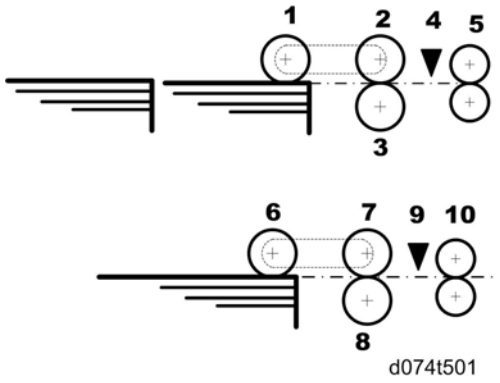
- Clean sensors with a blower brush. Do not use cloth or tissue paper.
- Most of the sensors are below holes in plates so you may not be able to see them.
- Insert tip of the blower brush into the hole and squeeze it to blow any paper dust off the sensor.

### *1st Tray, 2nd Tray*

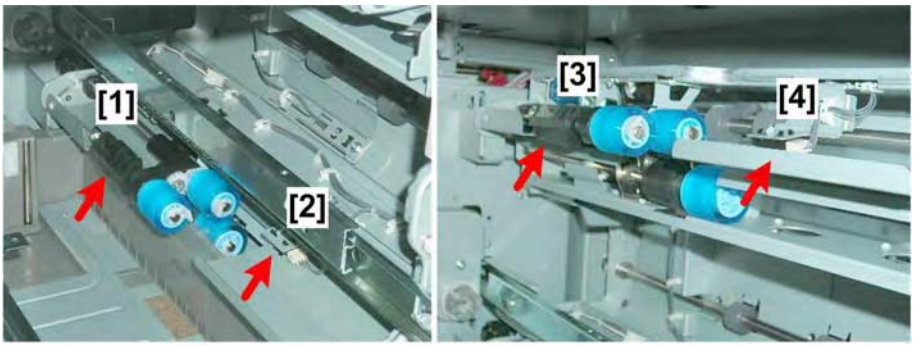
1. Turn the machine off and disconnect it from its power source.
2. Allow the machine to cool for at least 20 minutes.

**⚠CAUTION**

- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedures.




| 1st Tray | | 2nd Tray | |
|---|---|---|---|
| 1 | 1st Pickup Roller | 6 | 2nd Pickup Roller |
| 2 | 1st Paper Feed Roller | 7 | 2nd Paper Feed Roller |
| 3 | 1st Separation Roller | 8 | 2nd Separation Roller |
| 4 | 1st Paper Feed Sensor | 9 | 2nd Paper Feed Sensor |
| 5 | 1st Grip Rollers | 10 | 2nd Grip Rollers |

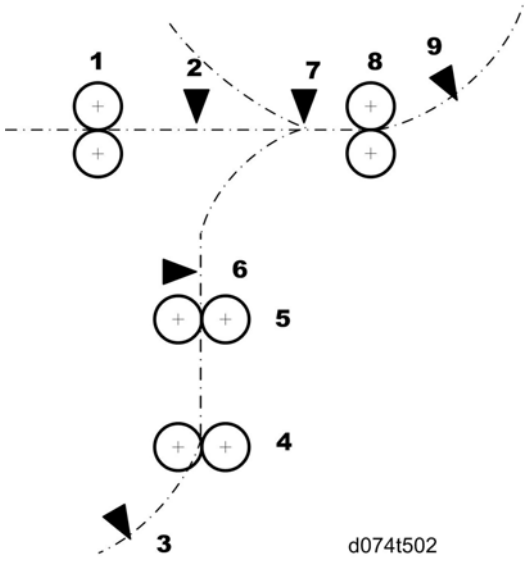


d074t505

1. Remove the right half of Tray 1. This will allow you to see the rollers of Tray 2 and Tray 1. (☛p.5-254)
2. Clean the rollers with a dry cloth.
3. Blower brush: 2nd paper end sensor [1] and 2nd paper feed sensor [2].
4. Blower brush: 1st paper end sensor [3] and 1st paper feed sensor [4].

### *Vertical Transport Unit*



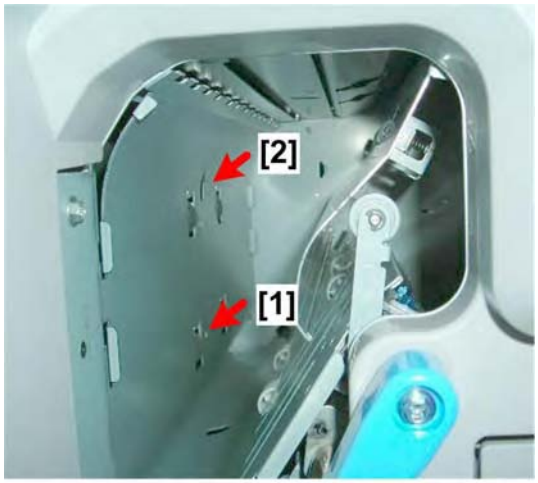


d074t502

| | | | |
|---|---|---|---|
| 1 | Horizontal Transport Rollers | 6 | Vertical Transport Sensor |
| 2 | 1st Transport Sensor | 7 | Bank Exit Sensor |
| 3 | 2nd Transport Sensor | 8 | Bank Exit Rollers |
| 4 | Lower Transport Rollers | 9 | Main Relay Sensor 1 |
| 5 | Upper Transport Rollers | | |

d074t506

1. Open the right front door.
2. Lower lever [1] to release the lower and upper transport plates [2].




d074t507

3. Blower brush:

   [1] 2nd Transport sensor

   [2] Vertical transport sensor

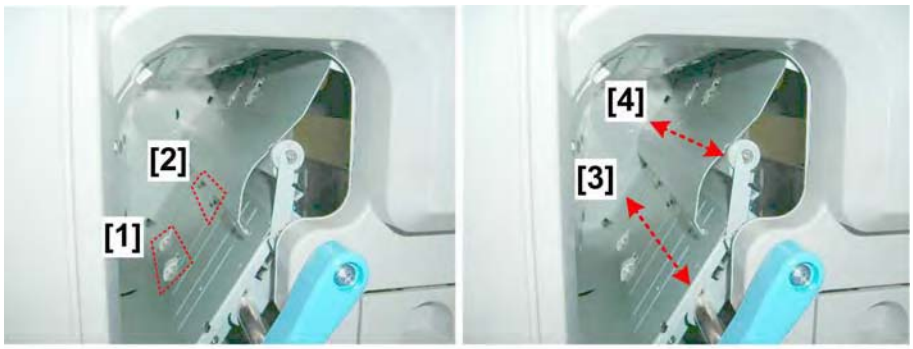
d074t508

4. Dry cloth:

   [1] Lower transport drive rollers

[2] Upper transport drive rollers

5. Turn the knob as you hold the cloth against the rollers.




d074t509

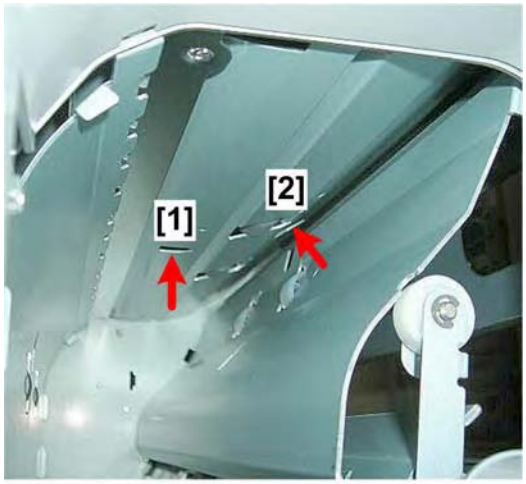
6. Dry cloth:

[1] Lower transport idle rollers

[2] Upper transport idle rollers

[3] 2nd Vertical plate

[4] 1st Vertical plate




d074t510

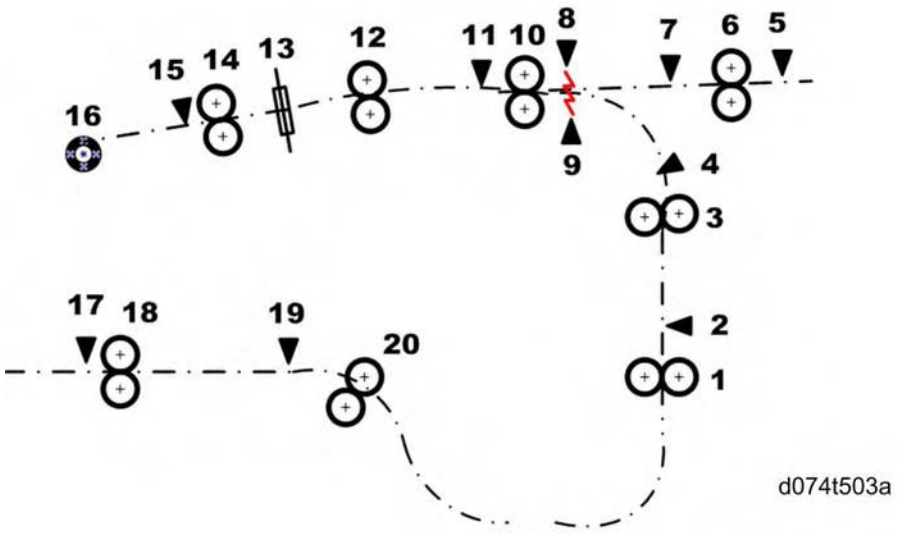
7. Blower brush:

[1] Bank exit sensor

[2] Main relay sensor 1

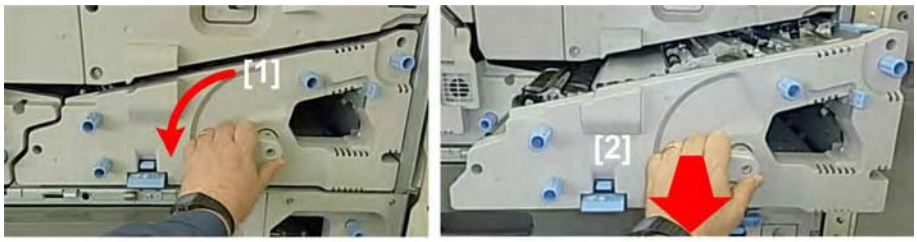
8. Dry cloth:
   [1] Bank exit drive rollers
   [2] Bank exit idle rollers

## *Right Drawer*



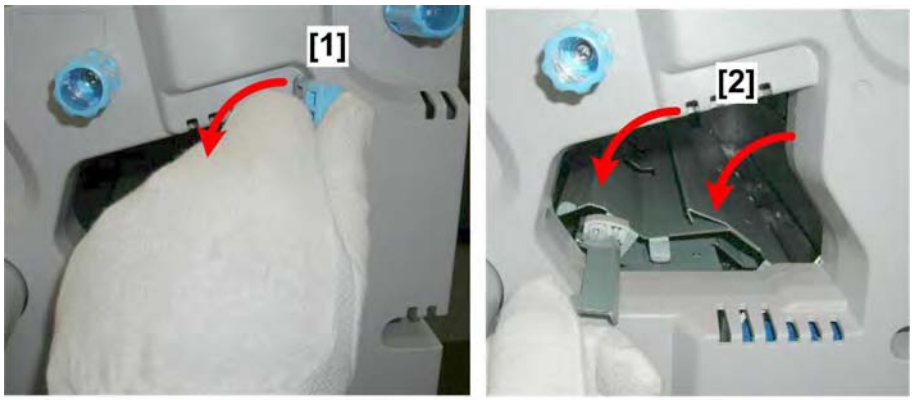

| | | | |
|---|---|---|---|
| 1 | Main Relay Rollers | 11 | Registration Timing Sensor |
| 2 | Main Relay Sensor 2 | 12 | Shift Rollers*[1] |
| 3 | Registration Entrance Rollers | 13 | CIS (Shift Unit) |
| 4 | Main Relay Sensor 3 | 14 | Transfer Timing Rollers |
| 5 | LCT Relay Sensor 1 | 15 | Transfer Timing Sensor |
| 6 | LCT Relay Rollers | 16 | PTR (Paper Transfer Roller) |
| 7 | LCT Relay Sensor 2 | 17 | Duplex Transport Sensor 6 |
| 8 | Double-Feed Sensor (Emitter) | 18 | Duplex Transport Rollers 5 |
| 9 | Double-Feed Sensor (Receptor) | 19 | Duplex Transport Sensor 7 |
| 10 | Registration Timing Rollers | 20 | Duplex Transport Rollers 6 |

*[1] Shift drive roller cleaning requires disassembly.




d074t511a

1. Lower the lever [1] and pull out the right drawer [2] until it stops.

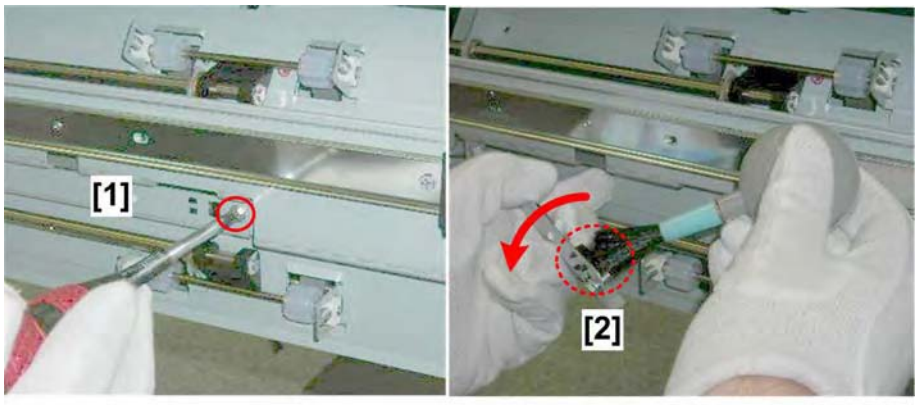



d074t513

2. On the right side of the drawer, lower lever [1] to release the plates [2].

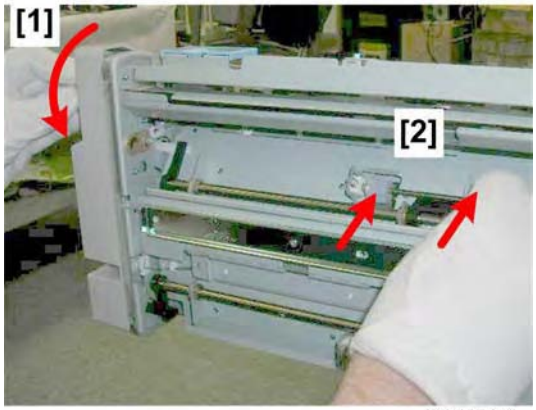
d074t514

3. Hold the dry cloth against the relay drive rollers [1].
4. At the right lower corner of the drawer, slowly rotate the roller shaft [2].



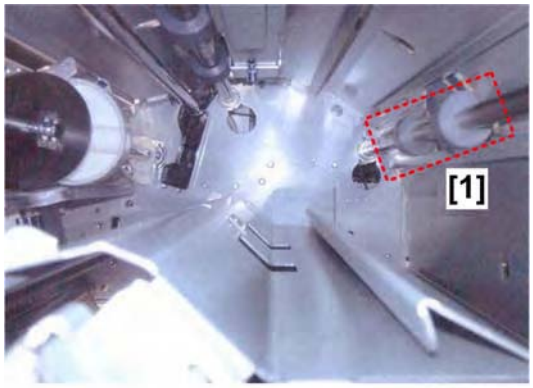

d074t516

5. Disconnect main relay sensor 1 bracket [1] and turn it over so that you can see the sensor ( x1).
6. Blower brush: main relay sensor 1 [2].



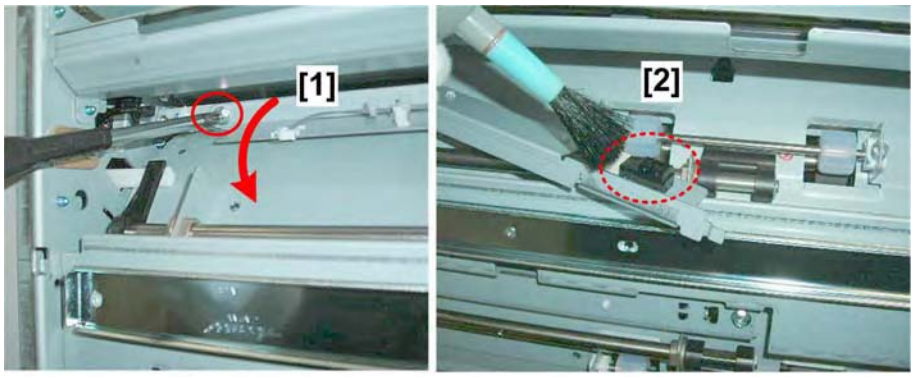
d074t517

7. Rotate knob [1].
8. Dry cloth: Registration entrance idle rollers [2].



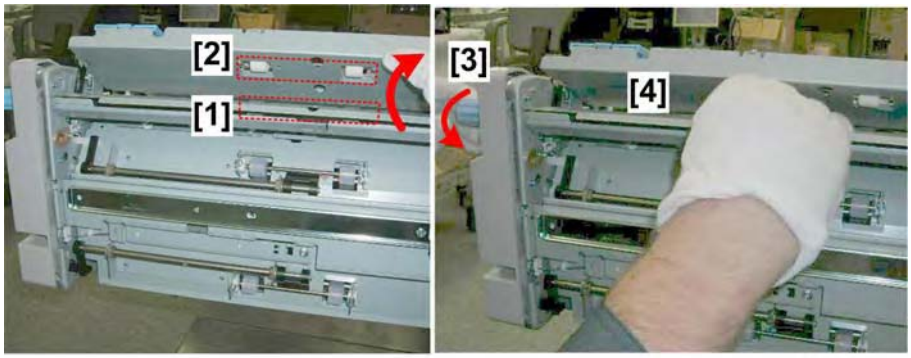
d074r001c

9. Dry cloth: Registration entrance driver rollers [1].



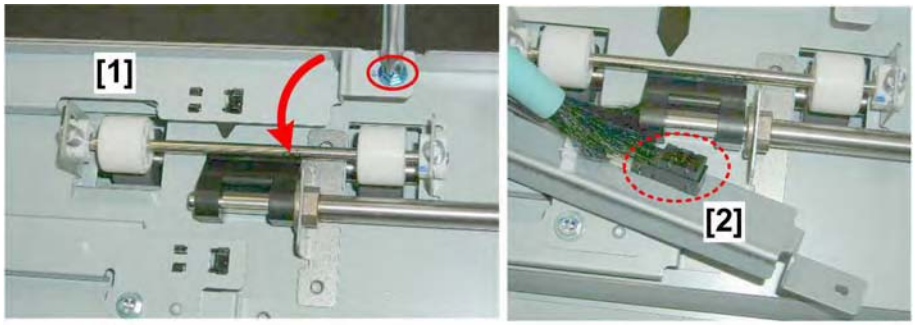
d074t520

10. Disconnect main relay sensor 3 bracket [1] and turn it over so that you can see the main relay sensor ( x1).
11. Blower brush: Main relay sensor 3 [2]



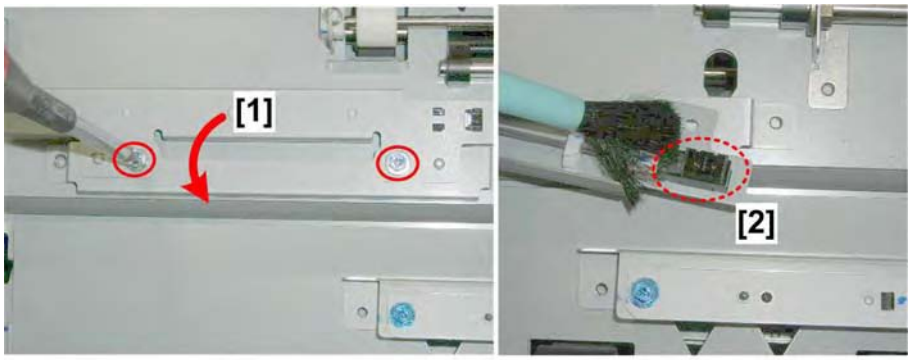

d074t518

12. Open the plate on the top right of the drawer so that you can see the LCT relay drive rollers [1] and LCT relay idle rollers [2].
13. Turn knob [3].
14. Hold a dry cloth between the plates and the rollers to clean both idle and drive rollers as they rotate [4].



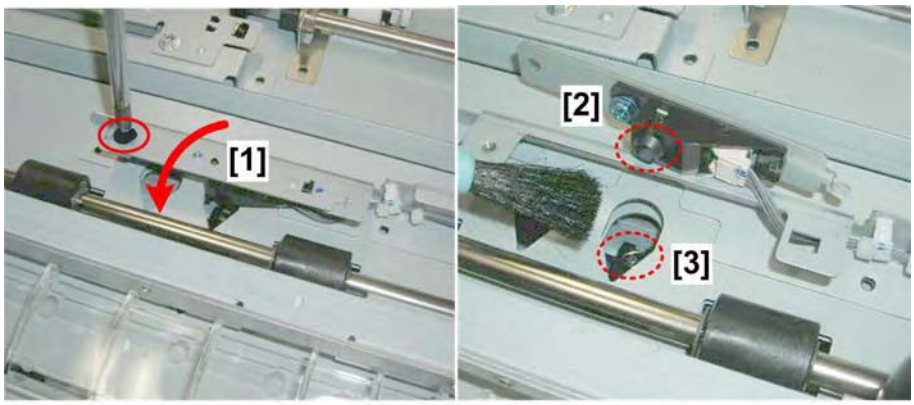

d074t522

15. Disconnect the LCT relay sensor 1 bracket [1] and turn it over so that you can see the sensor ( x1).
16. Blower brush: LCT relay sensor 1 [2].




d074t524

17. Disconnect the LCT relay sensor 2 bracket [1] and turn it over so that you can see the sensor ( x2).
18. Blower brush: LCT relay sensor 2 [2].

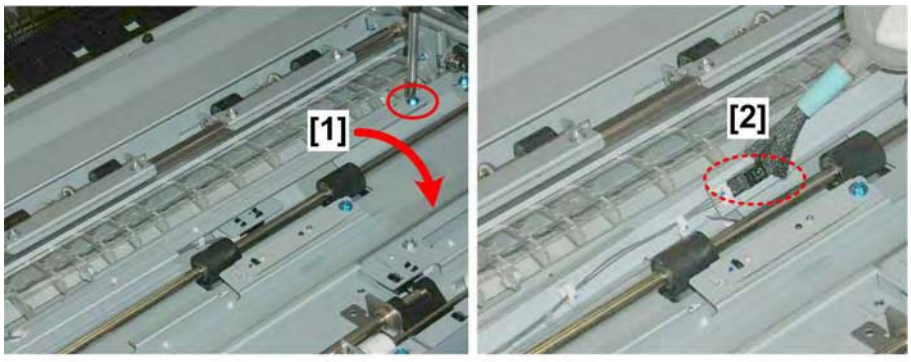



d074t526

19. Remove the double-feed sensor bracket [1] and turn it over so that you can see the top sensor ( x1).
20. Blower brush: Double-feed sensor (receptor) [2].
21. Blower brush: Double-feed sensor (LED) [3].

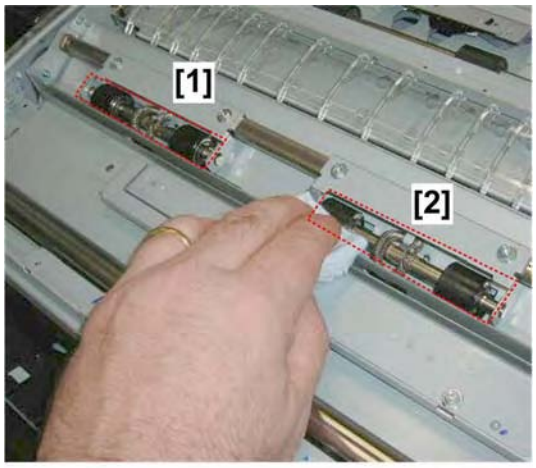
d074t527

22. Turn the knob at the front.
23. Dry cloth: Registration timing idle rollers [1]
24. Inside the right drawer, while turning the knob, Dry cloth: Registration timing drive rollers [2]



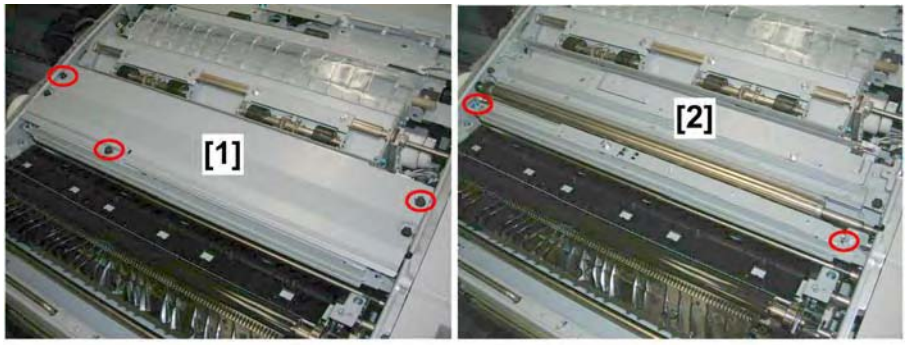

d074t529

25. Disconnect the registration timing sensor bracket [1] and turn it over so that you can see the sensor.
26. Blower brush: Registration timing sensor [2].




d074t530

27. Dry cloth:
    [1] Shift idle rollers (rear)
    [2] Shift idle rollers (front)

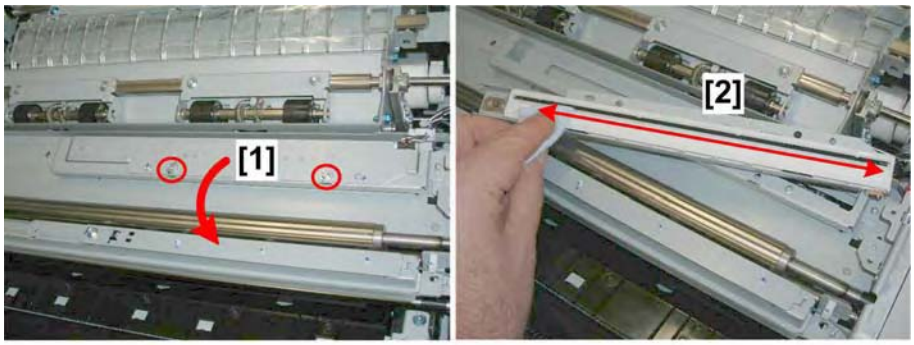



d074t531

28. Remove the dust tray cover plate [1] ( x3).
29. Remove the dust tray [2] ( x2).

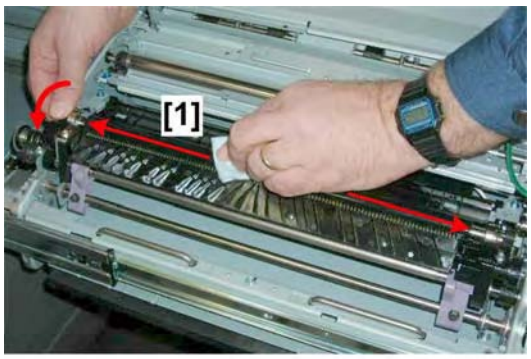
d074t532

30. If there is any paper dust in the tray, empty it into a waste bin.
31. Use a dry cloth to wipe the tray clean.



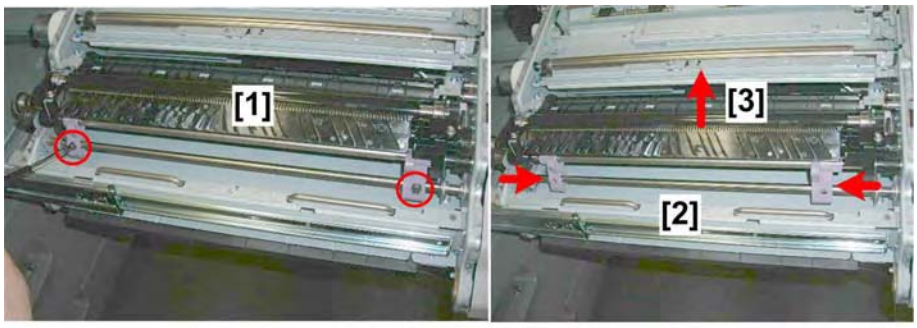

d074t533

32. Disconnect the CIS bracket [1] and turn it over so that you can see the clear surface of the CIS ( x2).
33. Use a damp cloth and then a dry cloth to wipe the surface [2] clean.



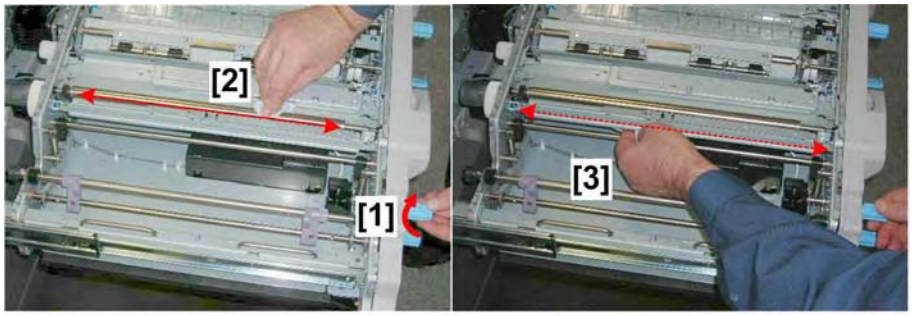

d074t533a

34. While slowly turning the roller gear at the rear, clean the PTR with a dry cloth.



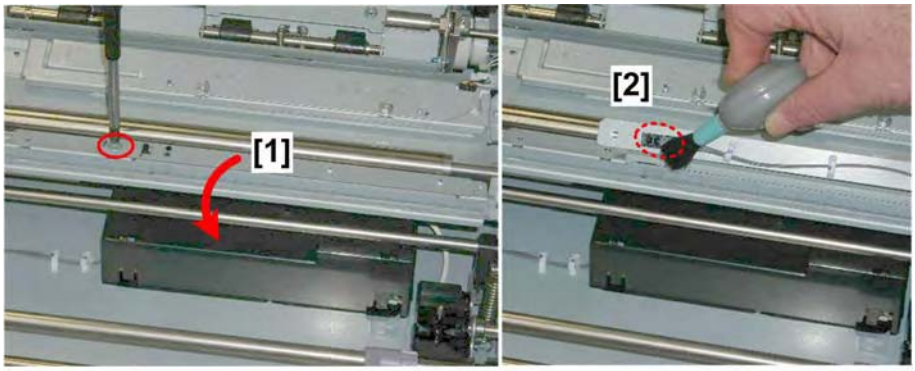

d074t534

35. Disconnect the PTR unit [1] support arms ( x2).
36. Push both disconnected arms toward the center [2] until they stop.
37. Remove the PTR unit [3].



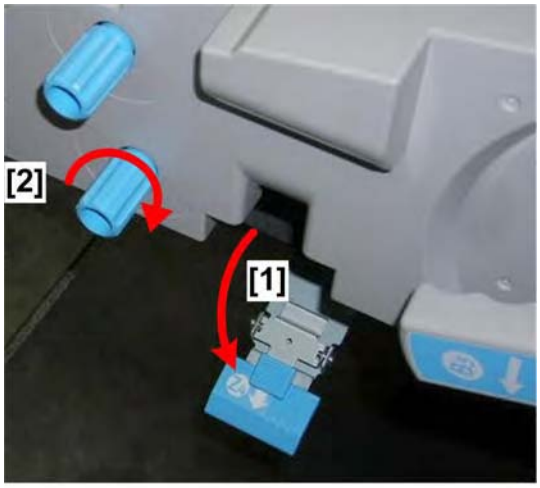

d074t535

38. Turn knob [1].
39. Dry cloth: Transfer timing idle roller.
40. While turning the knob, Dry cloth: Transfer timing drive roller [3].




d074t537

41. Disconnect the transfer timing sensor bracket [1] and turn it over so that you can see the sensor ( x1).
42. Blower brush: Transfer timing sensor [2].




d074t538

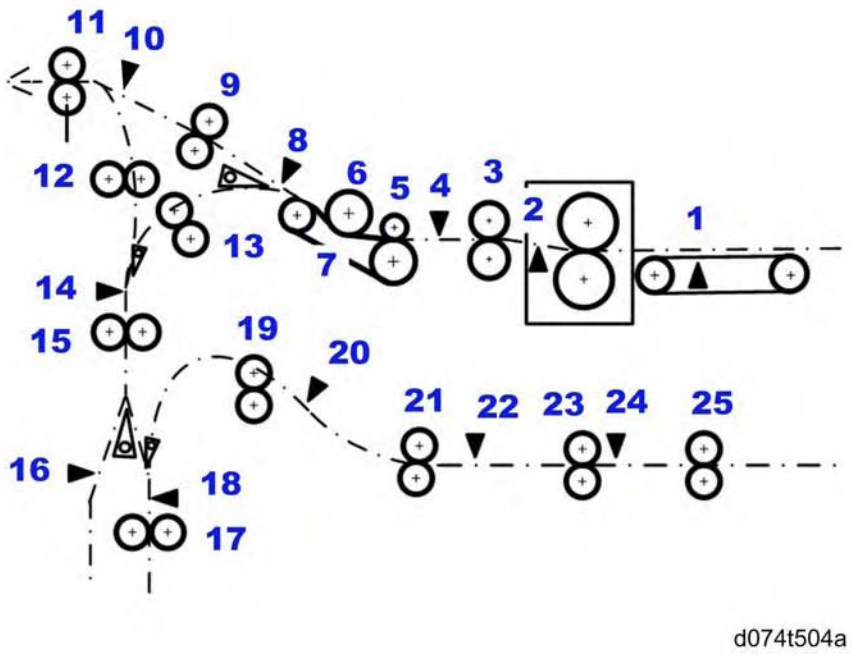
43. At the front right corner of the drawer, lower the duplex transport path plate (**Z4**) [1].
44. Rotate the duplex transport roller knob [2].

d074t539

45. Under the right drawer, clean the rollers (as you rotate the knob) and sensors.

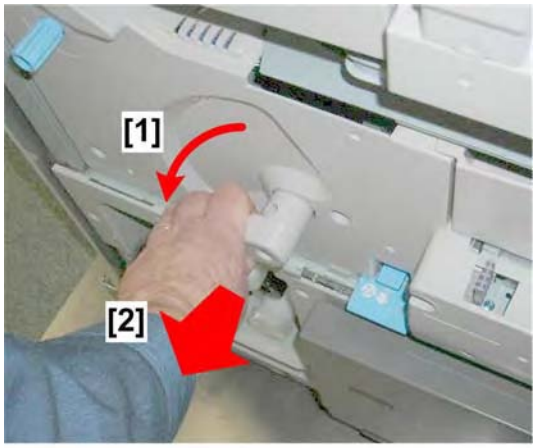
| | | |
|---|---|---|
| 1 | Duplex transport sensor 6 | Blower brush |
| 2 | Duplex transport drive rollers 5 | Dry cloth |
| 3 | Duplex transport idle rollers 5 | Dry cloth |
| 4 | Duplex transport sensor 7 | Blower brush |
| 5 | Duplex transport drive rollers 6 | Dry cloth |
| 6 | Duplex transport idle rollers 6 | Dry cloth |

### *Left Drawer*



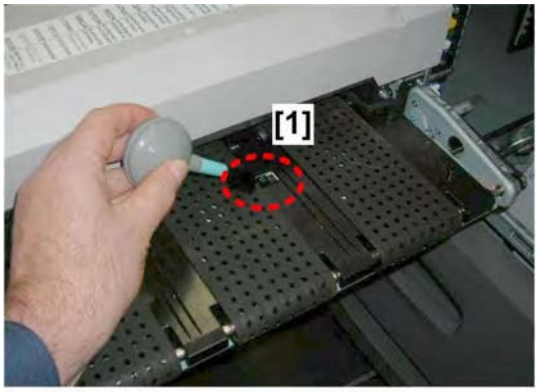

| | | | |
|---|---|---|---|
| 1 | PTB Sensor | 14 | Exit Relay Sensor |
| 2 | Fusing Exit Sensor | 15 | Invert Exit Rollers 1 |
| 3 | Exit Unit Entrance Rollers | 16 | Purge Relay Sensor |
| 4 | Cooling Unit Entrance Sensor | 17 | Duplex/Invert Rollers*[1] |
| 5 | Cooling Unit Entrance Rollers | 18 | Duplex/Invert Sensor |
| 6 | Cooling Pipe Roller | 19 | Duplex Transport Rollers 1 |
| 7 | Cooling Belt | 20 | Duplex Transport Sensor 1 |
| 8 | Exit JG Sensor | 21 | Duplex Transport Rollers 2 |
| 9 | Exit Relay Rollers | 22 | Duplex Transport Sensor 2 |
| 10 | Exit Sensor | 23 | Duplex Transport Rollers 3 |
| 11 | Exit Rollers | 24 | Duplex Transport Sensor 3 |
| 12 | Invert Exit Rollers 2 | 25 | Duplex Transport Rollers 4 |
| 13 | Invert Entrance Rollers*[1] | | |

*[1] Cleaning requires disassembly.



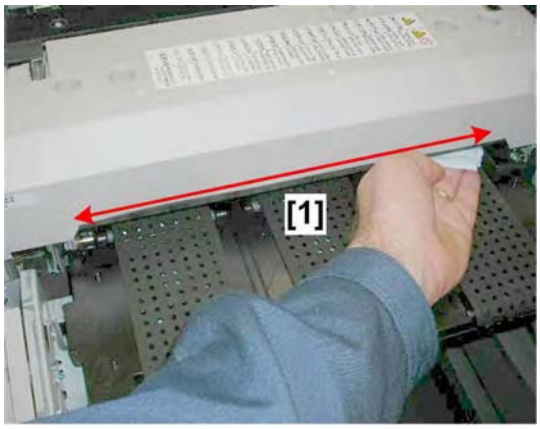

d074t540

1. Lower handle [1] and pull out the left drawer [2].



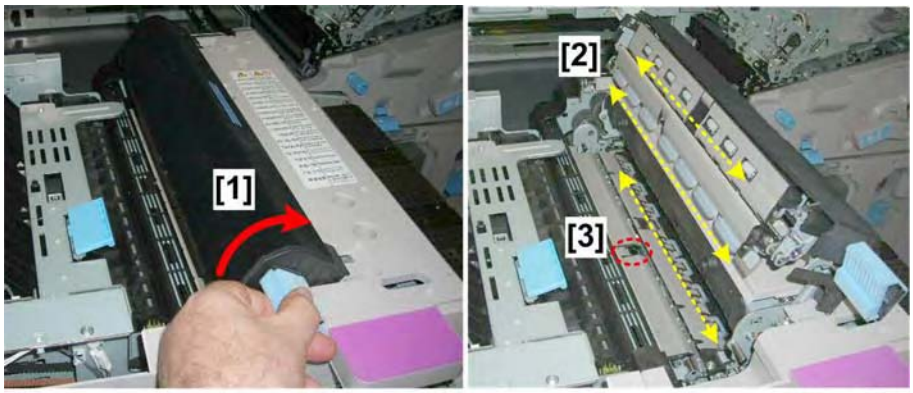

d074t541

2. Blower brush: PTB sensor [1]



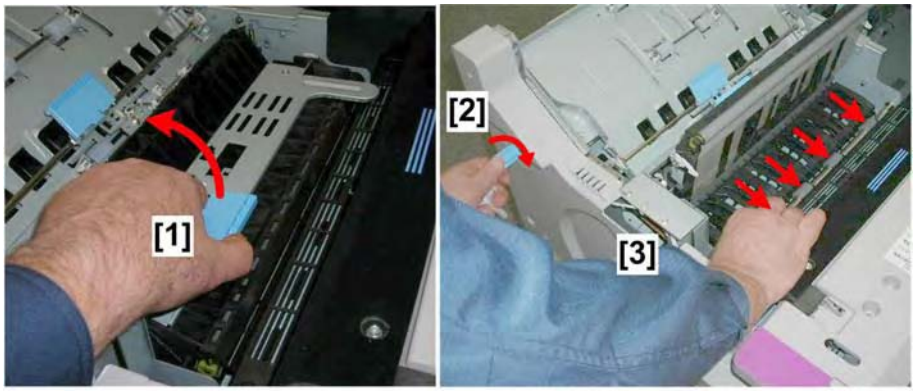

d074t542

3. Dry cloth: Fusing unit entrance plates [1]



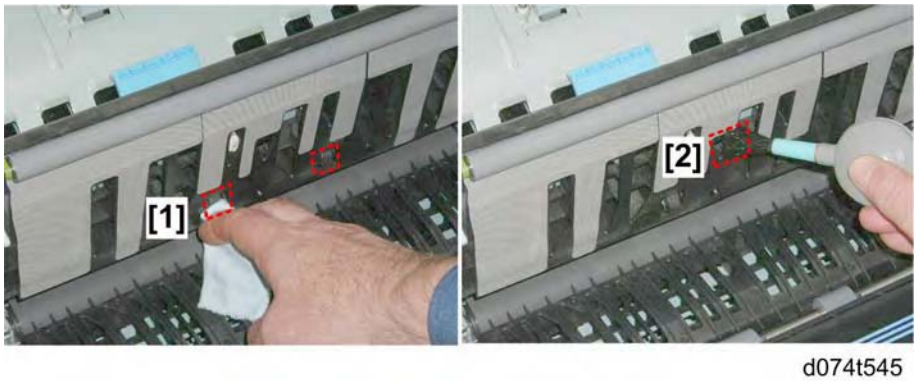

d074t543

4. Open the top of the fusing unit [1]
5. Dry cloth: Rollers, strippers, plates [2]
6. Blower brush: Fusing unit exit sensor [3]



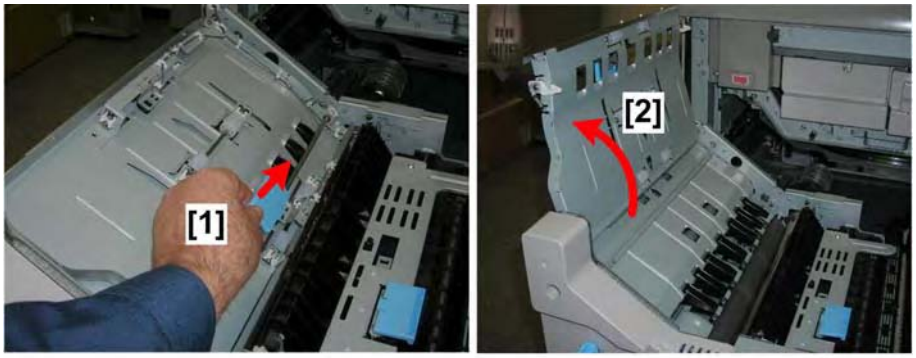

d074t544

7. Open the cooling unit entrance cover [1]
8. Turn knob [2].
9. Dry cloth: Exit unit entrance rollers [3]



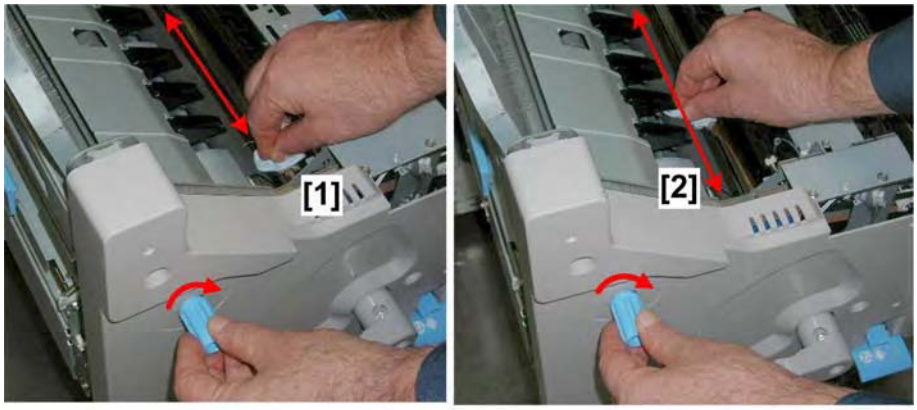

d074t545

10. Dry cloth: Cooling unit entrance rollers [1]
11. Blower brush: Cooling unit entrance sensor [2]
12. Close the cooling unit entrance cover.



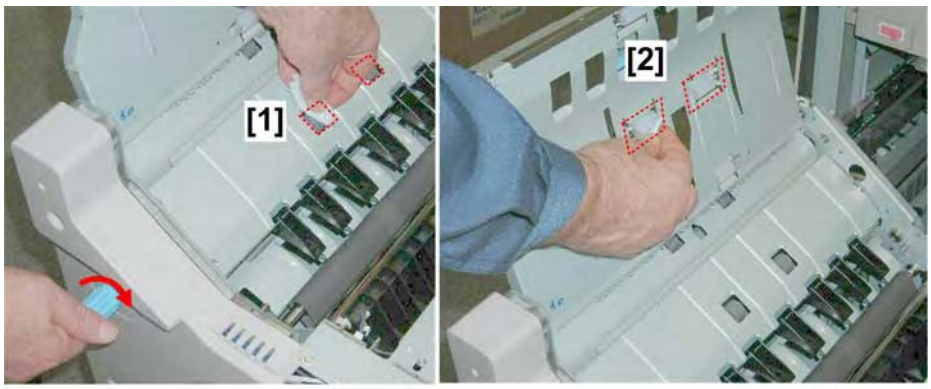

d074t546

13. Raise and open the transport cover [1].



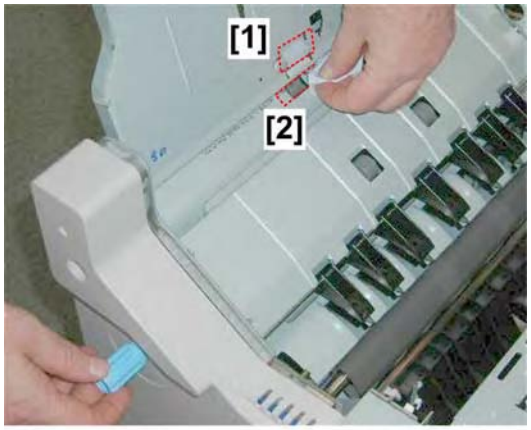

d074t547

14. Turn the knob.
15. Dry cloth:
    [1] Cooling belt
    [2] Cooling pipe roller



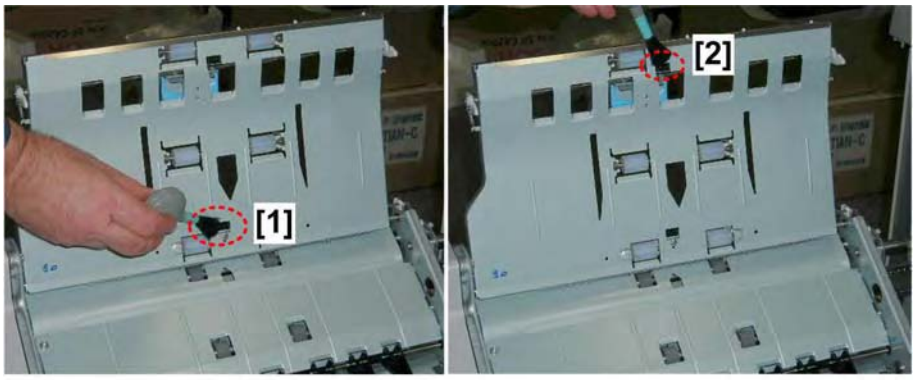

d074t548

16. Dry cloth:
    [1] Exit relay drive rollers
    [2] Exit relay idle rollers




d074t549

17. Dry cloth:
    [1] Exit idle roller
    [2] Exit drive roller

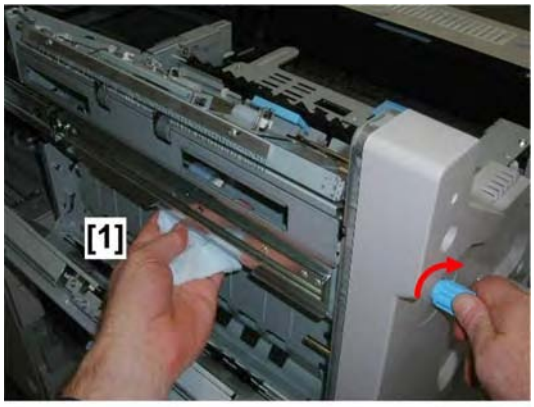



d074t550

18. Blower brush:
    [1] Exit sensor
    [2] Exit JG sensor
19. Lower and close the transport cover,

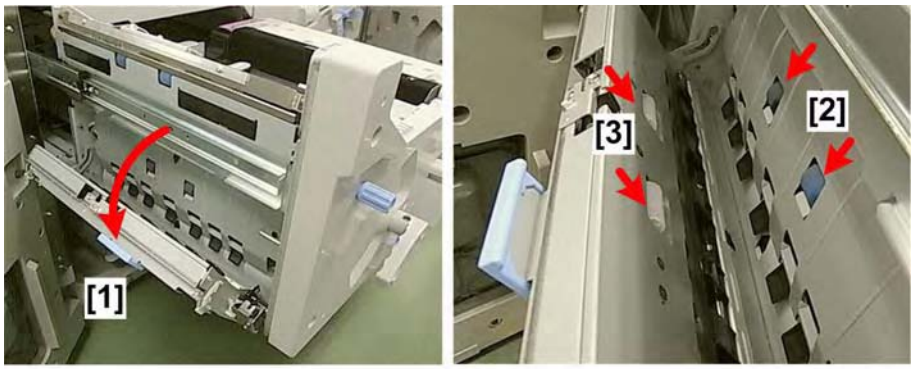
d074t551

20. Open the inverter/exit transport cover [1].




d074t552

21. Turn the knob.
22. Dry cloth: Invert exit rollers 2 [1]

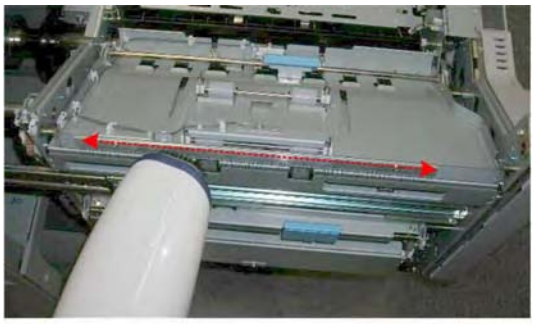



d074t553

23. Open the left feed unit [1].
24. Clean with a damp cloth (thoroughly wrung out):
    [2] Invert exit drive rollers 1
    [3] Invert exit idle rollers 1

d074t554

25. Blower brush:
    [1] Exit relay sensor
    [2] Duplex/invert sensor

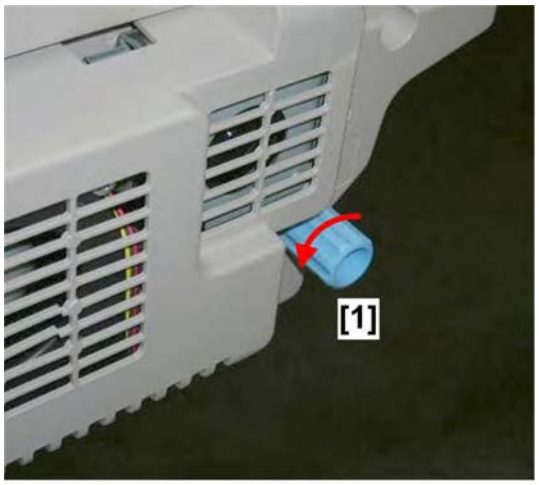


d074t555

26. Use a hand-held vacuum cleaner to clean the anti-static brush near the exit rollers.

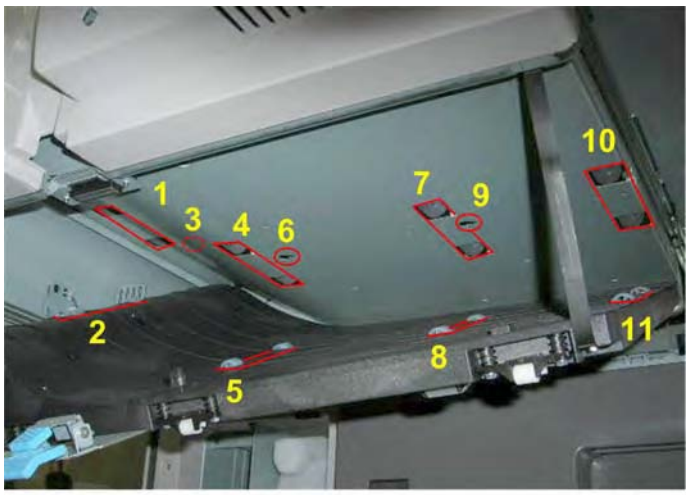
d074t557

27. Release and lower the duplex transport path plate (**Z4**) [1].




d074t558

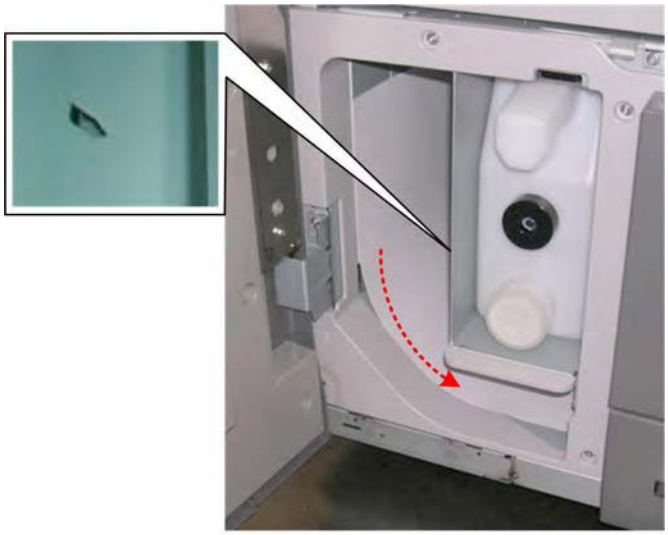
28. Rotate the duplex transport roller knob [1].




d074t559

| | | |
|---|---|---|
| 1 | Duplex transport drive roller 1 | Dry cloth |
| 2 | Duplex transport idle roller 1 | Dry cloth |
| 3 | Duplex transport sensor 1 | Blower brush |
| 4 | Duplex transport drive roller 2 | Dry cloth |
| 5 | Duplex transport idle roller 2 | Dry cloth |
| 6 | Duplex transport sensor 2 | Blower brush |
| 7 | Duplex transport drive roller 3 | Dry cloth |
| 8 | Duplex transport idle roller 3 | Dry cloth |
| 9 | Duplex transport sensor 3 | Blower brush |
| 10 | Duplex transport drive roller 4 | Dry cloth |
| 11 | Duplex transport idle roller 4 | Dry cloth |

### *Purged Paper Sensor*



d074t556

1. Open the left front door.
2. If there is paper in the purge tray, remove it.
3. Blower brush: Purged paper sensor

# REPLACEMENT AND ADJUSTMENTS

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 101 | 07/30/2012 | Added *Before Replacing the Laser Unit (D074/D075/M044)* |
| 119 | 07/30/2012 | Updated *SP Adjustments After Laser Unit Replacement* |
| 119 | 09/04/2012 | Removed NOTE for *SP Adj After Laser Unit Replacement* |
| 156 ~ 157 | 05/22/2013 | Updated *Drum Cleaning Unit* |
| 163 | 05/29/2012 | Added reference to *Replace Development Roller Seals* |
| 164 ~ 166 | 05/22/2013 | Updated *Replacing Developer*. |
| 181 ~ 182 | 05/22/2013 | Updated *Drum Lubrication Bar* |
| 184 ~ 185 | 05/22/2013 | Updated *After Replacing the Drum Cleaning Blade,* etc |
| 214 | 4/12/2013 | After Transfer Belt Replacement. |
| 236 ~ 242 | 03/27/2012 | Cleaning the Transfer Belt Speed Sensor |
| 237 | 5/21/2013 | Cleaning the Transfer Belt Speed Sensor |
| 238 | 06/14/2012 | Cleaning the Transfer Belt Speed Sensor |
| 238 | 5/21/2013 | Cleaning the Transfer Belt Speed Sensor |
| 248 ~ 260 | 03/09/2012 | Added *Encoder* |
| 251 | 07/27/2012 | Corrected *Encoder* instructions. |
| 302 ~ 304 | 04/18/2012 | Updated CIS Replacement/Adjustment Procedure |
| 366 | 09/04/2012 | Added NOTE for proper flange direction |
| 436 ~ 437 | 11/07/2012 | Added Before and After Replacing the NVRAM |
| 495 ~ 512 | 04/19/2012 | Added *Registration Adjustments* |
| 513 ~ 516 | 05/29/2012 | Added *Replace Development Roller Seals* |
| 517 ~ 520 | 07/27/2012 | Added *Cleaning the Transfer Belt Speed Sensor* |
| 521 ~ 522 | 07/30/2012 | Added *Replace Toner Supply Port Entrance Seal* |
| 523 | 08/31/2012 | Added *Replace Development Entrance Ass'y Seal* |
| 524 ~ 525 | 05/22/2013 | Added Preparations for Developer Removal. |

# 5. REPLACEMENT AND ADJUSTMENTS

## 5.1 GENERAL CAUTIONS

**⚠CAUTION**

- This machine has a Fiery controller (server type). The Fiery controller must be shut down before turning off the power supply to the main machine.
- Always turn off the Fiery controller first on the Fiery operation panel before turning off the main power switch of the machine.
- To prevent damage to the ITB, drum, or development unit when removing them or putting them back into the machine, never switch off the main power switch or operation power switch while the machine is operating.

### 5.1.1 REAR BOXES

Exercise caution when operating the machine with the rear boxes open, especially the cooling box:

- This machine has many fans and ventilation ducts to expel ozone, paper dust, and hot air from around the PCDUs and other areas inside the machine.
- If you service the machine and then check printing operation with the rear boxes open, dust or gases may adhere to the OPC drums and cause problems with image output (white block patterns for example).
- Normally, process control can handle such minor problems, but if you want to recover the print quality as soon as possible, print several sheets with solid color images.

## 5.1.2 DRUM

The organic photoconductor (OPC) drums are very sensitive to light and ammonia gas. When handling an OPC drum:

1. Never expose a drum to direct sunlight.
2. Never expose a drum to direct light of more than 1,000 lux for more than a minute.
3. Never touch a drum surface with bare hands. If the drum surface is touched or becomes dirty, wipe it with a dry cloth or clean it with a damp cotton ball. Wipe with a dry cloth after cleaning with damp cotton.
4. Never use alcohol to clean a drum. Alcohol can dissolve the drum surface and damage it permanently.
5. Store drums in a cool, dry place.
6. The photo-conductive layer of a drum is very thin and scratches easily. Always handle a drum with care.
7. Never expose a drum to corrosive gases such as ammonia.
8. Always dispose of used drums in accordance with local laws and regulations.

## 5.1.3 PCDU

1. To prevent scratching a drum or the ITB, always lower the ITB before you remove a PCDU or pull out the ITB unit.
2. The charge rollers should always be replaced together as a set.

d074r052

3. Before you push the PCDU into the machine, you must confirm:
   - Charge unit lock lever [1] is down and locked
   - Cleaning unit lever [2] is up and locked.

## 5.1.4 ITB UNIT

1. Never touch the surface of the ITB surface with bare hands.
2. Pull the ITB unit out of the machine only when it is absolutely necessary.
3. Always work carefully around the ITB (to avoid dropping tools, screws, etc.) when it is pulled out of the machine.
4. Before installing a new ITB, clean all the rollers and the inner surface of the ITB unit with a dry cloth to prevent the new belt from slipping.

## 5.1.5 SCANNER UNIT (D074/D075)

1. When installing a new exposure glass, always make sure that the white paint mark is at the rear left corner.
2. Clean the exposure glass with alcohol or glass cleaner to reduce the amount of static electricity on the glass surface.
3. Use a cotton pad dampened with water or a blower brush to clean the scanner optics.
4. Never bend or twist the exposure lamp cables.
5. Never disassemble a lens unit. Attempting to disassemble a lens unit will throw the lens and the copy image out of focus.
6. Never attempt to adjust a CCD positioning screw. Doing so will throw the CCD out of position.



## 5.1.6 LASER UNIT

1. Never open the laser unit. The laser units are replaced as units in the field.

## 5.1.7 DEVELOPMENT

1. Avoid nicking or scratching the development roller.
2. Place a development unit on a sheet of paper after removing it.
3. Always clean the drive gears after removing used developer.
4. Always dispose of used developer in accordance with local regulations.
5. Never load any type of developer or toner into the development unit other than those specified for this machine. Doing so will cause poor print quality and toner scattering.
6. Immediately after replacing the developer, be sure to execute the SPs to initialize the developer/toner.
7. Never do SP3030 with used developer.
8. When using a vacuum cleaner to clean the development unit casing, always ground the casing with your fingers to avoid damaging the toner density sensor with static electricity.
9. The TD sensor must be initialized:

- After replacing developer. (Initialize the TD sensor only for the PCDU where the developer was replaced.)
- Never initialize the TD sensor more than once. Initializing the TD sensor more than once can cause toner scatter inside the machine.

## 5.1.8 CLEANING

1. When servicing cleaning unit components, avoid nicking the edges of the cleaning blades.
2. Never touch the edges or surfaces of a cleaning blade with bare hands.
3. Before disassembling a cleaning unit, place a sheet of paper under it to catch stray toner or dry lubricant.

## 5.1.9 FUSING UNIT

1. Never handle fusing lamps and rollers with bare hands.
2. Make sure that the fusing lamps are positioned correctly and do not touch the inner surface of the rollers.

## 5.1.10 PAPER FEED

When replacing the pick-up, feed, and separation rollers in tray 1 or 2 of the main machine, trays 3, 4, 5 of the LCIT, or tray 6 (bypass tray):

- Use only rollers specified for use with this machine or peripheral unit.
- When handling the new rollers, avoid touching the surfaces of the rollers.

## 5.1.11 USED TONER

1. Check the level of the used toner in the used toner bottle at every service visit.
2. Always dispose of used toner in accordance with local laws and regulations.
3. Never attempt to incinerate used toner.

## 5.1.12 FIERY CONTROLLER

1. Use the "Shut Down" button on the operation panel to turn off the Fiery controller.
2. Never turn off the main power switch of the mainframe before shutting down the Fiery controller. Here is the correct shut down sequence for the Fiery and the main machine:

   **On the Fiery controller operation panel:**

   - Press the [Fiery] tab.
   - Press the [Restart Fiery] button.
   - Press the [Shut Down" button.

   **To shut down the main machine**

   - Push the operation switch to turn the power off
   - When the power LED goes off, turn the main power switch off. Never turn off the main power switch when the power LED is lit or flashing.

## 5.1.13 LIQUID COOLANT DISPOSAL

- The coolant tank is located at the bottom of the cooling box on the back of the main machine.
- The coolant tank holds the propylene glycol coolant that circulates from the tank through hoses that pass behind the cooling plates on the sides of the four development units.
- Always obey local laws and regulations if you need to dispose of a tank or coolant.
- The tank must never be emptied directly into a local drainage system, river, pond, or lake.
- Contact a professional industrial waste disposal organization and ask them to dispose of the tank.

# 5.2 SPECIAL TOOLS AND LUBRICANTS

## 5.2.1 SPECIAL TOOLS

### *D074/D075*

| Part No. | Description |
|---|---|
| A0069104 | Scanner Positioning Pin (4 pcs./set) |
| A0929503 | Test Chart-C4 (3 pcs./set) |
| A0299387 | Digital Multi-meter: FLUKE 87 |
| B6455010 | SD Card |
| C401 9503 | 20x Magnification Scope |

### *M044*

| Part No. | Description |
|---|---|
| A0299387 | Digital Multi-meter: FLUKE 87 |
| B6455010 | SD Card |
| C401 9503 | 20x Magnification Scope |

## 5.2.2 LUBRICANTS

| Part No. | Description |
|---|---|
| A2579300 | Grease Barrierta - S552R |
| 52039502 | Silicone Grease G-501 |
| B132 9700 | Drum Setting Powder |
| VSSG 9002 | FLUOTRIBO MG Grease |

# 5.3 COMMON PROCEDURES

This section describes important procedures that are referenced in other replacement and adjustment procedures. Service technicians must be familiar with the basic procedures before servicing the machine.

## 5.3.1 TURNING THE MACHINE ON/OFF

### *Turning the Machine On*

1. Turn on the Fiery controller.
2. Switch on the main switch of the main machine.

### *Turning the Machine Off*

**On the Fiery controller operation panel:**

1. Press the [Fiery] tab.
2. Press the [Restart Fiery] button.
3. Press the [Shut Down] button.

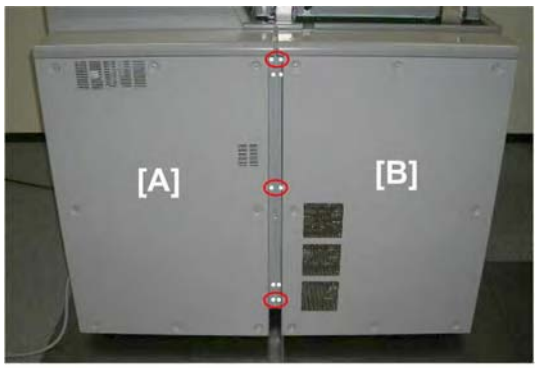
**On the main machine**

1. Push the operation switch on the operation panel to turn the power off.
2. Wait for the operation switch power LED to stop flashing.

   Important

   - Never turn off the main power switch when the power LED is lit or flashing.
3. After the power LED goes off, open the left front door.
4. Turn the main power switch off.

## 5.3.2 OPENING THE REAR BOXES




d074r004

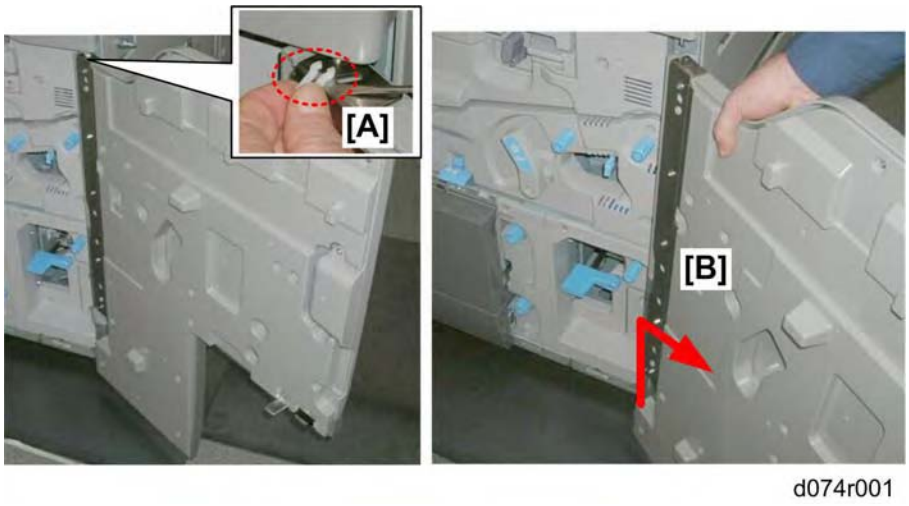
1. On the right edge of the controller box [A] and the left edge of the cooling box [B], remove the top, middle, and bottom screws ( x6).

d074r005

2. Swing open both boxes.

## 5.3.3 REMOVING DOORS, COVERS

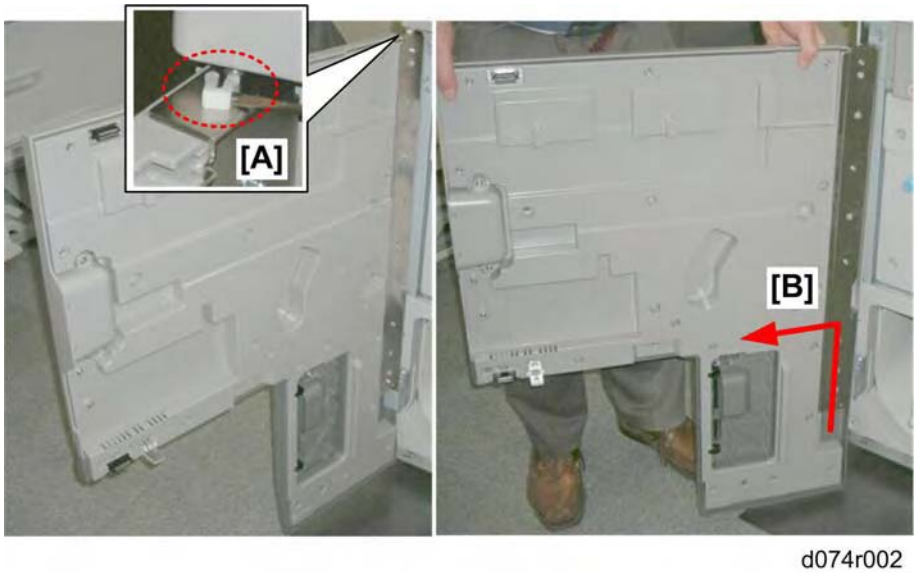
### *Right Front Door*




d074r001

1. Open the right front door.
2. Use the tip of a small screwdriver to release and remove the lock clip [A].
3. Lift the door [B] off the bottom hinge and remove it.

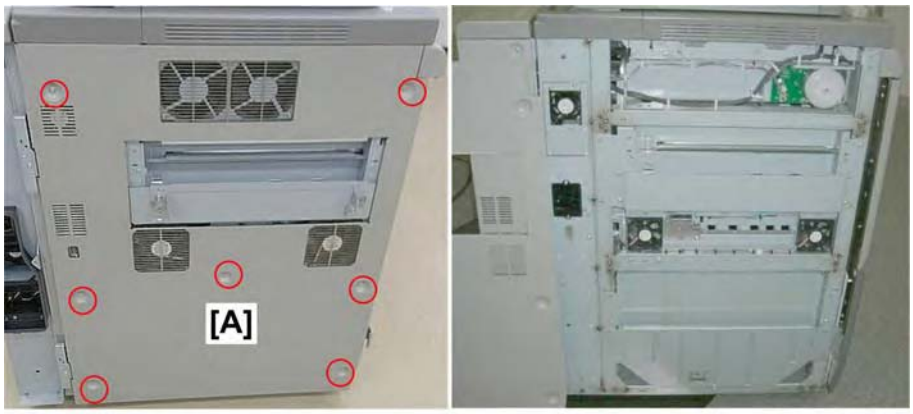
### *Left Front Door*




d074r002

1. Open the left front door.
2. Use the tip of a small screwdriver to release and remove the lock clip [A].
3. Lift the door [B] off the bottom hinge and remove it.

## *Left Cover*




d074r003

1. Remove the left cover [A] ( x7).

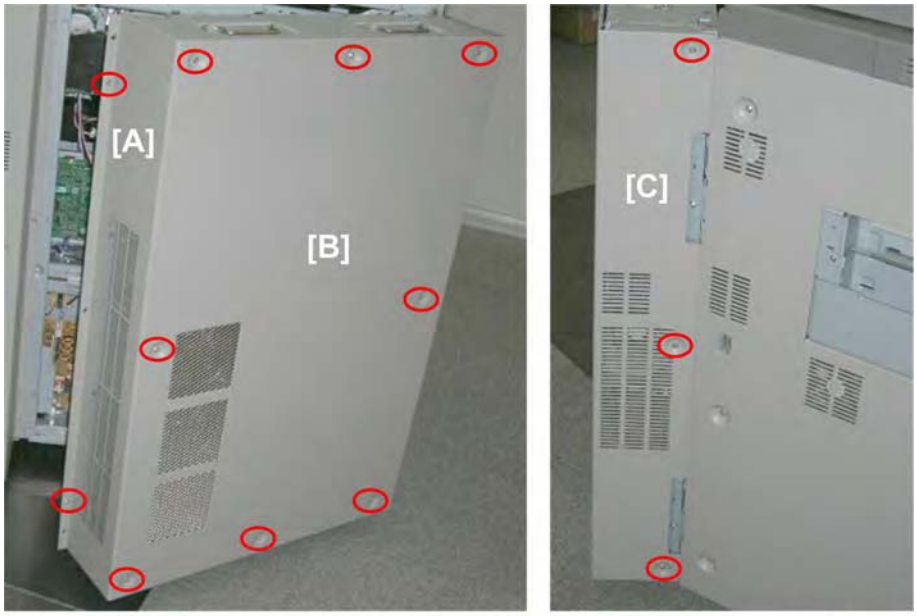
## *Cooling Box Covers*

d074r006

1. On the left edge of the cooling box [A], remove the top, middle, and bottom screws ( x3).
2. Swing the cooling box open.

d074r007

3. Use the tip of a small screwdriver to remove the screw covers (x4) on the top of the cooling box [A].
4. Remove the screws where the covers were removed ( x4).
5. Remove the top of the cooling box.




d074r008

6. Disconnect:

   [A] Left side ( x2)

   [B] Back ( x8)

   [C] Right side ( x3)

d074r009

7. Remove the cover.

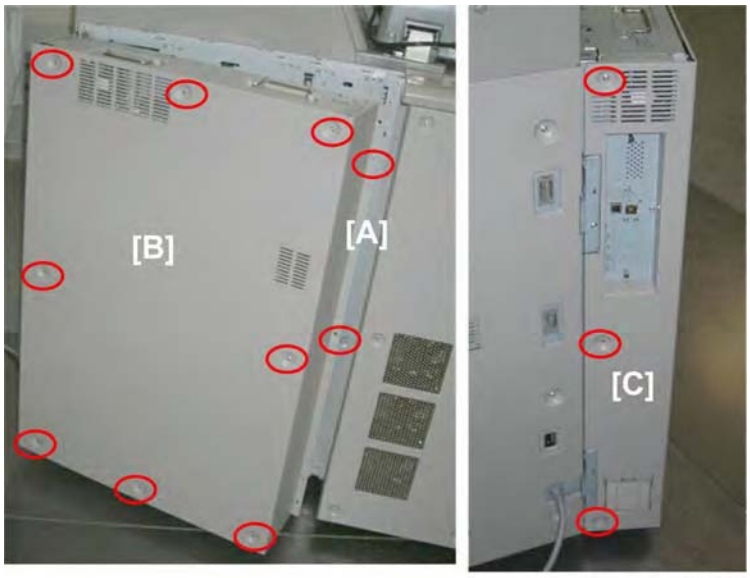
## *Controller Box Covers*

d074r010

1. On the side of the main machine, disconnect the ARDF [A] on the D0704/D075 (x1).
2. On the right edge of the controller box [B], remove the top, middle, and bottom screws (x3).
3. Swing the controller box open.

d074r011

4. Use the tip of a small screw driver to remove the screw covers (x4) on the top of the controller box [A].
5. Remove the screws where the covers were removed (x4).
6. Remove the top of the controller box.



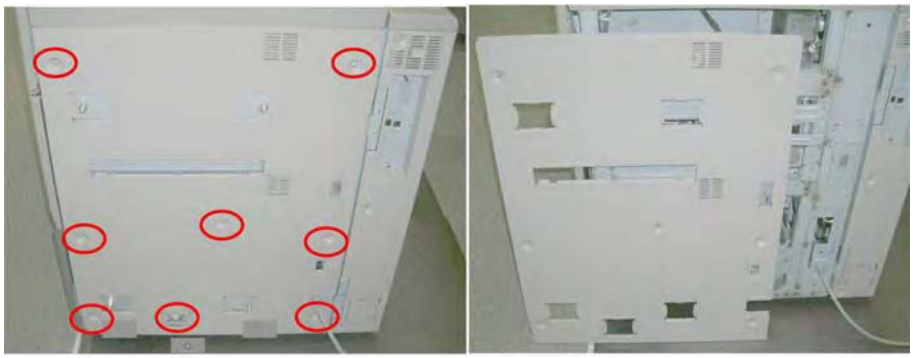

d074r012

7. Disconnect:
   [A] Right side ( x2)
   [B] Back ( x8)
   [C] Left side ( x3)

d074r013

8. Remove the controller box cover.

## *Right Cover*



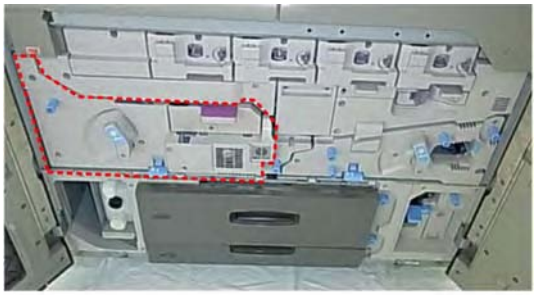
m044r014

1. Remove the right cover ( x8).

## 5.3.4 PULLING OUT AND CLOSING THE LEFT DRAWER

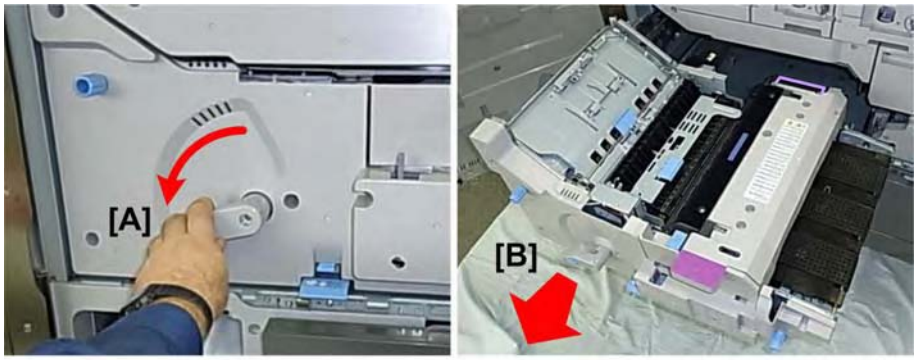
### *Pulling Out the Left Drawer*

1. Make sure that the system is off and confirm that the machine power cord is disconnected from the power source.
2. Spread a drop cloth or some paper in front of the machine.
3. Prepare a flat clean surface where you can place the fusing unit after it has been removed.
4. Open both front doors.



d074u401

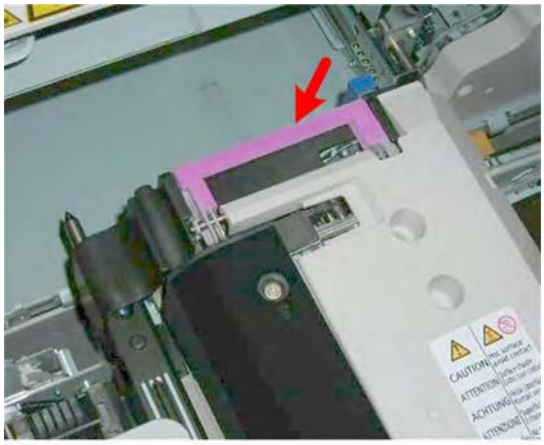
5. The fusing unit is in the left drawer.




d074u402

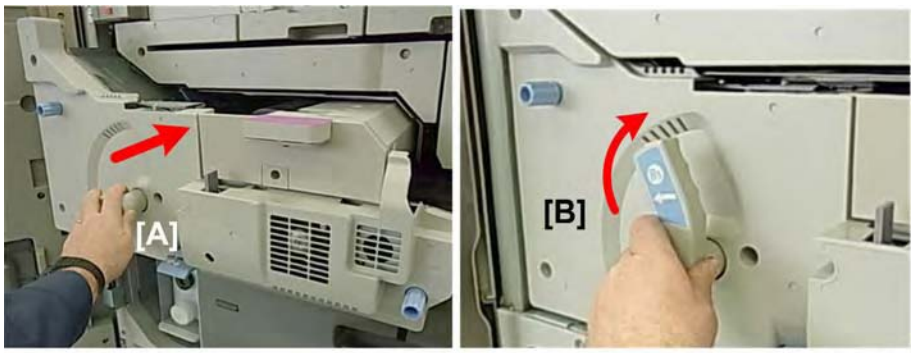
6. Lower the lock lever [A].
7. Pull the fusing unit [B] out completely until it stops.

## *Closing the Left Drawer*



d074u414

The rear fusing unit handle is spring loaded to keep it down and completely flat when not in use.



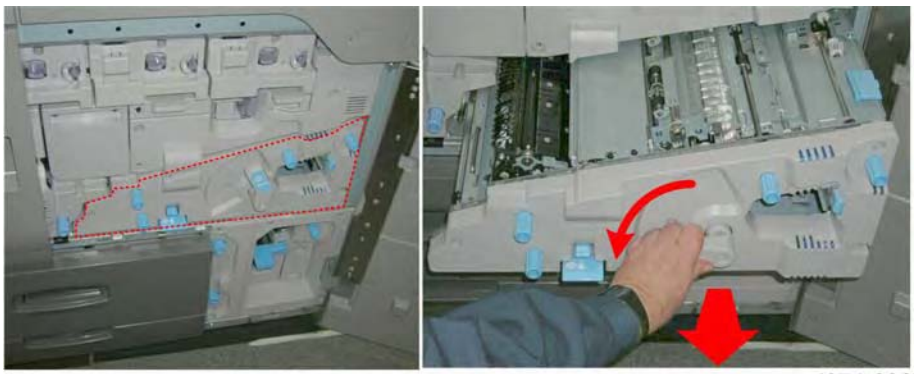

d074u415

1. Push the left drawer [A] slowly into the machine until it locks in place.
   - The left drawer should move smoothly into the machine.
   - Never force the left drawer into the machine if you feel any resistance.
   - If you feel resistance, stop pushing and pull the left drawer out again. Check the wire handle at the back of the fusing unit, and make sure that this handle is down completely.

## 5.3.5 REMOVING THE RIGHT DRAWER

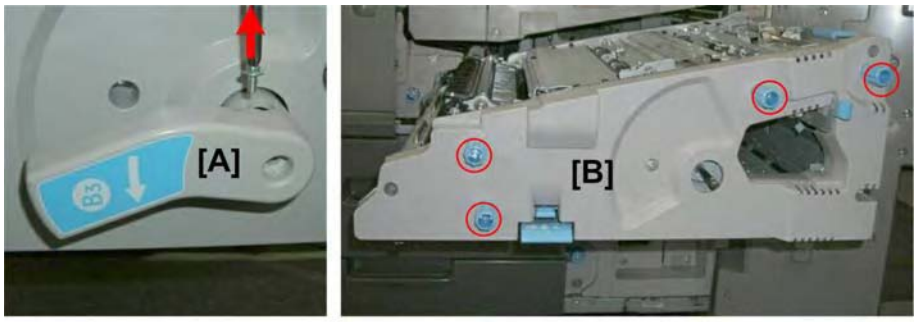
**CAUTION**

- Removal of the right drawer unit requires two people.
- One person cannot lift and move the right drawer unit.



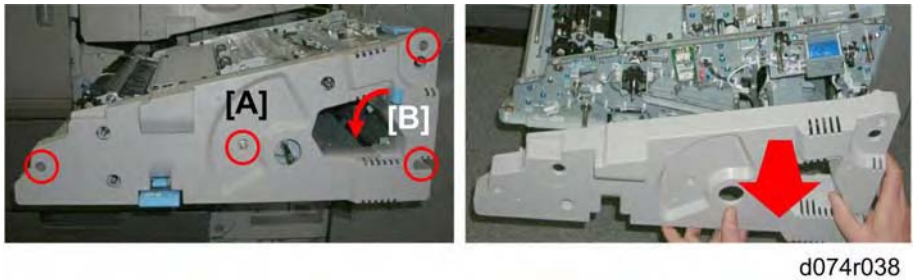
d074r036

1. Lower the handle.
2. Pull the right drawer out until it stops.



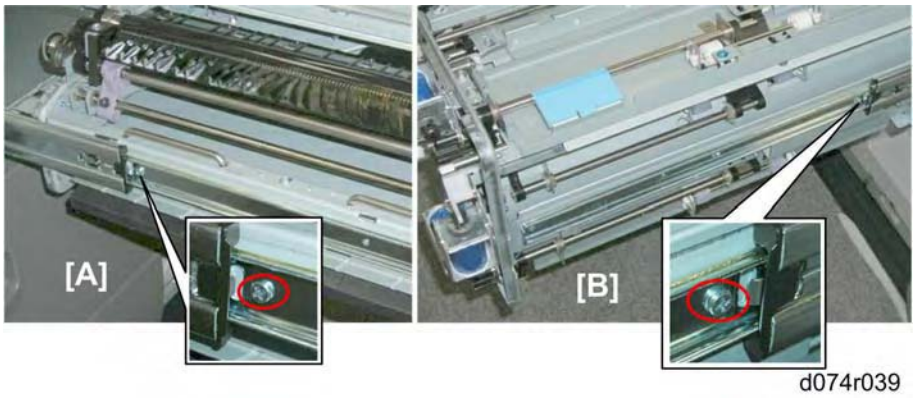

d074r037

3. Remove handle **B3** [A] ( x1).
4. Remove the knobs [B] (x4) ( x1 each).




d074r038

5. Disconnect the faceplate [A] ( x4).
6. Lower plate [B] so that it floats free.
7. Remove the faceplate. You may need to move plate [B] to free the faceplate.



d074r039

8. Remove:
   [A] Screw on the left rail ( x1)
   [B] Screw on the right rail ( x1)

d074r040

9. With one person on each side of the unit, lift it off the rails as shown above.

**CAUTION**

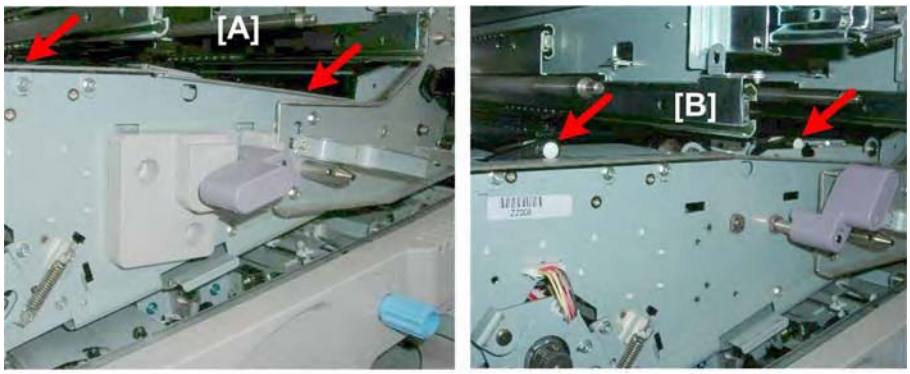
- The unit is extremely heavy. Two persons are required to lift the unit off the rails (and to re-install it).

## 5.3.6 PULLING OUT THE ITB UNIT

### *Before Pulling Out the ITB Unit and PCDUs*

**⚠CAUTION**

- At job end or when the machine is switched off, both sides of the ITB unit are lowered and separated from the drums.
- However, after a power failure or accidental disconnection of the power cord, or after the machine issues an SC code after a malfunction, both or one side of the ITB may remain up against the drums.
- To avoid damage to the ITB and drums, both sides of the ITB must be checked and lowered before the ITB unit and PCDUs can be pulled out of the unit




d074r040a

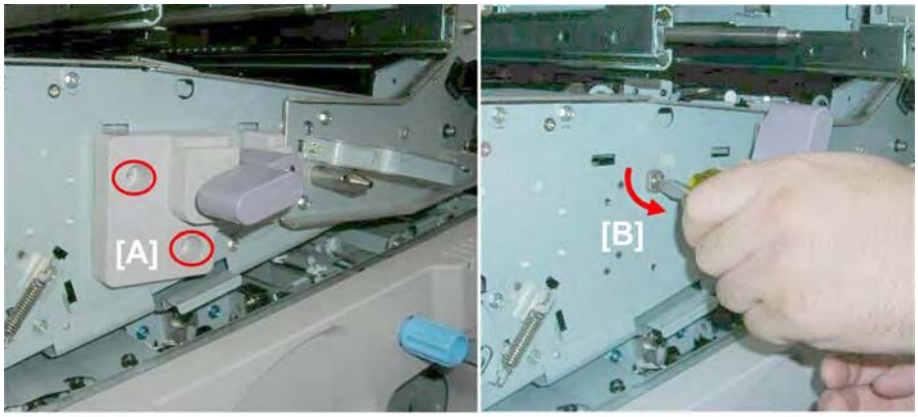
1. Always check the front edge of the ITB at two points [A] before you pull the ITB unit out of the machine.
2. If you see either white cap [B] (or both), this means the ITB lift motors have failed to lower the belt when the machine was powered off.

**⚠CAUTION**

- If you see the belt up as shown at [B], the ITB must be lowered manually before the ITB unit is pulled out of the machine.

d074r040b

3. To lower the left half of the ITB unit, turn the gear until the left side of the belt is down and you no longer see the left white cap.




d074r040c

4. To lower the right half of the ITB unit, remove cover [A] ( x2).
5. Turn screw [B] until the right half of the ITB is down and you no longer see the right white cap.

d074r040d

6. Check again to make sure that both caps are down.
7. With both caps down, the ITB unit can be pulled out.

### *1st Stop Position*

d074r041

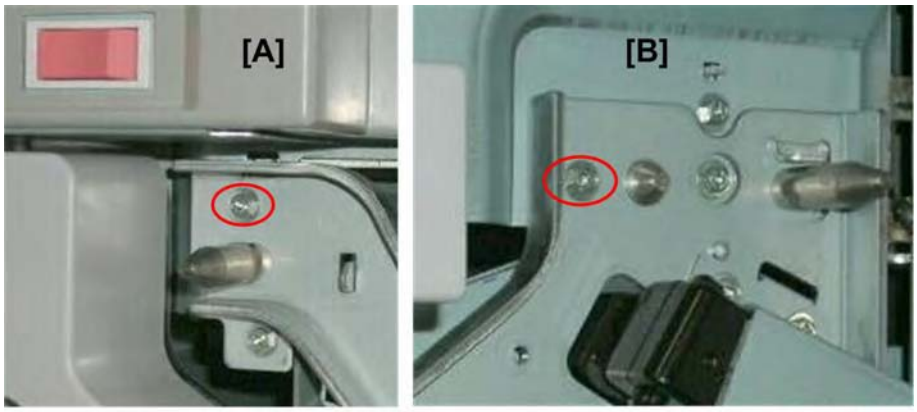
1. Lower the ITB lever [A].
2. Remove the ITB lever lock plate [B] ( x2).

d074r042

3. Remove the right ITB plate [A] ( x2).

d074r043

4. Remove the left ITB plate [A] ( x2).

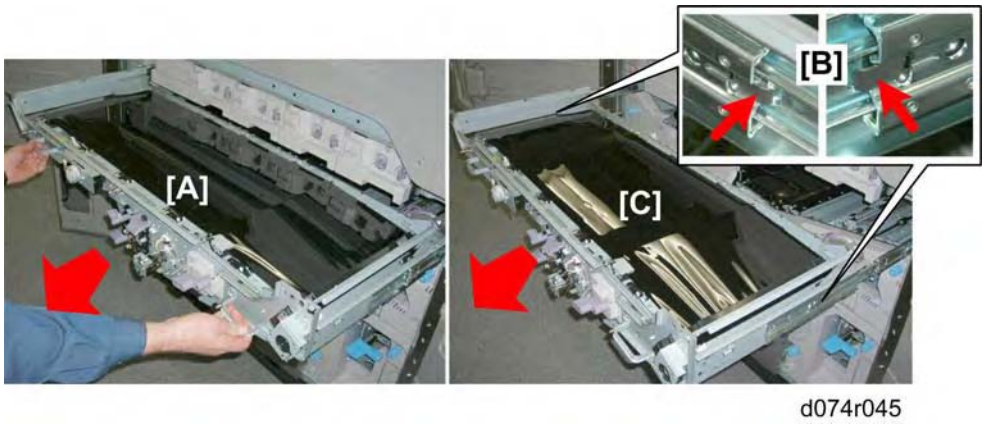



d074r044

5. Disconnect:

   [A] Left end of ITB unit ( x1)

   [B] Right end of ITB unit ( x1)




d074r045

6. Grip both handles of the ITB unit [A] and pull it out until it stops. This is the first stop position.

### *2nd Stop Position*

1. Depress the rail release levers [B] on both sides of the ITB unit tray and pull it out until it stops. This is the second stop position.

Important

- Never leave the ITB unit out and fully extended longer than necessary.

**Re-installation**

d074r046

Before you push the ITB unit into the machine:

- Make sure handle **B3** [A] below the ITB unit tray is down. You cannot push the ITB unit tray into the machine if this lever is up.
- You must depress the rail lock levers [B] in on both sides of the tray. (The rail locks engage automatically when the ITB tray is pulled out completely.

## 5.3.7 REMOVING THE CANOPY COVER

The procedure for removal of the canopy cover for the D074/D075 is different from the procedure for the M044.

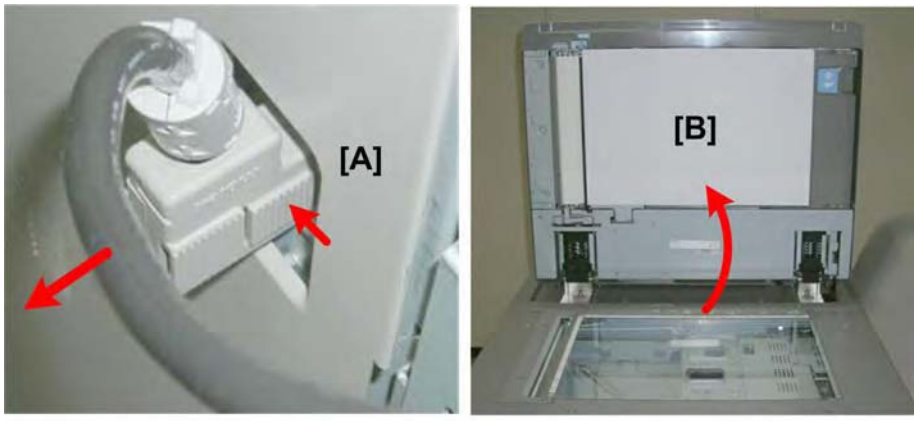
- **D074/D075**. The ARDF and some covers around the exposure glass on the left side of the machine must be removed.
- **M044.** Only three plastic covers need to be removed on the left side of the machine.

In addition, the toner bank door, attention light, operation panel, and toner bank cover must be removed for all models.

### *Canopy Cover: D074/D075*

Before you can remove the canopy cover, you must remove the ARDF and some plates around the exposure glass.

**ARDF**

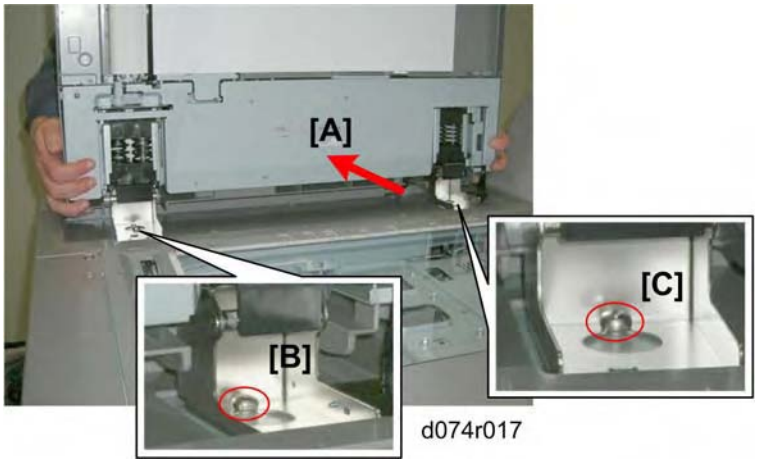



d074r015

1. On the right side of the machine, disconnect the ARDF [A] ( x1). (Press in at [1] to release then pull out [2].)
2. Raise the ARDF [B].

d074r016

3. Remove the ARDF base screws ( x2).

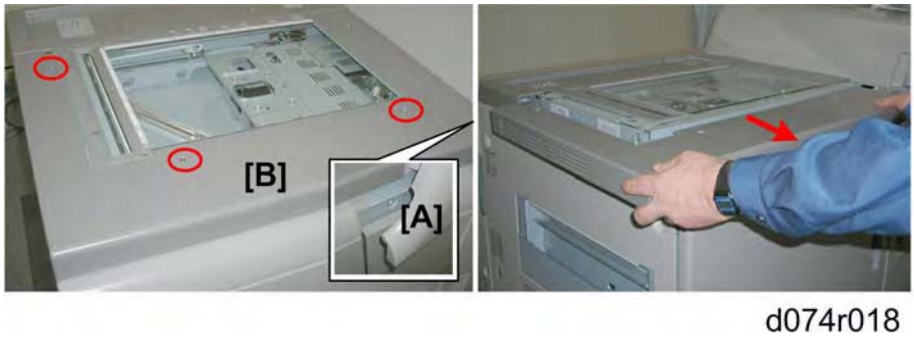



Important

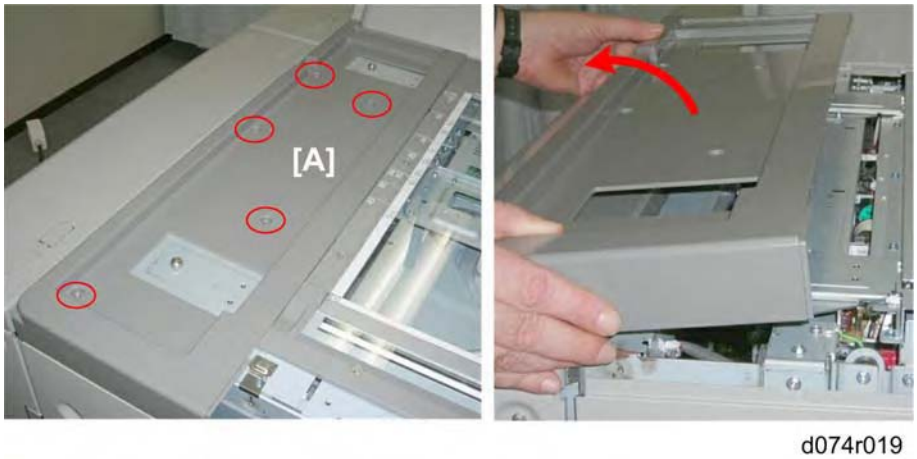
- Confirm that the ARDF cable has been disconnected from the right side of the machine before you lift the ARDF off the machine.

4. Grip the base of the ARDF [A] on both sides.
5. Pull the ARDF toward you to free the shoulder screws [B] and [C] from the keyholes of the plates.
6. Lift the ARDF off the machine and set it down.

**Around the Exposure Glass**




7. Open the toner bank door [A].
8. Remove the front "L" plate [B] (x3).




9. Remove the rear plate [A] ( x5).

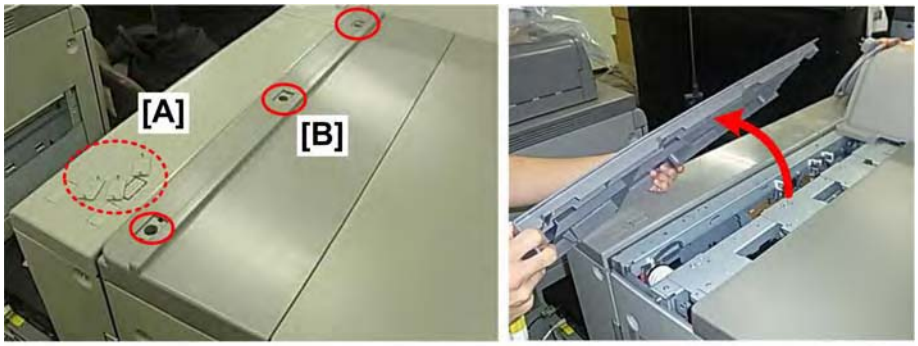
10. Go to "Canopy Cover Removal Continued (D074/D075/M044" below to complete removal of the canopy cover.

## *Canopy Cover: M044*

The M044 has no ARDF or exposure glass. You need to remove only three plastic covers before you can remove the canopy cover.

1. Confirm that the machine is switched off and disconnected from the power source.

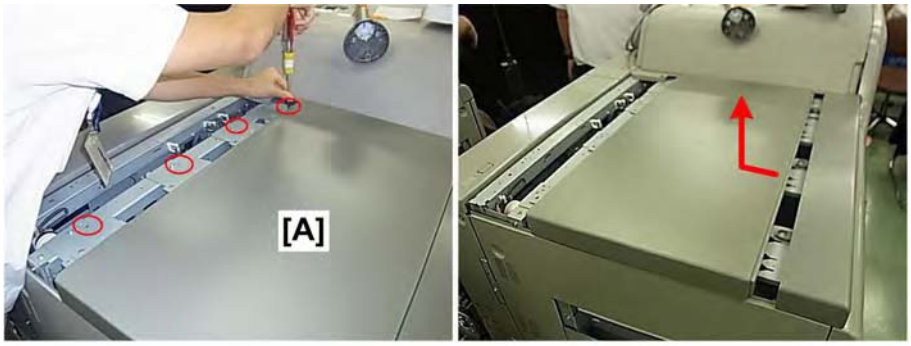
**Rear Cover**




m004c001

2. Use the tip of a small screwdriver to remove the three screw hole covers [A].
3. Disconnect cover [B] and remove it ( x3).

**Center Cover**




m004c002

4. Disconnect center cover [A] and remove it ( x4).

**Front Cover**

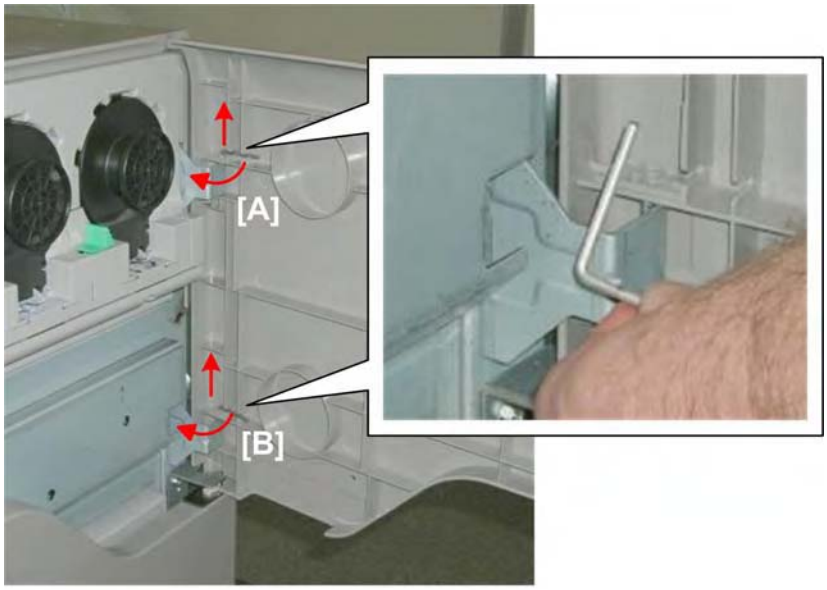
m004c003

5. Disconnect front cover [A] and remove it ( x3).

6. Go to the next section to complete removal of the canopy cover.

## *Canopy Cover Removal Continued (D074/D075/M044)*

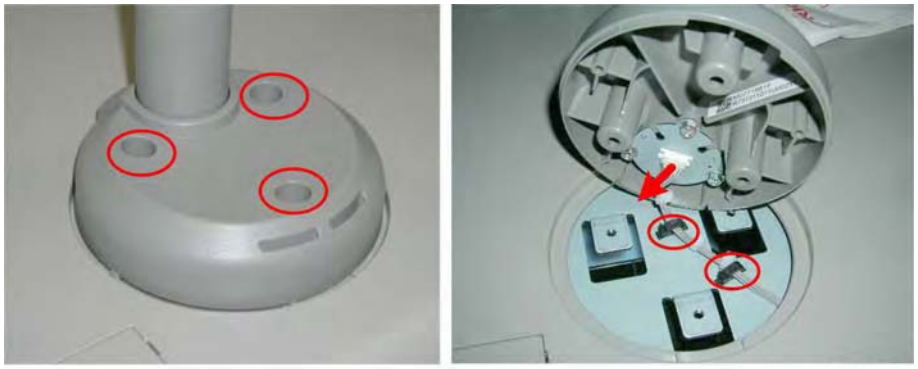
**Toner Bank Door**




d074r021

1. Open the toner bank door.
2. To remove the top hinge [A], swing the "L" hinge pin out [1] and pull it up [2] to remove it.
3. Remove the bottom "L" hinge pin [B] and remove the door.

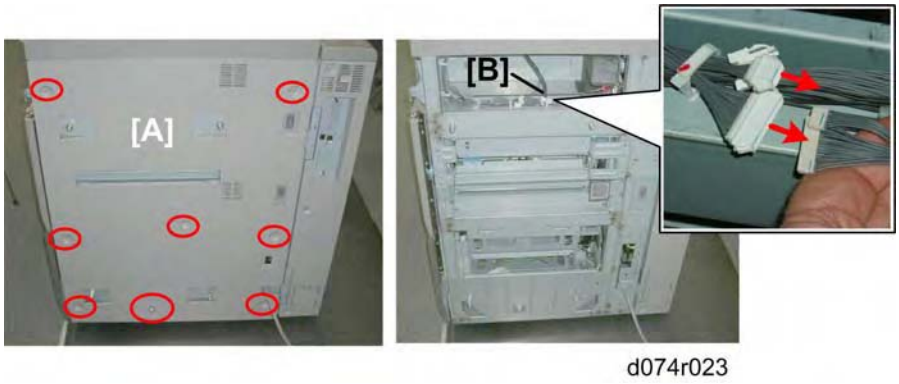
**Attention Light**



d074r022

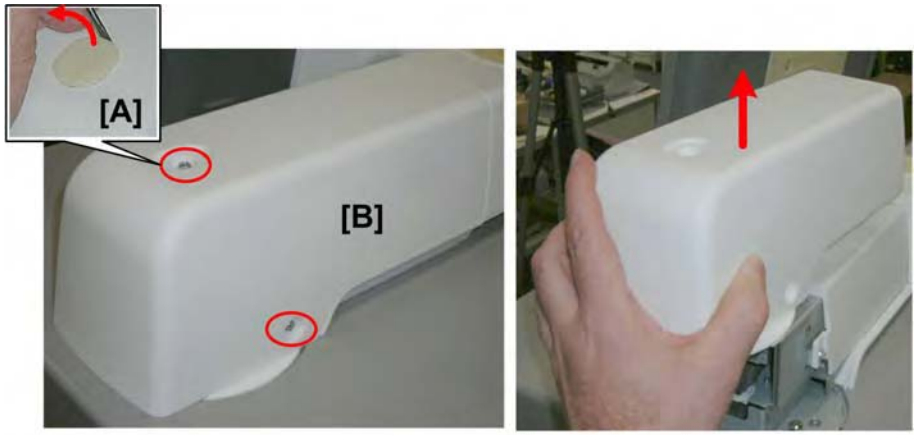
4. Remove the base screws of the attention light ( x3).
5. Lay the light on its side and disconnect it ( x1, x2).

**Operation Panel**



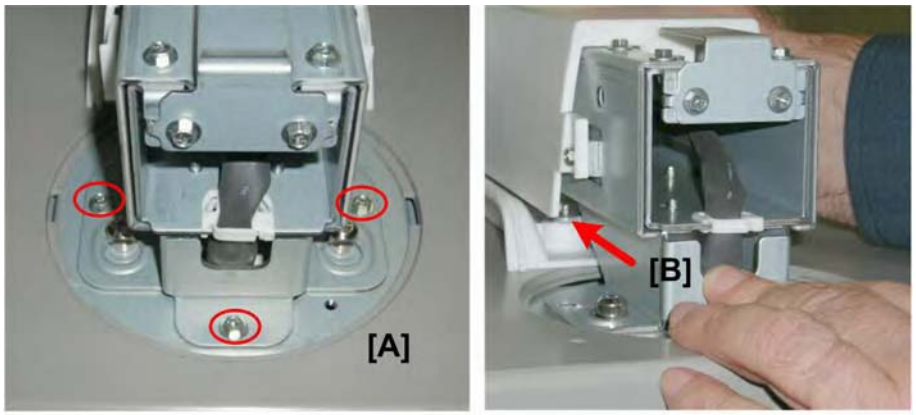

d074r023

6. Remove the right cover [A] ( x8).
7. Disconnect the operation panel harness at [B] ( x2).
8. Inside the machine, disconnect the harness cable ( x1).




d074r024

9. Use the tip of a small screwdriver to remove screw cover [A].
10. Remove arm cover [B] ( x2).



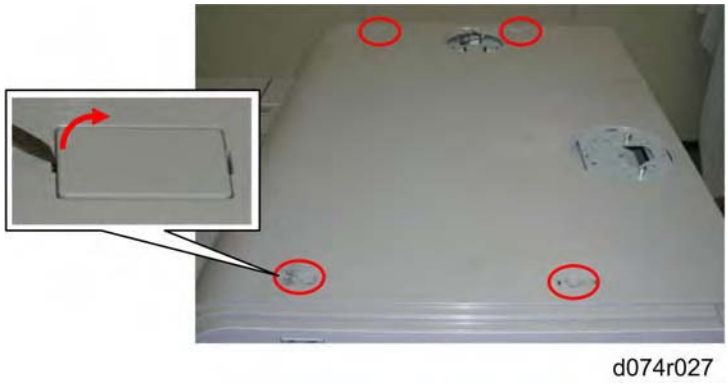

d074r025

11. Disconnect the base of the operation panel [A] ( x3).
12. Push the arm [B] away to slide the shoulder screws out of the keyholes.
13. Lift the operation panel and set it slightly to the left.

d074r026

14. Pull the operation panel harness out of the hole.
15. Lift the operation panel off the machine and set it down.

**Canopy Cover**



d074r027

16. Use the tip of a small screwdriver to remove the screw covers.
17. Remove the screws where the covers were removed ( x4).

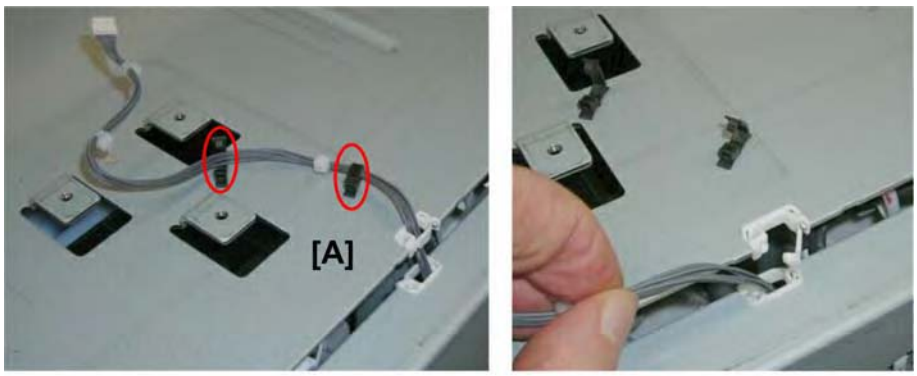
d074r028

18. At the front [A], remove a screw ( x1).
19. At the rear [B] (near the scanner unit), remove a screw ( x1).

d074r029

20. Disconnect the cover on the left ( x2).
21. Lift the canopy cover off.

**Toner Bank Cover**




d074r030

22. At the rear [A], disconnect the attention light harness (x3).

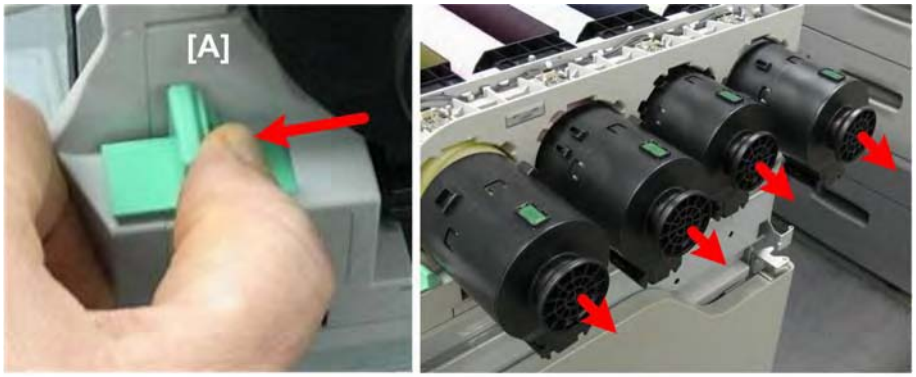
d074r031

23. Disconnect the cover at the rear [A] ( x2).
24. Disconnect the cover at the front [B] ( x2).

d074r032

25. Disconnect the cover on the left side [A] ( x4).
26. Lift the canopy cover off.

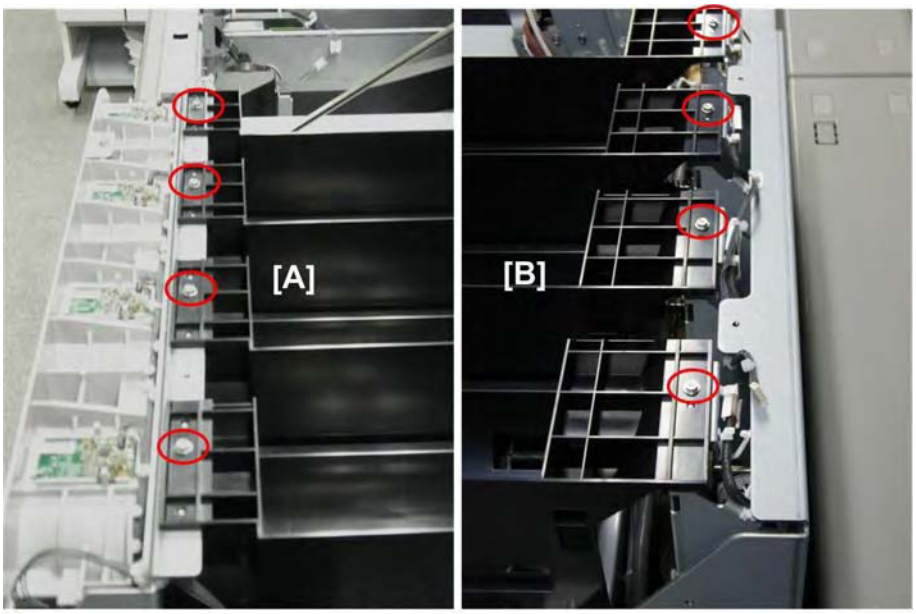
**Toner Bottles**




d074r033

27. Push the toner bottle release lever [A] of each bottle to the left. Each bottle will pop out as it is released.
28. Remove each bottle.

**Toner Bottle Cradles**




d074r034

29. Disconnect each cradle:

[A] Front ( x4)

[B] Rear ( x4)

d074r035

30. Remove each cradle (x4) and set it aside.

Note

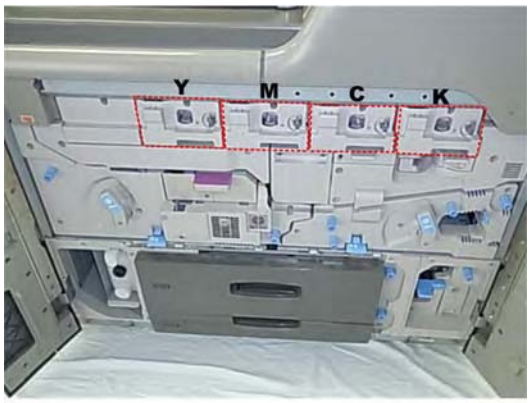
- The cradles are identical. They can be re-installed at any position.

## 5.3.8 REMOVING PCDUS

**CAUTION**

- At job end or when the machine is switched off, both sides of the ITB unit are lowered and separated from the drums.
- However, after a power failure or accidental disconnection of the power cord, or after a the machine issues an SC code after a malfunction, both or one side of the ITB may remain up against the drums.
- To avoid damage to the ITB and drums, both sides of the ITB must be checked and lowered before the ITB unit and PCDUs can be pulled out of the unit

1. Spread a drop cloth or some paper in front of the machine.
2. Open both front doors.




d074r102a

3. There are four PCDUs (YMCK).

d074r102b

4. Lower the ITB release lever. (This separates the ITB from the bottoms of the drums so that the surface of the ITB or drum will not be scratched when a PCU is removed.)

**To Remove the Y_PCDU or M_PCDU Lock Screw**

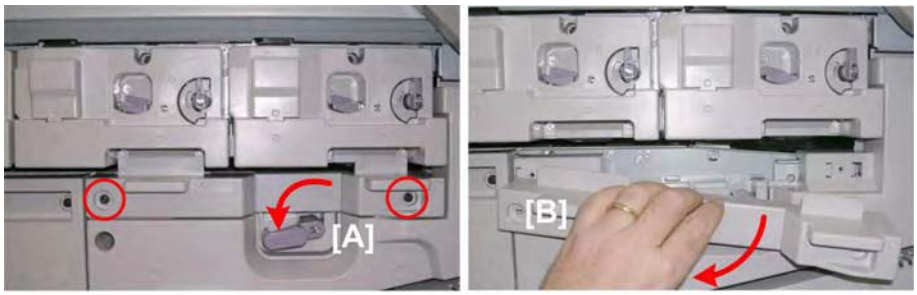
d074r102c

5. Remove the PCDU lock screw.

**To Remove the C_PCDU or K_PCDU Lock Screw**

d074r102d

6. A plate must be removed before you can remove the two PCDUs on the right.



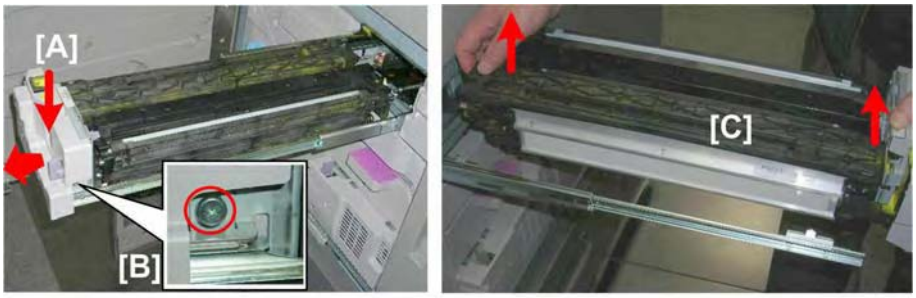

d074r102e

7. Make sure that the ITB lever [A] is down.
8. Remove the screws and remove the plate [B].

d074r102f

9. Remove the PCDU lock screw.

**To Remove a PCDU**




d074r068

10. Depress the PCDU lock lever [A] and pull the PCDU out slowly until it stops.
11. Remove lock screw [B] ( x1).
12. Lift the PCDU [C] off the rails and then lay the PCDU on the prepared surface.

Important

- Place the PCDU upright on a flat clean surface.
- There is only a small gap between the surface of the drum and the table surface, so the surface must be smooth, flat, and clean.
- To avoid damage to the surface of the drum, never place the PCDU on a carpet or rough cloth.

13. Push the PCDU rails into the machine.

**Re-Installation**

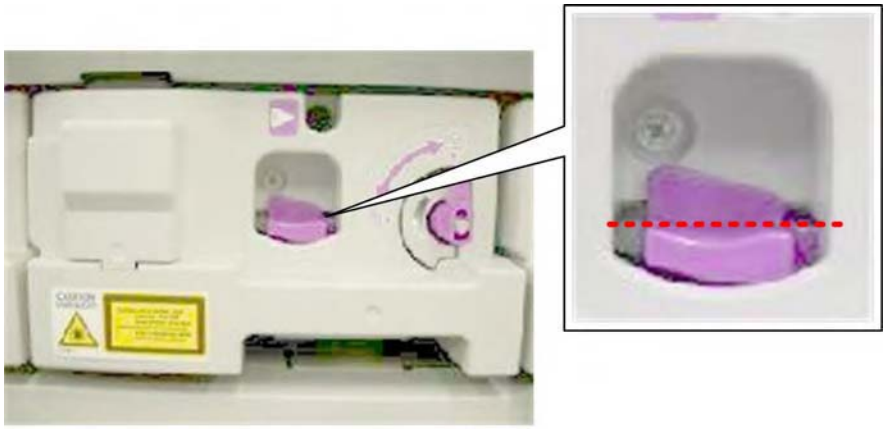
d074r987

1. Always check the left side of the PCDU before you push it back into the machine. (This is the shield plate that conducts heat away from the development unit.)
2. If you see any toner on the plate, wipe it off with a clean dry cloth.

**CAUTION**

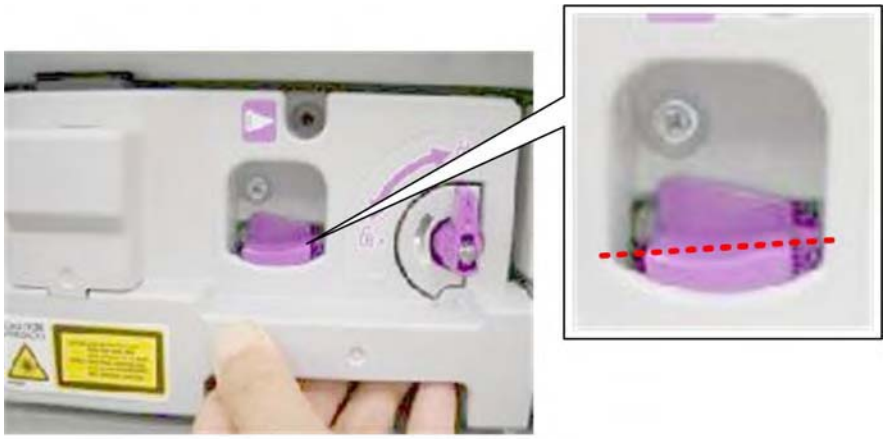
- To prevent toner scatter or gear damage, never apply excessive force on the PCDU when you push it into the machine.

3. After you push the PCDU into the machine, make sure that PCDU is locked correctly.



d074r915

- When the PCDU is locked correctly, the top of the lock lever is straight as shown above.



d074r916

- If the PCDU is not locked correctly, the top of the lock lever is slanted slightly down to the left as shown above.

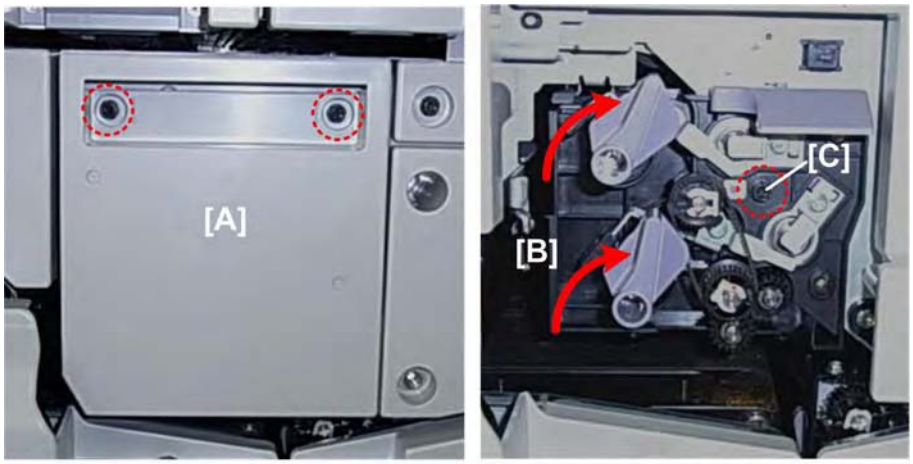
4. If the PCDU lock lever is not locked correctly, pull the PCDU out about 30 mm (1.5 in.) and push it in again so the top of the lock lever is level.

## 5.3.9 REMOVING THE ITB CLEANING UNIT

1. Make sure that the system is off and confirm that the machine power cord is disconnected from the power source.
2. Spread a drop cloth or some paper in front of the machine.
3. Open both front doors.

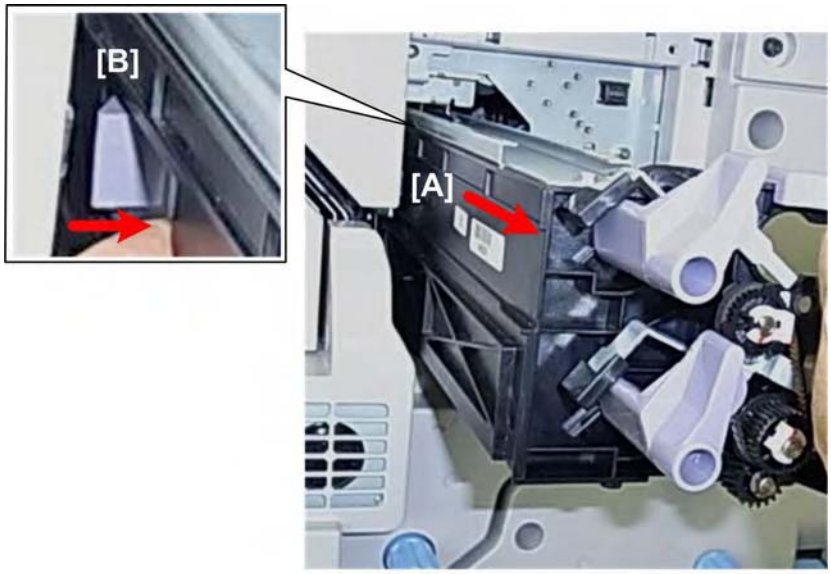
d074u201

4. The ITB cleaning unit is below the PCDUs.



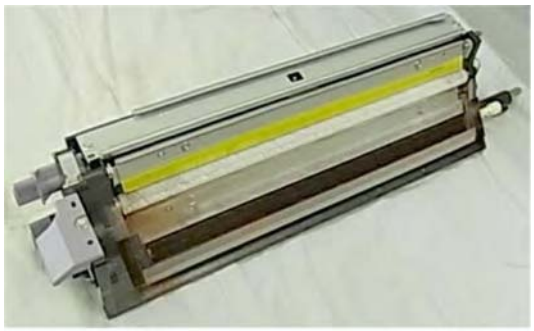

d074u202

5. Remove the two screws and cover [A].
6. Raise both levers [B].
7. Remove screw [C].




d074u203

8. There is a tab release on the left side of the ITB cleaning unit. Pull the cleaning unit [A] about half way out.
9. Press tab release [B] to the right.

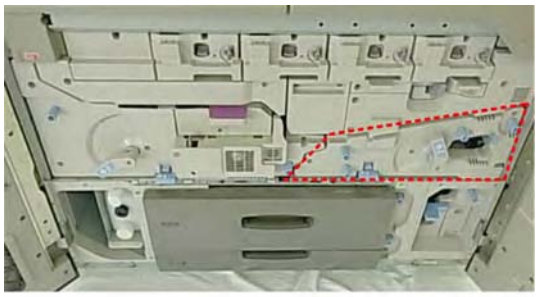


d074u204

10. Pull out the ITB cleaning unit.

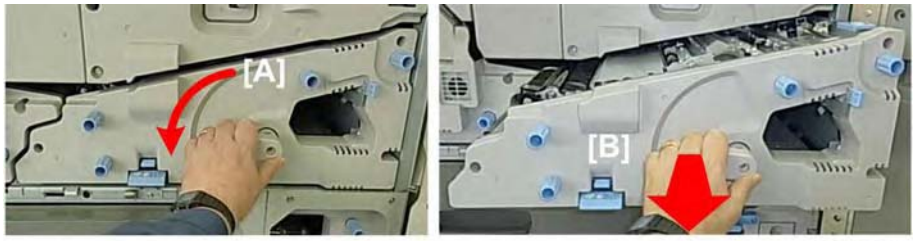
## 5.3.10 REMOVING THE PTR UNIT

1. Make sure that the system is off and confirm that the machine power cord is disconnected from the power source.
2. Spread a drop cloth or some paper in front of the machine.
3. Open both front doors.



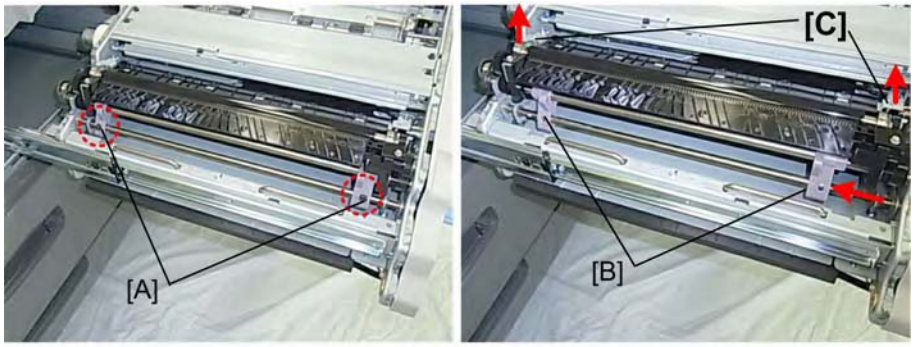
d074u301

4. The PTR unit is located in the right drawer unit.



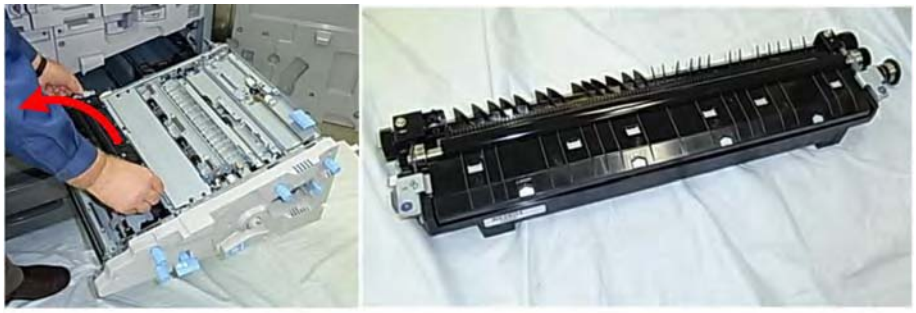

d074u302

5. Lower lever [A] and pull out the right drawer [B] completely until it stops.




d074u303

6. Remove two screws [A].
7. Push both arm supports [B] in toward the center until they stop.
8. Grip both ends of the unit by the metal handles [C].



d074u304

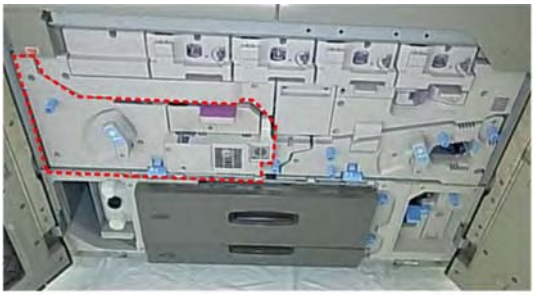
9. Rotate the unit toward you to disconnect it from the shaft below and remove it.

## 5.3.11 REMOVING THE FUSING UNIT, FUSING CLEANING UNIT, COVERS

### *Preparation*

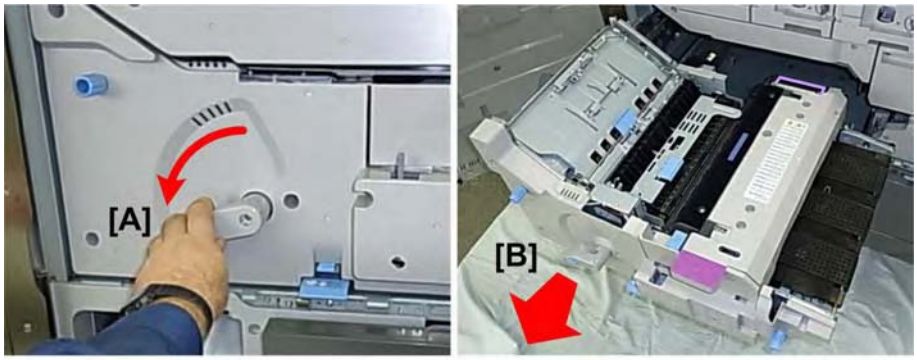
1. Make sure that the system is off and confirm that the machine power cord is disconnected from the power source.
2. Spread a drop cloth or some paper in front of the machine.
3. Prepare a flat clean surface where you can place the fusing unit after it has been removed.
4. Open both front doors.

### *Removing the Fusing Unit from the Machine*



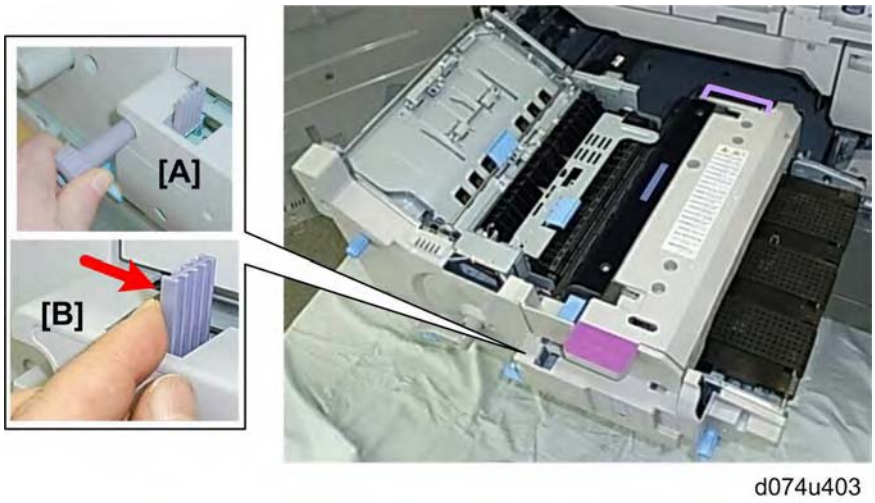
d074u401

1. The fusing unit is in the left drawer.



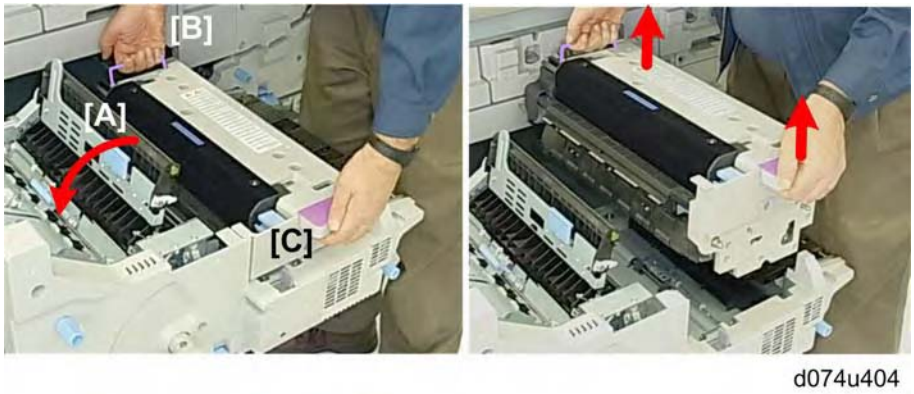

d074u402

2. Lower the lock lever [A].
3. Pull the fusing unit [B] out completely until it stops.




d074u403

4. Remove screw [A].
5. Push lock lever [B] to the right.




d074u404

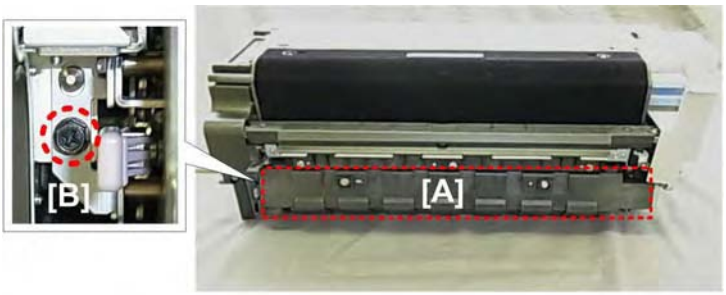
6. Raise the fusing exit idle roller cover [A].
7. Raise the wire handle [B] and grip the front of the fusing unit [C].

Note

- The fusing unit weighs about 17 kg (37 lb.).

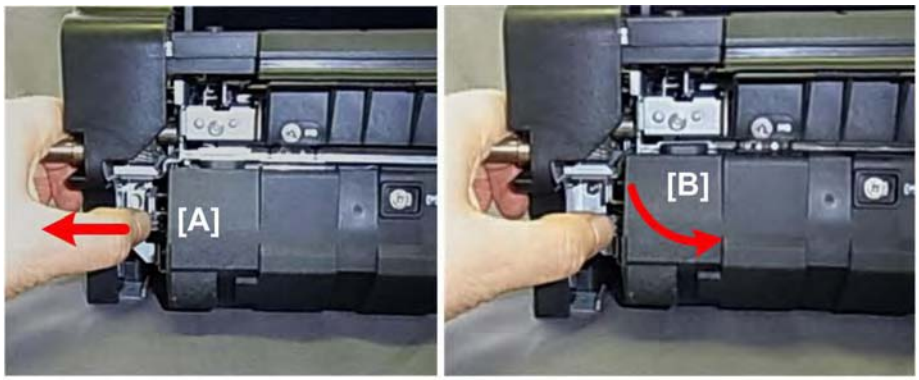
8. Lift the fusing unit out of the left drawer and set it on a flat clean surface.

### *Removing the Fusing Cleaning Unit*



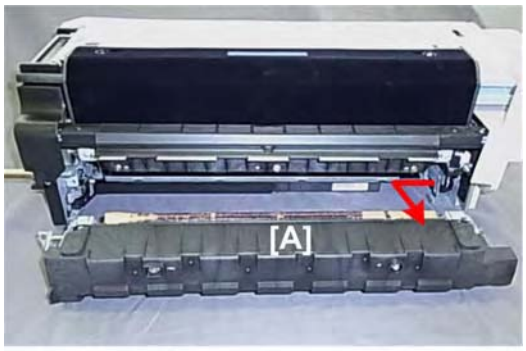

d074u405

1. Position the fusing unit so that the fusing cleaning unit [A] is facing you.
2. Remove screw [B].




d074u406

3. Push plastic-capped lever [A] to the left.
4. The fusing cleaning unit [B] will pop out slightly.




d074u407

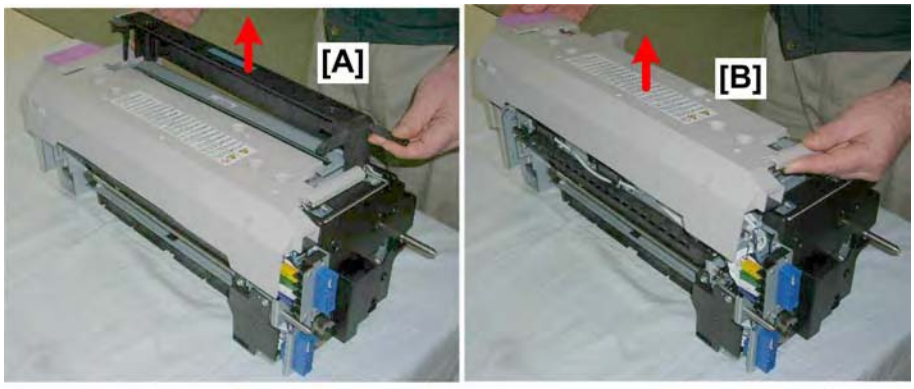
5. Push the unit [A] slightly to the left to disconnect the shafts on the right, then pull it out of the fusing unit.

### *Cover Removal*

The fusing unit covers must be removed to service thermistors and sensors in the fusing unit

d074r410

1. Remove the fusing unit from the machine and place it on a flat clean surface.

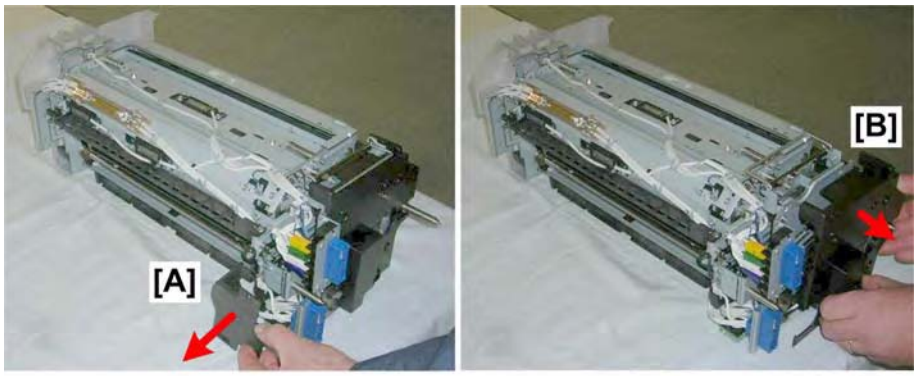



d074r411

2. Remove:

   [A] Separation unit cover ( x1, x1)

   [B] Top cover ( x1, x2)




d074r412

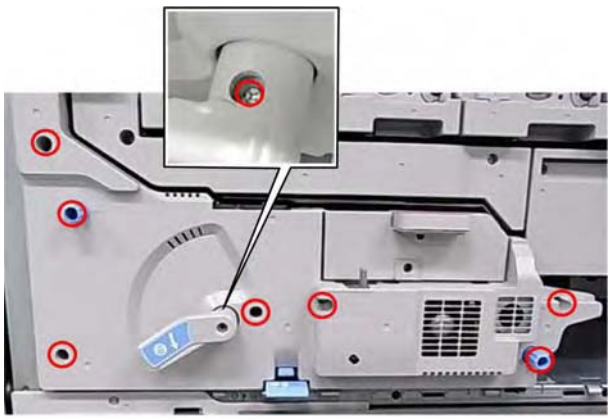
3. Remove:

   [A] Rear harness cover ( x1)

   [B] Rear cover ( x3)

## 5.3.12 REMOVING THE PTB UNIT

1. Open the front doors.
2. Pull out the left drawer until it stops.
3. Remove the fusing unit (☛p.5-40).

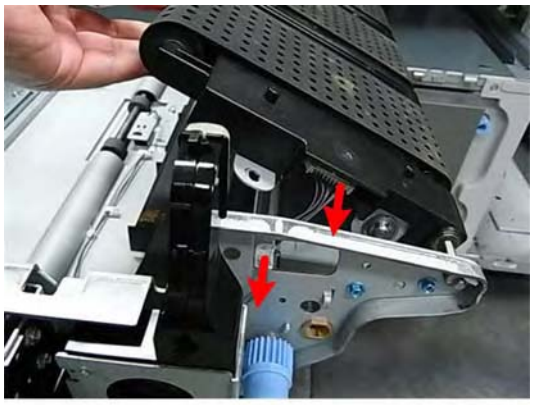


d074r752

4. Remove the left drawer cover ( x8).

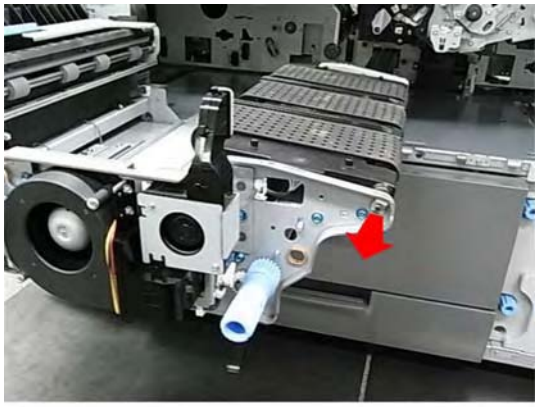
d074r737

5. Raise the PTB unit ( x2).



d074r738

6. Disconnect the PTB unit (x1,x1).



d074r739

7. Disconnect the clamp and shaft.

d074r740

8. Remove the PTB drive belt.

d074r741

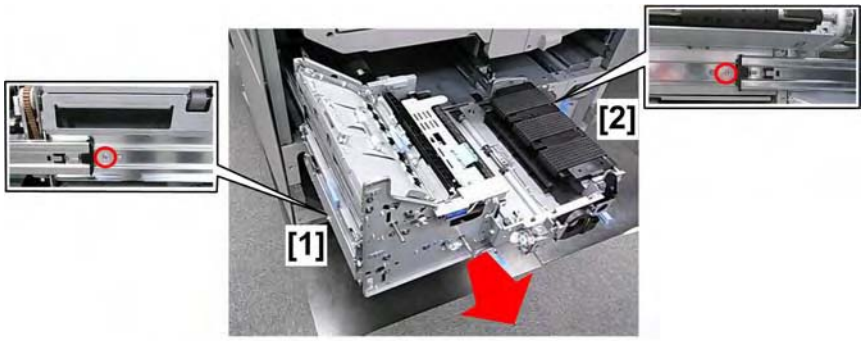
9. Remove the PTB unit.

## 5.3.13 REMOVING THE LEFT DRAWER

Important

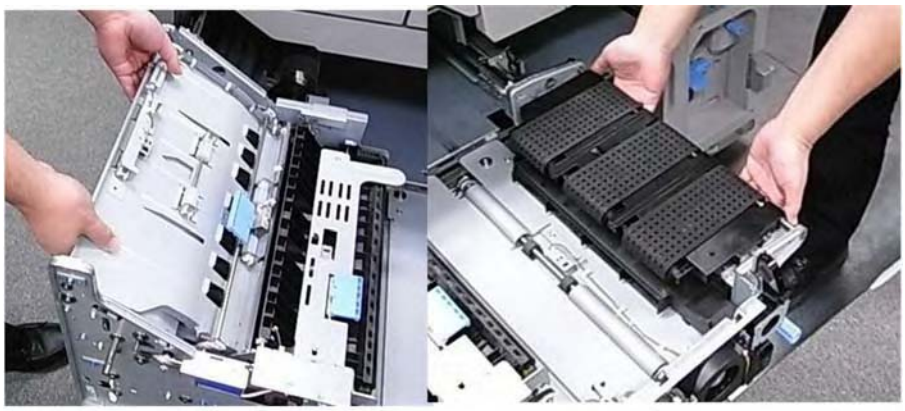
- The left drawer is heavy. Two people are required for this procedure.

1. Open the front doors.
2. Pull the left drawer out until it stops.
3. Remove the fusing unit (☛p.5-40)



d074r750

4. Remove the lock screws:
   [1] Left lock screw ( x1)
   [2] Right lock screw ( x1)

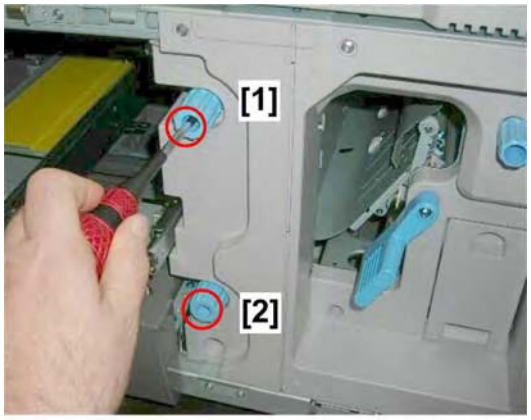

d074r751

5. With one person on the left side and one on the right as shown, lift the left drawer off its rails and set it on a flat surface.

## 5.3.14 REMOVING THE PAPER FEED UNITS (PFU)

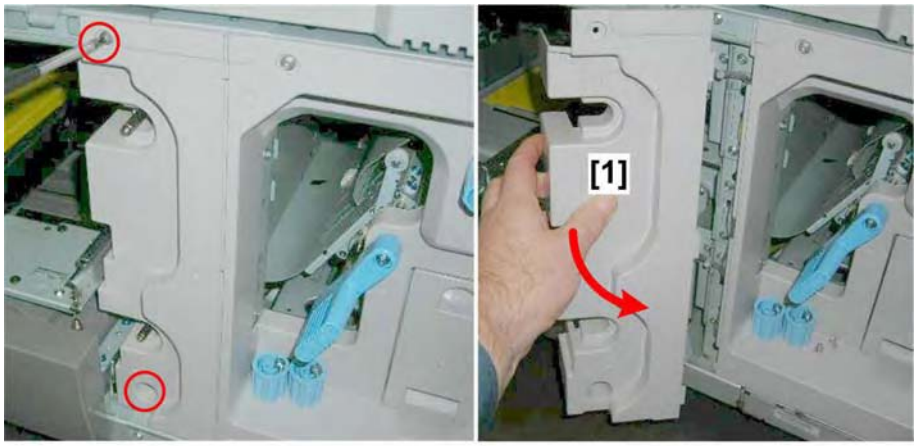
### *Tray 1 Paper Feed Unit Removal*

1. Open Tray 1 and remove the right tandem tray (x2).



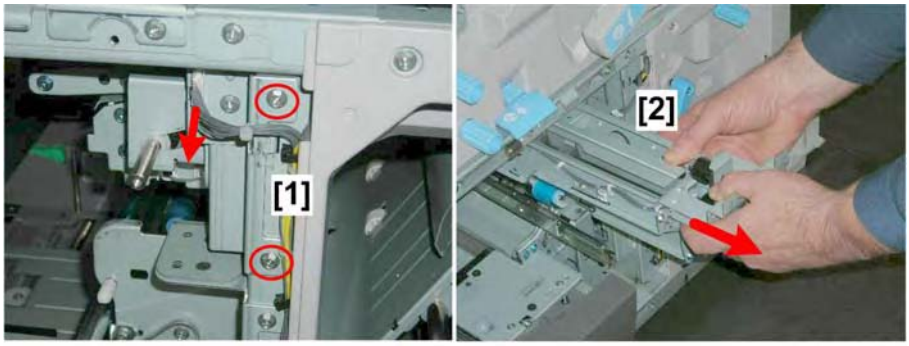

d074r440

2. Remove knobs [1] and [2] ( x1 each).



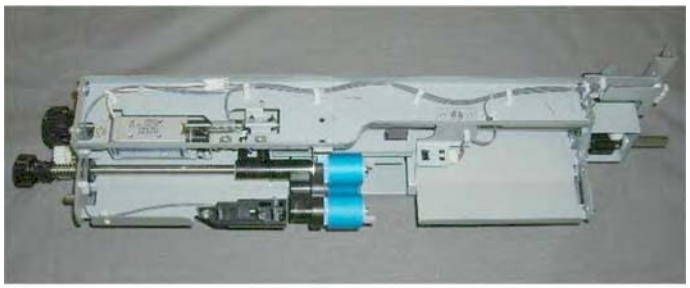

d074r441

3. Remove cover [1] ( x2).




d074r442

4. Disconnect the front bracket [1] ( x1, x2).
5. Remove the Tray 1 PFU [2].

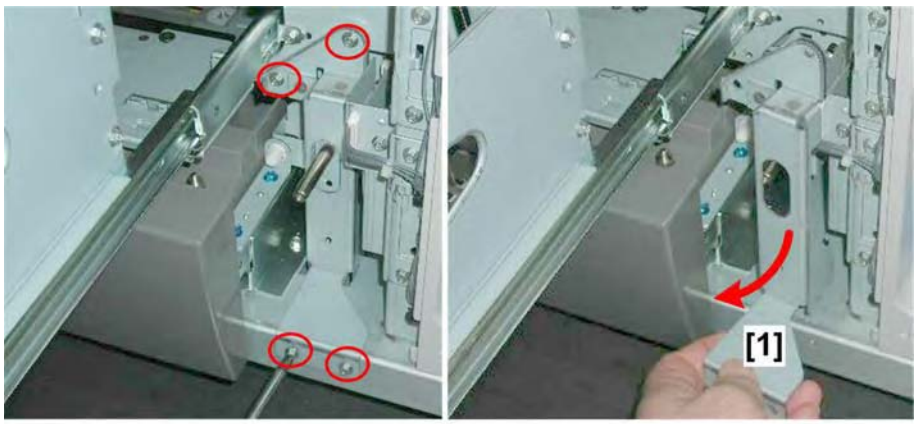


d074r442a

6. Lay the PFU on a clean flat surface.

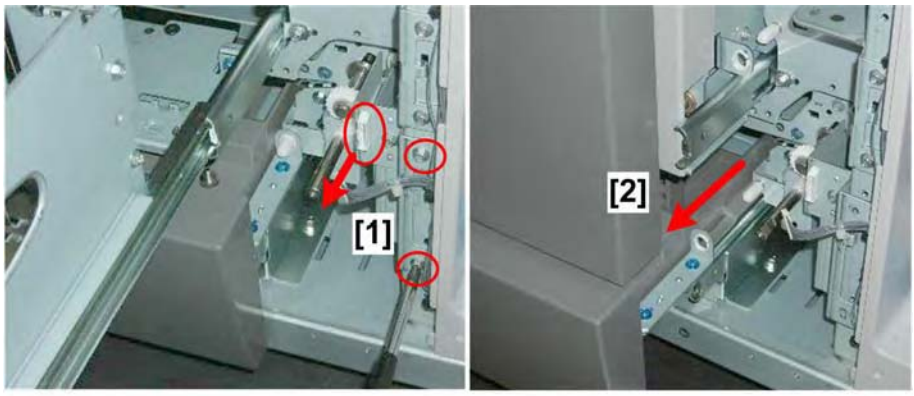
## *Tray 2 Paper Feed Unit Removal*

1. Open Tray 1 and remove the right tandem tray (x2).



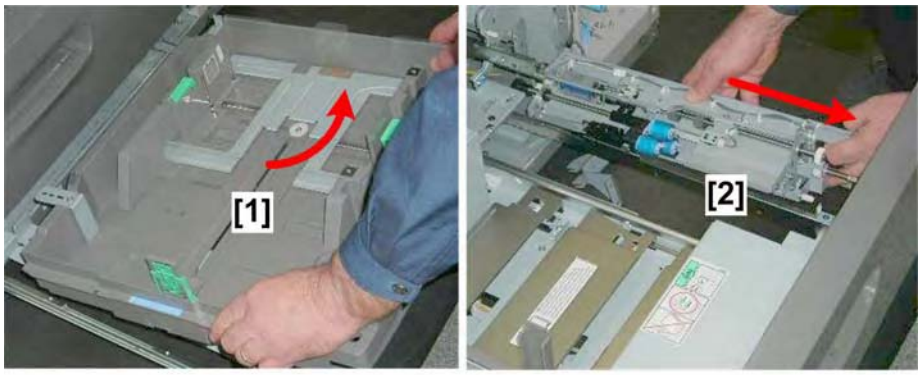

d074r443

2. Remove bracket [1] ( x4).



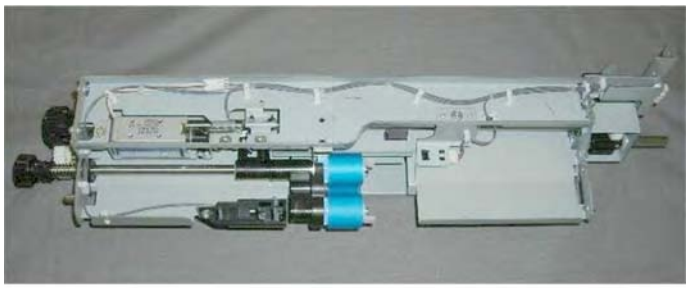

d074r444

3. Disconnect the front bracket [1] ( x1, x2).
4. Pull out Tray 2 [2].




d074r445

5. Remove the inner tray [1] of Tray 2.
6. Remove the Tray 2 PFU [2].



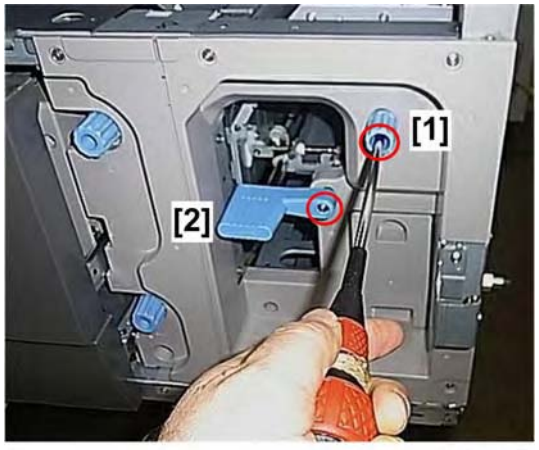
d074r442a

7. Lay the PFU on a clean flat surface.

## 5.3.15 REMOVING THE VERTICAL TRANSPORT UNIT (VTU)

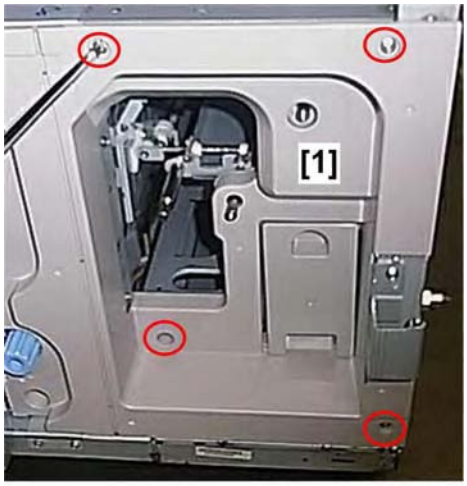
d074r529

1. The vertical transport unit is located at the lower right corner of the main machine.
2. Open the right door.
3. If the LCIT is connected, disconnect it and pull it away from the machine.
4. Remove the right cover of the main machine ( x7).
5. Open Tray 1 and remove the right tandem tray ( x2).
6. Open the right drawer.



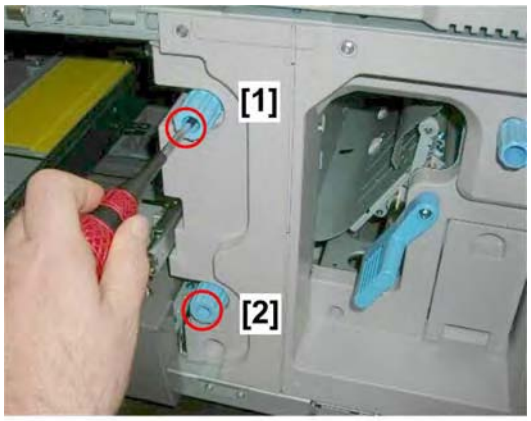

d074r530

7. Remove:
   [1] Knob ( x1)
   [2] Lever ( x1)



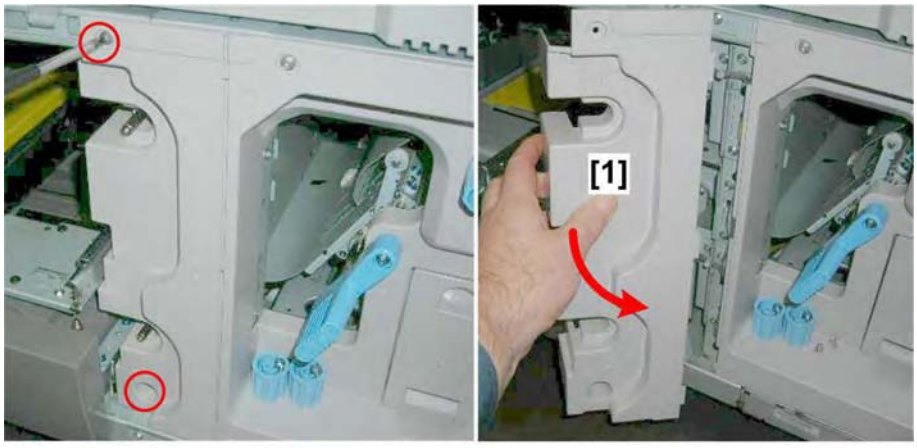

d074r531

8. Disconnect cover [1] ( x4).



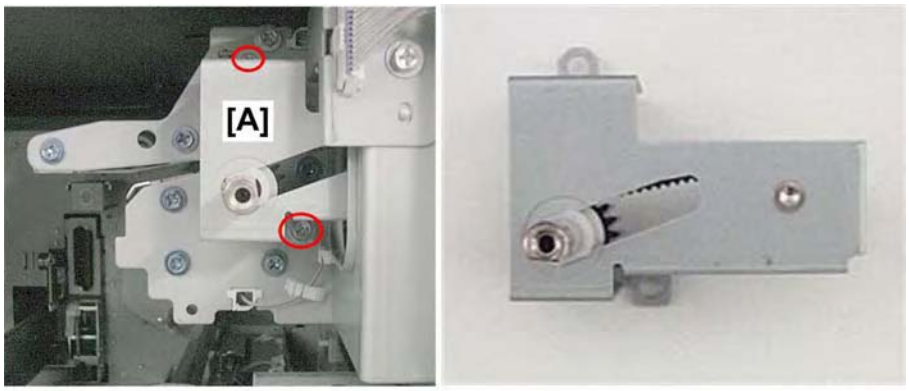

d074r440

9. Remove knobs [1] and [2] ( x1 each).



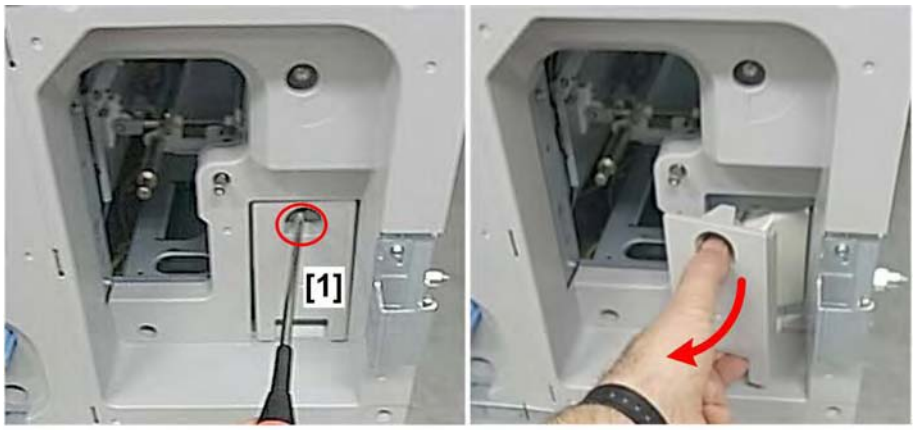

d074r441

10. Remove cover [1] ( x2).




d074r996

11. Where you removed the cover in the previous step, remove the drive gear bracket [A] ( x2).




d074r532

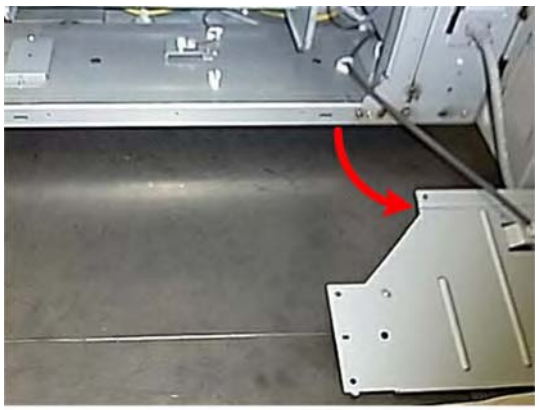
12. Remove the funnel holder ( x1).

d074r533

13. Remove cover [1].

d074r534

14. On the right side of the machine, remove the lower cover [2] ( x7, x1).

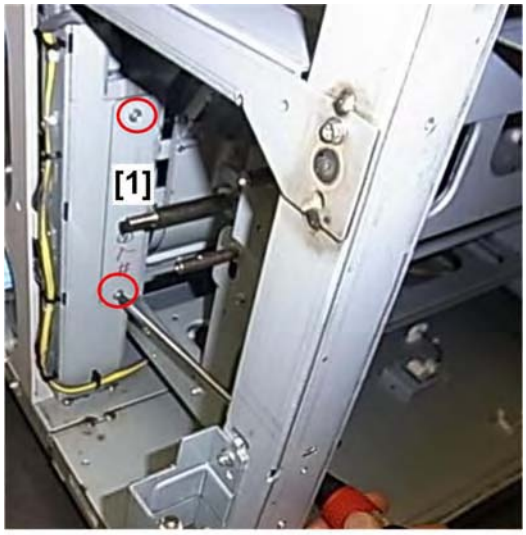


d074r535

15. Pull the lower cover to the side. You do not need to disconnect the harness.

d074r536

16. Disconnect the top bracket [1] of the vertical transport unit. ( x3)

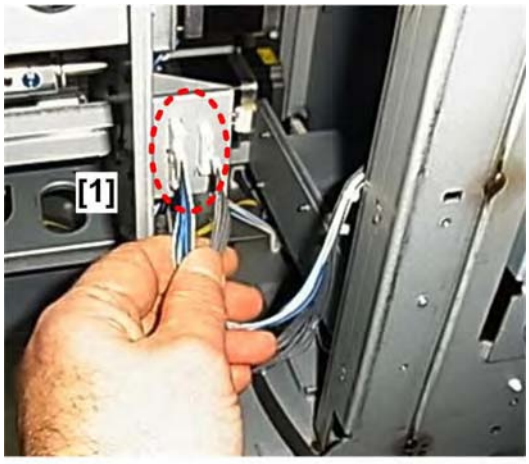



d074r537

17. Disconnect the front bracket [1] ( x2)

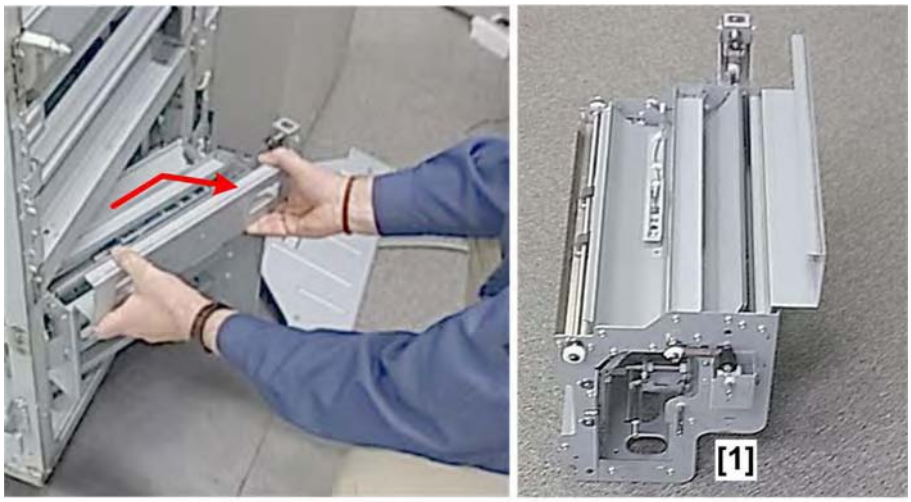
d074r538

18. Remove the rear bracket top screw [1] and bottom screw [2] ( x2). These screws are difficult to see but they are at the same height as the front bracket screws.




d074r539

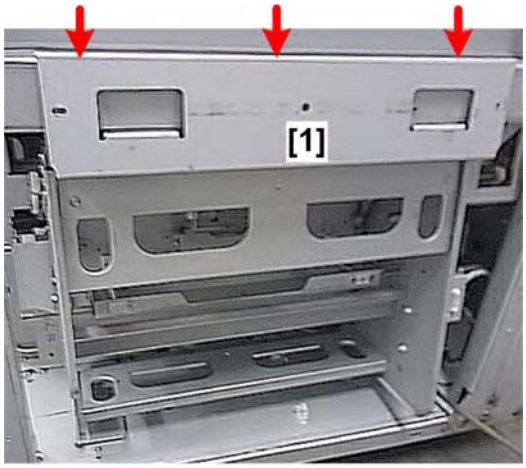
19. Disconnect the unit ( x2).
20. Pull out the right drawer until it stops.




21. Slide the unit slightly to the right and remove it.

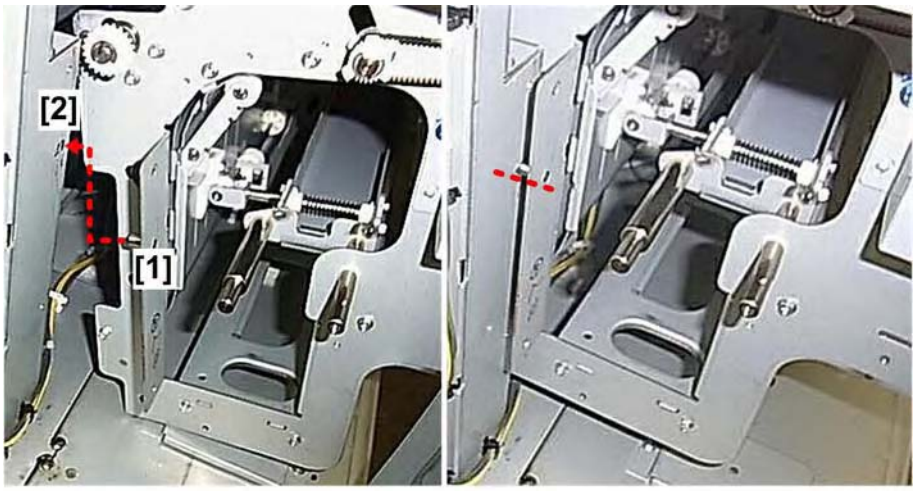
**Re-installation**

1. Make sure that the right drawer is open.




d074r541

2. Hang the top bracket of the vertical transport unit [1] on the machine frame.

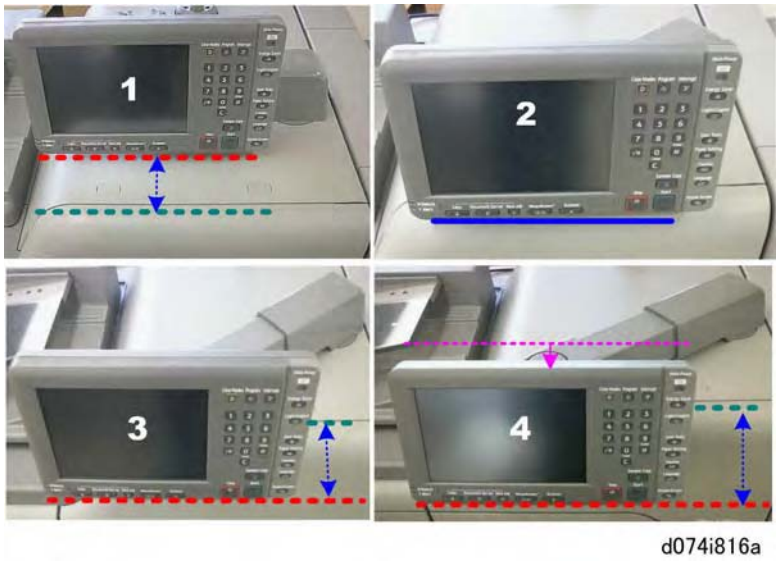



d074r542

3. Hold the unit level and insert the front guide pin [1] into the hole in the main frame [2].
   - There are two of these pins, one at the front (shown above) and one at the rear.
   - Check the top bracket and make sure that the front and rear ends of the bracket are flat against the frame.
   - If the rear end of the bracket is not flat, the rear pin is not inserted correctly.
   - Repeat the procedure and hold the unit as level as possible when you insert the front pin.

# 5.4 OPERATION PANEL

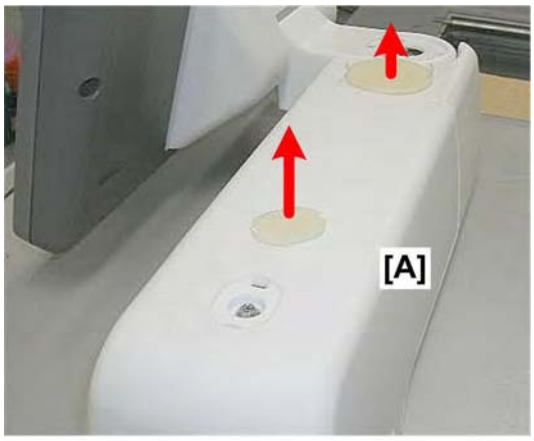
## 5.4.1 CHANGING THE OPERATION PANEL POSITION




There are four possible ways to configure the operation panel when it is installed.

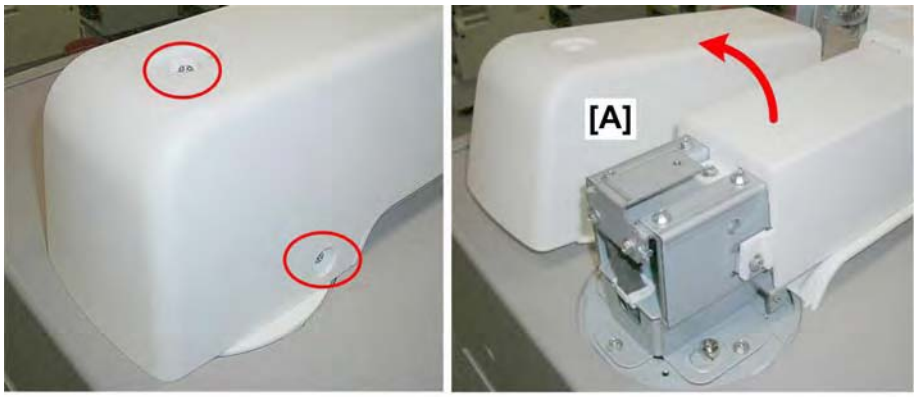
| Config. | Description |
|---|---|
| 1 | **Standard**. The support arm is perpendicular to the right side of the machine and the operation panel is recessed from the front of the machine. This procedure is described in the Installation section. |
| 2 | **Standard Diagonal**. The support arm is set at an angle so that the operation panel is flush with the front of the machine. Described in this section. |
| 3 | **Standard Diagonal Extended**. The support arm is set an angle (same as Configuration 2) and the arm is extended so that the operation panel extends beyond the front of the machine. Described in this section. |
| 4 | **Easy Access (Sitting Position)**. This is the same as Configuration 3 but the operation panel is removed and re-hung on lower hooks so it is lower. This allows access to the operation panel from a sitting position. This procedure is described in the Installation section. |

- The installation procedure describes how to install the operation panel with Configuration 1 or 4.
- Refer to this section if you need to remove the operation panel and re-install it with Configuration 2 or 3.



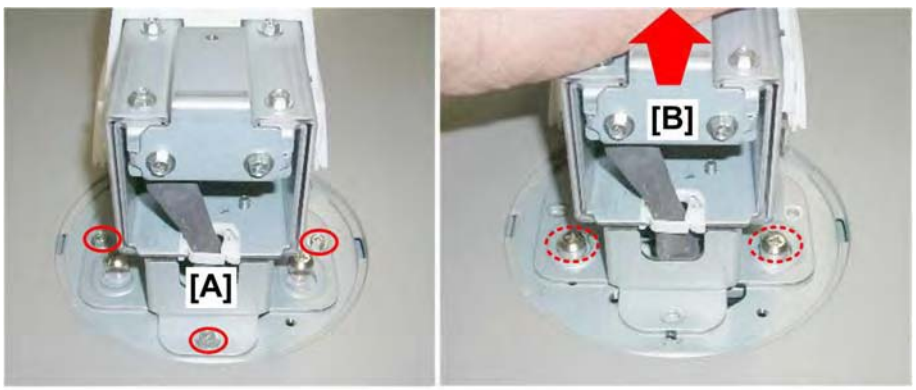

d074r281

1. Remove the screw covers of the arm support [A] (x2).



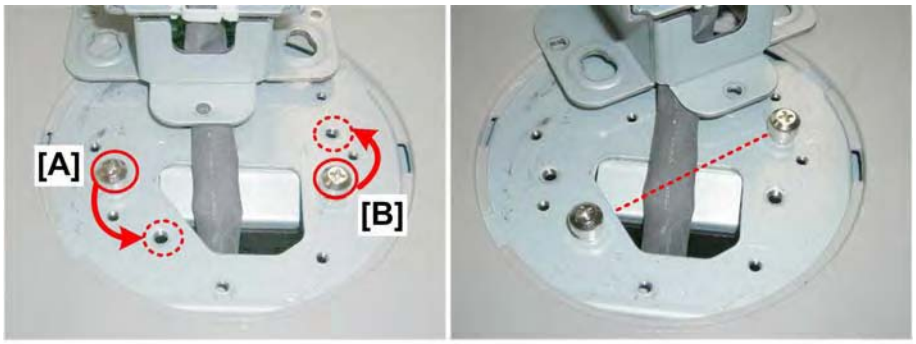

d074r287

2. Remove the arm cover [A] ( x2).




d074r288

3. Disconnect the arm base [A] ( x3).
4. Push the arm to the left, to disconnect the shoulder screws from the narrow ends of the keyholes on the base.




d074r289a

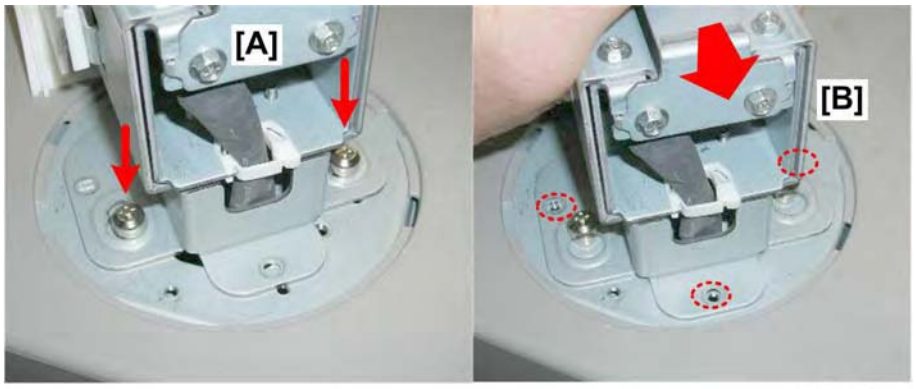
5. Lift the base off the shoulder screws and set it a short distance from the hole, as shown.

Important

- The harness is connected below. Pull the support arm away only a very short distance.

6. Remove shoulder screw [A] and re-fasten it at the lower hole (x1).
7. Remove shoulder screw [B] and re-fasten it at the upper hole (x1).

   The screws should now be diagonally opposite one another as shown above.




d074r290

8. Set the base of the support arm [A] onto the shoulder screws.
9. Make sure the base is flat against the top of the machine.
10. Push the support arm to the right to lock the base onto the shoulder screws. You can see the three holes of the base aligned with the holes below.
11. Re-attach the base screws [B] ( x3).

Important

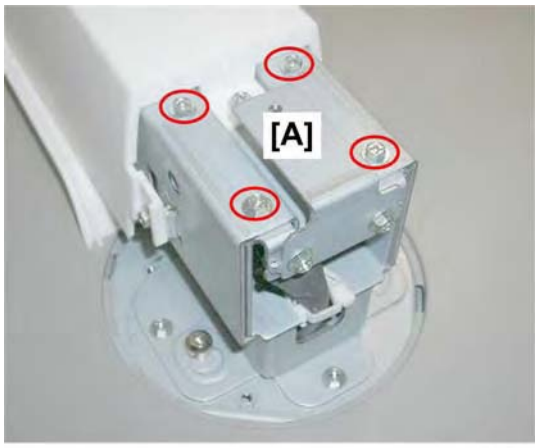
- Make sure that these screws are fastened tightly.

12. This completes the adjustment for **Configuration 2**. Re-attach the cover.

    -or-

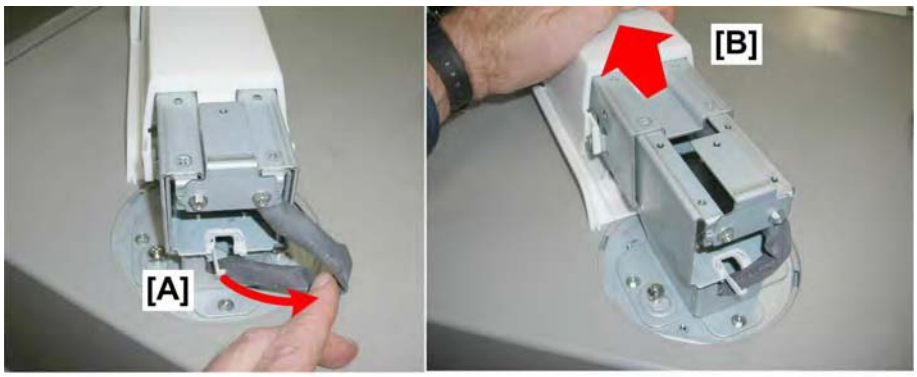
    Do the next procedure if you want to extend the arm for **Configuration 3**.

    **To Extend the Support Arm**



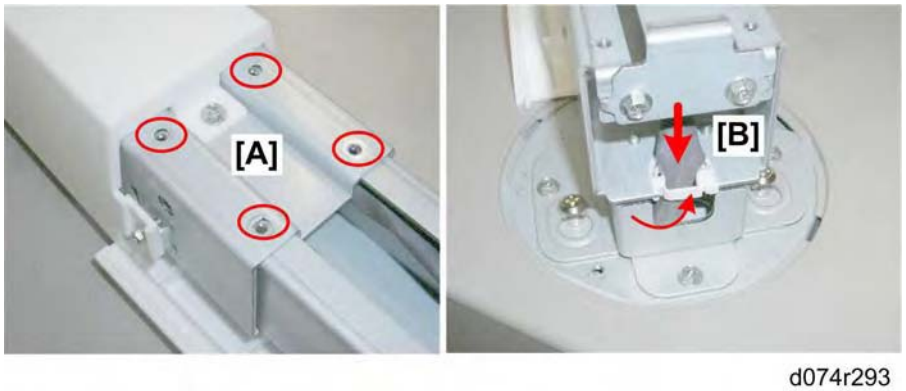

d074r291

1. Remove the screws on top of the support arm [A] ( x4). **Keep these screws .**




d074r292

2. At the bottom of the base [A], open the clamp and pull a short length of the harness out of the hole to create some slack in the harness (x1).
3. Slowly push the support arm [B] to the left to extend it.




d074r293

4. Push the arm [A] to the left until the holes on the top of the arm are aligned with the four holes below.
5. Re-attach the screws you removed in Step 1 ( x4).
6. Push the harness [B] into the hole, and then clamp it (x1).

Important

- Make sure that these screws are fastened tightly.

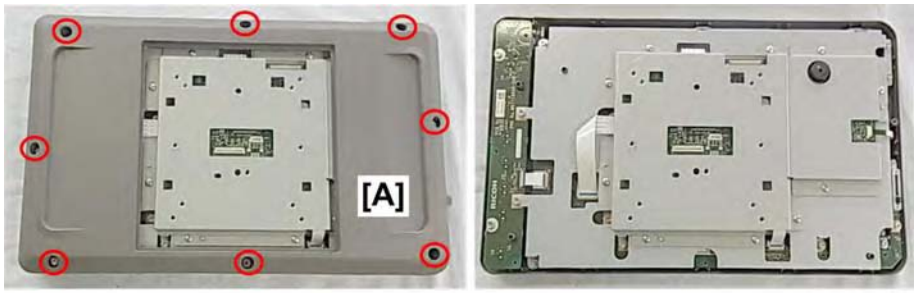
This completes the installation for **Configuration 3**.

## 5.4.2 OPERATION PANEL PCBS, TOUCH PANEL UNIT

### Operation Panel Removal

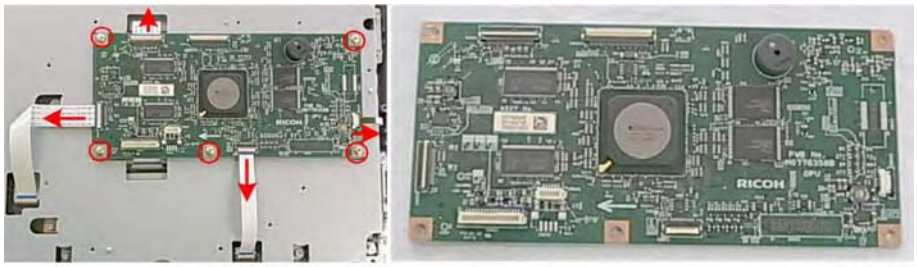
1. Follow Steps 1 to 6 of the previous procedure "Adjustment for Easy Access".

**Rear Cover**



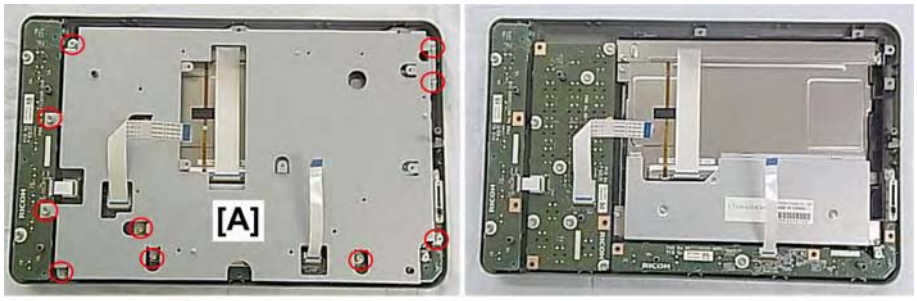

d074r330

2. Remove the rear cover [A] ( x8).



d074r331

3. Disconnect and remove the OPU ( x3, FFC Thin x1, x5)




d074r332

4. Remove the PCB cover [A] ( x10).

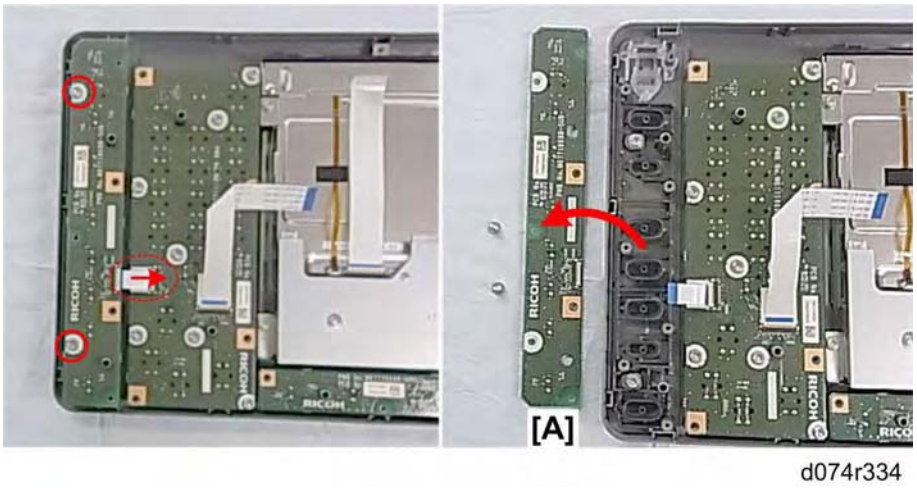
There are three boards on the back of the operation panel.

① Sub Keys PCB

② Main Keys PCB

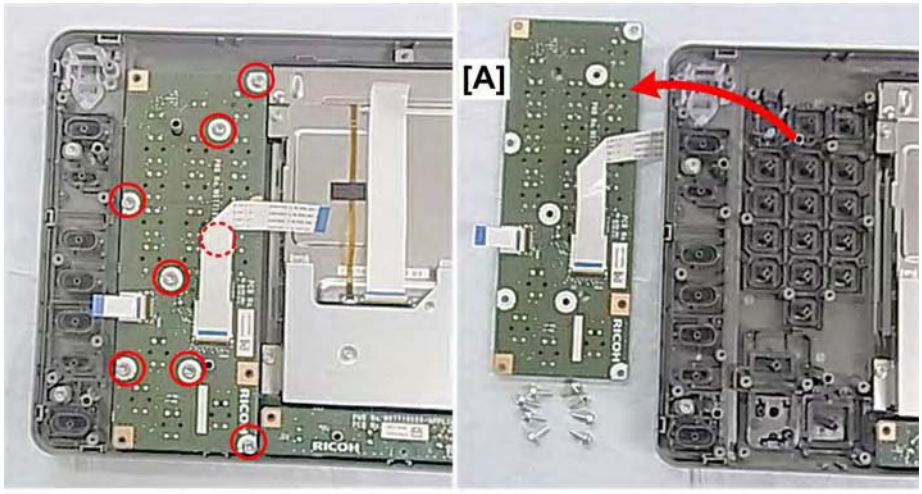
③ Application Keys PCB

**Sub Keys PCB**




5. Disconnect and remove the sub keys PCB [A] ( x1, x2)

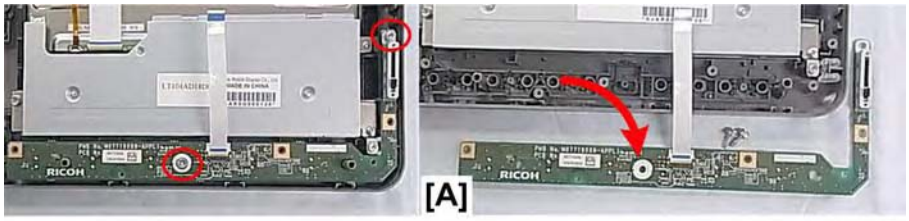
**Main Keys PCB**




d074r335

6. Remove the main keys PCB [A] (x8).

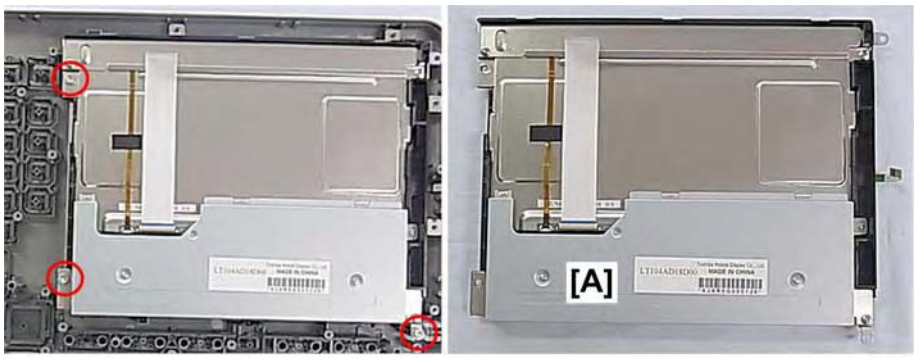
**Application Keys PCB**




d074r336

7. Remove the application keys PCB [A] (x2).

**Touch Panel Unit with LCD**



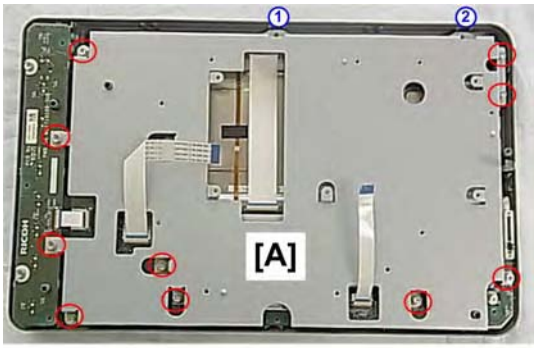

d074r337

8. Remove the touch panel unit [A] (x3).

d074r338

This is a front view of the removed touch panel unit.

**Re-installation**




d074r339

- When you re-attach the PCB cover [A], fasten the screws as shown ( x10).
- Do not fasten screws at ① and ②. These holes are for rear cover screws.

## 5.4.3 TOUCH PANEL POSITION ADJUSTMENT

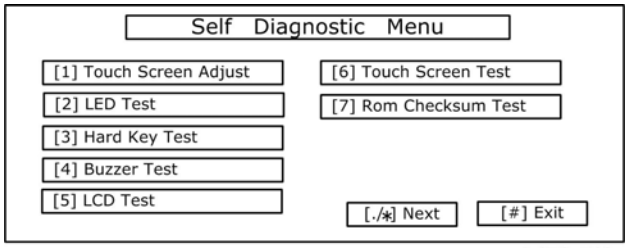
It is necessary to calibrate touch panel:

- After replacing the operation panel.
- After replacing the controller board.
- If the touch panel detection function is not operating correctly.

Important

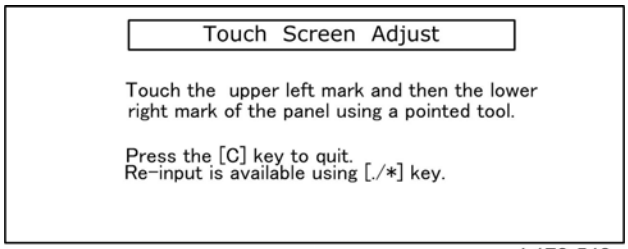
- Do not use items [2] to [9] on the Self-Diagnostic Menu. These items are for design use only.

1. Press [Reset], press [1] [9] [9] [3], and then press [Clear] 5 times to open the Self-Diagnostics menu.




b178r548

2. On the touch screen press "Touch Screen Adjust" (or press "1").
3. Use a pointed (not sharp) tool to press the upper left mark.




b178r549

4. Press the lower right mark when shows.
5. Press [#] OK on the screen when you are finished.
6. Touch [#] Exit on the screen to close the Self-Diagnostic menu. Save the calibration settings.

# 5.5 ARDF

## 5.5.1 ARDF COVERS

d074r792

1. Open the feed cover.

d074r793

2. Remove the screws on the top edge of the front cover ( x2).

d074r794

3. Press down on the right end of the cover to release the tab and remove the cover.

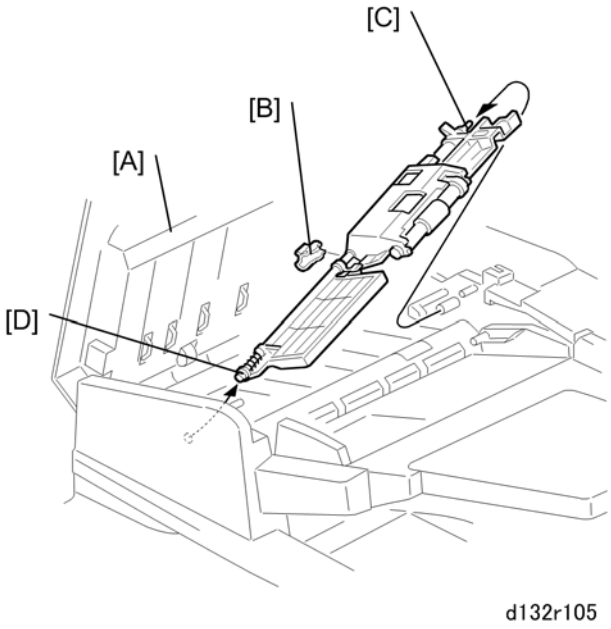
d074r795

4. Remove screw [1] on the top edge of the rear cover ( x1).
5. Remove screw [2] on the back of the rear cover ( x1).

d074r796

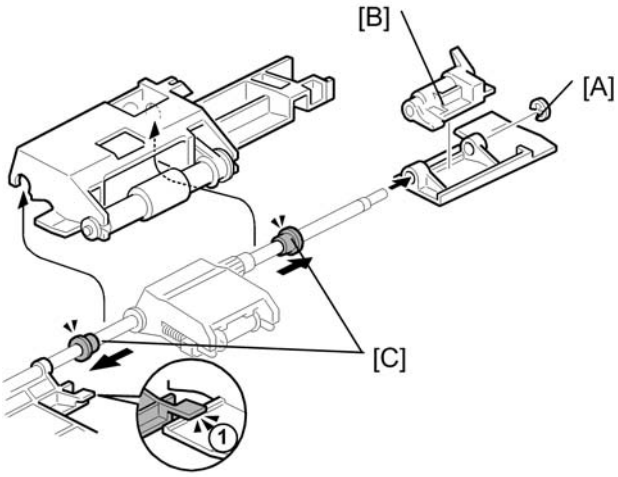
6. Remove the rear cover.

## 5.5.2 ORIGINAL FEED UNIT




1. Open the feed cover [A].
2. Remove the snap fitting [B].
3. Pull [C] toward you slightly to disconnect the rear end of the shaft.
4. Disconnect the front end of the shaft [D].

## 5.5.3 FEED BELT, PICKUP ROLLER

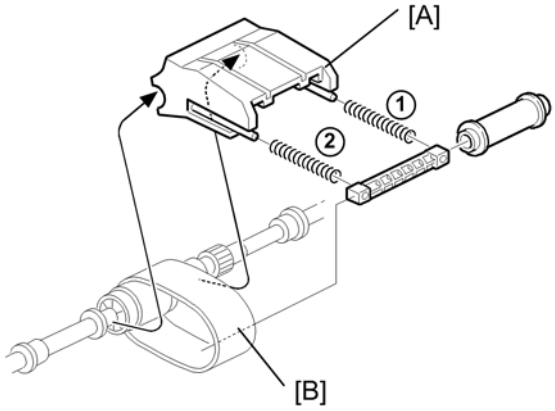



d132r106

1. Remove
   - Original feed unit (☛p.5-68)
   - [A] E-ring (ℰ x1)
   - [B] Cover
   - [C] Slide out ( x2)

Note

- At re-assembly, make sure that the tab ① on the front guide plate is above the pick-up roller unit.

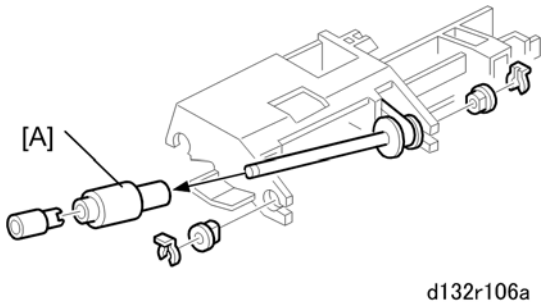



d132r107

2. Slowly remove:
   [A] Feed belt holder
   [B] Feed belt

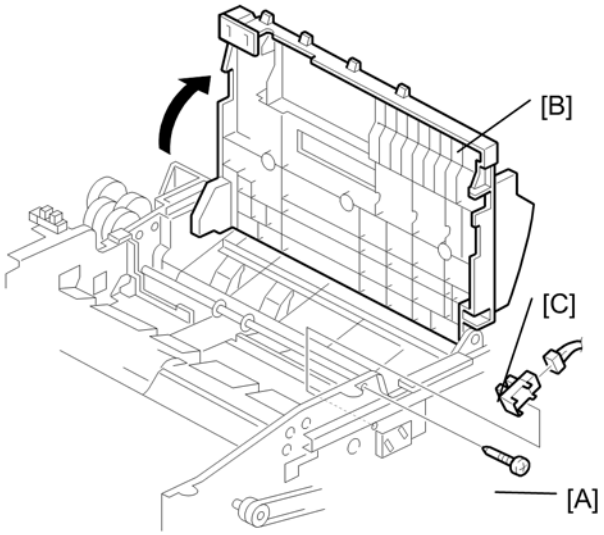
Note

- Do not let springs ① and ② fall out and get lost.



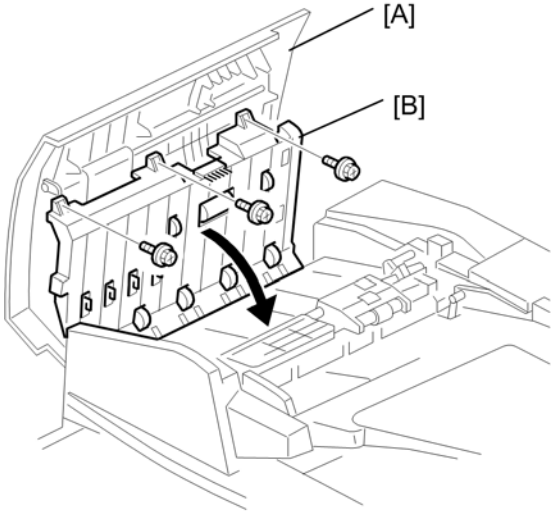

3. Remove the ARDF pickup roller [A].

## 5.5.4 BOTTOM PLATE POSITION SENSOR

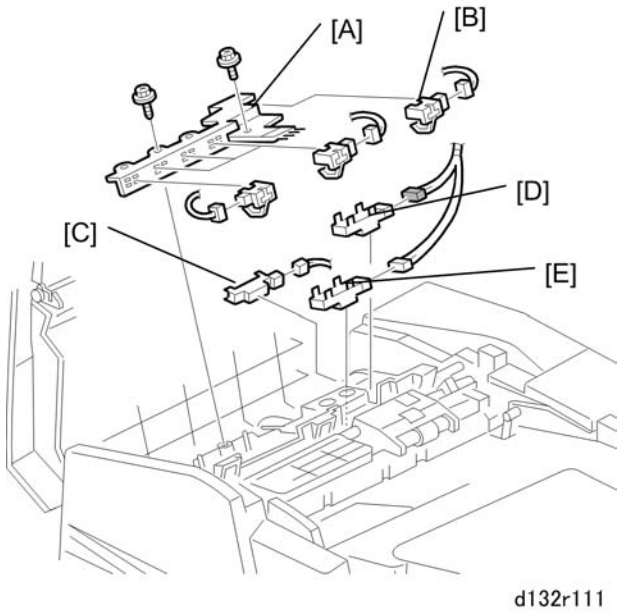



1. Remove:
   - Front cover (☛p.5-66)
   - Original feed unit (☛p.5-68)
2. Remove the pivot screw [A] (x1)
3. Raise the bottom plate [B].
4. Remove the bottom plate position sensor [C] (x1, x3).

## 5.5.5 INTERVAL, ORIGINAL WIDTH, SKEW CORRECTION SEPARATION SENSORS

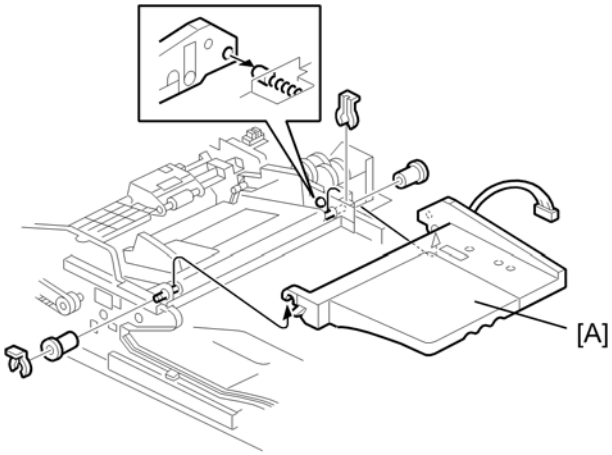



1. Open the feed cover [A].
2. Remove guide plate [B] ( x 3).

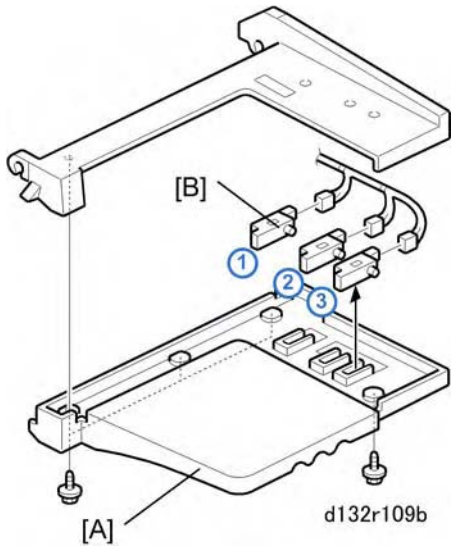



3. Remove
   [A] Width sensor assembly ( x2)
   [B] Original width sensors ( x5)
   [C] Interval sensor ( x1)
   [D] Skew correction sensor ( x1)
   [E] Separation sensor ( x1)

## 5.5.6 ORIGINAL LENGTH SENSORS

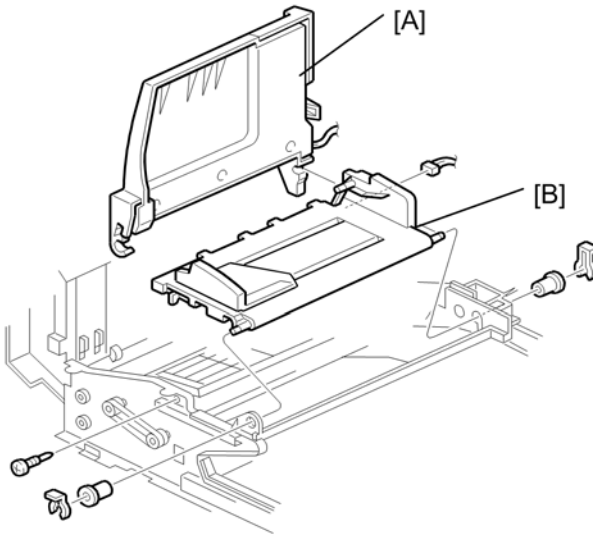



1. Remove the front and rear covers (☛p.5-66)
2. Remove the original tray [A] (x2, Collars x2).



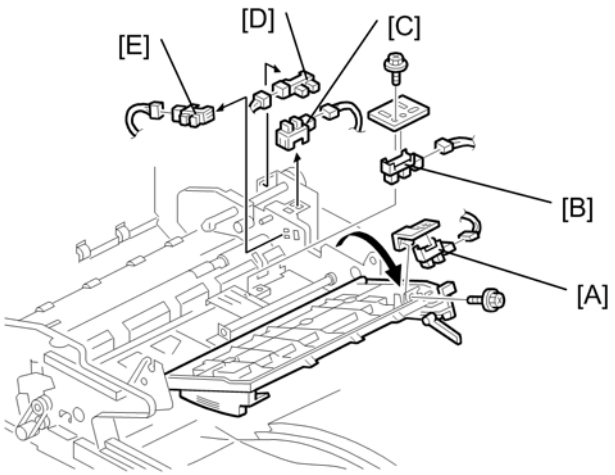

3. Disconnect the lower cover [A] ( x4).
4. Disconnect sensors at [B]:
   - ① B5 original length (x1)
   - ② A4 original length (x1)
   - ③ LG original length (x1)

## 5.5.7 COVER OPEN, ORIGINAL SET, BOTTOM PLATE, PICKUP ROLLER HP, FEED-OUT SENSORS




d132r116

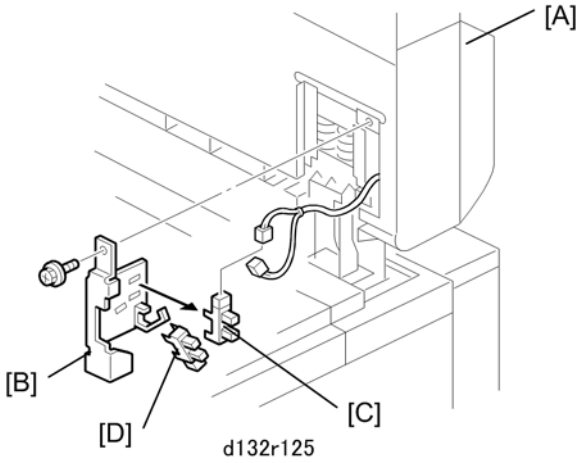
1. Remove the front and rear covers (☛p.5-66)
2. Remove
   [A] Original tray (x1, x2, Collars x2)
   [B] Lift tray (x1, x1)




d132r118

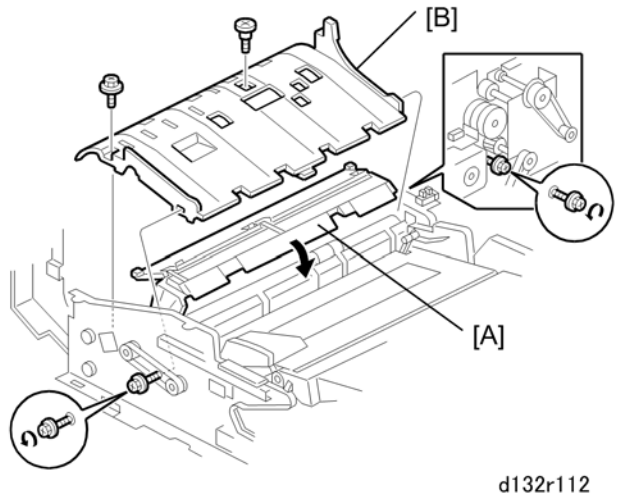
3. Disconnect and remove
   [A] Original set sensor (x1, x1)
   [B] Upper inverter sensor (x1, x1)
   [C] Feed cover sensor (x1)
   [D] Pickup roller HP sensor (x1)
   [E] Bottom plate position sensor (x1)

## 5.5.8 ARDF POSITION SENSOR, APS START SENSOR

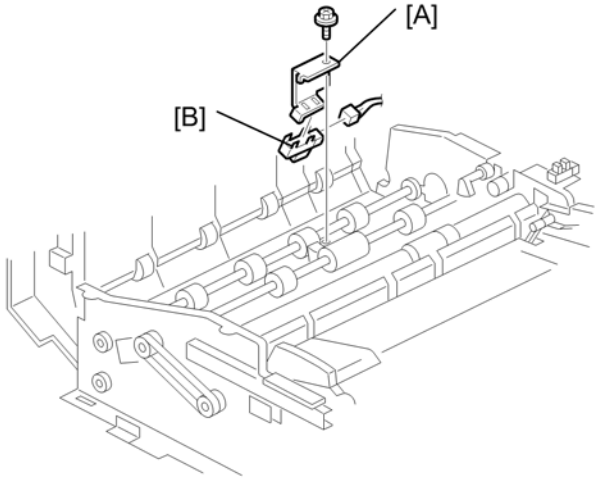



1. Raise the ARDF [A] to the vertical position.
   [B] APS assembly ( x1)
   [C] ARDF position sensor ( x1, x3)
   [D] APS start sensor ( x1, x)

## 5.5.9 ORIGINAL REGISTRATION SENSOR EXIT SENSORS




1. Remove
   - Front and rear covers, feed cover (p.5-66)
   - Original feed unit (p.5-68)
2. Rotate the inverter guide [A] 180 degrees.
3. Remove the original guide plate [B] ( x4).

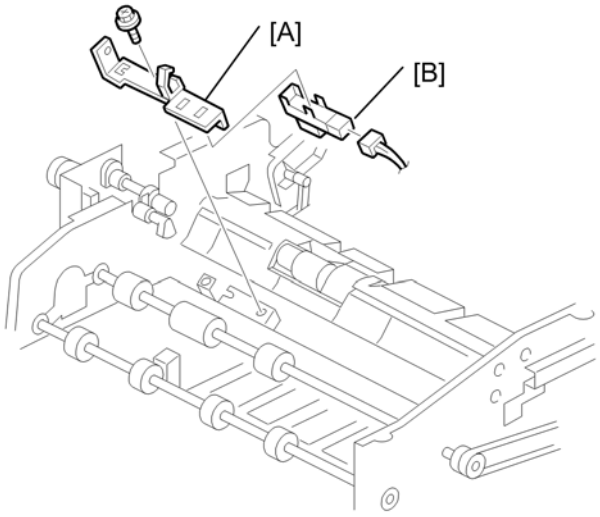



d132r113

4. Remove

   [A] Assembly ( x1)

   [B] Registration sensor ( x1)



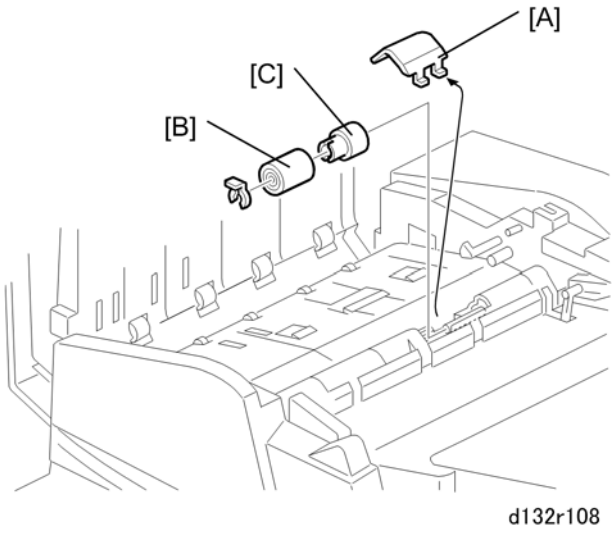

d132r115

5. Remove:

   [A] Assembly ( x1)

   [B] Original exit sensor ( x1)

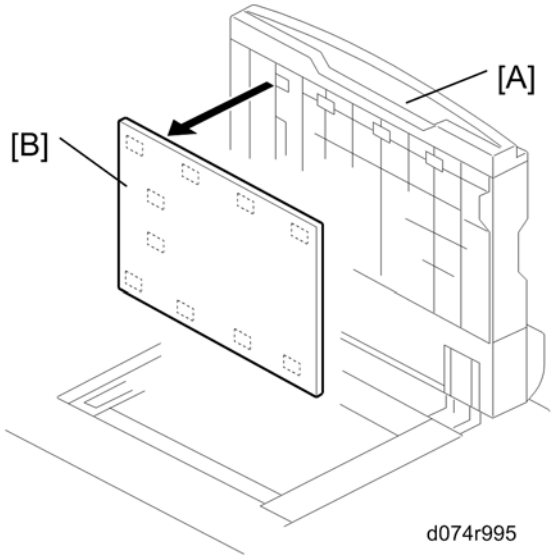
## 5.5.10 ARDF SEPARATION ROLLER




1. Open the feed cover.
2. Remove the original feed unit. (☛p.5-68)
3. Remove:
   [A] Separation roller cover. Use the tip of a small flathead screwdriver.
   [B] Separation roller (x 1)
   [C] Torque limiter

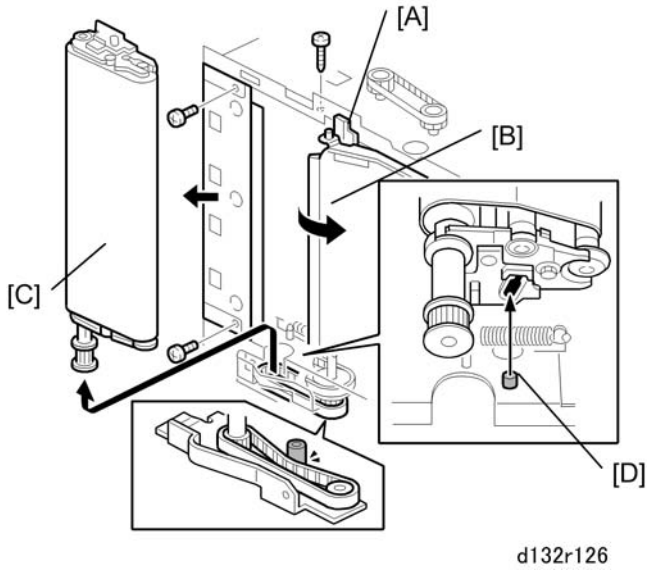
## 5.5.11 ARDF TRANSPORT BELT

### *Removing the ARDF Transport Belt Assembly*




1. Open the feed cover.
2. Remove the ARDF front cover. (☛p.5-66)

3. Raise the ARDF [A] to the vertical position.
4. Pull off the white cover [B] (Velcro fasteners).

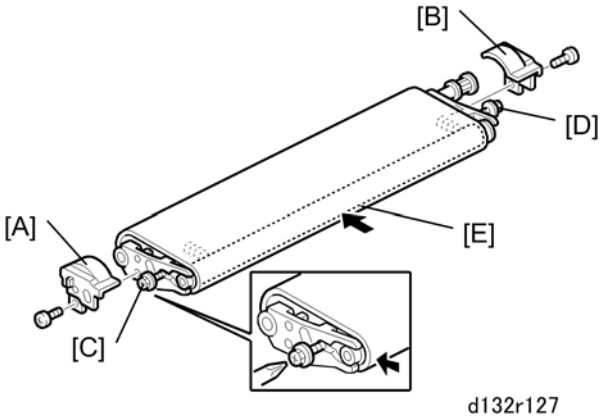



5. Release the stopper pin [A] of the transport guide [B].
6. Remove the transport belt unit [C] (Pin screw x1).

Important

- At re-installation, attach the timing belt as shown then insert the pin screw [D].

## *Removing the Belt*

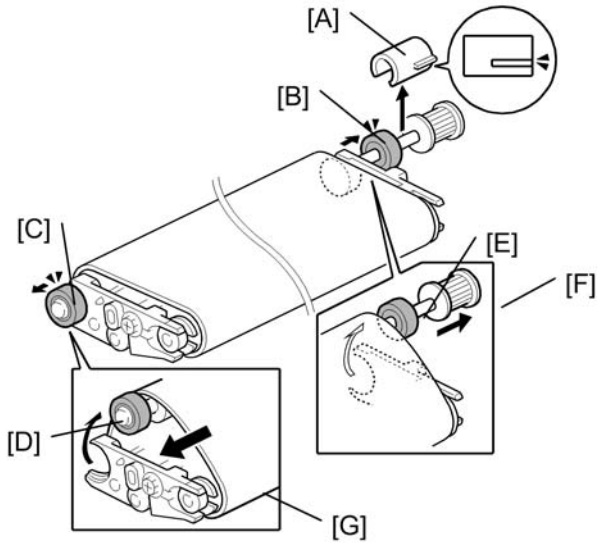



1. Remove the front plastic cover [A] ( x1).
2. Remove the rear plastic cover [B] ( x1).
3. Loosen the front lock screw [C]. **Do not remove**.
4. Loosen the rear lock screw [D]. **Do not remove**. This releases the spring-loaded tension on the belt.
5. Grip the roller in the center [E] then squeeze the belt to bring the rollers together.
6. While squeezing the belt and rollers together in the center, tighten screws [C] and [D]. This compresses the spring and releases tension on the belt.

Important

- To avoid stripping the threads of the screws, do not apply excessive force to these screws!

7. Release the belt.
8. Make sure that the belt is loose and that the rollers do not move.
9. Repeat Steps 5 and 6 if the rollers expand and tighten the belt.



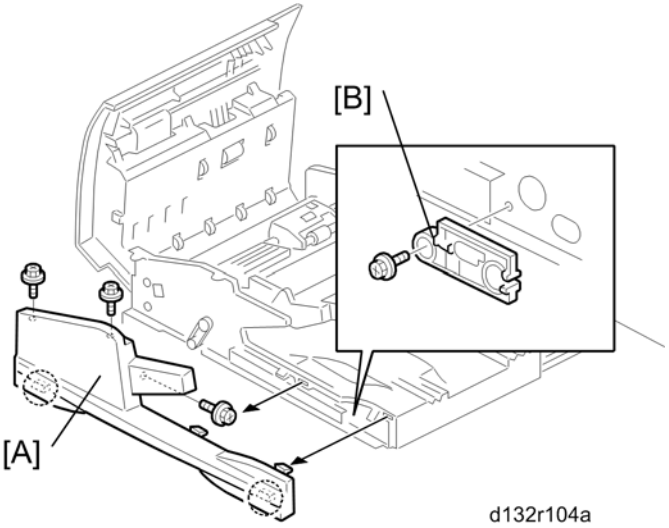

d132r139

10. Remove the Teflon sleeve [A].
11. Push the rear shaft bearing [B] out of its bracket.
12. Push the front shaft bearing [C] out of its bracket.
13. Push the front end of the shaft [D] over the top of the bracket.
14. Push the rear end of the shaft [E] over the top of the bracket.
15. Pull the shaft [F] out of the belt.
16. Pull the belt [G] toward the front to remove it.
17. Slide the new belt over the assembly.
18. Insert the shaft [F] into the new belt, snap the shaft into its brackets, and push in the shaft bearings.

d132r139a

19. Make sure that studs on the underside of the belt [H] are aligned with the grooves of the Teflon rollers on each end of the shaft below.

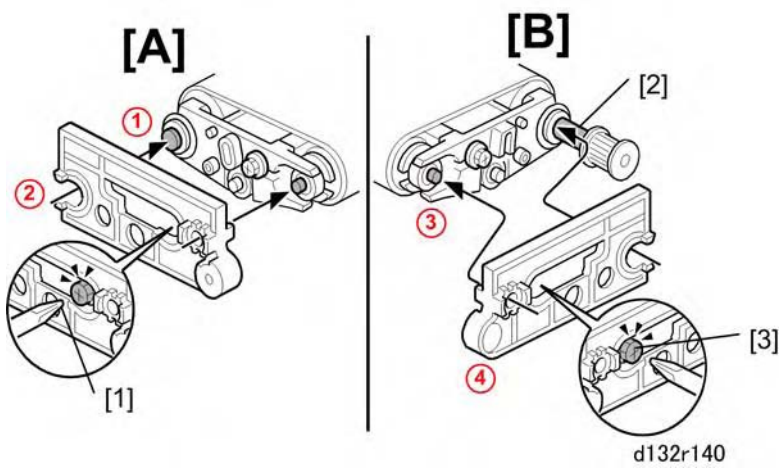
### *Reinstalling the Belt*




1. Remove the ARDF front cover [A].
2. Take out the special tool [B].

Note

- The special tool [B] is attached to the front side plate. It is used to adjust the tension on the belt on both ends of the shaft.




3. Fit the special tool onto the front [A].
4. Slowly loosen the front lock screw [1] until you see the tip of the shaft (① aligned with the hole ②, then tighten the screw.

Important

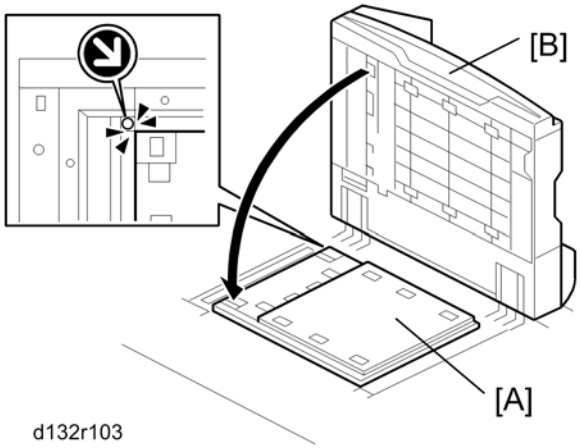
- To avoid stripping the threads of the screws, do not apply excessive force to these screws!

5. Remove the special tool and fit it onto the rear [B].
6. If the Teflon sleeve has been reattached at [2], remove it. Do not reattach the sleeve until

after adjusting the belt tension. (The special tool does not fit over the rear end with the Teflon sleeve attached.)

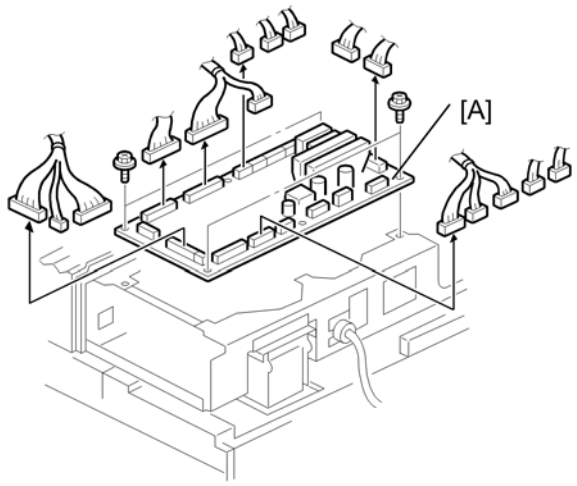
7. Slowly loosen the rear lock screw [3] until you see the tip of the shaft (③ aligned with the hole ④ then tighten the screw.
8. Re-install the Teflon sleeve.
9. Re-install the front and rear plastic cover.
10. Reinstall the transport belt assembly in the ARDF.

### *Reattaching the White Cover*




1. With its white side down, set the cover [A] on the exposure glass.
2. Make sure the upper left corner is aligned with the arrow at the corner of the exposure glass.
3. Close the ARDF [B] on top of the cover.

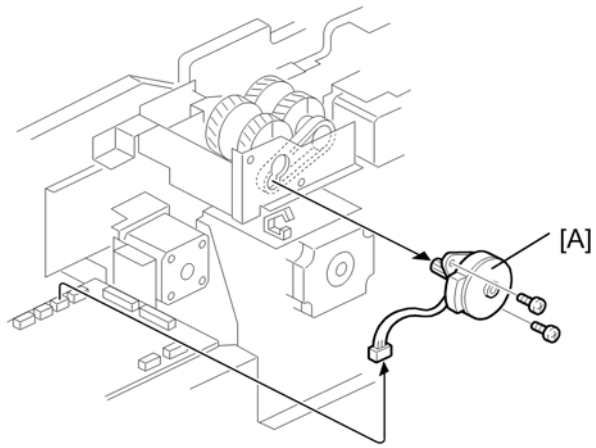
## 5.5.12 ARDF CONTROL BOARD




d132r124

1. Remove the ARDF rear cover (☛p.5-66)
2. Remove the ARDF control board [A] (x17, x4).

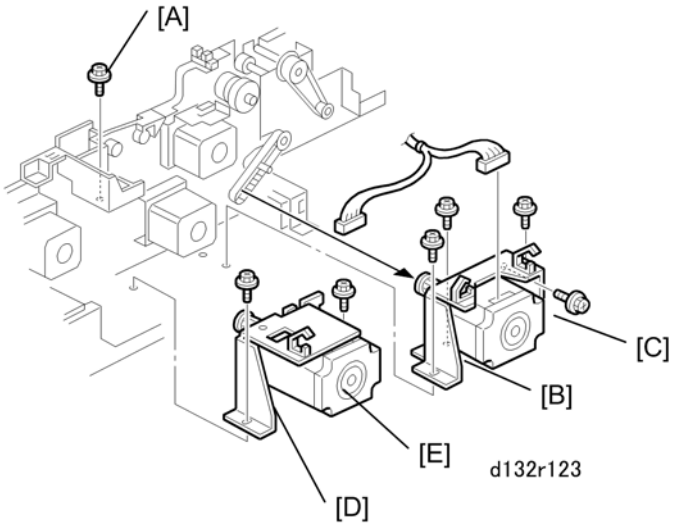
## 5.5.13 ARDF BOTTOM PLATE LIFT MOTOR




d132r121

1. Open the feed cover.
2. Remove the ARDF rear cover (☛p.5-66)
3. ARDF bottom plate lift motor [A] (x1, x2, x1)

## 5.5.14 ARDF FEED MOTOR, ARDF TRANSPORT MOTOR




1. Open the feed cover.
2. Remove the ARDF rear cover (☛p.5-66).

Note

- The right motor must be removed before the left motor.

3. Remove:

[A] Screw ( x1)

[B] Feed motor assembly ( x4, x1, x1, x1)

[C] Feed motor ( x2)

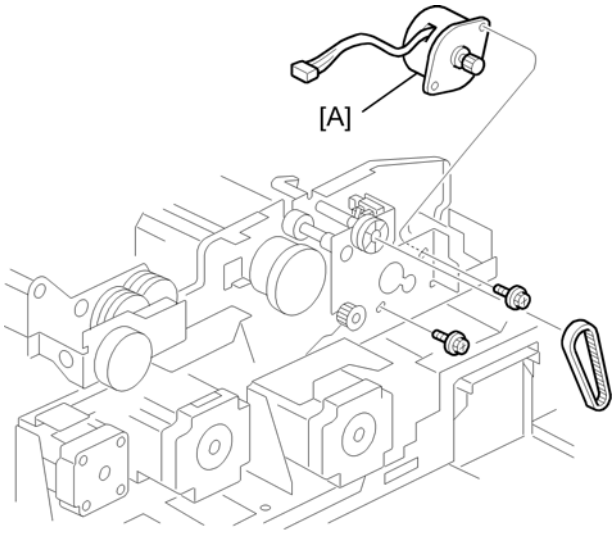
[D] Transport motor assembly ( x2, x1, x1, x1)

[E] Transport motor ( x2)

Note

- Re-installation is easier if you first set the spring tension with the screws and then fasten the motor bracket with screws.

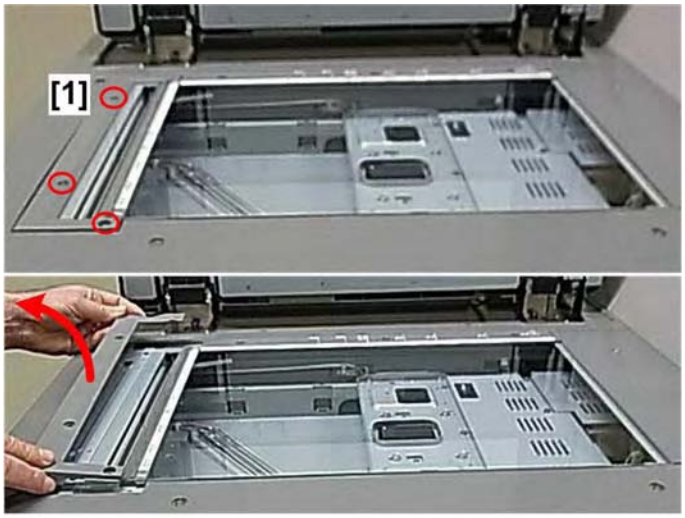
## 5.5.15 ARDF PICK-UP ROLLER LIFT MOTOR




1. Open the feed cover.
2. Remove the ARDF rear cover (☛p.5-66).
3. Remove the pickup roller lift motor [A] ( x2, x1, x1).

# 5.6 SCANNER UNIT

## 5.6.1 EXPOSURE GLASS

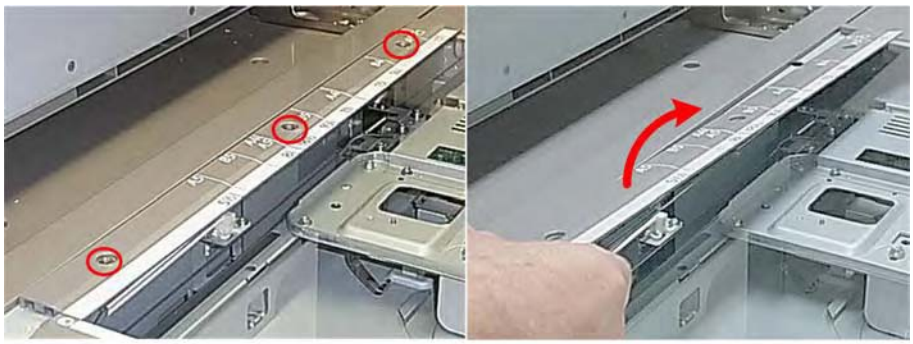



d074r797

1. Remove the left plate (x3).

Note

- Screw [1] is a larger screw.



d074r798

2. Remove the rear scale (x3).

d074r799

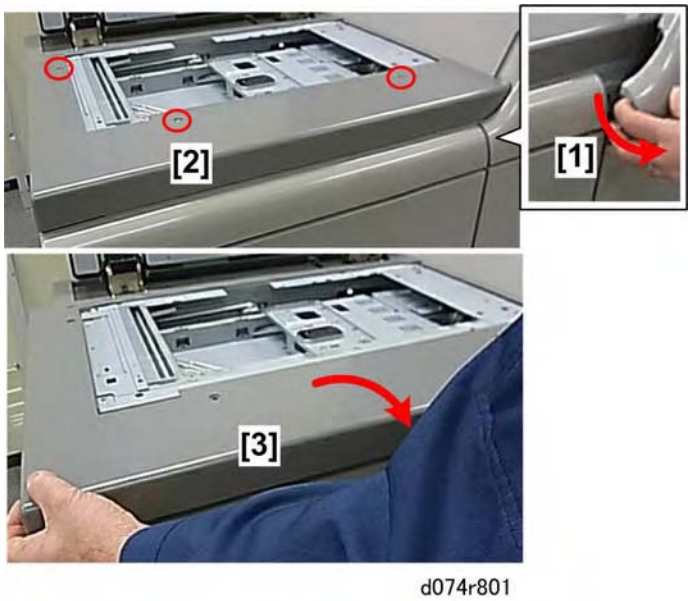
3. Carefully slide the right rear corner out of the groove at [1] and then remove the exposure glass.

## 5.6.2 RIGHT, LEFT PLATE COVERS

Remove these covers to allow easier access to the plates of the scanner unit below.

d074r800

1. Remove the exposure glass. (☛p.5-85)
2. Remove the right plate (x1). (This is a larger screw.)

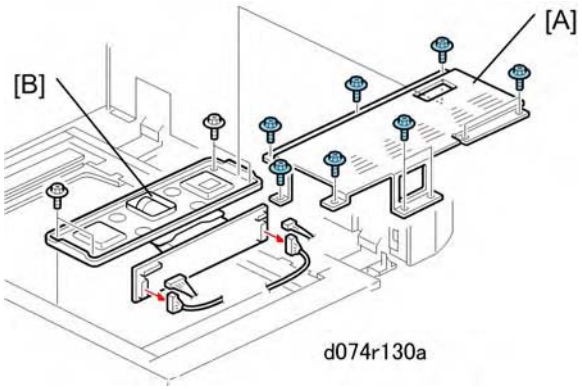



d074r801

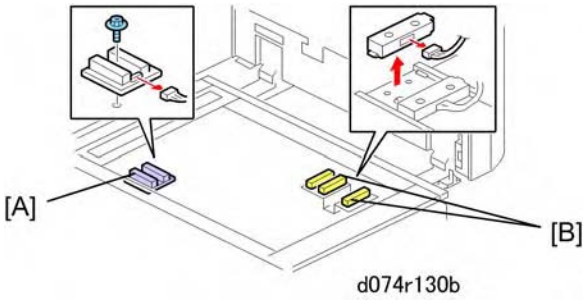
3. Open the toner bank door [1].
4. Disconnect the front plate [2] (x3).
5. Remove the front plate [3].

d074r802

## 5.6.3 LENS BLOCK, PAPER SIZE SENSORS




1. Before you remove the lens block, note the settings of the following SP codes that are used for ADF density adjustments for R, G, B.
   - **SP4609-2**
   - **SP4610-2**
   - **SP4611-2**
2. Remove the exposure glass. (☛p.5-85)
   [A] Lens cover ( x9)
   [B] Lens block ( x4, x4)



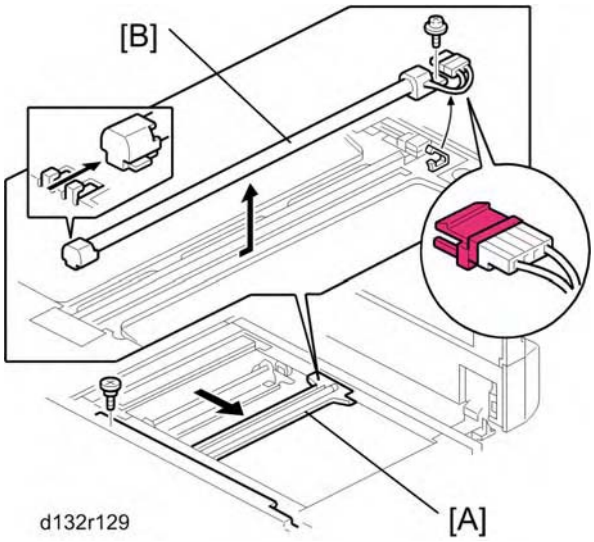

3. Remove the lens block carefully to avoid damaging the attached PCB.
4. Do not touch the paint-locked screws on the lens block.
   [A] Original width sensor (x1, x1)
   [B] Original length sensors x2 (No screws, x1 each)
5. After replacing the lens block, do the following SP codes.

| | | |
|---|---|---|
| **SP4008 001** | Sub Scan Mag | Sub Scan Magnification Adjustment |
| **SP4010 001** | Sub Scan Reg | Sub Scan Registration Adjustment |
| **SP4011 001** | Main Scan Reg | Main Scan Registration Adjustment |

6. After lens block replacement, do some copy samples with the ADF. Check these points:
   - Do the copies have background?
   - Is the copy output of the ADF and platen mode different?

   If these problems occur, restore the following SP codes to their previous settings (noted in Step 1), or adjust these SP codes until the background is acceptable.
   - **SP4609-2**
   - **SP4610-2**
   - **SP4611-2**

## 5.6.4 EXPOSURE LAMP

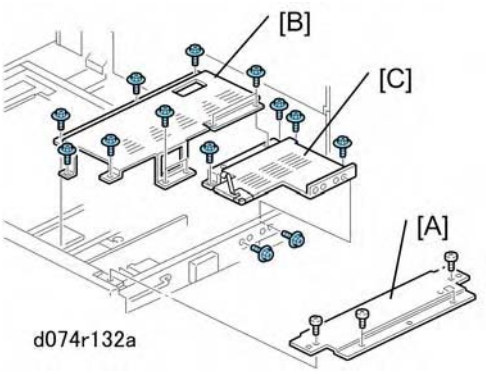



1. Remove the exposure glass. (☛p.5-85)
2. Slide the 1st scanner [A] to the cutout in the frame.
3. Remove the exposure lamp [B] (x1, x1, x1).

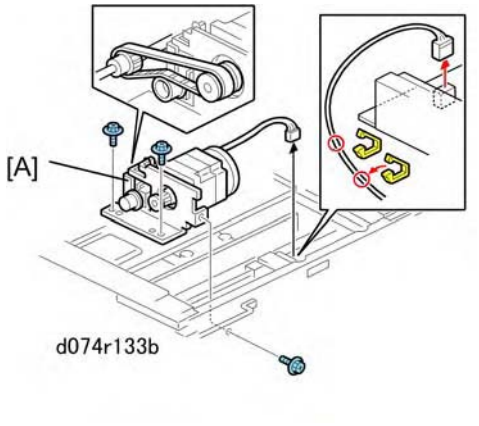
Important

- Never touch the surface of the exposure lamp with bare fingers.
- Work carefully to avoid damaging the relay plugs attached to the rear ends of the lamp.

## 5.6.5 SCANNER MOTOR

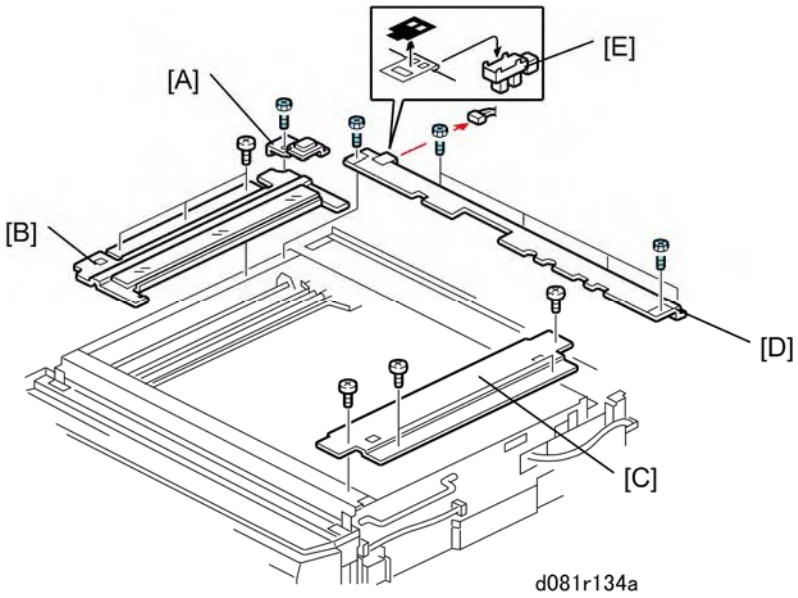



1. Do the first two procedures in this section to remove the exposure glass and right and left covers.
2. Remove:
   [A] Bracket ( x4)
   [B] Lens cover ( x9)
   [D] Right lens cover ( x5)



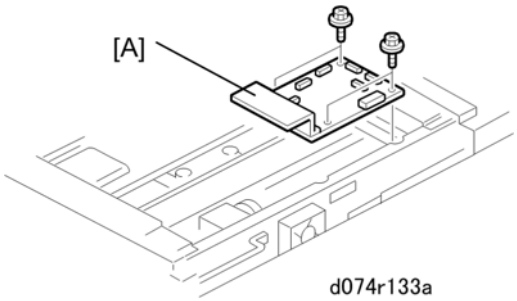

3. Remove the scanner motor assembly [A] ( x1, x2, x1, x3).
4. Remove the scanner motor ( x2).

## 5.6.6 SCANNER HP SENSOR



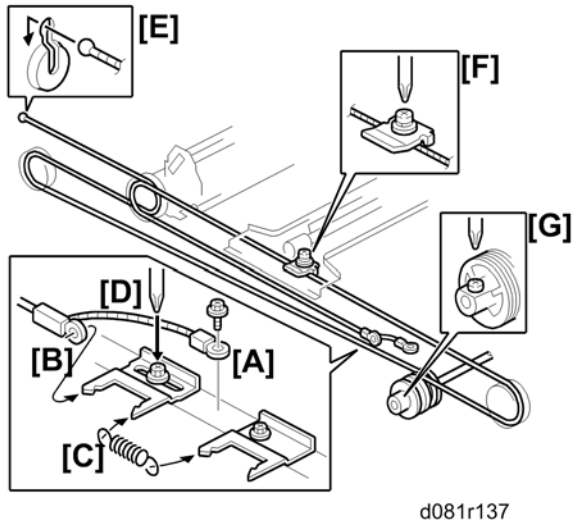

1. Remove ARDF, Exposure Glass, and Covers
2. Remove:
   [A] Ground plate ( x1)
   [B] Left stay ( x3)
   [C] Right stay ( x4)
   [D] Rear stay ( x6)
   [E] Scanner HP sensor ( x1)

## 5.6.7 SCANNER INTERFACE BOARD (SIOB)




1. Remove:
   - ADF
   - Exposure glass
   - Covers
   - Right stay, rear stay
   - Lens cover
2. Remove the scanner interface board [A] (x8, x4).

## 5.6.8 SCANNER WIRE

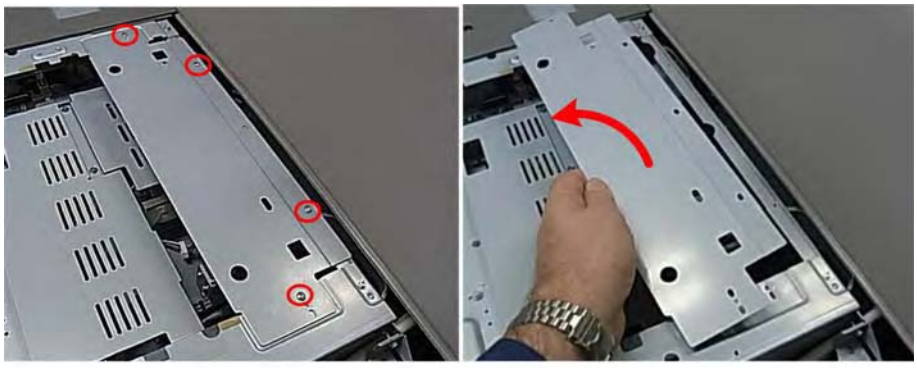



1. Remove the wire ground [A] ( x1).
2. Disconnect the head of wire [B] from tension bracket 1.
3. Remove spring [C].
4. Loosen the screw [D] of tension bracket 1.
5. Disconnect the end of wire at [E].
6. Remove lock bracket [F] of the 1st scanner ( x1).
7. Disconnect the wire from the pulley [G] ( x1).
8. Remove the wire from the scanner.

## 5.6.9 SCANNER UNIT COOLING FAN

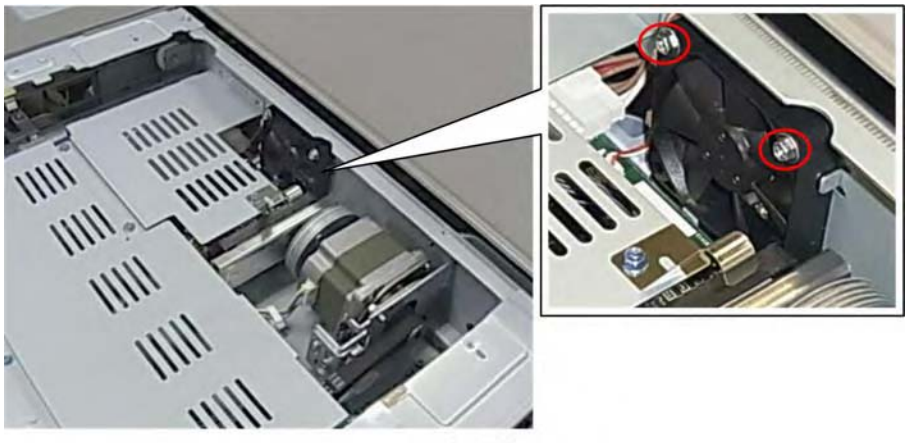
d074r803

1. Remove covers and exposure glass. (☛p.5-85)



d074r804

2. Remove the right metal cover plate (x4).



d074r805

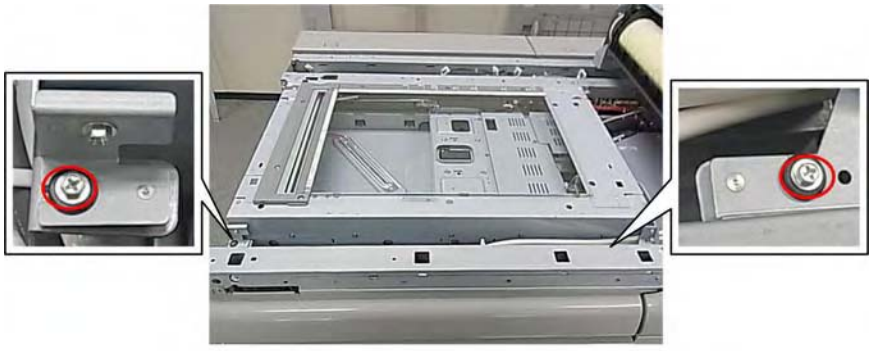
3. Disconnect the motor ( x2).

d074r806

4. Remove the motor (x2, x1).

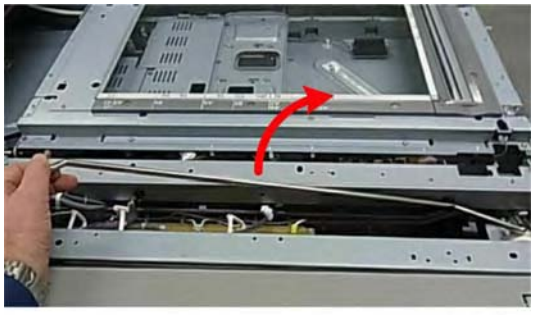
## 5.6.10 LAMP REGULATOR BOARD AND FAN

1. Remove ARDF, covers, and exposure glass. (p.5-85)



d074r807

2. At the front, disconnect the scanner unit ( x2).

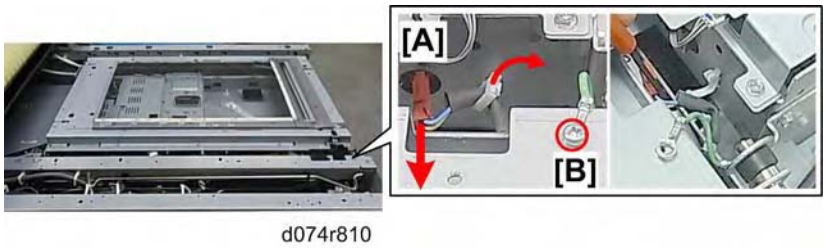


d074r808

3. At the rear, remove the scanner support arm (x2).

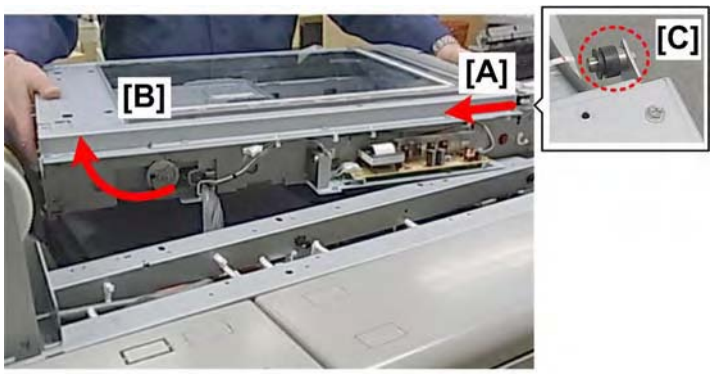
d074r809

4. Disconnect the right rear corner hinge [A] of the scanner unit ( x2).
5. Open the clamps and free large harness [B] (x2).




d074r810

6. At the left rear corner, disconnect the scanner heater [A] (x1,x1).
7. Disconnect ground wire [B] ( x1).

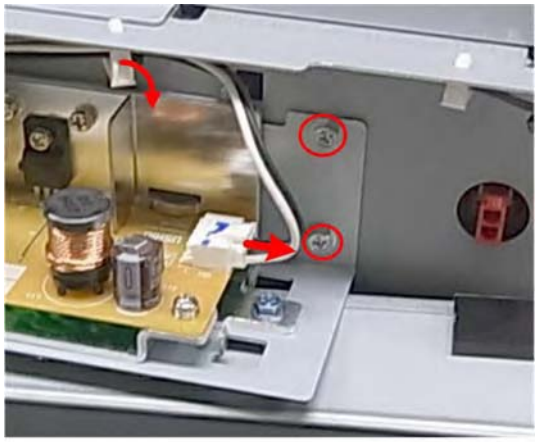



d074r811

8. At the front of the machine, slowly push the scanner unit off the left hinge [A], then rotate the right side of the unit [B] slightly counter-clockwise and set it down.
9. Make sure that the rubber grommet [C] does not come off its shaft and fall down into the machine.

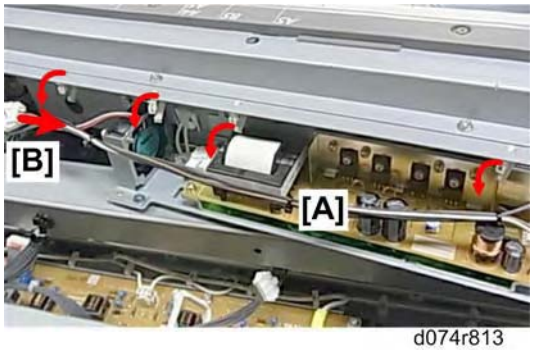
Note

- If the rubber grommet comes off the shaft as shown above, remove it and re-attach it to the shaft of the scanner unit.



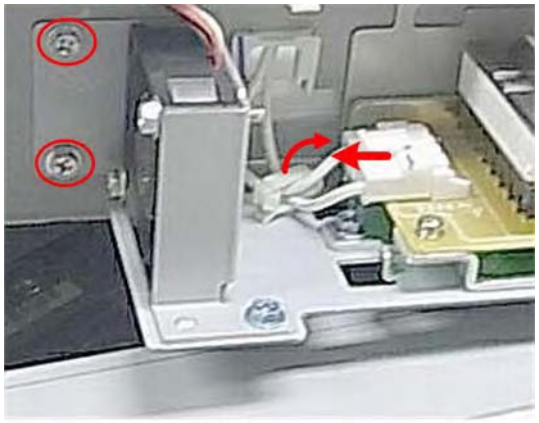
d074r812

10. At the rear, disconnect the right end of the lamp regulator board bracket (x1, x1, x2).



d074r813

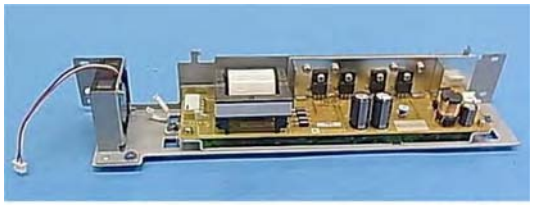
11. Free cable harness [A] (x4).
12. Disconnect the fan at [B] (x1).


d074r814

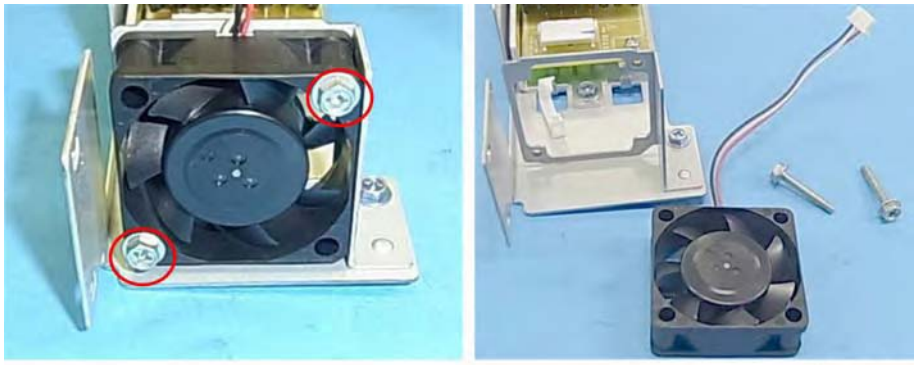
13. Disconnect the left end of the lamp regulator board bracket ( x2).

d074r815

14. Remove the lamp regulator board bracket with the board and fan attached.

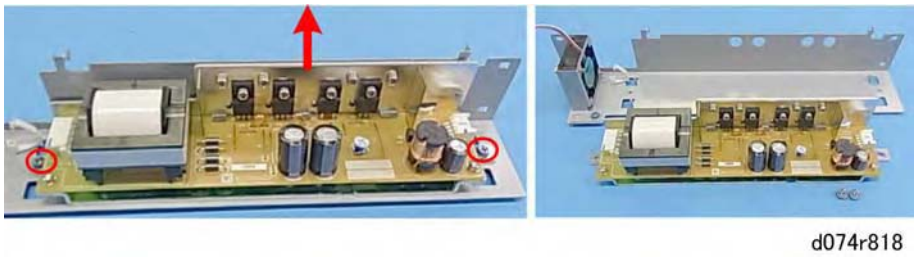

d074r816

15. Set the bracket on a flat clean surface.



d074r817

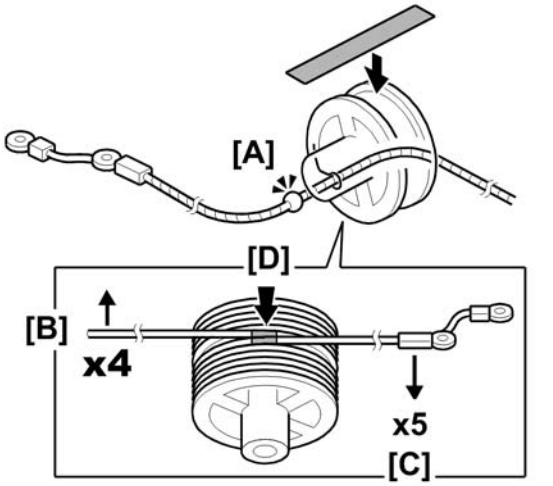
16. Remove the lamp regulator board fan ( x2).



d074r818

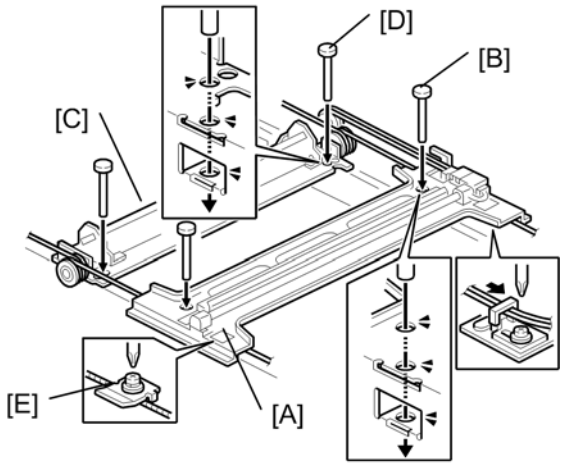
17. Remove the lamp regulator board.

## 5.6.11 WIRE RE-INSTALLATION, SCANNER POSITION ADJUSTMENT




d081r136

1. Place the bead [A] on the middle of the wire on the pulley openings.
2. Wind the ball end of the wire [B] 4 times.
3. Wind the other end of the wire [C] 5 times.
4. Attach tape [D] across the pulley to temporarily hold the wires in place.




d081r138

5. Position the 1st scanner [A] so that its holes are aligned, and insert the positioning pins [B] (x4).
6. Position the 2nd scanner [C] so that its holes are aligned, and insert the positioning pins [D].

7. Attach the lock bracket [E] to fasten the wire to the 1st scanner.
8. Tighten the screw of tension bracket.
9. Attach the pulley and tighten its lock screw.
10. Remove the four positioning pins.
11. Remove the tape from the pulley.
12. Slowly push the scanner left and right to confirm that the wires are engaged correctly. The 1st and 2nd scanners should move smoothly.

# 5.7 LASER UNIT

## 5.7.1 LASER UNITS

### *Before You Begin*

**⚠WARNING**

- Turn off the main power switch and unplug the machine before performing any procedure in this section. Laser beams can seriously damage the eyes and cause permanent blindness.

Important

- An accidental static discharge could damage the laser diode board attached to the lens block unit.
- Touch a metal surface to discharge any static electricity from your hands.
- The polygon motors rotate at extremely high speed and continue to rotate after the machine has been turned off.

**⚠CAUTION**

- The scanner unit of the D074/D075 is very heavy and needs to be propped up with a support rod during servicing. Never remove the support rod during servicing.

There are two laser units.

- The unit on the left is for yellow and magenta (YM).
- The unit on the right is for cyan and black (CK).

The removal procedures for each machine are different.

- The D074/D075 has an ARDF that must be removed, and the scanner unit must be propped up with a support rod for servicing.
- The M044 has no ARDF or scanner unit, so removal of the laser unit is much easier.



### ⇒ *Before Replacing the Laser Unit (D074/D075/M044)*

Set the value of the following SPs to “0” before you begin the replacement of the laser unit (that is, before you remove the laser unit).

| | |
|---|---|
| SP2104-002 (C) Skew Adjustment: Manual C | [-50 to 50/0/1 pulse] |
| SP2104-003 (M) Skew Adjustment: Manual M | [-50 to 50/0/1 pulse] |
| SP2104-004 (Y) Skew Adjustment: Manual Y | [-50 to 50/0/1 pulse] |

Note

Although set to “0”, these values will be readjusted to fit the new laser unit when you execute MUSIC after the replacement. Skipping this procedure may result in SC26x and SC28x after installing the new laser unit.

## 5.7.2 YM LASER UNIT REMOVAL: D074/D075

1. Confirm that the machine is switched off and disconnected from the power source.
2. If the LCIT is installed, disconnect it and pull it away from the right side of the machine.

**Attention Light**

d074c101

3. Remove the attention light ( x3, x2, x1).

**ARDF**

d074c100

4. On the right side of the machine, disconnect the ARDF.

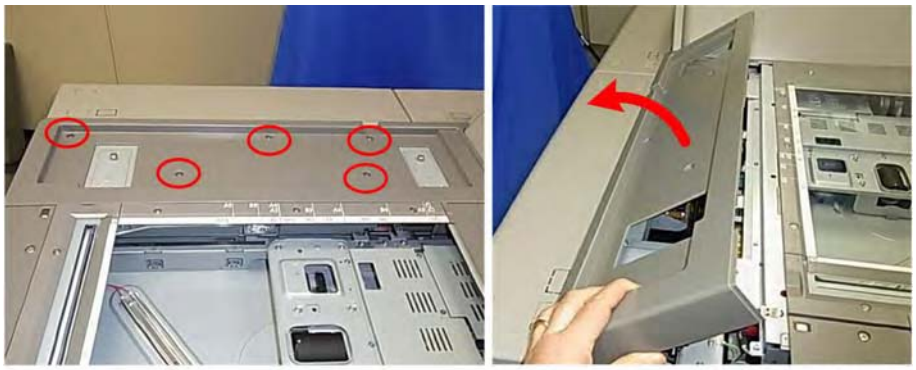
d074c102

5. Raise the ARDF.
6. Remove the base screws (x2).
7. Grip the ARDF from behind, and pull it toward you to disengage the base plates from the shoulder screws on the left and right.

d074c103

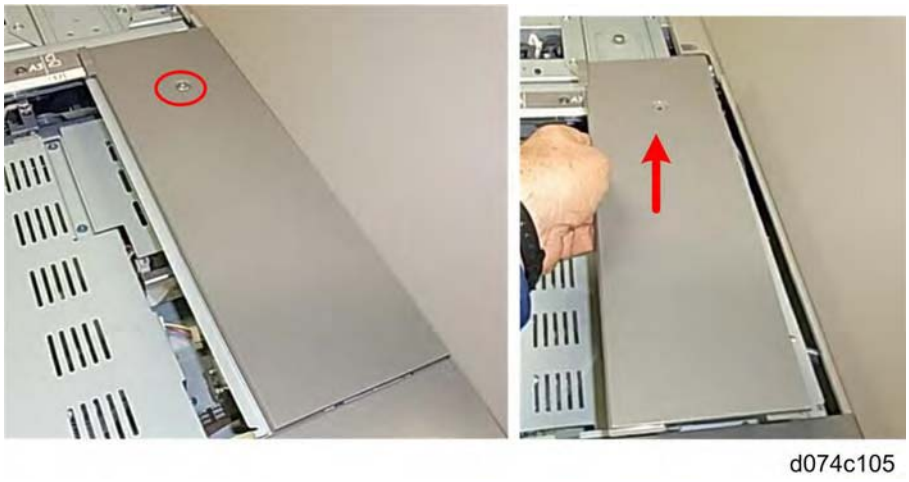
8. While holding the ARDF at the base, lift it off.

### Plates Around the Exposure Glass



d074c104

9. Remove the rear cover plate ( x5).



d074c105

10. Remove the right cover plate ( x1).

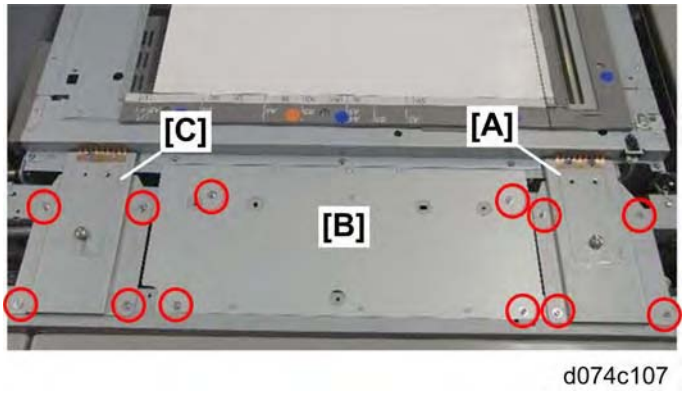
d074c106

11. Remove the front cover plate ( x3).

Note

- [1] is a larger screw.

**ARDF Base Plates**

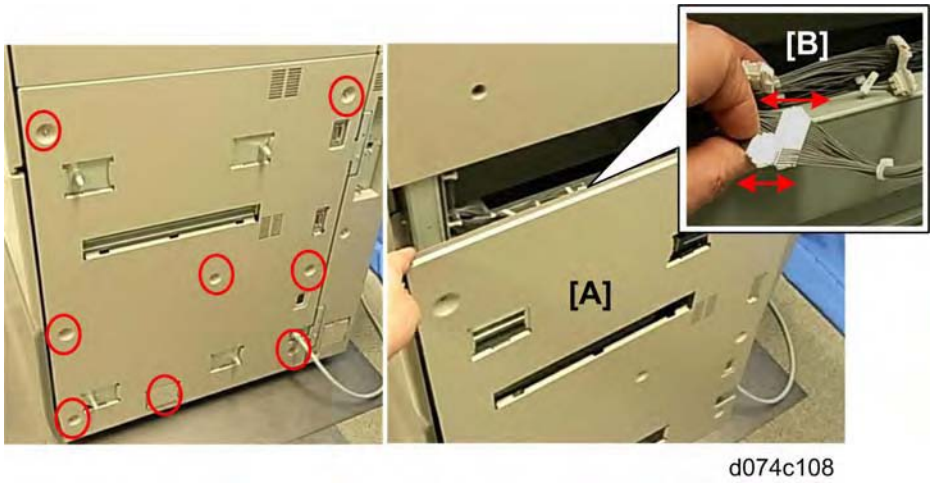



12. Remove:
    [A] ARDF base plate ( x4)
    [B] ARDF base plate ( x4)
    [C] Shield plate ( x4)

Note

- It is not necessary to remove the exposure glass.

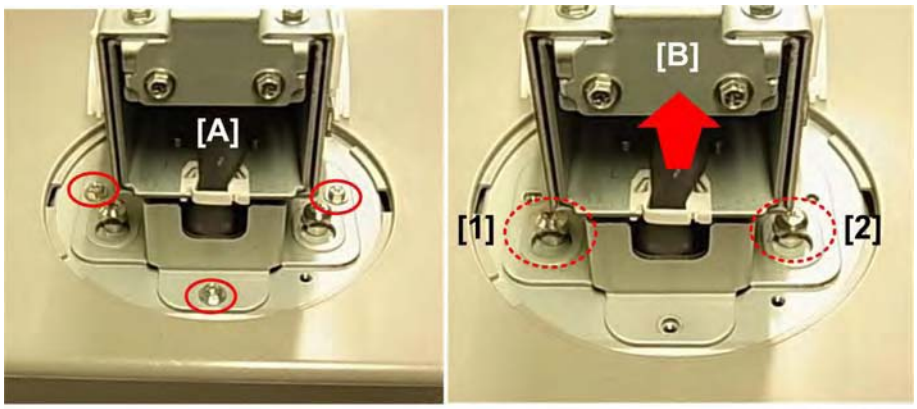
**Operation Panel**




13. Remove the right cover [A] ( x7).
14. Disconnect the operation panel ( x2).
15. Disconnect the harness cable inside the machine ( x1).

d074c109

16. Remove screw cover [A].
17. Remove the operation panel arm cover [B] ( x2).



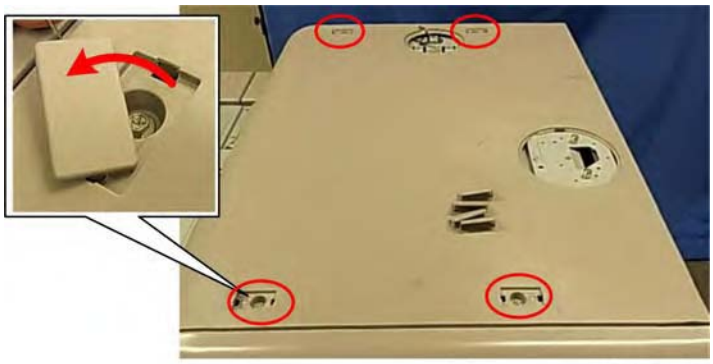

d074c110

18. Disconnect the operation panel arm [A] ( x3).
19. Push the end of the arm [B] to disengage the base plate from shoulder screws [1] and [2].

d074c111

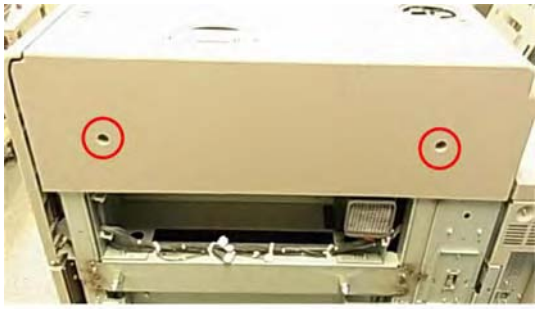
20. Pull the arm off its base and pull the harness up through the plate.
21. Lift the operation panel off the main machine.

**Toner Bank Canopy**



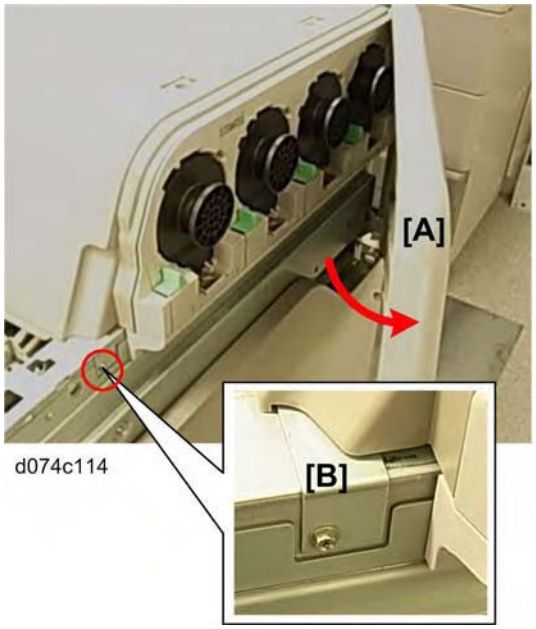
d074c112

22. Remove the four screw covers from the top of the canopy, and then remove the screws (x4).



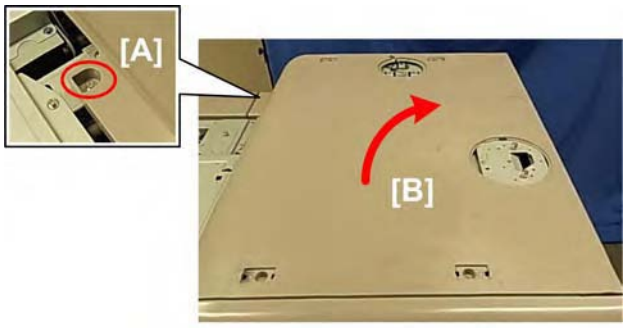
d074c113

23. On the right side of the machine, remove the canopy side screws (x2).




d074c114

24. Open the toner bank door [A].
25. Remove screw [B] (x1).



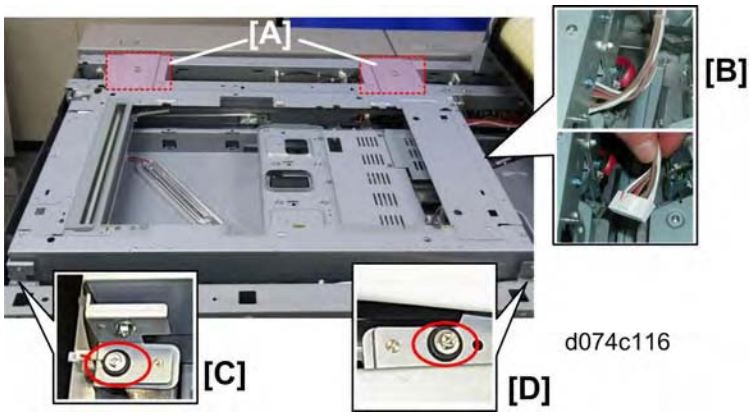

d074c115

26. At the left rear corner of the canopy [A], remove the screw ( x1).
27. Remove the toner bank canopy [B].

**Raising the Scanner Unit**

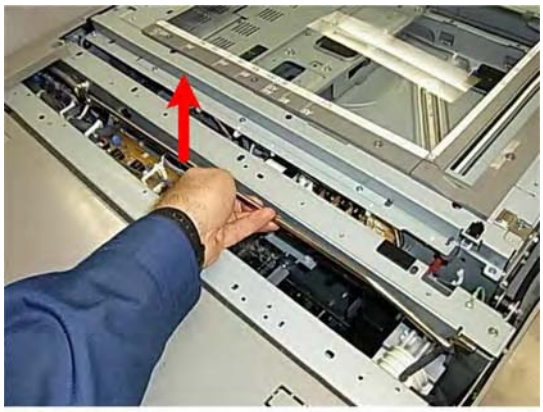
d074c115a

28. Remove the shield plate ( x8).



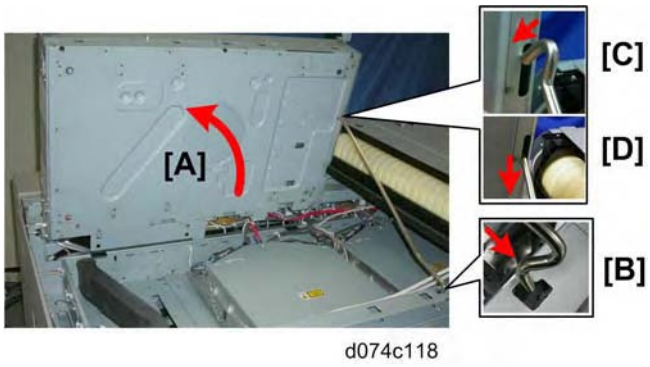

d074c116

29. Make sure both ARDF base plates have been removed ( x4 ea.).
30. At the front of the machine, disconnect the scanner unit at [B] ( x1).
31. Disconnect the scanner unit at [C] and [D] ( x2).



d074c117

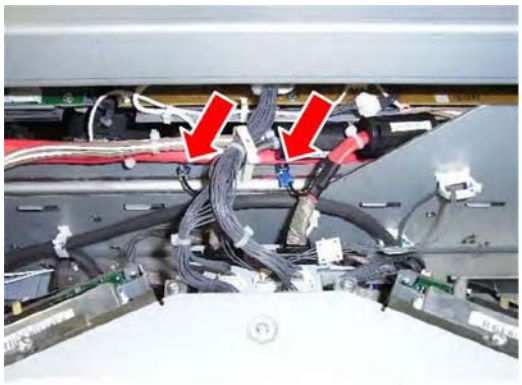
32. At the back of the machine, behind the scanner unit, remove the scanner unit support arm.




d074c118

33. Raise the scanner unit [A].
34. Set the base of the scanner unit support arm in hole [B].
35. Set the top of the arm in hole [C].
36. Push the top of the arm [D] down to lock it.

**Removing the YM Laser Unit**



d074c118c

37. Disconnect the ground wires ( x2),

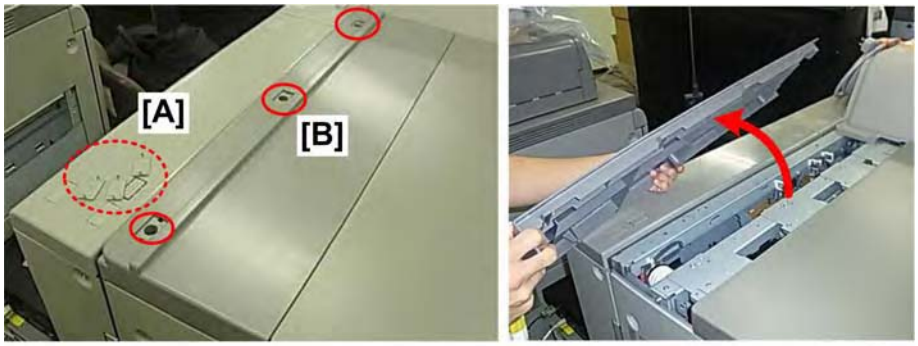
d074c119

38. At the rear, disconnect the YM laser unit ( x6).
39. Remove the YM laser unit screws ( x4).
40. Grip the chain handles on either side, and lift the YM laser unit out of the machine.

## 5.7.3 YM LASER UNIT REMOVAL: M044

1. Confirm that the machine is switched off and disconnected from the power source.

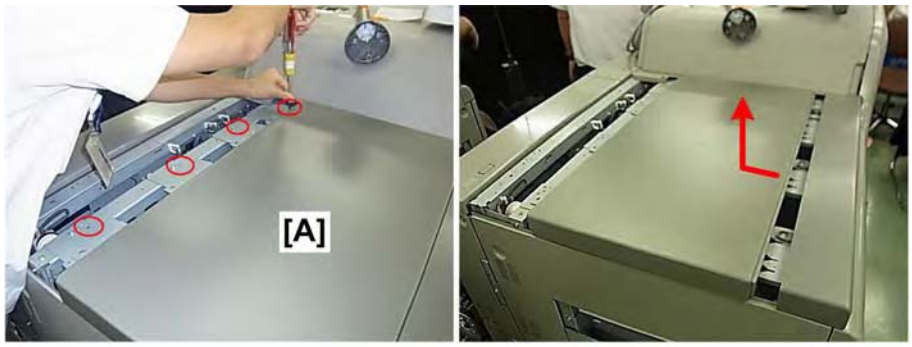
**Rear Cover**




m004c001

2. Use the tip of a small screwdriver to remove the three screw hole covers [A].
3. Disconnect cover [B] and remove it ( x3).

**Center Cover**




m004c002

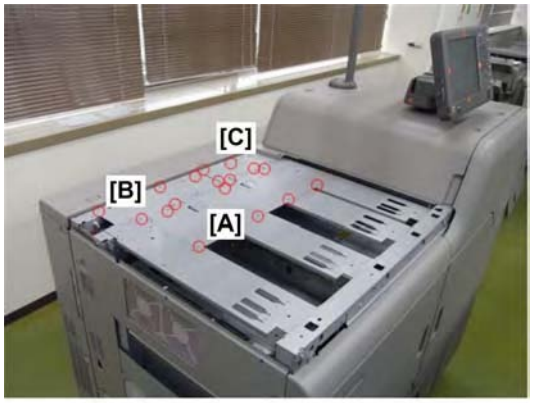
4. Disconnect the center cover [A] and remove it ( x4).

**Front Cover**

m004c003

5. Disconnect the front cover [A] and remove it ( x3).

**Metal Cover Plates**



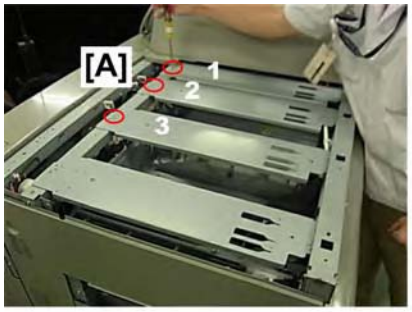

m004c003a

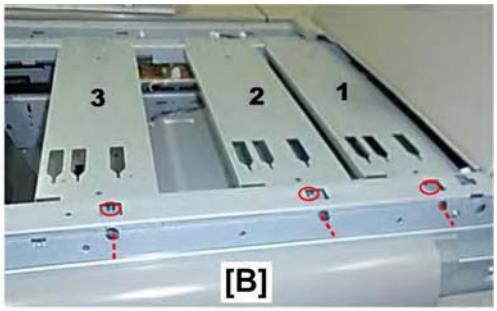
6. Remove metal cover plates:

   [A] Plate ( x7)

   [B] Plate( x6)

   [C] Plate ( x4)



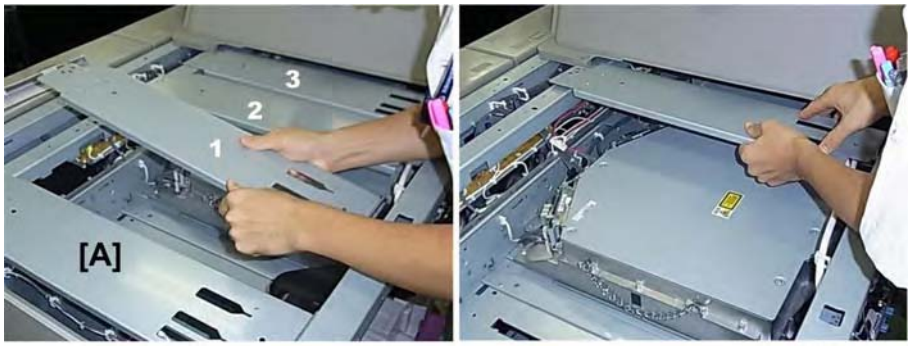




m004c004

7. At the rear [A], disconnect the three metal cover plates on the right ( x3).

m004c005

8. Each plate is fastened with a hook [1].
   - Slide the plate to the left to disconnect the hook [2]
   - Pull the disconnected hook out of the hole [3] and remove the plate.



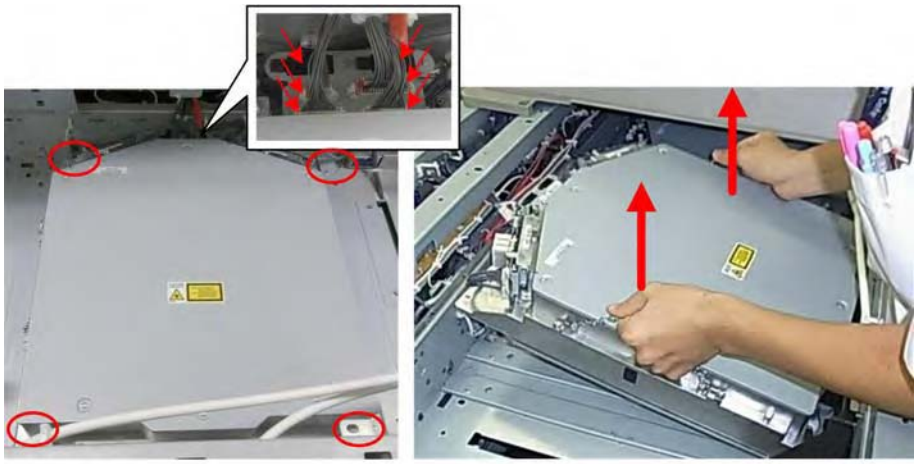

m004c006

9. Remove the three plates.

Note

- Plate [A] does not need to be removed.

**YM Laser Unit**



m004c007

10. At the rear, disconnect the YM laser unit (x6).
11. Remove the YM laser unit screws (x4).
12. Grip the chain handles on either side, and lift the YM laser unit out of the machine.

## 5.7.4 REMOVING THE CK LASER UNIT: D074/D075/M044

1. Confirm that the machine is switched off and disconnected from the power source.
2. Do the following:

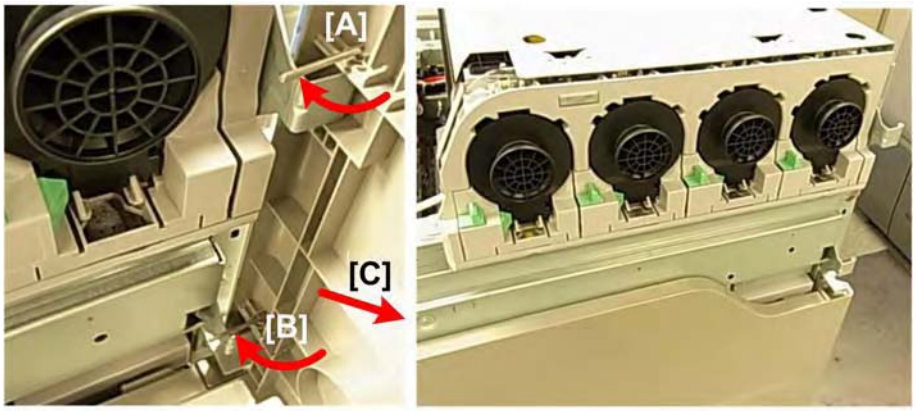
   **D074/D075**

   - If you are removing the right laser unit from the D074/D075, do the procedure for D074/D075 YM Laser Unit removal as far as raising the scanner unit. (Raising the scanner unit is not required.)

   **M044**

   - If you are removing the right laser unit from the M044, do the procedure for M044 YM Laser Unit Removal as far as removing the three plastic covers. (The three metal covers do not need to be removed.)

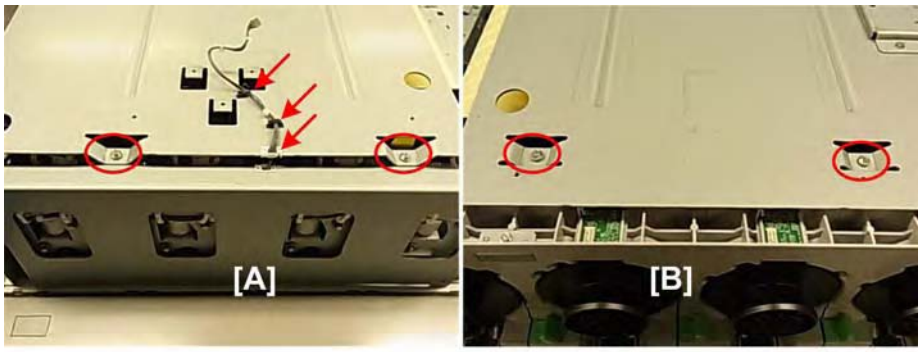
   **Toner Bank Door**




d074c120

3. To remove the toner bank door:
   - Swing out the "L" pin of hinge [A].
   - Swing out the "L" pin of hinge [B].
   - Remove both "L" pins.
   - Remove the door [C].

**Toner Bank Cover Plate**




d074c121

4. At the rear [A], disconnect the attention light harness (x3).
5. Disconnect the toner bank plate ( x2).
6. At the front [B], disconnect the toner bank plate ( x2).

d074c122

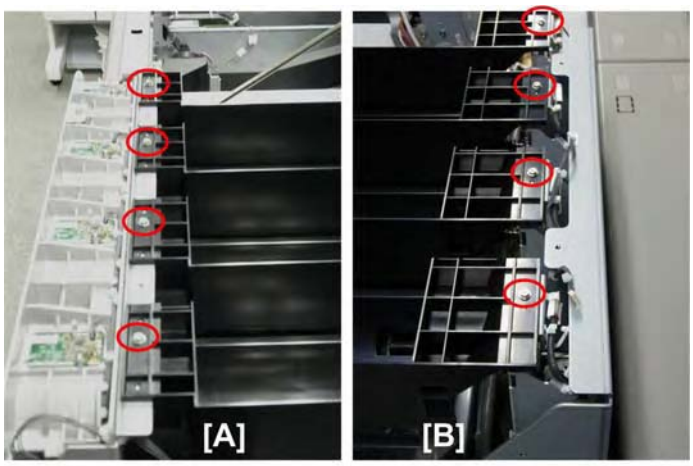
7. Remove the toner bank plate.

**Toner Bottles**

d074c122a

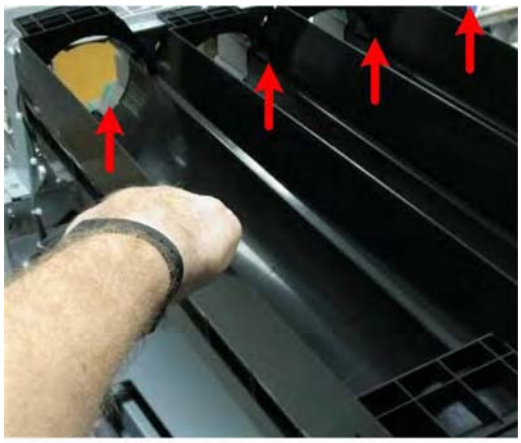
8. Push each lever to unlock each toner bottle and remove all the toner bottles.

**Toner Bottle Cradles**




d074c123

9. At the front [A], disconnect the toner bottle cradles ( x4).
10. At the rear [B], disconnect the toner bottle cradles ( x4).



D074c123a

11. Remove the four toner bottle cradles.

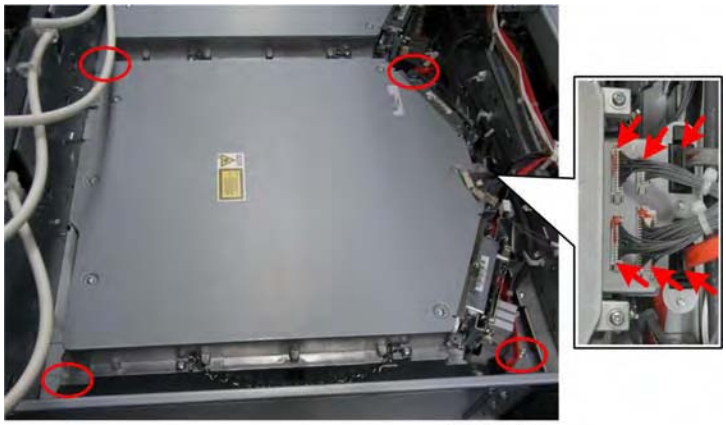
Note

- The cradles are identical. They can be re-installed at any position.

**CK Laser Unit**

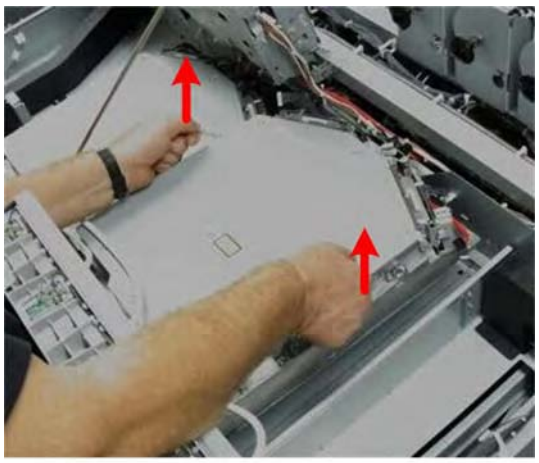
d074c118d

12. Disconnect the two ground wires ( x2).



d074c124

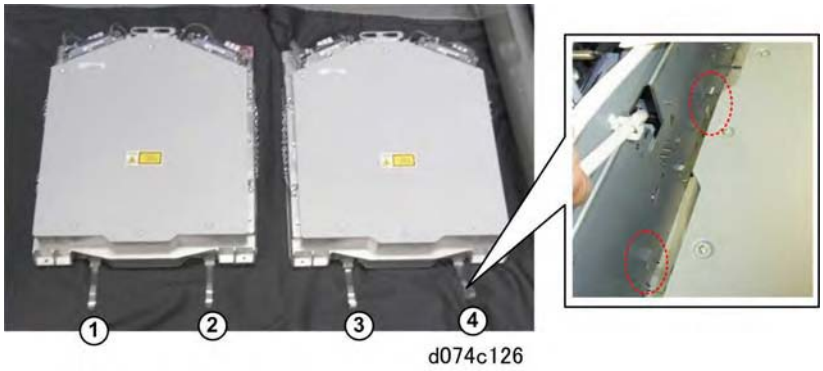
13. At the rear, disconnect the CK laser unit ( x6).
14. Remove the CK laser unit screws ( x4).



d074c125

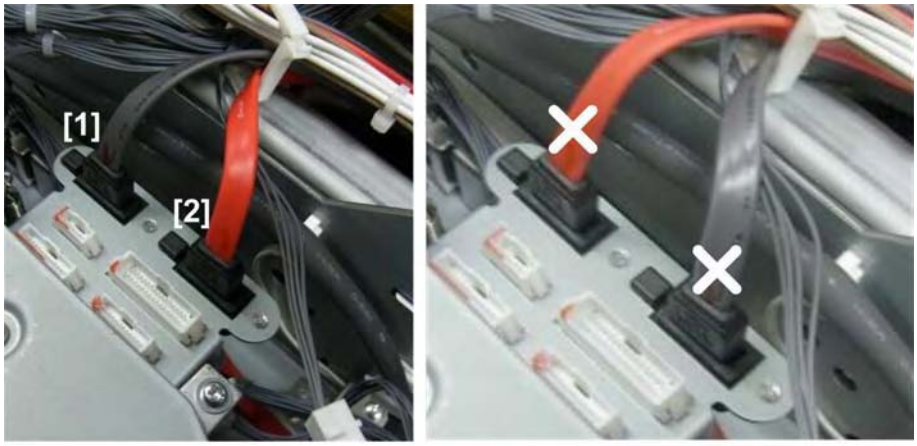
15. Grip the chain handles on either side, and lift the CK laser unit out of the machine.

## *Re-installation (D074, D075, M044)*




d074c126

1. There are two mylars attached to each laser unit. After you re-install a laser unit, confirm that both these mylars are visible and pointing up at the bottom of the laser unit..




d074c127

2. When you re-connect a laser unit, confirm that the rear cables are connected correctly. The gray cable [1] must be connected on the left, and the red cable [2] must be connected on the right.

Important

- The cable connectors have identical shapes. Do not reverse them when you re-connect a laser unit.
- This rule applies to both laser units (gray on the left, red on the right).

The illustration on the right shows how reversing the connection of the rear cables can adversely affect image reproduction.

### *SP Adjustments After Laser Unit Replacement*

After the laser unit is replaced, three SP codes must be executed: SP2108-1 for the CK LD unit, SP2108-2 for the YM LD unit and SP3011-004 Full MUSIC. These SP codes set the operation parameters for the laser unit (main scan registration, main scan magnification, shading, bow skew adjustment and Full MUSIC).

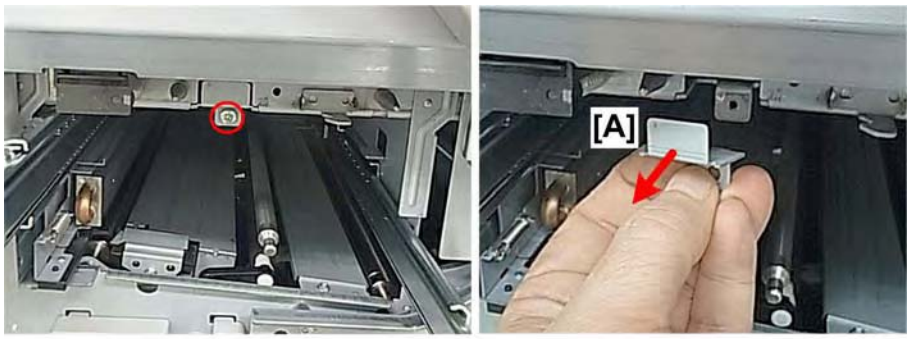
1. Enter the SP mode.
2. Execute the SP codes in the table below.

| No. | Name |
|---|---|
| SP2108-1 | Image Parameter – K/C Writing Unit |
| SP2108-2 | Image Parameter – Y/M Writing Unit |
| SP3011-004 | Full Music |

⇒

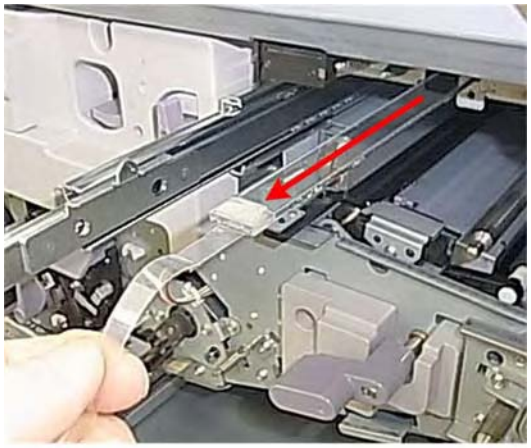
## 5.7.5 TONER SHIELD GLASS

1. Remove the PCDU. (☛p.5-151)



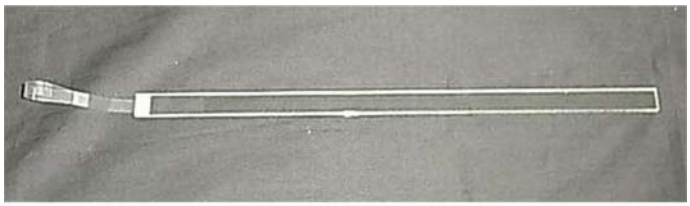

d074r782

2. Remove cover plate [A] ( x1).



d074r783

3. Pull the shield straight out of the machine.



d074r784

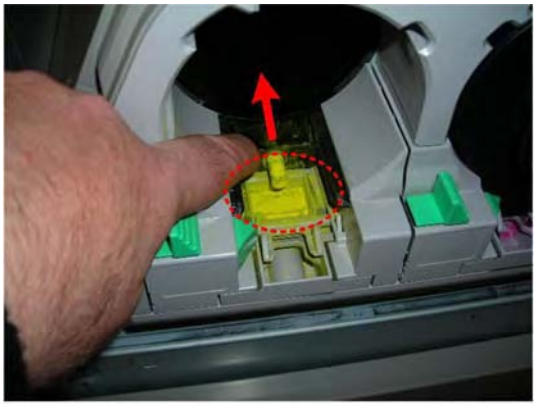
# 5.8 TONER SUPPLY

## 5.8.1 TONER BOTTLE PORT CLEANING

1. Open the toner bank door.

d074r081

2. Remove all the toner bottles.
   - Push each lock lever [1] to the left. The bottle will pop out.
   - Grasp the bottle by its knob handle [2] and remove the bottle.



d074r082

3. At the bottom edge of each toner bottle cradle, push back the spring-loaded nozzle cover to expose the plunger.
4. Use a vacuum cleaner to pull away loose toner.

Important

- To avoid toner scattering, never use a blower brush to clean these areas.

## 5.8.2 TONER SUPPLY UNIT REMOVAL

**What You Need...**

d074r060

- You will need a large damp cloth and a clamp when you disconnect the toner hose from the toner sub hopper.
- Spread some clean paper on a flat surface where you can set the PCDU after it has been removed.
- Spread some paper on a flat surface to catch scattered toner.

**Covers**

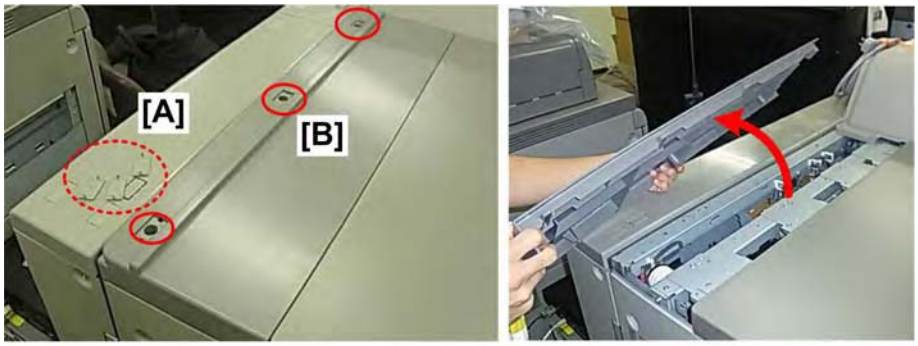
1. Confirm that the machine is switched off and disconnected from the power source.

**D074/D075**

d074r061

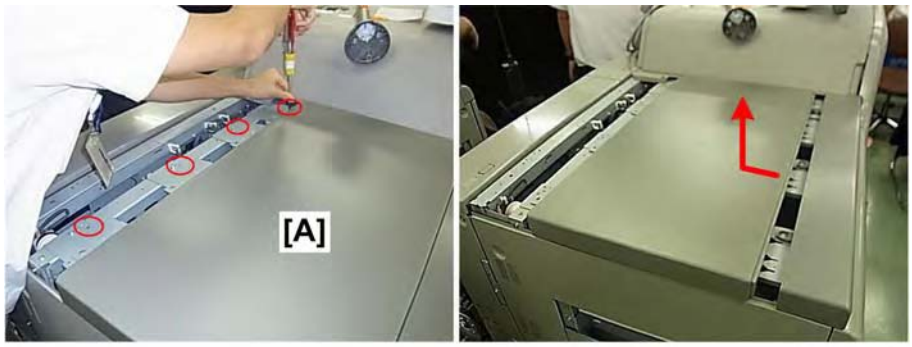
1. Remove the "L" cover [A] (x3).

**M044**




m004c001

1. Use the tip of a small screwdriver to remove the three screw hole covers [A].
2. Disconnect cover [B] and remove it ( x3).



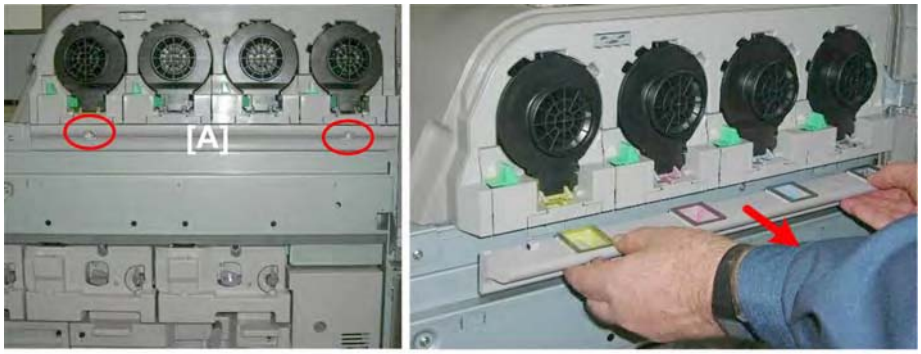

m004c002

3. Disconnect center cover [A] and remove it ( x4).

m004c003

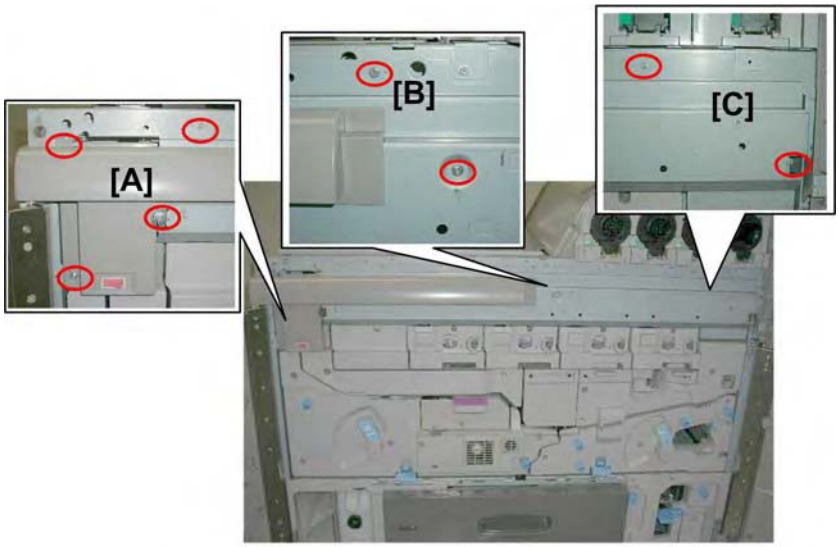
**D074/D075/M044 Continued**

1. Disconnect front cover [A] and remove it ( x3).



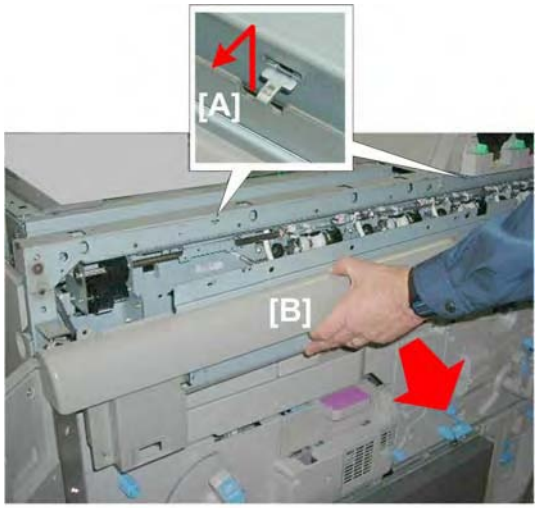

d074r062

2. Remove the toner port tray [A] ( x2).




m044r063

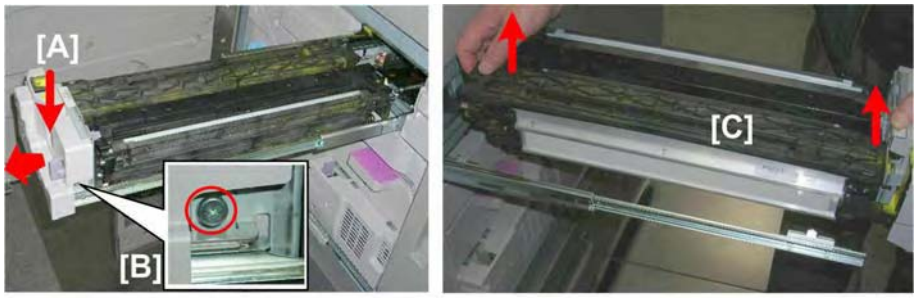
3. Disconnect the toner supply unit cover:
   - [A] Left end ( x4)
   - [B] Center ( x2)
   - [C] Right end ( x2)




m044r064

4. Lift the cover up [A] and then pull it toward you [B] to remove it.

**PCDU**




d074r068

Note

- There is a toner supply unit above each PCDU. To work on a toner supply unit, the PCDU below must be removed.

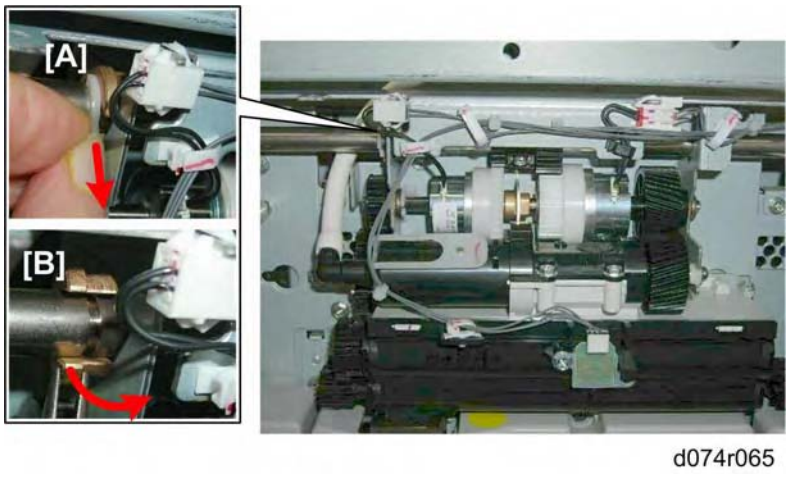
1. Depress the PCDU lock lever [A] and pull the PCDU out slowly until it stops.
2. Remove lock screw [B] ( x1).
3. Lift the PCDU [C] off the rails, and then lay the PCDU on the prepared surface.

Important

- Place the PCDU upright on a flat clean surface.
- There is only a small gap between the surface of the drum and the table surface so the surface must be smooth, flat, and clean.
- To avoid damage to the surface of the drum, never place the PCDU on a carpet or rough cloth.

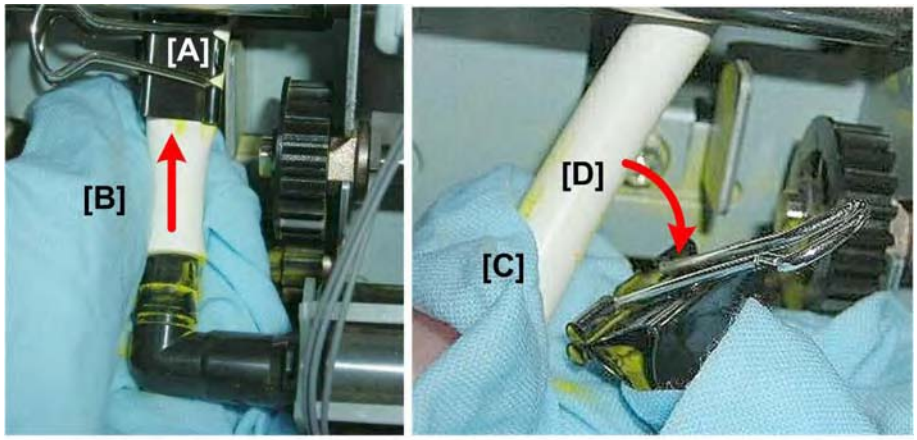
4. Push the PCDU rails into the machine.

**Supply Unit**



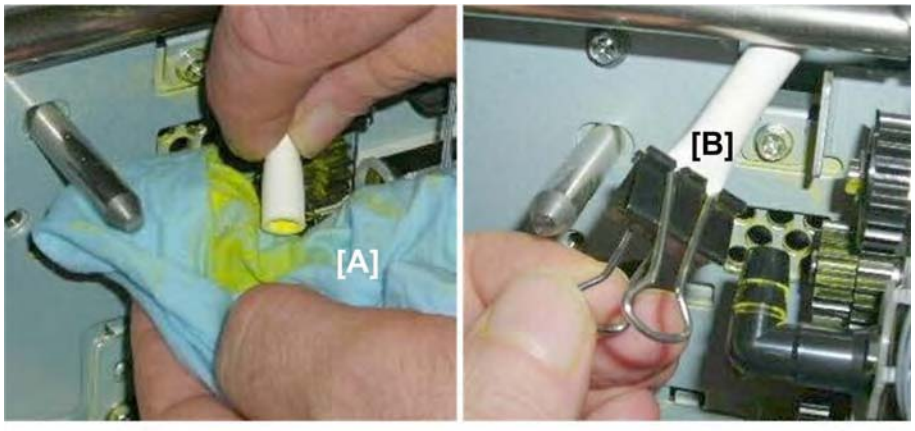

d074r065

1. At the upper left corner of the toner supply unit, disconnect the unit from the toner supply motor drive shaft:
   [A] Snap ring (x1)
   [B] Bushing ( x1)



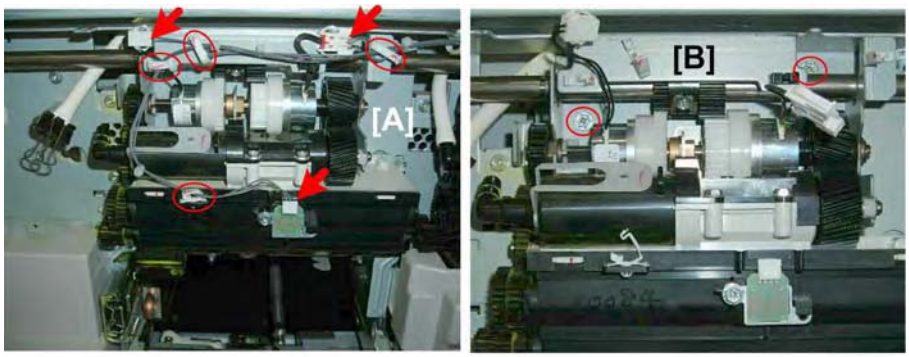

d074r066

2. Attach a clip at [A] to clamp the toner supply tube.
3. Wrap the hose connection with a damp cloth [B] and very slowly pull the tube off the nozzle.
4. While holding the cloth over the mouth of the tube [C], remove the clip [D].



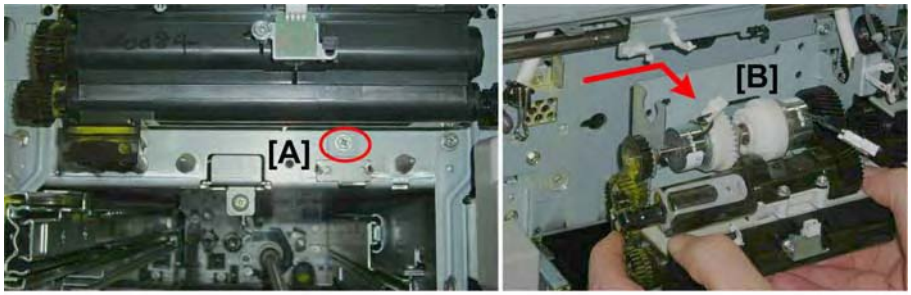

d074r067

5. Slowly and very carefully tap the open mouth of the tube [A] until toner stops flowing.
6. Re-attach the clip [B] to close the mouth of the hose.



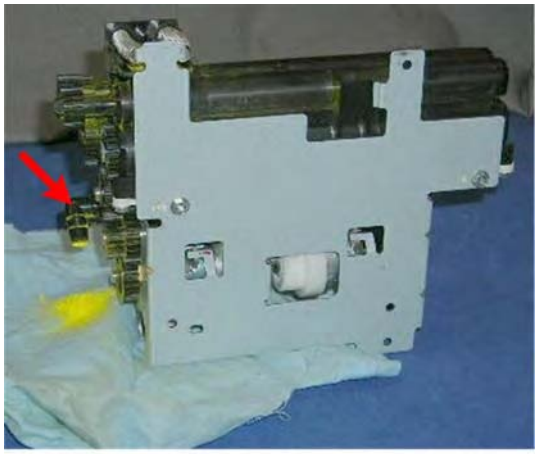

d074r069

7. Disconnect the supply unit:
   [A] Connectors and harnesses (x4, x3).
   [B] Top of the bracket ( x2)




d074r070

8. Disconnect the bottom of the bracket [A] ( x1).
9. Lift the unit [B] off its hooks and remove it.



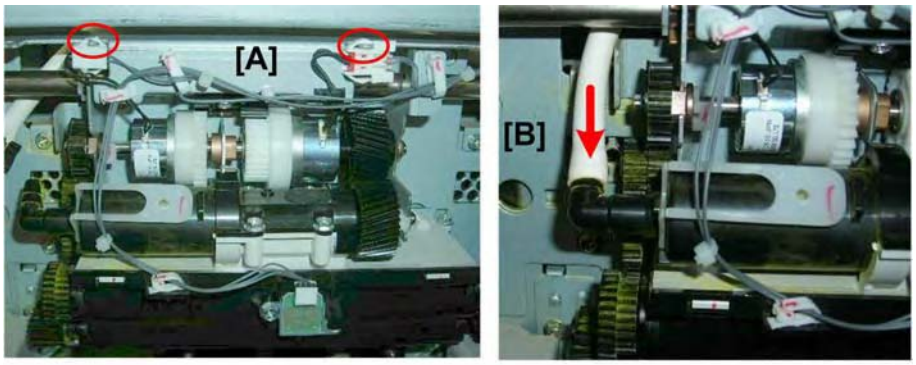
d074r071

10. Set the toner supply unit on some paper or waste cloth.
11. Tap the nozzle of the sub hopper nozzle until no more toner comes out.

Important

- Before servicing the unit, taping or plugging the nozzle is recommended to prevent toner scattering from the open nozzle.

**Re-installation**

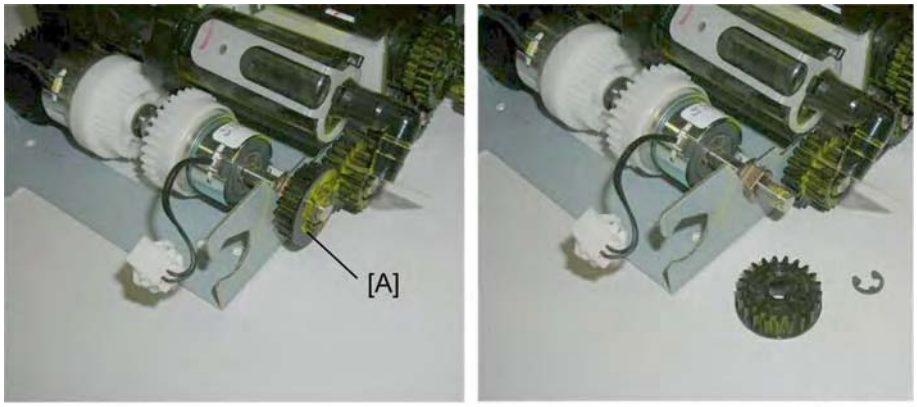



d074r080

- Be sure to re-set the harness connectors [A] on their pegs.
- Confirm that the connection of the toner supply tube [B] and sub hopper nozzle is straight and tight.

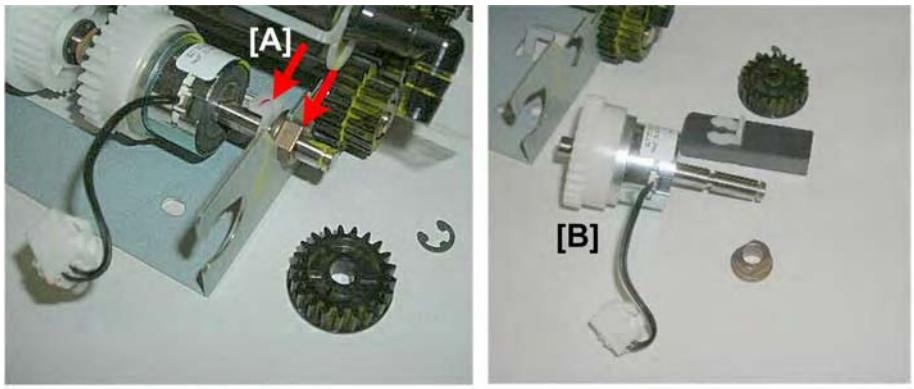
## 5.8.3 TONER SUPPLY CLUTCH

1. Remove the toner supply unit. (☛p.5-122)




d074r072

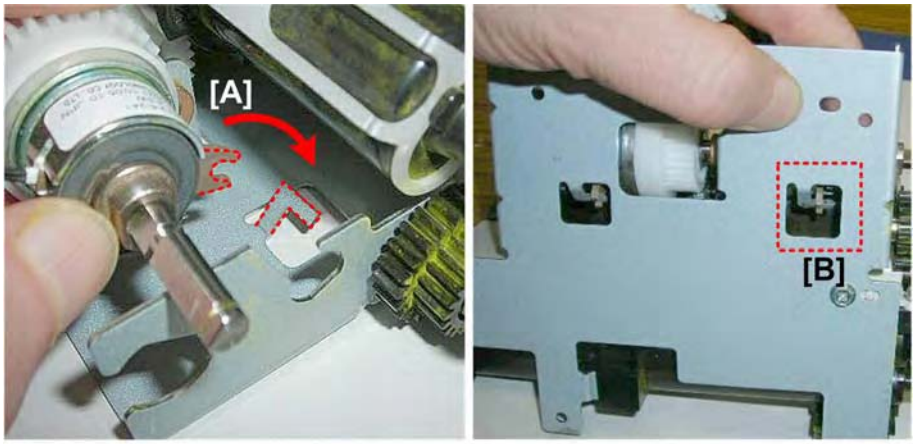
2. Remove drive gear [A] (x1).




d074r073

3. Disconnect shaft [A] (x1, x1).
4. Remove the toner supply clutch [B].

**Re-installation**

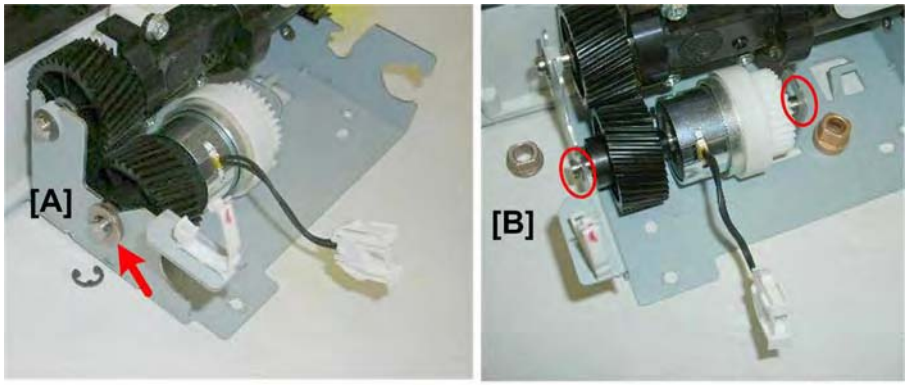



d074r074

- Make sure that the lock arm [A] of the clutch engages the pawl.
- On the other side of the unit, you can look through the cut-out [B] to confirm that the lock arm and pawl are engaged.

## 5.8.4 TONER PUMP CLUTCH

1. Remove the toner supply unit. (☛p.5-122)
2. Remove the toner supply clutch. (☛p.5-129)



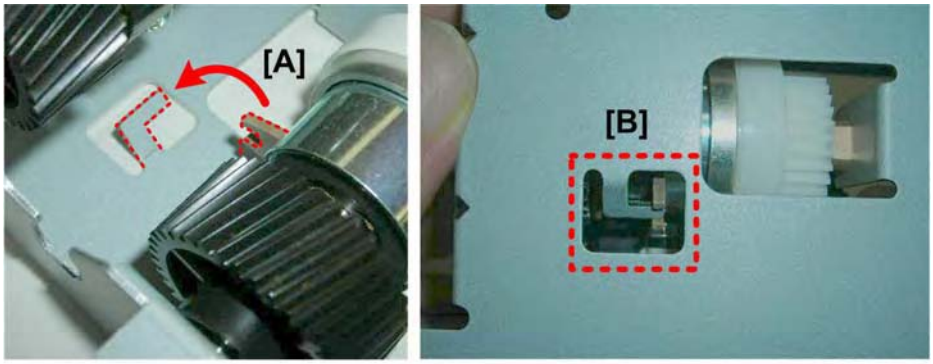

d074r075

3. Disconnect the shaft [A] (x1).
4. Release both ends of the shaft [B] ( x2).

d074r076

5. Remove the toner pump clutch.

**Re-installation**

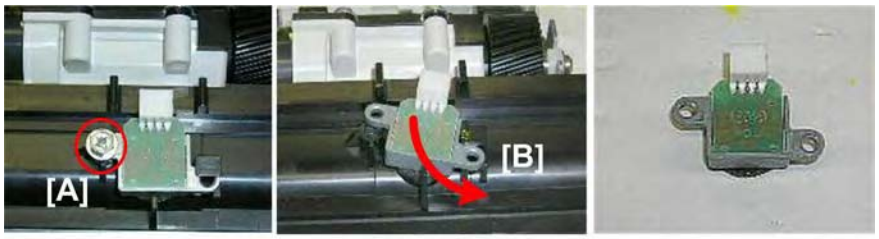



d074r077

- Make sure that the lock arm [A] of the clutch engages the pawl.
- On the other side of the unit, you can look through the cut-out [B] to confirm that the lock arm and pawl are engaged.

## 5.8.5 TONER END SENSOR

1. Remove the toner supply unit. (☛p.5-122)




d074r079

2. Disconnect the toner end sensor [A] ( x1).
3. Twist the sensor [B] slightly to the right (counter-clockwise) and remove it.

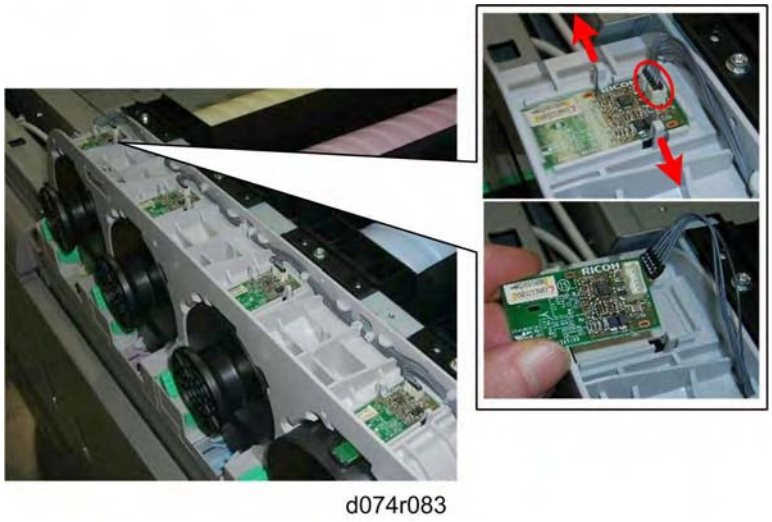
Important

- Do not touch the rear surface of the toner end sensor.
- To avoid damaging the sensitivity of the sensor, handle it carefully during removal.

## 5.8.6 RFID BOARDS, RFID CPU

### *RFID Boards*

1. Remove the canopy cover and toner bank cover plate. (☛p.5-23)

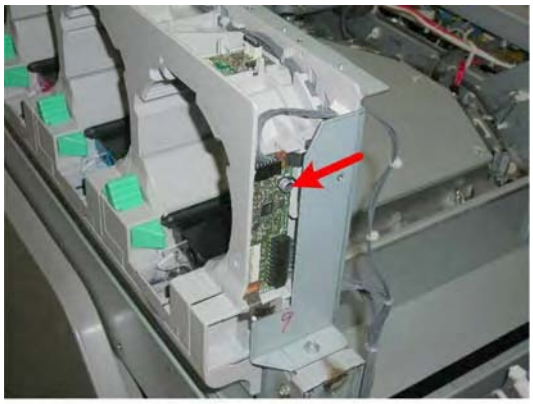



d074r083

2. Remove the RFID board (☚ x2, x1).

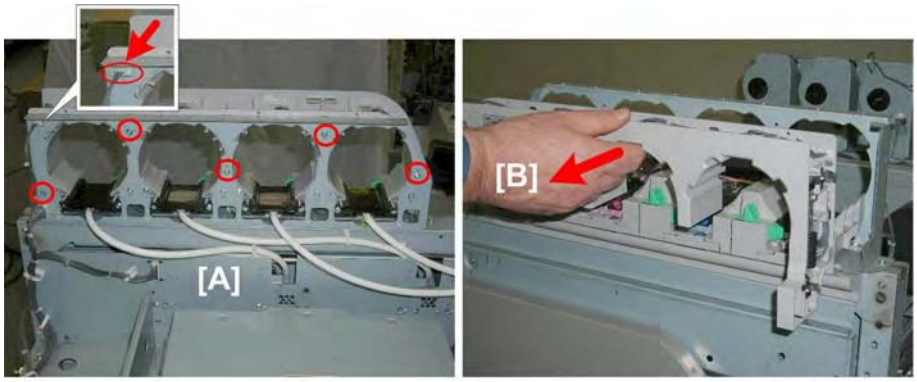
## *RFID CPU*

1. Remove: (☛p.5-23)
   - Canopy cover
   - Toner bank cover plate
   - Toner bottles and toner bottle cradles



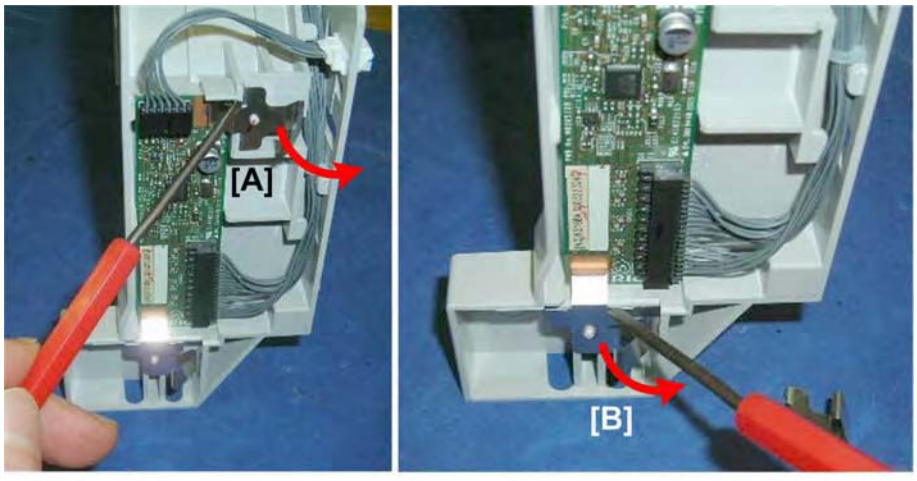
d074r084

The RFID CPU is behind the plate on the right side of the toner bank faceplate.



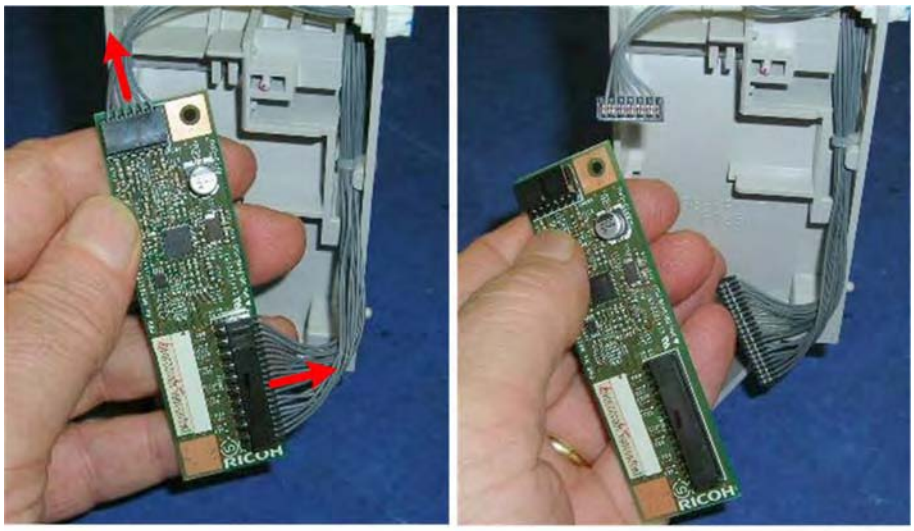

d074r085

2. From the rear [A], disconnect the toner bottle frame ( x1,  x5).
3. Remove the frame [B].




d074r086

4. Disconnect leaf springs [A] and [B].

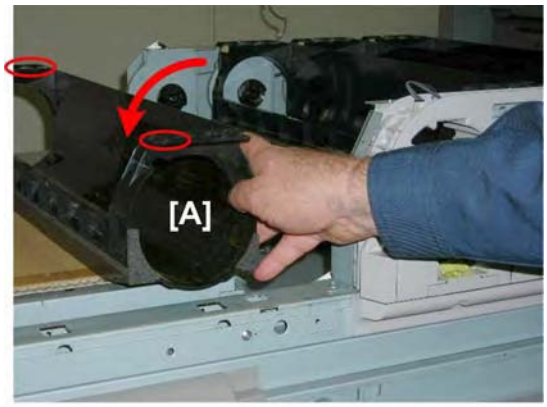



d074r087

5. Remove the RFID CPU and disconnect it (x2).

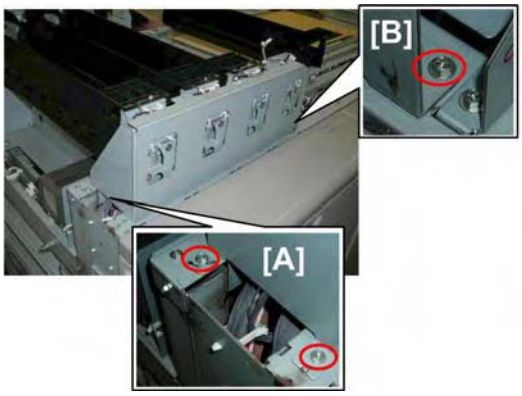
## 5.8.7 TONER BOTTLE MOTORS

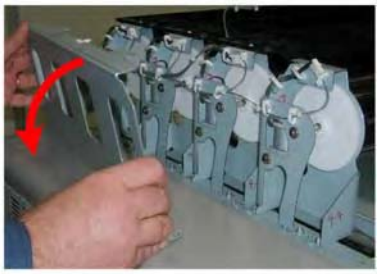
1. Remove: (☛p.5-23)
   - Canopy cover
   - Toner bank cover plate




d074r088

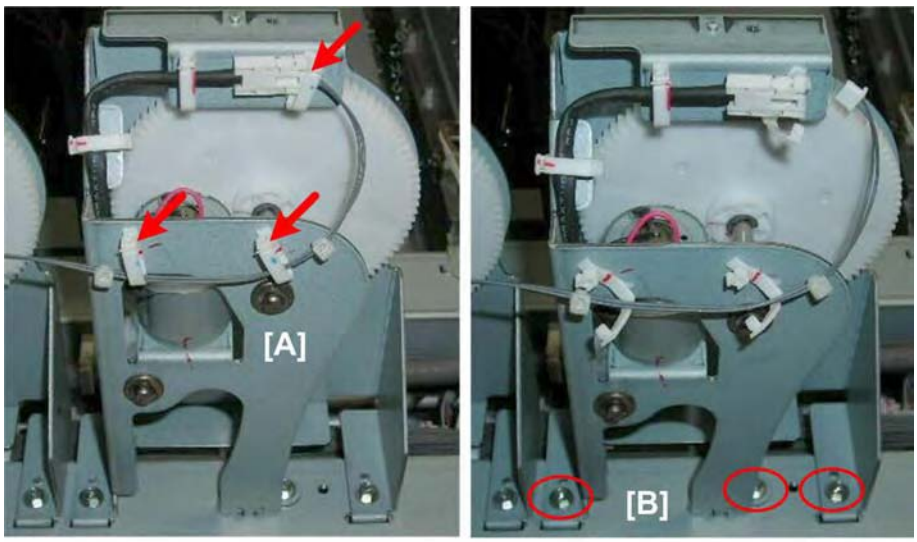
2. Remove the toner bottle cradle [A] for the motor to be removed.



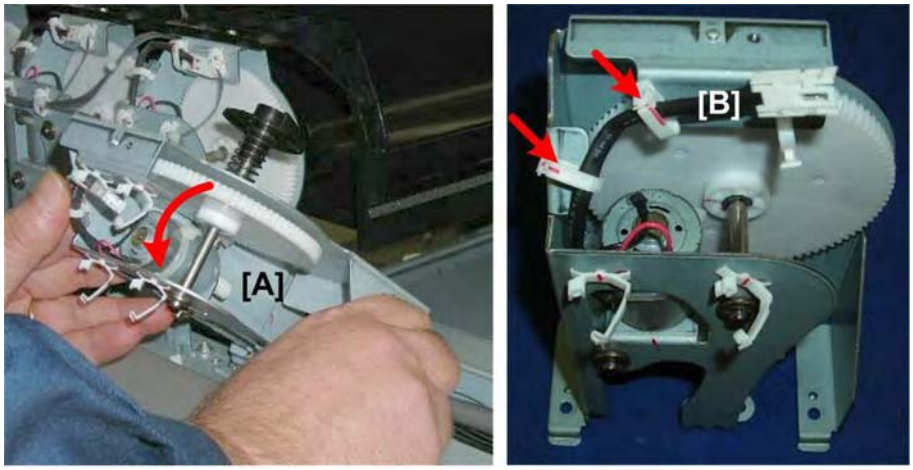
d074r089

3. Disconnect the toner bottle motor plate:
   [A] Right side ( x2)
   [B] Left side ( x1)
4. Remove the plate.




d074r090

5. Disconnect the motor mount:
   [A] Harness [x2, x1]
   [B] Base ( x3)

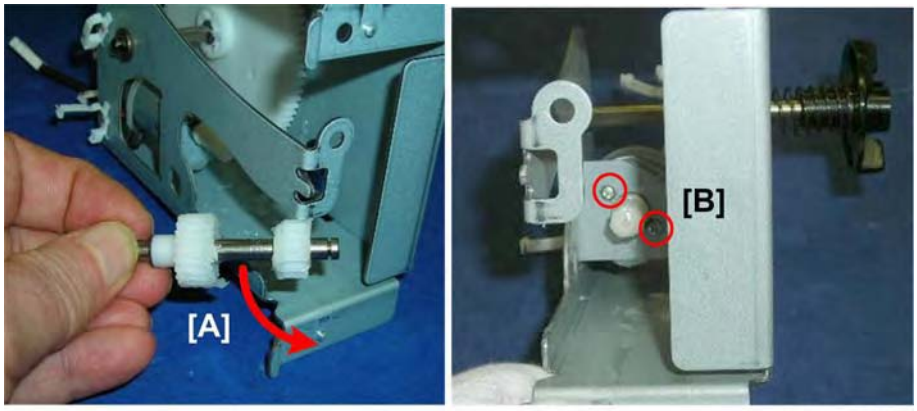



d074r091

6. Rotate the motor mount [A] toward you and remove it.
7. Set the motor mount upright on a flat surface.
8. Release harness [B] (x2).

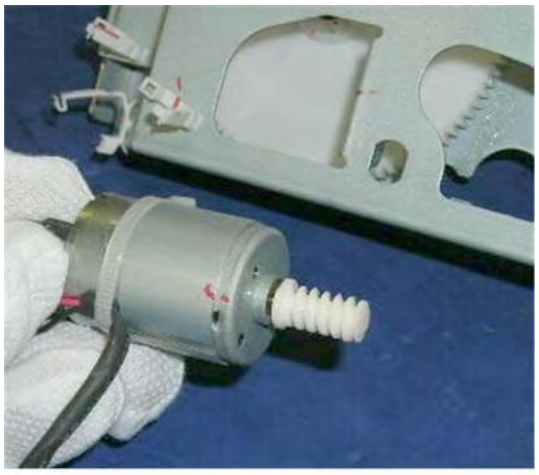
d074r092

9. Disconnect:
   [A] Rear end of shaft (ℭ x1, x1)
   [B] Front end of shaft (ℭ x1, x1)




d074r093

10. Remove the drive shaft [A].
11. Disconnect the motor [B] ( x2).

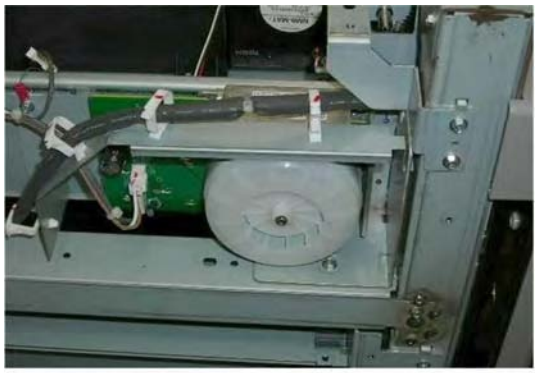


d074r094

12. Remove the toner bottle motor.

## 5.8.8 TONER SUPPLY MOTOR

**Before You Begin...**

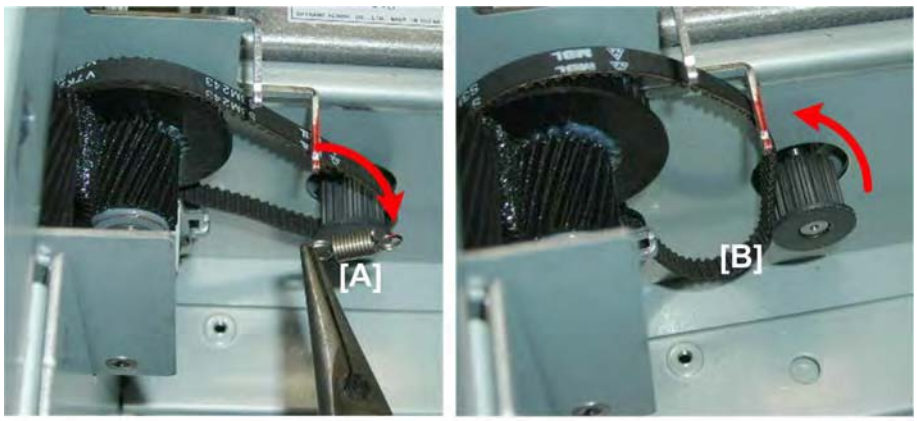


d074r095

The toner supply motor is on the left front corner of the machine. To access this motor, you must remove:

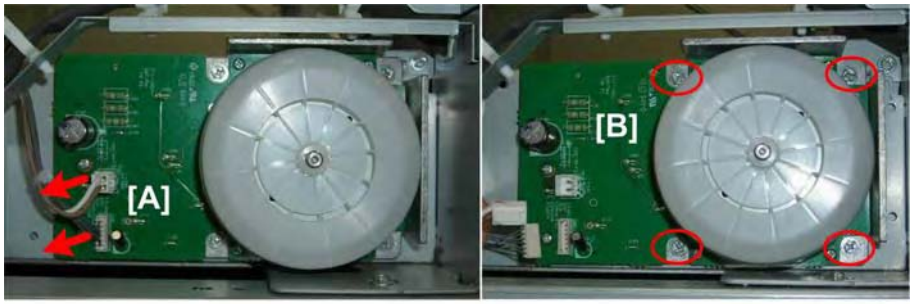
- Left top cover.
- Left cover.

**Toner Supply Motor**




d074r096

1. Inside the left front corner, disconnect spring [A] (x1).
2. Disconnect the motor drive shaft [B] (x1).




d074r097

3. Outside the front left corner, disconnect the harnesses [A] (x2).
4. Disconnect the motor [B] ( x4).

d074r098

5. Remove the motor.

# 5.9 USED TONER COLLECTION

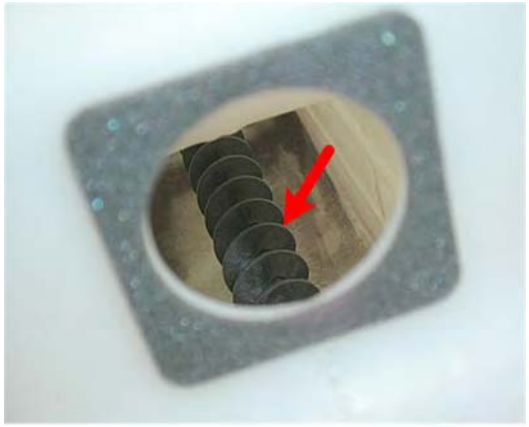
## 5.9.1 USED TONER BOTTLE

d074r489

1. The used toner bottle is located at the lower left corner of the main machine behind the left door. Just pull it out by its handle.

d074r499

2. The cap of the used toner bottle has a reverse thread. Turn it clockwise to remove it.

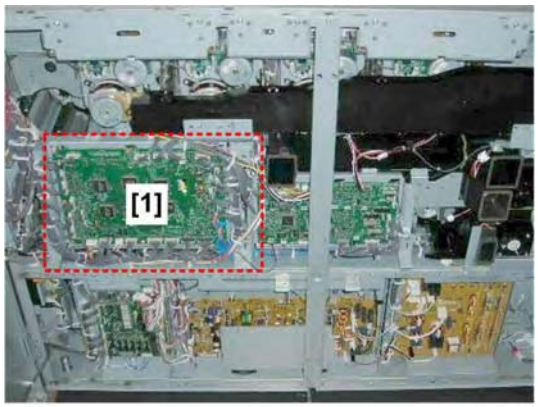


d074r986

3. After emptying the used toner bottle, check the auger inside the bottle and make sure that there are no clumps of used toner sticking to the auger.
4. If you see any clumping on the auger, gently tab the sides of the bottle to shake them loose, then empty the bottle again.

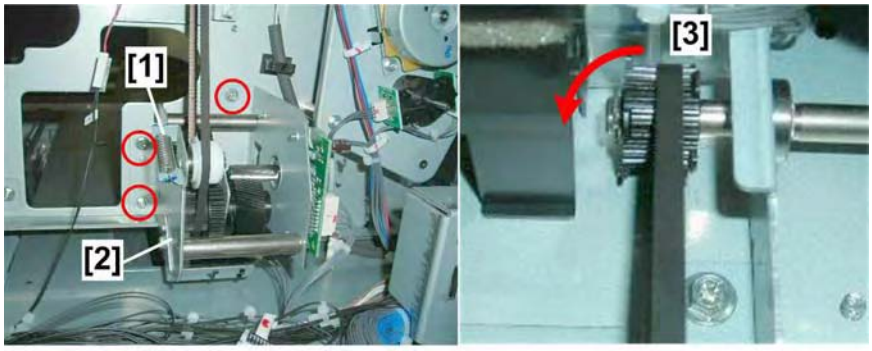
## 5.9.2 USED TONER TRANSPORT MOTOR, SENSOR, TIMING BELT

**Transport Motor**



d074r470

1. Remove the IOB. (☛p.5-431)



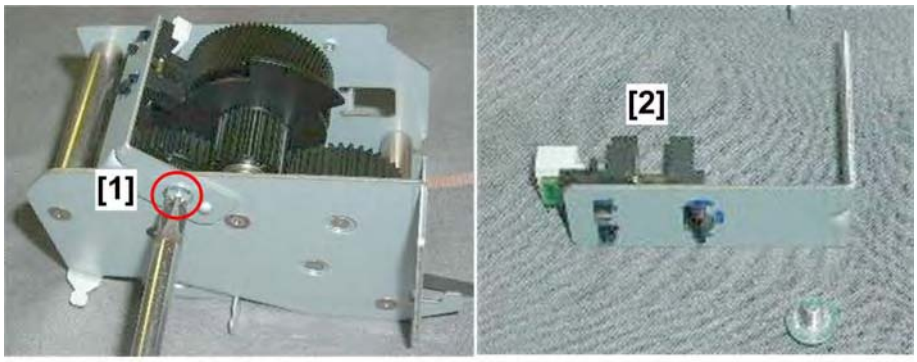
d074r471

2. Remove the spring [1] (x1).
3. Disconnect the motor assembly [2] ( x4).
4. At the top [3], slide the timing belt off the gear.
5. Remove the motor with the timing belt.

d074r472

6. Remove the motor from the assembly ( x4).

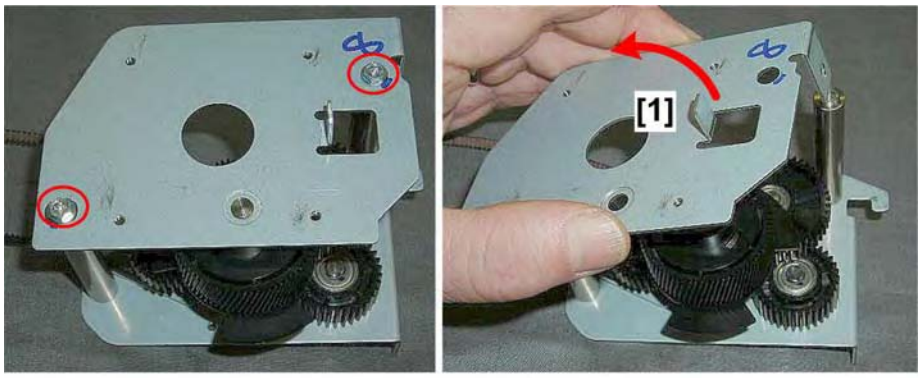
**Used Toner Transport Motor Sensor**




d074r473

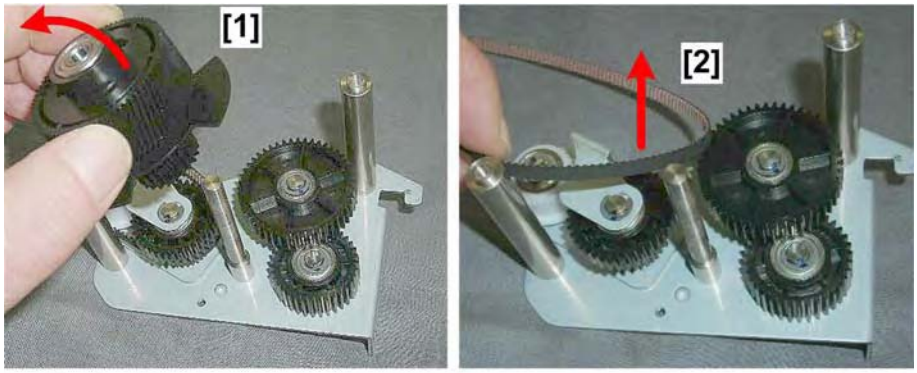
1. Remove the sensor assembly [1] ( x1).
2. Remove the sensor [2] ( x3).

### Timing Belt




d074r474

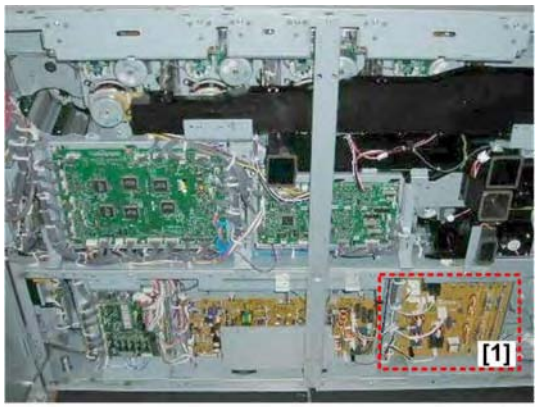
1. Remove the assembly [1] ( x2).




d074r475

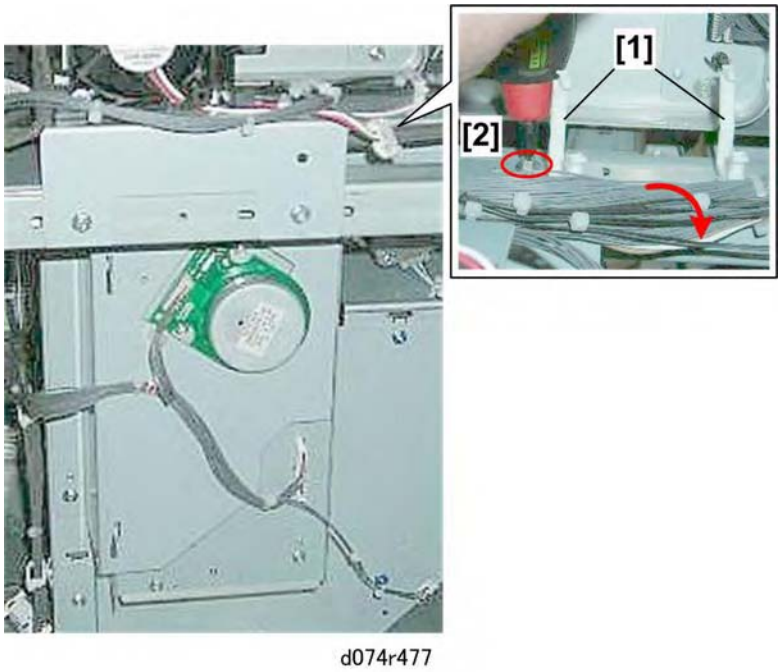
2. Remove the actuator gear [1].
3. Remove the timing belt [2].

## 5.9.3 USED TONER BOTTLE MOTOR



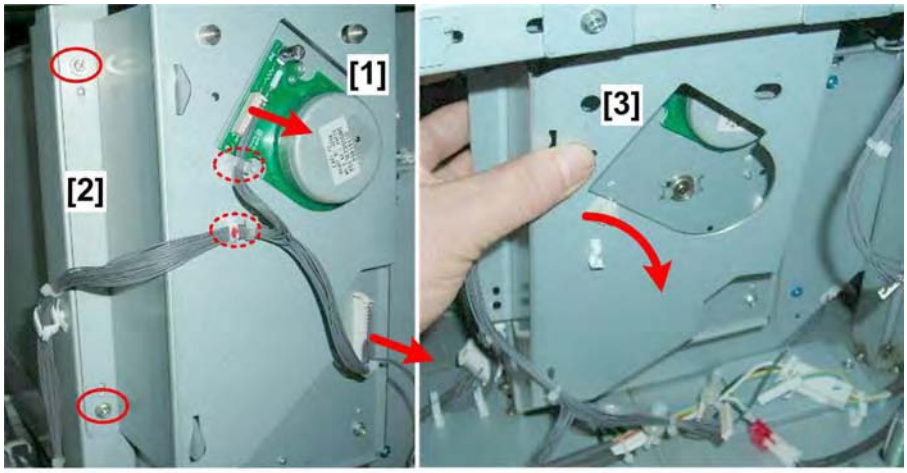

d074r476

1. Remove the used toner bottle at the front of the machine.
2. Remove the AC drive board [1]. (☛p.5-417)



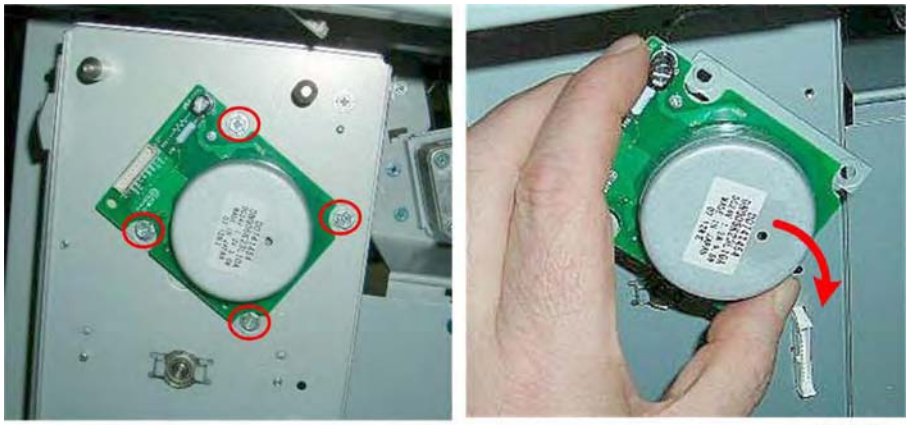

d074r477

3. Open the two large clamps [1] and take out the harness, so that you can see the screw (x2).
4. Remove the screw [2] ( x1). You will need a short screwdriver to remove this screw.




d074r478

5. Disconnect the motor [1] (x2, x2).
6. Disconnect the plate [2] ( x2).
7. Remove the plate [3].



d074r479

8. Remove the motor ( x4).

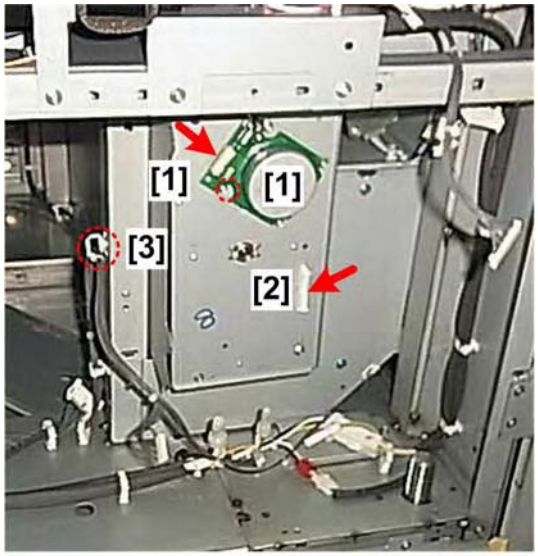
d074r480

## 5.9.4 USED TONER BOTTLE SENSORS, BOTTLE SET SWITCH

1. Remove the used toner bottle at the front of the machine.

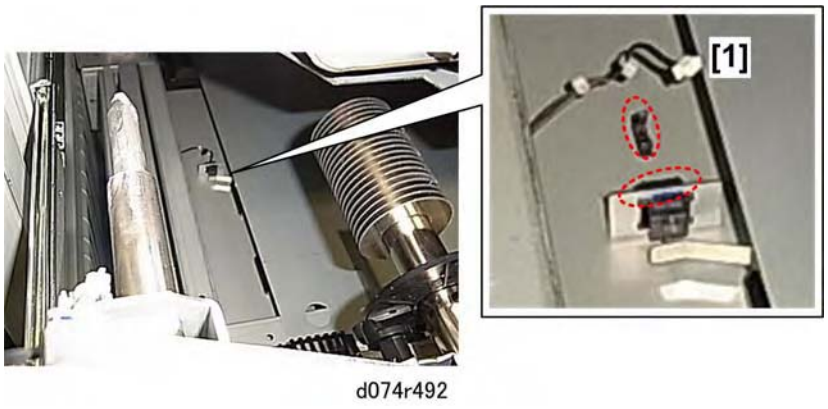
d074r490

2. At the rear, open the controller box and the cooling box. (☛p.5-8)
3. Remove the AC drive board [1]. (☛p.5-417)



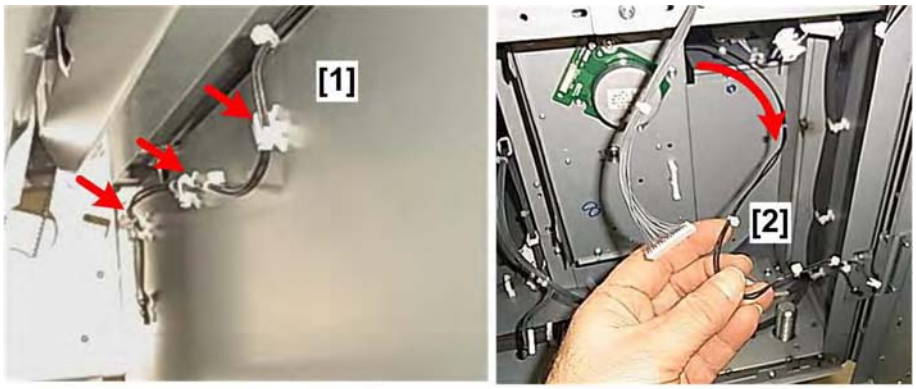

d074r491

4. Disconnect the toner bottle motor [1] (x1, x1). You do not need to remove the motor.
5. Disconnect connector [2] (x1).
6. Open clamp [3] and pull away the harnesses (x1).



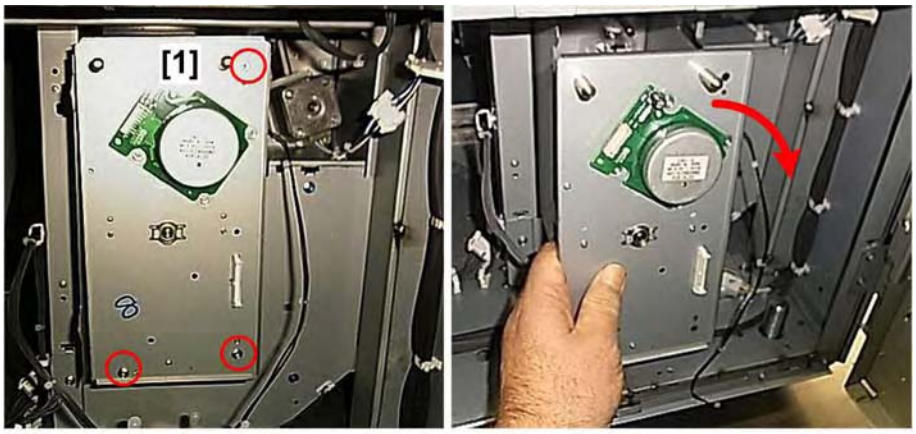

d074r492

7. At the front of the machine, pull out the left drawer.
8. Disconnect the left drawer set sensor [1] (x1, x1)



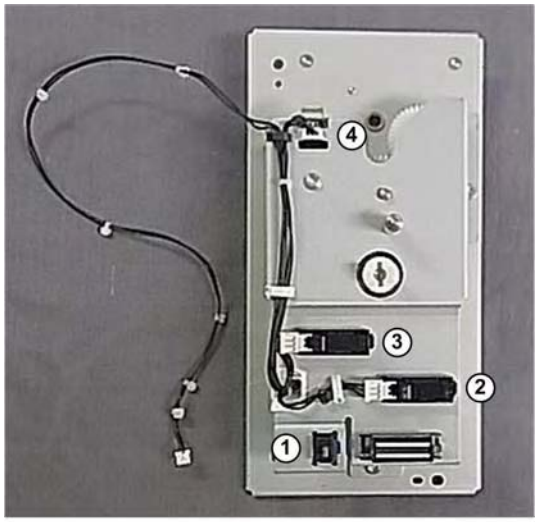

d074r493

9. Inside the used toner bottle well, unclamp the left drawer set sensor harness [1] (x3).
10. At the rear, slowly pull the disconnected harness [2] out of the machine.




d074r494

11. Remove the rear plate [1] with the motor attached ( x3).

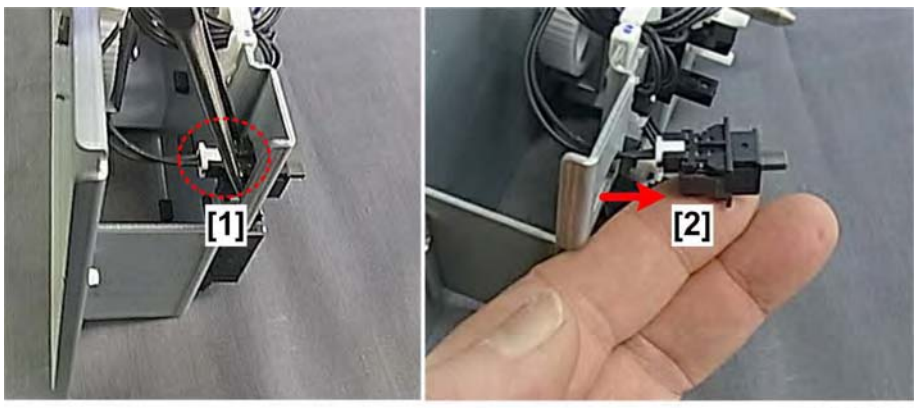



d074r495

12. Set the plate on a flat surface.

| | |
|---|---|
| ① | Used Toner Bottle Set Switch |
| ② | Toner Bottle Near Full Sensor |
| ③ | Toner Bottle Full Sensor |
| ④ | Toner Bottle Motor Sensor |

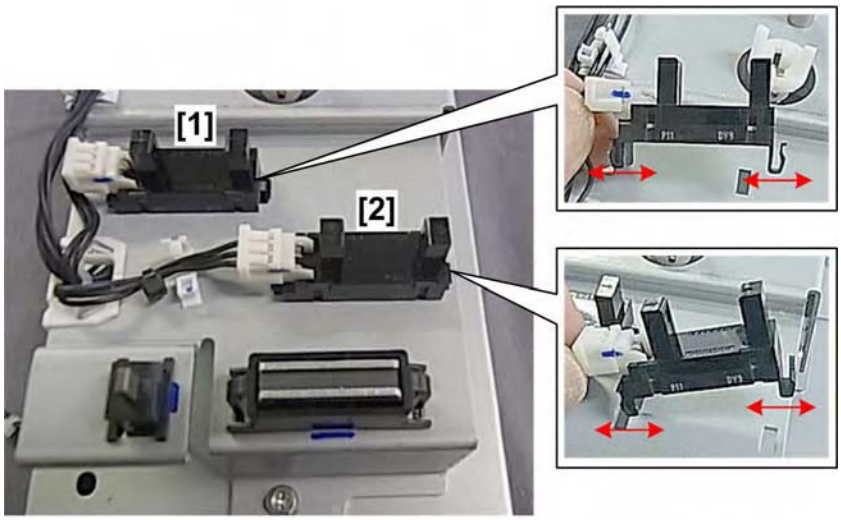
**Used Toner Bottle Set Switch**




d074r496

1. Use a pair of needle-nose pliers to pinch and release the base of the switch [1].
2. Push the switch [2] out and disconnect it (x1).

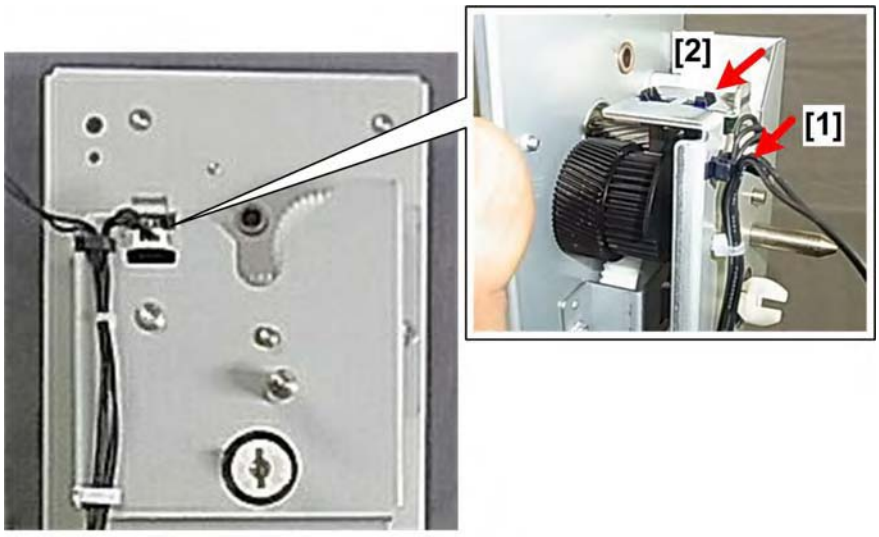
**Near Full, Full Sensors**




d074r497

1. Pinch the two prongs at the base of the bottle full sensor [1] (or the bottle near-full sensor [2]) to release and remove it.
2. Disconnect the sensor (x1).

**Toner Bottle Motor Sensor**




d074r498

1. Disconnect the sensor harness [1] (x1).
2. Disconnect the sensor [2] (x1, x3).

# 5.10 PHOTOCONDUCTOR DEVELOPMENT UNIT (PCDU)

## 5.10.1 PCDU REPLACEMENT

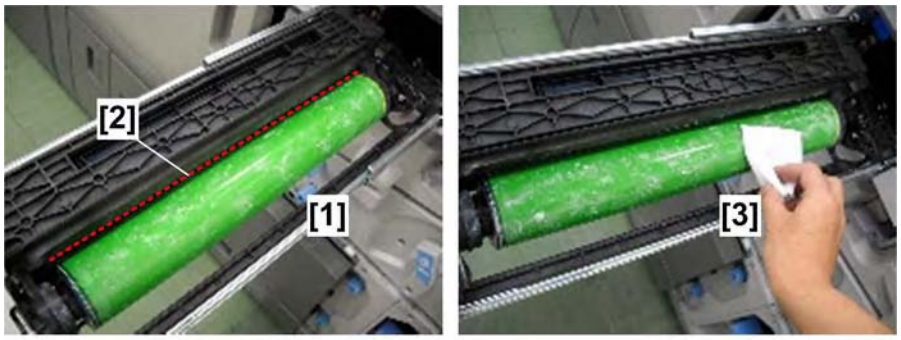
1. Remove the PCDU and replace it with a new one. (☛p.5-32)

d074r926

2. Raise the drum bracket [1], and dust the exposed surface of the drum with the resin pad.

Important

- Do not apply powder near the development unit entrance seal [3].




d074r927

Important

- [1] shows too much powder on the drum.
- If an excessive amount of powder enters the development unit entrance seal [2], this can cause poor image reproduction. Remove excess powder with a clean dry cloth [3].

d074r928

3. Rotate the drum slowly until the applied powder is no longer visible.
4. The machine should be OFF.
5. Open both front doors.
6. Turn the main power switch ON.
7. Enter the SP mode.
8. Reset the counter for the replaced unit or unit part.
9. Install the developer.
10. Execute the SP code to fill the PCDU with the new developer.

| Replaced Developer | Do This SP |
|---|---|
| Black | SP3024-001(K) |
| Cyan | SP3024-002 (C) |
| Magenta | SP3024-003 (M) |
| Yellow | SP3024-004 (Y) |

11. Do **SP3025-001** to confirm that each PCDU was filled successfully.
12. Close the front doors.
13. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
14. Do one or more of the SP codes listed below, whichever is appropriate, to initialize TD sensors.

Important

- Choose the correct SP code.
- Initialize the TD sensor only for the development units that were replaced.
- Never initialize the TD sensor of a development unit that has not been replaced.

| Condition | SP Code | TD Sensor Initialization |
|---|---|---|
| All development units replaced. | 3030-01 (All) | All TD sensors (YMCK) |
| CMY development units replaced. | 3030-02 (CMY) | Color TD sensors only (CMY) |
| K development unit replaced. | 3030-03 (K) | Black TD sensor only. |
| C development unit replaced. | 3030-04 (C) | Cyan TD sensor only. |
| M development unit replaced. | 3030-05 (M) | M TD sensor only. |
| Y development unit replaced. | 3030-06 (Y) | Y TD sensor only. |

15. Do **SP3031-001** to confirm successful TD sensor initialization.
16. You will see a 4-digit code. Each digit represents one unit "YMCK". A a"1111" display indicates that each TD sensor was initialized successfully.
17. Execute these SP codes.

| SP | What It Does |
|---|---|
| 3020-001 | Initializes process control. |
| 3012-001 | Confirms successful initialization of process control. |

18. Exit the SP mode.

**Re-Installation**

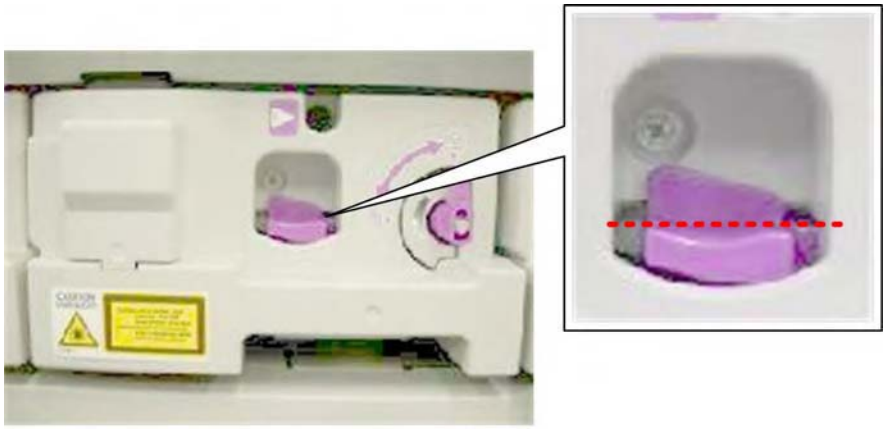
d074r987

1. Always check the left side of the PCDU before you push it back into the machine. (This is the shield plate that conducts heat away from the development unit.)
2. If you see any toner on the plate, wipe it off with a clean dry cloth.

**CAUTION**

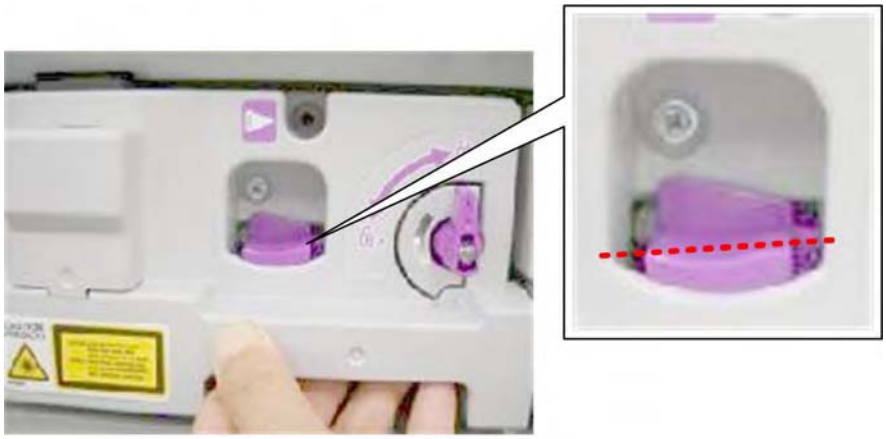
- To prevent toner scatter or gear damage, never apply excessive force on the PCDU when you push it into the machine.

3. After you push the PCDU into the machine, make sure that PCDU is locked correctly.



d074r915

- When the PCDU is locked correctly, the top of the lock lever is straight as shown above.



d074r916

- If the PCDU is not locked correctly, the top of the lock lever is slanted slightly down to the left as shown above.

4. If the PCDU lock lever is not locked correctly, pull the PCDU out about 30 mm (1.5 in.) and push it in again so the top of the lock lever is level.

## 5.10.2 VENT FILTER

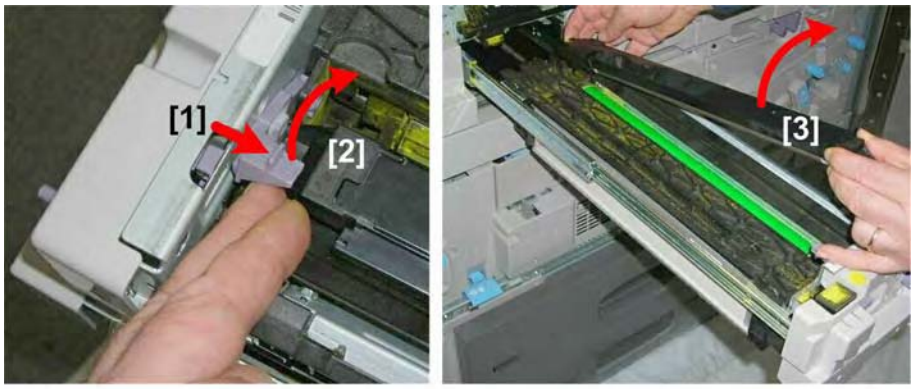
1. Pull out the PCDU. (☛p.5-32)

d074r781

2. Lift the filter off the top of the PCDU.

## 5.10.3 DRUM CHARGE UNIT

1. Turn off the machine and disconnect its power plug.
2. Pull out the PCDU (☛p.5-32)




d074r048

3. Press the drum charge unit lock lever to the rear [1] to unlock it and then raise it [2].
4. Lift the front end of the charge unit [3] and remove it.
5. Lay the charge unit on a clean surface with the roller side up.

### *After Replacing a Drum Charge Unit*

1. The machine power must be OFF.
2. Open both front doors.
3. Turn the main power switch ON.
4. Enter the SP mode.
5. Reset the counter for the replaced drum charge unit.
6. Close the front doors.
7. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
8. Execute these SP codes.

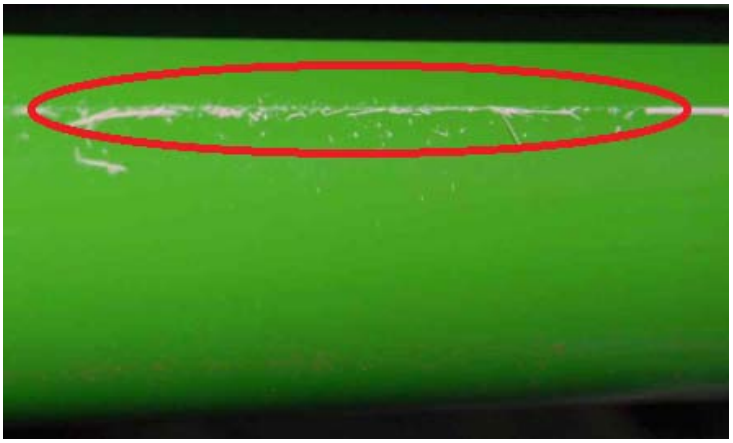
| SP | What It Does |
|---|---|
| 3020-001 | Initializes process control. |
| 3012-001 | Confirms successful initialization of process control. |

9. Exit the SP mode.

## ⇒5.10.4 DRUM CLEANING UNIT

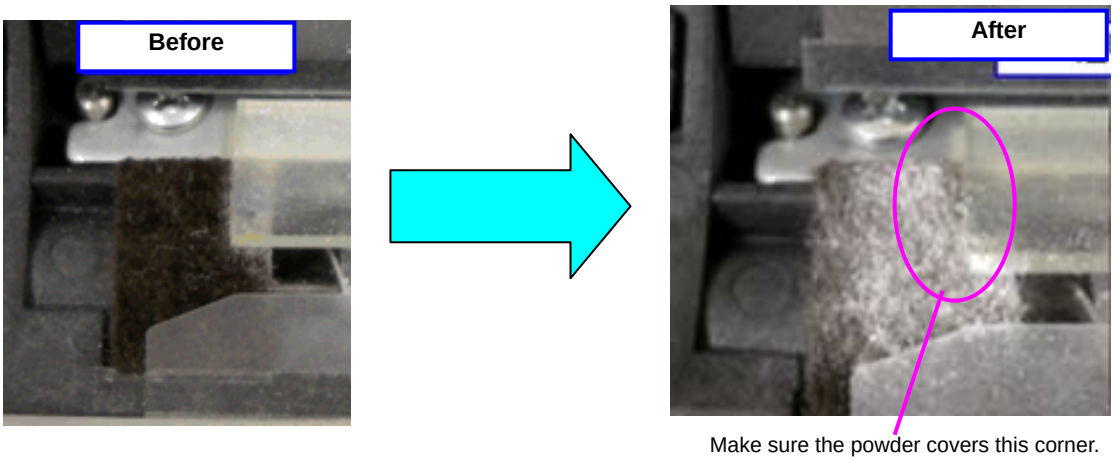
Note

- Procedure required BEFORE re-installing the Drum Cleaning Unit



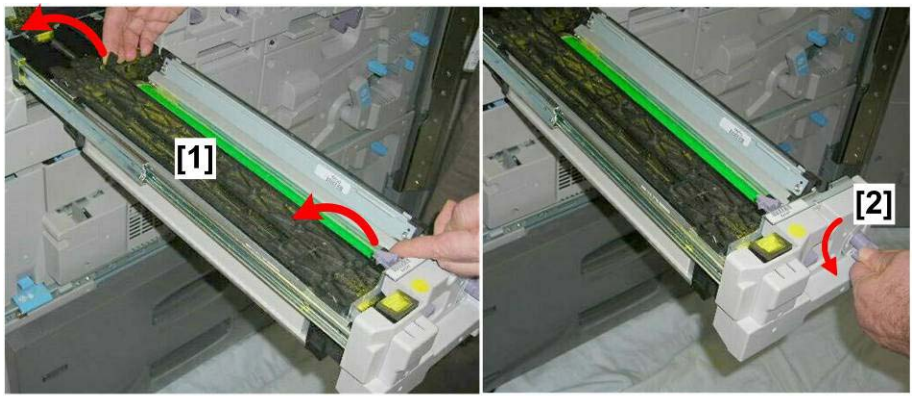
1. If clumps of lubricant (as shown in the photo above) are observed on the drum surface, gently wipe off with dry cloth. Remaining clumps of lubricant could get caught between the cleaning blade and drum surface, and cause incomplete cleaning and generate streaks on the output images.
   **DO NOT** use vacuum cleaner. **DO NOT** strongly wipe the drum surface.

2. If the cleaning unit and drum are both replaced, apply lubricant powder (B1329700) on the drum surface as described in the service manual in the section:
   Replacement and Adjustments > Photoconductor Development Unit (PCDU) > Drum Replacement > Installing a New Drum
3. Apply lubricant powder (D0159501) on the edges of the cleaning unit as explained in TSB D074/D075/M088 – 031 – Drum Motor Error.

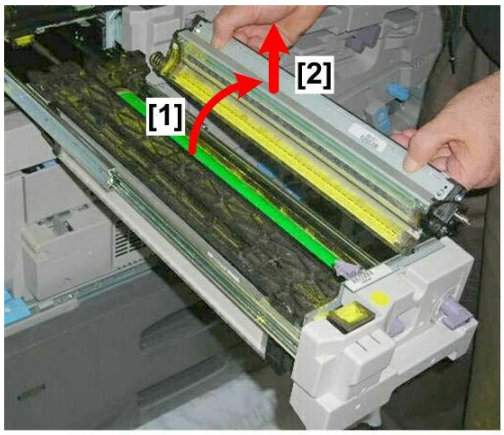



## *Procedure:*

1. Turn OFF the machine and disconnect its power plug.
2. Pull out the PCDU (☛ p.5-32)
3. Remove the Drum Charge Unit (☛ p.5-155)




4. Raise the Drum Wing [1] to the vertical position.
5. Lower the Cleaning Unit Lock Lever [2].
6. Roll the Cleaning Unit toward you [1] and lift it straight up [2].




Replacement and Adjustments

## 5.10.5 DRUM REPLACEMENT

### *Drum Removal*

- Turn off the machine and disconnect its power plug.
- Pull out the PCDU (☛p.5-32)
- Remove the drum charge unit (☛p.5-155)
- Remove the drum cleaning unit (☛p.5-157)

d074r050a

- Grip both ends of the drum wing and lift the drum out.
- Lay the drum on a flat clean surface and cover it with a piece of clean paper.

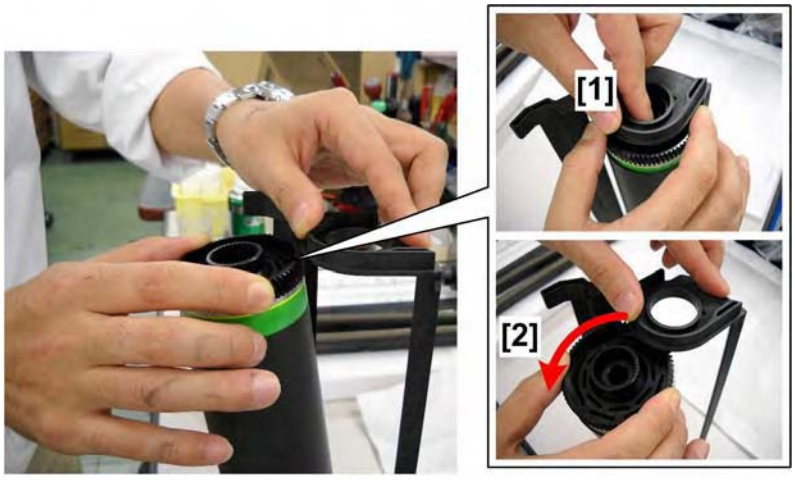
### *Installing a New Drum*

d074r920

- Stand the new drum on its end with the drive gear [1] up.

Important

- Always hold the drum steady by gripping it at the drum gear [1]. Never touch the surface of the drum.

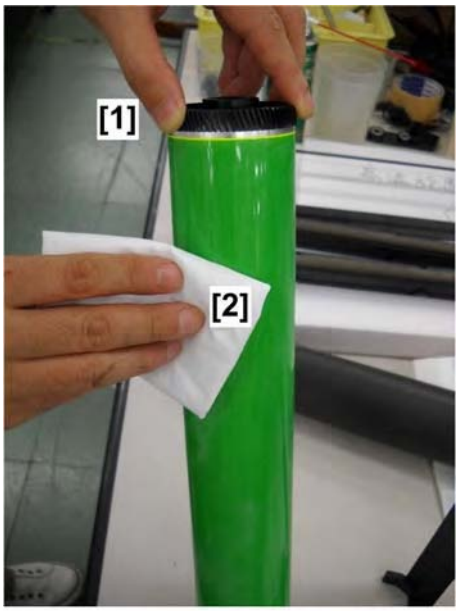



d074r921

- While holding the frame [1] steady, depress the drum [2] slightly and separate it from the frame.

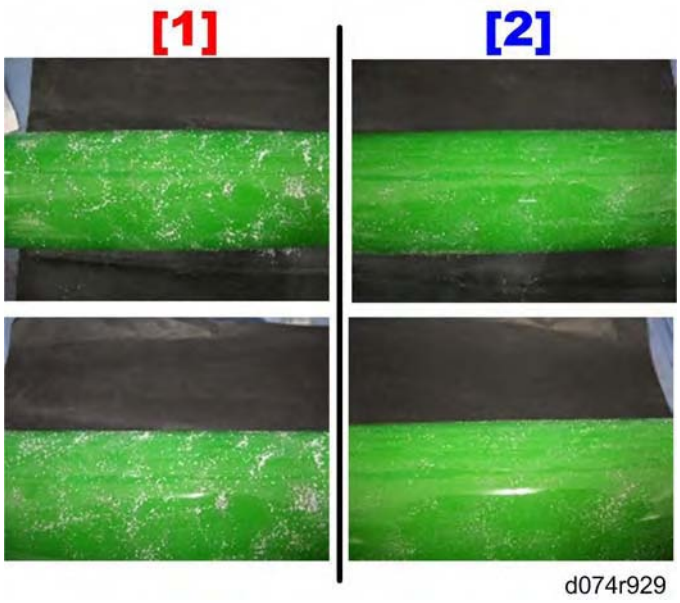
d074r922

- Remove the protective sheet from the new drum.

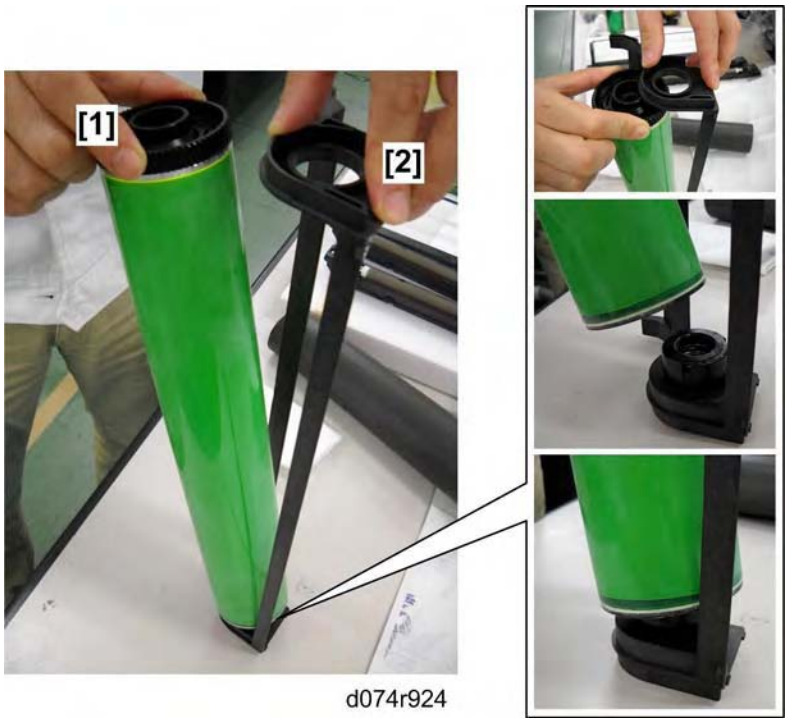



d074r923

- While holding the drum upright by the drive gear [1], use the resin pad [2] to dust the drum lightly.
- Turn the drum as you dust it to make sure that the entire surface is covered.




- Do not apply too much powder to the drum.
  1. [1] shows too much powder on the drum.
  2. [2] shows the correct amount of powder on the dusted drum.
  3. Excess powder can be removed with a clean dry cloth.




- While pressing down slightly on the drive-gear end of the drum [1], set the end of the frame [2] over the end of the drum.

d074r925

- Inspect the surface of the drum and make sure that there are no scratches, dirt, etc. on the surface of the drum.
- Re-install the drum in the PCDU.

### *After Replacing a Drum*

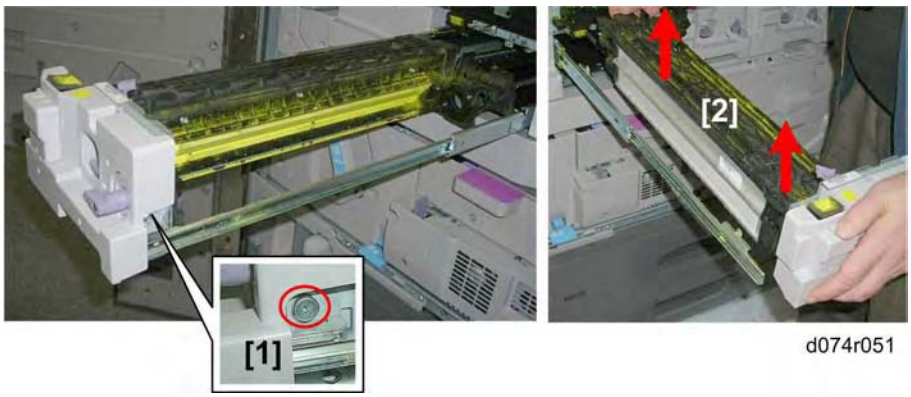
1. The machine should be OFF.
2. Open both front doors.
3. Turn the main power switch ON.
4. Reset the counter for the replaced drum.
5. Close the front doors.
6. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
7. Execute these SP codes.

| SP | What It Does |
|---|---|
| 3020-001 | Initializes process control. |
| 3012-001 | Confirms successful initialization of process control. |

8. Exit the SP mode.

## 5.10.6 DEVELOPMENT UNIT REPLACEMENT

- Turn OFF the machine and disconnect its power plug.
- Pull out the PCDU (☛p.5-32)
- Remove the Drum Charge Unit (☛p.5-155)
- Remove the Drum Cleaning Unit (☛p.5-157)
- Remove the Drum (☛p.5-158)




- Unfasten the Development Unit [1] (x1).
- Lift the Development Unit off the rails [2].

⇒ Important

- To replace the Development Roller Seals ☛ ***5.25 Replace the Development Roller Seals***

# ⇒5.10.7 REPLACING DEVELOPER

Important

☛ 5.29 *Preparations for Developer Removal* prior to emptying the developer.

## *Emptying the Development Unit*

1. Pull out the PDCU and remove the Drum Charge Unit, Drum Cleaning Unit and Drum.
2. Remove the Development Unit together with the PCU Frame.
3. Remove the Front Cover, the Entrance Seal, and the Developer Supply Port Cap.
   **DO NOT** remove the Development Filter.
4. Hold the Development Unit as shown in the photos (See Step 7) so that the Developer Supply Port faces down and shake the unit vertically and horizontally.
5. Use the Developer Jig (P/N B0749545) to rotate the Agitation Auger counterclockwise approx 5-10 times.

Note

- Using the Developer Jig
  **D0749545: JIG: DEVELOPER**

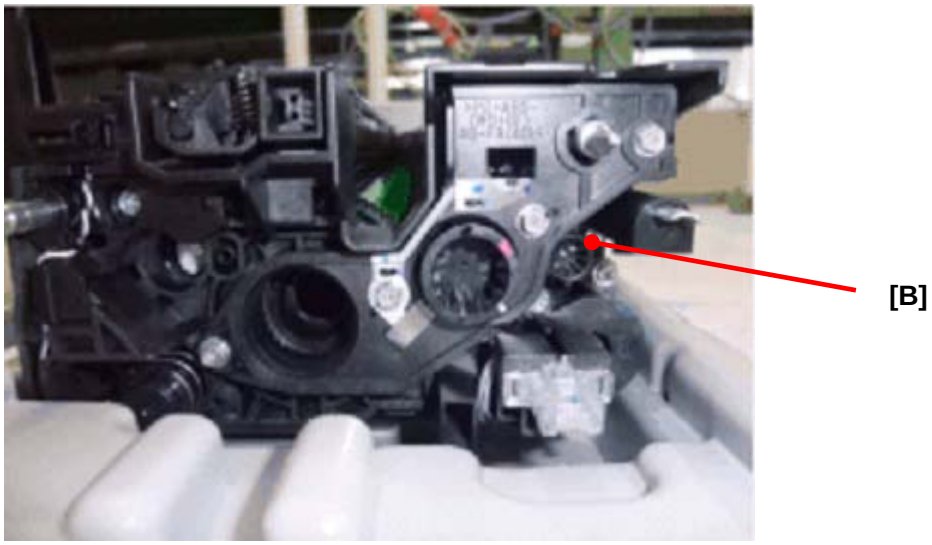
## *Background*

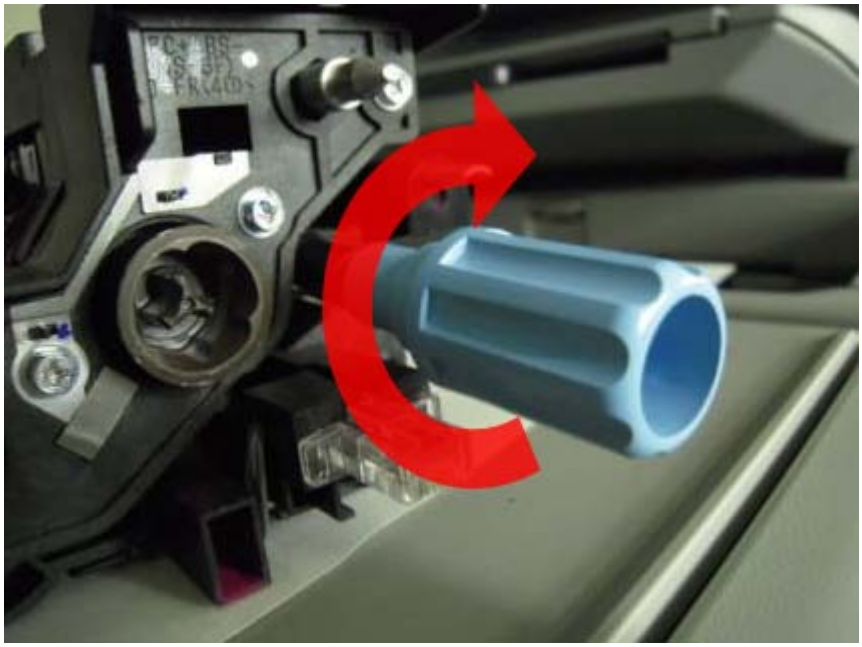
Developer replacement on the D074 series has been reported from the field a hindrance due to the inefficient and time consuming process needed to dispose of remaining developer in the Development Unit. Although the service manual mentions to turn the development roller [A], this roller cannot be turned easily due to the shape of its coupling.

To meet requests from the field, this new jig was developed and registered as a service part to allow faster and easier developer replacement.
See *How To Use This Jig* for instructions on how to use this jig.

### *How To Use The Jig*

Fit the jig to the auger coupling [B] and turn it clockwise as you dispose of remaining developer in the development unit.



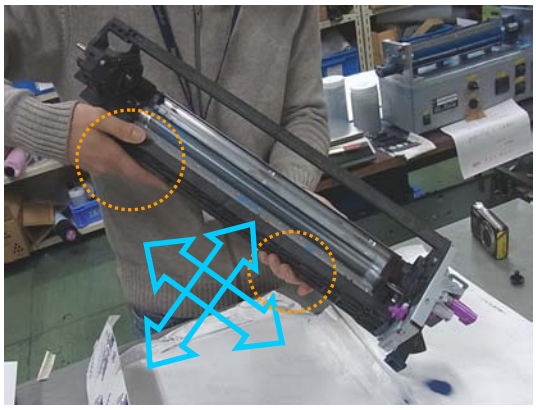
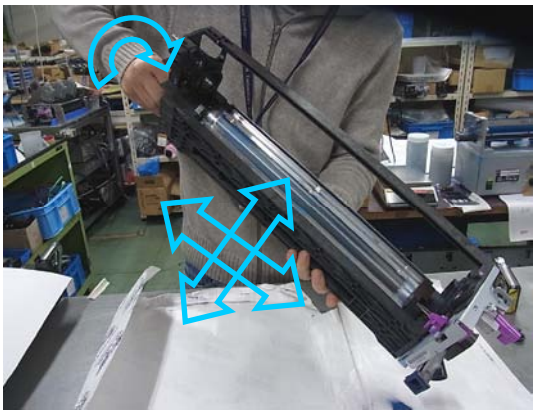


Note

- The auger does not have to be turned counterclockwise to loosen the developer inside the sleeve. Simply turn the jig clockwise to dispose of remaining developer.

6. Repeat steps 4 and 5 until old developer is nearly cleared out.

7. Rotate the development sleeve counterclockwise to loosen the developer inside the sleeve. (If in hand, you may use a vacuum cleaner.)

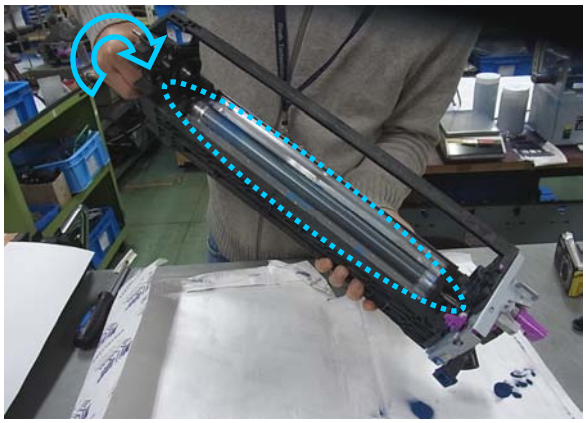
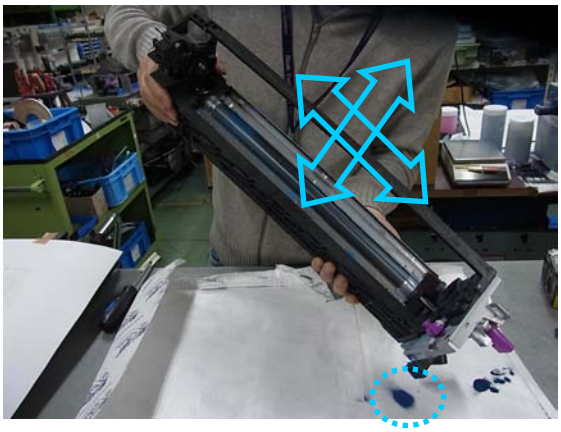
8. Again, hold the development unit as shown in the photos below and shake the unit vertically and horizontally.

9. Rotate the agitation auger counterclockwise approx 5-10 times using the jig.

10. Repeat steps 7 and 8 until loose developer inside the sleeve is removed.

Note

- Loose developer does not have to be completely removed as it will continuously appear if you rotate the agitation auger.

### *Installing New Developer*

1. Open both front doors.
2. Throughout the following procedures, pay close attention to the opening and closing of the front doors.
3. Connect the power cord of the main machine to the power source.
4. Turn on the main power switch.

Note

1. The main power switch is behind the open left front door.

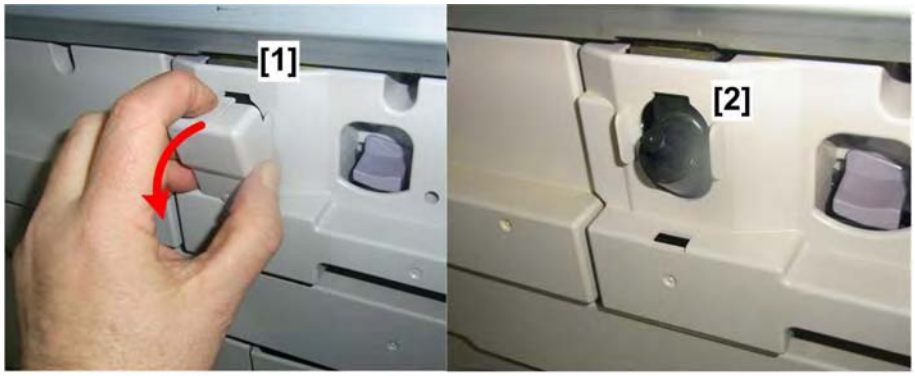
5. Watch the operation panel. The operation panel LED will light red, and you will see the "Please Wait" and then "Door Open" on the operation panel.
6. Reset the PM counter for the developer(s) that you replaced.

d074i888

7. Remove the developer funnel cover [1] from the right lower corner of the machine ( x1).
8. Disconnect the funnel [2] from the back of the cover ( x2).

**CAUTION**

1. The front doors must remain open.
2. Turning on the machine with the front doors open prevents the machine from performing the initial process control self-check.
3. If the front doors are closed, the drums will start rotating with no toner in the PCDUs.
4. If the drums rotate with no toner in the PCDUs, this can cause the cleaning blades to catch on a dry drum and damage the drum surface




d074i889

9. Remove the developer port cap cover [1] on the front of the PCDU so that you can see the port cap [2].

d074i890

10. Remove the port cap [1].
11. Insert the narrow end of the funnel [2] into the open port of the PCDU.

d074i891

12. Make sure that the inserted funnel is parallel with the top edge of the machine.
13. Select the developer pack. Make sure the pack is the correct color for the PCDU.
14. Shake the developer pack vigorously. This ensures that all the developer will flow through the funnel into the PCDU.

d074i892

15. Open **SP3024**. **See the table below**.
16. Cut off the top of the developer pack along the dotted line.
17. Set the open end of the package down in the funnel so that the developer starts pouring into the PCDU.
18. While still holding the package, select the correct number (001 to 004) for the package color and press [EXECUTE].

Important

1. Make sure that you execute the correct SP code for the color of the developer that you are replacing!

| SP | Initializes | Color | Comment |
|---|---|---|---|
| 3024-001 | K | Black | The PCDU starts operating and it takes about 30 seconds to complete. |
| 3024-002 | C | Cyan | |
| 3024-003 | M | Magenta | |
| 3024-004 | Y | Yellow | |

19. Shake the developer pack gently to make sure that all the developer drains into the machine.
20. When the SP execution is finished, tap the edge of the pack to avoid spillage when the pack is removed.
21. Remove the emptied developer pack.

Important

- Check the pack to see if any developer remains. If a substantial amount of developer did not go into the PCDU, repeat the SP3024 execution.
- The 30 sec. time interval for execution of SP3024 can be adjusted. If more time is needed to empty the power pack, increase the PCDU run time with SP3024-11.

22. Remove the funnel.
23. Re-attach the developer port cap.
24. Clean the funnel thoroughly before installing another developer pack or storing it in the machine.
25. Do **SP3025-1** (Dev Fill OK? to confirm that developer installation succeeded.
    You will see a 4-digit number: 1111. Reading from left-to-right each number is a result code for the Y, M, C, K developer execution with SP3024. Check the results against the table below.

| Code | Meaning | Comment |
|---|---|---|
| 0 | No execution | Default |
| 1 | Succeeded | No problems |
| 2 | No developer exited | Before execution, TD sensor output was above 1.5V (developer present). |
| 3 | No developer entered | After execution, TD sensor output was below 1.5V (no developer present). |
| 4 | Used toner bottle full | The used toner bottle was detected full. |
| 5 | Development motor lock | The development motor was not operating. |
| 6 | Used toner transport lock | One or both motors locked: Used Toner Transport Motor or Used Toner Bottle Motor. |
| 9 | Forced abort | Front doors were closed, machine was powered off, or some other event interrupted execution. |

**Close Both Front Doors**

- Close both front doors.
- Switch to the copy display (or print display for the M044). Watch the operation panel display.
  You will see "Please Wait"
  After you see "Ready", wait at least 5 minutes for the machine to complete its warm-up cycle.
- Do not leave the SP mode.

**Initialize TD Sensors**

1. Leave the front doors closed.
2. Execute **SP3030-001** (Init. TD Sensor) to initialize the TD sensor of each development unit.

Important

- Be sure to select the correct number for the PCDU where the developer was replaced.

| SP3030 | Init TD Sensor :Exe |
|---|---|
| 001 | Execute: ALL |
| 002 | Execute: COL |
| 003 | Execute: K |
| 004 | Execute: C |
| 005 | Execute: M |
| 006 | Execute: Y |

Important

1. Failure to initialize the TD sensor will cause incorrect readings of the toner density.

3. Watch the operation panel. First, you will see "Complete" and then a four-digit number will appear.
4. Do **SP3031-001** to confirm successful TD sensor initialization.
   1. A "**1111**" display indicates successful initialization of each development unit (YMCK).
   2. If a TD sensor fails to initialize, the machine will display an SC code. Follow the instructions under the indicated SC code to correct the problem.

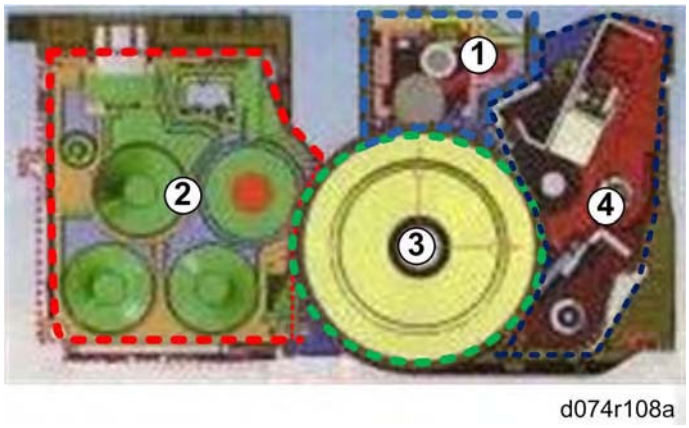
**Initialize Process Control**

- Leave the front doors closed.
- Execute **SP3020-001** to start process control. (Process control sets the machine for optimum operation based on the conditions around the drums.)
- Watch the operation panel. When you see "Complete", the process control settings are done.
- Do **SP3012-001** to confirm that initialization was successful.

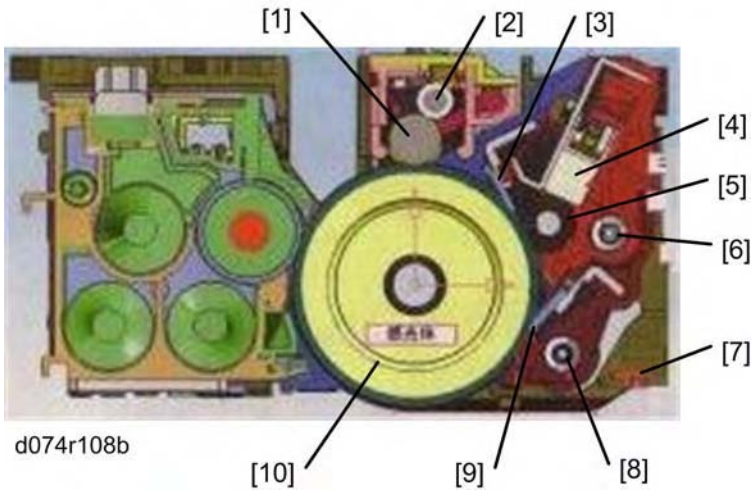
**Exit SP Mode and Power Off**

1. Exit the SP mode.
2. Push the operation power switch on the operation panel to switch the machine off.
3. Switch the main power switch off.

## 5.10.8 PCDU PARTS REPLACEMENT




| | Item | PM Interval | |
|---|---|---|---|
| | | D074 | D075/M044 |
| ① | Charge Unit | 300 K | |
| | Developer, Vent Filter | 750K | 900K |
| ② | Development Unit | 5250K | 6000K |
| ③ | OPC Drum | 1200K | 1350K |
| ④ | Drum Cleaning Unit | 300 K | |




| | |
|---|---|
| 1 | Charge Roller |
| 2 | Charge Roller Cleaning Roller |
| 3 | Drum Lubrication Blade |
| 4 | Drum Lubrication Bar |
| 5 | Drum Lubrication Roller |
| 6 | Lubricant Collection Coil |
| 7 | Quenching Lamp (QL) |
| 8 | Toner Collection Coil |
| 9 | Drum Cleaning Blade |
| 10 | OPC Drum |

**PM Parts List**

| PM Part Name | Interval | Replaced By |
|---|---|---|
| Gears (21Z Front) | 300K | Service Technician, or TCRU |
| Gears (Idle: 20Z: Front) | 300K | Service Technician, or TCRU |
| Gears (Idle: 31Z: Front) | 300K | Service Technician, or TCRU |
| Gears (19Z: Front) | 300K | Service Technician, or TCRU |
| Cleaning Unit Coupling | 300K | Service Technician, or TCRU |
| Drum Lubrication Roller | 300K | Service Technician, or TCRU |
| Drum Lubrication Bar | 300K | Service Technician, or TCRU |
| Drum Lubrication Blade | 300K | Service Technician, or TCRU |
| Drum Cleaning Blade | 300K | Service Technician, or TCRU |

## 5.10.9 DRUM CLEANING UNIT GEARS

1. Remove the drum cleaning unit from the PCDU. (☛p.5-157)

d074r109

2. Remove the front plate [A] (x2).

d074r110

3. Remove gears ① to ④.

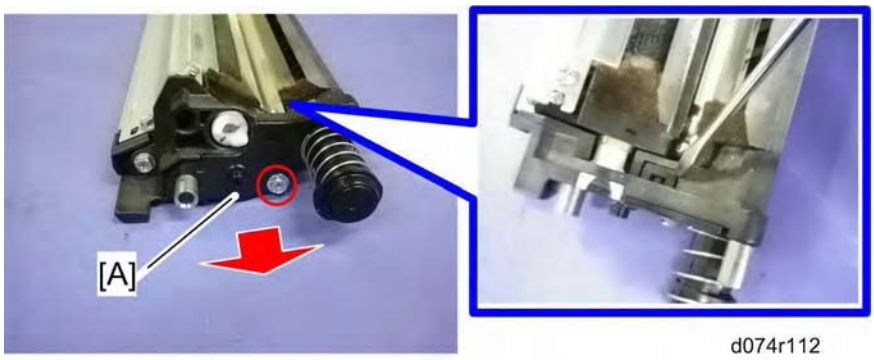
d074r111

4. Remove the last gear (x1).
5. Replace the gears at the front.

| | |
|---|---|
| ① | Gears (Idle 20Z) |
| ② | Gear (21Z) |
| ③ | Gears (Idle 31Z) |
| ④ | Gear (21Z) |

## 5.10.10 DRUM CLEANING BLADE

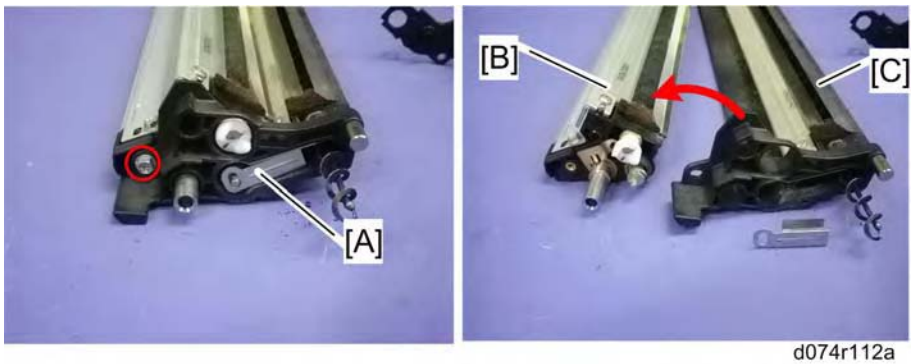
1. Remove:
   - PCDU (☛p.5-32)
   - Drum cleaning unit from the PCDU (☛p.5-157)
   - Drum cleaning unit gears (☛p.5-175)



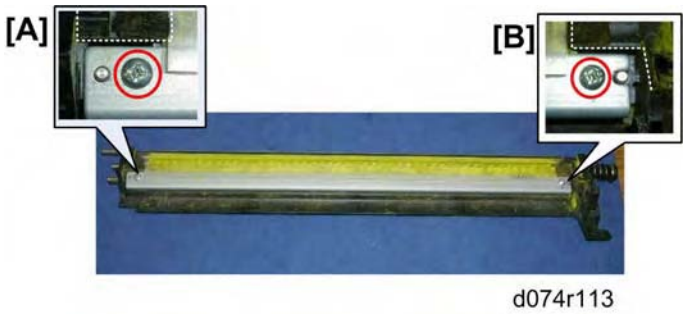

2. Rear plate [A] ( x1, hook)

Note

1. Place the drum cleaning unit on a sheet of paper, and then remove the rear plate. Used toner may spill out from the cleaning unit after removing the rear plate [A].

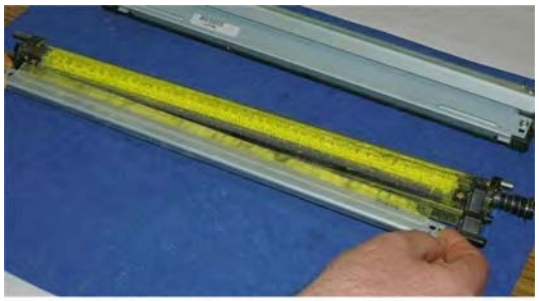



3. Vibration plate [A]
4. Separate the lubrication unit [B] and cleaning unit [C] ( x1).



d074r113

5. Disconnect the cleaning blade:
   [A] Front ( x1)
   [B] Rear ( x1)


d074r114

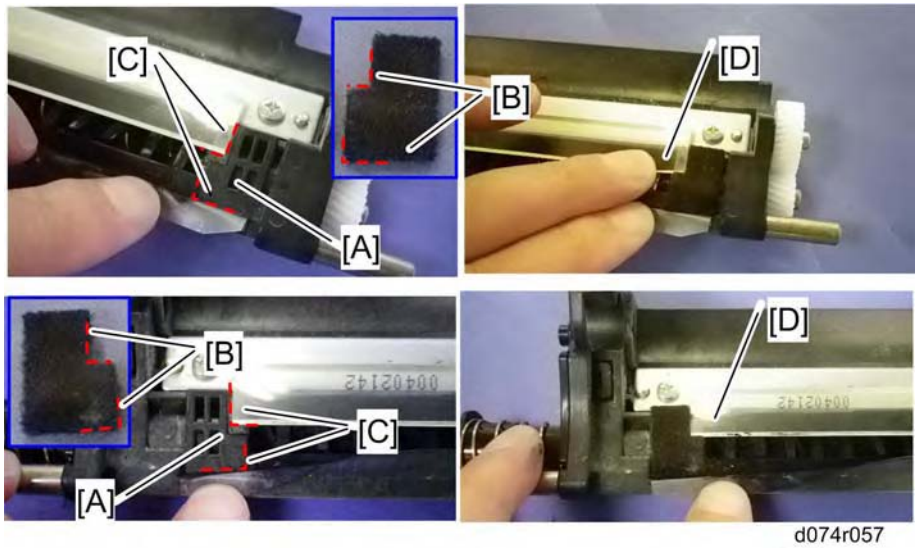
6. Remove the cleaning blade.

### *When installing a new drum cleaning blade*

When installing a new drum cleaning blade, side seals must be replaced with new parts. Follow the replacement procedure for the side seals as shown below.

d074r056

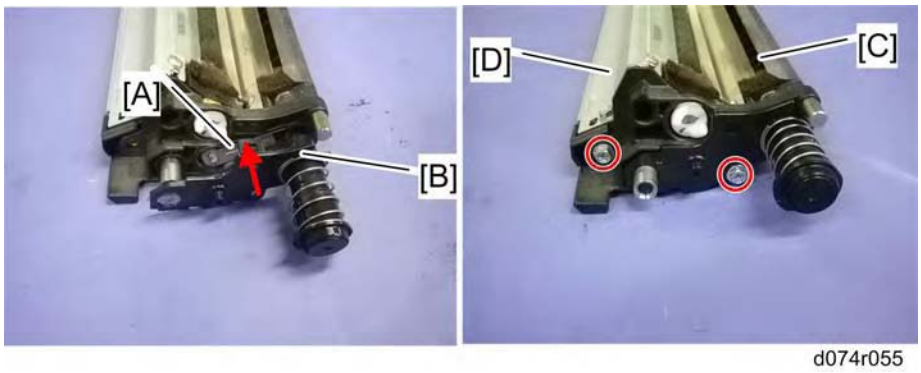
- Remove the side seals [A] on the cleaning unit.




- Clean the area [A] where the side seals were attached with alcohol and a cloth.
- Attach new side seals to both sides of the cleaning unit.
  - Align the edges [B] of the side seal with the edges [C] of the cleaning unit and cleaning blade, and then attach it.
  - Check that the drum cleaning blade does not hook the side seal when pressing the drum cleaning blade [D].

### *When reattaching the cleaning unit and lubrication unit*

- Attach the cleaning unit and lubrication unit.
- Install the drum cleaning unit gears and front plate first.

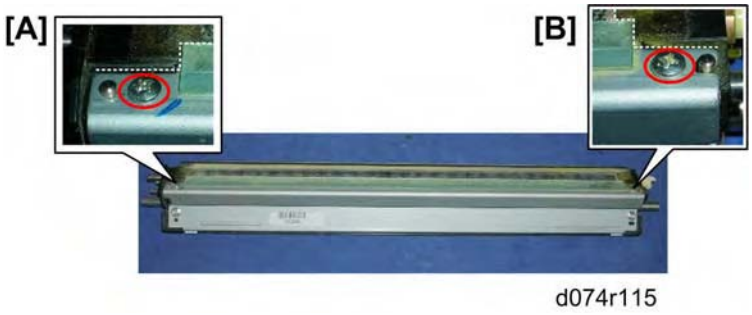



- Install the vibration plate [A] in the rear of the cleaning unit.
- Attach the rear plate [B] to the cleaning unit ( x1, hook).
- Secure the cleaning unit [C] and lubrication unit [D] ( x1).

## 5.10.11 DRUM LUBRICATION BLADE

1. Remove:

- PCDU (☛p.5-32)
- Drum cleaning unit from the PCDU (☛p.5-157)
- Drum cleaning unit gears (☛p.5-175)
- Separate the lubrication unit and cleaning unit. (☛p.5-176)

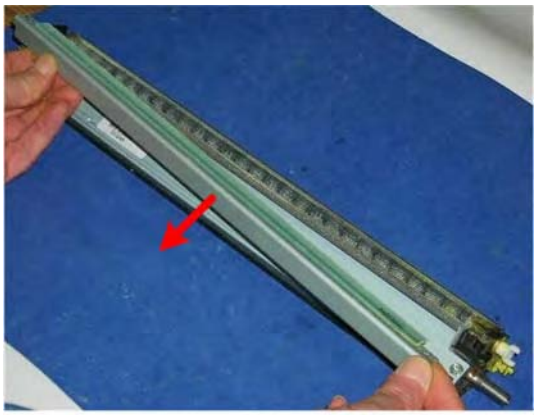



d074r115

1. Disconnect the lubrication blade:

   [A] Front ( x1)

   [B] Rear ( x1)



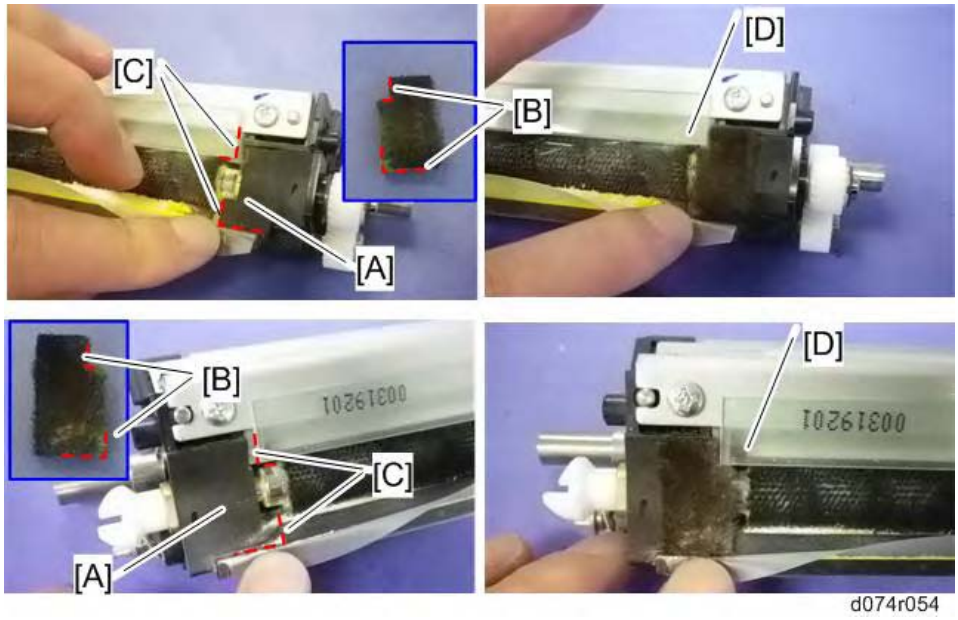
d074r116

2. Remove the lubrication blade.

### *When installing a new lubrication blade*

When installing a new lubrication blade, side seals must be replaced with new parts. Follow the replacement procedure for the side seals as shown below.

1. Remove the side seals [A] on the lubrication unit.



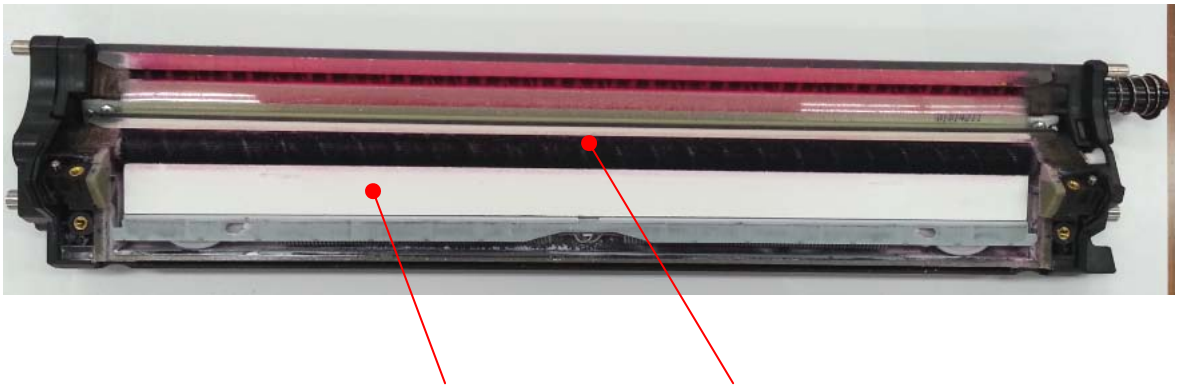

1. Clean the area [A] where the side seals were attached with alcohol and a cloth.
2. Attach new side seals to both sides of the lubrication unit.
    1. Align the edges [B] of the side seal with the edges [C] of the lubrication unit and lubrication blade, and then attach it.
    2. Check that the lubrication blade does not hook the side seal when pressing the lubrication blade [D].

## 5.10.12 DRUM LUBRICATION BAR

⇒ Note

- Always replace the Drum Lubrication Bar and Drum Lubrication Roller as a set.

Make sure that the **Drum Lubrication Bar and Drum Lubrication Roller are always replaced as a set**, whether the replacements take place for PM or EM. Worn roller can cause unsatisfactory lubrication even if the lubrication bar is new, and vice versa.



**Drum Lubrication Bar** **Drum Lubrication Roller**

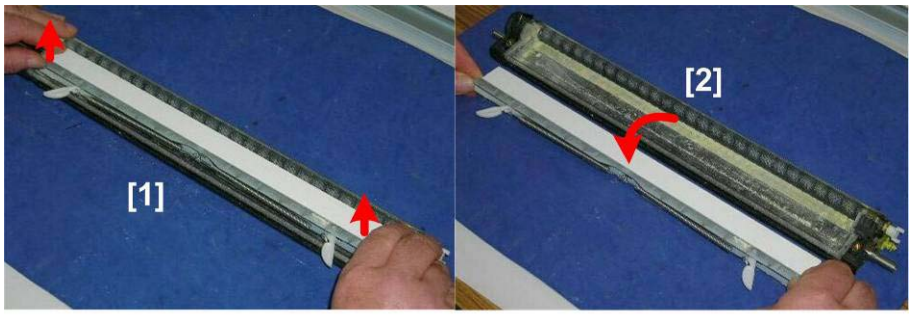
1. Remove:
   - PCDU (☛p.5-32)
   - Drum cleaning unit from the PCDU (☛p.5-157)
   - Drum cleaning unit gears (☛p.5-175)
   - Separate the lubrication unit and cleaning unit. (☛p.5-176)

Important

- The lubrication bar must be removed before the lubrication roller, and re-installed after the lubrication roller.

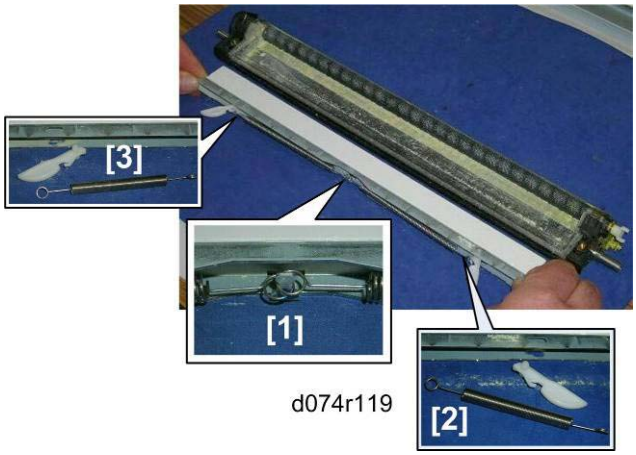
d074r117

2. Disconnect the lubrication bar cover plate stay [A] ( x2).




d074r118

3. Raise the left and right ends of the lubrication bar base [1]. The spring arms will pop on both ends.
4. Lift the bar [2] and place it flat on the table.




d074r119

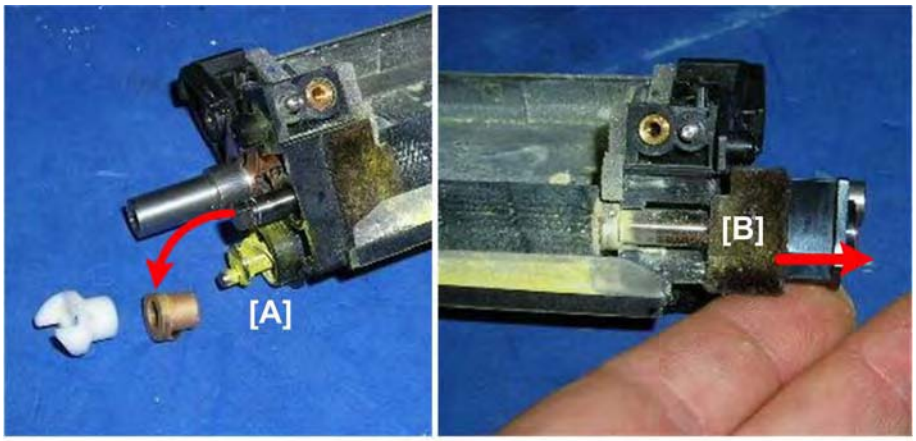
5. Disconnect the springs and arms:
   [A] Center (x2)
   [B] Front (x1, Arm x1)
   [C] Rear (x1, Arm x1)

Important

- Do not discard these springs and arms. They are not provided as service parts and must be re-attached to the new lubrication bar.

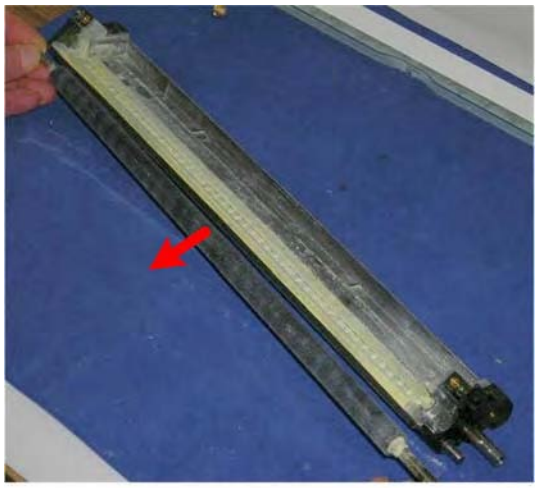
## 5.10.13 DRUM LUBRICATION ROLLER

- Remove the drum lubrication blade (☛p.5-179)




d074r120

- Disconnect the rear end [A] of the roller (Coupling x1 19Z, x1).
- To disconnect the front end of the roller, push the lock plate [B] off to release the end of the roller.



d074r121

- Remove the lubrication roller.

**Re-installation**

x_pcdu_17_22

- Before pushing a PCDU into the machine, always make sure that the PCDU lock lever is down and locked.
- Always push the PCDU in slowly and firmly until you hear it lock.

### ⇒ *After Replacing the Drum Cleaning Blade, the entire Cleaning Unit, or Drum*

1. Turn the Main Power Switch ON. Keep the Front Covers open.
2. Access the Adjustment Settings for Skilled Operators menu. (See “Replacement Guide: TCRU” page 18 “Accessing the Adjustment Settings for Skilled Operators”.)
3. Reset the replaceable parts counter for the replaced Charge Roller Unit, and Cleaning Unit for PCU. ( See “Replacement Guide: TCRU” page 20 “Resetting the Replaceable Parts Counter”.)
4. Close the Left and Right Front Covers, and then wait for the machine to warm up.
5. In the [Adjustment Settings for Skilled Operators] menu, do one of the following according to the unit that has been replaced:
   After replacing the Cleaning Unit PCU
   (1) Press [301: Execute Cleaning Initial Setting]., and then select the color of the unit that has been replaced.
   (2) Press [302: Execute Process Initial Setting], and the select [All Colors].
   After replacing the Charge Roller Unit
   Press [302: Execute Process Initial Setting], and the select [All Colors].
   If the Charge Roller Unit and Cleaning Unit are both replaced
   (1) Press [301: Execute Cleaning Initial Setting]., and then select the color of the unit that has been replaced.
   (2) Press [302: Execute Process Initial Setting], and the select [All Colors].

6. Press [OK] and wait for the operation to finish.
   This operation takes between one and two minutes during which time a message appears on the Control Panel. Do not open the Front Covers while the message is being displayed.

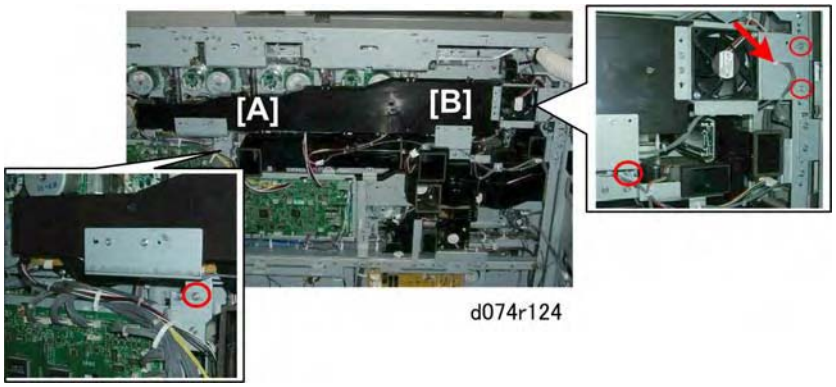
## 5.10.14 DRUM CLEANING MOTORS, DEVELOPMENT MOTORS, DRUM MOTORS

### *Before Removing Any Motor*

1. Open the controller box and cooling box on the back of the machine. (☛p.5-8)

d074r123

2. Remove the center stay ( x3).

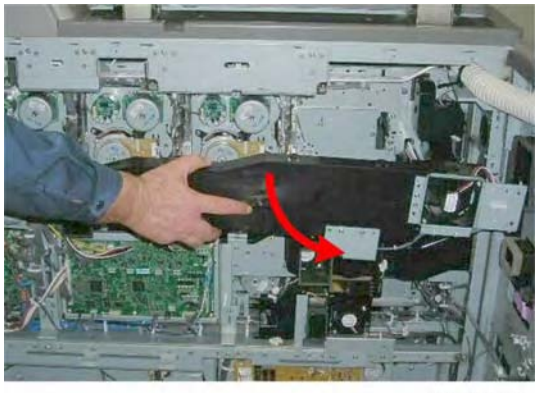



d074r124

3. Disconnect the horizontal cooling duct:

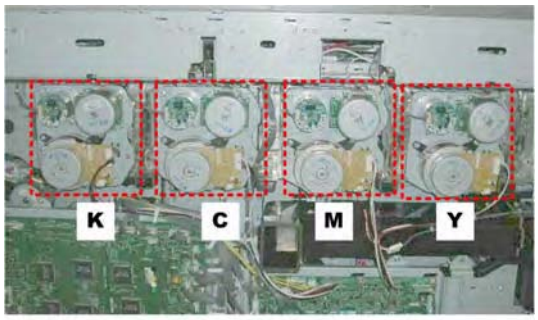
   [A] Left ( x1)

   [B] Right ( x1,  x3)



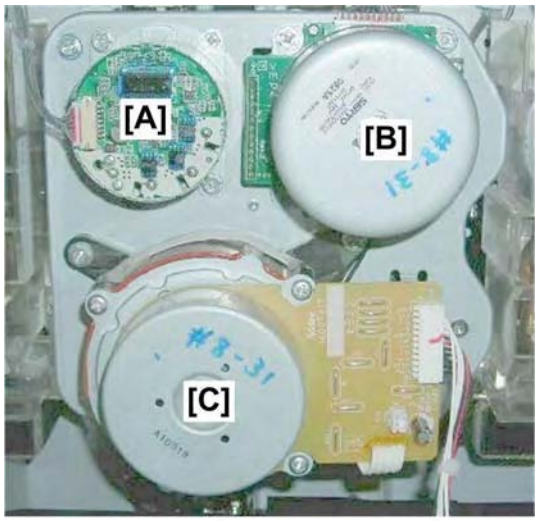
d074r125

4. Remove the horizontal cooling duct.




d074r126

Viewed from the rear, the sets of motors from left to right are KCMY




d074r127

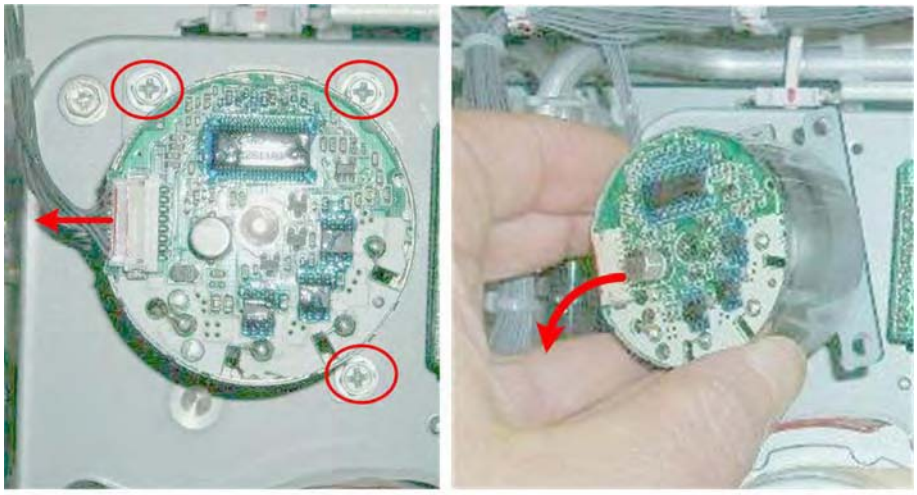
There are three motors in each set:

[A] Cleaning motor

[B] Development motor

[C] Drum motor

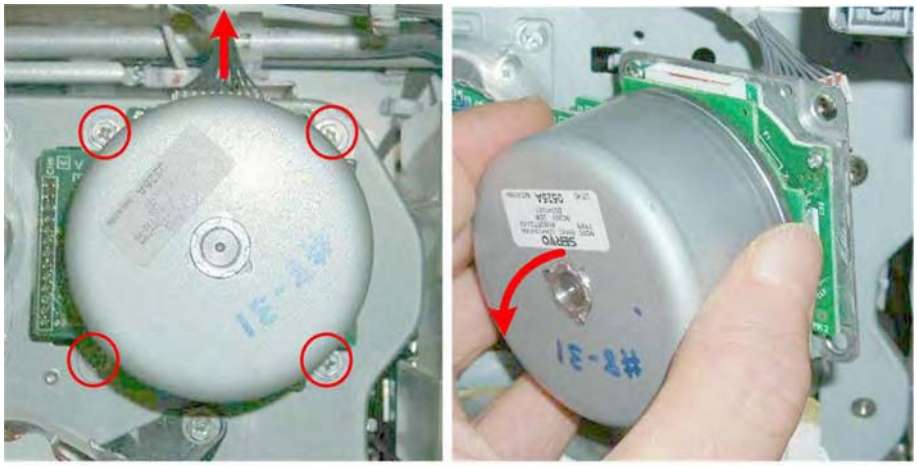
### *Drum Cleaning Motor*



d074r128

- Prepare for motor removal (☛p.5-186)
- Remove the motor (x1, x3).

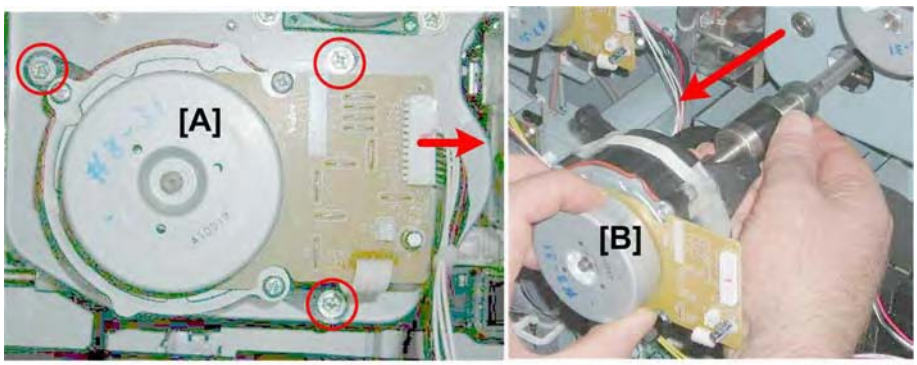
### *Development Motor*



d074r129

1. Prepare for motor removal (☛p.5-186)
2. Remove the motor (x1, x3).

### *Drum Motor*




d074r130

1. Prepare for motor removal (☛p.5-186)
2. Disconnect the motor [A] (x1, x3).
3. As you slowly remove the motor [B], support the long drive shaft with your other hand.

d074r131

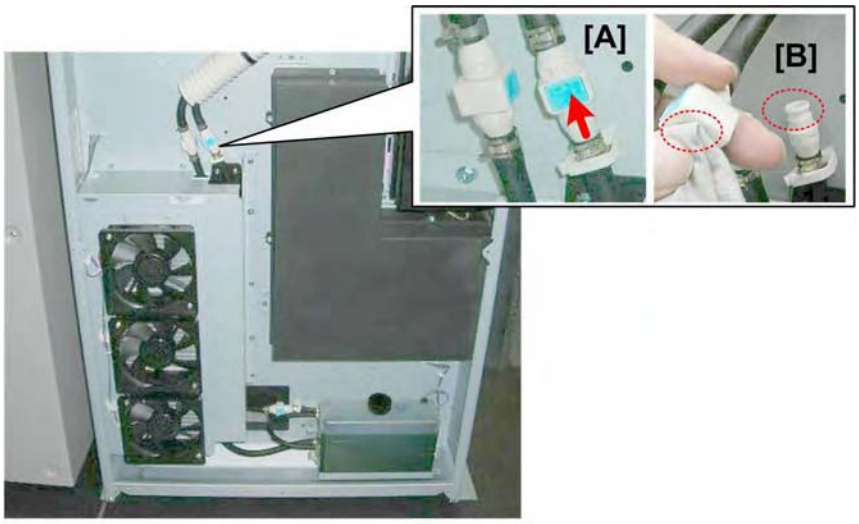
4. Disconnect the motor drive shaft [A] from the motor [B] and separate them ( x1).

Important

- Never disassemble the motor [B]. There are no serviceable parts inside the motor.
- If the motor is taken apart, it is very difficult to re-assemble correctly because the parts are spring loaded.

## 5.10.15 LIQUID COOLING UNIT

- Remove the cooling box cover ( x13 M4x8). (☛p.5-10)

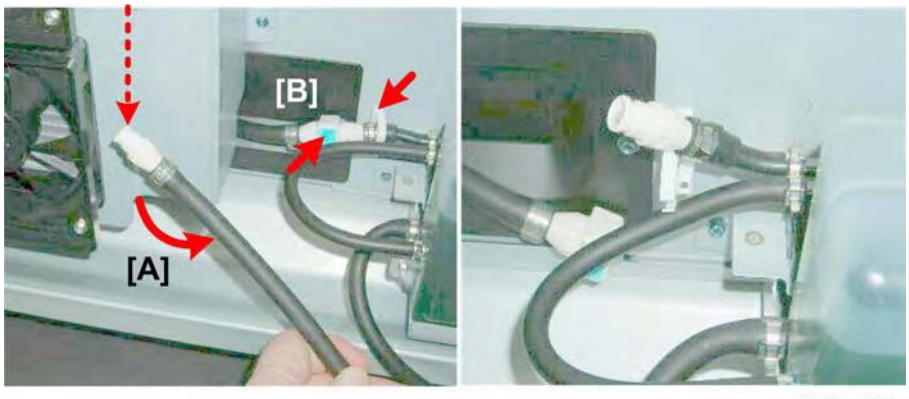



d074r132

- Disconnect the hose at [A].
  1. Press the blue release buttons on both sides of the coupling to disconnect.
  2. Use a dry rag to soak up any coolant leakage around the open ends of the couplings [A] and [B].

Important

1. There will be a small amount of leakage. If there is a large amount of leakage, re-connect the hoses and then disconnect them again.

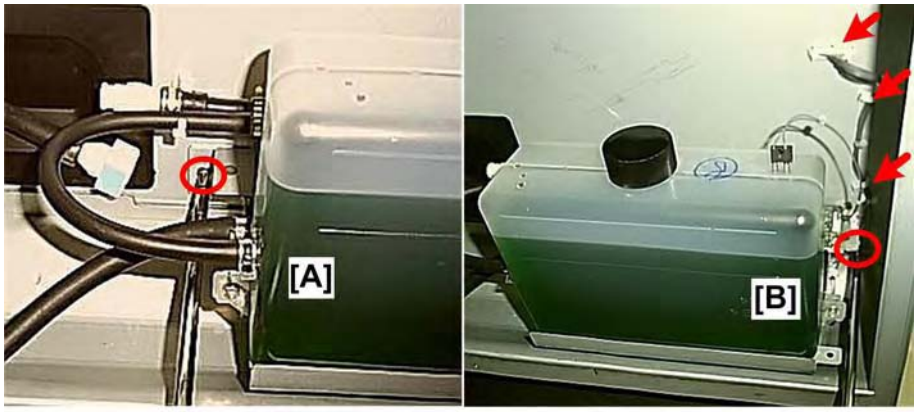



d074r133

- Pull the long tube [A] down and out of the duct.
- Disconnect the hose at [B] (x1).
  1. Press the blue release buttons on both sides of the coupling to disconnect.
  2. Use a dry rag to soak up any coolant leakage around the open ends of the couplings.

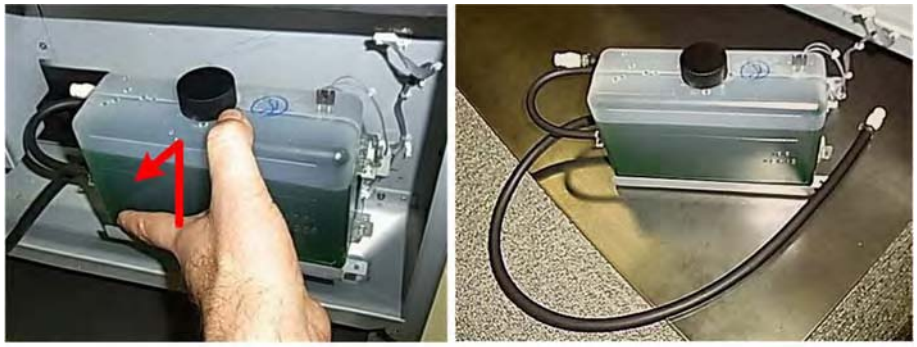
Important

1. There will be a small amount of leakage. If there is a large amount of leakage, re-connect the hoses and then disconnect them again.




d074r134

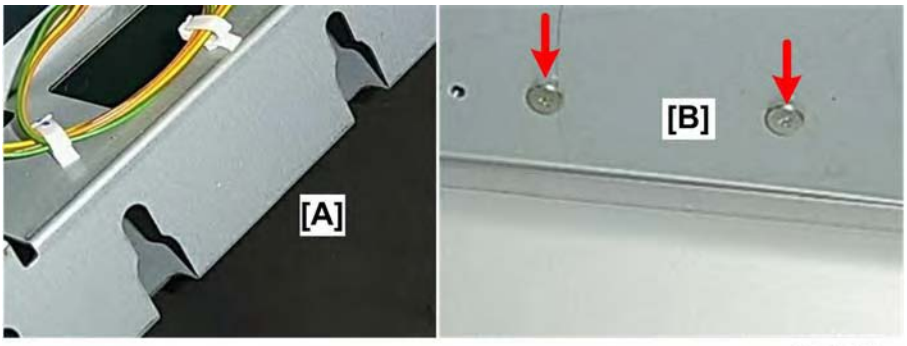
- On the left [A], disconnect the base ( x1).
- On the right [B], disconnect the base and harness ( x1, x2, x1)



d074r135

- Lift the tank straight up and remove it.

## *Re-installation*




d074r135a

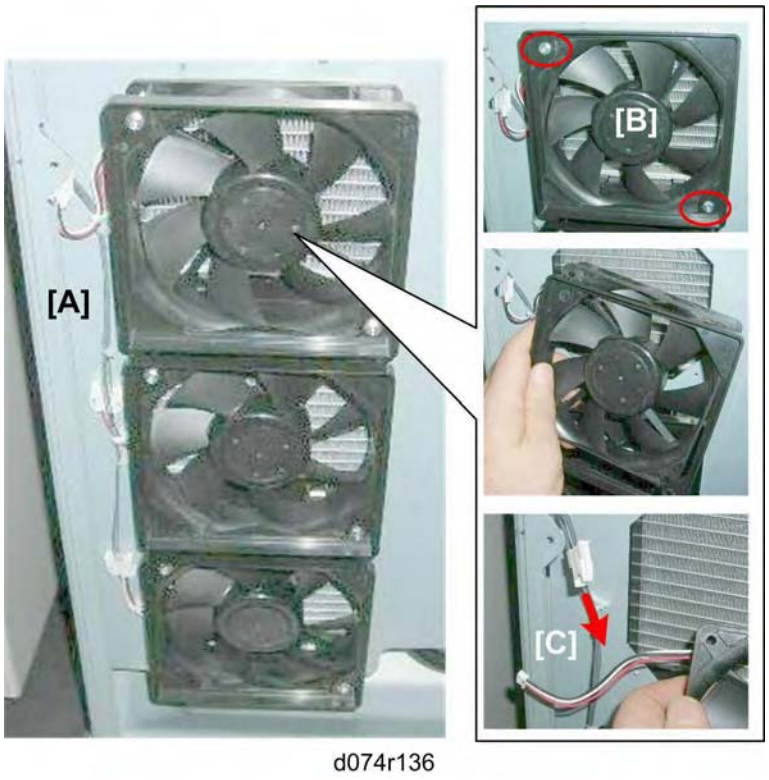
- Set the keyholes [A] over the shoulder screws [B] to position the base of the tank correctly.

### *Tank and Coolant Disposal*

1. The liquid coolant is propylene glycol.
2. Always obey local laws and regulations if you need to dispose of a tank or coolant.
3. The tank must never be emptied directly into a local drainage system, river, pond, or lake.
4. Contact a professional industrial waste disposal organization and ask them to dispose of the tank.

## 5.10.16 DRUM COOLING UNIT FAN REPLACEMENT

1. Remove the cooling box cover ( x13 M4x8). (p.5-10)



d074r136

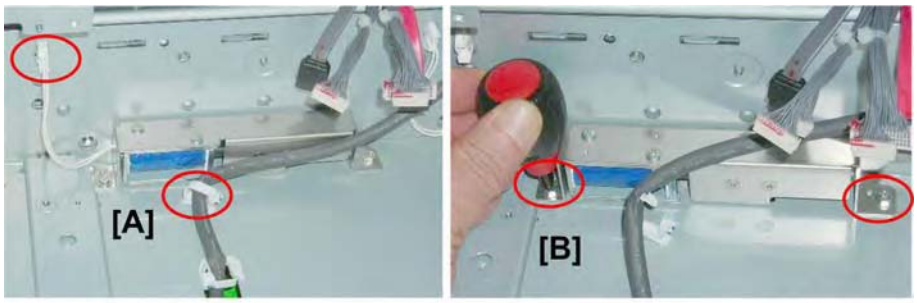
2. There are three fans [A].
3. Disconnect the fan [B] ( x2 M3x30).
4. Disconnect the fan harness [C] ( x1, x1)

## 5.10.17 CHARGE ROLLER CLEANING ROLLER SOLENOIDS

The four charge roller solenoids (one for each PCDU charge roller) are located on top of the machine below the laser units.

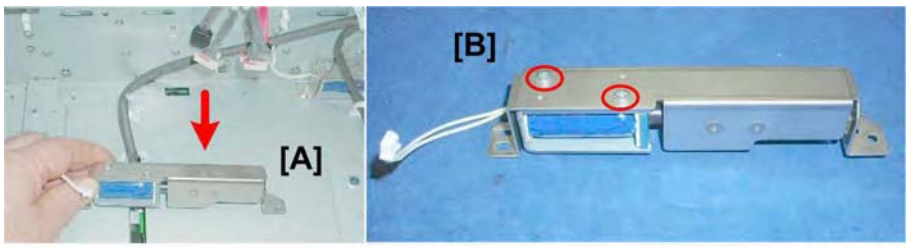
- Remove the laser unit for the solenoid that needs to be replaced. (☛p.5-101)
  1. The Y, M solenoids are behind laser unit 1 on the left.
  2. The C, K, solenoids are behind laser unit 2 on the right
  3. You will need a short screwdriver (or ratchet driver) to remove the screws of the solenoids below the raised scanner unit (Y, M solenoids)

**Y Charge Roller Cleaning Roller Solenoid**




d074r137

- Free the harnesses [A] (x1, x1).
- Disconnect the solenoid assembly [B] (x2).

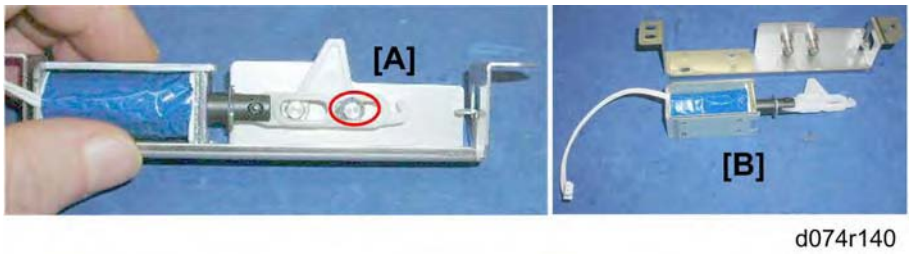



d074r138

- Remove the solenoid [A].
- Disconnect the solenoid [B] from the bracket (x2).

d074r139

- Disconnect the spring [A] (x1).



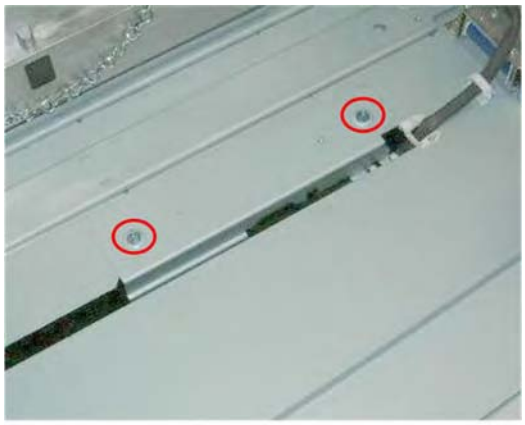

- Disconnect the solenoid plunger [A] from the bracket (℃x1).
- Remove the solenoid [B] with plunger attached.

## 5.10.18 POTENTIAL SENSORS (YMCK)

The potential sensors are under the laser units and above the PCDUs.

- There is one potential sensor for each PCDU.
- Dirt or dust around or on the potential sensor probe or window can cause errors (SC405 to SC413).

1. Remove the laser unit above the affected potential sensor. (☛p.5-101)

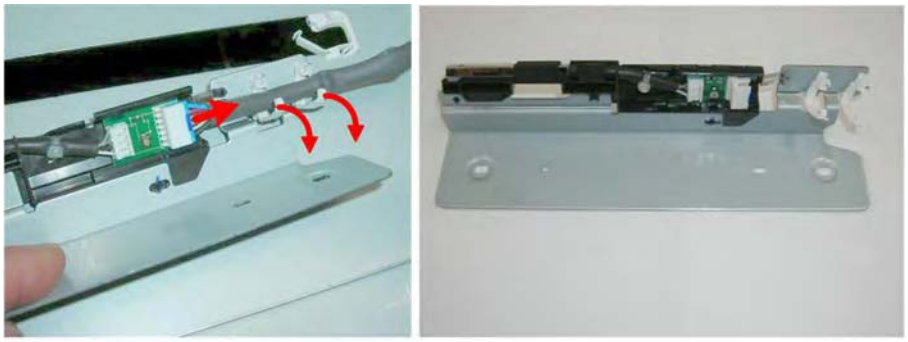


d074r981

2. Disconnect the sensor bracket ( x2).

d074r982

3. Disconnect the sensor harness at the end of the bracket (x2).
4. Lift the bracket out.

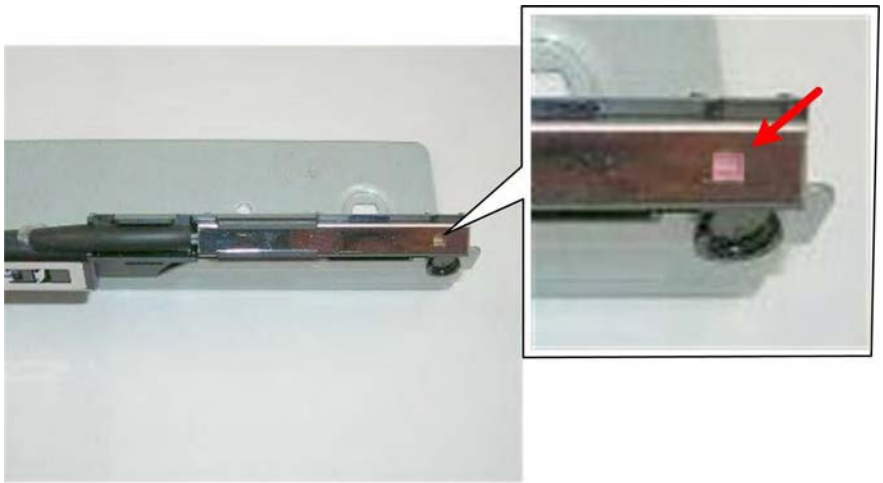


d074r983

5. Turn the bracket over.
6. Disconnect the harness (x1, x2).

d074r984

7. The sensor can be separated easily from the bracket (it is held in place by snap tabs) if it needs to be replaced.

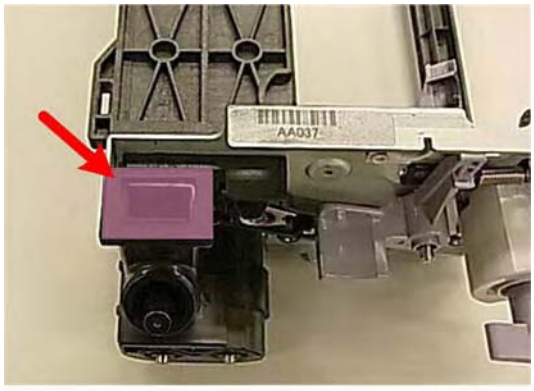


d074r985

8. The potential sensor probe and window should be cleaned with a blower brush and a clean dry cloth. (It does not need to be separated from the bracket for cleaning.)

## 5.10.19 TD SENSOR

- Turn off the machine and disconnect its power plug.
- Remove the development unit (p.5-163)

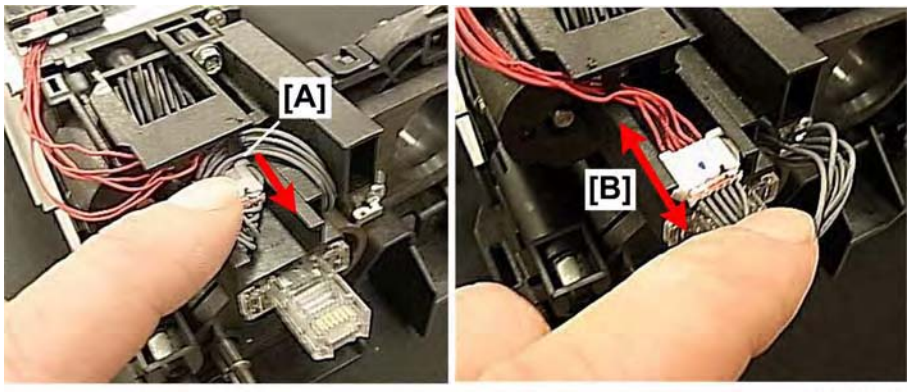



d074r931

- Tape the toner supply port to prevent toner spillage.

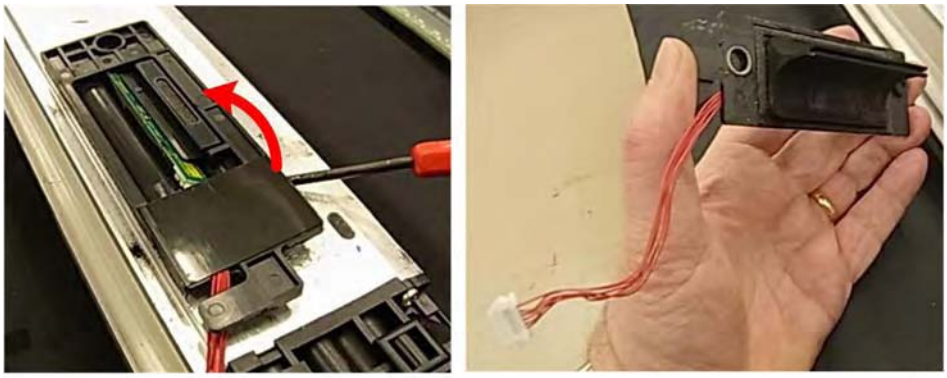
d074r932

- Disconnect the TD sensor plate ( x1).




d074r933

- Pull the harness out from behind the tab [A].
- Disconnect the harnesses [B] ( x1).

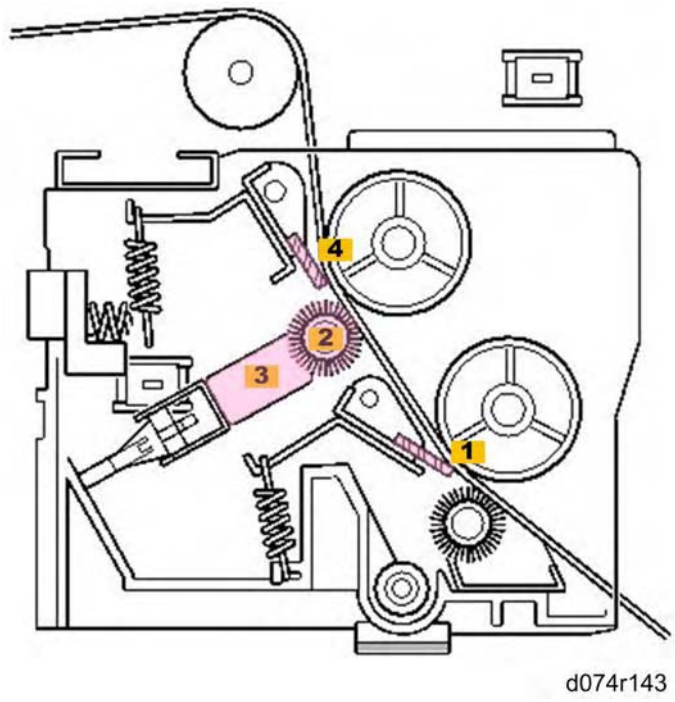


d074r934

- Pry the sensor plate and sensor off the bottom of the development unit.

# 5.11 IMAGE TRANSFER BELT (ITB) UNIT

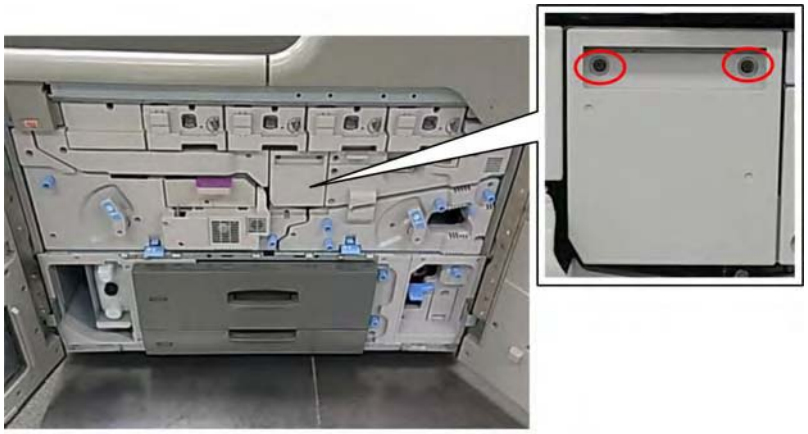
## 5.11.1 ITB CLEANING UNIT




**PM Parts List**

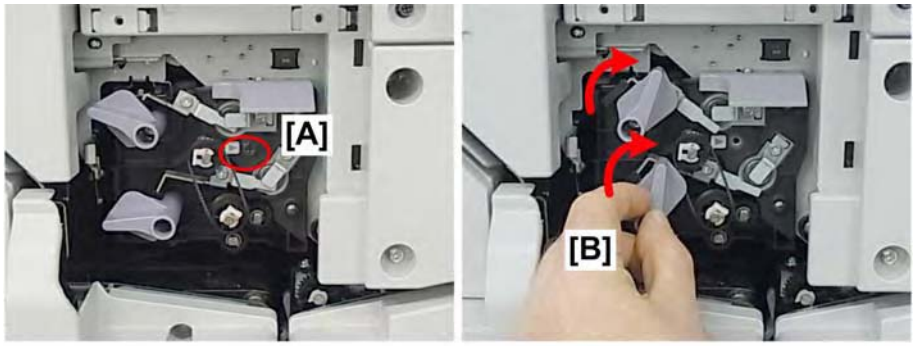
| No. | PM Part Name | Replacement Interval |
|---|---|---|
| [1] | ITB Cleaning Blade | 600K |
| [2] | ITB Lubrication Roller | 600K |
| [3] | ITB Lubrication Bar | 600K |
| [4] | ITB Lubrication Blade | 600K |

## 5.11.2 ITB CLEANING UNIT REMOVAL



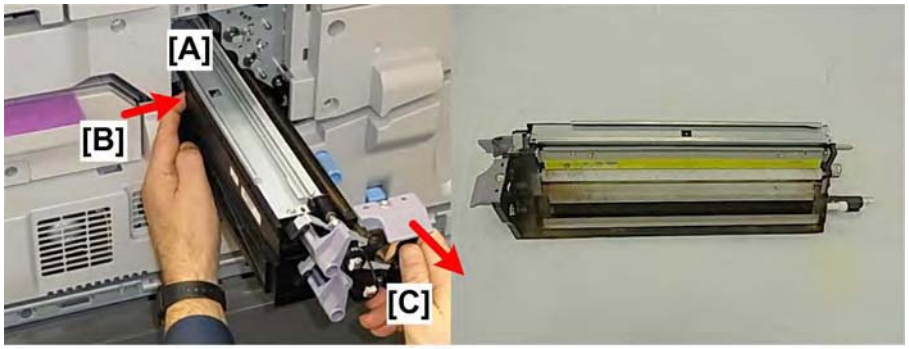
d074r150

1. Spread some paper or a drop cloth on a table where you can place the ITB cleaning unit for disassembly.
2. Remove the cleaning unit cover ( x2).




d074r151

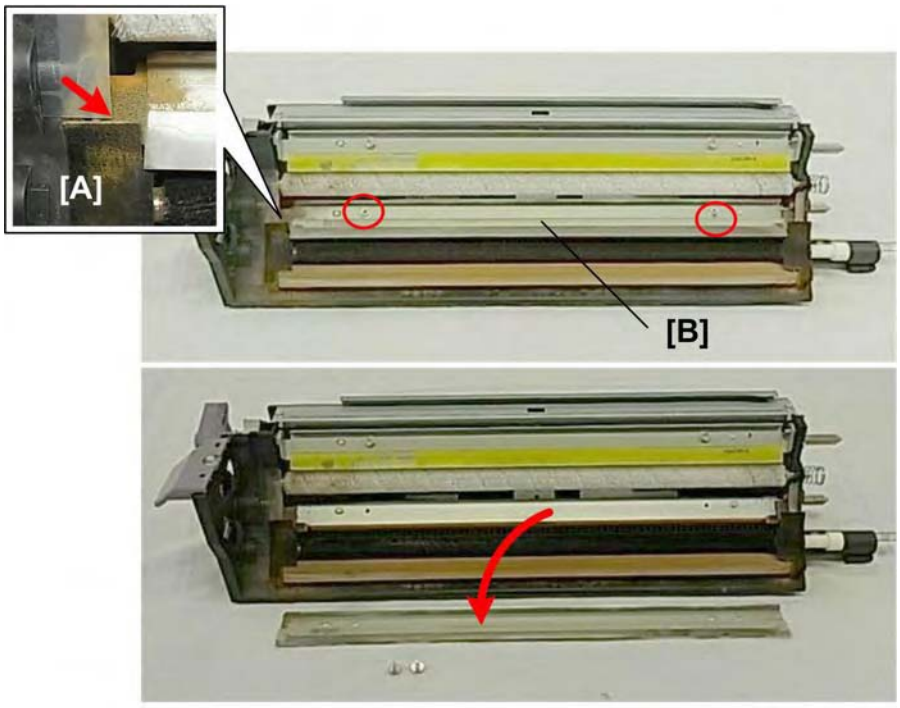
3. Remove screw [A] ( x1).
4. Raise both levers [B].




d074r152

5. Pull the cleaning unit out slowly until it stops at [A].
6. Press the release tab [B].
7. Pull the unit [C] out completely and lay it on a table covered with paper or a drop cloth.

## 5.11.3 CLEANING BLADE




d074r153

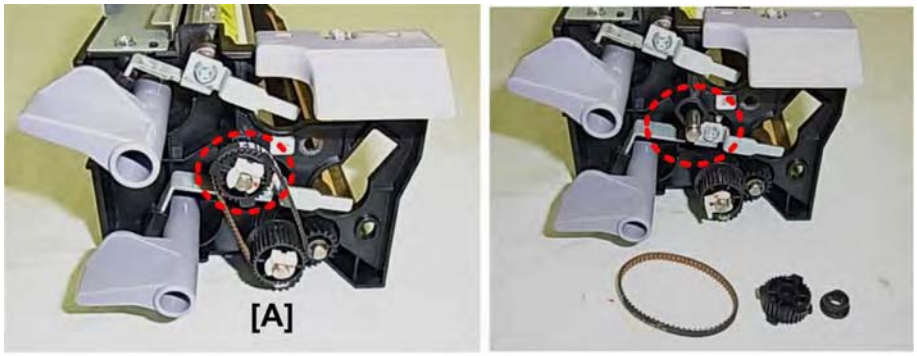
- ITB cleaning unit (☛p.5-36)

Important

- When removing and re-installing blades, work carefully to avoid damaging the sponge seals [A] at the ends of the blade. These sponge seals cannot be replaced in the field.

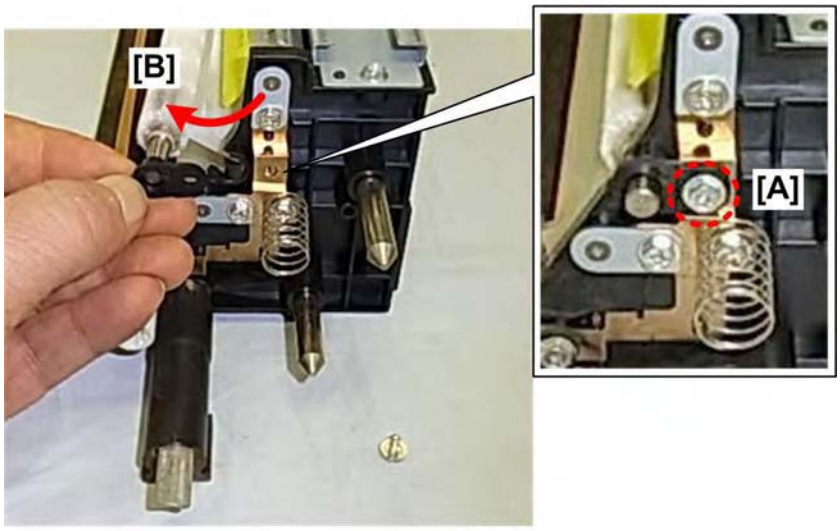
- Remove the cleaning blade [B] (🔧x2).

## 5.11.4 LUBRICATION ROLLER



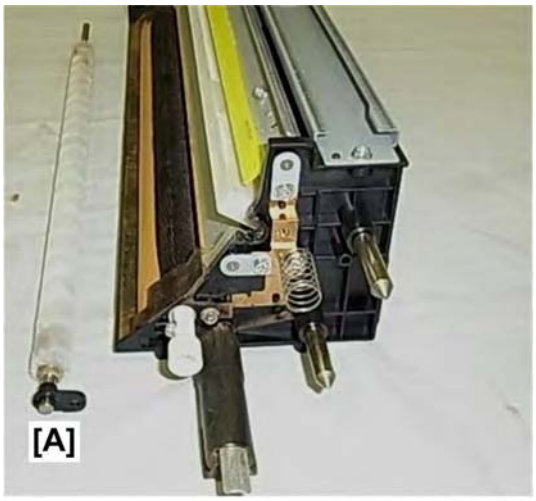

d074r154

1. ITB cleaning unit (☛p.5-36)
2. Disconnect the roller at the front (x1, x1, x1, x1).




d074r155

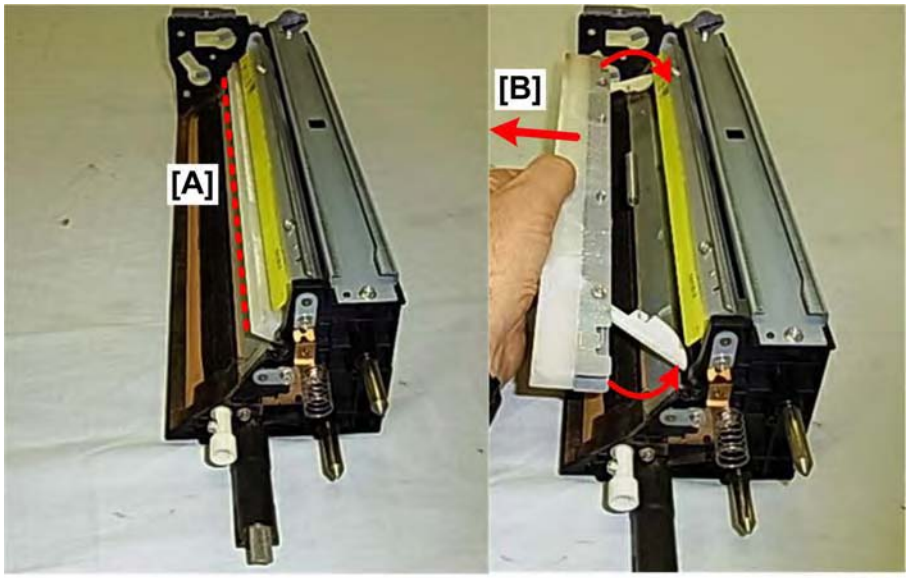
3. Remove screw [A] (x1).
4. Move the roller [B] slightly to the left.




d074r156

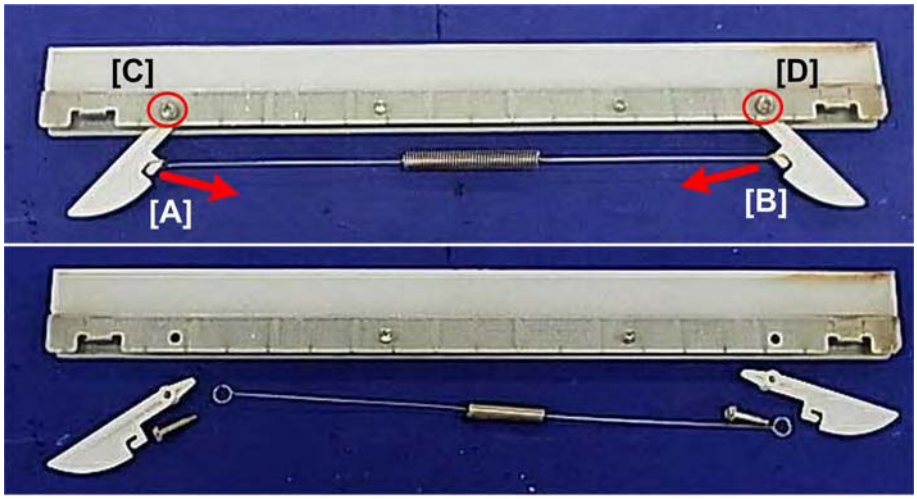
5. Remove the roller [A].

## 5.11.5 LUBRICATION BAR




d074r157

- ITB cleaning unit (☛p.5-36)
- Lift the edge of the lubrication bar [A] (the spring loaded arms will pop out).
- Remove the lubrication bar [B].



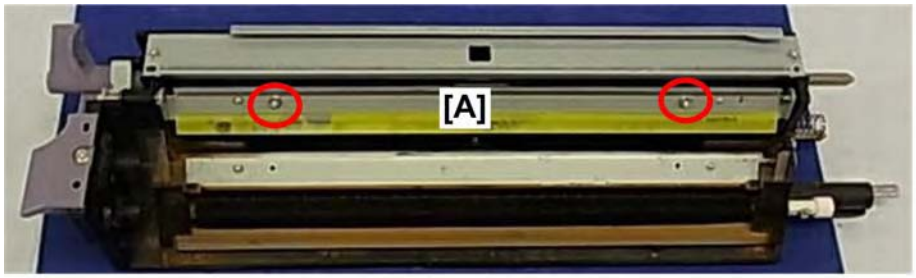

d074r158

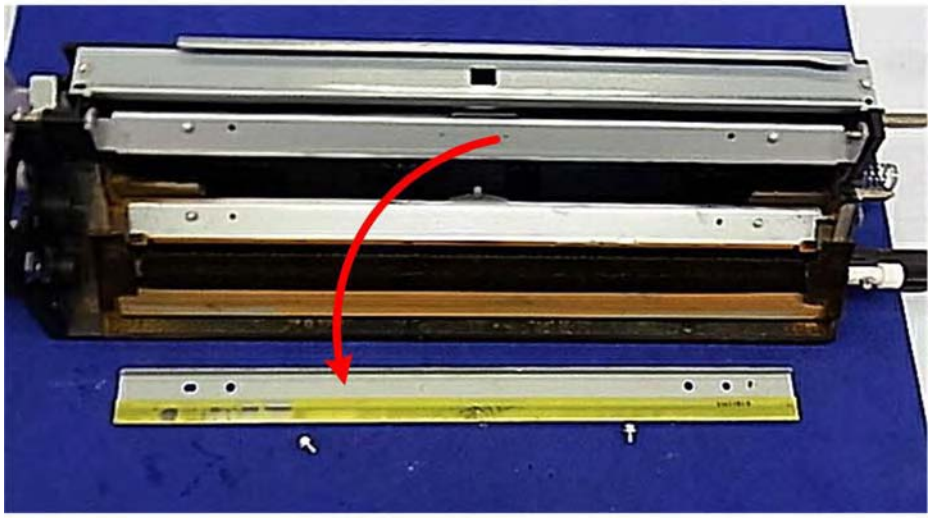
- Disconnect the spring from the arms [A] and [B] (x1).
- Remove the arms [C] and [D] (x2).

Important

- Do not discard these springs and arms. They are not provided as service parts and must be re-attached to the new lubrication bar.

## 5.11.6 LUBRICATION BLADE



d074r159

- ITB cleaning unit (☛p.5-36)

Important

- When removing and re-installing blades, work carefully to avoid damaging the sponge seals at the ends of the blade. These sponge seals cannot be replaced in the field.

- Remove the lubrication blade [A] ( x2).

**After Replacement**

1. Install the cleaning unit.
   - Keep the levers in the unlocked position.
   - Do not attach the cove yet.
2. Make sure that the machine power is OFF.
3. Remove the PTR unit.
4. Turn the main power switch ON and close both front doors.
5. Enter the SP mode.
6. Reset the counter for the replaced unit or parts.
7. Open the right front door and execute SP2301-1 (Force Lubricant - Belt Cleaning).
8. Immediately after executing, close the right door to run the above SP

9. Wait for about 5 minutes. When you see "Completed" displayed on the operation panel, you are ready to continue.
10. Re-install the PTR unit.
11. Rotate both levers of the ITB cleaning unit counter clockwise and re-install the front cover.
12. Execute these SP codes.

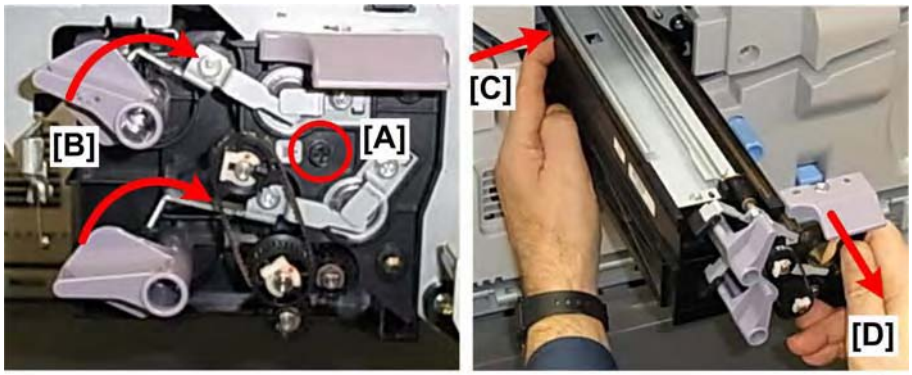
| SP | What It Does |
|---|---|
| 3020-001 | Initializes process control. |
| 3012-001 | Confirms successful initialization of process control. |

13. Exit the SP mode.

## 5.11.7 TRANSFER BELT REPLACEMENT

### *Transfer Belt Removal*

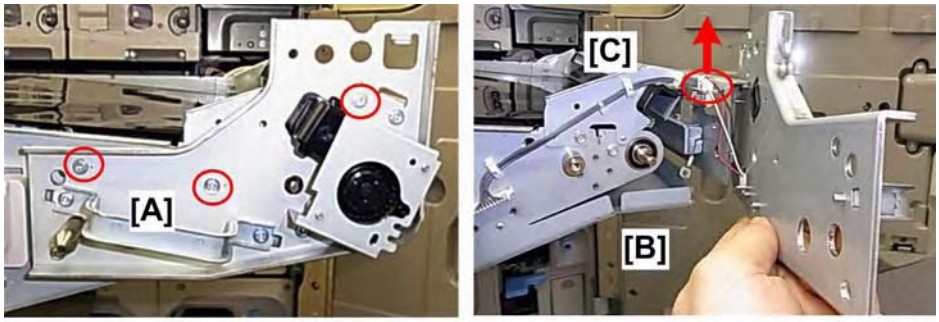
1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)




d074r160

2. Remove screw [A] ( x1).
3. Raise both levers [B].
4. Pull the cleaning unit out slowly unit it stops.
5. Press the release lever [C].
6. Pull the cleaning unit [D] out.

**Right Handle**




d074r161

7. Disconnect the handle plate [A] ( x3).
8. Slowly swing the handle to the right [B].
9. Disconnect harness [C] ( x1).

**ID Sensor/MUSIC Sensor Plate**

d074r162

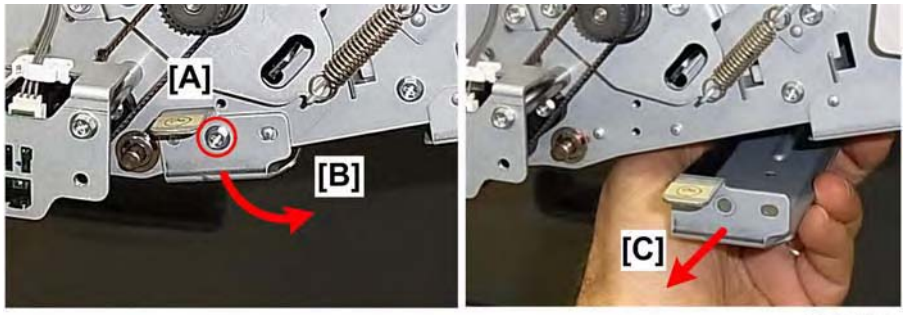
10. Disconnect plate [A] (x1, x1, x1).
11. Remove the sensor plate [B].

**Lower Cover Plate**

d074r163

12. Disconnect the lower cover plate at [A] ( x1).
13. The plate will drop and be held by the small cable [B].

**Guide Plate**



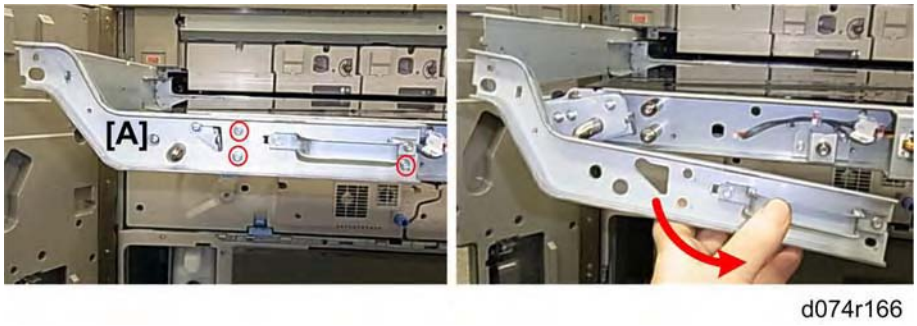

d074r164

14. Disconnect the guide plate [A] ( x1).
15. Lower the guide plate slightly [B] and pull it out [C].

**Belt Speed Sensor Bracket, Left Handle**

d074r165

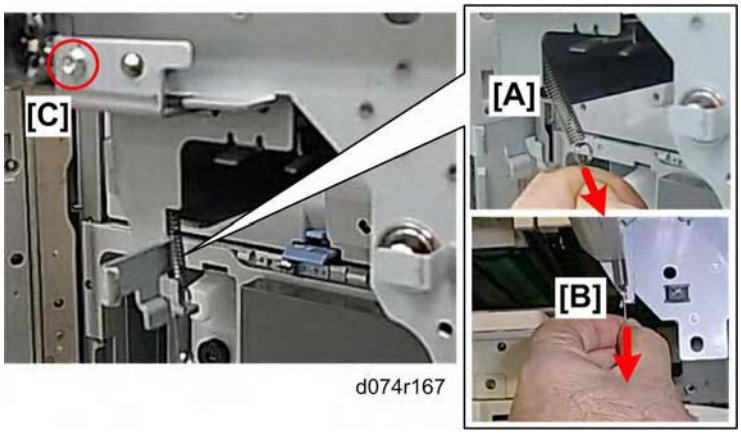
16. At the front edge of the ITB unit, remove the belt speed sensor bracket [A] ( x1).




d074r166

17. Remove the left handle plate [A] ( x3).

**Belt Tension Roller, Removing the ITB**



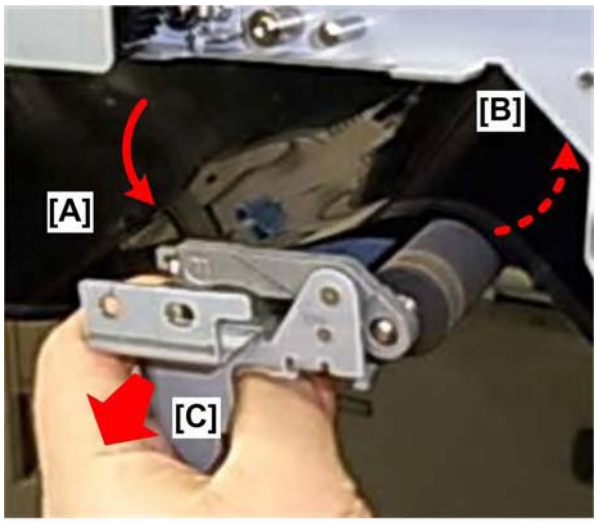

d074r167

18. Disconnect the front spring [A].
19. Disconnect the rear spring [B].

Note

- Do not remove these springs. Let them hang free. They will not fall off.

20. Disconnect the belt tension roller assembly [C] ( x1).




d074r168

21. Slowly lower the belt tension roller assembly [A], while you support the other end of the roller with your other hand [B] under the ITB unit.
22. Remove the tension roller assembly [C] and tension roller.

d074r169

23. Removal of the tension roller relieves tension on the transfer belt and it will sag.

Note

1. You will see an encoding strip on the front edge of the transfer belt. The transfer belt must be re-installed with this strip on the front edge as shown above.

d074r170

24. Slowly remove the transfer belt.

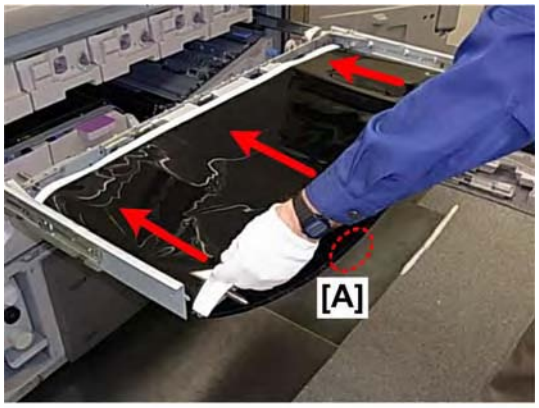
### *Transfer Belt Installation*

d074r171

1. Before re-installing the transfer belt, cover the top of the ITB unit with a long sheet of paper.

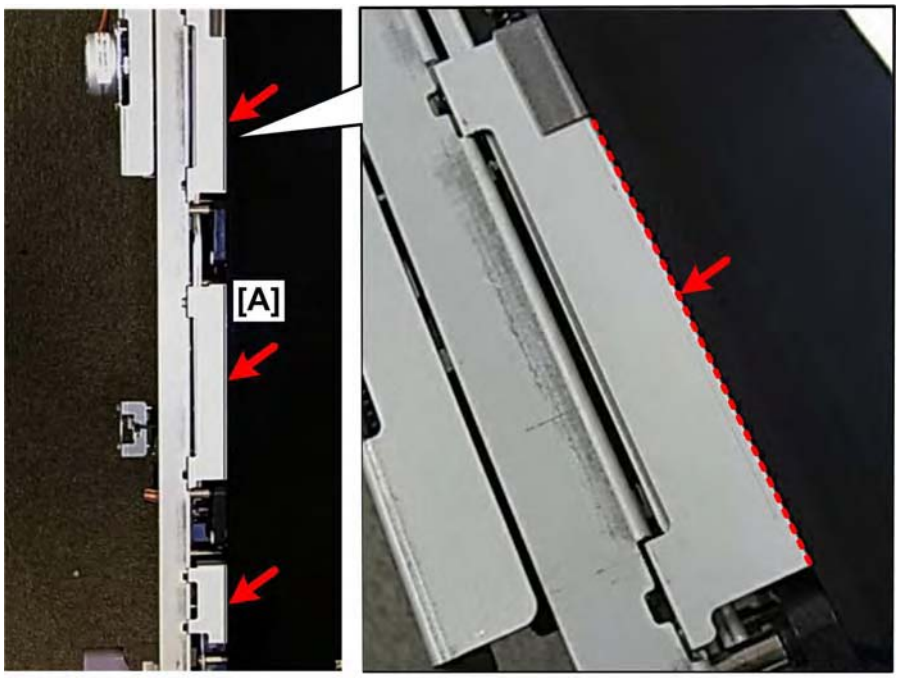
Note

1. A sheet of paper is provided as an accessory with a new transfer belt.
2. If you are re-installing the same transfer belt, you can cover the top of the unit with several sheets of A3 paper. (The paper prevents the front edge of the belt from catching on top of the unit.)



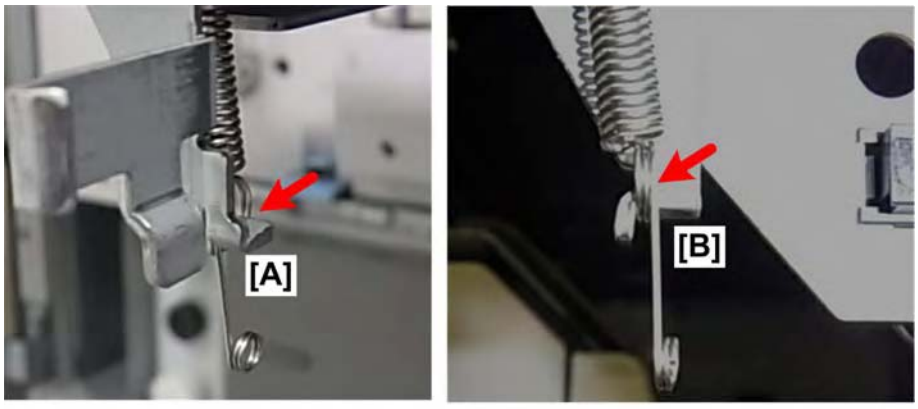

d074r172

2. Confirm that the encoding strip is on the front edge of the belt [A].



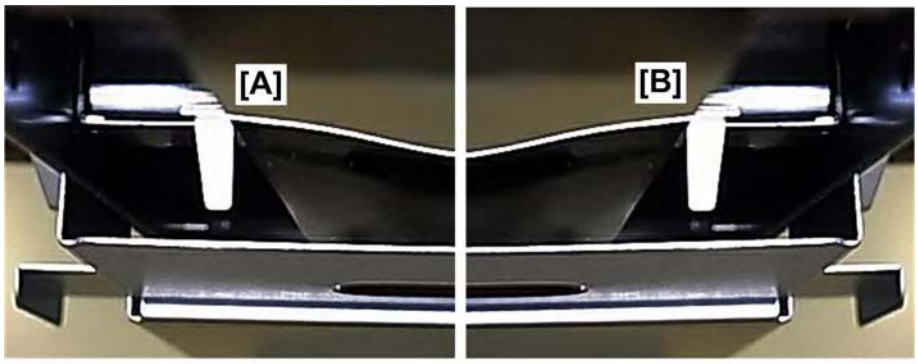

d074r173

3. Make sure that the front edge of the belt is parallel with the straight lines embossed on the plates at three locations [A]. This ensures correct alignment of the belt.



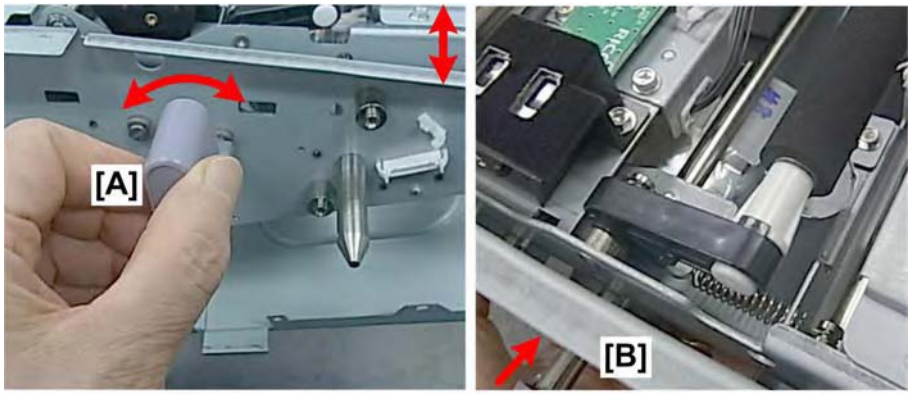

d074r174

4. Re-attach the springs of the tension roller at the front [A] and rear [B] as shown above.




d074r175

5. Before you re-attach the tension roller assembly:
   1. Look under the ITB unit, and make sure that the actuators of the rear overrun sensor [A] and front overrun sensor [B] are visible near the rear and front edges of the belt.
   2. Check the alignment of the belt again at the top front edge (see Step 3).




d074r176

6. Before you slide the ITB unit into the machine, turn the ITB lever [A] to confirm that the lift plate raises and lowers.
   The plate should move up and down smoothly.
   -or-
   If the action of the ITB lever is loose and the lift plate does not move, this means the right lift plate is in the up position.
   1. Reach under the unit [B] and turn the white drive gears of the 2nd lift motor (K) to lower the lift plate until it is down.
   2. Turn the ITB lever [A] again to confirm that the lift plate moves up and down smoothly.
   3. Turn the ITB lever [A] to the down position so that the lift plate and transfer belt are down.

Important

1. Never push the ITB unit into the machine with the lift plate in the up position.

## 5.11.8 AFTER TRANSFER BELT REPLACEMENT

1. The machine power must be OFF.
2. Open both front doors.
3. Remove the front cover of the ITB cleaning unit.
4. Rotate both levers of the ITB cleaning unit clockwise to retract the blades from the ITB.
5. Remove the PTR unit. (☛p.5-38)
6. Turn the main power switch ON and close both front doors.
7. Enter the SP mode.
8. Reset the counter for the replaced ITB belt.
9. Open the right front door and execute SP2310-1 (Force Lubricant - Belt Cleaning).
10. Immediately after executing, close the right door to run the above SP.
11. Wait for about 5 minutes until "Completed" is displayed on the operation panel.

Important

Do not open any door or remove the used toner bottle while lubrication is in progress.

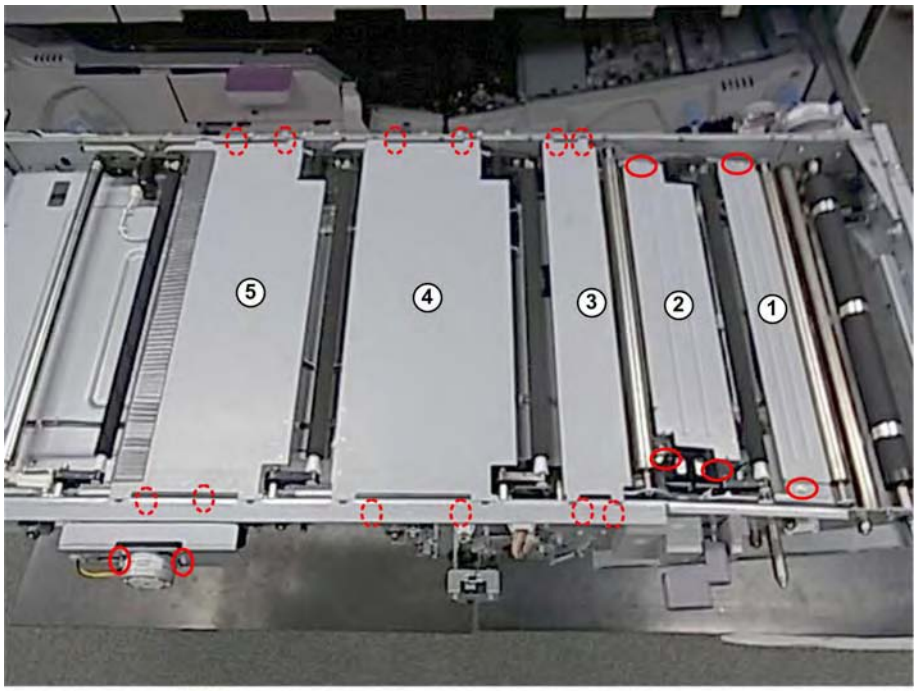
12. Re-install the PTR unit.
13. Rotate both levers of the ITB cleaning unit counter-clockwise and re-install the front cover.
14. ⇒ Do SP2912-1. This SP adjusts the strength of the LED beam of the ITB feed-back sensors (main sensor and sub sensor). Then, cycle the machine off and on.
15. ⇒ Do SP2914-1. This SP code resets the ITB feed-back sensors. Then, cycle the machine off and on.
16. ⇒ Do SP3011-004 (MUSIC).
17. ⇒ Exit the SP mode.

After a new ITB has been installed, or the original belt re-installed, the physical condition of the belt should be checked. The three ID/MUSIC sensors (Rear, Center, Front) scan the belt to detect nicks and scratches.

**Belt Check**

1. First, execute SP2310-1 to clean and lubricate the belt.
2. Do SP3011 to manually execute process control.
3. Do SP3012-1 to confirm the successful initialization of process control.
4. Do these SP codes to confirm the scan results:
   - SP2112-15
   - SP2112-16
   - SP2112-17
5. Each SP execution should return a "0". If an SP returns any value other than "0", do Steps 2, 3 again.
6. After repeated executions, if one or more of the SP codes continues to return any value other than "0", the belt is damaged and must be replaced.

## 5.11.9 ITB UNIT COVER PLATES




d074r227

After the transfer belt has been removed, there are five plates on top of the ITB unit that must be removed for some procedures.

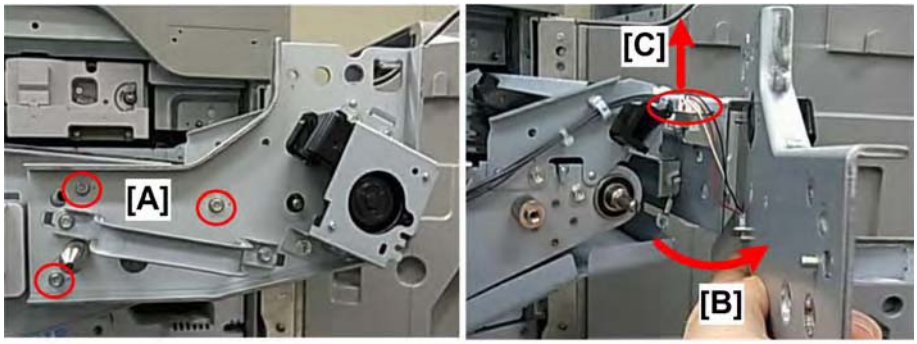
Pull the ITB unit out to the 2nd stop position. (☛p.5-19)

1. Transfer belt (☛p.5-207)
2. Plate ① (x2)
3. Plate ② (x3)
4. Plate ③ (x4)
5. Plate ④ (x4)
6. Plate ⑤ (x6)

   In order to remove the front screws, you must first disconnect the 1st lift motor (YMC) (☛p.5-218)

## 5.11.10 ID/MUSIC SENSOR FAN

1. Pull the ITB unit out to the 1st stop position (☛p.5-19)

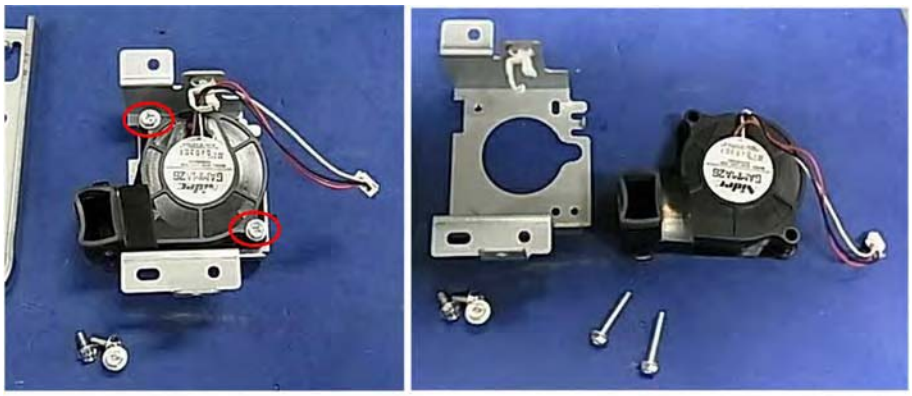



d074r177

2. Disconnect the right handle plate [A] ( x3).
3. Swing the plate [B] slowly to the right.
4. Disconnect the fan harness [C] ( x1) and remove the handle.

d074r178

5. Disconnect the fan motor assembly ( x3)

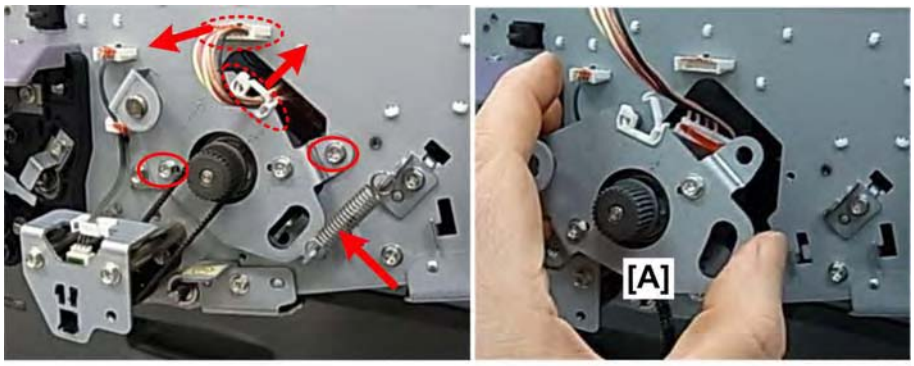


d074r179

6. Remove the fan motor ( x2).

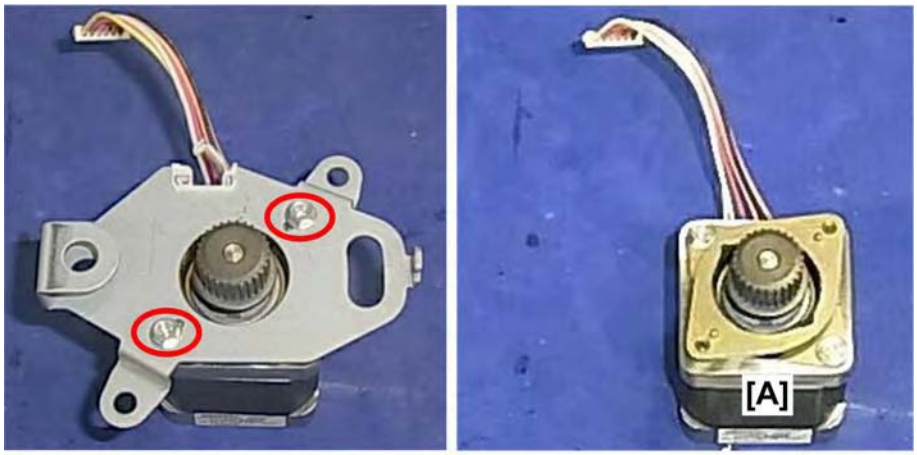
## 5.11.11 PTR SEPARATION MOTOR

1. Pull the ITB unit out to the 1st stop position. (☛p.5-19)




d074r180

2. Remove the motor assembly [A] (x1, x1, x1, x2)

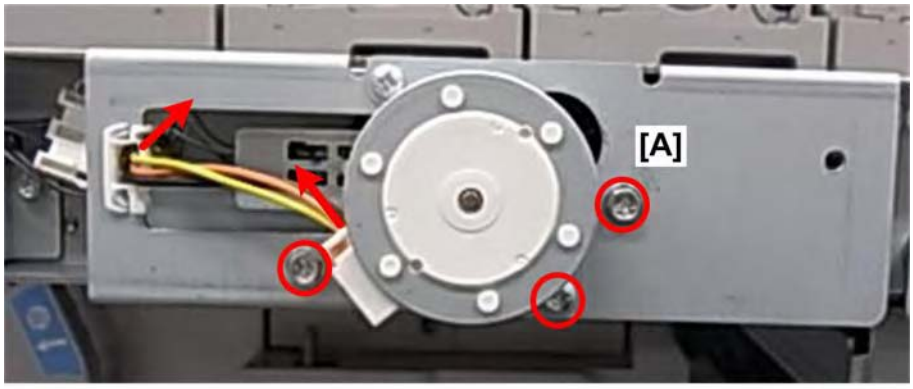



d074r181

3. Remove the motor [A] (x2).

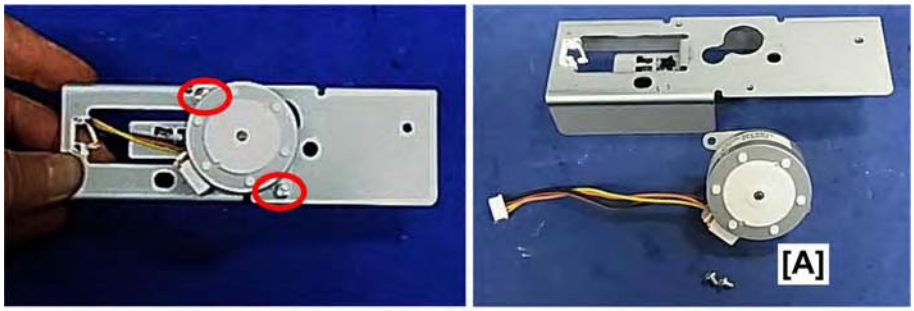
## 5.11.12 1ST LIFT MOTOR (YMC)

1. Pull the ITB unit out to the 1st stop position. (☛p.5-19)




d074r182

2. Remove the motor assembly [A] (x1, x1, x3).

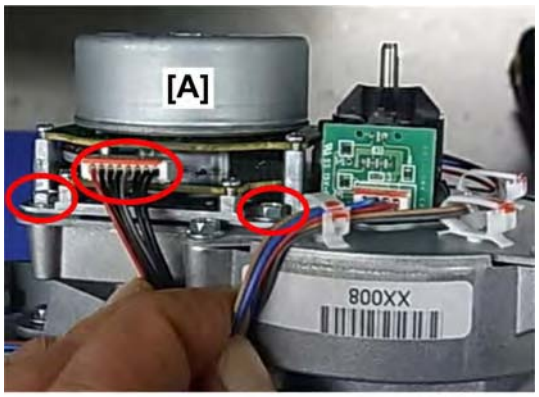



d074r184

3. Remove the motor [A] (x2).

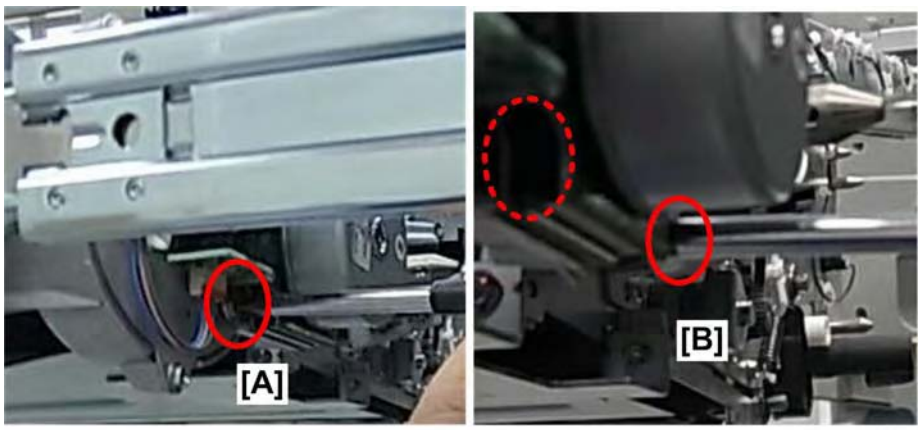
## 5.11.13 TRANSFER BELT DRIVE MOTOR

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)



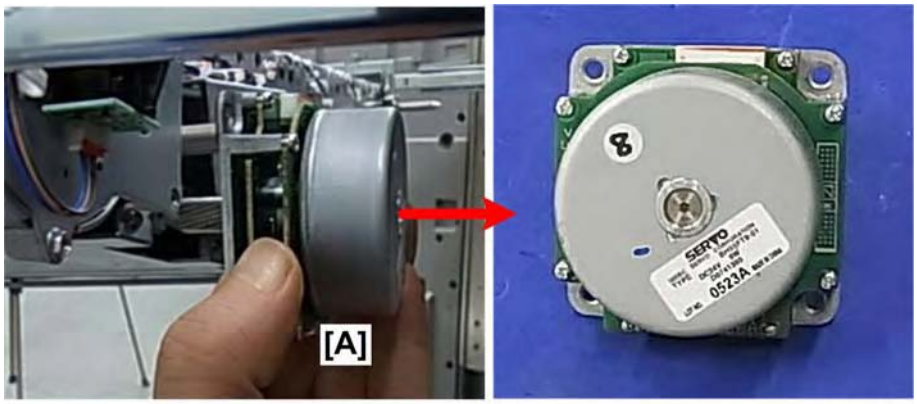

d074r185

2. At the top of the right rear corner of the ITB unit, disconnect the motor [A] (x1, x2).




d074r186

3. Below the ITB unit, remove screw [A] and screw [B] (x2).

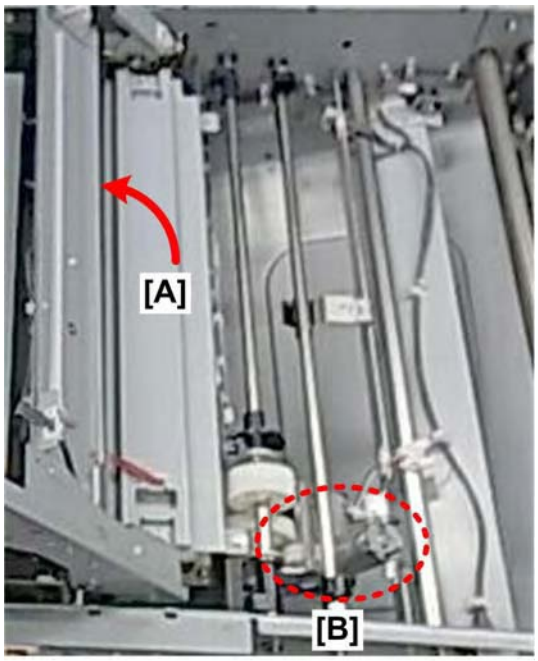



d074r187

4. Remove the transfer belt drive motor [A].

## 5.11.14 2ND LIFT MOTOR (K)

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transfer belt (☛p.5-207)
3. ITB unit cover plate ③ (☛p.5-215)

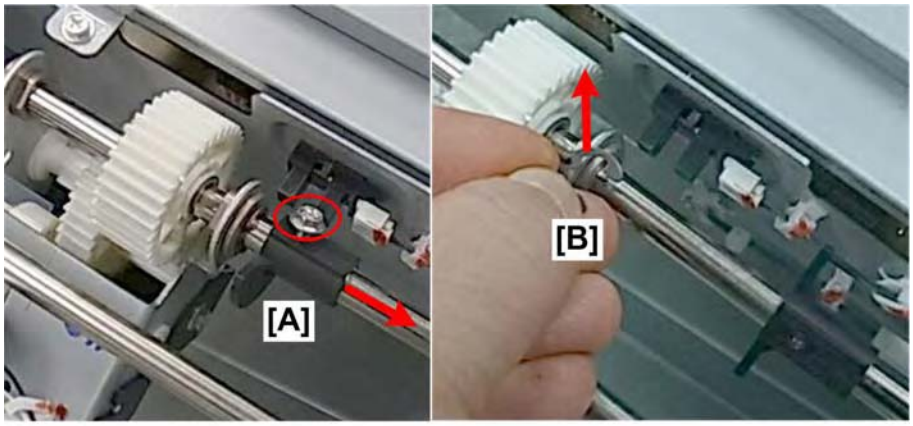



d074r188

4. Raise the lift assembly [A] so that you can see the 2nd lift motor [B].

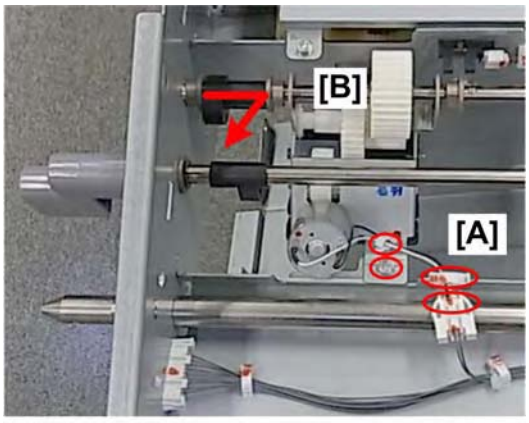
d074r189

5. Disconnect the front end of the shaft [A] (☡x1).
6. Disconnect the rear end of the shaft [B] (☡x1).



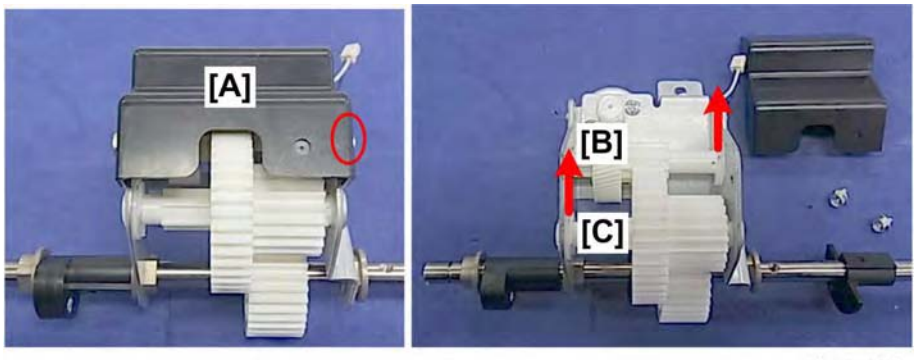

d074r190

7. Remove screw [A] (x).
8. Remove e-ring [B] (x).



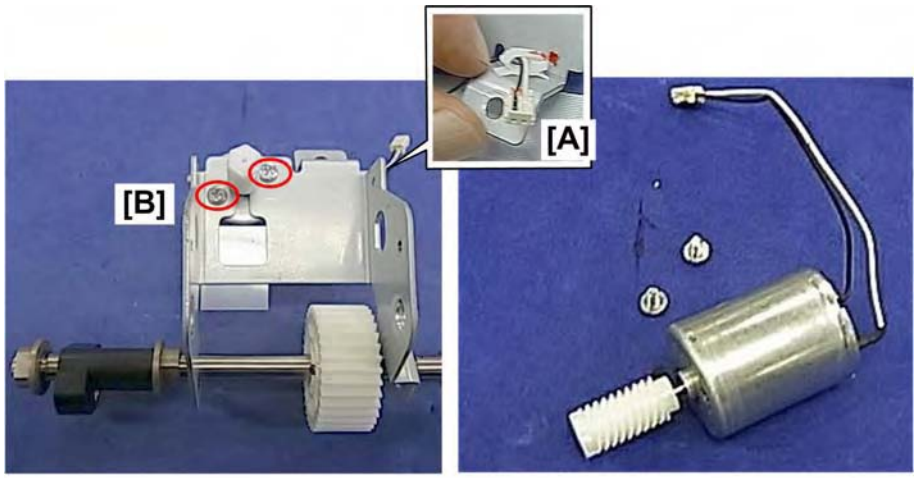

d074r191

9. Disconnect the motor harness [A] and the motor (x1, x2, x1)
10. Push the shaft to the right to disconnect it at the front [B], lower it, and pull it out from below the ITB unit.




d074r192

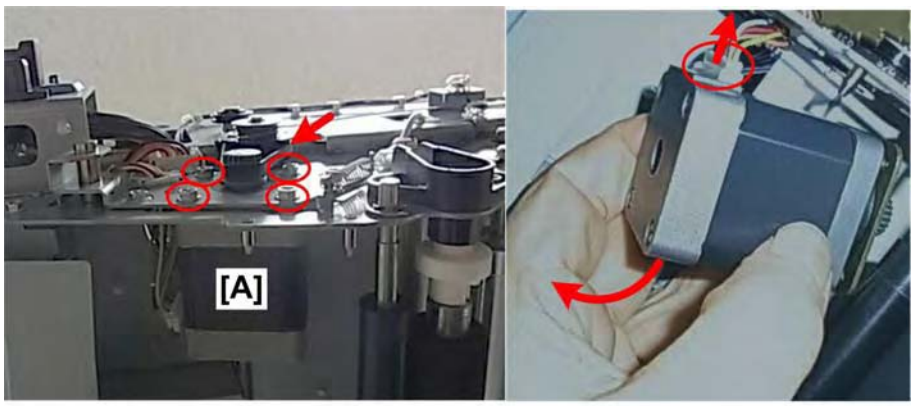
11. Remove the cover [A] (x2).
12. Disconnect and remove gears [B] and [C] (x2, x2).




13. Make sure the harness is disconnected at [A] (x1).
14. Remove the motor [B] ( x2)

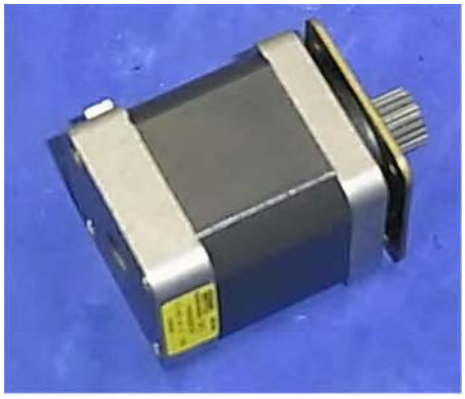
## 5.11.15 BELT CENTERING MOTOR

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transfer belt (☛p.5-207)



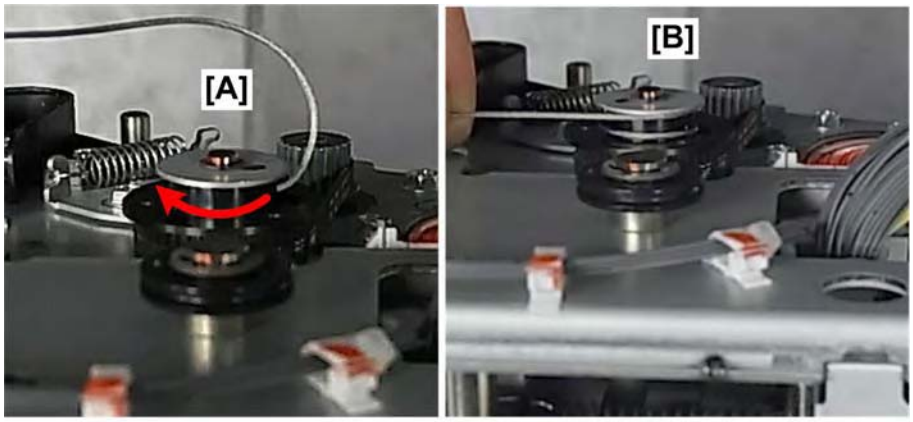

d074r194

3. Below the ITB unit at the rear, disconnect the motor [A] (x1, x4).
4. Remove the motor (x1).



d074r195

**Re-installation**

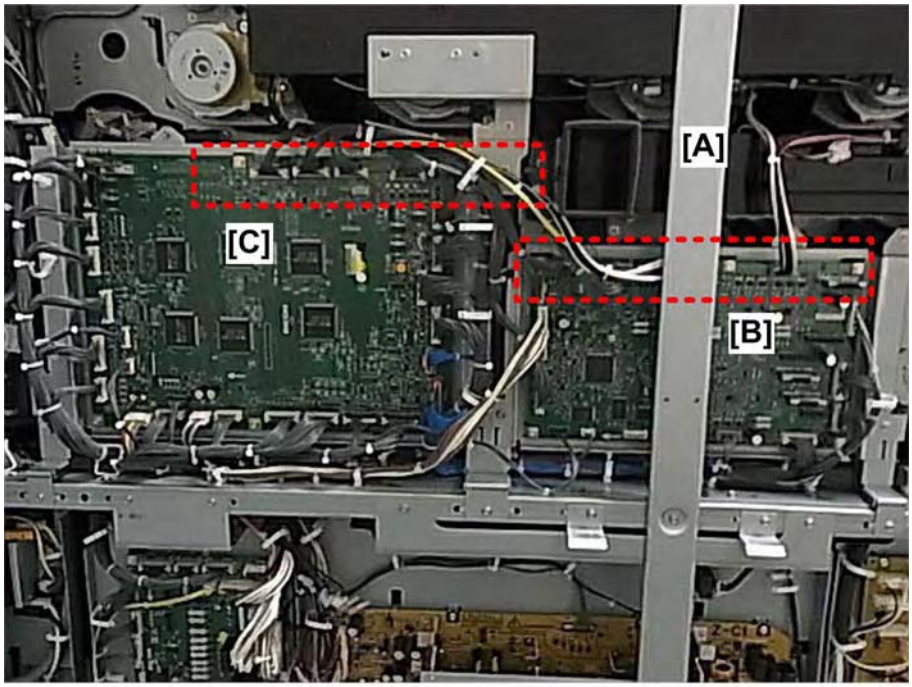



1. Look down at the back of the ITB unit and check the spool [A].
2. If the cable is free as shown above, wrap it once around the spool (counter-clockwise). [B] shows the cable wound on the spool correctly.

## 5.11.16 PTR/ITB CLEANING UNIT MOTOR

This motor has two functions. It drives the PTR and all the moving parts of the ITB cleaning unit.

1. Open the cooling box and controller box. (☛p.5-8)

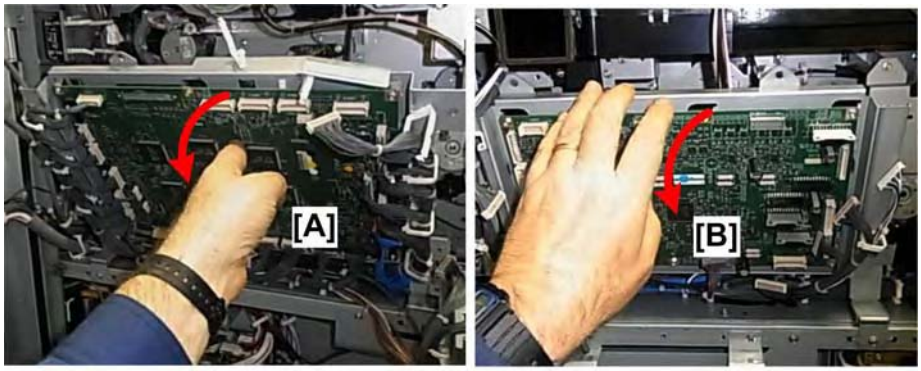



d074r197

2. Remove the center stay [A] (x3).
3. Disconnect clamps and connectors of the TDCU around [B].
4. Disconnect clamps and connectors of the TDCU around [C].

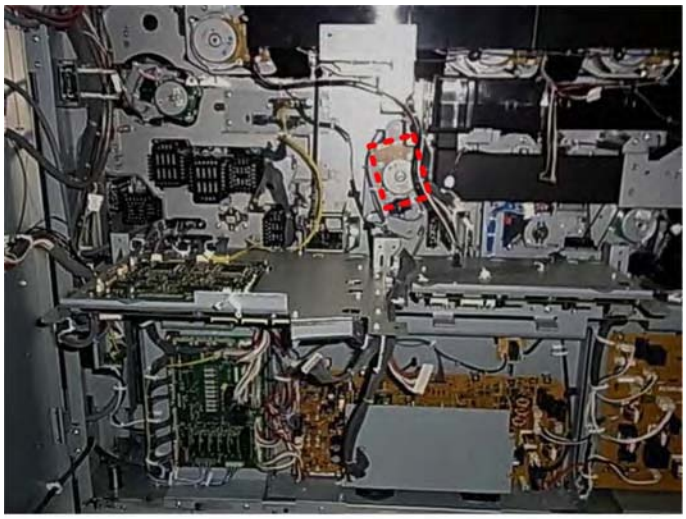
Note

1. These boards can be lowered on their bottom hinges after the top connectors and clamps are disconnected. You do not need to disconnect all clamps and connectors.



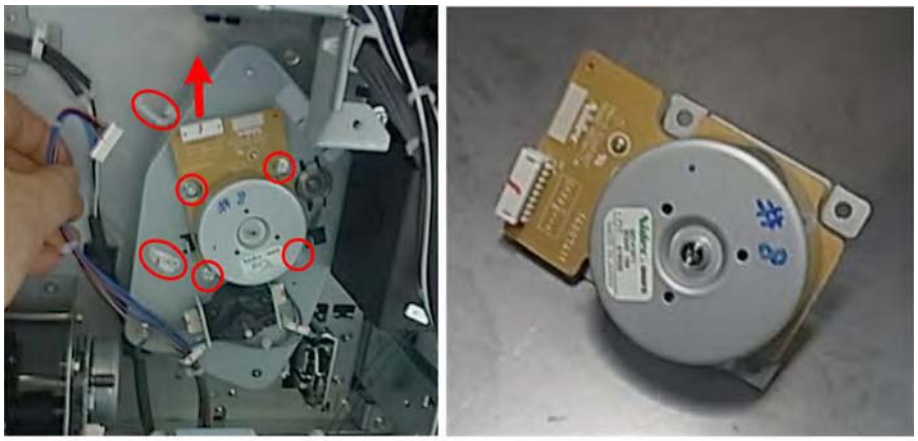

d074r198

5. Lower the IOB [A] and TDCU [B].



d074r199

6. After the boards are lowered, you can see the ITB cleaning unit motor.

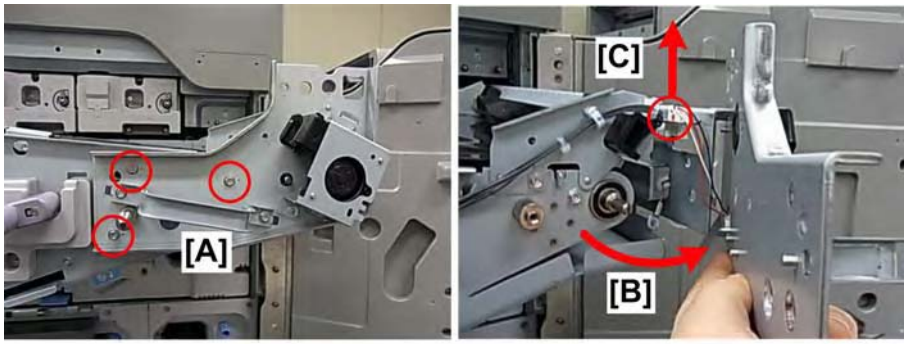


d074r200

7. Remove the motor (x2, x1, x4).

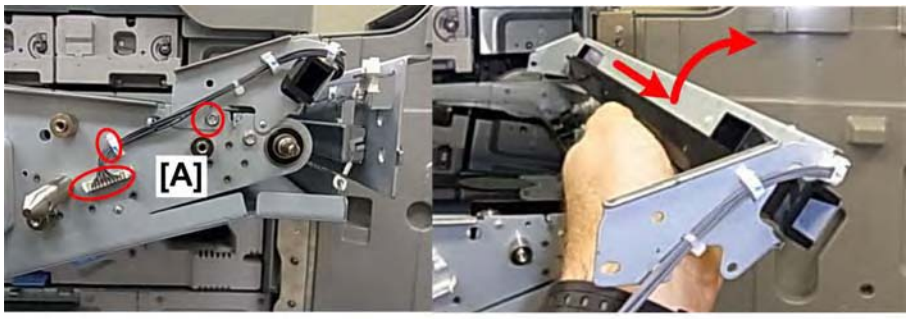
## 5.11.17 ID SENSOR/MUSIC SENSORS

- Pull the ITB unit out to the 1st stop position. (☛p.5-19)



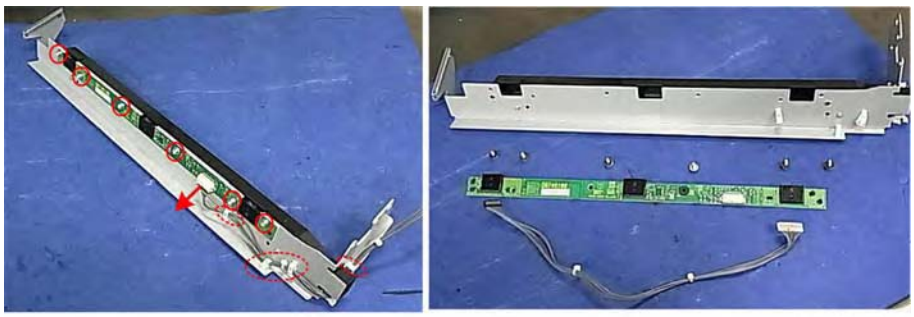

d074r201

- Disconnect the handle plate [A] ( x3).
- Slowly swing the handle plate to the right [B].
- Disconnect the harness [C] ( x1).




d074r202

- Disconnect the plate [A] and remove it( x1, x1, x1).



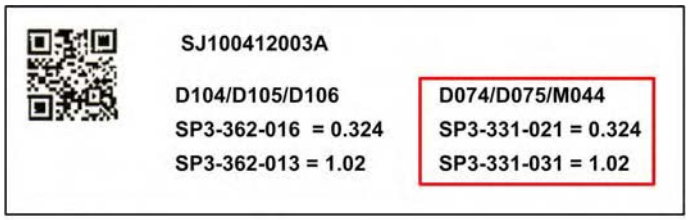
d074r203

- Remove the sensor board ( x5, x1, x6).

**After ID/MUSIC Sensor Replacement**

Do the following procedure after installing new ID/MUSIC sensors and re-assembling the machine.

1. Plug in the power cord and turn on the machine.
2. Enter the SP mode.

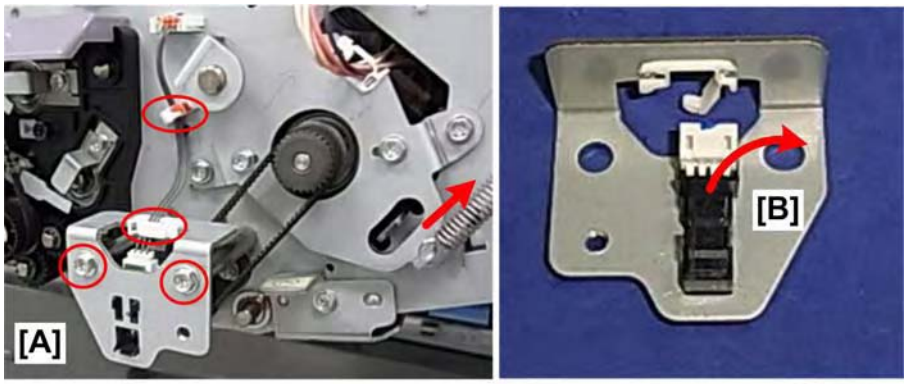


d0704r144

3. Refer to the sheet provided with the new ID/MUSIC sensor set.
4. Do the SP codes for D074/D075/M044 on the right side of the sheet (enclosed in the red box in the illustration above). The numbers on the left are for another machine.
5. Next, do SP3011-1 (Manual Process Control).
6. Do SP3012-1 to confirm successful complete of process control initialization.

## 5.11.18 PTR SEPARATION SENSOR

1. Pull the ITB unit out to the 1st stop position. (☛p.5-19)

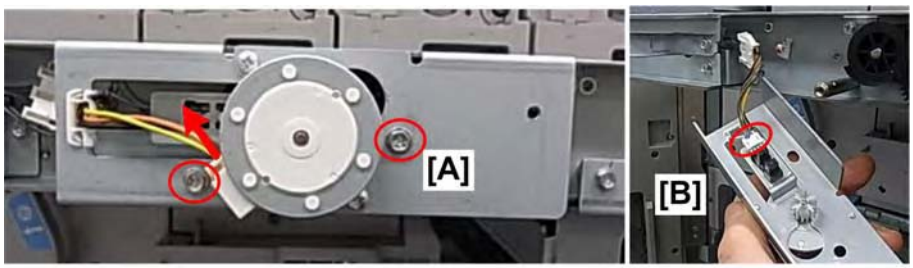


d074r204

2. Remove the PTR separation motor assembly [A] (x1, x1, x1, x2).
3. Remove the sensor [B] (x1, x3).

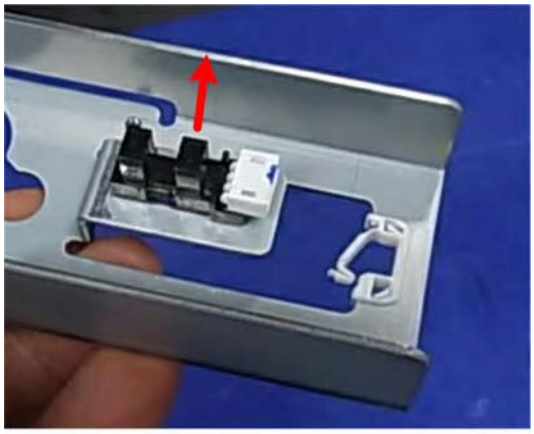
## 5.11.19 1ST LIFT MOTOR SENSOR (YMC)

1. Pull the ITB unit out to the 1st stop position. (☛p.5-19)



d074r205

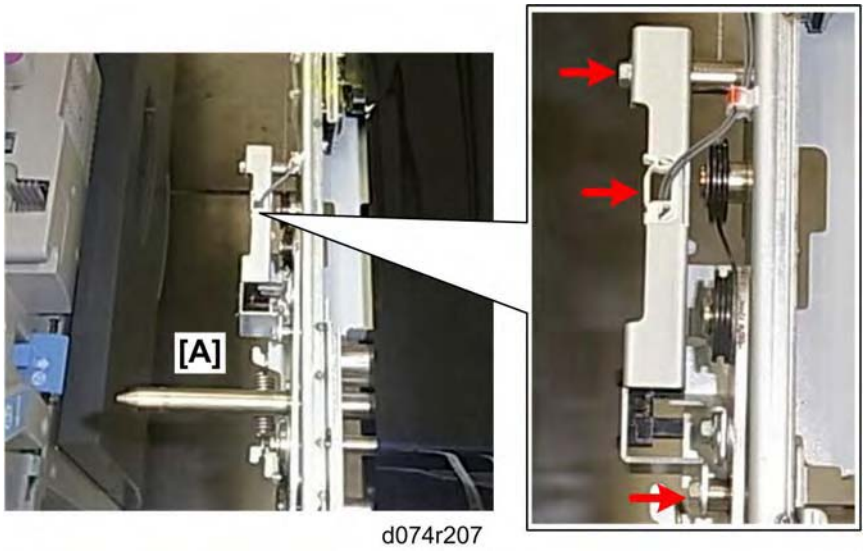
2. Remove the sensor assembly [A] (x1, x1, x2).
3. Disconnect the sensor [B] (x1)


d074r206

4. Remove the sensor (x3).

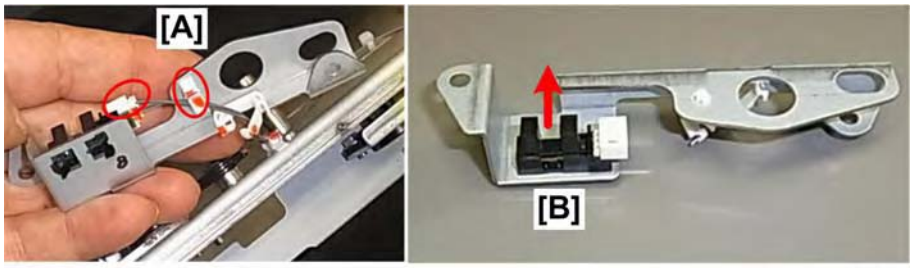
## 5.11.20 BELT CENTERING ROLLER HP SENSOR

- Pull the ITB unit out to the 2nd stop position. (☛p.5-19)



d074r207

- At the top of the left rear corner of the ITB unit [A], disconnect the sensor assembly (x1, x2)

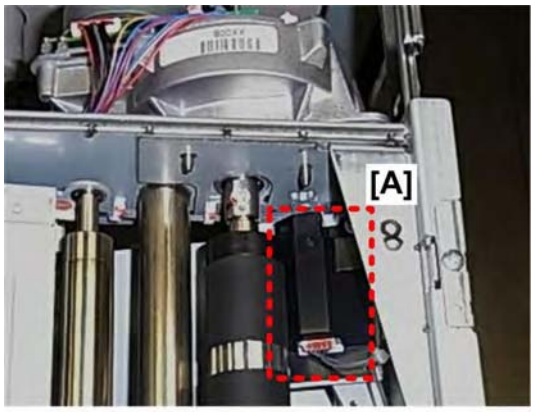


d074r208

- Disconnect at [A] (x1, x1).
- Disconnect the sensor [B] (x3).

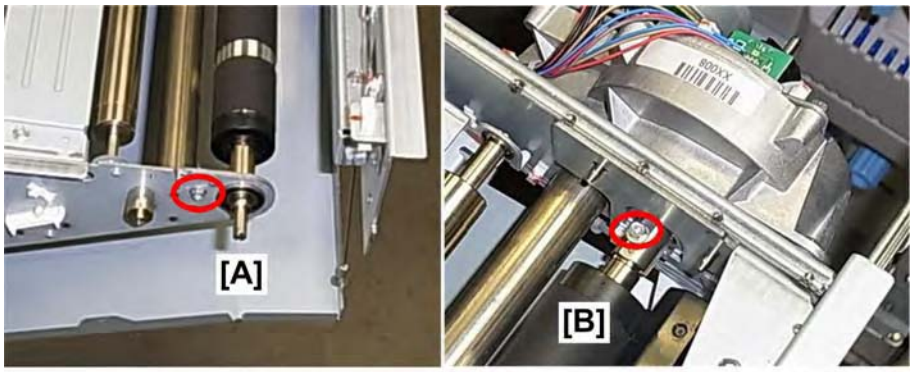
## 5.11.21 BELT CENTERING SENSOR

- Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
- Transfer belt (☛p.5-207)



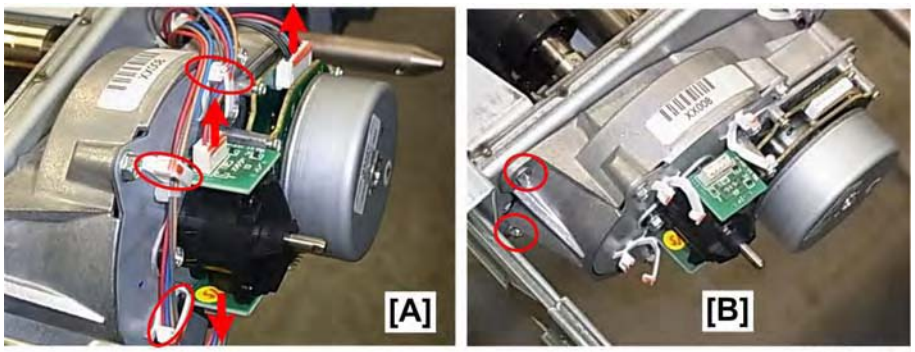

d074r209

- The belt centering sensor is located at the rear upper right corner [A] of the ITB unit.



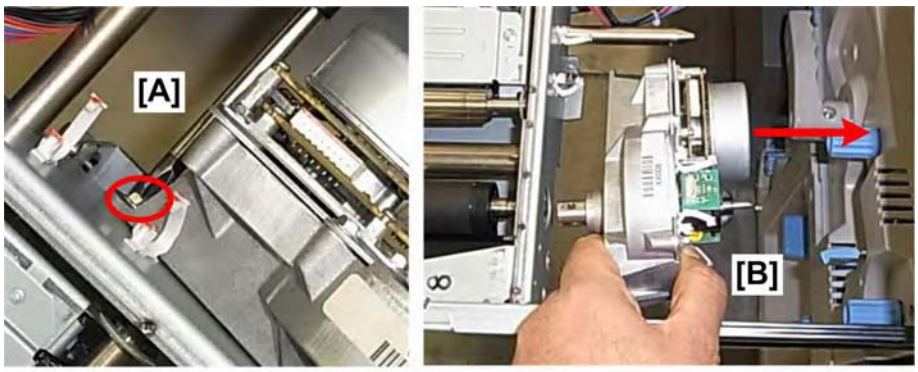

d074r210

- Disconnect the front end of the ITB drive roller [A] ( x1).
- Disconnect the rear end of the ITB drive roller [B] ( x1).



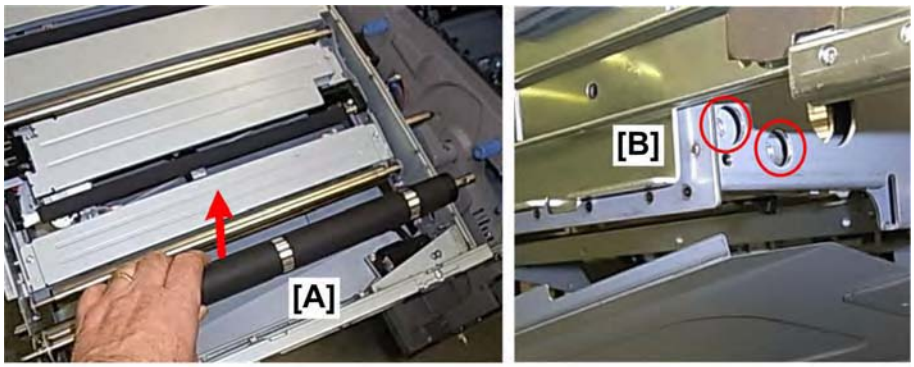

d074r211

- Behind the ITB unit, disconnect the transfer belt drive motor and drive train [A] ( x3, x3).
- Remove the drive train screws on the right [B] ( x2).



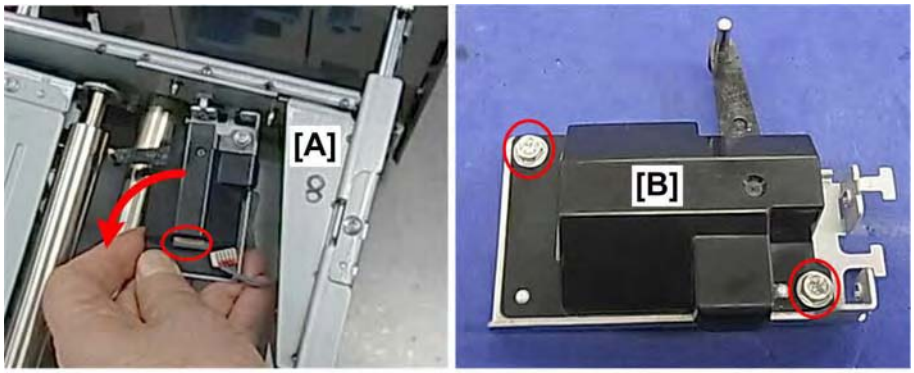

d074r212

- Remove the drive train screw on the left [A] ( x2).
- Remove the ITB drive train with the transfer belt drive motor attached [B].



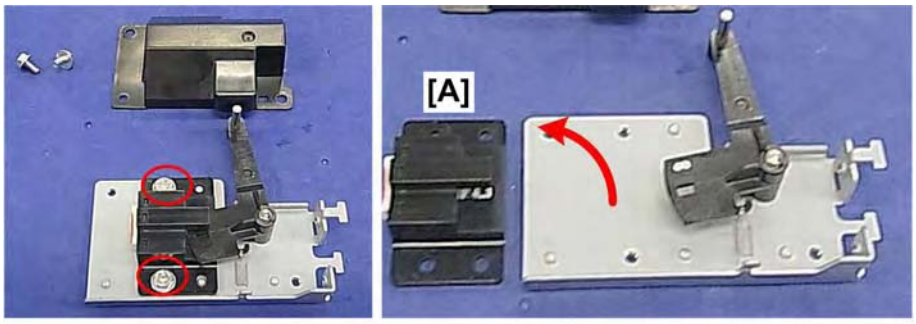

d074r213

- Remove the ITB drive roller [A].
- At the bottom right rear corner [B], remove the sensor assembly ( x2).




d074r214

- At the top, remove the belt centering sensor assembly [A] ( x1).
- Remove cover [B] ( x2).

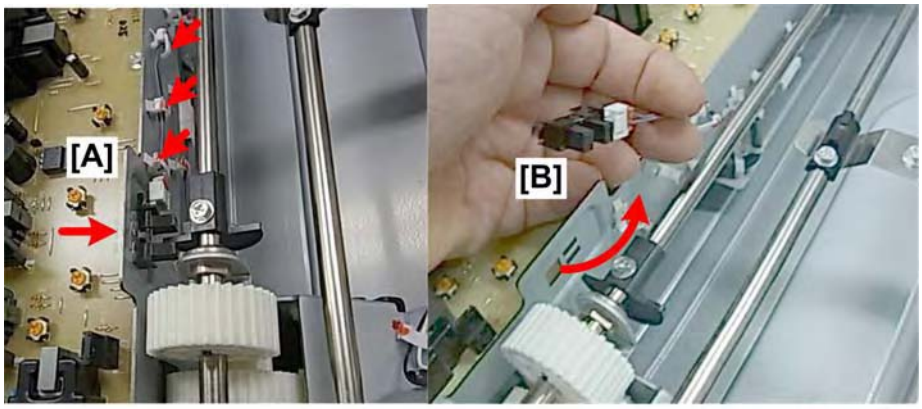



d074r215

- Remove the belt centering sensor [A] ( x2).

## 5.11.22 2ND LIFT MOTOR SENSOR 1 (K)

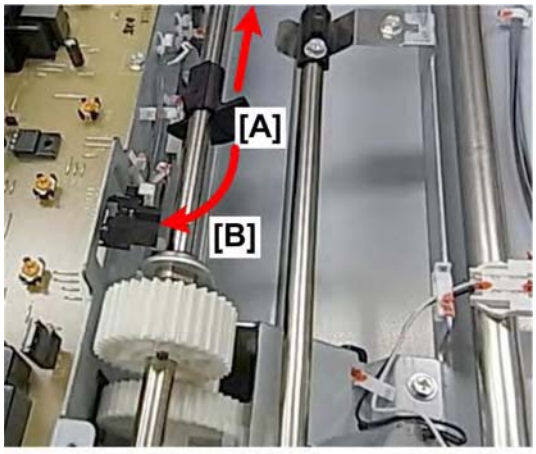
1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transfer belt (☛p.5-207)
3. ITB unit cover plate ③ and ④ (☛p.5-215)




d074r218

4. Disconnect the sensor from the plate [A] (x3, x3).
5. Disconnect the sensor [B] (x1).

**Re-installation**

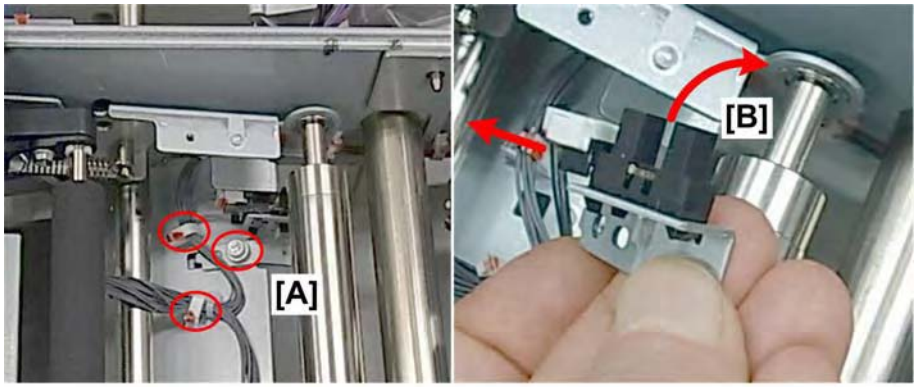



d074r219

- Disconnect and slide the actuator [A] toward the rear.
- Re-connect and set the sensor [B] (x1, x3, x3).

## 5.11.23 2ND LIFT MOTOR SENSOR 2 (K)

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transfer belt (☛p.5-207)
3. ITB unit cover plate ③ (☛p.5-215)

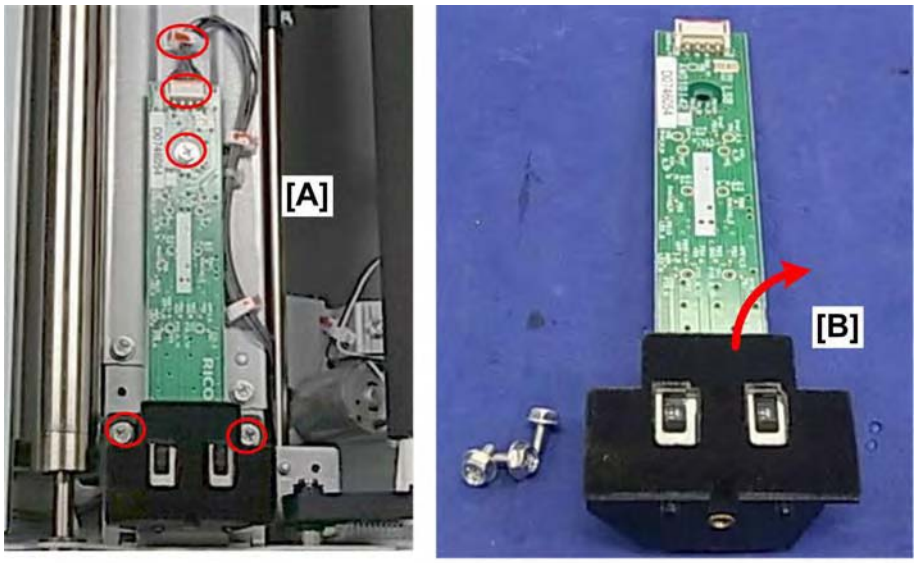



d074r220

4. At the top right rear corner of the ITB unit [A], remove the sensor assembly (x2, x1).
5. Remove the sensor [B] (x1, x3).

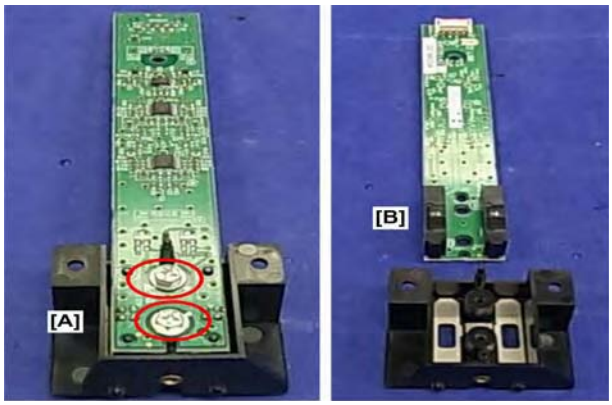
## 5.11.24 TRANSFER BELT SPEED SENSOR

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transfer belt (☛p.5-207)
3. ITB unit cover plate ① (☛p.5-215)




d074r221

4. Remove the belt speed sensor assembly [A] (x1, x1, x3).
5. Turn the sensor assembly [B] over.




6. Separate the bracket [A] and sensor [B] ( x2).
7. Enter the SP mode and set the following SP codes to their default settings after replacing or cleaning the transfer belt speed sensor:
   1. SP2920-1
   2. SP2912-1
   3. SP2914-1

## ⇒ 5.11.25 CLEANING THE TRANSFER BELT SPEED SENSOR

1. Pull out the ITB unit according to the procedure described in the following section of the service manual:

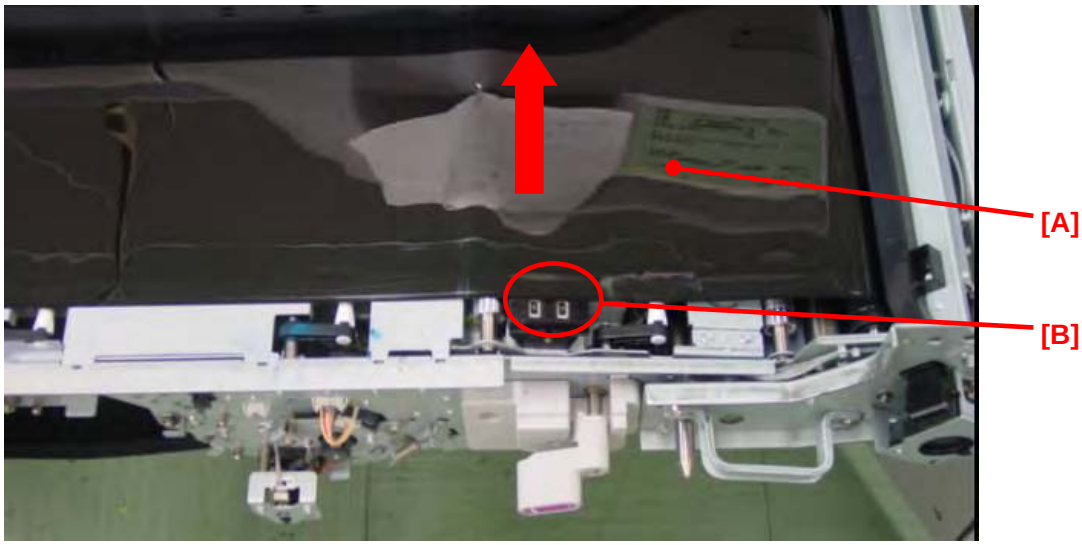
   *4. Replacement and Adjustments > Common Procedures > Pulling Out the ITB Unit*

2. Release the spring [A] at the front.
3. Release the spring [B] at the rear.

**Note:** These springs **do not** have to be removed. Let them hang free and they will not fall off.

4. Remove the belt tension unit [C] (Screw x1).

5. Remove the sensor bracket [D] (Screw x1).

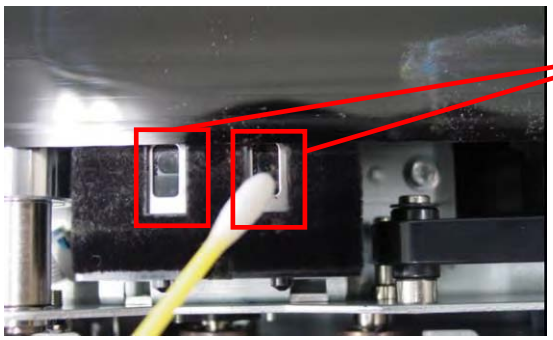



6. Carefully move the belt [A] to the non-operator side until the sensor [B] is uncovered.

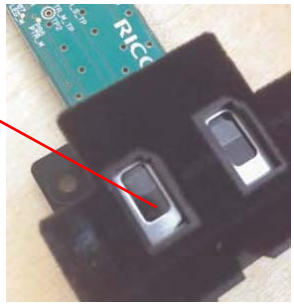
**Note:**

⇒ It is recommended to wear gloves when moving the ITB.

Do not further move the belt once the sensor is uncovered. Doing so could damage the belt.



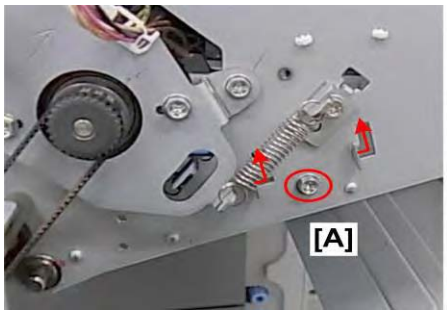

**IMPORTANT**:
**DO NOT** wipe off the "black print" from the sensors. They are components of the sensor.

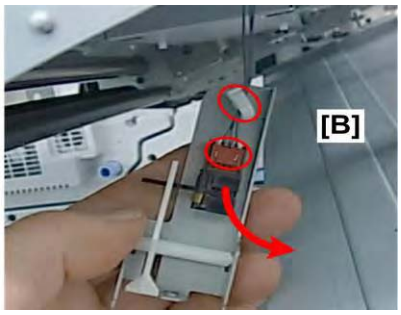


7. Clean the sensors [A].
   - Use a vacuum cleaner or an air blower to remove dust.
   - Wipe the sensor with a wet cotton swab. If a cotton swap is not available, wipe the sensor with a wet cloth. Use water, **DO NOT** use any solvent (ethanol, etc).
8. Dust on the sensor is hard to detect in room light. Confirm that the sensors are clean using a flashlight.
9. Reinstall the unit
10. Turn the machine on and wait until it is ready.
11. Execute SP2-912-001 (Encoder Sn: Adj Light: Adj Light Amt).
12. Execute SP2-914-001 (Encoder Sn: Get 1stPhase: Get Phases: Execute All).
13. Turn the main switch off and then on.
14. Check the value of SP2-915-001 (Encoder Sn Ctrl Condition: Scale FB Control Enable)
    - If the value is "1", the feedback control is properly turned on.
    - If the value is "0," repeat the sensor cleaning procedure.
15. Execute SP3011-4 (Manual ProCon: Exe: Full MUSIC)
16. Exit SP mode to complete the procedure.

## 5.11.26 FRONT OVERRUN SENSOR

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)

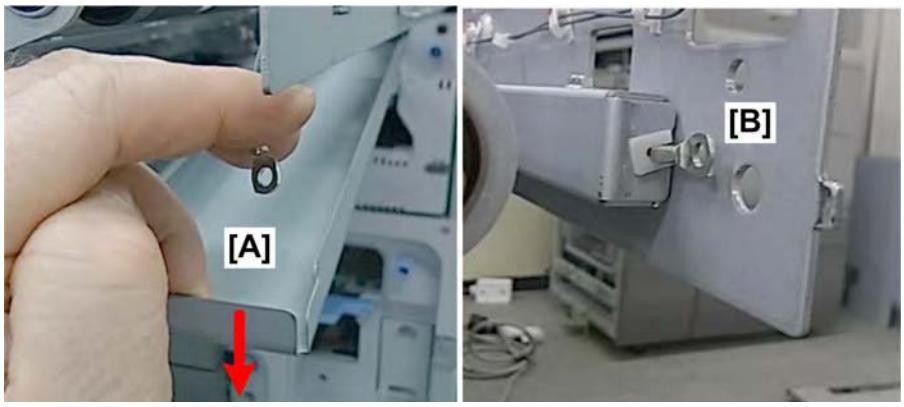


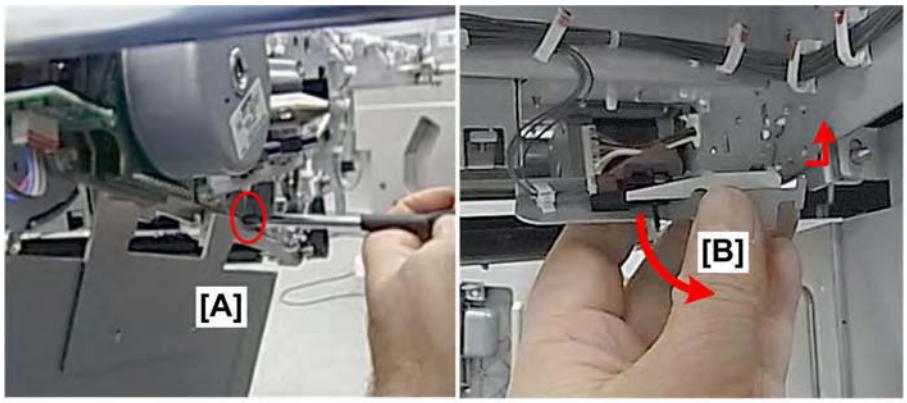

3. At the front [A], disconnect the sensor bracket ( x1).
4. Grip the bracket under the ITB unit, then push it to the right and then up.
5. Remove the sensor [B] ( x1, x1, x3).

## 5.11.27 REAR OVERRUN SENSOR

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)

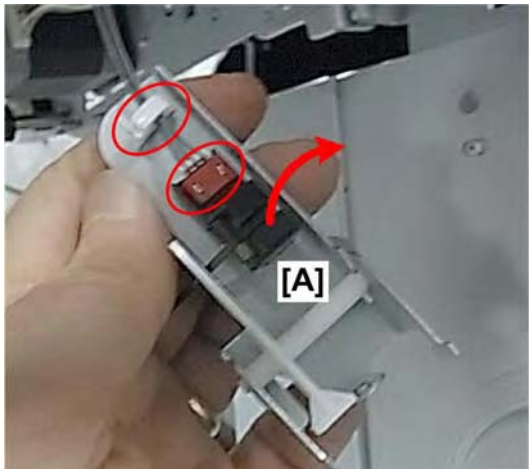



3. Disconnect the bottom cover plate [A] and lower the plate. The spring loaded cable retracts automatically to [B].




d074r225

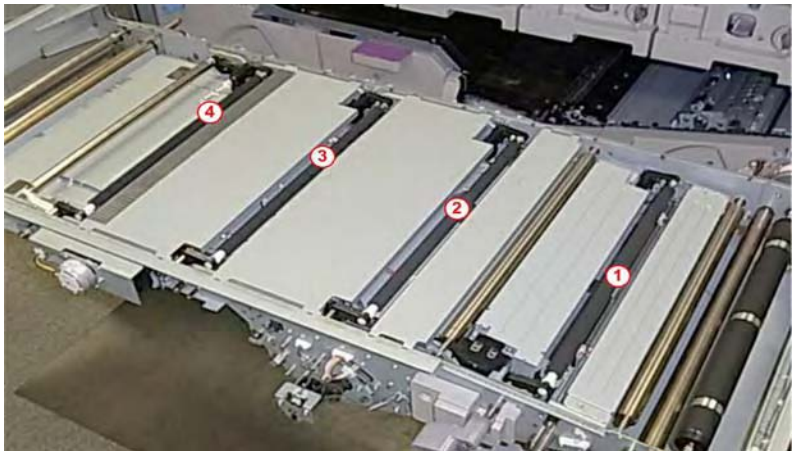
4. Behind the ITB unit [A], remove the sensor bracket screw.
5. Remove the bracket [B] and lower it.




6. Remove the sensor [A] (x1, x1, x3).

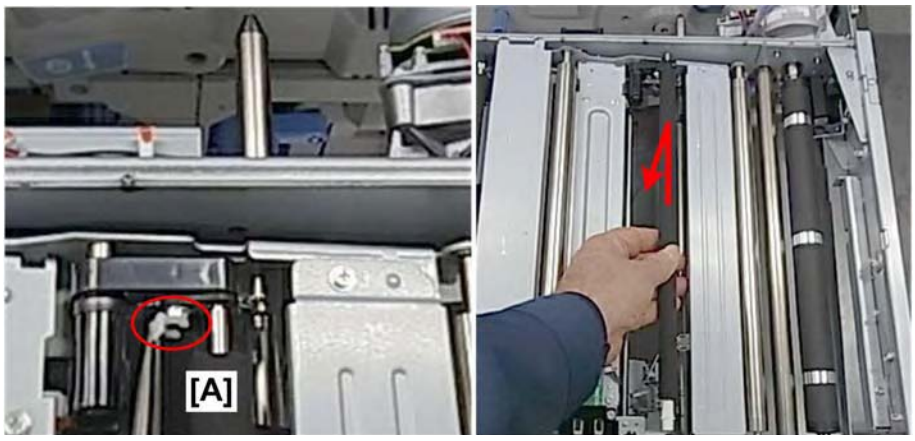
## 5.11.28 IMAGE TRANSFER ROLLERS

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)




Note

1. There are four image transfer rollers. The following procedure is the same for each image transfer roller.
2. The image transfer rollers should all be replaced together at 1800K.



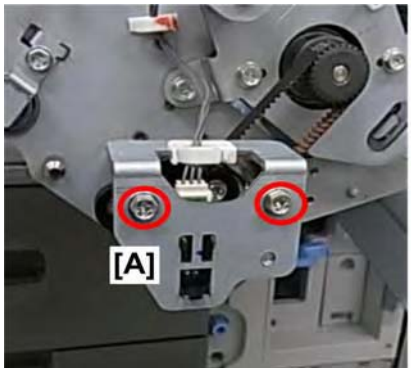

3. At the rear, disconnect the image transfer roller [A] (x1).
4. Slide the roller to the rear so that the front end disconnects from the coupling, and then remove the roller.

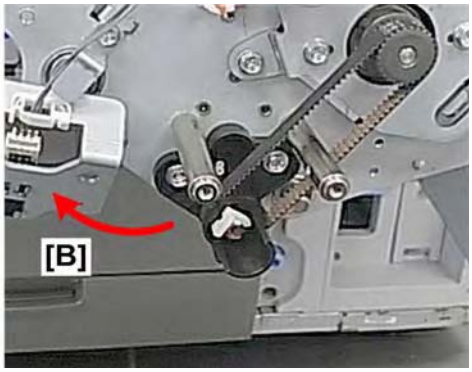
## 5.11.29 ITB BIAS ROLLER

Note

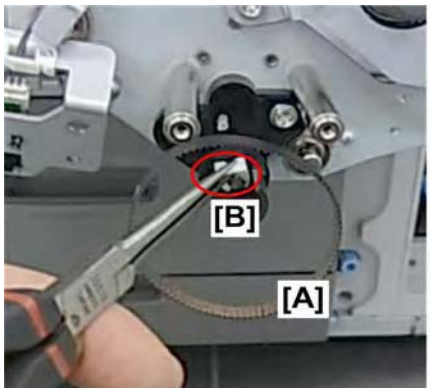
- The bias roller should be replaced every 1800K.

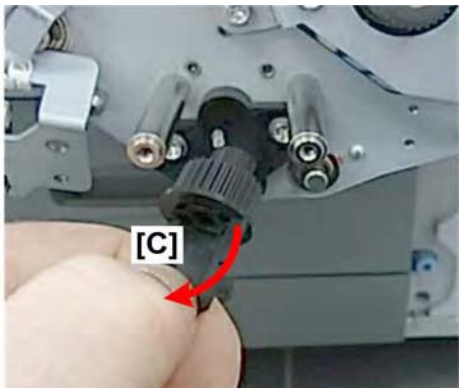
1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)



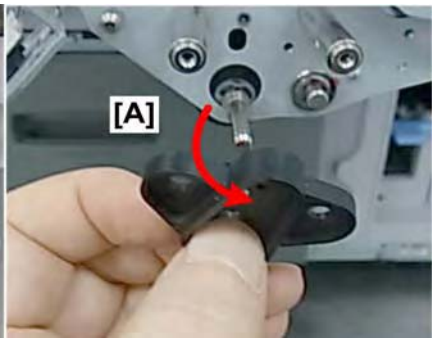




3. Disconnect the sensor assembly [A] ( x2).
4. Push the assembly to the side [B]. (You do not need to disconnect the sensor.)

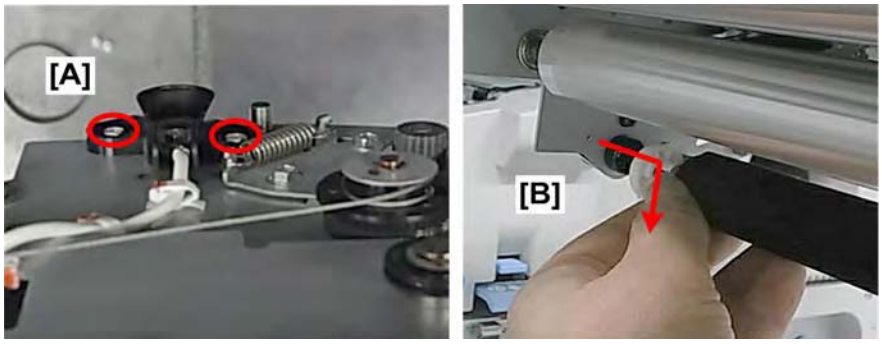



5. Disconnect the timing belt [A] ( x1).
6. Disconnect the end of the bias roller [B] ( x1).
7. Remove the actuator [C].




8. Remove bracket [A] ( x2).

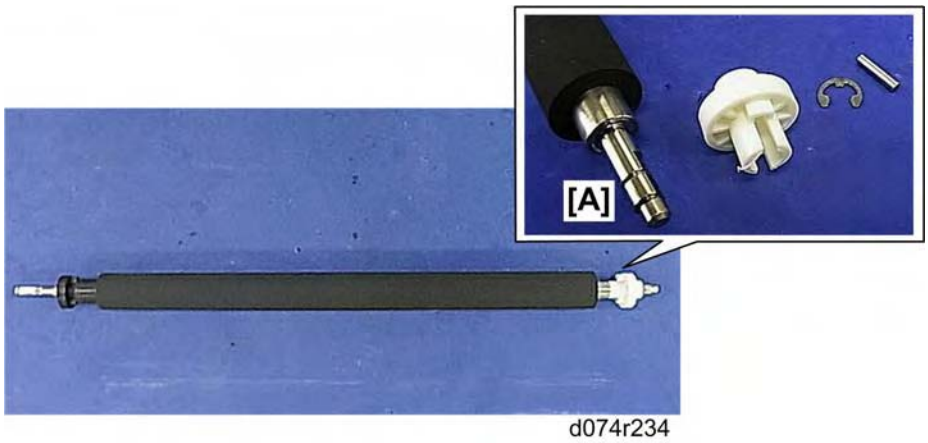



9. At the rear bottom edge of the ITB unit [A] (top view), remove the screws, but do not remove the black bracket ( x2).

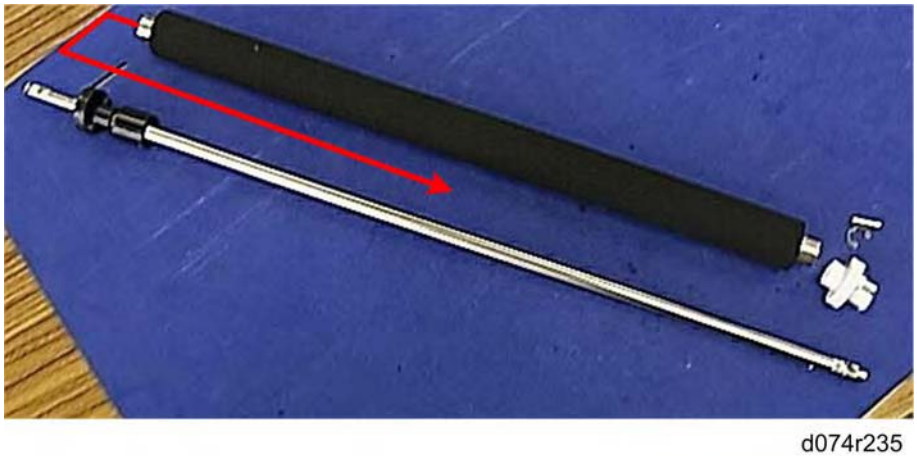
Important

- If you pull out the black bracket at the rear, the bias roller will fall.

10. Under the rear edge of the ITB unit [B], pull the rear end of the bias roller out and remove the roller.



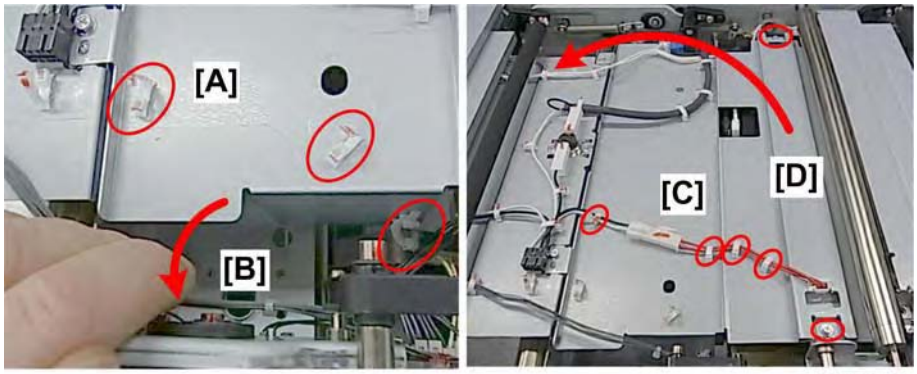

11. Remove the coupling from the rear end [A] of the bias roller ( x1, Pin x1).




12. Pull the shaft out the front end of the bias roller.

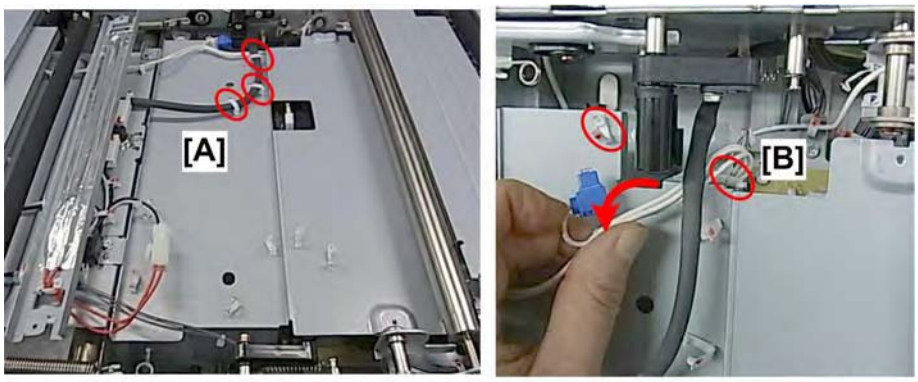
## 5.11.29 ITB TRANSFER POWER PACK

- Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
- Transport belt (☛p.5-207)
- ITB unit cover plate ③ and ④ (☛p.5-215)
- Image transfer roller (☛p.5-239)



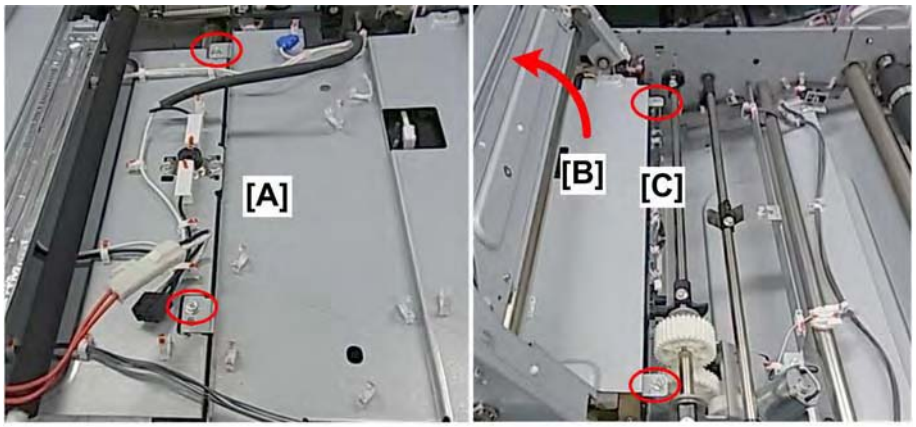

d074r237

- At the front edge [A] where you removed the two plates, free the harness [B] from the plate below (x3).
- Free the right heater harness at the center [C], remove the right heater plate, and then move the plate [D] to the left side (x3, x2).



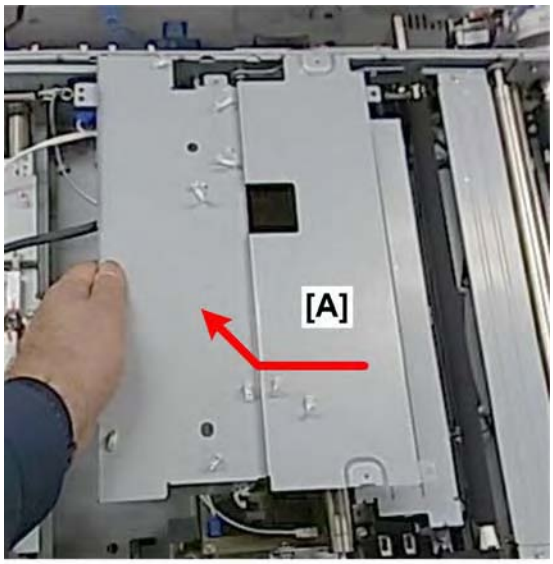

d074r239

- Free the gray harness [A] at the rear.
- At the rear, disconnect harness [B] (x2, z x1)



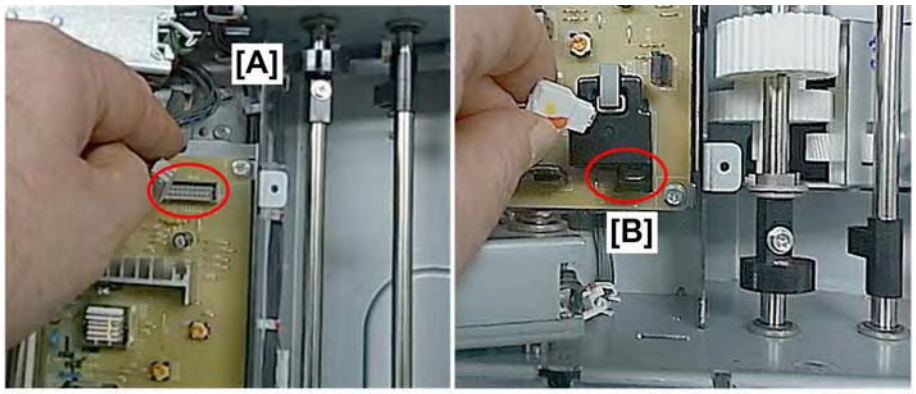

d074r240

- Disconnect the plate on the left side [A] ( x2).
- Raise the lift arm [B] and disconnect the plate on the right [C] ( x2).



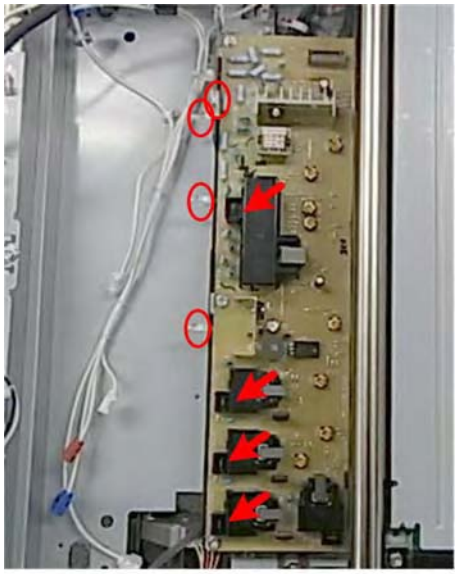

d074r241

- Remove the transfer power pack cover plate [A].



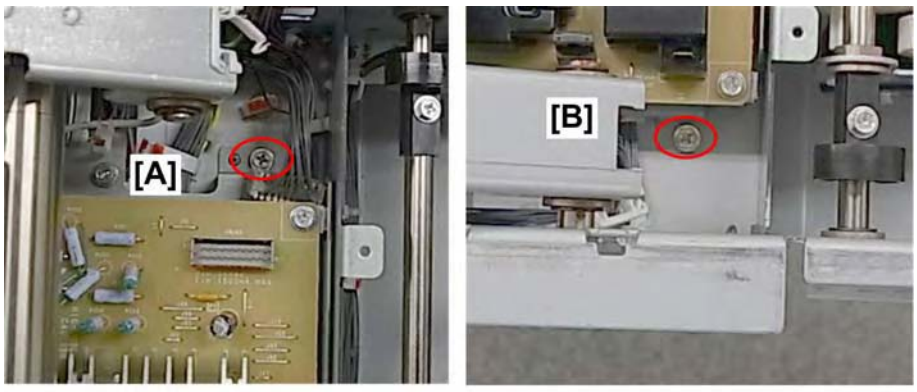

d074r242

- Disconnect the transfer power plate:
  [A] Right top corner ( x1)
  [B] Right bottom corner ( x1)



d074r243

- Disconnect the left side of the transfer power pack (x7, x4).

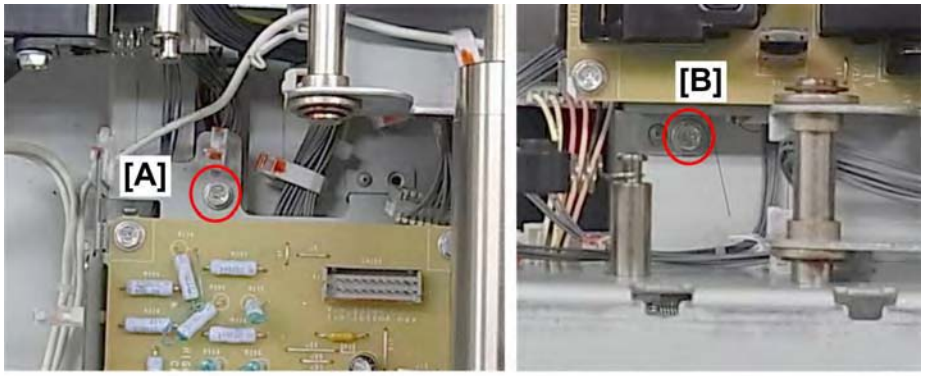



d074r244

- Disconnect the right side of the power pack bracket:

  [A] Right top corner ( x1)

  [B] Right bottom corner ( x1)

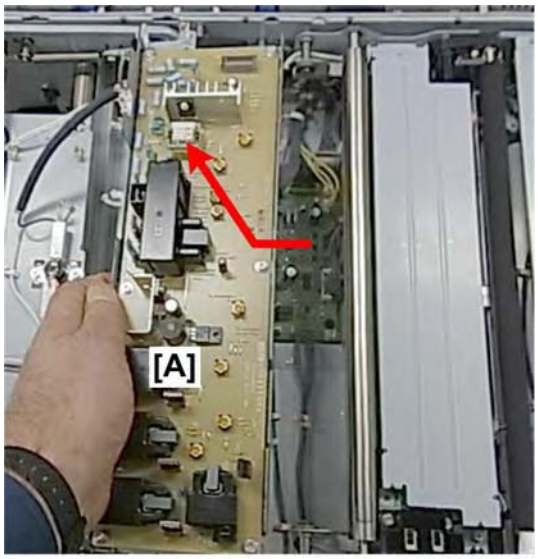



d074r245

- Disconnect the left side of the power pack bracket:

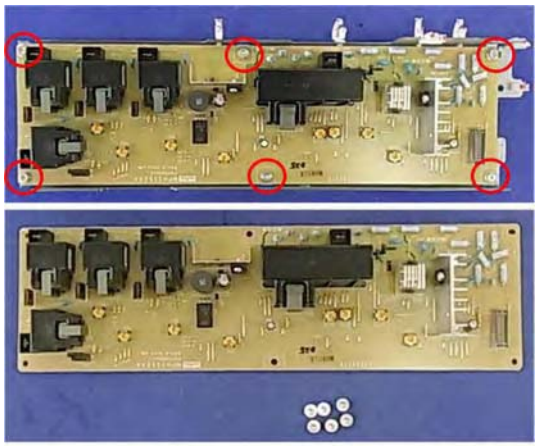
  [A] Left top corner ( x1)

  [B] Left bottom corner ( x1)




d074r246

- Remove the transfer power pack [A].

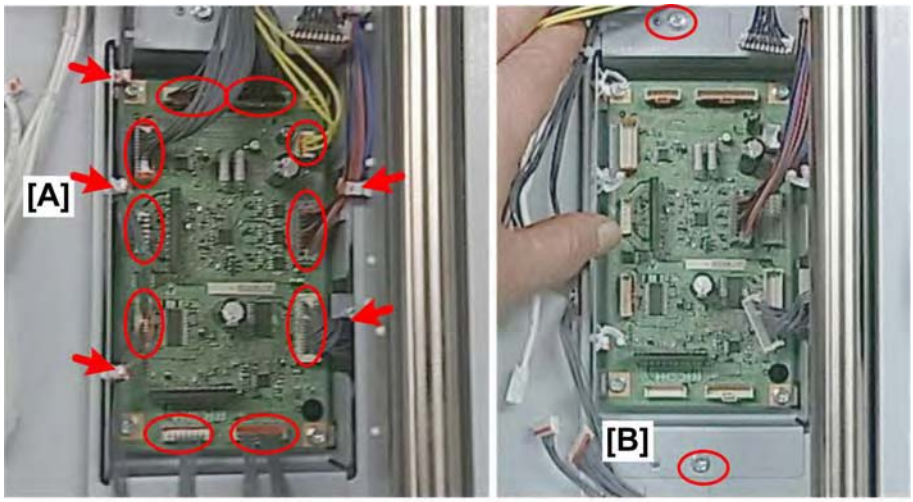


d074r247

- Remove the transfer power pack from its bracket ( x6).

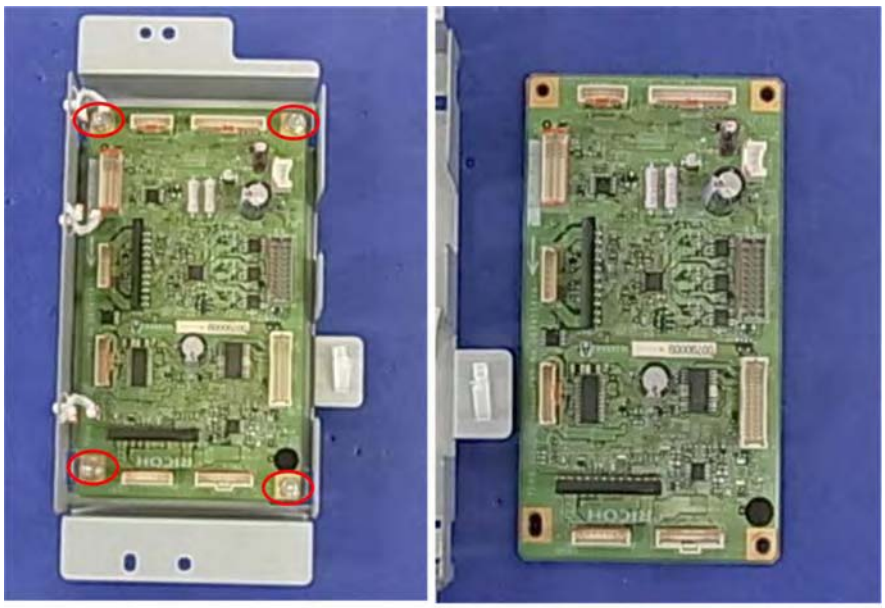
## 5.11.30 TDRB

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)
3. Remove the ITB transfer power pack. (See the previous section.) The TDRB is under the transfer power pack.



d074r248

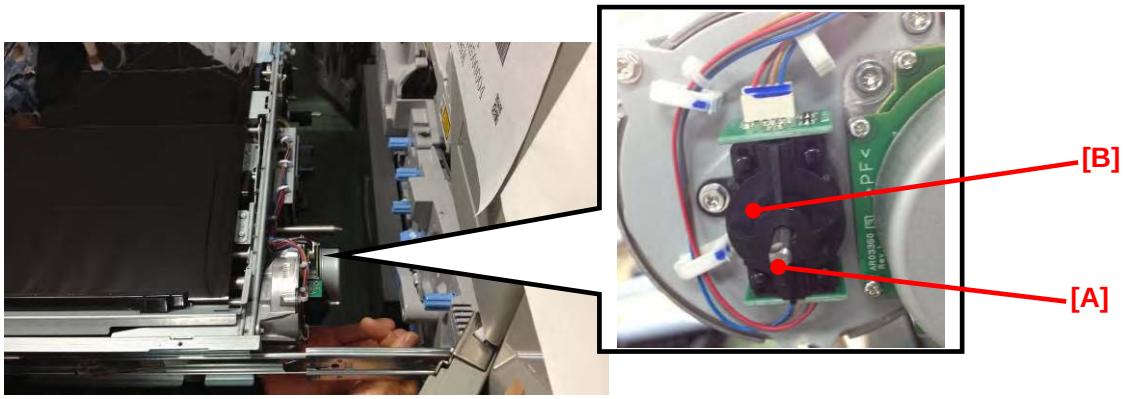
4. Disconnect the TDRB [A] (x5, x10).
5. Disconnect the TDRB bracket [B] (x2).
6. Remove the TDRB on its bracket.


d074r249

7. Remove the TDRB from the bracket (x4).

# ⇒ 5.11.32 ENCODER

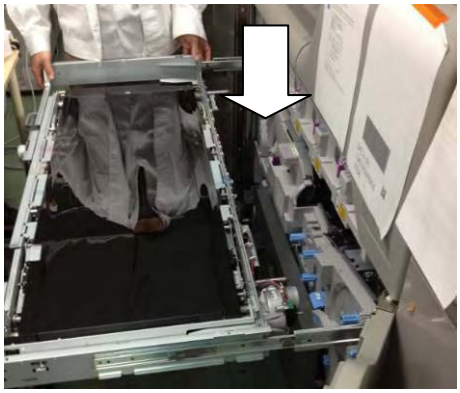
## *Overview of the Encoder*

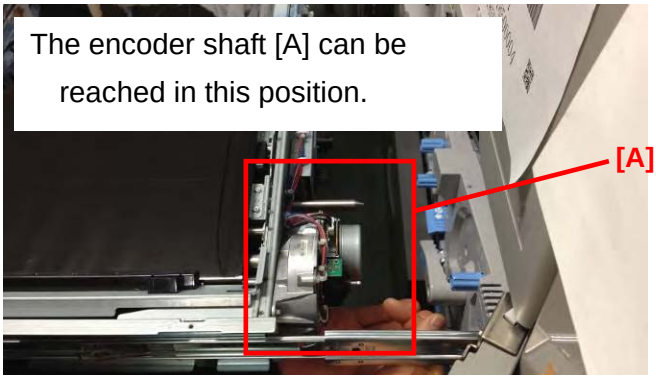



- Encoder shaft [A]
- The encoder is installed in the housing [B].

## *Procedure for Replacing the Encoder Shaft*

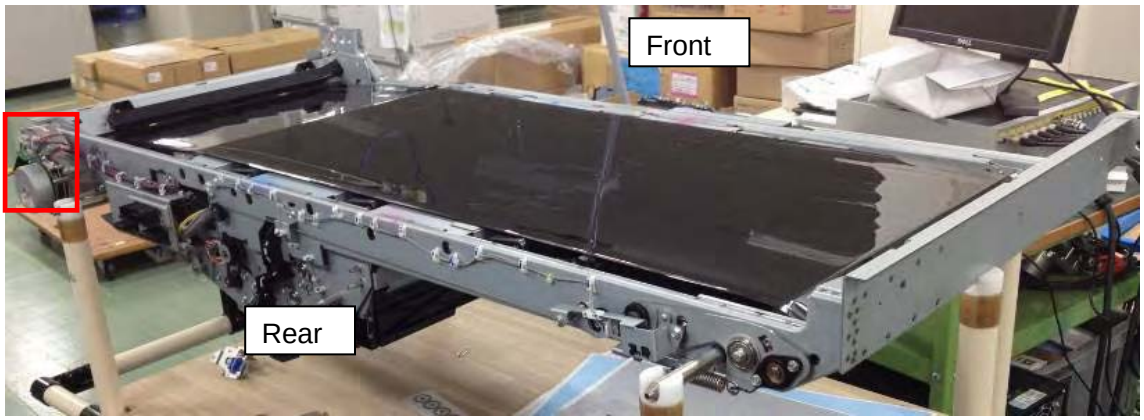
### Preparation






1. Pull out the ITB unit to the second position according to the service manual in the section: *4. Replacement and Adjustments > Common Procedures > Pulling Out the ITB Unit > 2nd Stop Position*

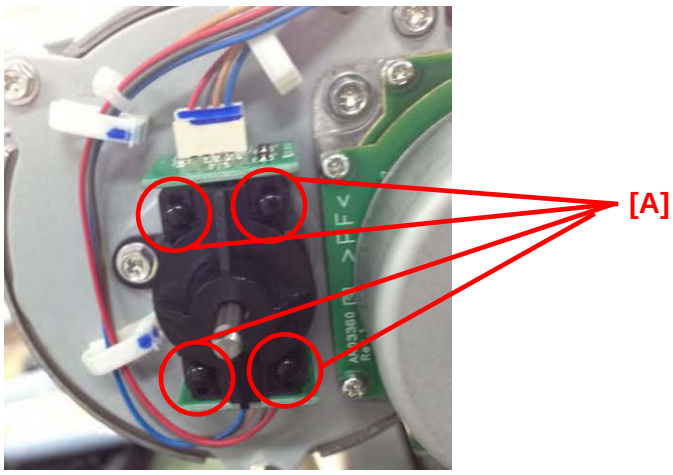
Note



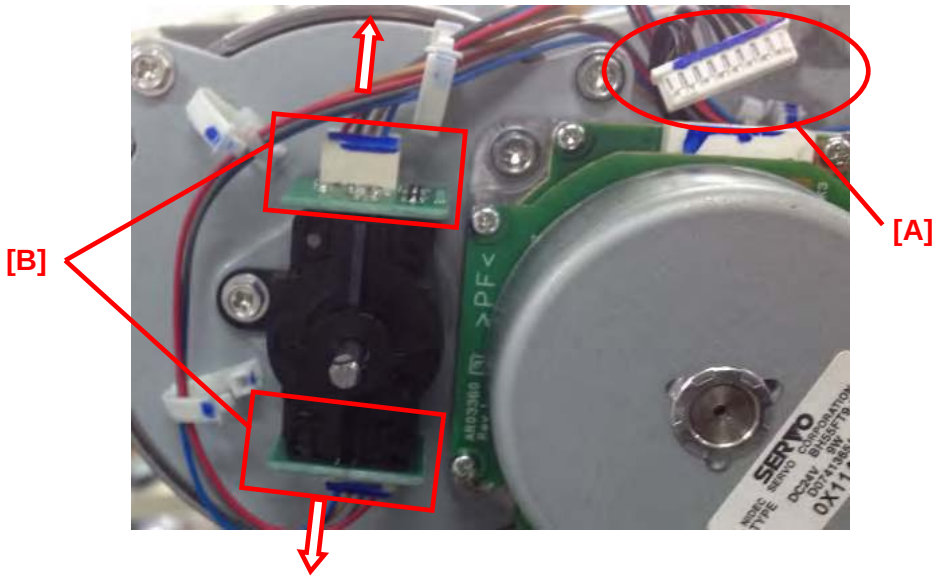
If possible, remove the entire ITB unit from the mainframe as it will be easier to perform the procedure. In this case, the unit should be supported by its shafts [A].



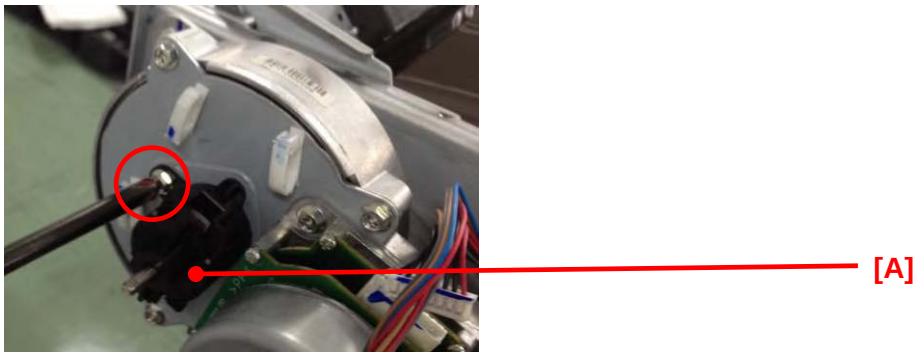
**Procedure**



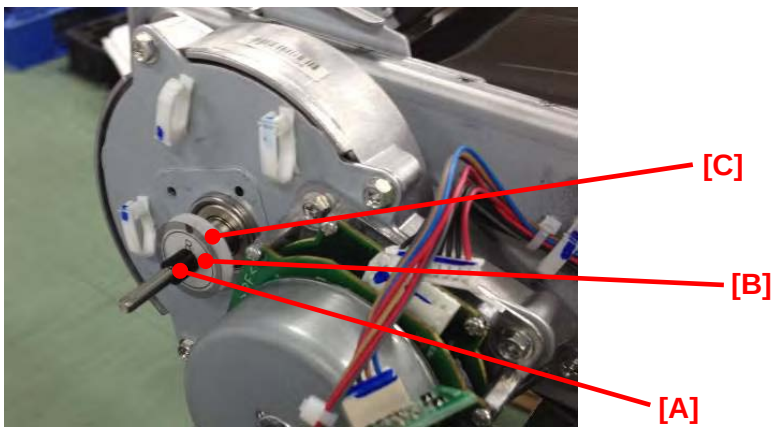

2. Remove the 4 pins [A] on the housing.



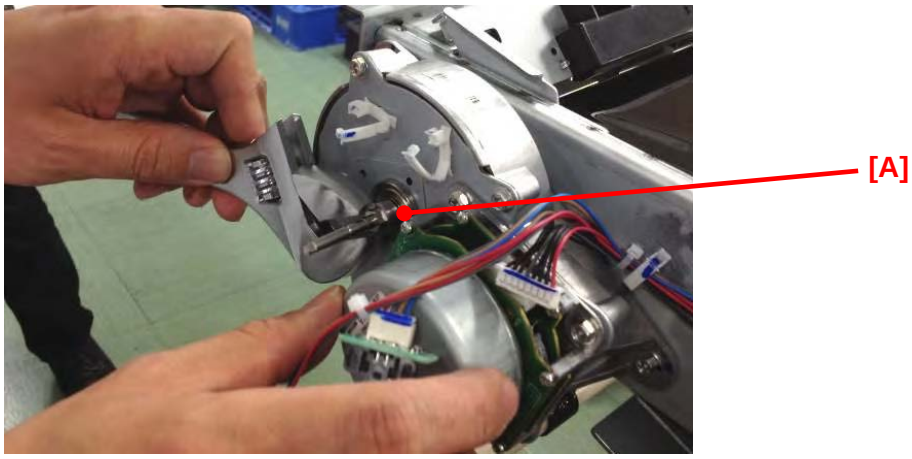

3. Disconnect the harness [A] and pull out the boards [B] to the direction indicated with the arrows. The harnesses on [B] do not have to be disconnected since the boards can be detached from the housing.




4. Remove the housing [A]. (x1)



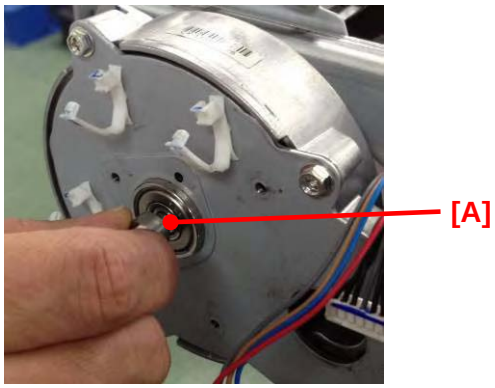

5. Remove the rubber [A], the encoder [B] and the encoder plate[C]. Work carefully to avoid damages to the encoder.




6. Unscrew the shaft [A]. Hold the motor as you unscrew to prevent the shaft from slipping.

Note

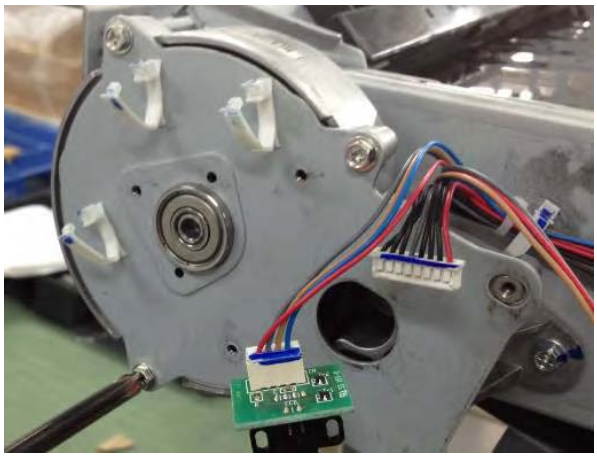
Make sure to fasten the shaft securely with a wrench when reinstalling the shaft.






7. Remove the shaft [A]

⇒



### *Installation*

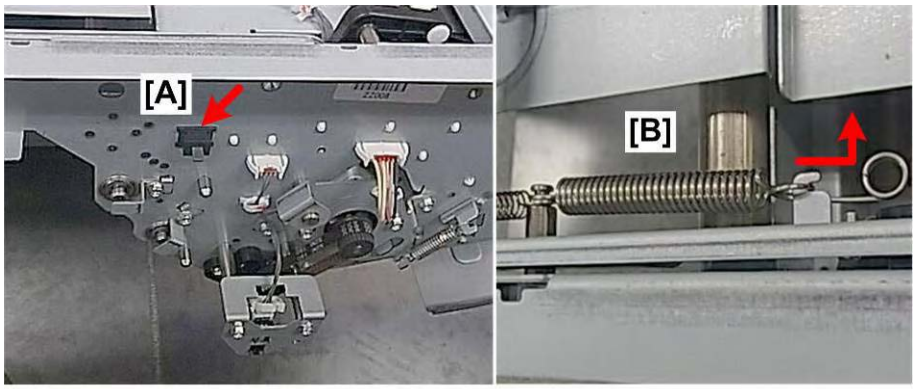
Follow the above procedure in the reverse order.

Note

When installing the encoder shaft, make sure to fasten the shaft with a wrench until the shaft locks. Do not further fasten after the shaft locks as doing so will cause the shaft to lose its grip.

## 5.11.33 ITB CLEANING UNIT COVER SET SWITCH

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)

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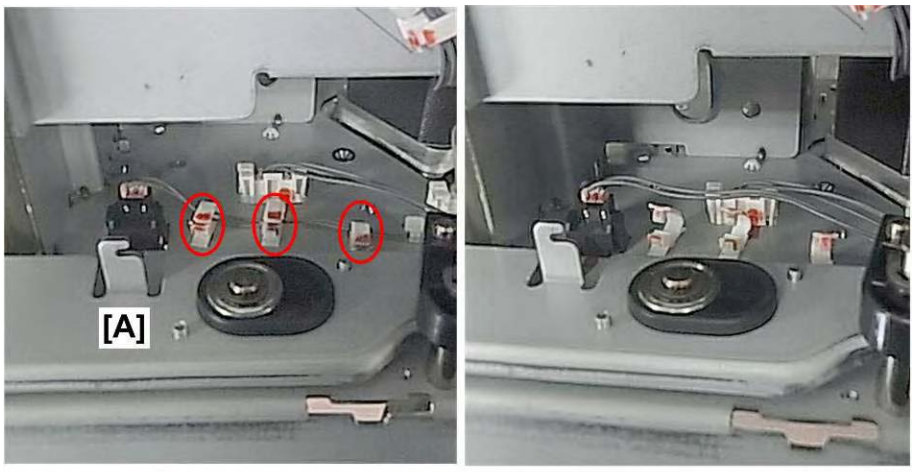
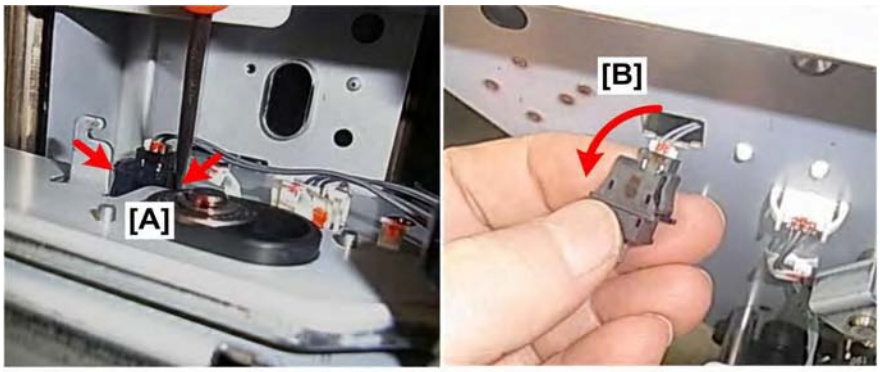
3. The cleaning unit cover set switch [A] is on the front plate of the ITB unit.
4. Behind the front plate and above the switch, remove the spring [B] (x1).




d074r251

5. Disconnect the switch harness [A] (x3).

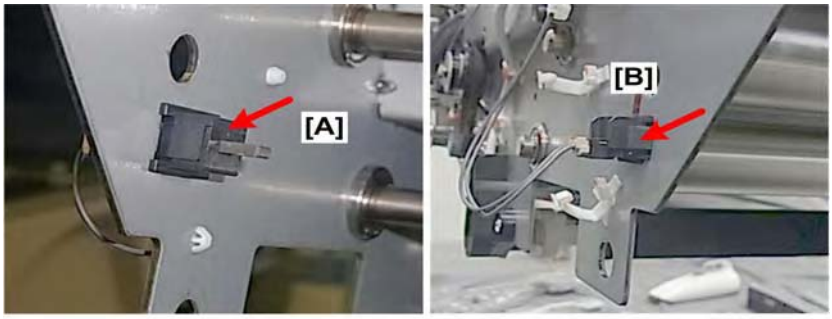


d074r252

6. Use the flat tip of a small screwdriver to press in each side of the switch [A] to release it from its slot.
7. Pull the switch [B] out the front and disconnect it (x1).

## 5.11.33 ITB CLEANING UNIT SET SWITCH

- Pull the ITB unit out to the 2nd stop position. (p.5-19)
- Transport belt (p.5-207)



d074r253

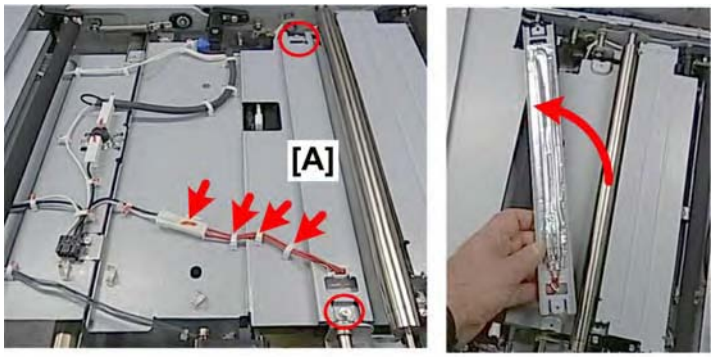
- The cleaning unit set switch [A] is on the inner side of the rear panel, just above the rear end of the bias roller.
- At the rear [B], disconnect the switch harness (x2).
- Press in both sides of the switch to release it. (You can probably do this with your fingers.)

d074r254

- Push the switch [A] through the hole.
- Disconnect the switch [B] (x1).

## 5.11.34 RIGHT ANTI-CONDENSATION HEATER

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt (☛p.5-207)
3. ITB unit cover plate ③ and ④ (☛p.5-215)

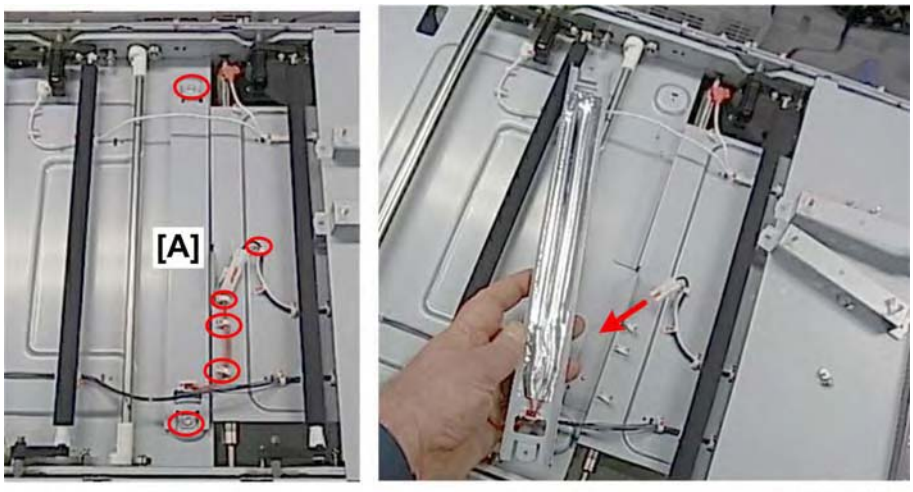



d074r256

4. Near the bottom of the right heater plate [A], disconnect the harness (x3, x1).
5. Disconnect the right heater plate and turn it over ( x2).
6. The heater is taped to the underside of the plate.

## 5.11.35 LEFT ANTI-CONDENSATION HEATER

- Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
- Transport belt (☛p.5-207)
- ITB unit cover plate ⑤ (☛p.5-215)

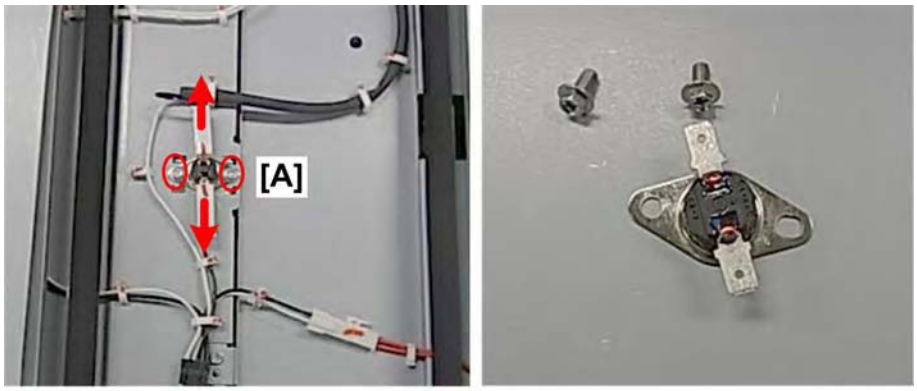



d074r257

- The left heater is under plate [A].
- Disconnect the harness (x4, x1).
- Disconnect the left heater plate and turn it over ( x2).
- The heater is taped to the underside of the plate.

## 5.11.36 ITB UNIT THERMOSTAT

1. Pull the ITB unit out to the 2nd stop position. (☛p.5-19)
2. Transport belt
3. ITB unit cover plate ④ (x4) (☛p.5-215)




4. Disconnect the thermostat [A] (x2, x2).

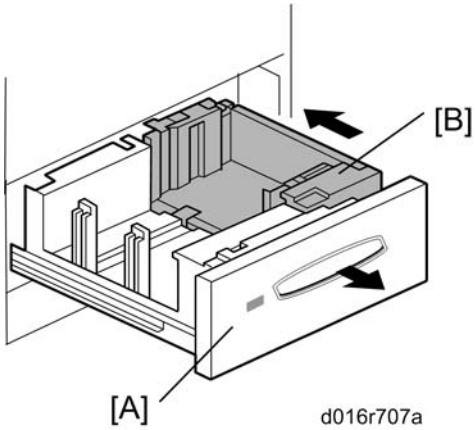
**WARNING**

- Always replace a blown thermostat with the same type.
- Never attempt to reset a blown thermostat by manipulating the edges of the black cover with a screw driver.
- Resetting a thermostat manually could cause the thermostat to fail and cause a fire.

# 5.12 PAPER FEED

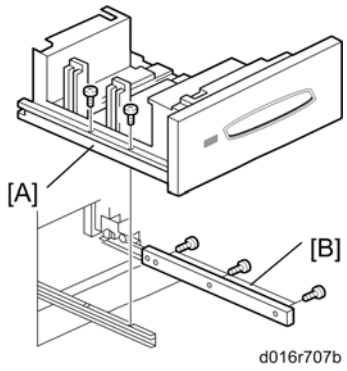
## 5.12.1 MAIN MACHINE TRAY REMOVAL

### *Tray 1*

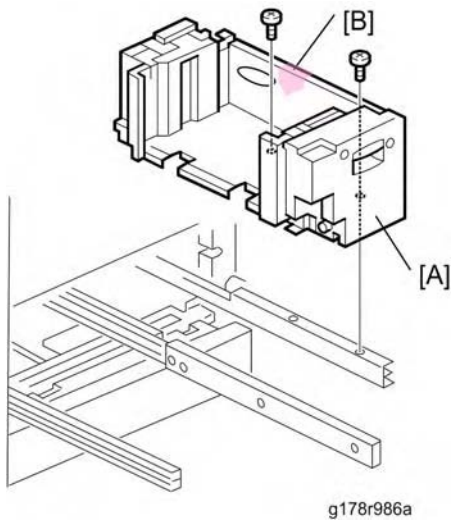



1. Pull out Tray 1 [A] completely so that the right tandem tray [B] separates from the left side.

2. Push the right tandem tray [B] into the machine.




3. Disconnect the left rail [A] ( x2 M4x4)
4. Disconnect the right rail [B] and remove the tray ( x3 M4x6).

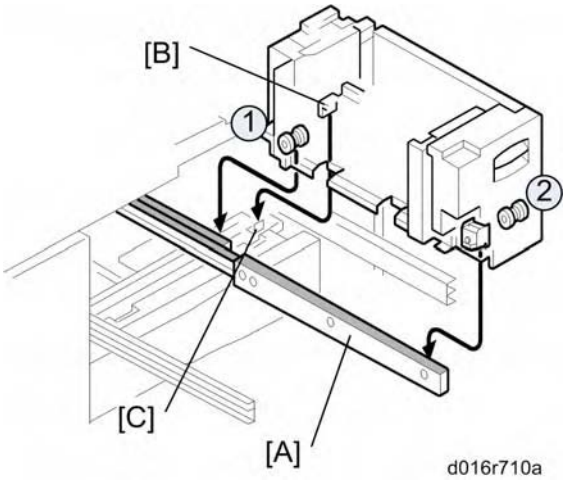



5. Pull out the right tandem tray [A] and remove it ( x2).

Important

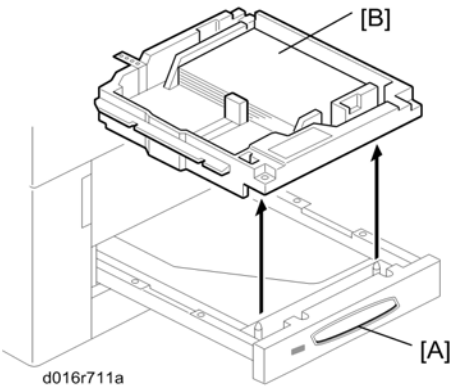
- Work carefully to avoid bending or damaging the mylar [B] on the side plate of the tray. This mylar prevents paper in the tray from hitting the reverse roller before it is ready to feed.

**Re-installation**



1. When you re-install the right tandem tray, make sure that the wheels ride on slide rail [A].
2. Also, make sure that the tandem tray stopper [B] is set behind stopper [C] (inside the machine).

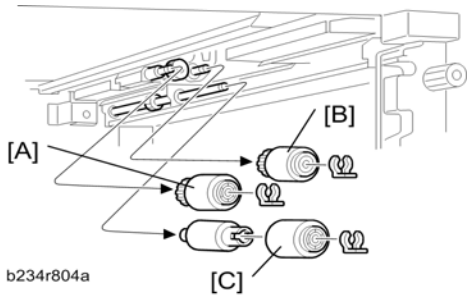
### *Tray 2 (Universal Tray)*




- Pull out Tray 2 [A].
- Lift the inner tray [B] out of the tray.

## 5.12.2 PFU PICK-UP, FEED, SEPARATION ROLLERS

1. Tray 1 or Tray 2 (☛p.5-47)




2. Remove:
   [A] Pick-up roller (x1)
   [B] Feed roller (x1)
   [C] Separation roller (x1)

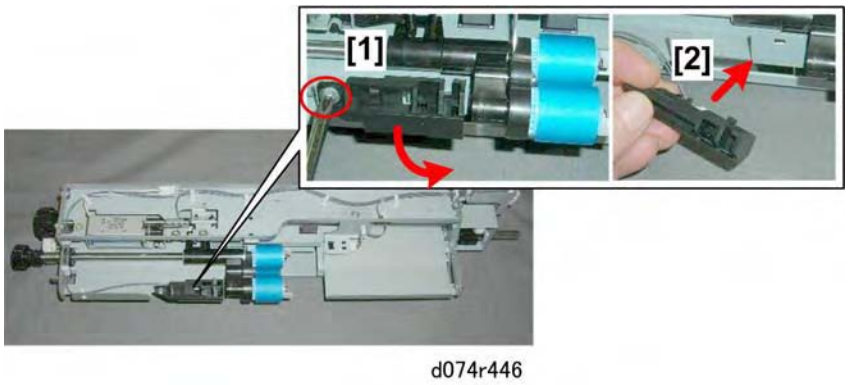
   Important
   - The feed rollers of the main machine and LCIT are not interchangeable because they turn in different directions.
   - After replacing a feed roller in the main machine, make sure that it turns counter-clockwise in the direction of paper feed.
   - Avoid touching the surfaces of these rollers with bare hands.
3. Reset the PM counter to zero for replaced rollers.

## 5.12.3 PAPER END SENSOR

1. PFU (☛p.5-47)

Note

- The procedure below is the same for both tray 1 and tray 2 paper feed units.




d074r446

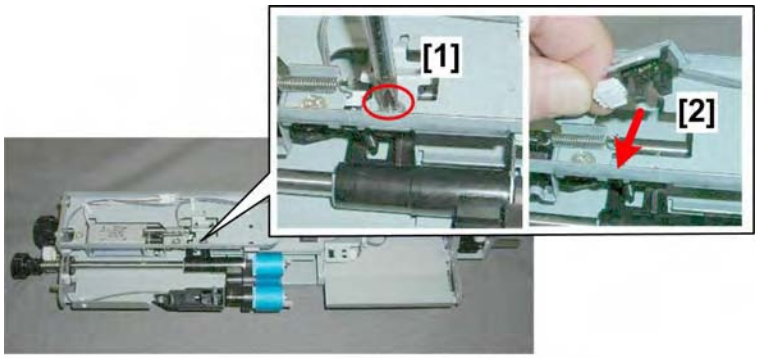
2. Disconnect the pickup roller lift sensor [1] ( x1).
3. Remove the sensor [2] ( x1, x4).

## 5.12.4 PICKUP ROLLER LIFT SENSOR

1. PFU (☛p.5-47)

Note

1. The procedure below is the same for both tray 1 and tray 2 paper feed units.




d074r447

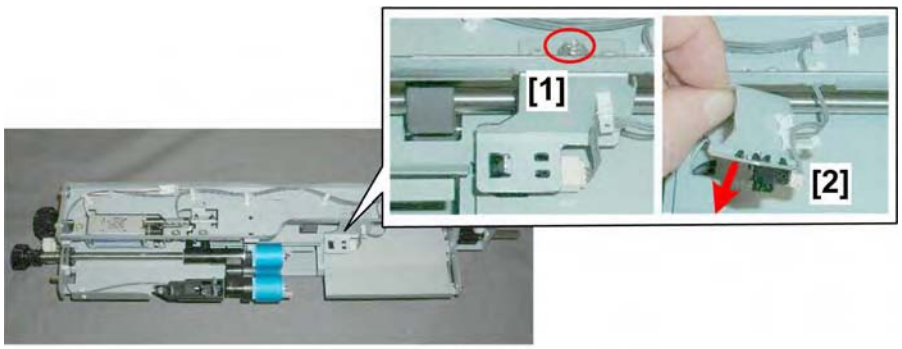
2. Remove the sensor assembly [1] ( x1).
3. Remove the sensor [2] ( x1, x4).

## 5.12.5 PAPER FEED SENSOR

1. PFU (☛p.5-47)

Note

- The procedure below is the same for both tray 1 and tray 2 paper feed units.



d074r448

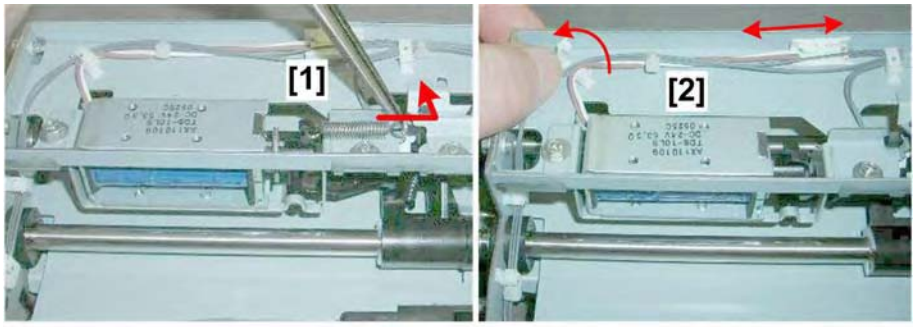
2. Remove the sensor assembly [1] ( x1).
3. Remove the sensor [2] ( x1, x3).

## 5.12.6 PICKUP ROLLER SOLENOID

- PFU (p.5-47)

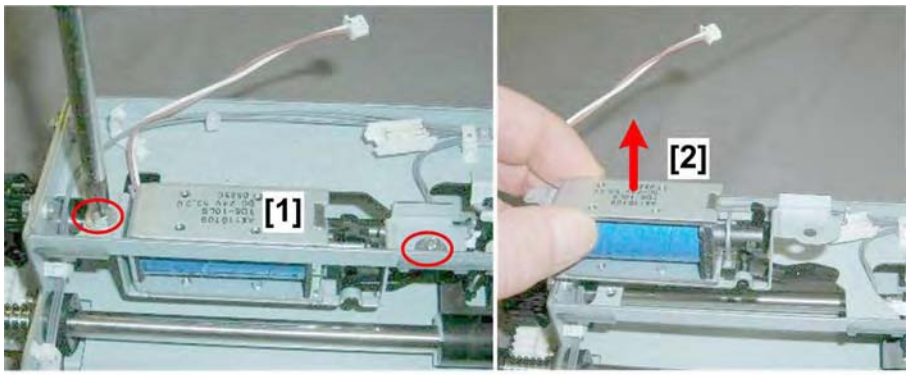
Note

1. The procedure below is the same for both tray 1 and tray 2 paper feed units.



d074r449

- On top of the PFU, disconnect spring [1] ( x1).
- Disconnect harness [2] ( x1, x1).



d074r450

- Disconnect the solenoid bracket [1] ( x2).
- Remove the solenoid and bracket [2].

**Re-installation**

1. When you re-install the pickup roller solenoid [1], raise the pickup roller [2] and then lower it after the solenoid is set. This ensures that the actuator is positioned correctly.
2. Depress the pickup roller and make sure that it bounces up and down.

Important

1. If the actuator of the solenoid is not positioned correctly, the pickup roller will catch on the frame and jam the right tandem tray when the PFU is re-installed.

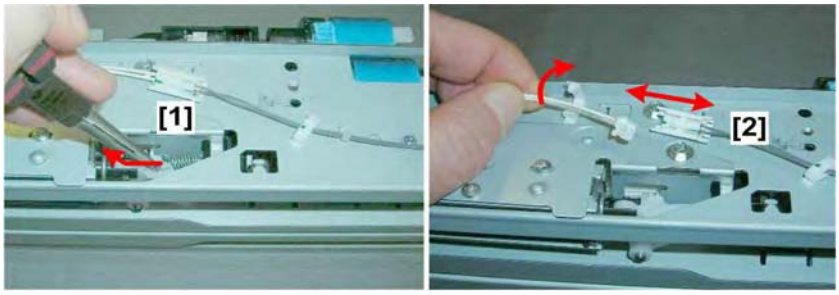
3. After re-installing the PFU, set the right tandem tray on its rails without installing its screws. Then slowly push the right tray into the machine and then pull it out to make sure that it does not jam.

## 5.12.7 SEPARATION ROLLER SOLENOID

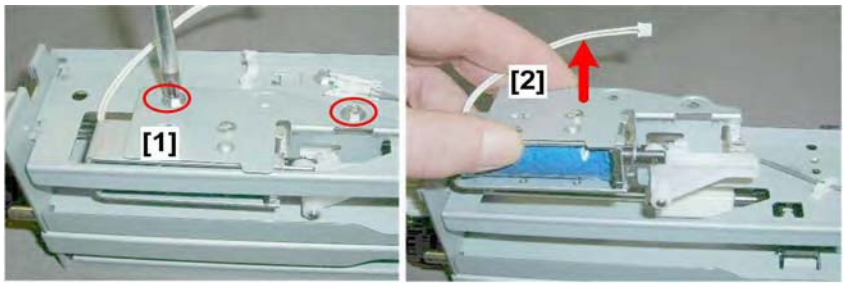
- PFU (☛p.5-47)

Note

1. The procedure below is the same for both tray 1 and tray 2 paper feed units.

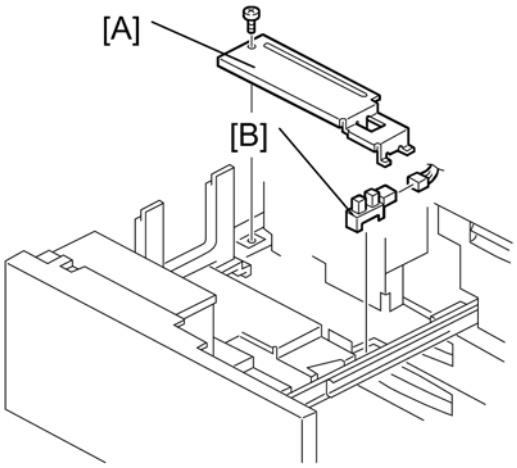



- Turn the PFU upside down.
- On the bottom of the PFU, disconnect spring [1] (x1).
- Disconnect harness [2] (x1, x1).




- Disconnect the solenoid bracket [1] ( x2).
- Remove the solenoid and bracket [2].

## 5.12.8 TRAY 1 REAR FENCE RETURN SENSOR (LEFT TANDEM TRAY)



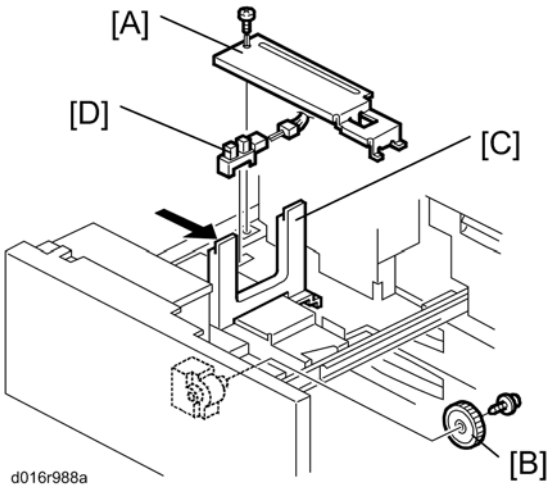

d016r987a

1. Pull out Tray 1.
2. Push the right tandem tray into the machine.
3. Remove:

   [A] Rear bottom plate ( x1)

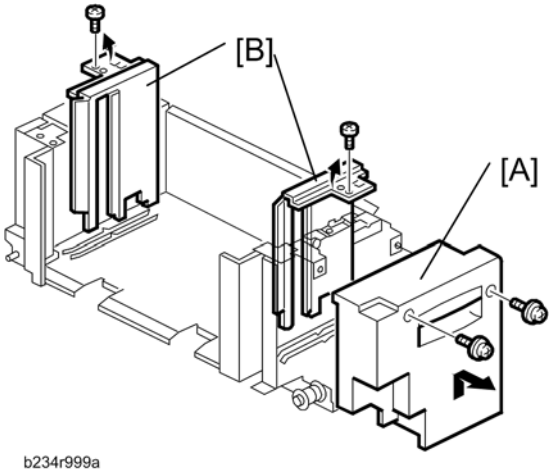
   [B] Rear fence return sensor ( x1)

## 5.12.9 TRAY 1 REAR FENCE HP SENSOR (LEFT TANDEM TRAY)




1. Pull out Tray 1.
2. Push the right tandem tray into the machine.
3. Remove:
   [A] Rear bottom plate
   [B] Rear fence transport gear
4. Push the left fence [C] to the right.
5. Remove the rear fence HP sensor [D] (x1).

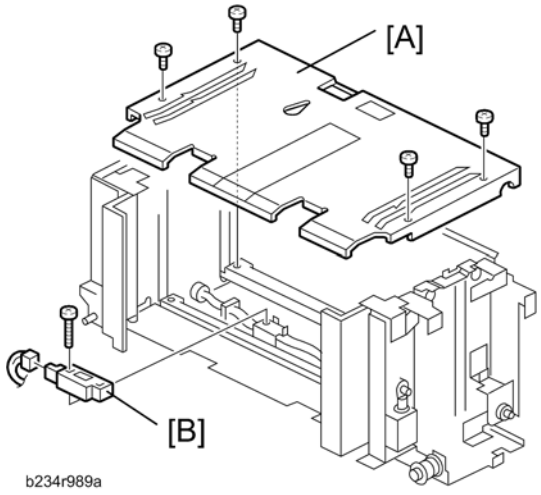
## 5.12.10 TRAY 1 RIGHT TRAY PAPER SENSOR (RIGHT TANDEM TRAY)




1. Right tandem tray (p.5-254)
2. Remove:
   [A] Cover ( x2)
   [B] Side fences ( x2)

Note

1. When re-installing the side fences, make sure that they are positioned correctly (A4: Outer, LT: Inner)



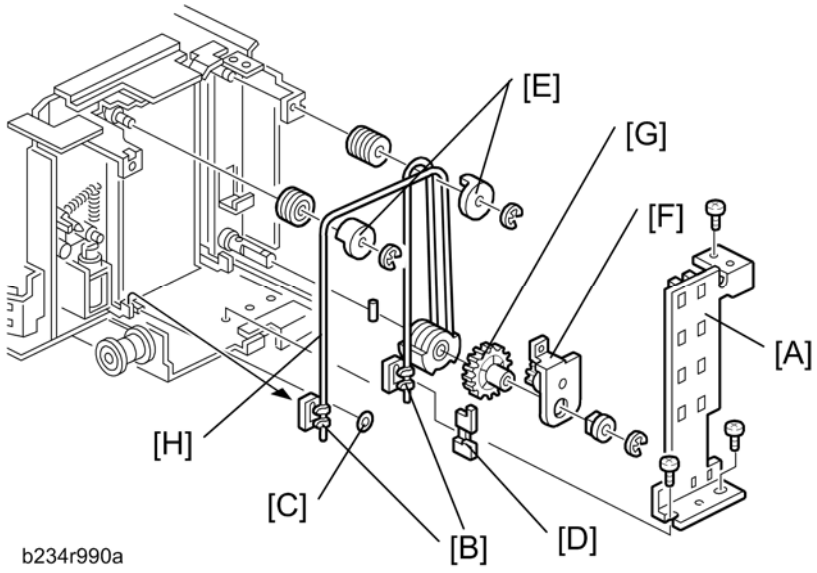

3. Remove:
   [A] Bottom plate ( x4)
   [B] Right tray paper sensor ( x1, x1)

## 5.12.11 BOTTOM PLATE LIFT WIRE

Note

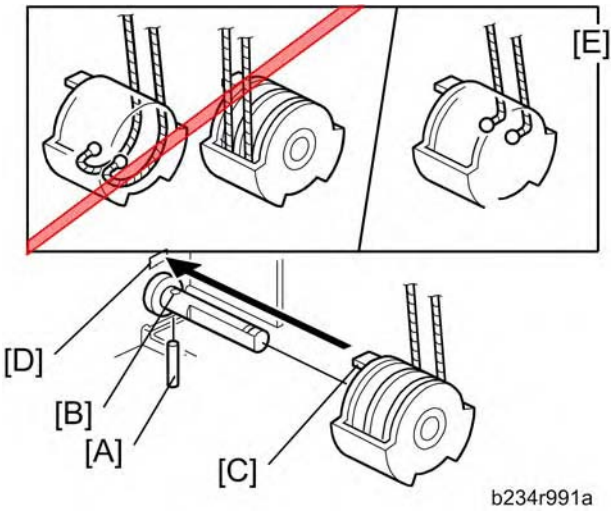
1. Before you remove the rear bottom plate lift wire, you must remove the front bottom plate lift wire.
2. The removal procedure is the same for both wires.

1. Right tandem tray (☛p.5-254)
2. Remove the right tandem tray cover ( x2).



3. At the front, remove sensor assembly [A] ( x3).
4. Lift the front bottom plate slightly, unhook the wire stoppers [B], and then remove stopper [C] and actuator [D].
5. Remove:
   [E] Wire covers ( x2).
   [F] Bracket (front only) ( x1, x1, x1)
   [G] Gear (front only)
   [H] Bottom plate lift wire

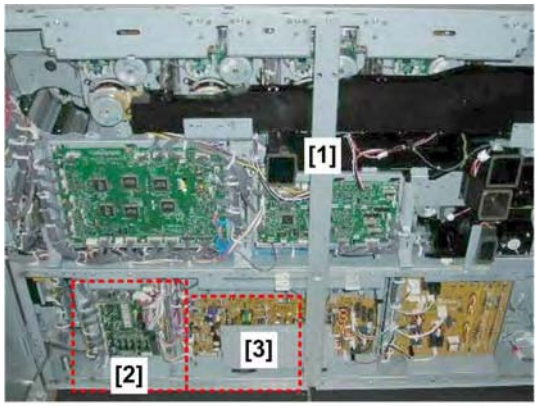
**Re-installation (Bottom Plate Lift Wire)**




1. Set positioning pin [A] in hole [B].
2. Set projection [C] in hole [D].
3. Position the wire [E] correctly without crossing the wires.

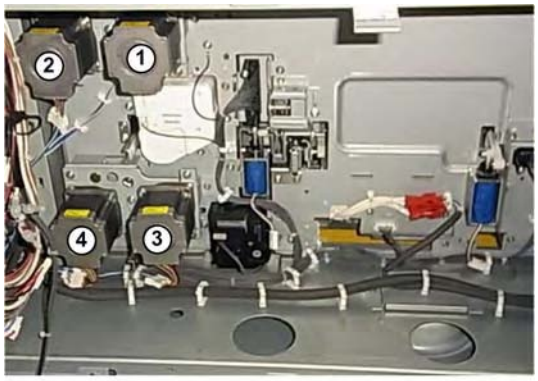
## 5.12.12 PAPER FEED MOTORS, GRIP MOTORS

1. Open the cooling box and controller box. (☛p.5-8)



d074r500

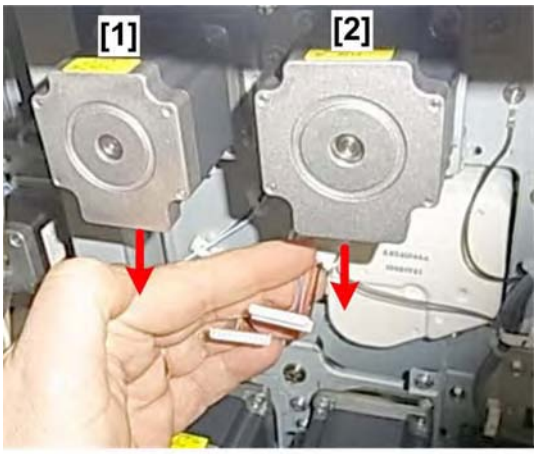
2. Remove the center stay [1] ( x3).
3. Remove the relay board [2] (☛Relay Board).
4. Remove PSU 2 [3] (☛PSU 2).



d074r501

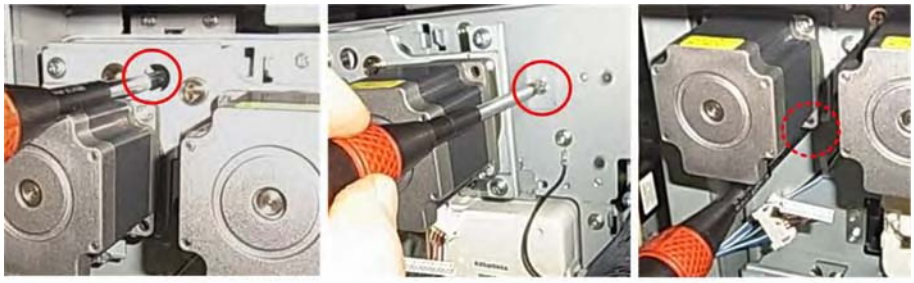
| | |
|---|---|
| ① | Tray 1 Paper Feed Motor |
| ② | Tray 1 Grip Motor |
| ③ | Tray 2 Paper Feed Motor |
| ④ | Tray 2 Grip Motor |

1. The paper feed and grip motor pairs of each tray must be removed together (they are attached to one bracket).
2. The following steps describe removal of the Tray 1 motors. The procedure for removal of the Tray 2 motors is the same.




d074r502

5. Disconnect the grip motor [1] and the paper feed motor [2] (x2).

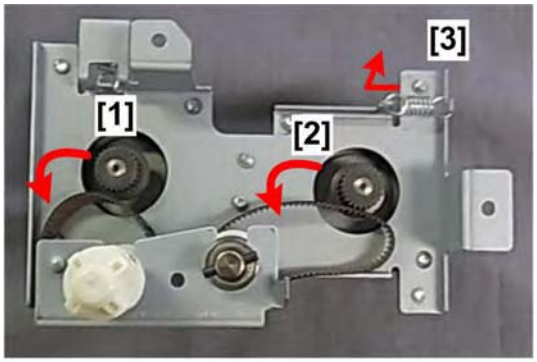


d074r503

6. Disconnect the motor mount bracket (x3).

d074r504

7. Remove the motor mount bracket with both motors attached.




d074r505

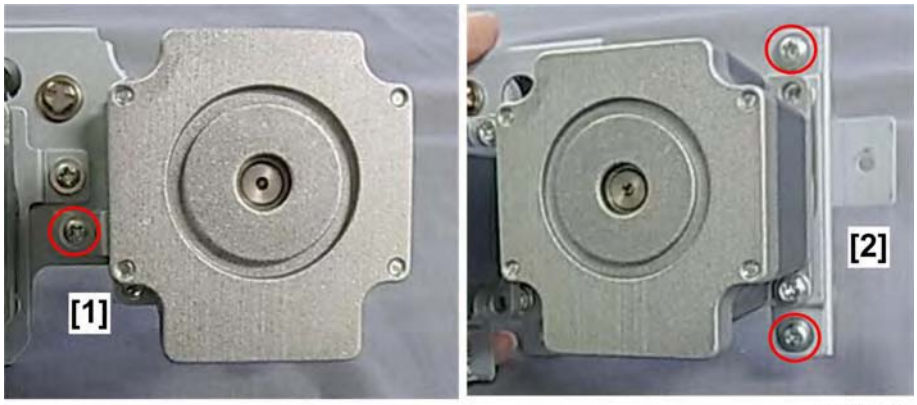
8. Disconnect:

   [1] Grip motor timing belt (x1)

   [2] Paper feed timing belt (x1)

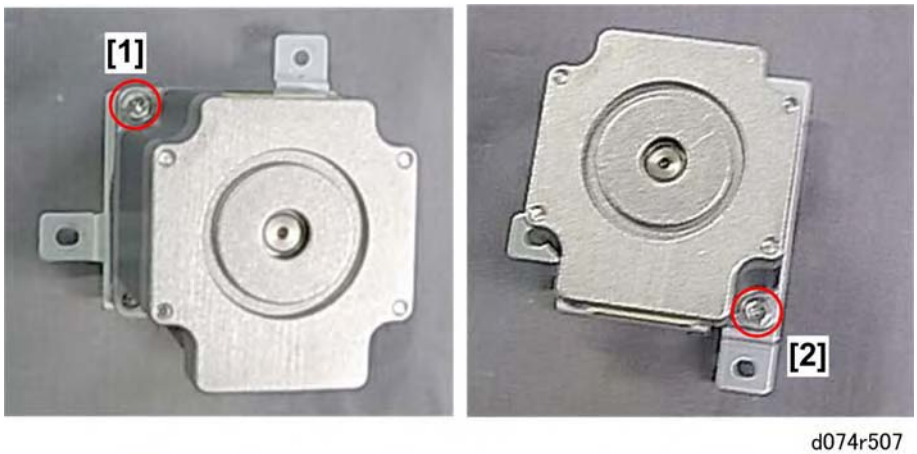
   [3] Paper feed bracket spring (x1)

**Paper Feed Motor**




d074r506

1. Disconnect the bracket on the left [1] and on the right [2] ( x3).

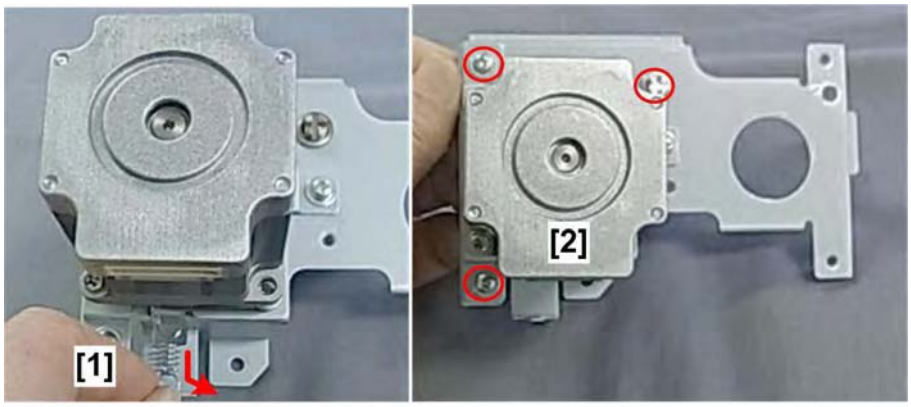



d074r507

2. Disconnect the motor at the top [1] and the bottom [2] ( x2).

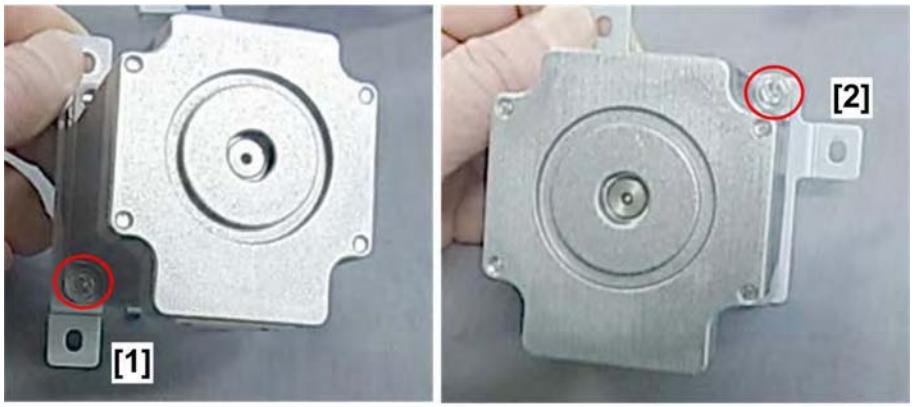
d074r508

**Grip Motor**




d074r509

1. Disconnect the spring [1] (x1).
2. Disconnect the bracket of the motor [2] (x3).

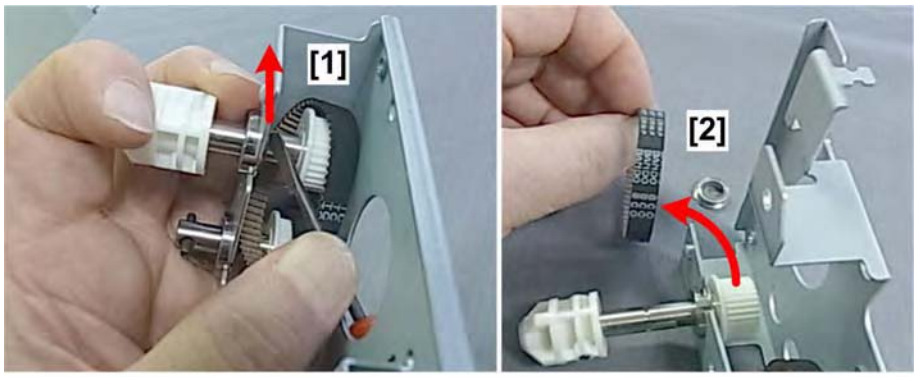



d074r510

3. Disconnect the motor at the bottom [1] and top [2] (x2).

d074r511

### Timing Belts

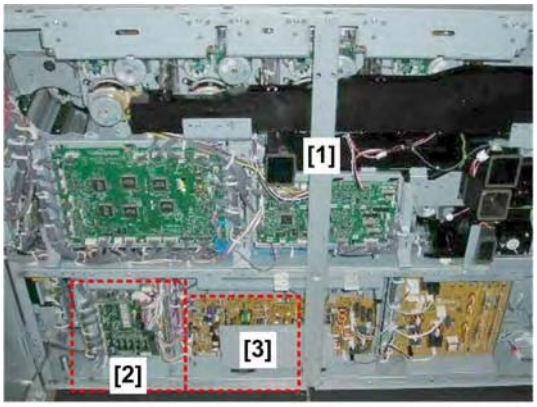



d074r512

1. Use the tip of a small screwdriver to remove the e-ring [2] (x1).
2. Remove the timing belt [2] (x1).

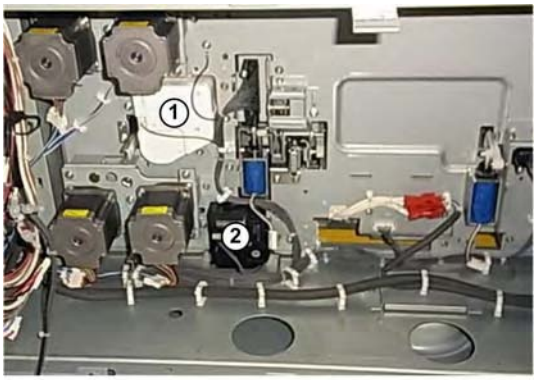
## 5.12.13 LIFT MOTORS (TRAY 1, TRAY 2)

1. Open the cooling box and controller box. (☛p.5-8)



d074r500

2. Remove the center stay [1] ( x3).
3. Remove the relay board [2] (☛Relay Board).
4. Remove PSU 2 [3] (☛PSU 2).



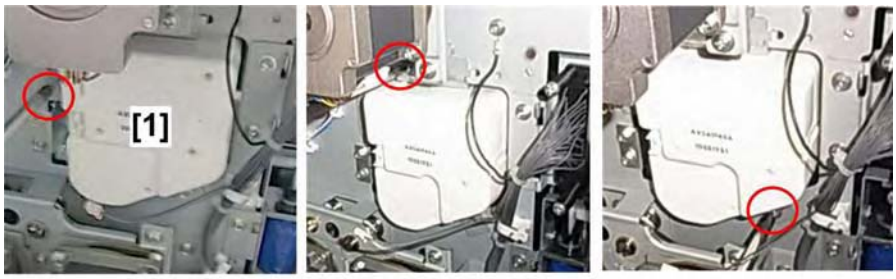
d074r513

5. ① is the tray lift motor for Tray 1, and ② is the tray lift motor for tray 2.

**Tray 1 Lift Motor**

d074r514

1. Disconnect the motor [1] (x1).



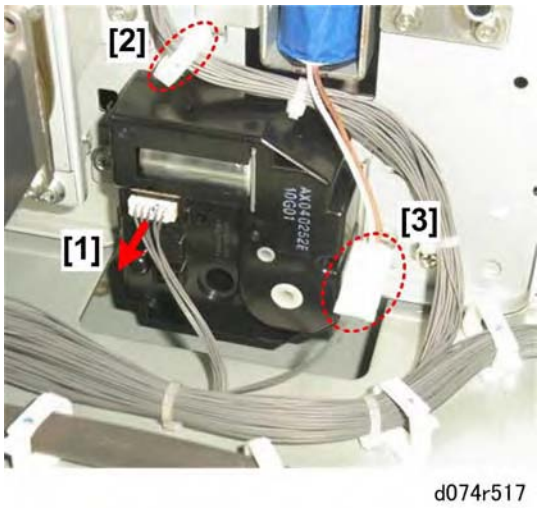

d074r515

2. Disconnect the motor [1] ( x3).

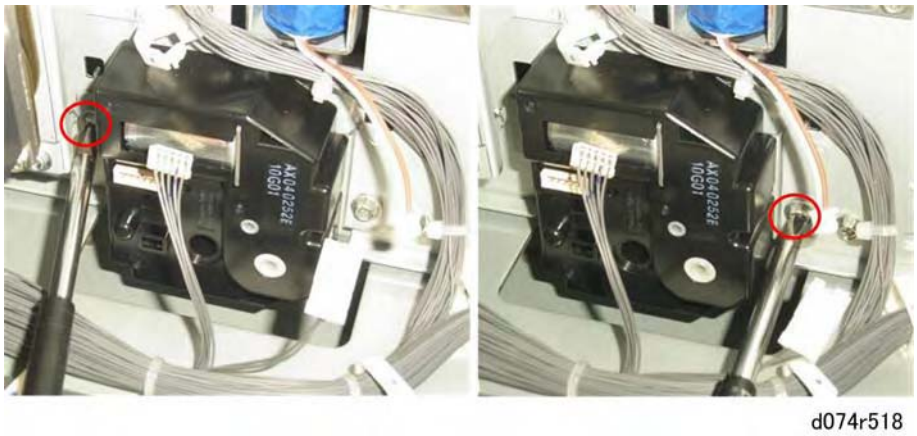
d074r516

3. Remove the motor.

### Tray 2 Lift Motor




1. Disconnect the motor at [1] (x1).
2. Open clamp [2] (x1).
3. Disconnect harness [3] (x1).

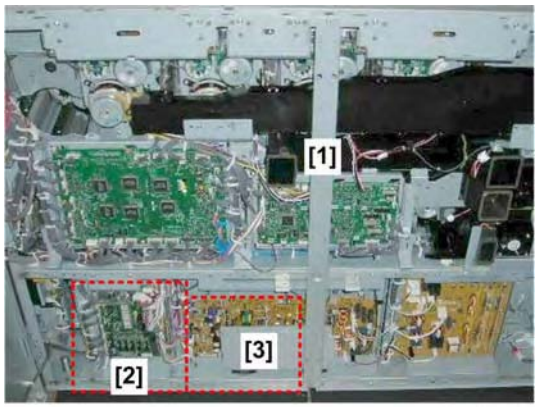



4. Disconnect the motor ( x2).

5. Remove the motor.

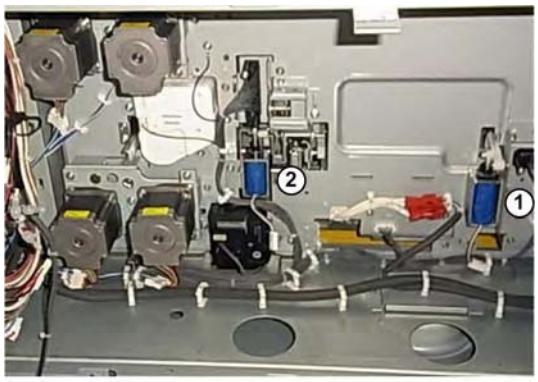
## 5.12.14 TRAY 1 SOLENOIDS

1. Open the cooling box and controller box. (☛p.5-8)



d074r500

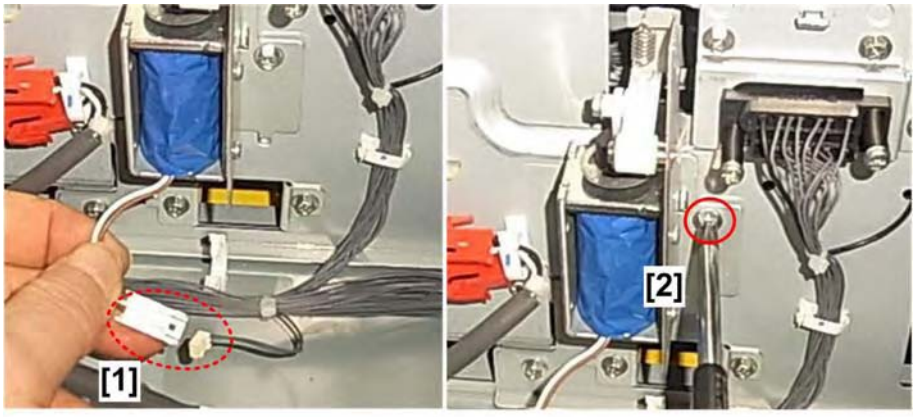
2. Remove the center stay [1] ( x3).
3. Remove the relay board [2] (☛Relay Board).
4. Remove PSU 2 [3] (☛PSU 2).



d074r520

| | |
|---|---|
| ① | Tray 1 Left Tray Lock Solenoid |
| ② | Tray 1 Right Tray Lock Solenoid |

### Tray 1 Left Tray Lock Solenoid



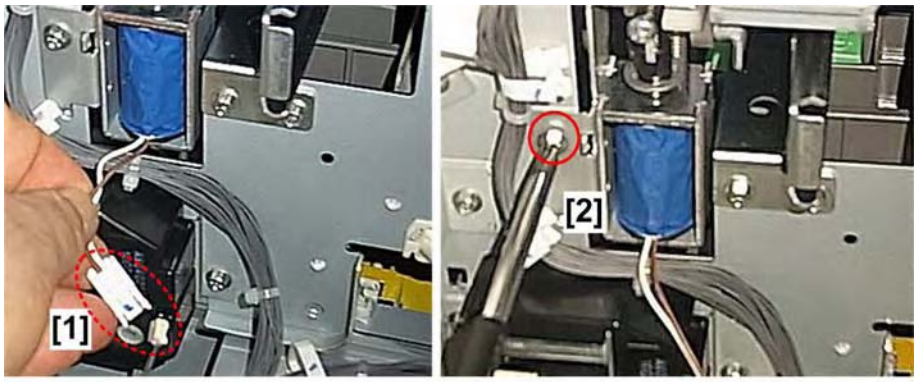

d074r521

1. Disconnect the solenoid [1] (x1).
2. Disconnect the solenoid bracket [2] ( x1).

d074r522

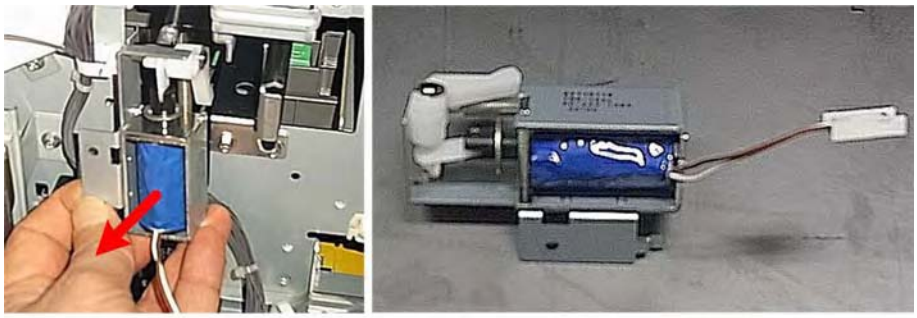
3. Remove the solenoid.

### Tray 1 Right Tray Solenoid




d074r523

1. Disconnect the solenoid [1] (x1).
2. Disconnect the solenoid bracket [2] ( x1).

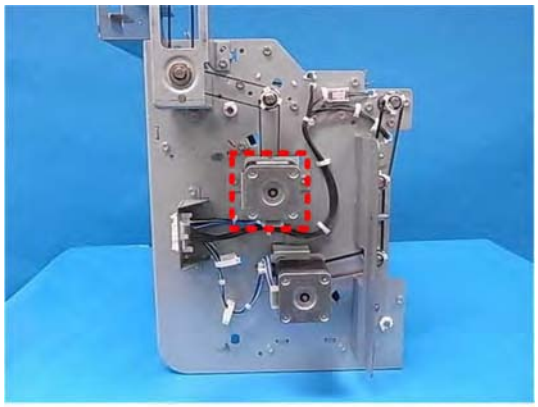


d074r524

3. Remove the solenoid.

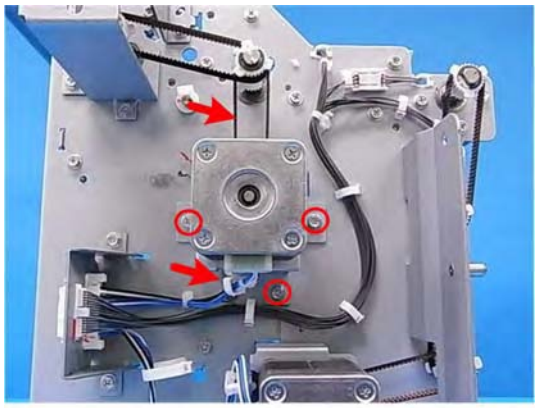
# 5.13 VERTICAL TRANSPORT UNIT

## 5.13.1 BANK EXIT MOTOR



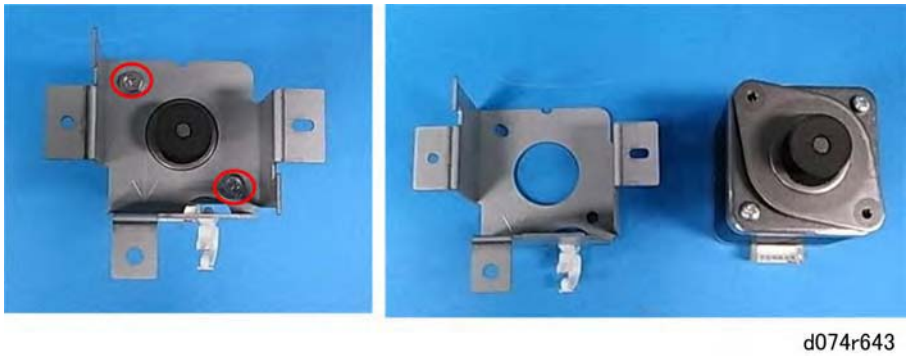
d074r641

1. Vertical transport unit (☛p.5-50)



d074r642

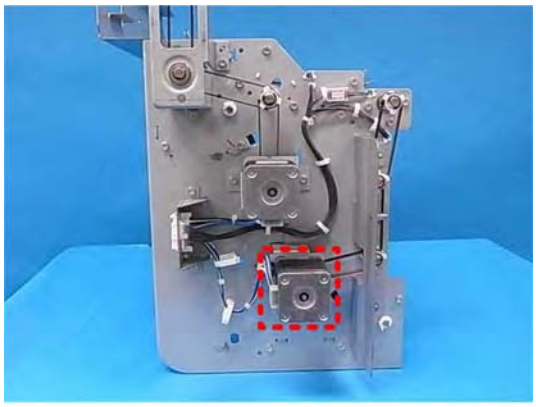
2. Disconnect and remove the motor bracket (x1, x1, x3, x1).



d074r643

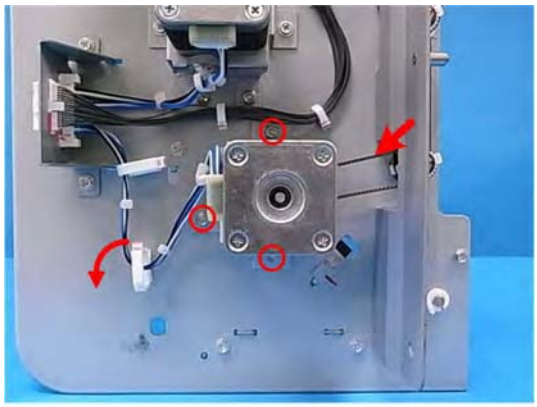
3. Separate the motor from the bracket ( x2).

## 5.13.2 VERTICAL TRANSPORT MOTOR



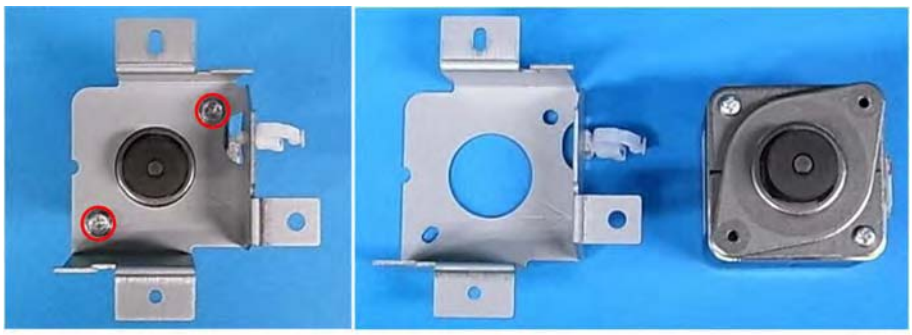
d074r644

1. Vertical transport unit (☛p.5-50)



d074r645

2. Disconnect and remove the motor bracket (x1, x1, x3, x1).



d074r646

3. Separate the motor from the bracket ( x2).

## 5.13.3 MAIN RELAY SENSOR 1

d074r647

1. Vertical transport unit (☛p.5-50)

d074r648

2. Disconnect the long bracket ( x2).

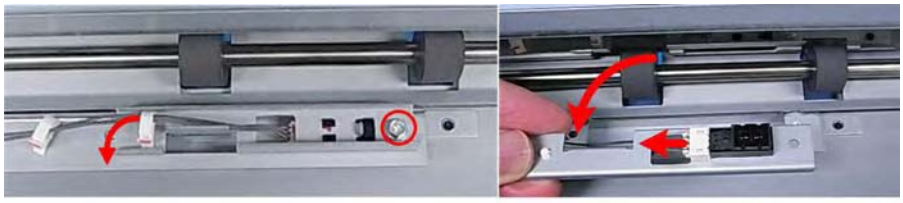
d074r649

3. Disconnect and remove the sensor ( x1, x1, x1, x4).

## 5.13.4 BANK EXIT SENSOR

d074r650

1. Vertical transport unit (☛p.5-50)



d074r651

2. Disconnect and remove the sensor ( x1, x1, x1, x4).

## 5.13.5 1ST TRANSPORT SENSOR

d074r652

1. Vertical transport unit (☛p.5-50)

d074r653

2. Remove the wide bracket ( x4).

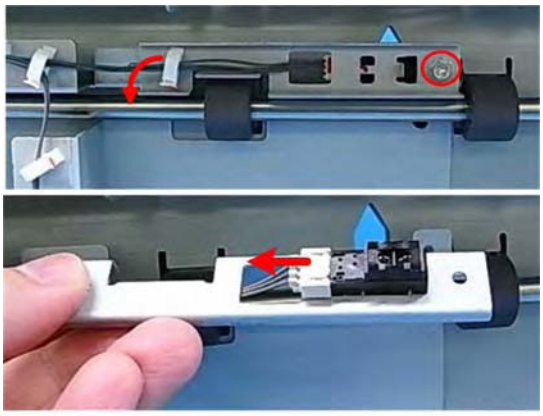
d074r654

3. Disconnect and remove the sensor ( x1, x1, x1, x4).

## 5.13.6 VERTICAL TRANSPORT SENSOR

d074r655

1. Vertical transport unit (☛p.5-50)



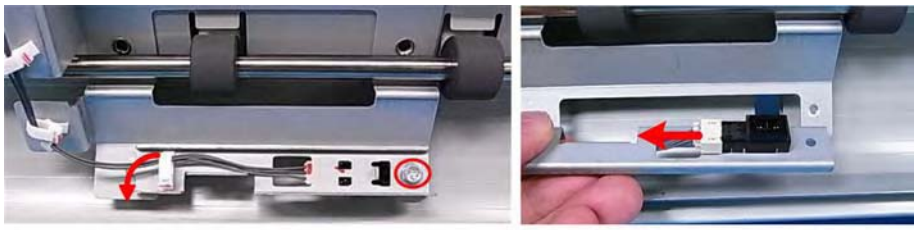
d074r656

2. Disconnect and remove the sensor ( x1, x1, x1, x4).

## 5.13.7 2ND TRANSPORT SENSOR

d074r657

1. Vertical transport unit (☛p.5-50)

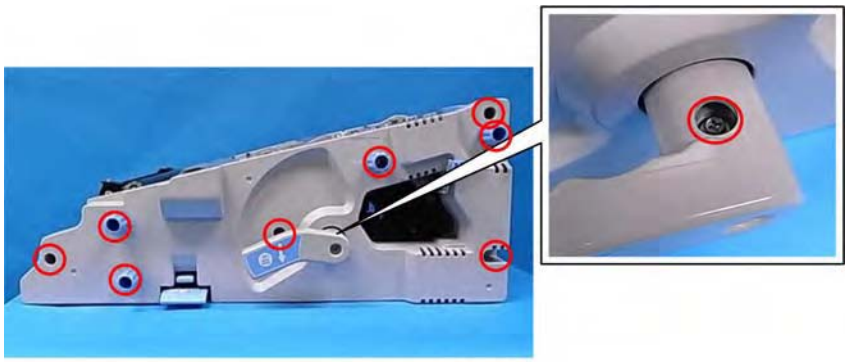


d074r658

2. Disconnect and remove the sensor ( x1, x1, x1, x4).

# 5.14 RIGHT DRAWER

## 5.14.1 RIGHT DRAWER FRONT COVER

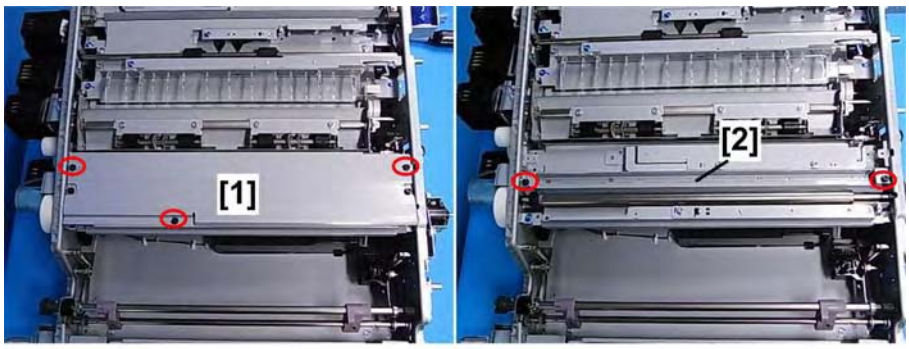


d074r660

1. Open the front doors.
2. Pull out the right drawer until it stops.
3. Right drawer (☛p.5-17)
4. Remove the front cover and handle B3 ( x9).

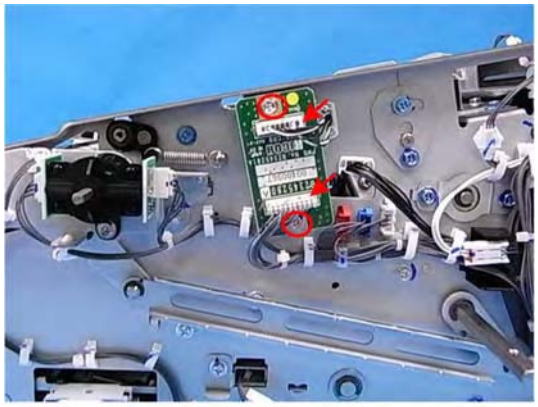
## 5.14.2 SHIFT UNIT

1. Right drawer (☛p.5-17)



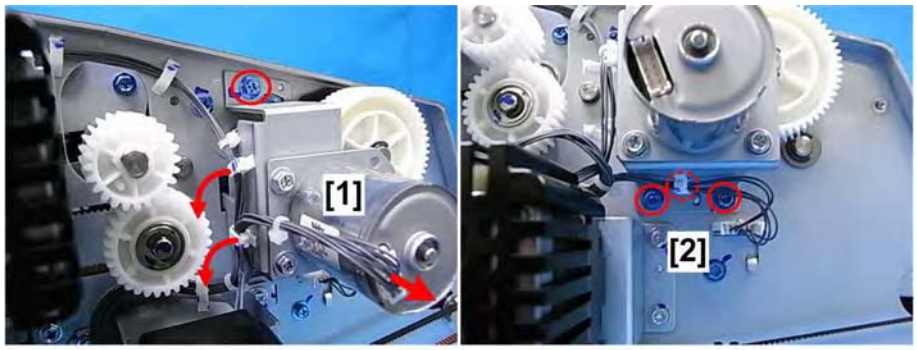

d074r661

2. Remove:
   [1] Cover ( x3)
   [2] Dust tray ( x2)



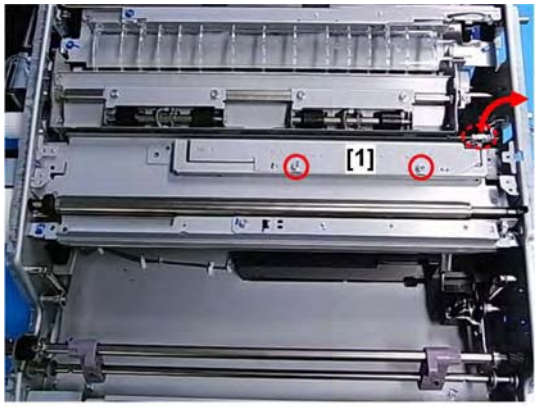
d074r662

3. Remove the relay board ( x2, x2).



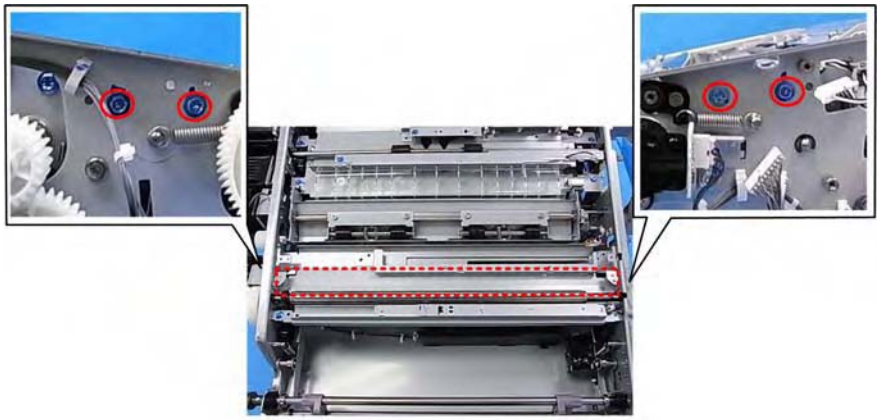

d074r663

4. Disconnect and remove the transfer timing motor.
   [1] Side ( x1, x1, x1)
   [2] Bottom ( x1, x2)



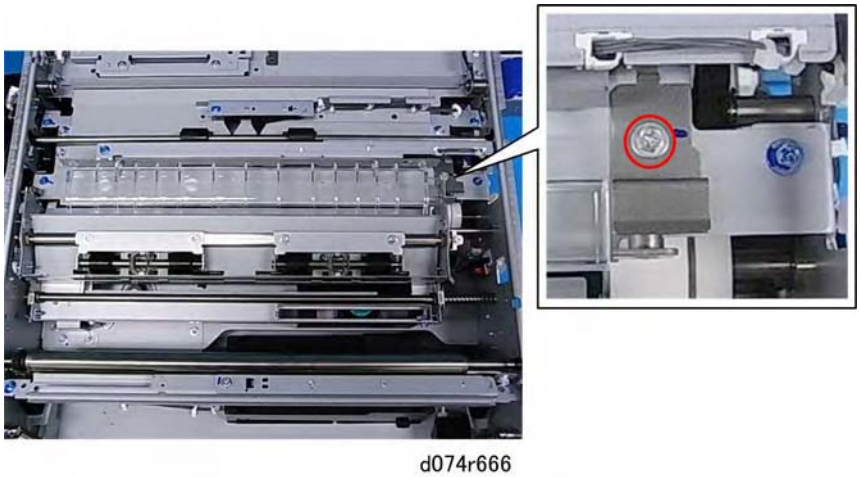

d074r664

5. Remove the CIS [1] ( x2, x1, x1).



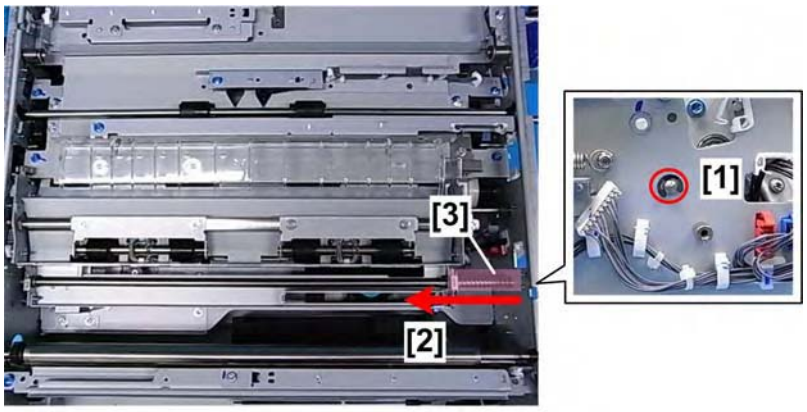
d074r665

6. Remove the guide ( x4).



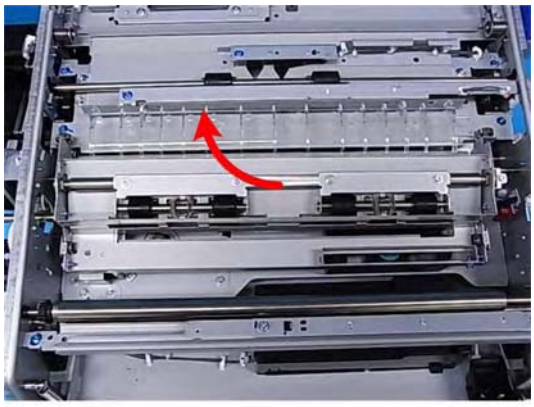
d074r666

7. Remove the plate ( x1).




d074r667

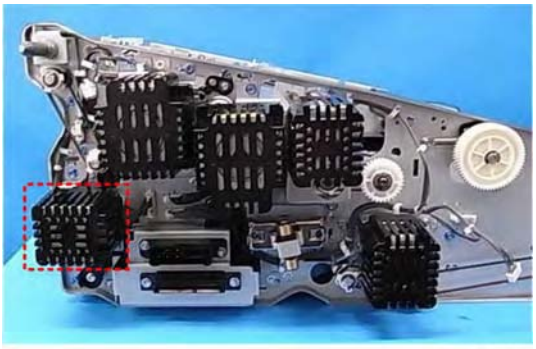
8. Remove e-ring [1] (x1).
9. Slide the shift unit [2] to the left.
10. Remove spring [3] (x1).



d074r668

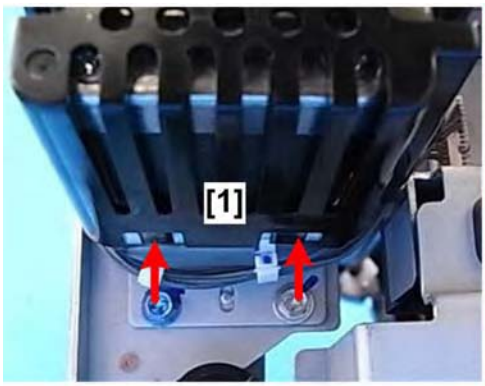
11. Remove the shift unit.

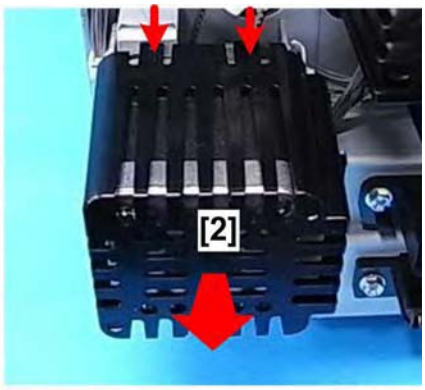
## 5.14.3 REGISTRATION ENTRANCE MOTOR



d074r669

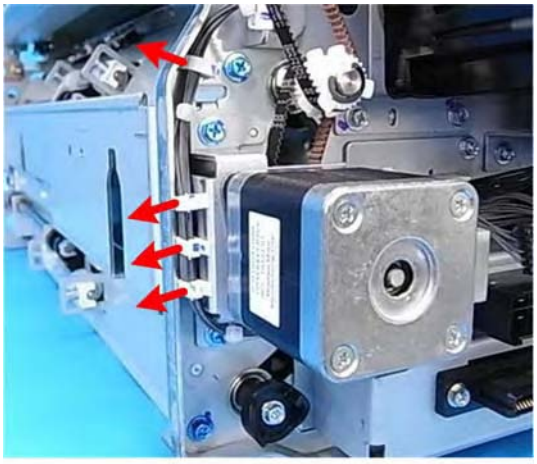
1. Right drawer (☛p.5-17)



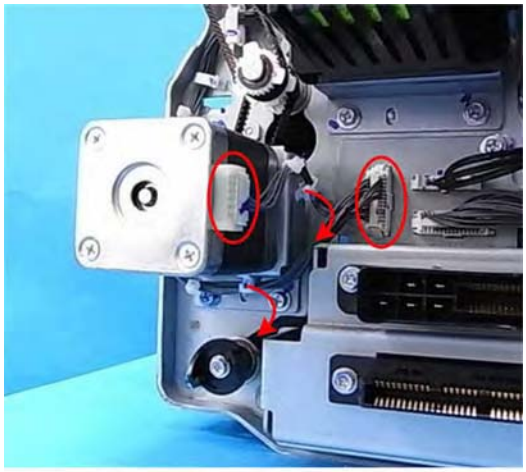

d074r670

2. Press the tab releases on the bottom [1] and top [2] and remove the motor cover.



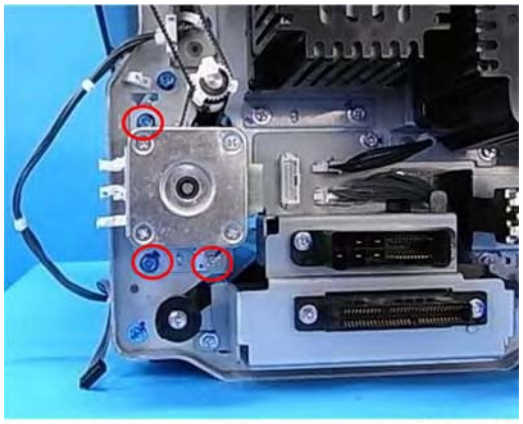
d074r671

3. Release the clamps (x4).



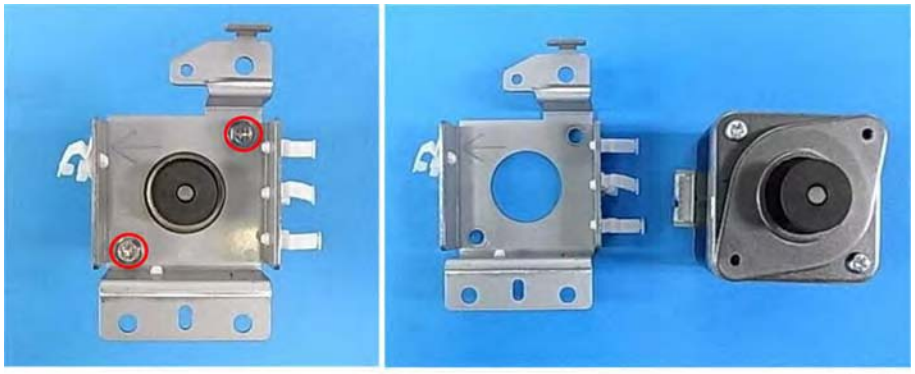
d074r672

4. Disconnect the motor (x2,x2).



d074r673

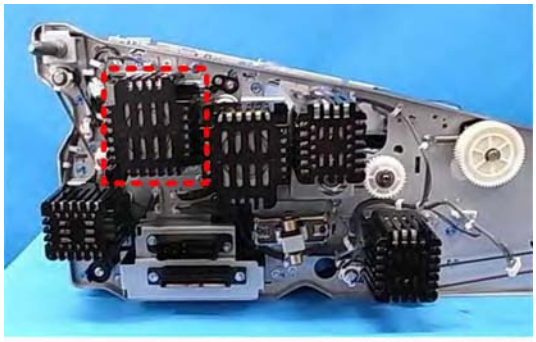
5. Remove the motor ( x2, x1).



d074r674

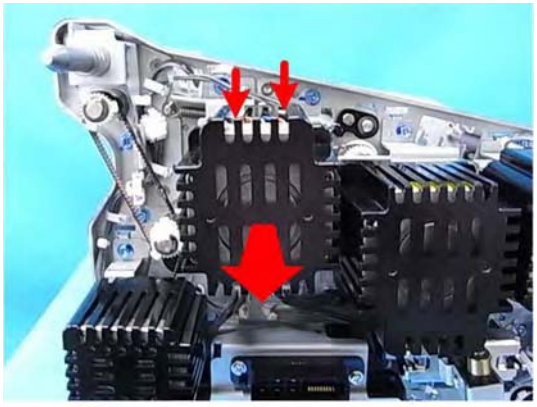
6. Separate the motor and the bracket ( x2).

## 5.14.4 REGISTRATION TIMING MOTOR



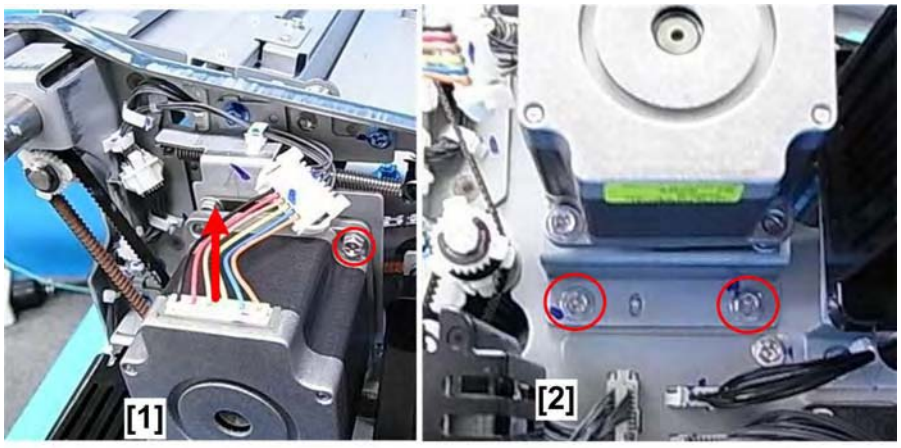
d074r675

1. Right drawer (☛p.5-17)



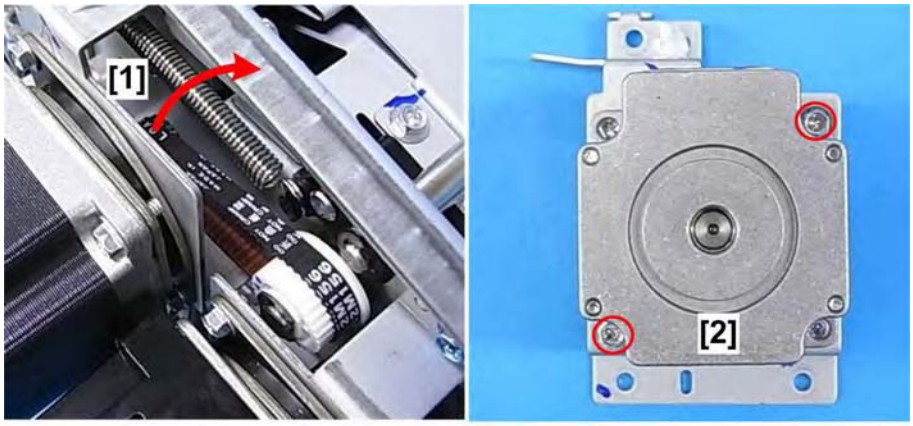
d074r676

2. Press the tab releases and remove the motor cover.




d074r677

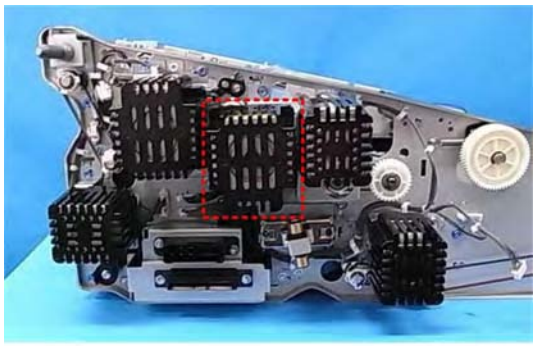
3. Disconnect the motor:
   [1] Top (x1, x1)
   [2] Bottom ( x2)




d074r678

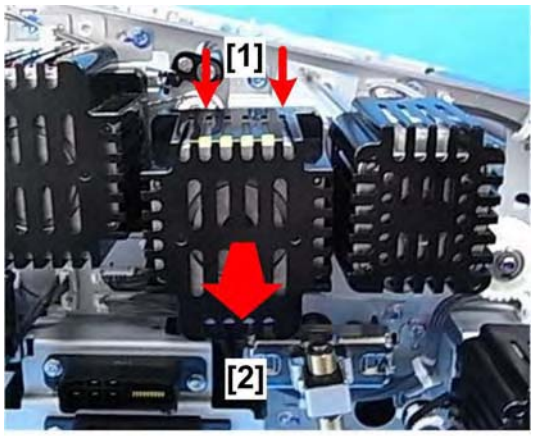
4. Disconnect the timing belt [1] (x1).
5. Separate the motor [2] and the bracket ( x2).

## 5.14.5 REGISTRATION GATE MOTOR



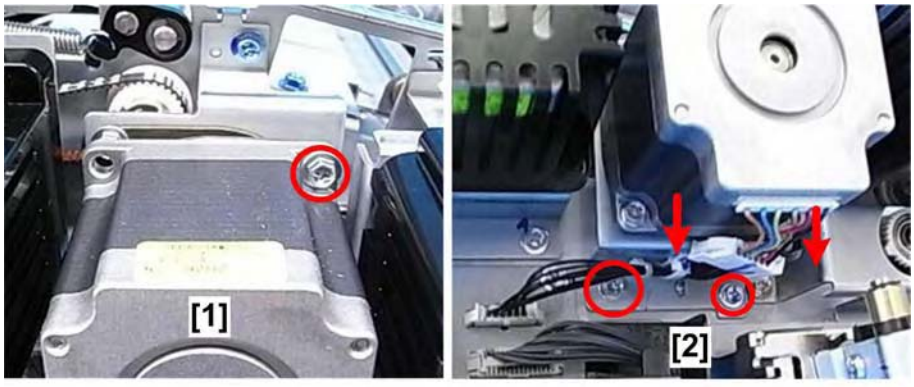
d074r679

1. Right drawer (☛p.5-17)



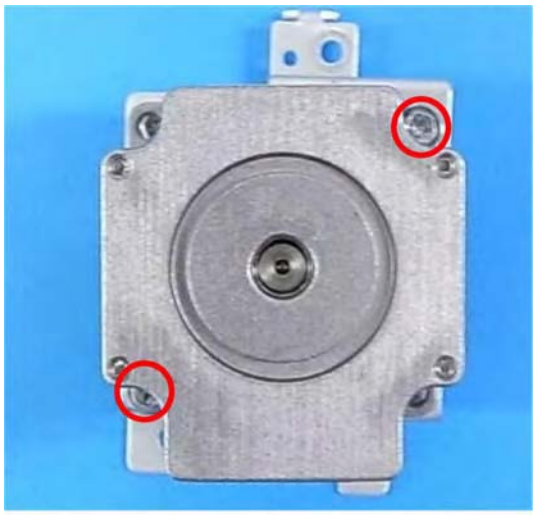

d074r680

2. Press the tab releases [1] and remove the motor cover [2].




d074r681

3. Remove the motor:
   [1] Top (x1)
   [2] Bottom (x1, x1, x2)



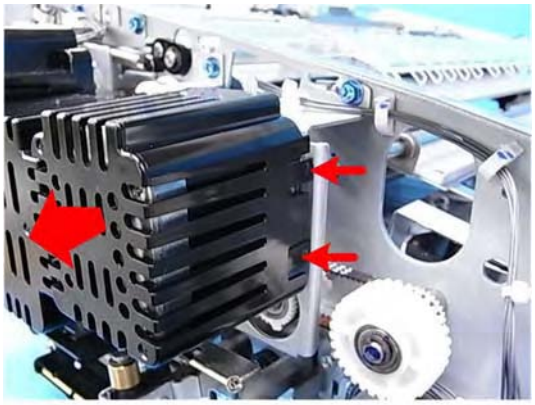
d074r682

4. Separate the motor and the bracket ( x2).

## 5.14.6 SHIFT ROLLER MOTOR

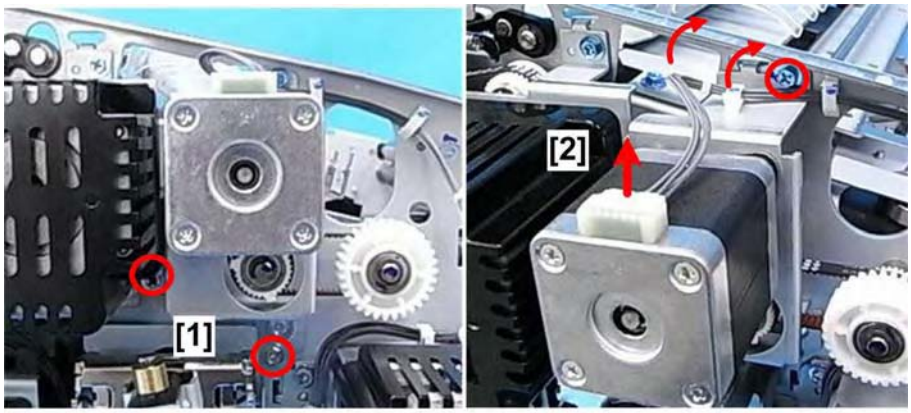
d074r683

1. Right drawer (☛p.5-17)



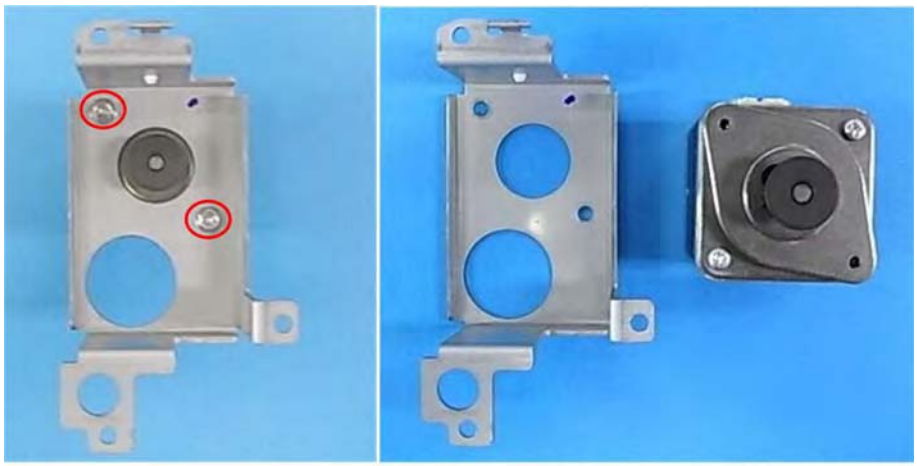
d074r684

2. Press the tab releases and remove the motor cover.




d074r685

3. Remove the motor:
   [1] Bottom ( x2)
   [2] Top ( x1, x2, x1)

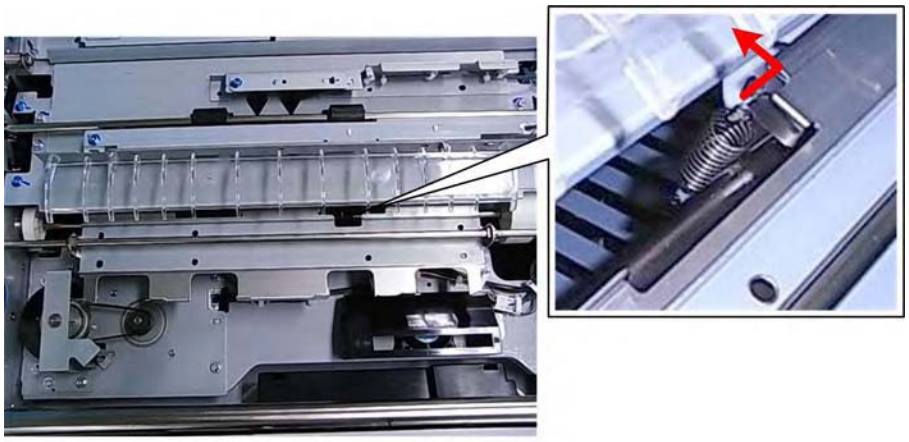


d074r686

4. Separate the motor and the bracket ( x2).

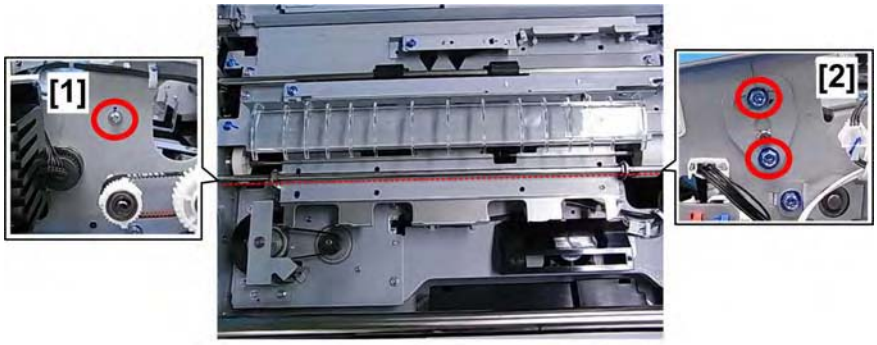
## 5.14.7 SHIFT UNIT MOTOR

- Right drawer (☛p.5-17)
- Shift unit (☛p.5-284)



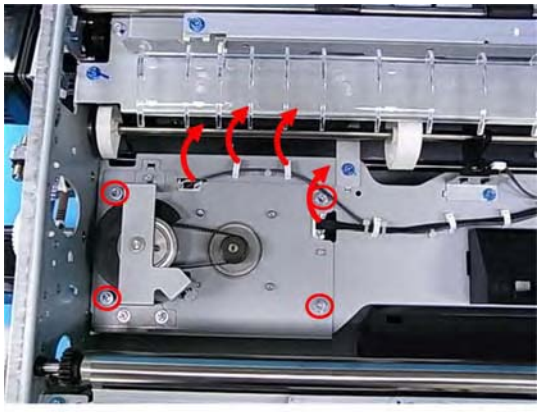
d074r687

- Remove the registration gate spring (x1).



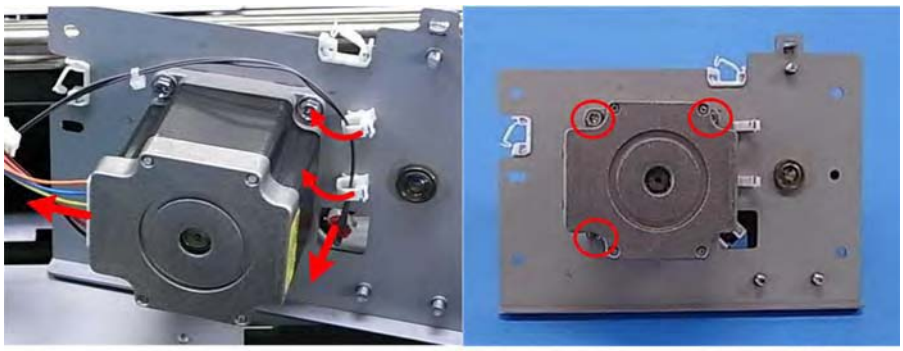

d074r688

- Remove the registration gate and its shaft:
  [1] Rear ( x1)
  [2] Front ( x2).



d074r689

- Disconnect the motor mount (x4, x4)

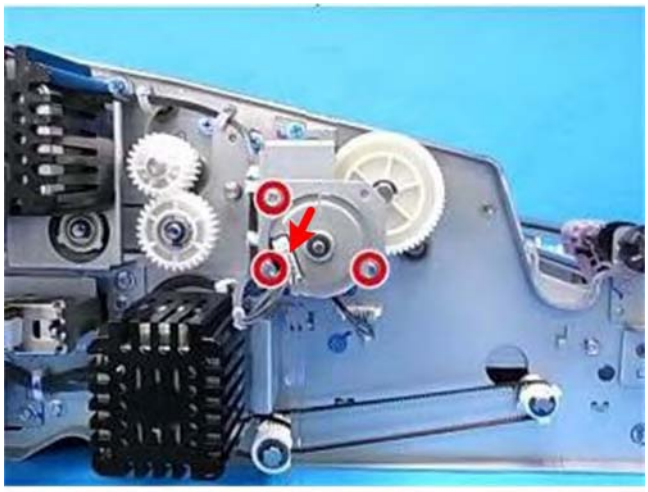


d074r690

- Separate the motor and the mount (x2, x2, x3).

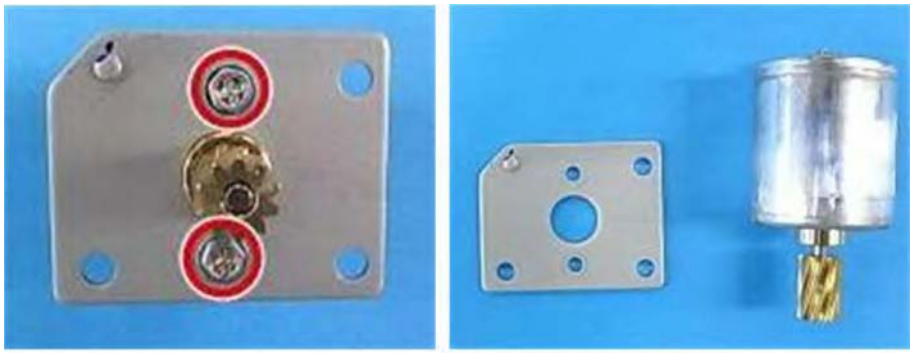
## 5.14.8 SHIFT TIMING MOTOR

1. Right drawer (p.5-17)



d074r691

2. Disconnect the motor bracket ( x3, x1).

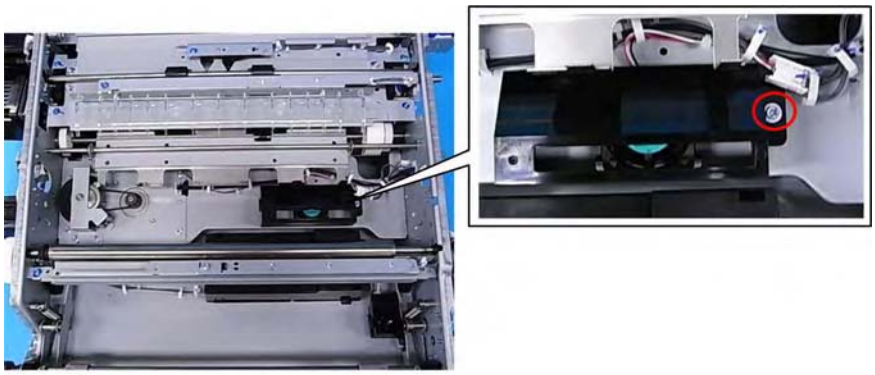


d074r692

3. Separate the motor and the bracket ( x2).

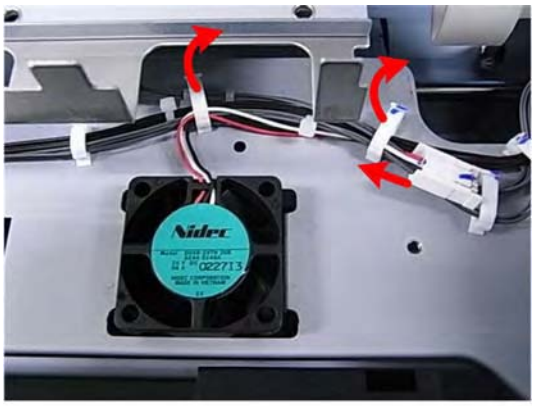
## 5.14.9 CIS FAN

1. Right drawer (☛p.5-17)
2. Shift unit (☛p.5-284)



d074r693

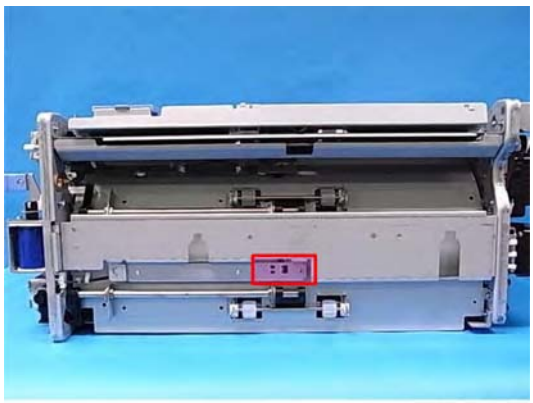
3. Remove the fan cover ( x1).




d074r694

4. Remove the fan ( x2, x1).

## 5.14.10 MAIN RELAY SENSOR 2



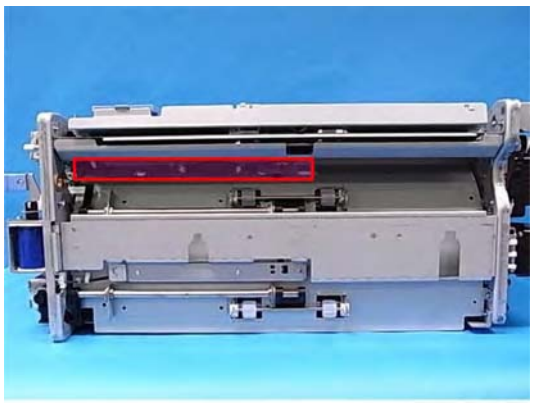
d074r695

1. Open the front doors and pull out the right drawer until it stops.

d074r696

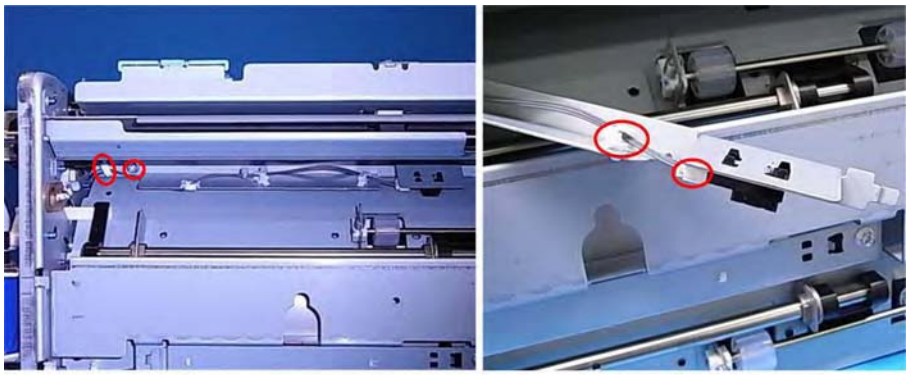
2. Disconnect the sensor bracket and remove the sensor ( x1, x1, x1, x3).

## 5.14.11 MAIN RELAY SENSOR 3



d074r697

1. Open the front doors and pull out the right drawer until it stops.

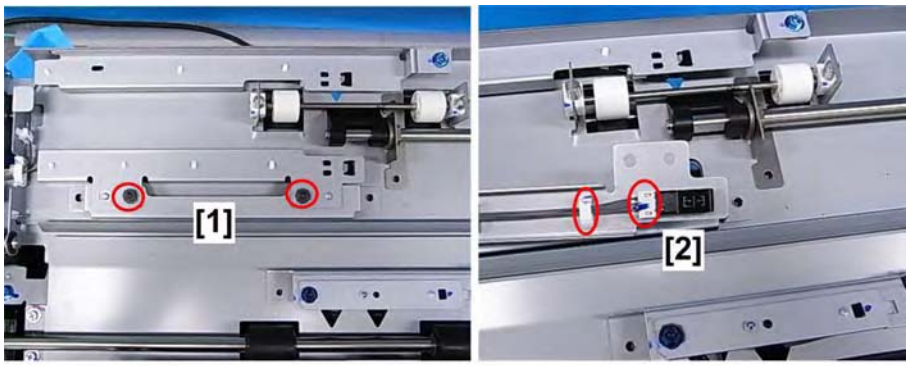


d074r698

2. Disconnect the sensor bracket and remove the sensor (x2, x1, x1, x3).

## 5.14.12 LCIT RELAY SENSOR 2

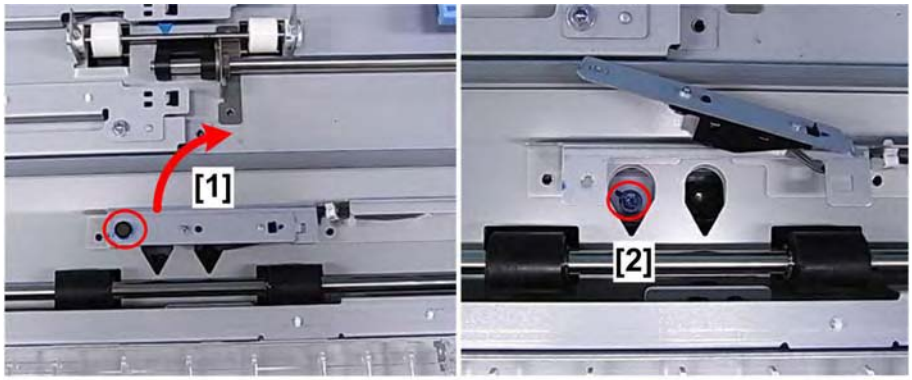
1. Open the front doors and pull out the right drawer until it stops.




2. Disconnect the sensor bracket [1] ( x2).
3. Disconnect the sensor ( x1, x1).

## 5.14.13 DOUBLE-FEED SENSOR 1 (LED)

1. Open the front doors and pull out the right drawer until it stops.

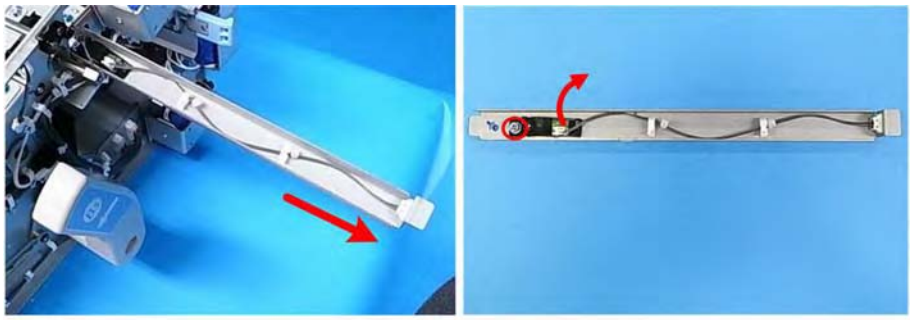



d074r700

2. Remove bracket [1] ( x1).
3. Remove screw [2] ( x1).

d074r701

4. Disconnect the sensor ( x1).



d074r702

5. Pull out the sensor bracket and disconnect the sensor ( x1, x1).

## 5.14.14 DOUBLE-FEED SENSOR 2 (RECEPTOR)

d074r703

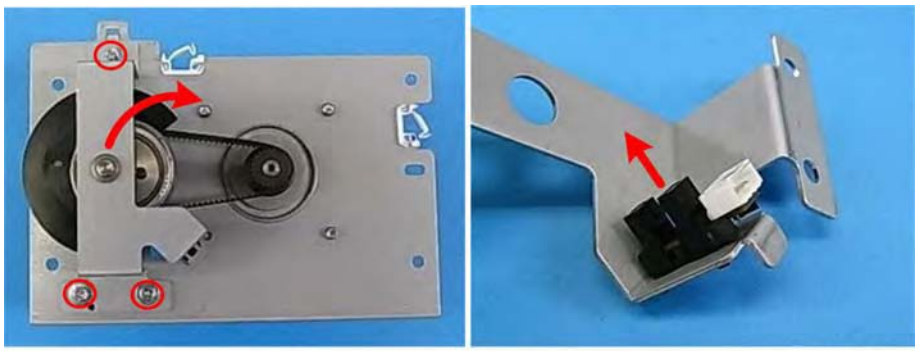
1. Open the front doors and pull out the right drawer until it stops.

d074r704

2. Disconnect the sensor bracket and remove the sensor ( x1, x1, x1).

## 5.14.15 SHIFT UNIT SENSOR

- Shift motor mount (p.5-294)



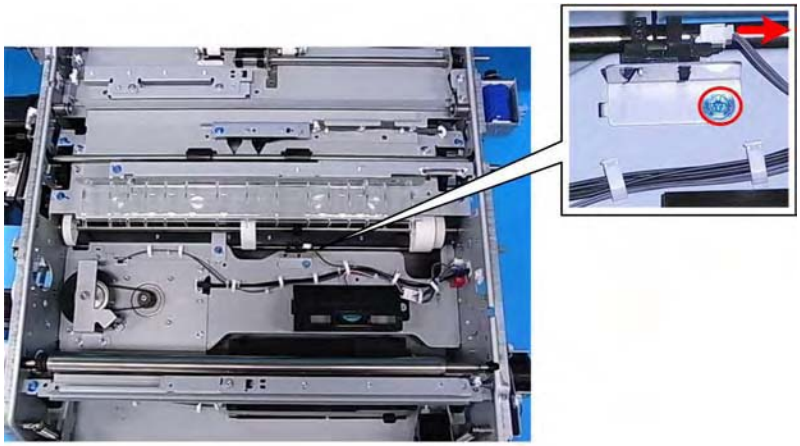
d074r705

- Remove the sensor bracket and remove the sensor ( x3, x3).

## 5.14.16 REGISTRATION GATE SENSOR

- Remove:
  1. Right drawer (☛p.5-17)
  2. Shift unit (☛p.5-284)

Registration gate (☛p.5-294)



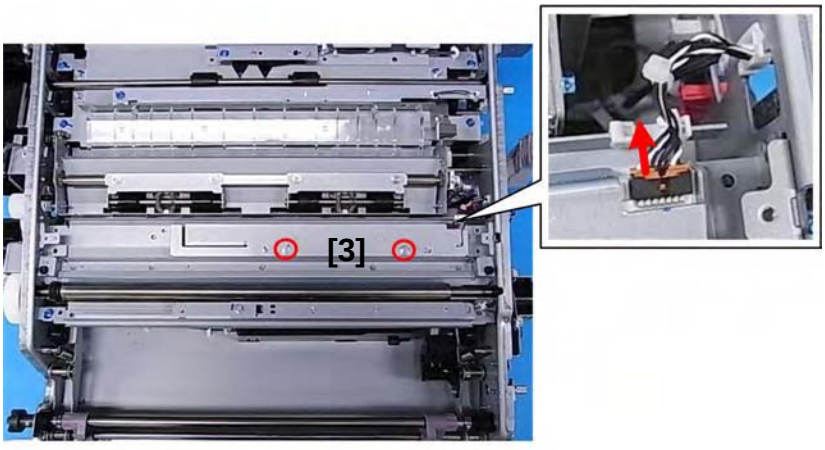
d074r706

1. Remove the sensor ( x1, x1, x3).

## ⇒5.14.17 CIS

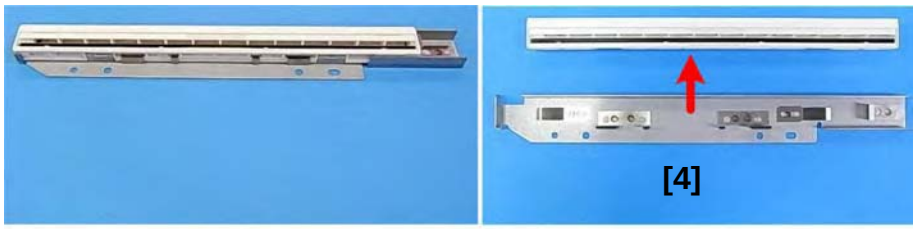
1. Open the front doors and pull out the right drawer until it stops.
2. Remove the cover **[2]** ( x3).
3. Remove the CIS assembly **[3]** ( x2, x1, x1).

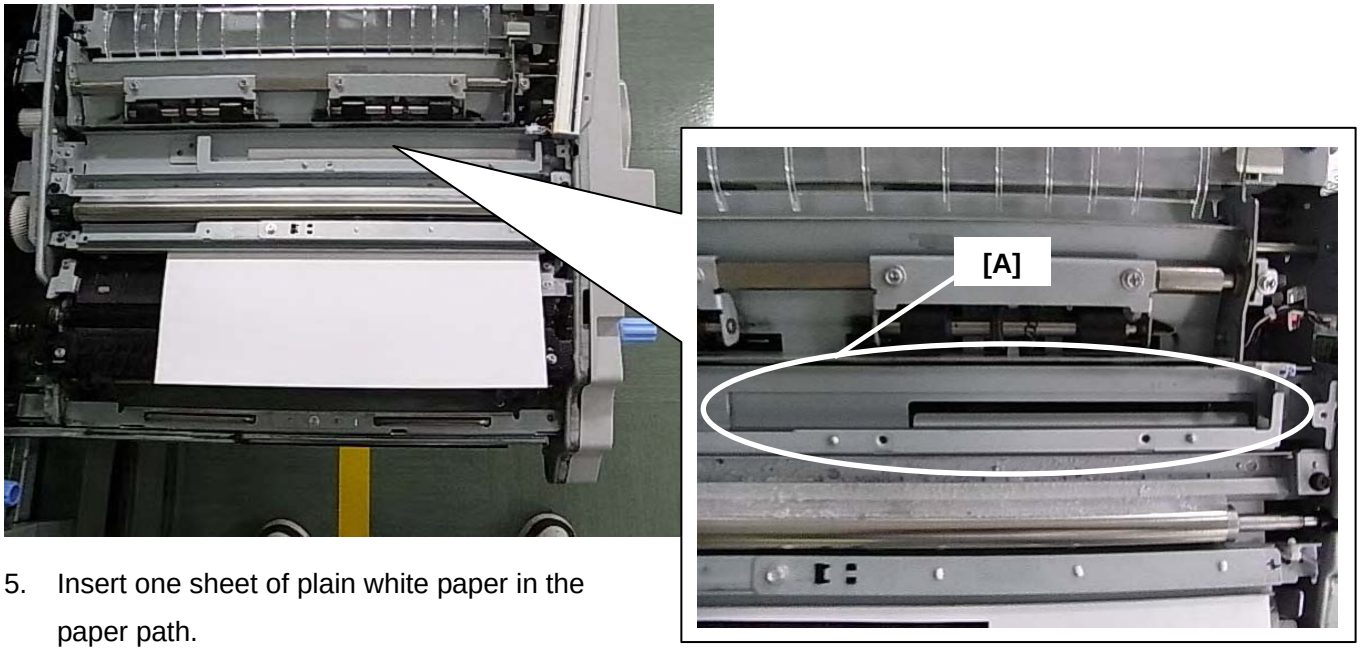
d074r707




d074r708

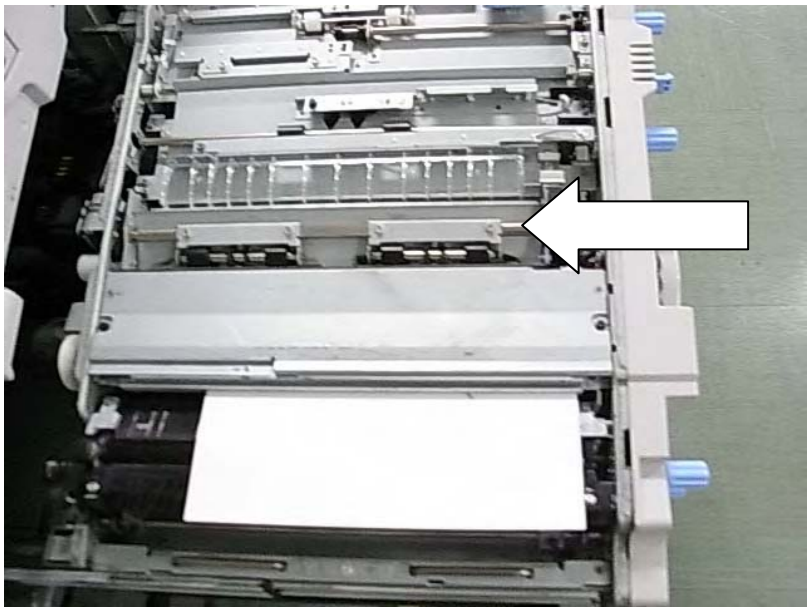
4. Separate the CIS and its bracket [4].




5. Insert one sheet of plain white paper in the paper path.
   Use either of the following paper:
   * Hammermill Fore MP White（20lb）LT
   * Data Copy Everyday Printing（80g/㎡）A4

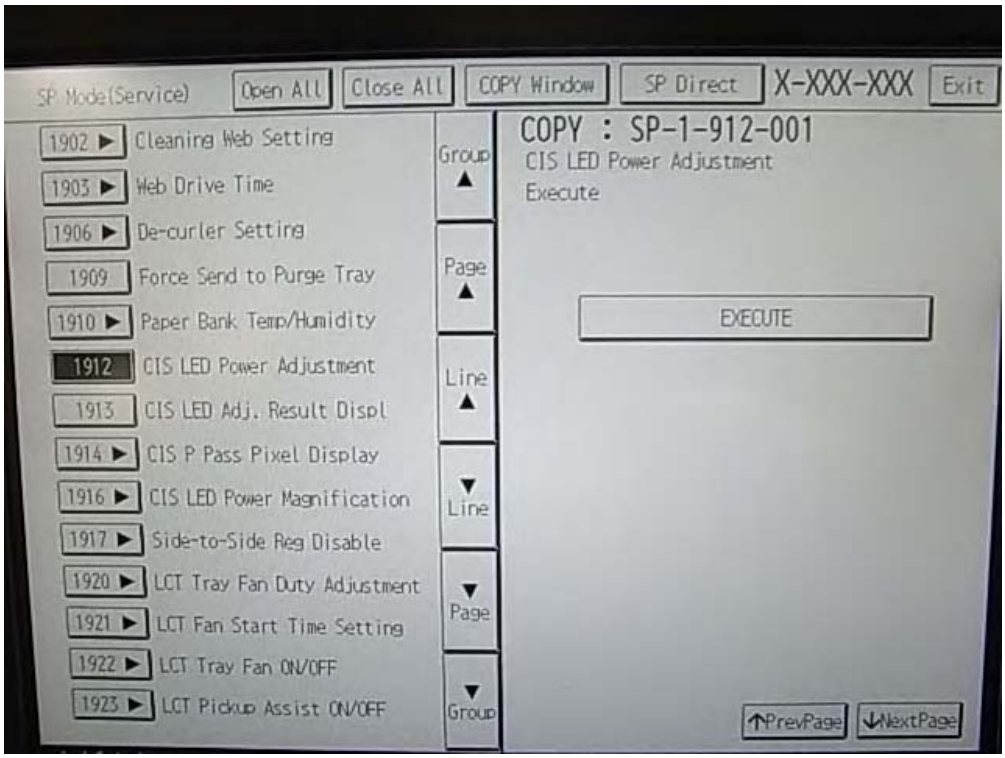
**NOTE:** Make sure that the paper covers the entire area below the CIS.



⇒ 6. Install the new CIS unit, attach the cover, and push the right drawer back into the machine.

7. Turn the machine ON.

**NOTE:** Disregard the Jam001 that will be initiated when the machine is turned ON in this state.



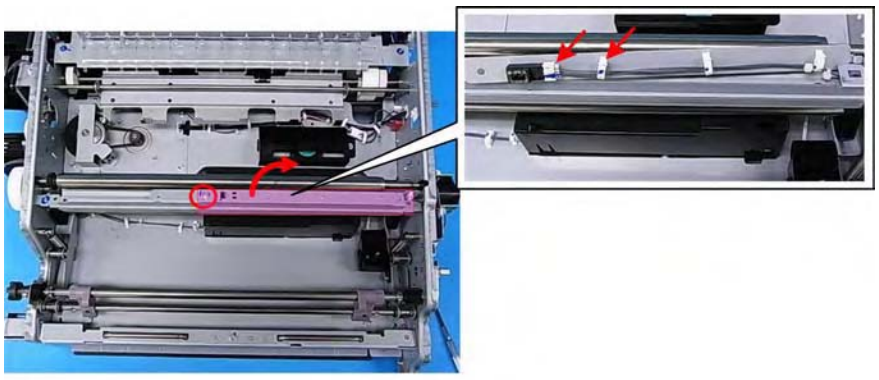

8. Enter the SP mode and execute SP1-912-001.

9. Exit the SP mode and remove the paper to complete the procedure.

**NOTE:** If Jam98 occurs after completing the CIS LED adjustment, follow the troubleshooting instructions for Jam098.

## 5.14.18 TRANSFER TIMING SENSOR

1. Open the front doors and pull out the right drawer until it stops.



d074r710

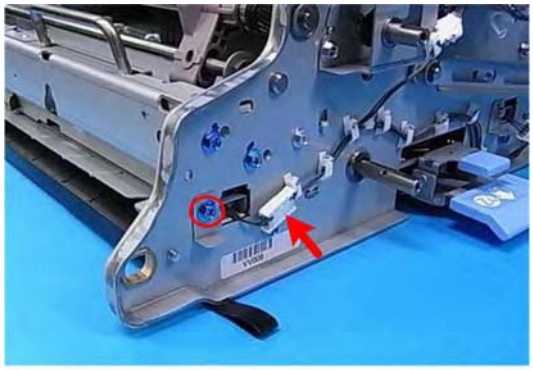
2. Remove the sensor bracket and disconnect the sensor ( x1, x1, x1).

## 5.14.19 DUPLEX TRANSPORT SENSOR 4

- Open the front doors and pull out the right drawer until it stops.

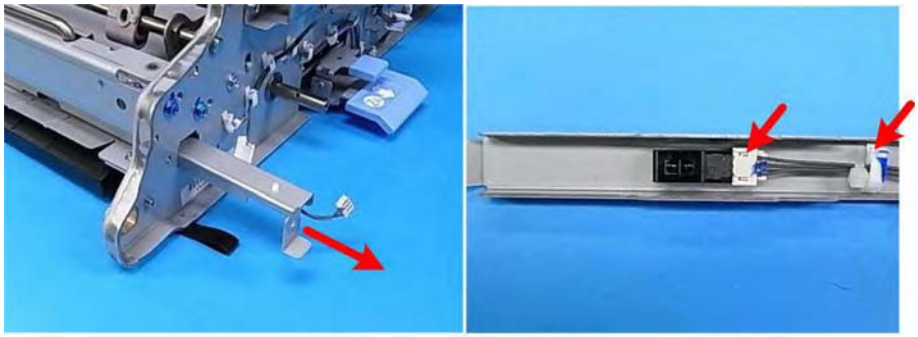
d074r711

- Duplex transport sensor 4 is on the left bottom edge of the drawer unit.



d074r712

- Disconnect the sensor bracket ( x1, x1).

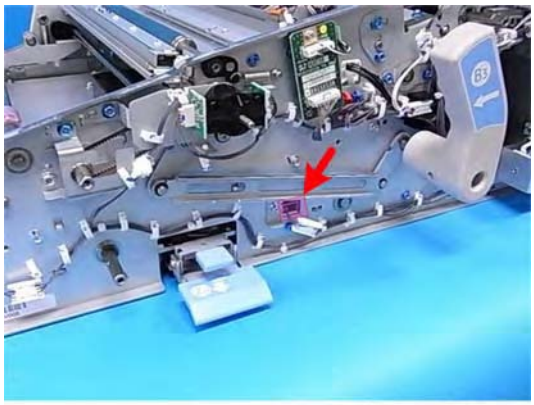


d074r713

- Pull out the sensor bracket and disconnect the sensor (x1, x1).

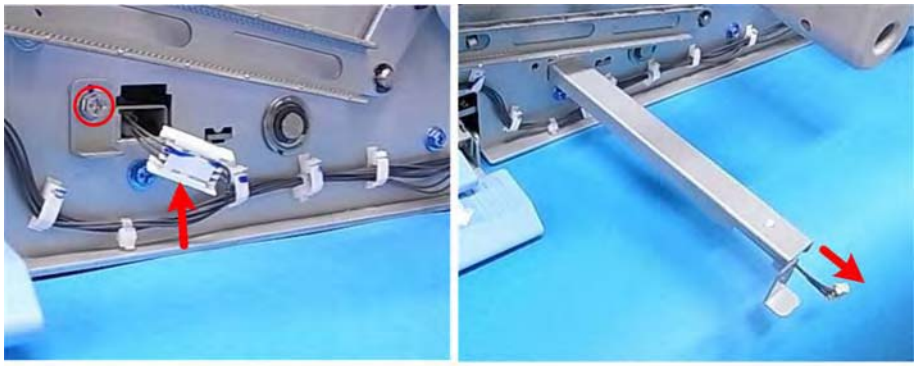
## 5.14.20 DUPLEX TRANSPORT SENSOR 5

- Open the front doors and pull out the right drawer until it stops.



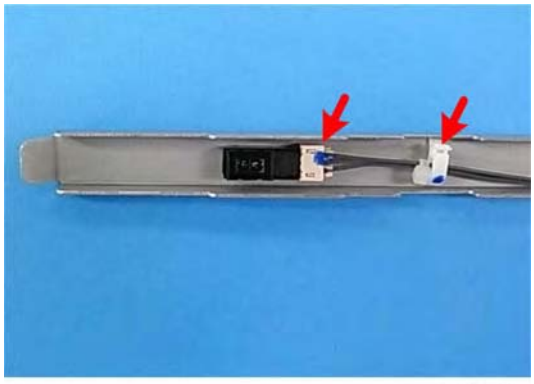
d074r714

- Duplex Transport Sensor 5 is located at the bottom front edge of the drawer unit.



d074r715

- Disconnect the sensor bracket and pull it out ( x1, x1).

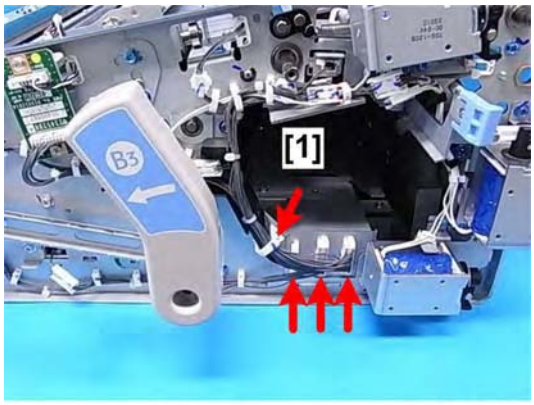


d074r716

- Disconnect the sensor ( x1, x1).

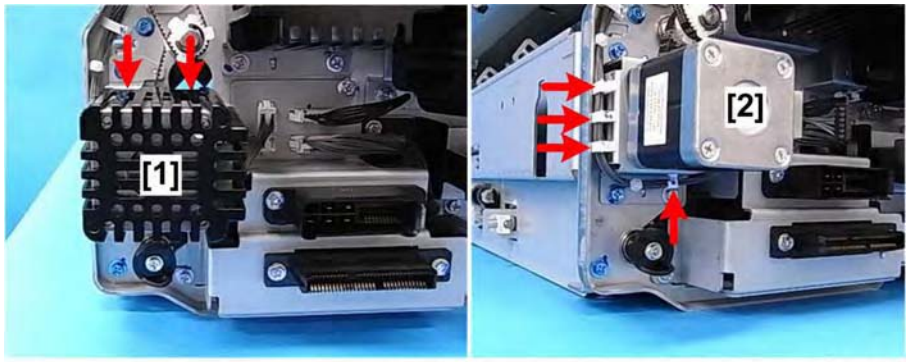
## 5.14.21 DRB

1. Right drawer (☛p.5-17)



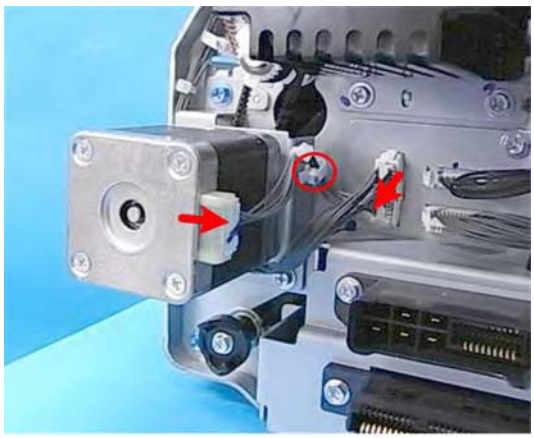

d074r717

2. Disconnect the front [1] of the DRB (x1,x3).



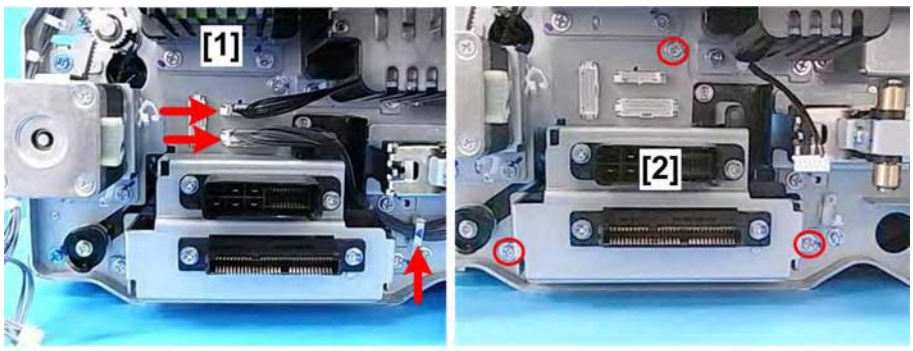

d074r718

3. At the rear, press the tab releases and remove the cover of the registration entrance motor [1].
4. Disconnect the harness [2] (x4).



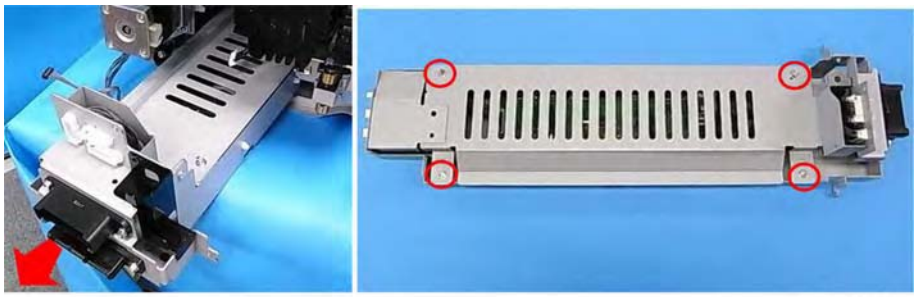
d074r719

5. Disconnect the motor (x2,x1).



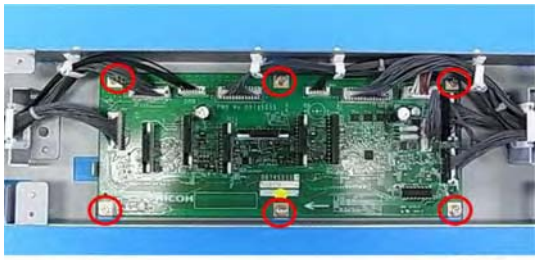

d074r720

6. Disconnect the harnesses at [1] (x2).
7. Disconnect the bracket [2] (x3).



d074r721

8. Pull the assembly out of the drawer unit.
9. Disconnect the bracket ( x4).



d074r722

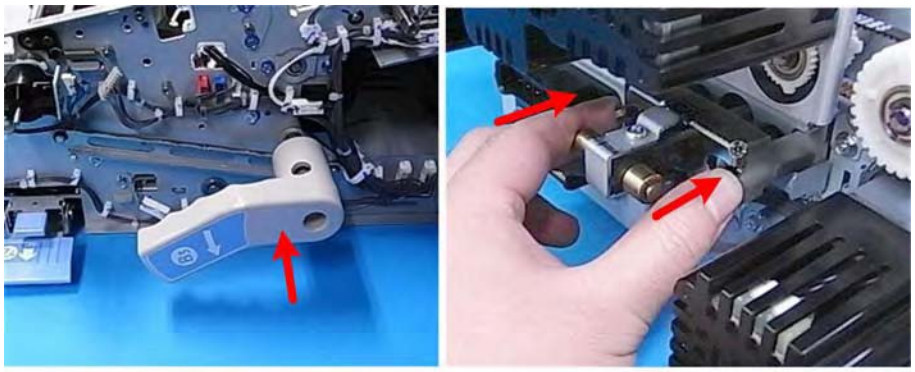
10. Remove the DRB ( x6, x All

## 5.14.22 SEPARATION POWER PACK

1. Remove:
   - Right drawer (☛p.5-17)
   - PTR unit (☛p.5-38)
   - Shift Unit (☛p.5-284)
   - Transfer Timing Sensor (☛p.5-304)

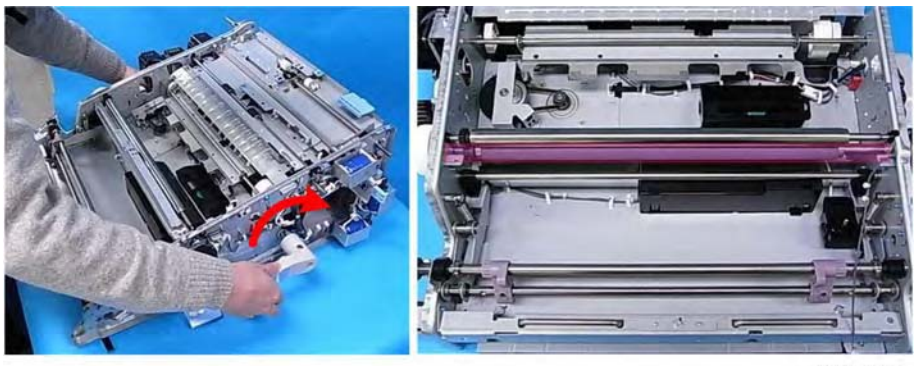
d074r723

2. Remove the bracket ( x1, x1).



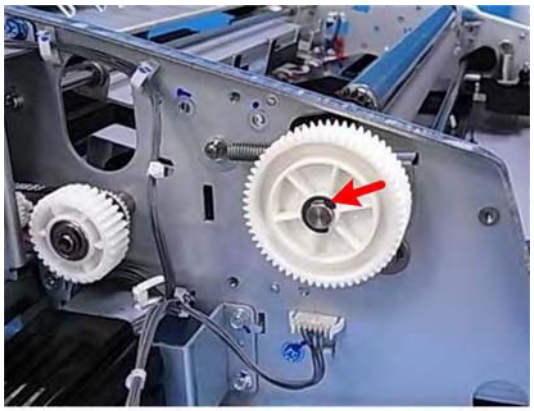
d074r724

3. Set lever **B3** at the front.
4. Push in on the brackets at rear.



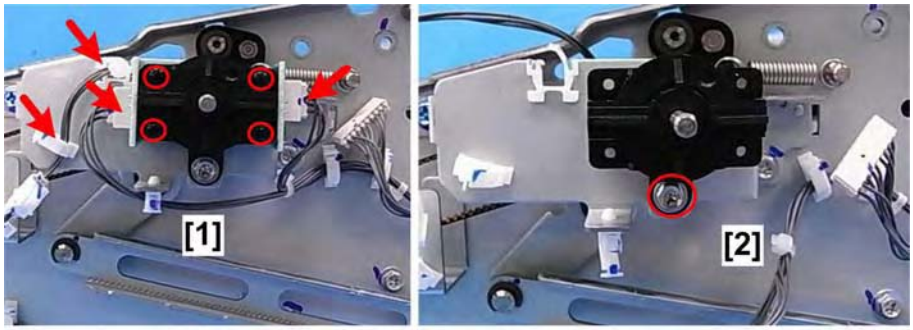
d074r725

5. While pressing both ends, raise the lever to the upright position.



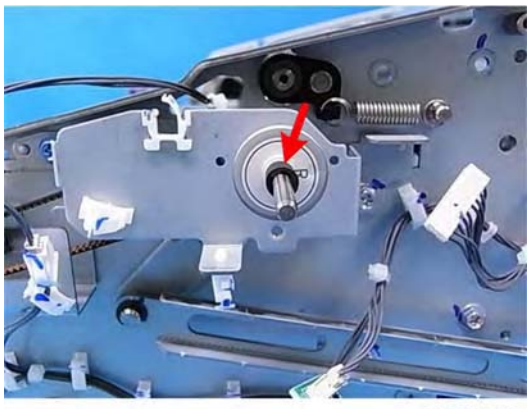
d074r726

6. Disconnect the end of the transport roller (x1).



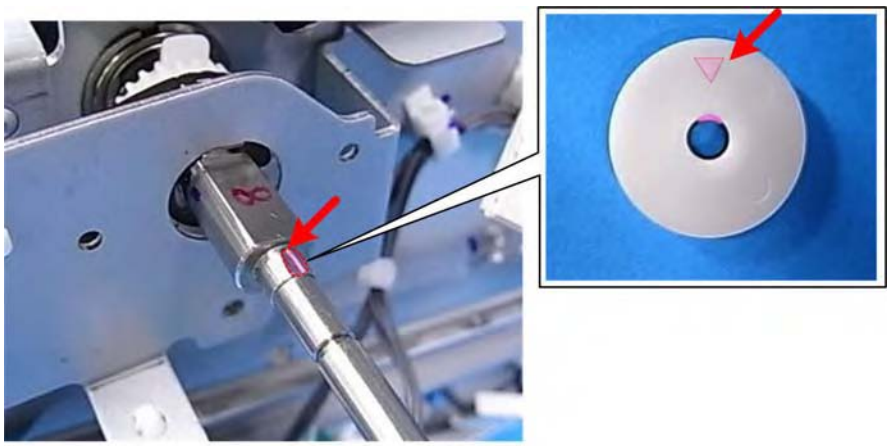

d074r727

7. Disconnect the transfer timing roller encoder [1] (x2, Pins x4, x2).
8. Remove the encoder [2] ( x1).



d074r728

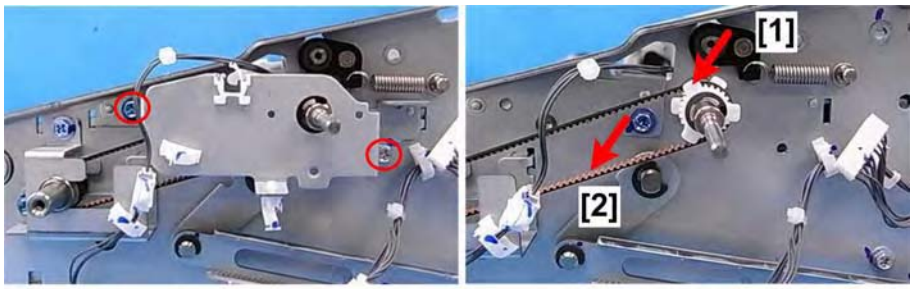
9. Remove the encoder stopper (x1).



d074r729

**Re-Installation**

1. When you re-install the stopper on the shaft, be sure to align the groove of the shaft with the tab of the stopper.
2. The small triangle on the stopper indicates the location of the tab.

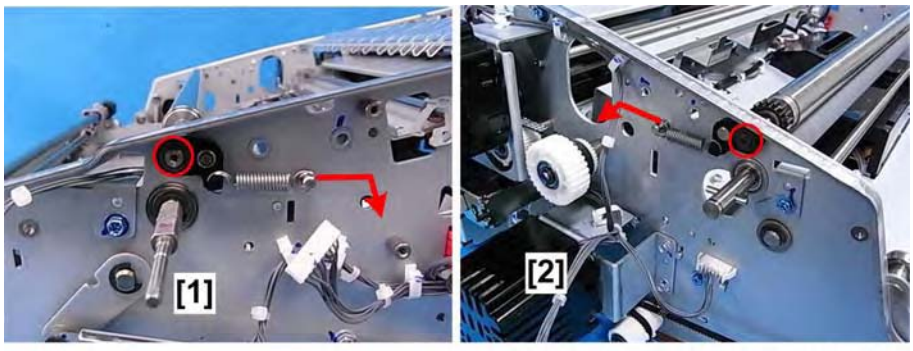



d074r730

- Remove the bracket ( x1, x1).
- Remove:

  [1] Gear ( x1)

  [2] Belt ( x1)




d074r731

- Disconnect both ends of the shift drive roller:

  [1] Front ( x1, x1)

  [2] Rear ( x1, x1)

d074r732

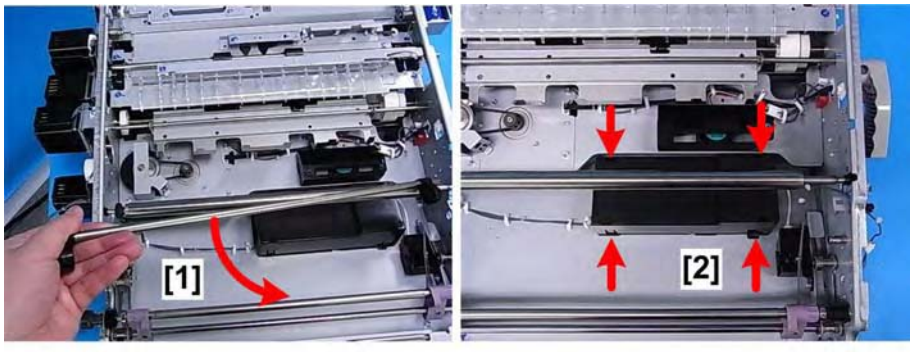
- Remove the shift drive roller.

d074r733

- Disconnect the springs on both sides of the tension arm (x2).

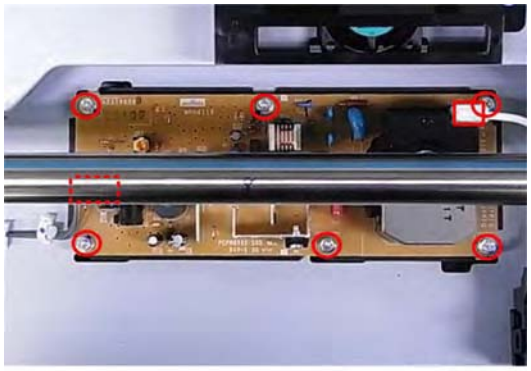
d074r734

- Disconnect the tension arm (x2).




d074r735

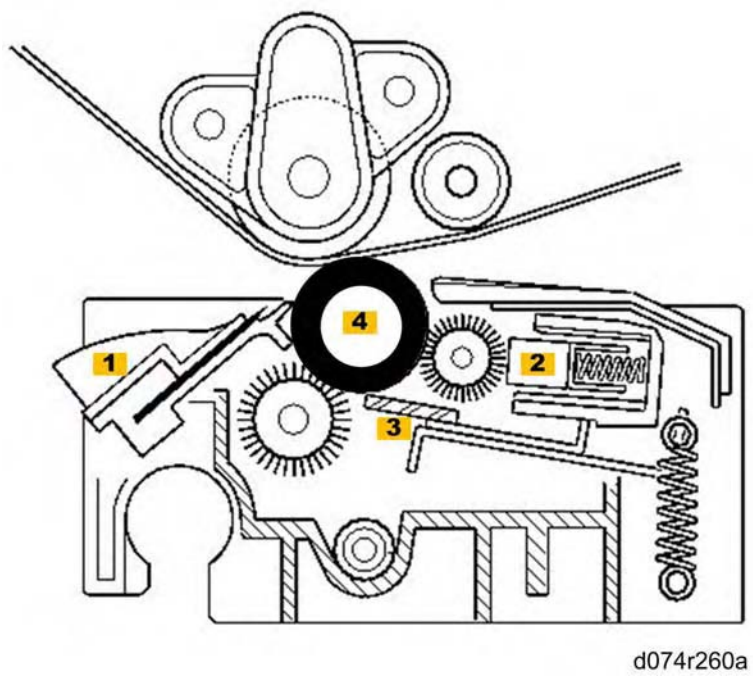
- Remove the tension arm [1].
- Depress the tab releases and remove the power pack cover [2] ( x4).



d074r736

- Remove the separation power pack ( x2, x6).

# 5.15 PAPER TRANSFER ROLLER (PTR) UNIT




## 5.15.1 PM PARTS LIST: REPLACEMENT

| No. | PM Part Name | Interval |
|---|---|---|
| [1] | PTR Separation Plate | 300K |
| [2] | PTR Lubrication Bar | 450K (D074)<br>500K (D075/M044) |
| [3] | PTR Cleaning Blade | 300K |
| [4] | Paper Transfer Roller (PTR) | 600K |

## 5.15.2 PTR SERVICING SP CODES

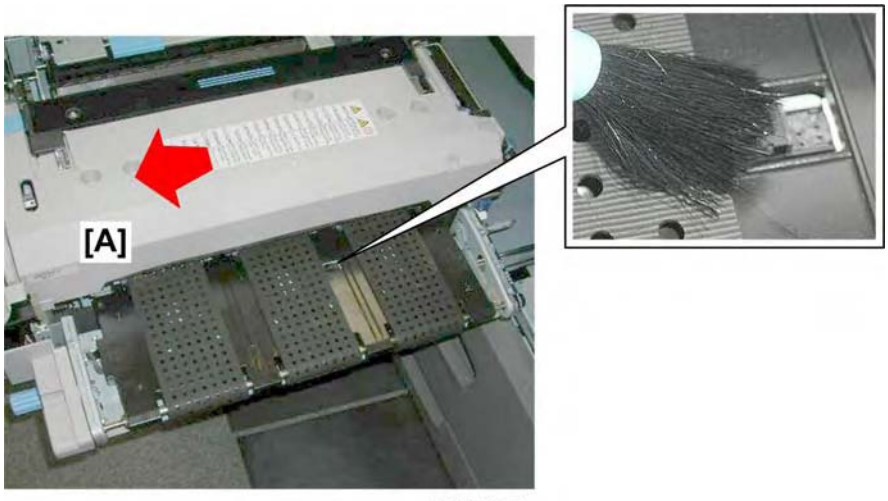
You must execute these SP codes after replacing and the PTR unit or replacing parts.

1. The machine power must be OFF.
2. Open both front doors.
3. Turn the main power switch ON.
4. Enter the SP mode.
5. Reset the counter for the replaced unit or parts.
6. Close the front doors.
7. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
8. Execute these SP codes.

| SP | What It Does |
|---|---|
| 3020-001 | Initializes process control. |
| 3012-001 | Confirms successful initialization of process control. |

9. Exit the SP mode.

## 5.15.3 CLEANING



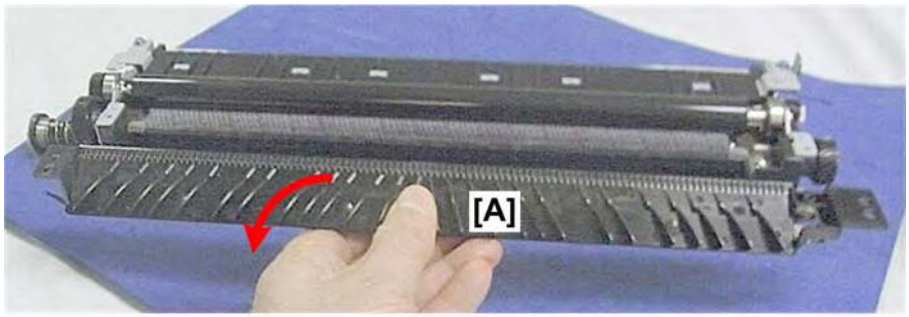

d074t260

| No. | PM Part Name | Interval | Replaced By |
|---|---|---|---|
| [A] | PTB Sensor | 300K | Service Technician, or TCRU |

## 5.15.4 SEPARATION PLATE

d074r263

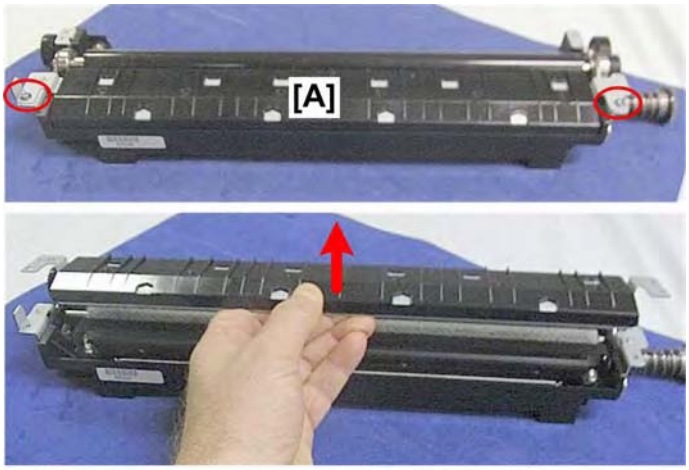
- PTR unit (☛p.5-38)
- Disconnect the separation plate at the rear [A] and front [B] ( x2).




d074r264

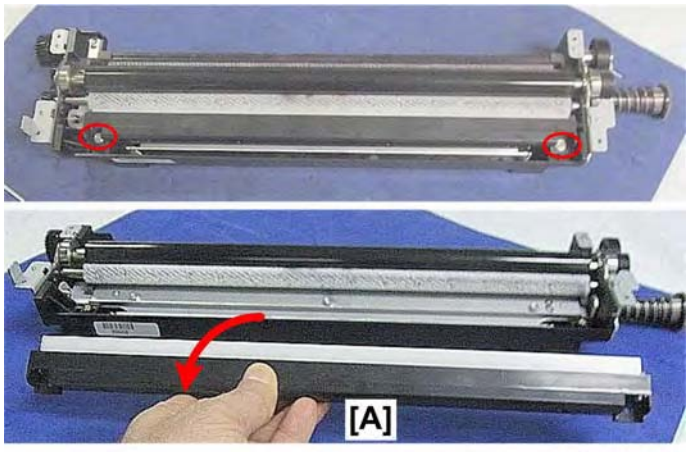
- Remove the separation plate [A].
- After replacement, do the SP codes. (☛p.5-315)

## 5.15.5 LUBRICATION BAR



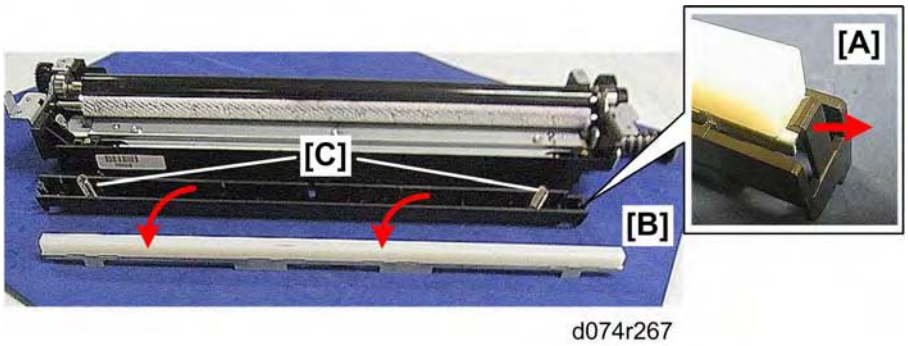

d074r265

1. PTR unit (☛p.5-38)
2. Remove the entrance guide plate [A] ( x2).




d074r266

3. Remove the lubrication bar casing [A] ( x2).




d074r267

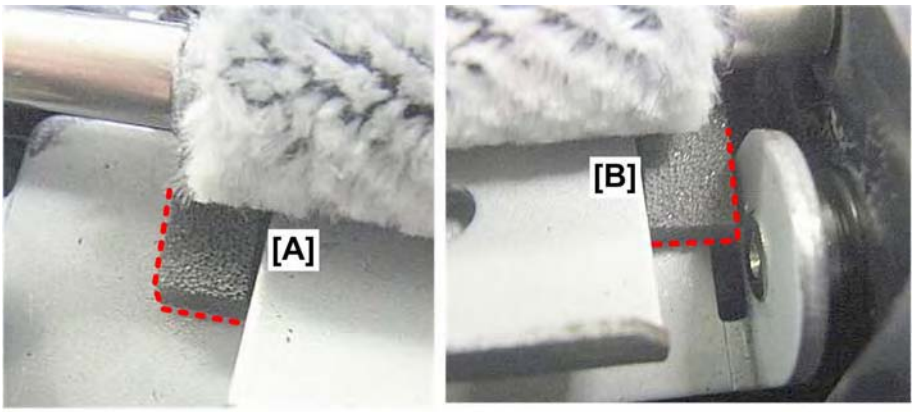
4. Release the bar on either end [A] and remove it [B] ( x2).

Important

1. Do not remove the springs [C]. The springs must be positioned as shown above for re-installation. Do not lose them (they can easily fall out of the casing if it is handled carelessly).

5. After replacement, do the SP codes. (☛p.5-315)

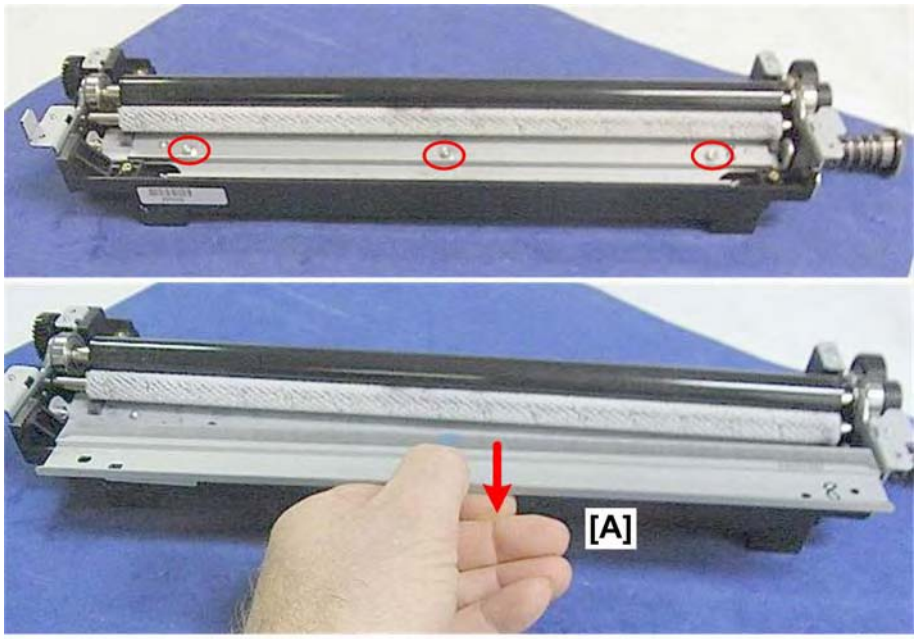
## 5.15.6 LUBRICATION BLADE




d074r267a

Important

- When removing and re-installing blades, work carefully to avoid damaging the sponge seals [A] and [B] at the ends of the blade. These sponge seals are fragile and cannot be replaced in the field.

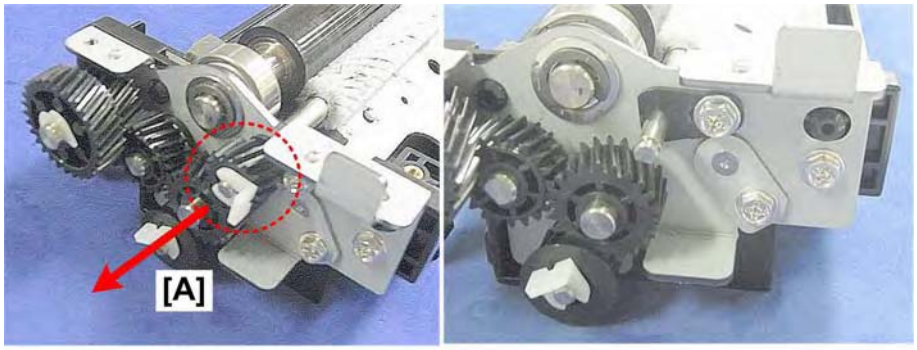



d074r268

1. PTR unit (☛p.5-38)
2. Remove the lubrication blade.
3. After replacement, do the SP codes. (☛p.5-315)

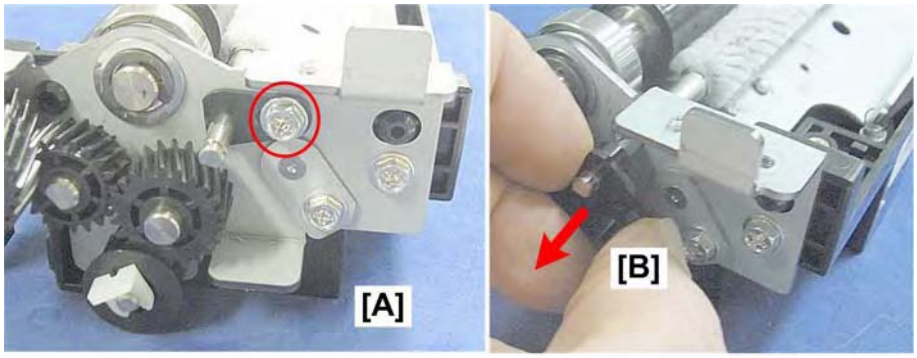
## 5.15.7 LUBRICATION ROLLER

1. PTR unit (☛p.5-38)
2. Remove:
   1. Lubrication bar (☛p.5-317)
   2. Lubrication blade (☛p.5-318)



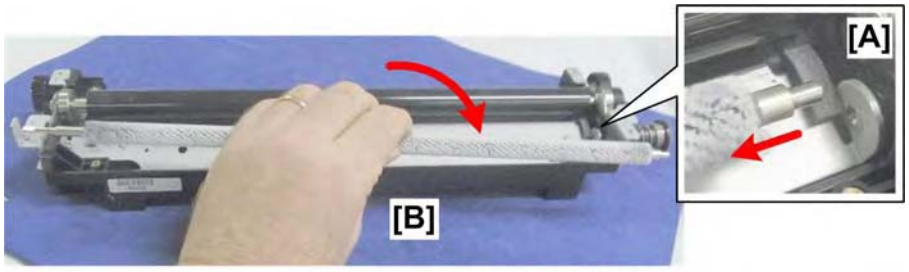

d074r269

3. At the front [A], remove the gear (x1).




d074r270

4. At the front [A], disconnect and remove the lock plate [B]( x2).

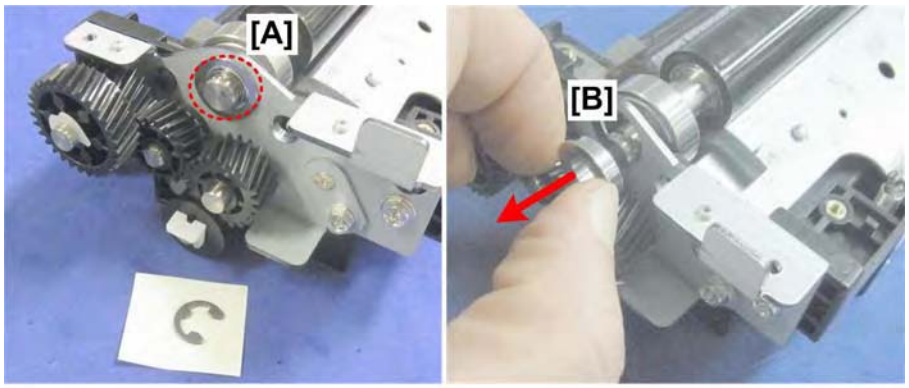



d074r271

5. Pull out the rear end of the shaft [A] and remove the roller [B].
6. After replacement, do the SP codes. (☛p.5-315)

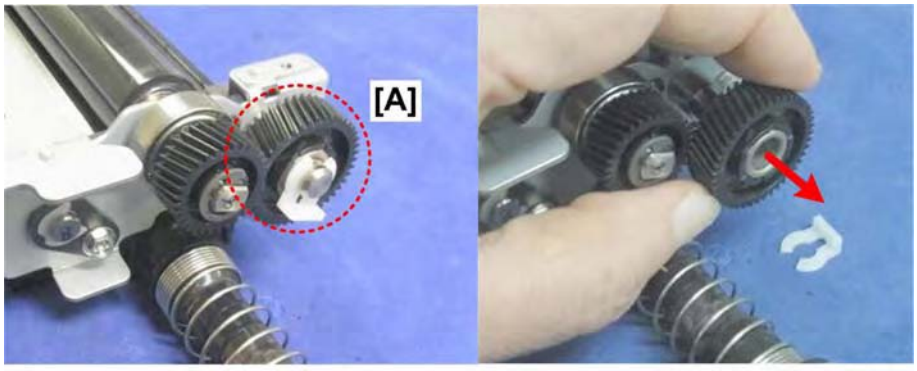
## 5.15.8 PTR (PAPER TRANSFER ROLLER)

1. PTR unit (☛p.5-38)
2. Remove:
   - Lubrication bar (☛p.5-317)
   - Lubrication blade (☛p.5-318)
   - Lubrication roller (☛p.5-320)



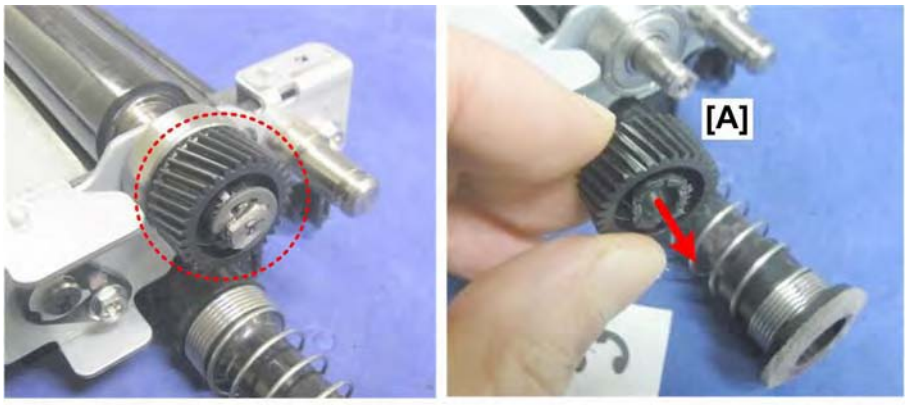
d074r272

3. Disconnect the front end of the roller [A] (x1).
4. Remove the ring bearing [B].



d074r273

5. At the rear, remove the gear [A] (x1).



d074r274

6. Remove the other gear [A] (x1).

d074r275

7. Remove the ring bearing and bearing race from the shaft.

d074r276

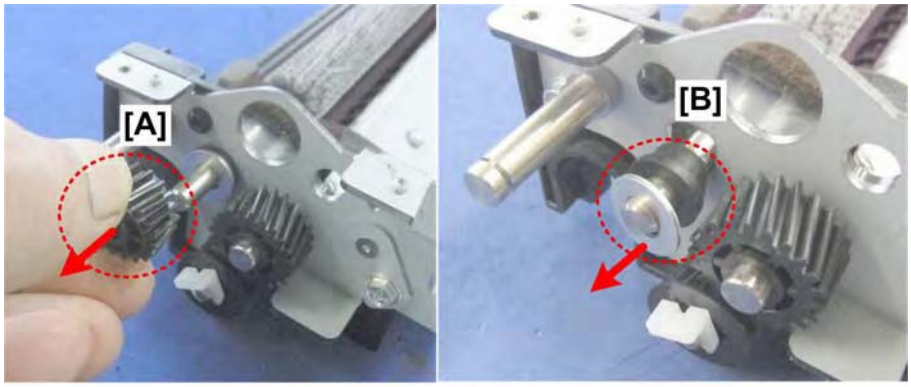
8. Remove the PTR [A].
9. After replacement, do the SP codes. (☛p.5-315)

## 5.15.9 CLEANING ROLLER

1. PTR unit (☛p.5-38)
2. Remove:
   - Lubrication bar (☛p.5-317)
   - Lubrication blade (☛p.5-318)
   - Lubrication roller (☛p.5-320)
   - PTR (See the previous section.)

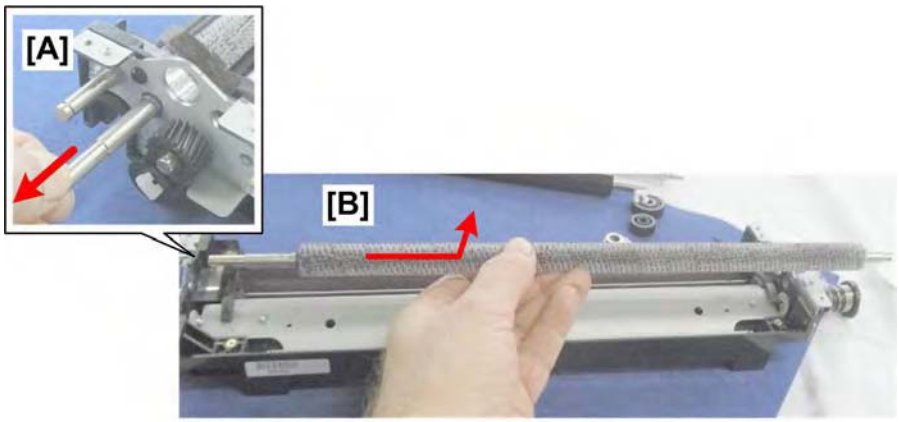
d074r277

3. At the front, remove the gear [A] (x1).




d074r278

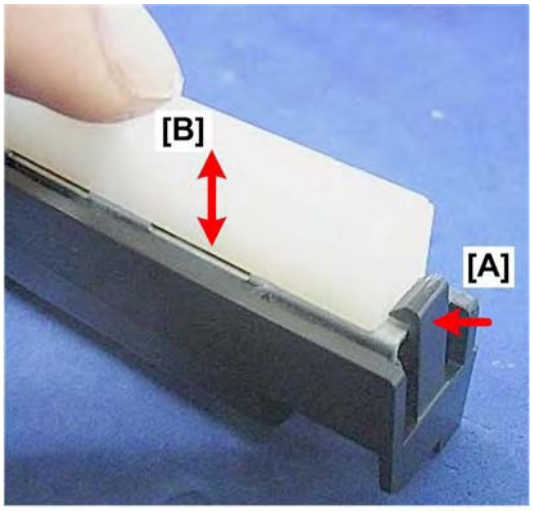
4. Remove the gear [A].
5. Remove the washer and bushing [B].



d074r279

6. At the front, pull out the shaft [A] and remove the cleaning roller [B].

**Re-installation**

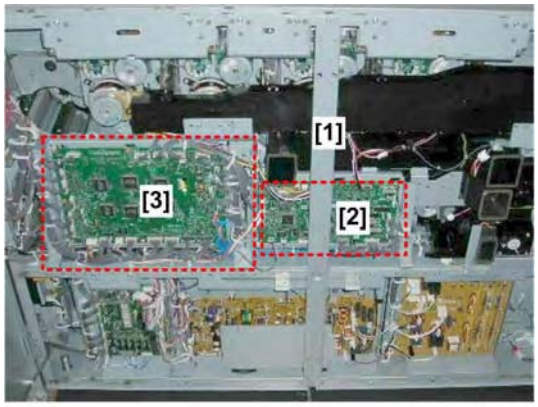


d074r280

- Attach the pawl [A] to the top of the metal bar base.
- Push the top of the bar [B] lightly. The spring should bounce up and down.
  If the bar does not bounce, make sure the springs under the lubrication bar are set correctly.
- After replacement, do the SP codes. (☛p.5-315)

## 5.15.10 PTR/ITB CLEANING UNIT MOTOR

This motor has two functions. It drives the PTR and all the moving parts of the ITB cleaning unit.

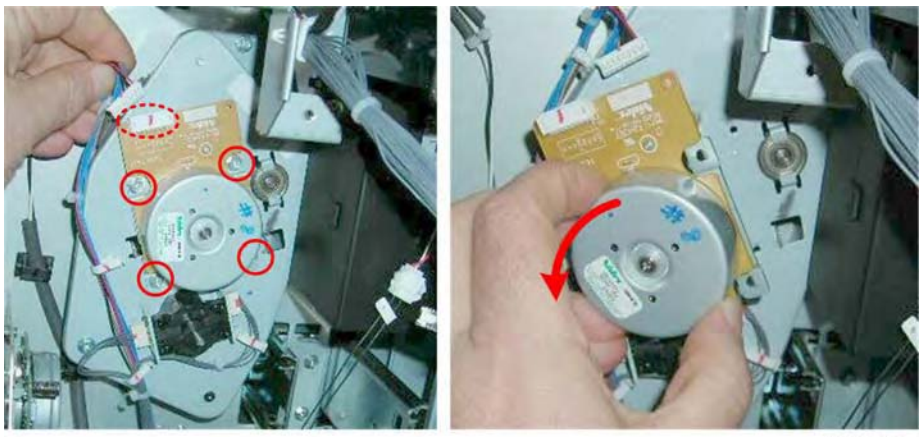



d074r481

- Open the rear boxes. (☛p.5-8)
- Remove the center stay [1] ( x3).
- Lower the TDCU [2]. (☛p.5-425)
- Lower the IOB [3]. (☛p.5-431)

Note

1. Both of these boards can be lowered without removing all the connectors and removing the boards. Just remove the top edge connectors and enough of the harnesses that will allow you to lower the boards.



d074r482

- Remove the motor ( x1, 4).

d074r483

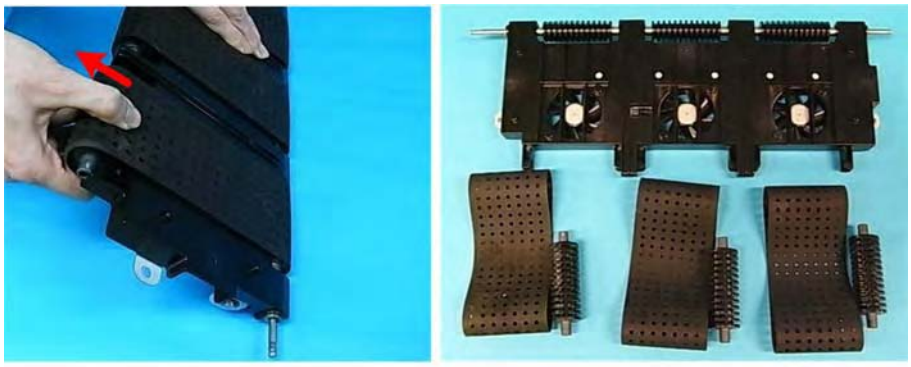
## 5.15.11 PAPER SEPARATION POWER PACK

The paper separation power pack is located near the center of the right drawer. (☛p.5-17)

# 5.16 PAPER TRANSPORT BELT (PTB) UNIT

## 5.16.1 PAPER TRANSPORT BELTS

1. PTB (☛p.5-44)



d074r742

2. Pull the roller in the direction of the arrow to disconnect the belt from the roller.
3. Repeat this procedure for each belt.

## 5.16.2 PTB SENSOR

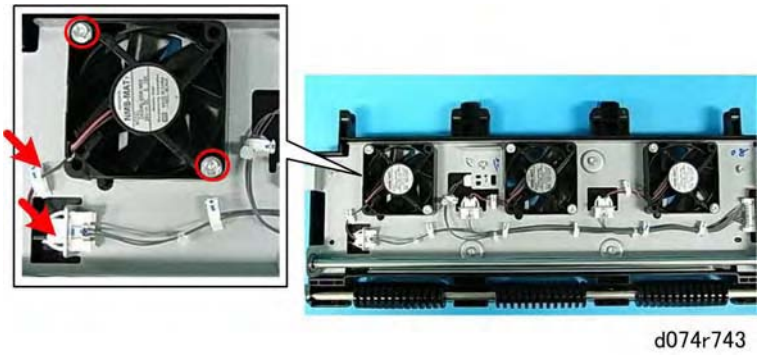
1. PTB unit (☛p.5-44)
2. Paper transport belts (☛p.5-327)

d074r744

3. Remove the sensor bracket and disconnect the sensor ( x1, x1, x3).

## 5.16.3 PTB FANS

1. PTB unit (☛p.5-44)
2. Paper transport belts (☛p.5-327)



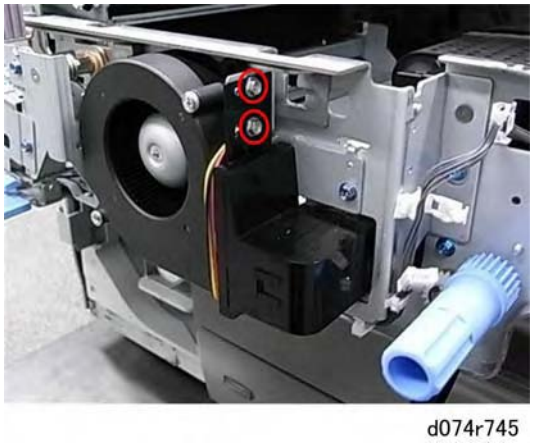

3. Remove the fan (x1, x1, x2). The procedure is the same for each fan.

## 5.16.4 PRESSURE ROLLER FAN

1. Left drawer cover (☛p.5-44)

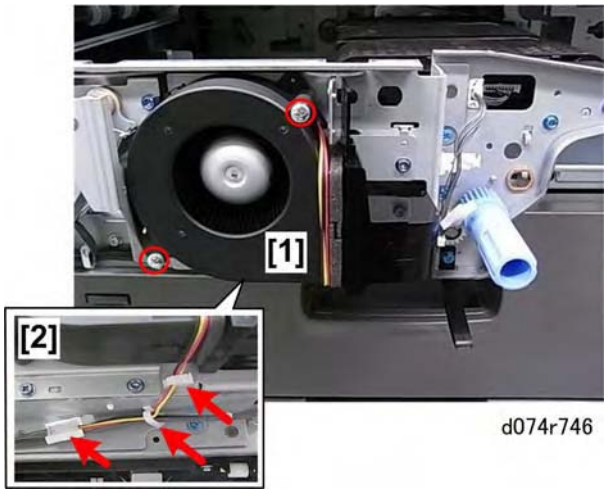
Note

- Only cover removal is necessary.



d074r745

2. Disconnect the right side of the duct ( x2).




d074r746

3. Disconnect the fan and remove it:

[1] Front ( x2)

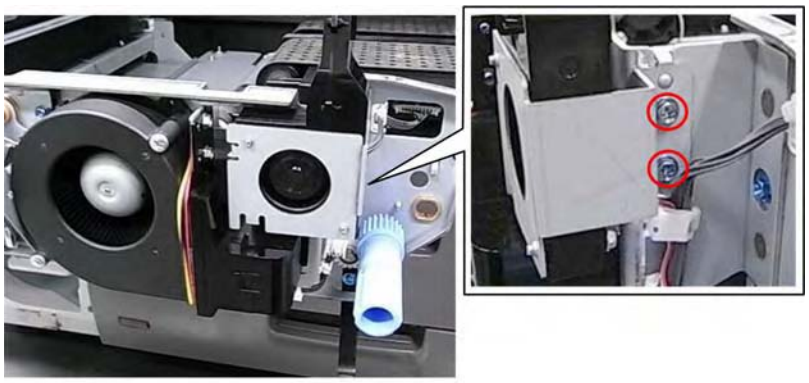
[2] Bottom ( x2, x1)

## 5.16.5 BELT COOLING FAN

- Left drawer cover (☛p.5-44)

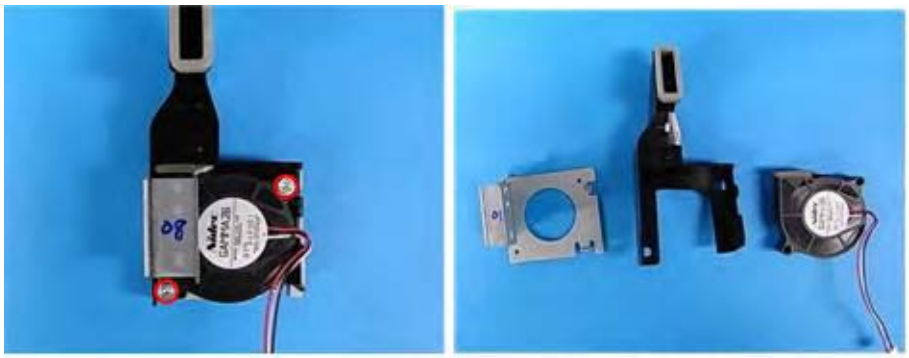
Note

- Only cover removal is necessary.



d074r747

- Remove the fan bracket (x2).



d074r748

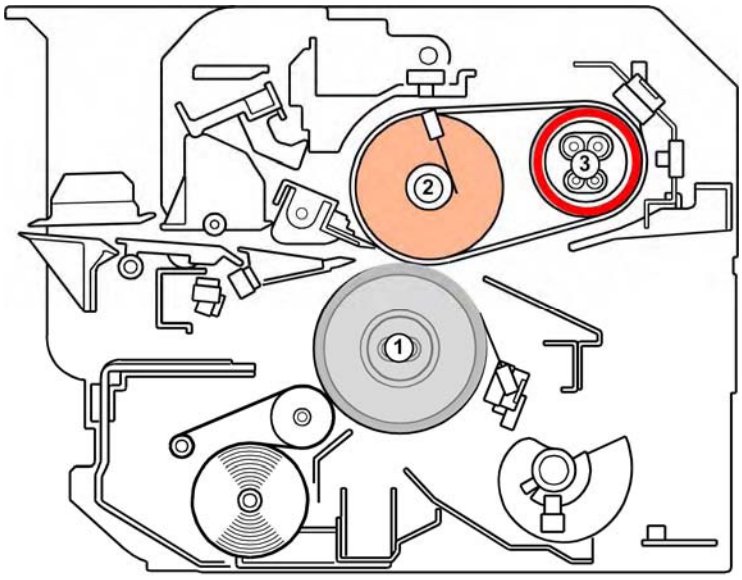
- Separate the duct, bracket, and fan (x2).

# 5.17 FUSING UNIT

## 5.17.1 BEFORE YOU BEGIN...

**⚠WARNING**

- The fusing unit can become very hot during normal operation.
- Before removing the fusing unit, switch the machine off and wait at least 10 min. for the fusing unit to cool so it can removed and handled safely.




d074r299

| | |
|---|---|
| ① | Pressure Roller |
| ② | Hot Roller |
| ③ | Heating Roller |

**Specifications**

| | | |
|---|---|---|
| Nip time | 45 ms | |
| Print speed | D074 | 65 ppm (B&W, FC) |
| | D075, M044 | 75 ppm (B&W, FC) |
| Warm-up time | Less than 300 sec. | |

| | Interval | |
|---|---|---|
| **Removing the Fusing Unit** | | |
| **Periodic Cleaning, Lubrication** | | |
| Fusing Belt Stripper Plate | 300K | Clean |
| Pressure Roller Stripper Plate | 300K | Clean |
| Entrance Guide Plate | 300K | Clean |
| Main Drive Gears | 650K | Lubricate |
| **Fusing Unit** | | |
| Heating Roller Fusing Lamps | | |
| Heating Roller | | |
| Hot Roller | 650K | Replace |
| Fusing Belt | 650K | Replace |
| Hot Roller Thermistors | 650K | Clean |
| Hot Roller Bearings | 650K | Lubricate |
| Pressure Roller Fusing Lamp | | |
| Pressure Roller | 650K | Replace |
| Pressure Roller Thermistors | 650K | Clean |
| Pressure Roller Bearings | 650K | Replace |

**Notes**

- **Periodic Cleaning, Lubrication**. This can be done by simply removing the fusing unit from the machine ( x1). Disassembly of the fusing unit is not required.
- **Fusing Unit**. Full disassembly of the fusing unit is required at 650K. All these parts must be serviced together.

## 5.17.2 PERIODIC CLEANING

The following parts can be cleaned or lubricated without disassembling the fusing unit.

**Cleaning**

| Part Name | Interval | Cleaning By |
|---|---|---|
| Fusing belt stripper plate | 300K | Service Technician, or TCRU |
| Pressure roller stripper plate | 300K | Service Technician, or TCRU |
| Entrance guide plate | 300K | Service Technician, or TCRU |

**Lubrication**

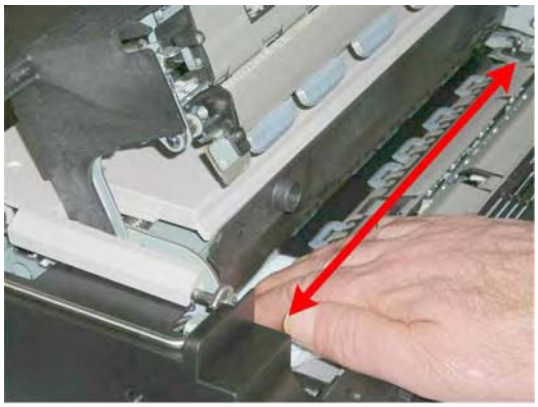
| Part Name | Interval | Cleaning By |
|---|---|---|
| Main drive gears | 650K | Service Technician |

### *Fusing Belt Stripper Plate*

d074r300

- Use a dry cloth to clean the stripper plate on the fusing belt.

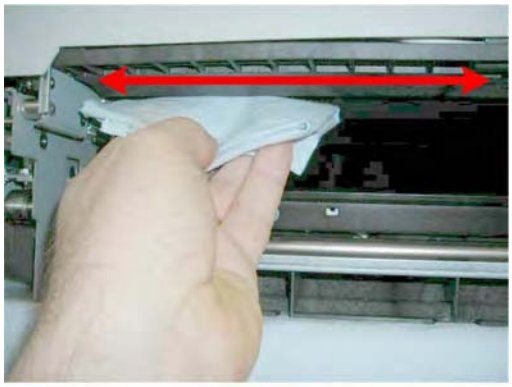
### *Pressure Roller Stripper Plate*



d074r301

1. Use a dry cloth to clean the stripper plate on the pressure roller.

### *Entrance Guide Plate*

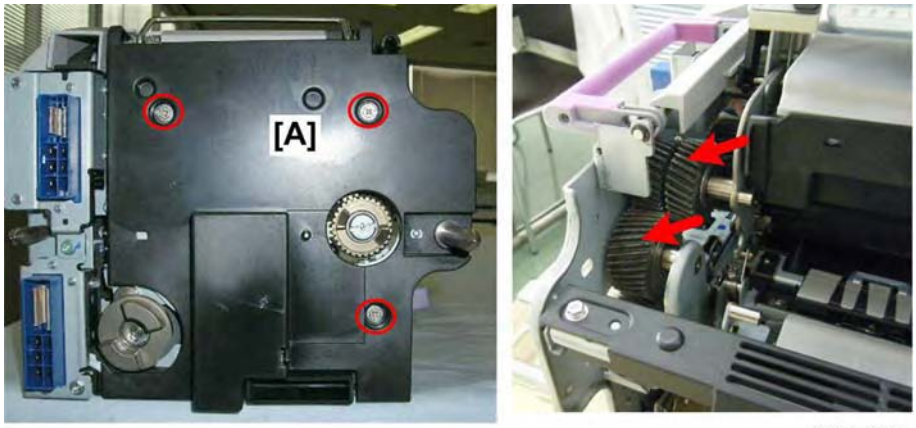


d074r302

1. Use a dry cloth to clean the entrance guide plate.

## 5.17.3 PERIODIC LUBRICATION

### *Main Drive Gears*

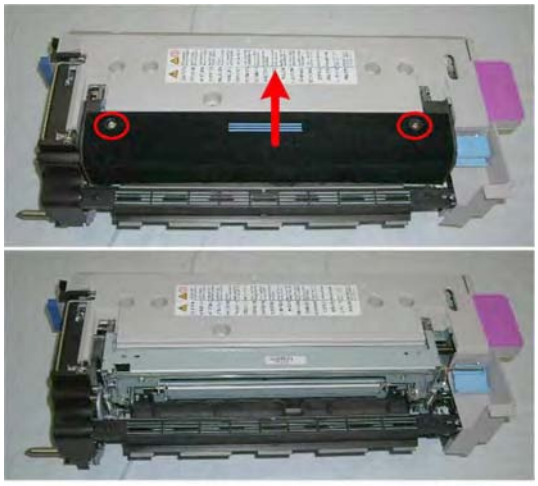



d074r303

1. Fusing cleaning unit (☛p.5-40)
2. Remove the rear plate [A] ( x3).
3. Apply FLUOTRIBO MG Grease to the two rollers marked by red arrows. Apply about 2 g at both points

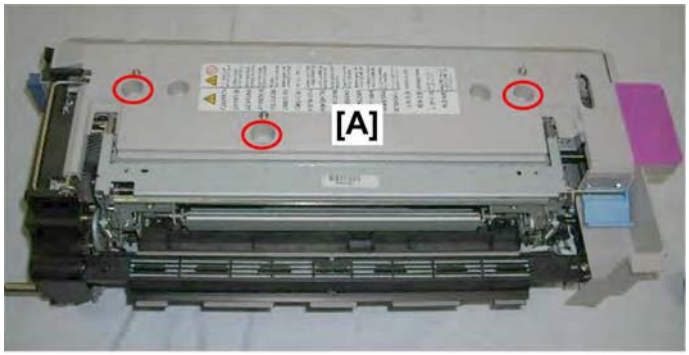
## 5.17.4 HEATING ROLLER FUSING LAMPS

- Fusing cleaning unit (☛p.5-40)



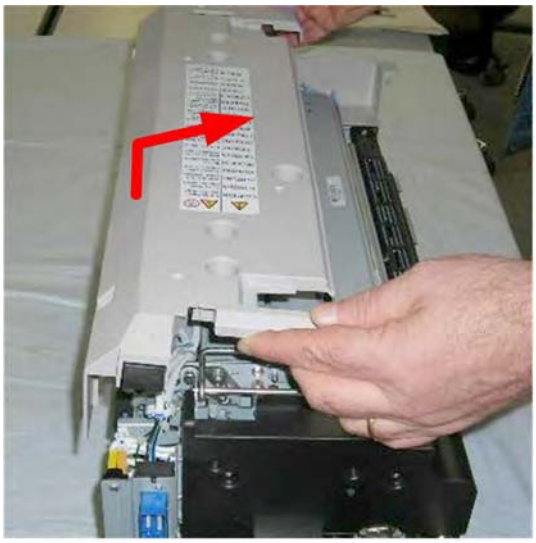
d074r341

- Remove screws (x1, x1).
- Remove the separation unit cover.




d074r342

- Remove the screws of the top cover [A] (x1, x2)



d074r343

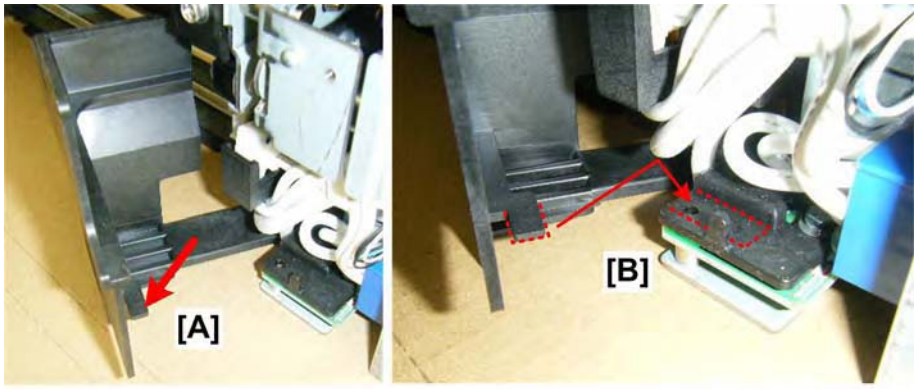
- Remove the top cover.

d074r344

- Carefully, remove the rear harness cover (x1).

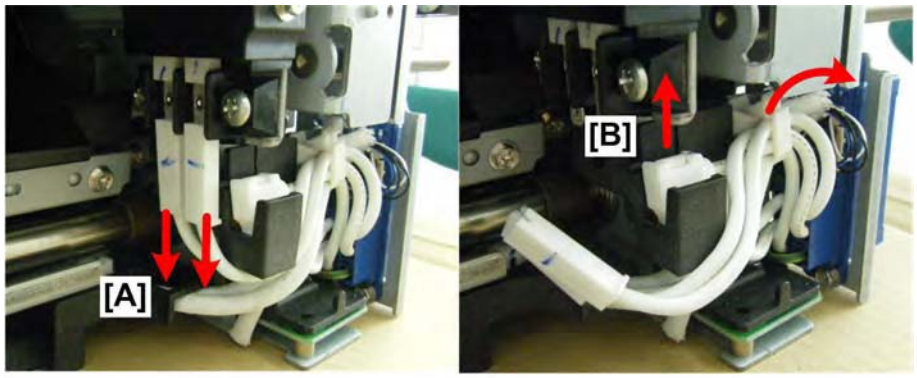
Important

1. The bottom of the cover is held in place by a tab and post.




d074r344a

1. The tab [A] is fragile and can break easily.
2. The tab must be positioned behind the post [B] when the cover is re-installed. This positions the cover correctly so that the cover screw can be re-attached.

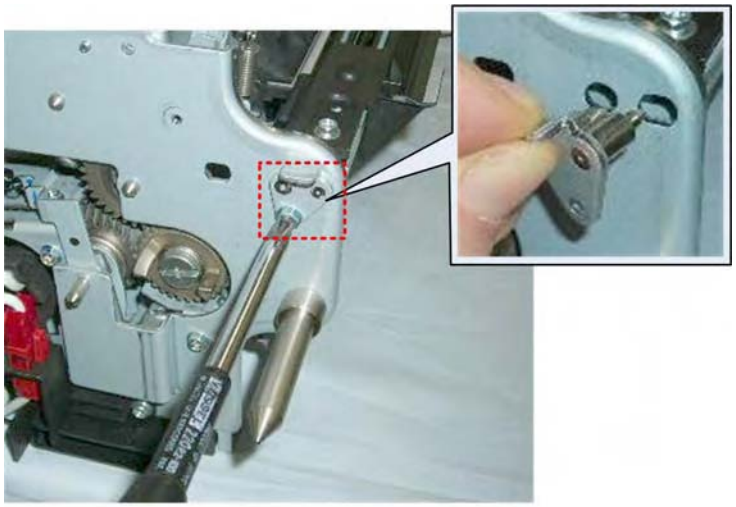



d074r345

- Disconnect bayonet connectors [A] (x2).
- Disconnect connector [B] (x1, x1).

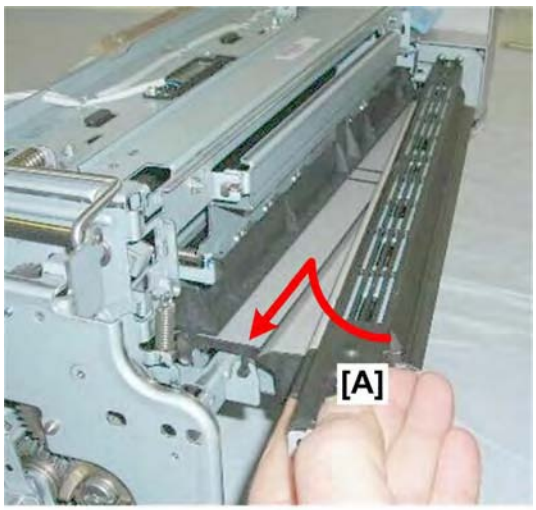
d074r346

- Remove the rear cover [A] (x3).



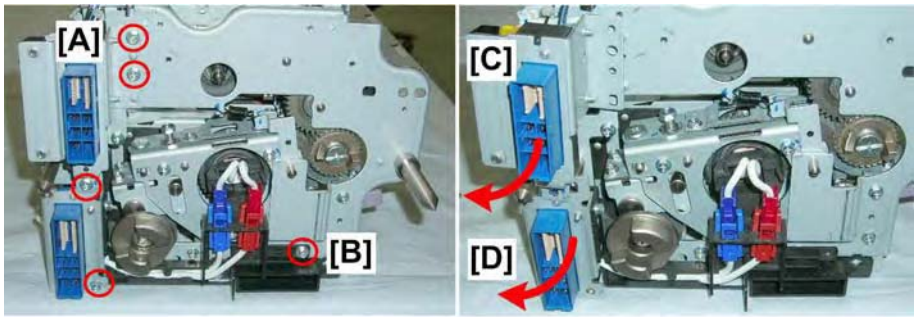
d074r347

- Remove the lock plate ( x1 M3x6).



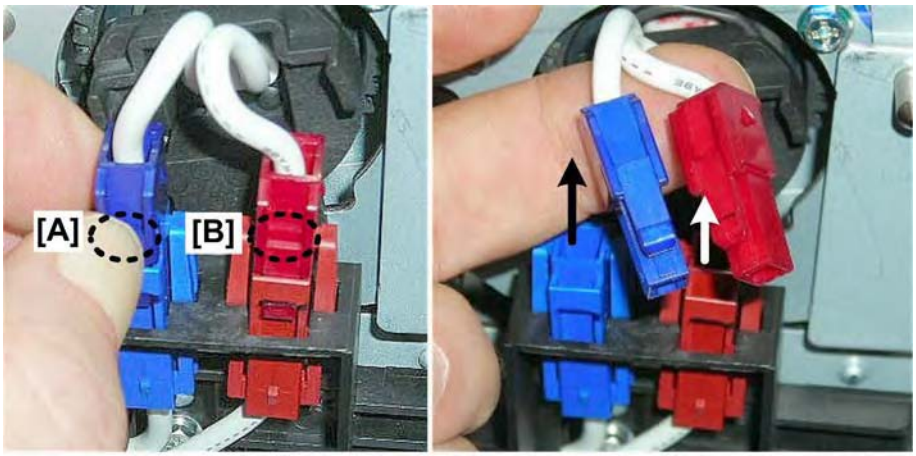

d074r348

- Remove the guide plate [A].



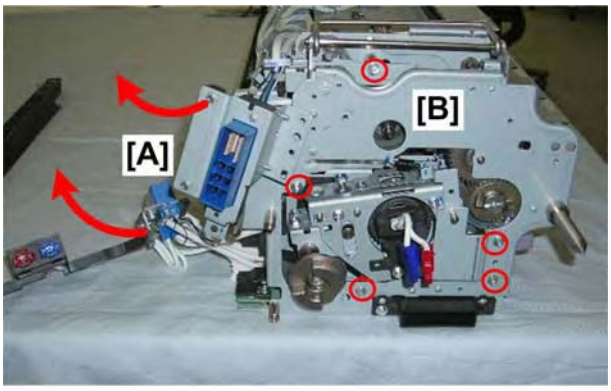

d074r349

- Remove the screws on the left [A] ( x4 M3x6).
- Remove the screw on the right [B] ( x1).
- Pull connectors [C] and [D] slightly to the left.



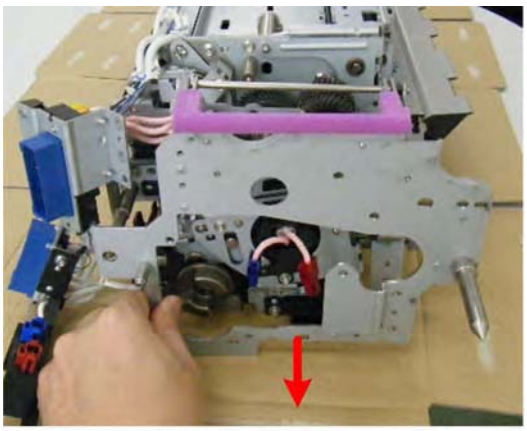

d074r350

- Press in on the sides of the connectors [A] and [B] to release them.
- Pull the connectors up to disconnect them ( x2).



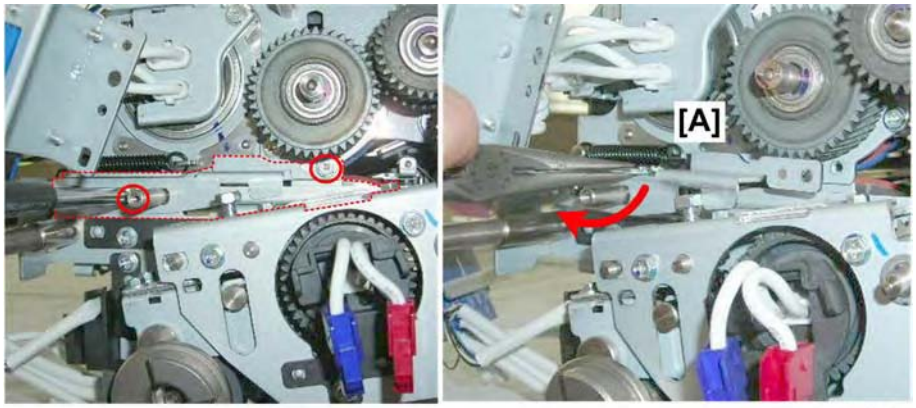

d074r351

- Pull away the drawer connector [A].
- Disconnect the rear frame [B] ( x5 M3x6).



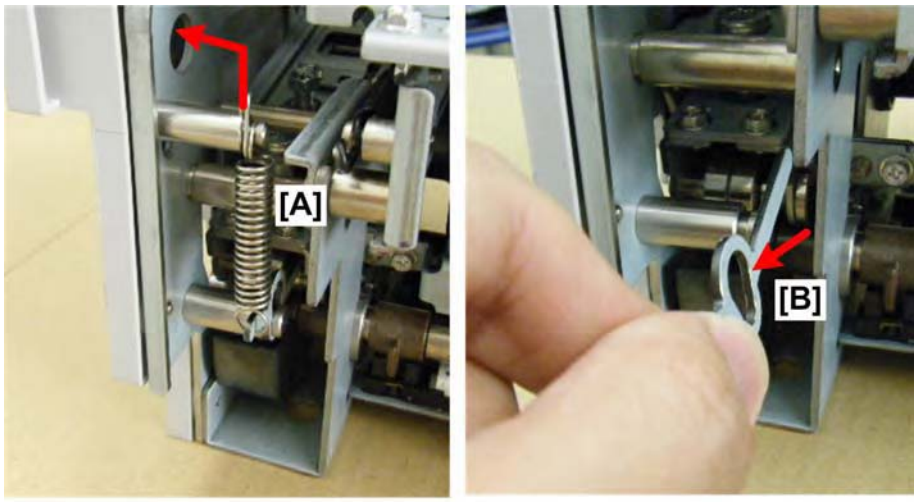
d074r352

- Remove the rear frame.



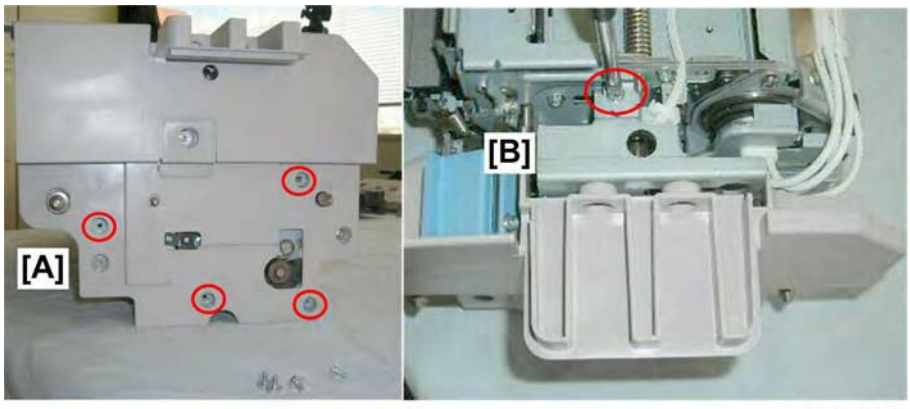

d074r353

- Remove the rear lift plate [A] ( x2 M3x6).



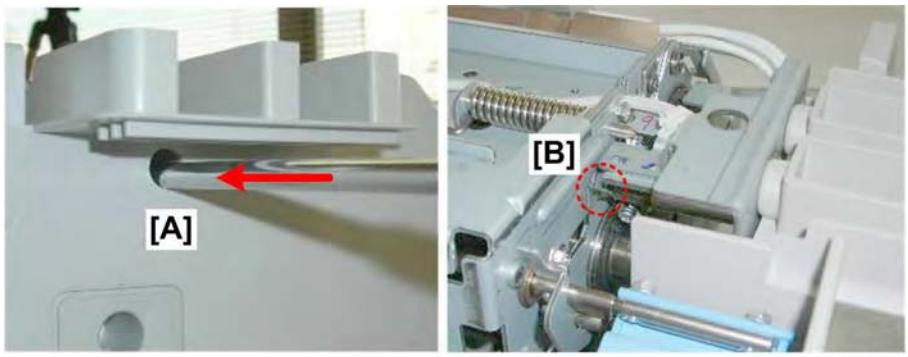

d074r353a

- At the front, remove spring [A] (x1).
- Remove lever [B].



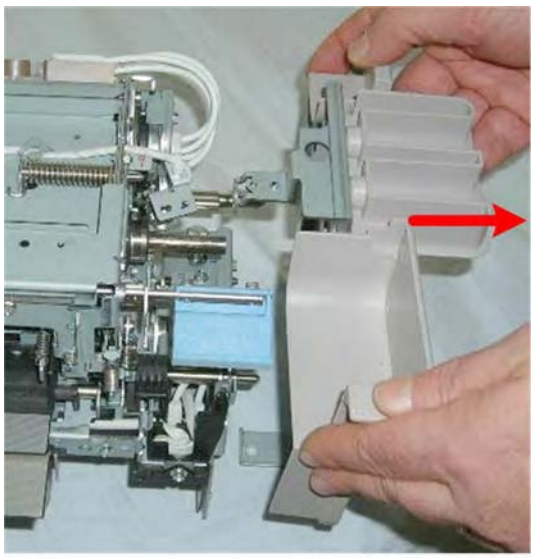

d074r354

- At the front, remove screws [A] ( x4 M3x6).
- At the top, behind the cover, remove screw [B] ( x1 M3x6).



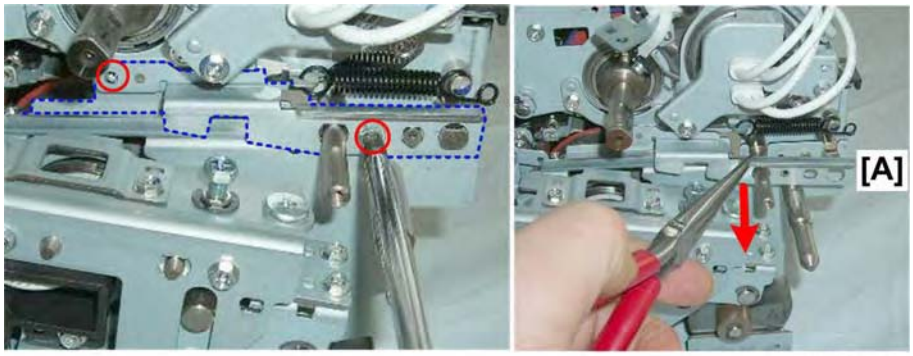

d074r355

- Insert a long screwdriver through hole [A].
- Remove the screw [B] ( x1 M3x6).



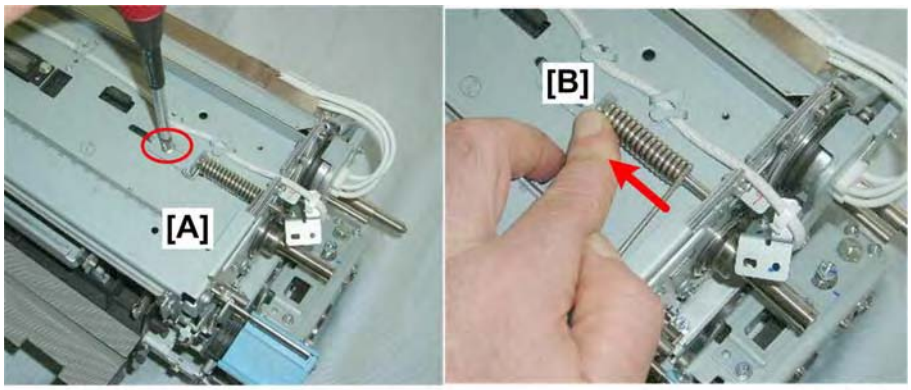
d074r356

- Remove the front cover.



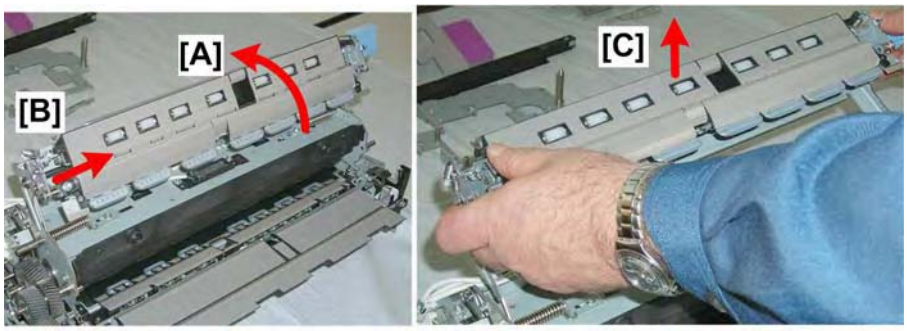

d074r357

- Remove the front lift plate [A] ( x2 M3x6).



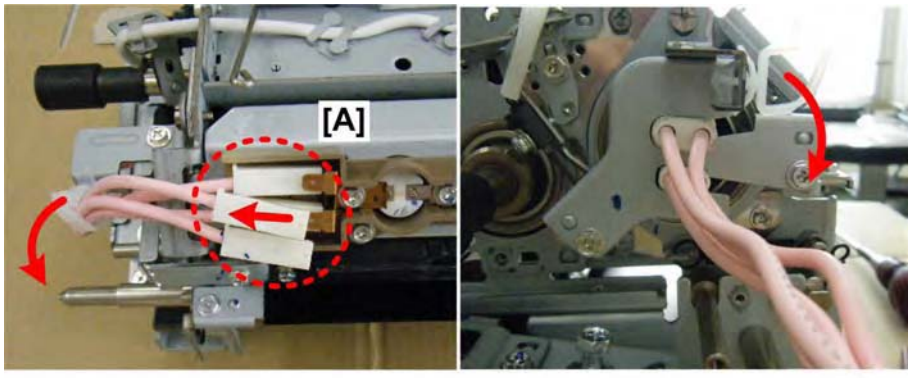

d074r358

- Loosen screw [A] ( x1 M3x6).
- Slide plate [B] away from the front.




d074r359

- Raise the paper separation unit [A].
- Disconnect it on the left [B].
- Lift and remove the unit [C].

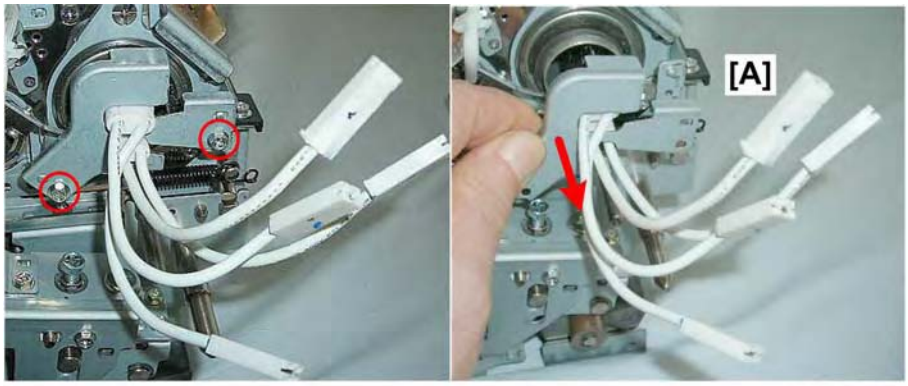



d074r360

- At the front, disconnect the ground connectors at [A] ( x4, x1) and then pull the harnesses away from the unit.

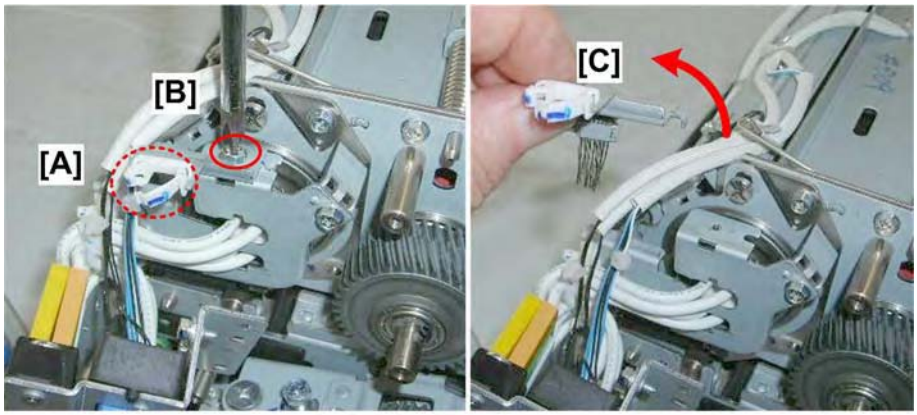
Note

  - These are ground connectors so they do not need to be re-connected in any particular order.



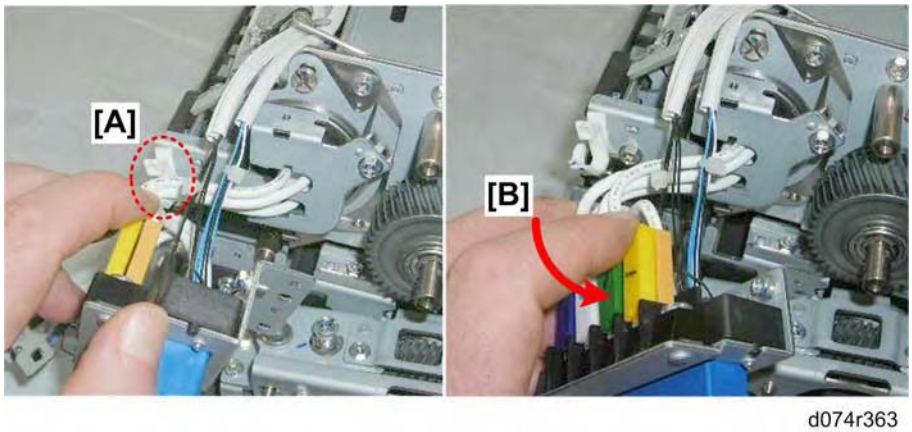

d074r361

- Remove the fusing lamp holder [A] ( x3 M3x6).




d074r362

- At the rear:
  1. Open the clamp at [A] (x1).
  2. Remove screw [B] ( x2 M3x6).
  3. Remove the anti-static brush [C].




d074r363

- Open clamp [A] (x1).
- Pull the connector assembly [B] out slightly.

d074r364

- Mark these connectors 1 to 4 before you remove them. (The colors may be different than those in the photo.)

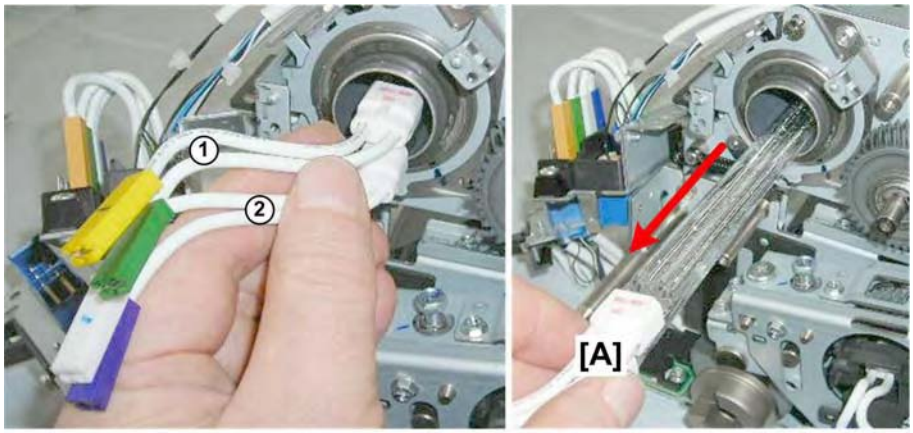
Important

1. These connectors must be re-connected in the same order.

- Disconnect the bayonet connectors (x4).

d074r365

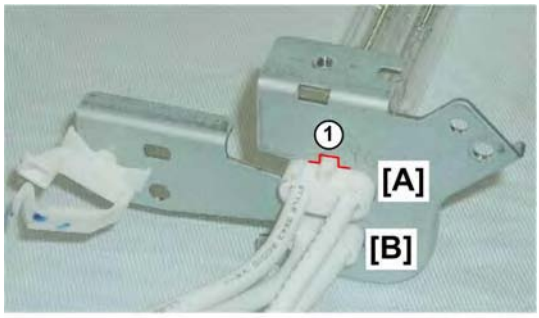
- Remove the rear fusing lamp holder [A] ( x2 M3x6).




d074r366

- Note the positioning of the top ① and bottom ② fusing lamps. They must be re-installed as shown in the photo.
- Pull the fusing lamps [A] slowly out of the heating roller.

**Re-installation**




d074r367

- When re-installing the heating roller fusing lamps, make sure that the sleeves of the dual lamps are inserted correctly as shown above.
- The end of the lamp with the large projection [A] faces up toward the thermostats, and the lamp with the small projection [B] faces down.
- This arrangement ensures that they are re-installed correctly.

## 5.17.5 HEATING ROLLER

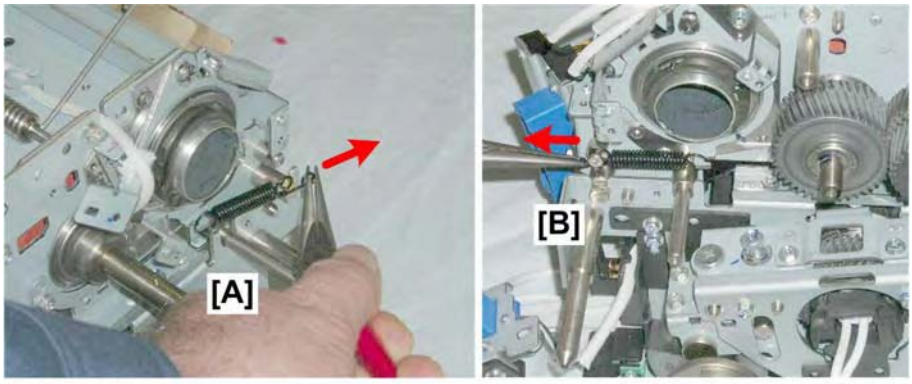
1. Heating roller fusing lamps (☛p.5-337)

d074r368

2. Disconnect both ends of the upper entrance guide plate ( x2 Right).

d074r368a

3. Remove the upper entrance guide plate.




d074r370

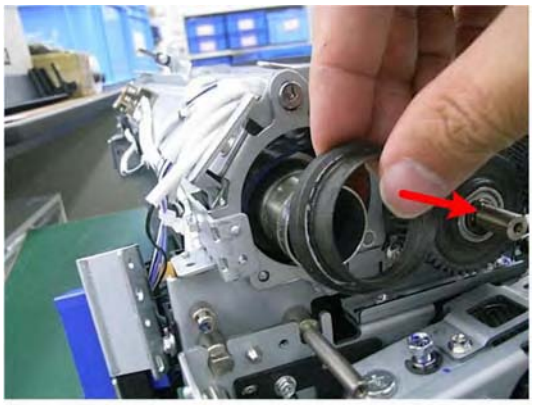
4. Disconnect and remove springs:

   [A] Front ( x1).

   [B] Rear ( x1).

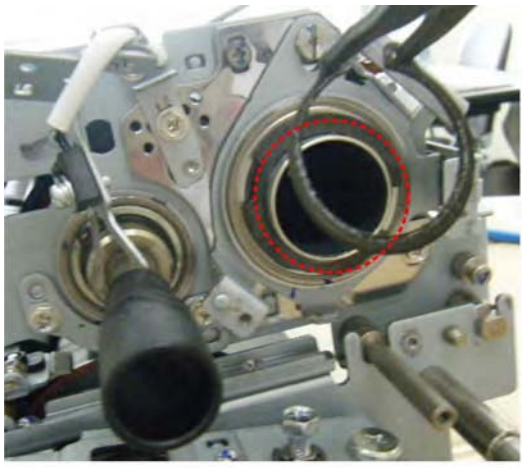
d074r371

5. At the rear [A], use a pair of spreaders to remove the C-ring.
6. Remove the bearing race [B].



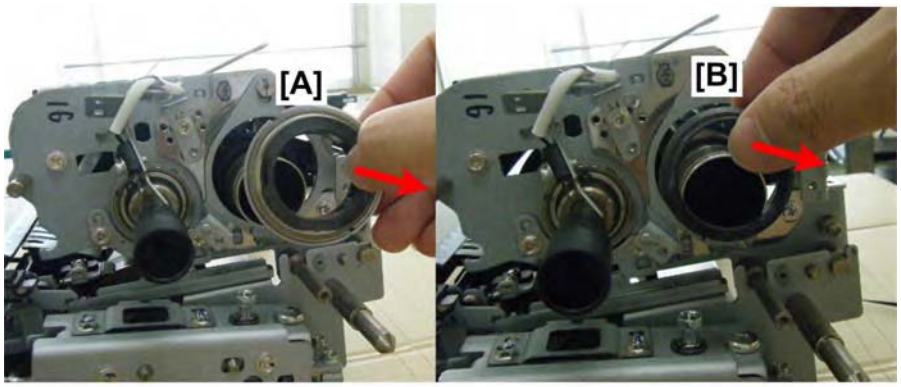
d074r371a

7. Remove the belt flange.



d074r371b

8. At the front, remove the C-ring.

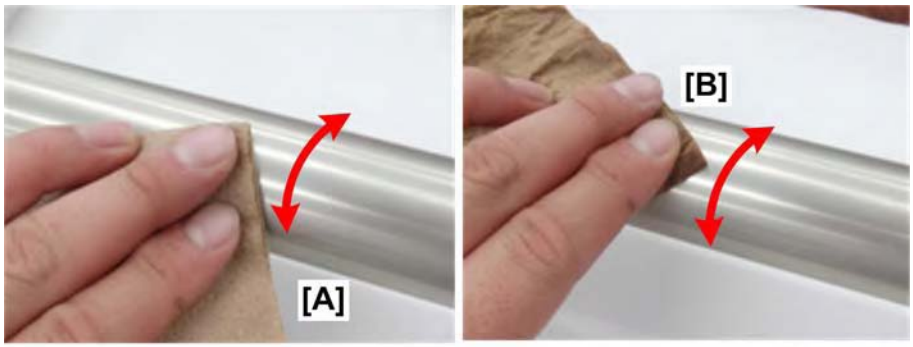



d074r371c

9. Remove bearing race [A].
10. Remove flange [B].
11. Pull out the heating roller.

**Re-installation**

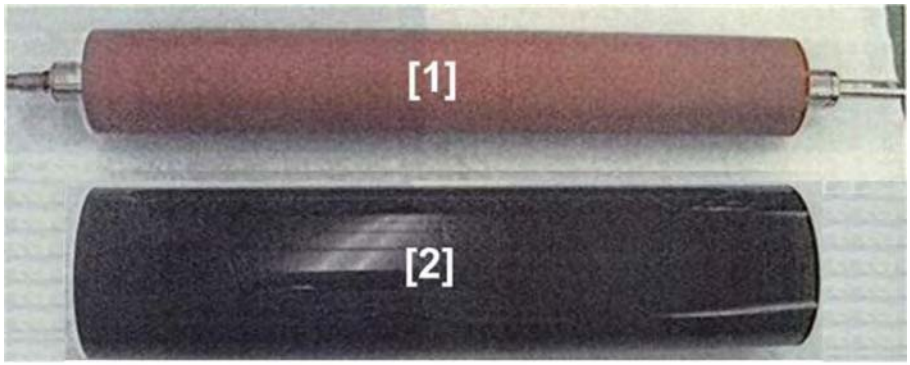
Always inspect and clean a heating roller for contamination by grease before re-installing it. Grease contamination can cause uneven heating on the surface of the roller and cause problems during fusing.




d074r371g

1. Clean the entire surface of the heating roller with a dry cloth [A].
2. Next, clean the entire surface with a cloth dampened with water (not alcohol) [B].
3. Finally, clean the entire surface once more with a dry cloth.

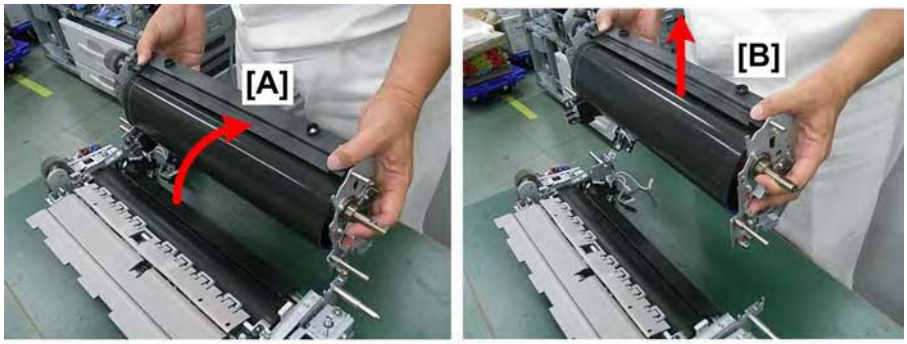
## 5.17.6 HOT ROLLER, FUSING BELT




d074r375

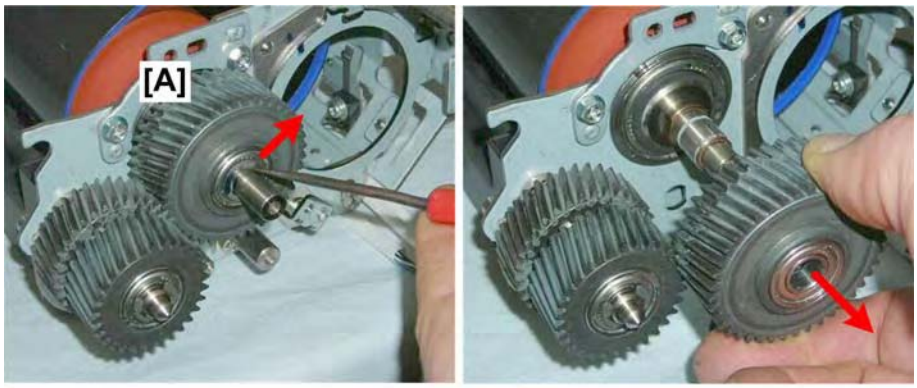
| No. | PM Part Name | Service Life |
|---|---|---|
| [1] | Hot Roller | 650K |
| [2] | Fusing Belt | 650K |

1. Fusing lamps (☛p.5-337)
2. Heating roller (☛p.5-348)



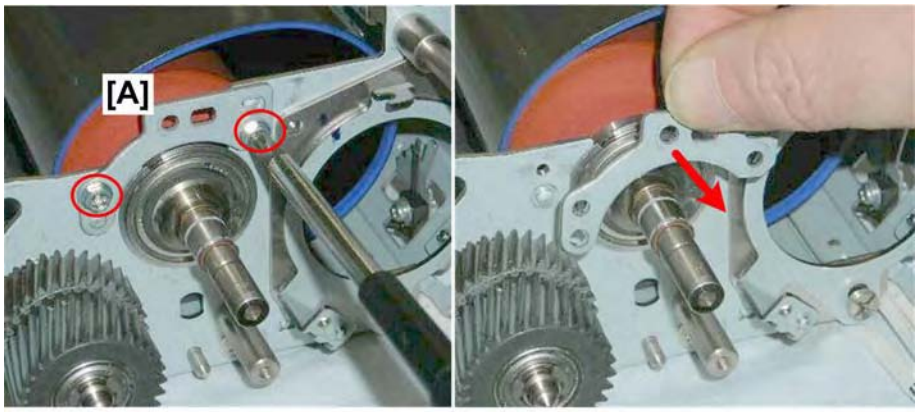

d074r374

3. Raise the unit [A] up to the vertical position.
4. Remove the upper unit [B].



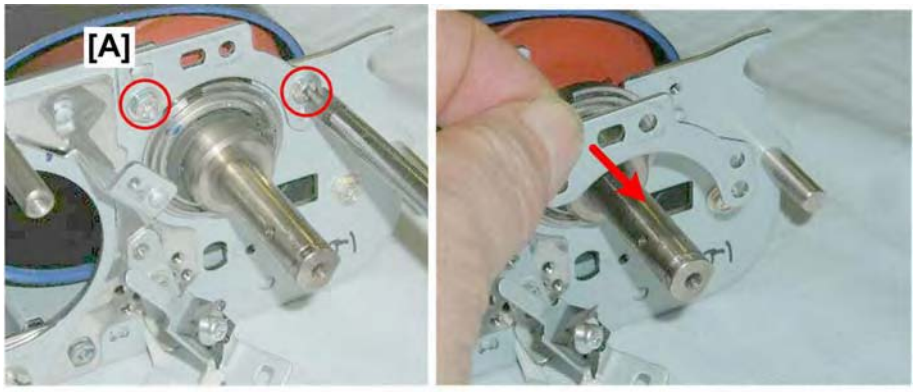

d074r376

5. At the rear [A], remove the main fusing drive gear (ℭ x1).



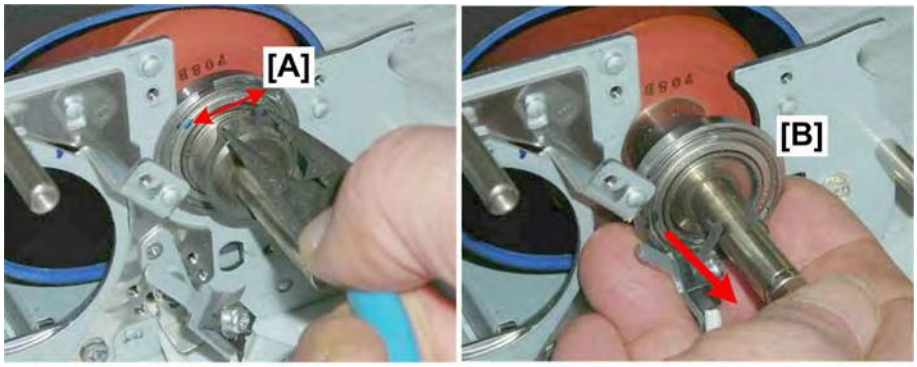

d074r377

6. At the same location, remove the rear arch plate ( x2 M3x6).



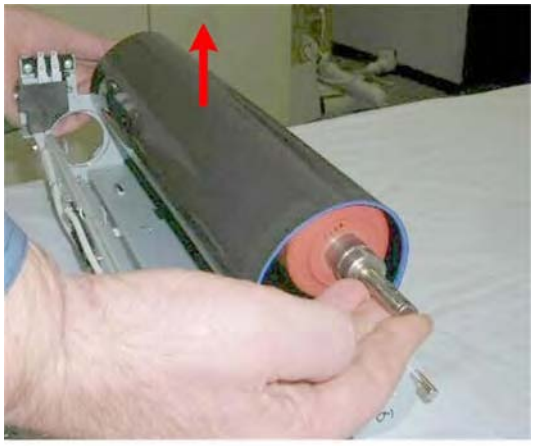

d074r378

7. At the front, remove the front arch plate ( x2 M3x6).




d074r379

8. Use a pair of spreaders to remove C-ring [A].
9. Remove the bearing race [B].



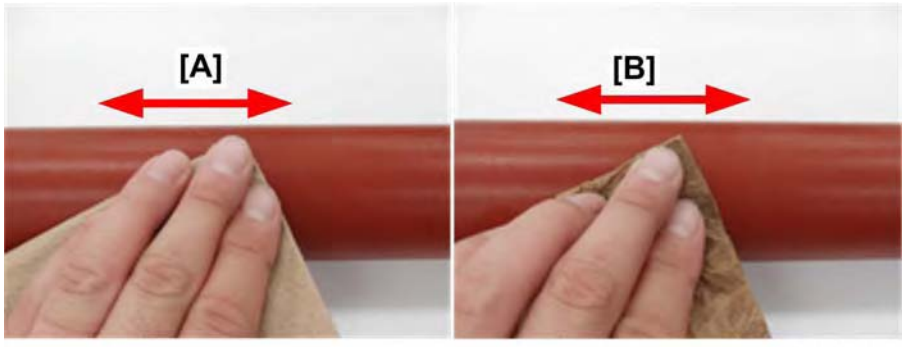
d074r380

10. Remove the hot roller and fusing belt [A] together.
11. Pull the hot roller out of the belt.

**Before Hot Roller Re-installation**

Always inspect and clean a hot roller for contamination by grease before re-installing it. This is especially important for a removed roller that is to be re-installed.

1. Grease on the surface of the hot roller can cause the surface of the roller to peel.
2. If peeled particles reach the surface of the heating roller, this can cause glossy patches or streaks to appear on prints.




d074r381

**To clean the surface of a hot roller**

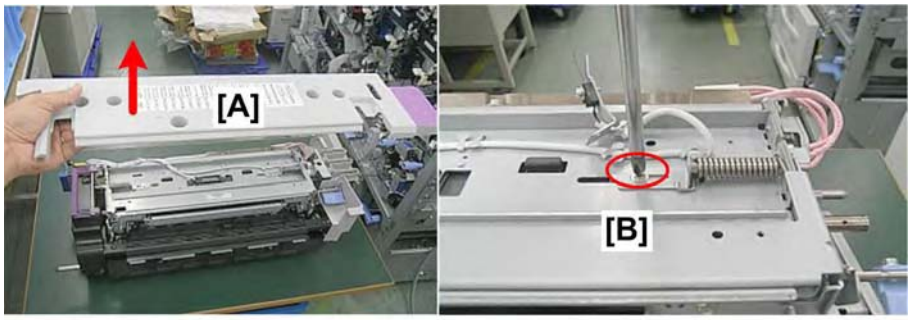
- Clean the entire surface of the hot roller with a dry cloth [A].
- Next, clean the entire surface with a cloth dampened with water (not alcohol) [B].
- Finally, clean the entire surface once more with a dry cloth.

**After New Hot Roller Installation**

A newly installed hot roller may have a tendency to catch and cause spurious noise. Do the following procedure to avoid this problem.

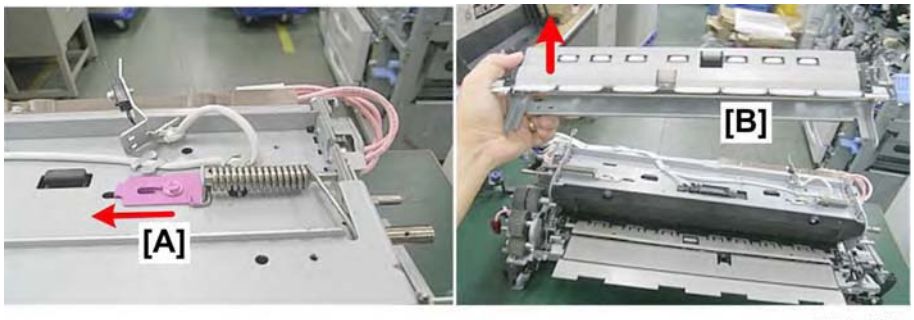
d075r001

1. Remove the top cover screws (x2, x1).



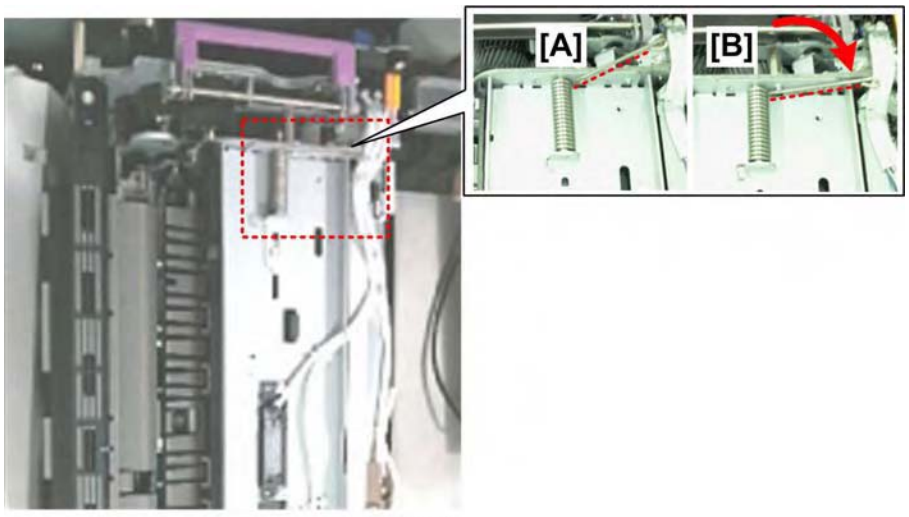

d075r002

2. Remove top cover [A].
3. Loosen screw [B] ( x1 M3x6).



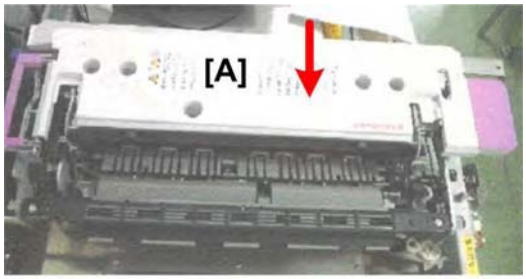

d075r003

4. Slide plate [A] to the rear.
5. Remove separation unit [B].




d074r005

6. Lower the spring arm for position [A] to [B] as shown above.



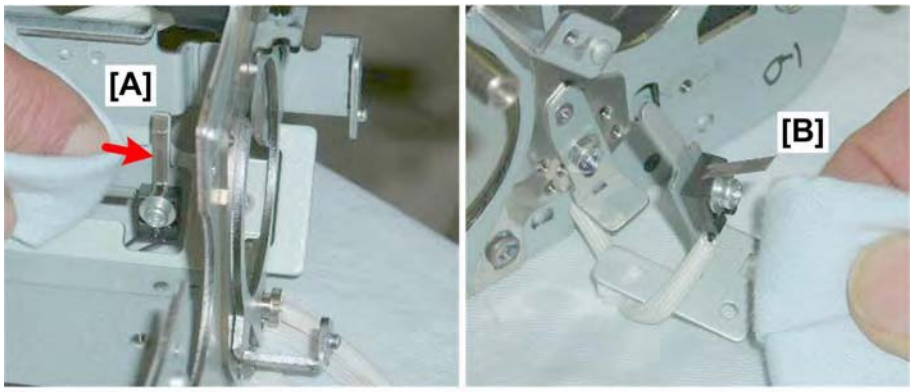

d075r004

7. Re-attach the top cover [A] ( x1, x2).
8. Turn the machine on.
9. Wait a few moments for the pressure roller to move to the start position.
10. Enter the SP mode.
    1. Switch ON SP5805-102 (Output Check - Press Roller Lift Motor (Up)).
    2. If you hear no belt noise, or if the belt makes noise and then goes off, switch ON SP5805-101 (Output Check - Press Roller Lift Motor (HP))
    3. If the roller noise does not stop, switch ON SP5804-114 (Output Check - Fusing Motor: High Speed) and with SP5804-114 ON do SP5805-102 and then wait for the noise to stop.
    4. Once the noise stops, switch SP5805-101 ON, switch SP5804-114 OFF, and then exit the SP mode.
    5. After doing these SP codes, be sure the remove the cover and reassemble the fusing unit.

## *Cleaning, Lubrication*

Do the following procedures before reassembling the fusing unit.

| Part Name | Interval | Action |
|---|---|---|
| Heating Roller Thermistors (x2) | 650K | Clean |

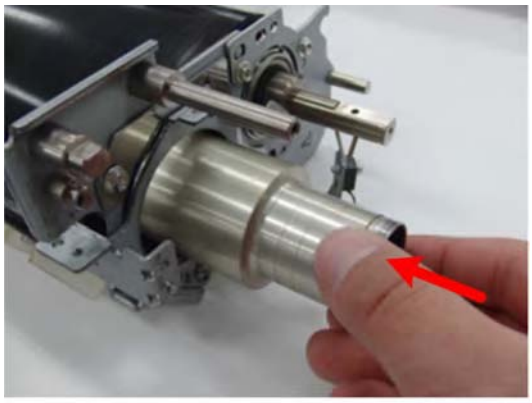



d074r405

1. Use a dry cloth to remove toner and paper dust from the surface of the thermistors:
   [A] Front
   [B] Rear

d074r405a

2. Rotate the races to make sure the contact surfaces of the bearings and race turn freely. If the races do not rotate freely, they must be replaced.

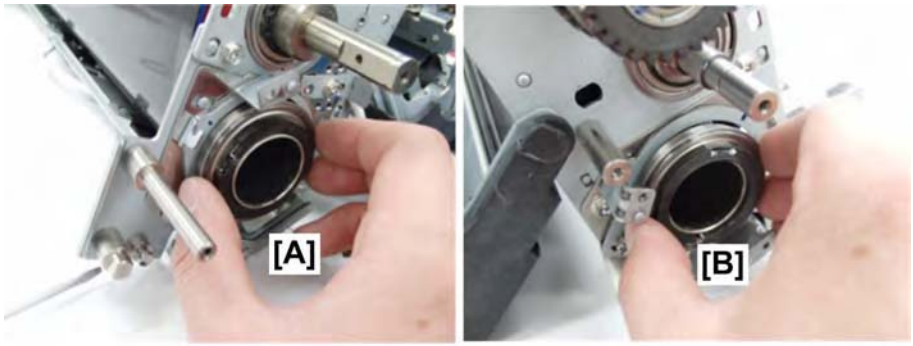


d074r404c

3. Insert the heating roller

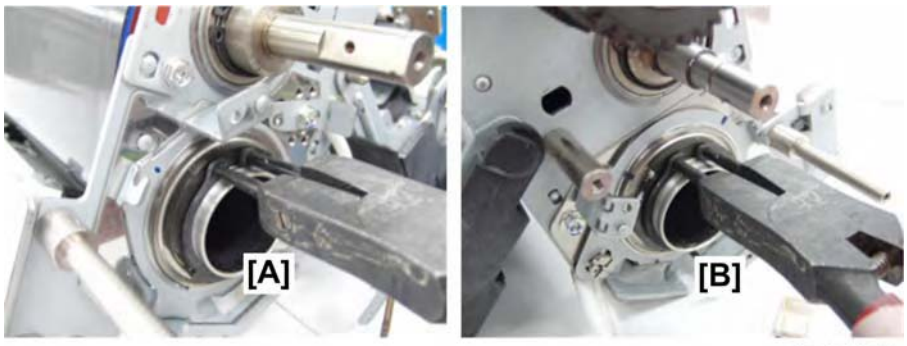
d074r404d

4. The flanges must be set so that both edges of the fusing belt rim overlap the collar of the flanges.




d074r404e

5. Re-attach the bearing races at the front [A] and rear [B].

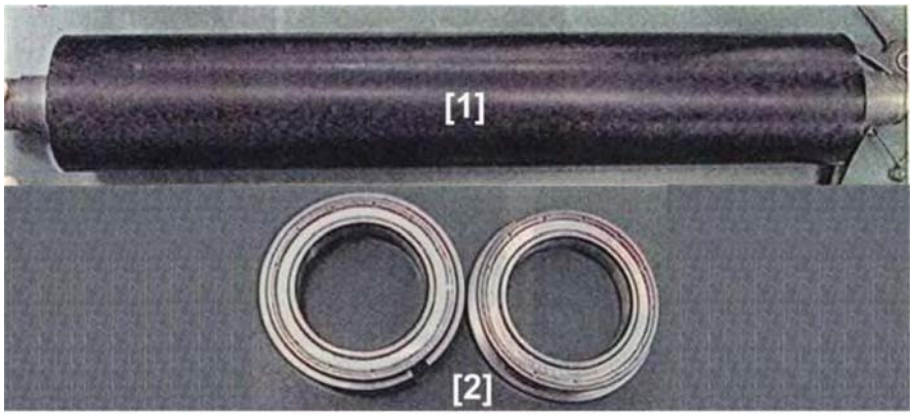



d074r404f

6. Re-attach the C-rings at the front and rear.

## 5.17.7 PRESSURE ROLLER FUSING LAMPS, PRESSURE ROLLER

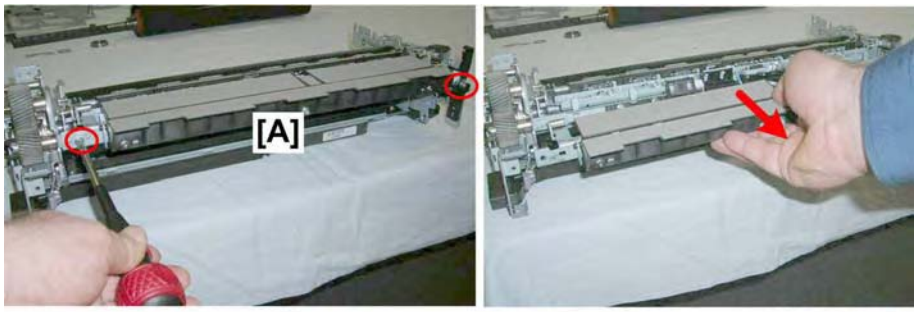
- Fusing lamps (☛p.5-337)
- Heating roller (☛p.5-348)
- Hot roller and fusing belt (☛p.5-351)




d074r382

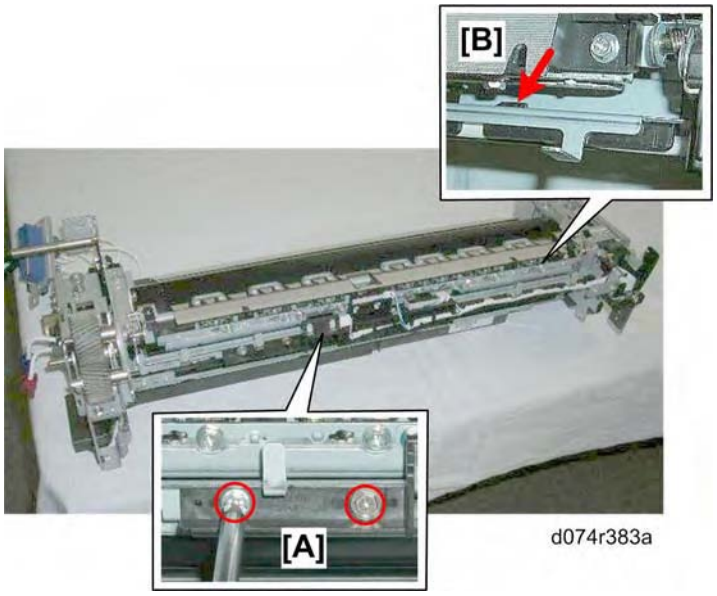
**PM Parts**

| No. | PM Part Name | Interval | Action |
|---|---|---|---|
| [1] | Pressure roller | 650K | Replace |
| [2] | Pressure roller bearings | 650K | Lubricate |




d074r383

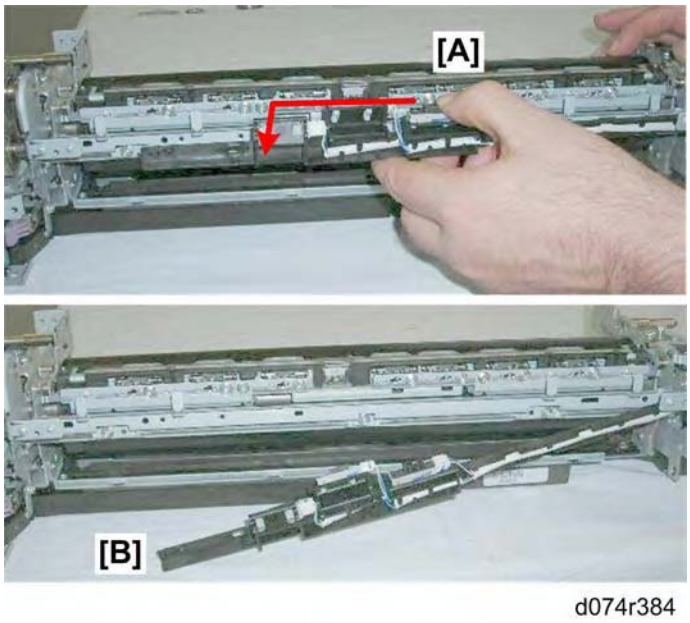
- Remove the lower exit guide plate [A] ( x2 M3x6).



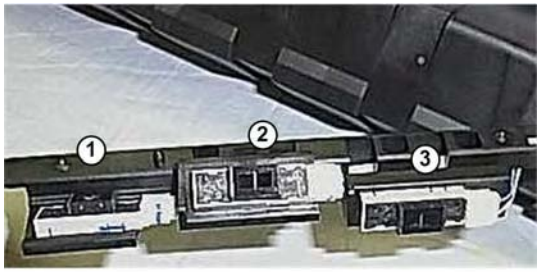

- Disconnect the sensor bracket [A] ( x1 Left,  x1 Right).

Note

  - These screws are different. Be sure to re-attach them at the correct location.
  - A horizontal hook at [B] also holds the sensor bracket.

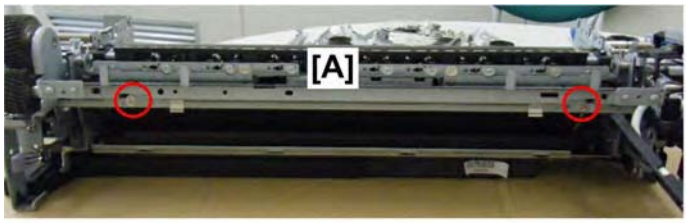



- Slide the sensor bracket [A] to the left to unfasten the hook.
- Pull the bracket [B] away from the frame. It is not necessary to disconnect the harnesses



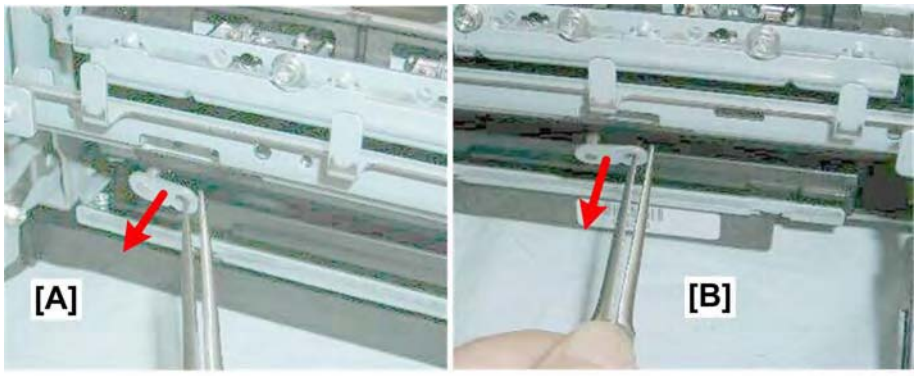

d074d640

| | | |
|---|---|---|
| ① | Pressure Roller Paper Sensor | Monitors pressure roller |
| ② | Accordion Jam Sensor | Monitors fusing belt |
| ③ | Fusing Exit Sensor | Monitors fusing exit |




d074r385

- Disconnect the pressure roller separation unit [A] ( x2 M3x6).

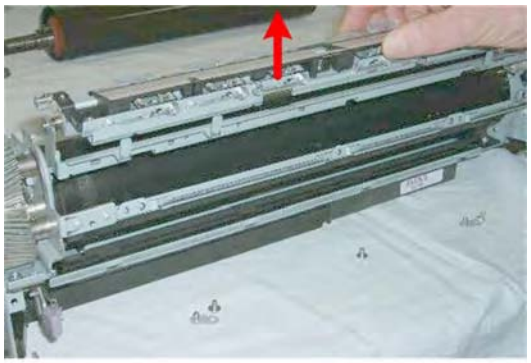



d074r386

- Remove the peg lock plates:

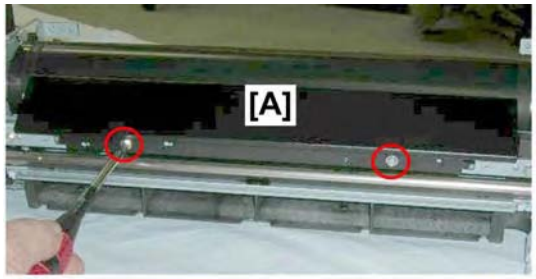
  [A] Rear

  [B] Front



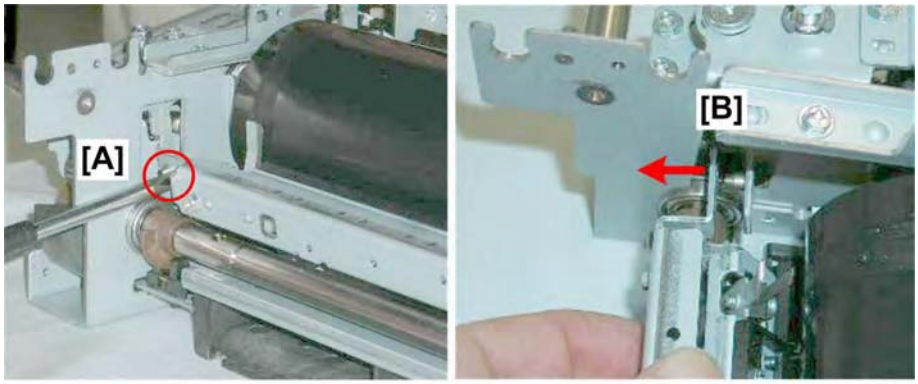
d074r387

- Remove the separation unit.



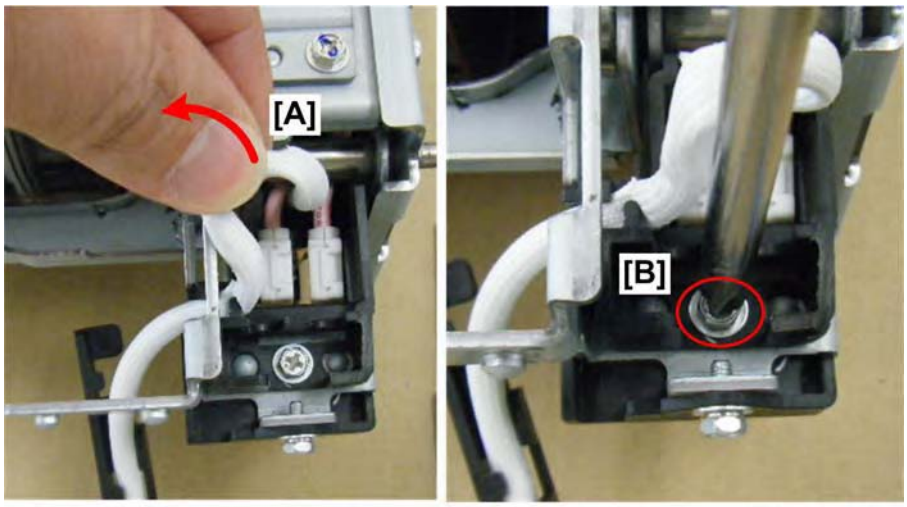

d074r388

- Remove the entrance lower guide plate cover [A] ( x2 M3x6).



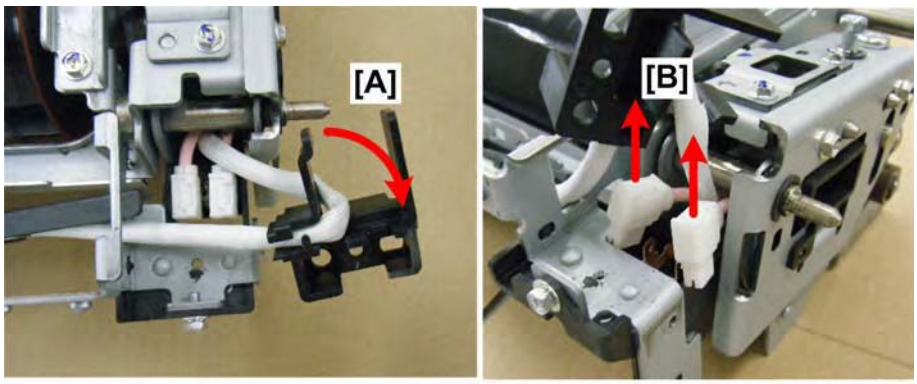

d074r389

- At the front, remove screw [A] ( x1 M3x6).
- Separate the guide plate [B] slightly at the front only. (**Do not remove the guide.**)



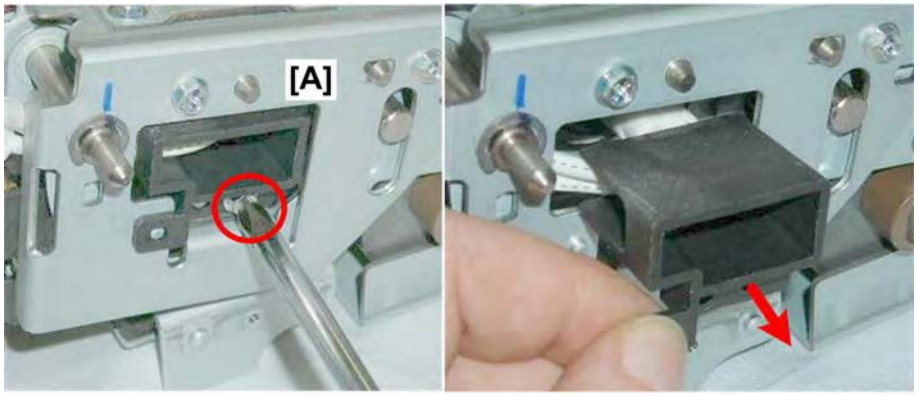

d074r390

- At the front, locate coiled harness [A] and pull it out.
- Remove screw [B] ( x1).



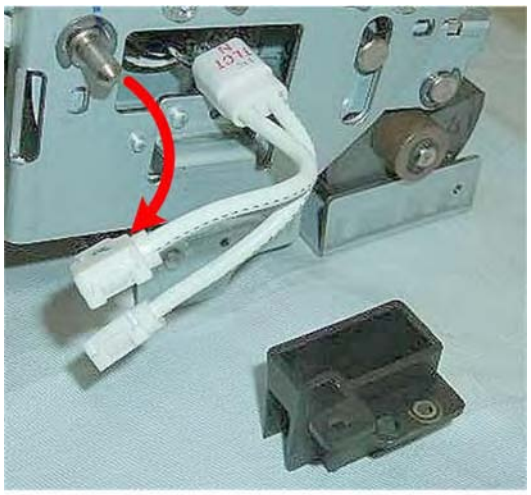

d074r391

- Remove bracket [B] with the harness still attached.
- Disconnect connectors [B] ( x2).




d074r394

- Remove the fusing lamp holder [A] ( x1).

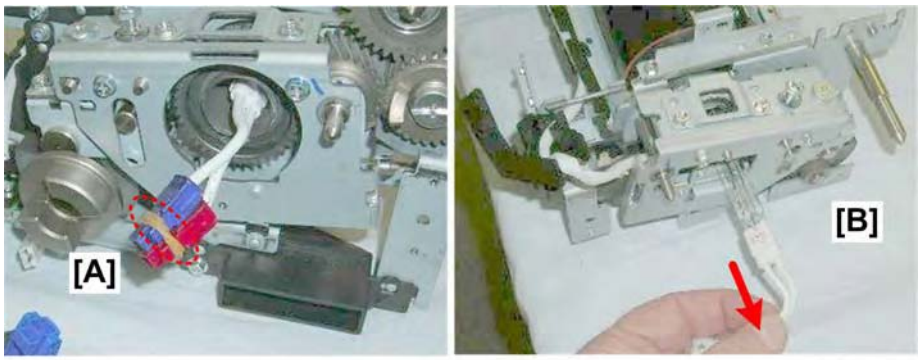


d074r395

- Pull the lamp connectors out of the unit.

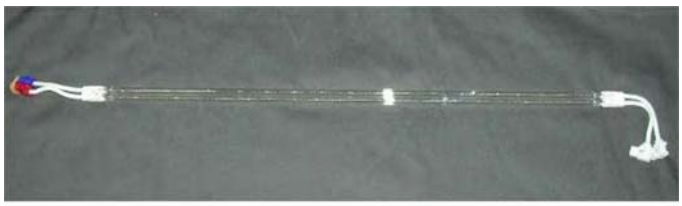
d074r396

- At the rear [A], remove the fusing lamp holder (x1).



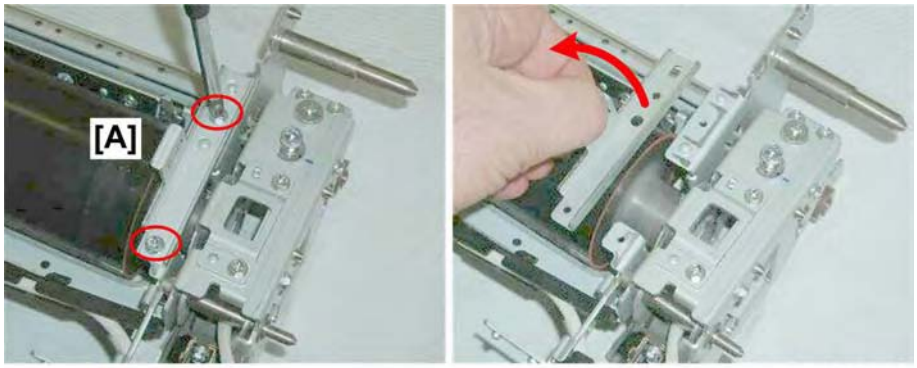

d074r397

- Use a small rubber band to fasten the ends of the fusing lamps [A] together. This prevents these fusing lamp connectors from catching during removal and re-installation.
- At the front [B], pull the fusing lamps out of the pressure roller.



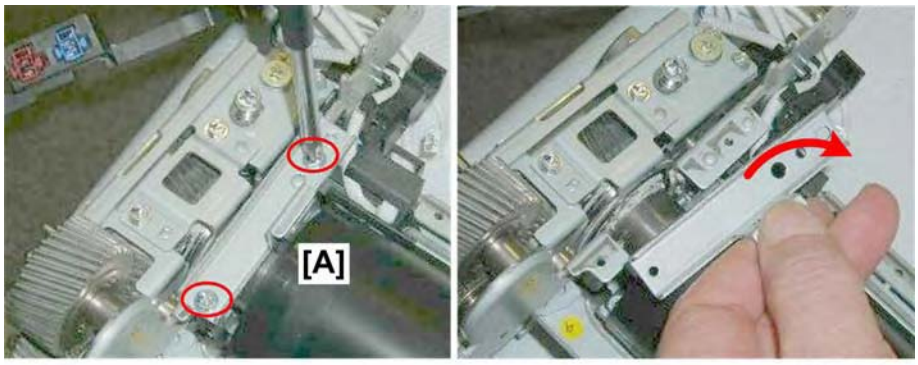
d074r398

- Lay the pressure roller fusing lamp on a flat clean surface.



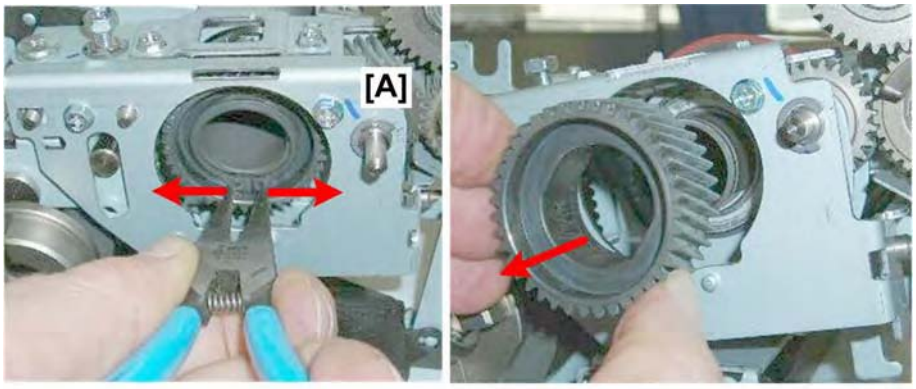

d074r399

- Remove the front positioning plate [A] ( x2 M3x6).



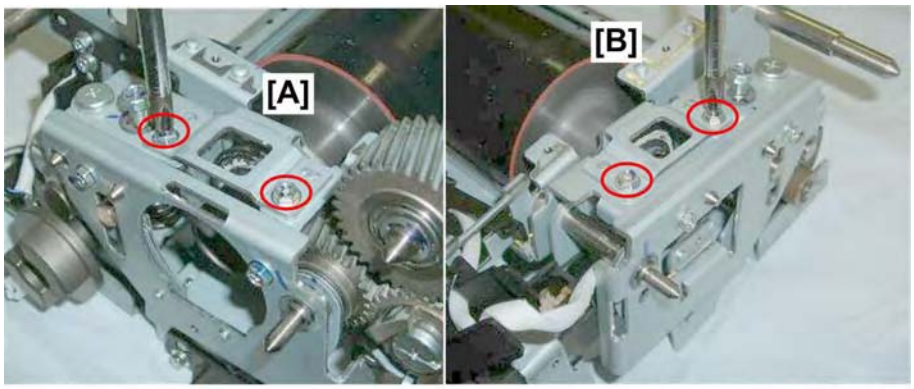

d074r400

- Remove the rear positioning plate ( x2 M3x6).



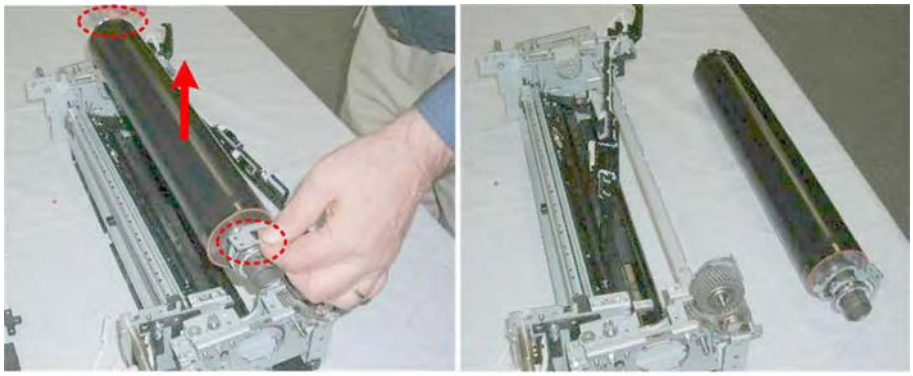

d074r401

- At the rear [A], use a pair of spreaders to remove the C-ring of the pressure roller gear.
- Remove the gear.




d074r402

- Disconnect:
  [A] Rear ring handle ( x2 M3x6).
  [B] Front ring handle ( x2 M3x6).



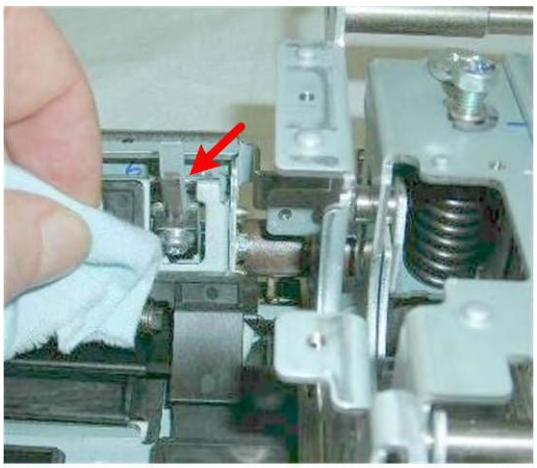
d074r403

- Lift and remove the pressure roller, and then place it on a flat clean surface.

## *Cleaning and Lubrication*

Do these procedures before re-assembling the fusing unit.

| Part Name | Interval | Action |
|---|---|---|
| Pressure roller thermistor | 650K | Clean |

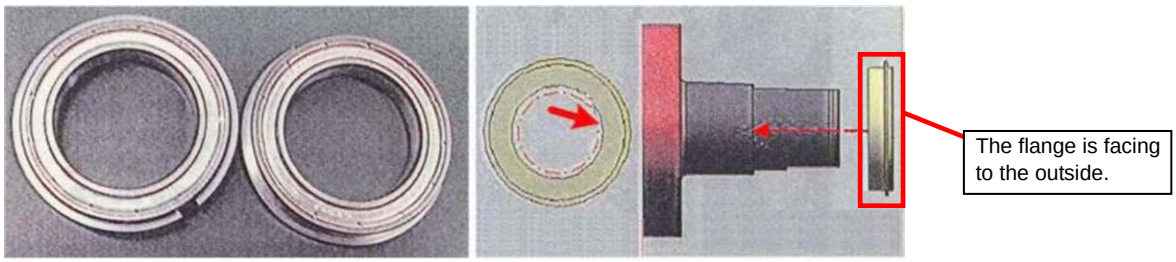


d074r407

1. Use a dry cloth to remove toner and paper dust from the sensitive surface of the thermistor.

| Part Name | Interval | Action |
|---|---|---|
| Pressure Roller Bearing Races (x2) | 650K | Lubricate |

⇒

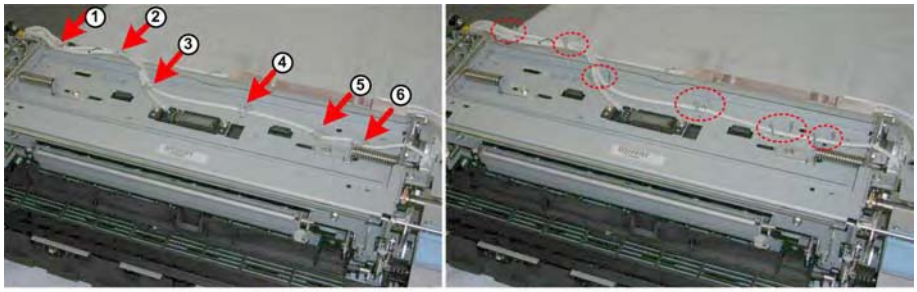



d074r408

2. Use a small brush to apply FLUOTRIBO MG Grease to the pressure roller races.

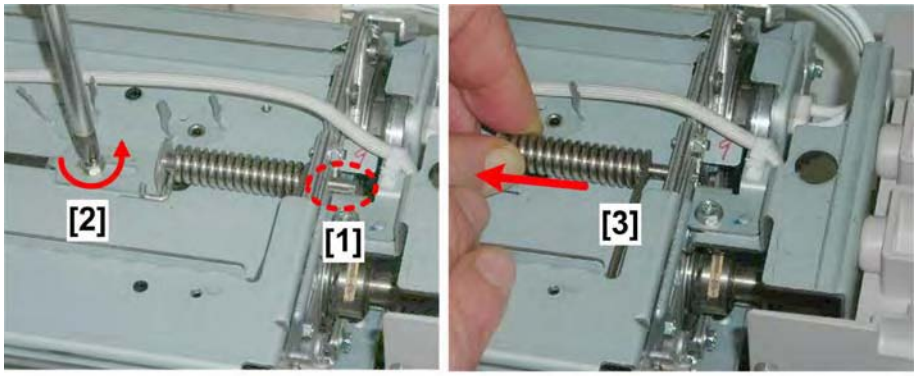
## 5.17.8 HOT ROLLER THERMISTOR (FRONT)

1. Fusing unit covers (☛p.5-40)




d074r413

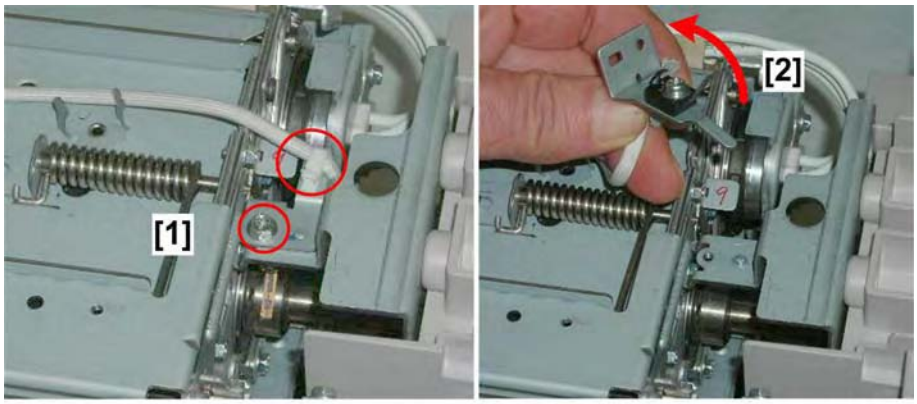
2. Open the six pairs of clamps on top of the unit (x12).




d074r414

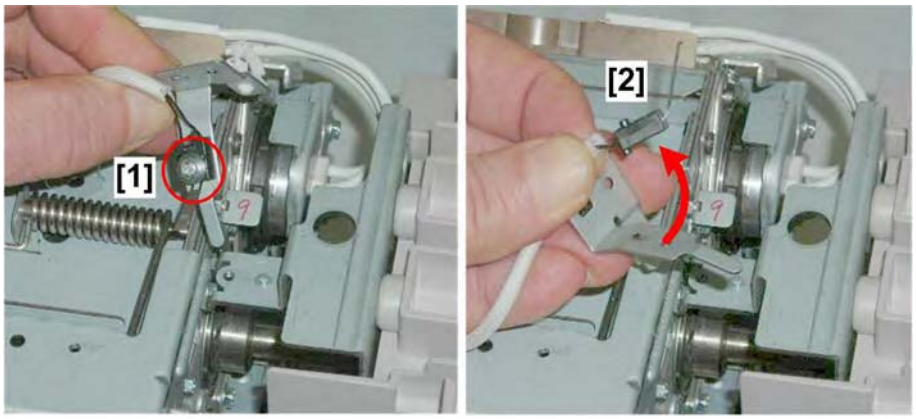
Connection pin [1] blocks removal of the hot roller thermistor.

3. **Loosen** screw [2]. Do not remove it.
4. Slide the spring and pin [3] to the rear.




d074r415

5. Disconnect the thermistor bracket [1] ( x1, x1).
6. Remove the thermistor bracket [2].

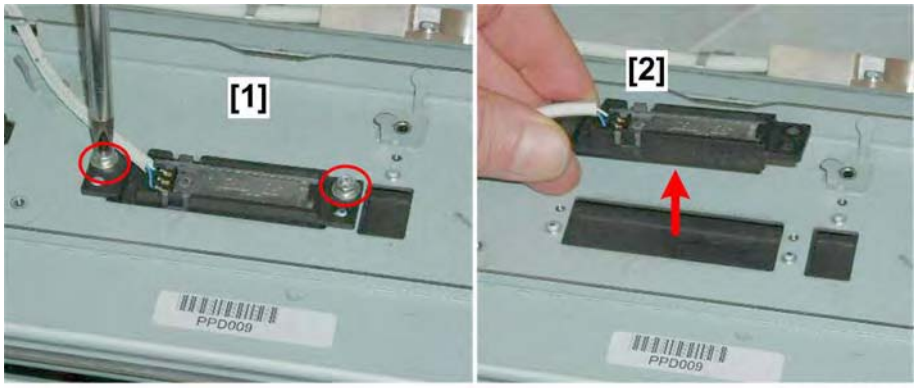



d074r416

7. Disconnect:
   [1] Bracket ( x1)
   [2] Thermistor ( x1)

## 5.17.9 HOT ROLLER NC SENSOR (CENTER)

1. Fusing unit covers (☛p.5-40)

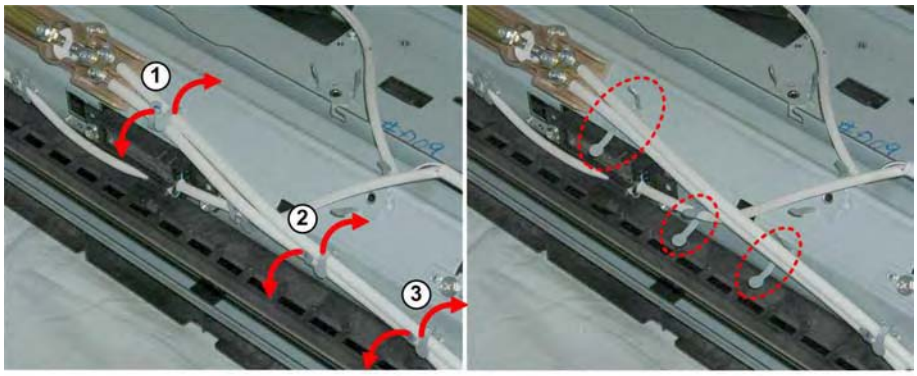



d074r417

2. Disconnect the sensor [1] ( x2)
3. Remove the sensor [2] and set it aside. (It is still connected to the harness.)

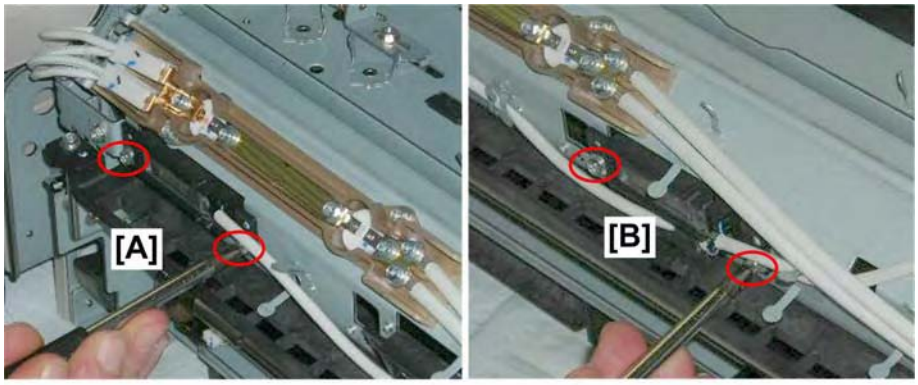
## 5.17.10 HEATING ROLLER NC SENSORS

1. Fusing unit covers (☛p.5-40)



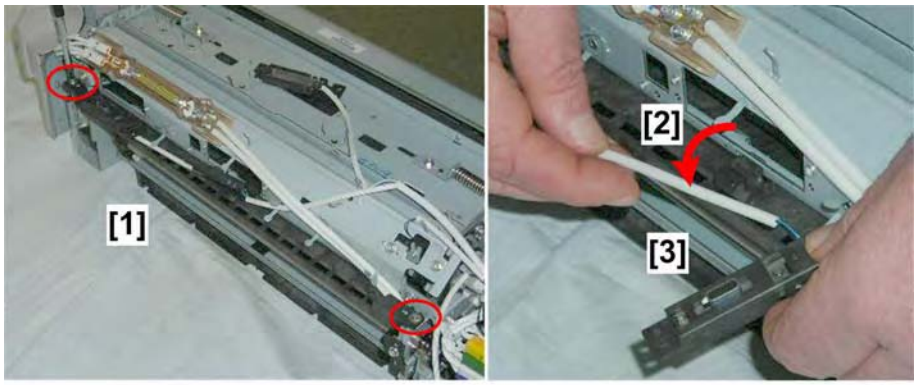

d074r418

2. Open the three pairs of metal clamps (x6).



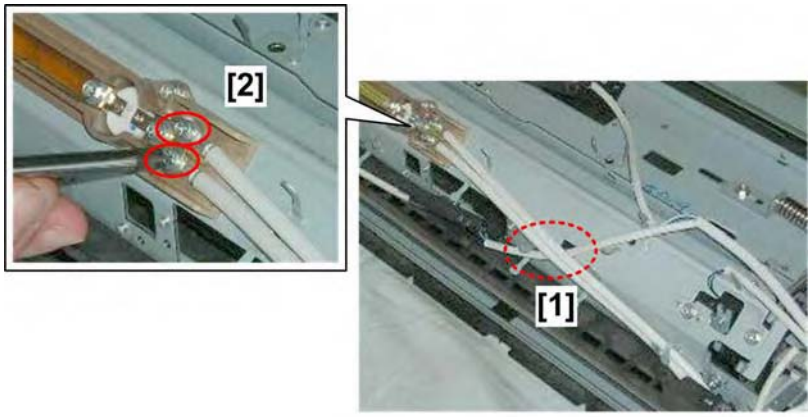

d074r419

3. Disconnect:
   [A] Heating Roller NC Sensor: Front ( x2)
   [B] Heating Roller NC Sensor: Center ( x2)




d074r420

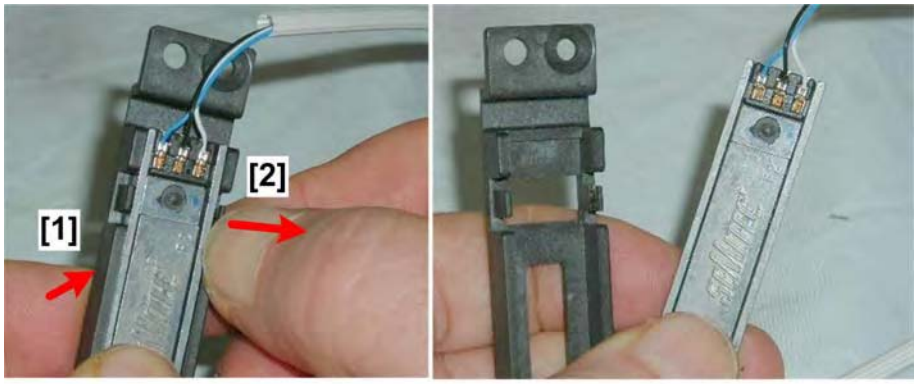
4. Disconnect the upper entrance guide plate [1] ( x2).
5. At the center of the loosened guide plate, free the harness [2] and pull out the center heating roller NC sensor [3].




d074r421

The thermostat harness [1] blocks the harness of the heating roller sensor.

6. Disconnect the thermostat harnesses [2] ( x2).
7. Pull both sensors and the harness free.

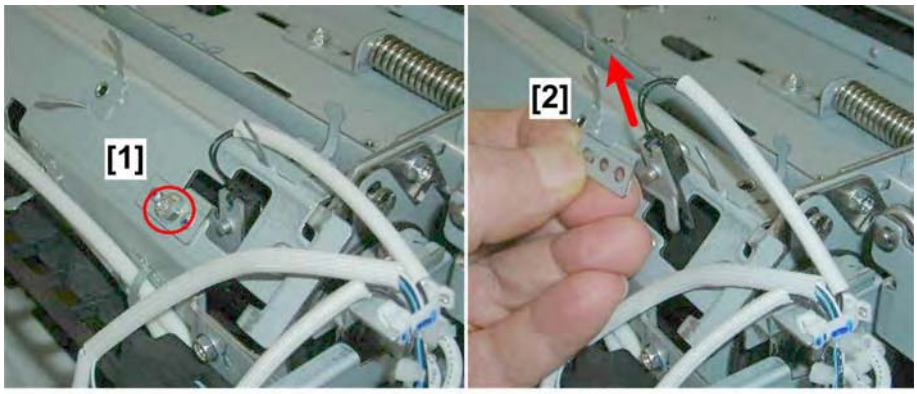



d074r422

8. Separate both heating roller NC sensors from their brackets.
    1. While pressing gently on the front of the sensor [1], open the pawl at [2] ( x1).
    2. Only one side has a pawl. Be sure to push open the arm with the pawl.

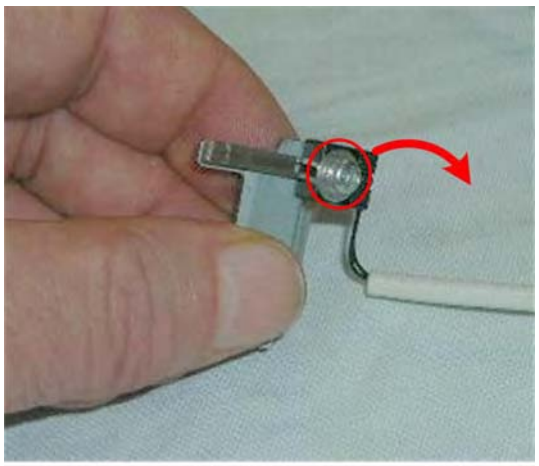
## 5.17.11 HEATING ROLLER REAR THERMISTOR

- Fusing unit covers (☛p.5-40)



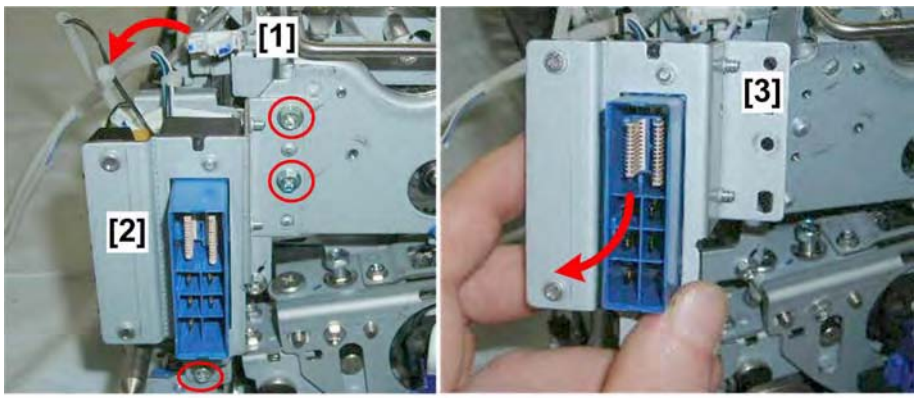

d074r423

- Disconnect the thermistor bracket [1] ( x1).
- Remove the bracket and thermistor [2].



d074r424

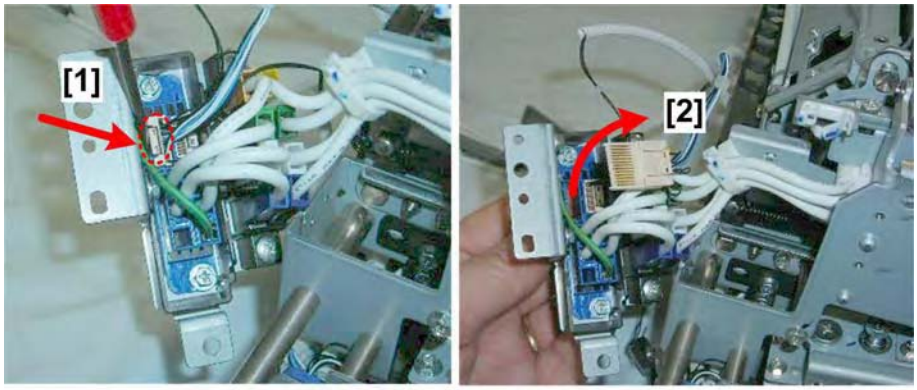
- Separate the thermistor and bracket.




d074r425

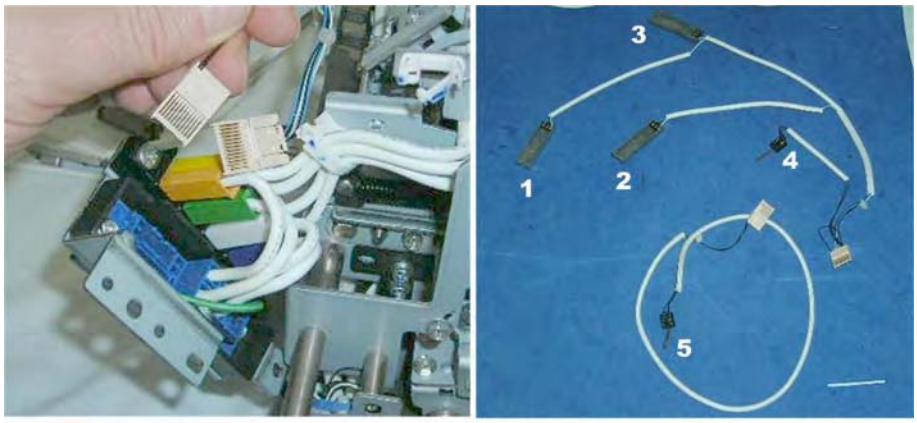
- At the rear, free the harnesses [1] (x1).
- Disconnect the upper connector bracket [2] ( x3).

- With the harnesses still connected, pull the disconnected connector bracket [3] a short distance away from the unit.




d074r426

- Use the tip of a small screwdriver to release the first harness connector [1].
- Press the edge of the connector [2] from below to remove it.




d074r427

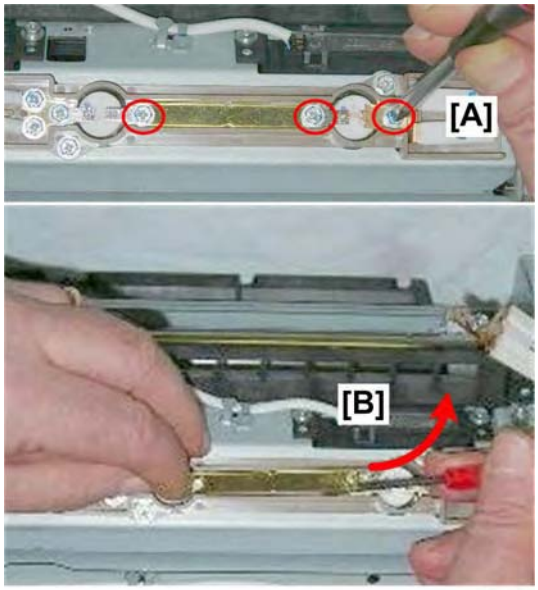
- Follow the same procedure to release and remove the 2nd connector.
- Remove the harnesses with the thermistors and NC sensors attached.

| | |
|---|---|
| **1** | Heating Roller NC Sensor - Front |
| **2** | Heating Roller NC Sensor - Center |
| **3** | Hot Roller NC Sensor |
| **4** | Heating Roller Thermistor (rear) |
| **5** | Hot Roller Thermistor (front) |

## 5.17.12 HEATING ROLLER THERMOSTATS

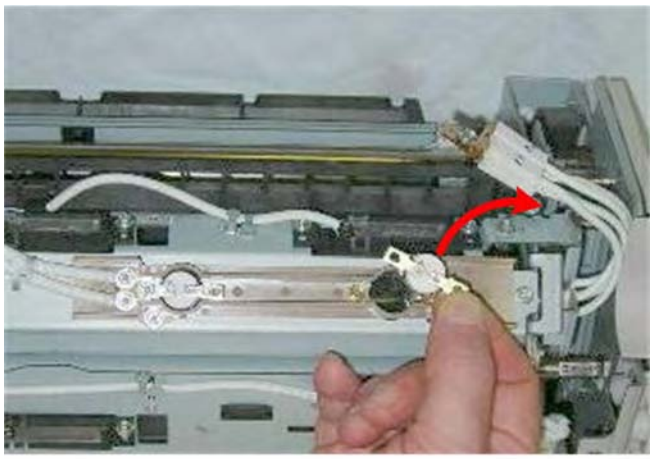
### *Heating Roller Thermostat (Front)*

1. Fusing unit covers (☛p.5-40)




d074r428

2. At the front, disconnect the thermostat [A] ( x3).
3. Remove the gold strip [B].

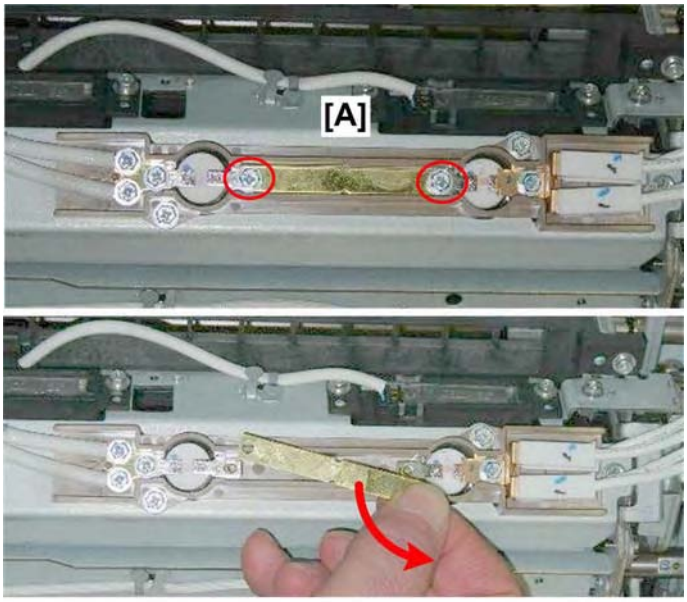


d074r429

4. Remove the front hot roller thermostat.

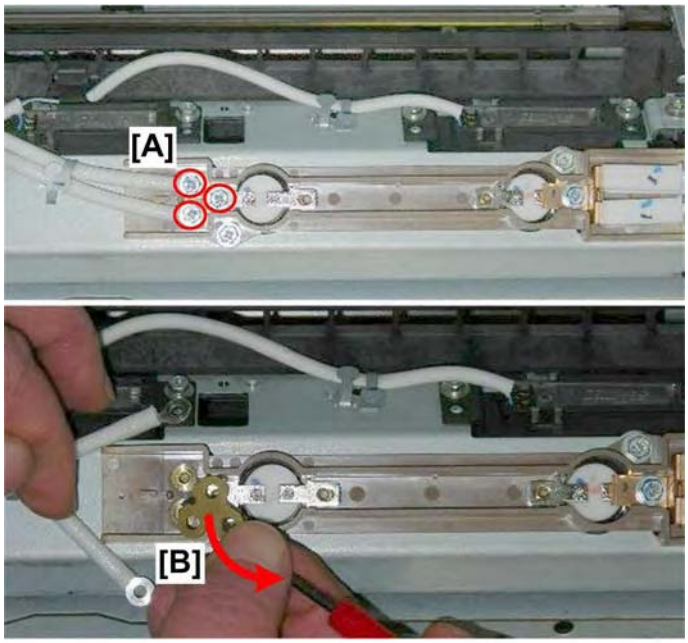
## 5.17.13 HEATING ROLLER THERMOSTAT (CENTER)

- Fusing unit covers (☛p.5-40)



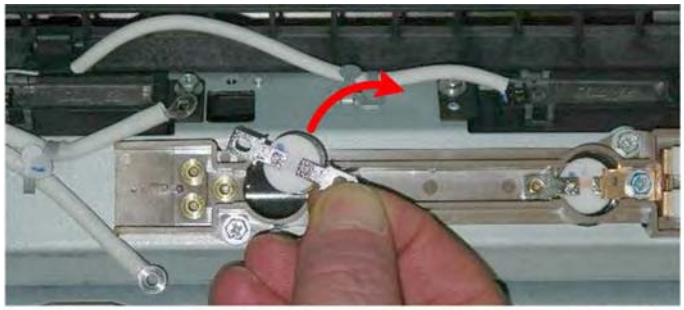

d074r430

- Disconnect the gold strip [A] ( x2).
- Remove the gold strip.




d074r431

- Disconnect the thermistor [A] ( x3).
- Remove the gold leaf [B].



d074r432

- Remove the thermostat.

d074r433

**WARNING**

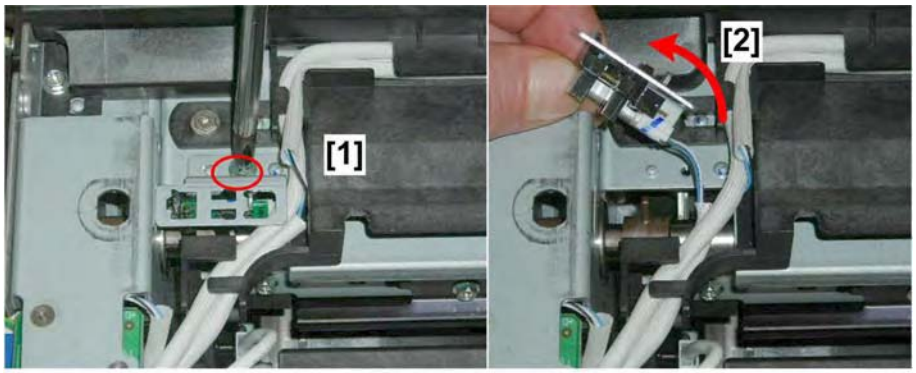
1. To prevent a fire, never attempt to reset a blown thermostat by manipulating the exposed edges of the black cover with a screwdriver, or by hitting it on a table.
2. A thermostat that has been reset manually could fail if the unit overheats and cause a fire.
3. Always replace a blown thermostat with a new one.

## 5.17.14 PRESSURE ROLLER SENSORS (FRONT AND REAR)

Note

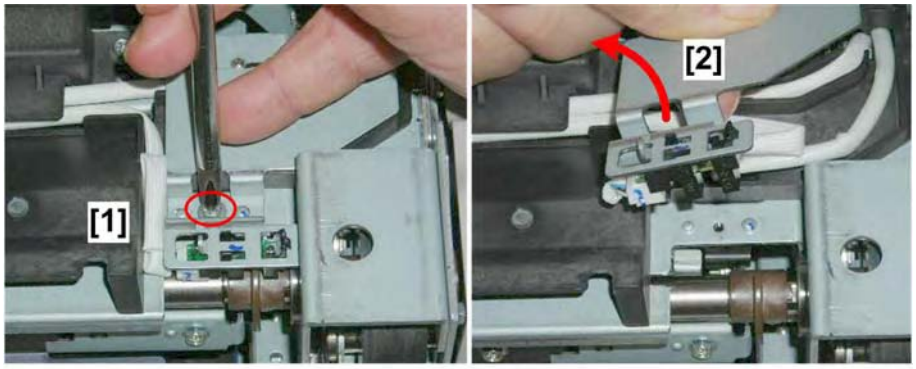
1. You do not need to remove any covers for this procedure.

1. Remove the fusing unit from the machine and turn it upside down. (☛p.5-40)




d074r434

2. At the rear, disconnect the sensor bracket [1] ( x1).
3. Raise the sensor bracket [2] with the sensor connected.
4. Separate the sensor and bracket ( x1, x4).




d074r435

5. At the front, disconnect the sensor bracket [1] ( x1).
6. Raise the sensor bracket [2] with the sensor connected.
7. Separate the sensor and bracket ( x1, x4).

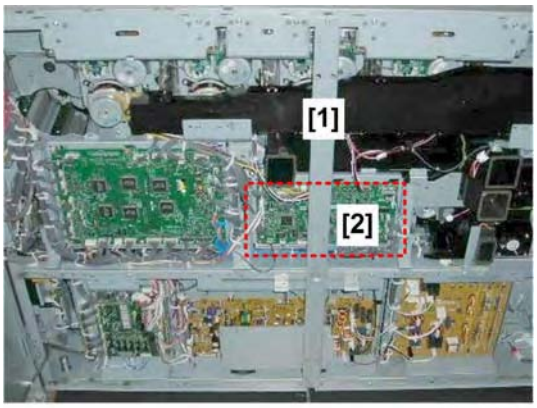
### *After Installing a New Fusing Unit*

1. The machine power must be OFF.
2. Open both front doors.
3. Turn the main power switch ON.
4. Enter the SP mode.
5. Reset the counter for the replaced unit or parts.
6. Close the front doors.
7. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
8. Exit the SP mode.

## 5.17.15 FUSING MOTOR, PRESSURE ROLLER LIFT MOTOR

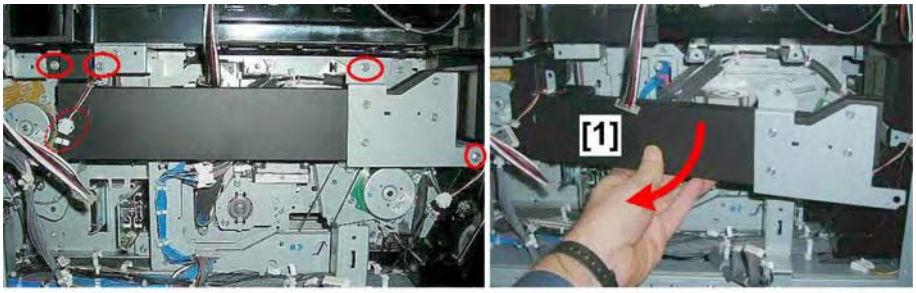
### *Preparation*

1. The fusing motor and pressure roller lift motor are at the same location behind the TDCU.
2. Open both rear boxes ( x3). (p.5-8)




d074r460

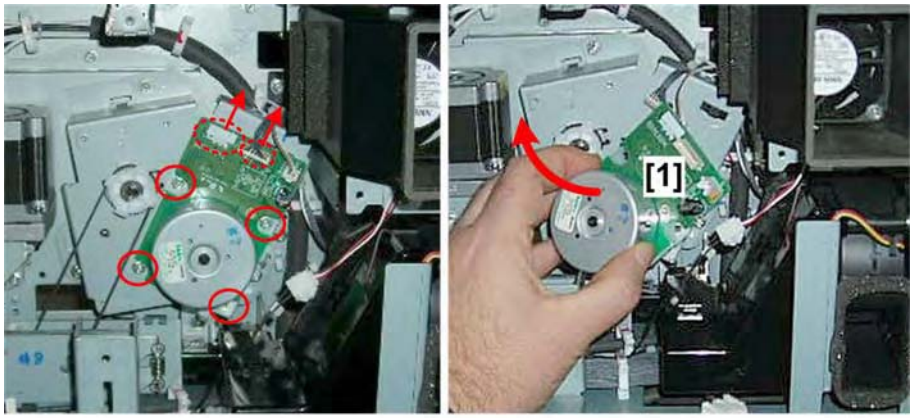
3. Remove the center stay [1] and the TDCU [2]. (TCDU)




d074r461

4. Remove the cooling air duct [1] ( x1, x4).

## *Fusing Motor*

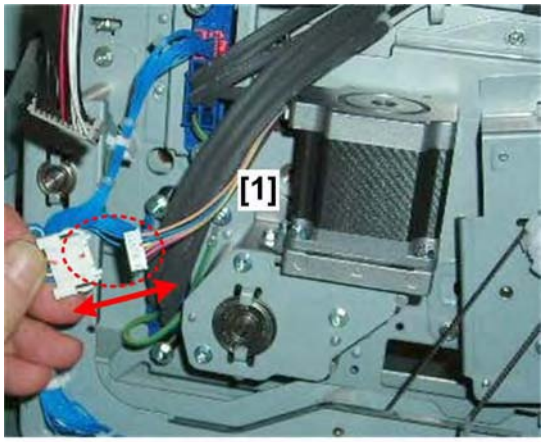



d074r462

1. Remove the fusing motor [1] (x2, x4).

d074r463

### *Pressure Roller Lift Motor*

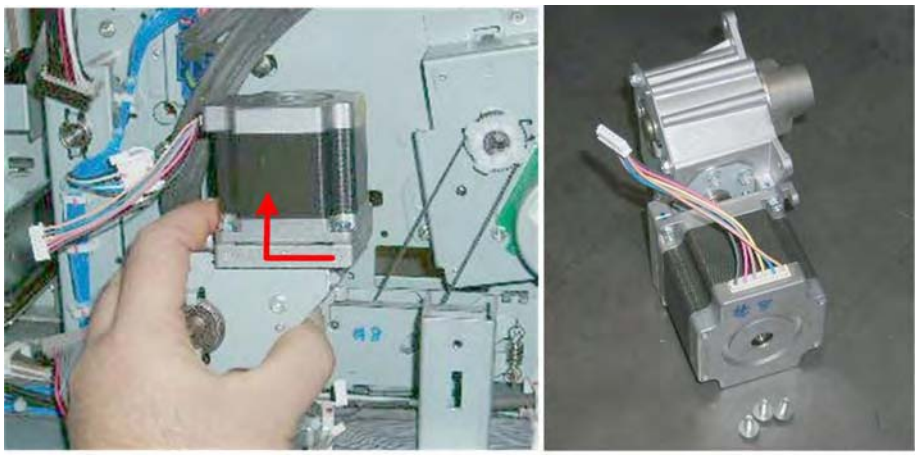



d074r464

1. Disconnect the motor harness [1] (x1)

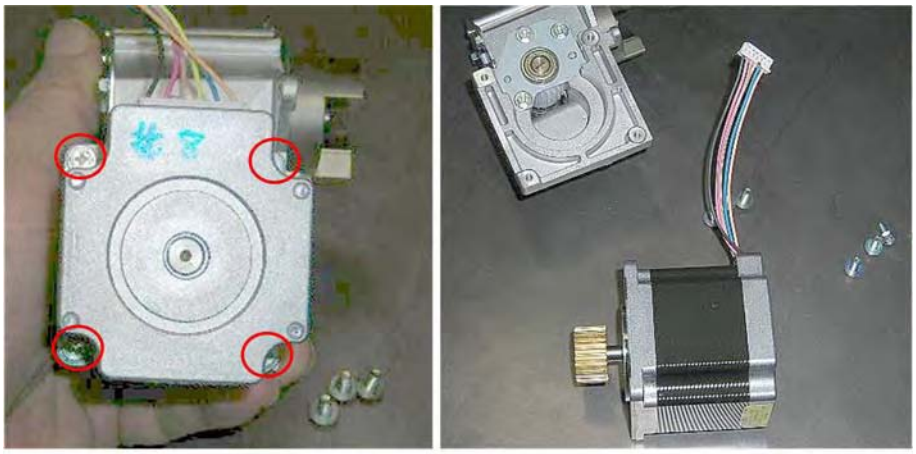
d074r465

2. Disconnect the pressure roller lift motor drive assembly:
   [1] Left ( x2)
   [2] Right ( x1)



d074r466

3. Remove the pressure roller lift motor assembly.



d074r467

4. Remove the motor from the drive bracket ( x4).

# 5.18 FUSING CLEANING UNIT

## 5.18.1 FUSING CLEANING UNIT PM PARTS

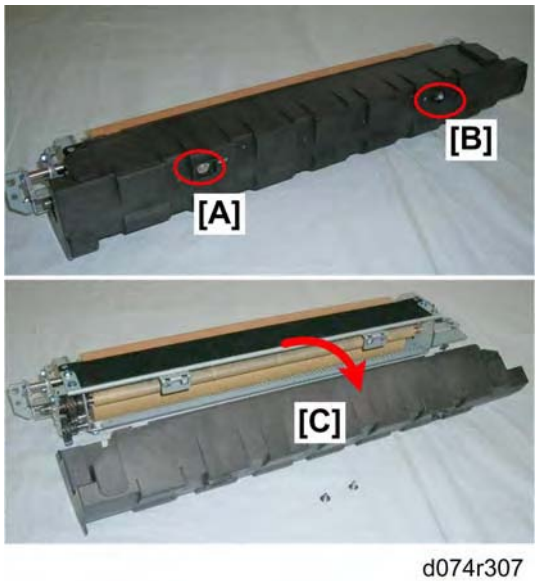
| | Interval |
|---|---|
| **Fusing Belt Cleaning Unit** | |
| Web Contact Roller | 450K |
| Cleaning Web | 450K |
| Brake | 450K |

**Notes**

1. **Web Cleaning Unit**. The web cleaning unit can be serviced at 450K. Remove the web cleaning unit and disassemble. Disassembly of the fusing unit is not required.

## 5.18.2 WEB SUPPLY ROLLER

1. Fusing cleaning unit (☛p.5-40)




d074r307

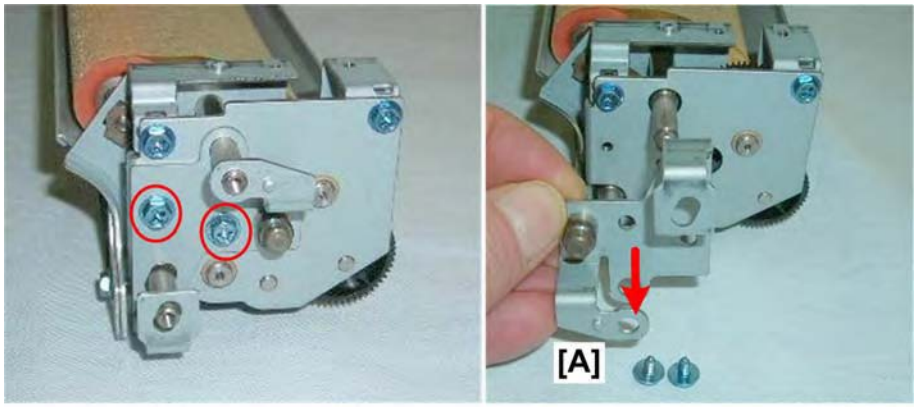
2. Remove:
   [A] Screw (x1)
   [B] Screw (x1 M3x8)
3. Remove the cleaning unit cover [C].

d074r308

4. Remove stay 1 [A] ( x4).

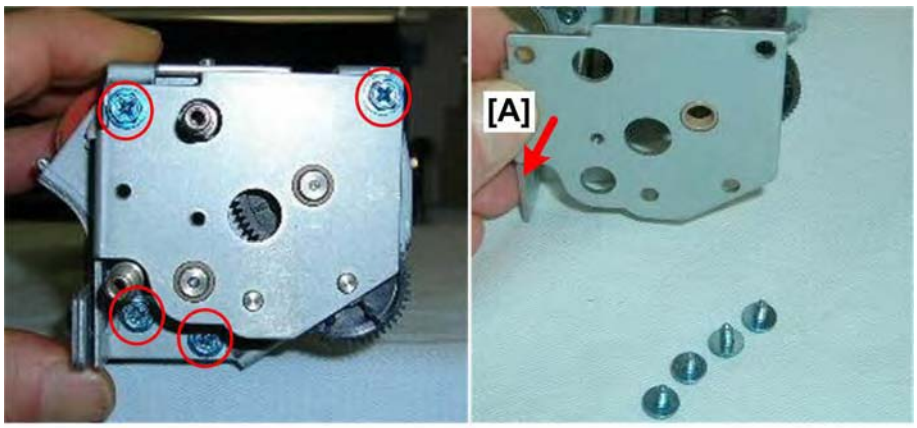
d074r309

5. Remove the 1st bracket [A] ( x2).



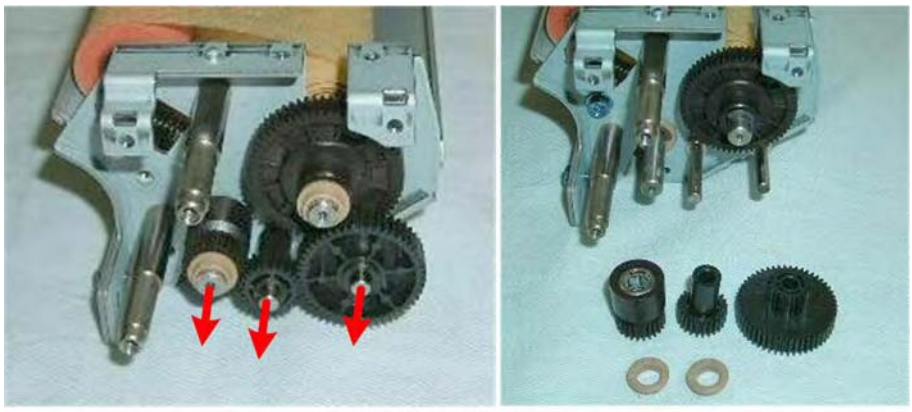

d074r310

6. Remove the 2nd bracket [A] ( x2).



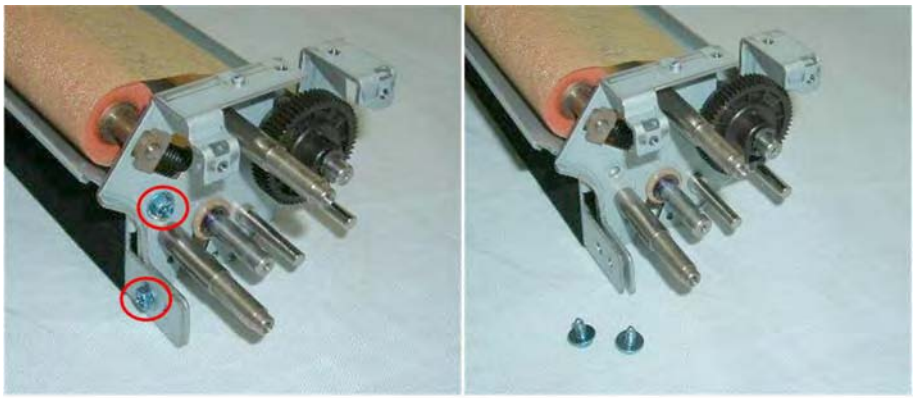

d074r311

7. At the rear, remove the inner cover [A] ( x4).



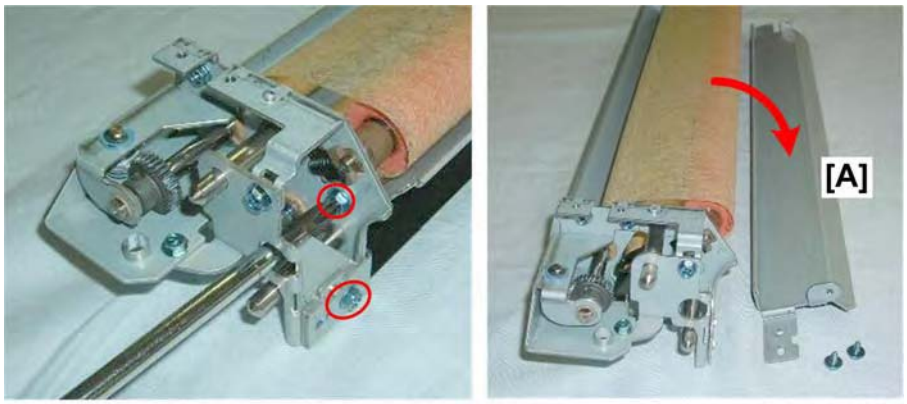
d074r312

8. Remove gears and spacers ( x3, x2).



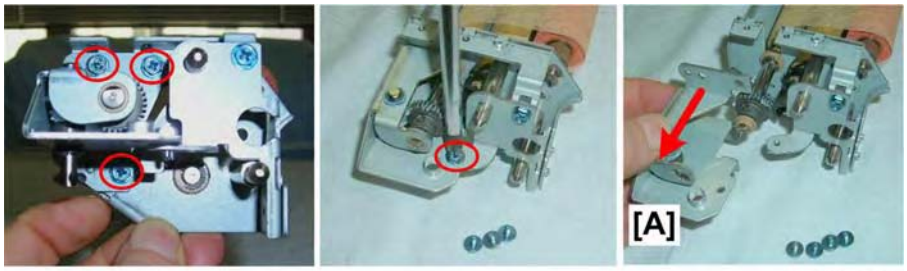
d074r313

9. Disconnect stay 2 at the rear ( x2).




d074r314

10. Disconnect stay 2 [A] at the front and remove it ( x2 M3x6, M3x8).

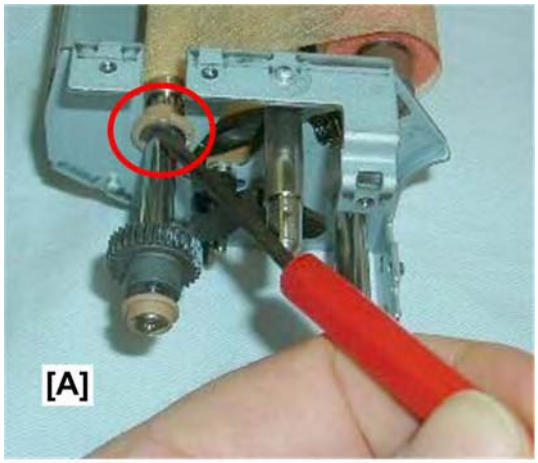



d074r315

11. Disconnect the side screws ( x3).
12. Disconnect the top screw ( x1).
13. Remove the front outer bracket [A].

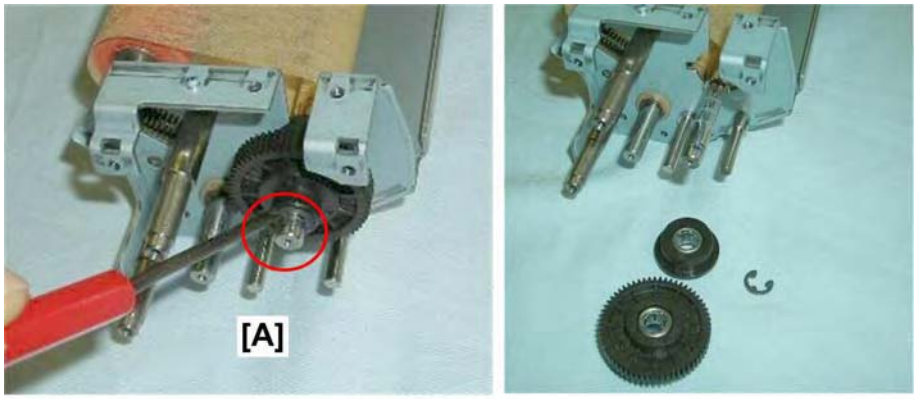
d074r316

14. Remove the front inner bracket [A] ( x1).




d074r317

15. At the front [A], disconnect the take-up roller (ℭx1).

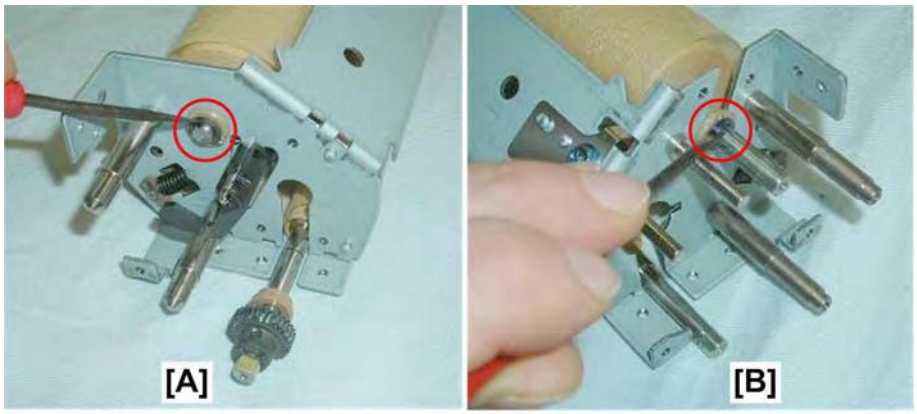



d074r318

16. At the rear [A], disconnect the take-up roller (⚙x2, ℭx1).

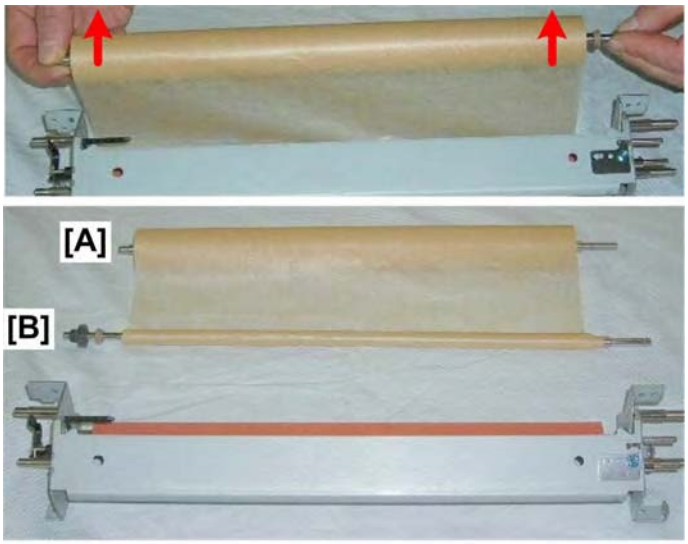
d074r319

17. Lift the take-up roller out of the frame.



d074r320

18. Disconnect the supply roller at the front [A] (x1).
19. Disconnect the supply roller at the rear [B] (x1).

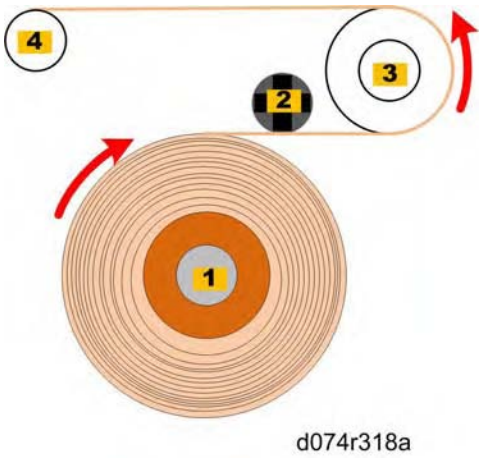


d074r321

20. Lift the supply roller out of the frame.
21. Separate the supply roller [A] and take-up roller [B] together from the frame.

d074r322

22. Remove the web end actuator (x1).




Note

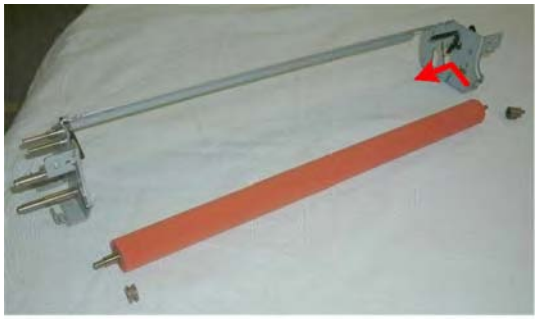
1. Note carefully how the web is routed from the supply roller [1] under the actuator [2], and over the contact roller [3] to the take-up roller [4]. Make sure the unit is re-assembled this way.

## 5.18.3 WEB CONTACT ROLLER

1. Fusing cleaning unit (☛p.5-40)

d074r323

1. Remove the fusing unit cleaning web supply roller. (See the previous section)
2. Release and remove tension springs [A] and [B] at either end of the roller.

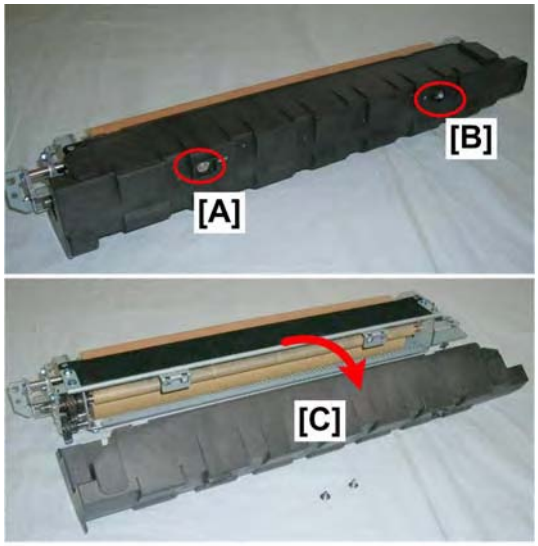


d074r324

3. Remove the roller.

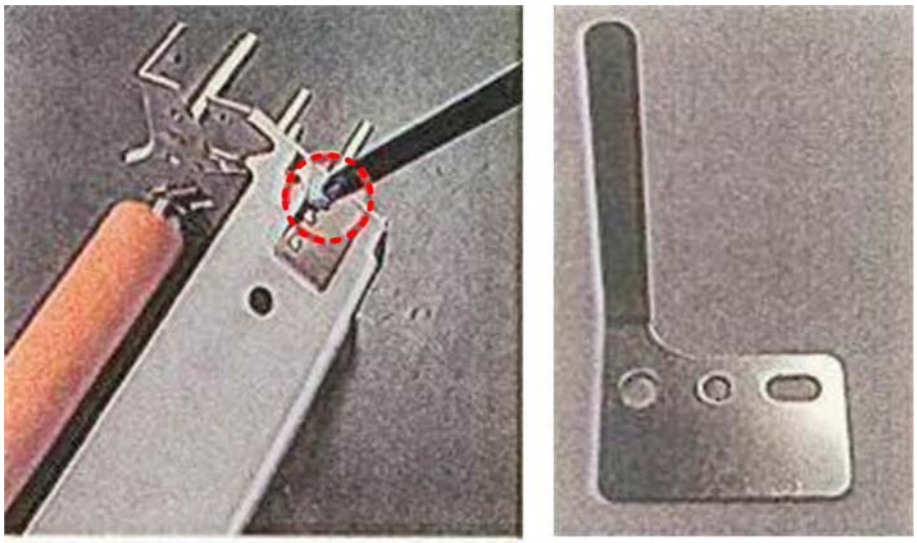
## 5.18.4 BRAKE

1. Fusing cleaning unit (☛p.5-40)




d074r307

2. Remove the cleaning unit cover [A] (☛x)2.



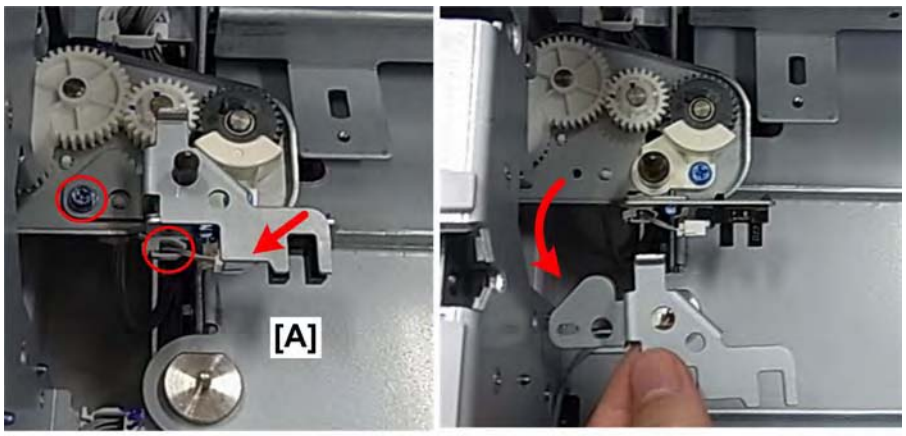
d074r325

3. Remove the brake.

## 5.18.5 WEB END SENSOR

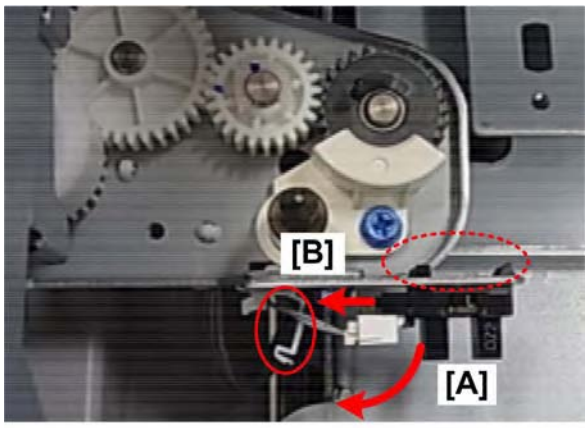
The web end sensor is mounted on the left drawer below the front left corner of the fusing unit.

1. Fusing unit (☛p.5-40)




d074r326

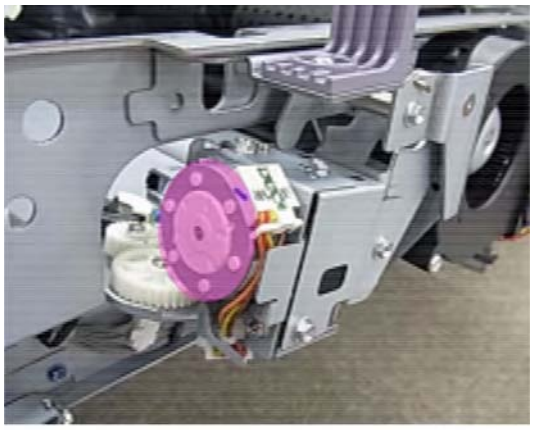
2. Locate the web end sensor cover [A] where you just removed the fusing unit.
3. Remove the web end sensor cover [B] ( x1, x1).




d074r327

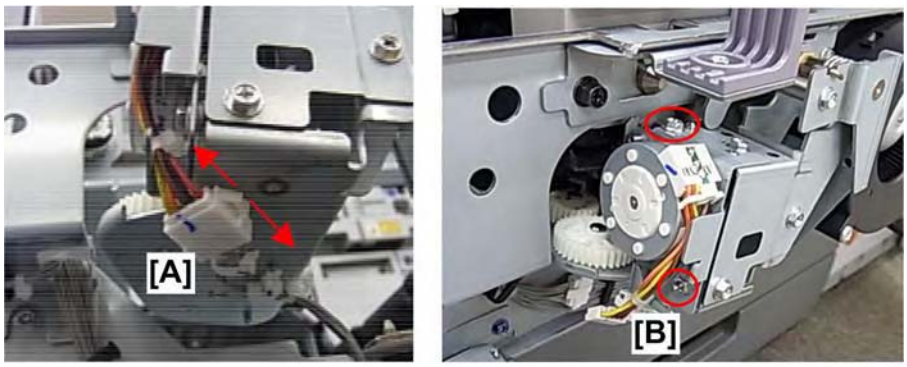
4. Disconnect the web end sensor at [A] and [B] (x1, x1, x3).

## 5.18.6 WEB MOTOR



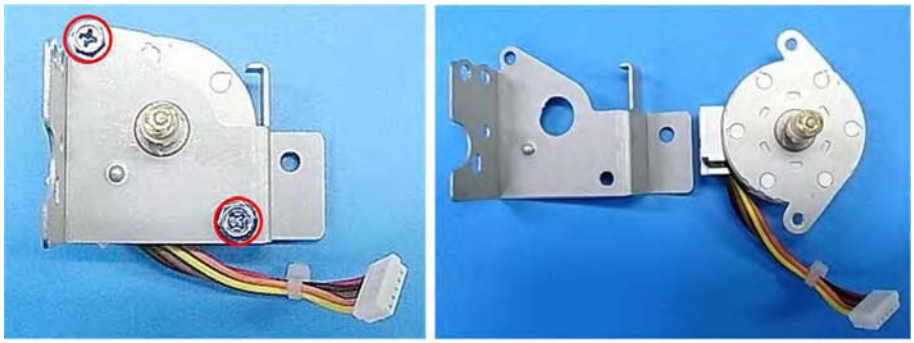
d074r765

1. Fusing unit (☛p.5-40)




d074r766

2. Disconnect the motor at [A] (x1).
3. Disconnect the motor bracket at [B] (x2 M3x6).



d074r767

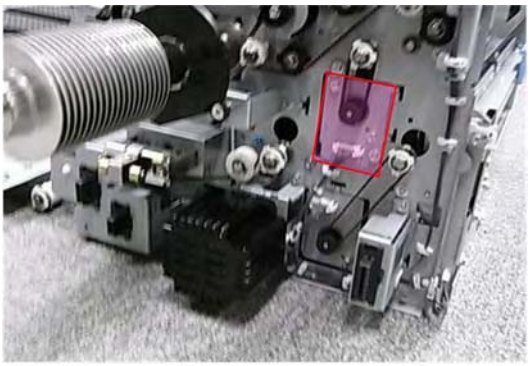
4. Separate the motor and the bracket (x2 M3x6).

### *After Replacing or Servicing the Fusing Cleaning Unit*

1. The machine power must be OFF.
2. Open both front doors.
3. Turn the main power switch ON.
4. Enter the SP mode.
5. Reset the counter for the replaced unit or parts.
6. Close the front doors.
7. Wait for about 5 minutes. When you hear an audible beep and see "Ready" displayed on the operation panel, you are ready to continue.
8. Exit the SP mode.

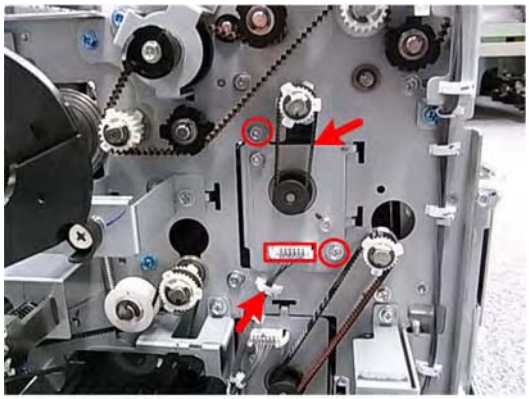
# 5.19 LEFT DRAWER

## 5.19.1 EXIT RELAY MOTOR



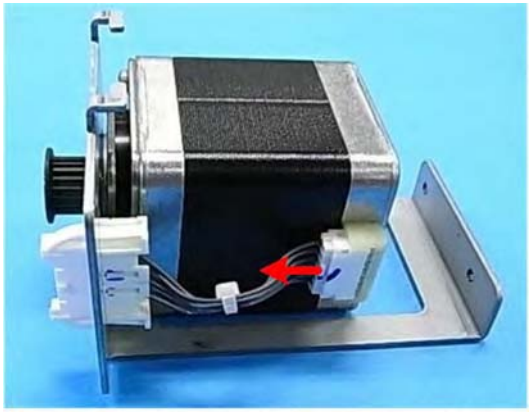
d074r753

1. Left drawer (☛p.5-46).
2. The shaded area above shows the location of the motor.



d074r754

3. Remove the motor bracket (x1, x1, x2, x1).

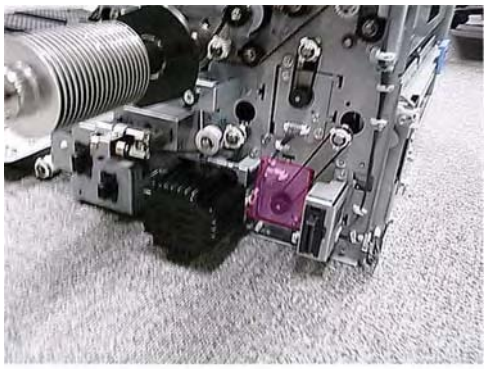


d074r755

4. Disconnect the motor harness (x1).

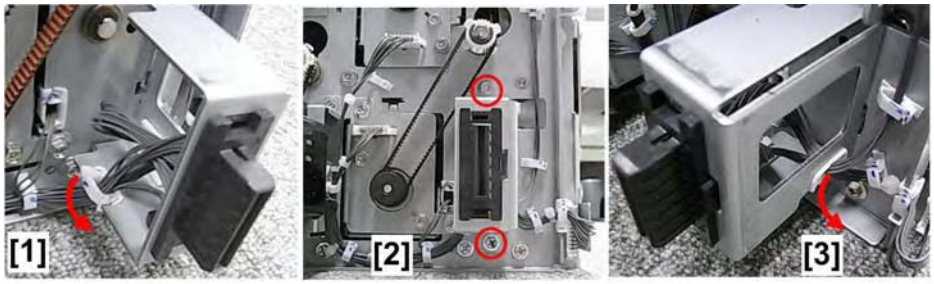
5. Separate the motor and the bracket ( x2).

## 5.19.2 INVERT EXIT MOTOR



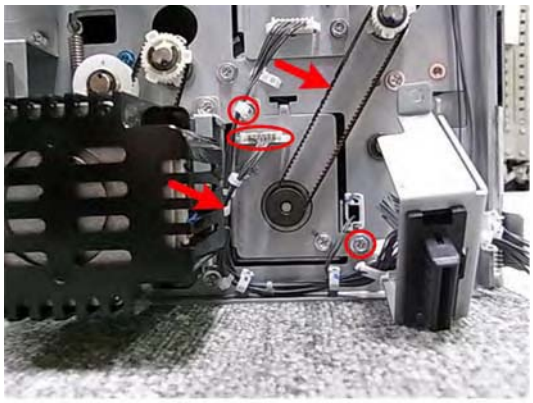
d074r757

1. Left drawer (☛p.5-46)
2. The shaded area above shows the location of the motor.



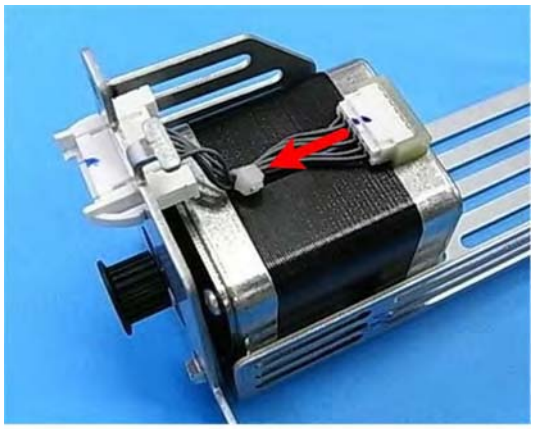

d074r758

3. Disconnect the drawer connector to the right of the motor, so that you can move it out of the way:
   [1] Left (x1)
   [2] Top, bottom ( x2)
   [3] Right (x1)



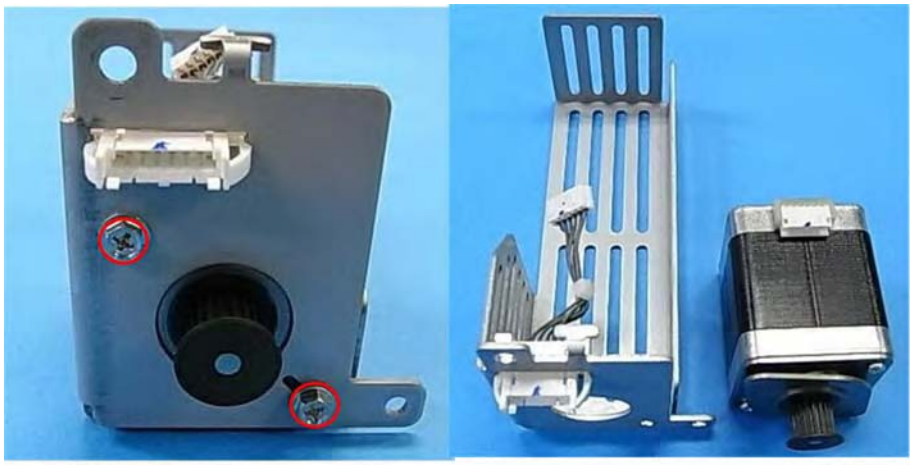
d074r759

4. Disconnect the motor bracket (x1, x1, x2, x1)



d074r760

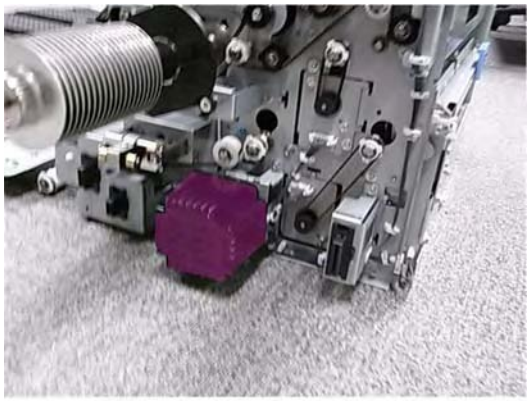
5. Disconnect the motor harness (x1).



d074r761

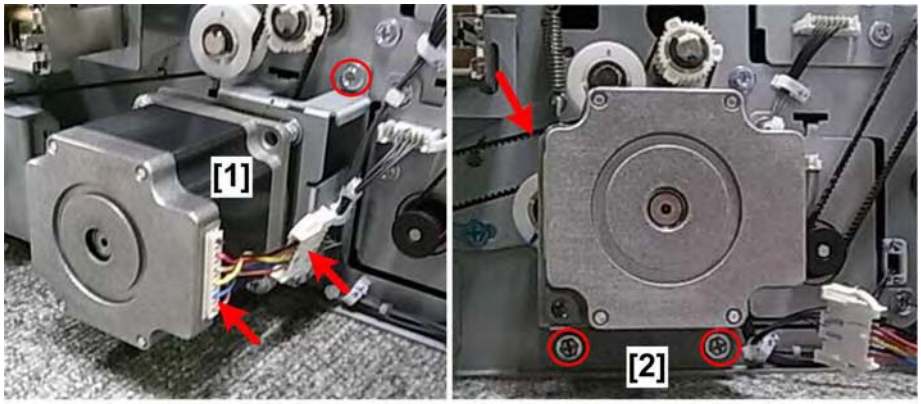
6. Separate the motor and the bracket ( x2).

## 5.19.3 DUPLEX TRANSPORT MOTOR 1



d074r762

1. Left drawer (☛p.5-46)
2. The shaded area above shows the location of the motor.



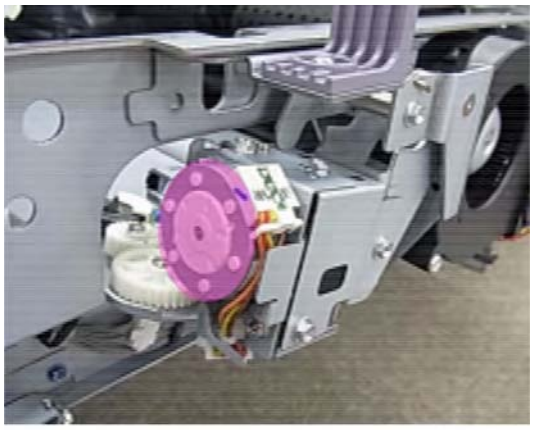

d074r763

3. Disconnect the motor bracket:
   [1] Right (x1,x1, x1)
   [2] Bottom ( x2, x1)

d074r764

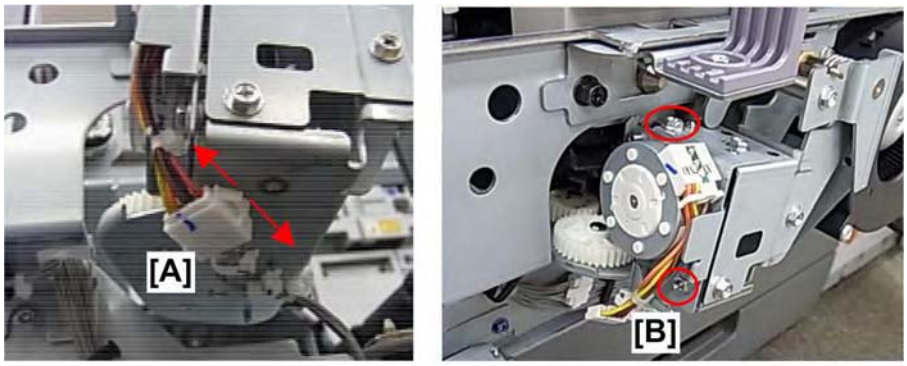
4. Separate the motor and the bracket ( x2).

## 5.19.4 WEB MOTOR



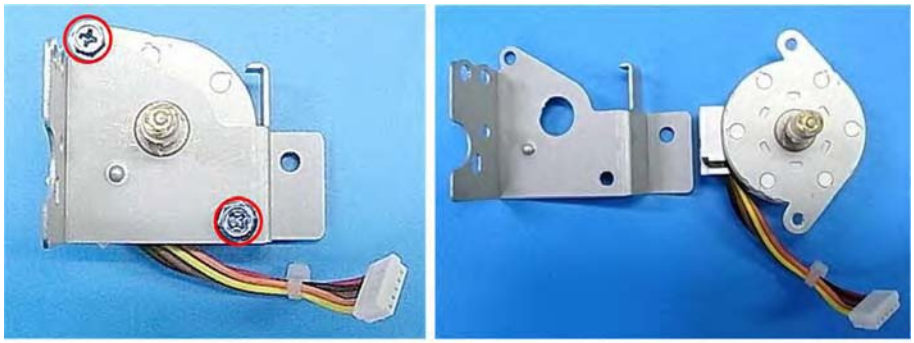
d074r765

1. Fusing unit (☛p.5-40)
2. The shaded area above shows the location of the motor.




d074r766

3. Disconnect the motor at [1] (x1).
4. Disconnect the motor bracket at [2] ( x1).

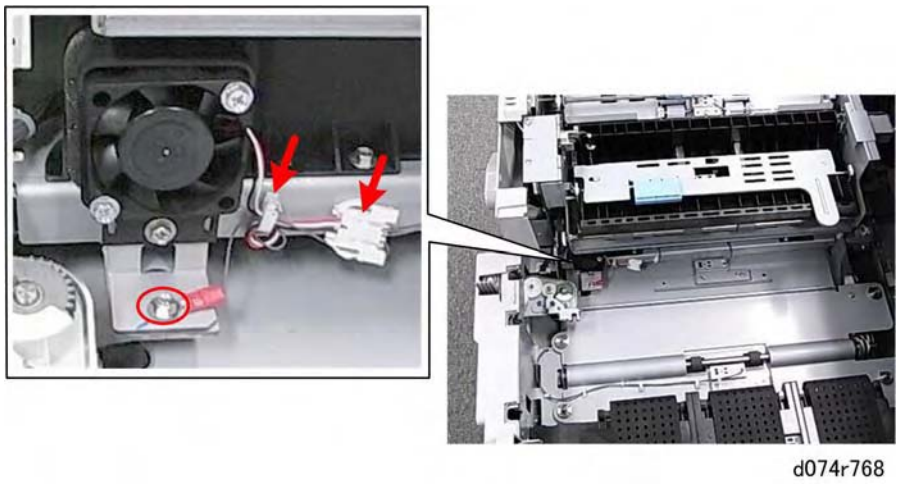


d074r767

5. Separate the motor and the bracket ( x2).

## 5.19.5 BELT COOLING FAN

1. Left drawer (☛p.5-46)



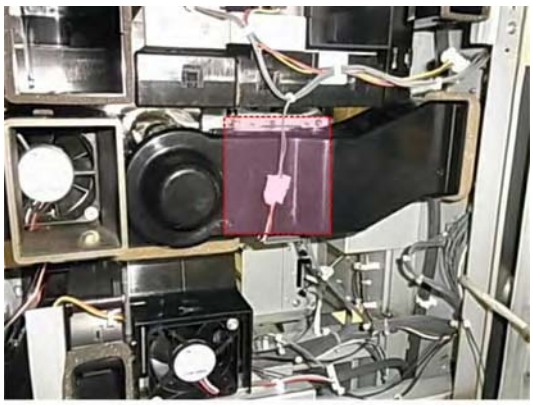
d074r768

2. Disconnect the fan and the bracket (x1, x1, x1).

d074r769

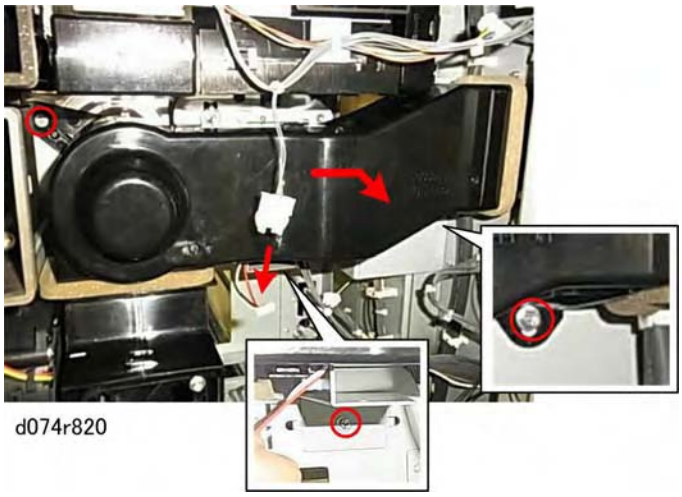
3. Separate the fan and the bracket (x2).

## 5.19.6 EXIT MOTOR



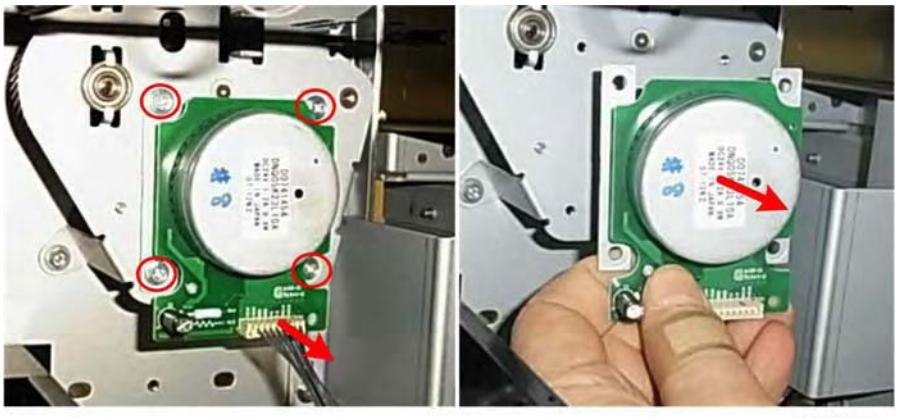
d074r819

1. Open the cooling box door. (☛p.5-8)
2. The exit motor is mounted on the back of the main machine behind a cooling duct. The shaded area above shows the location of the motor.



d074r820

3. Remove the duct (x1, x3).



d074r821

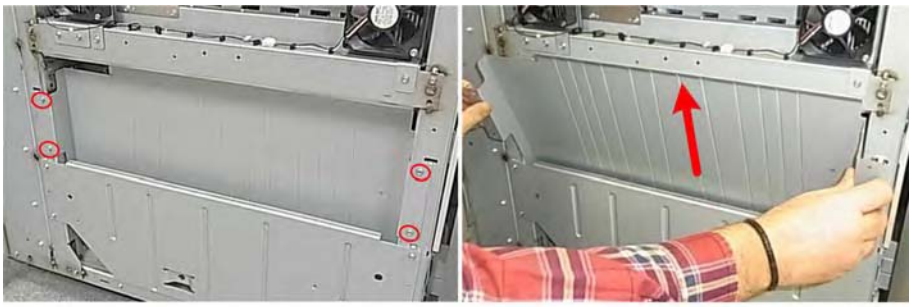
4. Remove the motor ( x4).

d074r822

## 5.19.7 DUPLEX INVERTER MOTOR

The duplex inverter motor is mounted on the back of the machine.

1. Open the cooling box (☛p.5-8)
2. Left cover (☛p.5-10)

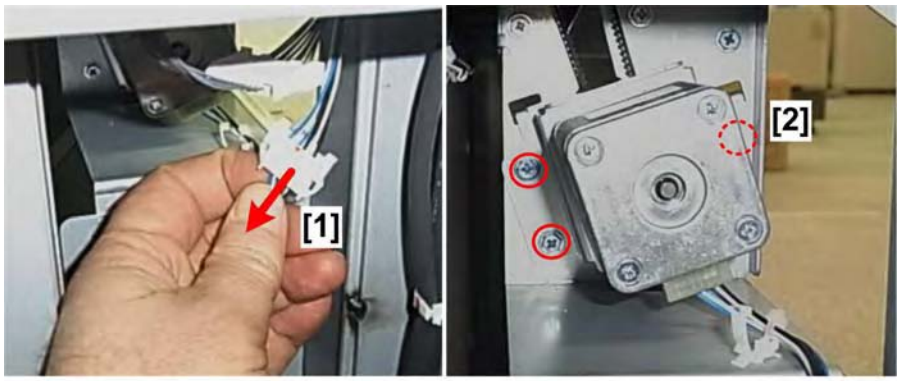


d074r826

3. Remove the purged paper tray ( x4).

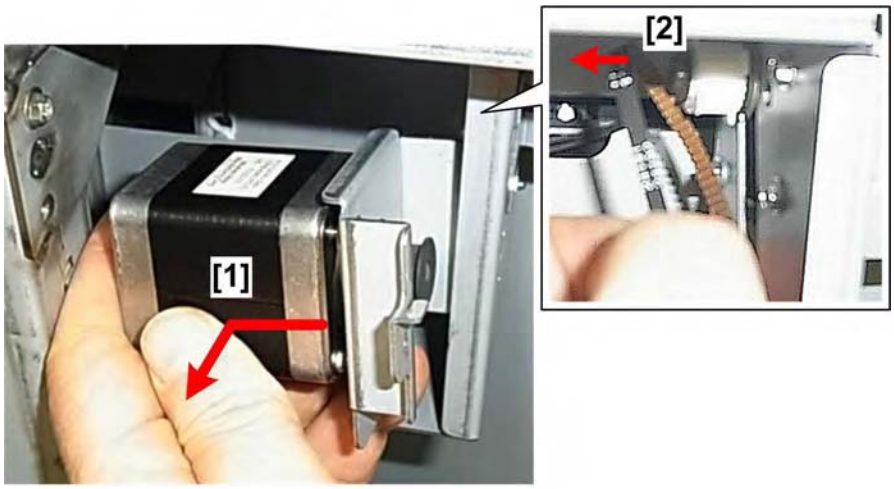
d074r827

4. Disconnect the motor ( x1).




d074r828

5. At the rear, disconnect the motor (x1, x3).




d074r829

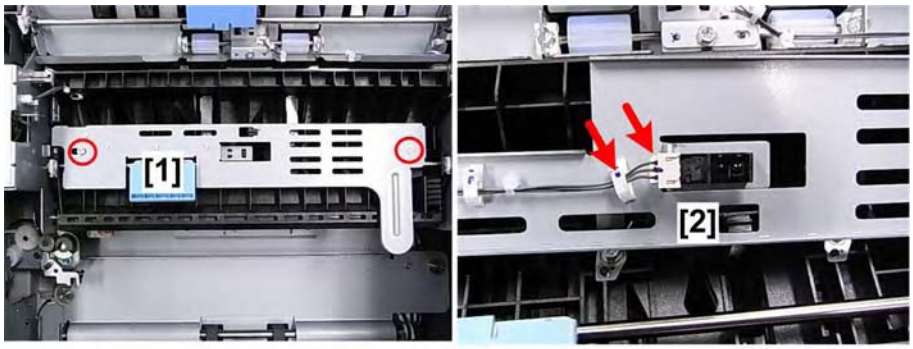
6. At the side, remove the motor [1].
7. Remove the timing belt [2] (x1).

d074r830

8. Separate the motor and motor bracket ( x2).

## 5.19.8 EXIT UNIT ENTRANCE SENSOR

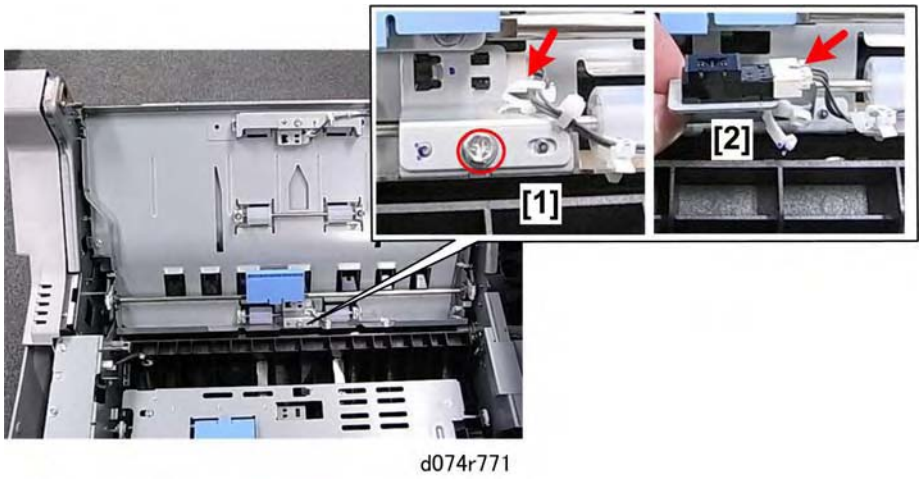
1. Left drawer unit (☛p.5-46)




2. Remove the bracket [1] ( x2).
3. Remove the sensor [2] ( x1, x1, x3).

## 5.19.9 EXIT JG SENSOR

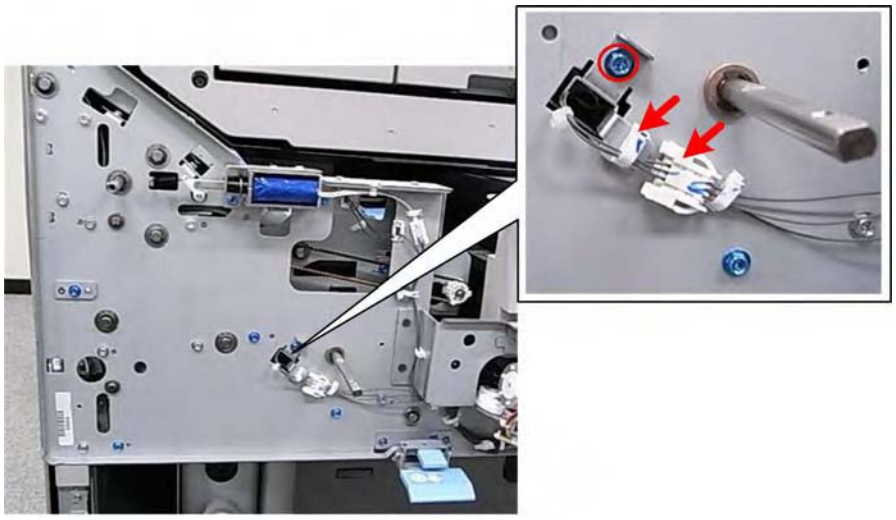
- Left drawer unit (☛p.5-46)




- Disconnect the sensor bracket [1] ( x1, x1).
- Disconnect the sensor [2] ( x1, x3).

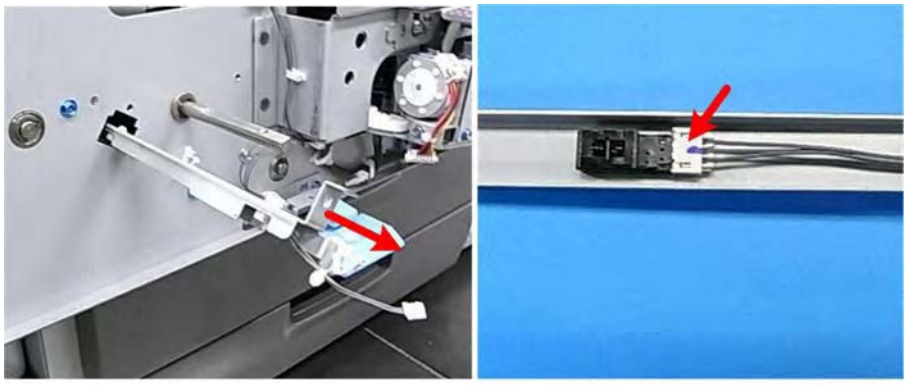
## 5.19.10 DUPLEX TRANSPORT SENSOR 1

1. Pull out the left drawer until it stops and remove its front cover.



d074r772

2. Disconnect the sensor (x1, x1, x1).

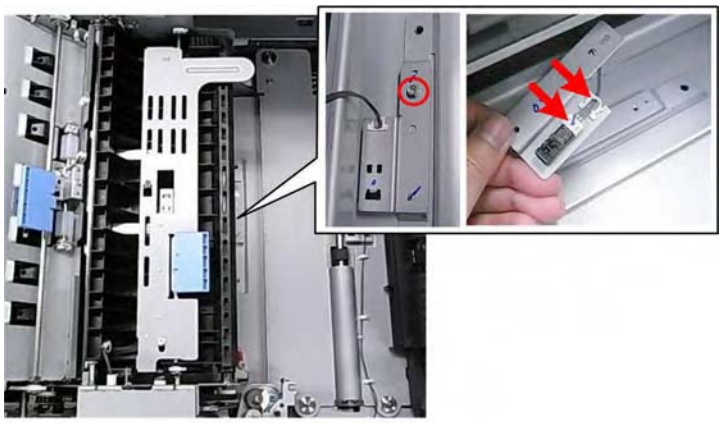


d074r773

3. Pull the sensor bracket out of the left drawer unit and disconnect the sensor (x1, x3).

## 5.19.11 DUPLEX TRANSPORT SENSOR 2

- Fusing unit (☛p.5-40)

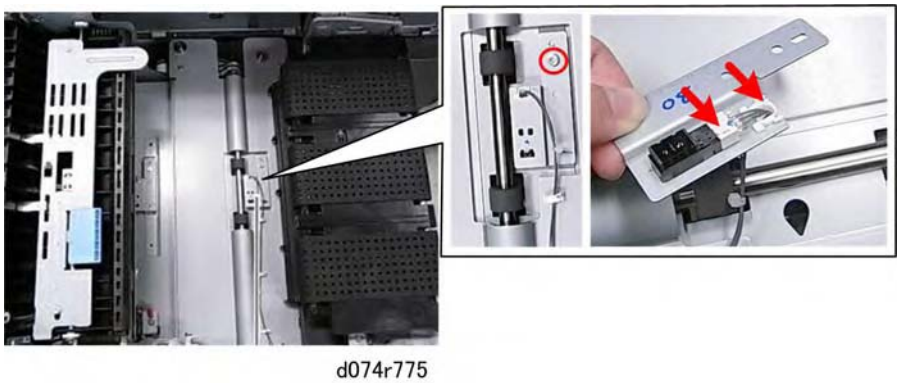


d074r774

- Disconnect the sensor bracket and remove the sensor ( x1, x1, x1, x3).

## 5.19.12 DUPLEX TRANSPORT SENSOR 3

1. Fusing unit (☛p.5-40)



d074r775

2. Disconnect the sensor bracket and remove the sensor ( x1, x1, x1, x3).

## 5.19.13 EXIT RELAY SENSOR

- Open the front doors and pull out the left tray until it stops.

d074r776

- Open the exit guide [1].
- Disconnect the sensor bracket [2] and remove the sensor ( x1, x1, x3).

## 5.19.14 PURGE RELAY SENSOR

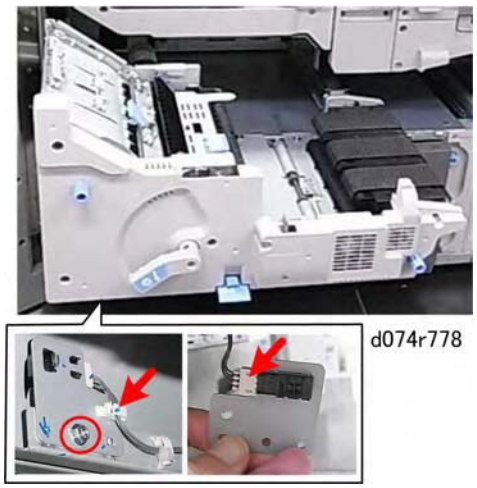
1. Open the front doors and pull out the left tray until it stops.

d074r777

2. Disconnect the sensor bracket and remove the sensor ( x1, x1, x3).

## 5.19.15 DUPLEX INVERT SENSOR

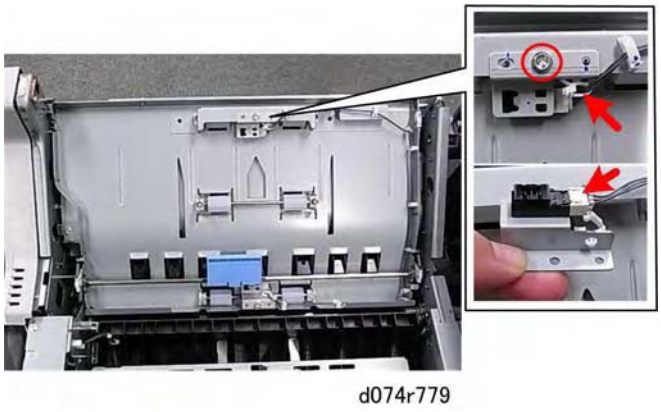
- Open the front doors and pull out the left tray until it stops.




- Under the left drawer unit, disconnect the sensor bracket and sensor ( x1, x1, x1, x3)

## 5.19.16 EXIT SENSOR

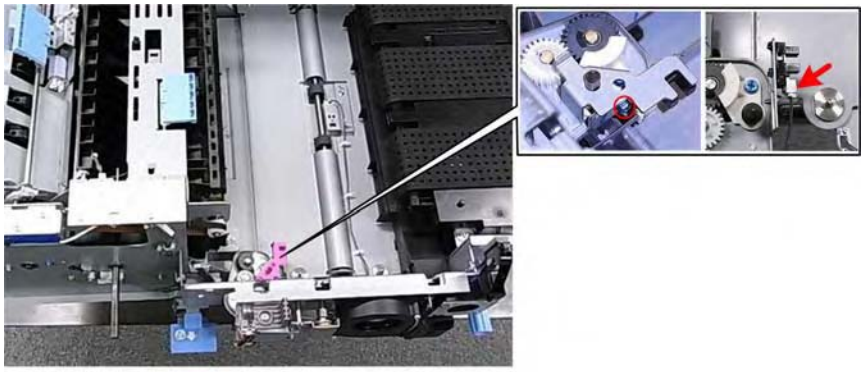
1. Open the front doors and pull out the left tray until it stops.




2. Raise the transport cover.
3. Disconnect the sensor bracket and remove the sensor ( x1, x1, x1, x3).

## 5.19.17 WEB END SENSOR

1. Fusing unit (☛p.5-40)



d074r780

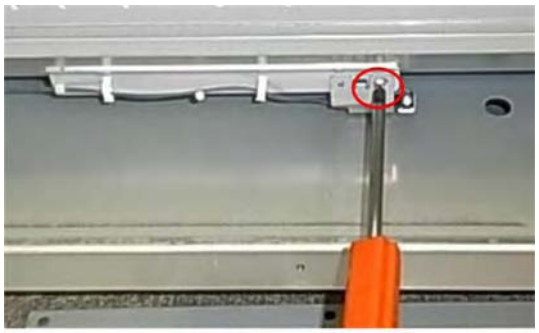
2. Disconnect the sensor bracket and remove the sensor ( x1, x1, x3).

## 5.19.18 PURGED PAPER SENSOR

- Left cover (☛p.5-10)
- Remove the lower left inner cover ( x7).

d074r823

- Remove the base plate ( x7).



d074r824

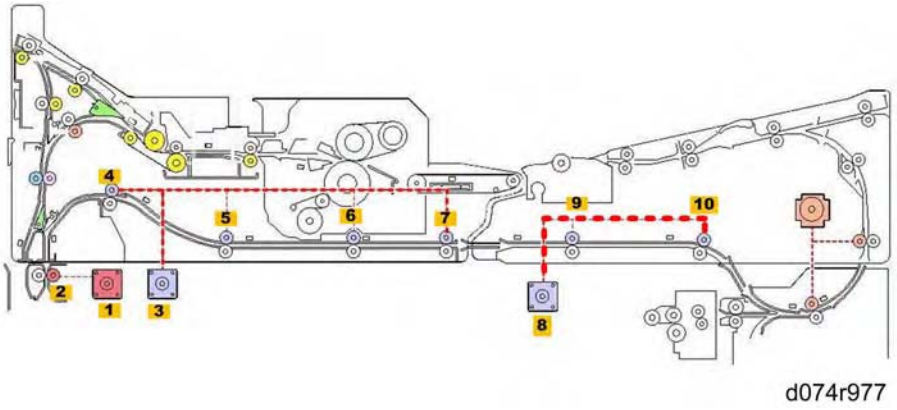
- Disconnect the sensor bracket ( x1).

d074r825

- Remove the sensor ( x1, x1).

# 5.20 DUPLEX MOTORS AND ROLLERS

The duplex path is split between the left drawer and the right drawer. Identify the component that requires servicing or replacement, then go to the appropriate section of the manual.

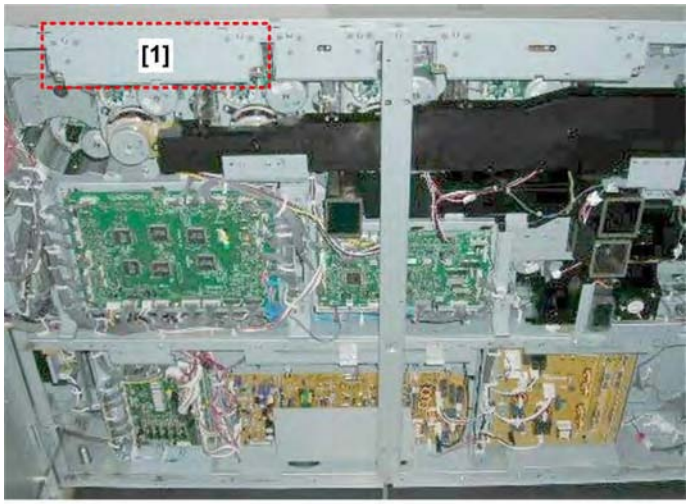



| | Left Drawer | | Right Drawer |
|---|---|---|---|
| 1 | Duplex Invert Motor | 6 | Duplex Transport Roller 3 |
| 2 | Duplex Invert Rollers | 7 | Duplex Transport Roller 4 |
| 3 | Duplex Transport Motor 1 | 8 | Duplex Transport Motor 2 |
| 4 | Duplex Transport Roller 1 | 9 | Duplex Transport Roller 5 |
| 5 | Duplex Transport Roller 2 | 10 | Duplex Transport Roller 6 |

1. For a duplex component in the left drawer, see p.5-46 "Removing the Left Drawer".
2. For a duplex component in the right drawer, see p.5-17 "Removing the Right Drawer"

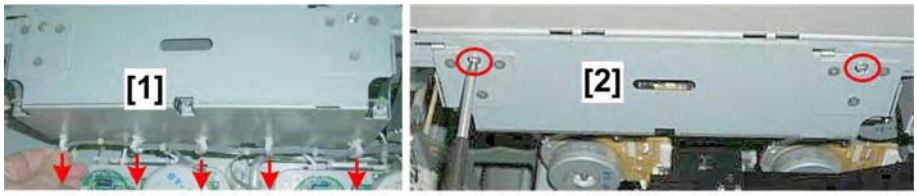
# 5.21 MAIN BOARDS, HDD UNITS

## 5.21.1 CB POWER PACK (CK)




d074r550

- Open the rear boxes ( x6). (p.5-8)
- The CB power pack (CK) is located at [1].

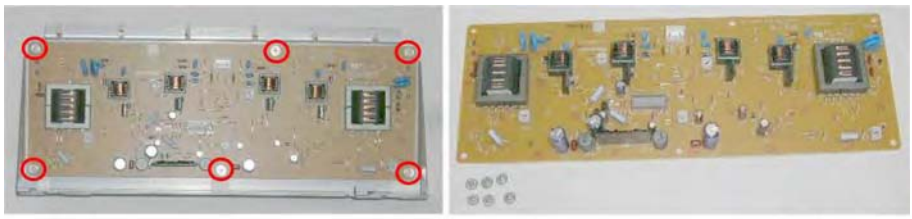



d074r551

- Under the power pack [1], open the clamps and free the harnesses (x5).
- Disconnect the power pack bracket [2] ( x2).

d074r552

- Slide the bracket [1] slightly to the left and lower it.
- Disconnect the power pack [2] (x6, x4)



d074r553

- Place the bracket on a flat surface and remove the power pack ( x6).

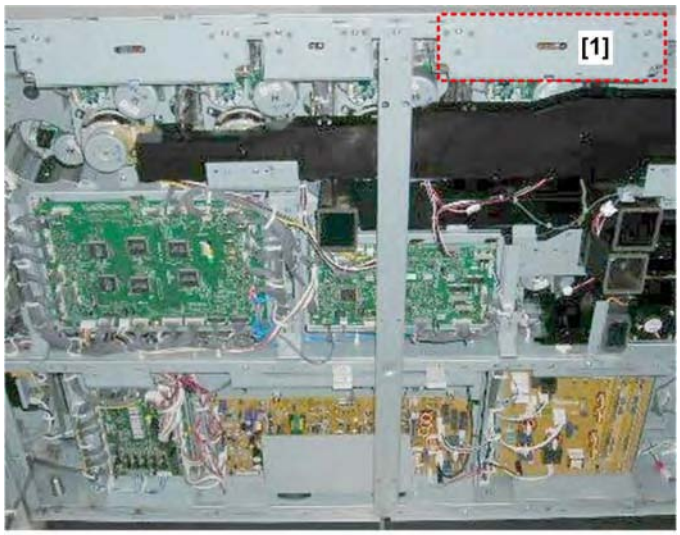
**Re-installation**

d074r553a

Important

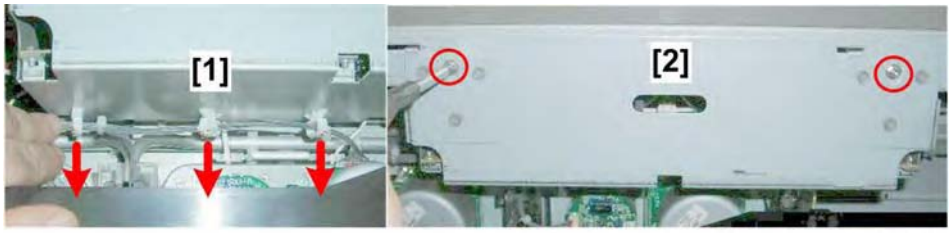
1. After re-installing the power pack, check the motor connections below and make sure that they are not loose or disconnected.

## 5.21.2 CB POWER PACK (YM)




d074r554

1. Open the rear boxes ( x6). (☛p.5-8)
2. The CB power pack (YM) is located at [1].

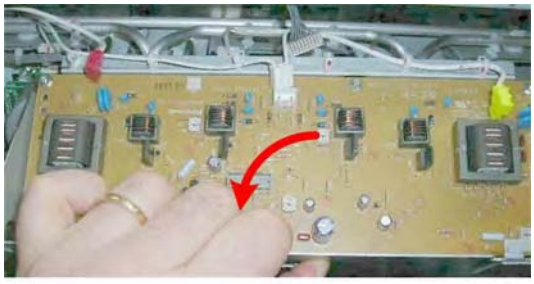



d074r555

3. Under the power pack [1], open the clamps and free the harnesses (x3).
4. Disconnect the power pack bracket [2] ( x2).

d074r556

5. Slide the bracket [1] slightly to the left and lower it.
6. Disconnect the power pack [2] (x6, x4).



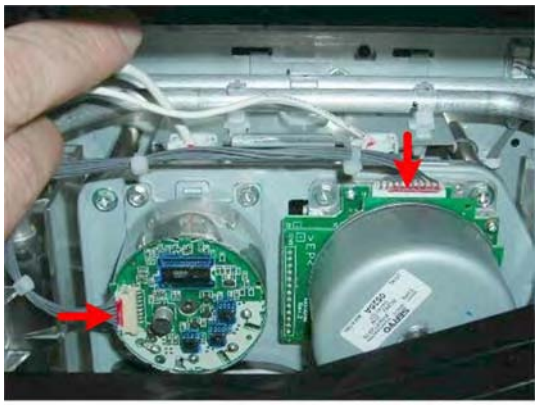
d074r557

7. Remove the power pack bracket and lay it on a flat surface.

d074r558

8. Remove the power pack ( x6).

**Re-installation**

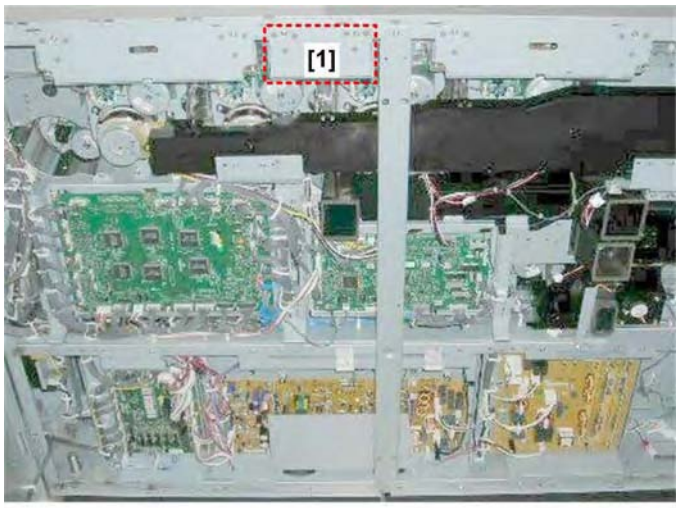


d074r559

Important

- After re-installing the power pack, check the motor connections below and make sure that they are not loose or disconnected.

## 5.21.3 POTENTIAL SENSOR POWER PACK




d074r560

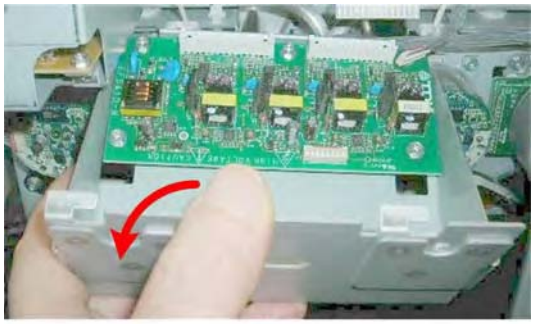
1. Open the rear boxes ( x6). (p.5-8)
2. The potential sensor power pack is located at [1].

d074r561

3. Under the power pack [1], open the clamps and free the harnesses (x3).
4. Disconnect the power pack bracket [2] ( x2).

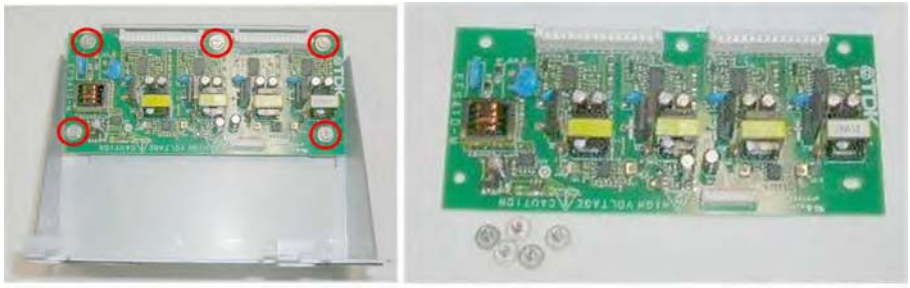
d074r562

5. Slide the bracket [1] slightly to the left and lower it.
6. Disconnect the power pack [2] (x3).



d074r563

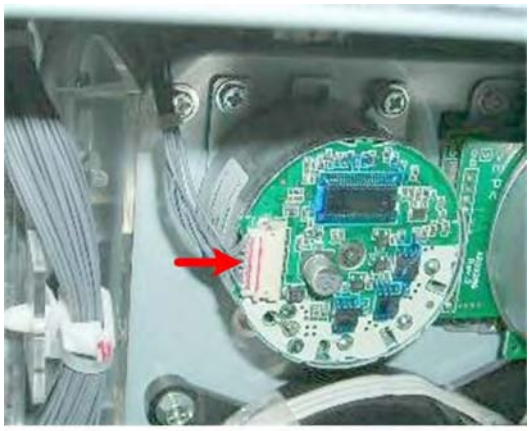
7. Remove the power pack bracket and lay it on a flat surface.



d074r564

8. Remove the power pack ( x6).

**Re-installation**

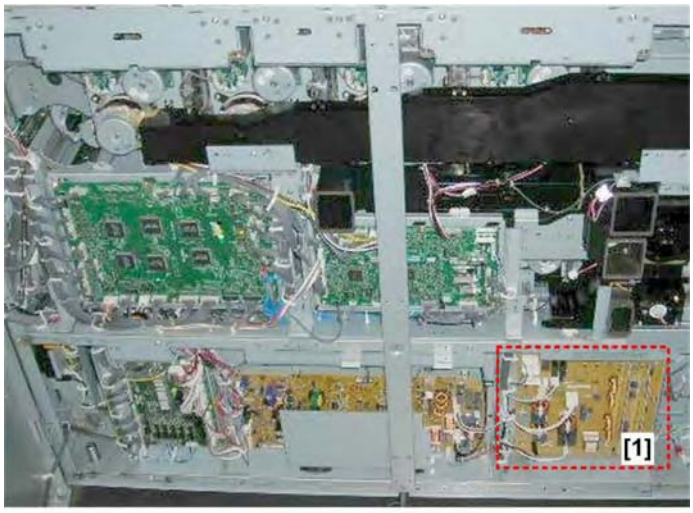


d074r565

Important

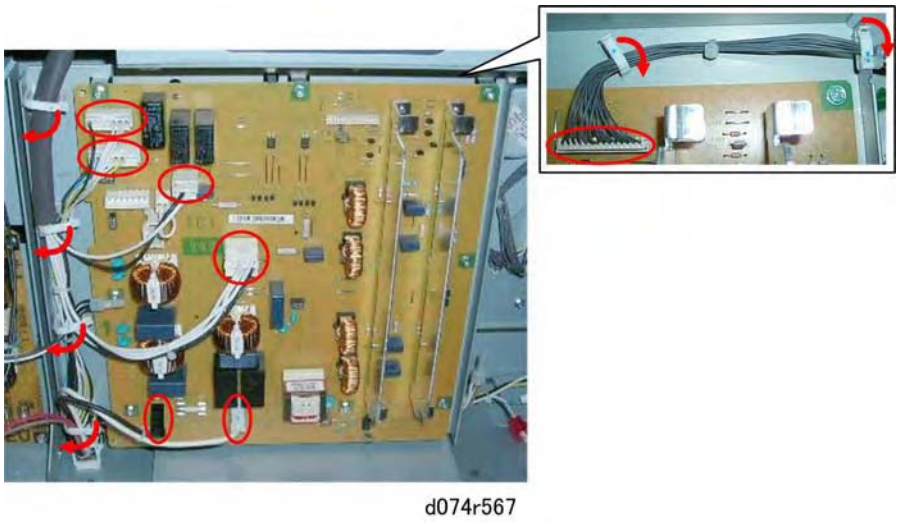
1. After re-installing the power pack, check the motor connection below and make sure that it is not loose or disconnected.

## 5.21.4 AC DRIVE BOARD



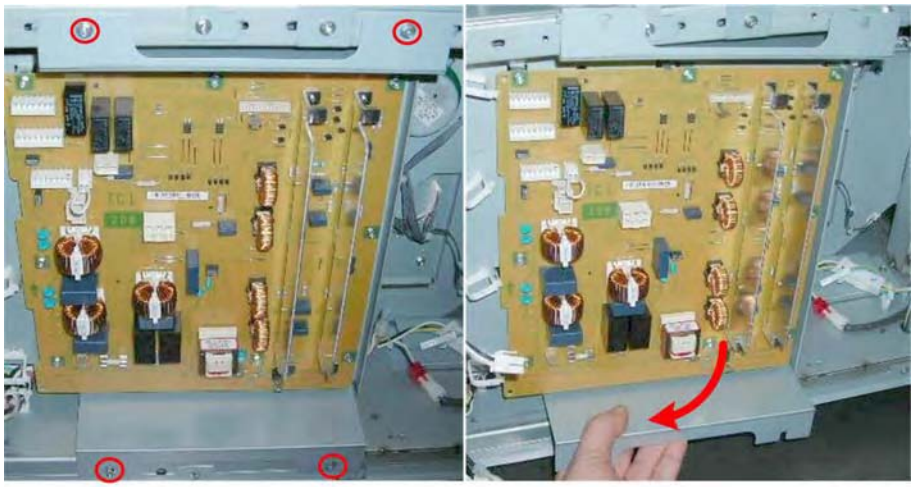

d074r566

1. Open the rear boxes ( x6). (p.5-8)
2. The AC drive board is located at [1].



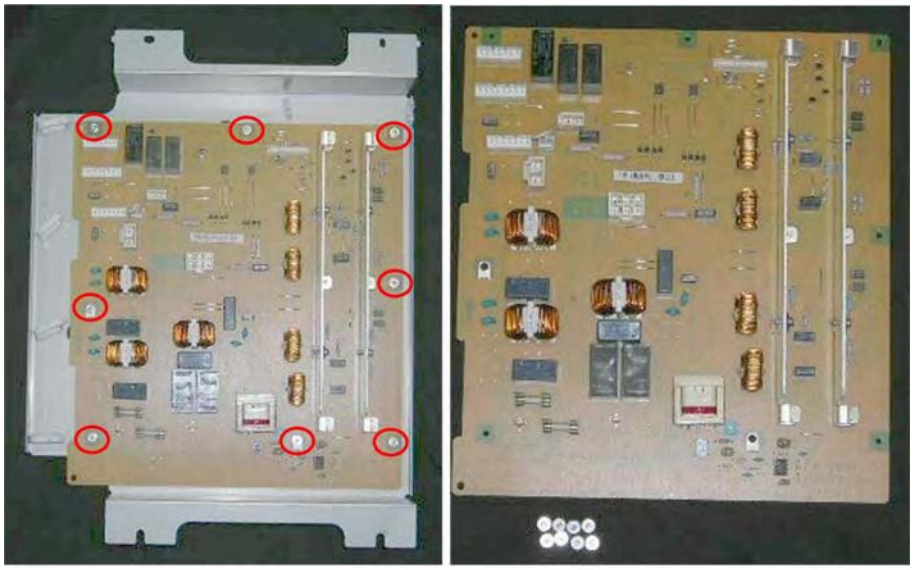
d074r567

3. Disconnect the board ( x6, x7).



d074r568

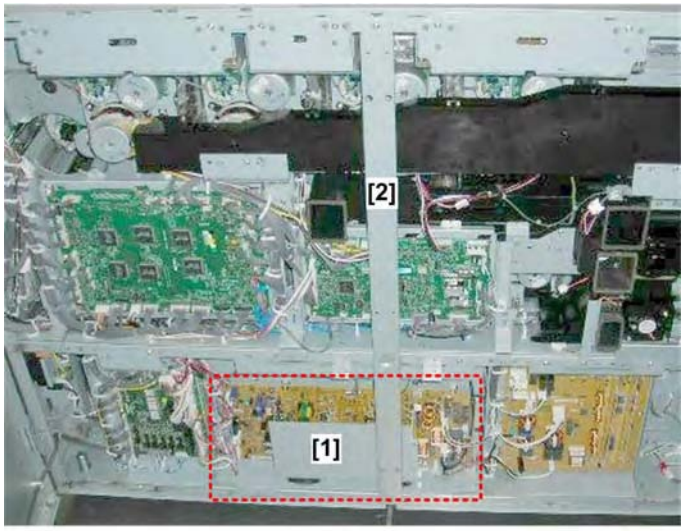
4. Disconnect the board bracket and remove it ( x4).



d074r569

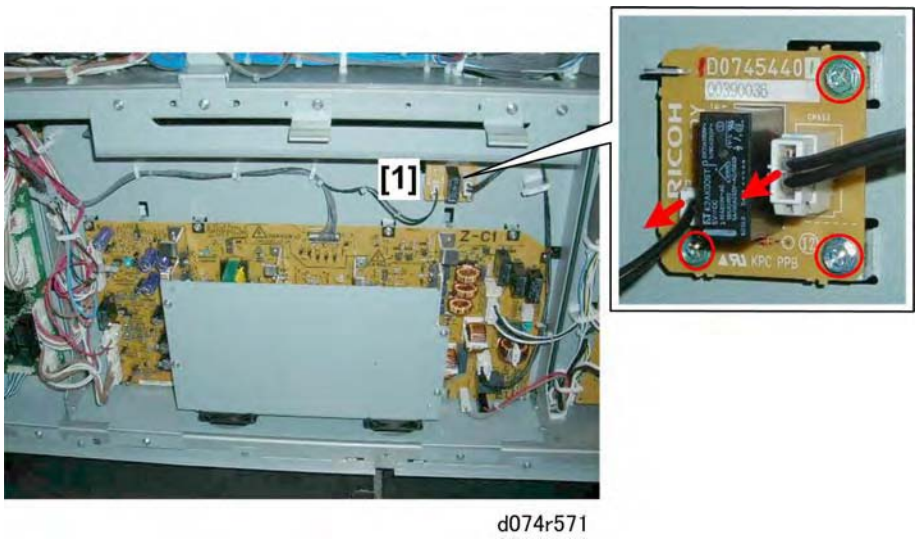
5. Lay the bracket on a flat surface and remove the board ( x8).

## 5.21.5 PSU 2, PSU 2 FANS




d074r570

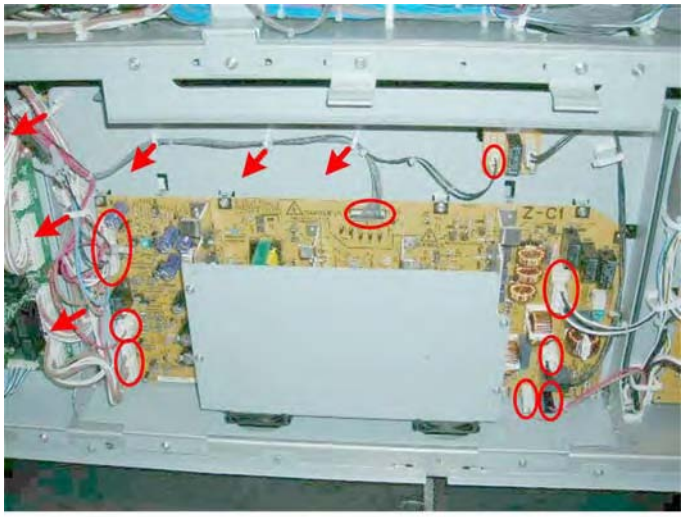
- Open the rear boxes ( x6). (p.5-8)
- PSU 2 is located at [1].
- Remove the center stay [2] ( x3).




d074r571

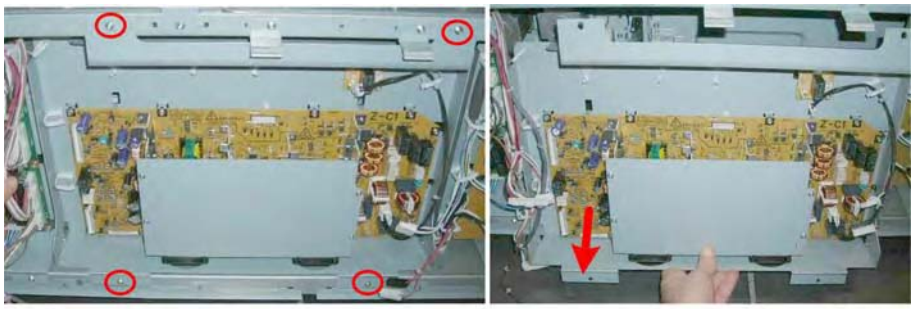
Note

- The AC relay board [1] can be removed without removing PSU 2 ( x3, x2).



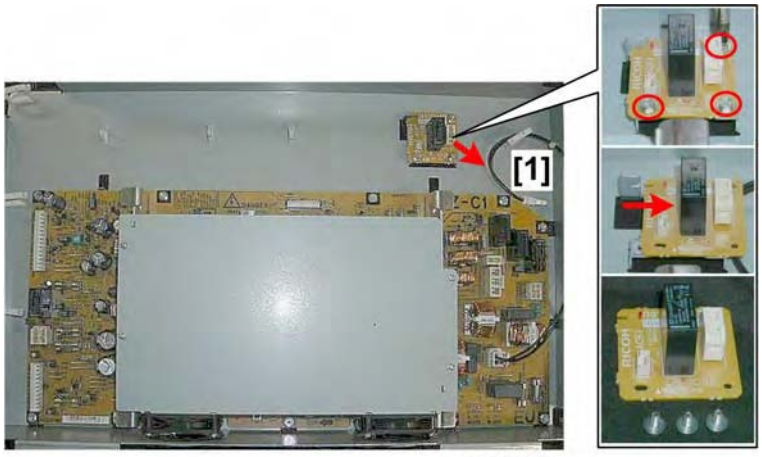

d074r572

- Disconnect the board (x6,x6).



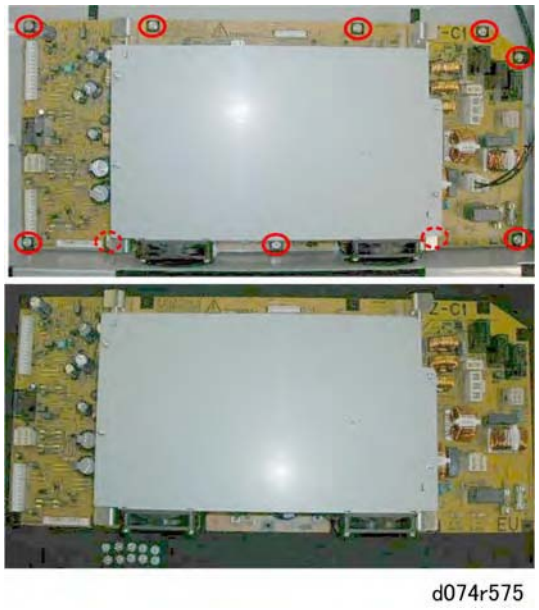
d074r573

- Disconnect the bracket and remove it ( x4).
- Lay the bracket on a flat surface.




d074r574

- Disconnect the AC relay board [1] ( x3, x1).
- Slide the board to the right and remove it.



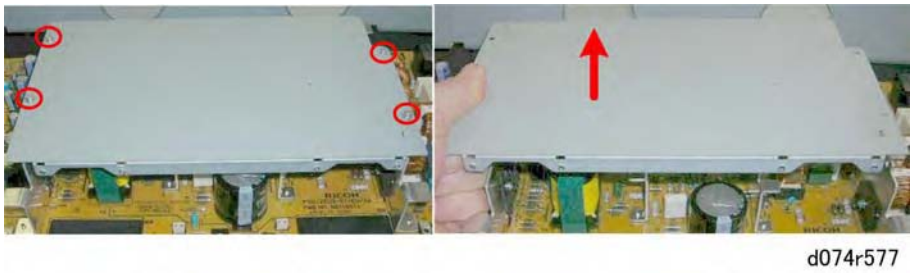

d074r575

- Remove the board ( x10).

## *PSU 2 Fans*

d074r576

1. Remove the fans ( x1, x2 each).



d074r577

2. Remove the shield plate ( x4).

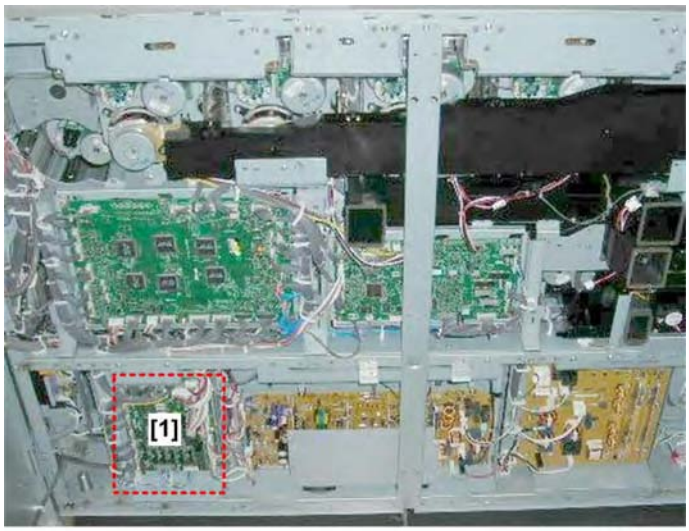
Note

1. There are no fuses under the shield plate.
2. If you are replacing the board, be sure to install this plate over the new board.

d074r578

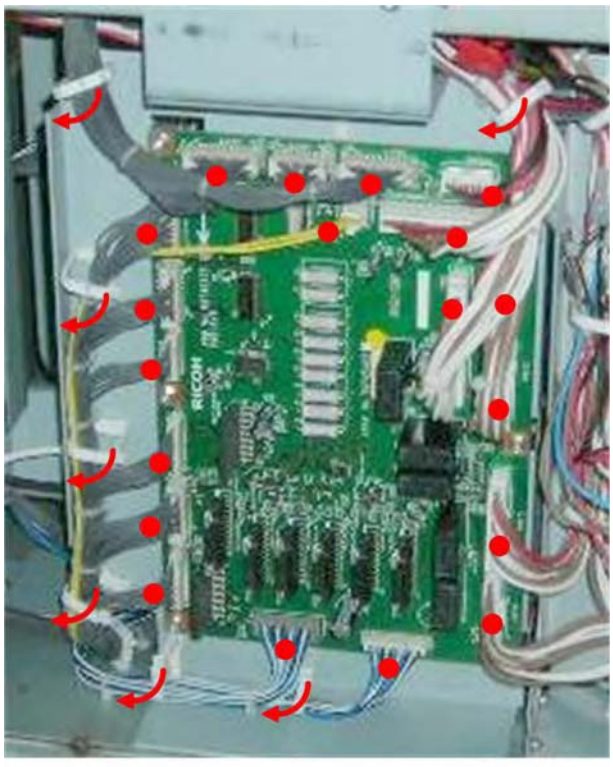
3. There are four fuses on the left [1] and two fuses on the right [2].

## 5.21.6 RELAY BOARD (RYB)



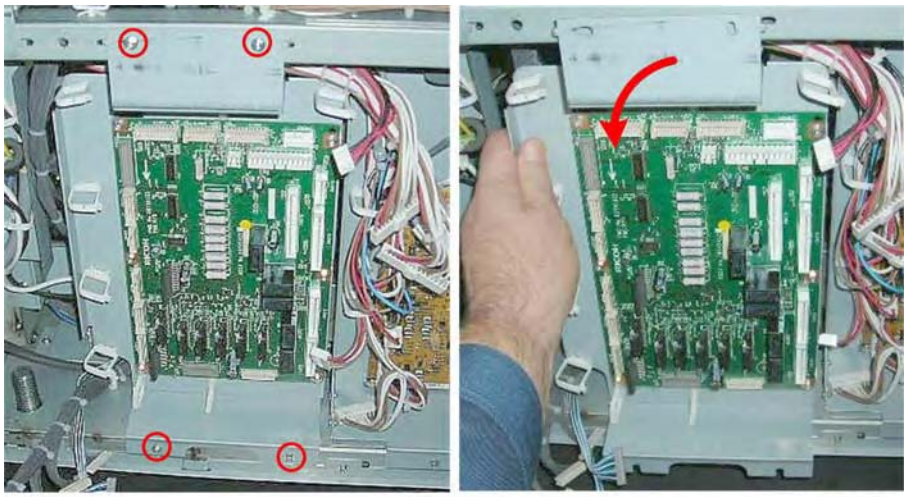

d074r579

1. Open the rear boxes ( x6). (p.5-8)
2. The relay board is located at [1].



d074r580

3. Disconnect the board (x7, x19)



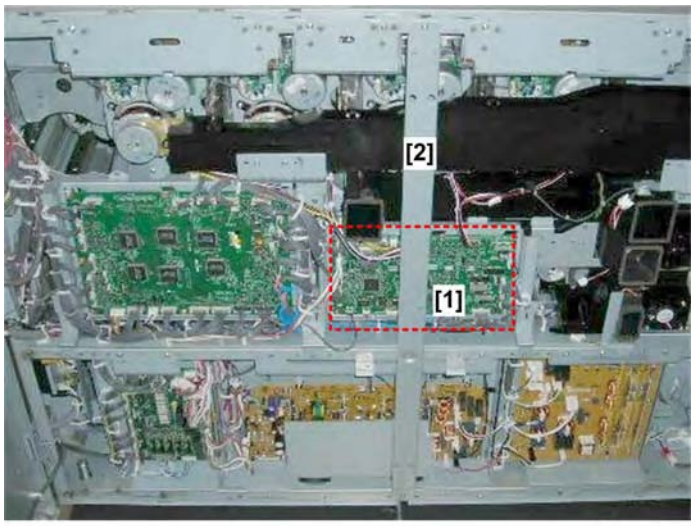
d074r581

4. Disconnect the bracket and remove it ( x4).
5. Lay the bracket on a flat surface.

d074r582

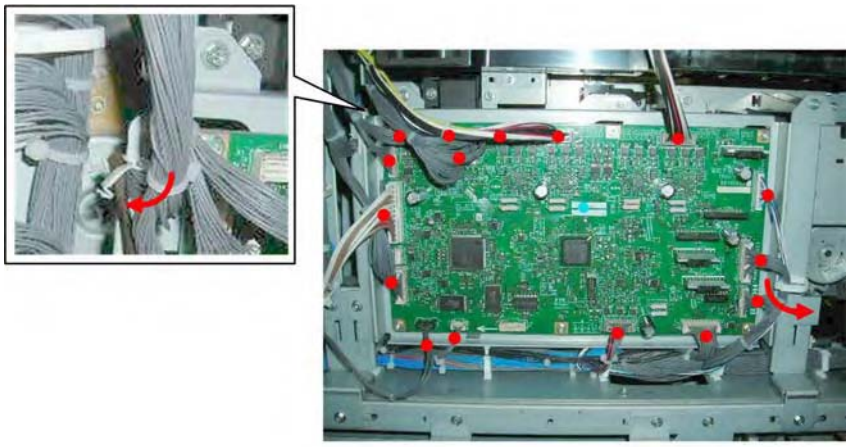
6. Remove the board ( x6).

## 5.21.7 TDCU




d074r583

1. Open the rear boxes ( x6). (p.5-8)
2. The TDCU is located at [1].
3. Remove the center stay [2] ( x3).

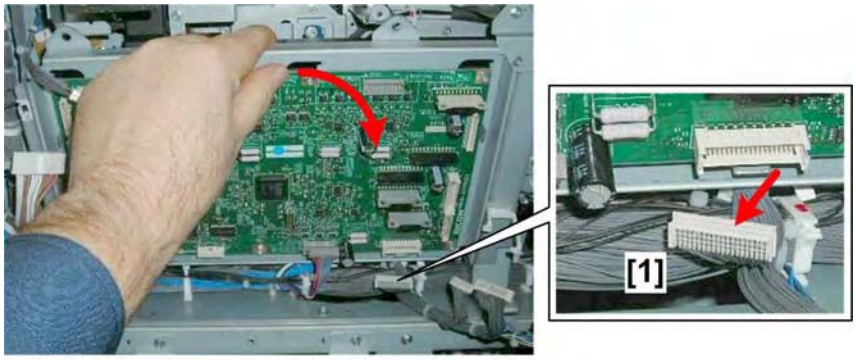


d074r584

4. Disconnect the board (x2, x16).

d074r585

5. Disconnect the bracket ( x4).

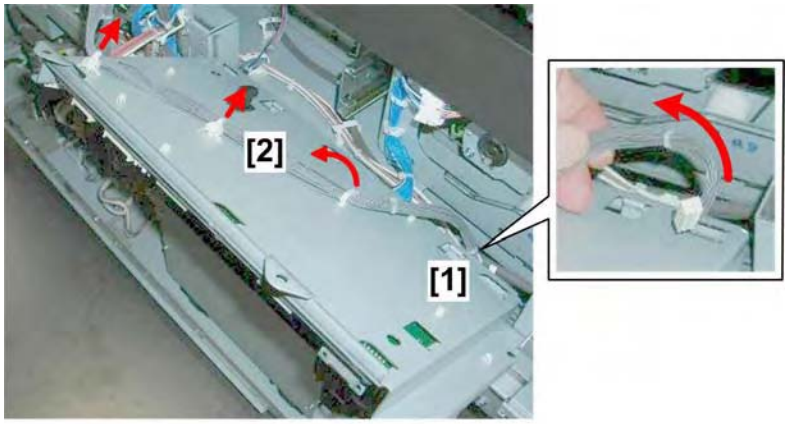



d074r586

6. Lower the board slowly until it stops.

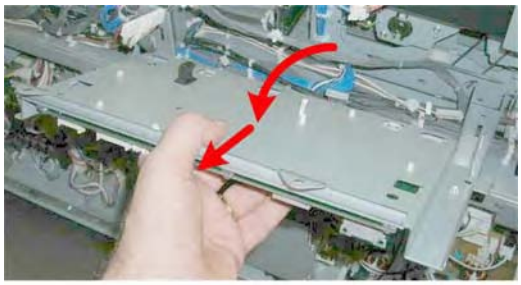
Important

1. Do not try to remove the bracket and board.
2. Connector [1] is attached to the back of the board and must be disconnected before the bracket can be removed.



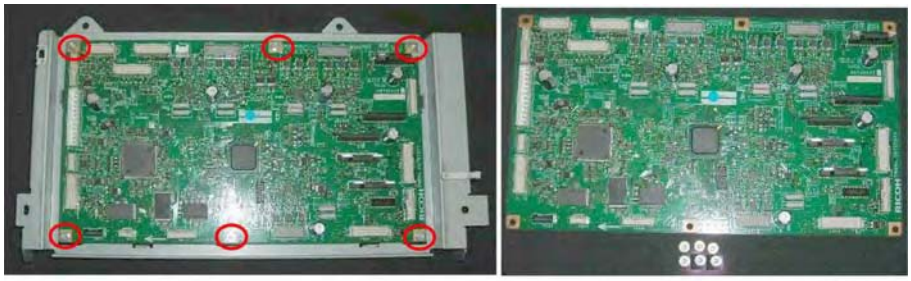

d074r587

7. On the back of the board, pull out the harness connector [1].
8. Disconnect the harness from the back of the board [2] ( x2, x1).



d074r588

9. Remove the bracket and lay it on a flat surface.



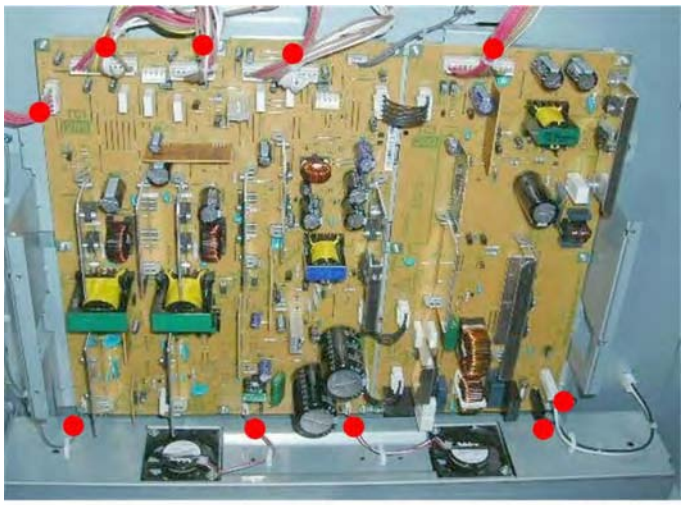
d074r589

10. Remove the board ( x6).

## 5.21.8 PSU 1, PSU 1 FANS

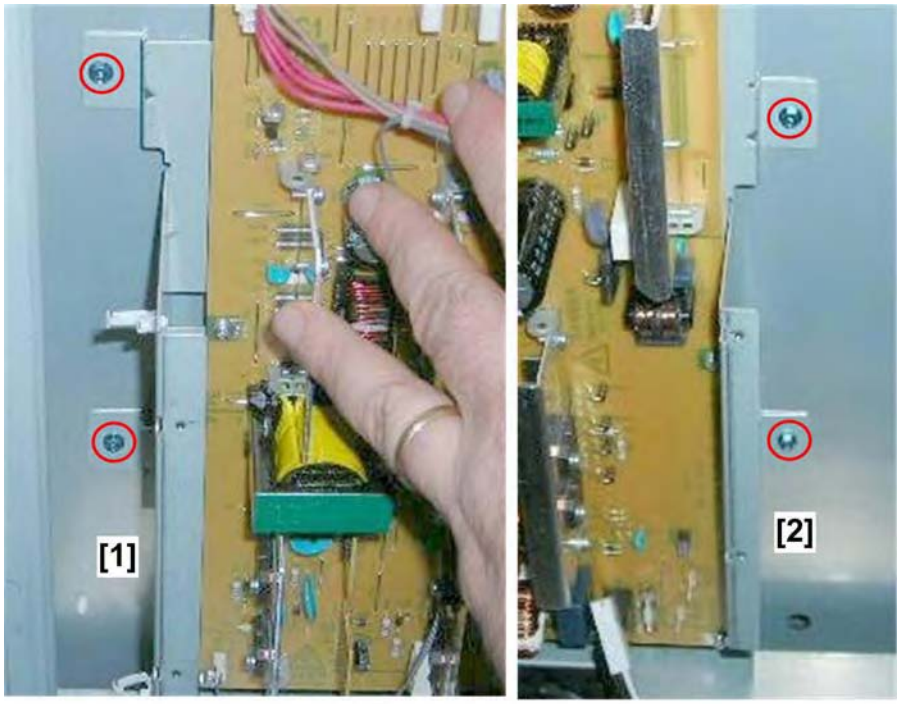
d074r590

1. Open the controller box ( x6). (p.5-8)
2. Remove the controller box covers. (p.5-12)
3. PSU 1 is at the bottom of the controller box.



d074r591

4. Disconnect the board ( x10).

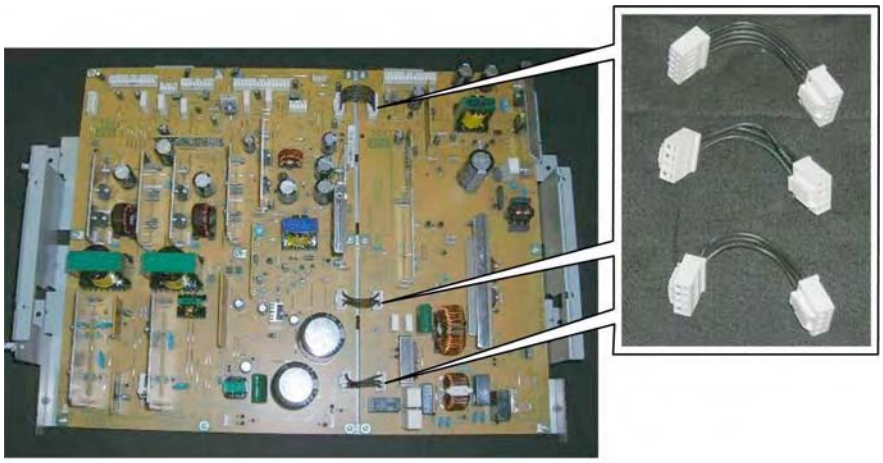



d074r592

5. Disconnect the bracket:
   [1] Left side ( x2)
   [2] Right side ( x2)

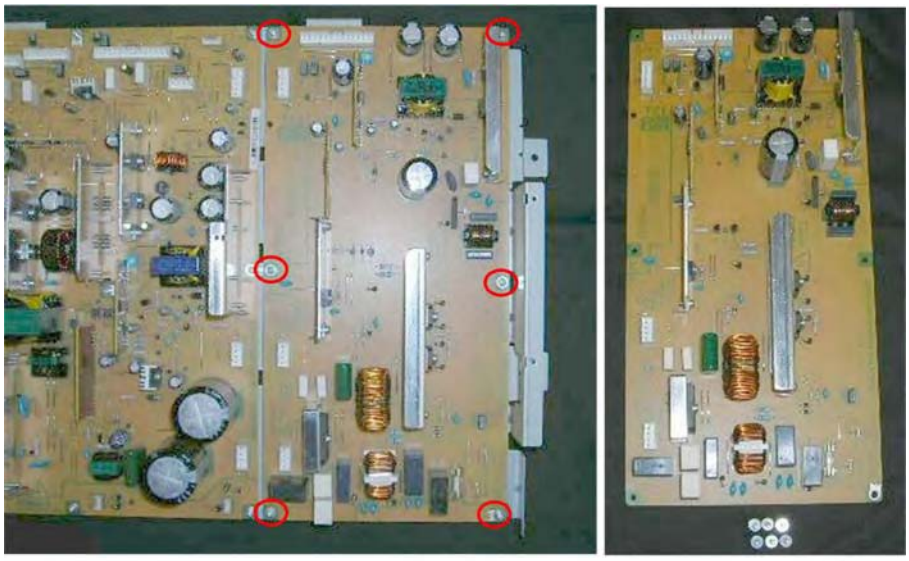
d074r593

6. Remove the bracket and lay it on a flat surface.



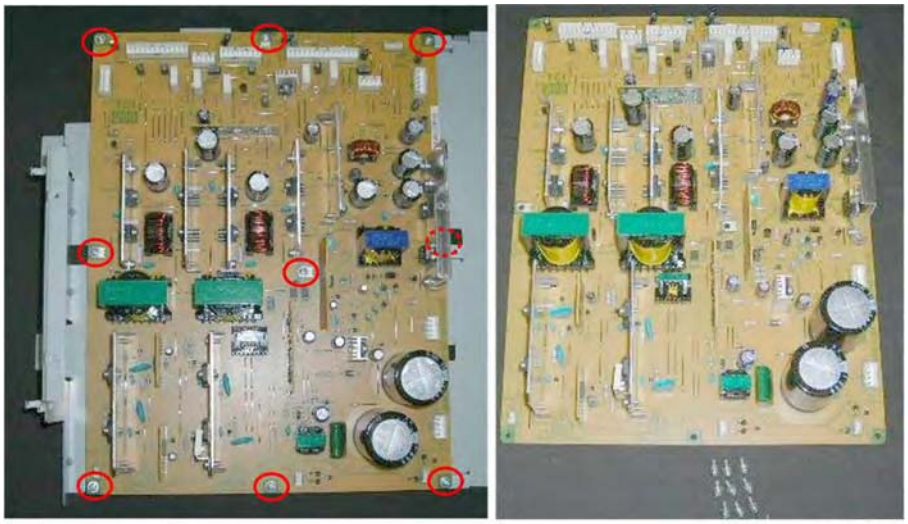
d074r594

7. Remove the three bridge harnesses (x6).



d074r595

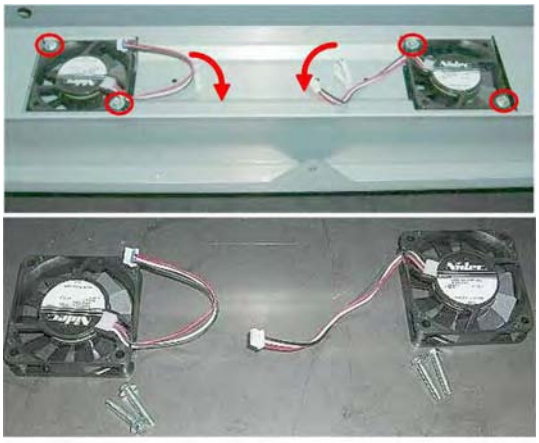
8. Remove the right board ( x6).



d074r596

9. Remove the left board ( x9).

**Fans**

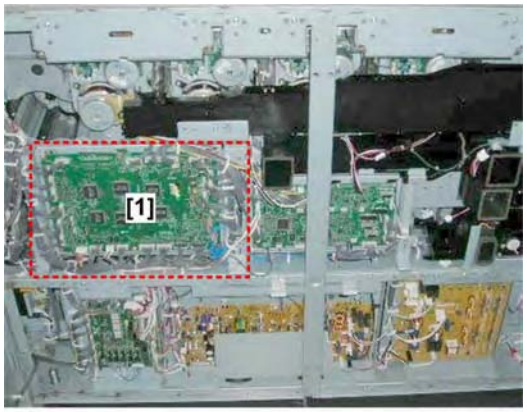


d074r597

- At the base of the controller box, remove the fans ( x1, x2 each).

## 5.21.9 IOB/BCU

### *Lowering the IOB*

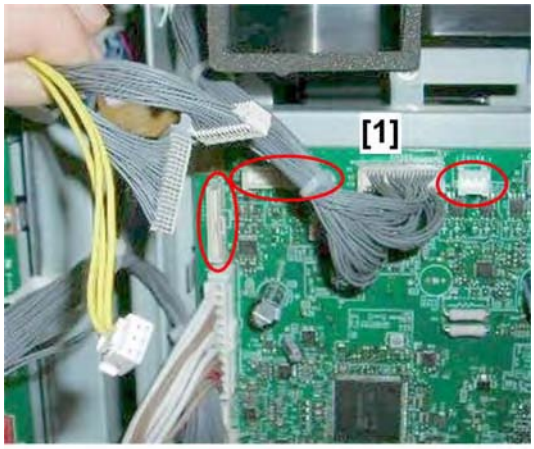



d074r598

1. Open the rear boxes ( x6). (☛p.5-8)
2. The IOB and BCU are located at [1].

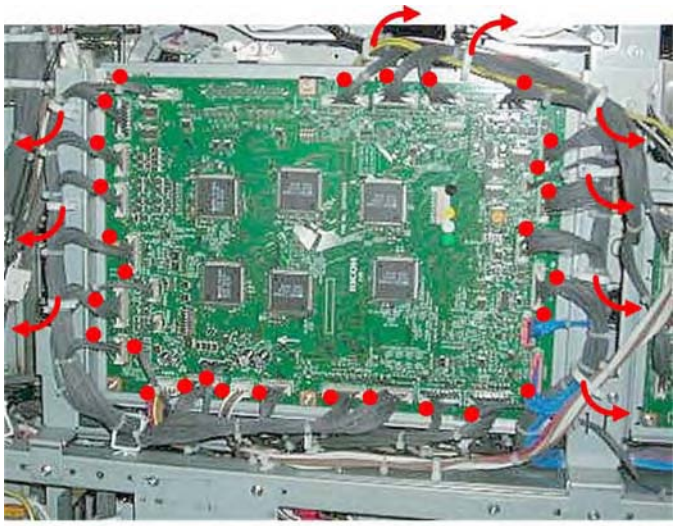
Note

- The BCU is not visible. It is mounted on the back of the IOB.




d074r599

3. To the right of the IOB, disconnect the TDCU [1] ( x3).



d074r600

4. Disconnect the IOB (x9, x29).

d074r601

5. Lower the IOB [1] to the horizontal position so that you can see the BCU [2].

Note

- This platform is stable enough to allow removal of the BCU.

**BCU**

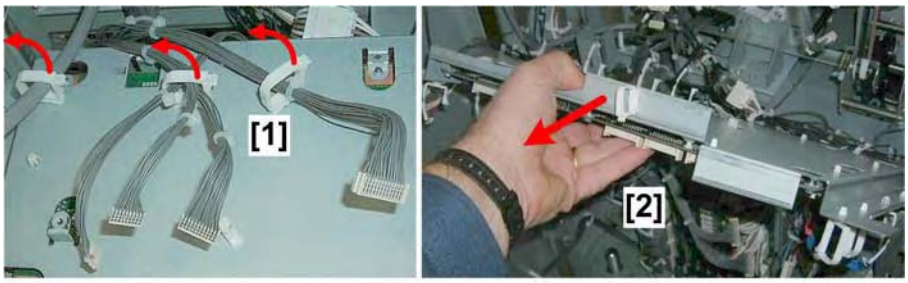
d074r602

1. Disconnect harness [1] ( x1, x1).
2. Disconnect the other harnesses ( x4).
3. Disconnect the BCU ( x4).

d074r603

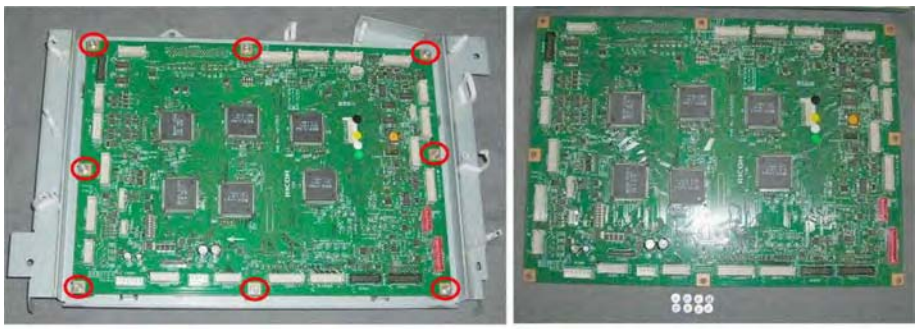
4. Remove the BCU.

## *Removing the IOB*




d074r604

1. Disconnect harnesses [1] on the back of the IOB where the BCU was removed (x3).
2. Remove the bracket and lay it on a flat surface.

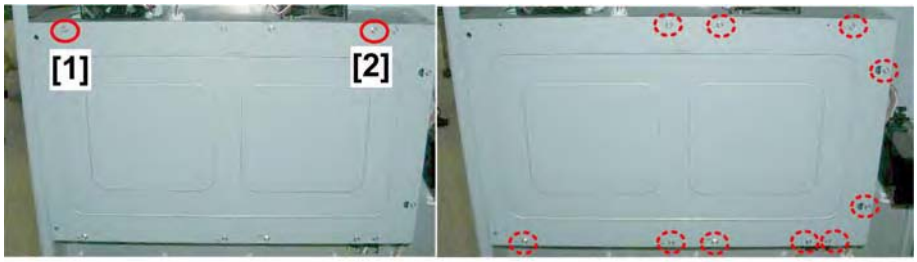


d074r605

3. Remove the IOB ( x8).

## 5.21.10 CONTROLLER BOARD (GW), NVRAM, CONTROLLER BOARD FAN

1. Open the controller box ( x6). (☛p.5-8)
2. Controller box covers (☛p.5-12)




d074r606

3. The controller board is behind the slide cover.
4. **Remove** screws [1] and [2] ( x2).
5. **Loosen** the other screws ( x10). You do not need to remove all of these screws.

d074r607

6. Slide the cover to the left and remove it.

d074r608

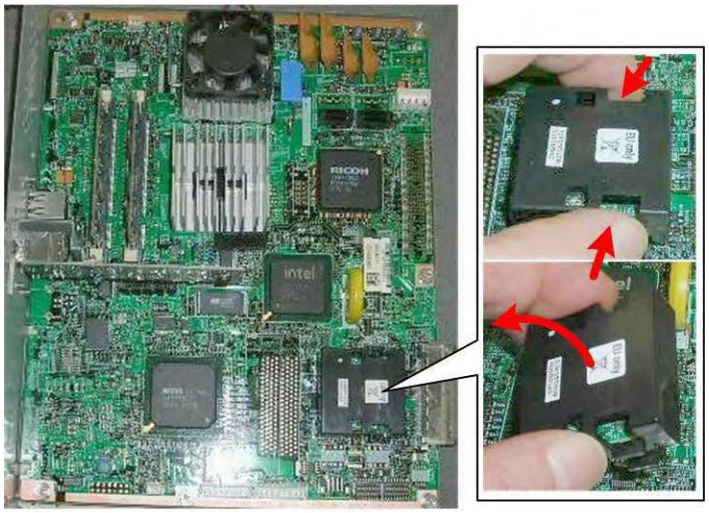
7. Disconnect the HDD unit at [1] (x3).
8. On the side of the controller box, disconnect the controller board bracket [2] ( x3).

9. Remove the bracket and lay it on a flat surface.

10. Remove the board [1] ( x6).

**NVRAM**

- Press in the sides of the NVRAM and remove it.



**Controller Board Fan**

1. Remove the fan ( x1, x2).

⇒ Important

The Security & Encryption SD card must be replaced together with the NVRAM because the SD Card and the NVRAM are associated at the factory.

**BEFORE replacing the NVRAM**

1. Print out a full SMC before executing the following procedure in case upload /download fails.
2. Turn OFF the Main Switch.
3. Remove the SD Card Slot Cover on the back of the machine.
4. Insert a blank SD Card in Slot 2.
5. Turn ON the Main Switch.
6. Open SP 5824-1 (NVRAM Data Upload) and touch [EXECUTE]. This will upload the data on the NVRAM to the SD card.
7. When you see "Completed", turn OFF the Main Switch
8. Remove the SD Card from Slot 2.

   Note

   - It is recommended to attach a label with the serial number of the machine on the SD card to prevent insertion of a wrong card.
9. Replace the NVRAM according to the field service manual.

**AFTER replacing the NVRAM**

1. Insert the SD Card with the stored data in Slot 2.
2. Turn the Main Switch ON.
3. Open SP5825-1 (NVRAM Data Download) and touch [EXECUTE]. The system will find and download from the SD card the .nv file that matches with the machine serial number.
4. When you see "Completed", turn OFF the Main Switch.
5. Remove the SD Card from Slot 2.

## 5.21.11 IPU

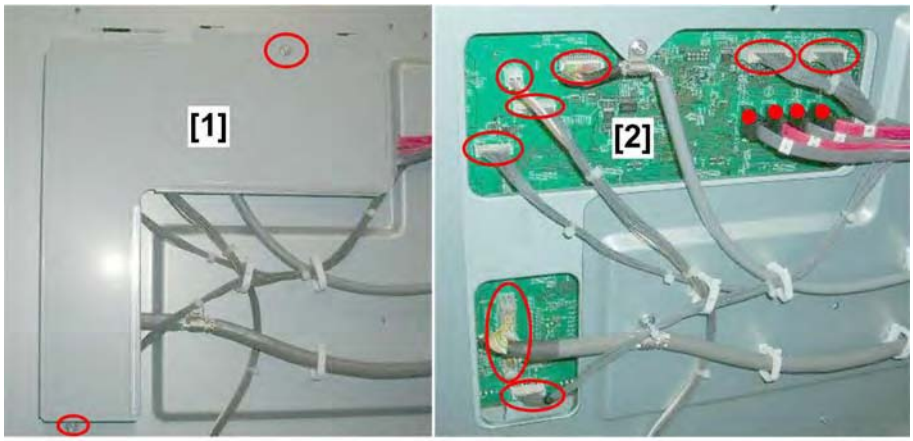
- Follow the previous procedure to remove the controller board.

Note

1. You do not need to pull out the controller board.
2. Just pull it out far enough to separate the controller board and IPU.

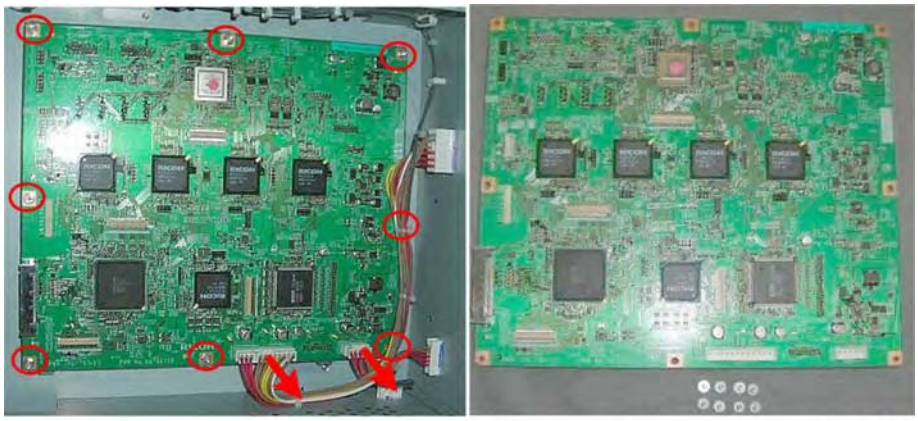
d074r611

- Disconnect and remove the HDD bracket ( x4).




d074r612

- On the other side of the controller box, remove shield plate [1] ( x2).
- Disconnect the IPU [2] ( x12).

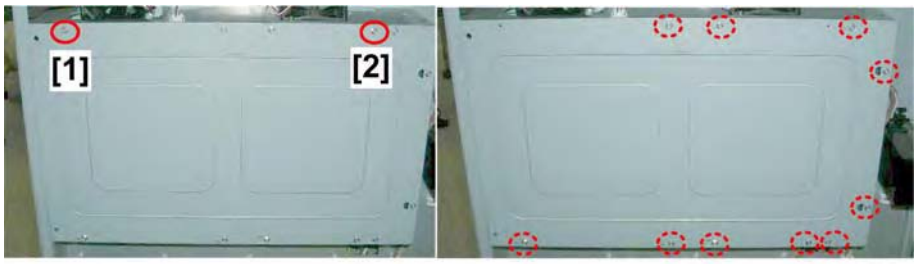


d074r613

- On the other side of the controller box, remove the IPU (x2, x8).

## 5.21.12 HDD UNITS

1. Open the controller box ( x6). (p.5-8)
2. Controller box covers (p.5-12)




d074r606

3. The HDD unit is behind the slide cover.
4. **Remove** screws [1] and [2] ( x2).
5. **Loosen** the other screws ( x10). You do not need to remove all of these screws.

d074r607a

6. Slide the cover [1] to the left and remove it.
7. Disconnect the HDD unit [2] (x3).

d074r615

8. Remove the HDD bracket and lay it on a flat surface ( x4).

d074r616

9. Disconnect the HDD ( x2).

d074r617

10. Disconnect the HDD from the base bracket ( x4).

d074r618

11. Disconnect the HDD from the floating bracket ( x4).

Important

1. Do not remove the four rubber grommets from the screw holes of the bracket.

d074r619

**Re-installation**

d074r620

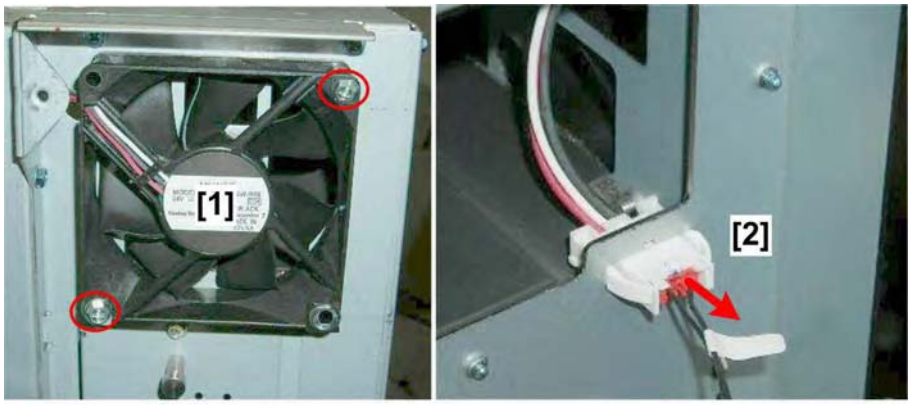
Important

1. When you re-attach the HDD unit bracket, do not tighten the four screws.
2. These screws must remain up so the slide cover can be re-installed. Tighten these four screws after the slide cover has been re-attached.

## 5.21.13 CONTROLLER BOX FANS

1. Open the controller box ( x6). (p.5-8)
2. Controller box covers. (p.5-12)

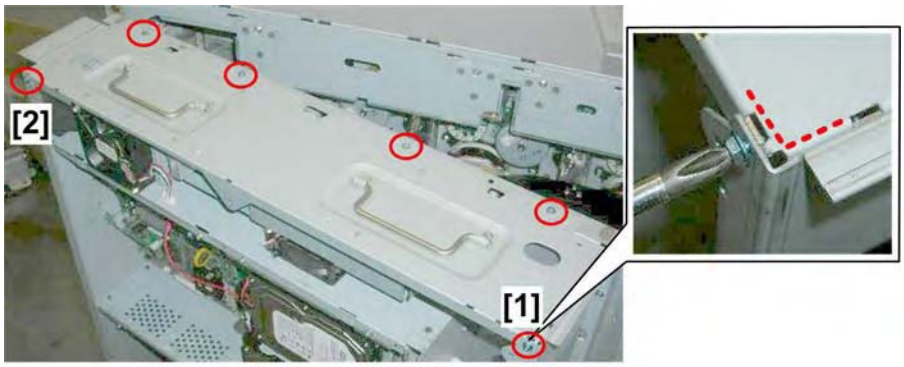
**Left Corner Fan**




d074r621

1. Disconnect the fan [1] on the corner ( x2).
2. Disconnect the fan at the rear and remove it ( x1).

**Top Fans**




d074r622

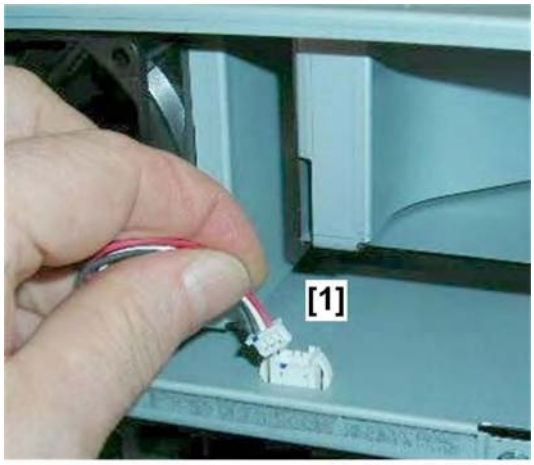
1. Disconnect the top of the controller box ( x6).

Important

1. At the corners [1] and [2], note that the cover is tucked behind the vertical frame. The cover must be re-attached in the same way.

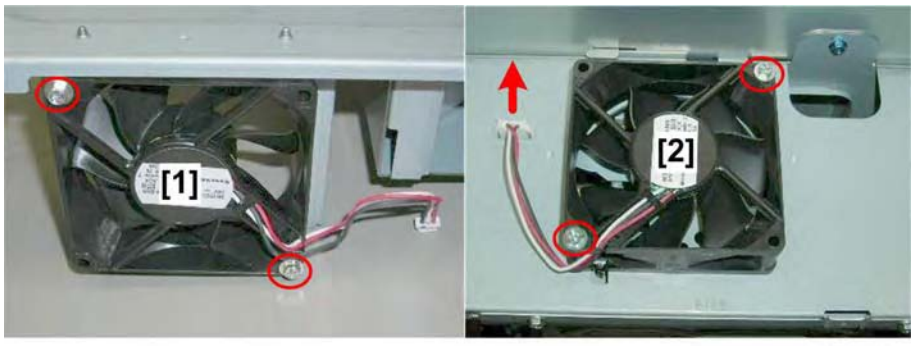
d074r623

2. Disconnect the left end of the cover [1] ( x1).
3. Disconnect the right end of the cover [2] ( x2).




d074r624

4. Disconnect the vertical connector [1] ( x1).




d074r625

5. Remove the vertical fan [1] ( x2).
6. Remove the horizontal fan [2] ( x1, x2).

# 5.22 FANS AND FILTERS

## 5.22.1 BEFORE YOU REFER TO THIS SECTION

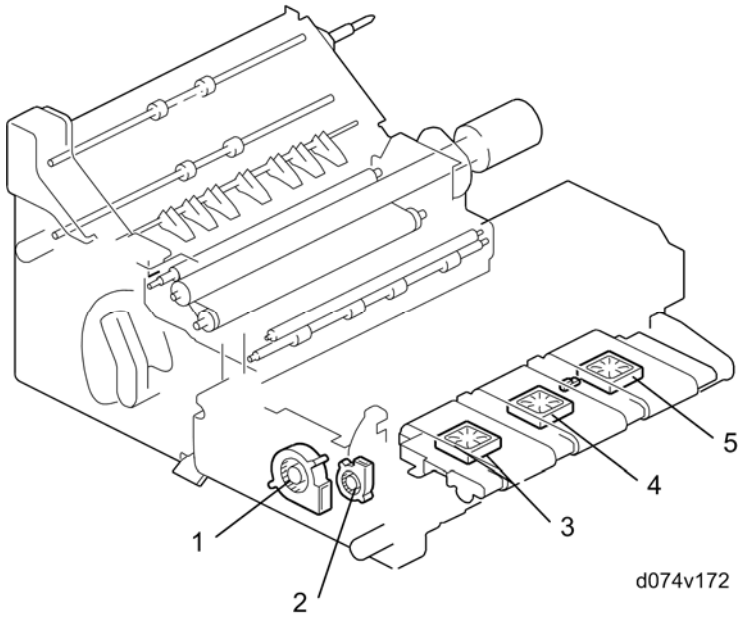
The removal procedures for the following fans are described in other sections of the Replacement and Adjustment section of this manual.

| Fan | See |
|---|---|
| CIS Fan | (☛p.5-17 "Removing the Right Drawer") |
| Controller Board Fan | (☛p.5-411 "Main Boards, HDD Units") |
| Controller Box Drive Exhaust Fan | |
| Controller Box Exhaust Fan 1 (Top) | |
| Controller Box Exhaust Fan 2 (Top) | |
| Controller Box Intake Fan 1 (Bottom) | |
| Controller Box Intake Fan 2 (Bottom) | |
| Development Unit Cooling Fan 1 | (☛(p.5-151 "Photoconductor Development Unit (PCDU)") |
| Development Unit Cooling Fan 2 | |
| Development Unit Cooling Fan 3 | |
| ID/MUSIC Sensor Fan | (☛p.5-199 "Image Transfer Belt (ITB) Unit") |
| ITB Belt Cleaning Cooling Fan | (☛p.5-46 "Removing the Left Drawer") |
| Lamp Regulator Cooling Fan | (☛p.5-85 "Scanner Unit") |
| PSU 2 Cooling Fan 1 | (☛p.5-419 "PSU 2, PSU 2 Fans") |
| PSU 2 Cooling Fan 1 | (☛p.5-419 "PSU 2, PSU 2 Fans") |
| PSU 2 Intake Fans (x2) | (☛p.5-411 "Main Boards, HDD Units") |
| PTB Fan - Center | |

| Fan | See |
|---|---|
| PTB Fan - Front | |
| PTB Fan - Rear | |
| PTB Fans | (☛p.5-327 "Paper Transport Belt (PTB) Unit") |
| Pressure Roller Fan | |
| Scanner Unit Cooling Fan | (☛p.5-85 "Scanner Unit") |
| Toner Supply Cooling Fan | (☛p.5-121 "Toner Supply") |

## 5.22.2 FAN LAYOUT

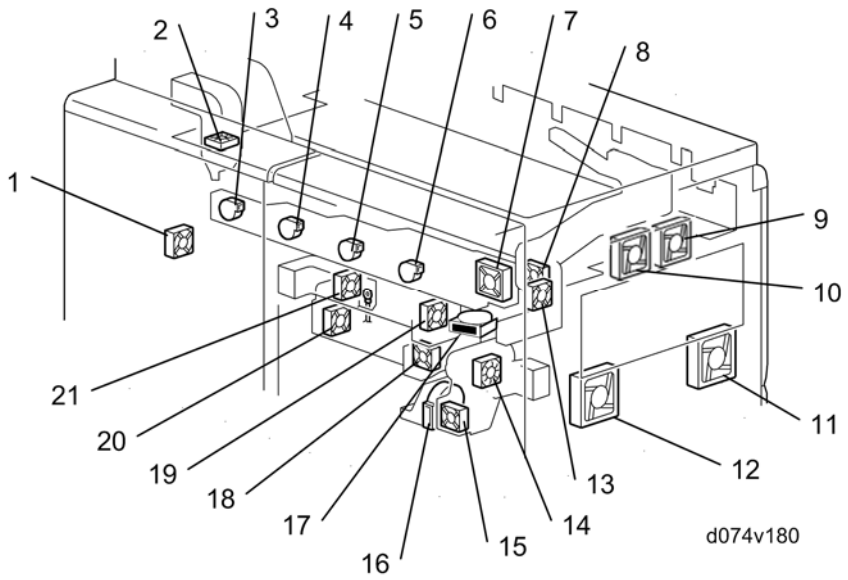
### *Left Drawer*




| | |
|---|---|
| 1 | Pressure Roller Fan |
| 2 | ITB Belt Cooling Fan |
| 3 | PTB Fan - Front |
| 4 | PTB Fan - Center |

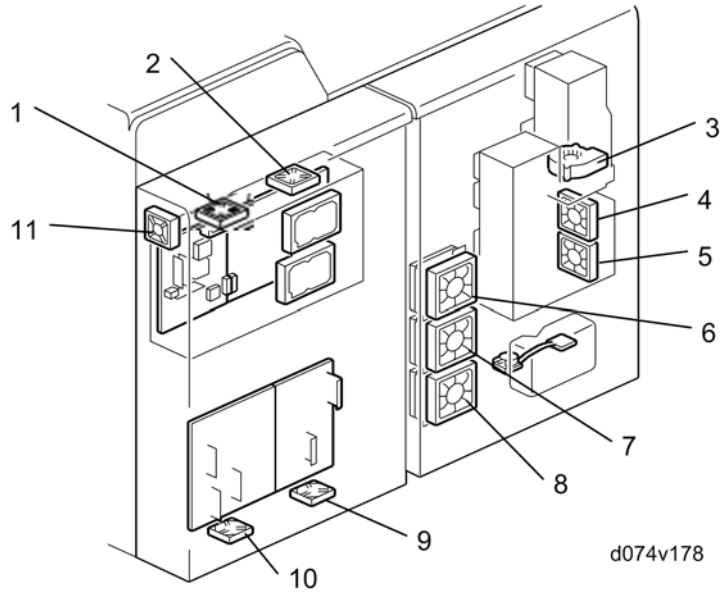
| | |
|---|---|
| 5 | PTB Fan - Rear |

### *Inside the Main Machine*




| | | | |
|---|---|---|---|
| 1 | ITB Intake Fan | 12 | Duplex Exhaust Fan - Rear |
| 2 | Used Toner Intake Fan | 13 | Drive Exhaust Fan |
| 3 | Ozone Exhaust Fan (K) | 14 | Paper Cooling Intake Fan |
| 4 | Ozone Exhaust Fan (C) | 15 | Paper Cooling Exhaust Fan |
| 5 | Ozone Exhaust Fan (M) | 16 | Fusing Unit Transport Exhaust Fan |
| 6 | Ozone Exhaust Fan (Y) | 17 | Fusing Exit Exhaust Fan |
| 7 | Ozone Collection Fan | 18 | Used Toner Exhaust Fan |
| 8 | Toner Supply Cooling Fan | 19 | Heat Sink Exhaust Fan |
| 9 | Paper Exit Exhaust Fan - Front | 20 | Belt Cleaning Exhaust Fan |
| 10 | Paper Exit Exhaust Fan - Rear | 21 | Heat Sink Intake Fan |
| 11 | Duplex Exhaust Fan - Front | | |

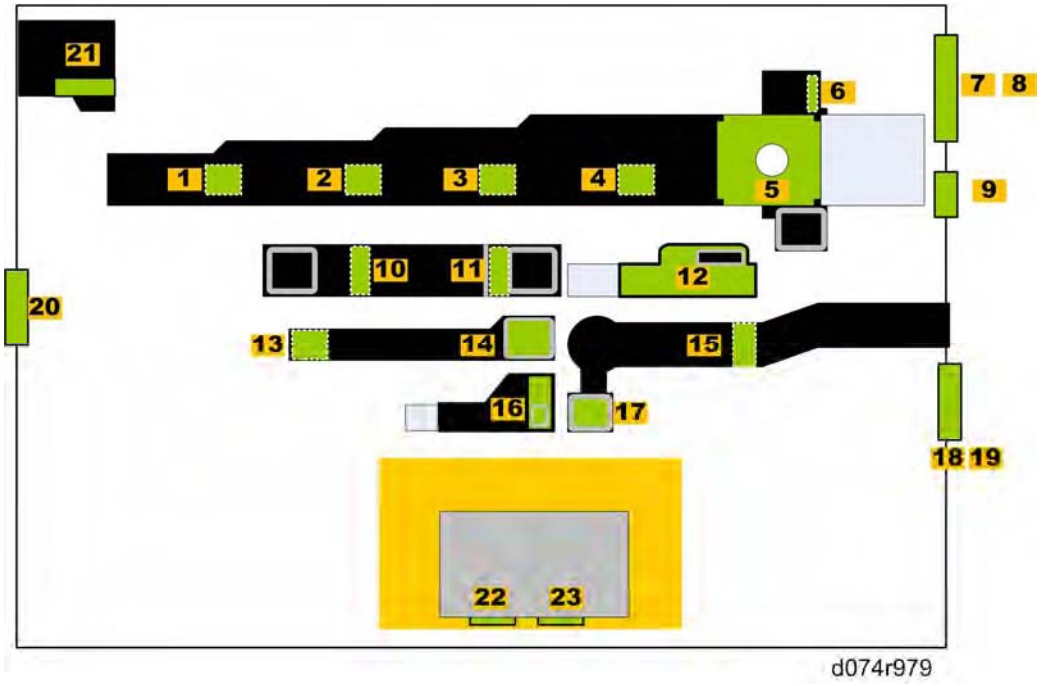
### *Controller Box, Cooling Box*




| | | | |
|---|---|---|---|
| 1 | Controller Box Exhaust Fan 1 | 7 | Development Unit Cooling Fan 2 |
| 2 | Controller Box Exhaust Fan 2 | 8 | Development Unit Cooling Fan 3 |
| 3 | Cooling Box Ozone Exhaust Fan | 9 | Controller Box Intake Fan 2 |
| 4 | Cooling Box Emission Exhaust Fan | 10 | Controller Box Intake Fan 1 |
| 5 | Cooling Box Heat Fan | 11 | Controller Box Exhaust Fan |
| 6 | Development Unit Cooling Fan 1 | | |

## *Ducts and Fans Back of Main Machine*

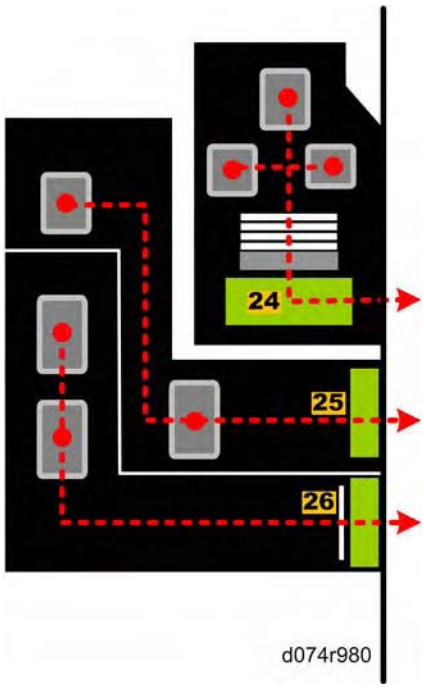
The removal procedures for the following fans are described in this section.




This drawing illustrates the back of the machine with the right and left covers removed and the rear boxes open. Most of these fans are not visible because they are inside the ducts.

| | | | |
|---|---|---|---|
| 1 | Ozone Exhaust Fan (K) | 13 | Belt Cleaning Exhaust Fan |
| 2 | Ozone Exhaust Fan (C) | 14 | Used Toner Exhaust Fan |
| 3 | Ozone Exhaust Fan (M) | 15 | Paper Cooling Intake Fan |
| 4 | Ozone Exhaust Fan (Y) | 16 | Fusing Unit Transport Exhaust Fan |
| 5 | Ozone Collection Fan | 17 | Paper Cooling Exhaust Fan |
| 6 | Toner Supply Cooling Fan | 18 | Duplex Exhaust Fan - Front |
| 7 | Paper Exit Exhaust Fan - Front | 19 | Duplex Exhaust Fan - Rear |
| 8 | Paper Exit Exhaust Fan - Rear | 20 | ITB Intake Fan |
| 9 | Drive Exhaust Fan | 21 | Used Toner Exhaust Fan |
| 10 | Heat Sink Intake Fan | 22 | PSU 2 Cooling Fan 1 |
| 11 | Heat Sink Exhaust Fan | 23 | PSU 2 Cooling Fan 2 |
| 12 | Fusing Exit Exhaust Fan | | |

## *Ducts: Cooling Box Fans*

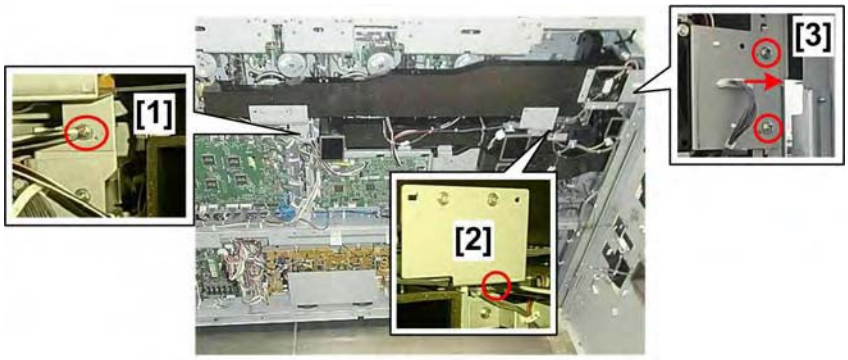



This drawing illustrates the fans inside the cooling box with all covers removed.

| | |
|---|---|
| 24 | Cooling Box Ozone Exhaust Fan |
| 25 | Cooling Box Emission Exhaust Fan |
| 26 | Cooling Box Heat Fan |

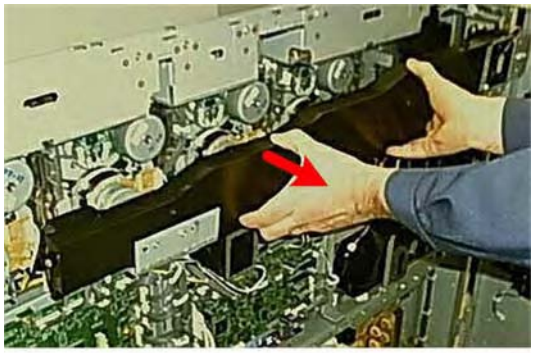
## 5.22.3 OZONE EXHAUST FANS (YMCK), OZONE COLLECTION FAN

1. Open the rear boxes ( x3) (p.5-8)
2. Remove the center stay ( x3).



d074r831

3. Disconnect the horizontal duct:
   [1] Left ( x1)
   [2] Center ( x1)
   [3] Right ( x1, x2)

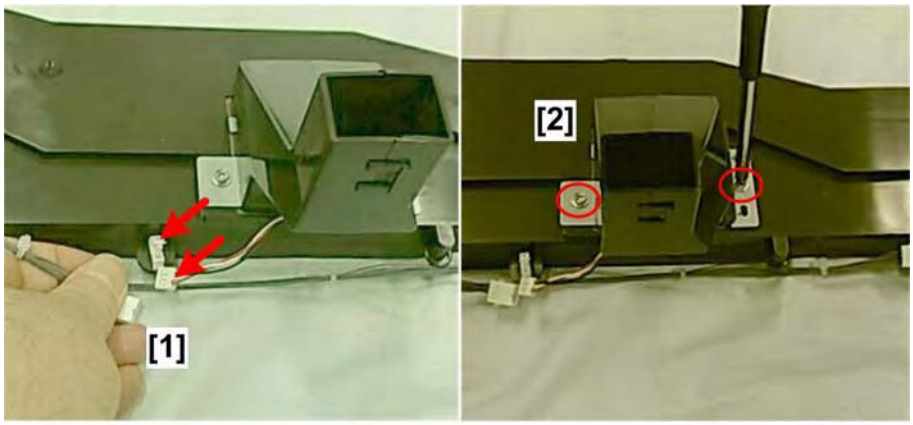

d074r832

4. Remove the duct and lay it on a flat surface.

### Ozone Exhaust Fans

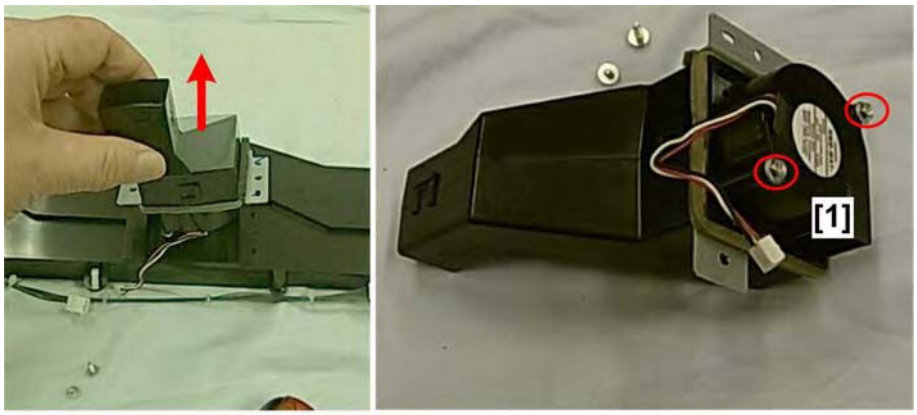
Note

1. The following procedure is the same for all four ozone exhaust fans (YMCK) mounted inside the duct.




d074r833

1. Disconnect the fan [1] (x1, x1).
2. Disconnect the fan bracket [2] ( x2).



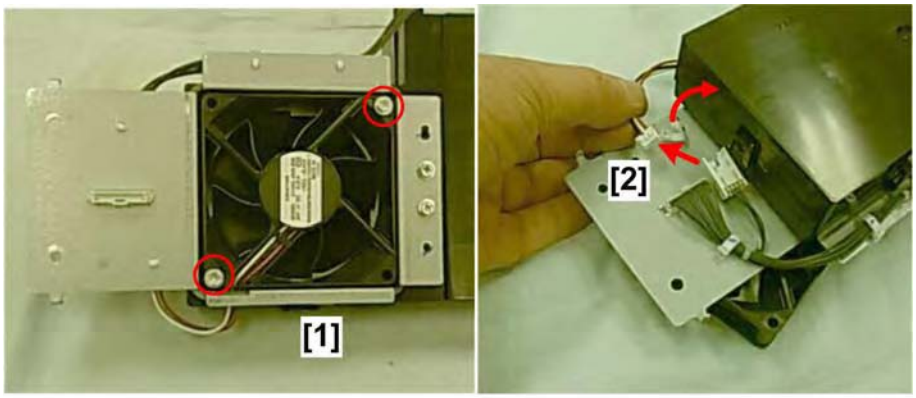

d074r834

3. Remove the fan [1] from the bracket ( x2).

d074r835

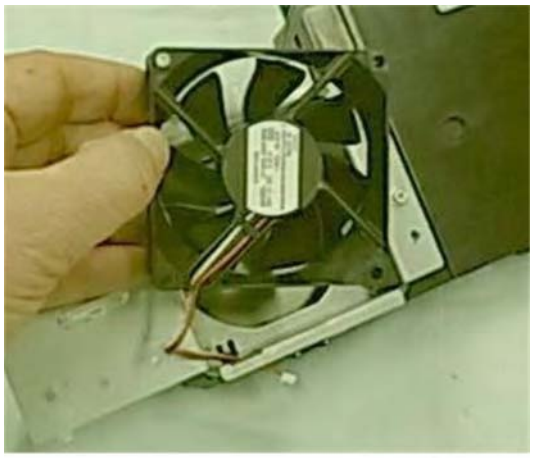
4. Remove the ozone exhaust fan.

**Ozone Collection Fan**




d074r836

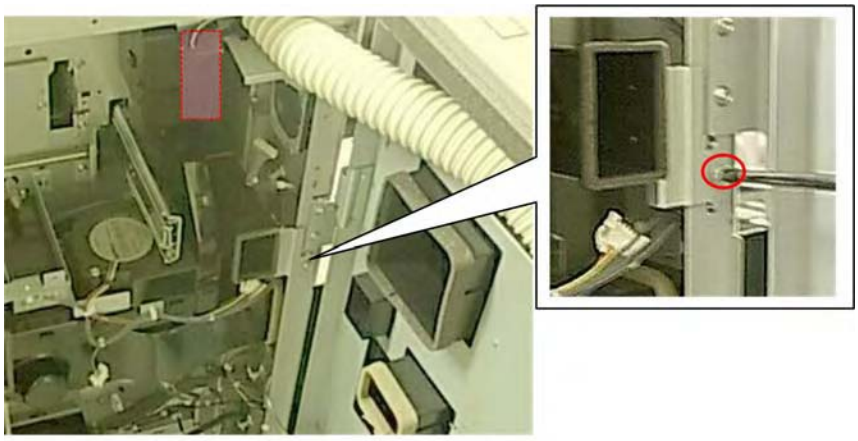
1. On the end of the duct, disconnect the fan bracket [1] ( x2).
2. Turn over the duct and disconnect harness [2] ( x1, x1).



d074r837

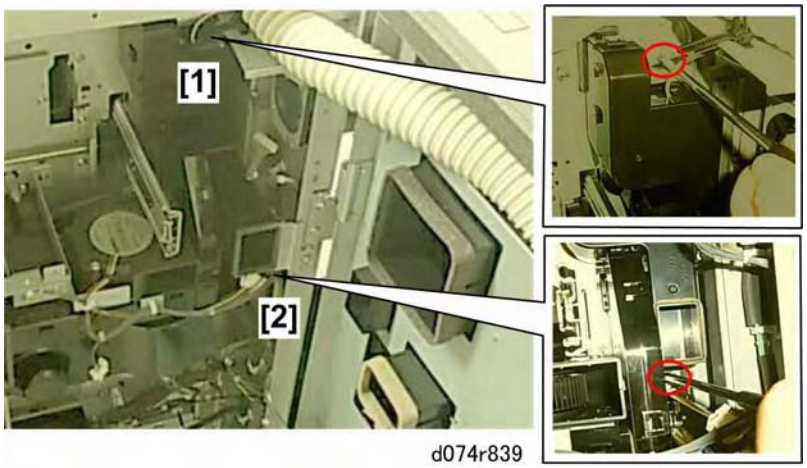
3. Remove the fan.

## 5.22.4 TONER SUPPLY COOLING FAN



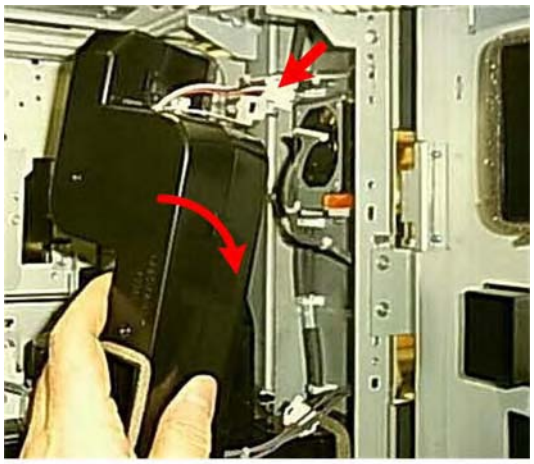
d074r838

1. Open the cooling box (☛p.5-8)
2. Disconnect the duct bracket ( x1).



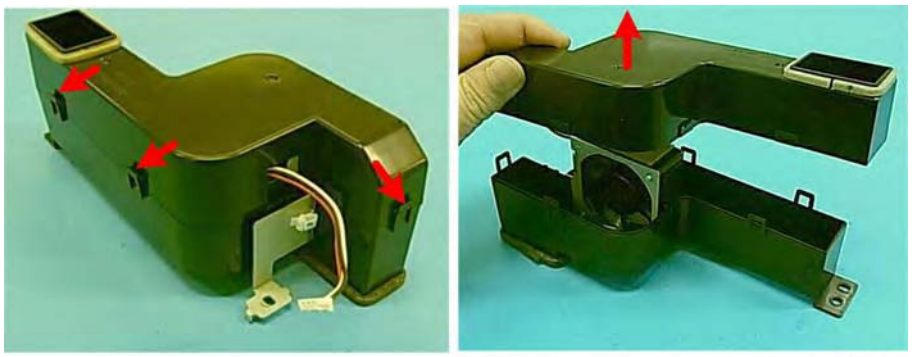

d074r839

3. Disconnect the duct at the top [1] and bottom [2] ( x2).



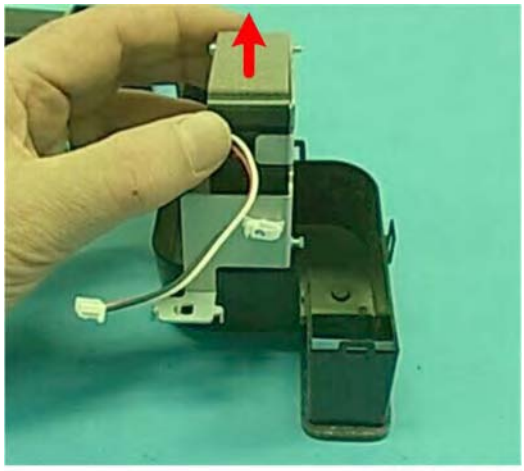
d074r840

4. Disconnect the fan and remove the duct ( x1).



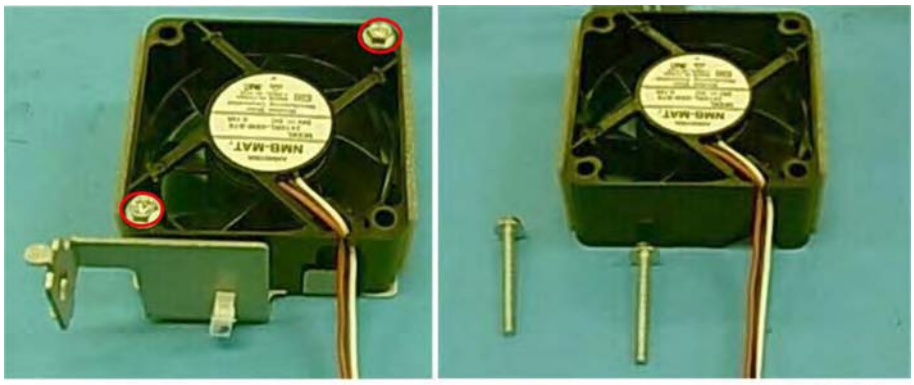
d074r841

5. Release all the lock tabs around the seam where the top and bottom of the duct are connected.
6. Separate the top and bottom.



d074r842

7. Remove the fan and bracket.

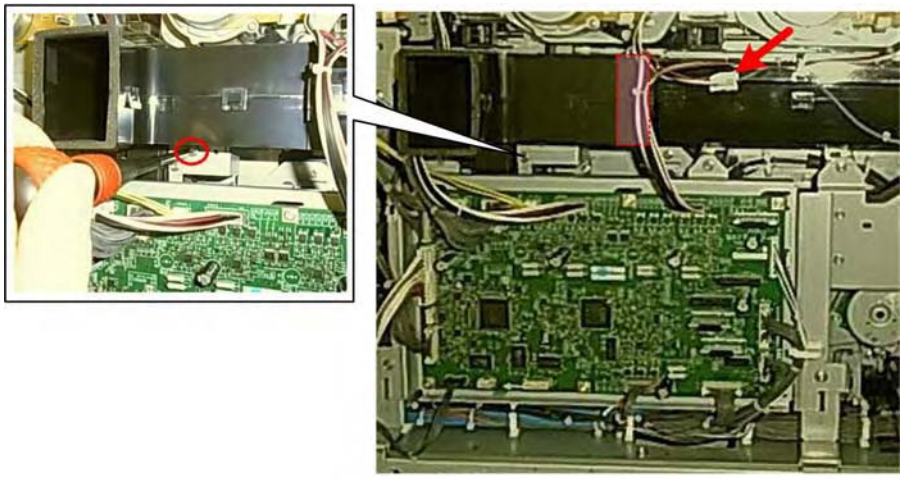


d074r843

8. Remove the fan ( x2).

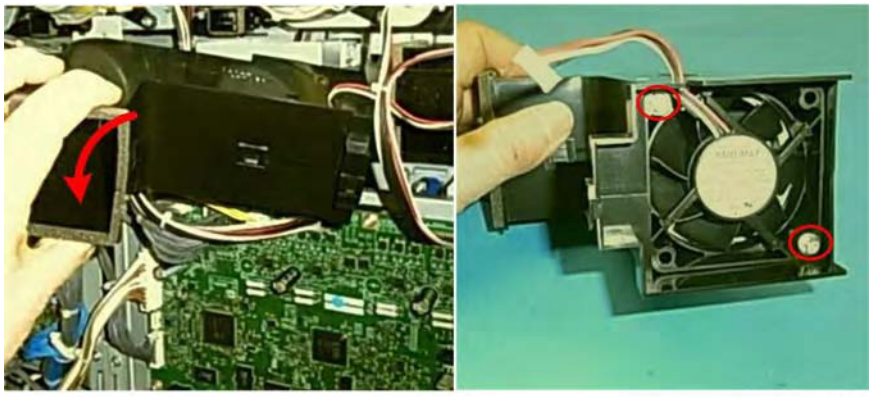
## 5.22.5 HEAT SINK INTAKE FAN

1. Open the rear boxes ( x3) (☛p.5-8)
2. Remove the center stay ( x3).



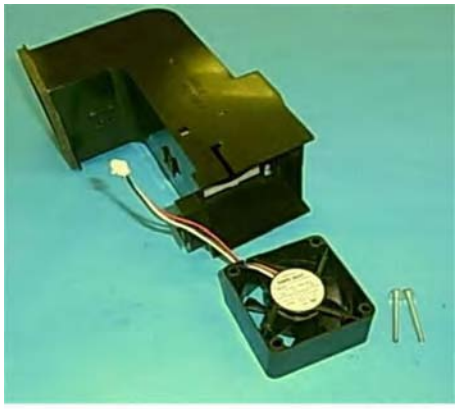
d074r844

3. Disconnect the duct bracket and disconnect the fan ( x1, x1).



d074r845

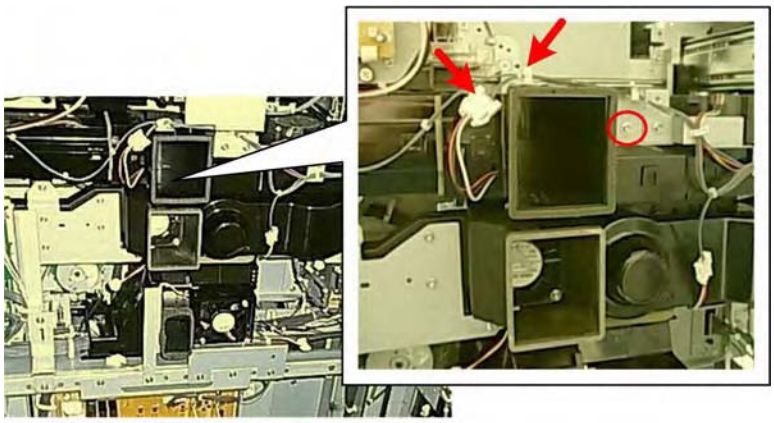
4. Remove the duct and then remove the fan ( x2).



d074r846

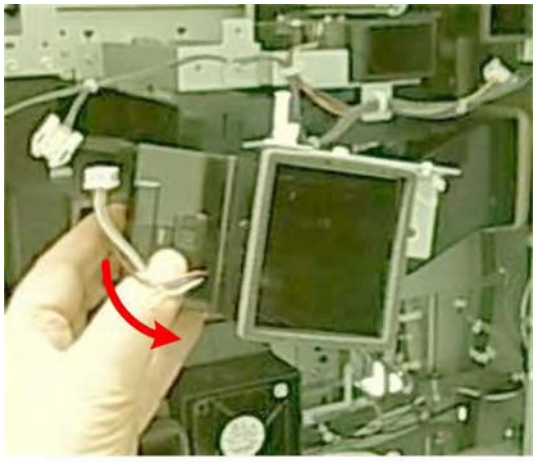
## 5.22.6 HEAT SINK EXHAUST FAN

1. Open the rear boxes ( x3) (☛p.5-8)
2. Remove the center stay ( x3).



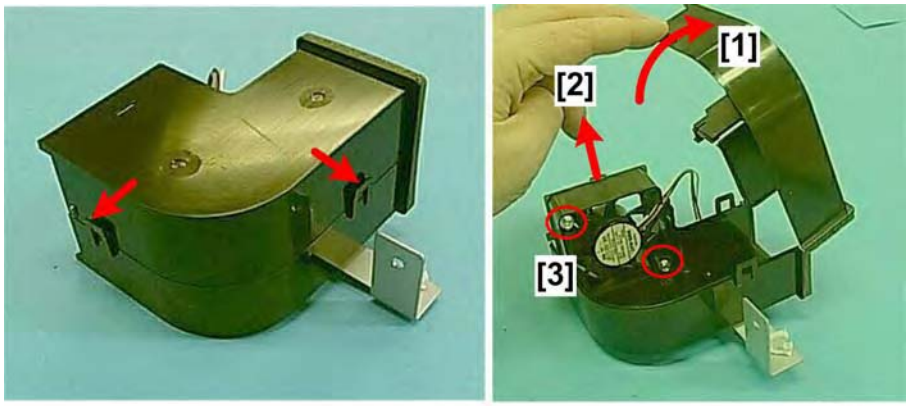
d074r847

3. Disconnect the duct, fan harness, and fan ( x1, x1, x1).



d074r848

4. Remove the duct and lay it on a flat surface.

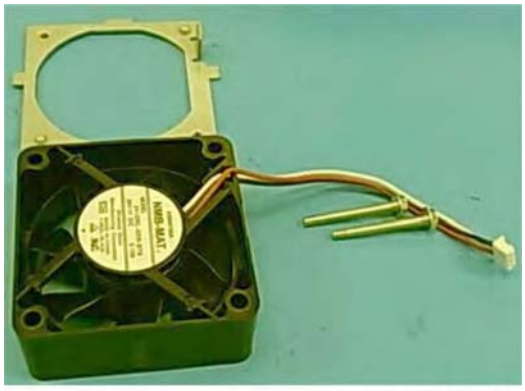



d074r849

5. Release all the lock tabs around the seam where the top and bottom of the duct are

connected.

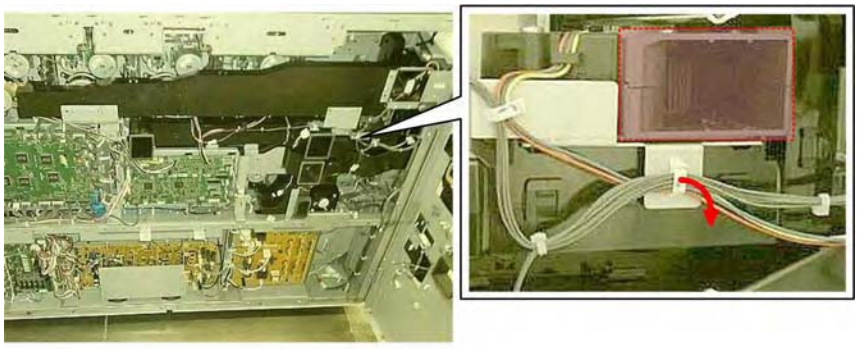
6. Raise the top of the duct [1].
7. Remove the fan and bracket assembly [2] and then disconnect the fan [3] ( x2).



d074r850

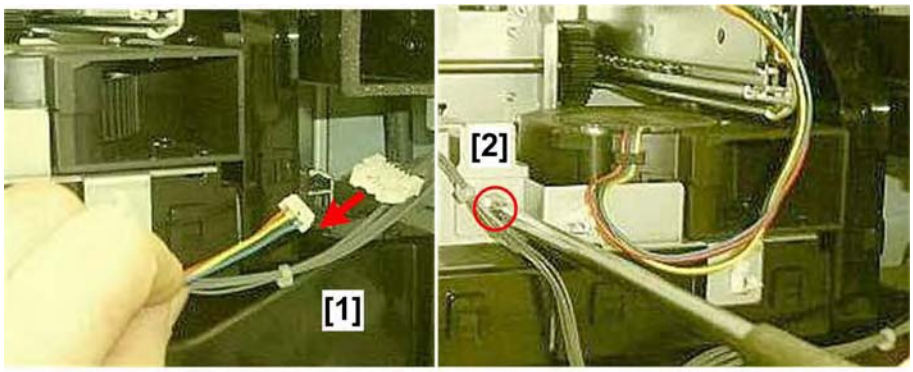
## 5.22.7 FUSING EXIT EXHAUST FAN

1. Open the rear boxes ( x3) (p.5-8)



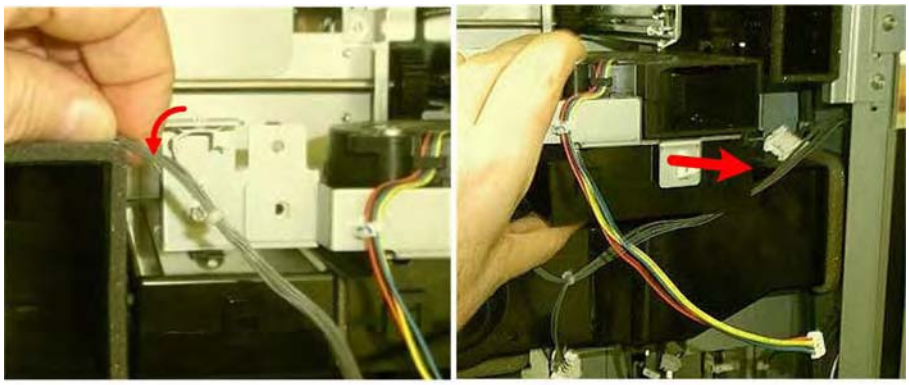
d074r851

2. Free the harnesses (x1).



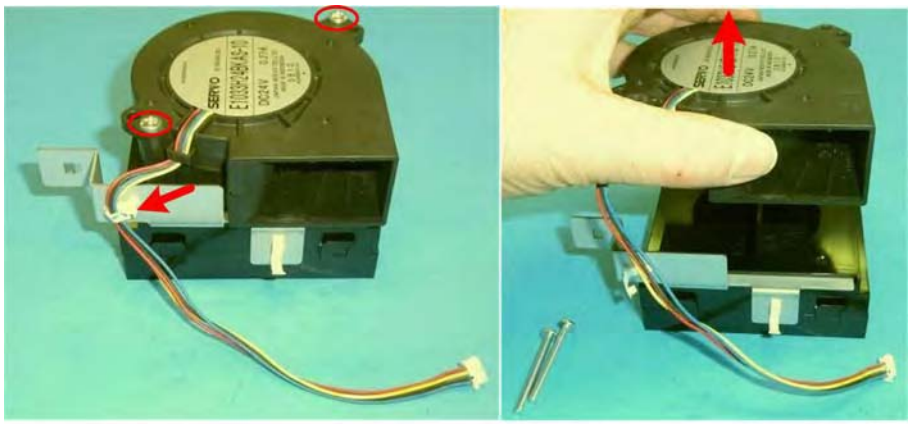

d074r852

3. Disconnect the fan [1] (x1).
4. Disconnect the fan bracket [2] ( x1).



d074r853

5. Free the harness at the left (x1).
6. Pull the fan and bracket assembly straight out to remove it.



d074r854

7. Remove the fan from the bracket ( x2).

d074r855

## 5.22.8 DRIVE EXHAUST FAN

d074r856

1. Remove the left cover of the main machine ( x7).
2. Open the cooling box. (p.5-8)

d074r857

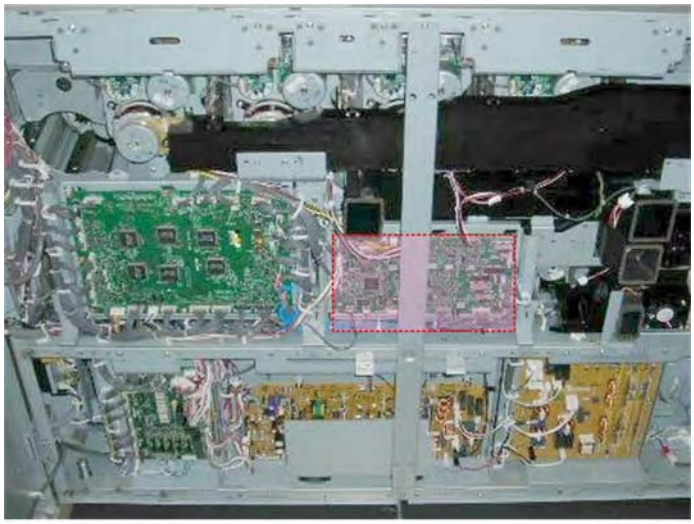
3. Behind the cooling box, disconnect the fan (x1).

d074r858

4. Remove the fan ( x2).

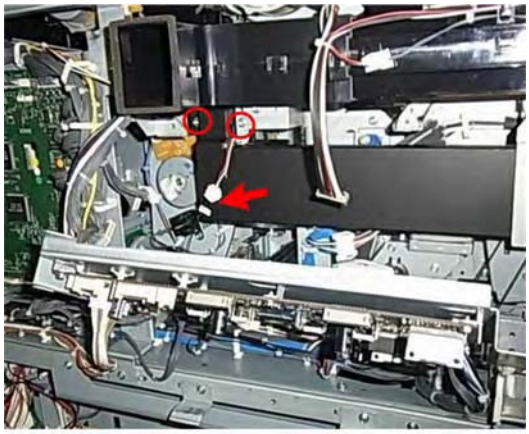
d074r859

## 5.22.9 BELT CLEANING EXHAUST FAN



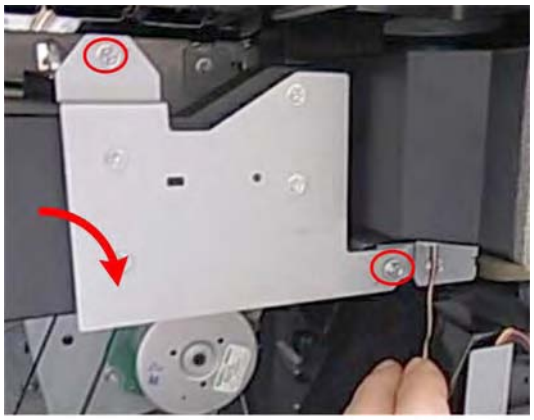
d074r860

1. Open the rear boxes ( x3) (☛p.5-8)
2. Remove the center stay ( x3).



d074r861

3. On the left, disconnect the duct bracket and fan ( x2, x1).

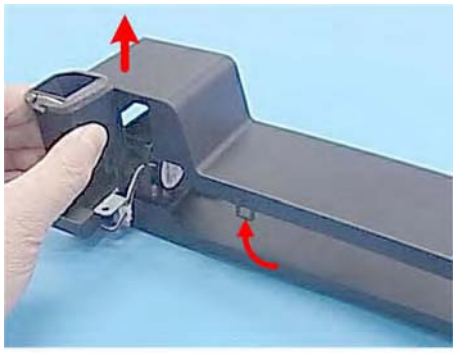


d074r862

4. On the right, disconnect the duct bracket and remove the duct ( x2).

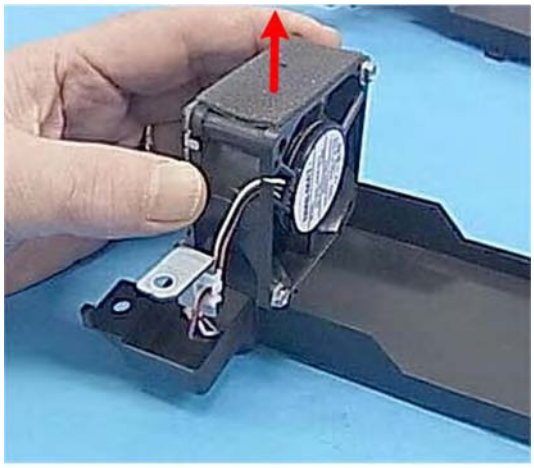
d074r863

5. Lay the duct on a flat surface.



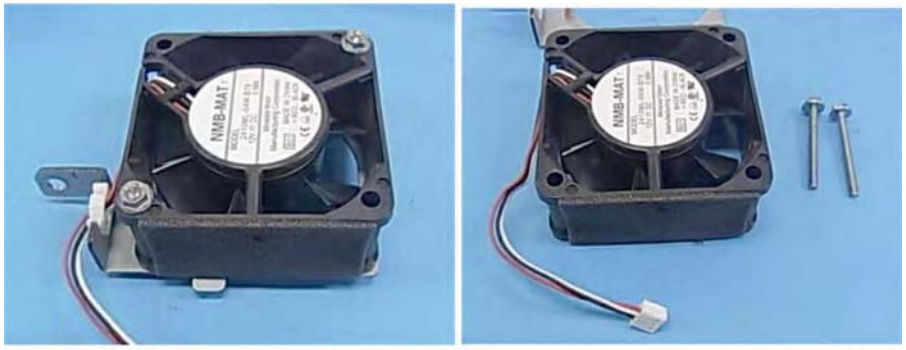
d074r864

6. Release all the lock tabs around the seam where the top and bottom of the duct are connected.
7. Separate the top and bottom.



d074r865

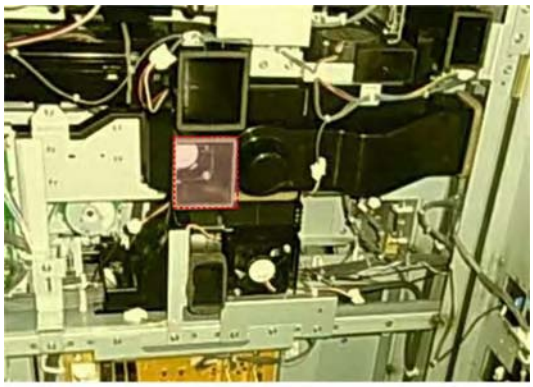
8. Remove the fan bracket and fan.




d074r866

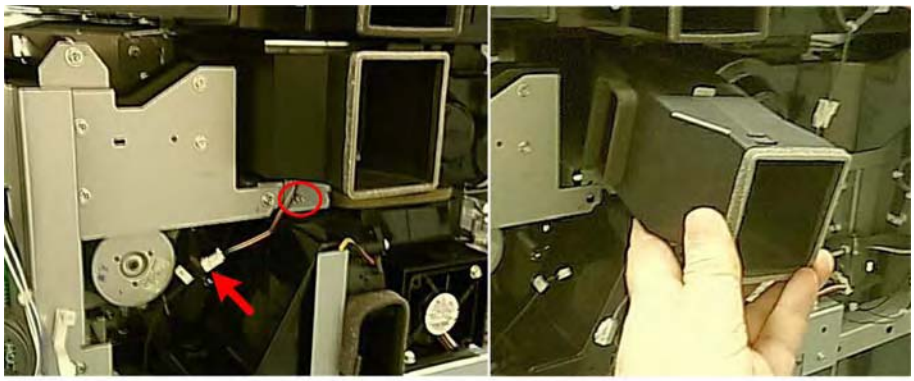
9. Remove the fan ( x2).

## 5.22.10 STRAY TONER EXHAUST FAN



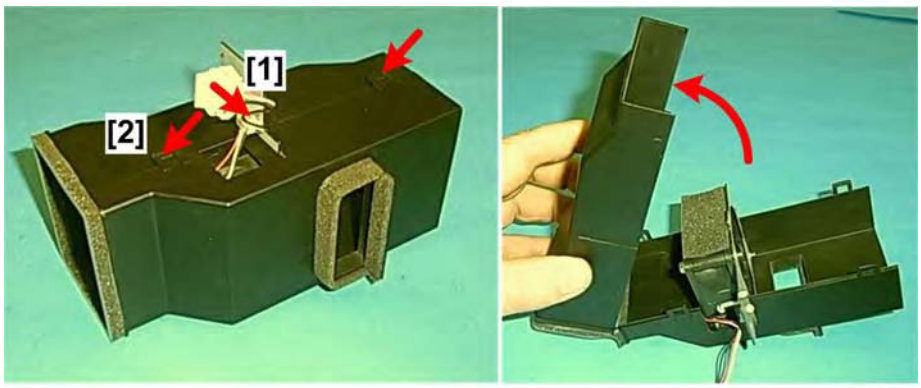
d074r867

1. Open the cooling box (☛p.5-8)



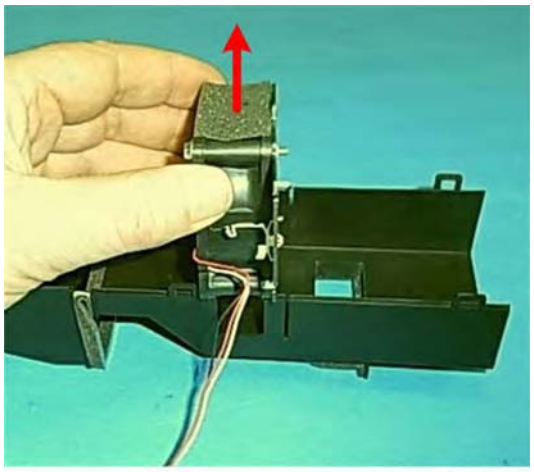
d074r868

2. Disconnect the fan and duct bracket (x1, x1).



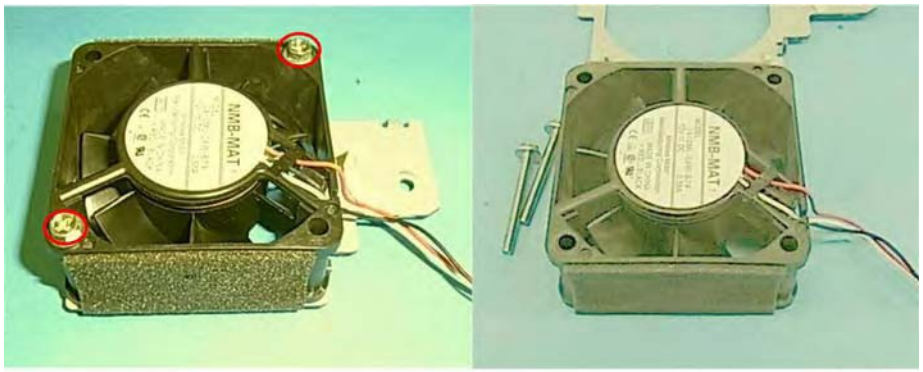

d074r869

3. Free harness [1] (x1).
4. Release all the lock tabs [2] around the seam where the top and bottom of the duct are connected.
5. Open the duct.



d074r870

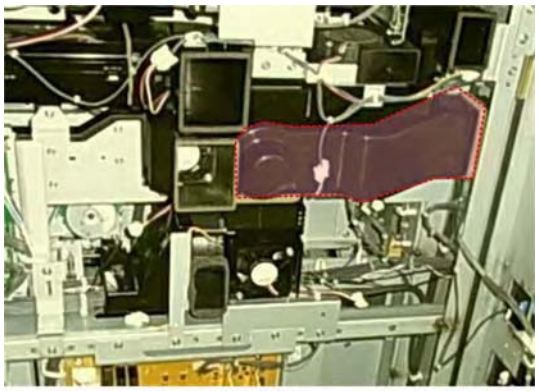
6. Remove the bracket and fan.




d074r871

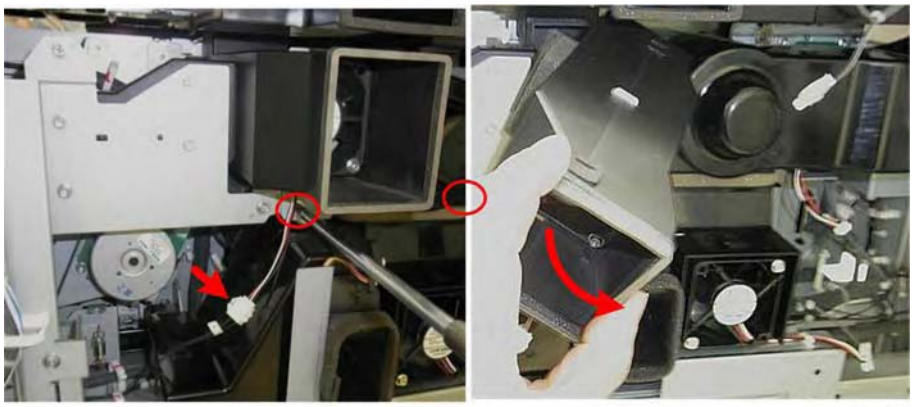
7. Remove the fan ( x2).

## 5.22.11 PAPER COOLING INTAKE FAN



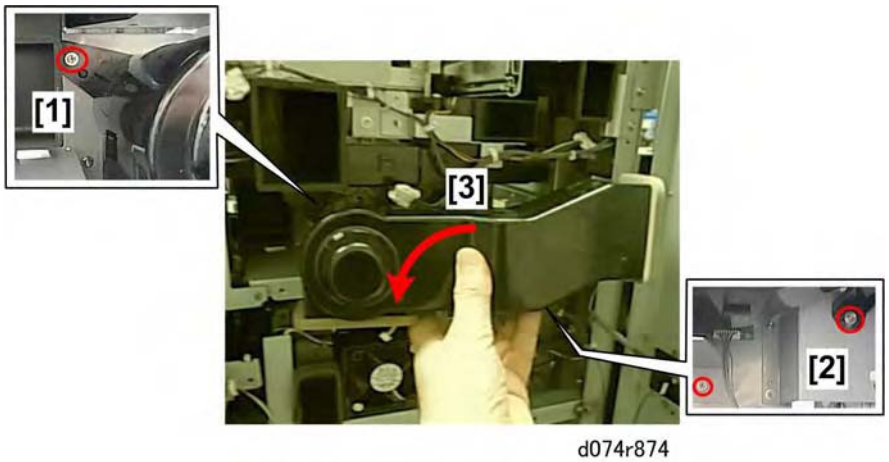
d074r872

1. Open the cooling box (☛p.5-8).



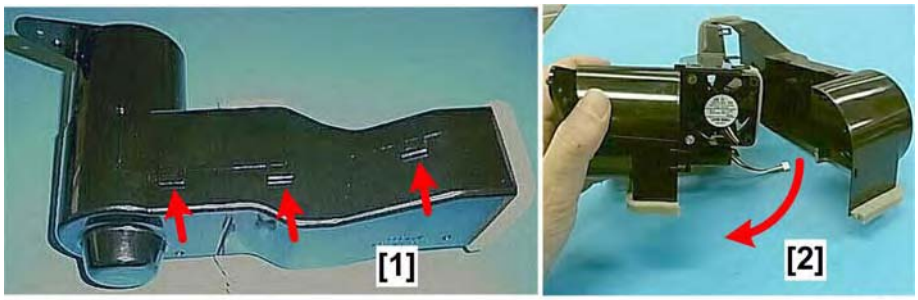
d074r873

2. Disconnect the fan and duct, and then remove the duct ( x1, x2).



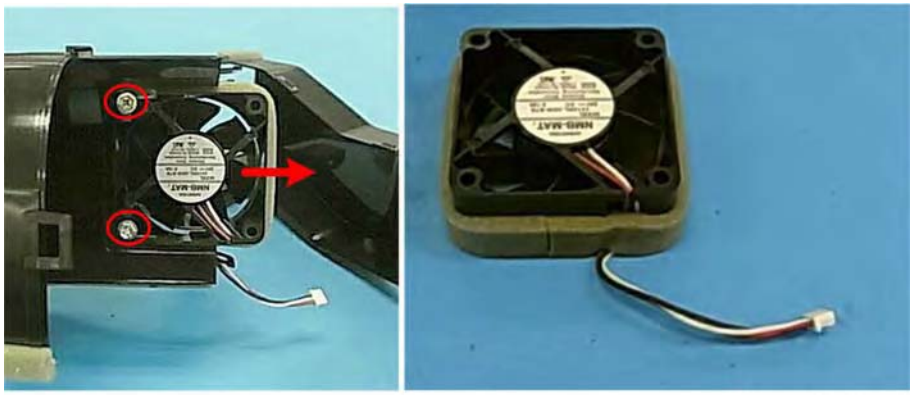

d074r874

3. Remove:
   [1] Left ( x1)
   [2] Right ( x2).
   [3] Duct




d074r875

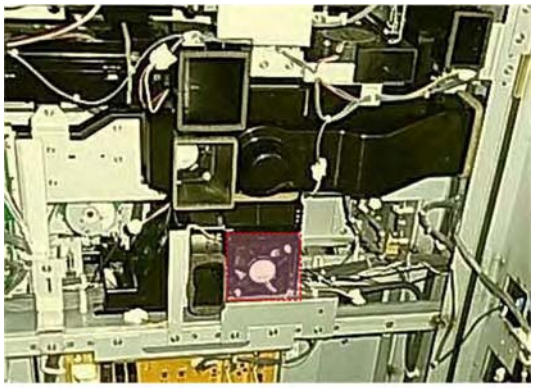
4. Release all the lock tabs [1] around the seam where the top and bottom of the duct are connected.
5. Open the duct [2].



d074r876

6. Remove the bracket and fan, and then remove the fan ( x2).

## 5.22.12 PAPER COOLING EXHAUST FAN



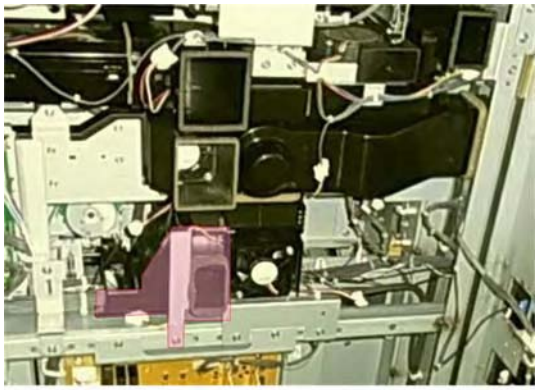
d074r877

1. Open the cooling box (☛p.5-8).

d074r878

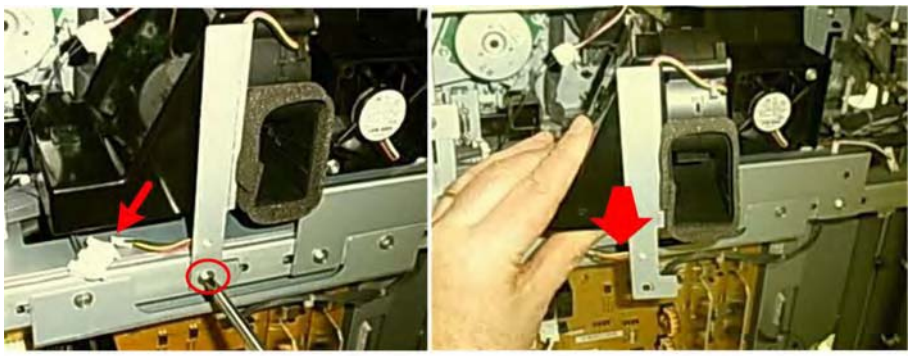
2. Disconnect and remove the fan ( x2, x1, x1)

## 5.22.13 FUSING UNIT TRANSPORT EXHAUST FAN



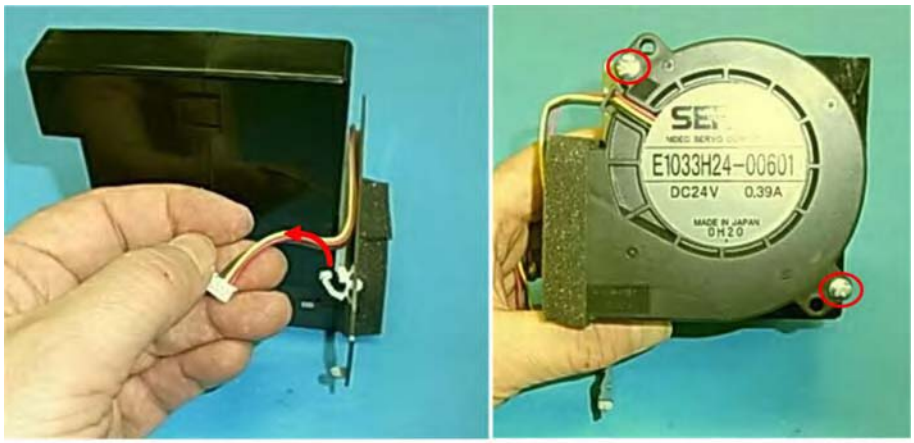
d074r879

1. Open the cooling box (☛p.5-8).



d074r880

2. Disconnect the fan and bracket, and then remove the bracket (x1, x1).



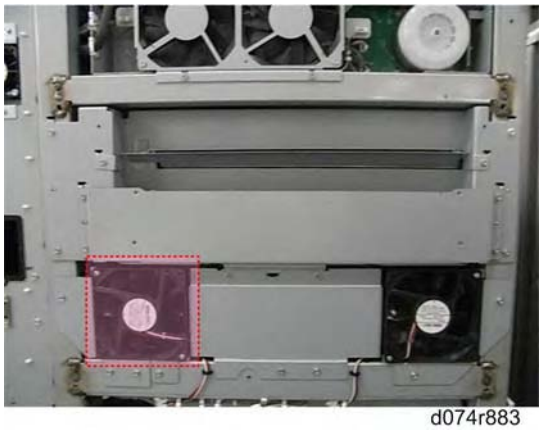

d074r881

3. Free the harness and then remove the fan (x1, x2).

d074r882

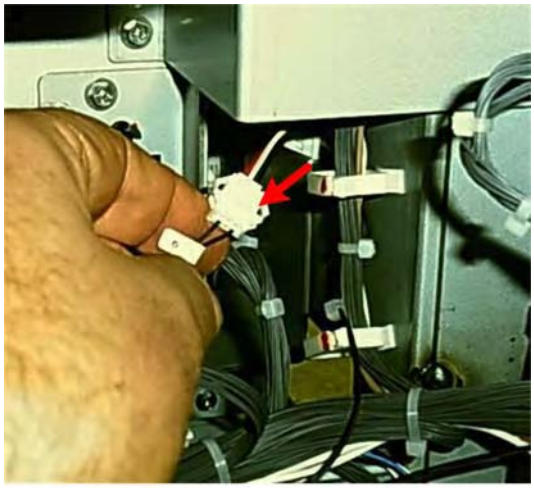
## 5.22.14 DUPLEX EXHAUST FANS

### *Duplex Exhaust Fan - Rear*



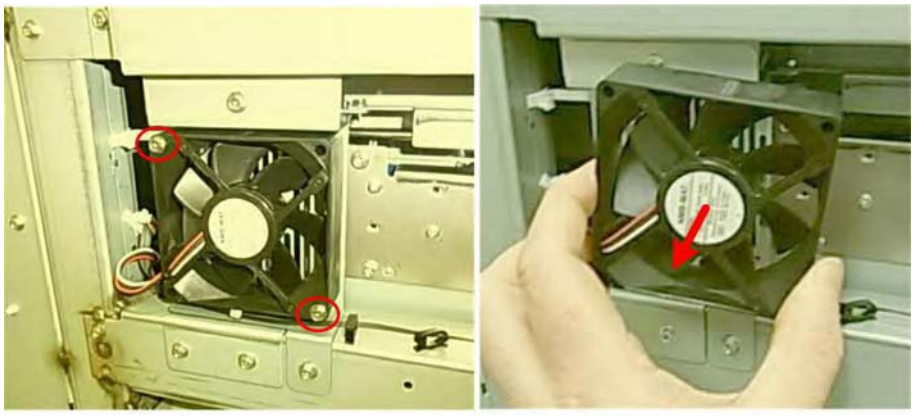
d074r883

1. Open the cooling box (☛p.5-8).
2. Remove the left cover of the main machine ( x7).



d074r884

3. Behind the cooling box, disconnect the fan ( x1).



d074r885

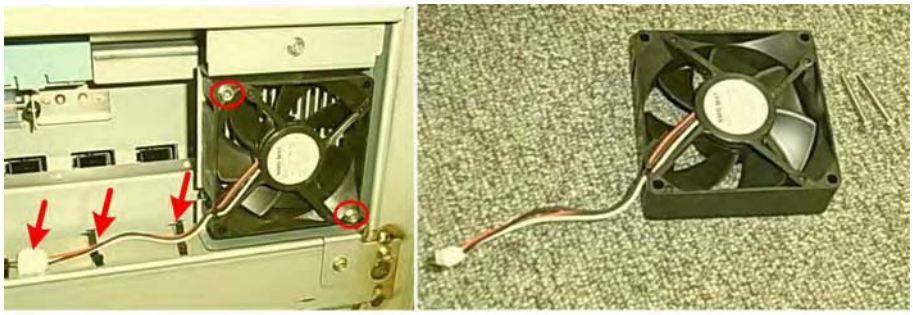
4. Remove the fan ( x2).

d074r886

## *Duplex Exhaust Fan - Front*

d074r887

1. Remove the left cover of the main machine( x7).



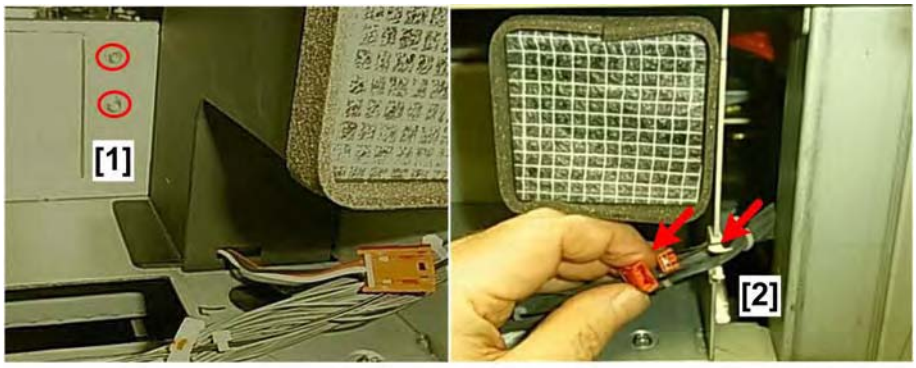
d074r888

2. Disconnect and remove the fan ( x1, x2, x2).

## 5.22.15 USED TONER INTAKE FAN

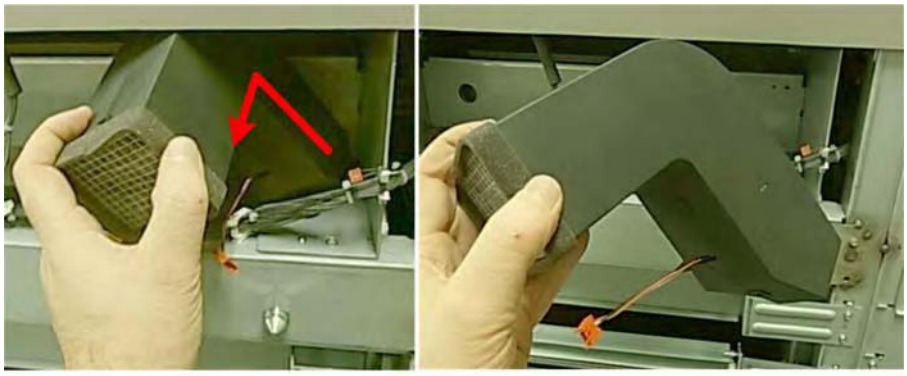
d074r890

1. Right cover (☛Right Cover)




d074r891

2. Disconnect the duct bracket [1] ( x2).
3. Disconnect the fan [2] ( x1, x1).

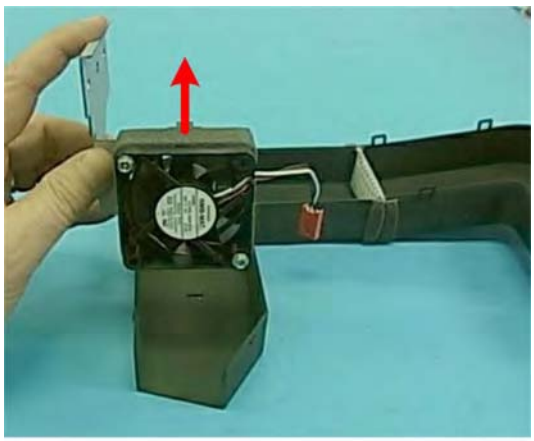


d074r892

4. Remove the duct.

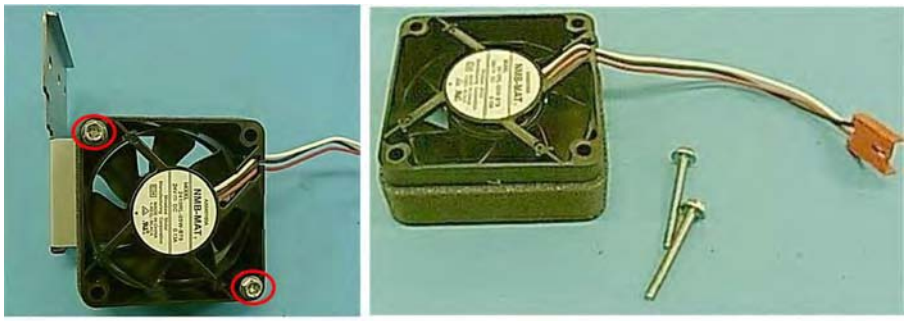
d074r893

5. Release all the lock tabs around the seam where the top and bottom of the duct are connected and open the duct.



d074r894

6. Remove the bracket and fan.



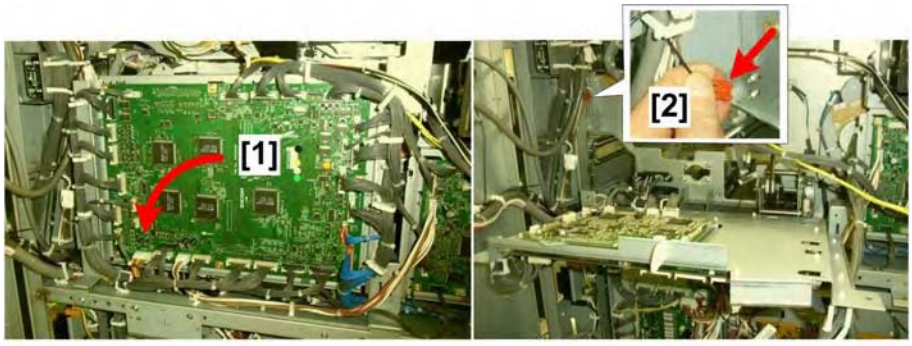
d074r895

7. Remove the fan ( x2).

## 5.22.16 ITB INTAKE FAN

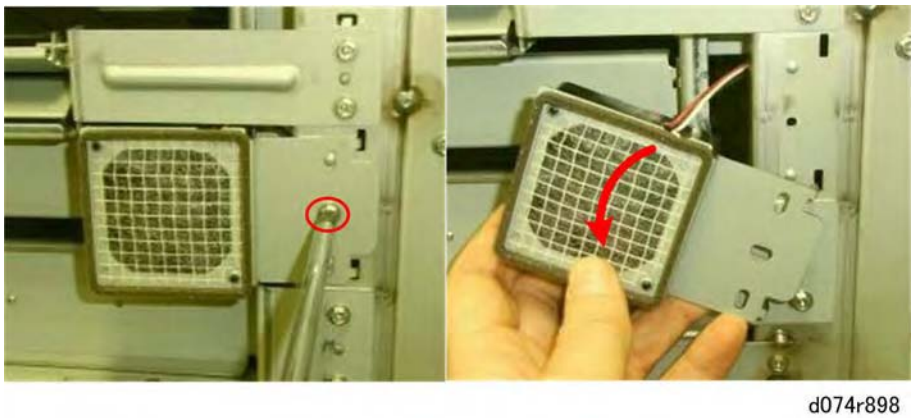
d074r896

- Right cover (☛p.5-14)
- Open the controller box. (☛p.5-8)



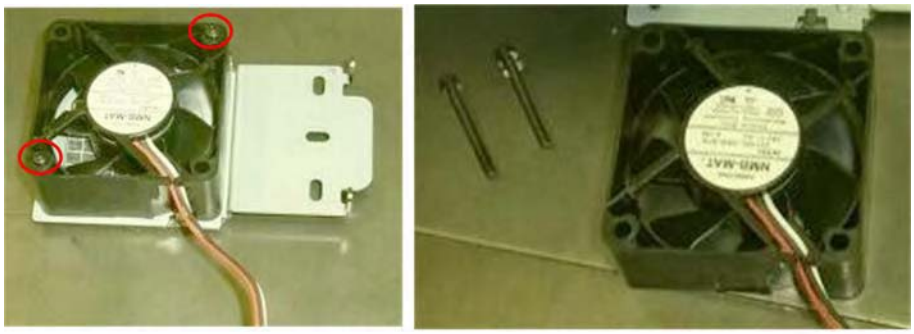

d074r897

- Lower the IOB [1] (☛p.5-431).
- Disconnect the fan [2] (x1).



d074r898

- On the right side of the machine, disconnect and remove the fan bracket ( x1).



d074r899

- Remove the fan ( x2).

## 5.22.17 COOLING BOX FANS

### *Preparation*

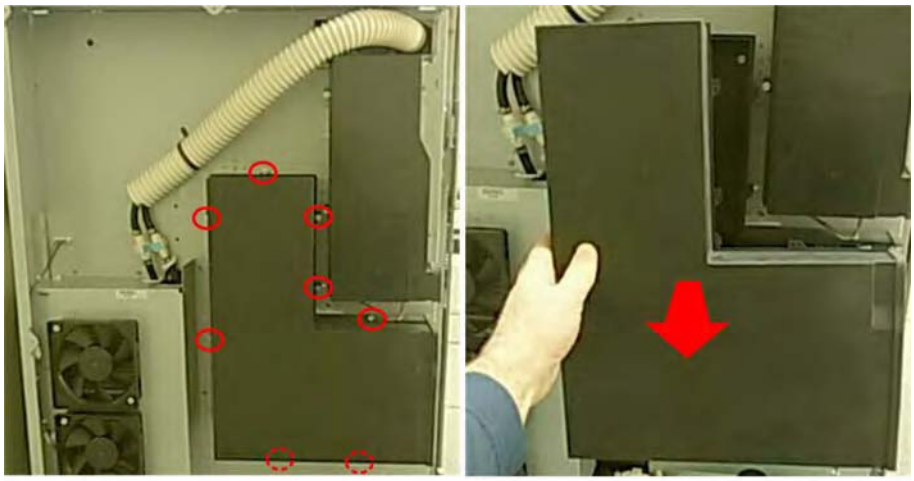
d074r900

Remove the cooling box covers. (☛p.5-10)

- Remove the collar ( x4).

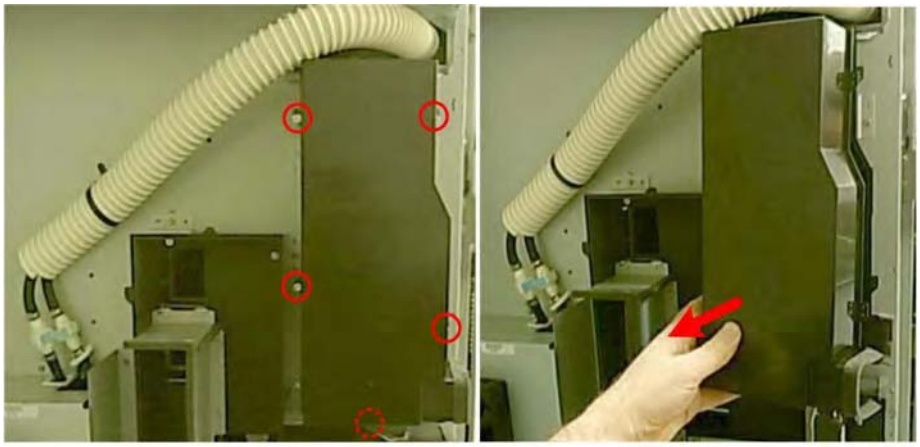
d074r901

- Remove the left panel of the cooling box ( x10).



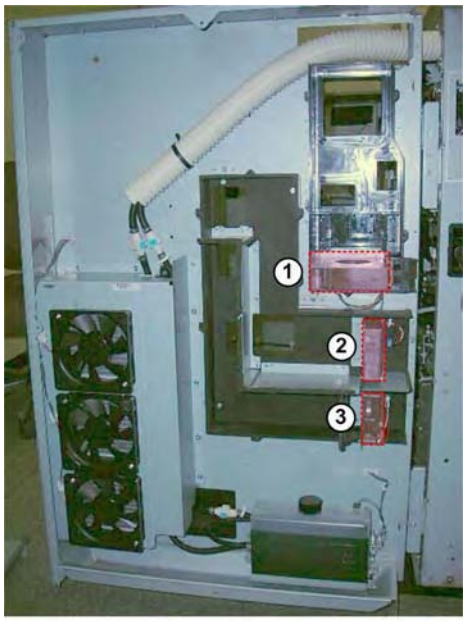
d074r902

- Remove the lower fan cover ( x8).



d074r903

- Remove the upper fan cover ( x5).

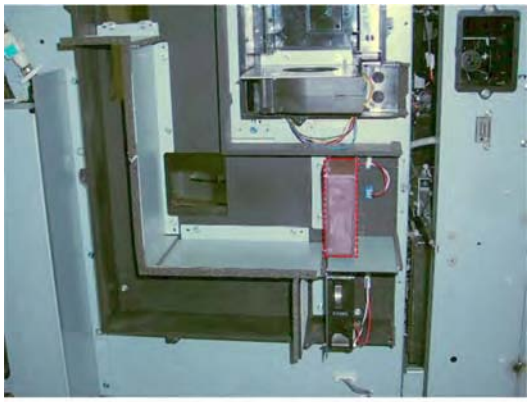



d074r903a

There are three duct fans in the cooling box.

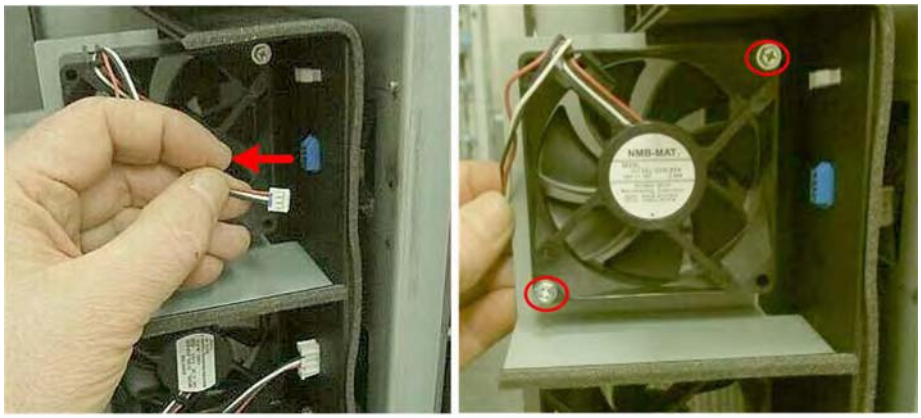
| | |
|---|---|
| ① | Cooling Box Ozone Exhaust Fan |
| ② | Cooling Box Emission Exhaust Fan |
| ③ | Cooling Box Heat Fan |

## *Cooling Box Emission Exhaust Fan*



d074r903b

1. The fan is behind the bottom "L" cover.

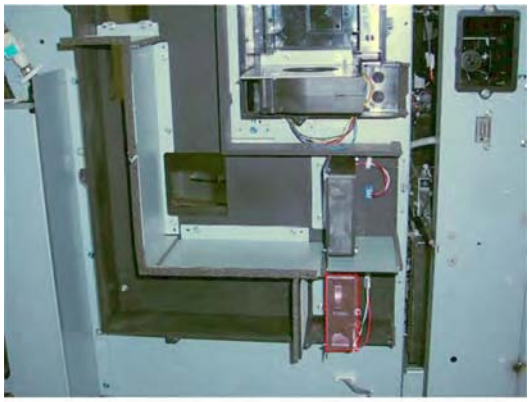


d074r904

2. Disconnect and remove the fan (x1, x2).

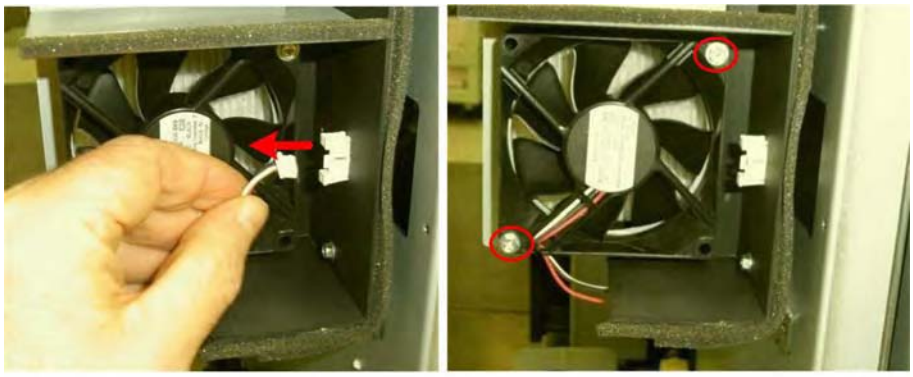
d074r905

### *Cooling Box Heat Fan*



d074r903c

- The fan is behind the bottom "L" cover.

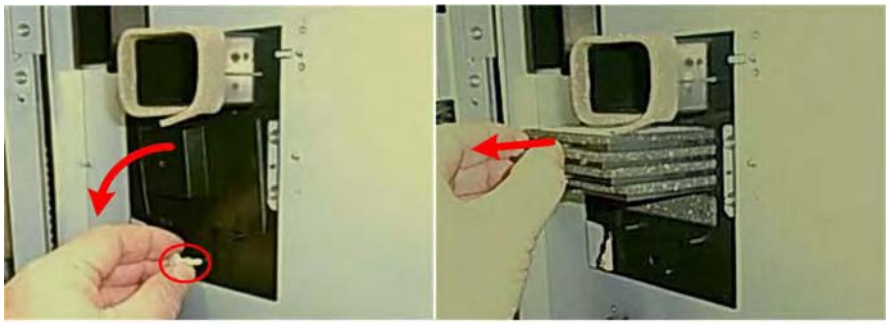


d074r906

- Disconnect and remove the fan ( x1,  x2).

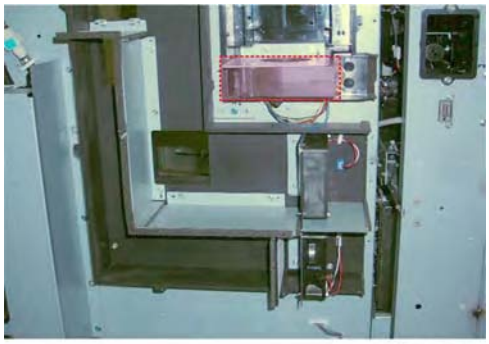
d074r907

## *Cooling Box Ozone Exhaust Fan*



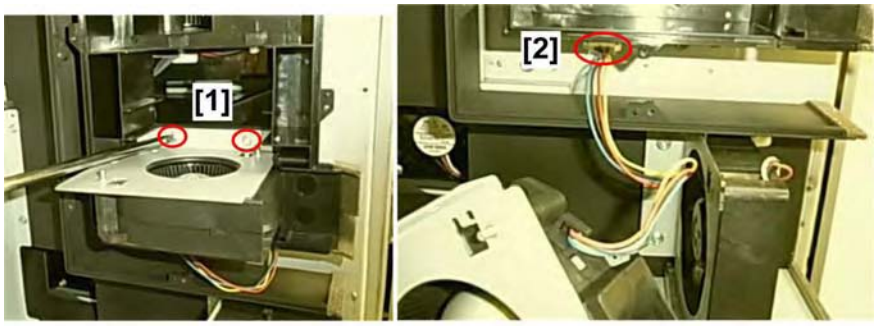
d074r910

- Remove the cover lock screw and remove the cover.
- Remove the filters and ozone filter.



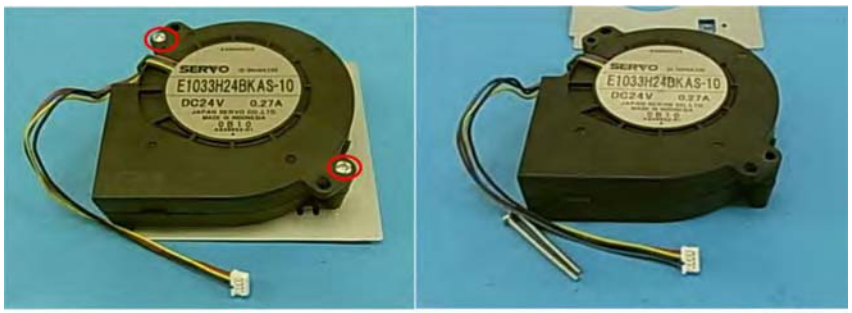
d074r903d

- The fan is behind the top cover.



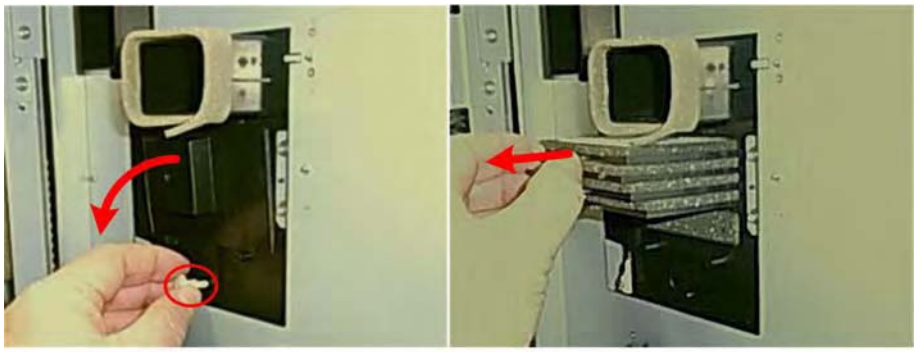

d074r908

- Disconnect the fan bracket [1] (x2).
- Disconnect the fan [2] (x1).



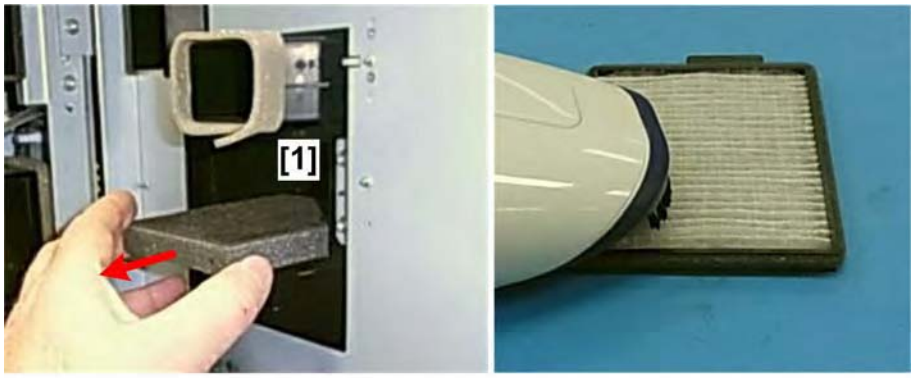

d074r909

## 5.22.18 OZONE FILTER, AIR FILTERS



d074r910

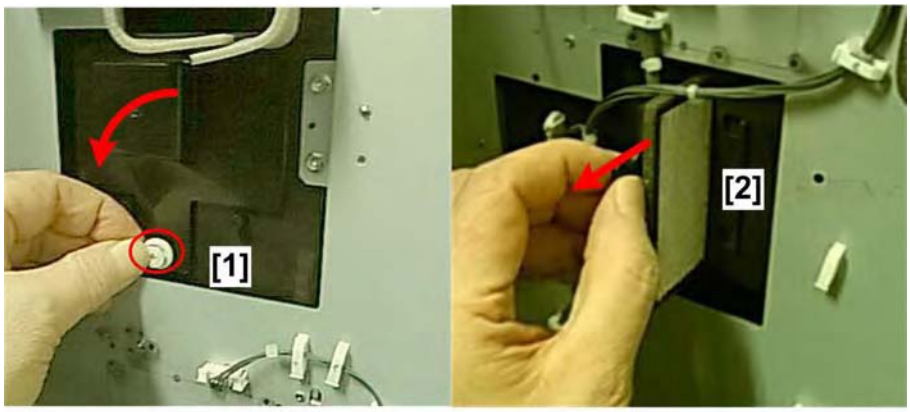
- Open the cooling box (☛p.5-8).
- Remove the cover lock screw and remove the cover.
- Remove the four air filters.




d074r911

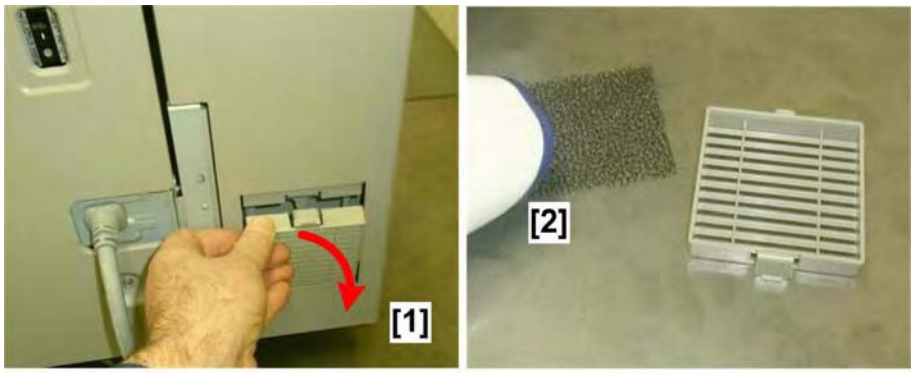
- Remove the ozone filter [1].
- Vacuum clean the air filters.

## 5.22.19 AIR FILTER




- Open the cooling box (☛p.5-8).
- Remove the cover lock screw and remove the cover [1].
- Remove the filter [2].
- Vacuum clean the filter.

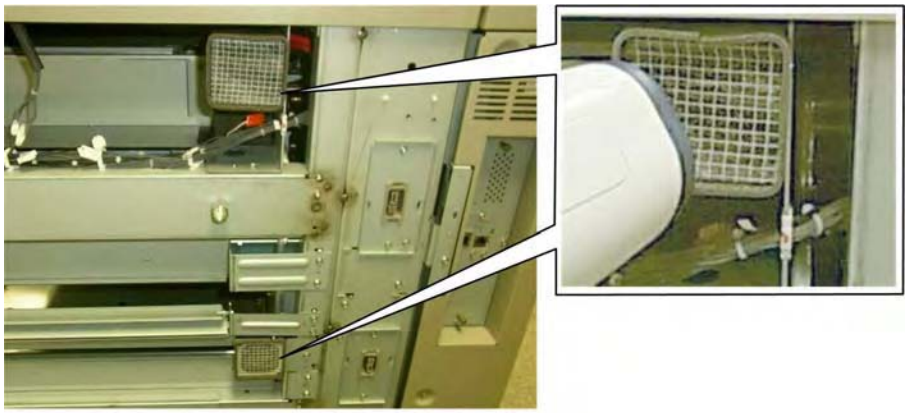
## 5.22.20 CONTROL BOX FILTER




d074r913

- At the right bottom corner of the controller box, remove the intake filter cover [1].
- Vacuum clean the filter [2].

## 5.22.21 TB AREA FILTERS



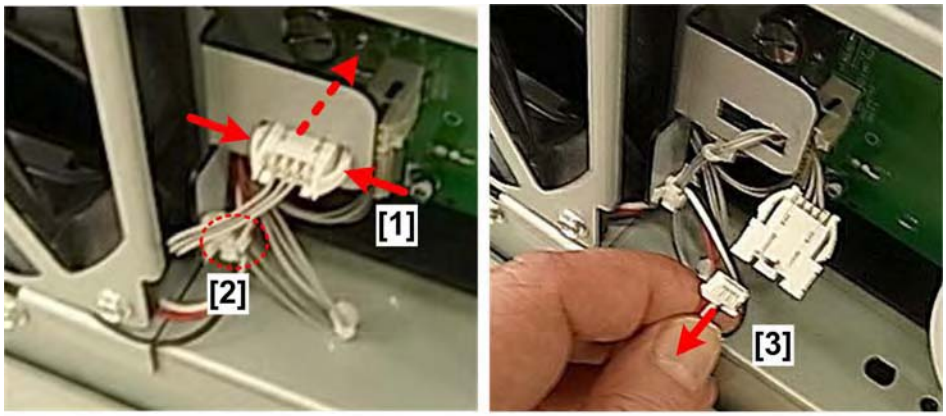
d074r889

- Right cover (☛p.5-14)
- Vacuum clean both filters.

## 5.22.22 PAPER EXIT FANS

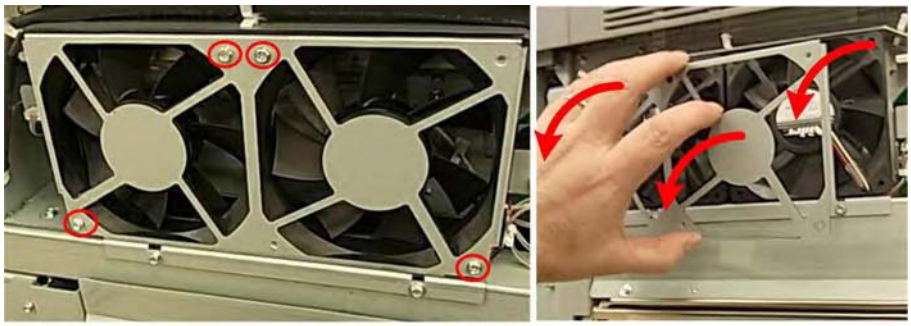
d074r938

1. Left cover (☛p.5-10)




d0074r935

2. On **both sides** of the fan plate:
    1. Depress the sides of the connector [1] and push it back through the plate.
    2. Disconnect harness [2] (x1).
    3. Disconnect fan harness [3] (x1).



d0074r936

3. Disconnect the fan plate ( x4).
4. Remove the plate and fans together.

d0074r937

# 5.23 FIRMWARE UPDATE

## 5.23.1 BEFORE YOU BEGIN...

Always obey these rules when handling and using SD cards:

- Never connect or remove an SD card with the machine on.
- Never turn the power off while the machine is downloading data from an SD card.
- The SD card is a precision item. Use it carefully. Do not keep the card in a location where there is high temperature, high humidity, or light from the sun.
- Handle SD cards carefully to avoid bending, scratching, or dropping them.
- If a power failure occurs during the firmware update, turn the machine power off/on without removing the SD card. The firmware update procedure should start again.

## 5.23.2 FIRMWARE UPDATE PROCEDURE

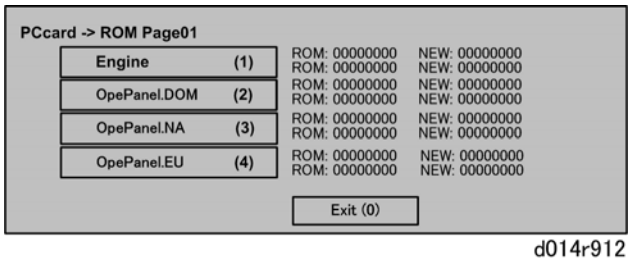
- Obtain the System SD card.
- Disconnect the network cable and other interface cables. This prevents outside interference caused by data transfers to the machine while the software is being uploaded.
- Turn off the machine.

  Note

  - Shut down the Fiery controller first.
- Remove the SD card slot cover ( x 1).
- Insert the SD card into Slot 2 (lower slot).
- Turn on the main switch.

  You will see "Please Wait" then "Preparing to start firmware update."

  The first screen appears after about 90 sec.




d014r912

- Check the notations to the right.
  1. "ROM" tells you the module number and version of the currently installed software.
  2. "NEW" tells you the module number and version of software on the SD card in Slot 2.
- Touch "Engine" or "OpePanel.xxx". The item that you select changes to dark gray.

Note

- You can select "Engine" and one "OpePanel" selection if you want to update both.

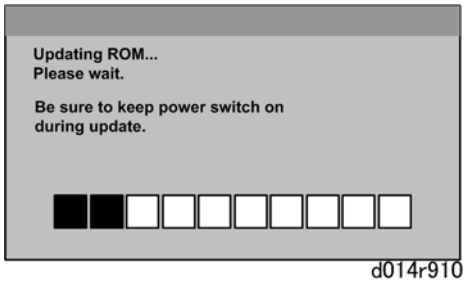
- Touch [Update] or push [#] on the 10-key pad to start the update.

  While the Update Is in Progress

  - Remain with the machine. Do not leave it unattended.
  - The [Start] key flashes RED during firmware update, and then lights GREEN when the update is finished.
  - When the [Start] key LED starts flashing rapidly, this means the update is almost finished.
  - Never switch the machine off while the [Start] key is flashing RED.
  - If the machine is switched off or accidentally unplugged before the update is finished, do not remove the SD card. Just switch the machine on again. The firmware update should restart automatically. If the firmware update does not recover, obtain a new System SD card.

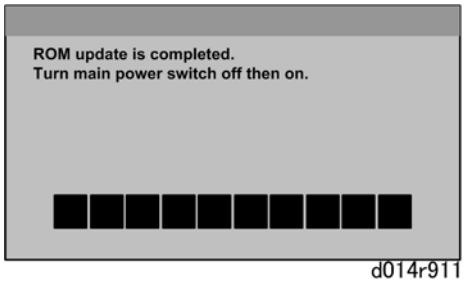
  The following screen sequence appears after selecting one "OpePanel" selected for update.

### *Operation Panel Update*




d014r910

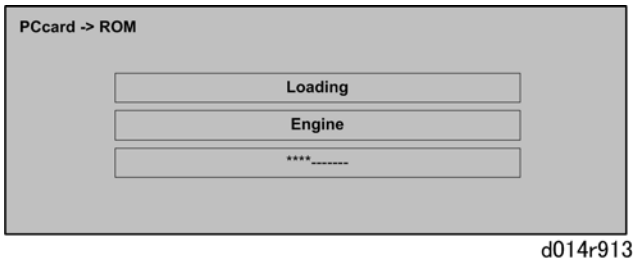
- The blocks of the progress bar fill as the update is done.
- The update requires about 9 to 10 minutes.




d014r911

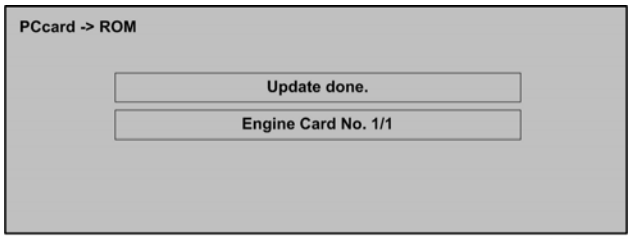
- When you see the 'update completed' message, the firmware update is complete.

### *Engine Update*




d014r913

- The middle bar tells you the name of the item that you are updating.
- The bottom bar shows the progress of the update procedure.




d014r914

- The update is complete when you see the "Update done" message.
- The update requires about xx minutes.
- When you see the update completed message, turn the machine off.
- Remove the SD card from the SD card slot.
- Switch the machine on.
- This completes the update procedure.

## 5.23.3 VERIFYING THE FIRMWARE UPDATE

This "Verify" procedure is not necessary but is strongly recommended.

- With the System SD card in Slot 2, turn the main power switch on. You see "Please Wait". The first screen appears after about 10 sec.
- Touch "Firmware".
- Select the items that you updated, and then push the [Verify] button.
- If there are no errors the machine displays the "Verify done" message for each updated item. Go to the next step.

  -or-

  If you see "Verify Error" in the first bar on the screen, then you must do the procedure again for the module shown in the bottom bar. For more details, see "Errors During Firmware Update" below.
- After the firmware is correctly updated, turn the main power switch off.
- Push the System SD card in a small distance to release it, then pull it out of the slot.
- Turn the main power switch on, and confirm that the machine operates correctly.

### *Errors During Firmware Update*

If an error occurs during a download, an error message will be shown in the first line. The error code consists of the letter "E" and a number ("E20", for example).

**Error Message Table**

| No. | Meaning | Solution |
|---|---|---|
| 20 | Cannot map logical address | Make sure the SD card is installed correctly, or use a different SD card. |
| 21 | Cannot access memory | HDD connection not correct, or replace hard disk. |
| 22 | Cannot decompress compressed data | The ROM data on the SD card is not correct, or data is damaged. |
| 23 | Error occurred when ROM update program started | Controller program defective. If the second attempt fails, replace the controller board. |
| 24 | SD card access error | Make sure the SD card is installed correctly, or use a different SD card. |
| 30 | No HDD available for stamp data download | HDD connection not correct or replace hard disks. |
| 31 | Data incorrect for continuous download | Install the SD card with the remaining data necessary for the download, then re-start the procedure. |
| 32 | Data incorrect after download interrupted | Do the recovery procedure for the module, then repeat the installation procedure. |
| 33 | Incorrect SD card version | The ROM data on the SD card is not correct, or data is damaged. |
| 34 | Module mismatch - Correct module is not on the SD card | The data on the SD is not correct. Get the correct data (Japan, Overseas, OEM, etc.) then install again. |
| 35 | Module mismatch – Module on SD card is not for this machine | SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again. |

| No. | Meaning | Solution |
|---|---|---|
| 36 | Cannot write module – Cause other than E34, E35 | SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again. |
| 40 | Engine module download failed | Replace the data for the module on the SD card and try again, or replace the BCU board. |
| 42 | Operation panel module download failed | Replace the data for the module on the SD card and try again, or replace the LCDC. |
| 43 | Stamp data module download failed | Replace the data for the module on the SD card and try again, or replace the hard disk. |
| 44 | Controller module download failed | Replace the data for the module on the SD card and tray again, or replace the controller board. |
| 50 | Electronic confirmation check failed | SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again. |

## 5.23.4 FIERY CONTROLLER SYSTEM UPDATE

### *Fiery System Installation*

System and user software are provided on the following media:

- System Software DVD
- User Software DVD

The System and User Software DVDs include the system software, fonts, and user software.

You install system and user software when you:

- Remedy an error.
- Replace the HDD.
- Upgrade to a more recent version of the software.

Software installation takes approximately one hour (not including the time required to configure or restore Setup).

**To Install System and User Software**

Important

- Notify the network administrator at the customer site that some archived jobs may no longer print after you install an updated version of system software.

- If you have not yet done so, consider backing up configuration settings. The settings are deleted when you install system and user software (see "Backing up and restoring the Fiery Setup Configuration" in the "Installation and Service Guide").
- Allow the network administrator the opportunity to print the Job Log. Also, print the following (if possible):
  1. Configuration page—lists any installed options and records the customer's current Setup configuration.
  2. Font List—lists the fonts currently on the HDD. In addition to the fonts provided in system software, the customer may have installed other fonts.
- Remove all USB storage devices and dongles (if any) that may be connected to any Fiery controller USB ports.

  Important

  - The system will hang up if USB storage devices or dongles are connected to Fiery controller USB ports during software installation.
- Insert the System Software DVD into the DVD/CD-RW drive.

Note

- If you installed a new HDD, power on the system, insert the System Software DVD, allow the system to boot, and then proceed to step 6.

- From the Fiery Control Panel or the copier/printer display panel (or the Start menu, if a monitor is connected), reboot the Fiery controller.
  Allow the system to shut down and reboot. Do not push any buttons during this time.
- At the message "All data will be deleted?", select Yes.
- When prompted, select a language.
  Wait as messages display describing the installation process.

Note

- This installation segment takes approximately 12 minutes.

- At the message "System Software is copied to the system. Remove media and select OK to reboot," remove the System Software DVD, and then select OK.
  The Fiery controller reboots several times and status messages display as the installation process continues.

Note

- This installation segment takes approximately 12 minutes.

- At the message "Please insert User Software to continue installation", insert the User Software DVD into the DVD/CD-RW drive.

Note

- If a monitor is connected (FACI), click OK to continue.

  During this process, the following installations are performed:
  - The entire contents of the System Software DVD are copied to a shared folder on the Fiery controller HDD, in e:¥efi¥user_sw.
    After installation, when the Fiery controller is connected to the customer's network, users can access the user software in the shared folder and install it onto client computers.

  The message "Copying User Software to Fiery shared folder. Please wait" and other messages display describing the user software installation process.

Note

- This installation segment takes approximately 30 minutes.

- At the message "Setup finished. Remove CD/DVD. Press OK to reboot," remove the User Software DVD and select OK.
  If the User Software DVD does not eject automatically, wait for the system to boot completely and the following logo screen to display on the Fiery controller Control Panel, then access the Functions menu on the Fiery controller Control Panel and select Eject CD/DVD to remove the User Software DVD.

d095s504

The drawing above indicates that the Fiery controller is idle.

Note

- This installation segment takes approximately 5 minutes.

- If user documentation was previously resident on the Fiery controller, remind the site administrator that user documentation files may be reinstalled to the Fiery controller shared folder from the User Documentation CD as follows:
  - If the Fiery controller is equipped with FACI:
    – Insert the User Documentation CD in the Fiery controller DVD drive.
    – Browse to the desired language folder on the CD.
    – Select and copy the files you want to place in the shared folder on the Fiery controller.
    – Browse to the shared file location: e:¥efi¥user_software¥Documentation and paste the documentation files.
  - From a client computer on the same network as the Fiery controller (assumes that the Fiery controller is powered on, has an IP address, and is accessible on the customer's network):
    – Insert the User Documentation CD in the CD drive of the client computer.
    – Browse to the desired language folder on the CD.
    – Open a web browser and type two back-slashes followed by the Fiery controller IP address.
    For example: ¥¥xx.xx.xx.x, where xx.xx.xx.x is the IP address of the Fiery controller.
    – Open the User-Docs folder.
    – Copy and paste the documentation files into the folder.
- Use the System Updates feature to install required software updates that may be available for the Fiery controller that would have been deleted when you installed system software (see "Updating the Fiery Controller" described below).
- Reconnect any USB storage devices or dongles that you may have removed earlier.
- Input the settings from the Configuration page that you printed earlier, or restore settings if they were backed up prior to system software installation.
  If a backup file of the configuration settings exists, restore it after the network configuration is completed (see "Backing up and restoring the Fiery Setup Configuration" in the

"Installation and Service Guide").

Bypass any settings that are not included on the Configuration page if it is more appropriate for the network administrator to set them. For more information, see Configuration and Setup on the User Documentation CD.

- Reinstall fonts or custom simulations that may have been deleted when you installed software.

## *Updating the Fiery Controller*

**Patch installation instructions**

- Make sure the Fiery controller is idle.
- Execute "_exe" and follow the instructions in the Fiery Patch Downloader.
- Notes about the Fiery Patch Downloader
  - a) Login must be admin. This is fixed and cannot be modified.
  - b) Password is the Fiery administrator login password.
  - c) Hostname can be either the IP address or the Fiery server name.
- After the patch is downloaded, and when prompted by the Fiery Patch Downloader, choose Reboot. (If you choose to Restart later, make sure that you manually reboot the server for changes to take effect.)
- Wait until the Fiery controller comes to Idle and print the configuration page.
- Verify that the System Updates Log section contains the patch number "********"

# ⇒5.24 REGISTRATION ADJUSTMENTS

**NOTE:**

- ✓ Use high quality paper to get accurate results –factory cut, good storing condition.
- ✓ Use a magnifier and a scale to get accurate measurements.
- ✓ Factors that affect the result of the adjustments such as paper type, paper brand, machine settings, operational environment, etc are most noticeable on 'plain/thin' paper.
- ✓ Make sure to apply the following firmware version or newer.

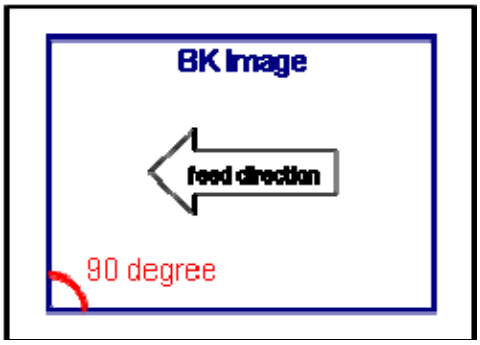
| | *Engine* | *System* | *Web Support* |
|---|---|---|---|
| *Copier (D074/D075)* | *1.58.04* | *1.07* | *1.06* |
| *Printer (M044)* | *1.58.04* | *1.03* | *1.04* |

## 5.24.1 SKEW CORRECTION

**Skew Correction consists of the following sections:**

- ***Perpendicularity Adjustment***
- ***Achieving The Recommended Skew Range***
- ***Possible Problems Involving Skew Correction***

### *Perpendicularity Adjustment*



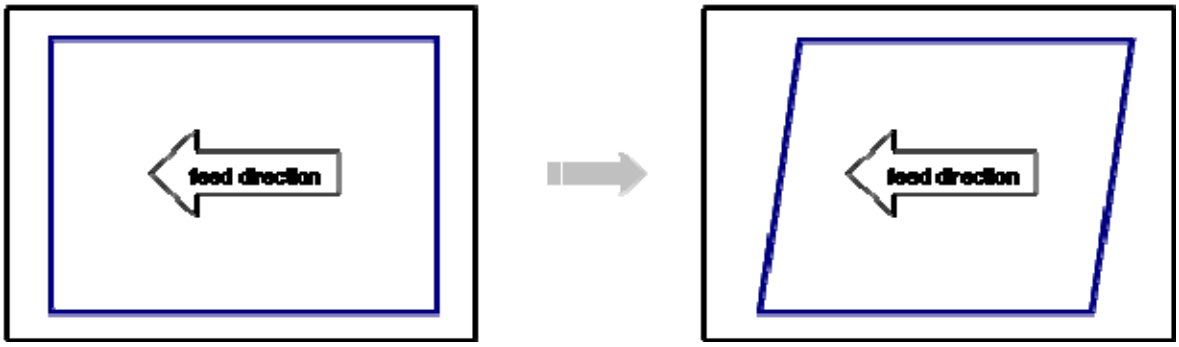

Check if skew in main scan direction is exhibited on BK image.

The corner indicated in red should be 90 degrees.

1. Set A3 or DLT paper (63.1-80.0 gsm) on Tray 2 and apply paper tray setting.
2. Print 5 copies of the test pattern Trimming Area (SP2109-003-14) in b/w and simplex.

⇒ 3. If the corner is not 90 degrees, adjust SP2104-40 and SP2104-41 (Skew Adjustment – Manual K CE/User). Both SPs have a range of -10 to +10, but this range can be increased to -20 to +20.

Decreasing the SP value will change the perpendicularity of the corners as follows.

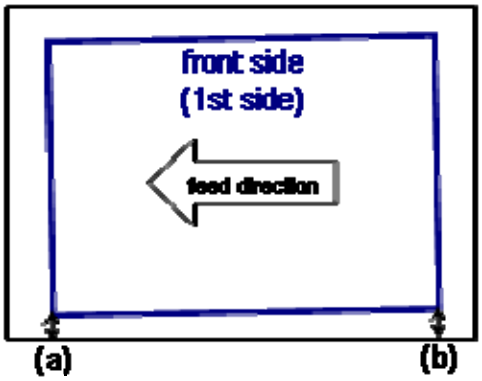



4. This completes the *Perpendicularity Adjustment Procedure.*

### *Achieving The Recommended Skew Range*

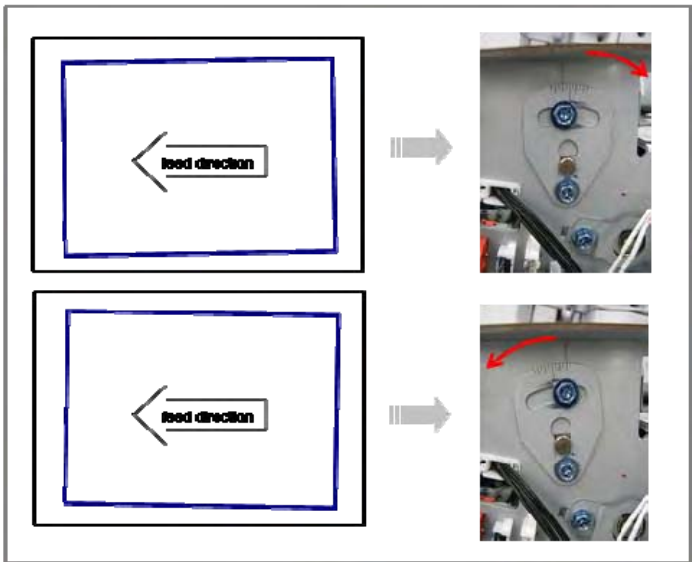
Procedures for *Achieving The Recommended Skew Range* is described in the Field Service Manual (2. Installation > Main Machine > Checking the Print Quality > Image Skew Check). Following is a supplementary explanation.

1. Set A3 or DLT plain paper (63.1-80.0 gsm) on Tray 2 and apply paper tray setting.
2. Print 5 copies of the test pattern Trimming Area (SP2109-003-14) in b/w and simplex.
3. Measure the two locations (a) and (b) on all 5 copies.



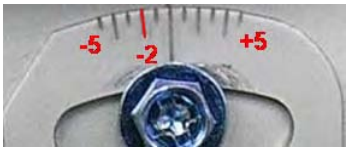

4. Calculate the skew amount "(a) – (b)" on all 5 copies. If the values are within the recommended range **+/- 0.4mm**, go to step 7. (Specification; (a) – (b) = +/- 1.0mm)

⇒ 5. Remove the right drawer cover, and adjust the adjustor plate.

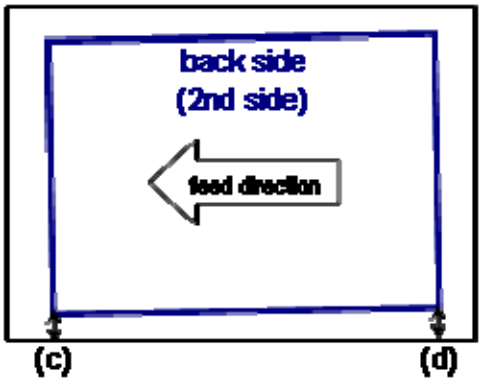



**NOTE**

1 notch on the scale is equivalent to a skew adjustment of approximately 0.3mm. Setting the plate to a value smaller than – 2 could cause Jam97. See section '1-3. Possible problems involving skew correction' for instructions on preventing Jam97.




6. Make another 5 copies, this time in duplex.
7. Measure the locations (c) and (d) on the back side and calculate the skew amount "(c) – (d)" to check if skew is within the recommended range **+/- 0.4mm**.




8. Finalize the adjustment so that skew results within **+/-0.5mm** for both sides. If skew amount varies among the 5 copies, make additional adjustments in SP1004 (Registration Buckle Adj) and SP1005 (Reg Buckle Adj; Thick). Skew amount will basically reduce by increasing the SP value, although the effect is dependent on paper thickness.
9. This completes the procedure for *Achieving The Recommended Skew Range.*

## ⟹ *Possible Problems Involving Skew Correction*

### (a) Skew Variation

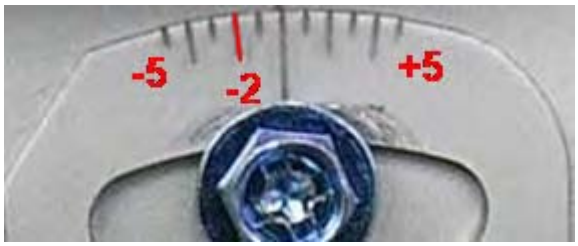
1. Confirm secure fastening of the 2 screws to prevent the adjustor plate from loosening.

If fastening the screws cannot securely fix the plate, insert a material, for instance an OHP transparent to stabilize the plate.

2. Increase the values in SP1004 (Registration Buckle Adj) and SP1005 (Reg Buckle Adj; Thick) to reduce skew. (Effect varies depending on the paper weight).

### (b) Jam 97

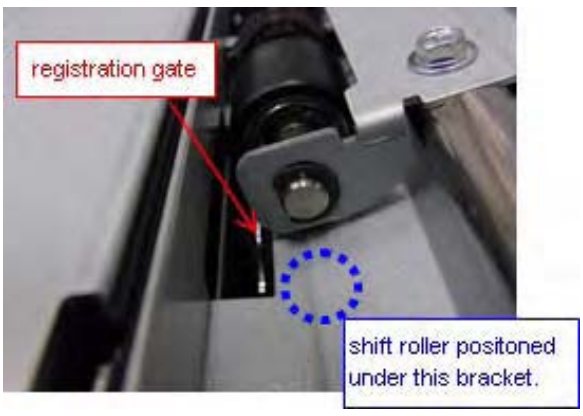
Do the below if the adjustor plate is currently set to a value smaller than "– 2".




1. Set the adjustor plate to a value between – 2 and +5.
2. Replace the shift roller with the modified one; D0742760. (See next page.)

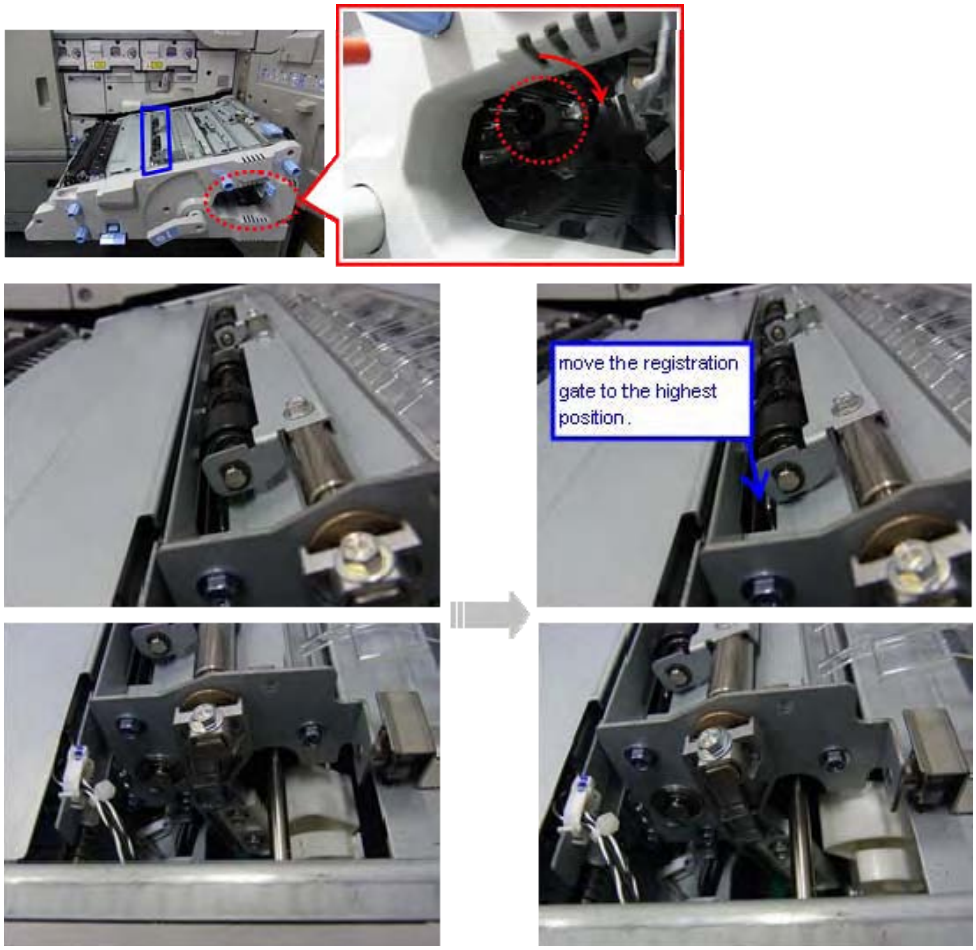
**Reason**

Jam97 is caused by interference between the registration gate and the shaft of the shift roller, which occurs if the adjustor plate is set to a value smaller than -2 and the unit is installed with an 'unmodified shift roller'.



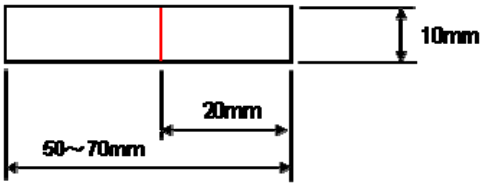
**⇒ How to check whether the unit is installed with the modified shift roller or the unmodified shift roller**

1. Insert your hand in the opening indicated with the red circle in the photo below and turn the cam clockwise until the shift roller separates and the registration gate moves to its highest position.



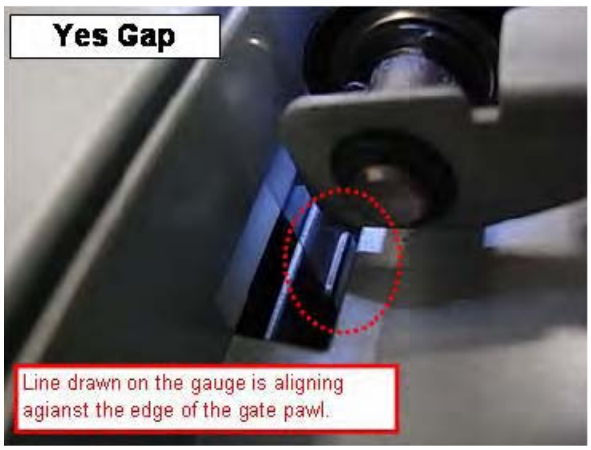

2. Prepare a gauge using an OHP transparency of thickness between 0.05mm and 0.12mm and draw a reference line at 20mm from the edge. Insert the gauge in between the shift roller and the registration-gate by sliding it in from the front side.

⇒



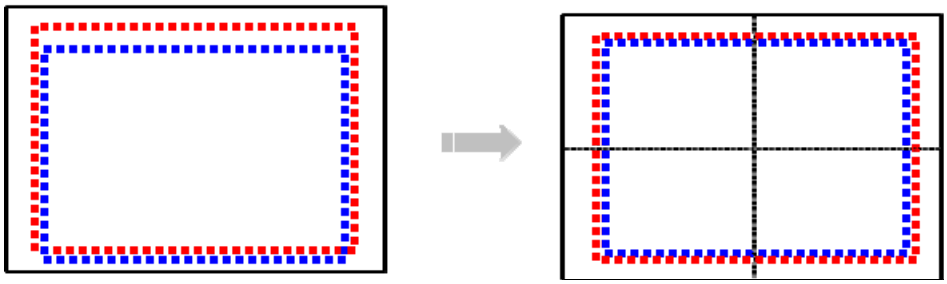
3. If there is no gap, the unit is installed with the unmodified shift roller and therefore should be replaced with the modified one.

   If gap is confirmed, the unit is installed with the modified shift roller.



## 5.24.2 IMAGE POSITION ADJUSTMENT

This procedure aims to position the images on the front (1st) and back (2nd) sides in duplex printing to the center of the paper. Adjustments are available for paper of all different weights.



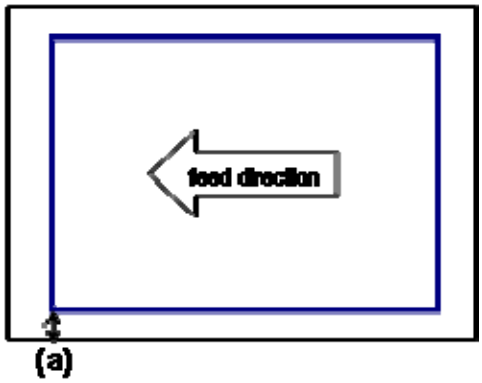
Blue dots indicate the image position on the front (1st) side, and red indicates the back (2nd) side.

1. Set A3 or DLT plain paper (63.1-80.0 gsm) on Tray 2 and apply the tray paper setting.
2. Input the following default values for these SPs.

   **NOTE:** If the values currently applied are not default and need to be changed, make sure to reset to the original value after completing this procedure.

   | | |
   |---|---|
   | SP2103-001 (Erase Margin Adj: LE Width) | **4.0 mm** |
   | SP2103-003 (Erase Margin Adj: Left) | **2.0 mm** |
   | SP2122-102 (Erase Margin Adj: LE Plain Weight 2) | **0.0 mm** |

3. Print 5 copies of the test pattern Trimming Area (SP2109-003-14) in b/w, simplex.
4. Measure the distance (a) on all 5 copies and calculate the average.



⟹ 5. Do the following calculation: 2.0 – (average (a)) = X

6. Add X to the current values in SP1003.

| **SP1003 Side-to-Side Reg** | Current Value | X | Modified Value |
|---|---|---|---|
| Tray 1 | | | |
| Tray 2 | | | |
| Duplex Tray | | | |
| A3LCT Tray 3 | | | |
| A3LCT Tray 4 | | | |
| A3LCT Tray 5 | | | |
| Bypass Tray | | | |

Example)

| **SP1003 Side-to-Side Reg** | Current Value | X | Modified Value |
|---|---|---|---|
| Example 1. | 1.0 | 0.2 | **1.2** |
| Example 2. | 1.0 | −0.2 | **0.8** |

7. Note all 7 values in SP1001-001~007 and calculate the average.

| **SP1001 Lead Edge Reg** | Current Value |
|---|---|
| 001 (Thick 1) | |
| 002 (Thick 2) | |
| 003 (Thick 3) | |
| 004 (Thick 4) | |
| 005 (Thick 5) | |
| 006 (Thick 6) | |
| 007 (Thick 7) | |
| Average | |

8. Add the average value to the current value and input the sum in SP1501-001.
9. Set all 7 values to “0” in SP1001-001~007.

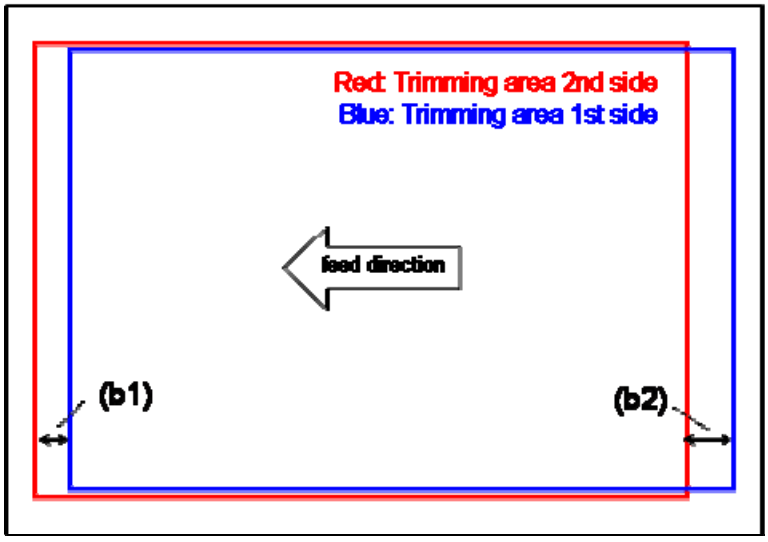
IMPORTANT: This procedure will affect the registration for ALL paper types. See the last page of this bulletin for details.

10. Print **11** copies of the test pattern Trimming Area (SP2109-003-14) in b/w, duplex, and select 5 copies from the 4th to the 8th copy among the 11.

NOTE 1: The first and the last 3 copies will not be used due to the higher possibility of image size variations.

NOTE 2: If front and back magnification adjustment is needed, make adjustments in SP2102-41 ~ 44. Note that modification of this SP will affect EVERY printout.

11. Measure the distances (b1) and (b2) on all 5 copies and calculate the average.

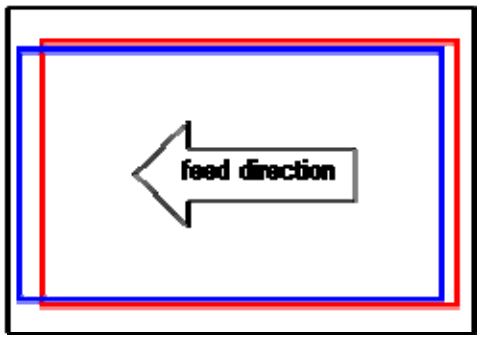



12. Divide the average value by “2” and subtract that value from the current SP1501-001 value.

| **Average of (b1) and (b2)** | Average divided by 2 | Current SP1501-001 value | Modified SP1501-001 value |
|---|---|---|---|
| Example: 3.0 (mm) | 1.5 | 1.0 | - 0.5 |

Modified SP1501-001 value will be derived by adding instead of subtracting if the trimming area of the 1st side is closer to the paper edge than that of the 2nd side.

⇒



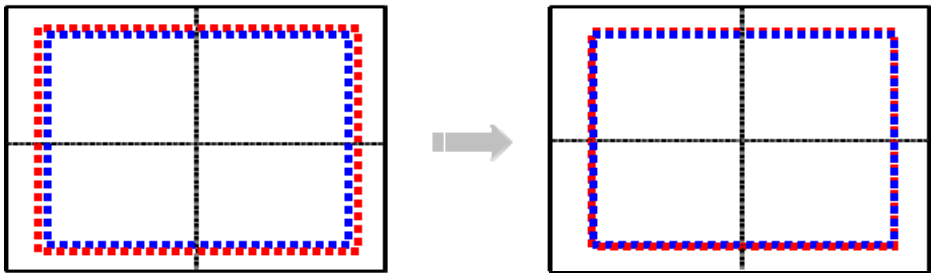

| Average of (b1) and (b2) | Average divided by 2 | Current Value of SP1501-001 | Modified Value of SP1501-001 |
|---|---|---|---|
| 3 (mm) | 1.5 | 1.0 | 2.5 |

13. Input the modified values in SP1501-001 and make another 11 copies of test pattern Trimming Area (SP2109-003-14) in b/w, and duplex to check the results for 4th and 8th.

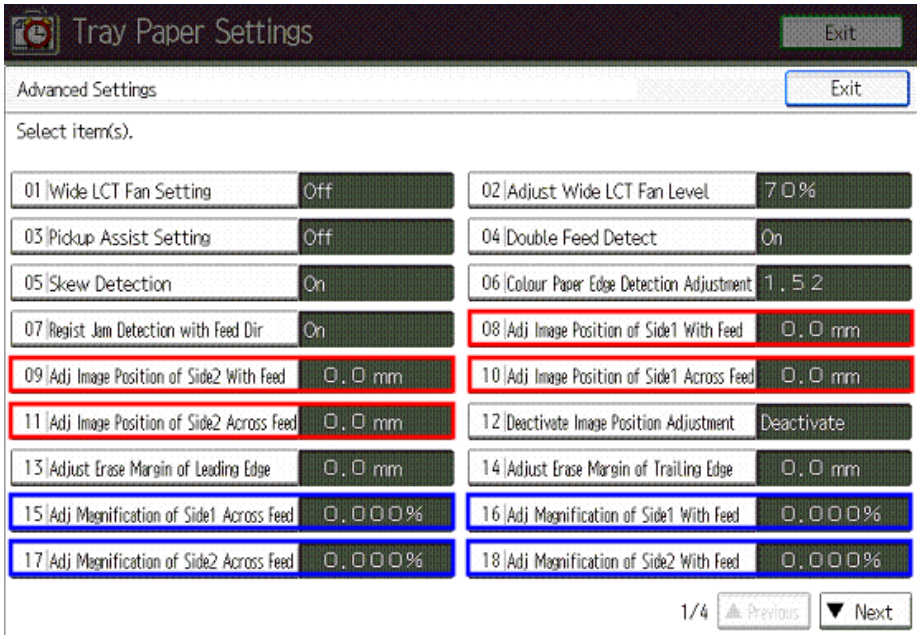
14. Finally, confirm the adjustments made are also reflected to papers of different weights. If further adjustments are needed, modify the values in SP1001-001 ~ 007 accordingly. See the last page of this bulletin for details.

15. This completes the *Image Position Adjustment*.

## ⇒5.24.3 FRONT BACK MAGNIFICATION CORRECTION (IMSS)



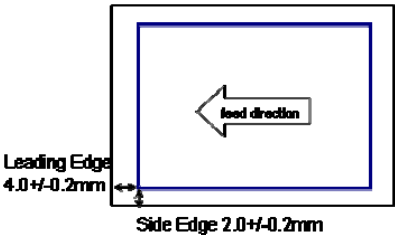
The procedure described in this section is capable of achieving the best registration performance available on the Taurus, which perfectly aligns the front and back image positions to the center of the paper for EVERY *Custom Paper* by adjusting the image size using the IMSS function.




First, adjust the image to the best position* by making adjustments in the menu items #08-11 indicated with the red boxes in the above diagram.
Then, adjust the image size in #15-18 indicated with the blue boxes.

⇒

* If the machine starts to create the image from the position as shown right, the image will be automatically centered of the paper after this procedure is completed.




1. Input the default values for the following SPs.

   **NOTE**: If the values currently applied are not default and need to be changed to carry out this procedure, make sure to reset to the original value after completing the procedure.

   SP2103-001 (Erase Margin Adj: LE Width) **4.0 mm** (default)

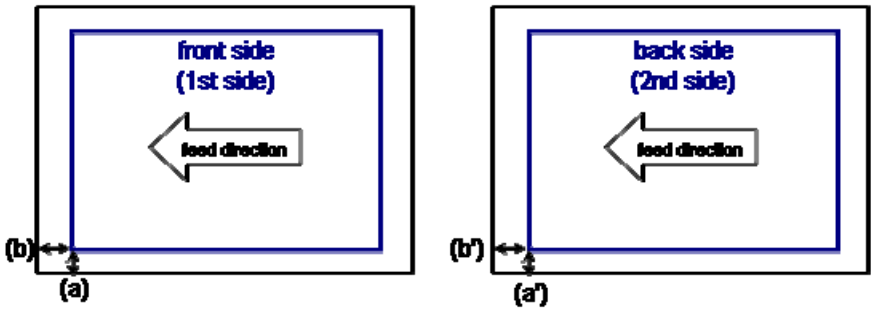
   SP2103-003 (Erase Margin Adj: Left) **2.0 mm** (default)

   SP2122-102 (Erase Margin Adj: LE Plain Weight 2) **0.0 mm** (default)

2. Set the paper in use onto the desired tray and register the paper as *Custom Paper*.
3. Go into the *Advanced Settings* and apply the following settings.

| *Advanced Settings* | | Set to |
|---|---|---|
| 13 | Adjust Erase Margin of Leading Edge | 0 |
| 14 | Adjust Erase Margin of Trailing Edge | 0 |

4. Print 5 copies of the test pattern Trimming Area (SP2109-003-14) in b/w, duplex.
5. Measure the two locations (a) and (b) on all 5 copies and calculate the average respectively.




6. Calculate the values using the following formula.

   Leading edge : 4.0 – (average (b)) = $X_1$

   : 4.0 – (average (b')) = $X_2$

   Side-to-side : : 2.0 – (average (a)) = $Y_1$

   2.0 – (average (a')) = $Y_2$

⇒

7. Apply to the following settings in the Advanced Settings menu.

| *Advanced Settings* | | Set to |
|---|---|---|
| 8 | Adj Image Position of Side 1 With Feed | $X_1$ |
| 9 | Adj Image Position of Side 2 With Feed | $X_2$ |
| 10 | Adj Image Position of Side 1 Across Feed | $Y_1$ |
| 11 | Adj Image Position of Side 2 Across Feed | $Y_2$ |

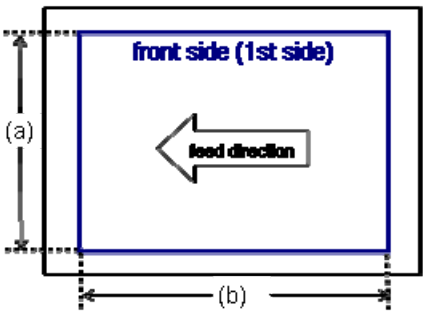
8. Print 5 copies of the test pattern Trimming Area (SP2109-003-14) in b/w, duplex again to check if the measurement is within the recommended range;
   **(a)(a'); 2.0 +/- 0.2 mm (b)(b'); 4.0 +/- 0.2 mm**

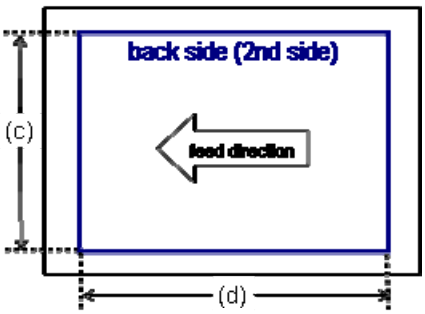
   ***** If the result is not within the range, repeat steps 4 to 7.

9. Print 11 copies of the test pattern Trimming Area (SP2109-003-14) in b/w, duplex. Select 5 copies from the 4th to the 8th among the 11.

   NOTE: The first and the last 3 copies will not be used due to the higher possibility of image size variations.

10. Measure the size of the image on front and back sides in both vertical (a, c), and horizontal (b, d) directions for the 5 copies and calculate the average respectively.




11. Use the formula below to calculate the magnification rate of the back side against the front side based on the average values derived in the previous step.
    { 1 – (Average (c)) / (Average (a)) } x 100 = X
    { 1 – (Average (d)) / (Average (b)) } x 100 = Y

⟹ 12. Apply X and Y (increments of 0.125) to the following settings in the *Advanced Settings* menu.

| *Advanced Settings* | | Set to |
|---|---|---|
| 17 | Adj. Magnification of Side2 Across Feed | X |
| 18 | Adj. Magnification of Side2 With Feed | Y |

13. Make another 11 copies of the same test pattern in duplex and confirm the image registration on front and back sides to 4th and 8th.
14. Finally, if the image positions on the front and back sides still appear slightly shifted, fine tune the image positions by adjusting the values in menu items #8-11 in *Advanced Settings*.

15. This completes the *Front Back Magnification Correction (IMSS)*.

## ⇒ 5.24.4 APPENDIX 1: SUMMARY OF REGISTRATION SETTINGS AVAILABLE ON THE ENGINE AND THE FIERY CONTROLLER

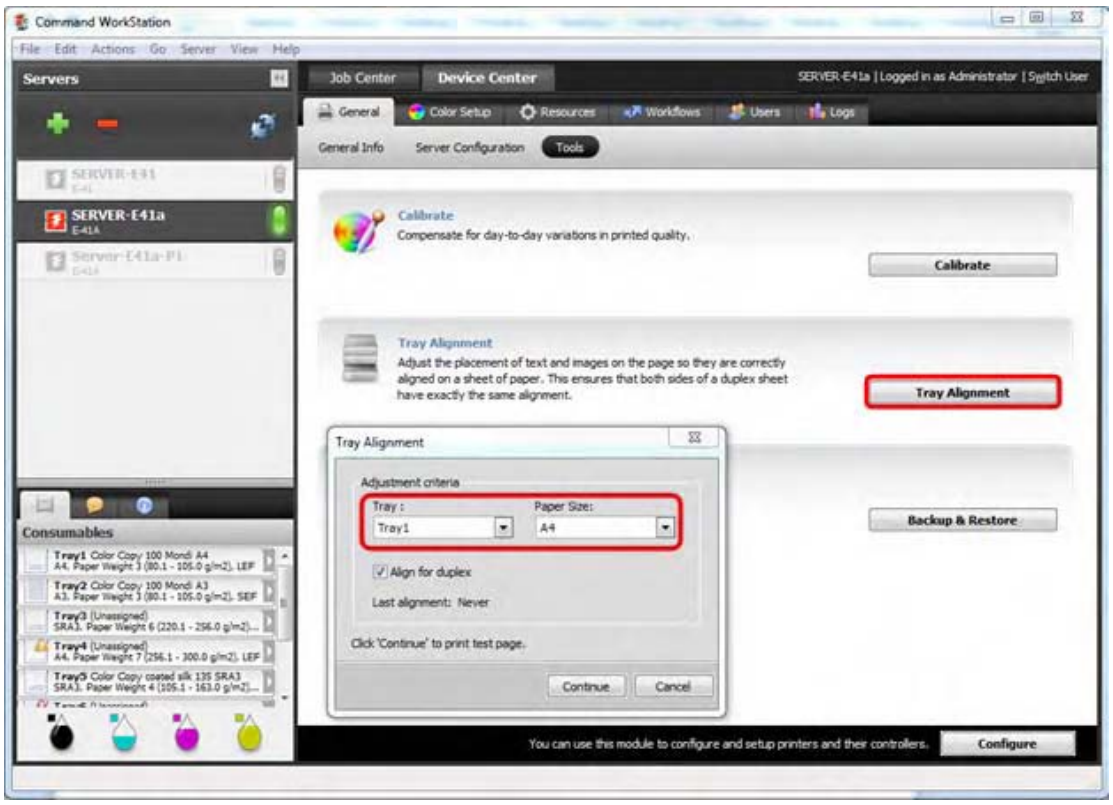
Settings on the Fiery controller should be made AFTER completing the procedures described in this bulletin. Adjustments made in the opposite order will lose the effect.

The table below summarizes the registration adjustments available for users.

| Items | To | | |
|---|---|---|---|
| | Job | Tray | *Custom Paper* |
| Skew | cannot be adjusted | "Tray Alignment" in Tools (Fig 1.) | cannot be adjusted |
| Image Position | "Image Shift" in Job Properties (Fig 2.) | Adjustment Settings for Skilled Operators - #101/102 | Advanced Settings - #08/09/10/11 |
| | | "Tray Alignment" in Tools (Fig 1.) | |
| Front/Back Mag. Correction | cannot be adjusted | cannot be adjusted | Advanced Settings - #15/16/17/18 |

by Fiery Controller
by Engine (Mainmachine)

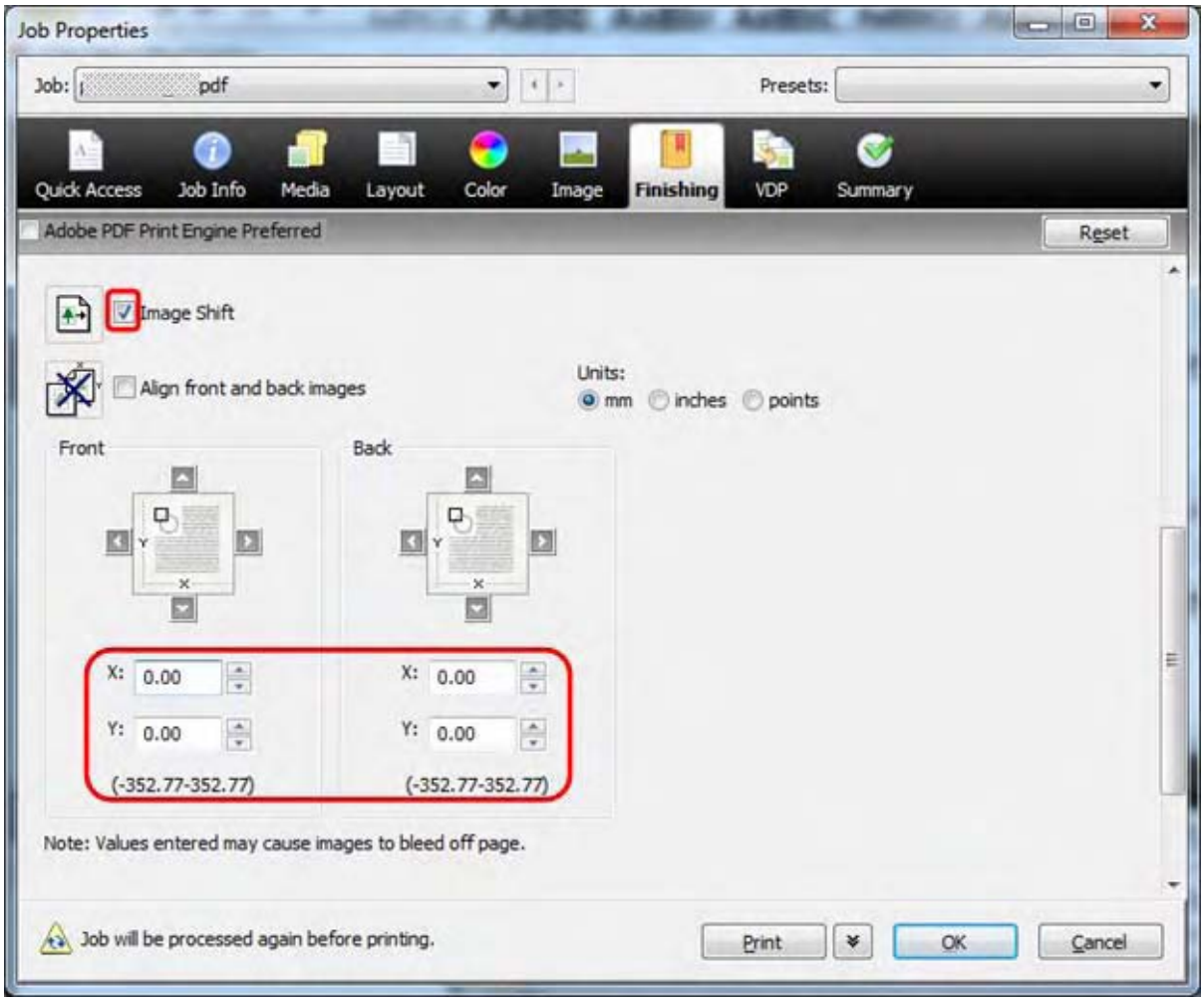
Fig 1. “Tray Alignment” in Tools




Replacement and Adjustments

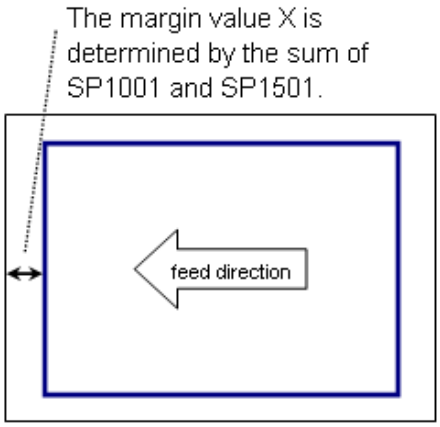
⇒

Fig 2. “Image Shift” in Job Properties



## ⇒ 5.24.5 APPENDIX 2: SPECIFICATION OF SP1001-001 ~ 007, AND SP1501-001

Margin registration in sub scan direction is adjusted at the factory for each paper weight as described in the following table.




| Thick | gsm | | | | | |
|---|---|---|---|---|---|---|
| 1 | 52.3 ~ 63.0 | X | = | SP1001-001 | + | SP1501-001 |
| 2 | 63.1 ~ 80.0 | X | = | SP1001-002 | + | SP1501-001 |
| 3 | 80.1 ~ 105.0 | X | = | SP1001-003 | + | SP1501-001 |
| 4 | 105.1 ~ 163.0 | X | = | SP1001-004 | + | SP1501-001 |
| 5 | 163.1 ~ 220.0 | X | = | SP1001-005 | + | SP1501-001 |
| 6 | 220.1 ~ 256.0 | X | = | SP1001-006 | + | SP1501-001 |
| 7 | 256.1 ~ 300.0 | X | = | SP1001-007 | + | SP1501-001 |

Therefore, modifying the value of SP1501-001 will modify the value X for paper of all different weights. (For detail, see RD074022a)

**Default settings**

| SP | Default |
|---|---|
| 1001-001 | 0 |
| 1001-002 | 0 |
| 1001-003 | 0 |
| 1001-004 | – 0.1 |
| 1001-005 | – 0.2 |
| 1001-006 | 0 |
| 1001-007 | – 0.1 |
| 1501-001 | “V” |

“V” is adjusted at the factory for each machine.

⇒

SP1501-001 is available only from the firmware version described on the first page of this bulletin or newer. *Old* machines are set as follows.

| **SP** | Default |
|---|---|
| 1001-001 | V |
| 1001-002 | V |
| 1001-003 | V |
| 1001-004 | V – 0.1 |
| 1001-005 | V – 0.2 |
| 1001-006 | V |
| 1001-007 | V – 0.1 |
| 1950-001 | None * |

"V" is adjusted at factory for each machine.

* When the firmware is updated to the latest, SP1950-001 will be set to "0".

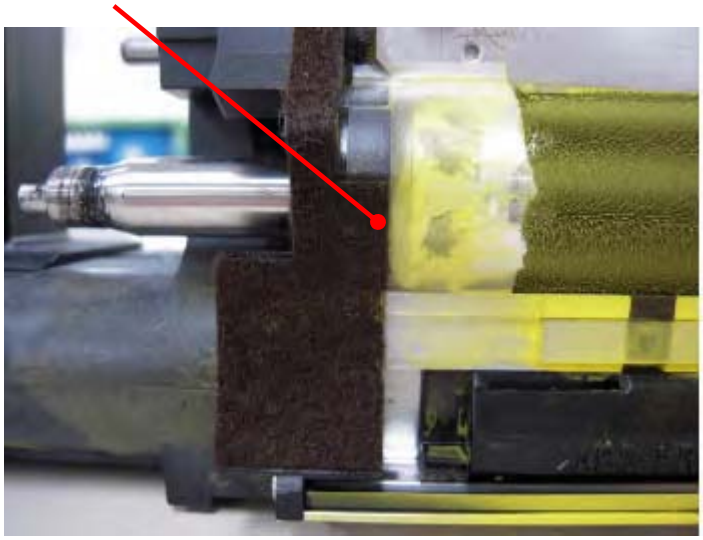
# ⇒5.25 DEVELOPMENT ROLLER SEALS REPLACEMENT

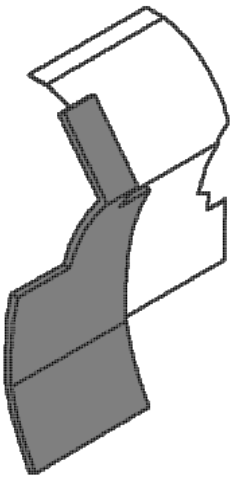
## *Replacing the FRONT Seal (D0743343: Seal: Development Roller: Front)*

1. Pull out the PCDU according to the procedure described in the service manual in the section:

   *4. Replacement and Adjustments* **>** *Common Procedures* **>** *Removing PCDUs*

[A]

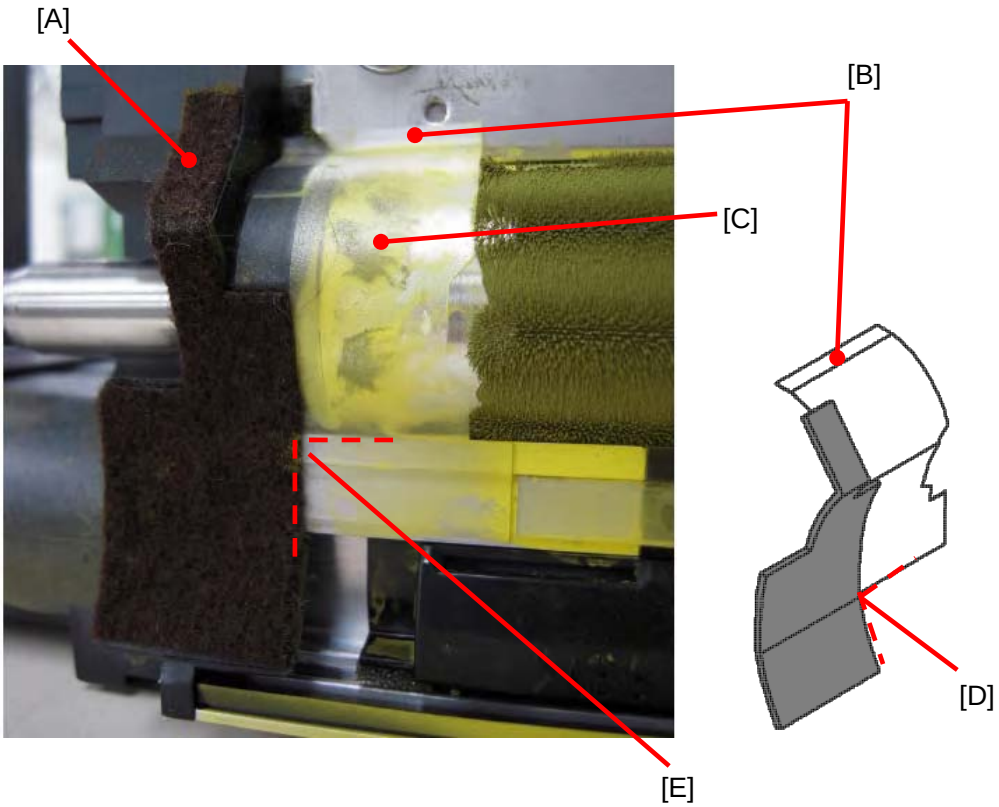


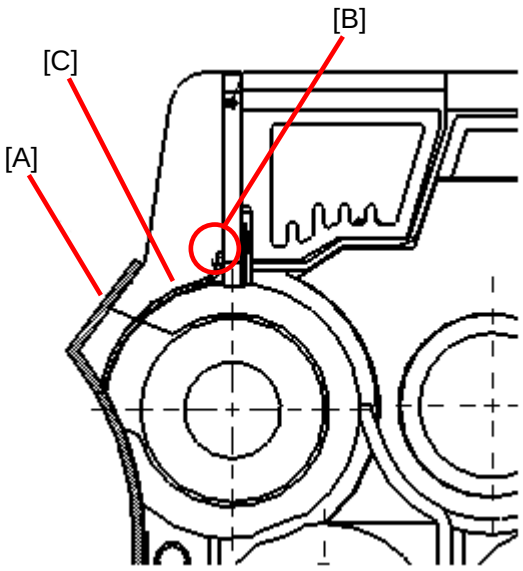


2. Remove the old seal [A] and clean the surface of the area where the seal was attached.

Note

- The seal consists of two parts; the black part and the transparent part. (See the figure above.) Make sure to remove the whole seal.



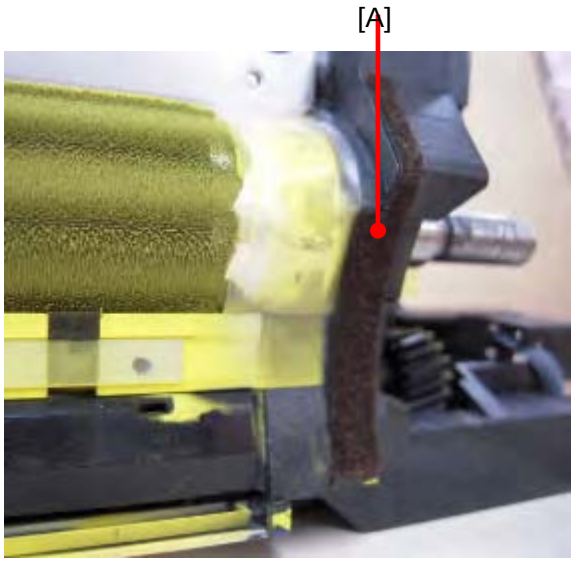

View from the side

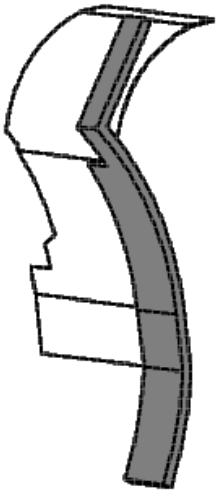
3. Attach the new seal by noting the following points.
   - Corner [D] of the seal aligns with the corner [E] of the frame.
   - Area [A] of the seal is firmly attached.
   - Edge [B] of the seal is attached to the doctor blade and is not positioned in the gap between the doctor blade and the development roller.
   - Transparent part of the seal [C] is attached properly along the curve of the roller.

## *Replacing the REAR Seal (D0743344: Seal: Development Roller: Rear)*

1. Pull out the PCDU according to your service manual in the section:

   *4. Replacement and Adjustments > Common Procedures > Removing PCDUs*

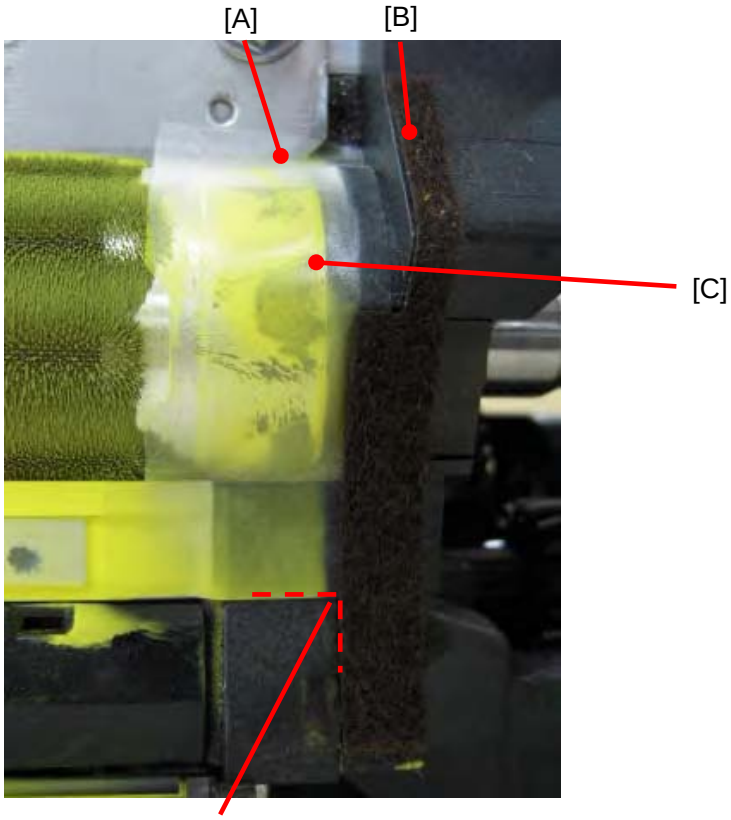


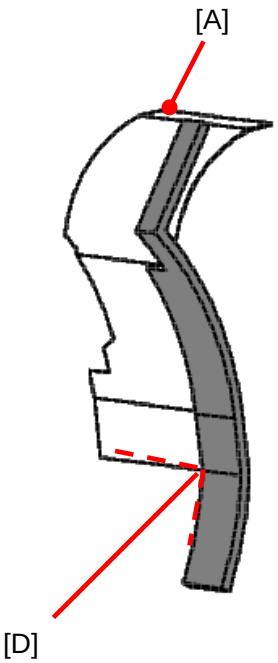



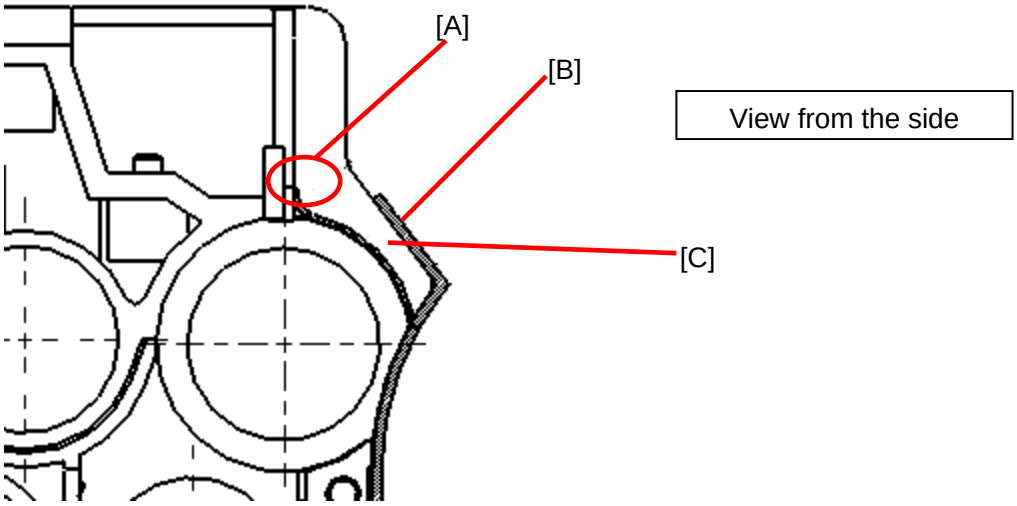
2. Remove the old seal [A] and clean the surface of the area where the seal was attached.

Note

- The seal consists of two parts; the black part and the transparent part. (See the figure above.) Make sure to remove the whole seal.






3. Attach the new seal by noting the following points.
   - Corner [D] of the seal aligns with the corner [E] of the frame.
   - Area [B] of the seal is firmly attached.
   - Edge [A] of the seal is attached to the doctor blade and is not positioned in the gap between the doctor blade and the development roller.
   - Transparent part of the seal [C] is attached properly along the curve of the roller.

# ⇒5.26 CLEANING THE TRANSFER BELT SPEED SENSOR

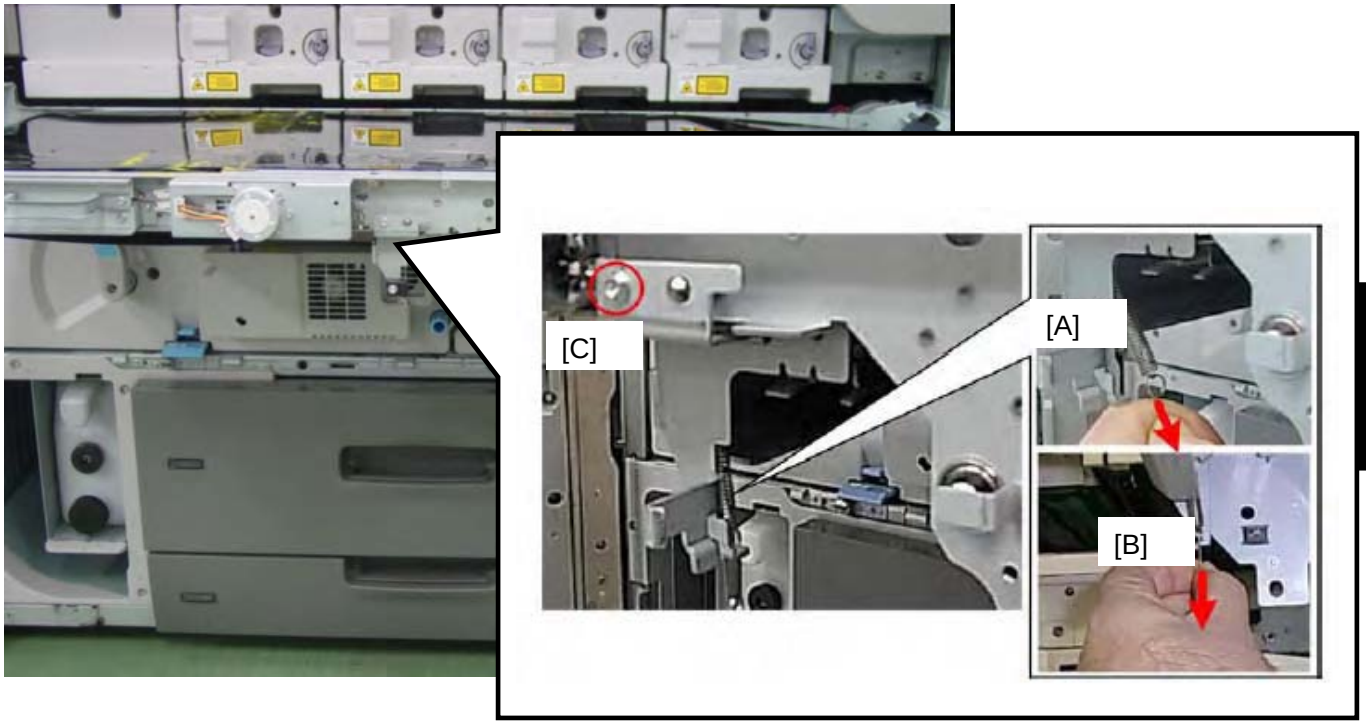
***Procedure For Cleaning The Transfer Belt Speed Sensor***

Note

- Cleaning of the Transfer Belt Speed Sensor is prescribed to 300K as part of PM but it is recommended to be cleaned more frequently to prevent SC499 caused by unclean sensor.

1. Pull out the ITB unit according to the procedure described in the following section of the service manual:

   *4. Replacement and Adjustments > Common Procedures > Pulling Out the ITB Unit*



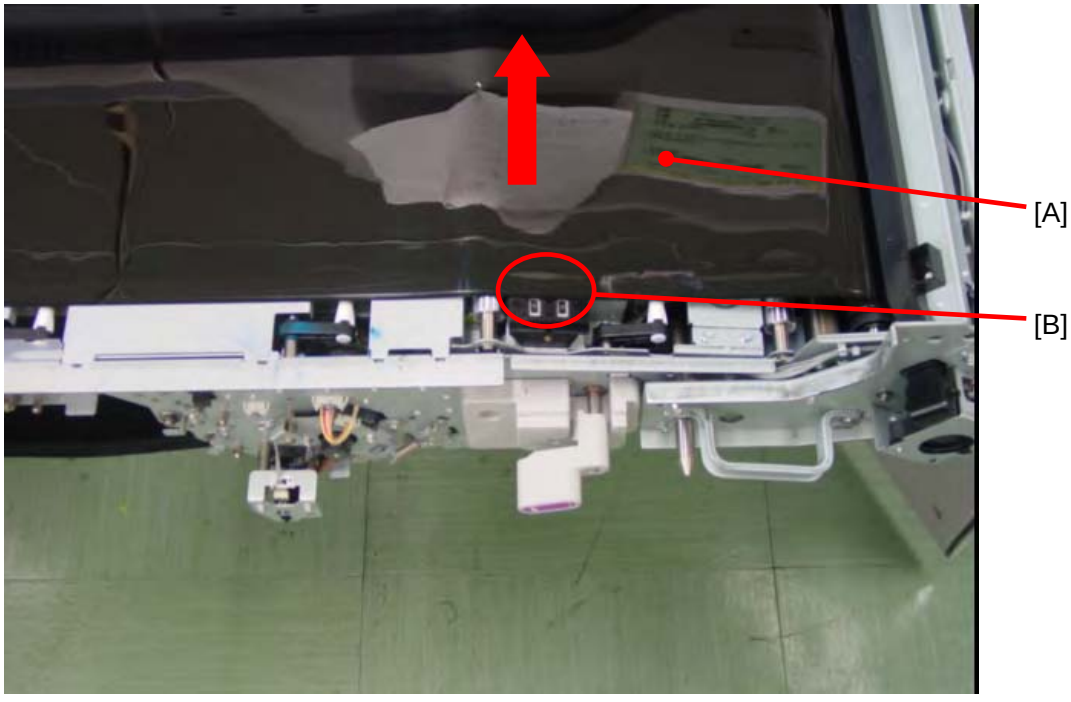

2. Release the spring [A] at the front.
3. Release the spring [B] at the rear.

Note

These springs do not have to be removed. Let them hang free and they will not fall off.

4. Remove the Belt Tension Unit [C] (x1).

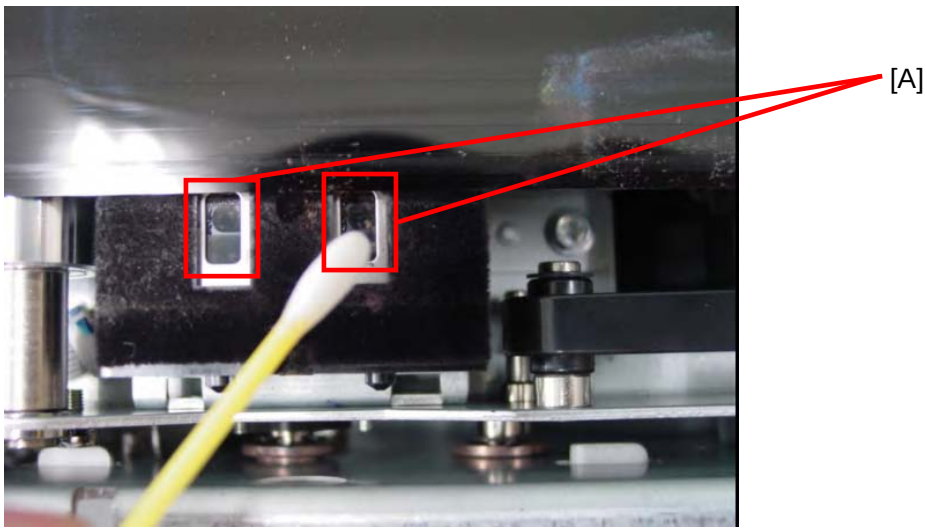
5. Remove the Sensor Bracket [D] (x1).



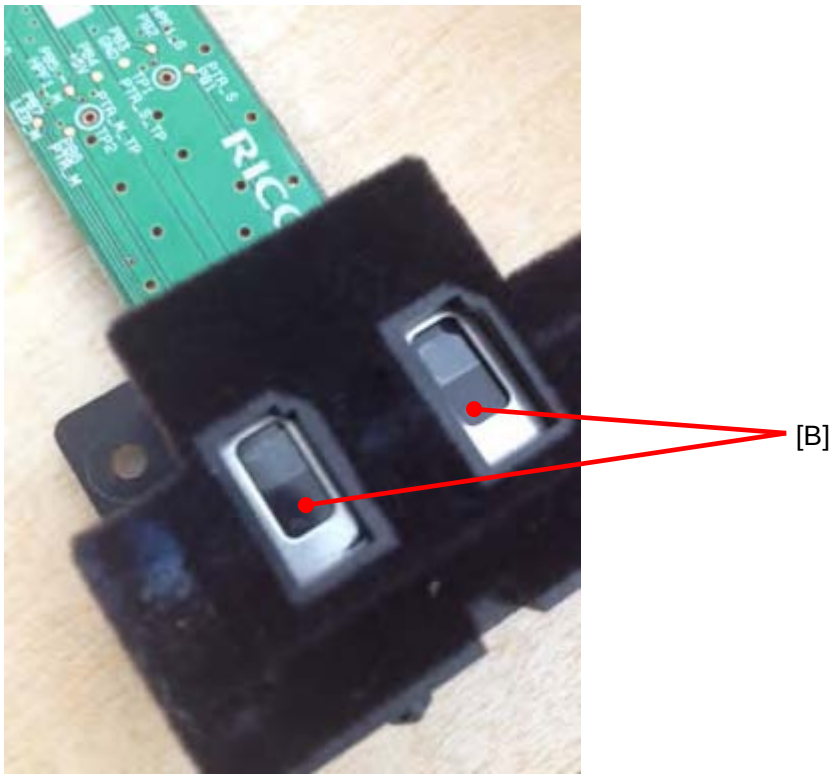
6. Carefully move the belt [A] to the non-operator side until the sensor [B] is uncovered.

Note

Do not move the belt further once the sensor is uncovered. Doing so could damage the belt.




7. Clean the sensors [A].
   - Use a vacuum cleaner or an air blower to remove dust.
   - Wipe the sensor with a wet cotton swab. If a cotton swap is not in hand, wipe the sensor with a wet cloth. *Use water if necessary, but* ***DO NOT use any solvent (ethanol, etc).***



Important

DO NOT attempt to wipe off the “black prints” on the sensors. These black prints are NOT dust/dirt but are components of the sensor.

8. Confirm the sensors are clean using a flashlight. Dust on the sensor is hard to detect in room light.
9. Reinstall the unit
10. Turn the machine on.
11. Execute SP2-912-001 (Encoder Sn:Adj Light: Adj Light Amt).
12. Execute SP2-914-001 (Encoder Sn:Get 1stPhase: Get Phases: Execute All).
13. Turn the main switch off and then on.
14. Check the value of SP2-915-001 (Encoder Sn Ctrl Condition: Scale FB Control Enable)
    - If the value is “1”, the feedback control is properly turned on.
    - If the value is “0,” repeat the sensor cleaning procedure.
15. Execute SP3011-4 (Manual ProCon :Exe: Full MUSIC) to complete the procedure.

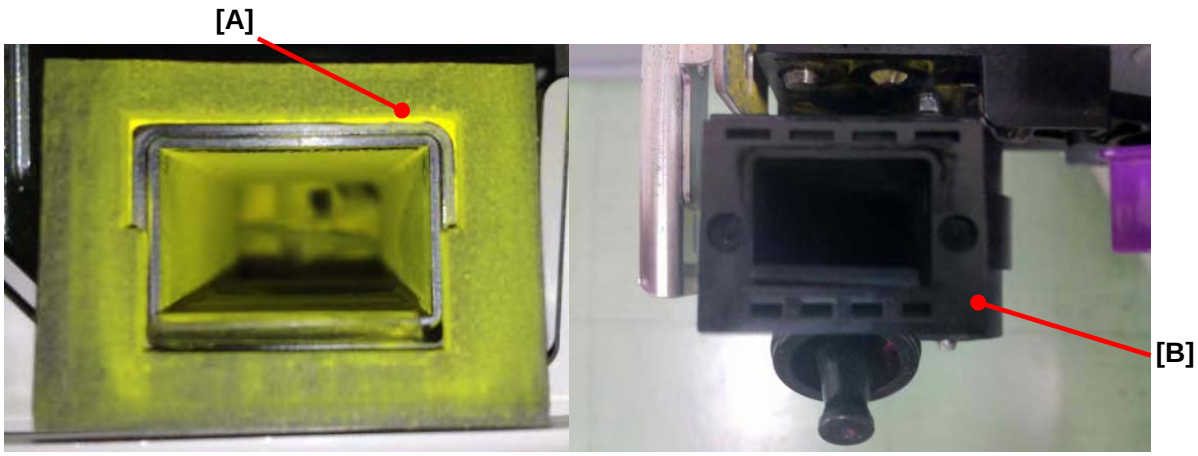
# ⇒5.27 REPLACE TONER SUPPLY PORT ENTRANCE SEAL

***Procedure For Replacing The Toner Supply Port Entrance Seal***

Note

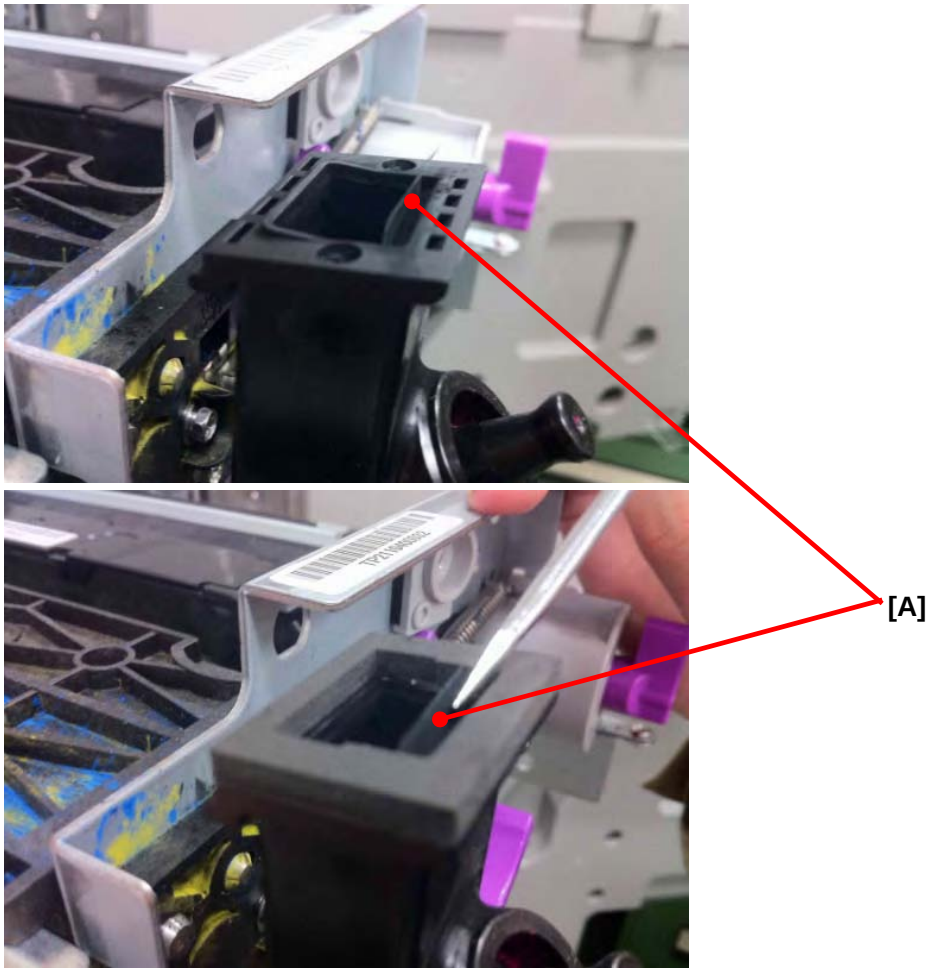
- *The seal was modified and is made thicker than the former seal, in order to reduce the chances of toner leakage. If considerable toner leakage is observed at the entrance of the toner supply port, please try replacing the seal by following the procedure described hereafter*.

1. Pull out the PCDU according to the procedure described in the service manual in the section:
   *4. Replacement and Adjustments > Common Procedures > Removing PCDUs*




2. Remove the old seal [A] from the toner supply port and clean the surface [B] of the entrance where the new seal should be attached.

3. Attach the new seal by aligning the corners.




Note

- *Make sure the seal does not interfere with the mylar [A].*

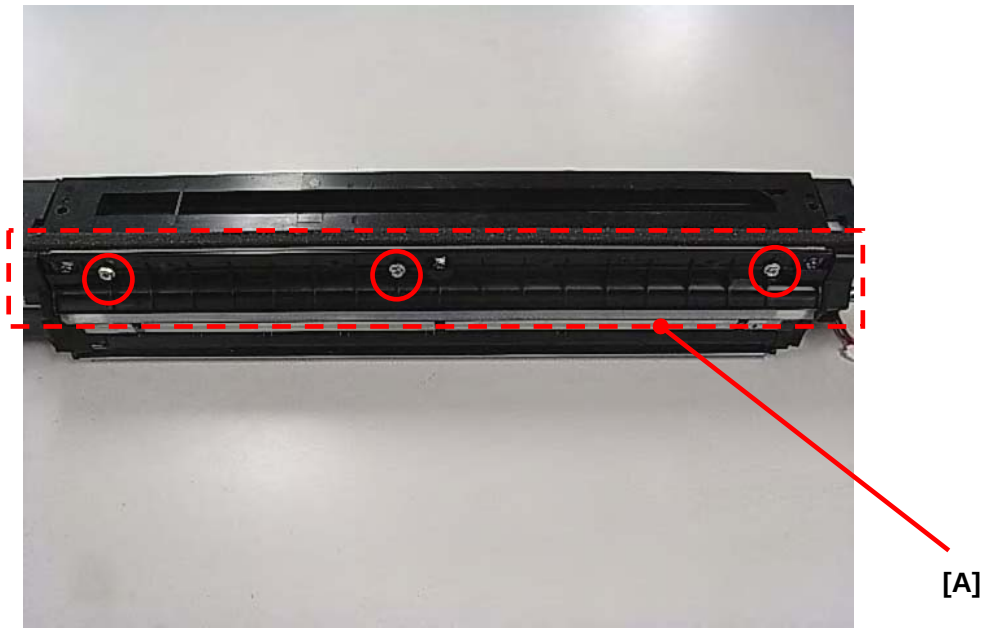
# ⇒5.28 REPLACE DEVELOPMENT ENTRANCE ASS'Y SEAL

The following is the procedure for replacing the Development Entrance Assembly Seal. The Entrance Seal comes with a bracket and is registered with the following p/n:

D0743330 ENTRANCE SEAL: DEVELOPMENT: ASS'Y

## 5.28.1 REPLACEMENT PROCEDURE

1. Remove the development unit from the mainframe according to the procedures described in the Taurus service manual in the section:
   *4. Replacement and Adjustments > Common Procedures > Removing PCDUs*




2. Remove the three screws (🔩 x 3).
3. Replace the assembly unit [A] consisting of the seal and the bracket.

# ⇒ 5.29 PREPARATIONS FOR DEVELOPER REMOVAL

Replacing the developer without completely removing old developer causes the machine to operate in a condition in which the applied toner density value is lower than the actual value. This happens because the toner density sensor (TD sensor) initialization process (SP3-030-001~006), which is performed when replacing the developer, always sets back the toner density readings to the prescribed standard value 7.0% regardless of the actual toner density, e.g. actual toner density could be 8% after replacing with fresh developer but the TD sensor is calibrated to read this as 7%.

Continuous machine operation in this condition and incomplete developer replacement will eventually cause the actual toner density to become too high and result in toner scattering.

## 5.29.1 PREPARATIONS FOR DEVELOPER REMOVAL

1. Before removing the developer, enter the SP mode and check the current toner density.

Table1 Toner density check SP

| SP No. | Color |
|---|---|
| SP 3-200-001 | K |
| SP 3-200-002 | C |
| SP 3-200-003 | M |
| SP 3-200-004 | Y |

If the toner density is 7%±0.5, skip the following procedures and go to PART 2.

If the toner density is not 7%±0.5 (7.5% or higher), continue this procedure.

2. Refer to the table below and determine the print volume according to the toner density confirmed in the previous step. The actual printing will be done in step 5.

Table2 Print volume based toner density and paper size

| Toner Density | A4/LT | A3/DLT |
|---|---|---|
| 12% | 110 | 55 |
| 11% | 90 | 45 |
| 10% | 70 | 35 |
| 9% | 45 | 23 |
| 8% | 20 | 10 |
| 7.5% | 10 | 5 |
| 7% | 0 | 0 |

3. Refer to the tables below and change the SP values for toner supply mode and supply rate to “0” for the dev unit(s) requiring the developer replacement.

Table 3-1 Toner Supply Mode

| SP No. | Color | Default | Change to |
|---|---|---|---|
| SP 3-400-001 | K | 4 | **0** |
| SP 3-400-002 | C | 4 | **0** |
| SP 3-400-003 | M | 4 | **0** |
| SP 3-400-004 | Y | 4 | **0** |

Note

- The default value “4” supplies toner in DANC (Divided Image Active Noise Control) mode. Changed value “0” supplies toner in constant supply mode.

Table 3-2 Toner Supply Rate

| SP No. | Color | Default | Change to |
|---|---|---|---|
| SP 3-440-001 | K | 5 | **0** |
| SP 3-440-002 | C | 5 | **0** |
| SP 3-440-003 | M | 5 | **0** |
| SP 3-440-004 | Y | 5 | **0** |

4. Select test pattern “26” from SP2-109-003 and specify the color in SP2-109-005.

Table 4 Test Pattern Settings

| SP No. | Settings |
|---|---|
| SP 2-109-003 | **26** Solid |
| SP 2-109-005 | Specify color |

5. Print the test pattern on A4/LT or A3/DLT for the volume determined in step 2.
6. Check the latest toner density in SP3-200-001~004. (Table 1)
7. Repeat steps 1~5 until you achieve the standard toner density 7%±0.5.
8. Set the SP settings for toner supply mode and supply rate (changed in step 3) back to the default values; “4” for toner supply mode and “5%” for supply rate.

Important

Make sure to set the toner supply mode and supply rate carry back to default. Otherwise, image density will appear light.

9. Continue with the procedures described in “Developer Removal Procedure”. (☛ 5.10.7 Replacing Developer.)

# SYSTEM MAINTENANCE

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# 6. SYSTEM MAINTENANCE

## 6.1 SERVICE PROGRAM MODE

See Appendices about Service Program Mode.

# TROUBLESHOOTING

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 28 ~ 29 | 09/04/2012 | Updated SC395, 396, 397 and 398 |
| 65 ~ 66 | 02/28/2012 | Updated SC595 information |
| 66 | 02/28/2012 | Corrected SC599 – Cooling Box Sensor Error |
| 70 ~ 78 | 11/22/2011 | Added SC681 |
| 71 ~ 73 | 09/04/2012 | Updated SC682 |
| 73 ~ 75 | 9/18/2012 | SC684 |
| 140 | 02/1/2012 | SC995 |

# 7. TROUBLESHOOTING

## 7.1 SC TABLE KEY

**SC Code Table Key**

| Level | Definition | Reset Procedure |
|---|---|---|
| A | Fusing unit SC codes shown on the operation panel. The machine is disabled. The operator cannot reset the machine. | The machine requires immediate servicing by a service technician. |
| B | These SC codes disable only the features that use the defective item. Normally, the user does not see these SC codes, but the SC code is displayed on the operation panel when the defective feature is used. | Cycle the machine off/on with the main power switch.. |
| C | These are SC codes are not shown on the operation panel. They are logged internally. | Recorded only. Do SP**** to display the SC error log. |
| D | These SC codes are shown on the operation panel. | To reset machine, cycle the machine off/on. The SC codes are displayed again if the error occurs again. |

**Preliminary Instructions**

- After a Level A SC code is issued, the machine is disabled and cannot be used until it has been serviced by a qualified technician. Execute SP5810 to release the machine for servicing.
- If the problem is in an electrical circuit board, disconnect then connect the board connectors again before you replace the PCB.
- When a Level A or Level B SC error occurs while the machine is in the SP mode, the SC number will not be shown. If this occurs, check the SC number after the machine goes out of the SP mode.
- Many SC codes contain more than one level (SC303-1, SC303-2, SC303-3, and others). Some SC codes may display a “-1”, even if there is only one level.

The following abbreviations are used in these SC tables:

- (F) means "Front"
- (R) means "Rear"
- "**GW**" means "GW controller"; there is a problem with the controller.

**⚠CAUTION**

- At job end or when the machine is switched off, both sides of the ITB unit are lowered and separated from the drums.
- However, after a power failure or accidental disconnection of the power cord, or after a machine issues an SC code after a malfunction, both or one side of the ITB may remain up against the drums.
- To avoid damage to the ITB, both sides of the ITB must be checked and lowered before the ITB unit can be pulled out of the unit. (☛p.5-19)

# 7.2 SC TABLES

## 7.2.1 SC100: SCANNING 1

| SC101 | D | Exposure Lamp Error | D074/D075 |
|---|---|---|---|
| | | The white level peak did not reach the prescribed threshold when the white plate was scanned. | |
| | | ▪ Condensation in scanner unit<br>▪ Dirty lenses, mirrors dirty or positioned incorrectly<br>▪ White plate dirty or installed incorrectly<br>▪ Harness between lamp and lamp stabilizer disconnected or defective<br>▪ Exposure lamp defective<br>▪ Lamp stabilizer defective<br>▪ High voltage line leak<br>▪ SIOB defective<br>▪ SBU defective | |

| SC120 | D | Scanner Home Position Error 1 | D074/D075 |
|---|---|---|---|
| | | The scanner home position sensor did not detect the home position (did not go OFF) after the scanner moved forward 20 mm.. | |
| | | ▪ Scanner motor defective<br>▪ Scanner HP sensor defective<br>▪ Harness between scanner motor and SIOB disconnected or defective.<br>▪ SIOB defective | |

| SC121 | D | Scanner Home Position Error 2 | D074/D075 |
|---|---|---|---|
| | | The scanner home position sensor did not go ON after the scanner moved forward 6 mm and the feeler dropped into the HP sensor. | |
| | | ▪ Scanner motor harness disconnected or defective<br>▪ Scanner motor defective<br>▪ Scanner HP sensor disconnected or defective<br>▪ HP sensor feeler (actuator) not positioned correctly<br>▪ SIOB defective | |

| SC141 | D | Black Level Detection Error | D074/D075 |
|---|---|---|---|
| | | The black level value did not reach ±3 of the prescribed value for AGC (Automatic Gain Control) that executed immediately after the scanner unit powered on. | |
| | | ▪ Cycle the machine off/on<br>▪ Harness between SBU and IPU disconnected or defective<br>▪ SBU defective<br>▪ IPU defective<br>▪ BCU defective | |

| SC142 | D | White Level Detection Error | D074/D075 |
|---|---|---|---|
| | | The 2nd white level value did not reach the target range (-7 to 0) for AGC (Automatic Gain Control) that executed immediately after the scanner unit powered on. | |
| | | ▪ Cycle the machine off/on<br>▪ Condensation in the scanner unit<br>▪ Dirty exposure glass, optics<br>▪ White plate dirty, or set incorrectly<br>▪ Harness between SBU-IPU disconnected or defective<br>▪ Exposure lamp defective<br>▪ SBU defective<br>▪ IPU defective<br>▪ BCU defective | |

| SC144 | D | SBU Communication Error | D074/D075 |
|---|---|---|---|
| | | When the machine was switched on, or when the machine returned to full operation from the energy save mode, the machine could not access the SBU register, or the SBU register values are abnormal.<br>Note: The ASIC IDs read during automatic adjustment of the SBU can be displayed with SP4600 (SBU Version Display). | |
| | | SBU-BCU harness loose, disconnected, defective<br>SBU board defective<br>SIOB board defective<br>BCU board defective | |

| SC161 | D | IPU Errors | D074/D075 |
|---|---|---|---|
| SC161-1 | D | IPU Error 1: LSYNC | |
| | | An error occurred during the self-diagnostic test performed every time the machine is powered on, or returns to full operation from energy save mode. | |
| | | ▪ Harness between IPU and SBU disconnected or defective<br>▪ Defective BCU board<br>▪ Defective IPU board | |
| SC161-2 | D | IPU Error 2: Ri No Response | |
| | | The machine detected an error during Ri access | |
| | | ▪ IPU board defective<br>▪ BCU board defective<br>▪ Controller board defective | |

| SC180 | D | Scanner Unit Exhaust Fan Lock | D074/D075 |
|---|---|---|---|
| | | The scanner unit exhaust fan did not switch on within 10 sec. after the CPU issued the ON signal. | |
| | | ▪ Foreign object interfering with operation of fan<br>▪ Fan motor harness disconnected or defective<br>▪ Fan defective<br>▪ SIOB board defective<br>▪ SBU board defective | |

| SC181 | D | Lamp Regulator Cooling Fan | D074/D075 |
|---|---|---|---|
| | | The fan next to the lamp regulator board did not switch on within 10 sec. after the CPU issued the ON signal. | |
| | | ▪ Fan motor harness disconnected or defective<br>▪ SBU harness disconnected or defective<br>▪ SIOB harness disconnected or defective<br>▪ Fan defective<br>▪ SBU board defective<br>▪ SIOB board defective | |

| SC182 | D | Scanner Unit Exhaust Fan Lock | D074/D075 |
|---|---|---|---|
| | | The scanner unit exhaust fan did not switch on within 10 sec. after the CPU issued the ON signal. | |
| | | ▪ Fan motor harness disconnected or defective<br>▪ SBU harness disconnected or defective<br>▪ SIOB harness disconnected or defective<br>▪ Fan defective<br>▪ SBU board defective<br>▪ SIOB board defective | |

| | | |
|---|---|---|
| SC195 | D | Machine serial number error |
| | | The 11-digit number registered for the machine serial number does not match. |
| | | ▪ NVRAM defective<br>▪ BCU replaced without original NVRAM<br>▪ Check the serial number with SP5-811-002.<br>▪ If the stored serial number is incorrect, contact your supervisor. |

## 7.2.2 SC200: IMAGE WRITING

| | | |
|---|---|---|
| SC202 | D | Polygon Motor 1: ON Timeout Error |
| | | After the C K polygon motor turned on, or within 10 sec. after the rpm's changed, the motor did not enter READY status. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| | | |
|---|---|---|
| SC203 | D | Polygon Motor 1: OFF Timeout Error |
| | | The C, K polygon motor lock signal (XSCRDY signal) failed to unlock (go HIGH) within 3 sec. after the C, K polygon motor went OFF. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| SC204 | D | Polygon Motor 1: XCRDY Signal Error |
|---|---|---|
| | | The C, K polygon motor left the lock status once the motor achieved normal rotation speed. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| SC206 | D | Polygon Motor 2: ON Timeout Error |
|---|---|---|
| | | After the Y,M polygon motor turned on, or within 10 sec. after the rpm's changed, the motor did not achieve motor lock (READY) status. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| SC207 | D | Polygon Motor 2: OFF Timeout Error |
|---|---|---|
| | | The Y, M motor lock signal (XSCRDY signal) failed to unlock (go HIGH) within 3 sec. after the Y, M polygon motor went OFF. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| SC208 | D | Polygon Motor 2: XCRDY Signal Error |
|---|---|---|
| | | The Y,M polygon motor left the lock status once after the motor achieved regular rotation speed. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ Polygon motor defective (replace laser unit)<br>▪ IPU defective |

| SC210 | C | Trailing Edge Beam Error (K) |
|---|---|---|
| | | One of the following occurred:<br>▪ When the K main scan magnification rate was measured, there was no output for the trailing edge beam detection signal<br>▪ The K magnification rate could not be detected<br>▪ The detected K magnification rate was not within specification. |
| | | ▪ Cycle the machine off/on<br>▪ CK Laser unit defective |

| SC211 | C | Trailing Edge Beam Error (C) |
|---|---|---|
| | | ▪ When the C main scan magnification rate was measured, there was no output for the trailing edge beam detection signal<br>▪ The C magnification rate could not be detected<br>▪ The detected C magnification rate was not within specification. |
| | | ▪ Cycle the machine off/on<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC212 | C | Trailing Edge Beam Error (M) |
| | | ▪ When the M main scan magnification rate was measured, there was no output for the trailing edge beam detection signal<br>▪ The M magnification rate could not be detected<br>▪ The detected M magnification rate was not within specification. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC213 | C | Trailing Edge Beam Error (Y) |
| | | ▪ When the Y main scan magnification rate was measured, there was no output for the trailing edge beam detection signal<br>▪ The Y magnification rate could not be detected<br>▪ The detected Y magnification rate was not within specification. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC220 | D | TE LD1 Laser Synchronization Detection Error (K) |
| | | A signal was not output from the K LSDB after more than 100 ms (100 ms x2) after the LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ CK Laser unit defective |

| | | |
|---|---|---|
| SC222 | D | TE LD1 Laser Synchronization Detection Error (C) |
| | | A signal was not output from the C LSDB after more than 100 ms (100 ms x2) after the LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC224 | D | TE LD1 Laser Synchronization Detection Error (M) |
| | | A signal was not output from the M LSDB after more than 100 ms (100 ms x2) after the LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC226 | D | TE LD1 Laser Synchronization Detection Error (Y) |
| | | A signal was not output from the Y LSDB after more than 100 ms (100 ms x2) after the LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ YM Laser unit defective |

| | | |
|---|---|---|
| SC230 | D | K FGATE Failed to go ON |
| | | The K FGATE signal did not go ON within the prescribed time after printing started and the STTRIG single went ON. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK Laser unit defective |

| | | |
|---|---|---|
| SC231 | D | K FGATE Failed to go OFF |
| | | After the K FGATE signal went on, it failed to go OFF within the prescribed time. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK Laser unit defective |

| | | |
|---|---|---|
| SC232 | D | C FGATE Failed to go ON |
| | | The C FGATE signal did not go ON within the prescribed time after printing started and the STTRIG single went ON. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK Laser unit defective |

| | | |
|---|---|---|
| SC233 | D | C FGATE Failed to go OFF |
| | | After the C FGATE signal went on, it failed to go OFF within the prescribed time. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK Laser unit defective |

| | | |
|---|---|---|
| SC234 | D | M FGATE Failed to go ON |
| | | The M FGATE signal did not go ON within the prescribed time after printing started and the STTRIG signal went ON. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC235 | D | M_FGATE Failed to go OFF |
| | | After the M FGATE signal went on, it failed to go OFF within the prescribed time. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC236 | D | Y FGATE Failed to go ON |
| | | The Y FGATE signal did not go ON within the prescribed time after printing started and the STTRIG single went ON. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC237 | D | Y FGATE Failed to go OFF |
| | | After the Y FGATE signal went on, it failed to go OFF within the prescribed time. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC240 | D | LD Error (K) |
| | | The LD current exceeded the prescribed limit when the K LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC241 | D | LD Error (C) |
| | | The LD current exceeded the prescribed limit when the C LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC242 | D | LD Error (M) |
| | | The LD current exceeded the prescribed limit when the M LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC243 | D | LD Error (Y) |
| | | The LD current exceeded the prescribed limit when the Y LD fired. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC260 | C | Laser Thermistor Error (CK) |
| SC262 | C | Laser Thermistor Error (YM) |
| | | One of the following occurred:<br>▪ The reading of the thermistor in the CK or YM laser unit was less than 10°C (50°F), indicating that the thermistor has disconnected.<br>▪ The reading of the thermistor in the CK or YM laser unit was more than 80°C (176°F), indicating that the thermistor has shorted out. |
| | | ▪ Cycle the machine off/on<br>▪ IOB harness loose, disconnected, broken, defective<br>▪ CK or YM laser unit defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC263 | C | Laser Thermistor (Y) Error |
| | | The laser thermistor in the YM laser unit is not functioning properly because it is disconnected or shorted out. |
| | | ▪ Replace the YM laser unit. |

| | | |
|---|---|---|
| SC265 | C | Skew Control: Out of Range Error (C) |
| | | The C skew control pulse total (SP2104-7) is not within range. |
| | | ▪ Cycle the machine off/on<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC266 | C | Skew Control: Out of Range Error (M) |
| | | The M skew control pulse total (SP2104-8) is not within range. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC267 | C | Skew Control: Out of Range Error (Y) |
| | | The Y skew control pulse total (SP2104-9) is not within range. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC270 | D | Image Transfer Error (K) |
| | | The image data that the K LDB received generated a fatal error. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC271 | D | Image Transfer Error (C) |
| | | The image data that the C LDB received generated a fatal error. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ CK laser unit defective |

| | | |
|---|---|---|
| SC272 | D | Image Transfer Error (M) |
| | | The image data that the M LDB received generated a fatal error. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| SC273 | D | Image Transfer Error (Y) |
|---|---|---|
| | | The image data that the Y LDB received generated a fatal error. |
| | | ▪ Cycle the machine off/on<br>▪ IPU harness loose, disconnected, broken, defective<br>▪ IPU defective<br>▪ YM laser unit defective |

| SC275 | D | PC Communication Error (K) |
|---|---|---|
| | | The K LDB is not functioning normally. |
| | | 1. Cycle the machine off/on<br>2. CK laser unit defective |

| SC276 | D | PC Communication Error (C) |
|---|---|---|
| | | The C LDB is not functioning normally. |
| | | 1. Cycle the machine off/on<br>2. CK laser unit defective |

| SC277 | D | PC Communication Error (M) |
|---|---|---|
| | | The M LDB is not functioning normally. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| SC278 | D | PC Communication Error (Y) |
|---|---|---|
| | | The Y LDB is not functioning normally. |
| | | ▪ Cycle the machine off/on<br>▪ YM laser unit defective |

| | | |
|---|---|---|
| SC280 | D | IPU Image Transfer Error |
| | | An error occurred during data sending between components (GRIFFON, LEO) on the IPU board. |
| | | ▪ Cycle the machine off/on<br>▪ If the problem persists, replace the IPU |

| | | |
|---|---|---|
| SC285 | D | MUSIC Error |
| | | The results of MUSIC pattern reading failed 4 times (SC496 issued 4 times). |
| | | ▪ A PCDU is set incorrectly<br>▪ ITB is set incorrectly<br>▪ Execute manual process control with SP3011-2 (Density Adjustment)<br>▪ MUSIC sensor harness loose, disconnected, broken, defective<br>▪ MUSIC sensor defective<br>▪ ITB damaged<br>▪ Laser unit defective |

## 7.2.3 SC300: DEVELOPMENT

### *Charge, Development*

| | | |
|---|---|---|
| SC300 | D | Charge Roller Power Pack Output Error (K) |
| SC301 | D | Charge Roller Power Pack Output Error (C) |
| SC302 | D | Charge Roller Power Pack Output Error (M) |
| SC303 | D | Charge Roller Power Pack Output Error (Y) |
| | | The interrupt that checks the status of the PCU power pack every 10 ms detected a short at the high-voltage harness or charge leak at the charge roller. The high-voltage harness could be broken or defective, or the charge roller could be dirty. |
| | | ▪ Disconnect the high voltage cable from Terminal C of the power pack.<br>▪ Attach a voltmeter to the terminal.<br>▪ If there is no output from the terminal, replace the power pack.<br>-or-<br>▪ If there is output from the terminal, test the resistance between the high voltage cable and the ground.<br>▪ If resistance is nearly "0", check the high-voltage harness for defects and replace it if necessary.<br>▪ Test the conductivity between the PCU and the ground. If there is no conductivity between the PCU and ground, replace the PCU.<br>▪ If there is no charge PWM signal, replace the harness and/or BCU. |

| | | |
|---|---|---|
| SC310 | D | Charge FB Voltage Error (K) |
| SC311 | D | Charge FB Voltage Error (C) |
| SC312 | D | Charge FB Voltage Error (M) |
| SC313 | D | Charge FB Voltage Error (Y) |
| | | Just before beginning to print, the charge FB (feed-back) voltage was detected less than 0.3V for 50 consecutive readings within 400 ms. |
| | | ▪ High-voltage harness disconnected or broken<br>▪ Charge roller not installed correctly<br>▪ Drum not installed correctly |

| | | |
|---|---|---|
| SC320 | D | Separation Power Pack Output Error (K) |
| SC321 | D | Separation Power Pack Output Error (C) |
| SC322 | D | Separation Power Pack Output Error (M) |
| SC323 | D | Separation Power Pack Output Error (Y) |
| | | The BCU detected an electrical short during development charge output for K,C,M, or Y. Possible causes for this are:<br>▪ IOB harness disconnected or defective<br>▪ High-voltage cable defective<br>▪ Power pack defective<br>▪ Development unit defective<br>▪ IOB defective |

| | | |
|---|---|---|
| | | ▪ Disconnect the high voltage cable from Terminal B of the development power pack.<br>▪ Attach a voltmeter to the terminal.<br>▪ If there is no output from the terminal, replace the power pack.<br>-or-<br>▪ If there is output from the terminal, test the resistance between the high-voltage cable and the ground.<br>▪ If resistance is "0" or nearly "0", check the high-voltage harness for defects and replace it if necessary.<br>▪ If replacing the harness does not solve the problem, test the resistance between the development unit terminal and the ground.<br>▪ If there is no resistance (0 ohms) between the development unit and the ground, replace the PCU.<br>▪ If there is no development PWM signal, replace the IOB harness and/or IOB. |

| | | |
|---|---|---|
| SC325 | D | Development Motor Error (K) |
| SC326 | D | Development Motor Error (C) |
| SC327 | D | Development Motor Error (M) |
| SC328 | D | Development Motor Error (Y) |
| | | The development motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Motor harness disconnected or defective<br>▪ Motor shaft locked, blocked by obstruction<br>▪ Motor defective |

| | | |
|---|---|---|
| SC330 | D | Toner Supply Bottle Motor Error (K) |
| SC331 | D | Toner Supply Bottle Motor Error (C) |
| SC332 | D | Toner Supply Bottle Motor Error (M) |
| SC333 | D | Toner Supply Bottle Motor Error (Y) |
| SC334 | D | Toner Supply Bottle Motor Error (S) |
| | | The machine detected that the toner supply motor was not operating. |
| | | ▪ Toner bottle installed incorrectly<br>▪ Toner bottle rotation blocked by an obstruction<br>▪ Toner bottle damaged<br>▪ Toner supply bottle motor defective |

| | | |
|---|---|---|
| SC335 | D | Developer Set Error (K) |
| SC336 | D | Developer Set Error (C) |
| SC337 | D | Developer Set Error (M) |
| SC338 | D | Developer Set Error (Y) |
| | | Before the TD sensor control voltage (Vcnt = 4.75V) is adjusted when the TD sensor is initialized (SP3-030), the development unit is always checked for the presence of developer. The check revealed that the K, C, M, or Y development unit did not have a sufficient amount of toner. Vt (the TD sensor output) was less than 0.7V |
| | | ▪ Replace the developer |

| | | |
|---|---|---|
| SC345 | D | Toner Supply Pump Motor Error (K, M, C, Y) |
| | | The toner supply pump motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Motor harness disconnected or broken<br>▪ Toner pump unit harness disconnected or broken<br>▪ Toner pump unit panel mount connector broken<br>▪ Check each toner supply unit (K, M, C, Y) for any obstructions that could be blocking operation of a pump or sub hopper<br>▪ Toner supply pump motor defective |

| | | |
|---|---|---|
| SC355 | D | Toner Supply Error (K) |
| | | ▪ Amount of toner on the ID sensor pattern printed and read between sheets less than 0.100 (SP3300-1).<br>▪ Accumulated toner clutch ON time in the K sub hopper of the toner supply unit greater than 5000 (SP3301-41) |
| SC356 | D | Toner Supply Error (C) |
| | | ▪ Amount of toner on the ID sensor pattern printed and read between sheets less than 0.200 (SP3300-3).<br>▪ Accumulated toner clutch ON time in the C sub hopper of the toner supply unit greater than 5000 (SP3301-43) |
| SC357 | D | Toner Supply Error (M) |
| | | ▪ Amount of toner on the ID sensor pattern printed and read between sheets less than 0.200 (SP3300-3).<br>▪ Accumulated toner clutch ON time in the M sub hopper of the toner supply unit greater than 5000 (SP3301-43) |

| | | |
|---|---|---|
| SC358 | D | Toner Supply Error (Y) |
| | | ▪ Amount of toner on the ID sensor pattern printed and read between sheets less than 0.200 (SP3300-4).<br>▪ Accumulated toner clutch ON time in the Y sub hopper of the toner supply unit greater than 5000 (SP3301-43) |
| | | A small rectangular wire attached to the shaft of an augur in each toner supply unit scrapes the surface of the toner end sensor with each rotation of the augur. The cleaning wire may be bent or the toner end sensor is defective. If the toner end sensor is damaged or out of position, the toner end sensor will cease to function normally. |
| | | ▪ Replace the affected toner supply unit. |

| | | |
|---|---|---|
| SC360 | D | TD Sensor (Vt High) Error (K) |
| | | The TD sensor output for the K development unit was greater than 4.7V (SP3210-1) |
| SC361 | D | TD Sensor (Vt High) Error (C) |
| | | The TD sensor output for the C development unit was greater than 4.7V (SP3210-2) |
| SC362 | D | TD Sensor (Vt High) Error (M) |
| | | The TD sensor output for the M development unit was greater than 4.7V (SP3210-3) |
| SC363 | D | TD Sensor (Vt High) Error (Y) |
| | | The TD sensor output for the C development unit was greater than 4.7V (SP3210-4) |
| | | These SC codes are issued if the TD sensor output is greater than 4.7V after 20 consecutive readings. |
| | | ▪ TD sensor harness of the affected unit defective, disconnected, or broken. Replace the TD sensor.<br>▪ TD sensor defective on the affected development unit |

| | | |
|---|---|---|
| SC365 | D | TD Sensor (Vt Low) Error (K) |
| | | The TD sensor output for the K development unit was less than 0.5V (SP3210-1) |
| SC366 | D | TD Sensor (Vt Low) Error (C) |
| | | The TD sensor output for the C development unit was less than 0.5V (SP3210-2) |
| SC367 | D | TD Sensor (Vt Low) Error (M) |
| | | The TD sensor output for the M development unit was less than 0.5V (SP3210-3) |
| SC368 | D | TD Sensor (Vt Low) Error (Y) |
| | | The TD sensor output for the Y development unit was less than 0.5V (SP3210-4) |
| | | These SC codes are issued if the TD sensor output is less than 0.5V after 10 consecutive readings. |
| | | ▪ TD sensor harness of the affected unit defective, disconnected, or broken. Replace the TD sensor.<br>▪ Replace development unit |

| | | |
|---|---|---|
| SC370 | D | TD Sensor Initialization Error (K) |
| SC371 | D | TD Sensor Initialization Error (C) |
| SC372 | D | TD Sensor Initialization Error (M) |
| SC373 | D | TD Sensor Initialization Error (Y) |
| | | The TD sensor of the affected development unit could not be initialized within 2.9±0.2V. |
| | | ▪ TD sensor harness of the affected unit defective, disconnected, or broken. Replace the TD sensor.<br>▪ Replace development unit |

| | | |
|---|---|---|
| SC375 | D | ID Sensor Calibration Error |
| | | The voltage reading during process control for Vsg_reg was not within the correct range (4.0±0.5V). Vsg_reg is the voltage reading of the light reflected directly from the bare surface of the ITB. |
| | | ▪ ID sensor harness disconnected or broken<br>▪ ID sensor dirty. Check sensor window and clean with clean cloth moistened with alcohol. Do not use a dry cloth.<br>▪ ID sensor defective<br>▪ ITB deformed or out of position (replace damaged ITB)<br>**Note**:<br>▪ This error can occur as a result of cleaning the sensors with a dry cloth, which can cause a static charge to build up on the sensor and attract particles of paper dust.<br>▪ Always clean the ID sensor with a clean cloth moistened with alcohol. |

| | | |
|---|---|---|
| SC377 | D | LED Error During Vsg Adjustment |
| | | ID sensor (PWM) value is greater than the threshold value (Ifsg > 27 mA) set by SP3320-15 (Default: 0) This can be caused by one or more of these conditions:<br>▪ ID sensor dirty<br>▪ ID sensor defective<br>▪ ITB dirty |
| | | ▪ Clean the window of the ID sensor with a clean cloth moistened with alcohol. Do not use a dry cloth.<br>▪ ITB belt dirty<br>▪ ITB out of position<br>▪ ID sensor defective<br>**Note**:<br>▪ This error can occur as a result of cleaning the sensors with a dry cloth, which can cause a static charge to build up on the sensor and attract particles of paper dust.<br>▪ Always clean these with a clean cloth moistened with alcohol. |

| | | |
|---|---|---|
| SC380 | D | ID Sensor Pattern Density High Error (K) |
| | | The density of the Black reading in the ID sensor patterns created between pages (SP3300-1) is greater than the threshold value set by SP3301-21. |
| SC381 | D | ID Sensor Pattern Density High Error (C) |
| | | The density of the Cyan reading in the ID sensor patterns created between pages (SP3300-2) is greater than the threshold value set by SP3301-22. |
| SC382 | D | ID Sensor Pattern Density High Error (M) |
| | | The density of the Magenta reading in the ID sensor patterns created between pages (SP3300-3) is greater than the threshold value set by SP3301-22. |
| SC383 | D | ID Sensor Pattern Density High Error (Y) |
| | | The density of the Yellow reading in the ID sensor patterns created between pages (SP3300-4) is greater than the threshold value set by SP3301-22.<br>-or-<br>The ID sensor reading for the affected color was probably due to excessive toner. |
| | | ▪ Replace the toner supply unit |

| | | |
|---|---|---|
| SC385 | D | ID Sensor Pattern Density Low Error (K) |
| | | The density of the Black reading in the ID sensor patterns created between pages (SP3300-1) is less than the threshold value set by SP3301-23. |
| SC386 | D | ID Sensor Pattern Density Low Error (C) |
| | | The density of the Cyan reading in the ID sensor patterns created between pages (SP3300-2) is less than the threshold value set by SP3301-24. |

| | | |
|---|---|---|
| SC387 | D | ID Sensor Pattern Density Low Error (M) |
| | | The density of the Magenta reading in the ID sensor patterns created between pages (SP3300-3) is less than the threshold value set by SP3301-24. |
| SC388 | D | ID Sensor Pattern Density Low Error (Y) |
| | | The density of the Yellow reading in the ID sensor patterns created between pages (SP3300-4) is less than the threshold value set by SP3301-24. |
| | | ▪ Dust shield glass dirty<br>▪ Insufficient application of development bias<br>▪ Check the ITB unit |

| | | |
|---|---|---|
| SC390 | D | Drum Motor (K) Error |
| SC391 | D | Drum Motor (C) Error |
| SC392 | D | Drum Motor (M) Error |
| SC393 | D | Drum Motor (Y) Error |
| | | An error was detected at power on, when the affected motor started up, or during normal rotation of the motor. Excessive torque was detected on the motor, possibly caused by a jammed drum cleaning blade. A LOCK signal could not be detected after 1 sec. |
| | | ▪ Disassemble the PCDU and inspect the drum and cleaning blade for damage. Replace is necessary.<br>▪ Execute SP7988 for whichever unit was affected.<br>▪ Reset the counter with 7987 for whichever unit was affected. |

| No. | Sub Code | Type | Details (Symptom, Possible Cause, Troubleshooting Procedures) |
|---|---|---|---|
| SC395 (K)<br>SC396 (C)<br>SC397 (M)<br>SC398 (Y) | 001 ~ 024 | D | Drum Motor Error: Abnormal Pulses<br>One (or both) of the encoder sensors cannot correctly detect the pulses.<br>▪ Motor harness disconnected or broken<br>▪ Obstruction is blocking operation of the drum or motor<br>▪ TDCU defective<br>▪ Drum motor defective |
| | 41 | D | Drum Motor Error: Motor Defect<br>Motor is physically broken or harness is disconnected.<br>▪ Motor harness disconnected or broken<br>▪ Obstruction is blocking operation of the drum or motor<br>▪ TDCU defective<br>▪ Drum motor defective |
| | 51 | D | Drum Motor Error: Abnormal Rotation Speed<br>The rotation speed of the shaft is not within the target range.<br>▪ Motor harness disconnected or broken<br>▪ Obstruction is blocking operation of the drum or motor<br>▪ TDCU defective<br>▪ Drum motor defective |
| | 52 | D | Drum Motor Error: Continuous Heavy Load<br>The motor is turned off after detecting excess load for more than three seconds.<br>▪ Motor harness disconnected or broken<br>▪ Obstruction is blocking operation of the drum or motor<br>▪ TDCU defective<br>▪ Drum motor defective |
| | 55 | D | Drum Motor Error: Heavy Load<br>Excess load prevents the shaft from rotating while the motor is rotating.<br>▪ Motor harness disconnected or broken<br>▪ Obstruction is blocking operation of the drum or motor<br>▪ TDCU defective<br>▪ Drum motor defective |
| | 60 | D | No error detected by TDCU (Error is detected by the system) |

## 7.2.4 SC400: AROUND THE DRUM

| | | |
|---|---|---|
| SC400 | D | Development Gamma Error (K) |
| SC401 | D | Development Gamma Error (C) |
| SC402 | D | Development Gamma Error (M) |
| SC403 | D | Development Gamma Error (Y) |
| | | Development gamma for the affected color is not within range:<br>0.3 < Development Gamma < 6.0<br>One of the following problems (identified by a process control error code) has occurred during the potential control phase of process control (ACC gamma correction);<br>▪ **Code 55, 56**. Development gamma was not in the range 0.3 to 6.0. Process control halts and a process control code is issued: 55, 56.<br>▪ **Code 59**. Development gamma calculation point error.<br>▪ **Code 61**. LD did not fire and data array has all negative values.<br>**Note**: To display the 2-digit process control error codes, do SP3012. |
| | | ▪ Dust shield glass is dirty<br>▪ ITB unit transfer power pack defective<br>▪ LD unit inside laser unit defective<br>If SP3012 returned a process control error code:<br>▪ **Code 55, 59**. Replace developer.<br>▪ **Code 56**. Clean the toner shield glass, or replace transfer power pack.<br>▪ **Code 61.** Replace laser unit. |

| | | |
|---|---|---|
| SC405 | D | Development Start Voltage (Vk) Error (K) |
| SC406 | D | Development Start Voltage (Vk) Error (C) |
| SC407 | D | Development Start Voltage (Vk) Error (M) |
| SC408 | D | Development Start Voltage (Vk) Error (Y) |
| | | The detected development start voltage was not within the range of ±150V. Process control error codes: 57, 58 (displayed with SP3012). |
| | | ▪ Potential sensor dirty or defective (Process control error code **58**)<br>▪ Developer requires replacement (Process control error: **57**, **58**) |

| | | |
|---|---|---|
| SC410 | D | Potential Sensor Vd Error (K) |
| SC411 | D | Potential Sensor Vd Error (C) |
| SC412 | D | Potential Sensor Vd Error (M) |
| SC413 | D | Potential Sensor Vd Error (Y) |
| | | The reading of the potential sensor above the drum of the affected color is incorrect. Specifically, Vd was out of range:<br>500 ≦ Vd (700) ≦ -800<br>Process control error codes: 15, 16 (displayed with SP3012)<br>**Note**: Vd is the potential sensor reading of the unexposed surface of the OPC drum (no laser applied to the drum). This is read during the potential process control self-check. |
| | | Error Code **15**<br>▪ Potential sensor probe dirty.<br>▪ Clean area around potential sensor with a blower brush<br>▪ Potential sensor defective<br>Error Code**16**<br>▪ Potential sensor board defective |

| | | |
|---|---|---|
| SC415 | C | Potential Sensor Vd Adjustment Error (K) |
| SC416 | C | Potential Sensor Vd Adjustment Error (C) |
| SC417 | C | Potential Sensor Vd Adjustment Error (M) |
| SC418 | C | Potential Sensor Vd Adjustment Error (Y) |
| | | The DC bias charge could not be adjusted to the target voltage Vd±8V<br>Process control error code: 63 (displayed with SP3012).<br>**Note**: Vd is the potential sensor reading of the unexposed surface of the OPC drum (no laser applied to this area of the drum). This is read during the potential process control self-check. Vd is adjusted with the charge roller. |
| | | Error Code **63**<br>▪ Charge roller dirty<br>▪ Charge roller defective |

| | | |
|---|---|---|
| SC420 | C | Potential Sensor Vl Adjustment Error (K) |
| SC421 | C | Potential Sensor Vl Adjustment Error (C) |
| SC422 | C | Potential Sensor Vl Adjustment Error (M) |
| SC423 | C | Potential Sensor Vl Adjustment Error (Y) |
| | | The LD power could not be adjusted to the target for Vpl±5V.<br>Process control error code: 64 (displayed with SP3012).<br>**Note**:<br>▪ Vl is the OPC drum potential after maximum laser exposure. The potential sensor measures Vl by reading the white patches of the potential sensor pattern.<br>▪ To change Vl, the machine adjusts the input current (Vpl) of the laser diode. |
| | | Error Code **64**<br>▪ Charge roller dirty<br>▪ Charge roller defective<br>▪ OPC drum is worn and needs to be replaced |

| | | |
|---|---|---|
| SC430 | C | Potential Sensor Vr Adjustment Error (K) |
| SC431 | C | Potential Sensor Vr Adjustment Error (C) |
| SC432 | C | Potential Sensor Vr Adjustment Error (M) |
| SC433 | C | Potential Sensor Vr Adjustment Error (Y) |
| | | Potential sensor adjustment was out of range:<br>Vr >-200V.<br>Process control error code: 62 (displayed with SP3012).<br>**Note**: Vr is residual voltage, the slight trace of voltage that remains after the QL neutralizes the surface of the drum. There is always some residual voltage after quenching, even on a new drum. Vr can cause dirty backgrounds on copies. The only way to compensate for Vr is to increase development bias. |
| | | Error Code **62**:<br>▪ OPC drum is worn, needs replacement |

| | | |
|---|---|---|
| SC440 | D | Image Transfer Power Pack Voltage Leak (K) |
| SC441 | D | Image Transfer Power Pack Voltage Leak (C) |
| SC442 | D | Image Transfer Power Pack Voltage Leak (M) |
| SC443 | D | Image Transfer Power Pack Voltage Leak (Y) |
| | | The machine detected a problem with the image transfer power pack. An interrupt checks the status of the power pack every 10 ms. This SC is issued if a problem exists with 50 consecutive samplings (500 ms). |
| | | ▪ Power pack high-voltage harness disconnected or broken<br>▪ IOB defective<br>▪ Image transfer power pack defective<br>▪ ITB defective<br>▪ PCU charge roller defective |

| SC446 | D | Transfer Belt Drive Motor |
|---|---|---|
| | | The transfer belt drive motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Motor harness disconnected or broken<br>▪ Physical obstruction is blocking operation of the ITB unit<br>▪ Motor or motor drive board defective |

| SC447 | D | 1st Lift Motor Sensor (YCM) Error |
|---|---|---|
| | | The 1st lift motor (YCM) was operating but the 1st lift motor sensor failed to detect the position of the sensor feeler within the prescribed time. |
| | | ▪ Sensor dirty<br>▪ Sensor harness disconnected or broken<br>▪ Sensor defective<br>▪ Motor defective |

| SC448 | D | ITB Unit Set Error (K) |
|---|---|---|
| | | After the front door was closed, the ITB lift sensor (K) failed to detect the ITB at the correct position. |
| | | ▪ Operator forgot to set lever before closing front cover<br>▪ 2nd lift motor sensor (K) 1 or 2 dirty<br>▪ Sensor harness disconnected or broken<br>▪ Sensor defective |

| | | |
|---|---|---|
| SC449 | D | ITB Tray Lift (K) Error |
| | | The 2nd lift motor (K) was operating but 2nd lift motor sensor 1 or 2 failed to detect the position of the sensor feeler for the 2nd lift tray (K) within the prescribed time.<br>**Note**: There are two lift sensors for the 2nd lift tray below the K_PCDU. Sensor 1 is above the 2nd lift motor near the front of the ITB unit. Sensor 2 is at the rear left corner of the ITB unit below the ITB. |
| | | ▪ Sensor 1 or 2 dirty<br>▪ Sensor harness disconnected or broken<br>▪ Sensor 1 or 2 defective<br>▪ 2nd lift motor (K) defective |

| | | |
|---|---|---|
| SC452 | D | ITB Unit Transfer Power Pack Low Voltage Error (K) |
| SC453 | D | ITB Unit Transfer Power Pack Low Voltage Error (C) |
| SC454 | D | I ITB Unit Transfer Power Pack Low Voltage Error (M) |
| SC455 | D | ITB Unit Transfer Power Pack Low Voltage Error (Y) |
| | | The machine detected a power pack voltage output at less than 0.1 kV due to a problem with the power pack power supply. |
| | | ▪ Power pack power supply harness disconnected or broken<br>▪ Replace the power pack |

| | | |
|---|---|---|
| SC457 | D | ITB Cleaning Unit Motor Error |
| | | The ITB cleaning unit motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Motor harness disconnected or broken<br>▪ Physical obstruction is blocking the operation of the ITB cleaning unit<br>▪ ITB cleaning unit motor defective |

| | | |
|---|---|---|
| SC458 | C | Image Transfer Roller Error (K) |
| SC459 | C | Image Transfer Roller Error (C) |
| SC460 | C | Image Transfer Roller Error (M) |
| SC461 | C | Image Transfer Roller Error (Y) |
| | | The machine detected that the electrical resistance of the roller exceeded the allowed limit, indicating that the service life of the roller has expired or there could be a problem with the transfer power pack. |
| | | ▪ High-voltage harness disconnected or broken<br>▪ Connection point at the roller broken<br>▪ Image transfer roller worn out, needs replacement<br>▪ Image transfer power pack defective |

| | | |
|---|---|---|
| SC464 | D | ITB Unit Transfer Power Pack Leak Error |
| | | The machine detected a voltage leak at the paper transfer power pack |
| | | ▪ Harness between power pack and IOB disconnected or broken<br>▪ High-voltage harness defective<br>▪ Power pack defective<br>▪ IOB defective<br>▪ ITB defective<br>▪ PTR defective |

| | | |
|---|---|---|
| SC465 | D | PTR Motor Error |
| | | The PTR motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ PTR motor harness disconnected or broken<br>▪ Physical obstruction blocking operation of the PTR unit<br>▪ Motor or motor drive board defective |

| SC466 | D | PTR Separation Motor Error |
|---|---|---|
| | | The PTR separation motor was operating but the PTR separation sensor failed to detect the feeler that triggers detection of the PTR separation sensor. |
| | | ▪ Sensor dirty<br>▪ Motor harness disconnected or broken<br>▪ Sensor defective<br>▪ Motor defective |

| SC468 | D | ITB Unit Power Pack Error: Low Output |
|---|---|---|
| | | During the execution of bias feedback control, the machine detected that the output of the paper transfer power pack was less than 0.1 kV. |
| | | ▪ High-voltage harness disconnected or broken<br>▪ Paper transfer power pack defective |

| SC469 | C | ITB Bias Roller Service Expired |
|---|---|---|
| | | The machine detected that the electrical resistance of the roller exceeded the allowed limit, indicating that the service life of the roller has expired or there could be a problem with the paper transfer power pack. |
| | | ▪ High-voltage harness disconnected or broken<br>▪ Connection point at the roller broken<br>▪ ITB bias roller worn out, needs replacement<br>▪ Paper transfer power pack defective |

| | | |
|---|---|---|
| SC470 | D | ITB Unit Power Pack Leak Error |
| | | The machine detected a voltage leak at the separation power pack |
| | | ▪ Harness between power pack and IOB disconnected or broken<br>▪ High-voltage harness defective<br>▪ Power pack defective<br>▪ IOB defective<br>▪ ITB defective<br>▪ ITB bias roller defective |

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|---|---|---|
| SC471 | D | Belt Position Ready Timeout |
| | | The machine could not center the belt correctly with 400 sec. after the ITB motor starting rotating the ITB.<br>▪ Belt centering roller out of position<br>▪ ITB encoder sensor defective<br>▪ Belt centering roller sensor defective<br>▪ Belt centering roller motor defective |
| | | 1. Do the procedure to clear SC471 (☛p.7-141)<br>2. Replace ITB motor rotation sensor<br>3. Replace belt centering roller sensor<br>4. Replace belt centering roller motor |

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|---|---|---|
| SC472 | D | Belt Centering Roller HP Error |
| | | The belt centering roller sensor did not detect the belt centering roller at HP during initialization, or the belt centering roller sensor still detected the belt centering roller at HP after the belt centering roller motor switched on |
| | | ▪ Belt centering roller sensor detective<br>▪ Belt centering roller motor defective |

| SC474 | D | ITB Position Error 1 |
|---|---|---|
| | | The belt centering sensor detected the ITB out of position.<br>▪ ITB not set correctly, re-set ITB.<br>▪ Belt centering roller out of home position<br>▪ ITB encoder sensor defective<br>▪ Belt centering roller sensor defective<br>▪ Belt centering roller motor defective |
| | | 1. Re-set ITB correctly.<br>2. Do the procedure to clear SC474 (☛p.7-141)<br>3. Replace ITB motor rotation sensor<br>4. Replace belt centering roller sensor.<br>5. Replace belt centering roller motor. |

| SC475 | D | ITB Position Error 2 |
|---|---|---|
| | | The front belt overrun sensor detected an ITB position error.<br>▪ Front belt overrun sensor defective<br>▪ ITB defective or worn<br>▪ Belt centering roller out of home position<br>▪ ITB motor rotation sensor defective<br>▪ Belt centering roller sensor defective<br>▪ Belt centering roller motor defective |
| | | 1. Replace the belt overrun sensor (front).<br>2. Do the procedure to clear SC475 (☛p.7-141)<br>3. Replace ITB motor encoder<br>4. Replace belt centering roller sensor<br>5. Replace belt centering roller motor |

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|---|---|---|
| SC476 | D | ITB Position Error 3 |
| | | The rear belt overrun sensor detected an ITB position error.<br>▪ Rear belt overrun sensor defective<br>▪ ITB defective or worn<br>▪ Belt centering roller out of home position<br>▪ ITB motor rotation sensor defective<br>▪ Belt centering roller sensor defective<br>▪ Belt centering roller motor defective |
| | | 1. Replace the belt overrun sensor (front).<br>2. Do the procedure to clear SC476 (☛p.7-141)<br>3. Replace ITB motor encoder<br>4. Replace belt centering roller sensor<br>5. Replace belt centering roller motor |

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| SC477 | D | Belt Centering Sensor Error |
| | | The readings of the belt centering sensor dropped below one volt after 62 samples. |
| | | ▪ Belt centering sensor connector loose, broken, defective<br>▪ Belt centering sensor defective |

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|---|---|---|
| SC480 | D | Drum Cleaning Motor Error (K) |
| SC481 | D | Drum Cleaning Motor Error (C) |
| SC482 | D | Drum Cleaning Motor Error (M) |
| SC483 | D | Drum Cleaning Motor Error (Y) |
| | | The drum cleaning motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Physical obstruction is blocking normal motor operation<br>▪ Motor harness disconnected or broken<br>▪ Motor defective |

| | | |
|---|---|---|
| SC485 | D | Used Toner Transport Motor Error |
| | | The used toner transport motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Physical obstruction is blocking motor or used toner transport path<br>▪ Motor harness disconnected or broken<br>▪ Motor defective |

| | | |
|---|---|---|
| SC486 | D | Used Toner Bottle Motor Error |
| | | The used toner bottle motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Physical obstruction is blocking motor or interfering with rotation of used toner bottle<br>▪ Motor harness disconnected or broken<br>▪ Used toner bottle motor defective |

| | | |
|---|---|---|
| SC488 | D | Used Toner Transport Blockage |
| | | Used toner is not being moved to the used toner bottle. |
| | | ▪ Blockage in the used toner transport path<br>▪ Used toner motor (main machine) harness disconnected or broken<br>▪ Used toner transport motor ensor defective<br>▪ Used toner motor (main machine) defective |

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|---|---|---|
| SC490 | C | Impending Failure Detection: Code 01 |
| `SC491 | C | Impending Failure Detection: Code 02 |
| SC492 | C | Impending Failure Detection: Code 03 |
| SC493 | C | Impending Failure Detection: Code 04 |
| SC494 | C | Impending Failure Detection: Code 05 |

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|---|---|---|
| SC495 | C | Impending Failure Detection: Code 99 |
| | | The TDCU (Transfer Drive Control Board) monitors the mechanisms. If the TDCU detects an impending failure in a system, it will notify the engine of the problem with an ASAP command. The main cause of such impending failures are:<br>▪ Expiration of service life of components<br>▪ Dirty sensors |
| | | ▪ Clean the part<br>▪ Replace the part |

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| SC496 | C | MUSIC Sensor Error |
| | | This SC is issued if one or more of the following occurred:<br>▪ MUSIC sensor sampling abnormal<br>▪ Sensor LED adjustment abnormal<br>▪ Number of patches abnormal<br>▪ ITB scratched<br>▪ Main scan registration abnormal<br>▪ Sub scan registration abnormal<br>▪ Main scan magnification abnormal<br>▪ Main scan magnification error diffusion abnormal<br>▪ Lens refraction abnormal |
| | | ▪ A PCDU is set incorrectly<br>▪ ITB is set incorrectly<br>▪ Execute process control density adjustment<br>▪ MUSIC sensor harness loose, disconnected, broken, defective<br>▪ ITB damaged<br>▪ PCDU defective<br>▪ Laser unit defective |

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| SC497 | C | Temperature/Humidity Sensor Error (PCU) |
| | | The machine detected one of these problems with the temperature/humidity sensor located under the rear end of the K PCDU:<br>▪ The temperature sensor output was less than 0.5V or more than 2.8V three times in one minute, indicating a problem with the temperature detection.<br>▪ The humidity sensor output was more than 2.4V for three times in one minute, indicating a problem with humidity detection. |
| | | ▪ Sensor harness disconnected or broken<br>▪ Sensor has slipped out of position<br>▪ Sensor defective |

| | | |
|---|---|---|
| SC498 | C | Temperature/Humidity Sensor Error (Main) |
| | | The machine detected one of these problems with the temperature/humidity sensor located under the rear end of the K PCDU:<br>▪ The temperature sensor output was less than 0.5V or more than 2.8V three times in one minute, indicating a problem with the temperature detection.<br>▪ The humidity sensor output was more than 2.4V for three times in one minute, indicating a problem with humidity detection. |
| | | ▪ Sensor harness disconnected or broken<br>▪ Sensor has slipped out of position<br>▪ Sensor defective |

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|---|---|---|
| SC499 | C | Paper Transfer Control Error |
| | | The ITB sensor that reads the encoded film strip on the edge of the image transfer belt was not operating correctly. (The TDCU constantly monitors operation of the ITB with transfer feed-back control.) |
| | | ▪ ITB encoder sensor dirty<br>▪ Sensor harness disconnected or damaged<br>▪ Encoded scale on the edge of the ITB is damaged or dirty<br>▪ ITB installed incorrectly<br>▪ TDCU harness disconnected or broken<br>▪ TDCU defective |

## 7.2.5 SC500: PAPER FEED, TRANSPORT, DUPLEXING

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|---|---|---|
| SC501 | B | 1st Tray (Tandem Tray) Feed Error |
| SC502 | B | 2nd Tray (Universal Cassette) Feed Error |
| | | One of the following occurred at the start of the job:<br>▪ The tray 1 lift sensor does not switch on 10 s after the tray lift motor switches on and starts lifting the bottom plate.<br>▪ The tray lift sensor was on before the pick-up solenoid switched on.<br>▪ When the tray lowered, the tray lift sensor did not go off within 1.5 sec.<br>▪ The paper end sensor of the tandem tray did not detect the lower limit within 10 sec.<br>**Note**: Another paper tray cannot be used until the problem is resolved. |
| | | ▪ Remove and reset the paper tray<br>▪ Tray lift motor harness disconnected or broken<br>▪ Paper or other obstacle trapped between tray and motor<br>▪ Pick-up solenoid disconnected or broken<br>▪ Paper or other obstacle blocking operation of pick-up solenoid |

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|---|---|---|---|
| SC503 | B | 3rd Tray Feed Error | LCIT top tray |
| SC504 | B | 4th Tray Feed Error | LCIT middle tray |
| SC505 | B | 5th Tray Feed Error | LCIT bottom tray |
| | | The tray lift motor, pick-up solenoid, or lift sensor did not operate correctly. | |
| | | ▪ Tray lift motor harness disconnected or broken<br>▪ Pick-up solenoid harness disconnected or broken<br>▪ Tray lift sensor harness disconnected or broken<br>▪ Tray lift motor defective<br>▪ Pick-up solenoid defective<br>▪ Tray lift sensor defective | |

| SC506 | B | 6th Tray Feed Error | Bypass tray on top of LCIT |
|---|---|---|---|
| | | The tray lift motor, pick-up solenoid, lift sensor, or lower limit sensor did not operate correctly. | |
| | | ▪ Tray lift motor harness disconnected or broken<br>▪ Pick-up solenoid harness disconnected or broken<br>▪ Tray lift sensor harness disconnected or broken<br>▪ Lower limit sensor disconnected or broken<br>▪ Tray lift motor defective<br>▪ Pick-up solenoid defective<br>▪ Tray lift sensor defective<br>▪ Lower limit sensor defective | |

| SC507 | B | Tandem Tray Rear Fence Motor Error (1st Tray) |
|---|---|---|
| | | One of the following occurred:<br>▪ The return sensor does not switch on within 10 sec. after the rear fence motor switches on.<br>▪ The HP sensor does not switch on 10 sec. after the rear fence motor switches on.<br>▪ The HP sensor and return sensor switch on at the same time. |
| | | ▪ Rear fence motor harness disconnected or broken<br>▪ Paper or other obstacle interfering with operation of the sensors<br>▪ Paper or other obstacle trapped between tray and motor<br>▪ Motor mechanical overload due to obstruction<br>▪ Return sensor or HP sensor harness disconnected or broken<br>▪ Return sensor or HP sensor dirty<br>▪ Rear fence motor defective<br>▪ Return sensor or HP sensor defective |

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|---|---|---|
| SC511 | B | LCIT Exit Roller Lift Motor Error |
| | | The exit roller lift motor of lift motor sensor is not operating. |
| | | ▪ Motor harness disconnected or broken<br>▪ Sensor harness disconnected or broken<br>▪ Motor defective<br>▪ Sensor defective |

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|---|---|---|
| SC513 | D | Registration Gate Position Error |
| | | The registration gate could not be detected on or off within the prescribed time. Specifically:<br>▪ The registration gate HP sensor did not switch off within 500 ms after the gate retract motor switched on.<br>▪ After the registration HP sensor switched off, the HP sensor did not switch on within 500 ms. |
| | | ▪ Gate retract motor harness disconnected or broken<br>▪ Gate HP sensor harness disconnected or broken<br>▪ Physical obstacle (paper, etc.) is blocking operation of the motor<br>▪ Gate HP sensor actuator bent, broken, or out of position<br>▪ Gate HP sensor defective<br>▪ Gate retract motor or motor drive board defective |

| SC514 | D | Registration Shift Position Error |
|---|---|---|
| | | The HP sensor did not go on or off within the prescribed time.<br>Specifically:<br>▪ During normal homing operation, before the unit shift motor starting rotating clockwise, the unit was detected at the HP (on). Or, after the unit shift motor had rotated clockwise for 20 pulses, the unit could not be detected at the HP (on).<br>▪ During homing operation with the unit out of HP, The unit could not be detected off or on within 1068 ms after the unit shift motor started rotating count-clockwise and the cam shaft had rotated twice. |
| | | ▪ Shift motor harness disconnected or broken<br>▪ Physical obstruction is blocking operation of the motor<br>▪ HP sensor harness disconnected or broken<br>▪ Sensor actuator bent, broken, or out of position<br>▪ Motor or motor drive board defective |

| SC515 | D | CIS Cleaning Fan Error |
|---|---|---|
| | | The CIS cleaning fan motor in the right drawer failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Physical obstruction is blocking operation of the fan |

| SC516 | D | Transport Belt Drive Motor Error |
|---|---|---|
| | | A LOW motor LOCK signal was not detected after the motor switched off after 10 consecutive attempts. |
| | | ▪ Motor connector loose, broken, defective<br>▪ Motor or motor drive board defective |

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|---|---|---|
| SC520 | D | Fusing Motor Error |
| | | The fusing motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Fusing motor harness disconnected or broken<br>▪ Physical obstruction is blocking the operation of the 1st fusing processing unit<br>▪ Fusing motor defective<br>▪ Blown fused on PSU 2 on the back of the main machine |

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|---|---|---|
| SC521 | D | Exit Motor Error |
| | | The exit motor failed to start within the prescribed time or failed during normal operation. |
| | | ▪ Exit motor harness disconnected or defective<br>▪ Exit motor shaft locked, blocked by obstruction<br>▪ Exit motor defective |

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|---|---|---|
| SC525 | D | Cooling Unit Transport Motor 1 Error |
| SC526 | D | Cooling Unit Transport Motor 2 Error |
| | | A transport motor of the optional cooling unit failed to switch on within the prescribed time after startup. |
| | | ▪ Motor harness disconnected or broken<br>▪ Motor defective |

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|---|---|---|
| SC527-001 | D | Cooling Fan Alarm 1 (Buffer Pass Unit D548) |
| SC527-002 | D | Cooling Fan Alarm 2 (Buffer Pass Unit D548) |
| SC527-003 | D | Cooling Fan Alarm 3 (Buffer Pass Unit D548) |

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| SC527-004 | D | Cooling Fan Alarm 4 (Buffer Pass Unit D548) |
| | | The fan stopped during operation. This alarm is issued if the fan lock sensor detects that the fan has been off for 10 sec. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| | | |
|---|---|---|
| SC527-005 | D | Exhaust Fan Alarm 1 (Buffer Pass Unit D548) |
| SC527-006 | D | Exhaust Fan Alarm 2 (Buffer Pass Unit D548) |
| SC527-007 | D | Exhaust Fan Alarm 3 (Buffer Pass Unit D548) |
| SC527-008 | D | Exhaust Fan Alarm 4 (Buffer Pass Unit D548) |
| | | The fan stopped during operation. This alarm is issued if the fan lock sensor detects that the fan has been off for 10 sec. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| | | |
|---|---|---|
| SC530 | D | Heat Sink Intake Fan Error |
| | | The one of the fans in the heat sink duct stopped during operation. This alarm is issued if the fan lock sensor detects that the fan has been off for 5 sec. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| | | |
|---|---|---|
| SC531 | D | Paper Cooling Fan Error |
| | | One of the fans in the paper cooling duct stopped during operation. This alarm is issued if the fan lock sensor detects that the fan has been off for 5 sec. The paper cooling duct surrounds the circular baffle at the back of the left drawer. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

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|---|---|---|---|
| SC532-01 | B | 3rd Tray Front Blower Fan Error | LCIT Top Tray: Front |
| SC532-02 | B | 3rd Tray Rear Blower Fan Error | LCIT Top Tray: Rear |
| SC533-01 | B | 4th Tray Front Blower Fan Error | LCIT Middle Tray: Front |
| SC533-02 | B | 4th Tray Rear Blower Fan Error | LCIT Middle Tray: Rear |
| SC534-01 | B | 5th Tray Front Blower Fan Error | LCIT Bottom Tray: Front |
| SC534-02 | B | 5th Tray Rear Blower Fan Error | LCIT Bottom Tray: Rear |
| | | The fan motor failed to start within the prescribed time or stopped during normal operation. | |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective | |

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|---|---|---|
| SC535 | D | ITB Belt Cleaning Cooling Fan Error |
| | | This is the small fan to the left or the large pressure roller fan on the front of the left drawer. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| SC536 | D | Drive Exhaust Fan Error |
|---|---|---|
| | | The fan motor failed to start within the prescribed time or stopped during normal operation. The drive exhaust fan is located near the upper left corner of the machine at the rear. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| SC537 | D | Toner Supply Cooling Fan Error |
|---|---|---|
| | | The fan motor failed to start within the prescribed time or stopped during normal operation. The toner supply cooling fan is inside the duct at the upper right corner at the rear of the machine. It is inside the duct that runs past the YM laser unit and connects behind the toner supply units. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| SC538 | D | Controller Box Intake Fan Error |
|---|---|---|
| | | One of the fans at the bottom edge of the controller box failed to start within the prescribed time or stopped during normal operation. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

| SC539 | D | Development Unit Cooling Fan Error |
|---|---|---|
| | | One of the three large fans that cool the liquid coolant through the radiator failed to start within the prescribed time or stopped during normal operation. These fans are located in the cooling box at the back of the machine. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan motor defective |

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|---|---|---|
| SC541 | A | Heating Roller Thermistor Error: Poor Connection |
| | | Temperature (t1) detected at less than 0°C.<br>**Note**: This is the contact thermistor at the front of the fusing unit that touches the core shaft of the hot roller. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of hot roller<br>▪ Thermistor defective |

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|---|---|---|
| SC542 | A | Heating Roller Thermistor Error: Warm-up Temperature |
| | | Fusing temperature control failed to achieve the warm-up temperature. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor deformed<br>▪ Thermistor floating free, not in contact with hot roller surface<br>▪ Input voltage incorrect<br>▪ Fusing lamp disconnected |

| | | |
|---|---|---|
| SC543 | A | Heating Roller Thermistor Error: Software Error |
| SC544 | A | Thermistor 1 Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC547 | D | Zero Cross Error |
| | | Zero cross signals, generated from the AC power supply, are used to generate trigger pulses to control the applied power accurately. When the main switch is turned on, the machine checks how many zero-cross signals are generated within a prescribed time. This SC code is issued if the number of zero-cross signals detected is not within specification. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ A fuse has blown on the AC drive board<br>▪ Electrical noise on the power supply line<br>▪ Fusing relay damaged, replace AC drive board. |

| | | |
|---|---|---|
| SC551 | A | Pressure Roller Thermistor Error: Poor Connection |
| | | Temperature detected at less than 0°C. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of pressure roller<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC552 | A | Pressure Roller Thermistor Error: Warm-up Temperature |
| | | Fusing temperature control failed to achieve the warm-up temperature. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor deformed<br>▪ Thermistor floating free, not in contact with pressure roller surface<br>▪ Input voltage incorrect<br>▪ Fusing lamp disconnected |

| | | |
|---|---|---|
| SC553 | A | Pressure Roller Thermistor Error: Software Error |
| SC554 | A | Pressure Roller Thermistor Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC555 | A | Pressure Roller Fusing Lamp Error |
| | | The fusing lamp reached the warm-up temperature and then attained fusing temperature (full power), but remained on after paper passed through the fusing unit (hot roller was not rotating).. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor damaged, or out of position<br>▪ Fusing lamp disconnected, broken |

| | | |
|---|---|---|
| SC557 | C | Zero Cross Over Error |
| | | At power-on the machine detected that the main power supply was unstable, probably due to electrical noise on the line. |
| | | ▪ Logged SP, no action |

| | | |
|---|---|---|
| SC558 | A | Fusing Lamp 4 Error |
| | | The fusing lamp reached the warm-up temperature and then attained fusing temperature (full power), but remained on after paper passed through the fusing unit (hot roller was not rotating).<br>**Note**: Fusing lamp 4 is in the heating roller. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor damaged, or out of position<br>▪ Fusing lamp disconnected, broken |

| | | |
|---|---|---|
| SC559 | A | Three consecutive fusing jams |
| | | This SC only occurs if **SP1142** is on (Default: OFF), and paper jams occurred in the fusing unit for three consecutive feeds. With SP1142 set to "1" the machine operation can be restored only by the service technician after three consecutive jams occur. |
| | | ▪ Remove jammed paper<br>▪ Check inside the fusing unit for paper scraps<br>▪ Make sure the paper path is clean and free |

| | | |
|---|---|---|
| SC561 | A | Heating Roller Thermistor Error: Poor Connection |
| | | Temperature detected at less than 0°C.<br>**Note**: These are the two NC sensors on the side of the fusing unit. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of heating roller<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC562 | A | Heating Roller Thermistor Error: Warm-up Temperature |
| | | Fusing temperature control failed to achieve the warm-up temperature.<br>**Note**: These are the two NC sensors on the side of the fusing unit. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor deformed<br>▪ Thermistor floating free, not in contact with heating roller surface<br>▪ Input voltage incorrect<br>▪ Fusing lamp disconnected |

| | | |
|---|---|---|
| SC563 | A | Heating Roller Thermistor Error: Software Error |
| SC564 | A | Pressure Roller Thermistor Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC566 | A | Thermistor 4 Error: Poor Connection |
| | | Temperature detected at less than 0°C.<br>**Note**: This is the contact thermistor at the top rear of the fusing unit. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of heating roller<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC567 | A | Thermistor 4 Error: Software Error |
| SC568 | A | Thermistor 4 Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC569 | D | Pressure Roller Lift Error |
| | | Pressure roller lift motor not operating correctly. No signal to indicate completion of operation. |
| | | ▪ Pressure roller lift sensor harness disconnected or broken<br>▪ Pressure roller lift sensor dirty<br>▪ Pressure roller lift harness disconnected or broken<br>▪ Pressure roller lift motor blocked by an obstruction<br>▪ Pressure roller lift motor defective |

| | | |
|---|---|---|
| SC570 | D | Ozone Collection Fan Error |
| | | The ozone collection fan is the large fan on the right end of the upper horizontal duct across the back of the machine. |
| | | ▪ Fan harness disconnected or broken<br>▪ Fan overload due to physical obstruction<br>▪ Fan motor defective |

| | | |
|---|---|---|
| SC571 | A | Thermistor 6 Error: Poor Connection |
| | | Temperature detected at less than 0°C.<br>Note: This is the contact thermistor under the pressure roller at the front of the fusing unit. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of pressure roller<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC572 | A | Thermistor 6 Error: Warm-up Temperature |
| | | Fusing temperature control failed to achieve the warm-up temperature. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor deformed<br>▪ Thermistor floating free<br>▪ Input voltage incorrect<br>▪ Fusing lamp disconnected |

| | | |
|---|---|---|
| SC573 | A | Thermistor 6 Error: Software Error |
| SC574 | A | Thermistor 6 Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC575 | A | Fusing Lamp 6 Error |
| | | The fusing lamp in the pressure roller reached the warm-up temperature and then attained fusing temperature (full power), but remained on after paper passed through the fusing unit (hot roller was not rotating).. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor damaged, or out of position<br>▪ Fusing lamp disconnected, broken |

| | | |
|---|---|---|
| SC576 | A | Hot Roller NC Sensor (Sensor 7) Poor Connection |
| | | The hot roller NC sensor (infrared thermistor) on top of the fusing unit detected temperature less than 0C for 75 sec. |
| | | ▪ Do SP51810 to cancel the fatal error<br>▪ Sensor disconnected<br>▪ Sensor connector harness or connector broken or defective |

| | | |
|---|---|---|
| SC577 | A | Thermistor 7 Error: Software Error |
| SC578 | A | Thermistor 7 Error: Hardware Error |
| | | Temperature incorrect due to a TRIAC short or other problem with IOB or AC drive board |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ IOB harness disconnected or broken<br>▪ AC drive board harness disconnected or broken<br>▪ AC drive board defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC579 | A | Thermistor 8 Error: Poor Connection |
| | | Temperature detected at less than 0°C.<br>**Note**: This is the contact thermistor at the front of the fusing unit that touches the shaft of the hot roller. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Harness disconnected or broken<br>▪ Poor contact with surface of hot roller shaft (thermistor blade out of position)<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC580 | A | Thermistor 8 Error: Warm-up Temperature |
| | | Fusing temperature control failed to achieve the warm-up temperature. |
| | | ▪ Do SP5810 to cancel the fatal error<br>▪ Thermistor deformed<br>▪ Thermistor floating free, not in contact with the hot roller shaft surface.<br>▪ Input voltage incorrect<br>▪ Fusing lamp disconnected |

| | | |
|---|---|---|
| SC581 | D | Fusing Exit Exhaust Fan Error |
| | | The fan motor failed to start within the prescribed time or stopped and remained off for one sec. This motor is the blower fan mounted flat on the rear side of the machine on the right. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| SC582 | D | Cooling Box Emission Exhaust, Cooling Box Heat Fan Error |
|---|---|---|
| | | One of these fan motors failed to start within the prescribed time or stopped and remained off for one sec. These fans are inside the cooling box below the blower fan on the right. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| SC583 | D | Fusing Unit Transport Exhaust Fan |
|---|---|---|
| | | The fan motor failed to start within the prescribed time or stopped and remained off for one sec. This is the lower blower fan mounted at a right angle on the rear of the machine behind the cooling box. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| SC584 | D | Cooling Box Ozone Exhaust Fan |
|---|---|---|
| | | The fan motor failed to start within the prescribed time or stopped and remained off for one sec. This is the blower fan inside the "L" duct inside the cooling box and below the air and ozone filters. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| SC585 | D | Stray Toner Exhaust Fan Error |
|---|---|---|
| | | The fan motor failed to start within the prescribed time or stopped and remained off for one sec. This is the small fan on the right end of the third duct from the top at the rear side of the machine behind the cooling box. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| | | |
|---|---|---|
| SC586 | D | ITB Intake Fan, Stray Toner Intake Fan Error |
| | | One of these fan motors failed to start within the prescribed time or stopped and remained off for one sec. These are the two motors visible on the right side of the machine with the right cover removed. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan defective |

| | | |
|---|---|---|
| SC587 | C | YM Thermistor Error |
| | | The YM thermistor is inside the YM laser unit. One of the following occurred:<br>▪ The YM thermistor registered a reading of less than -10°C, indicating a disconnection.<br>▪ The YM thermistor registered a reading of more than 80°C, indicating an electrical short circuit |
| | | ▪ Thermistor harness disconnected or broken<br>▪ Thermistor defective |

| | | |
|---|---|---|
| SC588 | D | Duplex Exhaust Fan, Exit Paper Exhaust Fan Error |
| | | One of these fan motors failed to start within the prescribed time or stopped and remained off for one sec. These are the four large fans visible on the left side of the machine with the left cover removed. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan blocked by an obstruction<br>▪ Fan defective |

| | | |
|---|---|---|
| SC589 | D | Drive Exhaust Fan Error |
| | | The fan motor failed to start within the prescribed time or stopped and remained off for one sec. This is the small fan located at the upper rear corner on the left side of the machine. |
| | | ▪ Fan motor harness disconnected or broken<br>▪ Fan blocked by an obstruction<br>▪ Fan defective |

| | | |
|---|---|---|
| SC590-1 | D | Stepper Motor Error 1 |
| | | A stepper motor controlled by the Relay Board (RYB) has failed. |
| SC590-2 | | Stepper Motor Error 2 |
| | | A stepper motor controlled by the DRB in the right drawer has failed. |
| SC590-3 | | Stepper Motor Error 3 |
| | | A stepper motor controlled by the TDCU on the back of the machine has failed. |
| SC590-4 | | Stepper Motor Error 4 |
| | | A stepper motor controlled by the DDRB in the decurler unit has failed. |
| | | ▪ Motor connector loose, broken, defective<br>▪ Motor drive board overheated<br>▪ Motor shorted out<br>▪ Motor or drive board defective<br>**Note**:<br>▪ Look at the Point-to-Point diagram to determine which motors the referenced board controls.<br>▪ Go into the SP mode and use SP5804 to test the operation of the motors to determine which motor is not operating. |

| | | |
|---|---|---|
| SC591 | C | Double-Feed Sensor Error |
| | | The strength of the double-feed sensor LED light could not be calibrated within the prescribed range after three attempts. |
| | | ▪ Sensor harness disconnected or broken<br>▪ Physical obstruction (paper scrap) between the sensor pair (emitter/receiver)<br>▪ One or both of the sensors are dirty (paper dust) |

| | | |
|---|---|---|
| SC593 | D | Decurler Unit Over Limit Error |
| | | The over-limit sensor went on because the decurler unit has moved farther than the allowed distance (±13.85 mm). |
| | | ▪ Adjust the distance<br>▪ Cycle the machine OFF/ON |

| | | |
|---|---|---|
| SC594 | D | Decurler Unit HP Error |
| | | The decurler unit was not detected at its home position within 6 sec. |
| | | ▪ HP sensor disconnected or broken<br>▪ Sensor defective |

| | | |
|---|---|---|
| SC595-01<br>SC595-02<br>SC595-04 | D | FPGA Error |
| | | A command was received from the TDCU due to FPGA configuration error, or FPGA power source error. |
| | | ▪ TDCU board defective |
| SC595-16 | D | PTR Separation Motor Error (CN959) |
| | | A command was received from the TDCU due to the motor error |
| | | ▪ TDCU/TDRB harness disconnected or broken<br>▪ TDCU/TDRB board defective<br>▪ Stepper motor defective |
| SC595-32 | D | Belt Centering Motor Error (CN961) |
| | | A command was received from the TDCU due to the motor error |
| | | ▪ TDCU/TDRB harness disconnected or broken<br>▪ TDCU/TDRB board defective<br>▪ Stepper motor defective |
| SC595-48 | D | PTR Separation Motor Error and Belt Centering Motor Error |
| | | A command was received from the TDCU due to the motor error |
| | | ▪ TDCU/TDRB harness disconnected or broken<br>▪ TDCU/TDRB board defective<br>▪ Stepper motor(s) defective |

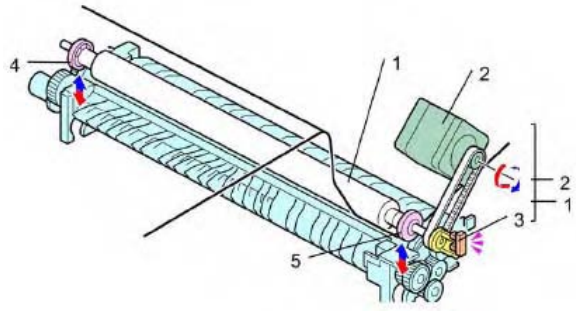
Trouble-shooting

⇒ **NOTE**

**PTR Separation Motor**

For detail, see the service manual in the following section; 4.Replacement and Adjustments > Image Transfer Belt (ITB) Unit > PTR Separation Motor.

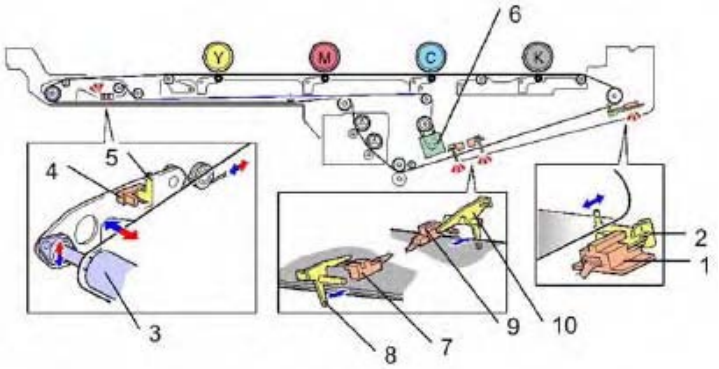
| | |
|---|---|
| 1 | ITB Bias Roller |
| **2** | **PTR Separation Motor** |
| 3 | PTR Separation Sensor |
| 4 | Rear Cam |
| 5 | Front Cam |




**Belt Centering Motor**

For detail, see the service manual in the following section; 4.Replacement and Adjustments > Image Transfer Belt (ITB) Unit > Belt Centering Motor.

| | |
|---|---|
| 1 | Belt Centering Sensor |
| 2 | Belt Centering Sensor Actuator Arm |
| 3 | Belt Centering Roller |
| 4 | Belt Centering Roller HP Sensor |
| 5 | Belt Centering Roller Sensor Actuator |
| **6** | **Belt Centering Motor** |
| 7 | Front Overrun Sensor |
| 8 | Front Overrun Sensor Actuator |
| 9 | Rear Overrun Sensor |
| 10 | Rear Overrun Sensor Actuator |




**NOTE:** The two motors are connected to the TDRB in the ITB unit. For details, see the service manual in the following section; 4.Replacement and Adjustments > Image Transfer Belt (ITB) Unit > TDRB.

| | | | |
|---|---|---|---|
| ⇒ SC599 | D | Cooling Box Sensor Error | |
| | | The cooling box sensor detects unusual values. | The possible actions to this SC may be as follows: |
| | | ▪ The cooling liquid dropped below the threshold<br>▪ Connector disconnected or defective<br>▪ IOB defective<br>▪ Harness shorted | ▪ Fix the leak and refill the liquid.<br>▪ Reconnect the connectors.<br>▪ Replace the sensor.<br>▪ Replace the IOB board.<br>▪ Replace the harness. |

## 7.2.6 SC600: COMMUNICATIONS

| | | |
|---|---|---|
| SC620 | D | ADF Communication Error |
| | | No response from the ADF after connection to the main machine or an error occurred after connection. |
| | | ▪ ADF I/F cable disconnected or loose<br>▪ Electrical noise on the line (noise filter required)<br>▪ ADF defective<br>▪ IPU board defective |

| | | |
|---|---|---|
| SC621 | D | Peripheral Communication Error |
| | | The UART generated an error when the finisher was connected. |
| | | ▪ Peripheral I/F cable disconnected or broken<br>▪ Peripheral main board disconnected or defective<br>▪ BCU defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC622 | D | Paper Bank Communication Error |
| | | The UART generated an error. |
| | | ▪ Poor bank drawer connection<br>▪ BCU harness disconnected or broken<br>▪ IOB harness disconnected or broken<br>▪ BCU defective<br>▪ IOB defective |

| | | |
|---|---|---|
| SC625 | D | TDCU Master Communication Error |
| SC626 | D | TDCU Slave Communication Error |
| | | An error was generated by ASAP protocol. ASAP (Aggregate Server Access Protocol) provides the high-availability data transfer mechanism over IP networks. |
| | | ▪ TDCU harness disconnected or broken<br>▪ IOB harness disconnected or broken<br>▪ TDCU defective<br>▪ IOB defective |

| | | | |
|---|---|---|---|
| SC641 | D | Engine-Controller Communication Error: No Response | GW |
| | | There was no response to a frame sent from The Controller Board To the engine. | |
| | | ▪ Cycle the machine off/on. | |

| | | | |
|---|---|---|---|
| SC652 | B | @Remote Service ID2 Mismatch Error 1 | GW |
| | | One of the following problems occurred with ID2 stored in NVRAM:<br>▪ A control board from another machine where Cumin was set up was installed in this machine.<br>▪ NVRAM was replaced with the NVRAM from another machine. | |
| | | ▪ If Cumin has already been installed, confirm that the NVRAM is compatible for use with Cumin.<br>▪ If Cumin has just been installed, confirm that the NVRAM is compatible for use with Cumin, clear the Cumin setting, set the common authentication, then try again. | |

| SC653 | D | @Remote Service ID2 Mismatch Error 2 | **GW** |
|---|---|---|---|
| | | One of the following problems exist with the ID2 stored in NVRAM:<br>▪ ID2 has less than 17 digits<br>▪ A non-printable character exists in ID2<br>▪ ID2 is all spaces<br>▪ ID2 is NULL | |
| | | ▪ Replace NVRAM.<br>▪ Clear the Cumin setting, set the common authentication, then try again. | |

| SC669 | D | EEPROM Communication Error |
|---|---|---|
| | | After three re-tries there was still no response from the EEPROM on the BCU. |
| | | ▪ Electrical noise<br>▪ Cycle machine off/on<br>▪ If problem persists, install a noise filter |

| SC670 | D | Engine start failure | GW |
|---|---|---|---|
| | | The engine did not respond within 30s after power on, or the engine went down suddenly at power on or during warm up because a communication reset occurred between the BCU and the controller. | |
| | | ▪ A fused has blown on PSU 1<br>▪ BCU installed incorrectly<br>▪ BCU defective | |

| | | | |
|---|---|---|---|
| SC671 | D | Incorrect board detected | GW |
| | | An illegal engine board was detected at power on. | |
| | | ▪ Replace BICU | |

| | | |
|---|---|---|
| SC678-01 | D | Transport Cooling Unit CTB+24V Power Supply Error |
| SC678-02 | D | Transport Cooling Unit CTB+24VINT Power Supply Error |
| | | The control board of the transport cooling unit detected that the power supply was off and not functioning. |
| | | ▪ Unit PSU harness disconnected or broken<br>▪ Unit main board harness disconnected or broken<br>▪ Motor harness disconnected or broken<br>▪ Fan harness disconnected or broken<br>▪ Unit PSU defective<br>▪ Main unit control board defective<br>▪ Motor defective<br>▪ Fan motor defective |

⇒

| | | | |
|---|---|---|---|
| 681 | 001 ~ 005 | D | RFID: Communication error due to the following: |
| | | | ▪ Poor connection with harness that connects RFID controller board and BCU board<br>▪ Defective RFID controller board.<br>▪ Defective BCU board<br>▪ Electrical noise |
| | | | ▪ Check the connection of the harness that runs between the RFID controller board and BCU board.<br>▪ Check the connection of the GND line for the ITB unit.<br>▪ Check the physical condition of this harness and replace it if it is damaged.<br>▪ Replace the RFID controller board.<br>▪ Replace the BCU board |

| | | | |
|---|---|---|---|
| 681 | 061 ~ 064 | D | RFID: Communication error due to the following: |
| | | | ▪ Defective RFID reader and writer<br>▪ Defective RFID controller board<br>▪ Electrical noise |
| | | | ▪ Replace the toner cartridge for the affected color (See table below).<br>▪ Replace the BCU board<br>▪ Replace the RFID controller board. |
| | 071 ~ 074 | D | RFID: Communication error due to the following: |
| | | | ▪ Defective RFID reader and writer<br>▪ Defective RFID controller board<br>▪ Electrical noise |
| | | | ▪ Replace the toner cartridge for the affected color (See table below).<br>▪ Replace the RFID controller board. |
| | 081 ~ 164 | D | RFID: Communication error due to the following: |
| | | | ▪ Defective RFID reader and writer<br>▪ Electrical noise |
| | | | ▪ Replace the toner cartridge for the affected color (See table below).<br>▪ If the SC still occurs, see note below. |

**NOTE**

For sub codes 061－164;

Use the following table to determine the affected toner cartridge.

| Sub code (last digit) | Affected toner cartridge |
|---|---|
| **1 | Bk |
| **2 | M |
| **3 | C |
| **4 | Y |

For sub codes 081–164;

In some cases, replacing the toner cartridge may not clear the SC. If this happens, the cause is probably a board or harness defect, which affects all four colors.
In such cases:

- Check the physical condition of the harness that connects RFID controller board and BCU board. If it is damaged, replace it.
- Check the physical condition of the RFID controller board and BCU board. If they are damaged, replace them.

| No. | Sub code | Type | Details (Symptom, Possible Cause, Troubleshooting Procedures) |
|---|---|---|---|
| SC682 | 001 ~ 004 | D | ID Chip at PCU communication error: ID error |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ ID chip data corrupted<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 006 ~ 009 | D | ID Chip at PCU communication error: Channel Error |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ Disconnected Interface<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 011 ~ 014 | D | ID Chip at PCU communication error: Device Error |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ ID chip missing<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 016 ~ 019 | D | ID Chip at PCU communication error: Interfered Communication |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ Electrical noise<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 021 ~ 024 | D | ID Chip at PCU communication error: Communication Time Out |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ Electrical noise<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 026 ~ 029 | D | ID Chip at PCU communication error: Device not operating |
| | | | ▪ Electrical noise<br>▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 031 ~ 034 | D | ID Chip at PCU communication error: Buffer Full |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ Replace PCU<br>▪ Cycle the machine off/on |
| | 036 ~ 039 | D | ID Chip at PCU communication error: No Error Codes |
| | | | The system made three unsuccessful attempts to communicate with the ID chip on the PCU. |
| | | | ▪ Replace PCU<br>▪ Cycle the machine off/on |

*Refer to the following table to determine the affected PCU.

| Sub Code (last digit) | Affected PCU |
|---|---|
| **1 or **6 | Bk |
| **2 or **7 | M |
| **3 or **8 | C |
| **4 or **9 | Y |

| | | |
|---|---|---|
| SC683 | C | Toner Cartridge RFID Unit Check Error |
| | | The RFID unit communication check failed regardless of whether toner cartridges have been installed or not. |
| | | ▪ Electrical noise<br>▪ Cycle the machine off/on |

⇒

| No. | Type | Sub code | Details (Symptom, Possible Cause, Troubleshooting) |
|---|---|---|---|
| SC684 | D | 001, 009, 011, 019 | Fusing Unit ID Chip Error: ID Error |
| | | 002, 012, 020 | Fusing Unit ID Chip Error: Channel Error |
| | | 003, 013, 021 | Fusing Unit ID Chip Error: Device Error |
| | | 004, 014, 022 | Fusing Unit ID Chip Error: Interfered Communication |
| | | 005, 015, 023 | Fusing Unit ID Chip Error: Communication Time Out |
| | | 006, 016, 024 | Fusing Unit ID Chip Error: Device Not Operating |
| | | 007, 017, 025 | Fusing Unit ID Chip Error: Buffer Full |
| | | 008, 010, 018, 026 | Fusing Unit ID Chip Error: No Error Codes |
| | | | The machine made three unsuccessful attempts to communicate with the fusing unit ID chip. |
| | | | ▪ ID chip missing<br>▪ ID chip data corrupted<br>▪ ID chip disconnected or broken<br>▪ Electrical noise |

| | | |
|---|---|---|
| SC685 | C | Power Supply Error 1 |
| | | PSU 2 failure. |
| | | ▪ PSU 2 harness disconnected or broken<br>▪ PSU 2 defective<br>▪ Interlock relay board defective |

| | | |
|---|---|---|
| SC686 | C | Power Supply Error 2 |
| | | PSU 2 failure. A fuse has blown on PSU 2 on the back of the main machine. |
| | | ▪ PSU 2 harness disconnected or broken<br>▪ PSU 2 defective<br>▪ Interlock relay board defective |

| | | |
|---|---|---|
| SC687 | D | Memory Address (PER) Command Error |
| | | The BICU did not receive a memory address command from the controller within the prescribed time after the paper reached the registration sensor. |
| | | ▪ BICU harness disconnected or broken<br>▪ Controller board harness disconnected or broken<br>▪ BICU defective<br>▪ Controller board defective |

| | | |
|---|---|---|
| SC690 | D | GAVD Transmission Error (K) |

| | | |
|---|---|---|
| | | The machine cannot communicate (data read/write) normally with the K LDB (laser control ASIC). |
| | | ▪ Cycle the machine off/on<br>▪ Replace BCU harness or BCU<br>▪ Laser unit defective |

| | | |
|---|---|---|
| SC691 | D | GAVD Transmission Error (C) |
| | | The machine cannot communicate (data read/write) normally with the C LDB (laser control ASIC). |
| | | ▪ Cycle the machine off/on<br>▪ Replace BCU harness or BCU<br>▪ Laser unit defective |

| | | |
|---|---|---|
| SC692 | D | GAVD Transmission Error (M) |
| | | The machine cannot communicate (data read/write) normally with the M LDB (laser control ASIC). |
| | | ▪ Cycle the machine off/on<br>▪ Replace BCU harness or BCU<br>▪ Laser unit defective |

| | | |
|---|---|---|
| SC693 | D | GAVD Transmission Error (Y) |
| | | The machine cannot communicate (data read/write) normally with the Y LDB (laser control ASIC). |
| | | ▪ Cycle the machine off/on<br>▪ Replace BCU harness or BCU<br>▪ Laser unit defective |

## 7.2.7 SC700: PERIPHERALS

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| SC701 | D | ADF original pickup operation error |

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| | | Even though the pickup motor is rotating clock-wise, the pickup roller home position sensor cannot detect the position of the pickup roller. |
| | | ▪ Pickup roller HP sensor harness loose, disconnected, defective<br>▪ Pickup roller HP sensor defective<br>▪ Pickup motor harness loose, disconnected, defective<br>▪ Pickup motor defective<br>▪ ADF control board defective |

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|---|---|---|
| SC705 | D | ADF bottom plate lift motor |
| | | The bottom plate HP sensor did not detect the home position of the bottom plate after the bottom plate lift motor switches on and lowers the bottom plate.<br>The bottom plate position sensor does not detect the position of the plate after the lift motor switches on and raises the bottom plate. |
| | | ▪ ADF feed motor disconnected, defective<br>▪ Bottom plate HP sensor disconnected, defective<br>▪ ADF main board defective |

| | | |
|---|---|---|
| SC719-1 | D | Downstream CIT Communication Error |
| | | The downstream Cover Interposer Tray (CIT) failed to respond to three attempts by the main machine to communicate. |
| | | ▪ CIT I/F cable disconnected, loose, or broken<br>▪ CIT main board harness disconnected or broken<br>▪ Main machine controller harness disconnected or broken<br>▪ CIT main board defective<br>▪ Main machine controller board defective |

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| SC719-2 | D | Downstream MFU Communication Error |
| | | The downstream Multi Folding Unit (MFU) failed to respond to communication from the main machine. |

| | | |
|---|---|---|
| | | ▪ MFU I/F cable disconnected, loose, or broken<br>▪ MFU main board harness disconnected or broken<br>▪ Main machine controller harness disconnected or broken<br>▪ MFU main board defective<br>▪ Main machine controller board defective |

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|---|---|---|
| SC719-3 | D | Downstream HCS Communication Error |
| | | The unit installed immediately to the left of the HCS failed to respond. |
| | | ▪ HCS I/F cable disconnected, loose, or broken<br>▪ HCS main board harness disconnected or broken<br>▪ Main machine controller harness disconnected or broken<br>▪ HCS main board defective<br>▪ Main machine controller board defective |

| | | |
|---|---|---|
| SC719-5 | D | Downstream FIN Communication Error |
| | | The downstream Finisher (FIN) failed to respond to communication from the main machine. |
| | | ▪ FIN I/F cable disconnected, loose, or broken<br>▪ FIN main board harness disconnected or broken<br>▪ Main machine controller harness disconnected or broken<br>▪ FIN main board defective<br>▪ Main machine controller board defective |

| | | |
|---|---|---|
| SC719-6 | D | Downstream RB Communication Error |
| | | The downstream Ring Binder (RB) failed to respond to communication from the main machine. |
| | | ▪ RB I/F cable disconnected, loose, or broken<br>▪ RB main board harness disconnected or broken<br>▪ Main machine controller harness disconnected or broken<br>▪ RB main board defective<br>▪ Main machine controller board defective |

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|---|---|---|---|
| SC720-1 | D | Entrance roller motor error | Booklet Finisher (D512) |
| | | Motor stopped operating, due to a physical obstruction or another problem. | |
| | | ▪ Check for and remove any physical obstructions around the motor and timing belts<br>▪ Motor harness or connector disconnected or defective<br>▪ Motor defective | |

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| SC720-2 | D | Junction gate motor error | Booklet Finisher (D512) |
| | | One or both motors at the junction gates (stapler junction gate motor, proof tray junction gate motor) stopped operating, due to a physical obstruction or another problem. | |
| | | ▪ Check for and remove any physical obstructions around the motor and timing belt<br>▪ Motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| | | | |
|---|---|---|---|
| SC720-3 | D | Punch roller motor (rear) error | Booklet Finisher (D512) |
| | | Motor stopped operating, due to a physical obstruction or another problem. | |
| | | ▪ Check for and remove any physical obstructions around the motor and timing belts<br>▪ Motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| | | | |
|---|---|---|---|
| SC720-4 | D | Registration motor error | Booklet Finisher (D512) |
| | | Motor stopped operating, due to a physical obstruction or another problem. | |

| | | |
|---|---|---|
| | | ▪ Check for and remove any physical obstructions around the motor and timing belts<br>▪ Motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Finisher main board defective |

| | | | |
|---|---|---|---|
| SC721-1 | D | Front jogger fence motor | Booklet Finisher (D512) |
| | | The system did not detect the front jogger fence at its home position (or out of its home position) within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstructions around the jogger fence<br>▪ Motor harness or connector disconnected or defective<br>▪ Front jogger fence HP sensor dirty<br>▪ Front jogger fence HP sensor harness or connector disconnected or defective<br>▪ Front jogger fence HP sensor defective<br>▪ Front jogger fence motor defective<br>▪ Finisher main board defective | |

| | | | |
|---|---|---|---|
| SC721-2 | D | Rear jogger fence motor | Booklet Finisher (D512) |
| | | The system did not detect the rear jogger fence at its home position (or out of its home position) within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstructions around the jogger fence<br>▪ Motor harness or connector disconnected or defective<br>▪ Rear jogger fence HP sensor dirty<br>▪ Rear jogger fence HP sensor harness or connector disconnected or defective<br>▪ Rear jogger fence HP sensor defective<br>▪ Rear jogger fence motor defective<br>▪ Finisher main board defective | |

| SC723 | B | Positioning roller rotation motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The motor that drives the rotation of the positioning sponge roller is not operating. | |
| | | ▪ Cycle the machine off/on<br>▪ Check for and remove any obstruction that blocks the operation of the roller or roller arm<br>▪ Motor harness loose, defective<br>▪ Positioning roller HP sensor dirty<br>▪ Positioning roller HP sensor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective<br>▪ Finisher main board defective | |

| SC724 | B | Positioning roller motor | Finishers (D512/D513) |
|---|---|---|---|
| | | The motor that lowers and raises the positioning roller above the stapling tray not operating. | |
| | | ▪ Cycle the machine off/on<br>▪ Check for and remove any obstruction that blocks the operation of the roller arm<br>▪ Motor harness loose, defective<br>▪ Positioning roller HP sensor dirty<br>▪ Positioning roller HP sensor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective<br>▪ Finisher main board defective | |

| SC725 | B | Exit guide motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The motor that opens and closes the exit guide at the shift tray exit is not operating correctly. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Check for and remove any obstruction that interferes with the operation of the exit guide<br>▪ Exit guide plate HP sensor dirty<br>▪ Exit guide plate HP sensor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective<br>▪ Finisher main board defective | |

| SC726 | B | Shift jogger retraction motor error 1 | Finishers (D512/D513) |
|---|---|---|---|
| | | The drag roller arm with the sponge roller did not return to its home position within the prescribed time. | |
| | | ▪ Arm blocked by an obstruction<br>▪ Motor harness disconnected or defective<br>▪ HP sensor harness disconnected or defective<br>▪ Motor defective<br>▪ HP sensor defective | |

| SC728 | B | Shift jogger retraction motor error 2 | Finishers (D512/D513) |
|---|---|---|---|
| | | The side fences at the exit of the finisher did not leave (or arrive at) their home positions within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | If the motor is rotating, positioning roller HP sensor disconnected or defective<br>-or-<br>If the motor is not rotating:<br>▪ Remove any obstruction blocking movement<br>▪ Positioning roller motor overloaded due to obstruction<br>▪ Positioning roller motor disconnected, defective<br>▪ Main board connectors disconnected or defective<br>▪ Finisher main board defective | |

| SC731 | D | Proof (upper) tray exit motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | Motor drive board output abnormal, or short circuit detected on the board. The 1st failure issues this SC code. | |
| | | ▪ Motor disconnected, defective<br>▪ Finisher connection to motor loose, defective<br>▪ Motor blocked by an obstruction<br>▪ Motor defective | |

| SC732 | D | Shift tray exit motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The shift tray exit motor is not operating. | |
| | | ▪ Motor harness disconnected or defective<br>▪ Motor is blocked by an obstruction<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC733 | D | Stapler exit motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stapler exit motor is not operating. | |
| | | ▪ Motor harness disconnected or defective<br>▪ Motor is blocked by an obstruction<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC734 | D | Proof tray junction gate motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The proof tray JG HP sensor did not detect the junction gate at (or out of) its home position within 2 s. | |
| | | ▪ Proof junction gate HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Proof junction gate motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC735 | D | Stapler junction gate motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stapler JG HP sensor did not detect the stapler junction gate at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Stapler junction gate HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Stapler junction gate motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC737 | B | Pre-stack motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The pre-stack motor that moves the pre-stack roller is not operating. | |
| | | ▪ Motor harness disconnected or defective<br>▪ Motor is blocked by an obstruction<br>▪ Pre-stack roller HP sensor dirty<br>▪ Pre-stack roller HP sensor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective<br>▪ Finisher main board defective | |

| SC738 | B | Pre-stack jg motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The pre-stack JG motor that operates the pre-stack junction gate is not operating. The pre-stack junction gate sensor did not detect the junction gate in (or out of) its home position within the prescribed time. | |
| | | ▪ Pre-stack JG motor harness or connector disconnected or defective<br>▪ Pre-stack JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective<br>▪ Finisher main board defective | |

| SC740 | B | Finisher corner stapler motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stapler motor did not switch off within the prescribed time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code. | |
| | | ▪ Number of sheets in the stack exceeded the limit for stapling<br>▪ If error occurred during stapling, stapler rotation sensor 1 defective (replace stapler)<br>▪ If error did not occur during stapling: staple jam:<br>1. Motor blocked by an obstruction<br>2. Stapler motor harness disconnected or defective<br>3. Corner stapler motor defective<br>4. Finisher main board defective | |

| SC741 | B | Finisher Corner Stapler Rotation Motor Error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stapler did not return to its home position (or did not leave its home position) within the specified time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is running,<br>1. Stapler rotation home position sensor harnesses are broken, loose, or defective<br>2. Stapler rotation home position sensors are defective<br>▪ If the motor is not running:<br>1. Motor is blocked by an obstruction<br>2. Motor harness is disconnected or defective<br>3. Motor is defective | |

| SC742 | B | Corner stapler movement motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stapler did not return to its home position (or leave its home position) within the specified time after stapling. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is running,<br>1. Stapler home position sensor harness is broken, loose, or defective<br>2. Stapler home position sensor is defective<br>▪ If the motor is not running:<br>1. Motor is blocked by an obstruction<br>2. Motor harness is disconnected or defective<br>3. Motor is defective | |

| SC743 | D | Booklet Stapler Motor Error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The booklet stapler motor did not start stapling within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Front motor harness disconnected or defective<br>▪ Front motor overloaded due to obstruction<br>▪ Front motor defective<br>▪ Finisher main board defective | |

| SC745 | B | Feed-out belt motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The stack feed-out belt HP sensor did not activate within the specified time after the stack feed-out belt motor turned on. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating<br>1. Stack feed-out belt HP sensor harness disconnected or defective<br>2. Sensor defective<br>▪ If the motor is not operating:<br>1. Feed-out belt motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC746 | B | Stack plate motor error 1: front motor | Finishers (D512/D513) |
|---|---|---|---|
| | | The stack plate HP sensor (front) did not activate within the prescribed time after the motor turned on. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating<br>1. Front stack plate HP sensor harness disconnected or defective<br>2. Front stack plate HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Booklet finisher main board defective | |

| SC747 | B | Stack plate motor error 2: center motor | Finishers (D512/D513) |
|---|---|---|---|
| | | The stack plate HP sensor (center) did not activate within the prescribed time after the motor turned on. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating<br>1. Center stack plate HP sensor harness disconnected or defective<br>2. Center stack plate HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Booklet finisher main board defective | |

| SC748 | B | Stack plate motor error 3: rear motor | Finishers (D512/D513) |
|---|---|---|---|
| | | The stack plate HP sensor (rear) did not activate within the prescribed time after the motor turned on. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating<br>1. Rear stack plate HP sensor harness disconnected or defective<br>2. Rear stack plate HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Booklet finisher main board defective | |

| SC750 | B | Proof tray lift motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The shift tray paper height sensor did not change its status within the prescribed time after the tray was raised or lowered. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Lift motor disconnected, defective<br>▪ Paper height sensor disconnected, defective<br>▪ Finisher main board connection to motor loose<br>▪ Finisher main board defective | |

| SC753 | D | Drag drive motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The drag roller HP sensor did not detect the drag roller in (or out of) its home position within the prescribed time. (The drag drive motor drives the timing belt that rotates the drag roller at the shift tray exit.) | |
| | | ▪ If the motor is operating<br>1. Drag roller HP sensor harness disconnected or defective<br>2. Drag roller HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC754 | B | Drag roller motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The drag roller motor did not turn on. (The drag roller motor drives the shaft that moves the drag roller left and right at the shift tray exit.) | |
| | | ▪ Motor harness disconnected or defective<br>▪ Motor defective<br>▪ Finisher control board defective | |

| SC755 | D | Shift motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The shift tray HP sensors did not detect the shift tray in (or out of) its home position within the prescribed times. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.<br>**Note**: In the Finisher SR5000 (B830), these sensors are the "half-turn" sensors. | |
| | | ▪ If the motor is operating<br>1. HP sensor harnesses disconnected or defective<br>2. HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC760 | B | Punch motor error | Finishers (D512/D513) |
|---|---|---|---|
| | | The punch HP sensor did not detect the punch movement motor in (or out) of its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating:<br>1. Punch HP sensor disconnected or defective<br>2. Punch HP sensor defective<br>▪ If the motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC761 | D | Fold plate motor error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The fold plate moves but:<br>The fold plate HP sensor did not detect it at the home position within the specified time.<br>-or-<br>The plate remained at the home position longer than the specified time.<br>The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the motor is operating:<br>1. Fold plate HP sensor dirty<br>2. Fold plate HP sensor harness or connector disconnected or defective<br>3. Fold plate HP sensor defective<br>▪ If the motor is not operating:<br>1. Fold plate motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC762 | D | Punch switch motor error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The punch switch motor failed to turn on within the specified time. | |
| | | ▪ Check for and remove obstruction blocking the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Motor defective | |

| SC763 | B | Punch movement motor error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The punch movement HP sensor did not detect the punch at its home position (or out of its home position) within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstructions that block the movement of the punch unit<br>▪ Punch movement HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor defective | |

| SC764 | D | Punch registration (CIS) error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The system detected an error at the CIS (Contact Image Sensor) inside the punch unit during paper registration for paper punching. | |
| | | ▪ Check for and remove any obstructions that block the movement of the punch unit<br>▪ Punch CIS unit harness or connectors disconnected or defective<br>▪ CIS unit defective<br>▪ Punch movement motor defective | |

| SC765 | B | Bottom fence lift motor error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The bottom fence in the booklet fold unit did not return to the home position within the specified time. | |
| | | ▪ Bottom fence mechanism overloaded due to an obstruction<br>▪ Bottom fence HP sensor connector disconnected or defective<br>▪ Bottom fence HP sensor defective<br>▪ Bottom fence lift motor connector disconnected or defective<br>▪ Bottom fence lift motor defective<br>▪ Main board defective | |

| SC766 | B | Clamp roller retraction motor | Booklet Finisher (D512) |
|---|---|---|---|
| | | The clamp roller did not return to the home position within the specified time. | |
| | | ▪ Clamp roller mechanism overloaded due to an obstruction<br>▪ Clamp roller HP sensor connector disconnected or defective<br>▪ Clamp roller HP sensor defective<br>▪ Clamp roller retraction motor connector disconnected or defective<br>▪ Clamp roller retraction motor defective<br>▪ Main board defective | |

| SC767-1 | D | Stack JG motor | Booklet Finisher (D512) |
|---|---|---|---|
| | | The stack junction gate motor did not return to the home position within the prescribed time. | |
| | | ▪ Check junction gate for obstruction and remove it<br>▪ Stack JG HP sensor connector disconnected or defective<br>▪ Sensor defective<br>▪ Stack JG motor connector disconnected or defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC767-2 | B | Stack transport unit motor | Finishers D434 |
|---|---|---|---|
| | | The stack transport unit HP sensor did not detect the stack transport unit at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for any obstruction around the motor and remove it<br>▪ Stack transport unit motor harness or connector disconnected or defective<br>▪ Stack transport unit HP sensor dirty<br>▪ Sensor harness connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor defective<br>▪ Finisher main board defective | |

| SC770 | B | Cover interposer lift motor 1 error | CIT D518 |
|---|---|---|---|
| | | In the first tray:<br>▪ The upper limit sensor did not detect the bottom plate within the specified time after the lift motor switched on to lift the bottom plate.<br>▪ The lower limit sensor did not direct the bottom plate within the specified time after the lift motor switched on to lower the bottom plate.<br>**Note:** In both cases, 1 error count indicates a jam, 2 error counts issue this SC code. | |
| | | ▪ Lift motor, upper limit sensor, lower limit sensor harnesses, connectors disconnected or defective<br>▪ Lift motor defective<br>▪ Upper limit sensor defective<br>▪ Lower limit sensor defective | |

| SC771 | B | Cover interposer lift motor 2 error | CIT D518 |
|---|---|---|---|
| | | In the second tray:<br>▪ The upper limit sensor did not detect the bottom plate within the specified time after the lift motor switched on to lift the bottom plate.<br>▪ The lower limit sensor did not direct the bottom plate within the specified time after the lift motor switched on to lower the bottom plate.<br>**Note:** In both cases, 1 error count indicates a jam, 2 error counts issue this SC code. | |
| | | ▪ Lift motor, upper limit sensor, lower limit sensor harnesses, connectors disconnected or defective<br>▪ Lift motor defective<br>▪ Upper limit sensor defective<br>▪ Lower limit sensor defective | |

| SC772 | B | Cover interposer pickup motor 1 error | CIT D518 |
|---|---|---|---|
| | | In the first tray:<br>▪ While the pick-up roller motor was on, the pick-up roller HP sensor did not detect the pick-up roller at the home position within the specified number of pulses.<br>▪ While the pick-up roller motor was on, the pick-up roller HP sensor did not detect the pick-up roller at the home position above the specified number of pulses.<br>**Note:** In both cases, 1 error count indicates a jam, 2 error counts issue this SC code. | |
| | | ▪ The pick-up motor, pick-up roller HP sensor harnesses, connectors were disconnected or defective<br>▪ Pick-up motor overload due to an obstruction<br>▪ Pick-up motor defective<br>▪ Pick-up roller HP sensor defective | |

| SC773 | D | Cover interposer pickup motor 2 error | CIT D518 |
|---|---|---|---|
| | | In the second tray:<br>▪ While the pick-up roller motor was on, the pick-up roller HP sensor did not detect the pick-up roller at the home position within the specified number of pulses.<br>▪ While the pick-up roller motor was on, the pick-up roller HP sensor did not detect the pick-up roller at the home position above the specified number of pulses.<br>**Note:** In both cases, 1 error count indicates a jam, 2 error counts issue this SC code. | |
| | | ▪ The pick-up motor, pick-up roller HP sensor harnesses, connectors were disconnected or defective<br>▪ Pick-up motor overload due to an obstruction<br>▪ Pick-up motor defective<br>▪ Pick-up roller HP sensor defective | |

| SC775 | B | Top Fence Motor Error | Finishers D512/D513 |
|---|---|---|---|
| | | The top fence HP sensor did not detect the top fence at (or out of) the home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the top fence motor is operating:<br>1. Top fence HP sensor dirty<br>2. Sensor harness disconnected or defective<br>3. Sensor defective<br>▪ If the jogger top fence motor is not operating:<br>1. Top fence motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC776 | B | Bottom Fence Motor Error | Finishers D512/D513 |
|---|---|---|---|
| | | The bottom fence HP senstor did not detect the bottom fence at (or out of) the home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ If the bottom fence motor is operating:<br>1. Bottom fence HP sensor dirty<br>2. Sensor harness disconnected or defective<br>3. Sensor defective<br>▪ If the bottom fence motor is not operating:<br>1. Bottom fence motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC778-1 | D | Horizontal transport motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC778-2 | D | Top tray exit motor | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC778-3 | D | Top tray jg motor | Multi Folding Unit (D521) |
| | | The top tray JG HP sensor did not detect the top tray junction gate at (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Top tray JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Top tray JG motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC778-4 | D | Entrance jg motor | Multi Folding Unit (D521) |
| | | The entrance junction gate HP sensor did not detect the entrance junction gate at (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Entrance JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Entrance JG motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC779 | B | 1st Stopper motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The 1st stopper HP sensor did not detect the 1st stopper in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ 1st stopper HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ 1st stopper motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-1 | B | 2nd Stopper motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The 2nd stopper HP sensor did not detect the 2nd stopper in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ 2nd stopper HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ 2nd stopper motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-2 | B | 3rd Stopper motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The 3rd stopper HP sensor did not detect the 3rd stopper in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ 3rd stopper HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ 3rd stopper motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC783-3 | B | 1st Fold motor error | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC783-4 | B | 2nd Fold motor error | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC783-5 | B | Crease motor error | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC783-6 | B | Dynamic roller transport motor error | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC783-7 | B | Reg. roller transport motor error | Multi Folding Unit (D521) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| SC783-8 | B | Dynamic roller lift motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The dynamic roller HP sensor did not detect the dynamic roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Dynamic roller HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Dynamic roller lift motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-9 | B | Registration roller release motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The registration roller HP sensor did not detect the registration roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Registration roller HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Registration roller release motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-10 | B | Fold plate motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The fold plate HP sensor did not detect the fold plate in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Fold plate HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Fold plate motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-11 | B | Jogger Fence Motor | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The jogger fence HP sensor did not detect the jogger fence in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Jogger fence HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Jogger fence motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-12 | B | Positioning Roller Motor Error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The positioning roller HP sensor did not detect the positioning roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Positioning roller HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Positioning roller motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-13 | B | FM2 Direct-send JG motor | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The direct-send JG HP sensor did not detect the direct-send JG in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ FM2 direct-send JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ FM2 direct-send JG motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC783-14 | B | FM6 Pawl motor | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The FM6 pawl HP sensor did not detect the FM6 pawl in (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ FM6 pawl HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ FM6 pawl motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC786-10 | D | Path junction gate error | Ring Binder (D519) |
|---|---|---|---|
| | | The path junction gate that directs paper to the punch unit below is not operating correctly. | |
| | | ▪ Physical obstruction interfering with the smooth operation of the path junction gate.<br>▪ Path junction gate HP sensor dirty, disconnected, damaged, or out of position.<br>▪ Path junction gate motor connection harness loose, disconnected, damaged<br>▪ Path junction gate motor defective | |

| SC787-1 | D | Entrance motor error | Stacker (D515) |
|---|---|---|---|
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| SC787-2 | D | Shift JG Motor Error | Stacker (D515) |
|---|---|---|---|
| | | The shift tray JG HP sensor did not detect the shift junction gate in (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.. | |
| | | ▪ Shift tray JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Shift tray JG motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC787-3 | B | Transport motor error | Stacker (D515) |
|---|---|---|---|
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| SC787-4 | D | Proof tray JG motor | Stacker (D515) |
|---|---|---|---|
| | | The proof tray JG HP sensor did not detect the proof tray junction gate in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Proof tray JG HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Proof tray JG motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC787-5 | D | Proof tray exit motor error | Stacker (D515) |
|---|---|---|---|
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| SC789 | B | Proof tray exit motor error | Multi Folding Unit (D521) |
|---|---|---|---|
| | | The motor drive PCB detected an error at the motor due to overload, overheating. Paper cannot exit at proof tray. | |
| | | ▪ Motor, motor drive board defective | |

| SC790 | D | Booklet stapler jogger motor error | Booklet Finisher (D512) |
|---|---|---|---|
| | | The jogger fence HP sensor failed to detect the jogger fence at the home position within the specified time. | |
| | | ▪ If the booklet stapler jogger motor is operating:<br>1. Jogger fence HP sensor harness disconnected or defective<br>2. Jogger fence HP sensor defective<br>▪ If the jogger bottom fence motor is not operating:<br>1. Motor blocked by an obstruction<br>2. Motor harness disconnected or defective<br>3. Motor defective<br>4. Finisher main board defective | |

| SC791 | B | Booklet stapler bottom fence motor | Booklet Finisher (D512) |
|---|---|---|---|
| | | The bottom fence failed to return to home position or failed to leave the home position within the prescribed time. | |
| | | ▪ An obstruction is blocking the movement of the bottom fence<br>▪ Motor harness disconnected or defective<br>▪ Bottom fence HP sensor disconnected or defective<br>▪ Motor defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-1 | D | Junction gate error | Ring Binder (D519) |
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 36 pulses) (1 detection, jam, twice detected, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 22 pulses) (1 detection, jam, twice detected, SC error) | |
| | | ▪ Path JG motor (M201) defective<br>▪ Motor connector disconnected or defective<br>▪ Motor overload<br>▪ Path JG sensor (S203) connector disconnected or defective<br>▪ Sensor (S203) defective | |

| | | | |
|---|---|---|---|
| SC792-2 | B | Pre-punch side fence HP error | Ring Binder (D519) |
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 pulses) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 600 pulses) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Side jogger motor (M302) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Pre-punch jogger HP sensor (S301) connector disconnected or defective<br>▪ Sensor (S301) defective | |

| SC792-3 | D | Pre-punch jogger roller HP error | Ring Binder (D519) |
|---|---|---|---|
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 36 pulses) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 22 pulses) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Jog roller lift motor (M305) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Jog roller lift HP sensor (S309) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-4 | B | Ring binder punch defective | Ring Binder (D519) |
|---|---|---|---|
| | | One or more of the following occurred:<br>Punch unit not detected at initialization.<br>No motor rotation detected at HP at 30 ms after the DC motor turned on<br>No encoder pulse detected at HP at 5 ms after the DC motor turned on<br>Not detected at HP at 400 ms after the DC motor turned on | |
| | | ▪ Punch motor (M304) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Punch HP sensor (S302) connector disconnected or defective, or sensor defective<br>▪ Punch encoder sensor (S303) connector disconnected or defective, or sensor defective | |

| | | | |
|---|---|---|---|
| SC792-5 | B | Paddle roller HP error | Ring Binder (D519) |
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Paddle roller lift motor (M603) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Paddle roller HP sensor (S602) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-6 | B | Jogger fence 1 error | Ring Binder (D519) |
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Jogger fence 1 motor (M604) connector, disconnected or defective<br>▪ Motor defective<br>▪ Motor overload<br>▪ Side fence 1 HP sensor (S601) connector, disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-7 | B | Jogger fence 2 error | Ring Binder (D519) |
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Jogger fence 2 motor (M606) connector, disconnected or defective<br>▪ Motor defective<br>▪ Motor overload<br>▪ Side fence HP sensor 1 (S611) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-8 | B | Stack tamper HP error | Ring Binder (D519) |
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Stack tamper motor (M607) connector, disconnected or defective<br>▪ Motor defective<br>▪ Motor overload<br>▪ Stack tamper HP sensor (S612) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-9 | B | Pre-bind jogger clamp HP error | Ring Binder (D519) |
|---|---|---|---|
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Spine clamp motor (M605) connector disconnected or defective<br>▪ Motor defective<br>▪ Motor overload<br>▪ Clamp HP sensor (S603) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-10 | B | Binder unit run-out error | Ring Binder (D519) |
|---|---|---|---|
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Run-out press roller motor (M610) connector disconnected or defective<br>▪ Motor defective<br>▪ Motor overload<br>▪ Run-out roller HP sensor (S614) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-11 | B | Clamp thickness error | Ring Binder (D519) |
| | | 50-sheet detection sensor (S606) went OFF during pre-bind jogging when a 100-sheet thickness was detected. (1st detection jam, 2nd detection SC error)<br>-or-<br>50-sheet detection sensor went OFF at initialization when the clamp moved to the open position. | |
| | | ▪ 50-sheet detection sensor (S606) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-12 | B | Alignment pin error | Ring Binder (D519) |
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Alignment pin motor (M602) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Alignment pin HP sensor (S604) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-13 | B | Pre-bind jogger shutter error | Ring Binder (D519) |
|---|---|---|---|
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Shutter motor (M608) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Shutter HP sensor (S605) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-14 | B | 50/100 clamp adjustment error | Ring Binder (D519) |
|---|---|---|---|
| | | Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 400 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ 50/100 adjustment motor (M702) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Ring switch HP sensor (S706) connector disconnected or defective, or sensor defective<br>▪ Ring switch timing sensor (S707) connector disconnected or defective, or sensor defective | |

| | | | |
|---|---|---|---|
| SC792-15 | B | Timing sensor interval error | Ring Binder (D519) |
| | | The bind timing sensor (S702) remained ON or OFF longer than the prescribed time (1500 ms) during initialization or ring binding (1st detection: jam, 2nd detection: SC error) | |
| | | ▪ Clamp unit motor (M701) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Bind timing sensor (S702) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-16 | B | Clamp unit HP error | Ring Binder (D519) |
| | | At initialization or during ring binding, did not arrive at the home position within the prescribed time (1500 ms) (1st detection: jam, 2nd detection: SC error)<br>-or-<br>Detected at HP after the time prescribed to leave the HP had elapsed (more than 1500 ms) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Clamp unit motor (M701) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Clamp unit HP sensor (S701) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-17 | B | Spine alignment error | Ring Binder (D519) |
|---|---|---|---|
| | | During pin alignment operation, the pin did not reach the up position or return to the home position within the prescribed time (400 ms), and one retry failed within the same time limit. | |
| | | ▪ Alignment pin motor (M602) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Alignment pin HP sensor (S604) connector disconnected or defective, or sensor defective<br>▪ Alignment pin up sensor (S610) connector disconnected or defective, or sensor defective<br>▪ Stack not jogged correctly, or not punched correctly | |

| SC792-18 | B | Binder unit not detected | Ring Binder (D519) |
|---|---|---|---|
| | | The binder unit could not be detected at initialization. | |
| | | ▪ Drawer connector disconnected or defective<br>▪ Drawer connector defective | |

| SC792-19 | B | Output belt unit rotation error | Ring Binder (D519) |
|---|---|---|---|
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 800 pulses) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 2300 pulses) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Output belt rotation motor (M403) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Output belt rotation HP sensor (S403) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-20 | B | Output belt 1 HP error | Ring Binder (D519) |
|---|---|---|---|
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 200 pulses) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 2125 pulses) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Output belt 1 motor (M401) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Output belt 1 HP sensor (S401) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-21 | B | Output belt 2 HP error | Ring Binder (D519) |
| | | Detected at HP after the time prescribed to leave the HP had elapsed (more than 200 pulses) (1st detection, jam, 2nd detection, SC error)<br>-or-<br>Not detected at HP after the time prescribed to arrive at the HP had elapsed (more than 3130 pulses) (1st detection, jam, 2nd detection, SC error) | |
| | | ▪ Output belt 2 motor (M402) connector disconnected or defective<br>▪ Motor overload<br>▪ Motor defective<br>▪ Output belt 2 HP sensor (S402) connector disconnected or defective<br>▪ Sensor defective | |

| | | | |
|---|---|---|---|
| SC792-22 | B | Stack height error | Ring Binder (D519) |
| | | Stack height sensor remained ON while moving toward the top.<br>-or-<br>The sensor did not go ON within 6 sec. after the motor turned on. | |
| | | ▪ Stacker motor (M501) connector disconnected or defective<br>▪ Motor overload<br>▪ Stack height sensor (S502) connector disconnected or defective<br>▪ Sensor defective | |

| SC792-23 | B | Stacker error | Ring Binder (D519) |
|---|---|---|---|
| | | Although the stacker was full at the start and end of stacker operation with the stacker full (stacker sensors ON together), no documents were detected (also when documents were leaning)<br>-or-<br>Although the stacker was detected full with the stacker stopped, no documents were detected within 2 sec.<br>(1st detection jam, 2nd detection SC error) | |
| | | ▪ Stacker HP sensor (S501) connector disconnected or defective, or sensor defective<br>▪ Stacker height HP sensor (S502) connector disconnected or defective, or sensor defective<br>▪ Stacker detect sensor (S504) disconnected or defective, or sensor defective | |

| SC793-1 | B | Shift motor error | Stacker (D515) |
|---|---|---|---|
| | | The shift roller HP sensor did not detect the shift roller at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Shift roller HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Shift motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or motor drive board defective | |

| SC793-2 | B | Front Jogger Fence Motor Error | Stacker (D515) |
|---|---|---|---|
| | | The front jogger fence HP sensor did not detect the front jogger fence at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Front jogger fence HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or shift motor drive board defective | |

| SC793-3 | B | Rear Jogger Fence Motor Error | Stacker (D515) |
|---|---|---|---|
| | | The rear jogger fence HP sensor did not detect the rear jogger fence at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Rear jogger fence HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or shift motor drive board defective | |

| SC793-4 | B | Jogger fence retraction motor error | Stacker (D515) |
|---|---|---|---|
| | | The jogger fence retraction HP sensor did not detect the jogger fences at (or out of) their home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Jogger fence retraction HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or shift motor drive board defective | |

| SC793-5 | B | Sub jogger motor error | Stacker (D515) |
|---|---|---|---|
| | | The sub jogger HP sensor did not detect the sub jogger fence at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Sub jogger fence HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or shift motor drive board defective | |

| SC793-6 | B | LE Stopper Motor Error | Stacker (D515) |
|---|---|---|---|
| | | The LE stopper HP sensor did not detect the leading edge stopper at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ LE stopper HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Check for and remove any obstructions that interfere with the operation of the motor<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor or shift motor drive board defective | |

| SC793-7 | B | Tray lift motor error | Stacker (D515) |
|---|---|---|---|
| | | When the tray was ascending (or descending), the state of the paper height sensor did not change at the prescribed time to detect the height of the stack and adjust the height of the tray. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstructions that interfere with the operation of the tray lift motor or paper height sensor actuator<br>▪ Sensor actuator loose or broken<br>▪ Sensor harness or connector disconnected or defective<br>▪ Motor harness or connector disconnected or defective<br>▪ Sensor defective<br>▪ Motor defective | |

| | | | |
|---|---|---|---|
| SC793-8 | D | Shift tray exit motor error | Stacker (D515) |
| | | The motor drive PCB detected an error at the motor. | |
| | | ▪ Motor harness or connector disconnected or defective<br>▪ Motor or motor drive board defective | |

| | | | |
|---|---|---|---|
| SC799-1 | D | Trimming blade motor error | Trimmer (D520) |
| | | The trimming blade HP sensor did not detect the blade at (or out of) its home position within the prescribed time during trimming. The 1st detection causes a jam signal if the error occurred during cutting. The 2nd detection causes this SC code if the error occurred at the start or end of cutting. | |
| | | ▪ Check for and remove any obstacles (jammed paper scraps) around the blade, motor, or sensor<br>▪ Trimming blade HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Trimming blade motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Trimming unit main board defective | |

| | | | |
|---|---|---|---|
| SC799-2 | B | Press roller motor error | Trimmer (D520) |
| | | The press roller HP sensor did not detect the press roller at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstacles around the motor and sensor<br>▪ Press roller motor HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Press roller motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Trimming unit main board defective | |

| SC799-3 | B | Cut Position Motor Error | Trimmer (D520) |
|---|---|---|---|
| | | The cut position HP sensor did not detect the cut position stopper at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstacles around the motor and sensor<br>▪ Cut position HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Cut position motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Trimming unit main board defective | |

| SC799-4 | B | Press stopper motor error | Trimmer (D520) |
|---|---|---|---|
| | | The press stopper HP sensor did not detect the press stopper at (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code. | |
| | | ▪ Check for and remove any obstacles around the motor and sensor<br>▪ Press stopper HP sensor dirty<br>▪ Sensor harness or connector disconnected or defective<br>▪ Press stopper motor harness or connector disconnected or defective<br>▪ Motor defective<br>▪ Trimming unit main board defective | |

## 7.2.8 C 800: FIRMWARE

<table>
<tr><td>SC816</td><td>D</td><td colspan="2">Energy save I/O subsystem error</td><td>GW</td></tr>
<tr><td></td><td></td><td colspan="3">An error was detected in the signal from the ASIC (controller board) which controls the STR (Suspend to RAM) function.<br>Note: STR is a feature of this machine that minimizes energy consumption while the machine is in the energy saver mode.</td></tr>
<tr><td></td><td></td><td colspan="3">▪ Reboot the machine.<br>▪ Replace the controller board.</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-5</td><td colspan="2">SCS</td></tr>
<tr><td></td><td></td><td colspan="2">Machine attempted to enter STR mode before engine was OFF.</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-39</td><td colspan="2">Sub System</td></tr>
<tr><td></td><td></td><td colspan="2">Error occurred during system start up.</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-50</td><td colspan="2">Hardware</td></tr>
<tr><td></td><td></td><td colspan="2">Printer version only. Not used for this machine.</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-67</td><td colspan="2">NCS (Network Control Service)</td></tr>
<tr><td></td><td></td><td colspan="2">An error occurred in the access control port list:<br>▪ Number of registrations exceeded 125<br>▪ Data notifications exceeded 12<br>▪ Data extension incorrect</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-79</td><td colspan="2">Sub System</td></tr>
<tr><td></td><td></td><td colspan="2">Message mismatch.</td></tr>
<tr><td></td><td></td><td rowspan="2">SC816-90</td><td colspan="2">Hardware/System</td></tr>
<tr><td></td><td></td><td colspan="2">A forced system reset (WDOG) occurred.</td></tr>
</table>

| | | | |
|---|---|---|---|
| SC819 | D | Fatal kernel error | GW |
| | | Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel. | |
| | | ▪ System program defective<br>▪ Controller board defective<br>▪ Optional board defective<br>▪ Replace controller firmware | |
| | | 0x5032 | HAIC-P2 decompression error |
| | | | Error occurred in the compression/decompression module of ASIC Veena in HAIC-P2.<br>If EFI (Fiery Controller) is connected, refer to the EFI manual. If EFI is not connected:<br>▪ HDD defective<br>▪ System memory defective |
| | | 0x6261 | HDD Defective |
| | | | There was no response from HDD. The power supply to the HDD may have been interrupted suddenly.<br>▪ Re-format HDD.<br>▪ Replace HDD |
| | | 554C | USB loader defect |
| | | | USB loader was detected as defective. |
| | | **Note**: For more details about these SC code errors, execute SP5990 to print an SMC report so you can read the error code list. The error code is not displayed on the operation panel. | |

| SC820 | D | Self-diagnostic Error: CPU: ASIC Interrupt Error | GW |
|---|---|---|---|
| 0612 | | One of the following occurred:<br>▪ System program defective<br>▪ Controller board defective<br>▪ Optional board defective<br>▪ Replace controller firmware<br>**Note**: For more details about these SC code errors, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel. | |

| SC833 | D | Self-diagnostic error: Engine I/F ASIC | GW |
|---|---|---|---|
| 0F30 | | ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked. | |
| 0F31 | | ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked. | |
| 0F41 | | The read/write check done for resident RAM on the mother board could not be done correctly. | |
| 50B1 | | Could not initialize or read the bus connection. | |
| 50B2 | | Value of the SSCG register is incorrect. | |
| | | ▪ One or more MB (Motherboard) connections loose, damaged, defective<br>▪ MB defective | |

| | | | |
|---|---|---|---|
| SC842 | B | NAND-Flash Update Verify Error Detected. | **GW** |
| | | This SC can occur when the remote ROM and ROM is updated. SCS detected a verify error when a module was written into NAND-Flash. After the second attempt, the machine returns SC819 (Kernel Error).<br>**Note**: SCS is the "System Control Service" or Service Resource Manager that performs processing between applications/ECS and the engine. It receives and delivers information about the engine, engine status, and job processing. It also exercises exclusive control of the operation panel and engine resources. | |
| | | ▪ Cycle the machine off/on. | |

| | | | |
|---|---|---|---|
| SC851 | B | IEEE 1394 I/F Error | GW |
| | | Driver setting incorrect and cannot be used by the 1394 I/F. | |
| | | ▪ NIB (PHY), LINK module defective; change the Interface Board<br>▪ Controller board defective | |

| | | | |
|---|---|---|---|
| SC853 | B | Wireless LAN Error 1 | GW |
| | | During machine start-up, the machine can access the board that holds the wireless LAN (Bluetooth), but not access the wireless LAN card. | |
| | | ▪ Wireless LAN card missing (was removed) | |

| | | | |
|---|---|---|---|
| SC854 | B | Wireless LAN Error 2 | GW |
| | | The board that holds the wireless LAN card (Bluetooth) could be accessed, but the wireless LAN card could not be accessed while the machine was operating. | |
| | | ▪ Wireless LAN card has been removed. | |

| | | | |
|---|---|---|---|
| SC855 | B | Wireless LAN Error 3 | GW |
| | | An error was detected for the wireless LAN card (802.11b or Bluetooth). | |
| | | ▪ Wireless card not installed correctly.<br>▪ Wireless LAN card defective | |

| | | | |
|---|---|---|---|
| SC856 | B | Wireless LAN Error 4 | GW |
| | | An error was detected for the wireless LAN board (Bluetooth). | |
| | | ▪ Wireless LAN card board defective.<br>▪ PCI connector disconnected or defective. | |

| | | | |
|---|---|---|---|
| SC857 | B | USB I/F Error | GW |
| | | The USB driver is unstable and generated an error. | |
| | | ▪ USB board defective<br>▪ Controller board defective | |

| | | | |
|---|---|---|---|
| SC858 | A | Data Encryption Error 1 | GW |
| | | These are errors of the HDD Data Encryption Option D377. | |
| | 0 | Key Acquisition | |
| | | Key could be acquired.<br>▪ Replace the controller board | |
| | 1 | HDD Key Setting Error | |
| | | The key was acquired but the HDD could not be set.<br>▪ Turn the machine power off/on several times.<br>▪ Replace the controller board. | |
| | 2 | NVRAM Read Error | |
| | | NVRAM data conversion failed (mismatch with nvram.conf)<br>▪ Replace the NVRAM | |

| | | |
|---|---|---|
| | 30 | NVRAM Before Replace Error |
| | | DFU. May occur during development.<br>▪ Turn the machine power off/on several times.<br>▪ Replace the controller board. |
| | 31 | Other Error |
| | | An unexpected error occurred while data was being converted. This error is the same as SC991. See SC991 below. |

| | | | |
|---|---|---|---|
| SC859 | B | Data Encryption Error 2 | GW |
| | | These are errors of the HDD Data Encryption Option D377. | |
| | 8 | HDD Check Error | |
| | | Data conversion was attempted with no HDD unit present.<br>▪ Confirm that HDD unit installed correctly<br>▪ Initialize HDD with SP5832-1<br>**Note**: After installation, a new HDD should be formatted with SP5832-1 | |
| | 9 | Power Loss During Data Conversion | |
| | | Data conversion stopped before NVRAM/HDD data was converted.<br>Format HDD with SP5832-1 | |
| | 10 | Data Read Command Error | |
| | | More than two illegal DMAC communications were returned.<br>▪ HDD defective<br>▪ Format HDD with SP5832-1<br>Replace HDD | |

| SC860 | B | HDD startup error at power on | GW |
|---|---|---|---|
| | | HDD is connected but a driver error is detected, or the driver did not respond with the status of the HDD within 30 s. | |
| | | ▪ HDD is not initialized<br>▪ Level data is corrupted<br>▪ HDD is defective (attempt to initialize the HDD with SP5832-001) | |

| SC861 | D | HDD re-try failure | GW |
|---|---|---|---|
| | | At power on with the HDD detected, power supply to the HDD is interrupted, after the HDD is awakened from the sleep mode, the HDD is not ready within 30 s. | |
| | | ▪ Harness between HDD and board disconnected, defective<br>▪ HDD power connector disconnected<br>▪ HDD defective<br>▪ Controller board defective | |

| SC863 | D | HDD data read failure | GW |
|---|---|---|---|
| | | The data written to the HDD cannot be read normally, due to bad sectors generated during operation. | |
| | | ▪ HDD defective<br>Note: If the bad sectors are generated at the image partition, the bad sector information is written to NVRAM, and the next time the HDD is accessed, these bad sectors will not be accessed for read/write operation. | |

| SC864 | D | HDD data CRC error | GW |
|---|---|---|---|
| | | During HDD operation, the HDD cannot respond to an CRC error query. Data transfer did not execute normally while data was being written to the HDD. | |
| | | ▪ HDD defective | |

| SC865 | D | HDD access error | GW |
|---|---|---|---|
| | | HDD responded to an error during operation for a condition other than those for SC863, 864. | |
| | | ▪ HDD defective. | |

| SC866 | B | SD card error 1: Confirmation | GW |
|---|---|---|---|
| | | The machine detected an electronic license error in the application on the SD card in the controller slot immediately after the machine was turned on.<br>Note:<br>▪ The program on the SD card contains electronic confirmation license data.<br>▪ If the program does not contain this license data, or if the result of the check shows that the license data in the program on the SD card is incorrect, then the checked program cannot execute and this SC code is displayed. | |
| | | ▪ Program missing from the SD card<br>▪ Download the correct program for the machine to the SD card | |

| SC867 | D | SD card error 2: SD card removed | GW |
|---|---|---|---|
| | | The SD card was removed while the machine is on. | |
| | | ▪ Insert the SD card.<br>▪ Turn the machine off and on. | |

| SC868 | D | SD card error 3: SD card access | GW |
|---|---|---|---|
| | | An error occurred while an SD card was in use. | |
| | | ▪ SD card not inserted correctly<br>▪ SD card defective<br>▪ Controller board defective<br>**Note**: You can try to reformat the SD with the SD Formatter Ver. 1.1 | |

| | | | |
|---|---|---|---|
| SC870 | B | Address book data error | GW |
| | | The address book data cannot be read from the HDD or SD card where it is stored, or the data read from the media is defective. | |
| | | ▪ Cycle the machine off/on.<br>▪ Software defective.<br>▪ Replace controller firmware.<br>▪ HDD defective. | |
| | | **More Details**<br>▪ Do SP5846-50 to reset all address book data.<br>▪ Reset the user information with SP5832-6.<br>▪ Replace the HDDs. | |

| | | | |
|---|---|---|---|
| SC872 | B | HDD mail receive data error | GW |
| | | An HDD error was detected immediately after power on, or the machine detected that the HDD was not operating correctly (data read or write) while receiving mail. The HDD may be defective or the machine was accidentally powered off while the HDD was being accessed. | |
| | | ▪ Reformat the mail RX data on the HDD with SP5832-7<br>▪ Replace the HDD | |

| | | | |
|---|---|---|---|
| SC873 | B | HDD mail send data error | GW |
| | | An error was detected on the HDD immediately after the machine was turned on, or power was turned of while the machine was using the HDD. | |
| | | ▪ Do SP5832-007 (Format HDD – Mail TX Data) to initialize the HDD.<br>▪ Replace the HDD. | |

| | | | |
|---|---|---|---|
| SC874 | D | Delete All error 1: HDD | GW |
| | | A data error was detected for the HDD/NVRAM after the Delete All option was used.<br>**Note**: The source of this error is the Data Overwrite Security Unit running from an SD card. | |
| | | ▪ Turn the main switch off/on and try the operation again.<br>▪ Install the Data Overwrite Security Unit again..<br>▪ HDD defective | |

| | | | |
|---|---|---|---|
| SC875 | D | Delete All error 2: Data area | GW |
| | | An error occurred while the machine deleted data from the HDD.<br>**Note**: The source of this error is the Data Overwrite Security Unit D377 running from an SD card. | |
| | | ▪ Cycle the machine off/on.<br>▪ Try the operation again. | |

| SC876 | D | Log data errors | | GW |
|---|---|---|---|---|
| | | 876-1 | Log data error 1 | |
| | | | An error was detected in the handling of the log data at power on or during machine operation. This can be caused by switching the machine off while it is operating. | |
| | | | ▪ Initialize the HDD with SP5832-4 | |
| | | 876-2 | Log data error 2 | |
| | | | HDD encryption unit not installed. | |
| | | | ▪ Install the HDD encryption unit. | |
| | | 876-3 | Log data error 3 | |
| | | | Invalid log encryption key due to defective NVRAM data. | |
| | | | ▪ Initialize the HDD with SP5832-4<br>▪ Request customer's system administrator to disable HDD encryption with the User Tool. | |
| | | 876-4 | Log data error 4 | |
| | | | Erratic HDD encryption due to defective NVRAM data. | |
| | | | ▪ Initialize HDD with SP5832-4 | |
| | | 876-5 | Log data error 5 | |
| | | | ▪ Re-install the previous NVRAM or HDD.<br>▪ Initialize the HDD with SP5832-4. | |
| | | 876-99 | Log data error 6 | |
| | | | An error other than Log Data Errors 1 to 5 occurred. | |
| | | | ▪ Request assistance from your supervisor. | |

| | | | |
|---|---|---|---|
| SC877 | B | Data Overwrite Security SD card error | GW |
| | | An error occurred, preventing successful execution of the Data Overwrite Security function, even though it has been set up and enabled. | |
| | | ▪ DOS card is not inserted completely into the SD card slot<br>▪ DOS card has been removed from the SD card slot.<br>▪ DOS card is damaged.<br>**Note**:<br>▪ If the SD card has been removed (or was not installed correctly), switch the machine off, insert the SD card, then switch on the machine again.<br>▪ If the SD card has been damaged, procure a new SD card, replace the NVRAM, then do the DOS option installation. | |

| | | | |
|---|---|---|---|
| SC878 | D | TPM authentication error | GW |
| | | The system firmware could not be authenticated by the TMP security chip. | |
| | | 1. System firmware updated incorrectly.<br>2. Flash ROM on controller board defective.<br>3. Replace controller board. | |

**Trusted Platform Module**. In computing, Trusted Platform Module (TPM) is both the name of a published specification detailing a secure cryptoprocessor that can store cryptographic keys that protect information, as well as the general name of implementations of that specification, often called the "TPM chip" or "TPM Security Device" (as designated in certain Dell BIOS settings).

| | | | |
|---|---|---|---|
| SC881 | D | Management area error | GW |
| | | This is a software error than can occur:<br>▪ At login<br>▪ When a print job was received<br>▪ When WEB browser was opened | |
| | | 1. Cycle the machine off/on. | |

| | | | |
|---|---|---|---|
| SC899 | D | Software error | GW |
| | | A software error occurred in the GW controller. | |
| | | ▪ Cycle the machine off/on<br>▪ Update controller firmware<br>▪ Controller board defective | |

## 7.2.9 SC900: OTHER

| | | | |
|---|---|---|---|
| SC900 | D | Electrical total counter error | GW |
| | | The total counter contains data that is not a number. | |
| | | ▪ NVRAM incorrect type<br>▪ NVRAM defective or corrupted<br>▪ Unexpected error from external source | |

| | | | |
|---|---|---|---|
| SC910 | B | External controller error 1 | GW |
| SC 911 | B | External controller error 2 | GW |
| SC 912 | B | External controller error 3 | GW |
| SC 913 | B | External controller error 4 | GW |
| SC 914 | B | External controller error 5 | GW |
| | | The external controller alerted the machine about an error. | |
| | | ▪ Refer to the instructions for the external controller | |

| | | | |
|---|---|---|---|
| SC 919 | D | External controller error 6 | GW |
| | | While EAC (External Application Converter), the conversion module, was operating normally, the receipt of a power line interrupt signal from the FLUTE serial driver was detected, or BREAK signal from the other station was detected. | |
| | | 1. Controller power outage<br>2. Controller rebooted<br>3. Connection to controller loose | |

| | | | |
|---|---|---|---|
| SC920 | B | Printer Error 1 | GW |
| | | An internal application error was detected and operation cannot continue. | |
| | | ▪ Software defective, switch off/on, or change the controller firmware<br>▪ Insufficient memory | |

| | | | |
|---|---|---|---|
| SC921 | D | Printer Error 2: Font error | GW |
| | | When the printer application started, the specified font could not be found on the SD card. | |
| | | ▪ The specified font is not on the SD card<br>▪ SD card data corrupted | |

| | | | |
|---|---|---|---|
| SC925 | B | Net File function error | GW |
| | | The NetFile file management on the HDD cannot be used, or a NetFile management file is corrupted and operation cannot continue. The HDDs are defective and they cannot be debugged or partitioned, so the Scan Router functions (delivery of received faxes, document capture, etc.), Web services, and other network functions cannot be used.<br>HDD status codes are displayed below the SC code: | |
| | | ▪ Refer to the four procedures below (Recovery from SC 925). | |

Here is a list of HDD status codes:

| Display | Meaning |
|---|---|
| (-1) | HDD not connected |
| (-2) | HDD not ready |
| (-3) | No label |
| (-4) | Partition type incorrect |
| (-5) | Error returned during label read or check |
| (-6) | Error returned during label read or check |
| (-7) | “filesystem” repair failed |
| (-8) | “filesystem” mount failed |
| (-9) | Drive does not answer command |
| (-10) | Internal kernel error |
| (-11) | Size of drive is too small |
| (-12) | Specified partition does not exist |
| (-13) | Device file does not exist |

**Recovery from SC 925**

**Procedure 1**

If the machine shows SC codes for HDD errors (SC860 to SC865) with SC 925, do the recovery procedures for SC860 to SC865.

**Procedure 2**

- If the machine does not show one of the five HDD errors (SC860 to SC865), turn the machine power off and on.
- If this is not the solution for the problem, then initialize the NetFile partition on the HDD with SP5832-11 (HDD Formatting – Ridoc I/F).

  NetFiles: These are jobs printed from the document server using a PC and DeskTopBinder.

  Before you initialize the NetFile partition on the HDD, tell the customer:

  1. Received faxes on the delivery server will be erased
  2. All captured documents will be erased

3. Desk Top Binder/Print Job Manager/Desk Top Editor job history will be erased
4. Documents on the document server, and scanned documents, will not be erased.
5. The first time that the network gets access to the machine, the management information must be configured again (this will use a lot of time).

- Before you initialize the Netfile partition with SP5832-11, do these steps:
- Go into the User Tools mode and do “Delivery Settings” to print all received fax documents that are scheduled for delivery. Then erase them.
- In the User Tools mode, do Document Management> Batch Delete Transfer Documents.
- Do SP5832-11, and turn the machine off and on.

**Procedure 3**

1. If “Procedure 2” is not the solution for the problem, do SP5832-1 (HDD Formatting – All)
2. Cycle the machine off/on.

Important

- SP5832-001 erases all document and address book data on the hard disks. Consult with the customer before you do this SP code.

**Procedure 4**

If “Procedure 3” does not solve the problem, replace the HDD.

| | | | |
|---|---|---|---|
| SC990 | D | Software error 1 | GW |
| | | An unexpected operation was encountered by the software. | |
| | | ▪ Software crash, reboot the machine<br>▪ If the HDDs have just been replaced, be sure to download the stamp data (SP 5853).<br>▪ With SP5990 004(SMC Report – Logging Data), print the most recent information for SC990.<br>▪ The SC990 information displays the file name, line number, and value. Report this information to your technical supervisor. For example: **Function.c LINE: 123 VAL: 0** | |

| | | | |
|---|---|---|---|
| SC991 | C | Software Error 2 | GW |
| | | The software peformed an unexpected function and the program cannot continue. Recovery processing allows the program to continue. | |
| | | 1. Software defective, re-boot | |

In order to get more details about SC991:

- Execute SP7403 or print an SMC Report (SP5990) to read the history of the 10 most recent logged errors.
- If you press the zero key on the operation panel with the SP selection menu displayed, you will see detailed information about the recently logged SC991, including the software file name, line number, and so on. Of these two methods, 1) is the recommended method, because another SC could write over the information for the previous SC.

| | | | |
|---|---|---|---|
| SC992 | D | Undefined Error (No SC Code) | GW |
| | | An error not controlled by the system occurred (the error does not come under any other SC code). | |
| | | ▪ Software defective<br>▪ Turn the machine power off and on. The machine cannot be used until this error is corrected.<br>▪ Re-install firmware | |

| | | | |
|---|---|---|---|
| SC994 | C | Operation Panel Management Records Exceeded | GW |
| | | An error occurred because the number of records exceeded the limit for images managed in the service layer of the firmware. This can occur if there if there are too many application screens open on the operation panel. | |
| | | ▪ No action required because this SC does not interfere with operation of the machine. | |

| | | |
|---|---|---|
| SC995 | Serial Number Setting Incorrect | |
| | The 11-digit serial number is printed on the data plate. This information is compared with the installed components to detect mismatches. | |
| SC995-01 | D | Serial Number Mismatch 1 |
| | | ▪ Enter the correct information for the model with SP5811 or use the previous NVRAM.<br>▪ Cycle the machine off/on. |
| SC995-02 | D | NVRAM Mismatch |
| | | Use the previous NVRAM.<br>-or- If the NVRAM must be replaced:<br>▪ Prepare an SD card with the current model information.<br>▪ Do SP5825 to download the new model information from the SD card to new NVRAM.<br>▪ Remove the SD card.<br>▪ Cycle the main machine off/on. |
| SC995-03 | D | Controller Mismatch, or Controller Board Defective |
| | | You must install the CTL controller board designed for use with this machine. |
| SC995-04 | D | Serial Number Mismatch 2 |
| | | Reinstall the components which have been removed from the machine. |
| **Note:** One example of a case where the above SC occurs is when a control board for the 65 cpm machine is mistakenly installed on a 75 cpm machine or vice versa. (SC995-03 could be initiated in this case.) | | |

| | | | |
|---|---|---|---|
| SC997 | B | Application selection error 1 | GW |
| | | An application did not start after pressing the appropriate key on the op panel. | |
| | | ▪ Software bug (change the firmware for the application that failed)<br>▪ A RAM or DIMM option required by the application is not installed or not installed correctly. | |
| SC998 | D | Application selection error 2 | GW |
| | | Register processing did not execute for an application within 60 sec. after the machine was switched on. No applications start correctly, and all end abnormally. | |
| | | ▪ Software bug (change the firmware for the application that failed)<br>▪ A RAM or DIMM option required by the application is not installed or not installed correctly. | |

# 7.3 SPECIAL TROUBLESHOOTING PROCEDURES

## 7.3.1 CLEARING SC471, SC475 OR SC476

The machine issues SC471, SC475, or SC476 when the ITB is out of position. If the countermeasures for these SC codes described in the SC tables do not correct the problem, the ITB is too far out of position for the machine to correct the problem automatically. Physical adjustment of the ITB is required.

### *Cam Position Check*

- First, do **SP2920-1** to check the belt centering cam position.
- If the cam position (number of steps) is within ±20 steps, physical adjustment is not necessary.

  -or-

  If the cam position is out of range, follow the procedure in the next section to do the physical adjustment.

### *Physical Adjustment*

- Open the left and right front door.

d074r790

- Remove the left ITB unit front cover ( x 2).
- Calculate how many notches on the scale to adjust, and check the adjustment direction (+/-) with the following formula:
  - Checked cam position (Steps)/18 = necessary number of adjustment notches.
  - For example, if the checked cam position is -27, the necessary adjustment is -1.5 notches (-27 /18 = -1.5).

- Loosen the screw.
- Push the adjustor arm up or down for the number of notches calculated in the previous step.
  - Move the arm up if the result of the calculation is positive, down if the result is negative.
  - Each line on the scale marks one notch.
- Tighten the screw.
- Reassemble the machine.

### *ITB Condition Check*

An ITB condition check is required after installing a new ITB or after doing the physical adjustment described in the previous section. After the check, the detection time is stored in SP codes SP112-15, -16, -17.

- Turn the machine on.
- Enter the SP mode and do SP3011-001 (Manual Procon: Exe) to execute manual process control.
- Do SP2112-001 to scan the surface of the belt with all three sensors to check for damage to the surface of the belt.
- Do the following three SP codes to check the results of the belt scan
  - SP2112-015 (Error Code: Front)
  - SP2112-016 (Error Code: Center)
  - SP2112-017 (Error Code: Rear)
- If the results of the three SP executions are all "0" the condition of the belt is satisfactory.

  -or-

  If any of these SP codes return any value other than "0", repeat Steps 2 and 3.
- If any SP returns an error other than "0", the belt is damaged and must be replaced.

## 7.3.2 SP3812 001 (DEVELOPMENT FILL) ERRORS

After **SP3025-1** executes normally, you should see four 1s:

**1111**

Reading from left to right, each "1" indicates the status of the PCDUs: YMCK.

If you see any number other than a "1", this indicates an error.

**SP3025-1 Error Codes**

| Code | Error | Comments |
|---|---|---|
| 0 | No execution | Default |
| 1 | Success | Operation succeeded |
| 2 | No developer flow | TD sensor output > 1.5V before developer installed (developer detected) |
| 3 | No developer installed | TD sensor output < 1.5V after developer installed (no developer detected) |
| 4 | Used toner bottle full | Used toner bottle detected full |
| 5 | Development motor lock | Development motor lock detected |
| 6 | Used toner bottle motor lock | Used toner transport motor or used toner bottle development motor lock detected |
| 9 | Force end | Operation end because door open or power off |

## 7.3.3 PROCESS CONTROL TROUBLESHOOTING

### *Summary of Process Control SC Codes*

This is a list of SC codes that may occur during process control. For more, please refer to the process control tables on the following pages.

| | |
|---|---|
| **Pre-Processing Check** | |
| SC316 to SC319 | Vpp is not within the normal range (Vpp: the AC current applied to the charge roller to compensate for changes in the ambient temperature and humidity). Insufficient charge causes white spotting and too much charge causes toner to film on the surface of the drum. Vpp must be > 2.8 kV. |
| SC400 | ID sensor could not be calibrated. An abnormal ID sensor condition is detected when before calibration begins, Vsg < 0.5V or after calibration, Vsg cannot be adjusted to 4.0±0.2V. |
| SC418 | Correct current could not be supplied to the ID sensor. |
| SC436 to SC439 | A problem is detected with a potential sensor during calibration. |
| **Potential Control** | |
| SC410 to SC413 | The development gamma is out of range (not between 0.3 and 6.0) for a color. |
| SC414 to SC417 | Vk is out of range (not within ±150V) for a color. If the development potential is less than Vk, toner is not applied to the drum. |
| SC420 to SC423 | Vd cannot be adjusted to the target voltage for a drum. |
| SC424 to SC427 | The potential sensor detects that Vpl is not ±10V of the target Vpl after exposure of the ID sensor patterns. |
| SC432 to SC435 | The residual voltage on a drum is greater than -200V. |
| **TD Sensor Output Calibration** | |
| SC360 to SC367 | An abnormal condition is detected when output of one of the TD sensors fails to fall within the range of 0.5V to 4.5V. |

| Process Control Gamma Correction | |
|---|---|
| SC410 to SC413 | The development gamma for black, magenta, cyan, or yellow is not within range (0.3 to 6.0). |
| SC414 to SC417 | The development start voltage (Vk) for black, magenta, cyan, or yellow PCDU is not within range (±150V) |

### *Process Control Self-Check: SP3012*

After the process control self-check is executed manually with SP3012-1 to 9, you can execute SP3012 to check the results of the self-check. The possible error codes are listed in the "Displayed Code" column in the table below.
When you do SP3012, the normal display (no errors) will look like this:

| |
|---|
| 10101010 |

Reading from left to right each "10" represents a color: YMCK.
If a problem occurs, the code will appear in the column for the color PCDU where the error has occurred. For example, If a Vdhome error (Code 15) (see table below) occurs in the M PCDU, the display will look like this:

| |
|---|
| 10151010 |

Or if an ID sensor error (Code 21) (see table below) occurs in the Y PCDU:

| |
|---|
| 10101021 |

"99" displays while SP3821 executes.

Important

- Noise and static electricity can damage the many sensors that are used during the process control self-check. Because of this, always turn the machine off before doing any procedure described below that requires disassembly.

**Normal**

| Displayed Code | Item | Major Cause |
|---|---|---|
| 10 | Successful | --- |

**Potential Sensors**

| Displayed Code | Item | Major Cause |
|---|---|---|
| 15 | VdHome Error 1 | VdHome (SP3641) above –800V.<br>▪ The window of the potential sensor probe fouled with toner<br>▪ Potential sensor damaged |
| | **Action:**<br>▪ Do SP3070 to check the function of the potential sensor.<br>▪ Do SP3071 to check the Voffset readings. If Voffset is over 1V, the potential sensor might be dirty due to scattered toner.<br>▪ Remove the PCDU. Use a blower brush to clean the window of the potential sensor probe, then check the sensor again with SP3070.<br>▪ If normal operation cannot be restored, replace the potential sensor probe. | |
| 16 | VdHome Error 2 | VdHome (SP3772) below –500V.<br>1. Potential sensor relay board damaged<br>2. Drum abnormal<br>3. Drum motor not operating |
| | **Action:**<br>▪ Do SP3070 to check the function of the potential sensor.<br>▪ Do SP3017 to check the Vd reading..<br>▪ Remove the malfunctioning PCDU with a functioning PCDU, turn the machine off then on, then do the potential sensor check again.<br>▪ If the replaced PCDU does not function normally, then the problem is on the machine side, or the potential sensor relay board is malfunctioning.<br>▪ If the replaced PCDU functions normally, then there may be a problem with the drum or the charge unit. Replace the PCDU. | |

**ID Sensors**

<table>
<tr><th>Displayed Code</th><th>Item</th><th>Major Cause</th></tr>
<tr><td rowspan="2">21</td><td>ID Sensor Vsg Adjust Error</td><td>Vsg_reg (SP3321) is out of range (not within 4.0 ±0.2V).<br>▪ ID sensor fouled with dust, toner<br>▪ ITB undulating or out of position</td></tr>
<tr><td colspan="2">Action:<br>1. Remove the ITB unit.<br>2. Make sure the belt is mounted correctly.<br>3. Clean the windows of the ID sensors with a cloth moistened with alcohol.<br>4. Be sure to wipe the sensor apertures with a wet cloth. A dry cloth may generate static which can attract dust.</td></tr>
<tr><td rowspan="2">22</td><td>ID Sensor LED Current Error</td><td>LED PWM (SP3322) greater than 27 mA.<br>▪ ID sensor fouled with dust, toner<br>▪ ID sensor deteriorated</td></tr>
<tr><td colspan="2">Action:<br>1. Remove the ITB unit and check the ID sensors.<br>2. Clean the windows of the ID sensors with alcohol and a clean cloth.<br>3. Be sure to wipe the sensor apertures with a wet cloth. A dry cloth may generate static which can attract dust.<br>4. If the apertures are clean, then the LED of an ID sensor may have deteriorated. Replace the ID sensor plate.</td></tr>
<tr><td>23</td><td>ID Sensor Output Error</td><td>Vsg_reg (SP3321) less than 0.5V.<br>▪ ID sensor harness loose, disconnected, damaged<br>▪ ID sensor damaged<br>Note: Vsg_reg refers to the reading of the ITB surface done with the direct reflection sensors in both the color and black ID sensors.</td></tr>
</table>

| Displayed Code | Item | Major Cause |
|---|---|---|
| | **Action:**<br>▪ Remove the ITB unit.<br>▪ Check the ID sensor harness connections and make sure that they are tight.<br>▪ Check the harnesses for breaks.<br>▪ If the harnesses are undamaged and tightening the connections does not solve the problem, replace the ID sensor plate. | |

**TD Sensor (MUSIC)**

| Displayed Code | Item | Major Cause |
|---|---|---|
| 41 | TD Sensor Output Exceeded Upper Range | Vt > 4.7V |
| 42 | TD Sensor Output Below Lower Range | Vt < 0.5V |
| 43 | TD Sensor Malfunction: Upper Range | Development gamma not within range:<br>0.5V ≦ Dev Gamma ≦ 2.0V<br>or Vt > 4.7V |
| 44 | TD Sensor Malfunction: Lower Range | Development gamma not within range:<br>0.5V ≦ Dev Gamma ≦ 2.0V<br>or Vt < 0.5V |

**ID Sensor Pattern Detection**

<table>
<tr><th>Displayed Code</th><th>Item</th><th>Major Cause</th></tr>
<tr><td rowspan="2">55</td><td>Development Gamma Error 1 SP400 to SC403</td><td>Development gamma (SP3561) greater than 6.0 (mg/cm2/-kV).</td></tr>
<tr><td colspan="2">Action:<br>▪ Switch the machine off and on then do SP3011.<br>▪ Do SP3630 to confirm that development gamma is within the target range (-0.1 to +0.1)<br>▪ If not within the target range, do the procedure again.</td></tr>
<tr><td>56</td><td>Development Gamma Error 2 SP400 to SC403</td><td>Development gamma (SP3630) less than 0.3 (mg/cm2/-kV)<br>▪ Toner shield glass dirty</td></tr>
<tr><td></td><td colspan="2">Action:<br>▪ Do SP2109-002 and select Pattern "12".<br>▪ Do SP2109-005 to 008 and change the settings of these SP codes from "15 (default)" to "0".<br>▪ Return to the print window and do the test print 1 pattern.<br>▪ Check the pattern to determine whether the image density is extremely light.<br>▪ Turn the machine off.<br>▪ Open the toner hopper door, remove the toner bottles and check the toner shield glass for dirt.<br>▪ Remove the face plate, replace the malfunctioning PCDU with a functioning PCDU, then turn the machine on and repeat Steps 1 to 3 to print the coverage test pattern.<br>▪ If normal operation cannot be recovered:</td></tr>
</table>

<table>
<tr><th>Displayed Code</th><th>Item</th><th>Major Cause</th></tr>
<tr><td></td><td colspan="2">▪ Replace the image transfer power pack.<br>▪ Open the development unit to see if there is too much or too little developer.<br>▪ If the developer supply is normal, remove the toner end sensor to see if there is toner in the sub hopper.<br>▪ If the sub hopper is empty, the powder pump is defective. Replace the toner supply unit.<br>▪ If the sub hopper is full, the toner end sensor is defective. Replace the toner supply unit.<br>▪ If the level of developer is either too high or too low, replace the developer.</td></tr>
<tr><td rowspan="2">57</td><td>Vk Error 1</td><td>Vk (development start voltage) greater than 150V.</td></tr>
<tr><td colspan="2">Action:<br>Replace the developer.</td></tr>
<tr><td rowspan="2">58</td><td>Vk Error 2</td><td>Vk (development start voltage) less than –150V.<br>▪ The window of the potential sensor probe is covered with toner.<br>▪ Potential sensor damaged</td></tr>
<tr><td colspan="2">Action:<br>▪ Do SP3070 to check the function of the potential sensor.<br>▪ Do SP3071 to check the Voffset readings. If Voffset is over 1V, the potential sensor might be dirty due to scattered toner.<br>▪ Remove the PCDU. Use a blower brush to clean the window of the potential sensor probe, then check the sensor again with SP3070.<br>▪ If normal operation cannot be recovered, replace the potential sensor probe.<br>▪ If the Voffset reading is normal, replace the developer.</td></tr>
</table>

| Displayed Code | Item | Major Cause |
|---|---|---|
| 59 | Insufficient Active Data | Not enough active data to calculate development gamma (only "0" or "1"). |
| | **Action:**<br>Do the "Action" procedure for code "55" described above. | |

**Potential Adjustment**

| Displayed Code | Item | Major Cause |
|---|---|---|
| 61 | LD Failure | A laser diode failed to fire and write the ID sensor pattern.<br>▪ Toner shield glass dirty<br>▪ PCDU set incorrectly<br>▪ Laser diode defective |
| | **Action:**<br>▪ Print the color test pattern to determine which color is abnormal.<br>▪ Turn the machine off.<br>▪ Check the toner shield glass for the laser unit. (☛p.5-101) > "Toner Shield Glass)<br>▪ Reassemble the machine, switch the machine on, then do SP3011.<br>**Notes:**<br>1. The probes of the potential sensors of each PCDU are located at different positions. This failure can be caused by installing a potential sensor at the incorrect position. However, you can eliminate this as a cause if a new PCDU is installed. (A guide ensures prevents a PCDU from being installed at the wrong location.)<br>2. If the machine fails to return SC240 to SC243, you can eliminate a defective LD as the cause of the problem. | |
| 62 | Vr Error | Vr (residual voltage) greater than –200V.<br>▪ Drum deteriorated<br>▪ Toner shield glass dirty |

| Displayed Code | Item | Major Cause |
|---|---|---|
| | **Action:**<br>▪ Open the front door, remove the toner supply unit, and check the toner shield glass for dirt.<br>▪ Clean the glass then do SP3011.<br>▪ If this does not solve the problem, replace the drum. | |
| 63 | Vd Adjust Error | Vd could not be adjusted within ±8V.<br>1. Drum defective |
| | **Action:**<br>▪ Replace the drum. | |
| 64 | Vpl Adjust Error | Vpl could not be adjusted within ±5V.<br>▪ Drum deteriorated due to filming |
| | **Action:**<br>1. Replace the drum. | |

**Abnormal End**

| Displayed Code | Item | Major Cause |
|---|---|---|
| 99 | Forced Termination | Door open, power off, or other problem interfering with process control self-check. |
| | **Action:**<br>▪ Make sure the machine is turned on.<br>▪ Make sure the front door is closed completely. | |

## 7.3.4 MUSIC ADJUSTMENT RESULT

SP2-194-010 to -012 (MUSIC Execution Result M/C/Y Error)

This SP shows the number as a MUSIC result on the LCD. It shows which color has an error (M, Y or C).

| No. | Result | Description |
|---|---|---|
| 0 | Not done | MUSIC has not been done. |
| 1 | Completed successfully | MUSIC has been done correctly. |
| 2 | Cannot detect patterns | ID sensors have not detected the patterns for MUSIC. |
| 3 | Fewer lines on the pattern than the target | The patterns detected by the ID sensors are not complete enough for MUSIC. |
| 5 | Out of the adjustment range | ID sensors have correctly detected the patterns for MUSIC, but the position of the patterns is too far away from the adjustable range. |
| 6 | Belt damage | Accurate detection is not possible due to damage to the ITB. |

# 7.4 TROUBLESHOOTING FOR IMAGE QUALITY PROBLEMS

This section describes some common image quality problems and explains how to resolve them.

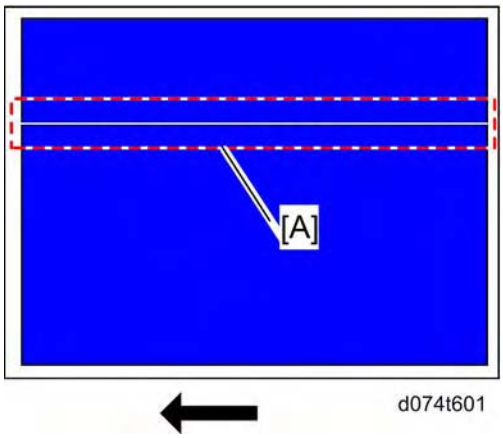
Note

- The dark arrow in each illustration indicates the direction of paper feed.

## 7.4.1 DEVELOPMENT-RELATED TROUBLESHOOTING

### *Vertical White Line*

**Problem:**




Vertical white line [A] appears on the output when a solid single color image is output.

**Cause:**

1. Dust or dirt under the PCDU
2. Laser path interruption between the laser unit and the drum unit due to dust or dirt on the toner shield glass
3. Uneven developer supply due to a foreign substance stuck in the doctor gap in the development unit

**Solution:**

- Print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets and 1 dot halftone (SP2-109-003: "11") A3 or DLT sheets for each of black, cyan, magenta, and green.

  **To make a full-green coverage page**

  1. Select No.26 (Full Dot Pattern) with SP2-109-003.
  2. Select "1" (Full Color) with SP2-109-5.
  3. Open SP2-109-6 and change Density K from "15" to "0".
  4. Open SP2-109-8 and change Density M from "15" to "0".

5. Open SP2-109-7 and -9 and make sure that Density C and Density Y are both set "15" (default settings).

- Does the problem vertical white line appear at the same place on some color's outputs?

  **Yes** Go to "Recovery of dust or dirt under the PCDU".

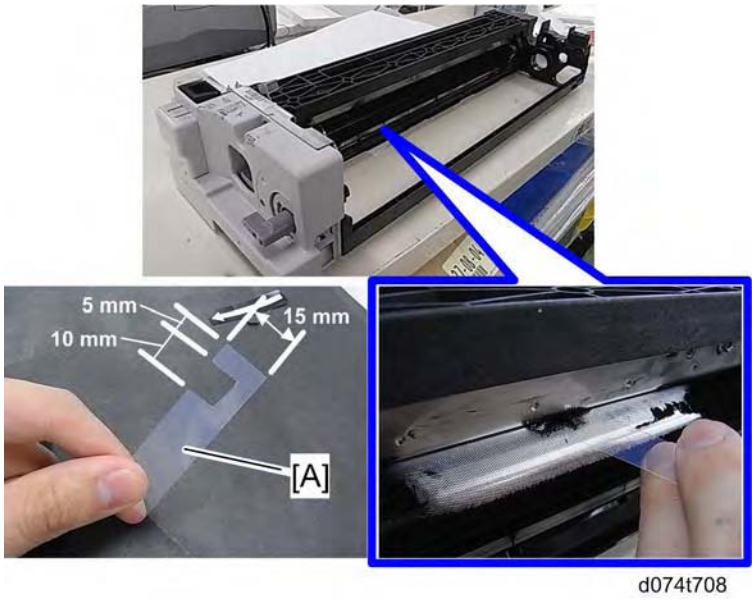
  **No** Clean the toner shield glass for the affected color.

- Print the problem image. Does this eliminate the problem?

  **Yes** Finished!

  **No** Clean the doctor gap at the development unit.

  - Cut an OHP sheet [A] or plastic material as shown below.
  - Clean the doctor gap with this sheet and vacuum developer.




- Print the problem image. Does this eliminate the problem?

  **Yes** Finished!

  **No** Replace the affected drum unit.

- Print the problem image. Does this eliminate the problem?

  **Yes** Finished!

  **No** Contact your supervisor.

**Recovery of dust or dirt under the PCDU**

- Check the color which causes a vertical line.

  1. The PCDU's stations are placed as follows from the right; K (black), C (cyan), M (magenta) and Y (yellow). For example, check the magenta PCDU if yellow and magenta has a vertical line problem.

- Does dust or dirt adhere under the affected PCDU?

  **Yes** Pull out the affected PCDU, and then clean the bottom area [A] of the affected PCDU with a cloth and alcohol.

**No** Contact your supervisor.

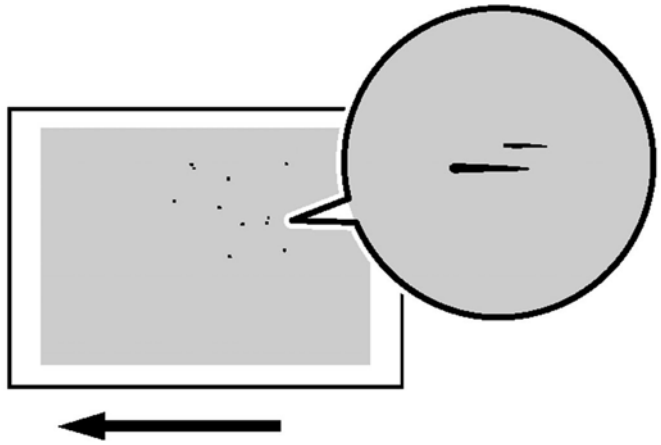
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Contact your supervisor.

## 7.4.2 COLOR TONER SPOTTING/STAINING

### *Paper Is Spotted with Toner*



d074t602

Paper has toner spots of 0.5–1 mm (0.02–0.04 inches) in diameter.

**Cause:**

Toner fragments have slipped through the cleaning web.

This may occur in any of the following cases:

Duplex printing, printing on uncoated (especially rough-textured) paper, halftone printing, printing another job after halftone printing, or printing another job after printing on many small-size sheets

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper. For details about registering custom papers, see "Registering a Custom Paper", Paper Settings Reference.

**Solution:**

- Increase the temperature by 5 °C in [44: Fusing Heat Roller Temperature Adj] in [Advanced Settings] or with SP1-984.
- Print 20 sheets of the image, then another 10. Does this eliminate the problem?
  **Yes** Finished!
  **No** Go to the next step.
- Increase the temperature by an additional 5°C in [44: Fusing Heat Roller Temperature Adj] or with SP1-984.
- Print 20 sheets of the image, then another 10. Does this eliminate the problem?
  **Yes** Finished!
  **No** Go to the next step.
- Has changing the setting caused glossy lines to appear or paper to misfeed?

**Yes** Decrease the temperature by 10°C, and then go to the next step.

**No** Go to the next step.

- Set [50: Adjust Cleaning Web Motor Interval] to -30% in [Advanced Settings] or with SP1-992 for the custom paper in use
- Print 20 sheets of the image, then another 10. Does this eliminate the problem?

  **Yes** Finished!

  **No** Go to the next step.
- Set [50: Adjust Cleaning Web Motor Interval] to -60% in [Advanced Settings] or with SP1-992 for the custom paper in use.
- Print 20 sheets of the image, then another 10. Does this eliminate the problem?

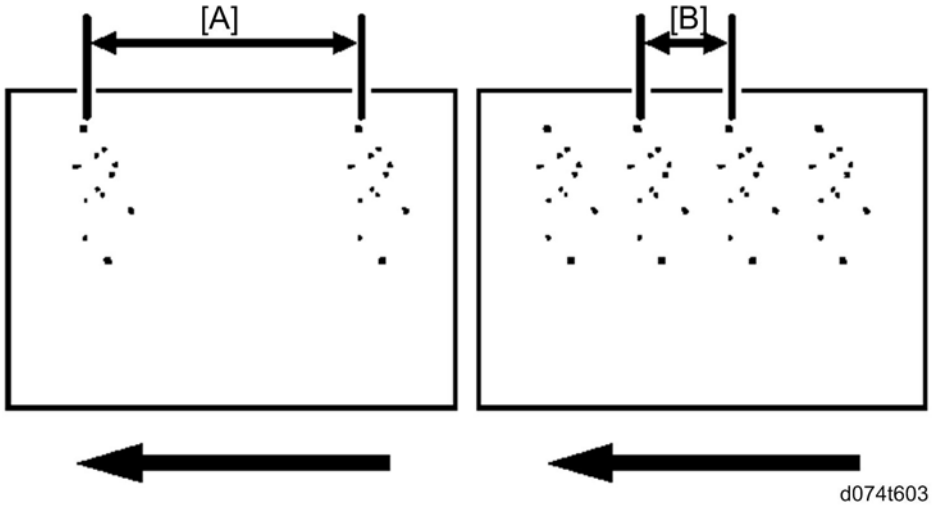
  **Yes** Finished!

  **No** Go to the next step.
- Set [50: Adjust Cleaning Web Motor Interval] to -75% in [Advanced Settings] or with SP1-992 for the custom paper in use.
- If the problem persists, contact your supervisor.

Note

1. Decreasing the value in [50: Adjust Cleaning Web Motor Interval] will shorten the replacement cycle of the cleaning unit for the fusing unit.

## *Colored Spots*




1. [A]: 189 mm (7.5 in.)
2. [B]: 40 mm (1.6 in.)

Colored spots appear at 189 mm or 40 mm (7.5 inch or 1.6 inch) intervals.

**Cause:**

(a) Colored spots appear at 189 mm (7.5 inch) intervals. The drum is scratched or stained.

(b) Colored spots appear at 40 mm (1.6 inch) intervals. The charge roller is scratched or stained.

**Solution:**

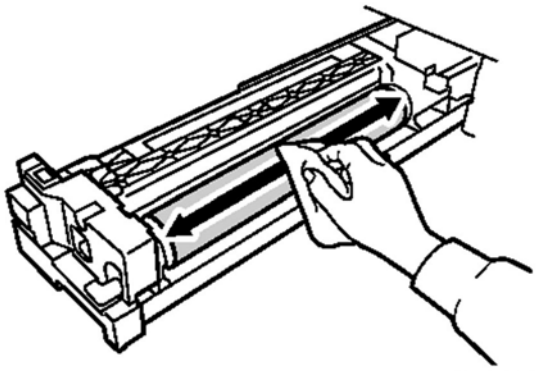
The solution depends on the interval at which the colored spots appear. If they appear every 189 mm (7.5 inches), follow Procedure (a) on the following page; if they appear every 40 mm (1.6 inches), follow Procedure (b) on the following page.

**(a) Colored spots at 189 mm (7.5 inch) intervals**

1. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for each of white and black, and three full-page, halftone (SP2-109-003: "12") A3 or DLT sheets for each of cyan, magenta, and yellow.
2. Detach the drum unit of the affected color and check the drum surface. Is the surface scratched?

   **Yes Replace the drum unit.** (☛p.5-158)

   **No** Wipe the drum surface with a well-wrung-out damp cloth, wipe it with a dry rag until no moisture remains, and then reattach the drum unit.



d074t604

Note

- Do not use ethanol or any other organic solvent to clean the drum. Otherwise it may cause damage to the drum.
- After cleaning the surface of the drum, dust the surface of the drum completely with Drum Powder B1329700.

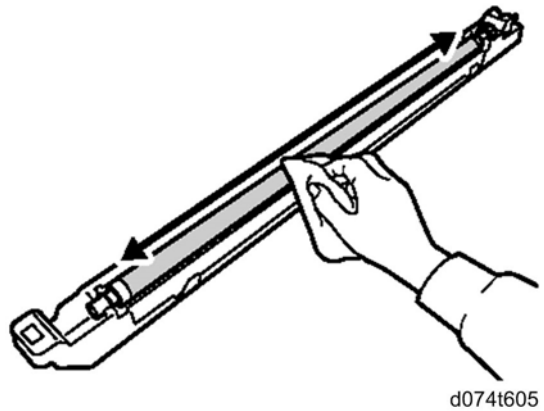
3. If the problem persists, contact your supervisor.

**(b) Colored spots at 40 mm (1.6 inch) intervals**

1. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for each of white and black, and three full-page, halftone (SP2-109-003: "12") A3 or DLT sheets for each of cyan, magenta, and yellow.
2. Detach the charge roller of the affected color and check its surface. Is the surface scratched?

   **Yes Replace the charge roller.** (☛p.5-155)

   **No** Wipe the charge roller surface with a well-wrung-out damp cloth, wipe it with a dry rag until no moisture remains, and then reattach the roller.



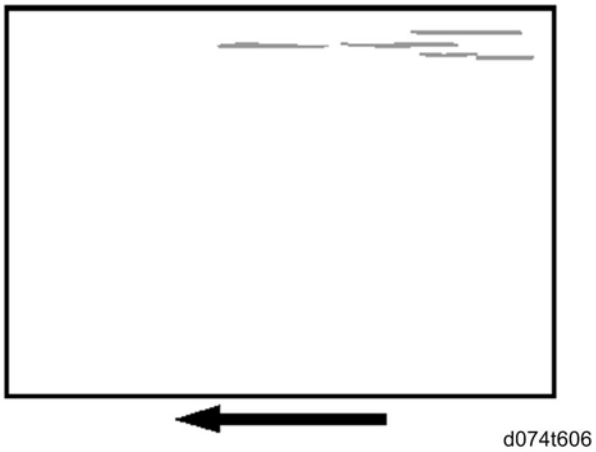
d074t605

Note

- Do not use ethanol or any other organic solvent to clean the charge roller. Otherwise it may cause damage to the charge roller.

3. If the problem persists, contact your supervisor.

## *Colored Streaks (1)*




Colored streaks parallel to the paper feed direction appear.

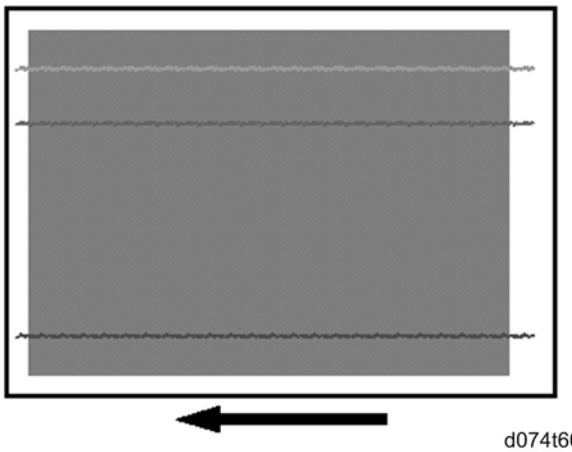
**Cause**:

- The charge roller is stained.
- The cleaning unit for PCU has worn out.
- The drum surface is scratched.

**Solution:**

- To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for white, and three full-page, halftone (SP2-109-003: "12") A3 or DLT sheets for each of cyan, magenta, and yellow.
- Detach the charge roller of the affected color and check its surface. Is the surface stained?
  **Yes** Wipe the charge roller with a dry rag to remove the stain. If the stain cannot be removed, **replace the drum charge unit**. (☛p.5-155)
  Go to the next step.
  **No** Go to the next step.
- Detach the drum unit of the affected color and check the drum surface. Is the surface stained or scratched?
  **Stained: Replace the drum cleaning unit.** (☛p.5-157)
  **Scratched: Replace the drum unit.** (☛p.5-158)
  **Neither**: Contact your supervisor.
- If the problem persists even if you replace the cleaning unit for PCU or drum unit, contact your supervisor.

### *Colored Streaks (2)*



d074t607

Extended, blurred colored streaks parallel to the paper feed direction appear. The streaks also appear randomly in the margins.

**Cause:**

If the temperature or humidity is low, remaining toner might be missed by the cleaning blade of the cleaning unit for the transfer belt or transfer unit, causing streaks to appear sporadically.

**Solution:**

1. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for each of cyan, yellow, magenta, and black.
2. Which side is affected by the problem?
   **Printed side (1st side):** Proceed to Step 6.
   **No image side (2nd side): Replace the PTR cleaning blade or lubrication bar.** (☛p.5-314)
3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Go to the next step.
4. **Replace the paper transfer roller.** (☛p.5-314)
5. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Check and clean other units (fusing unit or paper path).
6. **Replace the cleaning unit for the transfer belt or one of the following** (☛p.5-36)
   - ITB Cleaning Blade
   - ITB Lubrication Roller
   - ITB Lubrication Bar
   - ITB Lubrication Blade
7. Print the image. Is the problem resolved?
   **Yes** Finished!

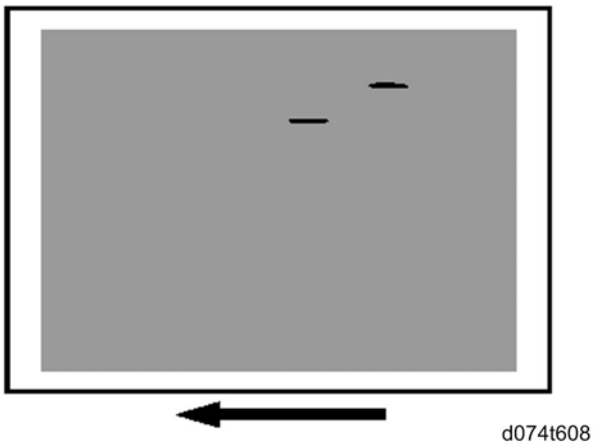
**No** Go to the next step.

8. **Replace the transfer belt.** (☛p.5-207)
9. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Go to the next step.
10. If the problem persists even if you replace the cleaning unit for the transfer belt, contact your supervisor.

### *Colored Streaks (3)*




Colored streaks appear in solid-filled areas.

**Cause:**

If the toner contains small clumps, they disintegrate in the development unit, producing colored streaks.

This problem may occur if the machine is left unattended for a long period or the toner bottle is kept out of its moisture-proof bag for a long period.

**Solution:**

1. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for each of cyan, yellow, magenta, and black. The color affected by colored streaks is the cause of the problem.
2. Print 200 full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets in the affected color.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No Replace the toner bottle for the affected color.**
4. Print 200 full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets in the affected color.
5. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No Replace the toner supply unit for the affected color.** (☛p.5-122)
6. Print 200 full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets in the affected color.
7. Print the image. Is the problem resolved?

   **Yes** Finished!

No Replace the development unit and developer for the affected color. (☛p.5-163 or p.5-164)

1. Print 200 full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets in the affected color.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

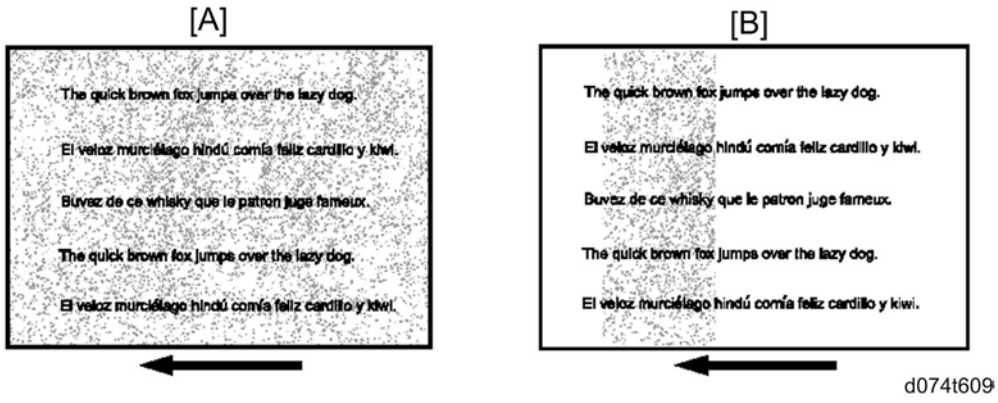
   **No Contact your supervisor.**

## *Stained Paper Edges*

**Solution:**

1. If the paper edges are stained, carry out the procedure on p.7-200 "Insufficient Toner Fusing".

## *Stained Background*




- [A]: Completely stained background
- [B]: Partially stained background

Random "powdered" dots appear, creating a dirty background.

The background may be partially or completely stained.

**Cause:**

This may occur because of wearing of the developer and drum unit or staining of the charge roller.

**Solution:**

1. If a message prompting replacement of a unit has appeared, **replace the unit.**
   - Developer (☛p.5-164)
   - Drum unit (☛p.5-158)
   - Drum charge unit (☛p.5-155)
2. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

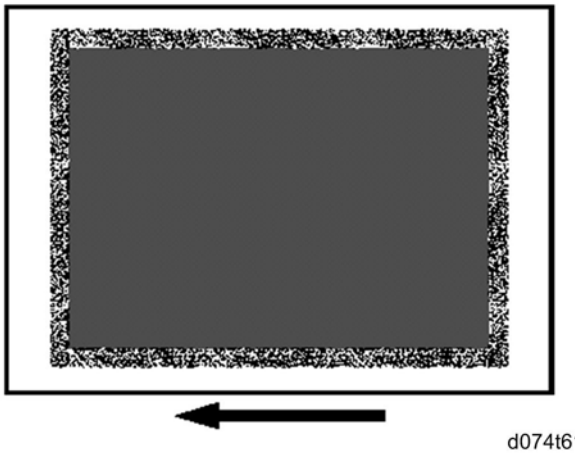
   **No** In the [Adjustment Settings for Skilled Operators] menu, execute [0302: Execute Process Initial Setting] or execute SP3-020-1 in the SP mode.
4. **Replace one of the following units, even if the service life of these parts has not reached the PM life.**
   - Developer (☛p.5-164)
   - Development unit (☛p.5-163)

- Drum unit (☛p.5-158)
- Drum charge unit (☛p.5-155)

5. If the problem persists, contact your supervisor.

## 7.4.3 TONER SCATTER

### *Area Scatter*



d074t610

Toner is scattered around a solid-fill print.

**Cause:**

This may occur if printed at low temperature or humidity.

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper.
2. For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

- Check both sides of the paper for the problem. If it appears only on side 2 of the paper, skip to Step 3.
- Adjust the setting for side 1 of the paper. Configure the following settings in [Advanced Settings] for the custom paper in use.

  **<Printing in black and white>**

  Increase the absolute value of the negative current by 5% in [31: Paper Transfer Current: B&W] or with SP2-970.

  Example: If the present current is -40 μA, change it to -42 μA.

  **<Printing in full color>**

  Increase the absolute value of the negative current by 5% in [32: Paper Transfer Current: FC] or with SP2-971.

  Example: If the present current is -70 μA, change it to -73 μA.
- Adjust the setting for side 2 of the paper. Configure the following settings in [Advanced Settings] for the custom paper in use.

  **<Printing in black and white>**

Increase the scaling factor by 5 percentage points in [33: Paper Transfer Current; Side 2: B&W] or with SP2-995.

Example: If the present value is 100%, change it to 105%

**<Printing in full color>**

Increase the scaling factor by 5 percentage points in [34: Paper Transfer Current; Side 2: FC] or with SP2-996.

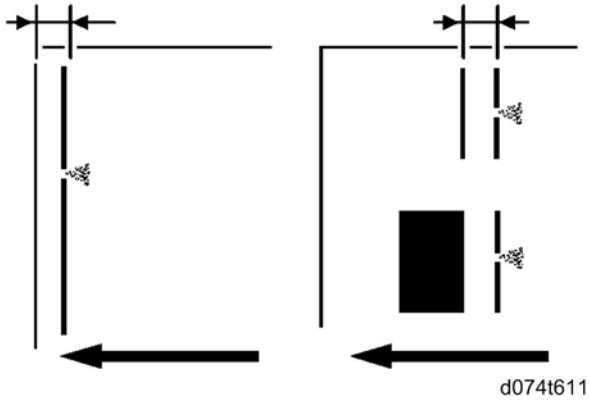
Example: If the present value is 100%, change it to 105%

- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Repeat Steps 1 to 3. If the problem persists, contact your supervisor.

### *Line Scatter*




Parts of a line exhibit splatter. This may occur in a line 5 mm or less from the leading edge, or in a line 1.5 to 5 mm from an image element on the side of the element facing the trailing edge.
[A]: 5 mm (0.2 in.), [B]: 1.5 - 5 mm (0.06 - 0.2 in.)

**Cause:**

This may occur when printing lines on coated or other slippery paper.

Note

- To adjust the following settings, pre-register the type of paper in use as a custom paper.
- For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

The solution depends on the area in which the line splatter occurs. If the splatter occurs 5 mm (0.2 inches) or less from the leading edge, follow Procedure (a) below; otherwise, follow Procedure (b) below.

**a) Line splatter that is 5 mm (0.2 inches) or less from the leading edge**

Increase the leading edge margin to more than 5 mm (0.2 inches) using one of the following procedures:

- **Adjusting the shift image**
  In [Advanced Settings] for the custom paper in use, specify [08: Adj Image Position of Side1 With Feed] for the side 1 of the paper and [09: Adj Image Position of Side2 With Feed] for the side 2.
- **Adjusting the mask width at the leading edge**
  In [Advanced Settings] for the custom paper in use, specify [13: Adjust Erase Margin of Leading Edge].
- **Adjusting the file's leading edge margin**
  Increase the leading edge margin in the print settings for the image to be printed.

For details about adjusting the shift image and adjusting the mask width at the leading edge,

see "Adjustment Item Menu Guide".

If you cannot increase the leading edge margin to more than 5 mm (0.2 inches), use another type of paper.

**b) Line splatter that is in an area more than 5 mm (0.2 inches) from the leading edge**

1. Configure the following settings in [Advanced Settings] for the custom paper in use.

   **<Printing in black and white>**

   Increase the absolute value of the current by 10 µA in [26: Image Transfer Current: B&W] or with SP2-990.

   **<Printing in full color>**

   Increase the absolute value of the current by 10 µA in [27: Image Transfer Current: FC: Black] or with SP2-991.

2. Print the image. Is the problem resolved?

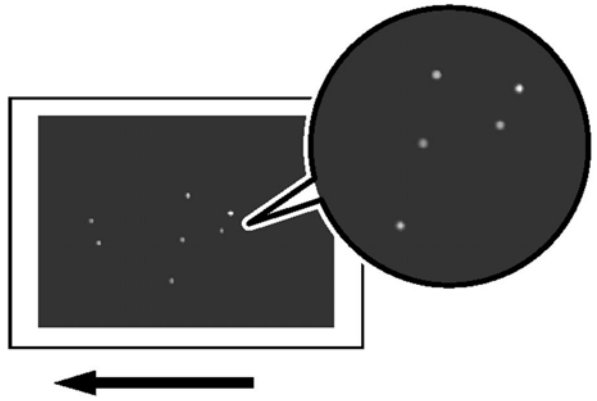
   **Yes** Finished!

   **No** Increase the value by 10 µA.

3. Repeat Step 2. If the problem persists even though you have set the current to 70 µA (maximum), use another type of paper.

## 7.4.4 COLOR LOSS

### *Colorless Spots*



d074t612

Colorless spots appear in solid-filled areas.

**Cause:**

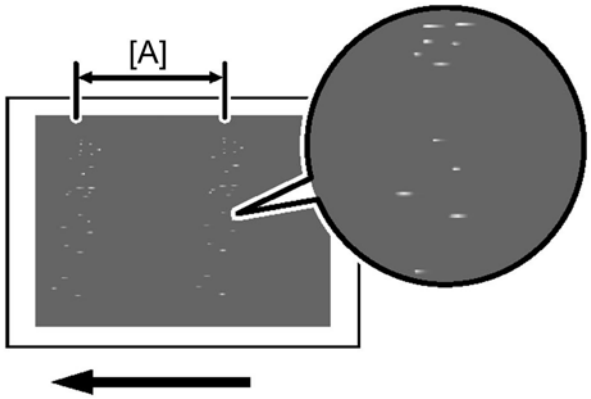
If the toner contains small clots, they fail to be transferred, producing colorless spots.

This problem may occur if the machine is left unattended for a long period or the toner bottle is taken out of its moisture-proof bag for a long period of time.

**Solution:**

If colorless spots appear in color printing, carry out the procedure on p.7-165 "Colored Streaks (3)".

### *White Dots/Lines*




d074t613

White dots or small lines appear, spaced at 189 mm (7.5 inch) [A] intervals in the direction of the paper feed.

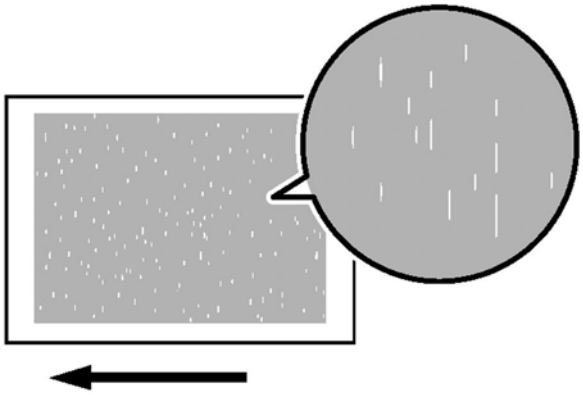
**Cause:**

The drum is stained.

**Solution:**

1. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets or each of cyan, magenta, black, and green.
   Because it is difficult to identify white spots on yellow, green is used instead of yellow.
2. Detach the drum unit of the affected color and check the drum surface. Is the drum surface stained?
   **Yes** Carry out all of the following:
   (1) Wipe the drum surface with a clean, dry cloth to remove the stain.
   (2) After cleaning the surface of the drum, dust the surface of the drum completely with Drum Powder B1329700.
   (3) Replace the cleaning unit for PCU. (☛p.5-157)
   (4) In the [Adjustment Settings for Skilled Operators] menu, set [0208: Photoconductor Special Mode] to [Special Mode] or set SP2-225-12 to 15 to "1: ON".
   **No Replace the drum unit.** (☛p.5-158)
3. If the problem persists, contact your supervisor.

### *Vertical White Streaks*



d074t614

White streaks 1 to 8 mm long perpendicular to the paper feed direction appear.

**Cause:**

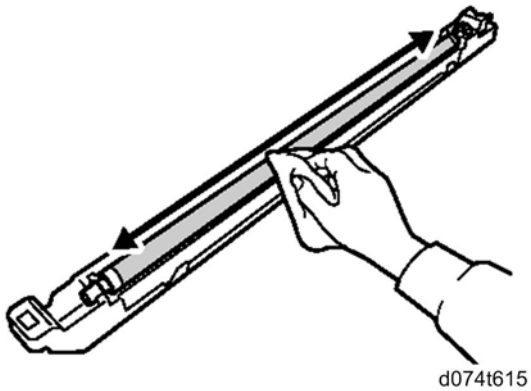
One of the charge rollers is dirty.

Note

- If white streaks appear at 189- or 40-mm intervals, carry out the procedure on p.7-160 "Colored Spots".

**Solution:**

1. To identify the affected color, print three full-page, halftone (SP2-109-003: "12") A3 or DLT sheets for each of cyan, magenta, yellow, and black.
2. Detach the charge roller of the affected color, wipe its surface with a well wrung-out damp cloth, wipe it with a dry cloth until no moisture remains, and then reattach the roller.



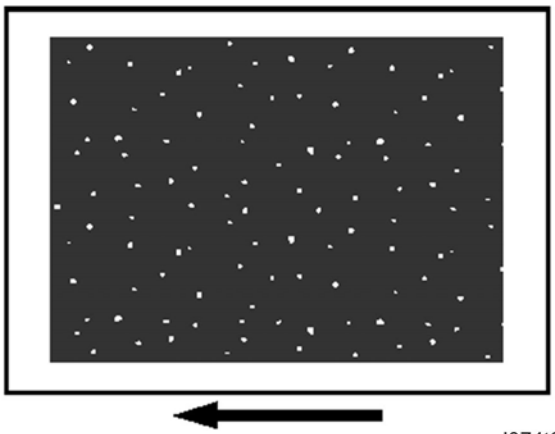
d074t615

Note

1. Do not use ethanol or any other organic solvent to clean the charge roller. Otherwise it may cause damage to the charge roller.

3. If the problem persists, contact your supervisor.

### *White Spots*



d074t616

White spots of 0.2–0.3 mm (0.008–0.01 inches) in diameter appear.

**Cause:**

This may occur if printed at low temperature or humidity.

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper.
2. For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

1. Check both sides of the paper for the problem. If it appears only on side 2 of the paper, skip to Step 3.
2. Adjust the setting for side 1 of the paper. Configure the following settings in [Advanced Settings] for the custom paper in use.

   **<Printing in black and white>**

   Decrease the absolute value of the negative current by 5% in [31: Paper Transfer Current: B&W] or with SP2-970.

   Example: If the present current is -40 μA, change it to -38 μA.

   **<Printing in full color>**

   Decrease the absolute value of the negative current by 5% in [32: Paper Transfer Current: FC] or with SP2-971.

   Example: If the present current is -70 μA, change it to -67 μA.
3. Adjust the setting for side 2 of the paper. Make the following settings in [Advanced Settings] for the custom paper in use.

   **<Printing in black and white>**

   Decrease the scaling factor by 5 percentage points in [33: Paper Transfer Current; Side 2: B&W] or with SP2-995.

Example: If the present value is 100%, change it to 95%.

**<Printing in full color>**

Decrease the scaling factor by 5 percentage points in [34: Paper Transfer Current; Side 2: FC] or with SP2-996.

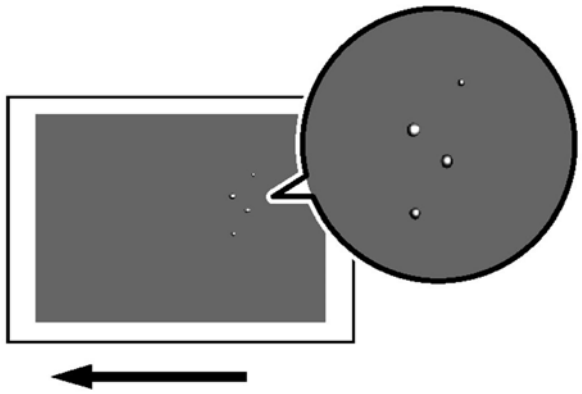
Example: If the present value is 100%, change it to 95%.

4. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Repeat Steps 1 to 4. If the problem persists, contact your supervisor.

### *Blister-like White Spots*



d074t617

White spots 0.3–0.5 mm in diameter surrounded by denser spots (blister-like white spots) appear.

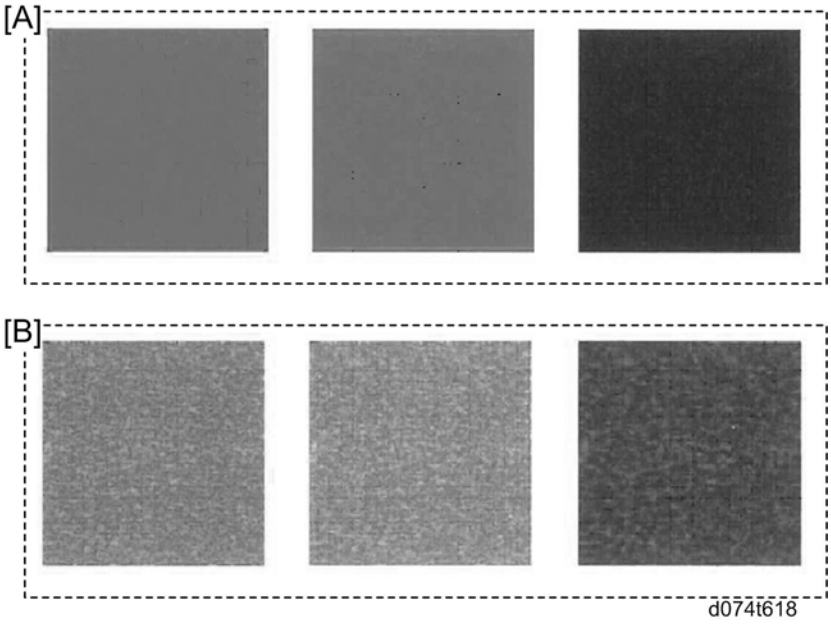
**Cause:**

This may occur if a solid image is printed on coated paper, if a solid image is printed during duplex printing, or if printing is done at low temperature.

**Solution:**

If blister-like white spots appear, carry out the procedure on p.7-200 "Insufficient Toner Fusing".

### *Mottling*




1. [A]: Normal
2. [B]: Mottled

Mottling occurs in solid-filled areas.

**Cause:**

This may occur if:

1. Using paper with a rough surface
2. Continuously printing solid fills covering small areas
3. Printing in a low humidity environment
4. Printing in a high humidity environment

Note

1. If the problem occurs only if black is used when printing in full-color mode, carry out the procedure on p.7-193 "Color (1): Black Faint During Full Color Printing".

**Solution:**

1. If a message prompting replacement of a unit has appeared, **replace the unit.**
2. To identify the affected color, print three full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets for each of cyan, yellow, magenta, and black.
3. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or with SP3-011-002.
4. Print the image. Is the problem resolved?

   **Yes** Check if the customer executes multiple prints job with low coverage. If so, increase the setting of SP3-820-001 to -004 for affected color. If not, contact your supervisor.

   **No** Print 100 full-page, solid-fill (SP2-109-003: "26") A3 or DLT sheets in the affected color.

5. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Reload with new paper.
6. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Replace the paper with smoother paper.
7. Is any SC is issued?
   **Yes** Do the countermeasure for the issued SC. If this does not solve the problem, contact your supervisor.
   **No** Increase the value by 1 for all colors in [0203: Adjust Maximum Image Density] or use SP3-620-011 to 014. If this does not solve the problem, contact your supervisor.

## 7.4.5 DENSITY PROBLEMS

### *Uneven Image Density*

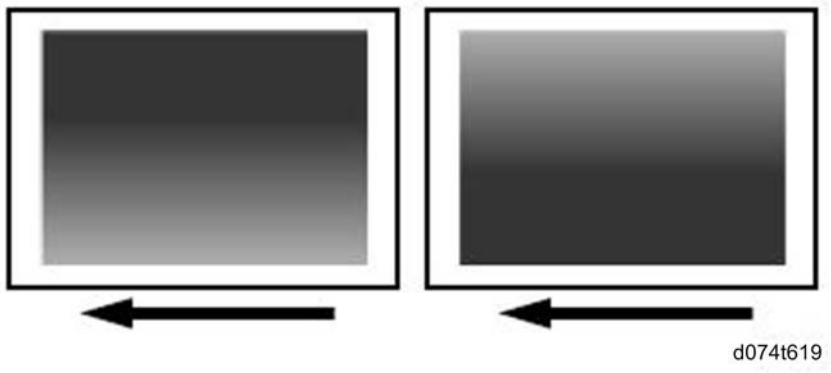
The density is uneven.

**Solution:**

The solution depends on the type of unevenness.

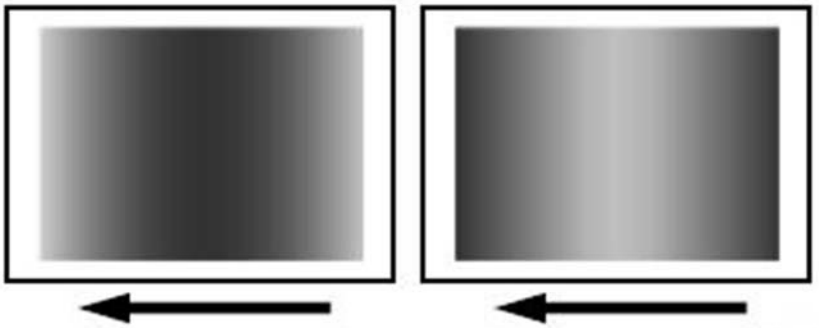
Carry out the appropriate procedure from those in the following table:

**(A) The density is uneven across the entire image.**

| **Affected area** |
| --- |
|  The density from top to bottom is uneven. |
| **Solution** |

1. Is there any part in the machine with its PM life ended?
   **Yes** Replace the unit. If the problem persists, go to the next step.
   **No** Go to the next step.
2. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Go to the next step.
4. See "Uneven Density within 90 mm (3.5 in.) of the Trailing Edge" or replace one of the following units:
   1. Drum unit (☛p.5-158)
   2. Drum charge unit (☛p.5-155)
   3. Development unit (☛p.5-163)
5. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Check the ITB roller lift mechanism or PTR roller contact mechanism.

**Affected area**




The sides are fainter or denser.

**Solution**

1. Is there any part in the machine with its PM life ended?

   **Yes** Replace the unit. If the problem persists, go to the next step.

   **No** Go to the next step.

- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
- Print the image. Is the problem resolved?

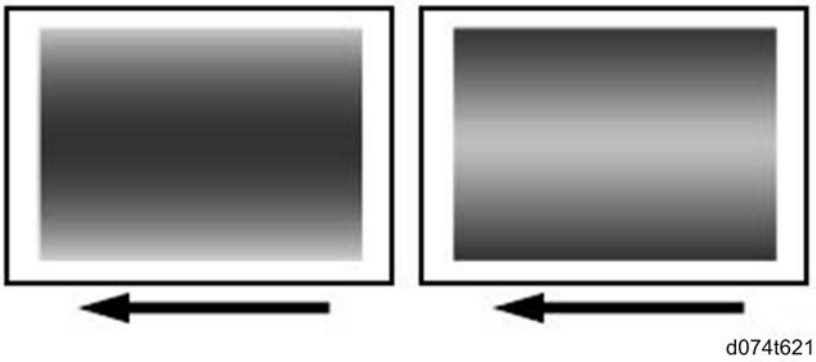
  **Yes** Finished!

  **No** Go to the next step.
- Replace the development unit. (☛p.5-163)
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Check the ITB roller lift mechanism or PTR roller contact mechanism.

**Affected area**



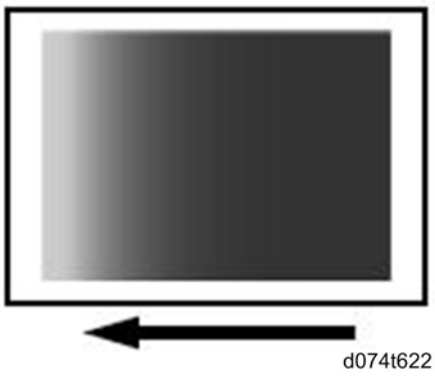

The top and bottom are fainter or denser.

**Solution**

1. Is there any part in the machine with its PM life ended?
   **Yes** Replace the unit. If the problem persists, go to the next step.
   **No** Go to the next step.
- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
- Print the image. Is the problem resolved?
  **Yes** Finished!
  **No** Go to the next step.
- Replace the development unit. (☛p.5-163)
- Print the image. Is the problem resolved?
  **Yes** Finished!
  **No** Check the ITB roller lift mechanism or PTR roller contact mechanism.

**(B) The density is uneven in a part of the image.**

**Affected area**

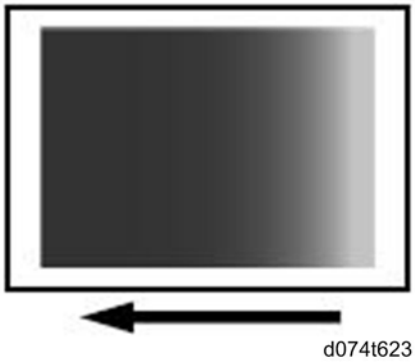



The leading edge is fainter.

**Solution**

- Is there any part in the machine with its PM life ended?
  **Yes** Replace the unit. If the problem persists, go to the next step.
  **No** Go to the next step.
- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
- Print the image. Is the problem resolved?
  **Yes** Finished!
  **No** If the problem persists, see p.7-187 "Fainter Leading Edge".

**Affected area**




The trailing edge is fainter.

**Solution**

- Is there any part in the machine with its PM life ended?

  **Yes** Replace the unit. If the problem persists, go to the next step.

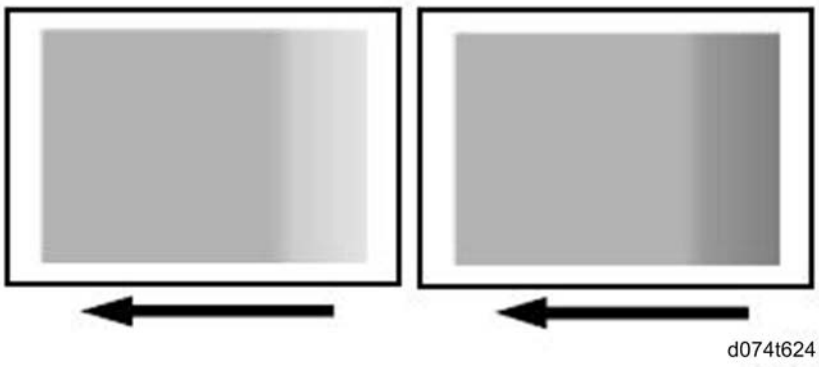
  **No** Go to the next step.

1. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** If the problem persists, see p.7-187 "Fainter Leading Edge"..

**Affected area**

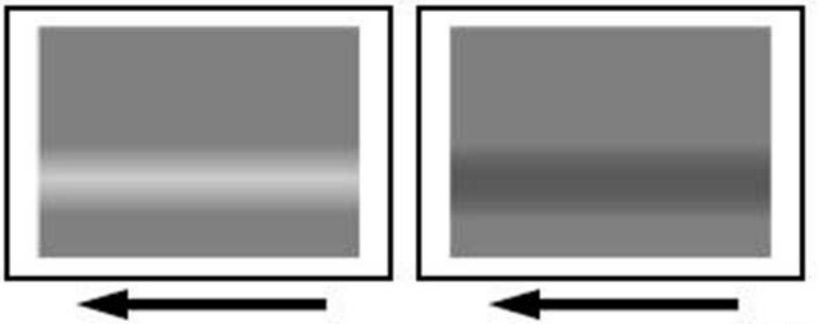



The area within 90 mm (3.5 inches) of the trailing edge is fainter or denser.

**Solution**

- Is there any part in the machine with its PM life ended?
  **Yes** Replace the unit. If the problem persists, go to the next step.
  **No** Go to the next step.
- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
- Print the image. Is the problem resolved?
  **Yes** Finished!
  **No** If the problem persists, see p.7-190 "Uneven Density within 90 mm (3.5 in.) of the Trailing Edge".

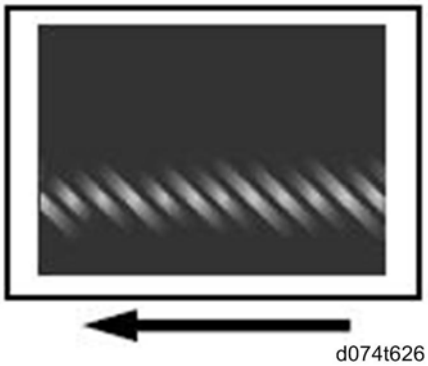
**Affected area**



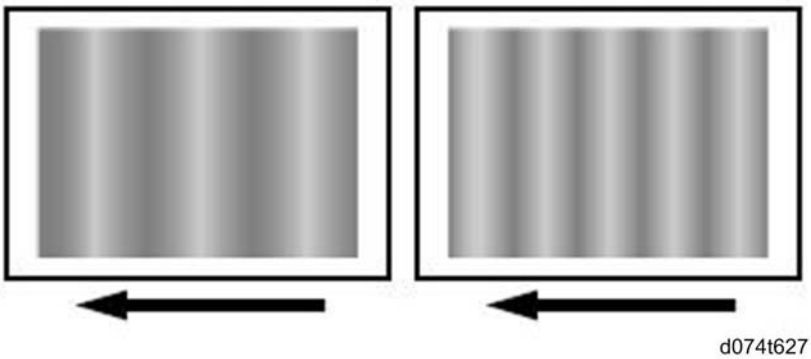

The centre is fainter or denser.

**Solution**

1. Is there any part in the machine with its PM life ended?
   **Yes** Replace the unit. If the problem persists, go to the next step.
   **No** Go to the next step.
2. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.
3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** If the problem persists, replace the development unit. (☛p.5-163)

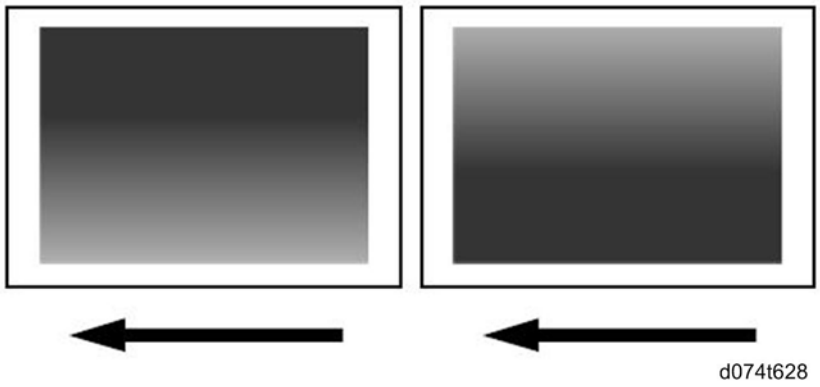
| Affected area |
| --- |
|  <br>d074t626<br>Wavy unevenness |
| **Solution** |
| ▪ Is there any part in the machine with its PM life ended?<br>**Yes** Replace the unit. If the problem persists, go to the next step.<br>**No** Go to the next step.<br>▪ In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or SP3-011-002.<br>▪ Print the image. Is the problem resolved?<br>**Yes** Finished!<br>▪ **No** If the problem persists, replace the development unit or developer. (☛p.5-163) or (☛p.5-164) |

**(C) The vertical density fluctuates periodically**

| Affected area |
| --- |
|  <br>d074t627<br>Periodic vertical density fluctuation |
| **Solution** |

- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
- If the problem persists, see p.7-192 "Periodic Density Fluctuation".

### *Uneven Density from Top to Bottom*




The density is uneven from top to bottom.

Important

1. You can adjust the density of halftone images, but not that of solid fills.

**Cause:**

This may occur at high temperature or humidity.

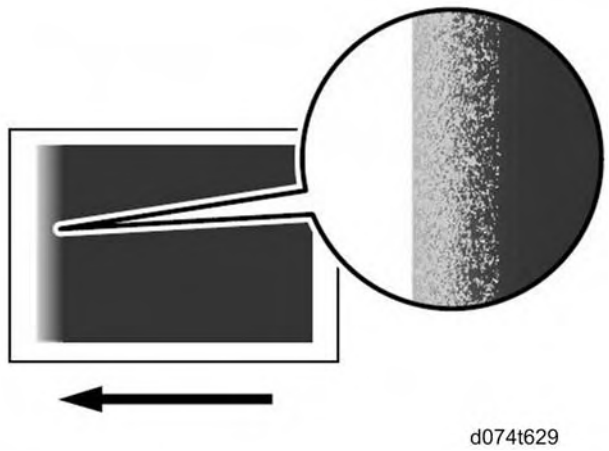
**Solution:**

1. To identify the affected color, print three full-page, halftone (SP2-109-003: "12") A3 or DLT sheets for each of cyan, yellow, magenta, and black.
2. In the [Adjustment Settings for Skilled Operators] menu, select [0205: Adjust Density Difference Across Feed Direction] or use SP2-113-001 to 004.
   Decreasing the value for the affected color makes the area above the centre denser and the area below fainter.
   Increasing the value for the affected color makes the area above the centre fainter and the area below denser.
3. Turn off the power and the main power switch, and then turn the main power switch back on.
   The setting specified in step 2 takes effect.
4. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Go to the next step.
5. Replace one of the following units:
   1. Development unit (☛p.5-163)
   2. Drum unit (☛p.5-158)
   3. Drum charge unit (☛p.5-155)
   4. PTR unit (☛p.5-38)
   5. ITB roller (☛p.5-239)
6. Print the image. Is the problem resolved?

**Yes** Finished!

**No** Contact your supervisor.

### *Fainter Leading Edge*



d074t629

The leading edge is fainter.

**Cause:**

At low temperature or when using thin coated paper, this may occur if the paper transfer current is insufficient.

At high temperature, this may occur if the paper transfer current is excessive.

Note

- To adjust the following settings, pre-register the type of paper in use as a custom paper.
- For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

Important

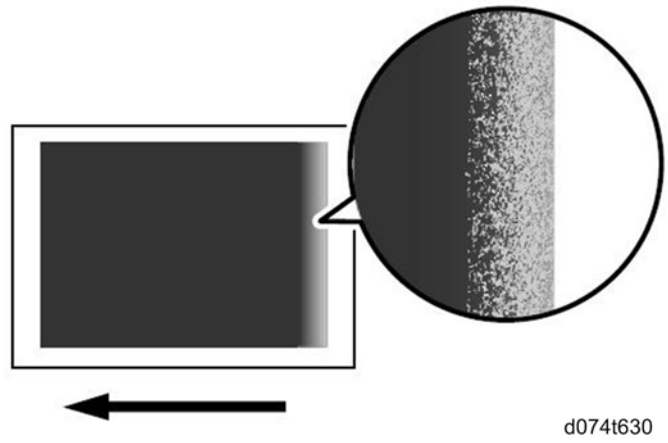
- This solution only works when the thickness of the paper is equivalent to Paper Weight 4 or above.
- If the leading edge coefficient is set too high, this could cause paper separation after image transfer to deteriorate and lead to paper jams. This is particularly true with thickness settings of 3 or lower.

**Solution:**

1. Make a note of the present value in the following setting in [Advanced Settings] for the custom paper in use.
   **<Printing in black and white>**
   [35: Paper Transfer Current; Lead Edge: B&W] or SP2-972.
   **<Printing in full color>**
   [36: Paper Transfer Current; Lead Edge: FC] or SP2-973.
2. Increase the scaling factor in the above setting by 10 percentage points.

3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Increase the scaling factor by 10 percentage points.
4. Repeat Step 3. If the problem persists even though you have increased the scaling factor by 50 percentage points, restore the value noted in Step 1 and go to the next step.
5. Decrease the scaling factor in the above setting by 10 percentage points.
6. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Decrease the scaling factor by 10 percentage points.
7. Repeat Step 6. If the problem persists even though you have decreased the scaling factor by 50 percentage points, restore the value noted in Step 1 and contact your supervisor.

## *Fainter Trailing Edge*




The trailing edge is fainter.

**Cause:**

This may occur because of insufficient or excessive paper transfer current when using paper weighing approximately 160 g/m$^2$ (60 lb. Cover) or heavier at low temperature.

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper.
2. For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

1. Measure in millimeters how far the fainter area extends from the trailing edge.
2. Configure the following settings in [Advanced Settings] for the custom paper in use.
   **<Printing in black and white>**
   In [41: Ppr Transfer Current Trail Edg Dist: BW] or SP2-978, enter the value you measured in Step 1 plus an additional 10 mm.

**<Printing in full color>**

In [42: Ppr Transfer Current Trail Edg Dist: FC] or SP2-979, enter the value you measured in Step 1 plus an additional 10 mm.

3. Make a note of the present value in the following setting in [Advanced Settings] for the custom paper in use.

   **<Printing in black and white>**

   [39: Paper Transfer Current; Trail Edge: B&W] or SP2-2-977

   **<Printing in full color>**

   [40: Paper Transfer Current; Trail Edge: FC] or SP2-977
4. Increase the scaling factor in the above setting by 10 percentage points.
5. Check test print. Printing recovered?

   **Yes**. Succeeded, go to 6

   **No**. Failed. Restore original setting, and then lower the trailing edge correction coefficient. Go to 9.
6. Trailing edge margin satisfactory?

   **Yes**. Success. End

   **No**. Go to 7.
7. Raise the value another 5%.
8. Do a test print and check results. Image satisfactory?

   **Yes**. Succeeded, to 7 (as long as image is satisfactory, you can keep adding 5%).

   **No**. Failed. Restore original setting before it was raised 5%. No further adjustment is possible.
9. Lower the setting 10% below its original value.
10. Do a test print, check the results. Printing satisfactory?

    **Yes**. Succeeded, go to 11.

    **No**. Failed. Restore original setting. No further adjustment is possible.
11. Problem with trailing edge margin solved?

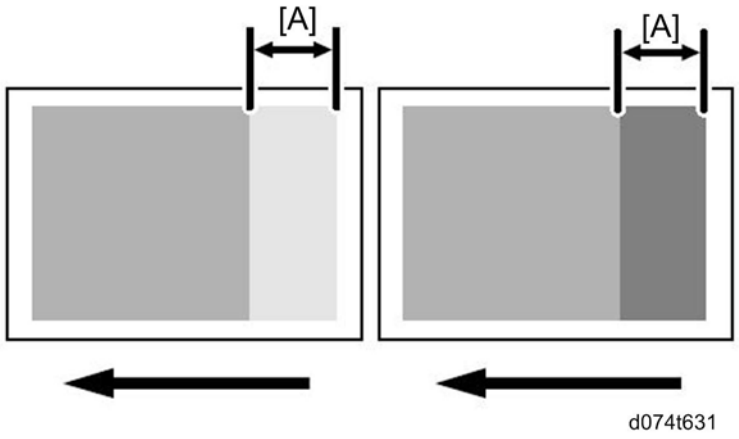
    **Yes**. End.

    **No**. Go to 12.
12. Reduce the setting another 5%.
13. Do a test print, check the results. Printing recovered?

    **Yes**. Succeeded, go to 12. (as long as image is satisfactory, you can keep adding 5%).

    **No**. Failed. Restore original setting before it was raised 5%. No further adjustment is possible.

## *Uneven Density within 90 mm (3.5 in.) of the Trailing Edge*




- [A]: 90 mm (3.5 in.)

Printing in the area extending approximately 90 mm (3.5 inches) from the trailing edge is fainter or denser when the temperature or humidity is low.

Note

- To adjust the following settings, pre-register the type of paper in use as a custom paper.
- For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

The solution depends on whether the area within 90 mm (3.5 inches) of the trailing edge is denser or fainter.

**<If the area within 90 mm (3.5 inches) of the trailing edge is fainter>**

1. In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed Speed Adj] or SP1-963.
2. Check the present value. Is it higher than +0.5%?
   **Yes** Use another type of paper.
   **No** Increase the value by 0.1 percentage point.
3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Repeat Steps 1 to 3. If the problem persists even if you increase the value to +0.5%, contact your supervisor.

**<If the area within 90 mm (3.5 inches) of the trailing edge is denser>**

- In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed Speed Adj] or SP1-963.
- Check the present value. Is it lower than -0.5%?
  **Yes** Use another type of paper.

**No** Decrease the value by 0.1 percentage point.

- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Repeat Steps 1 to 3. If the problem persists even if you decrease the value to -0.5%, contact your supervisor.

**<If you fail to solve the problem>**

Follow this procedure to adjust the speed of the transfer timing roller.

- Check the type and thickness of the paper in use.
- Paper not registered?

  **No**. Register the paper, or adjust the speed of the time roller with SP1-006.

  **Yes**, In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed Speed Adj] and adjust or use SP1-963.
- Trailing edge margin dark?

  Yes. Adjust the speed of the transfer timing roller down -0.1% from its present setting. Go to 4.

  No. Adjust the speed of the transfer timing roller up +0.1% from its present setting. Go to 4
- Operator satisfied with the results?

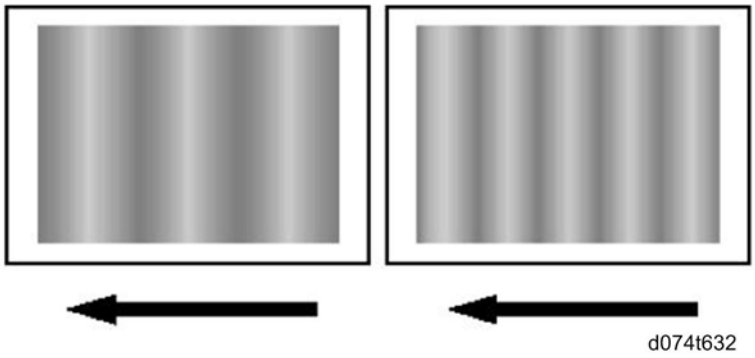
  Yes. Finished.

  No. Repeat 3
- Operator satisfied with the results?

  Yes. Finished.

  No. Repeat 4.

### *Periodic Density Fluctuation*



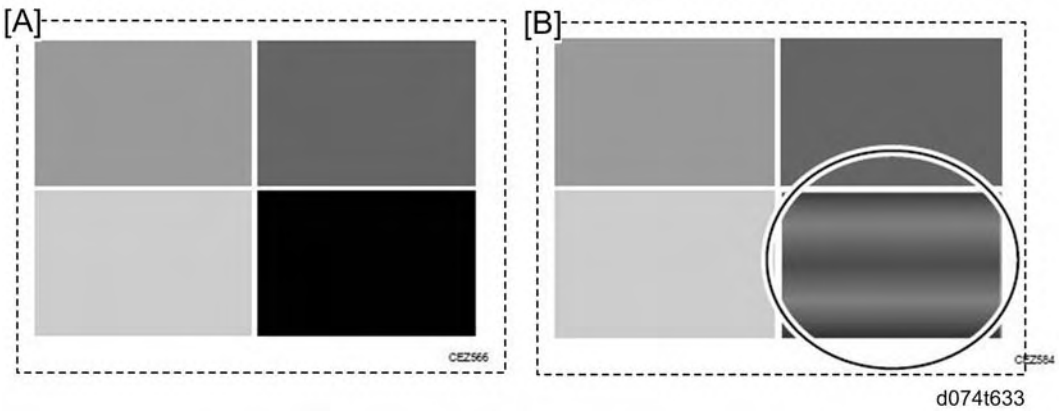

The vertical density fluctuates periodically.

**Solution:**

The solution depends on the interval.

| Interval | Solution |
|---|---|
| Approximately 12-18 mm (0.5-0.7 inches) | **Replace the development unit.** If the problem persists, contact your supervisor. |
| Approximately 50 mm (2 inches) | **Replace the charge roller.** If the problem persists, contact your supervisor. |
| Approximately 60 mm (2.4 inches) | **Replace the transfer unit.** If the problem persists, contact your supervisor. |
| Approximately 95 mm (3.7 inches) | **Replace the ITB drive roller.** If the problem persists, contact your supervisor. |
| Approximately 190 mm (7.5 inches) | **Replace the drum unit.** If the problem persists, contact your supervisor. |

## *Color (1): Black Faint During Full Color Printing*




1. [A]: Normal
2. [B]: Black is fainter.

Black is fainter than normal during full color printing.

**Cause:**

If black is used when printing in full color mode with black toner only, the printing may become faint.

Note

- To adjust the following settings, pre-register the type of paper in use as a custom paper.
- For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

Carry out the following sequence of procedures. Terminate the sequence as soon as the problem is resolved.

**Procedure 1: Increasing the image transfer current for black in full color mode**

1. In [Advanced Settings] for the custom paper in use, select [27: Image Transfer Current: FC: Black] or SP2-991.
2. Increase the value by 10 μA.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Increase the value by 5 μA.
4. Repeat Step 3. If doing this adversely affects colors other than black, reduce the value by 5 μA and carry out Procedure 2, "Executing image processing".

**Procedure 2: Executing image processing**

Do the following on the Command WorkStation (CWS).

- Select "Properties..." for the image.
- Click the "Color" tab.
- In "Color mode", select "Expert Settings...".
- If "CMYK/Grayscale" is set to "Colorwise OFF", change it to an appropriate image process.
- If an appropriate image process has already been selected but the problem persists, carry out Procedure 3, "Printing black using four colors (YMCK) in full-color mode".

**Procedure 3: Printing black using four colors (YMCK) in full-color mode**

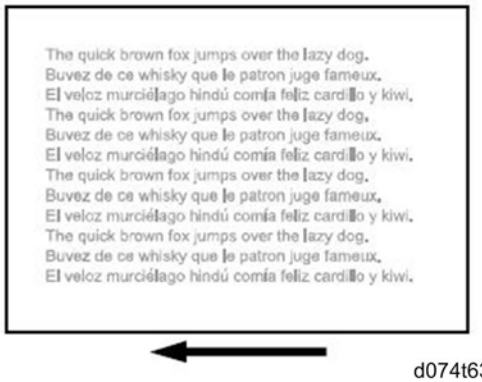
Do the following on the Command WorkStation (CWS).

- Select "Properties..." for the image.
- Click the "Color" tab.
- In "Color mode", select "Expert Settings...".
- Click the "Gray & Black processing" tab.
- Set "Black text graphics" to "Normal".
  Black is printed with 4 colors (YMCK).

  Note

  - If "Black text graphics" is set to "Pure Black On", black is printed with only black toner.
- If the problem persists, contact your supervisor.

## *Color (2): Entire Image Faint*




The entire image is fainter than normal.

**Cause:**

This may occur if:

1. Continuously printing an image that consumes little toner
2. The machine has not been used for a long time
3. The machine is located somewhere very humid and has not been used for a while

**Solution:**

- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.
- Increase/decrease the value by 1 for all colors in [0203: Adjust Maximum Image Density] or with SP3-620-011 to 014..
- Execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Repeat Steps 3 to 5. If the problem persists even if you increase the value to 5, go to the next step.
- Execute the ACC (Automatic Color Calibration) Adjustment.

  Note

  1. "ACC" is machine calibration for copier jobs.
  2. For printer jobs, execute Fiery calibration.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.
- Is there any defective part, SC issued, or a part with the PM life ended?

  **Yes** Replace the necessary part. If this does not solve the problem, contact your supervisor.

  **No** Contact your supervisor.

## *Color is Too Dense*

The entire image is denser than normal.

**Cause:**

This may occur if:

- Continuously printing an image that consumes much toner
- The machine has not been used for a long time
- The machine is located somewhere very humid and has not been used for a while

**Solution:**

- In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.
- Increase/decrease the value by 1 for all colors in [0203: Adjust Maximum Image Density] or with SP3-620-011 to 014.
- Execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Repeat Steps 3 to 5. If the problem persists even if you decrease the value to -5, go to the next step.
- Execute the ACC (Automatic Color Calibration) Adjustment

  Note

  - "ACC" is machine calibration for copier jobs.
  - For printer jobs, execute Fiery calibration.
- Print the image. Is the problem resolved?

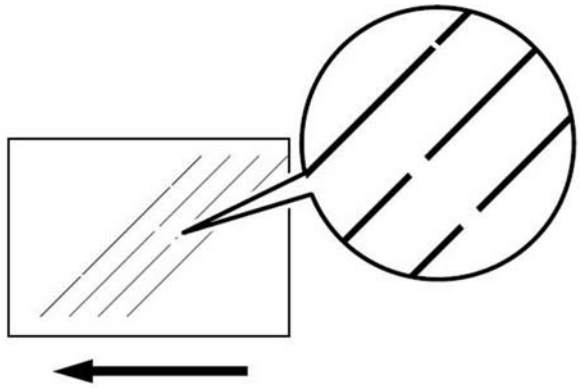
  **Yes** Finished!

  **No** Go to the next step.
- Is there any defective part, SC issued, or a part with the PM life ended?

**Yes** Replace the necessary part. If this does not solve the problem, contact your supervisor.

**No** Contact your supervisor.

### *Broken Thin Lines*



d074t636

Thin lines (1 dot lines in 1200 dpi images) break.

**Cause:**

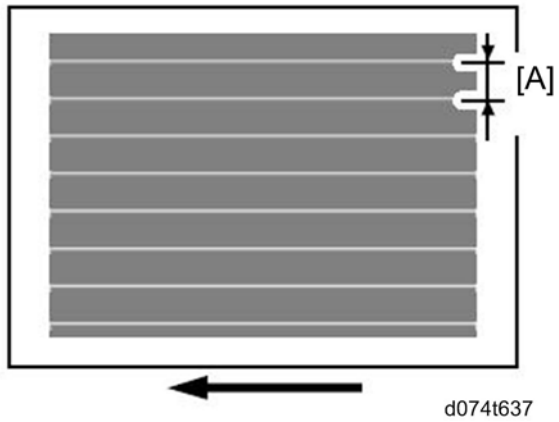
Oblique (approximately 45°) thin lines or thin lines printed in faint colors are likely to contain breaks.

**Solution:**

1. In the [Adjustment Settings for Skilled Operators] menu, execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
2. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Go to the next step.
3. Increase/decrease the value by 1 for all colors in [0204: Adjust Line Width] or with SP3-623-061 to 064.
4. Execute [0201: Adjust Image Density] or execute SP3-011-002 in the SP mode.
5. Print the image. Is the problem resolved?
   **Yes** Finished! However, execute the ACC adjustment for the copier or printer if the current color output is different from the previous color output.
   **No** Repeat Steps 3 to 5. If the problem persists even if you increase the value to 5, contact your supervisor.

## 7.4.6 GLOSS PROBLEMS

### *Glossy Lines*




1. [A]: 20 mm or 26.5 mm (0.8 or 1.0 in.)

Glossy lines appear every 20 or 26.5 mm (0.8 or 1.0 inches).

**Cause:**

This may occur if coated or thin paper is used.

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper.
2. For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

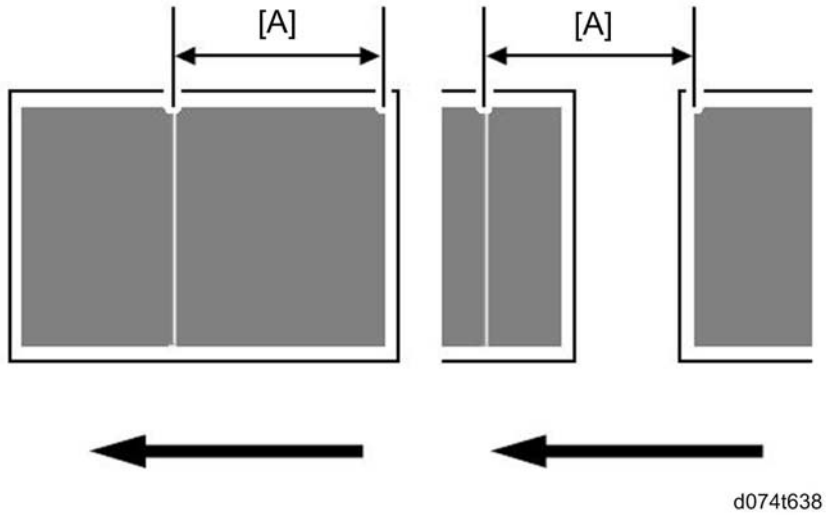
Note

1. If the glossy lines appear at irregular intervals, you cannot resolve the problem with this procedure. Contact your supervisor.
2. Decreasing the temperature may cause unsatisfactory fusing.

**Solution:**

- In [Advanced Settings] for the custom paper in use, select [44: Fusing Heat Roller Temperature Adj] or select SP1-984 in the SP mode.
- Decrease the value by 10 °C. If the gloss of the entire image drops after this, decrease the value only by 5 °C instead of 10 °C.
- If the problem persists, contact your supervisor.

### *Vertical Glossy Lines*




1. [A]: 251 mm (10 inches)

Glossy lines parallel to the paper feed direction appear.

**Cause:**

Glossy lines parallel to the paper feed direction may appear 251 mm from the boundary of the margin and solid image (in the direction opposite to the paper feed direction).

**Solution:**

If vertical glossy lines appear, carry out the procedure in " Glossy Lines ".

### *Insufficient Gloss*

The image is not glossy enough.

**Solution:**

If the gloss of the image is not glossy enough, carry out the procedures in Procedure 1 and Procedure 4 on p.7-200 "Insufficient Toner Fusing".

## 7.4.7 FUSING-RELATED TROUBLESHOOTING

### *Optimizing Productivity for Mixed Paper Stocks*

**Problem**

The fusing temperature is normally adjusted for each paper type. As a result, down time of the machine may be longer if the machine gets a sequence of jobs in which the paper type changes between jobs. If a customer considers that the productivity of the machine has more priority than print quality, do the procedure below.

**Solution**

1. Change the setting of SP1-131-001 from "0" to "1".

This solution may get good results in the following cases:

1. Small difference in the target fusing temperature between two jobs
2. Same line speed between two jobs

**Side Effects**

- If paper weight is changed from light to heavy; a fusing problem may occur for several prints just after paper weight has been changed due to insufficient fusing temperature.
- If paper weight is changed from heavy to light; a fusing problem (glossy lines) may occur for several prints just after paper weight has been changed due to too much fusing temperature.
- Some troubleshooting by adjusting the heating roller temperature may not be effective after selecting the setting of SP1-131-001 to "1".

### *Insufficient Toner Fusing*

This section explains how to resolve the problem of insufficient toner fusing on printed copies.

Note

- To adjust the following settings, pre-register the type of paper in use as a custom paper.
- For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

Carry out the following sequence of procedures. Terminate the sequence as soon as the problem is resolved.

**Procedure 1: Changing the fusing temperature**

1. In [Advanced Settings] for the custom paper in use, select [44: Fusing Heat Roller Temperature Adj] or select SP1-984 in the SP mode, and then make a note of the currently selected temperature.
2. Increase the temperature by 5 °C.

3. Print the image and check toner fusion. Is the problem resolved?
   **Yes** Finished!
   **No** Increase the temperature another 5 °C.
4. Repeat Step 3.
   If the problem persists even if you increase the temperature to 180 °C, return the temperature to the one you noted in Step 1, and then carry out Procedure 2, "Image processing 1".

**Procedure 2: Image processing 1**

Do the following on the Command WorkStation (CWS).

- Select "Properties..." for the image.
- Click the "Color" tab.
- In "Color mode", select "Expert Settings...".
- If "CMYK/Grayscale" is set to "Colorwise OFF", change it to "Colorwise ON". If not, carry out Procedure 3, "Image processing 2".
- Print the image and check toner fusion. Is the problem resolved?
  **Yes** Finished!
  **No** Carry out Procedure 3, "Image processing 2".

**Procedure 3: Image processing 2**

1. Are the images printed in one or two colors?
   **Yes** Carry out Procedure 4, "Changing the process speed".
   **No** (three-color printing or unknown): In the printer driver setting, select toner reduction mode.
2. Print the image and check toner fusion. Is the problem resolved?
   **Yes** Finished!
   **No** Carry out Procedure 4, "Changing the process speed".

**Procedure 4: Changing the process speed**

This will slow down the printing to give the toner more time to fuse. However, because of this, throughput will be reduced.

Example when printing on A4/LT paper:

**<D074>**

If the process speed is changed from [High] to [Middle]: 65 cpm → 45 cpm

If the process speed is changed from [Middle] to [Low]: 45 cpm → 32 cpm

**<D075>**

If the process speed is changed from [High] to [Middle]: 75 cpm → 52 cpm

If the process speed is changed from [Middle] to [Low]: 52 cpm → 37 cpm

- In [Advanced Settings] for the custom paper in use, select [19: Process Speed Setting] or select SP1-986 in the SP mode.
  The settings for the Advanced Settings and the SP settings correspond to one another as

shown in the table below.

| Advance Settings | SP Code Settings |
|---|---|
| High | 0: Target Speed |
| Middle | 1: Medium Speed |
| Low | 2: Low Speed |

- Decrease the value by one level.
  If the present value is [High], select [Middle]. If it is [Middle], select [Low].
- Print the image and check toner fusion. Is the problem resolved?
  **Yes** Finished!
  **No** If the problem persists, the machine may be faulty or the paper unsupported. Contact your supervisor.

# 7.5 TROUBLESHOOTING FOR PAPER DELIVERY PROBLEMS

## 7.5.1 FREQUENT PAPER MISFEEDS

**Coated or another type of unsupported paper is loaded in the machine's tray.**

Load paper not supported by the machine's paper tray (Trays 1 and 2) in the wide LCT (Trays 3-5) or another paper tray supporting the paper. For details about the size and type of paper that can be loaded in the paper trays, see "Recommended Paper Sizes and Types", About This Machine.

**The side fences in the paper tray are too close together.**

If the distance between the side fences is less than the paper width, it may interfere with paper transfer and so cause paper misfeeds.

Adjust the side fences to match the paper width.

For details about loading paper, see "Loading Paper", About This Machine.

**The side fences in the paper tray are too far apart.**

If the side fences are too far apart, paper misfeeds may occur due to wrong paper size detection.

Adjust the side fences to match the paper width.

For details about loading paper, see "Loading Paper ", About This Machine.

**The paper size/orientation is not specified correctly.**

In tray paper settings, specify the size and orientation of the paper in use.

For details about tray paper settings, see "Changing Tray Paper Settings", Paper Settings Reference.

**Too many sheets of paper are loaded in the paper tray.**

When loading paper, do not exceed the limit.

For details about how many sheets can be loaded in the paper trays, see "Recommended Paper Sizes and Types".

**The edges of the sheets are rough.**

Turn the sheets the other way up or smooth the edges before loading.

**Sheets are curled or wavy.**

- Flatten curls and waviness before loading paper.
- Turn the sheets the other way up or smooth the edges before loading.

**Sheets absorbed moisture and became limp.**

Sheets that will not be used for a long time should be protected from moisture by, for example, storing them in a sealed bag.

If you switch the anti-humidity heater on, the heater is inside the paper tray will operate to prevent sheets from absorbing moisture even when the main power is off.

For details about operating the anti-humidity heater, see "Anti-humidity Heater Switch", About This Machine.

**When using thick paper or slippery paper.**

Enable the Pickup Assist setting.

**<If custom paper is used>**

1. In [Advanced Settings] for the custom paper in use, set [03: Pickup Assist Setting] to [On] or set SP1-977 to "1: ON".

**<If custom paper is not used>**

- In the [Adjustment Settings for Skilled Operators] menu, set [0115: Pickup Assist Setting] to [On] or by setting SP1-923-001 to 006 to "1: FORCE ON".

**The paper feed sensor is stained with paper dust.**

Clean the part of the paper feed sensor where the paper misfeed is detected.

For details about cleaning the paper feed sensor, see the Replacement Guide.

**The paper feed performance is less sufficient because the paper transport roller is soiled with toner.**

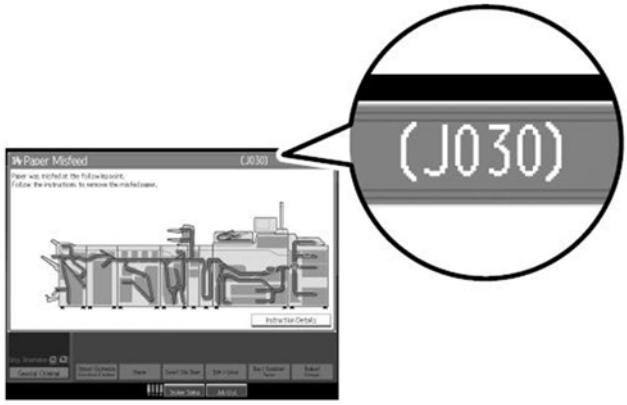
Clean the part of the paper transport roller where the paper misfeed is detected.

For details about cleaning the paper transport roller, see the Replacement Guide.

**Frequent jam (J031 or J080 detected by the transfer timing sensor/ J028, J029 or J078 detected by the registration timing sensor) occurs due to the wrong operation of the transfer timing motor.**

- Check the following points:
  - The harness of the transfer timing motor is correctly connected.
  - The encoder of the transfer timing roller is correctly installed.
  - No obstruction on the transfer timing roller exists.
- Replace the transfer timing motor.

## 7.5.2 MESSAGES REPORTING PAPER MISFEEDS




d074t639

Paper misfeeds are reported by messages prefixed with problem codes.

Resolve the problem according to the code.

This section only lists the codes for problems that can be resolved by the user.

If a problem code not listed in this section appears, contact your supervisor.

### *If (J032) Appears*

**Cause:**

The edge of a sheet is jammed in the transfer belt or paper transfer roller.

Floppy paper is likely to cause paper misfeeding because it tends to stick to the intermediate transfer belt and paper transfer roller.

Note

1. To adjust the following settings, pre-register the type of paper in use as a custom paper.
2. For details about how to register Custom Paper settings, see "Registering a Custom Paper" in the Paper Settings Reference.

**Solution:**

**<Color printing>**

1. In [Advanced Settings] for the custom paper in use, set [36: Paper Transfer Current; Lead Edge: FC] to "100%" or set SP2-973 to "100%".
2. Print 25 sheets of the image. Is the problem resolved?

   **Yes** Finished!

   **No** Go to the next step.
3. Set [36: Paper Transfer Current; Lead Edge: FC] to "80%" or set SP2-973 to "80%".

4. Print 25 sheets of the image.
    1. If paper misfeeding no longer occurs, the problem has been solved.
    2. If the leading edge of the printed image becomes faint as a result of this, go to the next step.
    3. If the paper misfeeding persists, skip to step 7.
5. Set [38: Ppr Transfer Current Lead Edg Dist: FC] or set SP2-975 to "5 mm".
6. Print 25 sheets of the image. Is the problem resolved?

    **Yes** Finished!

    **No** Contact your supervisor.
7. Ask a customer to increase the leading edge margin in the print settings (10 mm) for the image to be printed.
8. Set [36: Paper Transfer Current; Lead Edge: FC] to "0%" or set SP2-973 to "0%".
9. Print 25 sheets of the image. Is the problem resolved?

    **Yes** Finished!

    **No** Contact your supervisor.

**<Black-and-white printing>**

1. In [Advanced Settings] for the custom paper in use, set [35: Paper Transfer Current; Lead Edge: B&W] to "100%" or set SP2-972 to "100%".
2. Print 25 sheets of the image. Is the problem resolved?

    **Yes** Finished!

    **No** Go to the next step.
3. Set [35: Paper Transfer Current; Lead Edge: B&W] to "80%" or set SP2-972 to "80%".
4. Print 25 sheets of the image.
    1. If paper misfeeding no longer occurs, the problem has been solved.
    2. If the leading edge of the printed image becomes faint as a result of this, go to the next step.
    3. If the paper misfeeding persists, skip to step 7.
5. Set [37: Ppr Transfer Current Lead Edg Dist: BW] to "5 mm" or set SP2-975 to "5 mm".
6. Print the image. Is the problem resolved?

    **Yes** Finished!

    **No** Contact your supervisor.
7. Ask a customer to increase the leading edge margin in the print settings (10 mm) for the image to be printed.
8. Set [35: Paper Transfer Current; Lead Edge: B&W] to "0%" or set SP2-972 to "0%".
9. Print 25 sheets of the image. Is the problem resolved?

    **Yes** Finished!

    **No** Contact your supervisor.

Note

1. If you cannot change the leading edge margin, paper misfeeding may be eliminated by reorienting the loaded paper according to its grain. For details about paper grain and orientation, see "Loading Paper", About This Machine.

### *If (J080) Appears*

**Cause:**

The correct paper feed speed is not being maintained.

When using slippery paper, traction may be lost, reducing paper feed speed.

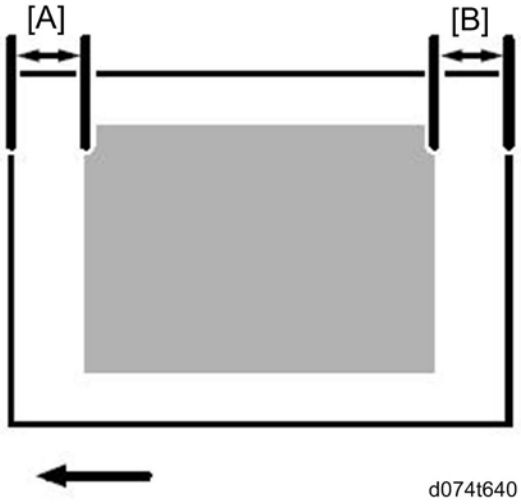
**Solution:**

1. In [Advanced Settings] for the custom paper in use, set [07: Regist Jam Detection with Feed Dir] to [Off] or set SP1-958 to [Off].
2. When you set this to [Off], the printed image may become misaligned at the leading edge. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Contact your supervisor.

## *If (J033) or (J083)Appears*




1. [A]: Leading edge margin
2. [B]: Trailing edge margin

At installation the service technician executes machine position adjustment using. If the sub scan registration adjustment exceeds ±0.3 mm, the service technician should inform the operator about the amount of adjustment and then guide the operator through the user adjustment settings. The relevant settings are:

1. Side 1 image position adjustment: Direction of paper feed
2. Side 2 image adjustment: Direction of paper feed

**Cause:**

Paper is jammed in the fusing belt stripper plate.

This is likely to occur if:

1. Thin or coated paper is used
2. A solid image that consumes a lot of toner is printed at the leading edge
3. The leading/trailing edge margin is too narrow

Paper feed direction

Leading-edge margin Trailing-edge margin

**Solution:**

Increase the leading/trailing edge margin.

By increasing the margin, paper can separate more easily from the fusing belt stripper plate.

**When printing on one side only**

**<If it is acceptable for the image to be incompletely printed at its edge>**

Trim the image at its leading edge to increase the margin.

- In [Advanced Settings] for the custom paper in use, select [13: Adjust Erase Margin of Leading Edge] or select SP2-122.
- Increase the value by 0.5 mm.

- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Keep increasing the value by 0.5 mm until the problem is resolved.

  If the problem persists even though the setting has reached its maximum value, contact your supervisor.

**<If it is not acceptable for the image to be incompletely printed at its edge>**

1. In [Advanced Settings] for the custom paper in use, select [08: Adj Image Position of Side1 With Feed] or select SP1-950.
2. Increase the value by 0.5 mm.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing the value by 0.5 mm until the problem is resolved.

   If the problem persists even though the setting has reached its maximum value, contact your supervisor.

**When printing on both sides**

**<If it is acceptable for the image to be incompletely printed at its edge>**

1. In [Advanced Settings] for the custom paper in use, select [14: Adjust Erase Margin of Trailing Edge] or select SP2-123.
2. Increase the value by 0.5 mm.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing the value by 0.5 mm until the problem is resolved.

   If the problem persists even though the setting has reached its maximum value, contact your supervisor.

**<If it is not acceptable for the image to be incompletely printed at its edge>**

1. In [Advanced Settings] for the custom paper in use, select [08: Adj Image Position of Side1 With Feed] or select SP1-950.
2. Increase the value by 0.5 mm.
3. Select [09: Adj Image Position of Side2 With Feed] or select SP1-951.
4. Decrease the value by 0.5 mm.
5. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing/decreasing the value by 0.5 mm until the problem is resolved.

   If the problem persists even though the setting has reached its maximum/minimum value, contact your supervisor.

## *If (J097) Appears*

**Cause:**

Paper is skewed.

**Solution:**

Depending on the cause of the problem, do one the following:

**The side fences in the paper trays are not positioned correctly.**

Adjust the side fences to match the paper width.

For details about loading paper, see "Loading Paper", About This Machine.

**The paper size/orientation/type is not specified correctly.**

In tray paper settings, specify the size, orientation, and type of the paper in use.

For details about tray paper settings, see "Changing Tray Paper Settings", Paper Settings Reference.

**Sheets of mixed type, thickness, or color are loaded in the paper tray.**

Load identical sheets in the paper tray. When printing from a tray containing sheets of mixed color, you can prevent paper mis-feeding by specifying the following settings.

**<If custom paper is used>**

1. In [Advanced Settings] for the custom paper in use, set [12: Deactivate Image Position Adjustment Across Feed Dir] to [On] or set the setting of SP1-957 to [1].
2. In [Advanced Settings] for the custom paper in use, set [05: Skew Detection] to [Off] or set SP1-955 to [0].

**<If custom paper is not used>**

1. In the [Adjustment Settings for Skilled Operators] menu, set [0107: Deactivate Image Position. Adjustment Across Feed Dir] to [On] or set the setting of SP1-917-001 to -007 to [1].
2. Set [0108: Skew Detection] to [Off] or SP1-021-001- to -007 to [0].

**An envelope is used.**

If an envelope with a beveled flap is fed with the flap open, the machine may detect it as a skew. Disable the skew detection function.

**<If custom paper is used>**

1. In [Advanced Settings] for the custom paper in use, set [05: Skew Detection] to [Off] or set SP1-955 to [0].

**<If custom paper is not used>**

1. In the [Adjustment Settings for Skilled Operators] menu, set [0108: Skew Detection] to [Off] or set SP1-021-001 to -007 to [0].

**The skew detection level is too high.**

The skew detection level may be too high.

**<If custom paper is used>**

- In [Advanced Settings] for the custom paper in use, set [05: Skew Detection] to [Off] or set SP1-955 to [0].

**<If custom paper is not used>**

1. Set [0108: Skew Detection] to [Off] or SP1-021-001- to -007 to [0].

Note

1. If the skew detection level is reduced or the skew detection function is disabled, no misfeed report will be displayed. However, this may result in paper skew feeding. If you do not want this result, contact your supervisor.
2. If the machine wrongly detects skew, see p.7-214 "Wrong Detection of Skew".

## *If (J098) Appears*

**Cause:**

Sheets cannot be positioned properly by image position adjustment.

**Solution:**

Depending on the cause of the problem, do one of the following:

**The side fences in the paper trays are not positioned correctly.**

Adjust the side fences to match the paper width.

For details about loading paper, see "Loading Paper", About This Machine.

**The paper size/orientation/type is not specified correctly.**

In tray paper settings, specify the size, orientation, and type of the paper in use.

For details about tray paper settings, see "Changing Tray Paper Settings", Paper Settings Reference.

**Sheets of mixed type, thickness, or color are loaded in the paper tray.**

Load identical sheets in the paper tray.

When printing from a tray containing sheets of mixed color, you can prevent paper misfeeding by specifying the following settings:

- In the [Adjustment Settings for Skilled Operators] menu, set [0107: Deactivate Image Position Adjustment Across Feed Dir] to [On] or set the setting of SP1-917-001 to -007 to [On].
- Set [0108: Skew Detection] or SP1-021-001- to -007 to [Off].

**Colored paper or transparencies are loaded in the paper tray.**

Paper edges may not have been detected correctly.

Adjust the color paper edge detection.

1. Make a note of the present value in [06: Colour Paper Edge Detection Adjustment] in [Advanced Settings] or a note of the present value in SP1-962 in the SP mode for the custom paper in use.
2. Increase the value in [06: Colour Paper Edge Detection Adjustment] or SP1-962.
3. Print the image. Is the problem resolved?

**Yes** Finished!

**No** Keep increasing the value until the problem is resolved.

If the problem persists even though the setting has reached its maximum value, restore the value noted in step 1 and go to the next step.

4. Decrease the value in [06: Colour Paper Edge Detection Adjustment] or SP1-962.
5. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value until the problem is resolved.

   If the problem persists even though the setting has reached its minimum value, restore the value noted in step 1 and go to the next step.
6. Set [12: Deactivate Image Position Adjustment] to [Activate] or set the setting of SP1-957 to [Active].
7. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Contact your supervisor.

## *If (J099) Appears*

**Cause:**

Double feeding has occurred.

**Solution:**

Depending on the cause of the problem, do one of the following:

**Coated or another type of unsupported paper is loaded in the machine's tray.**

Load paper not supported by the machine's paper tray (Trays 1 and 2) in the wide LCT (Trays 3–5) or another paper tray that supports the paper.

For details about the size and type of paper that can be loaded in the paper trays, see "Recommended Paper Sizes and Types", About This Machine.

**Sheets are stuck to each other.**

Fan the paper before loading it to loosen the sheets.

For details about fanning the paper, see "Fanning the Paper", About This Machine.

**The edges of the sheets are rough.**

Turn the sheets the other way up or smooth the edges before loading the paper.

**Wrong detection of double feeding**

The machine may have wrongly detected a double feed.

For details, see p.7-216 "Wrong Detection of Double Feeding".

## 7.5.3 PAPER SKEW

**The side fences in the paper tray are too far apart.**

If the side fences are too far apart, the paper may misfeed.

Adjust the side fences to match the paper width.

For details about loading paper, see "Loading Paper", About This Machine.

**A scrap of paper or some other small fragment is jammed in the paper feed path.**

Remove the fragment.

For details about cleaning the paper feed path, see the Replacement Guide.

**The correct degree of paper arching has not been specified.**

Adjust the degree of paper arching at the registration gate.

**<If using paper of Paper Weight 1 to 4>**

1. Make a note of the present value in [0103: Adjust Registration Paper Buckle] in the [Adjustment Settings for Skilled Operators] menu or a note of the present value in SP1-004-001 to -003 in the SP mode for the custom paper in use.
2. Increase the value in [0103: Adjust Registration Paper Buckle] or SP1-004-001 to -003.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing the value until the problem is resolved.

   If the problem persists even though the setting has reached its maximum value, restore the value noted in step 1 and go to the next step.
4. Decrease the value in [0103: Adjust Registration Paper Buckle] or SP1-004-001 to -003.
5. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value until the problem is resolved.

   If the problem persists even though the setting has reached its minimum value, adjust the registration gate position. (☛p.3-220)

**<If using paper of Paper Weight 5 to 7>**

1. Make a note of the present value in [0104: Adjust Registration Paper Buckle (Thick Paper)] in the [Adjustment Settings for Skilled Operators] menu or a note of the present value in SP1-005-001 to -003 in the SP mode for the custom paper in use.
2. Increase the value in [0104: Adjust Registration Paper Buckle (Thick Paper)] or SP1-005-001 to -003.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing the value until the problem is resolved.

   If the problem persists even though the setting has reached its maximum value, restore the

value noted in step 1 and go to the next step.

4. Decrease the value in [0104: Adjust Registration Paper Buckle (Thick Paper)] or SP1-005-001 to -003.
5. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value until the problem is resolved.

   If the problem persists even though the setting has reached its minimum value, adjust the registration gate position. (☛p.3-220)

**The skew detection level is too low.**

Increase the skew detection level.

1. In [Adjustment Settings for Skilled Operators], select [0109: Skew Detection Level] and reduce the value or select SP1-116-001 to -007 and reduce the value.

   Reduce the value to decrease the detection level.

   This will allow the machine to continue printing even for a slight skew.

   However, if you set the detection level too high, a paper misfeeding message (J097) will be appear frequently.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Adjust the registration gate position. (☛p.3-220)

## 7.5.4 WRONG DETECTION OF SKEW

**An envelope is used.**

If an envelope with its flap's edges cut at a bevel is fed, the machine may detect it as a skew.

<If custom paper is used>

- In [Advanced Settings] for the custom paper in use, set [05: Skew Detection| to [Off] or set SP1-995 to [0].

<If custom paper is not used>

1. In the [Adjustment Settings for Skilled Operators] menu, set [0108: Skew Detection] to [Off] or set the setting of SP1-021-001 to -007 to [0].

Note

1. Disabling the skew detection function will allow skewed printing. If this is not acceptable, contact your supervisor.

## 7.5.5 DOUBLE FEEDING

**Is the paper feed roller covered with paper dust?**

Paper dust may decrease the traction of the paper feed roller and result in double feeding due to paper slippage or insufficient separation.

Cleaning the paper feed roller will restore traction and so prevent double feeding.

For details about cleaning the paper feed roller of each of the machine's trays (Trays 1 and 2), see the Replacement Guide.

For details about cleaning the paper feed roller of the multi bypass tray (Tray 6), see p.7-236 "Cleaning the Paper Feed Path in the Multi Bypass Tray (Tray 6)".

For details about cleaning the paper feed roller of the interposer, see p.7-239 "Cleaning the Paper Feed Rollers and Paper Feed Belt in the Interposer".

**Have you ruffled the paper sufficiently?**

Double feeding may result if the paper is not ruffled properly.

Remove the paper, ruffle it, and reload it.

For details about ruffling the paper, see "Fanning the Paper", About This Machine.

**Is the paper feed roller covered with paper dust?**

Paper dust or the surface of coated paper may decrease the traction of the paper feed roller and result in double feeding due to paper slippage or insufficient separation.

Cleaning the paper feed roller will restore traction and prevent double feeding.

For details about cleaning the paper feed roller of each of the machine's trays (Trays 1 and 2), see the Replacement Guide.

For details about cleaning the paper feed roller of the wide LCT (Trays 3-5), see p.7-234 "Cleaning the Paper Feed Path in the Wide LCT (Trays 3-5)".

For details about cleaning the paper feed roller of the multi bypass tray (Tray 6), see p.7-236 "Cleaning the Paper Feed Path in the Multi Bypass Tray (Tray 6)".

For details about cleaning the paper feed roller of the interposer, see p.7-239 "Cleaning the Paper Feed Rollers and Paper Feed Belt in the Interposer"..

**Is the Pickup Assist setting enabled?**

If the Pickup Assist function operates too much, it may cause double feeding with coated paper. By disabling the Pickup Assist setting, you can prevent double feeding.

**<If custom paper is used>**

- In [Advanced Settings] for the custom paper in use, set [03: Pickup Assist Setting] to [Off] or set the setting of SP1-977 to [0: OFF].

**<If custom paper is not used>**

- In the [Adjustment Settings for Skilled Operators] menu, set [0115: Pickup Assist Setting] to [Off], or set SP1-923-001 to 006 to [2: FORCE OFF].

**Special or coated paper is used.**

- Is the airflow strong enough?
  The factory-set airflow of the wide LCT may not be strong enough to separate the sheets. Increase the airflow.
  **<If custom paper is used>**
  1. In [Advanced Settings] for the custom paper in use, increase the value in [02: Adjust Wide LCT Fan Level] or with SP1-975.

  **<If custom paper is not used>**
  1. In the [Adjustment Settings for Skilled Operators] menu, increase the value in [0113: Adjust Wide LCT Fan Level] or with SP1-920-001 to 003.
- Is the tab sheet holder attached?
  By attaching the tab sheet holder, you can prevent air from leaking at the trailing edge of the paper and improve separation. See p.7-232 "Attaching the Tab Sheet Holder".

## 7.5.6 WRONG DETECTION OF DOUBLE FEEDING

**Preprinted paper is used.**

If the sensor detects the printed part of preprinted paper, it may wrongly detect it as double feeding.

Disable the double feeding detection function.

**<If custom paper is used>**

- In [Advanced Settings] for the custom paper in use, set [04: Double Feed Detect] to [Off] or set the setting of SP1-956 to [0: Off].

**<If custom paper is not used>**

- In the [Adjustment Settings for Skilled Operators] menu, set [0105: Double Feed Detect] to [Off], or set SP1302-001 to 006 to [0: Off].

Note

1. Disabling double feed detection may reduce print image quality or cause blank sheets to be delivered.

**An envelope is being used.**

The seams of envelopes may cause double feeds to be erroneously detected.

Disable the double feed detection.

**<If custom paper is used>**

- In [Advanced Settings] for the custom paper in use, set [04: Double Feed Detect] to [Off] or set the setting of SP1-956 to [0: Off].

**<If custom paper is not used>**

- In the [Adjustment Settings for Skilled Operators] menu, set [0105: Double Feed Detect] to [Off] or set SP1-302-001 to 006 to [0: Off].

Note

1. Disabling double feed detection may reduce print image quality or cause blank sheets to be delivered.

**The double feed detection sensor is soiled.**

If the double feed detection sensor is soiled with paper dust or other fragments, it may wrongly detect double feeding.

Clean the double feed detection sensor.

For details about cleaning the double feed detection sensor, see the Replacement Guide.

**Transparency rate of paper in use is not same.**

Adjust the transparency rate for customer paper settings with SP1-304-001, -002 and -003.

Note

- Changing one of these settings will affects other settings. Adjust all customer paper settings which a customer usually uses.

## 7.5.7 PAPER MISFEEDING

**Have you ruffled the paper properly?**

Not ruffling the paper properly may cause paper misfeeding.

Remove the paper, ruffle it, and reload it.

For details about ruffling paper, see "Fanning the Paper", About This Machine.

**The side fences in the paper tray are too close together.**

If the distance between the side fences is less than the paper width, it may interfere with paper transfer and so cause paper misfeeds.

Adjust the paper guides to match the paper width.

For details about loading paper, see "Loading Paper", About This Machine.

**Special or coated paper is used.**

- Is the airflow powerful enough?

  The factory-set airflow of the wide LCT may not be strong enough to separate the sheets. Increase the airflow.

  **<If custom paper is used>**

  - In [Advanced Settings] for the custom paper in use, increase the value in [02: Adjust Wide LCT Fan Level] or increase the value in SP1-975.

  **<If custom paper is not used>**

  1. In the [Adjustment Settings for Skilled Operators] menu, increase the value in [0113: Adjust Wide LCT Fan Level] or with SP-1920-001 to 003.

- Is the tab sheet holder attached?

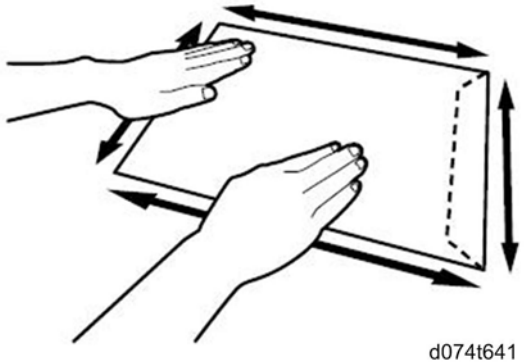
  By attaching the tab sheet holder, you can prevent air from escaping at the trailing edge of the paper and so improve separation. See p.7-232 "Attaching the Tab Sheet Holder"..

- Is the paper feed roller covered with paper dust?
  Paper dust or the surface of coated paper may reduce the traction of the paper feed roller and cause paper misfeeding due to paper slippage or insufficient separation.
  By cleaning the paper feed roller, the frictional force can be restored so that double feeding will not occur.
  For details about cleaning the paper feed roller of the wide LCT (Trays 3-5), see p.7-234 "Cleaning the Paper Feed Path in the Wide LCT (Trays 3-5)".

**An envelope is used.**

Depending on the type of envelope, air trapped inside may be squeezed out when the paper feed roller picks up the envelope and cause slippage leading to a misfeed.

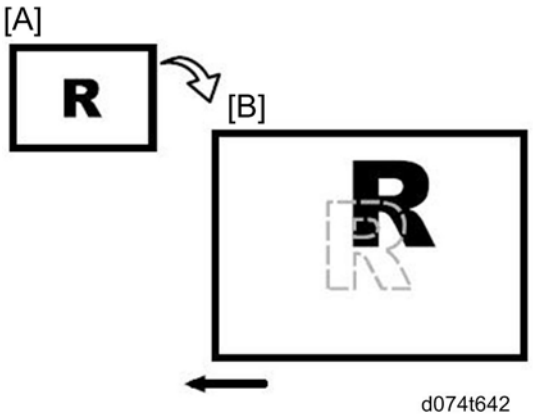
- Is the wide LCT fan disabled?
  In [Advanced Settings] for the custom paper in use, set [01: Wide LCT Fan Setting] to [Off] or set the setting of SP1-976.
- Have you flattened the envelope?




  Flatten the envelope and all its edges to eliminate air before loading. If the envelope is curled, decurl it before loading.

## 7.5.8 PAPER FEED PROBLEMS AFFECTING IMAGE QUALITY

### *The Image Is Positioned Incorrectly*




- [A]: Original
- [B]: Output

**Cause:**

Depending on the paper thickness, floppiness, edge roughness, and curl, the image may become positioned incorrectly.

**Solution:**

Adjust the image position.

**<If custom paper is used>**

1. In [Advanced Settings] or SP mode for the custom paper in use, adjust the image position.

   **The side 1 of paper**

   - To adjust the position horizontally, change the value in [08: Adj Image Position of Side1 With Feed] or change the value in SP1-950.
   - To adjust the position vertically, change the value in [10: Adj Image Position of Side1 Across Feed] or change the value in SP1-952.

   **The side 2 of paper**

   - To adjust the position horizontally, change the value in [09: Adj Image Position of Side2 With Feed] or change the value in SP1-951.
   - To adjust the position vertically, change the value in [11: Adj Image Position of Side2 Across Feed] or change the value in SP1-953.

**<If custom paper is not used>**

1. In the [Adjustment Settings for Skilled Operators] menu, adjust the image position.

   **The side 1 and side 2 of paper**

   - To adjust the position horizontally, change the value in [0101: Adjust Image Position With Feed Direction] or change the value of SP1-001-001 to 007.
   - To adjust the position vertically, change the value in [0102: Adjust Image Position

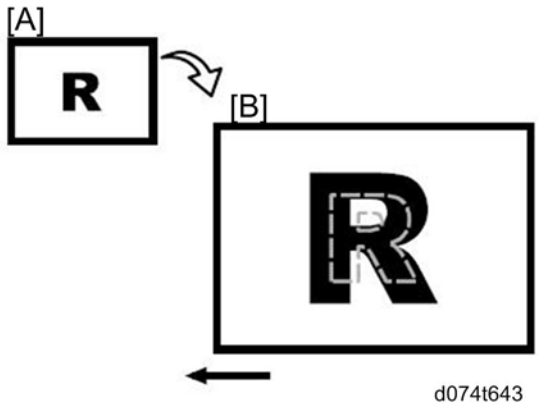
Across Feed Direction] or change the value of SP1-003-001 to 007.

If the problem persists even though you have adjusted the setting to its maximum and minimum values, contact your supervisor.

Note

- For details about specifying settings in the [Adjustment Settings for Skilled Operators] menu, see the Adjustment Item Menu Guide.

### *Image Scaling Error on the Side 1 of Paper*




- [A]: Original
- [B]: Output

**Cause:**

An image scaling error may occur because of expansion or contraction of the paper.

**Solution:**

Adjust the image scaling.

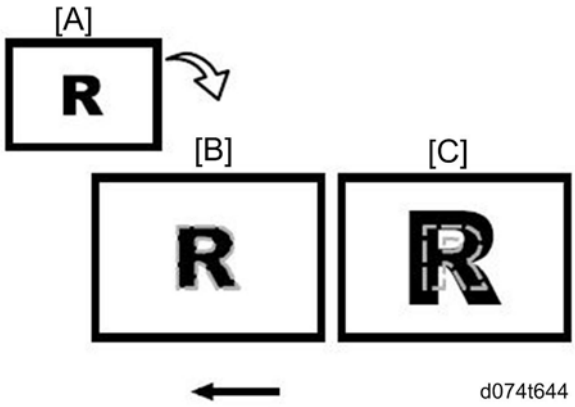
1. In [Advanced Settings] for the custom paper in use, adjust the image scaling.
   - To adjust the horizontal scaling, change the value in [15: Adj Magnification of Side1 Across Feed] or change the value in SP2-950.
   - To adjust the vertical scaling, change the value in [16: Adj Magnification of Side1 With Feed] or change the value in SP2-951.

   Press [+] to increase the scaling and [-] to decrease it.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Contact your supervisor.

### *Image Scaling Error on the Side 2 of Paper*




- [A]: Original
- [B]: Output side 1
- [C]: Output side 2

**Cause:**

An image scaling error on the side 2 of the paper may occur because the paper expands or contracts after the image on the side 1 of the paper has been fused.

**Solution:**

Adjust the scaling for the side 2 of the paper and minimize the difference in print size between the side 1 and the side 2.

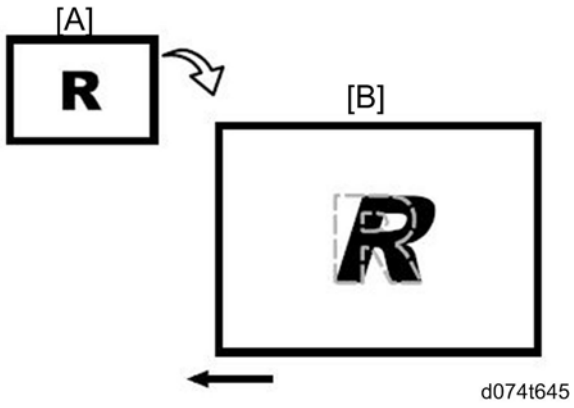
- In [Advanced Settings] for the custom paper in use, adjust the image scaling.
  - To adjust the horizontal scaling, change the value in [17: Adj Magnification of Side2 Across Feed] or change the value in SP2-952.
  - To adjust the vertical scaling, change the value in [18: Adj Magnification of Side2 With Feed] or change the value in SP2-953.

  Press [+] to increase and [−] to decrease the scaling.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Contact your supervisor.

### *Image Skewing*




1. [A]: Original
2. [B]: Output

**Cause:**

Depending on the machine's operating environment (levelness and temperature), the printed image may become vertically skewed.

**Solution:**

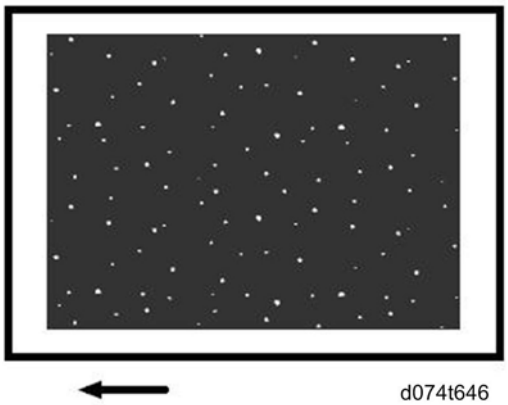
Adjust image skew.

- Print the image in black and white.
- Check the direction of the skew.
- In the [Adjustment Settings for Skilled Operators] menu, adjust the value in [0117: Perpendicularity Adjustment] or SP2-104-040.
  You can adjust the skew in steps of 16.5 μm.
  Press [+] to skew the image counterclockwise or [-] to skew it clockwise.
- Print the image in black and white.
  Gradually increase the value and check the printed image.
  1. If the problem is resolved, go to the next step.
  2. If the problem persists even though the setting has reached its maximum value, contact your supervisor.
- Execute color registration.
  In executing color registration, the black adjustment will also be applied to cyan, magenta, and yellow.
  For details about color registration, see "Adjusting the Color Registration" in the Troubleshooting guide supplied with the machine.

Note

1. You cannot skew paper with [0117: Perpendicularity Adjustment]. For details about adjusting paper skew, see p.7-213 "Paper Skew".

### *White Spots*

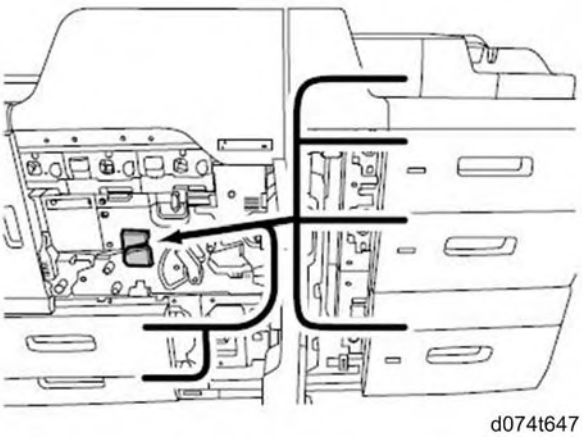



**Cause:**

Paper dust on the guide board and transfer timing roller may stick to the paper and produce white spots.

Some types of paper, such as recycled paper, roughly cut paper, and high-friction coated paper produce a lot of paper dust, which will likely stick to the paper.

**Solution:**




Clean the paper feed path (dust catcher, transfer timing roller, guide board, and paper feed roller) between the paper tray in use and the transfer unit's nip (where the images are transferred from the intermediate transfer belt to the paper).

The paper feed paths between each paper tray and the nip are as follows:

- For details about cleaning the dust catcher, transfer timing roller, and the machine's paper trays (Trays 1 and 2), see the Replacement Guide.
- For details about cleaning the paper feed roller of the wide LCT (Trays 3-5), see p.7-234 "Cleaning the Paper Feed Path in the Wide LCT (Trays 3-5)".
- For details about cleaning the paper feed roller of the multi bypass tray (Tray 6), see p.7-236 "Cleaning the Paper Feed Path in the Multi Bypass Tray (Tray 6)".
- For details about periodic cleaning of the machine, see the Replacement Guide.

## *Paper Edges Are Soiled*

**Cause:**

The paper feed rollers or anti-static brushes are soiled.

**Solution:**

Depending on the cause of the problem, do one of the following:

<The surface of the paper is dirty>

1. In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed Speed Adj] and decrease the value by 0.5% or decrease the value by 0.5% in SP1-963.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value by 0.5% until the problem is resolved.

   If the problem persists even though you have decreased the value by 0.5%, contact your supervisor.

<The paper transport rollers are soiled.>

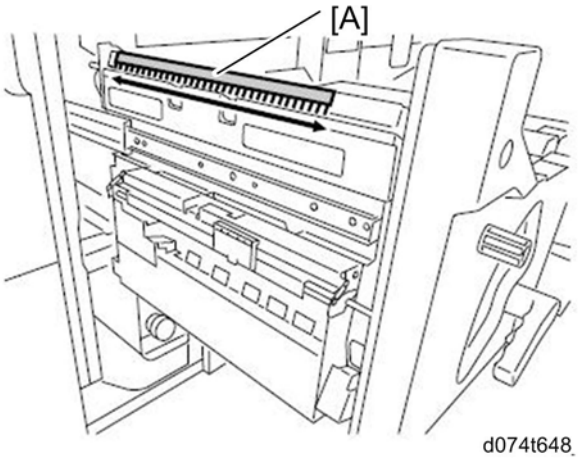
Clean the paper transport rollers in the machine's left drawer.

For details about cleaning the paper transport roller, see the Replacement Guide.

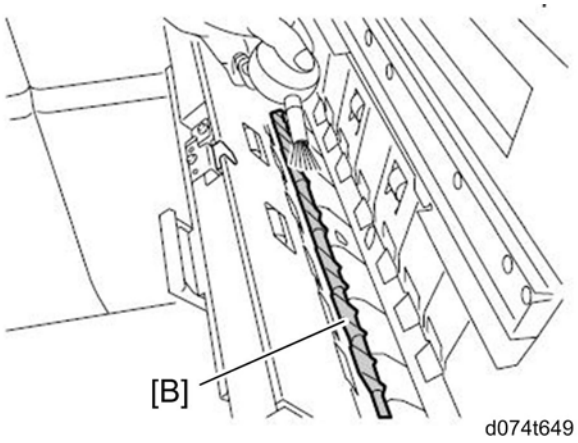
<The anti-static brushes are soiled.>

Clean the anti-static brushes in the exit transport and inverter transport of the machine's left drawer.

Clean the anti-static brushes with a blower brush.

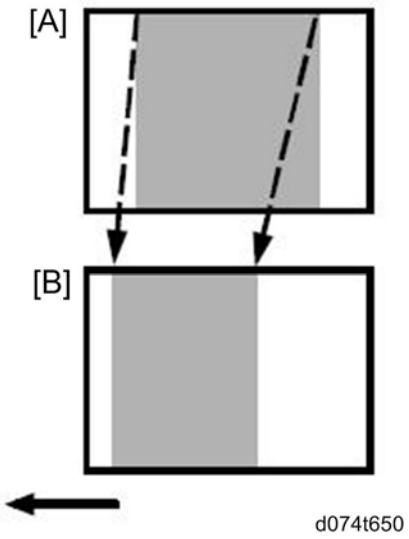



- The anti-static brush [A] in the exit transport



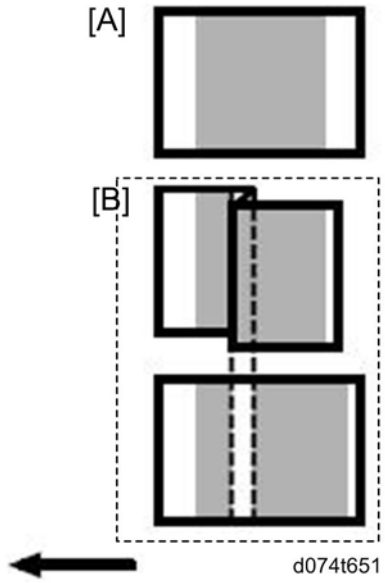

1. The anti-static brush [B] in the inverter transport

### *Expansion and Contraction (1)*




- [A]: Original
- [B]: Output

The leading edge margin is too narrow and the image has shrunk lengthwise.




1. [A]: Original
2. [B]: Output

The paper has creased and no print appears where the crease has occurred.

**Cause:**

The paper feed speed of the transfer timing roller is too high.

**Solution:**

Decrease the feed speed of the transfer timing roller.

- In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed

Speed Adj] and decrease the value by 0.5% or decrease the value by 0.5% in SP1-963.

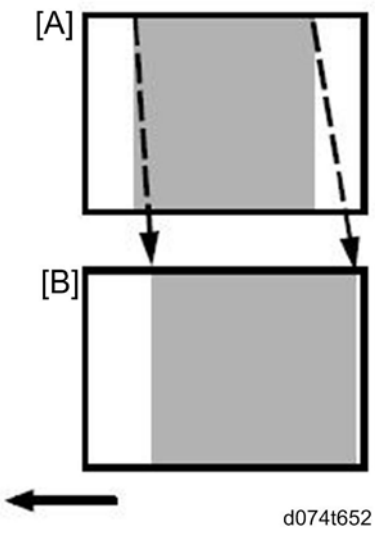
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Keep decreasing the value by 0.5% until the problem is resolved.

  If the problem persists even though you have decreased the value by 0.5%, contact your supervisor.

### *Expansion and Contraction (2)*




- [A]: Original
- [B]: Output

The leading edge margin is too wide and the image has stretched lengthwise.

**Cause:**

The paper feed speed of the transfer timing roller is too high.

**Solution:**

Increase the feed speed of the transfer timing roller.

1. In [Advanced Settings] for the custom paper in use, select [20: Transfer Timing Roller Feed Speed Adj] and increase the value by 0.1% or increase the value by 0.1% in SP1-963.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep increasing the value by 0.1% until the problem is resolved.

   If the problem persists even though you have increased the value by 1.0%, contact your supervisor.

### *Scratches, Streaks, or Vertical Creases Appear on the Image Cause:*

The paper feed speed of the exit motor, switchback entrance, or switchback exit is too high or too low.

**Solution:**

**<If scratches or streaks appear on the side 2 of the paper>**

- You can lessen the problem by decreasing the paper feed speed.
  In [Advanced Settings] for the custom paper in use, adjust the paper feed speed for delivery.
  Depending on the type of printing, specify one of the following:
  - For one-sided printing, decrease the value in [23: Exit Motor Feed Speed Adjustment] by 0.1% or decrease the value by 0.1% in SP1-964.
  - For duplex printing, reduce the value in [24: Switchback Entrance Feed Speed Adj] by 0.1% or decrease the value by 0.1% in SP1-965.
  - For one-sided printing (delivery of inverted paper), reduce the value in [25: Switchback Exit Feed Speed Adj] by 0.1% or decrease the value by 0.1% in SP1-966.
- Print the image. Is the problem resolved?
  **Yes** Finished!
  **No** Keep decreasing the value by 0.1% until the problem is resolved.
  If the problem persists even though you have decreased the value by 1.0%, contact your supervisor.

**<If scratches or streaks appear on the side 1 of the paper>**

You can lessen the problem by increasing the paper feed speed.

1. In [Advanced Settings] for the custom paper in use, adjust the paper feed speed for delivery.
   Depending on the type of printing, specify one of the following:
   - For one-sided printing, increase the value in [23: Exit Motor Feed Speed Adjustment] by 0.1% or increase the value by 0.1% in SP1-964.
   - For duplex printing, increase the value in [24: Switchback Entrance Feed Speed Adj] by 0.1% or increase the value by 0.1% in SP1-965.
   - For one-sided printing (delivery of inverted paper), decrease the value in [25: Switchback Exit Feed Speed Adj] by 0.1% or increase the value by 0.1% in SP1-966.
2. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** Keep increasing the value by 0.1% until the problem is resolved.
   If the problem persists even though you have increased the value by 1.0%, contact your supervisor.

## *Decurling Results in Scratches, Streaks, or Creases*

**Cause:**

The paper feed speed of the decurler unit is too high or too low.

**Solution:**

**<If scratches or streaks appear on the side 2 of the paper or continuous noise results>**

You can lessen the problem by decreasing the paper feed speed of the decurler unit.

1. In the [Adjustment Settings for Skilled Operators] menu, check the present degree of decurling (Off, Weak, or Strong) in [0116: Adjust Paper Curl].
2. In [Advanced Settings] for the custom paper in use, adjust the paper feed speed of the decurler unit.
   - If the degree of decurling is set to "Off", reduce the value in [51: Decurler Feed Speed Adj: Curl Adj Off] by 0.5% or reduce the setting of SP1-959 by 0.5%.
   - If the degree of decurling is set to "Weak", reduce the value in [52: Decurler Feed Speed Adj: Curl Adj Weak] by 0.5% or reduce the setting of SP1-960 by 0.5%.
   - If the degree of decurling is set to "Strong", reduce the value in [53: Decurler Feed Speed Adj: Curl Adj Strg] by 0.5% or reduce the setting of SP1-961 by 0.5%.
3. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value by 0.5% until the problem is resolved.

   If the problem persists even though the setting has reached its minimum value, contact your supervisor.

**<If scratches, streaks, or creases appear on the side 1 of the paper>**

You can lessen the problem by increasing the paper feed speed of the decurler unit.

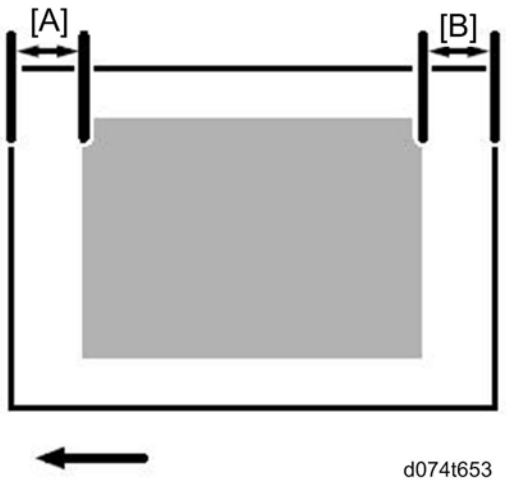
- In the [Adjustment Settings for Skilled Operators] menu, check the present degree of decurling (Off, Weak, or Strong) in [0116: Adjust Paper Curl].
- In [Advanced Settings] for the custom paper in use, adjust the paper feed speed of the decurler unit.
  1. If the degree of decurling is set to "Off", increase the value in [51: Decurler Feed Speed Adj: Curl Adj Off] by 0.5% or increase the value by 0.5% in SP1-959.
  2. If the degree of decurling is set to "Weak", increase the value in [52: Decurler Feed Speed Adj: Curl Adj Weak] by 0.5% or increase the value by 0.5% in SP1-960.
  3. If the degree of decurling is set to "Strong", increase the value in [53: Decurler Feed Speed Adj: Curl Adj Strg] by 0.5% or increase the value by 0.5% in SP1-961.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Keep increasing the value by 0.5 mm until the problem is resolved.

If the problem persists even though the value has reached its maximum value, contact your supervisor.

### *Leading/Trailing Edge Margin Is Long*




- [A]: Leading-edge margin
- [B]: Trailing-edge margin

**Cause:**

In some custom paper presets, the leading/trailing edge margins are set very long to prevent paper jamming.

**Solution:**

Adjust the leading/trailing edge margins.

1. In [Advanced Settings] for the custom paper in use, decrease the value by 0.5 mm in [13: Adjust Erase Margin of Leading Edge] or decrease the value by 0.5 mm in SP2-122.
   This will decrease the leading edge margin by 0.5 mm.
2. Decrease the value by 0.5 mm in [14: Adjust Erase Margin of Trailing Edge] or decrease the value by 0.5 mm in SP2-123.
   This will decrease the trailing edge margin by 0.5 mm.
3. Print the image. Is the problem resolved?
   **Yes** Finished!
   **No** If this causes a paper jam in duplex printing, restore the previous setting.

Note

1. The adjusted margin cannot be applied to masked images that are solid-filled or contain ruled lines at the leading/trailing edges.
2. Decreasing the leading/trailing edge margin may cause paper to jam in the fusing belt stripper plate.

### *Curling*

To reduce curling without using the decurler unit, reduce the heat roller temperature.

Decreasing the temperature can cause the following side effects:

- Unsatisfactory fusing
- Reduced glossiness
- A tendency for halftone images on uncoated paper to smear

1. In [Advanced Settings] for the custom paper in use, select [44: Fusing Heat Roller Temperature Adj] and decrease the value by 5°C or decrease the value by 5°C in SP1-984.
2. Print a full-page solid-fill image (SP2109-011: "11"). Is the problem resolved?

   **Yes** Finished!

   **No** Keep decreasing the value by 5°C until the problem is solved.

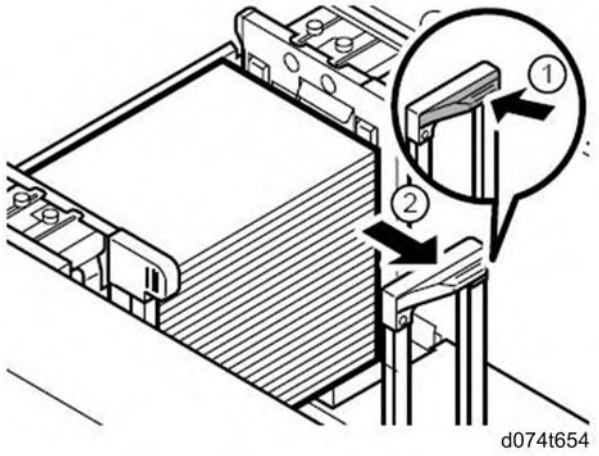
   If the problem persists, contact your supervisor.

Note

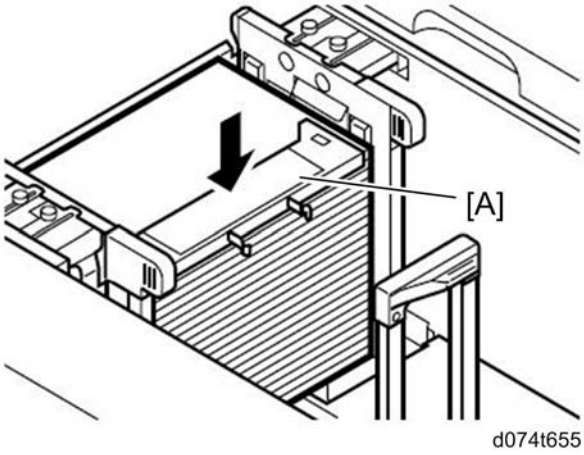
1. Decreasing the temperature may cause unsatisfactory fusing.
2. To use the decurler unit, specify [0116: Adjust Paper Curl] in the [Adjustment Settings for Skilled Operators] menu.

## 7.5.9 ATTACHING THE TAB SHEET HOLDER

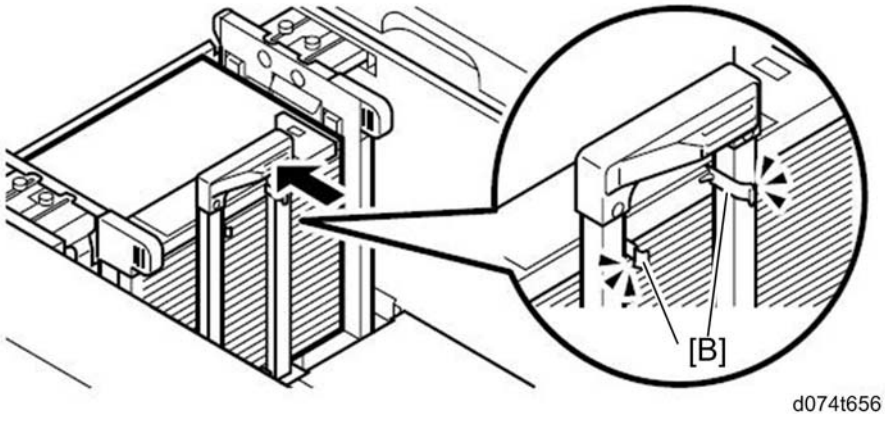
By attaching the tab sheet holder, you can prevent air from escaping at the trailing edge of the paper and so improve separation.
This will prevent double feeding and misfeeding of special or coated paper loaded in the wide LCT (Trays 3–5).




1. Unlock the end fence, and then slide it away from the paper.




2. Place the tab sheet holder [A] on the paper.



3. Slide the end fence against the paper so that the tab sheet holder's clips [B] pass through the fence and click into place.

Note

- You can use the tab sheet holder for paper of the following sizes:

- Paper with a width of 288.0–330.2 mm (11.34–13.00 inches) and a length of 182.0–487.7 mm (7.17–19.20 inches).
- Paper with a width of 139.7–287.9 mm (5.50–11.33 inches) and a length of 335.5–487.7 mm (13.21–19.20 inches).

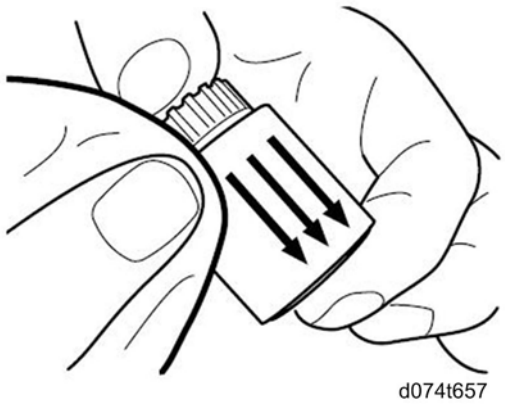
## 7.5.10 CLEANING THE PAPER FEED PATH

Clean the paper feed path if white spots appear because of paper dust sticking to the paper, or if paper misfeeding or double feeding occurs.

**Guide Board**

Wipe the guide board with a well-wrung-out damp cloth. To reach the inmost recesses, the cloth should be the size of your palm.

**Paper Feed Roller**




Wipe the entire surface of the paper feed roller lengthwise with a well-wrung-out damp cloth, and then with a dry, unused, lint-free cloth until no moisture remains.

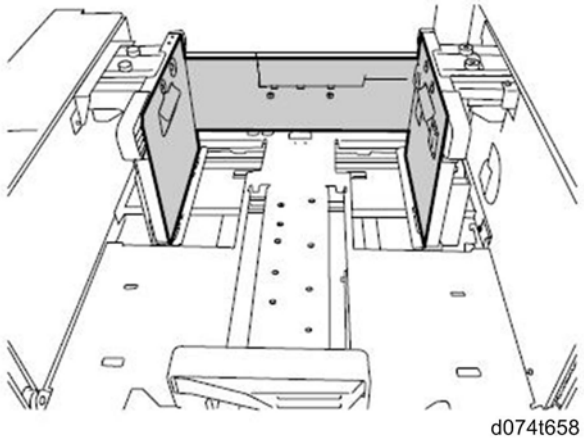
### *Cleaning the Paper Feed Path in the Wide LCT (Trays 3-5)*

Clean the guide board and paper feed rollers in the wide LCT.

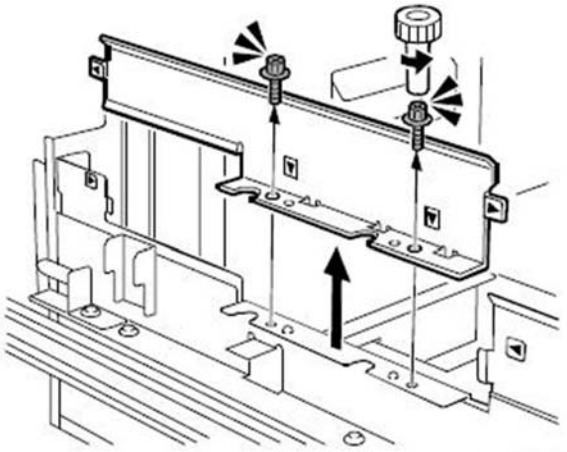
The procedure is explained using Tray 3 as an example.

The procedure is the same for Trays 4 and 5.

- Open the wide LCT front cover.
- Pull open the top tray (Tray 3) until it stops. If there is any paper in the tray, remove it.

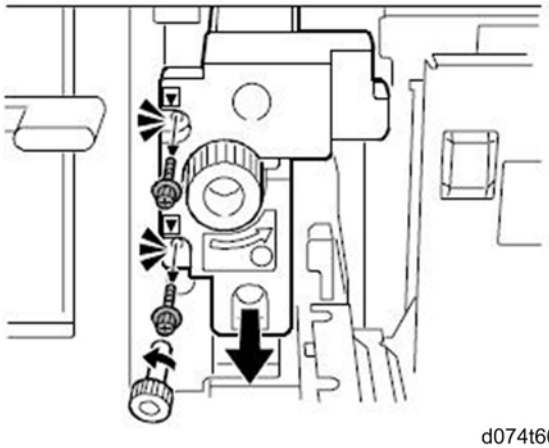



- Clean the side fences and front guide.



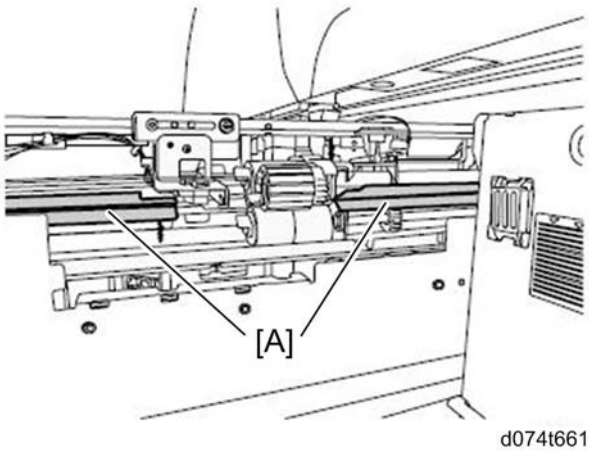
d074t659

- Remove the two black screws on the side plate, and then remove the plate.



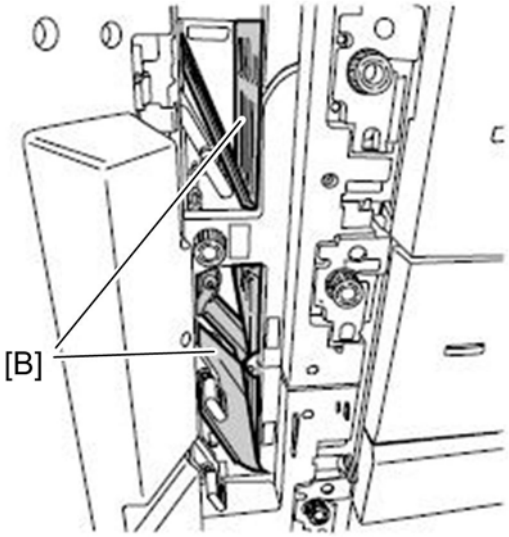
d074t660

- Remove the two black screws on the paper feed unit U2, and then pull out the paper feed unit U2 until it stops.
- Clean the paper feed rollers.
  For details about detaching and reattaching the paper feed rollers, see the Replacement Guide.




d074t661

- Clean the guide board [A] of the paper feed unit.




- Open the guide board (U1), (U3), and (U5), and then clean the guide board interior [B].
- After cleaning, restore the machine to its operational state.

Note

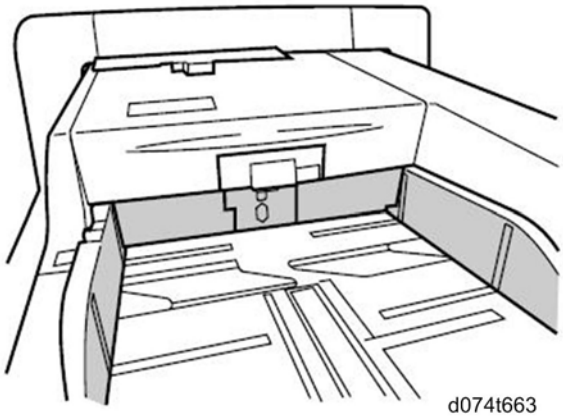
- For details about the general and periodic cleaning of the machine, see the Replacement Guide.

## *Cleaning the Paper Feed Path in the Multi Bypass Tray (Tray 6)*

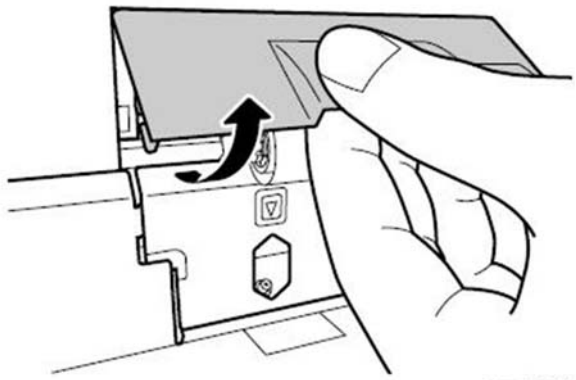
Clean the guide board and paper feed rollers in the multi bypass tray (Tray 6).

Wipe the guide board with a well-wrung-out damp cloth. To reach the inmost recesses, the cloth should be the size of your palm.

- Remove the loaded paper.

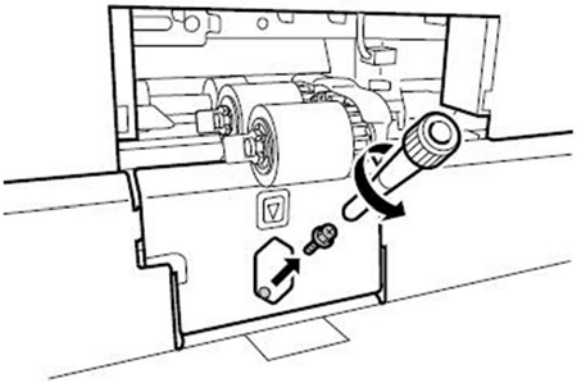



- Clean the side fences and front guide.



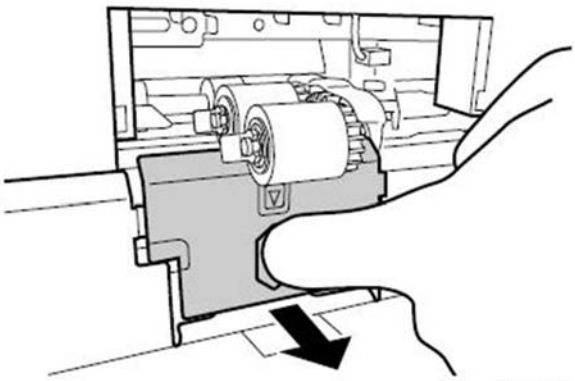
d074t664

- Pull off the snap-off cover.



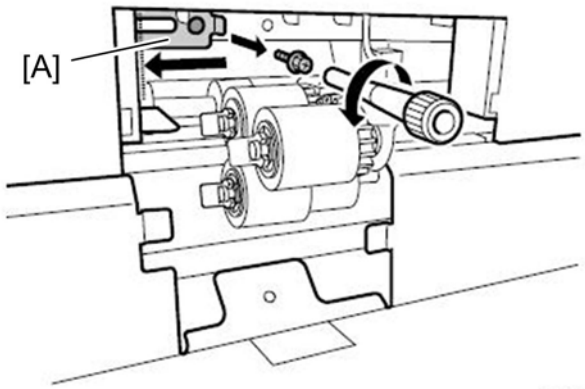
d074t665

- Remove black screw.



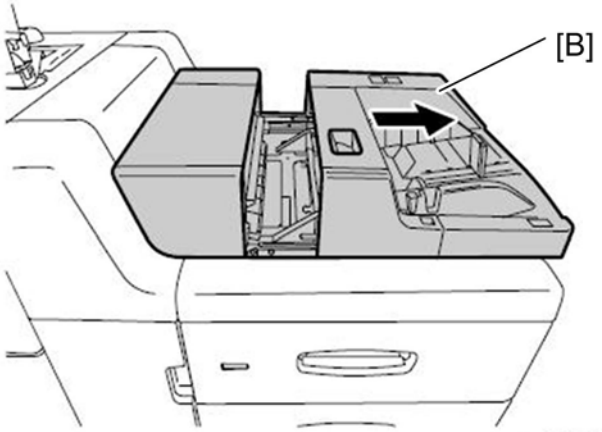
d074t666

- Remove the plate.



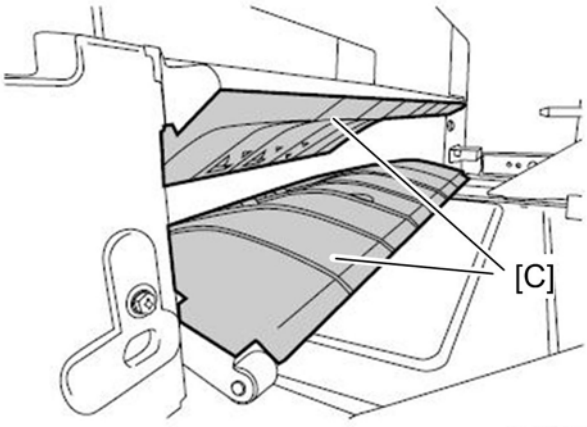

d074t667

1. Remove the black screw on the sensor positioning plate [A].
2. Push the sensor positioning plate [A] to the left.
   If this plate is not pushed to the left, you will not be able to remove the feed roller.
3. Clean the paper feed rollers.
   For details about detaching and reattaching the paper feed rollers, see the Replacement Guide.




d074t668

4. Slide the paper tray [B] to the right.




d074t669

5. Clean the guide board [C].
6. After cleaning, restore the machine to its operational state.

Note

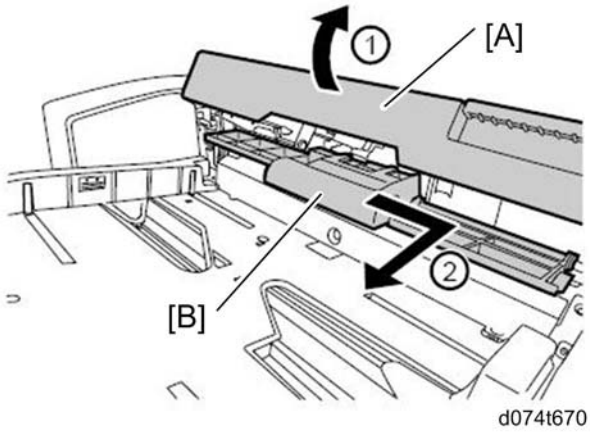
1. For details about the general and periodic cleaning of the machine, see the Replacement Guide.

## *Cleaning the Paper Feed Rollers and Paper Feed Belt in the Interposer*

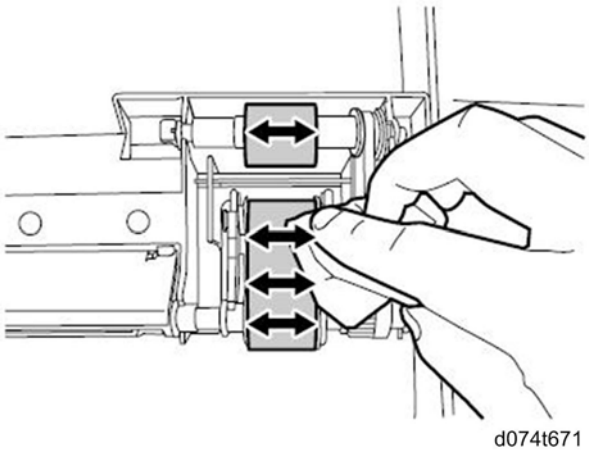
Clean the paper feed belt and paper feed rollers in the interposer.

The procedure is explained using the interposer upper tray. The procedure is the same for the lower tray.

- Remove the loaded paper.




- Open the upper cover [A], and then detach the paper feed unit [B].
  Pull out the paper feed unit slightly, release the metal shaft, and then detach it.




- Clean the paper feed belt and pick-up roller in the detached paper feed unit.
- After cleaning, restore the machine to its operational state.

## 7.5.11 NO ERROR MESSAGE AT INITIALIZING OF THE DOUBLE FEED SENSORS

After SC591 (Double-Feed Sensor Error) has occurred, the machine automatically disables the function of the double feed sensors to continue operating. However, a customer cannot notice that the machine has disabled the double feed sensors because no message is displayed on the LCD.

If a customer wants to display the message for disabling the double feed sensors, change the setting of SP1-310-001 from "0" to "1".

## 7.5.12 EFFICIENT SP FOR PAPER JAM ANALYZING

This machine has the paper jam purge system to purge jammed paper in the paper path if possible. However, this may disturb the paper jam analyzing correctly because you are not sure where jammed paper is stuck.

If you want to know where jammed paper is stuck, change the setting of SP1-909-001 from "1" to "0" (no paper purge).

# 7.6 TROUBLESHOOTING FOR OPTIONS

## 7.6.1 FINISHER SR5030/ BOOKLET FINISHER SR5040

### *Delivered Sheets Are Not Stacked Properly*

**Solution:**

Depending on the cause of the problem, do one of the following:

**Coated paper is being used.**

If coated paper is being used, attach the auxiliary tray for thin coated paper.

For details about attaching the auxiliary tray for thin coated paper, see "When Coated Paper Is Not Properly Aligned" in the Troubleshooting supplied with the machine.

**There is a draft in the room.**

Minimize drafts. For instance, turn the air conditioner off.

**Printed sheets are curled.**

**<If the decurler unit is attached>**

1. In the [Adjustment Settings for Skilled Operators] menu, adjust the degree of decurling in [0116: Adjust Paper Curl].
   To correct curls facing up, specify "Adjust ◡ Curl".
   To correct curls facing down, specify "Adjust ◠ Curl".
   Select "Strong" or "Weak" as the degree of decurling as required.

**<If the decurler unit is not attached>**

1. Load the sheets the other way up.

**There are too many stacked sheets.**

To keep the number of stacked sheets within reason, pause printing once in a while, remove the sheets and resume printing.

For details about pausing printing, see "Pausing Print When Using Finisher SR5030 or Booklet Finisher SR5040" in the Troubleshooting supplied with the machine.

## *Large Delivered Sheets Are Not Stacked Properly*

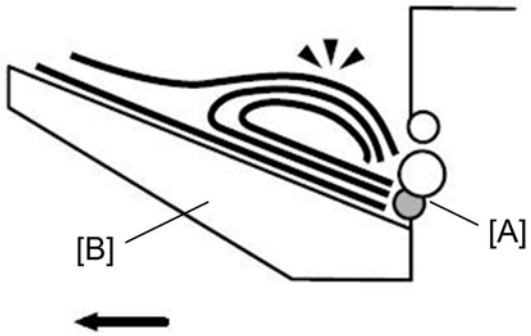
**Cause:**

When using large-size or coated paper that produces considerable inter-sheet friction, problems such as one sheet pushing out another or a sheet becoming kinked occur.

This is likely to occur if:

- B4 SEF, 8" x 14" SEF, or larger paper is used.
- Paper that produces considerable inter-sheet friction is used.
- The temperature or humidity is high.

**Sheet bending**

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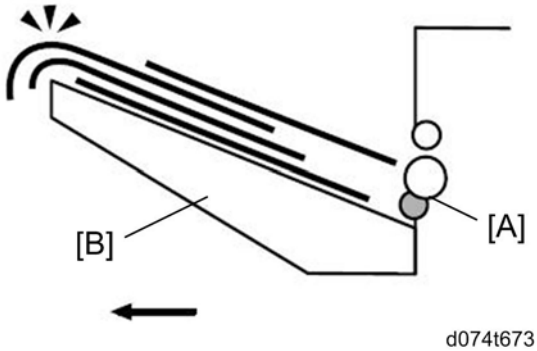
- [A]: Paper exit
- [B]: Output tray

The leading edge of the delivered sheet bends upward and back.

**One sheet pushing out another**

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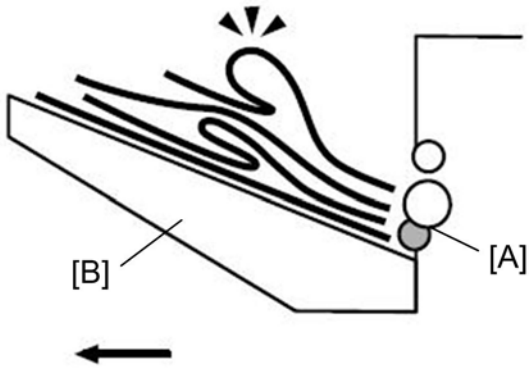
- [A]: Paper exit
- [B]: Output tray

The sheet being delivered gets stuck to the top sheet of the stack and pushes the top sheet out.

**Sheet becoming kinked**

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1. [A]: Paper exit
2. [B]: Output tray

The sheet being delivered gets stuck to the top of the stack by its leading edge, arches up, and becomes kinked.

**Solution:**

Depending on the cause of the problem, do one of the following:

**<Sheet bending>**

**The auxiliary tray is not attached.**

- If using paper of Paper Weight 3 or below, attach the auxiliary tray for thin coated paper.
  For details about attaching the auxiliary tray for thin coated paper, see "Using Thin Coated Paper" in the Troubleshooting supplied with the machine.
- If using paper of Paper Weight 4 or above, attach the auxiliary paper tray.
  For details about attaching the auxiliary paper tray, see "Using Thick Coated Paper" in the Troubleshooting supplied with the machine.

**There is a draft in the room.**

Minimize drafts. For instance, turn the air conditioner off.

**Sheets are curled upward.**

**<If the decurler unit is attached>**

- In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to "Adjust ⌣ Curl".
  As the degree of decurling, select "Weak" if the present setting is "Off" or "Strong" if the present value is "Weak".

**<If the decurler unit is not attached>**

1. Load the sheets the other way up.

**<One sheet pushing out another or a sheet becoming kinked>**

**The auxiliary tray is not attached.**

- If using paper of Paper Weight 3 or below, attach the auxiliary tray for thin coated paper.
  For details about attaching the auxiliary tray for thin coated paper, see "Using Thin Coated

Paper" in the Troubleshooting supplied with the machine.

- If using paper of Paper Weight 4 or above, attach the auxiliary paper tray.
  For details about attaching the auxiliary paper tray, see "Using Thick Coated Paper" in the Troubleshooting supplied with the machine.

**Sheets are curled downward.**

**<If the decurler unit is attached>**

1. In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to "Adjust ⌒ Curl".
   As the degree of decurling, select "Weak" if the present setting is "Off" or "Strong" if the present value is "Weak".

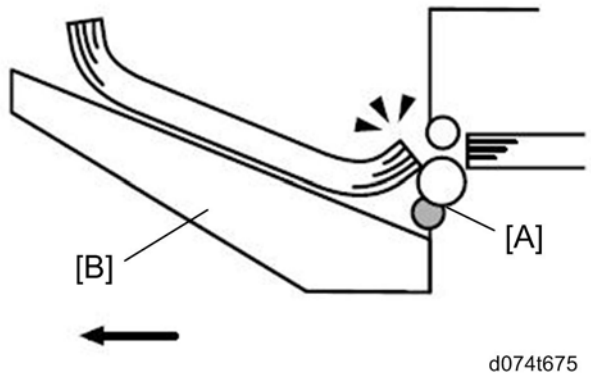
**<If the decurler unit is not attached>**

- Load the sheets the other way up.

Note

- If the sheets cannot be stacked properly even by the abovementioned solution, the problem may be reduced by attaching the auxiliary tray for thin coated paper when using paper of Paper Weight 4 or above and attaching the auxiliary paper tray when using paper of Paper Weight 3 or below.
- If the auxiliary tray is attached, the number of sheets that can be stacked is reduced.
- If the auxiliary tray for thin coated paper is attached, the misalignment of the last sheet of each print job may exceed ±2 mm when using the Shift Collate function.

## *Trailing Edge of Stapled Sheets Too Near Paper Exit*




1. [A]: Paper exit
2. [B]: Output tray

**Cause:**

If there is a tight curl on a delivered set of stapled sheets or if the sheets are limp, the trailing edge of the set may be left too near the paper exit when the set is stacked.
If this happens, the next set of stapled sheets to be delivered may collide with the stacked set, resulting in paper bending or misfeeding.

This is likely to occur if:

- There is a tight curl on a delivered set of stapled sheets.
- Limp paper, such as thin or recycled paper, is used.

**Solution:**

- Attach the Z-fold support tray.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.

  To carry out the following steps, the decurler unit must be attached.
- In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to " Adjust ⌣ Curl".

  Select "Strong" or "Weak" as the degree of decurling as required.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Contact your supervisor.

Note

- For details about attaching the Z-fold support tray, see "When Z-folded Paper Is Not Properly Aligned" in the Troubleshooting supplied with the machine.
- If the Z-fold support tray is attached, the problem of the trailing edge being too near the paper exit can be reduced, but the stapled sheets may not be stacked properly.

### *Sheets Cannot Be Stapled Properly*

**Cause:**

When the sheets are fed to the staple unit inside the finisher, they may be overlaid, resulting in their becoming misaligned by ±5 mm relative to each other after stapling.

When using coated or other paper producing considerable inter-sheet friction, the paper edge stop may fail to ensure correct positioning, resulting in misaligned stapling.

This is likely to occur if:

1. Coated or other paper producing considerable inter-sheet friction is used.
2. Thin or other limp paper is used.

**Solution:**

Reduce the number of sheets sent in bulk to the staple unit.

- In the [Adjustment Settings for Skilled Operators] menu, select [0416: Number of Sheet Align for Stapling] and reduce the number of sheets from the present value.
- Print the image. Is the problem resolved?

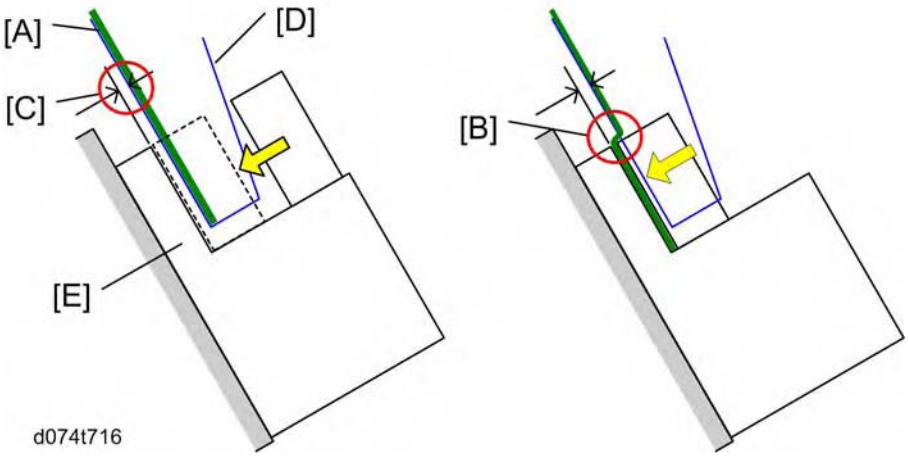
  **Yes** Finished!

  **No** If the problem persists even though the setting has reached its minimum value, contact your supervisor.

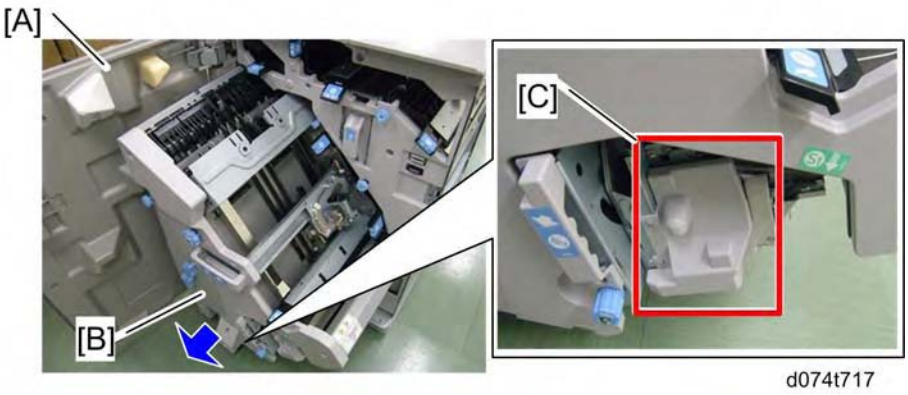
Note

- Reducing the number of sheets causes the machine to take longer for sheet alignment, reducing throughput.

### *Creases on Stapled Paper Stack*

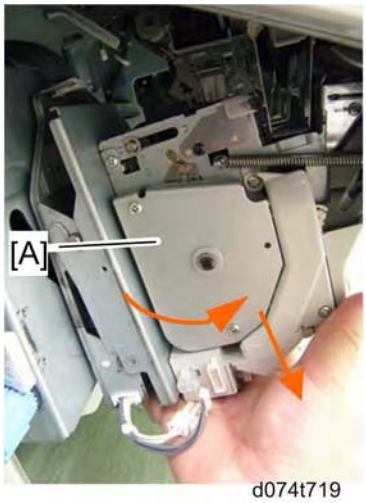



When a few sheets [A] of paper are stapled, creases [B] may occur on the stapled paper stack. This is because the gap [C] between the bottom fence [D] and corner stapler unit [E] causes creases on the paper stack. To prevent this problem, follow the procedure below.

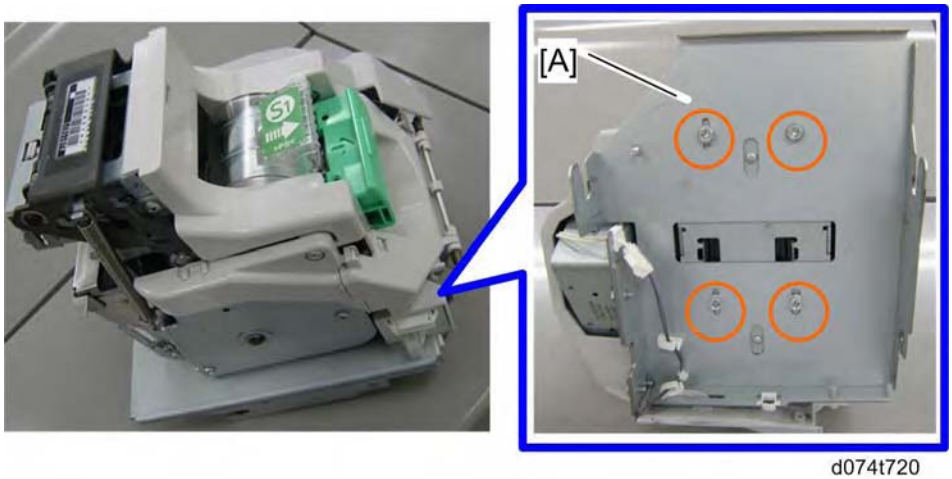



- Open the front door [A].
- Pull out the stack/stapler unit [B].
  - Corner stapler unit [C]

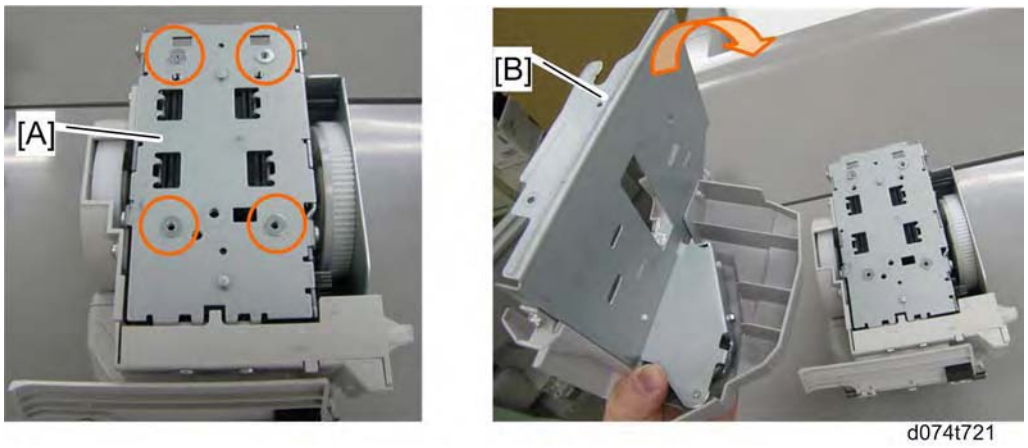
- Remove the corner stapler cover [A] ( x2).
- Disconnect three harnesses.




- Turn the corner stapler unit [A] counterclockwise, and then remove it.

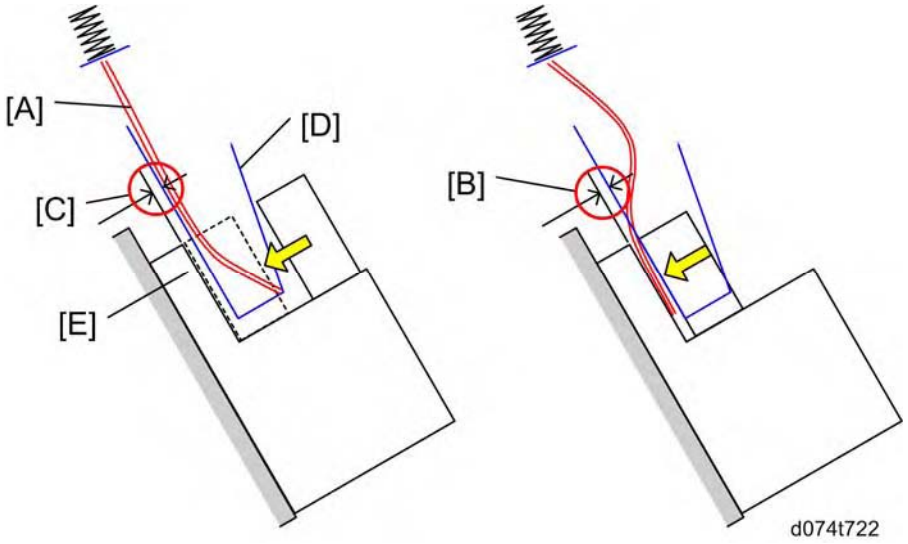



- Remove the corner stapler base [A] from the corner stapler unit ( x4).




- Attach washers at the screw holes on the bottom of the corner stapler unit [A].
  - Measure the gap between the bottom fence and corner stapler unit, and then calculate haw many washers are necessary (adjustable limit: 2.0 mm or less). The thickness of each washer is 0.5 mm.
- Reattach the corner stapler base [B] to the corner stapler unit ( x4).
- Reinstall the corner stapler unit in the finisher.
- Reassemble the finisher.

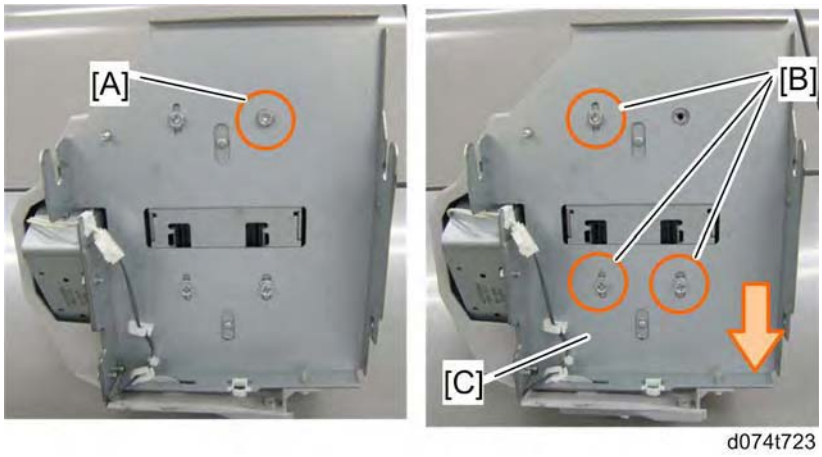
### *Staple Position is Too Close to Paper Edge*




When a few sheets [A] of paper are stapled, miss-stapling may occur on the stapled paper stack. This is because the gap [B] between the bottom fence [C] and corner stapler unit [D] makes paper buckle on the paper stack which causes the miss-stapling. To prevent this problem, follow the procedure below.

- Remove the corner stapler unit (see "Creases on Stapled Paper Stack").
- Attach washers on the bottom of the corner stapler unit.
  - Refer to the "Creases on Stapled Paper Stack" described above.

- Go to next step if attaching washers does not solve the problem.
- Mark the current position between corner stapler base and corner stapler unit.




- Remove the positioning screw [A].
- Remove other three screws [B].
- Slide the corner stapler base [C] down (relatively corner stapler unit up).

Important

1. Do not slide either of the corner stapler base beyond 2.0 mm. Otherwise, corner stapler unit may interrupt other parts when the corner stapler unit moves.

- Secure the two units ( x3).
- Reinstall the corner stapler unit in the finisher.
- Reassemble the finisher.

## *Booklet Stack Feed Out Error*

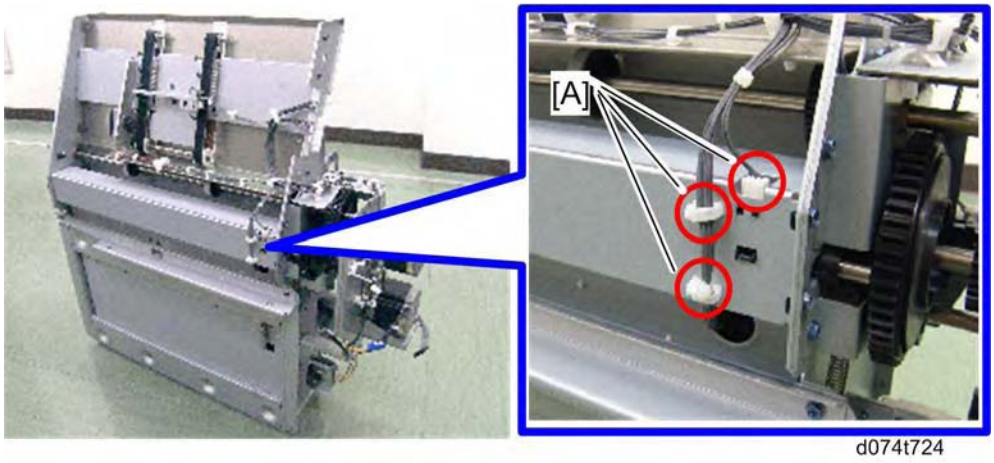
When some conditions are met, booklet stack is not properly fed out to the booklet tray.

- 10 sheets or more to be stapled
- High coverage image
- Plain paper or recycle paper

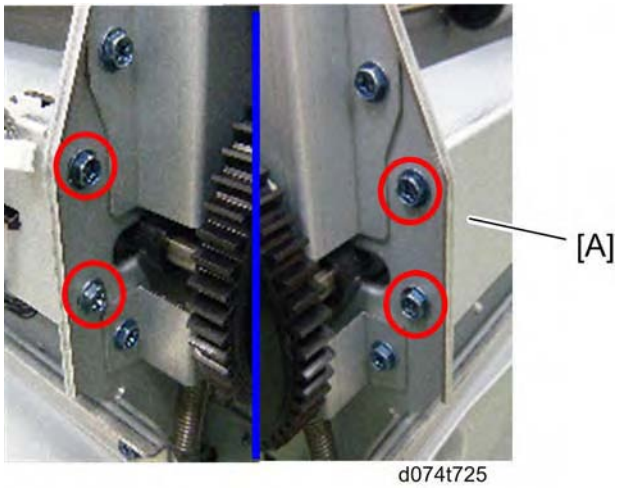
This is because the friction coefficient between sheets of paper is low.

To prevent this problem, follow the procedure below.

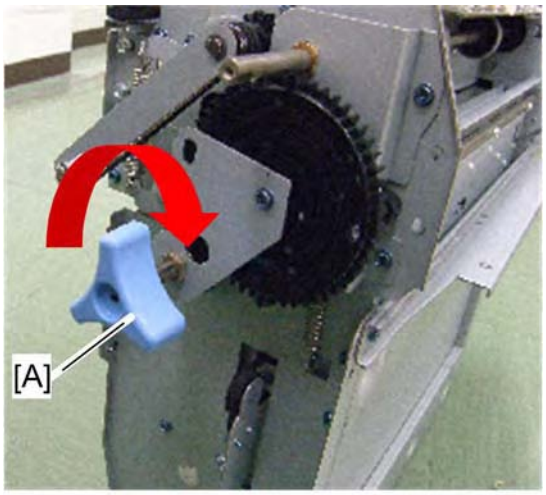
- Remove the booklet unit (see "Field Service Manual" for the Finisher D512/D513).




- Release three clamps [A].




- Remove the upper stay [A] on the booklet unit ( x4).

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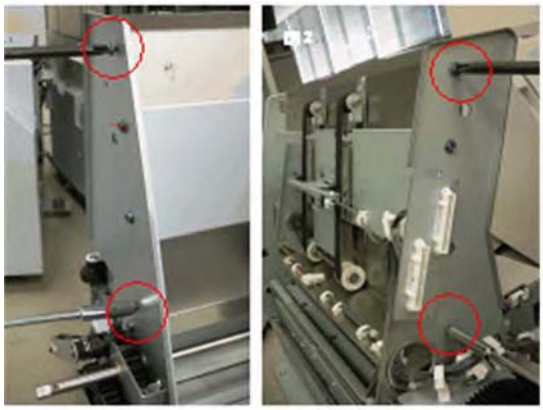
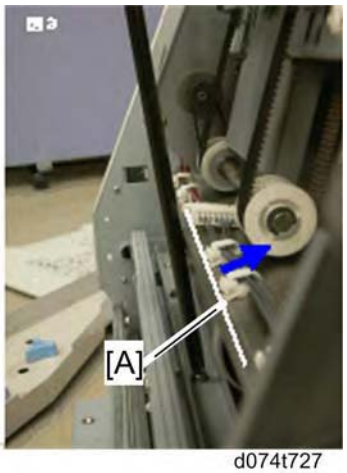
- Rotate the jam removal knob [A] clockwise until it stops.



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- Remove four screws on the both sides of the booklet unit, and then move the guide plate [A] to the arrow direction.
- Remove the fold plate holder [A] ( x3).
- The fold plate [B] is removed.
- Install a new modified fold plate.
  1. Ask your supervisor about the new modified fold plate.
- Reassemble the finisher.

## 7.6.2 MULTI-FOLDING UNIT

### *Out-of-True Folding (Folding Deviation)*

**Cause:**

Depending on how floppy the paper is, folds may shift out of true. This is referred to as folding deviation.

**Solution:**

Adjust the folding position by adjusting the position of the paper edge stopper for folding.

1. For multi-sheet folding, adjust the folding position by means of the following settings:
   0601: Half Fold Position (Multi-sheet Fold)
   0602: Letter Fold-out Position 1 (Multi-sheet Fold)
   0603: Letter Fold-out Position 2 (Multi-sheet Fold)
   0604: Letter Fold-in Position 1 (Multi-sheet Fold)
   0605: Letter Fold-in Position 2 (Multi-sheet Fold)
2. For single-sheet folding, adjust the folding position by means of the following settings:
   54: Adjust Z-fold Position 1
   55: Adjust Z-fold Position 2
   56: Half Fold Position: Single-sheet Fold
   57: Letter Fold-out Posn 1: Single-sheet Fld
   58: Letter Fold-out Posn 2: Single-sheet Fld
   59: Letter Fold-in Position 1: Single-sheet Fold
   60: Letter Fold-in Position 2: Single-sheet Fold
   61: Double Parallel Fold Position 1
   62: Double Parallel Fold Position 2
   63: Adjust Gate Fold Position 1
   64: Adjust Gate Fold Position 2
   65: Adjust Gate Fold Position 3

Note

- For details about specifying settings in the [Adjustment Settings for Skilled Operators] menu, see the Adjustment Item Menu Guide.

### *Folding Deviation*

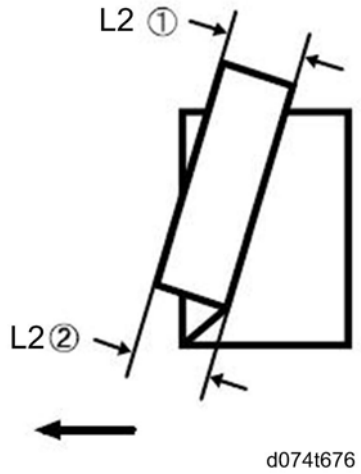
**Cause:**

Depending on the paper floppiness, folding deviation (skewed folding) may occur.

Deviation refers to the difference in edge dimension of the parts between folds.

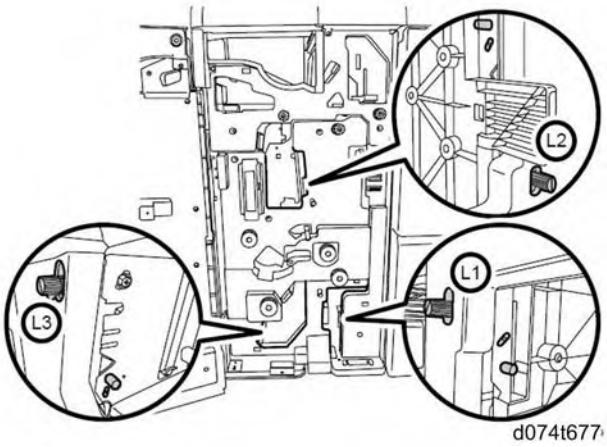
For example, in the following illustration, the dimensional difference between the top (L2[2]) and bottom (L2[1]) edges is the deviation.

**<Folding deviation sample of L2 for Z-fold>**



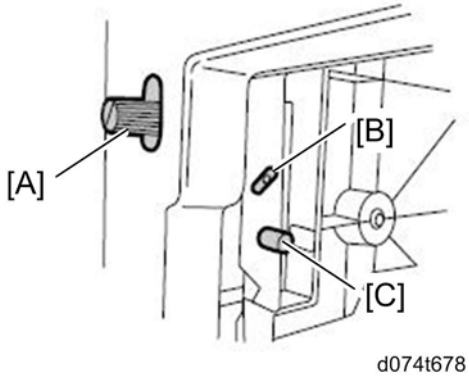

**Solution:**

Adjust the deviation.



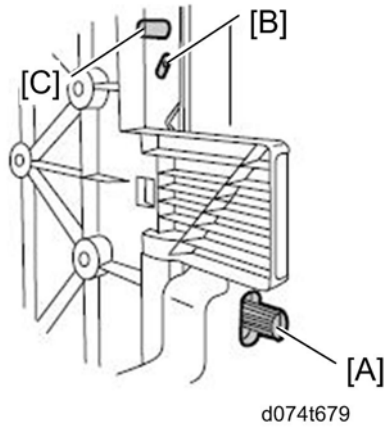

The multi-folding unit has three adjusting screws (L1, L2, and L3) with which to adjust deviation.

**L1**




1. [A]: Adjusting screw
2. [B]: Mounting screw
3. [C]: Adjusting screw hole

**L2**



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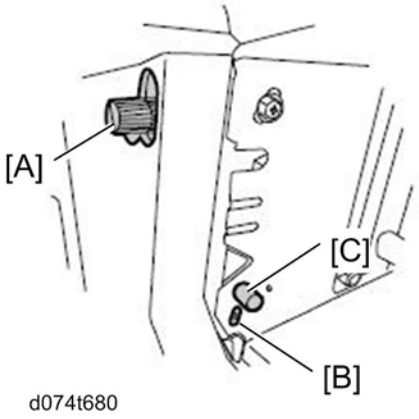
- [A]: Adjusting screw
- [B]: Mounting screw
- [C]: Adjusting screw hole

**L3**



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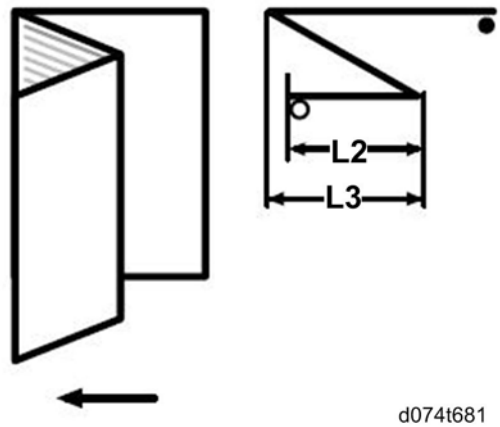
- [A]: Adjusting screw
- [B]: Mounting screw
- [C]: Adjusting screw hole

The screws adjust the deviation of the following parts:

Note

- The mark ○ indicates the leading edge (relative to the paper feed direction), and the mark ● indicates the trailing edge.

**Z-fold**

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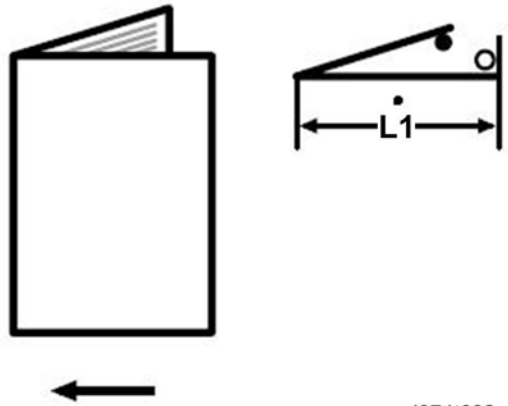
**Half Fold**

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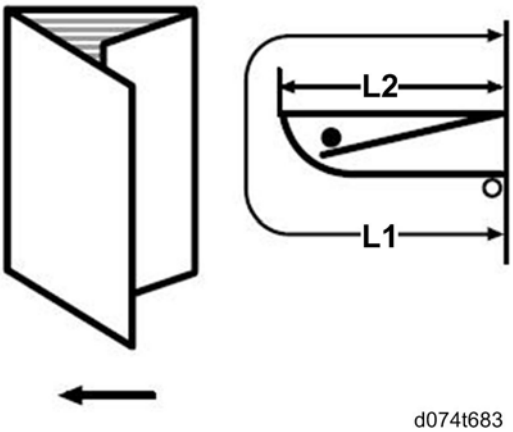
**Letter Fold-in**

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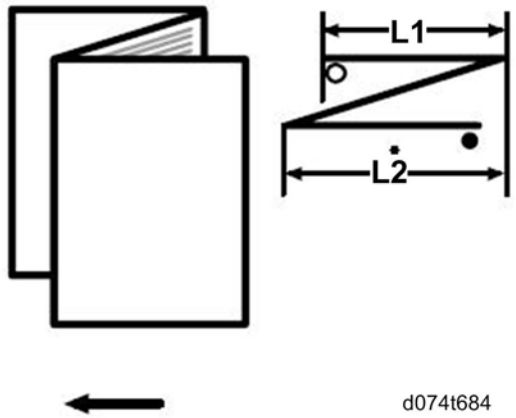
**Letter Fold-out**

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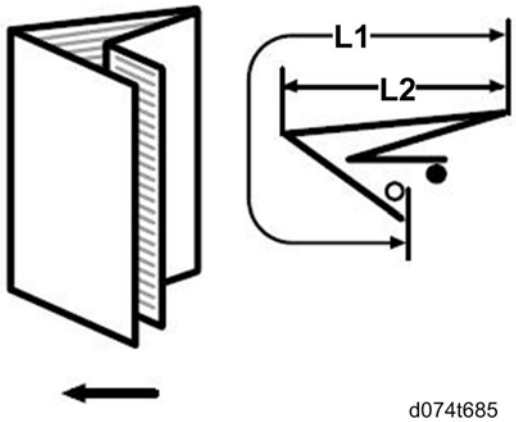
**Double Parallel**

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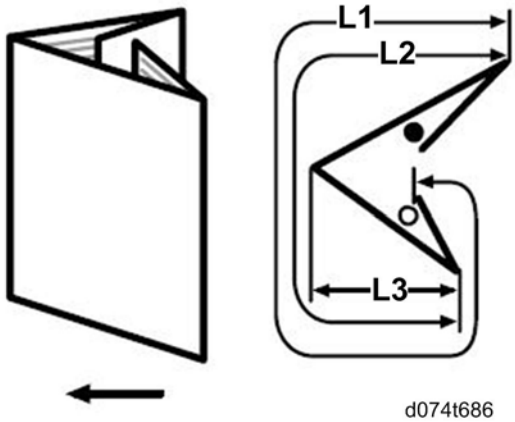
**Gate Fold**

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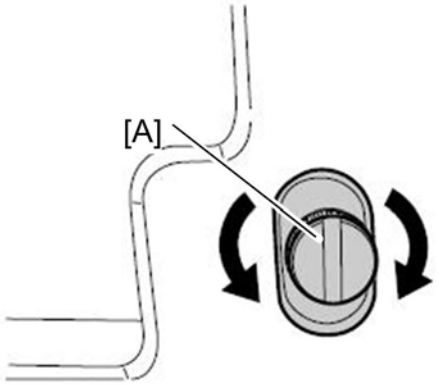
**<How to adjust the folding deviation>**

This procedure is the same for L1, L2, and L3.

1. Open the front cover of the multi-folding unit.
2. Remove the mounting screw.
   If the mounting screw is attached to the adjusting screw hole, unfasten it.

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3. Turn the adjusting screw [A] to adjust the deviation.
   - To increase the length at the bottom part of paper, turn the screw clockwise.
   - To decrease the length at the bottom part of paper, turn the screw counterclockwise.
4. Attach the mounting screw to fasten the adjusting screw.
5. If the mounting screw is attached to the adjusting screw hole, fasten it.
6. Close the front cover of the multi-folding unit.

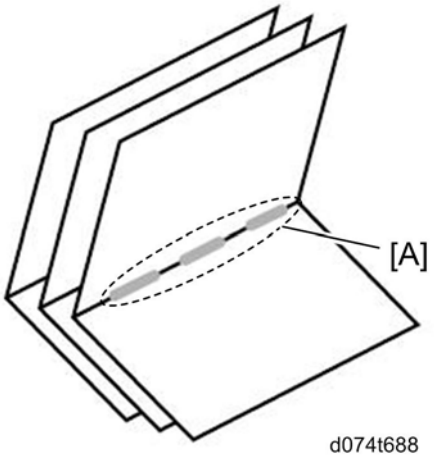
Note

- For multi-sheet folding, the folding deviation of the sheet in the center is adjusted.
- If the deviation is large, the paper may be skewed. In that case, see Paper Skew.

## *Folds Soiled by Multi-Sheet Folding*

**Cause:**

If multi-sheet folding is performed after a large number of z-folds have been performed, the tip of the blade used for the multi-sheet folding may be soiled, in turn soiling the paper.

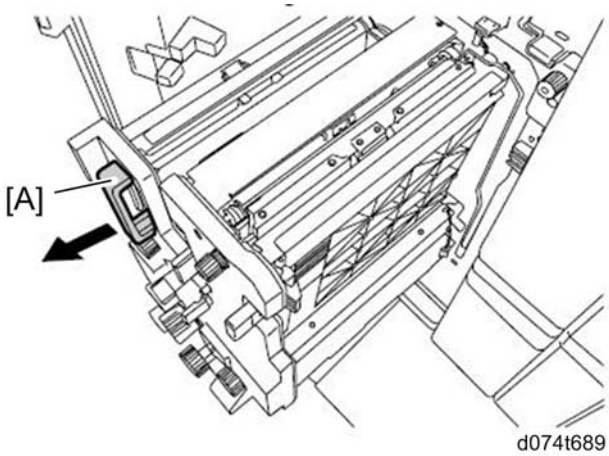



This will produce soiling 1-3 cm (0.4-1.2 inches) in width (equal to the width of the blade) in the fold [A] of the center sheet.

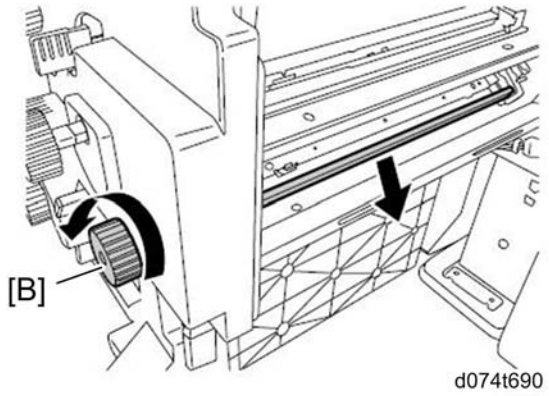
**Solution:**

Clean the blade.

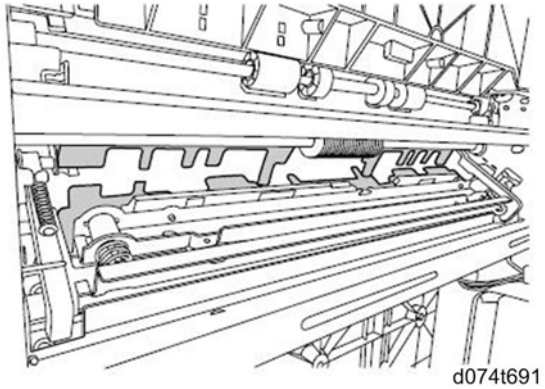
- Open the front cover of the multi-folding unit.




- Pull the multi-folding unit [A] out.

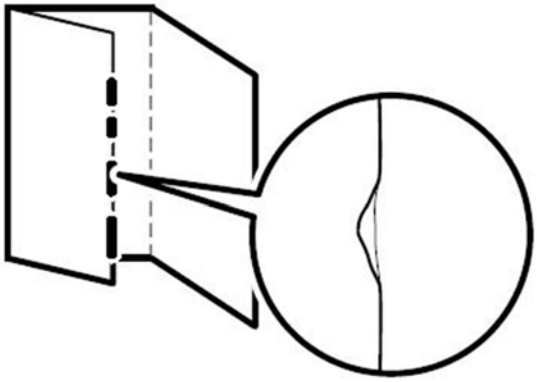



- Turn the N11 dial [B] counterclockwise until the blade appears.
  The blade is located in the right part of the multi-folding unit.




- Wipe the tip and top of the blade with a soft dry cloth.
  Be careful not to damage the blade.
- After cleaning, restore the machine to its operational state.
  The soiling will be removed by printing between three and five copies with multi-sheet fold.

### *Edge of Multi-Sheet Letter Fold Bent*




When letter folding multiple sheets, the edge of the inner flap may become bent.

**Solution:**

- Load the paper the other side up.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.
- In the [Adjustment Settings for Skilled Operators] menu, set [0604: Letter Fold-in Position 1 (Multi-sheet Fold)] to "0.0 mm".
- In [General Features] in [System Settings], set [Letter Fold-in Position] to "7 mm".
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Contact your supervisor.

### *Z-Folding is Not Performed Properly*

d074t693

- Upward curl (radius 4 cm [1.6 in.] or less) [A] at leading edge of delivered paper.

**Cause:**

Because the paper is curled, its leading edge catches on the guide board, leaving it in the wrong position to be folded properly.

**Solution:**

- Load the sheets the other way up.
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Move to the next step.

  To carry out the following steps, the decurler unit must be attached.
- In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to [Adjust ⌣ Curl: Weak].
- Print the image. Is the problem resolved?

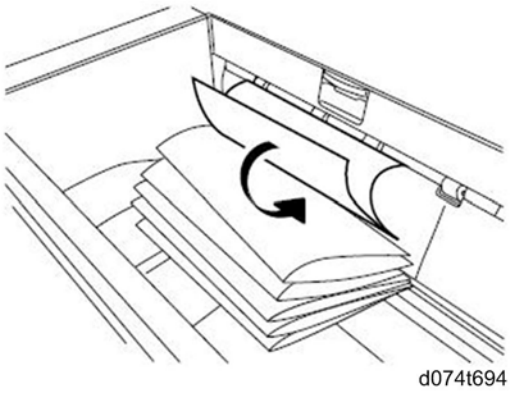
  **Yes** Finished!

  **No** Contact your supervisor.

Note

- This folding error will not occur when using uncurled sheets or sheets that curl downward.

## *Folded Sheets Are Not Stacked Properly*



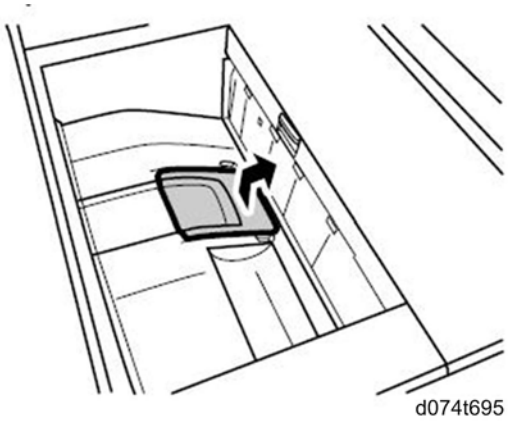

**Cause:**

If a large number of half-folded multi-sheet bundles have been delivered, the spines of the delivered bundles form a bulge. If a subsequently delivered bundle catches on this bulge, it may flip over in the output tray.

This is likely to occur if:

1. Thick, relatively stiff paper is used.
   As a bundle is delivered, its folded edge droops and catches on the stacked bundles, causing the delivered bundle to flip over.

**Solution:**




Use the Z-fold support tray for multi-folding unit.

This will reduce the angle of stacked bundles and prevent bundles flipping over as they are delivered.

For details about attaching the Z-fold support tray for multi-folding unit, see "When Z-folded Paper Is Not Properly Aligned" in the Troubleshooting supplied with the machine.

Note

- The flipping over of delivered sheets during other types of folding operations (such as letter-fold and gate-fold) cannot be prevented by the Z-fold support tray for the multi-folding unit.

## 7.6.3 BUFFER PASS UNIT

### *The Fan Is Noisy*

You can change the buffer pass unit fan activation setting according to the type of paper and ambient temperature.

- In the [Adjustment Settings for Skilled Operators] menu, change the value in [0118: Buffer Pass Unit Fan Activation Setting].

Note

- Depending on the setting, blocking (heat and pressure causing toner particles on stacked copies to form clumps which then detach) may occur.

## 7.6.4 HIGH CAPACITY STACKER

### *Delivered Sheets Are Severely Curled*

**Cause:**

Sheets with downward curls rub too much at their leading edges. This can cause a sheet to stop short with its trailing edge still in the paper exit.

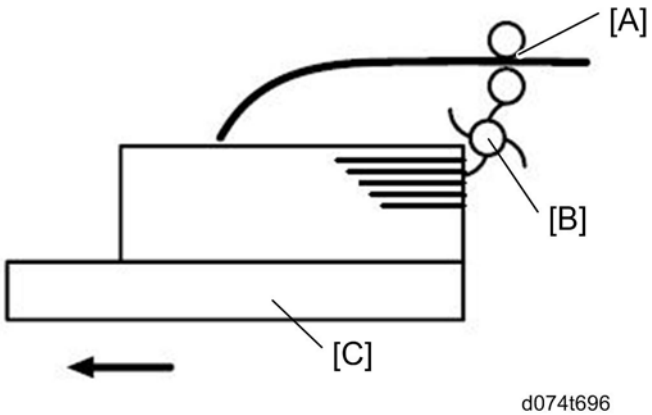
Subsequently delivered sheets may become bent as they slip under the trailing edge of the partially delivered sheet.

This is likely to occur if:

- A4 or larger coated paper weighing up to 135 g/m2 (50 lb. Cover) is used.

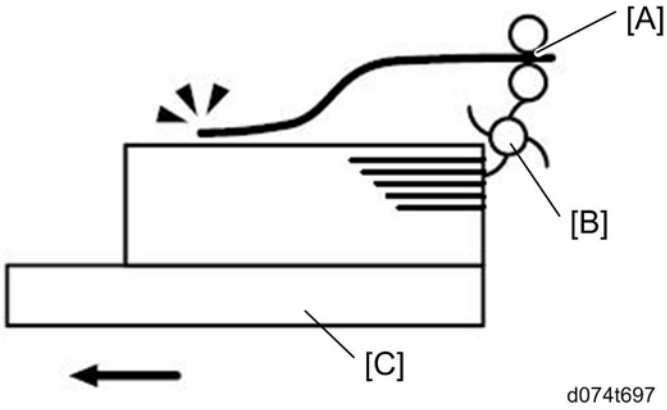
**<How the problem occurs>**

- (1) Downward curled paper is delivered to the stacker tray.



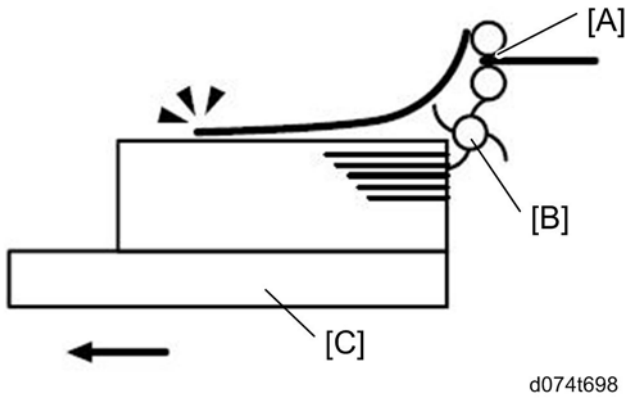

d074t696

  - [A]: Paper exit
  - [B]: Paddle
  - [C]: Stacker shift tray
- (2) The leading edge of the sheet being delivered rubs against the top sheet of the stack, there being no air gap between the sheets, and the sheet being delivered gets stuck.



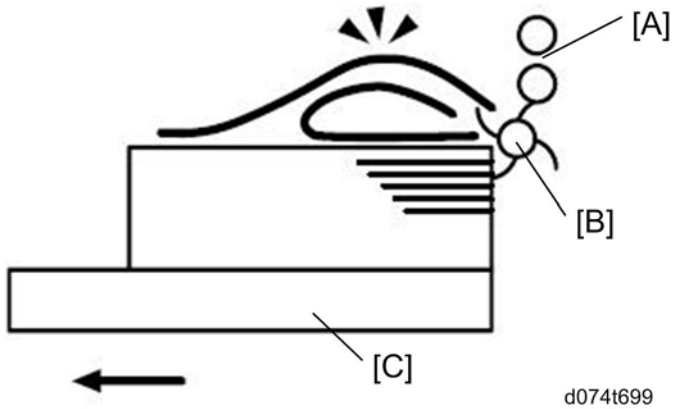

1. [A]: Paper exit
2. [B]: Paddle
3. [C]: Stacker shift tray

- (3) The trailing edge of the sheet being delivered is left in the paper exit.




1. [A]: Paper exit
2. [B]: Paddle
3. [C]: Stacker shift tray

- (4) The next sheet to be delivered slips under the sheet still in the paper exit and bends back.




- [A]: Paper exit
- [B]: Paddle

- [C]: Stacker shift tray

**Solution:**

Straighten out the paper by decurling it upward.

1. Load the sheets the other way up.
2. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Move to the next step.

   To carry out the following steps, the decurler unit must be attached.
3. In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to [Adjust ⌒ Curl: Weak].
4. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Go to the next step.
5. Set [0116: Adjust Paper Curl] to [Adjust ⌒ Curl: Strong].
6. Print the image. Is the problem resolved?

   **Yes** Finished!

   **No** Contact your supervisor.

## *Delivered Sheets Are Not Aligned*

**Cause:**

When delivering sheets to the stacker tray, because of the friction between the sheets, the paddle fails to drag the trailing edge back into the front guide, resulting in misalignment.

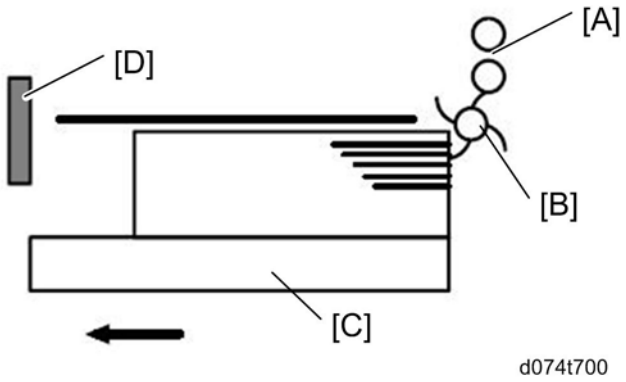
The paper edge stopper also fails to push back the protruding leading edge.

This is likely to occur if:

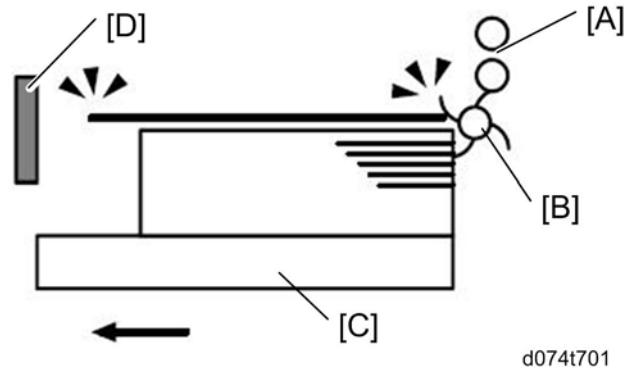
1. Thick (280 g/m2 [105 lb. Cover] or heavier), uncurled A3 or larger paper is used.

**<How the problem occurs>**

- (1) An uncurled sheet is delivered to the stacker shift tray.

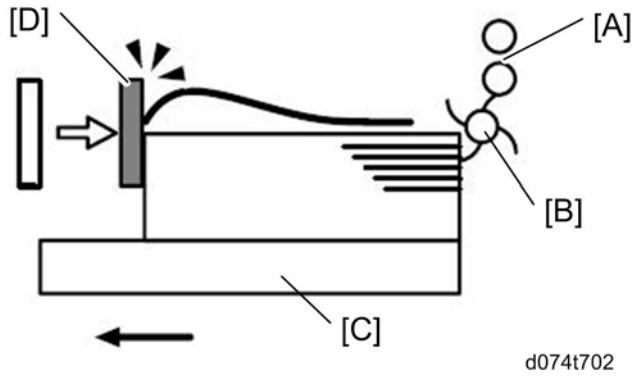



  - [A]: Paper exit
  - [B]: Paddle
  - [C]: Stacker shift tray
  - [D]: Paper edge stopper
- (2) The friction at the trailing edge is too great for the paddle to drag the sheet back and align the edges of the sheet with the edges of the stack.



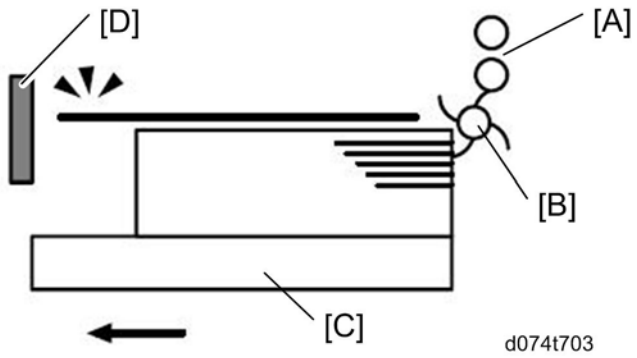

  - [A]: Paper exit
  - [B]: Paddle
  - [C]: Stacker shift tray
  - [D]: Paper edge stopper
- (3) The paper edge stopper fails to push back the protruding leading edge and align the

sheet that way.




1. [A]: Paper exit
2. [B]: Paddle
3. [C]: Stacker shift tray
4. [D]: Paper edge stopper

- (4) Stacked sheets are not aligned properly.




- [A]: Paper exit
- [B]: Paddle
- [C]: Stacker shift tray
- [D]: Paper edge stopper

**Solution:**

Curl the paper upward.

To do this, the decurler unit must be attached.

- In the [Adjustment Settings for Skilled Operators] menu, set [0116: Adjust Paper Curl] to [Adjust ⌒ Curl: Weak].
- Print the image. Is the problem resolved?

  **Yes** Finished!

  **No** Go to the next step.
- Set [0116: Adjust Paper Curl] to [Adjust ⌒ Curl: Strong].
- Print the image. Is the problem resolved?

  **Yes** Finished! (Sheets are aligned to an accuracy of 7 mm [0.27 inches].)

**No** Contact your supervisor.

## 7.6.5 LCIT RT5060

### *Misfeeding due to the Paper Character*

Misfeeding from the LCT tray may occur on the paper which has strong resistance against bending strength.

**Installing the tray heater for the LCT**

- Install the tray heater for the LCT. For details, refer to the installation procedure for "LCIT (D516) Tray Heaters" in A3/DLT LCIT (D516).
- If the tray heater does not solve the problem, go to "Changing the upper limit of the paper stack in the LCT tray" described below.

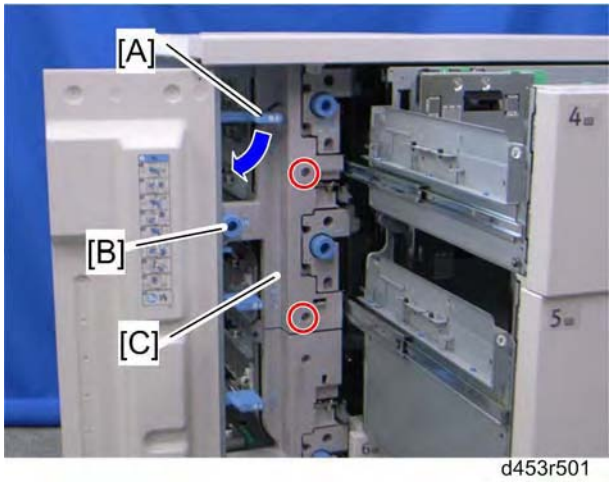
**Changing the upper limit of the paper stack in the LCT tray**

Changing the upper limit of the paper stack in the LCT tray can prevent paper misfeeding for the paper which has strong resistance against bending strength.

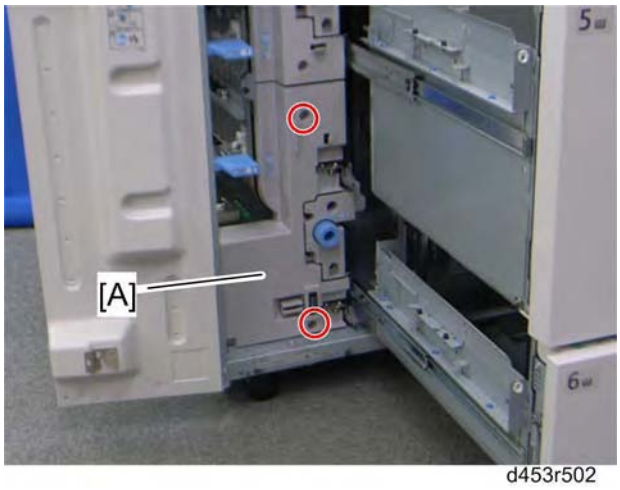
Note

- For the paper feed unit in the top tray or middle tray, remove the inner upper cover.
- For the paper feed unit in the bottom tray, remove the inner lower cover.

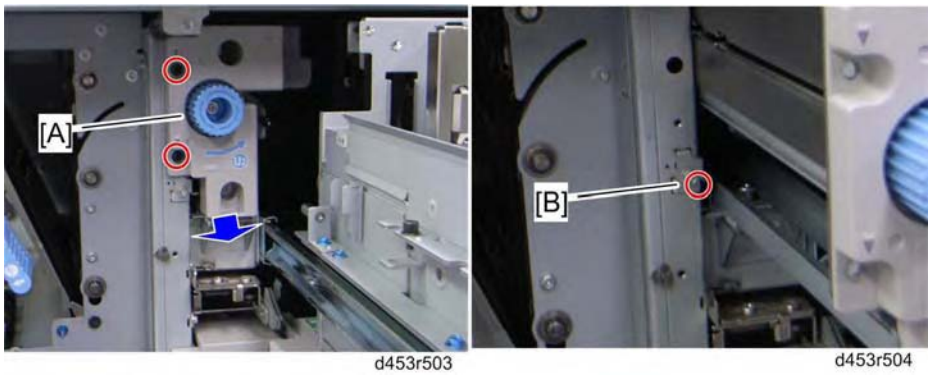
1. Pull out the top, middle or bottom tray.
1. Open the front door.
2. Pull out the top and middle trays.



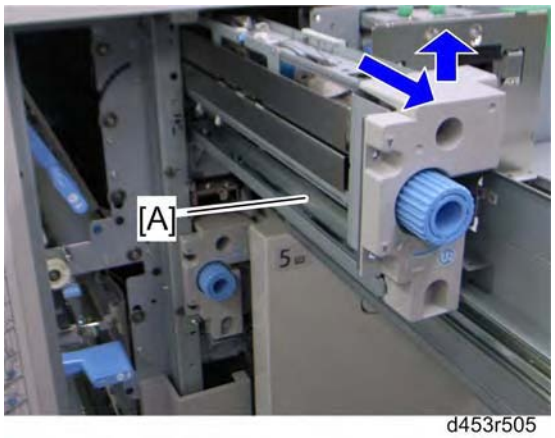

3. Pull down the U1 lever [A].
4. Remove:
   [B] Knob ( x1)
   [C] Inner upper cover ( x2)
5. Pull out the middle and bottom trays.



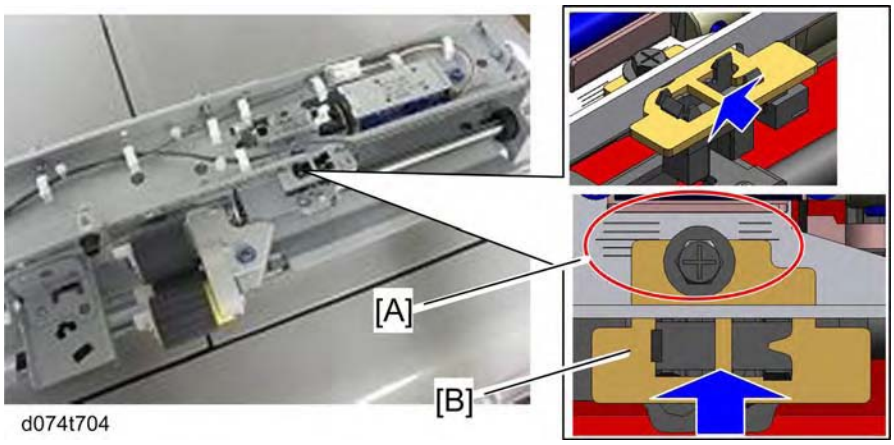

6. Inner lower cover [A] ( x2)




7. Pull the paper feed unit [A] ( x 2).
8. Stopper bracket [B] ( x 1)



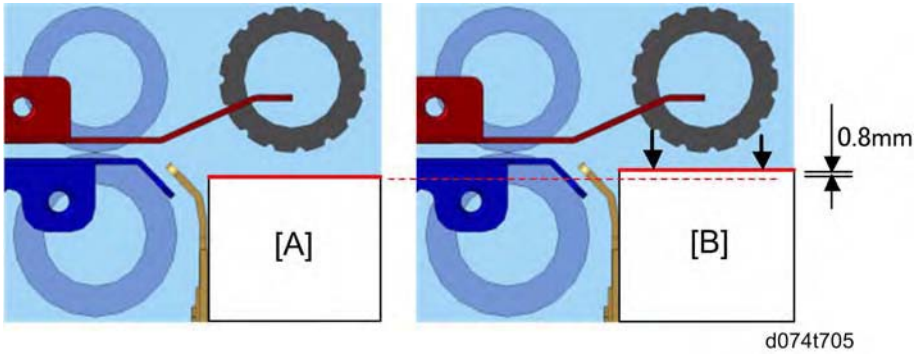

9. Pull out the paper feed unit [A] fully, and then lift it.




10. Note the default position of the paper lift sensor bracket by referring to the scale [A] on the frame.
    - The scale on the frame is divided into units of 1 mm.
11. Loosen the screw on the paper lift sensor bracket [B].
12. Move the bracket 0.5 mm in the arrow direction as shown above.
13. Tighten the screw on the paper lift sensor bracket [B].

Note

- To return the upper limit position to the default position, move the paper lift sensor bracket 0.5 mm to the opposite side.
- Return the upper limit position to the default if a paper jam occurs at the paper feed sensor in the LCT.

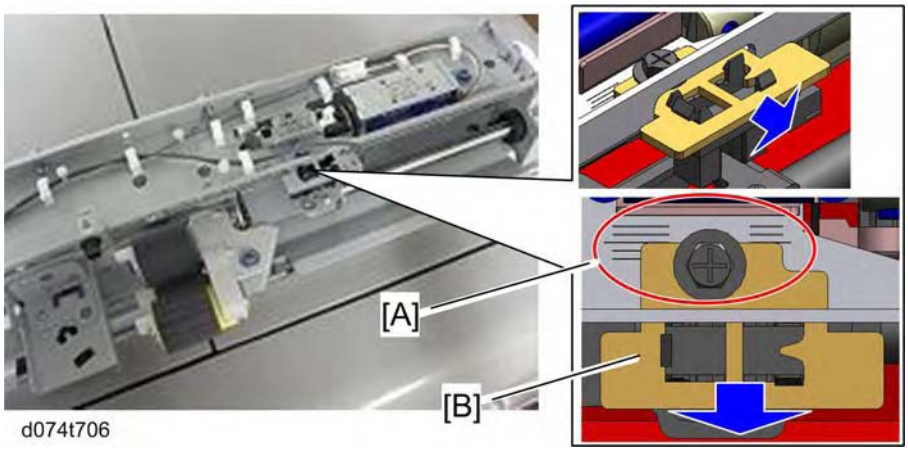



14. This adjustment raises the upper limit position by 0.8 mm.
    - [A]: Paper stack before adjustment
    - [B]: Paper stack after adjustment

## *Double Feeding or Misfeeding from the LCT*

### Changing the upper limit of the paper stack in the LCT tray

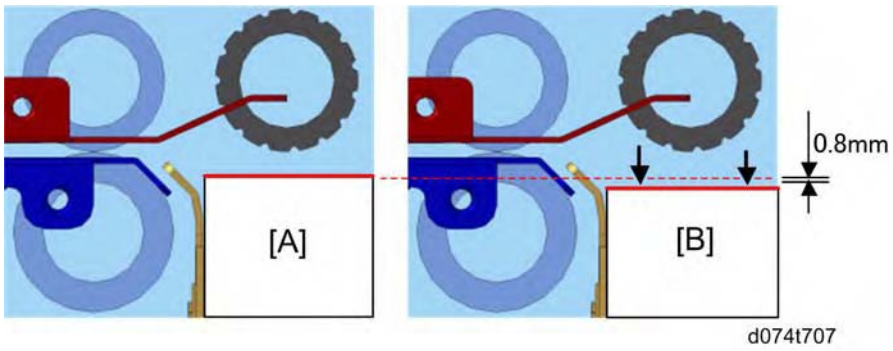
Changing the upper limit of the paper stack in the LCT tray can prevent paper double feeding or misfeeding from the LCT tray.




1. Pull the paper feed unit of the LCT unit (see "Misfeeding due to the Paper Character").
2. Note the default position of the paper lift sensor bracket by referring to the scale [A] on the frame.
   - The scale on the frame is divided into units of 1 mm.
3. Loosen the screw on the paper lift sensor bracket [B].
4. Move the bracket 0.5 mm in the arrow direction as shown above.
5. Tighten the screw on the paper lift sensor bracket [B].

Note

- To return the upper limit position to the default position, move the paper lift sensor bracket 0.5 mm to the opposite side.
- Return the upper limit position to the default if a paper jam occurs at the paper feed sensor in the LCT.




6. This adjustment lowers the upper limit position by 0.8 mm.
   1. [A]: Paper stack before adjustment
   2. [B]: Paper stack after adjustment

Trouble-shooting

## 7.6.6 COVER INTERPOSER TRAY CI5020

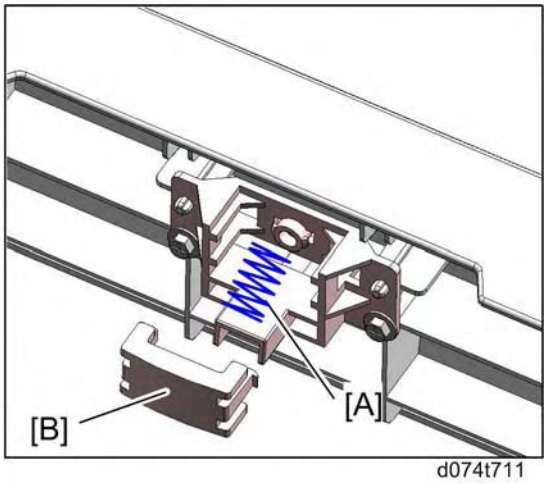
### *Paper Misfeeding due to Non-supported Paper Use*

**Cause:**

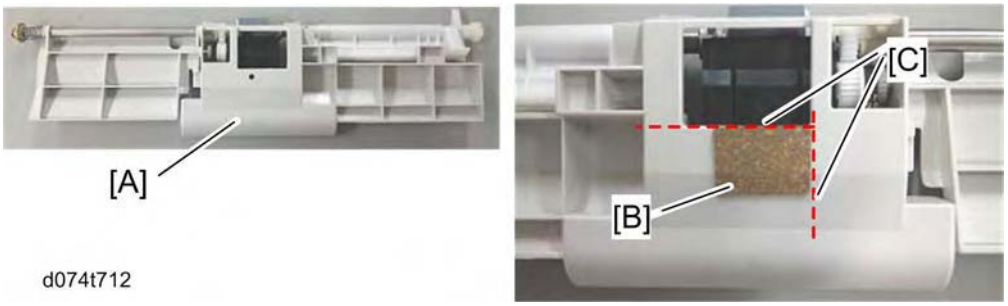
- Paper in use is not supported for this unit.
- Paper in use is low friction coefficient.

**Solution:**

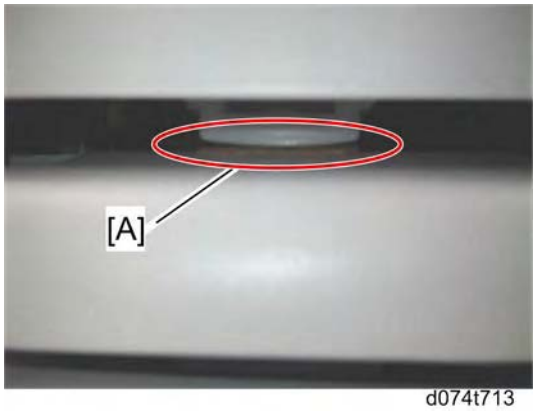
- Open the top cover [A].
- Remove the pressure block [B] (spring x 1, hooks).




- Install the spring [A].
- Reinstall the pressure block [B].




- Remove the feed belt unit [A].
- Align the cork pad [B] to two lines [C], and then attach it on the feed belt unit.

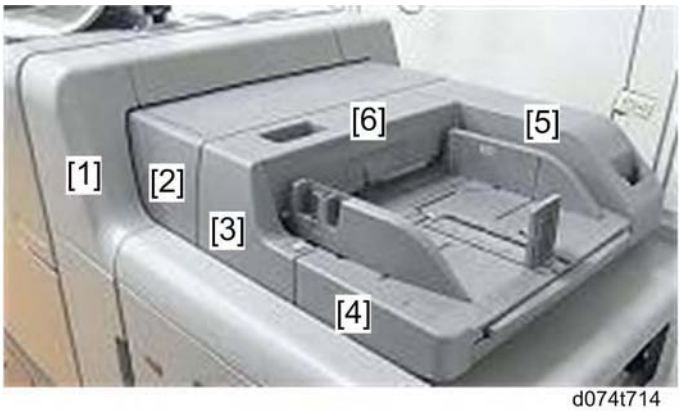



- Check if no gap [A] between the pressure block and cork pad after the top of the stack in the tray pushes up the feed belt unit.

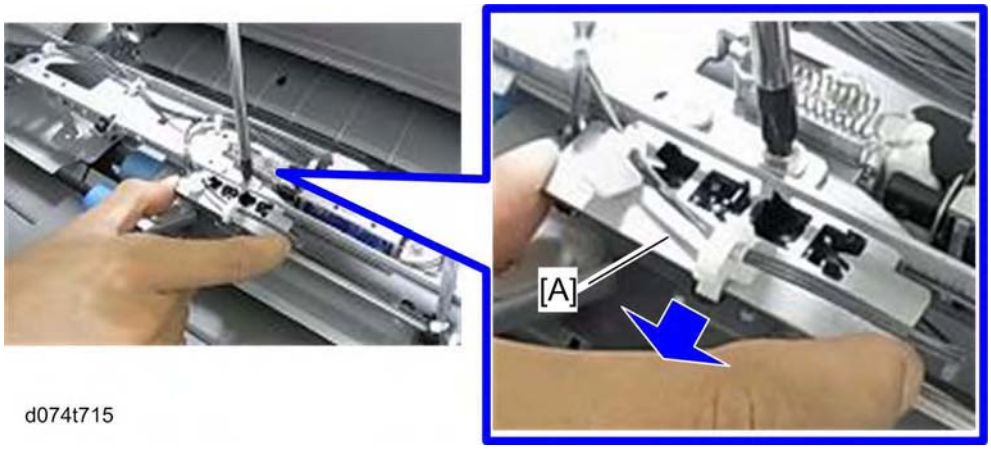
## 7.6.7 MULTI BYPASS TRAY BY5010

### *Paper Misfeeding due to Paper Character*

Misfeeding from the bypass tray may occur on the coated paper which has strong smoothness in the low temperature and low humidity condition.




- Remove six covers.
  1. For details about removing these covers, refer to the Filed Service Manual for the Multi Bypass Tray BY5010.




- Note the default position of the paper lift sensor bracket [A] by referring to the scale on the frame.
  - The scale on the frame is divided into units of 1 mm.
- Loosen the screw on the paper lift sensor bracket [A].
- Move the bracket 0.5 mm in the arrow direction as shown above.
- Tighten the screw on the paper lift sensor bracket [B].

Note

- To return the upper limit position to the default position, move the paper lift sensor bracket 0.5 mm to the opposite side.
- Return the upper limit position to the default if a paper jam occurs at the paper feed sensor in the Multi Bypass Unit.

# 7.7 TROUBLESHOOTING FOR THROUGHPUT

## 7.7.1 REDUCING THE WAITING TIME PRIOR TO PRINTING

After receiving a print job, the machine usually stops to let the fusing temperature reach an appropriate level for printing.

The waiting time for the fusing unit to cool down may be quite long, especially before printing on thin paper. By decreasing the fusing temperature during standby, you can reduce the waiting time.

1. In the [Adjustment Settings for Skilled Operators] menu, decrease the temperature by 10°C in [0206: Adjust Fusing Temperature on Standby] or decrease the settings of SP1-107-001, 003, and 007.

   Decrease the value in "Temperature on Standby Mode", "Temperature on Panel Off Mode", and "Temperature Before Performing a Process" by 10°C.

Note

1. When printing on paper other than thin paper, we recommend leaving the above settings unchanged.

## 7.7.2 THROUGHPUT WHEN PRINTING ON PAPER WITH A THICKNESS EQUIVALENT TO PAPER WEIGHT 6 OR 7

When printing on paper with a thickness equivalent to Paper Weight 6 or 7, the machine's copy/print speed must be reduced to 70% of full speed so that the degree of toner fixation can be enhanced.

However, depending on the type of paper in use and printed image, you can have the machine print at full copy/print speed.

The following are requirements for improving throughput when using paper with a thickness equivalent to Paper Weight 6 or 7:

1. Uncoated paper
2. Printing in black-and-white mode
3. Room temperature

1. In [Advanced Settings] for the custom paper in use, increase the value in [19: Process Speed Setting] by one step or increase the value of SP1-986 by 1 step.

   The settings for the Advanced Settings and the SP settings correspond to one another as shown in the table below.

| Advance Settings | SP Code Settings |
|---|---|
| High | 0: Target Speed |
| Middle | 1: Medium Speed |
| Low | 2: Low Speed |

1. If it is presently set to [Low], change it to [Middle].
2. If it is presently set to [Middle], change it to [High].

2. Set [44: Fusing Heat Roller Temperature Adj] to "180°C".
3. Print the image. Does it exhibit any fusing problem?

**Yes** You cannot improve throughput under the present condition. Restore the previous setting.

**No** You can operate the machine using this setting.

**Note:**

The following list shows the copy/print speed for each item in [19: Process Speed Setting]:

**<D074>**

1. High: 65 cpm (full speed)
2. Middle: 45 cpm (70% of full speed)
3. Low: 32 cpm (50% of full speed)

**<D075/M044>**

1. High: 75 cpm (full speed)
2. Middle: 52 cpm (70% of full speed)
3. Low: 37 cpm (50% of full speed)

## 7.7.3 THROUGHPUT WHEN PRINTING BLACK-AND-WHITE JOBS AND COLOR JOBS

When printing intermixed black-and-white and color print jobs, switching from full-color mode to black-and-white mode takes time, causing loss of throughput each time the mode is switched. When the machine prints a full-color print job followed by a black-and-white job, you can improve throughput by adjusting the number of black-and-white sheets the machine prints in full-color mode before switching to black-and-white mode.

1. In the [Adjustment Settings for Skilled Operators] menu, change the value in [0207: Auto Colour Selection Setting] or change the value in SP2-907-001.

Specify the appropriate number of sheets for your operating environment.

| Value | Machine Operation |
|---|---|
| 1 (Minimum) | The machine will switch to the black-and-white mode for all black-and-white printing.<br>This does not improve throughput, but prevents the cyan, magenta, and yellow development units from working when printing black-and-white sheets. |
| 10 (Maximum) | When the machine prints a full-color print job followed by a black-and-white job, it will switch from full-color to black-and-white mode after printing 10 black-and-white sheets. |

Note

1. If you print black-and-white sheets in full-color mode, the cyan, magenta, and yellow development units will work during the black-and-white printing, resulting in a shorter replacement cycle for the drum unit.
2. When the machine prints a black-and-white print job followed by a full-color job, it will always switch to full-color mode, as color printing is impossible in black-and-white mode.

# 7.8 FUSES

## 7.8.1 BLOWN FUSE CONDITIONS

### *AC Fuses*

**AC drive board**

| Fuse | Rating | Symptom at Power On |
|---|---|---|
| | 200V - 240V | |
| FU101 | 10A | The machine stops during warming-up and SC547 is issued. |
| FU102 | 10A | The machine stops during warming-up and SC547 is issued. |

**PSU 2 AZ240166 200V**

| Fuse | Rating | Symptom at Power On |
|---|---|---|
| | 200V - 240V | |
| FU101 | 8A | The machine stops during warming-up and SC547 is issued. |

## *DC Fuses*

**PSU 2 AZ240166 200V**

| Fuse | Rating | Symptom at Power On |
|---|---|---|
| | 200V - 240V | |
| FU102 | 6.3A | The machine normal during operation and SC686 or other SC is issued. |
| FU1 | 10A | The machine stops during normal operation, and an SC code related to scanner optics, paper transport, or SC686 is issued. |
| FU2 | 10A | The machine stops during normal operation, and an SC code related to the paper bank unit of the main machine, paper transport, or SC686 is issued. |
| FU3 | 10A | The machine stops during normal operation, and an SC code related to the Decurler Unit, SC520, or SC686 is issued. |
| FU4 | 10A | Not Used |
| FU5 | 2A | Not Used |
| FU6 | 5A | Not Used |
| FU7 | 5A | Not Used |
| FU8 | 2A | The machine stops and a jam related to the paper transport unit is issued. |

**PSU 1 AZ250041**

| Fuse | Rating | Symptom at Power On |
|---|---|---|
| | 200V - 240V | |
| FUS001 | 8A | The machine stops and SC670 or "Please Wait" is issued. |

# 7.9 JAM CODES

These are lists of jam codes for the main machine and peripheral devices. Please note:

1. **Late jam**. The paper has failed to arrive within the prescribed time due to a jam that has occurred upstream of the referenced sensor.
2. **Lag jam.** The paper has failed to leave the location of the referenced sensor within the prescribed time due to a jam downstream of the referenced sensor.

## 7.9.1 PAPER LATE JAMS: MAIN MACHINE

| Code No.. | Meaning |
|---|---|
| J001 | Standby Jam (Initial) |
| J003 | 1st Paper Feed Sensor |
| J004 | 2nd Paper Feed Sensor |
| J005 | 1st Paper Feed Sensor (LCT) |
| J006 | 2nd Paper Feed Sensor (LCT) |
| J007 | 3rd Paper Feed Sensor (LCT) |
| J008 | 4th Paper Feed Sensor (LCT) |
| J009 | 1st Transport Sensor |
| J010 | 2nd Transport Sensor |
| J011 | 1st Transport Sensor (LCT) |
| J012 | 2nd Transport Sensor (LCT) |
| J013 | 3rd Transport Sensor (LCT) |
| J014 | 4th Transport Sensor (LCT) |
| J015 | Vertical Transport Sensor |
| J016 | Bank Exit Sensor (Simplex) |
| J017 | Bank Exit Sensor (Duplex) |

| Code No.. | Meaning |
|---|---|
| J018 | Main Relay Sensor 1 |
| J019 | Main Relay Sensor 2 |
| J020 | Main Relay Sensor 3 |
| J021 | 1st Relay Sensor: Lower (LCT) |
| J022 | 1st Relay Sensor: Upper (LCT) |
| J023 | 2nd Transport Sensor (LCT) |
| J024 | 3rd Transport Sensor (LCT) |
| J025 | Exit Sensor (LCT) |
| J026 | Relay Sensor 1 (LCT) |
| J027 | Relay Sensor 2 (LCT) |
| J028 | Registration Sensor (Main) |
| J029 | Registration Sensor (LCT) |
| J030 | Paper Late Jam |
| J031 | Transfer Timing Sensor |
| J032 | Transport Thermistor |
| J033 | Fusing Exit Sensor |
| J034 | Feed-out Entrance Sensor |
| J035 | Exit JG Sensor |
| J036 | Exit Sensor |
| J037 | - |
| J038 | Exit Relay Sensor (2nd Pass) |
| J039 | Exit Relay Sensor (Duplex) |
| J040 | Duplex Invert Sensor (1st Pass) |

| Code No.. | Meaning |
|---|---|
| J041 | Duplex Invert Sensor (2nd Pass) |
| J042 | Duplex Transport Sensor 1 |
| J043 | Duplex Transport Sensor 2 |
| J044 | Duplex Transport Sensor 3 |
| J045 | Duplex Transport Sensor 6 |
| J046 | Duplex Transport Sensor 7 |

## 7.9.2 PAPER LAG JAMS: MAIN MACHINE

| Code No.. | Meaning |
|---|---|
| J053 | 1st Paper Feed Sensor |
| J054 | 2nd Paper Feed Sensor |
| J055 | 1st Paper Feed Sensor (LCT) |
| J056 | 2nd Paper Feed Sensor (LCT) |
| J057 | 3rd Paper Feed Sensor (LCT) |
| J058 | 4th Paper Feed Sensor (LCT) |
| J059 | 1st Transport Sensor |
| J060 | 2nd Transport Sensor |
| J061 | 1st Transport Sensor (LCT) |
| J062 | 2nd Transport Sensor (LCT) |
| J063 | 3rd Transport Sensor (LCT) |
| J064 | 4th Transport Sensor (LCT) |
| J065 | Vertical Transport Sensor |
| J066 | Bank Exit Sensor |

| Code No.. | Meaning |
|---|---|
| J067 | - |
| J068 | Main Relay Sensor 1 |
| J069 | Main Relay Sensor 2 |
| J070 | Main Relay Sensor 3 |
| J071 | 1st Relay Sensor: Lower (LCT) |
| J072 | 1st Relay Sensor: Upper (LCT) |
| J073 | 2nd Transport Sensor (LCT) |
| J074 | 3rd Transport Sensor (LCT) |
| J075 | Exit Sensor (LCT) |
| J076 | Relay Sensor 1 (LCT) |
| J077 | Relay Sensor 2 (LCT) |
| J078 | Registration Sensor |
| J080 | Sub Scan Registration Correction |
| J081 | Transfer Timing Sensor |
| J082 | Transport Thermistor |
| J083 | Fusing Exit Sensor |
| J084 | Feed-out Entrance Sensor |
| J085 | Exit JG Sensor |
| J086 | Exit Sensor |
| J087 | Exit Relay Sensor (1st Pass) |
| J089 | Exit Relay Sensor (Duplex) |
| J090 | Duplex Invert Sensor (1st Pass) |
| J091 | Duplex Invert Sensor (2nd Pass) |

| Code No.. | Meaning |
|---|---|
| J092 | Duplex Transport Sensor 1 |
| J093 | Duplex Transport Sensor 2 |
| J094 | Duplex Transport Sensor 3 |
| J095 | Duplex Transport Sensor 6 |
| J096 | Duplex Transport Sensor 7 |
| J097 | Over Skew |
| J098 | Over Shift |
| J099 | Double-Feed |

## 7.9.3 FINISHER JAMS (D512/D513) JAM CODE TABLE

| Code No. | Meaning |
|---|---|
| J101 | Entrance: Late Jam |
| J102 | Entrance: Lag Jam |
| J103 | Proof Tray Exit: Late Jam |
| J104 | Proof Tray Exit: Lag Jam |
| J105 | Proof Tray Exit: Late Jam |
| J106 | Shift Tray Exit: Lag Jam |
| J107 | Stapler Exit: Late Jam |
| J108 | Stapler Exit: Lag Jam |
| J109 | Pre-stack Tray: Late Jam |
| J110 | Pre-Stack Tray: Lag Jam |
| J111 | Output |
| J112 | Booklet Stapler: Late Jam |

| Code No. | Meaning |
|---|---|
| J113 | Booklet Stapler: Lag Jam |
| J114 | Booklet Stapler Exit: Late Jam |
| J115 | Booklet Stapler Exit: Lag Jam |
| J116 | Paper Transport Path |
| J117 | Shift Tray Operation Mechanism |
| J118 | Jogger Operation Mechanism |
| J119 | Shift Tray Drive Mechanism |
| J120 | Stapler Drive Mechanism |
| J121 | Output Drive Mechanism |
| J122 | Punch Drive Mechanism |
| J123 | Jogger Fences |
| J124 | Pre-stack Drive Mechanism |
| J125 | Stacking Mechanism |
| J126 | Booklet Stapling Mechanism |
| J127 | Booklet Folding Mechanism |
| J128 | For Debugging ( Error cause unknown) |
| J129 | Main Machine Data Corrupt |

## 7.9.4 COVER INTERPOSER TRAY CI5020 (D518) JAM CODE TABLE

| Code No. | Meaning |
|---|---|
| J150 | 1st Feed Sensor: Late Jam |
| J151 | 1st Feed Sensor: Lag Jam |
| J152 | 2nd Feed Sensor: Late Jam |
| J153 | 2nd Feed Sensor: Lag Jam |
| J154 | 1st Transport Sensor: Late Jam |
| J155 | 1st Transport Sensor: Lag Jam |
| J156 | 2nd Transport Sensor: Late Jam |
| J157 | 2nd Transport Sensor: Lag Jam |
| J158 | 1st Tray Transport Sensor: Late Jam |
| J159 | 1st Transport Sensor: Lag Error |
| J160 | 2nd Tray Transport Sensor: Late Jam |
| J161 | 2nd Transport Sensor: Lag Error |
| J162 | Vertical Exit Sensor: Late Jam |
| J163 | Vertical Exit Sensor: Lag Error |
| J164 | Entrance Sensor: Late Error |
| J165 | Entrance Sensor: Lag Error |
| J166 | Exit Sensor: Late Error |
| J167 | Exit Sensor: Lag Error |
| J168 | 1st Lift Motor Drive Mechanism |
| J169 | 2nd Lift Motor Drive Mechanism |
| J170 | 1st Pick-up Motor Drive Mechanism |

| Code No. | Meaning |
|---|---|
| J171 | 2nd Pick-up Motor Drive Mechanism |

## 7.9.5 TRIMMER UNIT TR5040 (D520) JAM CODE TABLE

| Code No. | Meaning |
|---|---|
| J200 | Entrance Sensor: Late Jam |
| J201 | Entrance Sensor: Lag Jam |
| J202 | Skew Sensor: Late Jam |
| J203 | Skew Sensor: Lag Jam |
| J204 | Exit Sensor: Late Jam |
| J205 | Exit Sensor: Lag Jam |
| J206 | Trimming Blade Motor Lock |
| J207 | Cut Position Motor |
| J208 | Press Roller |
| J209 | Press/Stopper Roller |
| J210 | Tray Motor |

## 7.9.6 MULTI FOLDING UNIT FD5010 (D521) JAM CODE TABLE

| Code No. | Meaning |
|---|---|
| J250 | Entrance Sensor: Late Jam |
| J251 | Entrance Sensor: Lag Jam |
| J252 | Top Tray Exit: Lag Jam |
| J253 | Top Tray Exit: Lag Jam |
| J254 | Horizontal Path Exit: Late Jam |
| J255 | Horizontal Path Exit: Lag Jam |
| J256 | 1st Stopper: Late Jam |
| J257 | 1st Stopper: Lage Jam |
| J258 | 2nd Stopper: Late Jam |
| J259 | 2nd Stopper: Lag Jam |
| J260 | 3rd Stopper: Late Jam |
| J261 | 3rd Stopper: Lag Jam |
| J262 | Skew Correction Jam |
| J263 | Top Tray Path Jam |
| J264 | Entrance/Top Tray JG Motor Jam |
| J265 | Entrance/Fold JG Motor Jam |
| J266 | 1st Stopper Motor Jam |
| J267 | 2nd Stopper Motor Jam |
| J268 | 3rd Stopper Motor Jam |
| J269 | Dynamic Roller Lift Motor Jam |
| J270 | Registration Roller Release Motor Jam |

| Code No. | Meaning |
|---|---|
| J271 | Fold Blade Drive Motor Jam |
| J272 | Jogger Fence Motor Jam |
| J273 | Positioning Roller Motor Jam |
| J274 | FM2 Direct Send Motor Error |
| J275 | FM6 Pawl Motor |
| J276 | Main Machine Data Corrupt |

## 7.9.7 HIGH CAPACITY STACKER SK5020 (D515) JAM CODE TABLE

| Code No.. | Meaning |
|---|---|
| J300 | Entrance: Late Jam |
| J301 | Entrance: Lag Jam |
| J302 | Proof Tray Exit: Late Jam |
| J303 | Proof Tray Exit: Lag Jam |
| J304 | Stack Tray Exit: Late Jam |
| J305 | Stack Tray Exit: Lag Jam |
| J306 | Relay Path: Late Jam |
| J307 | Relay Path: Lag Jam |
| J308 | Straight-through Paper Path Exit: Late Error |
| J309 | Straight-through Paper Path Exit: Lag Jam |
| J310 | Shift JG Motor |
| J311 | Proof Tray JG Motor |
| J312 | Shift Motor |

| Code No.. | Meaning |
|---|---|
| J313 | Front Jogger Fence Motor |
| J314 | Rear Jogger Fence Motor |
| J315 | Main Jogger Fence Retraction Motor |
| J316 | Main Jogger Rear Fence Retraction Motor |
| J317 | Sub Jogger Motor |
| J318 | LE Stopper Motor |
| J319 | Tray Lift Motor |
| J320 | Main Machine Data Corrupt |

## 7.9.8 RING BINDER RB5010 (D519) JAM CODE TABLE

| Code No.. | Meaning |
|---|---|
| J350 | Entrance: Late Jam |
| J351 | Entrance: Lag Jam |
| J352 | Central Transport Path: Late Jam |
| J353 | Central Transport Path: Lag Jam |
| J354 | Transport Exit: Late Jam |
| J355 | Transport Exit: Lag Jam |
| J356 | Before Pre-punch Unit Jam |
| J357 | After Pre-punch Unit Jam |
| J358 | Binder Unit TE Jam |
| J359 | Binder Unit LE Jam |
| J360 | Ring Jam: Wrong Ring Type |
| J361 | Binder Unit Jam |

| Code No.. | Meaning |
|---|---|
| J362 | Output Belt 1 Jam |
| J363 | Output Belt 2 Jam |
| J364 | Stacker Jam |
| J365 | Punch Motor Jam |
| J366 | Shutter Motor Jam |
| J367 | Alignment Pin Motor Jam |
| J368 | Pre-Punch Jogger Jam |
| J369 | Alignment Pin Jam |
| J370 | Clamp Motor Jam |
| J371 | 50/100 Clamp Adjust Motor Jam |
| J372 | Output Belt Rotation Motor Jam |
| J373 | Main Machine Data Corrupt |

## 7.9.9 BUFFER PASS UNIT TYPE (5010 D548) JAM CODE TABLE

| Code No.. | Meaning |
|---|---|
| J400 | Transport Sensor 1: Late Jam |
| J401 | Transport Sensor 1: Lag Jam |
| J402 | Transport Sensor 2: Late Jam |
| J403 | Transport Sensor 2: Lag Jam |
| J404 | Transport Sensor 3: Late Jam |
| J405 | Transport Sensor 3: Lag Jam |
| J406 | Transport Sensor 4: Late Jam |
| J407 | Transport Sensor 4: Lag Jam |
| J408 | Transport Sensor 5: Late Jam |
| J409 | Transport Sensor 5: Lag Jam |
| J410 | Transport Sensor 6: Late Jam |
| J411 | Transport Sensor 6: Lag Jam |
| J412 | Transport Sensor 7: Late Jam |
| J413 | Transport Sensor 7: Lag Jam |
| J414 | Transport Sensor 8: Late Jam |
| J415 | Transport Sensor 8: Lag Jam |
| J416 | Main Machine Data Corrupt |
| J500 | Finisher No-Response Error After Exit |

## 7.9.10 ARDF JAM CODE TABLE

| Code No.. | Meaning |
|---|---|
| 000 | Jam Release |
| 001 | Standby Jam (Initial) |
| 002 | Reserved |
| 003 to 007 | Paper Late Jams: Main Machine |
| 003 | Separation Sensor |
| 004 | Skew Correction Sensor |
| 005 | Interval Sensor |
| 006 | Registration Sensor |
| 007 | Exit Sensor |
| 008 | Invert/Switchback Sensor |
| 009 | Lower Invert Sensor |
| 053 to 057 | Paper Lag Jams: Main Machine |
| 053 | Separation Sensor |
| 054 | Skew Correction Sensor |
| 055 | Interval Sensor |
| 056 | Registration Sensor |
| 057 | Exit Sensor |
| 058 | Invert/Switchback Sensor |
| 059 | Lower Invert Sensor |

## 7.9.11 D074/D075, M044 JAM DISPLAYS

| Code No., | Meaning |
|---|---|
| A | 1st Paper Feed Sensor |
| A | 2nd Paper Feed Sensor |
| A | 1st Transport Sensor |
| A | 2nd Transport Sensor |
| A | Vertical Transport Sensor |
| A | Bank Exit Sensor |
| A | Main Relay Sensor 1 |
| B | Main Relay Sensor 3 |
| B | Relay Sensor 1 (LCT) |
| B | Relay Sensor 2 (LCT) |
| B | Registration Sensor |
| B1 | Main Relay Sensor 2 |
| B6 | Transfer Timing Sensor |
| C | Transport Thermistor |
| D2/D3 | Fusing Exit Sensor |
| D2/D3 | Feed-out Entrance Sensor |
| D4 | Exit JG Sensor |
| D4 | Exit Sensor |
| D5 | Paper Exit Relay Sensor |
| D5,E | Duplex Invert Sensor |
| E | Purge Relay Sensor |

| Code No., | Meaning |
|---|---|
| E | Purged Paper Sensor |
| U | 1st Transport Sensor (LCT) |
| U | 2nd Transport Sensor (LCT) |
| U | 3rd Transport Sensor (LCT) |
| U | 1st Relay Sensor: Lower (LCT) |
| U | 1st Relay Sensor: Upper (LCT) |
| U | 2nd Transport Sensor (LCT) |
| U | 3rd Transport Sensor (LCT) |
| U | Exit Sensor (LCT) |
| U,V | 4th Transport Sensor (LCT) |
| U2 | 1st Paper Feed Sensor (LCT) |
| U4 | 2nd Paper Feed Sensor (LCT) |
| U6 | 3rd Paper Feed Sensor (LCT) |
| V | 4th Paper Feed Sensor (LCT) |
| Z3 | Duplex Transport Sensor 1 |
| Z3 | Duplex Transport Sensor 2 |
| Z3 | Duplex Transport Sensor 3 |
| Z4 | Duplex Transport Sensor 6 |
| Z4 | Duplex Transport Sensor 7 |

| Code No., | Meaning |
|---|---|
| Kc1 to 9 | Transport Sensor 1: Late Jam |
| Kc1 to 9 | Transport Sensor 1: Lag Jam |
| Kc1 to 9 | Transport Sensor 2: Late Jam |
| Kc1 to 9 | Transport Sensor 2: Lag Jam |
| Kc1 to 9 | Transport Sensor 3: Late Jam |
| Kc1 to 9 | Transport Sensor 3: Lag Jam |
| Kc1 to 9 | Transport Sensor 4: Late Jam |
| Kc1 to 9 | Transport Sensor 4: Lag Jam |
| Kc1 to 9 | Transport Sensor 5: Late Jam |
| Kc1 to 9 | Transport Sensor 5: Lag Jam |
| Kc1 to 9 | Transport Sensor 6: Late Jam |
| Kc1 to 9 | Transport Sensor 6: Lag Jam |
| Kc1 to 9 | Transport Sensor 7: Late Jam |
| Kc1 to 9 | Transport Sensor 7: Lag Jam |
| Kc1 to 9 | Transport Sensor 8: Late Jam |
| Kc1 to 9 | Transport Sensor 8: Lag Jam |
| Kc1 to 9 | Main Machine Data Corrupt |
| L1 to 5 | Entrance: Late Jam |
| L1 to 5 | Entrance: Lag Jam |
| L1 to 5 | Proof Tray Exit: Late Jam |
| L1 to 5 | Proof Tray Exit: Lag Jam |
| L1 to 5 | Relay Path: Late Jam |
| L1 to 5 | Relay Path: Lag Jam |

| Code No., | Meaning |
|---|---|
| L1 to 5 | Straight-through Paper Path Exit: Late Error |
| L1 to 5 | Straight-through Paper Path Exit: Lag Jam |
| L6 | Stack Tray Exit: Late Jam |
| L6 | Stack Tray Exit: Lag Jam |
| L6 | Shift JG Motor |
| L6 | Proof Tray JG Motor |
| L6 | Shift Motor |
| L6 | Front Jogger Fence Motor |
| L6 | Rear Jogger Fence Motor |
| L6 | Main Jogger Fence Retraction Motor |
| L6 | Main Jogger Rear Fence Retraction Motor |
| L6 | Sub Jogger Motor |
| L6 | LE Stopper Motor |
| L6 | Tray Lift Motor |
| L6 | Main Machine Data Corrupt |
| Mc1 to 2 | Entrance: Late Jam |
| Mc1 to 2 | Entrance: Lag Jam |
| Mc1 to 2 | Main Machine Data Corrupt |
| Mc10 | Stacker Jam |
| Mc3 to 4 | Central Transport Path: Late Jam |
| Mc3 to 4 | Central Transport Path: Lag Jam |
| Mc3 to 4 | Transport Exit: Late Jam |
| Mc3 to 4 | Transport Exit: Lag Jam |

| Code No., | Meaning |
|---|---|
| Mc5 | Before Pre-punch Unit Jam |
| Mc5 | Punch Motor Jam |
| Mc5 to 6 | Binder Unit TE Jam |
| Mc6 | After Pre-punch Unit Jam |
| Mc7 to 8 | Binder Unit LE Jam |
| Mc7 to 8 | Ring Jam: Wrong Ring Type |
| Mc7 to 8 | Binder Unit Jam |
| Mc7 to 8 | Shutter Motor Jam |
| Mc7 to 8 | Alignment Pin Motor Jam |
| Mc7 to 8 | Pre-Punch Jogger Jam |
| Mc7 to 8 | Alignment Pin Jam |
| Mc7 to 8 | Clamp Motor Jam |
| Mc7 to 8 | 50/100 Clamp Adjust Motor Jam |
| Mc9 | Output Belt 1 Jam |
| Mc9 | Output Belt 2 Jam |
| Mc9 | Output Belt Rotation Motor Jam |
| N1 to 5 | Entrance Sensor: Late Jam |
| N1 to 5 | Entrance Sensor: Lag Jam |
| N1 to 5 | Top Tray Exit: Lag Jam |
| N1 to 5 | Top Tray Exit: Lag Jam |
| N1 to 5 | Horizontal Path Exit: Late Jam |
| N1 to 5 | Horizontal Path Exit: Lag Jam |
| N1 to 5 | Top Tray Path Jam |

| Code No., | Meaning |
|---|---|
| N1 to 5 | Entrance/Top Tray JG Motor Jam |
| N1 to 5 | Entrance/Fold JG Motor Jam |
| N1 to 5 | Main Machine Data Corrupt |
| N6 to 22 | 1st Stopper: Late Jam |
| N6 to 22 | 1st Stopper: Lage Jam |
| N6 to 22 | 2nd Stopper: Late Jam |
| N6 to 22 | 2nd Stopper: Lag Jam |
| N6 to 22 | 3rd Stopper: Late Jam |
| N6 to 22 | 3rd Stopper: Lag Jam |
| N6 to 22 | Skew Correction Jam |
| N6 to 22 | 1st Stopper Motor Jam |
| N6 to 22 | 2nd Stopper Motor Jam |
| N6 to 22 | 3rd Stopper Motor Jam |
| N6 to 22 | Dynamic Roller Lift Motor Jam |
| N6 to 22 | Registration Roller Release Motor Jam |
| N6 to 22 | Fold Plate Motor Jam |
| N6 to 22 | Jogger Fence Motor Jam |
| N6 to 22 | Positioning Roller Motor Jam |
| N6 to 22 | FM2 Direct Send Motor Error |
| N6 to 22 | FM6 Pawl Motor |
| Q1 | 1st Feed Sensor: Late Jam |
| Q1 | 1st Feed Sensor: Lag Jam |
| Q1 | 1st Lift Motor Drive Mechanism |

| Code No., | Meaning |
|---|---|
| Q1 | 1st Pick-up Motor Drive Mechanism |
| Q2 | 2nd Feed Sensor: Late Jam |
| Q2 | 2nd Feed Sensor: Lag Jam |
| Q2 | 2nd Lift Motor Drive Mechanism |
| Q2 | 2nd Pick-up Motor Drive Mechanism |
| Q3 to 4 | 1st Transport Sensor: Late Jam |
| Q3 to 4 | 1st Transport Sensor: Lag Jam |
| Q3 to 4 | 2nd Transport Sensor: Late Jam |
| Q3 to 4 | 2nd Transport Sensor: Lag Jam |
| Q3 to 4 | 1st Tray Transport Sensor: Late Jam |
| Q3 to 4 | 1st Transport Sensor: Lag Error |
| Q3 to 4 | 2nd Tray Transport Sensor: Late Jam |
| Q3 to 4 | 2nd Transport Sensor: Lag Error |
| Q3 to 4 | Vertical Exit Sensor: Late Jam |
| Q3 to 4 | Vertical Exit Sensor: Lag Error |
| Q3 to 4 | Entrance Sensor: Late Error |
| Q3 to 4 | Entrance Sensor: Lag Error |
| Q3 to 4 | Exit Sensor: Late Error |
| Q3 to 4 | Exit Sensor: Lag Error |
| Rb1 to 5 | Entrance: Late Jam |
| Rb1 to 5 | Entrance: Lag Jam |
| Rb1 to 5 | Proof Tray Exit: Late Jam |
| Rb1 to 5 | Proof Tray Exit: Lag Jam |

| Code No., | Meaning |
|---|---|
| Rb1 to 5 | Shift Tray Exit: Late Jam |
| Rb1 to 5 | Shift Tray Exit: Lag Jam |
| Rb1 to 5 | Paper Transport Path |
| Rb1 to 5 | Shift Tray Operation Mechanism |
| Rb1 to 5 | Shift Tray Drive Mechanism |
| Rb1 to 5 | Punch Drive Mechanism |
| Rb1 to 5 | For Debugging ( Error cause unknown) |
| Rb1 to 5 | Main Machine Data Corrupt |
| Rb10 to 17 | Stapler Exit: Lag Jam |
| Rb10 to 17 | Output |
| Rb10 to 17 | Booklet Stapler: Late Jam |
| Rb10 to 17 | Booklet Stapler: Lag Jam |
| Rb10 to 17 | Booklet Stapler Exit: Late Jam |
| Rb10 to 17 | Booklet Stapler Exit: Lag Jam |
| Rb10 to 17 | Jogger Operation Mechanism |
| Rb10 to 17 | Stapler Drive Mechanism |
| Rb10 to 17 | Output Drive Mechanism |
| Rb10 to 17 | Jogger Fences |
| Rb10 to 17 | Stacking Mechanism |
| Rb10 to 17 | Booklet Stapling Mechanism |
| Rb10 to 17 | Booklet Folding Mechanism |
| Rb6 to 9 | Stapler Exit: Late Jam |
| Rb6 to 9 | Pre-stack Tray: Late Jam |

| Code No., | Meaning |
|---|---|
| Rb6 to 9 | Pre-Stack Tray: Lag Jam |
| Rb6 to 9 | Pre-stack Drive Mechanism |
| Rt1 to 2 | Entrance Sensor: Late Jam |
| Rt1 to 2 | Entrance Sensor: Lag Jam |
| Rt1 to 2 | Skew Sensor: Late Jam |
| Rt1 to 2 | Skew Sensor: Lag Jam |
| Rt1 to 2 | Exit Sensor: Late Jam |
| Rt1 to 2 | Exit Sensor: Lag Jam |
| Rt1 to 2 | Trimming Blade Motor Lock |
| Rt1 to 2 | Cut Position Motor |
| Rt1 to 2 | Press Roller |
| Rt1 to 2 | Press/Stopper Roller |
| Rt1 to 2 | Tray Motor |

# D074/D075
# SERVICE MANUAL APPENDICES

# D074/D075 APPENDICES

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# APPENDIX:
# SPECIFICATIONS

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 4 | 3/9/2012 | Paper thickness note |
| 28 | 12/6/2011 | ARDF Table Capacity |
| 30 ~ 31 | 3/9/2012 | Paper thickness note |
| 48 | 2/10/2012 | Booklet Stapling Specifications |

# 1. APPENDIX: SPECIFICATIONS

## 1.1 MAIN SPECIFICATIONS

### 1.1.1 GENERAL SPECIFICATIONS: COPIER AND PRINTER

| | |
|---|---|
| Configuration | Console |
| Image Writing System | Laser |
| Color Copy Process | 4-drum dry, electrostatic transfer with transfer belt |
| Engine Speed | Calculated for A4/LT LEF (uncoated). See below. |

| Machine | Thickness | Range ($g/m^2$) | ppm | |
|---|---|---|---|---|
| | | | B/W | FC |
| D074 | Thick 1 | 52.3 to 63.0 | 65 | 65 |
| | Thick 2 | 63.1 to 80.0 | 65 | 65 |
| | Thick 3 | 80.1 to 105.0 | 65 | 65 |
| | Thick 4 | 105.1 to 163.0 | 65 | 65 |
| | Thick 5 | 163.1 to 220.0 | 65 | 65 |
| | Thick 6 | 220.1 to 256.0 | 45 | 45 |
| | Thick 7 | 256.1 to 300.0 | 45 | 45 |

| Machine | Thickness | Range ($g/m^2$) | ppm | |
|---|---|---|---|---|
| | | | B/W | FC |
| D075/M044 | Thick 1 | 52.3 to 63.0 | 75 | 75 |
| | Thick 2 | 63.1 to 80.0 | 75 | 75 |
| | Thick 3 | 80.1 to 105.0 | 75 | 75 |
| | Thick 4 | 105.1 to 163.0 | 75 | 75 |
| | Thick 5 | 163.1 to 220.0 | 75 | 75 |
| | Thick 6 | 220.1 to 256.0 | 52 | 52 |
| | Thick 7 | 256.1 to 300.0 | 52 | 52 |

| | | | |
|---|---|---|---|
| First Print | B/W | Less than 11 sec. (A4/LT LEF) | |
| | FC | Less than 11 sec. (A4/LT LEF) | |
| Resolution | Reading | 600 dpi | |
| | Writing | 1200 x 4800 dpi (Main Scan x Sub Scan) | |
| Gradation | Reading | 256 Steps | |
| | Writing | 1200 dpi/2bit (Copy Printing)<br>1200 dpi/2-bit, 600 dpi/4-bit (Print Jobs) | |
| Warm-up Time | Less than 300 sec. | | |
| Max. Printable Area (W x L) | 323 x 480 mm (12.7 x 18.9 in.) | | |
| Paper Capacity (80 g/m$^2$) | **Feed Station** | **Sheets/Tray** | **Total** |
| | Main 1st Tray | 1000 + 1000 | 2000 |
| | Main 2nd Tray | 500 | 500 |
| | LCIT 1st Tray | 1000 | 1000 |
| | LCIT 2nd Tray | 2000 | 2000 |
| | LCIT 3rd Tray | 1000 | 1000 |
| | Bypass (on LCIT) | 500 | 500 |
| | | **Total (80 g/m$^2$)** | **7,000** |
| Paper | Refer to “Paper Type, Size, Thickness Table” below. | | |

| Paper Thickness/Type | **Thickness** | **Type** |
|---|---|---|
| Main 1st Tray | 52.3 – 300 g/m$^2$<br>14 lb. Bond – 110 lb. Cover | Normal, Recycled, Used, Letterhead, Punched |
| Main 2nd Tray | 52.3 – 256 g/m$^2$<br>14 lb. Bond – 95 lb. Cover | Normal, Recycled, Used, Letterhead, Punched, Index |
| ⇒ LCIT 1st Tray | 52.3 – 256 g/m$^2$<br>14 lb. Bond – 95 lb. Cover | Normal, Recycled, Used, Letterhead, Punched, Gloss*, Matte*, Index, OHP, Trace, Envelopes |
| ⇒ LCIT 2nd Tray | 52.3 – 300 g/m$^2$<br>14 lb. Bond – 110 lb. Cover | Normal, Recycled, Used, Letterhead, Punched, Gloss*, Matte*, Labels, Index, OHP, Trace, Envelopes |
| LCIT 3rd Tray | 52.3 – 256 g/m$^2$<br>14 lb. Bond – 95 lb. Cover | Normal, Recycled, Used, Letterhead, Punched, Gloss, Matte, Index, OHP, Trace, Envelopes |
| Bypass | 52.3 – 216 g/m$^2$<br>14 lb. Bond – 81 lb. Cover | Normal, Recycled, Used, Letterhead, Punched, Index, OHP, Trace |
| Main (Duplex) | 60 – 256 g/m$^2$<br>16 lb. Bond – 95 lb. Cover | |

⇒ *: For Gloss and Matte paper stocks, basis weight of more than 80gsm is required. Gloss and Matte paper stocks of 80gsm or lighter are not supported.

| Paper Size | | |
|---|---|---|
| Main 1st Tray (Tandem) | A4 LEF, LT LEF (Fixed) | |
| Main 1st Tray (Tandem – A3 Kit) | Std. | A3 SEF, B4 SEF, A4 SEF/LEF, DLT SEF, LG SEF, LT SEF/LEF |
| | Custom | Min.: 210 x 210mm<br>Max.: 305 x 439mm |
| Main 2nd Tray | Std. | 13"x 18" SEF; SRA3 SEF, 12 x 18" SEF, SRA4 SEF/LEF; A3 SEF, A4 SEF/LEF, A5 SEF/LEF, B4 SEF, B5 SEF/LEF; DLT SEF, LG SEF, 8.5"x13" SEF, LT SEF/LEF, 8.25 x 14" SEF, 8.25 x 13" SEF , 8 x 13" SEF, Executive SEF/LEF, HLT SEF/LEF, Line Slider 1 LEF, Line Slider 2 SEF;<br>8-Kai SEF, 16-Kai SEF/LEF;<br>11"x15" SEF, 11"x14" SEF, 10"x15" SEF |
| | Custom | Width: 139.7 to 330.2mm<br>Length: 139.7 to 487.7 mm |
| LCIT | Std. | 13"x19.2" SEF, 13"x19"SEF, 12.6"x19.2"SEF, 12.6"x18.5" SEF, 13"x 18" SEF, SRA3 SEF, 12"x18" SEF, SRA4 SEF/LEF<br>A3 SEF, A4 SEF/LEF, A5 SEF/LEF, A6 SEF, B4 SEF, B5 SEF/LEF, B6 SEF<br>DLT SEF, LG SEF, 8.5"x13" SEF, LT SEF/LEF, 8.25"x14" SEF, 8.25"x 13" SEF, 8" x 13" SEF, 8"x10.5" LT SEF/LEF, 8"x10" SEF/LEF, Executive SEF/LEF, HLT SEF/LEF,<br>Line Slider 1 SEF/LEF, Line Slider 2 SEF<br>8-Kai SEF, 16-Kai SEF/LEF,<br>11"x15" SEF, 11"x14" SEF, 10"x"15" SEF, 10x 14" SEF |

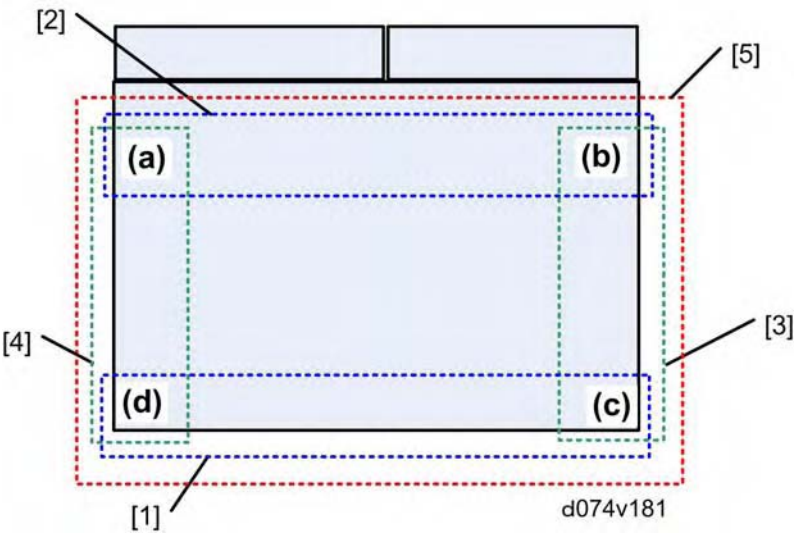
| | | |
|---|---|---|
| | Custom | Width: 100 to 330.2mm<br>Length: 139.7 to 487.7mm |
| Bypass (on LCIT) | Std. | Same as LCIT |
| | Custom | Width: 100 to 330.2mm<br>Length: 139.7 to 630mm |
| Duplex Paper Sizes | A5 SEF, HLT SEF to 13"x19.2" | |
| Paper Size Adjustment | | |
| Main 1st Tray (Tandem) | Fixed (A4 LEF or LT LEF) | |
| Main 2nd Tray | Universal Tray | |
| LCIT | Universal Tray | |
| Bypass (on LCIT) | Universal Tray | |
| Paper Output Capacity | | |
| Finisher D512<br>(Booklet-Stapler) | Shift Tray | 2500 Sheets |
| | Proof Tray | 250 Sheets |
| Finisher D513 (Corner Stapler) | Shift Tray | 3000 Sheets |
| | Proof Tray | 250 Sheets |
| High Capacity Stacker (D515) | Stacker | 5000 Sheets |
| | Proof Tray | 250 Sheets |
| Ring Binder (D519) | 11 Booklets (100 pages each) | |
| Multi Folding Unit (D521) | Varies with folding method | |
| Trimmer Unit (D520) | 25 Booklets (A3/DLT 20 pages each) | |
| Power Source | North America | 208V to 240V, 16A, 50/60 Hz |
| | Europe/Asia | 220 to 240V 16A, 50/60 Hz |
| Power Consumption (Max.) | Less than 4000W | |

| | |
|---|---|
| Energy Star | Compliant |
| Sleep Mode | Less than 30W |
| Memory | |
| D074/D075 | 2.5 GB (2 GB + 512 MB) |
| M044 | 1.5 GB (1 GB + 512 MB) |
| HDD | 320 GB |
| Dimensions | |
| D074/D075 | 1320 x 910 x 1230 mm (52 x 35.8 x 48.4 in.) *1 |
| M044 | 1320 x 910 x 1218 mm (52 x 35.8 x 47.9 in.) *1 |
| Weight | |
| D074/D075 | Less than 580 kg (1,276 lb.) |
| M044 | Less than 550 kg (1,210 lb.) |

*1: The rear boxes can be removed. With the controller box and cooling box removed, the main body will fit through a space (narrow door or elevator door) about 750 mm (30 in.) wide.

## 1.1.2 WEIGHT DISTRIBUTION

The main machine is heavy. Apply these numbers as reference points because the distribution of weight will differ, depending on how the machine is leveled at the four corners (a, b, c, d) in the illustration below.




| Location | Weight (kg) |
|---|---|
| a: Rear Left | 144.3 |
| b: Rear Right | 155.0 |
| c: Front Right | 134.7 |
| d: Front Left | 127.2 |

| No. | Location | Weight (kg) |
|---|---|---|
| 1 | d+c | 261.9 |
| 2 | a+b | 299.3 |
| 3 | b+c | 289.7 |
| 4 | a+d | 271.5 |
| 5 | a+b+c+d | 561.2 |

## 1.1.3 COPY SPECIFICATIONS

| | | | | |
|---|---|---|---|---|
| Original Scan Method | Horizontal flatbed, ADF | | | |
| Original Orientation | Left rear corner | | | |
| Original Size (Max.) | 12" x 17" | | | |
| Maximum Weight (Exposure Glass) | 5 kg (2.3 lb.) | | | |
| Original Scales | **Left Scale** | **EU/AP** | | **NA** |
| | | **SEF** | **LEF** | **Inch** |
| | | A3 | A4 | 11 |
| | | B4 | B5 | 10 |
| | | A4 | A5 | 8.5 |
| | | B5 | --- | 8 |
| | | A5 | --- | 5.5 |
| | **Rear Scale** | **EU/AP** | | **NA** |
| | | **SEF** | **LEF** | **Inch** |
| | | A3 | A4 | 17 |
| | | B4 | B5 | 14 |
| | | --- | --- | 11 |
| | | A4 | A5 | 10 |
| | | B5 | --- | 8.5 |
| | | A5 | --- | 8 |
| | | --- | --- | 5.5 |
| Original Type | Book, Sheet, Object | | | |
| Paper Size Detection | | | | |

| | | |
|---|---|---|
| Main | 12 x 18" SEF, A3 SEF, B4 SEF, A4 SEF/LEF, A5 SEF/LEF, DLT SEF, LT SEF/LEF, F (8 x 13")SEF, HLT SEF/LEF, B5 SEF/LEF | |
| LCIT | 12 x 18" SEF, A3 SEF, B4 SEF, A4 SEF/LEF, A5 SEF/LEF, DLT SEF, LT SEF/LEF, F (8 x 13")SEF, HLT SEF/LEF, B5 SEF/LEF | |
| Bypass (on LCIT) | 12 x 18" SEF, A3 SEF, B4 SEF, A4 SEF/LEF, A5 SEF/LEF, DLT SEF, LT SEF/LEF, F (8 x 13")SEF, HLT SEF/LEF, B5 SEF/LEF | |
| Paper Counter | 1 to 9999 Sheets | |
| Enlarge/Reduction Rates | | |
| NA | Enlarge | 1 : 1, 1.21, 1.29, 1.55, 2.00, 4.00 |
| | Reduce | 1 : 0.93, 0.85, 0.78, 0.73, 0.65, 0.50, 0.25 |
| EU/AP | Enlarge | 1 : 1, 1.15, 1.22, 1.41, 2.00, 4.00 |
| | Reduce | 1 : 0.93, 0.82, 0.75, 0.71, 0.65, 0.50, 0.25 |
| Zoom Rate | 25% to 40% (1% steps) | |

## 1.1.4 SCANNER SPECIFICATIONS (D074/D075)

### *General*

| | | |
|---|---|---|
| Scanning Method | Flatbed | |
| Scan Direction | Main Scan Surface | |
| Scan Range | Same as copy specification | |
| Gradation | 256 Levels | |
| Compatible Interfaces | Ethernet (100Bases-TX/10Base-T), USB 2.0 Type A, SD Memory Card Slot | |
| RAM | 2.5GB | |
| Magnification Range | Copy | 600 dpi 25 – 400% |
| | Scan-to-file | 100 – 600 dpi<br>600 – 1200 dpi |
| Scanning Color Modes | B/W, FC, Auto Color selectable | |
| Multiple Output | B/W | 1-bit/8-bit |
| | FC | RGB for each color (sRGB) |
| Max. Area | Main Scan | 297 mm (11.7 in.) |
| | Sub Scan | 432 mm (17 in.) |
| Drop-out Color | Supported (Selectable) | |

## *TWAIN*

| | | |
|---|---|---|
| Scan Area | Main Scan (Width) | 297 mm (11.7 in.) |
| | Sub Scan (Length) | 432 mm (17 in.) |
| Resolution | Main: 600 dpi (100 – 1200 dpi/1 dpi specified) | |
| Supported Interfaces | Ethernet (100Base-TX/10Base-T) | |
| Drivers | Network TWAIN, WIA | |
| Image Memory Area | Not provided | |
| TWAIN Compatible OS | Windows 2000, Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7 | |
| TWAIN First Read Function | Supported | |

### *Scan-to-Document*

| | | | |
|---|---|---|---|
| Scan Area | Main Scan (Width) | | 297 mm (11.7 in.) |
| | Sub Scan (Length) | | 432 mm (17 in.) |
| Resolution | 600 dpi (Base), 400, 300, 200, 150 dpi | | |
| Supported Interfaces | Ethernet (100Base-TX/10Base-T) | | |
| ADF Throughput | B/W | More than 75 sheets/min. at 200 dpi (A4 LEF with MH Compression | |
| | FC | More than 75 sheets/min. at 200 dpi (A4 LEF with JPEG compression) | |
| Performance | B/W | More than 77 sheets/min. at 200 dpi (A4 LEF with MH Compression | |
| | FC | More than 77 sheets/min. at 200 dpi (A4 LEF with JPEG compression) | |
| Mixed Original | Supported | | |
| Scan-to-PC | SMB, FTP, NCP Sending | | |
| Scan-to-Email | POP before SMTP/SMTP with Authentication, S/MIME | | |
| Distribution Addresses | 2000 (LDAP compatible) | | |
| Mail Protocol | POP, SMTP, IMAP4 | | |
| Blank Original Detection | Supported | | |

## *EFI Fiery Scanner*

| | | | |
|---|---|---|---|
| Scan Area | Main Scan (Width) | | 297 mm (11.7 in.) |
| | Sub Scan (Length) | | 432 mm (17 in.) |
| Resolution | 600 dpi | | |
| Grayscale | B/W: 1-bit/8-bit Selectable | | |
| ADF Throughput | B/W | More than 75 sheets/min. at 200 dpi (1-bit A4 LEF, MH Compression) | |
| | FC | More than 75 sheets/min. at 200 dpi (24-bit A4 LEF JPEG Compression) | |
| Interfaces | 10/100/Gigabit Ethernet | | |
| File Formats | TIFF (Multi/Single), JPEG, PDF (Multi/Single) | | |
| Scanning Adjustment | Supported | | |
| Brightness Adjustment | Supported | | |
| Original Type | Selectable | | |
| Scan Operation | From MFP operation panel | | |
| TWAIN Driver | Network TWAIN, EFI supported drivers | | |
| Supported Functions | Scan-to-EFI Controller HDD, Scan-to-Email, Scan-to-Mailbox, Scan-to-Hold Queue, Scan-to-FTP, Scan-to-PC (SMB) | | |
| Blank Original Detection | Supported | | |

## 1.1.5 LOCAL STORAGE SPECIFICATIONS

| | |
|---|---|
| Documents | Scanned Original Data, Print Data, Copy Data, Document Backup for Each Type |
| Document Handling | Paper Output (Includes Test Output, Password Output, File Merge Output), Client PC Sending |
| Interfaces | 10/100/Gigabit Ethernet |
| Storage Capacity | 15000 Pages or 3000 Documents (Copy Application Only)<br>**Note**:<br>▪ Storage capacity can be adjusted with and SP code setting to released unused areas on the HDD.<br>▪ Document size is limited to 5000 pages for the Copy application and 3000 pages for other applications. |

## 1.1.6 MAIN UNIT

### *Engine*

| | |
|---|---|
| Configuration | Console Type with Dry Toner Fusing |
| Exposure | 3-Line CCD Elements, 4 Lens Groups, Xenon Lamp and Reflection Plate, 600 dpi |
| Image Writing | Laser Raster System, 1200 x 4800 dpi, PWM, 1/48 dot |
| Drive System | |
| Drum | Traction Motor + Serration Linkage |
| Development | Gear and Belt Reduction + Tribol and Coupling Linkage |
| Drum Cleaning | Gear & Belt Reduction + Coupling Linkage |
| Image Transfer | Large Aperture Gear Reduction |
| Paper Transfer/ITB Cleaning | Reduction Gear + Coupling |
| Fusing | Reduction Gear + Coupling |
| Paper Exit | Reduction Gear + Coupling |
| Used Toner Collection | Gear and Belt Reduction + Coupling |
| Quenching Around Drums | |
| Method | 4 Drums (YCMK) |
| Quenching Method | NC Roller |
| Drum Drive | Traction Reduction Motor + Perforated Shaft |
| Drums | 60 mm dia. |
| Drum Cleaning Method | Counter-Blade |
| Assist Functions | Dry Drum Lubrication, Quenching Assist with PCL (Photoconductor Lamp) |

| | |
|---|---|
| Development | Circulating Dry Toner |
| Transfer & Separation | |
| Image Transfer | Belt Transfer System with Roller-Driven ITB |
| Paper Transfer | PTR Bias Transfer (Image from ITB to Paper) |
| Paper Separation Method | AC Charge |
| Paper Transport | Belt Assisted by Suction Fans |
| ITB Cleaning | Counter-Blade, Lubricant Brush Roller (Zinc Stearate Lubricant) |
| PTR Cleaning | Counter-Blade, Lubricant Brush Roller (Zinc Stearate Lubricant) |
| Paper Feed, Transport, Exit | |
| Feed and Separation | FRR System |
| 1st Tray | Tandem (Fixed Size) |
| 2nd Tray | Universal Tray |
| Paper Registration System | |
| Main Scan | Paper shift based on CIS readings |
| Sub Scan | Registration roller buckle adjustment with registration gate, transfer timing roller speed timing adjustment |
| Invert/Duplex | |
| Duplexing Method | Interleave |
| Cooling System | Heat Sink Roller |
| Fusing | |
| Fusing Method | Dry Belt (Oil-less) |
| Temperature Control | Non-contact Sensors, Contact Thermistors |
| Cleaning Method | Cleaning Web |

| | |
|---|---|
| Fusing Unit Configuration | Fusing/Exit Unit, Removable |
| Toner Supply | Dry Toner Pump + Sub Hopper Augur |
| Operation Panel | LCD with Touch Panel |
| Engine Control | Dual CPU |
| Process Control | Potential Sensors, ID Sensors, TD Sensors |

## 1.1.7 SYSTEM FUNCTION SPECIFICATIONS

### *Printer/Scanner*

| | |
|---|---|
| Paper Capacity Detection | |
| 1st Tray | 5-Step (including Near-End) |
| 2nd Tray | 5-Step (including Near-End) |
| LCIT Trays (1, 2, 3) | 5-Step (including Near-End) |
| Bypass (on LCIT) | 4-Step (including Near-End) |
| Limitless Paper Supply | Supported |
| Tray Overflow Detection | All Trays |
| Duplexing | |
| Paper Size | A5 SEF/HLT SEF to 13"x19.2" |
| Paper Weight | 60.0 to 256 g/$m^2$ (16 lb. Bond to 95 lb. Cover) |
| Paper Type | Normal, Recycled, Coated Paper |
| Double-Feed Detection | Provided |
| Stapling (Finisher D512/D513) | |
| Stack Thickness | 2 to 100 Sheets |
| Paper Size | B5 to A3/DLT |
| Paper Thickness | 64 to 90 g/$m^2$ (2 to 100 Sheets |

| | |
|---|---|
| Paper Type | Normal, Recycled, Coated, |
| Staple Positions (D512) | Corner Stapling: Rear, Rear Diagonal, Front<br>Flat Staples: 2 Locations<br>Booklet Staples: 2 Locations |
| Staple Positions (D513) | Corner Stapling: Rear, Rear Diagonal, Front<br>Flat Stapling: 2 Locations<br>**Note**: Finisher D513 does not support booklet stapling. |
| Staple Out Detection | Yes |
| Paper Thickness Settings ($g/m^2$) | Thick 1 52.3 to 63.0 |
| | Thick 2 63.1 to 80.0 |
| | Thick 3 80.1 to 105.0 |
| | Thick 4 105.1 to 163.0 |
| | Thick 5 163.1 to 220.0 |
| | Thick 6 220.1 to 256.0 |
| | Thick 7 256.1 to 300.0 |
| | **Note**: Only Thick 1, 4, 5 are available for the Bypass Unit (on top of the LCIT). One can be selected with a key on the Bypass Unit. |
| Paper Remaining Display | Yes |
| Original on Exposure Glass Alert | Yes |
| User Code Settings | 500 for registration (8 alphanumeric characters) |
| Energy Save | |
| Auto Energy Save Mode | Yes |
| Auto Power Save | Yes |
| Auto Off | Yes |
| Weekly Timer | Yes |

| | |
|---|---|
| Counter | Electronic Counter, Mechanical Counter |
| Anti-Condensation Heaters | ▪ Scanner Unit (Service Option)<br>▪ Transfer Unit (Switch)<br>▪ Paper Bank (Switch) |
| @Remote Function | Supported (Basil, Cumin-N, UZ-A1) |
| GW SDK | Applications Available |
| ID Chip for Parts | Toner Bottle, Fusing Unit |
| Utilities | ▪ Windsor<br>▪ Acacia<br>▪ @Remote<br>▪ Email Detection for TX/RX |

## *Copying*

| | |
|---|---|
| ACS (Auto Color Selection) | Provided |
| Full Color Mode | Yes |
| Black & White Mode | Yes |
| Single Color Mode | Main machine colors: 12 Colors + B&W<br>Registered colors: 15 (displayed in SP mode only) |
| 2-Color Mode | Black + Mono Colors<br>**Note**: Display switch with SP code. |
| ADF Originals | Mixed Sizes Allowed |
| | Thin Paper Not Allowed |
| | Allows Single/Double-Sided Originals in same Batch |
| | B/W, Color in Same Stack Allowed |
| | Blank Originals Not Detected |
| | Non-Standard Original Sizes Allowed |
| | APS Detection |
| Copy Modes (Selectable) | Text |
| | Photo |
| | Generation |
| | Pale |
| | Map |
| | Highlight Pen |
| | Inkjet Output |
| | Density |
| Enlarge/Reduction Rates | |

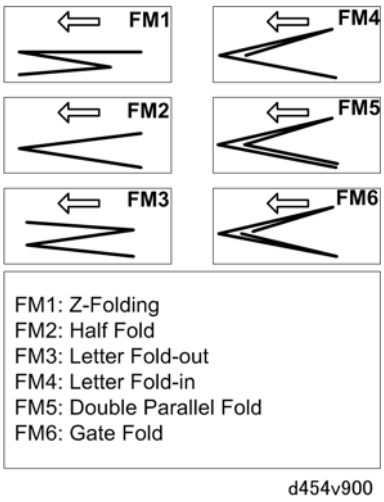
| | | |
|---|---|---|
| NA | Enlarge | 1 : 1, 1.21, 1.29, 1.55, 2.00, 4.00 |
| | Reduce | 1 : 0.93, 0.85, 0.78, 0.73, 0.65, 0.50, 0.25 |
| EU/AP | Enlarge | 1 : 1, 1.15, 1.22, 1.41, 2.00, 4.00 |
| | Reduce | 1 : 0.93, 0.82, 0.75, 0.71, 0.65, 0.50, 0.25 |
| Zoom Rate | 25% to 400% (1% Steps) | |
| Stamp | Fixed (Provided) | 8 (One Color) |
| | User Defined | 5 (One Color) |

**Finisher (D512/D513)**

| | |
|---|---|
| Paper Punch | |
| NA | 3-Hole, 2-Hole for LG (Switchable) |
| EU/AP | 2-Hole, 4-Hole for Northern Europe (Switchable) |
| Scandinavia | 4-Hole |

**Multi Folding Unit (D521)**

| Folds | |
|---|---|
| FM1: Z-Folding | 1 Sheet |
| FM2: Half Fold | 3 Sheets Allowed (64 to 80 g/m$^2$) |
| FM3: Letter Fold-out | |
| FM4: Letter Fold-in | |
| FM5: Double Parallel Fold | Only 1 sheet allowed |
| FM6: Gate Fold | |



### *Original Size Detection*

| Paper/Size | | NA | | EU/AP | |
|---|---|---|---|---|---|
| **Paper** | **Size** | **Book Mode** | **ADF** | **Book Mode** | **ADF** |
| A3 SEF | 297x420 mm | X | ○ | ○ | ○ |
| B4 SEF | 257x364 mm | X | X | ○ | ○ |
| A4 SEF | 210x297 mm | X | ○ | ○ | ○ |
| A4 LEF | 297x210 mm | X | ○ | ○ | ○ |
| B5 SEF | 182x257 mm | X | X | ○ | ○ |
| B5 LEF | 257x182 mm | X | X | ○ | ○ |
| A5 SEF | 148x210 mm | X | X | △ | ○ |
| A5 LEF | 210x148 mm | X | X | X | ○ |
| B6 SEF | 128x182 mm | X | X | X | ○ |
| B6 LEF | 182x128 mm | X | X | X | ○ |
| DLT SEF | 11"x17" | ○ | ○① | X | ○⑤ |
| LG SEF | 8.5"x14" | ○ | ○② | X | X |
| LT SEF | 8.5"x11" | ○ | ○③ | X | ○⑥ |
| LT LEF | 11"x8.5" | ○ | ○④ | X | ○⑦ |
| HLT SEF | 5.5"x8.5" | X | ○ | X | X |
| HLT LEF | 8.5"x5.5" | X | ○ | X | X |
| F SEF | 8"x13" | X | X | ▲ | ▲ |
| Foolscap SEF | 8.5"x13" | X | ●② | ▲ | ▲ |
| Folio SEF | 8.25"x13" | X | X | ▲ | ▲ |
| Folio SEF | 11"x15" | X | ●① | X | X |

| Paper/Size | | NA | | EU/AP | |
|---|---|---|---|---|---|
| **Paper** | **Size** | **Book Mode** | **ADF** | **Book Mode** | **ADF** |
| Folio SEF | 10"x14" | X | ○ | X | X |
| Folio SEF | 10"x8" | X | ●③ | X | X |
| 8-Kai SEF | 267x390 mm | X | X | ○ | ●⑤ |
| 16-Kai SEF | 195x267 mm | X | X | ○ | ●⑥ |
| 16-Kai LEF | 267x195 mm | X | X | ○ | ●⑦ |
| US EXE SEF | 7.25"x10.5" | X | ○ | X | X |
| US EXE LEF | 10.5"x7.25W | X | ●④ | X | X |

**Key**

| | |
|---|---|
| ○ and ● | Sizes can be switched between the two settings where you see matching numbers. The default is ○. |
| ▲ | Detected as one size: F SEF 8"x13". |
| △ | For sizes smaller than B5, one of two SP values for SP4303 can be selected: "A5" and "Unknown Document Size". Default: "Unknown Document Size" |
| X | Size cannot be detected. |

**Size Detection Switching with SP4303**

| | |
|---|---|
| 4303 | Min Size for APS |
| | Sets the minimum size of the original that the will be detected by APS (Auto Paper Select – with original width sensors) of the exposure glass of the flatbed scanner.<br>[0 to 2/1]<br>[*0: Unknown Document Size]<br>[1 A5-Lengthwise (HLT Lengthwise]<br>[2 A5 Sideways HLT Sideways] |

**Size Detection Switching with SP4305**

**Note**: For Europe, Asia, and Oceania, original size detection in book mode the "A B" system and SP mode setting are used for the "Kai" sizes.

| | |
|---|---|
| 8-Kai SEF | Switch to A3, B4 SEF |
| 16-Kai SEF | Switch to A4, A5, B5 SEF |
| 16-Kai LEF | Switch to A4, A5, B5 LEF (However, no switching for individual sizes) |

| | |
|---|---|
| 4305 | 8K/16K Detection |
| | This SP enables the machine to recognize 8K/16K size paper automatically.<br>[*0: Normal]<br>[1: A4-Sideways LT-Lengthways]<br>[2: A4-Lengthwise LT-Sideways]<br>[3: 8KAI, 16 KAI]<br>▪ A3, B4: 8-Kai SEF<br>▪ A4, B4, A5 SEF: 16-Kai SEF<br>▪ A4, B4, A5 LEF: 16-Kai LEF |

### *GW Controller*

| | | |
|---|---|---|
| CPU Device | LV Dothan Pentium M 1.4 GHz | |
| Chip Set | GMCH, ICH6-M | |
| ASIC | Veena, Whistle | |
| Main Memory | | |
| | Capacity | 2.5 GB |
| | Configuration | 2 GB DIMM + 0.5 GB DIMM |
| BIOS ROM | 1 MB | |
| NAND Flash Memory | 128 MB | |
| EEPROM | 1 KB | |
| NVRAM | 512 KB | |
| TPM | Trusted Platform Mode | |
| RTC | Real Time Clock | |
| SD Card I/F | SD Card Slots 1, 2 | |
| HDD I/F | SATA I/F Connectors x2<br>HDD Power Connector x1 | |
| Network | RJ45 I/F Connector x1, 10Base-T/100Base-TX | |

## 1.1.8 ARDF

| | |
|---|---|
| Original Size | Simplex: A3/11" x 17" – B6/5.5" x 8.5"<br>Duplex: A3/11" x 17" – B5/5.5" x 8.5" |
| Original Weight | Simplex: 40 to 128 g/$m^2$ (11 to 34 lb.)<br>Duplex: 52 to 128 g/$m^2$ (14 to 34 lb.) |
| ⇒ Table Capacity (A4 SEF, LT SEF) | 100 sheets 80gsm or less than 12mm |
| Speed | 426.5 mm/s |
| Original Standard Position | Rear left corner |
| Separation | Feed belt and separation roller |
| Original Transport | Roller transport |
| Original Feed Order | From top original |
| Reproduction Range | 66 to 400% |
| Power Source | DC 24 V from the main machine |
| Power Consumption | Less than 65 W |
| Rated Voltage of Output Connector | Max. DC 24 V |
| Permissible voltage fluctuation | ±10% |
| Dimensions (w x d x h) | 680 x 565 x 180 mm (26.8" x 22.3" x 7.1") |
| Weight | 19.5 kg (43.0 lb.) |

## 1.1.9 MAIN MACHINE OPTIONS

### *A3/DLT Tray Kit B331 (Option)*

| | |
|---|---|
| Paper Size | A3 SEF, B4 SEF, 11"x17" SEF, 8½"x14" SEF, A4 SEF, A4 LEF, 8½"x11" SEF, 11"x8½" LEF, 305 mm x 439 mm |
| Paper Weight | 52.3 to 300 g/$m^2$ |
| Tray Capacity | 1,000 sheets |
| Paper Level Detection | 5-Step: 100%, 75%, 50%, 25%, End |

# 1.2 PERIPHERAL SPECIFICATIONS

## 1.2.1 LCIT RT5060 (D516)

| | | |
|---|---|---|
| Operating Environment | Ranges of temperature and humidity: Same as main machine. | |
| Service Life | Expected: 5 Years or 55,000K sheets | |
| Speed | Paper Feed | 550 mm/s |
| | Standard | 352.8 mm/s |
| | 70% | 246.96 mm/s |
| | 50% | 176.4 mm/s |
| Paper Feed System: | Tray 3, 4, 5 | FRR-CF |
| Air Assist | Air assist fans for separation, all trays | |
| Tray Capacity: | Tray 3, 5 | 1,000 sheets (Thickness: 0.11 mm) |
| | Tray 4 | 2,000 sheets (Thickness: 0.11 mm) |
| Paper Level Detection: | Tray 3, 5 | 5 Step: 900, 625, 375, 75, tray end |
| | Tray 4 | 5 Step: 1750, 1250, 750, 75, tray end |
| | Accuracy | ±30 sheets (Tray 3, 4, 5) |
| Bypass Tray (Option) | The Multi-Bypass Tray (B833) can be installed on this LCIT (D516). | |
| Paper Weight | Tray 3 | 52.3 to 256 g/m$^{2*}$ |
| ⇒ | Tray 4 | 52.3 to 300 g/m$^{2*}$ |
| | Tray 5 | 52.3 to 256 g/m$^{2*}$ |

⇒ * For Gloss and Matte paper stocks, basis weight of more than 80gsm is required. Gloss and Matte paper stocks of 80gsm or lighter are not supported.

<table>
<tr><td>Paper Size</td><td>Tray 3,4,5</td><td colspan="4">A5 (LEF) HLT (LEF) to 13 x 19.2 in.</td></tr>
<tr><td></td><td>Range</td><td>Length</td><td colspan="3">139.7 to 487.7 mm</td></tr>
<tr><td></td><td></td><td>Width</td><td colspan="3">100 to 330.2 mm</td></tr>
<tr><td>Paper Size Switching</td><td colspan="5">Side fence, end fence adjustment.</td></tr>
<tr><td>Paper Size Detection</td><td colspan="5">Automatic</td></tr>
<tr><td>Heater (Option)</td><td colspan="5">Anti-condensation heaters: 36W (18W x 2)</td></tr>
<tr><td>Size (w x d x h)</td><td colspan="5">865 x 730 x 1218mm (34 x 29 x 48 in.)</td></tr>
<tr><td>Level</td><td colspan="5">Less than 5 mm deviation at front/back, left/right</td></tr>
<tr><td>Weight</td><td colspan="5">Less than 180 kg (396 lb.)</td></tr>
<tr><td>Power Source</td><td colspan="5">DC 24 V ±10% (from main machine)<br>AC 200V to 240V (from main machine)</td></tr>
<tr><td>Power Consumption:</td><td colspan="5">Less than 150 W</td></tr>
<tr><td>I/F Connection</td><td colspan="5">Serial connection to main frame</td></tr>
<tr><td rowspan="2">Tab Sheet</td><td colspan="5">Feed possible from all Tray. Requires installation of tab sheet fence.</td></tr>
<tr><td colspan="5">Note: Only A4 LEF, 8½" x 11" LEF tab sheets can be fed.</td></tr>
<tr><td>Option</td><td colspan="5">The Multi-Bypass Tray (D517)</td></tr>
<tr><td rowspan="4">Noise Level</td><td rowspan="2">Mode</td><td rowspan="2">Stand-alone</td><td colspan="3">System</td></tr>
<tr><td>A</td><td>B</td><td>C</td></tr>
<tr><td>Operation</td><td>< 73 dB</td><td>< 78 dB</td><td>< 80 dB</td><td>< 83 dB</td></tr>
<tr><td>Standby</td><td></td><td>< 64 dB</td><td>< 70 dB</td><td>< 78 dB</td></tr>
</table>

## 1.2.2 MULTI-BYPASS TRAY BY5010 (D517)

This option is installed on top of the LCIT (D516).

| | | | |
|---|---|---|---|
| Operating Environment | Temperature and humidity ranges: Same as main machine. | | |
| Service Life | Expected: 5 Years or 60,000K sheets | | |
| Speed | Paper Feed | | 550 mm/s |
| | Standard | | 352.8 mm/s |
| | 70% | | 246.96 mm/s |
| | 50% | | 176.4 mm/s |
| Paper Feed System | FRR-CF | | |
| Tray Capacity | 500 sheets (Paper thickness: 0.11 mm) | | |
| Paper Weight | 52.3 to 216 g/m$^2$ | | |
| Paper Size | A5 (LEF) HLT (LEF) to 13 x 19.2 in. | | |
| | Range | Length | 139.7 to 630 mm |
| | | Width | 100 to 330.2 mm |
| Paper Size Switching | Operator adjustable side fences accommodate different paper sizes | | |
| Paper Size Detection | Automatic (standard sizes only) | | |
| Heater | None | | |
| Paper Level Detection | 4-Step: 500, 250, 50, paper end | | |
| | Accuracy | | ±50 sheets |
| Weight | Less than 18 kg (39.6 lb) | | |
| Power Source | 24V±10 DC (from main machine) | | |
| Power Consumption | Less than 50 W | | |
| Size (w x d x h) | 685 x 561 x 209 mm (27 x 22 x 8.2 in.) | | |

| | | | | | |
|---|---|---|---|---|---|
| Tab Sheets | A4 LEF, 8½" x 11" LEF (requires attachment of tab fence) | | | | |
| Noise Level | Mode | Alone | System | | |
| | | | A | B | C |
| | Operation | < 73 dB | < 78 dB | < 80 dB | < 83 dB |
| | Standby | | < 64 dB | < 70 dB | < 78 dB |

## 1.2.3 DECURLER UNIT DU5000 UNIT (D544)

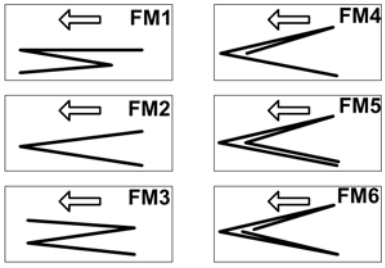
### *General*

| | |
|---|---|
| Curl Correction | Front curl, back curl (switching possible) |
| Speed | 160 to 380 mm/s |
| Operating Environment | Temperature and humidity ranges: Same as main machine. |
| Service Life | Expected: 5 Years or 60,000K sheets |
| Paper Weight | 52.0 g/$m^2$ to 300g/$m^2$ |
| Paper Size | 100 x 139.7 to 330.2 x 630 mm |
| Paper Types | Normal (includes color paper), recycled paper, cloth paper, matte paper, letterhead, coarse paper, tab sheets, labels, envelopes, film, OHP, trace paper, punched paper |
| Power Supply | Main machine |
| Power Consumption | Less than 30 W |
| Size (w x d x h) | 54.5 x 482.7 x 188.7 mm (2 x 19 x 7.5 in.) |
| Weight | 4.8 kg (10.5 lb.) |

## 1.2.4 MULTI-FOLDING UNIT FD5010 (D521)

### *General*

| | | |
|---|---|---|
| Operating Environment | Temperature and humidity ranges: Same as main machine. | |
| Service Life | Expected: 5 years or 60,000 K (A4 LEF) | |
| Paper Weight | 40 to 300 g/m$^2$ | |
| Speed | Straight-Through | 100 to 700 mm/s |
| | Folding | 169 to 700 mm/s |
| Straight-Through Feed | Size | Postcard to 13x19.2" |
| | Type | Used paper: A3, A4, B4, B5<br>OHP: A4, B5<br>Tap paper: A4 LEF, LT LEF |
| Folding Methods | 6 methods (FM1 to FM6) | |




FM1: Z-Folding
FM2: Half Fold
FM3: Letter Fold-out
FM4: Letter Fold-in
FM5: Double Parallel Fold
FM6: Gate Fold

d454v900

| | | |
|---|---|---|
| Paper Sizes (Straight Through) | --- | Postcard to 13 x 19.2 in. |
| Paper Sizes & Weight (Folding) | FM1 | A3, B4, DLT, LG, A4, LT, 12x18", 8-kai |
| | FM2 | A3, B4, DLT, LG, A4, B5, LT 12x18", 12.6x18.5", 12.6x19.2", 13x18", 13x19", 13x19.2", 226x310 mm, 310x432 mm, SRA3, SRA4, 8-kai **(64 to 105 g/m$^2$)** |
| | FM3 | A3, B4, DLT, LG, A4, LT, B5, 12x18", 8-kai **(64 to 80 g/m$^2$)** |
| | FM4 | |
| | FM5 | |
| | FM6 | |
| Multiple Folding | FM1 | Not allowed |
| | FM2 | Max. 3 (64 to 80 g/m$^2$ only) |
| | FM3 | Max. 3 (64 to 80 g/m$^2$ only) |
| | FM4 | Max. 3 (64 to 80 g/m$^2$ , B4, A4, LT, B5 only) |
| | FM5 | Not allowed |
| | FM6 | |

| Line Speed (Only FM1 Z-Folded paper can exit downstream) | |
|---|---|
| No Fold | 350 mm/sec. to top tray<br>To downstream: Same as main machine. |
| FM1 | 700 mm/sec. to top tray (paper < 355.6 mm long)<br>450 mm/sec. to top tray (paper < 355.6 mm long)<br>To downstream: Same as main machine. |

| | |
|---|---|
| FM2 | 1 Sheet: Same as main machine<br>2-3 Sheets: 454 mm/sec.<br>700 mm/sec. to top tray (paper <355.6 mm long)<br>350 mm/sec. to top tray (paper < 279.4 <355.6 mm long)<br>250 mm/sec. to top tray (paper < 279.4 mm long) |
| FM3<br>FM4 | 1 Sheet: Same as main machine<br>2-3 Sheets: 454 mm/sec. to top tray<br>350 mm/sec. to top tray (paper < 420 mm long)<br>250 mm/sec. to top tray (paper < 420 mm long) |
| FM5 | 1 Sheet: Same as main machine<br>350 mm/sec. to top tray (paper < 420 mm long)<br>250 mm/sec. to top tray (paper < 420 mm long) |
| FM6 | 1 Sheet: Same as main machine as far as 3rd Stopper. At 3rd stopper feeds 50 mm at 100 mm/sec.<br>350 mm/sec. to top tray (paper < 420 mm long)<br>250 mm/sec. to top tray (paper < 420 mm long) |

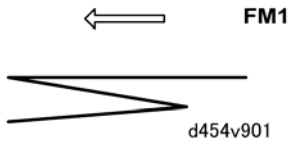
| | | | |
|---|---|---|---|
| Power Supply | NA | AC 120V 60 Hz, 2.0A | |
| | EU | AC 220 to 240V, 50/60 Hz 1.2A | |
| Power Consumption | 270 W | | |
| Size (w x d x h) | 470 x 1000 x 730 mm (18.5 x 39.4 x 28.7 in.) | | |
| Level | Less than 5 mm deviation at front/back, left/right | | |
| Weight | 92 kg (203 lb) | | |
| Noise Level (dB A) | Mode | Alone | System |
| | No Folding | < 72 dB | --- |
| | Folding | < 72 dB | < 76 dB |

## *Tray Capacity*

The capacity of the tray on top of the unit for folded paper is determined by these variables:

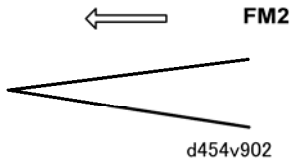
- Folding Methods (FM1 to FM6)
- Paper size
- Paper weight

**Folding Mode FM1**



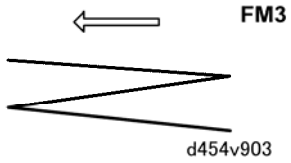

| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 8-kai | 35 | 20 |
| 12x18" | 35 | 20 |
| A3 SEF | 35 | 20 |
| DLT | 35 | 20 |
| B4 SEF | 35 | 20 |
| LG SEF | 35 | 20 |
| A4 SEF | 30 | 20 |
| LT SEF | 30 | 20 |

**Folding Mode FM2**



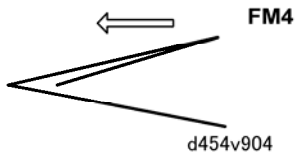

| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 13x19.2" | 40 | 25 |
| 13x19" | 40 | 25 |
| 12.6x19.2" | 40 | 25 |
| 12.6x18.5" | 40 | 25 |
| 13x18" | 40 | 25 |
| SRA3 (320x450 mm) | 40 | 25 |
| SRA4 (225x320 mm) | 40 | 25 |
| 226x310 mm | 40 | 25 |
| 310x432 mm | 40 | 25 |
| 8-kai | 40 | 25 |
| 12x18" | 40 | 25 |
| A3 SEF | 40 | 25 |
| DLT | 40 | 25 |
| B4 SEF | 40 | 25 |
| LG SEF | 40 | 25 |
| A4 SEF | 50 | 50 |
| LT SEF | 50 | 50 |
| B5 SEF | 50 | 50 |

**Folding Mode FM3**




| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 8-kai | 30 | 20 |
| 12x18" | 30 | 20 |
| A3 SEF | 30 | 20 |
| DLT | 30 | 20 |
| B4 SEF | 30 | 20 |
| LG SEF | 30 | 20 |
| A4 SEF | 40 | 30 |
| LT SEF | 40 | 30 |
| B5 SEF | 40 | 30 |

**Folding Mode FM4**




| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 8-kai | 40 | 20 |
| 12x18" | 40 | 20 |
| A3 SEF | 40 | 20 |
| DLT | 40 | 20 |
| B4 SEF | 40 | 20 |
| LG SEF | 40 | 20 |
| A4 SEF | 50 | 40 |
| LT SEF | 50 | 40 |
| B5 SEF | 50 | 40 |

**Folding Mode FM5**

| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 8-kai | 30 | 20 |
| 12x18" | 30 | 20 |
| A3 SEF | 30 | 20 |
| DLT | 30 | 20 |
| B4 SEF | 30 | 20 |
| LG SEF | 30 | 20 |
| A4 SEF | 30 | 30 |
| LT SEF | 30 | 30 |
| B5 SEF | 30 | 30 |

**Folding Mode FM6**

| Size | Weight (Standard) 64 to 80 g/m$^2$ | Weight (Heavy) 64 to 80 g/m$^2$ |
|---|---|---|
| 8-kai | 50 | 20 |
| 12x18" | 50 | 20 |
| A3 SEF | 50 | 20 |
| DLT | 50 | 20 |
| B4 SEF | 50 | 20 |
| LG SEF | 50 | 20 |
| A4 SEF | 30 | 30 |
| LT SEF | 30 | 30 |
| B5 SEF | 30 | 30 |

## 1.2.5 BOOKLET FINISHER SR5040/5030 (D512/D513)

### *General*

| | | | | |
|---|---|---|---|---|
| Operating Environment | Temperature and humidity ranges: Same as main machine. | | | |
| Service Life | Expected: Five years or 60,000K | | | |
| Size (w x h x d) | 996 x 730 x 1125 mm (39.2 x 28.7 x 44.3 in.) | | | |
| Weight | Finisher D512 (Booklet Stapling) | | | 130 kg (286 ib.) |
| | Finisher D513 (Corner Stapling Only) | | | 112 kg (246.4 lb.) |
| Power Supply | NA | AC 120V 50/60 Hz, 2.5A | | |
| | EU | AC 220 to 240V, 50/60 Hz 1.2A | | |
| Power Consumption | 250 W | | | |
| Level | Less than 5 mm deviation at front/back, left/right | | | |
| Noise Level (dB A) | Mode | | Alone | System |
| | Shift | | < 76 dB | --- |
| | Staple | | < 78 dB | < 83 dB |

### *Shift Tray*

| | | | |
|---|---|---|---|
| Capacity | Unfolded Paper | 3000 | D513: A4 LEF, B5 LEF, LT LEF |
| | | 2500 | D512: A4 LEF, B5 LEF, LT LEF |
| | | 1500 | A3, A4 SEF, B4, B5 SEF, LT, LG, LT SEF, SRA4, 226x310 mm |
| | | 1000 | 12x18", SRA3, 13x18", 12.6x1.5", 12.6x19.2", 13x19", 13x19.2", 310x432 mm |
| | | 500 | A5 LEF, HLT LEF |
| | | 100 | A5 SEF, HLT SEF |
| | Z-Folded Paper | 30 | |
| Paper Size | Unfolded Paper | A5 to 13x19.2" | |
| | Z-Folded Paper | A3, B4, A4 SEF, DLT, LG LT SEF, 12x18", 8-kai | |
| Paper Weight | Unfolded Paper | 40 to 300 g/m$^2$ | |
| | Z-Folded Paper | 64 to 105 g/m$^2$ | |

### *Proof Tray*

| | | | |
|---|---|---|---|
| Capacity | Unfolded Paper | 250 | A4, LT or smaller |
| | | 50 | B4, LG or larger |
| | Z-Folded Paper | 20 | A4, LT or smaller |
| | | 30 | B4, LG or larger |
| Paper Size | Unfolded Paper | A6 SEF to 13x19.2", Postcard SEF | |
| | Z-Folded Paper | A3, B4, A4 SEF, DLT, LG, LT SEF, 12x18", 8-kai | |
| Paper Weight | Unfolded Paper | 52 to 216 g/m$^2$ | |
| | Z-Folded Paper | 64 to 105 g/m$^2$ | |

### *Corner Stapling*

| | | | |
|---|---|---|---|
| Stack Size (80 g/m$^2$) | Unfolded Paper | 2 to 100 | A4, B5, LT (80g/m$^2$) |
| | | 2 to 50 | A3, B4, DLT, LG |
| | Z-Folded Paper | 10 | |
| | | **Combined Stack** | |
| | | **Z-Folded** | **Unfolded** |
| | | 1 | 1 to 90 |
| | | 2 | 0 to 80 |
| | | 3 | 0 to 70 |
| | | 4 | 0 to 60 |
| | | 5 | 0 to 50 |
| | | 6 | 0 to 40 |

| | | | |
|---|---|---|---|
| | | 7 | 0 to 30 |
| | | 8 | 0 to 20 |
| | | 9 | 0 to 10 |
| | | 10 | 0 |
| Paper Size | Unfolded Paper | B5 to A3, DLT to LT | |
| | Z-Folded Paper | A3, B4, DLT | |
| Paper Weight | Unfolded Paper | 64 to 80 g/m$^2$ | |
| | Z-Folded Paper | 64 to 105 g/m$^2$ | |
| Stapling Positions | 1 Staple: Rear, Rear diagonal, or Front<br>2 Staples: Front/Rear | | |
| Staple Supply | Cartridge with 5000-staple capacity | | |
| Tray Capacity After Stapling | | | |

| | **Pages** | **Stacks** | **Size** |
|---|---|---|---|
| No Folding | 20 to 100 | 125 to 25***1** | A4 LEF, B5 LEF, LT LEF |
| | 20 to 100 | 50 to 30***2** | |
| | 10 to 19 | 200 to 105 | |
| | 2 to 9 | 150 | |
| | 10 to 100 | 150 to 15 | A4 SEF, B5 SEF, LT SEF |
| | 2 to 9 | 150 | |
| | 10 to 50 | 150 to 30 | A3, B4, DLT, LG |
| | 2 to 9 | 150 | |

***1**: D512

***2**: D513

| | | | |
|---|---|---|---|
| No Folding, Mixed Sizes | **Pages** | **Stacks** | **Size** |
| | 2 to 50 | 30 | A3/A4 LEF<br>B4/B5 LEF<br>DLT/LT LEF<br>8-Kai/16-Kai |
| Z-Folded, Mixed with Unfolded | **Pages** | **Stacks** | **Size** |
| | 1 to 10 | 30 to 3 | A3 Z-fold/A4<br>B4 Z-fold/B5<br>DLT Z-fold/LT<br>8-Kai/16-Kai |
| Staple Trimming | Hopper Capacity | | 15,000 staples |
| | Hopper Full Alert | | Photo-sensor |
| | Trimming Disposal | | Alert, operator |

## *Booklet Stapling*

| | | | |
|---|---|---|---|
| ⇒ Stack Size | 20 | 64 to 80 g/m$^2$ **See Note 1** | |
| | 15 | 80 to 90 g/m$^2$ **See Note 1** | |
| Paper Size | 13x19.2", 13x19", 12.6x19.2", 12.6x18.5", 13x18", SRA3 (320x450 mm), 12x18", A3, B4, SRA4 (320 x 225 mm), 226x310 mm, 310 x 432 mm, A4, B5, DLT, LG, LT | | |
| Paper Weight | 64 to 90 g/m$^2$ | | |
| Stapling Positions | 2 staples, 2 fixed locations | | |
| Staple Supply | 2 cartridges, 5000 staples each | | |
| Tray Capacity After Stapling | **Pages** | **Stacks** | **Size** |
| | 2 to 5 | 30 | All sizes |
| | 6 to 10 | 15 | |
| | 11 to 15 | 10 | |
| | 16 to 20 | 5 | |

⇒ **Note 1:**

One sheet of 163gsm paper can be used as a cover for a booklet. This cover is counted as 3 sheets of signature for the booklet.

**Example**

Booklets can be created as follows:

- One sheet of 163gsm paper for cover and 17 sheets of 80gsm paper for signature.
  In this case, the 163gsm cover is counted as 3 sheets of 80gsm paper.
- One sheet of 163gsm paper for cover and 12 sheets of 90gsm paper for signature.
  In this case, the 163gsm cover is counted as 3 sheets of 90gsm paper.

**Note**

Although the software does not strictly limit the behavior of the booklet finisher within its specifications, quality of the booklets created beyond specifications will not be guaranteed. Customers shall be responsible for creation of such booklets.

### *Punch Unit PU5000 (D449) (Option)*

This punch unit is not pre-installed in the finisher. The punch unit must be installed.

<table>
<tr><td>Punching</td><td colspan="2">NA</td><td>2/3 hole selectable</td></tr>
<tr><td></td><td colspan="2">EU/AP</td><td>2/4 hole selectable</td></tr>
<tr><td></td><td colspan="2">Scandinavia</td><td>4 hole</td></tr>
<tr><td>Skew Correction</td><td colspan="3">Yes</td></tr>
<tr><td>Paper Registration</td><td colspan="3">Yes</td></tr>
<tr><td rowspan="11">Paper Size</td><td>Holes</td><td>Edge</td><td>Size</td></tr>
<tr><td rowspan="2">2 Holes</td><td>SEF</td><td>A6 to A3, HLT to DLT</td></tr>
<tr><td>LEF</td><td>A5 to A4, HLT to LT</td></tr>
<tr><td rowspan="2">NA 2 Holes</td><td>SEF</td><td>A6 to A3, HLT to DLT</td></tr>
<tr><td>LEF</td><td>A5 to A4, HLT to LT</td></tr>
<tr><td rowspan="2">3 Holes</td><td>SEF</td><td>A3, B4, DLT</td></tr>
<tr><td>LEF</td><td>A4, B5, LT</td></tr>
<tr><td rowspan="2">EU 4 Holes</td><td>SEF</td><td>A3, B4, DLT</td></tr>
<tr><td>LEF</td><td>A4, B5, LT</td></tr>
<tr><td rowspan="2">Scn 4 Holes</td><td>SEF</td><td>B6 to A3, HLT to DLT</td></tr>
<tr><td>LEF</td><td>A5 to A4, HLT to LT</td></tr>
<tr><td rowspan="6">Paper Weight</td><td>Holes</td><td colspan="2">Weight</td></tr>
<tr><td>2 Holes</td><td colspan="2" rowspan="3">52 to 209 g/m$^2$</td></tr>
<tr><td>NA 2 Holes</td></tr>
<tr><td>3 Holes</td></tr>
<tr><td>EU 4 Holes</td><td colspan="2" rowspan="2">52 to 209 g/m$^2$</td></tr>
<tr><td>Scn 4 Holes</td></tr>
</table>

# APPENDIX:
# SERVICE PROGRAM MODE TABLES

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| 1 | 10/14/2011 | SP1002-003 not used |
| 9 | 10/14/2011 | SP1020-003 not used |
| 10 | 5/25/2012 | SP 1022-002 Default |
| 39 | 10/14/2011 | SP1945-013 0 DEFAULT |
| 39 ~ 42 | 12/23/2011 | Added SP1945-16, 17 and 18 |
| 98 ~ 99 | 10/14/2011 | SP2823-007 & SP2824-007 not used |
| 152 | 10/16/2012 | SP3-820-022 Important note |
| 293 ~ 294 | 8/1/2012 | SP5977-001 Custom Size : Booklet Stapling |

# 2. APPENDIX: SERVICE PROGRAM MODE TABLES



## 2.1 GROUP 1000

| 1001 | Lead Edge Reg | | |
|---|---|---|---|
| | Adjusts the printing leading edge registration using the trimming area pattern SP2109-3 (Pattern No. 14) | | |
| | **Setting** | **Weight** | **Default** |
| 1 | Thick 1 | 52.3 - 63.0 g/m$^2$ | [-3 to 3/0/0.1 mm] |
| 2 | Thick 2 | 63.1 - 80.0 g/m$^2$ | |
| 3 | Thick 3 | 80.1 - 105.0 g/m$^2$ | |
| 4 | Thick 4 | 105.1 - 163.0 g/m$^2$ | |
| 5 | Thick 5 | 163.1 - 220.0 g/m$^2$ | |
| 6 | Thick 6 | 220.1 - 256.0 g/m$^2$ | |
| 7 | Thick 7 | 256.1 - 300.0 g/m$^2$ | |

| 1002 | Fine Adj LEdge | | |
|---|---|---|---|
| | Fine adjusts leading edge registration for thick paper trace paper and thick paper (Thick 2, Thick 3) | | |
| | **Setting** | **Weight** | **Default** |
| 1 | Trace | --- | [-9 to 0/0/0.1 mm] |
| 2 | Thick 2 | 63.1 - 80.0 g/m$^2$ | |
| ⇒ | Not used | | |

| 1003 | Side-to-Side Reg | |
|---|---|---|
| | Adjusts printing side-to-side registration for each feed station, using the test pattern printed with SP2109-3 (Pattern No. 14) These SP's should be adjusted after replacing the laser synchronization detector or the laser optical unit. | |
| 1 | Tray1 | [-3 to +3/0/0.1 mm] |
| 2 | Tray2 | |
| 3 | Dupx Tray | |
| 4 | A3LCT Tray3 | |
| 5 | A3LCT Tray4 | |
| 6 | A3LCT Tray5 | |
| 7 | Bypass Tray | |

| 1004 | Reg Buckle Adj | |
|---|---|---|
| | Adjusts the registration motor timing. This timing determines the amount of paper buckle at registration. (A higher setting causes more buckling.) | |
| 1 | Tray1 & Tray2 | [-5to+5/0/1 mm] |
| 2 | Dupx Tray | |
| 3 | A3LCT & Bypass Tray | |

| 1005 | Reg Buckle Adj(Thick) | | |
|---|---|---|---|
| | Adjusts the registration motor timing for thick paper only. This timing determines the amount of paper buckle at registration. (A higher setting causes more buckling.) | | |
| | **Setting** | **Weight** | **Default** |
| 1 | Thick 5 | 163.1 - 220.0 g/m$^2$ | [-5 to +5/1/1 mm] |
| 2 | Thick 6 | 220.1 - 256.0 g/m$^2$ | |
| 3 | Thick 7 | 256.1 - 300.0 g/m$^2$ | |

| | | | |
|---|---|---|---|
| 1006 | Fine Adj Transfer Tmg Roller Spd | | |
| | Fine adjusts the speed of the transfer timing roller for the paper type and weight. The transfer timing roller drives the transfer timing rollers that feed paper from the registration unit to the PTR unit.<br>▪ If the paper is late, the machine speeds the rollers up.<br>▪ If the paper is early, the machine slows the rollers down. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 1 to 7 | Plain: Weight 1 to 7 | | [-3 to +3/*/0.1%] |
| 8 to 13 | Matte: Weight 2 to 7 | | The default settings (*) are displayed to the right of "Initial" on the screen. |
| 14 to 19 | Glossy: Weight 2 to 7 | | |
| 20 to 22 | Envelope: Weight 5 to 7 | | |
| 23 | OHP | | |

| | | | |
|---|---|---|---|
| 1007 | Fine Adj Invert Ent Roller Spd | | |
| | Changes the speed of the exit relay motor to adjust the speed of the invert entrance rollers. The invert entrance rollers are the first rollers in the paper path below the exit junction where paper is fed into the vertical path in the left drawer for inverting and duplexing. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 1 to 7 | Plain: Weight 1 to 7 | | [-3 to +3/*/0.1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |
| 8 to 13 | Matte: Weight 2 to 7 | | |
| 14 to 19 | Glossy: Weight 2 to 7 | | |

| | | | |
|---|---|---|---|
| 1008 | Fine Adj Exit/Invert Roll Spd | | |
| | Changes the speed of the invert/exit motor to adjust the speed of the first pair of invert exit rollers. The invert exit rollers are the first rollers in the vertical paper path above the invert junction gate on the far side of the left drawer where paper starts to exit the machine. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 1 to 7 | Plain: Weight 1 to 7 | | [-3 to +3/*/0.1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |
| 8 to 13 | Matte: Weight 2 to 7 | | |
| 14 to 19 | Glossy: Weight 2 to 7 | | |

| | | | |
|---|---|---|---|
| 1009 | Fine Adj Duplex/Invert Roll Spd | | |
| | Changes the speed of the duplex/invert motor to adjust the speed of the duplex invert rollers. The duplex invert rollers feed the paper up into the first set of rollers in the duplex tray. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 1 to 7 | Plain:Weight 1 to 7 | | [-3 to +3/*/0.1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |
| 8 to 13 | Matte:Weight 2 to 7 | | |
| 14 to 19 | Glossy:Weight 2 7 | | |

| 1010 | Fine Adj Mtr Speed: High | |
|---|---|---|
| | Fine adjusts the speed of the motors for high speed mode (352.8 mm/s). | |
| 1 to 4 | K, C, M, Y Drum Motor | [-3 to +3/0/0.1%] |
| 5 to 8 | K, C, M, Y Dev Motor | |
| 9 to 012 | K, C, M, Y Drum CL(leaning) Mtr | |
| 13 | ITB Motor | |
| 15 | PTR Motor | [-5 to +5/0/0.1%] |
| 29 | Fusing Motor | |
| 43 | Paper Ejection Motor | |
| 56 | Paper Feed Motor | [-5 to +5/0.5/0.1%] |

| 1011 | Fine Adj Mtr Speed: Middle | |
|---|---|---|
| | Fine adjusts the speed of the motors for middle speed mode (246.96 mm/s). | |
| 1 to 4 | K, C, M, Y Drum Motor | [-3 to +3/0/0.1%] |
| 5 to 8 | K, C, M, Y Dev Motor | |
| 9 to 012 | K, C, M, Y Drum CL(leaning) | |
| 13 | ITB Motor | |
| 15 | PTR Motor | [-5 to +5/0/0.1%] |
| 29 | Fusing Motor | |
| 43 | Paper Ejection Motor | |
| 56 | Paper Feed Motor | [-5 to +5/0.5/0.1%] |

| | | |
|---|---|---|
| 1012 | Fine Adj Mtr Speed: Low | |
| | Fine adjusts the speed of the motors for low speed mode (246.96 mm/s). | |
| 1 to 4 | K, C, M, Y Drum Motor | [-3 to +3/0.2/0.1%] |
| 5 to 8 | K, C, M, Y Dev Motor | |
| 9 to 012 | K, C, M, Y Drum CL Mtr | |
| 13 | ITB Motor | |
| 15 | PTR Motor | [-5 to +5/0/0.1%] |
| 29 | Fusing Motor | |
| 43 | Paper Ejection Motor | |
| 56 | Paper Feed Motor | [-5 to +5/0.5/0.1%] |

| | | | |
|---|---|---|---|
| 1013 | Fine Adj Exit Motor Speed | | |
| | Fine adjusts the speed of exit motor for the type of weight of the paper. The exit motor drives the drives the rollers in the paper cooling unit, the second pair of invert exit rollers, and the exit rollers. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 1 to 7 | Plain:Weight 1 to 7 | | [-5 to +5/0/0.1%] |
| 8 to 13 | Matte: Weight 2 to 7 | | |

| | | |
|---|---|---|
| 14 to 19 | Glossy: Weight 2 to 7 | |
| 20 to 22 | Envelope: Weight 5 to 7 | |
| 23 | OHP | |



| 1020 | Adjust Air DUTY | |
|---|---|---|
| | Adjusts the strength of the air flow of the fans in the LCIT. The side and front fans are used to assist paper separation by blowing air across the surface of the first sheet in the stack of paper in the tray. | |
| 1 | Suction Air | [0 to 100/100/5%] |
| 2 | Side Air | |
| 3 | Front Air | |

| 1021 | Skew Detect | |
|---|---|---|
| | This SP switches skew detection off/on for each paper feed station in the system and the duplex tray. | |
| 1 | Tray1 | [0 to 1/1/1]  1: ON,  0: OFF |
| 2 | Tray2 | |
| 3 | Dupx Tray | |
| 4 | A3LCT Tray3 | |
| 5 | A3LCT Tray4 | |
| 6 | A3LCT Tray5 | |
| 7 | Bypass Tray | |

| 1022 | PTR Trans Lift Timing | |
|---|---|---|
| | Sets the timing for opening and closing the nip of the bias roller and PTR (Paper Transfer Roller). When thick paper is fed the PTR separation motor raises the bias roller away from the PTR so the paper can feed easily into the gap between the rollers. This operation minimizes the "shock jitter" effect with thick paper sizes. | |
| 1 | Contact | [-30 to +30/0/1 ms] |
| ⇒ 2 | Separate | [-150 to +20/-120/1 ms] |

| 1023 | Shock Jitter Canceling Mode |
|---|---|
| | Switches the shock jitter mode off and on. When the machine is in shock-jitter mode, the PTR separation motor opens the nip between the bias roller above the paper and the paper transfer roller below to allow thick paper to feed between these rollers.<br>[0 to 1/1/1]<br>1: ON, 0: OFF |

| 1101 | Reload Permit Setting | |
|---|---|---|
| | Sets the temperature where the fusing motor starts to rotate. | |
| 1 | Pre-rotation Start Temp. | [0 to 200/0/1 deg] |
| 2 | Reload Target Temp.:Center | [0 to 200/165/1 deg] |
| 3 | Reload Target Temp.:Press | [0 to 200/90/1 deg] |
| 4 | Temp.:Delta:Cold:Center | [0 to 200/5/1 deg] |
| 5 | Temp.:Delta:Cold:End | [0 to 200/5/1 deg] |
| 6 | Temp.:Delta:Cold:Press:Center | [0 to 200/20/1 deg] |
| 7 | Rotation Time:Cold | [0 to 500/280/1 deg] |
| 8 | Temp.:Delta:Warm:Center | [0 to 200/5/1 deg] |

| | | |
|---|---|---|
| 9 | Temp.:Delta:Warm:End | [0 to 200/5/1 deg] |
| 10 | Temp.:Delta:Warm:Press:Center | [0 to 200/10/1 deg] |
| 11 | Rotation Time:Warm | [0 to 200/15/1 deg] |
| 12 | Temp.:Delta:Hot:Center | [0 to 200/5/1 deg] |
| 13 | Temp.:Delta:Hot:End | [0 to 200/5/1 deg] |
| 14 | Temp.:Delta:Hot:Press:Center | [0 to 200/20/1 deg] |
| 15 | Rotation Time:Hot | [0 to 100/0/1 deg] |
| 16 | Temp Diff at Press Roller Ends: Cool | [0 to 200/20/1 deg] |
| 17 | Temp Diff at Press Roller Ends: Warm | [0 to 200/20/1 deg] |
| 18 | Temp Diff at Press Roller Ends: Hot | [0 to 200/20/1 deg] |
| 20 | Roll Core Temp Judgment | |
| | [0 to 1/1/1]<br>0: Metal Core Temp Detection On<br>1: Metal Core Tempt Detection Off | |
| 21 | Roll Core Temp | [0 to 120/30/1 deg] |

| | | |
|---|---|---|
| 1102 | Feed Permit Setting | |
| | Adjusts the start timing of paper feed. Once the machine grants permission for the start timing, it checks the temperature once again to determine the actual start timing. | |
| 19 | Feed Permit Time | [0 to 500/180/1 sec] |
| 101 | Temp Diff Heating Roller: Lower 1 | [0 to 60/15/1 deg] |
| 102 | Temp Diff Heating Roller: Upper 1 | [0 to 60/60/1 deg] |
| 103 | Temp Diff Press Roller: Lower 1 | [0 to 60/15/1 deg] |
| 104 | Temp Diff Press Roller: Upper 1 | [0 to 60/20/1 deg] |
| 105 | Rotation Time Before Judgment:1 | [0 to 100/0/1 sec] |

| | | |
|---|---|---|
| 106 | Temp Diff Heating Roller: Lower 2 | [0 to 60/10/1 deg] |
| 107 | Temp Diff Heating Roller: Upper 2 | [0 to 60/60/1 deg] |
| 108 | Temp Diff Press Roller: Lower 2 | [0 to 60/10/1 deg] |
| 109 | Temp Diff Press Roller: Upper 2 | [0 to 60/15/1 deg] |
| 110 | Rotation Time Before Judgment:2 | [0 to 100/3/1 sec] |
| 111 | Temp Diff Heating Roller: Lower 3 | [0 to 60/5/1 deg] |
| 112 | Temp Diff Heating Roller: Upper 3 | [0 to 60/60/1 deg] |
| 113 | Temp Diff Press Roller: Lower 3 | [0 to 60/10/1 deg] |
| 114 | Temp Diff Press Roller: Upper 3 | [0 to 60/10/1 deg] |
| 115 | Rotation Time Before Judgment:3 | [0 to 100/4/1 sec] |
| 116 | Temp Diff Heating Roller: Lower 4 | [0 to 60/20/1 deg] |
| 117 | Temp Diff Heating Roller: Upper 4 | [0 to 60/20/1 deg] |
| 118 | Temp Diff Press Roller: Lower 4 | [0 to 60/20/1 deg] |
| 119 | Temp Diff Press Roller: Upper 4 | [0 to 60/60/1 deg] |
| 120 | Rotation Time Before Judgment:4 | [0 to 100/0/1 sec] |
| 121 | Temp Diff Heating Roller: Lower 5 | [0 to 60/15/1 deg] |
| 122 | Temp Diff Heating Roller: Upper 5 | |
| 123 | Temp Diff Press Roller: Lower 5 | [0 to 60/20/1 deg] |
| 124 | Temp Diff Press Roller: Upper 5 | [0 to 60/60/1 deg] |
| 125 | Rotation Time Before Judgment:5 | [0 to 100/0/1 sec] |
| 126 | Temp Diff Heating Roller: Lower 6 | [0 to 60/5/1 deg] |
| 127 | Temp Diff Heating Roller: Upper 6 | [0 to 60/10/1 deg] |
| 128 | Temp Diff Press Roller: Lower 6 | [0 to 60/10/1 deg] |
| 129 | Temp Diff Press Roller: Upper 6 | [0 to 60/60/1 deg] |

| | | | |
|---|---|---|---|
| 130 | Rotation Time Before Judgment:6 | | [0 to 100/5/1 sec] |
| | **Thickness** | **Weight (g/m$^2$)** | |
| | 1 | 52.3 - 63.0 g/m$^2$ | |
| | 2 | 63.1 - 80.0 g/m$^2$ | |
| | 3 | 80.1 - 105.0 g/m$^2$ | |
| | 4 | 105.1 - 163.0 g/m$^2$ | |
| | 5 | 163.1 - 220.0 g/m$^2$ | |
| | 6 | 220.1 - 256.0 g/m$^2$ | |
| | 7 | 256.1 - 300.0 g/m$^2$ | |
| 150 | Normal: Full Size: Category 1 | | [0 to 100/50/ 1 deg] |
| 151 | Normal: Full Size: Category 2 | | [0 to 100/50/ 1 deg] |
| 152 | Normal: Full Size: Category 3 | | [0 to 100/25/ 1 deg] |
| 153 | Normal: Full Size: Category 4 | | [0 to 100/25/ 1 deg] |
| 154 | Normal: Full Size: Category 5 | | [0 to 100/30/ 1 deg] |
| 155 | Normal: Full Size: Category 1 | | |
| 156 | Normal: Full Size: Category 2 | | |
| 157 | Normal: Full Size: Category 3 | | |
| 158 | Normal: Full Size: Category 4 | | |
| 159 | Normal: Full Size: Category 5 | | |
| 160 | Output Priority: Full Size: Category 1 | | [0 to 200/50/1 deg] |
| 161 | Output Priority: Full Size: Category 2 | | [0 to 200/50 deg] |
| 162 | Output Priority: Full Size: Category 3 | | [0 to 200/35 deg] |
| 163 | Output Priority: Full Size: Category 4 | | [0 to 200/30/ deg] |
| 164 | Output Priority: Full Size: Category 5 | | |

| | | |
|---|---|---|
| 165 | Output Priority: Full Size: Category 1 | |
| 166 | Output Priority: Full Size: Category 2 | |
| 167 | Output Priority: Full Size: Category 3 | |
| 168 | Output Priority: Full Size: Category 4 | |
| 169 | Output Priority: Full Size: Category 5 | |
| 201 to 207 | Normal: Uncoated Thick 1 to 7 | [1 to 6/*/1 step]<br>The default settings are displayed to the right of "Initial" on the screen. |
| 209 to 214 | Normal: Matte Thick 2 to 7 | |
| 216 to 221 | Normal: Glossy Thick 2 to 7 | |
| 222 to 228 | Output Priority: Uncoated Thick 1 to 5 | |
| 230 to 235 | Output Priority: Matte Thick 2 to 7 | |
| 237 to 242 | Output Priority: Glossy Thick 2 to 5 | |

| | | |
|---|---|---|
| 1106 | Fusing Temp. Display | |
| | Displays the present fusing temperature at different locations on the heating roller, pressure roller, hot roller, and hot roller core. | |
| 1 | Heating Roller Center | |
| 2 | Heating Roller Ends | |
| 4 | Heating Roller Rear | |
| 5 | Pressure Roller Center | |
| 6 | Pressure Roller Ends | |
| 7 | Hot Roller | |
| 8 | Hot Roller Core | |

| 1107 | Standby Target Temp. Setting | |
|---|---|---|
| | Sets the target standby temperature for the modes listed below. | |
| 1 | Standby: Center | [0 to 200/175/1 deg[ |
| 2 | Standby: Press | [0 to 200/90/1 deg] |
| 3 | Preheat: Center | [0 to 200/175/1 deg] |
| 4 | Preheat: Press | [0to 200/90/1 deg] |
| 5 | Low Power: Center | [0 to 200/100/1 deg] |
| 6 | Low Power: Press | [0 to 200/90/1 deg] |
| 7 | Print Ready: Center | [0 to 200/165/1 deg] |
| 8 | Print Ready: Press | [0 to 200/90/1 deg] |

| 1108 | After Reload/Job Target Temp. | |
|---|---|---|
| | Sets the target temperature for immediately after reload temperature has been achieved or paper has been fed. "Center" is the center of the heating roller, and "Press" is the pressure roller. | |
| 1 | Center | [0 to 200/165/1 deg] |
| 2 | Press | [0 to 200/90/1 deg] |

| 1111 | Environment Correction: Fusing | |
|---|---|---|
| | Sets the threshold for fusing temperature correction to compensate for ambient conditions. | |
| 1 | Temp.: Threshold: Low | [0 to 100/17/1 deg] |
| 2 | Temp.: Threshold: High | [0 to 100/30/1 deg] |
| 3 | Low Temp. Correction | [0 to 100/10/1 deg] |
| 4 | High Temp. Correction | [0 to 100/5/1 deg] |
| 5 | Job Low Temp. Correction | [0 to 100/15/0.1 deg] |
| 6 | Job High Temp. Correction | [0 to 100/0/0.1 deg] |
| 7 | Job Low Temp. Correction: Sp. | [0 to 100/15/0.1 deg] |
| 8 | Job High Temp. Correction: Sp. | [0 to 100/0/0.1 deg] |

| 1114 | Heat Storage Status | |
|---|---|---|
| | Sets the threshold for fusing temperature correction to compensate for heat accumulated on the pressure roller. | |
| 1 | Temp.: Threshold: Press | [0 to 200/60/1 deg] |
| 2 | Temp.: Threshold: Atmosphere | [0 to 200/60/1 deg] |

| 1115 | Target Temp. Correction | |
|---|---|---|
| | Corrects the temperature based on the difference in the target temperatures of the center and end of the hot roller. | |
| 1 | Temp.: Delta: Heat: End | [-100 to +100/5/1 deg] |
| 2 | Temp.: Delta: Press: End | [-100 to +100/0/1 deg] |
| 3 | Temp.: Delta Sub | [0 to +100/3/1 deg] |
| 5 | Temp.: Delta Heat End: Reload | [-100 to +100/5/1 deg] |
| 6 | Temp.: Delta Heat End: Prefeed | [-100 to +100/5/1 deg] |
| 7 | Temp.: Delta Heat Full Size: Reload | [-100 to +100/-10/1 deg] |
| 8 | Temp.: Delta Heat Full Size: Prefeed | [-100 to +100/-15/1 deg] |

| 1116 | Skew Correction Level Setting | |
|---|---|---|
| | Sets the amount of skew correction for paper fed from each paper source. | |
| 1 | Tray1 | [1.6 to 7.5/3/0.1 mm] |
| 2 | Tray2 | |
| 3 | Dupx Tray | |
| 4 | A3LCT Tray3 | |
| 5 | A3LCT Tray4 | |
| 6 | A3LCT Tray5 | |
| 7 | Bypass Tray | |

| | | |
|---|---|---|
| 1117 | Time Control | |
| | Adjust the amount of time for timeout. | |
| 1 | Control Time1 | [0 to 1000/100/1 sec] |
| 2 | Control Time2 | [0 to 1000/400/1 sec] |
| 3 | Temp:A:Center1 | [-20 to 20/0/1 deg] |
| 4 | Temp: A: End 1 | |
| 5 | Temp:A:Center2 | |
| 6 | Temp: A: End 3 | |
| 7 | Temp:B:Center1 | |
| 8 | Temp: B: End 1 | |
| 9 | Temp:B:Center2 | |
| 10 | Temp: B: End 2 | [-20 to +29/-5/1 deg] |
| 11 | Temp.: C: Center 1 | [-20 to +29/0/1 deg] |
| 12 | Temp.: C: End 1 | [-20 to +29/-5/1 deg] |
| 13 | Temp.: C: Center 2 | [-20 to +29/0/1 deg] |
| 14 | Temp.: C: End 1 | [-20 to +29/-5/1 deg] |
| 15 | Temp.: D: Center 1 | [-20 to +29/0/1 deg] |
| 16 | Temp.: D: End 1 | |
| 17 | Temp.: D: Center 2 | |
| 18 | Temp.: D: End 2 | [-20 to +29/-3/1 deg] |
| 101 to 107 | Category 1: Weight 1 to 7 | [1 to 4/*/1 step] |
| 111 to 117 | Category 2: Weight 1 to 7 | The default settings are displayed to the right of "Initial" on the screen. |
| 121 to 127 | Category 3: Weight 1 to 7 | |
| 131 to 137 | Category 4: Weight 1 to 7 | |

| | | |
|---|---|---|
| 141 to 147 | Category 5: Weight 1 to 7 | |

| | | | |
|---|---|---|---|
| 1118 | Norm Paper: Init Temp Calc | | |
| | Adjusts the start timing from the standard trigger time for operation mode and paper type. | | |
| 1 | Start Time: Normal Speed | | [0 to 5/0/0.1 sec] |
| 2 | Start Time: Medium Speed | | [0 to 5/1/0.1 sec] |
| 3 | Start Time: Low Speed | | [0 to 5/3.5/0.1 sec] |
| 4 | Continuous Time: Normal Speed | | [0 to 50/10/0/1 sec] |
| 5 | Continuous Time: Medium Speed | | |
| 6 | Continuous Time: Low Speed | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 11 | Added Temp: Thickness 1 | | [0 to 30/5/1 deg] |
| 12 | Added Temp: Thickness 2 | | [0 to 30/5/1 deg] |
| 13 | Added Temp: Thickness 3 | | [0 to 30/10/1 deg] |
| 14 | Added Temp: Thickness 4 | | [0 to 30/10/1 deg] |
| 15 | Added Temp: Thickness 5 | | [0 to 30/15/1 deg] |
| 16 | Added Temp: Thickness 6 | | |

| | | |
|---|---|---|
| 17 | Added Temp: Thickness 7 | |

| | | |
|---|---|---|
| 1119 | Norm Paper: Init Temp: Calc2 | |
| | Adjusts fusing temperature for the core temperature of the hot roller. | |
| 1 | Continuous Time: Normal: Spd | [0 to 50/10/1 sec] |
| 2 | Continuous Time: Medium: Spd | [0 to 50/11/1 sec] |
| 3 | Continuous Time: Low: Spd | [0 to 50/13.5/1 sec] |
| 11 | Added Temp: Thickness 1 | [0 to30/10/1 deg] |
| 12 | Added Temp: Thickness 2 | |
| 13 | Added Temp: Thickness 3 | |
| 14 | Added Temp: Thickness 4 | |
| 15 | Added Temp: Thickness 5 | [0 to30/20/1 deg] |
| 16 | Added Temp: Thickness 6 | |
| 17 | Added Temp: Thickness 7 | |

| 1121 | Switch: Rotation Start/Stop | |
|---|---|---|
| | Sets the time interval for the shift from reload temperature to standby temperature. | |
| 1 | Time:After Reload | [0 to 999/300/1 sec] |
| 2 | Time:After Recovery | [0 to 100/10/1 sec] |
| 3 | Time:After Job | [0 to 100/30/1 sec] |
| 4 | Press Temp.:After Reload | [0 to 160/160/1 deg] |
| 5 | End Uniform Start Temp.:B4 | [0 to 250/210/1 deg] |
| 6 | End Uniform Start Temp.:A4 | |
| 7 | End Uniform Start Temp.:A5 | |
| 8 | Overshoot Prevent Temp. | [0 to 250/215/1 deg] |
| 9 | Overshoot Prevent Time | [0 to 100/20/1 sec] |

| 1122 | Standby Rotation Setting | |
|---|---|---|
| | Sets the interval between fusing roller idle rotations during standby. Idling the rollers helps to maintain and even fusing temperature. | |
| 1 | Rotation Interval | [0 to 240/0/1 min] |
| 2 | Rotation Time | [0 to 60/0/0.1 sec] |

| 1123 | Rotation Speed Setting | |
|---|---|---|
| | Sets the speed for the rotation fusing rollers during idling before paper starts to feed. | |
| | Rotation Speed | [0 to 1/1/1] |

| 1124 | CPM Down Setting | |
|---|---|---|
| | Sets the temperature differential used to calculate CPM down for low and high temperatures. Also, sets the interval for temperature checks for CPM down. | |
| 1 | Low: Down Temp. | [-50 to 0/-8/1deg] |
| 2 | Low: Up Temp. | [-50 to 0/-6/1deg] |
| 3 | Low :1st CPM | [10 to 100/70/5%] |
| 4 | Low :2nd CPM | [10 to 100/50/5%] |
| 5 | Low :3rd CPM | [10 to 100/30/5%] |
| 6 | High:1st CPM | [10 to 100/75/5%] |
| 7 | High:2nd CPM | [10 to 100/50/5%] |
| 8 | High:3rd CPM | [10 to 100/25/5%] |
| 12 | High:1st CPM Down Temp.:A4 | [100 to 250/210/1deg] |
| 13 | High:2nd CPM Down Temp.:A4 | [100 to 250/215/1deg] |
| 14 | High:3rd CPM Down Temp.:A4 | [100 to 250/220/1deg] |
| 15 | High:1st CPM Down Temp.:A5 | [100 to 250/220/1deg] |
| 16 | High:2nd CPM Down Temp.:A5 | [100 to 250/215/1deg] |
| 17 | High:3rd CPM Down Temp.:A5 | [100 to 250/220/1deg] |
| 18 | Judging Interval | [1 to 250/10/1sec] |
| 20 | Judging Interval: Normal Speed | [0 to 200/15/1sec] |
| 21 | Judging Interval: Medium Speed | |
| 22 | Judging Interval: Low Speed | |
| 101 | High: 1st CPM Down Timing: Category 1 | [100 to 250/215/1 |
| 102 | High: 2nd CPM Down Timing: Category 2 | [100 to 250/217/1 |
| 103 | High: 3rd CPM Down Timing: Category 3 | [100 to 250/225/1 |

| | | |
|---|---|---|
| 111 | High: 1st CPM Down Timing: Category 1 | [100 to 250/215/1 |
| 112 | High: 2nd CPM Down Timing: Category 2 | [100 to 250/217/1 |
| 113 | High: 3rd CPM Down Timing: Category 3 | [100 to 250/225/1 |
| 121 | High: 1st CPM Down Timing: Category 1 | [100 to 250/215/1 |
| 122 | High: 2nd CPM Down Timing: Category 2 | [100 to 250/217/1 |
| 123 | High: 3rd CPM Down Timing: Category 3 | [100 to 250/225/1 |
| 131 | High: 1st CPM Down Timing: Category 1 | [100 to 250/215/1 |
| 132 | High: 2nd CPM Down Timing: Category 2 | [100 to 250/217/1 |
| 133 | High: 3rd CPM Down Timing: Category 3 | [100 to 250/225/1 |
| 141 | High: 1st CPM Down Timing: Category 1 | [100 to 250/215/1 |
| 142 | High: 2nd CPM Down Timing: Category 2 | [100 to 250/217/1 |
| 143 | High: 3rd CPM Down Timing: Category 3 | [100 to 250/225/1 |

| | |
|---|---|
| 1131 | Continuous Print Mode Switch |
| | Sets the permission for paper to feed. |
| | Feed Permit Condition<br>[0 to 1/0/1 Step<br>0: Fusing Quality Mode<br>1: Productivity Mode |

| | | |
|---|---|---|
| 1132 | Maximum Duty Switch | |
| | Switches maximum fixed duty level and power control. | |
| 1 | Control Method Switch | |
| | [0 to 1/1/1 step]<br>0: Fixed Duty<br>1: Power Control | |
| 3 | Manual Offset | |
| | [0 to 4/4/1 step]<br>0: -400 W 1: -300 W 2: -200 W 3: -100 W 4: 0 | |
| 11 | AC Voltage Value | [0 to 300/0/ 1] |
| 12 | Judgment Voltage | |

| | | |
|---|---|---|
| 1141 | Fusing SC Issue Time Info | |
| | Displays the time when an SC code was issued. | |
| 1 | SC Number | [0 to 999/0/1 Step] |
| 2 | SC Cause | [0 to 9/0/1 Step] |
| 101 | Htg Roller: Ctr Varied Op Temp. 1 | [-5 to 280/0/1 deg] |
| 103 | Htg Roller: Ctr Compensate Temp. 1 | |
| 104 | Htg Roller: Ends Varied Op Temp. 1 | |
| 106 | Htg Roller: Ends Compensate Temp. 1 | |
| 107 | Htg Roller Rear Temp. 1 | |
| 108 | Press Roller: Ctr Varied Op Temp. 1 | |
| 110 | Press Roller: Ctr Compensate Temp. 1 | |
| 111 | Press Roller: Ends Temp. 1 | |
| 112 | Hot Roller: Surface Varied Op Temp. 1 | |

| | | |
|---|---|---|
| 114 | Hot Roller: Surface Compensate Temp. 1 | |
| 115 | Hot Roller: Roll Core Temp. 1 | |
| 151 | Htg Roller: Ctr Varied Op Temp. 2 | |
| 153 | Htg Roller: Ctr Compensate Temp. 2 | |
| 154 | Htg Roller: Ends Varied Op Temp. 2 | |
| 156 | Htg Roller: Ends Compensate Temp. 2 | |
| 157 | Htg Roller Rear Temp. 2 | |
| 158 | Press Roller: Ctr Varied Op Temp. 2 | |
| 160 | Press Roller: Ctr Compensate Temp. 2 | |
| 161 | Press Roller: Ends Temp. 2 | |
| 162 | Hot Roller: Surface Varied Op Temp. 2 | |
| 164 | Hot Roller: Surface Compensate Temp. 2 | |
| 165 | Hot Roller: Roll Core Temp. 2 | |
| 201 | Htg Roller: Ctr Varied Op Temp. 3 | |
| 202 | Htg Roller: Ctr Detect Temp. 3 | |
| 203 | Htg Roller: Ctr Compensate Temp. 3 | |
| 204 | Htg Roller: Ends Varied Op Temp. 3 | |
| 206 | Htg Roller: Ends Compensate Temp. 3 | |
| 207 | Htg Roller Rear Temp. 3 | |
| 208 | Press Roller: Ctr Varied Op Temp. 3 | |
| 210 | Press Roller: Ctr Compensate Temp. 3 | |
| 211 | Press Roller: Ends Temp. 3 | |
| 212 | Hot Roller: Surface Varied Op Temp. 3 | |
| 214 | Hot Roller: Surface Compensate Temp. 3 | |

| | | |
|---|---|---|
| 215 | Hot Roller: Roll Core Temp. 3 | |

| | |
|---|---|
| 1142 | Fusing Jam Detection |
| | This SP displays the SC code that was issued if a fusing unit jam error occurs three times in succession. This is a fatal SC error. The machine is shut down and cannot be used until the problem has been corrected. |
| | SC Display<br>[0 to 1/0/1 Step]<br>0: OFF<br>1: On |

| | | |
|---|---|---|
| 1151 | Pressure Setting | |
| | Switches on the mode that adjusts the length of time pressure is increased on the fusing roller by the pressure roller. The setting is adjusted with the "position" settings that determine the length of time that the pressure is increased (the longer the time the more pressure). | |
| 1 | Pressure Change ON/OFF | [0 to 1/1410/1 Step] |
| 11 | Pressure Position 1 | [0 to 1000/1410/10 ms] |
| 12 | Pressure Position 2 | [0 to 1000/0/10 ms] |
| 13 | Pressure Position 3 | [0 to 1000/30/10 ms] |

| | |
|---|---|
| 1152 | Fusing Nip Band Check |
| | Checks and adjusts the nip of the hot roller and pressure roller. |
| 1 | Execute |

| | | |
|---|---|---|
| | Use a sheet of OHP to execute this SP. Feed the sheet through fusing unit and between the hot roller and pressure roller. The sheet will stop and remain between the rollers for 30 s and is then feed out. Use a scale to measure the width of the band on the sheet.<br>[0 to 1/1/1 ]<br>0: ON<br>1: OFF | |
| 2 | Pre-idling Time | [0 to 999/30/1 sec] |
| 3 | Stop Time | [0 to 255/120/1 sec] |
| 4 | Pressure Position | [0 to 3/2/1 ] |
| 10 | Target Temp: Center | [0 to 200/160/1 deg] |
| 11 | Target Temp: Press Roller | [0 to 200/100/1 deg] |

| 1153 | Press Roller Cooling Fan | |
|---|---|---|
| | Sets the temperature at which the pressure roller cooling fan starts to operate. The pressure roller cooling fan is the large blower fan at the front of the left drawer under the fusing unit. | |
| 001 | Startup Difference | [-50 to +50/5/1 deg] |
| 002 | Paper Difference | |
| 003 | After Paper Difference | |

| 1154 | Standby Rotation | |
|---|---|---|
| | Sets the start time and duration of hot roller rotation in the standby (Ready) mode. | |
| 1 | Rotation Start Temp | [0 to 150/120/1 deg] |
| 2 | Rotation Time | [0 to 255/30/1 sec] |

| | | |
|---|---|---|
| 1155 | Job Cancel | |
| | Sets the temperature to trigger "Job cancel" during a job. | |
| 1 | Press Roller Temp | [100 to 200/200/1 deg] |

| | |
|---|---|
| 1161 | Fusing Cleaning Web |
| | Determines the operation cycles of the take-up roller which pulls fabric off the web supply roller in the fusing belt cleaning unt. |
| | Duplex Take up Cycle Adj.<br>[-75 to 0/0/10 %] |

| | | |
|---|---|---|
| 1190 | Manual New Unit Set | |
| | Sets the machine to access the fusing unit ID chip information for PM parts management. | |
| 1 | Fusing Belt | [0 to 1/1/0] |
| 2 | Hot Roller | |
| 3 | Pressure Roller | |
| 4 | Pressure Roller Bearings | |

| | |
|---|---|
| 1206 | Paper Shift Setting |
| | Selects edge shift operation. |
| | Shift Mode Selection<br>[0 to 2/1/1]<br>0: Shift<br>1: Shift Off (Folding Mode)<br>2: Shift: Off |

| 1302 | Dbl-Feed Detect | |
|---|---|---|
| 1 | Tray 1 | [ 0 to 1 / 1 / 1 ]<br>0:OFF<br>1:ON |
| 2 | Tray 2 | |
| 3 | A3LCT Tray3 | |
| 4 | A3LCT Tray4 | |
| 5 | A3LCT Tray5 | |
| 6 | Bypass Tray | |

| 1303 | After Dbl-Feed Det Op Set | |
|---|---|---|
| 1 | Tray 1 | [ 0 to 1 / 1 / 1 ]<br>0:JAM<br>1:Purge Tray |
| 2 | Tray 2 | |
| 3 | A3LCT Tray3 | |
| 4 | A3LCT Tray4 | |
| 5 | A3LCT Tray5 | |
| 6 | Bypass Tray | |

| 1304 | Dbl-Feed Detect Threshold Adj | |
|---|---|---|
| | Adjusts the threshold for the translucence of the paper to trigger a double-feed detection based on the type of paper. | |
| 1 | Plain | [0 to 100/30/1 %] |
| 2 | Translucent | |
| 3 | OHP | [0 to 100/5/1 %] |

| 1305 | Dbl-Feed Comp Std Value | |
|---|---|---|
| | Displays the threshold values for paper that triggered a double-feed detection by paper feed station for the past 5 feeds. | |
| 1 to 5 | Tray1:LAST1 to 5 | |
| 6 to 9 | Tray2:LAST to 5 | |
| 11 to 15 | A3LCT Tray3:LAST to 5 | |
| 16 to 20 | A3LCT Tray4:LAST to 5 | |
| 21 to 25 | A3LCT Tray5:LAST to 5 | |
| 26 to 30 | Bypass Tray:LAST to 5 | |

| 1306 | Dbl-Feed Det Light Adj Result | |
|---|---|---|
| | Adjusts the strength of the light emitted from the double-feed sensor LED. The double feed sensors are a pair. The sensor below emits an LED, and the sensor above receives the light. | |
| 1 | Normal Paper | [0 to 94/0/1 mA ] |
| 2 | Translucent | |
| 3 | OHP | |

| 1310 | Dbl-Feed Detect Function | |
|---|---|---|
| | Toggles double-feed detection alert on and off. | |
| 1 | Disabled Display (0:Off 1:On) | [0 to 1/0/1] |

| | | |
|---|---|---|
| 1401 | Paper Pass Time 1:Custom Paper | |
| 1402 | Paper Pass Time 1:Average | |
| 1 | Fusing Unit | [0 to 999/0/1 ms] |
| 2 | Fusing Unit | |
| 3 | Fusing Unit | |
| 4 | Tray1 | |
| 5 | Tray1 | |
| 6 | Tray1 | |
| 7 | Tray2 | |
| 8 | Tray2 | |
| 9 | Tray2 | |
| 10 | A3LCT Tray3 | |
| 11 | A3LCT Tray3 | |
| 12 | A3LCT Tray3 | |
| 13 | A3LCT Tray4 | |
| 14 | A3LCT Tray4 | |
| 15 | A3LCT Tray4 | |
| 16 | A3LCT Tray5 | |
| 17 | A3LCT Tray5 | |
| 18 | A3LCT Tray5 | |
| 19 | Bypass Tray | |
| 20 | Bypass Tray | |
| 21 | Bypass Tray | |

| 1403 | Paper Pass Time 1:Max/Min Diff | |
|---|---|---|
| 1 | Fusing Unit | [0 to 999/0/1 ms ] |
| 2 | Fusing Unit | |
| 3 | Fusing Unit | |

| 1404 | Paper Pass Time 1:Target Var | |
|---|---|---|
| 1 | Tray1 | [0 to 999/0/1 ms] |
| 2 | Tray1 | |
| 3 | Tray1 | |
| 4 | Tray2 | |
| 5 | Tray2 | |
| 6 | Tray2 | |
| 7 | A3LCT Tray3 | |
| 8 | A3LCT Tray3 | |
| 9 | A3LCT Tray3 | |
| 10 | A3LCT Tray4 | |
| 11 | A3LCT Tray4 | |
| 12 | A3LCT Tray4 | |
| 13 | A3LCT Tray5 | |
| 14 | A3LCT Tray5 | |
| 15 | A3LCT Tray5 | |
| 16 | Bypass Tray | |
| 17 | Bypass Tray | |
| 18 | Bypass Tray | |

| | | |
|---|---|---|
| 1902 | Cleaning Web Setting | |
| | This SP controls the operation of the fusing cleaning unit inside the fusing unit. The cleaning unit employs a web suspended between a supply roller and take-up roller. Between these rollers, a web contact roller keeps the web pressed against the fusing belt to take-up paper dust, toner, etc. from the surface of the belt. | |
| 1 | Web Consumption | [0 to 107/0/1] |
| 2 | Fusing Web Motor Operation Time | [3.6 to 130/16.2/0.1sec] |
| | Changes the amount of time that the web motor operates to pull fresh fabric from the supply roller. | |
| 3 | Web Motor Rotation Time | [0.3 to 3.5/2.8/0.1sec] |
| 4 | Web Near End Setting | [50 to 100/81/1%] |
| | Changes the web consumption ratio at which web near end is displayed. | |
| 5 | Web End Recording | [0 to 1/0/1] |
| 6 | Web Near End/End Clear | [Execute] |
| 7 | Correction Coeff. **DFU** | [0 to 2/1.19/0.01] |
| 8 | Take up Rotations After Jam | [0 to 30/10/1] |
| 10 | Sequence for Each Reload | [0 to 30/3.5/0.1sec] |
| 11 | Rotations After Cold Start | [0 to 30/10/1] |
| 12 | Fixed Operation Time 1 | [40 to 70/48/1%] |
| 13 | Fixed Operation Time 2 | [71 to 120/62/1%] |
| 14 | Operation Intervals: Med Speed | [3.6 to 130/23.1/0.1sec] |
| 15 | Operation Intervals: Low Speed | [3.6 to 130/32.4/0.1sec] |
| 16 | Operation Frequency | [1 to 1000/250/1] |
| 19 | Web Counter Clear Recording | [0 to 1/0/1] |

| 1903 | Web Drive Time | |
|---|---|---|
| | Records and stores for display information about fusing cleaning unit web consumtion. | |
| 1 | Web: Total Page Counter | [0 to 999 999 999/0/1sec] |
| 2 | Web: Total Motor Rotation Time | [0 to 25.5/0/0.1sec] |
| 3 | Operation Interval Count | [0 to 130/0/0.1sec] |
| 4 | Total Operation Rotations | [0 to 999 999 999/3/1Cycle] |

| 1906 | De-curler Setting | |
|---|---|---|
| | Selects the paper path in the decurl unit (upper or lower) for the paper depending on the paper feed source. | |
| 1 | Tray1: Paper Path Selection | [0 to 5/3/1]<br>0: Lower Pass Def<br>1: Lower Pass 1<br>2: Lower Pass 2<br>3: Upper Pass Def<br>4: Upper Pass 1<br>5: Upper Pass 2 |
| 2 | Tray2: Paper Path Selection | |
| 3 | A3LCT Tray3: Paper Path Selection | |
| 4 | A3LCT Tray4: Paper Path Selection | |
| 5 | A3LCT Tray5: Paper Path Selection | |
| 6 | Bypass Tray: Paper Path Selection | |

| 1909 | Force Send to Purge Tray | |
|---|---|---|
| | Forces paper to drop into the purged paper path. Used for testing. | |
| 1 | Purge 1 (0: Off, 1: On) | [0 to 1/1/1] |

| | |
|---|---|
| 1910 | Paper Bank Temp/Humidity |
| | Displays the current temperature and humidity readings for the paper trays inside the main machine. |
| 1 | Temperature Reading |
| 2 | Humidity Reading |

| | |
|---|---|
| 1912 | CIS LED Power Adjustment |
| | Adjust the power level of the CIS that is used to adjust paper registration in the paper registration unit inside the right drawer.<br>[EXECUTE] |

| | | |
|---|---|---|
| 1913 | CIS LED Adj. Result Display **DFU** | |
| | Displays the result of the adjustment to adjust the level of the CIS LED power (done with SP1912). | |
| | PWM Duty | |

| | |
|---|---|
| 1914 | CIS P Pass Pixel Display **DFU** |

| | | |
|---|---|---|
| 1916 | CIS LED Power Magnification | |
| 1 | Variable Magnification | [1 to 5/1.52/0.01 ] |
| 2 | Variable Magnification | [1 to 5/2.01/0.01 ] |
| 3 | Variable Magnification | [1 to 5/3.53/0.01 ] |

| 1917 | Side-to-Side Reg Disable | |
|---|---|---|
| | Used to disable side-to-side registration in the paper registration unit for a selected paper feed source. | |
| 1 | Tray1 | [0 to 1/0/1] |
| 2 | Tray2 | |
| 3 | Dupx Tray | |
| 4 | A3 LCT Tray3 | |
| 5 | A3 LCT Tray4 | |
| 6 | A3 LCT Tray5 | |
| 7 | Bypass Tray | |

| 1920 | LCT Tray Fan Duty Adjustment | |
|---|---|---|
| | These SP codes adjust the force of the air blown by the fans during paper separation in the LCIT trays. | |
| 1 | A3LCT Tray3 | [10 to 100/70/10%] |
| 2 | A3LCT Tray4 | |
| 3 | A3LCT Tray5 | |

| 1921 | LCT Fan Start Time Setting | |
|---|---|---|
| | These SP codes adjust the start timing of the fans during paper separation with the LCIT. | |
| 1 | A3LCT Tray3 | [1 to 10/3/1 sec] |
| 2 | A3LCT Tray4 | |
| 3 | A3LCT Tray5 | |

| 1922 | LCT Tray Fan ON/OFF | |
|---|---|---|
| | These SP codes adjust the start timing of the fans used for paper separation in the LCIT trays. | |
| 1 | A3LCT Tray3 | [0 to 2/0/1] |
| 2 | A3LCT Tray4 | 0: Auto Select 1: Force ON 2: Force OFF |
| 3 | A3LCT Tray5 | |

| 1923 | LCT Pickup Assist ON/OFF | |
|---|---|---|
| | These SP codes switch the air assist function in the LCIT paper trays off/on. | |
| 1 | Tray1 | [0 to 2/0/1] |
| 2 | Tray2 | 0 : AUTO |
| 3 | A3LCT Tray3 | 1 : ON |
| 4 | A3LCT Tray4 | 2 : OFF |
| 5 | A3LCT Tray5 | |
| 6 | Tray6 | |

| 1927 | De-curl Default: Lower Path |
|---|---|
| | Selects the default position of the decurl roller for the lower path.<br>[-3 to 3/0/0.1 mm] |

| 1928 | De-curl Default: Upper Path |
|---|---|
| | Selects the default position of the decurl roller for the upper path.<br>[-3 to 3/0/0.1 mm] |

| | |
|---|---|
| 1929 | De-curl Line Speed Adj: Default |
| | [-2.5 to +12.5/1/0.5%] |

| | |
|---|---|
| 1930 | De-curl Line Speed Adjust:Pos.1 |
| | [-2.5 to +12.5/4/0.5%] |

| | |
|---|---|
| 1931 | De-curl Line Speed Adj:Pos.2 |
| | [-2.5 to +12.5/5/0.5%] |

| | | |
|---|---|---|
| 1932 | Buffer Pass Unit | |
| | Sets the length of time for the fans to operate in the unit after the unit returns to standby mode. | |
| 1 | Stand-by Setting | [0 to 60/1/1 min ] |
| 2 | Fan drive Setting | [0 to 4/2/1]<br>0: Fan On for All Paper Weights<br>1: Fan On from Paper Weight 3<br>2: Fan On from Paper Weight 4<br>3: Fan On from Paper Weight 5<br>4: Fan Off from All Paper Weights |

| | | | |
|---|---|---|---|
| | 1945 | Set Cooling Operation | |
| | 1 | Low Noise Op Switch Temp | [0 to 50/20/1] |
| | 2 | Normal Op Switch Temp | [0 to 50/35/1] |
| | 3 | High Temp Op Switch Temp | [0 to 50/38/1] |
| | 4 | Fan Low Temp Op Temp | [5 to 35/22/1] |
| | 5 | Pump Low Temp Op Temp | |
| | 6 | Fan Op Off: Y Thermistor | [30 to 50/43/1] |
| | 7 | Fan Op Off Time | [0 to 60/10/1] |
| | 8 | Duplex Exhaust Fan: Front: HS | [0 to 100/45/1] |
| | 9 | Duplex Exhaust Fan: Front: NS | [0 to 100/90/1] |
| | 10 | Duplex Exhaust Fan: Rear: HS | [0 to 100/45/1] |
| | 11 | Duplex Exhaust Fan: Rear: NS | [0 to 100/90/1] |
| | 12 | Machine Stop Counter | [0 to 999 999/0/1] |
| | 13 | Pressure Roller Fan Strength | [**0** to 1]<br>0: Normal 1: Speed Half Speed |
| | 14 | Stop Temperature | |
| | 15 | Recovery Temperature | |
| ⇒ | 16 | When the temperature is lower than the value defined in this SP, the anti-condensation function turns ON. | |
| ⇒ | 17 | The rotation speed of the fans can be adjusted in this SP, either full-speed or half-speed. The rotation of the fans increases the guide plate temperature and prevents condensation. | |
| ⇒ | 18 | This SP specifies ON ("1") or OFF ("0") of the anti-condensation function. | |

| | | |
|---|---|---|
| 1950 | Image Pos: Sub: Side1 | |
| 1951 | Image Pos: Sub: Side2 | |
| 1952 | Image Pos: Main: Side1 | |
| 1953 | Image Pos: Main: Side 2 | |
| 1 to 100 | Custom Paper 001 to 100 | [-3 to 3/0/0.1 mm] |

| | | |
|---|---|---|
| 1955 | Skew Detect | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 1/1/1] 0: OFF 1: ON |

| | | |
|---|---|---|
| 1956 | Dbl-Feed Detect | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 1/1/1] 0: OFF 1: ON |

| | | |
|---|---|---|
| 1957 | Side-to-Side Reg Disable | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 1/1/1] 0: OFF 1: ON |

| | | |
|---|---|---|
| 1958 | Sub Scan Reg Correction Setting | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 1/1/1] 0: OFF 1: ON |

| | | |
|---|---|---|
| 1959 | Line Speed Adjust: Default Pos | |
| 1 to 100 | Custom Paper 001 to 100 | [-2.5 to +12.5/1/0.5%] |

| | | |
|---|---|---|
| 1960 | Line Speed Adjust:Pos.1 | |
| 1 to 100 | Custom Paper 1 to 100 | [-2.5 to +12.5/4/0.5%] |

| | | |
|---|---|---|
| 1961 | Line Speed Adjust:Pos.2 | |
| 1 to 100 | Custom Paper 001 to 100 | [-2.5 to +12.5/5/0.5%] |

| 1962 | Color Paper Adjustment | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ 1 to 5 / 1.52 / 0.01 ] |

| 1963 | Trans Timing Roll Spd:Fine Adj | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -3 to 3 / 0 / 0.1% ] |

| 1964 | Exit Motor Spd:Fine Adj | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -5 to 5 / 0 / 0.1 %] |

| 1965 | Invert Entrance Spd:Fine Adj | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -3 to 3 / 0 / 0.1 %] |

| 1966 | Invert Exit Spd:Fine Adj | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -3 to 3 / 0 / 0.1 % ] |

| 1975 | LCT Tray Fan Duty Adjustment | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ 10 to 100 / 70 / 10%] |

| 1976 | LCT Tray Fan ON/OFF | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ 0 to 1/ 0 / 1 ]<br>0:OFF<br>1:ON |

| 1977 | LCT Pickup Assist ON/OFF | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ 0 to 1 / 0 / 1 ]<br>0:OFF<br>1:ON |

| | |
|---|---|
| 1984 | Htg Roller Temp Setting |
| | [100 to 200/*/1 deg]<br>The default settings are displayed to the right of "Initial" on the screen. |
| 101 to 125 | Custom Paper 001 to 100 |

| | |
|---|---|
| 1985 | Press Roller Temp Setting |
| | [50 to 200/*/1 deg]<br>The default settings are displayed to the right of "Initial" on the screen. |
| 101 to 125 | Custom Paper 001 to 100 |

| | |
|---|---|
| 1986 | Process Speed |
| | [0 to 2/*/1]<br>The default settings are displayed to the right of "Initial" on the screen. |
| 101 to 125 | Custom Paper 001 to 100 |

| | |
|---|---|
| 1987 | Fusing Mtr Rotation Correct |
| 101 to 125 | Custom Paper 001 to 100 |
| | [-10 to +10/*/0.1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |

| | |
|---|---|
| 1988 | CPM Adjustment |
| 101 to 125 | Custom Paper 001 to 100 |
| | [1 to 100/*/1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |

| | |
|---|---|
| 1989 | Nip Width Setting |
| 101 to 125 | Custom Paper 001 to 100 |
| | [1 to 3/2/1]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |



| | | | |
|---|---|---|---|
| 1991 | Over N-Temp:CPM Down | | |
| | These SP codes set the threshold for triggering CPM down mode based on media and weight. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/m$^2$ | |
| | 2 | 63.1 - 80.0 g/m$^2$ | |
| | 3 | 80.1 - 105.0 g/m$^2$ | |
| | 4 | 105.1 - 163.0 g/m$^2$ | |
| | 5 | 163.1 - 220.0 g/m$^2$ | |
| | 6 | 220.1 - 256.0 g/m$^2$ | |
| | 7 | 256.1 - 300.0 g/m$^2$ | |
| 101 to 107 | Plain: Weight 1 to 7 | | [0 to 3/0/1 step] |
| 109 to 114 | Matte: Weight 2 to 7 | | 0: No CPM Down |
| 016 to 021 | Glossy: Weight 2 to 7 | | 1: CPM Down 1 |
| 122 to 124 | Envelope: Weight 5 to 7 | | 2: CPM Down 2 |
| 125 | OHP | | 3: CPM Down 3 |

| | | | |
|---|---|---|---|
| 1992 | Web Feed Interval | | |
| | This SP sets the web feed intervals for different types of paper and weight. | | |
| | **Thickness** | **Weight (g/m2)** | |
| | 1 | 52.3 - 63.0 g/$m^2$ | |
| | 2 | 63.1 - 80.0 g/$m^2$ | |
| | 3 | 80.1 - 105.0 g/$m^2$ | |
| | 4 | 105.1 - 163.0 g/$m^2$ | |
| | 5 | 163.1 - 220.0 g/$m^2$ | |
| | 6 | 220.1 - 256.0 g/$m^2$ | |
| | 7 | 256.1 - 300.0 g/$m^2$ | |
| 101 to 107 | Plain: Weight 1 to 7 | | [-3 to +3/*/0.1%] |
| 109 to 114 | Matte: Weight 2 to 7 | | The default settings (*) are displayed to the right of "Initial" on the screen. |
| 016 to 021 | Glossy: Weight 2 to 7 | | |
| 122 to 124 | Envelope: Weight 5 to 7 | | |
| 125 | OHP | | |

## 2.2 GROUP 2000

| | | |
|---|---|---|
| 2101 | Reg Col Interval | |
| | These SPs are used to adjust main registration (RGATE). | |
| 1 to 4 | Main Scan Dot: K, C, M, Y | [-512 to 511/0/1 dot] |
| 6 to 9 | Main/Sub Scan: K, C, M, Y | [-47 to 47/0/1 sub-dot] |
| 11 | Main phase initial value: K | [0 to 1000/0/1 us] |
| 12 | Main phase initial value: C | |
| 13 | Main phase initial value: M | |
| 14 | Main phase initial value: Y | |
| 21 | Main beam pitch adj: K | [1107 to 1620/1438/1 um] |
| 22 | Main beam pitch adj: C | |
| 23 | Main beam pitch adj: M | |
| 24 | Main beam pitch adj: Y | |
| 36 to 39 | SubScan Line: K, C, M, Y | [-4096 to 4095/0/1 line] |
| 41 | Main cor revision dot: C | [-512 to 511/0/1 dot] |
| 42 | Main cor revision dot: M | |
| 43 | Main cor revision dot: Y | |
| 45 | Main cor revision subdot: C | [-47 to 47/0/1 sub-dot] |
| 46 | Main cor revision subdot: M | |
| 47 | Main cor revision subdot: Y | |
| 49 | Sub cor revision line: C | [-4096 to 4095/0/1 line] |
| 50 | Sub cor revision line: M | |
| 51 | Sub cor revision line: Y | |

| | | |
|---|---|---|
| 60 | Main Left Mag.: Subdot: C | |
| 61 | Main Right Mag.: Subdot: C | |
| 62 | Main Left Mag.: Subdot: M | |
| 63 | Main Right Mag.: Subdot: M | |
| 64 | Main Left Mag.: Subdot: Y | |
| 65 | Main Right Mag.: Subdot: Y | |

| 2102 | Print Magnification Adjustment | |
|---|---|---|
| | Adjusts the value for the standard speed of the rate of magnification for K in the main scan direction. | |
| 1 | Main Mag.: K | [0 to 255/132/1] |
| 4 | Main Mag.: C | |
| 7 | Main Mag.: M | |
| 10 | Main Mag.: Y | |
| 16 | Main Mag.: subdot: K | [-15264 to 15264/0/1 sub-dot] |
| 19 | Main Mag.: subdot: C | |
| 22 | Main Mag.: subdot: M | |
| 25 | Main Mag.: subdot: Y | |
| 31 | Main Paper Int. Mag: Subdot: K | |
| 32 | Main Paper Int. Mag: Subdot: C | |
| 33 | Main Paper Int. Mag: Subdot: M | |
| 34 | Main Paper Int. Mag: Subdot: Y | |
| 40 | Mag settting & Adjustment | [-1 to 1/0/0.001%] |
| 41 | Face Main Mag set & Adj | [-0.8 to 0.8/00.025%] |
| 42 | Face Sub Mag set & Adj | |

| | | |
|---|---|---|
| 43 | Verso Main Mag set & Adj | |
| 44 | Verso Sub Mag set & Adj | |

| 2103 | Erase Margin Adjustment | |
|---|---|---|
| | Adjusts the white space at the leading and trailing edge, left and right edge of the paper. | |
| 1 | Lead Edge Width | [0 to 9/4/0.1 mm] |
| 2 | Trail. Edge Width | |
| 3 | Left | [0 to 9/2/0.1 mm] |
| 4 | Right | |

| 2104 | Skew Adjustment | |
|---|---|---|
| | These SPs adjust skew. | |
| 2 | Manual C | [-50 to 50/0/1 pulse] |
| 3 | Manual M | |
| 4 | Manual Y | |
| 6 | Accumulation present value K | |
| 7 | Accumulation present value C | |
| 8 | Accumulation present value M | |
| 9 | Accumulation present value Y | |
| 11 | Accumulation MUSIC value C | |
| 12 | Accumulation MUSIC value M | |
| 13 | Accumulation MUSIC value Y | |
| 20 | Phase pattern K | [1 to 4/1/1] |
| 21 | Phase pattern C | |

| | | |
|---|---|---|
| 22 | Phase pattern M | |
| 23 | Phase pattern Y | |
| 30 | Clear Revision K | [0 to 1/0/1] |
| 31 | Clear Revision C | |
| 32 | Clear Revision M | |
| 33 | Clear Revision Y | |
| 40 | Manual K CE | [-10 to 10/0/1 pulse] |
| 41 | Manual K User | |

| | |
|---|---|
| 2105 | Main Beam Pitch Adj |
| | Adjusts the value of the beam pitch adjustment for black in the main scan direction. |
| 1 to 160 | Revision <Color> <No.>ch(annel)<br>[-10 to 10/*/0.1 um]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |

| | |
|---|---|
| 2106 | Trapezoid Adj |
| | Trapezoid adjustment for black. |
| 1 to 160 | Revision <Color KCMY> <no.>ch(annel)<br>[-48 to 48/*/ subdot]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |

| | | |
|---|---|---|
| 2107 | Image Parameter | |
| | These SP codes adjust image parameters. | |
| 1 | Shading Correction Flag | [0 to 1/1/1] |
| 2 | Image Gamma Flag | |
| 3 | Jaggy Revision | [0 to 1/0/1] |
| 4 | Fatten slanted line | |
| 5 | Dot Stabilize Revision | |
| 6 | Bow Skew Revision | [0 to 1/1/1] |
| 7 | Sub Mag Adj Revision K1 | |
| 8 | Sub Mag Adj Revision K2 | |
| 9 | Sub Mag Adj Revision W1 | |
| 10 | Sub Mag Adj Revision W2 | |
| 11 | Sub Mag Adj Rev 600dpi W1 | [0 to 1/0/1] |
| 12 | trapezoid Adj ON/OFF | [0 to 1/1/1] |
| 13 | Sub Mag Adj Mirror K | [0 to 1/0/1] |
| 14 | Sub Mag Adj Mirror C | |
| 15 | Sub Mag Adj Mirror M | |
| 16 | Sub Mag Adj Mirror Y | |
| 18 | Sub Mag Adj Revision K3 | |
| 19 | Sub Mag Adj Revision Gray | |
| 20 | Sub Scan Revision 1spl | |
| 21 | Sub Mag Adj Parameter Change | |
| 22 | PWM Phase Selection | [0 to 2/1/1] |

| 2108 | Image Parameter | |
|---|---|---|
| 1 | K/C Writing Unit | [0 to 1/0/1] |
| 2 | Y/M Writing Unit | |

| 2109 | Test Pattern | |
|---|---|---|
| | Allows you to select a test pattern. | |
| 3 | Pattern Selection | |
| | Allows you to select 1 of 27 patterns to print<br>[0 to 27/0/1] | |
| | 0:Copy Image Data | 14: Trimming Area |
| | 1:Vertical Line 1dot | 15: Hound's Tooth Check 1 Vertical |
| | 2:Vertical Line 2dot | 16: Hound's Tooth Check 2 Vertical |
| | 3:Horizontal Line 1dot | 17:Band Horizontal |
| | 4:Horizontal Line 2dot | 18:Band Vertical |
| | 5:Grid Vertical Line | 19:Checker Flag Pattern |
| | 6:Grid Horizontal Linie | 20:Grayscale Vertical Margin |
| | 7:Grid Pattern Small | 21:Grayscale Horizontal Margin |
| | 8:Grid Pattern Large | 22:Step Pattern 1dot |
| | 9:Argyle Pattern Small | 23:Step Pattern 2dot |
| | 10:Argyle Pattern Large | 24:Stripe Pattern 1dot |
| | 11:Independent Pattern 1dot | 25:Stripe Pattern 2dot |
| | 12:Independent Pattern 2dot | 26:Full Dot Pattern |
| | 13:Independent Pattern 4dot | 27:None |

| | | |
|---|---|---|
| 5 | Color Selection | [1 to 5/1/1 step]<br>1: Full Color<br>2: Cyan<br>3: Magenta<br>4: Yellow<br>5: Black |
| 6 | Density: K | [0 to 15/15/1 step] |
| 7 | Density: C | |
| 8 | Density: M | |
| 9 | Density: Y | |

| | | |
|---|---|---|
| 2111 | Forced Line Position Adj | |
| | Executes forced color matching for Mode a, b, c, d | |
| 1 | Mode a | [0 to 1/0/1] |
| 2 | Mode b | |
| 3 | Mode c | |
| 4 | Mode d | |

| 2112 | TM/P-Sensor Test | |
|---|---|---|
| | These SP codes are used to test the TM sensors (Toner Mark or MUSIC sensors) and P-sensor (ID sensor), and check for damage on the surface of the image transfer belt (ITB). | |
| 1 | Execute | [0 to 1/0/1] |
| 10 | General | [0 to 9999/0/1] |
| 11 | Error Code: P | [0 to 999999/0/1] |
| 15 | Error Code: Front | |
| 16 | Error Code: Center | |
| 17 | Error Code: Rear | |
| 20 | Threshold Setting | [0 to 5.5/1.9/0.01 V] |
| 21 | Judge Val: Min 2 | [0 to 5.5/2.5/0.01 V] |
| 22 | Judge Val: Output Chg Amplitude High | [0 to 5.5/1/0.01 V] |
| 23 | Judge Val: Output Chg Amplitude Low | |
| 24 | Judge Val: Ave Chg Amplitude High | [0 to 5.5/0.5/0.01 V] |
| 25 | Judge Val: Ave Chg Amplitude Low | |

| 2113 | Adjust LR Density Difference | |
|---|---|---|
| | Adjusts in the main scan direction the amount of laser light to create the image for each color so the density is uniform on the left and right sides of the image. | |
| 1 | K | [-5 to +5/0/1] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 2121 | Erase Margin Adj | |
|---|---|---|
| 1 | Leading Edge | [ 0 to 6 / 0 / 0.1 mm] |
| 2 | Trailing Edge | [ 0 to 6 / 0 / 0.1 mm] |



| 2122 | Erase Margin Adj Leading Edge | |
|---|---|---|
| | Adjusts and enlarges margin at the trailing edge. A user setting. | |
| 1 to 100 | Custom Paper 001 to 100 | [ -3 to 6 / 0 / 0.1 mm] |
| 101 | Plain: Weight 1 | [ -3 to 6 / 0.5 / 0.1 mm] |
| 102 to 107 | Plain: Weight 2 to 7 | [ -3 to 6 / 0 / 0.1 mm] |
| 109 to 114 | Glossy: Weight 2 to 7 | |
| 116 to 121 | Matte: Weight 2 to 7 | |
| 122 to 124 | Envelope: Weight 5 to 7 | |
| 125 | OHP | |

| 2123 | Erase Margin Adj Trailing Edge | |
|---|---|---|
| | Adjusts and enlarges margin at the trailing edge. A user setting. | |
| 1 to 100 | Custom Paper 001 to 100 | [-3 to +6/0/0.1 mm] |
| 101 to 107 | Plain: Weight 1 to 7 | |
| 109 to 114 | Glossy: Weight 2 to 7 | |
| 116 to 121 | Matte: Weight 2 to 7 | |
| 122 to 124 | Envelope: Weight 5 to 7 | |
| 125 | OHP | |

| | | |
|---|---|---|
| 2130 | Sub Mag Adj Parameter K | |
| 2131 | Sub Mag Adj Parameter C | |
| 2132 | Sub Mag Adj Parameter M | |
| 2133 | Sub Mag Adj Parameter Y | |
| | These SP modes adjust the magnification parameters in the sub scan direction for each color. | |
| 1 | Interval:0.025 Percent | [0 to 255/19/1] |
| 2 | Mag Reciprocal:0.025 Percent | [0 to 8191/3990/1] |
| 3 | Interval:0.05 Percent | [0 to 255/53/1] |
| 4 | Mag Reciprocal:0.05 Percent | [0 to 8191/1961/1] |
| 5 | Interval:0.075 Percent | [0 to 255/19/1] |
| 6 | Mag Reciprocal:0.075 Percent | [0 to 8191/1349/1] |
| 7 | Interval:0.1 Percent | [0 to 255/53/1] |
| 8 | Mag Reciprocal:0.1 Percent | [0 to 8191/1007/1] |
| 9 | Interval:0.125 Percent | [0 to 255/47/1] |
| 10 | Mag Reciprocal:0.125 Percent | [0 to 8191/799/1] |
| 11 | Interval:0.15 Percent | [0 to 255/29/1] |
| 12 | Mag Reciprocal:0.15 Percent | [0 to 8191/667/1] |
| 13 | Interval:0.175 Percent | [0 to 255/13/1] |
| 14 | Mag Reciprocal:0.175 Percent | [0 to 8191/572/1] |
| 15 | Interval:0.2 Percent | [0 to 255/29/1] |
| 16 | Mag Reciprocal:0.2 Percent | [0 to 8191/493/1] |
| 17 | Interval:0.225 Percent | [0 to 255/23/1] |
| 18 | Mag Reciprocal:0.225 Percent | [0 to 8191/437/1] |

| | | |
|---|---|---|
| 19 | Interval:0.25 Percent | [0 to 255/19/1] |
| 20 | Mag Reciprocal:0.25 Percent | [0 to 8191/3991/1] |
| 21 | Interval:0.275 Percent | [0 to 255/19/1] |
| 22 | Mag Reciprocal:0.275 Percent | [0 to 8191/361/1] |
| 23 | Interval:0.3 Percent | [0 to 255/19/1] |
| 24 | Mag Reciprocal:0.3 Percent | [0 to 8191/323/1] |
| 25 | Interval:0.325 Percent | [0 to 255/17/1] |
| 26 | Mag Reciprocal:0.325 Percent | [0 to 8191/306/1] |
| 27 | Interval:0.35 Percent | [0 to 255/17/1] |
| 28 | Mag Reciprocal:0.35 Percent | [0 to 8191/289/1] |
| 29 | Interval:0.375 Percent | [0 to 255/14/1] |
| 30 | Mag Reciprocal:0.375 Percent | [0 to 8191/266/1] |
| 31 | Interval:0.4 Percent | [0 to 255/11/1] |
| 32 | Mag Reciprocal:0.4 Percent | [0 to 8191/253/1] |
| 33 | Interval:0.425 Percent | [0 to 255/21/1] |
| 34 | Mag Reciprocal:0.425 Percent | [0 to 8191/231/1] |
| 35 | Interval:0.45 Percent | [0 to 255/22/1] |
| 36 | Mag Reciprocal:0.45 Percent | [0 to 8191/220/1] |
| 37 | Interval:0.475 Percent | [0 to 255/21/1] |
| 38 | Mag Reciprocal:0.475 Percent | [0 to 8191/210/1] |
| 39 | Interval:0.5 Percent | [0 to 255/18/1] |
| 40 | Mag Reciprocal:0.5 Percent | [0 to 8191/198/1] |
| 41 | Interval:0.525 Percent | [0 to 255/19/1] |
| 42 | Mag Reciprocal:0.525 Percent | [0 to 8191/190/1] |

| | | |
|---|---|---|
| 43 | Interval:0.55 Percent | [0 to 255/13/1] |
| 44 | Mag Reciprocal:0.55 Percent | [0 to 8191/182/1] |
| 45 | Interval:0.575 Percent | [0 to 255/11/1] |
| 46 | Mag Reciprocal:0.575 Percent | [0 to 8191/176/1] |
| 47 | Interval:0.6 Percent | [0 to 255/15/1] |
| 48 | Mag Reciprocal:0.6 Percent | [0 to 8191/165/1] |
| 49 | Interval:0.625 Percent | [0 to 255/16/1] |
| 50 | Mag Reciprocal:0.625 Percent | [0 to 8191/160/1] |
| 51 | Interval:0.65 Percent | [0 to 255/14/1] |
| 52 | Mag Reciprocal:0.65 Percent | [0 to 8191/154/1] |
| 53 | Interval:0.675 Percent | [0 to 255/15/1] |
| 54 | Mag Reciprocal:0.675 Percent | [0 to 8191/150/1] |
| 55 | Interval:0.7 Percent | [0 to 255/13/1] |
| 56 | Mag Reciprocal:0.7 Percent | [0 to 8191/143/1] |
| 57 | Interval:0.725 Percent | [0 to 255/14/1] |
| 58 | Mag Reciprocal:0.725 Percent | [0 to 8191/140/1] |
| 59 | Interval:0.75 Percent | [0 to 255/7/1] |
| 60 | Mag Reciprocal:0.75 Percent | [0 to 8191/133/1] |
| 61 | Interval:0.775 Percent | [0 to 255/13/1] |
| 62 | Mag Reciprocal:0.775 Percent | [0 to 8191/130/1] |
| 63 | Interval:0.8 Percent | [0 to 255/14/1] |
| 64 | Mag Reciprocal:0.8 Percent | [0 to 8191/126/1] |

| 2141 | P-Sensor Test (Average) | |
|---|---|---|
| | These SP codes test the belt background data, ID sensor, reflectivity of the belt and averages them for different areas of the image transfer belt. (The "P-sensor" is the ID sensor.) | |
| 1 | Average | [0 to 5.5/0/0.01V] |
| 5 | Average: Front | |
| 6 | Average: Center | |
| 7 | Average: Rear | |

| 2142 | P-Sensor Test (Maximum) | |
|---|---|---|
| | These SP codes test the belt background data, ID sensor, reflectivity of the belt and determine the maximum value at different areas of the image transfer belt. (The "P-sensor" is the ID sensor.) | |
| 1 | Maximum | [0 to 5.5/0/0.01V] |
| 5 | Maximum: Front | |
| 6 | Maximum :Center | |
| 7 | Maximum: Rear | |

| 2143 | P-Sensor Test (Minimum) | |
|---|---|---|
| | These SP codes test the belt background data, ID sensor, reflectivity of the belt and determine the minimum value at different areas of the image transfer belt. (The "P-sensor" is the ID sensor.) | |
| 1 | Minimum | [0 to 5.5/0/0.01V] |
| 5 | Minimum: Front | |
| 6 | Minimum: Center | |
| 7 | Minimum: Rear | |

| 2144 | P-Sensor Test (Maximum 2) | |
|---|---|---|
| | These SP codes test the belt background data, ID sensor, reflectivity of the belt and determine the simple maximum value at different areas of the image transfer belt. (The "P-sensor" is the ID sensor.) | |
| 1 | Maximum 2 | [0 to 5.5/0/0.01V] |
| 5 | Maximum 2: Front | |
| 6 | Maximum 2: Center | |
| 7 | Maximum 2: Rear | |

| 2145 | Sensor Test (Minimum 2) | |
|---|---|---|
| | These SP codes test the belt background data, ID sensor, reflectivity of the belt and determine the simple minimum value at different areas of the image transfer belt. (The "P-sensor" is the ID sensor.) | |
| 1 | Minimum 2 | [0 to 5.5/0/0.01V] |
| 5 | Minimum 2:Front | |
| 6 | Minimum 2:Center | |
| 7 | Minimum 2:Rear | |

| 2146 | TM Sensor Test | |
|---|---|---|
| | This SP sets the number of tests done to check the belt background data, TM sensor, and front edge of the belt. ("TM sensor" means "MUSIC sensor". Here, it refers to the front MUSIC sensor.) | |
| 5 | Number of Edge Detection: Front | [0 to 16/0/0.1] |
| 6 | Number of Edge Detection: Center | |
| 7 | Number of Edge Detection: Rear | |

| | | |
|---|---|---|
| 2150 | Area Mag. Correction | |
| | Fine adjusts the image color (YMCK) in the main scan direction. Adjustment is done in units of 1/48 dots. | |
| 001 to 056 | Area <No.> <Color> | [-4095 to +4095/0/1 Subdot] |
| | <No.> 0 to 13 <Color> Bk, C, M, Y | |

| | | |
|---|---|---|
| 2151 | Bow Skew Setting | |
| | Defines the initial setting for each area of the MUSIC pattern for Bow Skew testing and adjustment. | |
| 1 | Initial Setting Area 0 K | [0 to 24/0/1] |
| 2 to 11 | Initial Setting Area <Range>K | [0 to 65535/0/1] |
| 12 | Initial Setting Area 81 to 85 K | [0 to 1023/0/1] |
| 13 | Initial Setting Area 0C | [0 to 24/0/1] |
| 14 to 23 | Initial Setting Area <Range> C | [0 to 65535/0/1] |
| 24 | Initial Setting Area 81 to 85 C | [0 to 1023/0/1] |
| 25 | Initial Setting Area 0 M | [0 to 24/0/1] |
| 26 to 35 | Initial Setting Area <Range>M | [0 to 65535/0/1] |
| 36 | Initial Setting Area 81 to 85 M | [0 to 1023/0/1] |
| 37 | Initial Setting Area 0 Y | [0 to 24/0/1] |
| 38 to 47 | Initial Setting Area <Range>Y | [0 to 65535/0/1] |
| 48 | Initial Setting Area 81 to 85 Y | [0 to 1023/0/1] |
| 61 | Initial Setting Area 0 C | [0 to 24/0/1] |
| 62 to 71 | Initial Setting Area <Range>C | [0 to 65535/0/1] |
| 72 | Initial Setting Area 81 to 85 C | [0 to 1023/0/1] |
| 73 | Initial Setting Area 0 M | [0 to 24/0/1] |

| | | |
|---|---|---|
| 74 to 83 | Initial Setting Area <Range>M | [0 to 65535/0/1] |
| 84 | Initial Setting Area 81 to 85 M | [0 to 1023/0/1] |
| 85 | Initial Setting Area 0 Y | [0 to 24/0/1] |
| 86 to 95 | Initial Setting Area <Range>Y | [0 to 65535/0/1] |
| 96 | Initial Setting Area 81 to 85 Y | [0 to 1023/0/1] |

| | | |
|---|---|---|
| 2152 | Shading Coeff | |
| | Sets the adjust coefficient for exposure shading for each color in each area of the MUSIC pattern. | |
| 1 to 128 | <Area> <Front No. 0 to 30><Color KCMY> | [0.875 to 1.165/1/0.001] |

| | | |
|---|---|---|
| 2153 | MUSIC Settings | |
| | These SP codes set up the MUSIC settings. | |
| 1 | Auto Execute | [0 to 1/1/1] |
| 2 | During ProCon | 0: OFF, 1: ON |
| 3 | Initialization | |
| 4 | During Data In | |
| 5 | Writing | |
| 6 | MUSIC Temp Intervals | [0 to 1/0/1] |
| 24 | Assign Page Interval | [10 to 999/100/1 page] |
| 29 | MUSIC Density Lvl | [0 to 15/15/1] |
| 30 | Clear Main Slip | [0 to 1/0/1] |
| 31 | Clear Sub Slip | |
| 40 | Decision Temp: Change K | [0 to 99.9/1.5/0.1 deg] |
| 41 | Decision Temp: Change K2 | [0 to 99.9/3/0.1 deg] |

| | | |
|---|---|---|
| 44 | Decision Temp: Change M | [0 to 99.9/1.5/ 0.1deg] |
| 45 | Decision Temp: Change M2 | [0 to 99.9/3/0.1 deg] |
| 50 | Decision Temp: Change Y | [0 to 99.9/1.5/0.1 deg] |
| 51 | Decision Temp: Change Y2 | [0 to 99.9/3/0.1 deg] |
| 52 | Decision Temp: ITB FB Sensor | [0 to 99.9/1.5/0.1 deg] |
| 53 | Decision Temp: ITB FB Sensor2 | [0 to 99.9/3/0.1 deg] |

| | | |
|---|---|---|
| 2154 | MUSIC Setting:2 | |
| | Feeds back the MUSIC setting adjustments. | |
| | Feed Back mode | [0 to 1 /1/1] |

| | | |
|---|---|---|
| 2155 | MUSIC Setting: 3 | |
| | Filter QF for the MUSIC settings. | |
| 13 | Filter QF | [0 to 3 /3/1] |
| 20 | BeforeFilter:a1 | [-131071 to 131071/125869/1] |
| 21 | BeforeFilter:a2 | [-131071 to 131071/-60488/1] |
| 22 | BeforeFilter:b0 | [-131071 to 131071/39/1] |
| 23 | BeforeFilter:b1 | [-131071 to 131071/77/1] |
| 24 | BeforeFilter:b2 | [-131071 to 131071/39/1] |
| 25 | AfterFilter:a1 | [-131071 to 131071/128596/1] |
| 26 | AfterFilter:a2 | [-131071 to 131071/-63398/1] |
| 27 | AfterFilter:b0 | [-131071 to 131071/84/1] |
| 28 | AfterFilter:b1 | [-131071 to 131071/168/1] |
| 29 | AfterFilter:b2 | [-131071 to131071/84/1] |
| 50 | Main Offset Left: C | [-2000 to 2000/0/0.1um] |

| | | |
|---|---|---|
| 51 | Main Offset Center: C | |
| 52 | Main Offset Right: C | |
| 53 | Main Offset Left: M | |
| 54 | Main Offset Center: M | |
| 55 | Main Offset Right: M | |
| 56 | Main Offset Left: Y | |
| 57 | Main Offset Center: Y | |
| 58 | Main Offset Right: Y | |
| 62 | Sub Offset Left: C | |
| 63 | Sub Offset Center: C | |
| 64 | Sub Offset Right: C | |
| 65 | Sub Offset Left: M | |
| 66 | Sub Offset Center: M | |
| 67 | Sub Offset Right: M | |
| 68 | Sub Offset Left: Y | |
| 69 | Sub Offset Center: Y | |
| 70 | Sub Offset Right: Y | |
| 80 | Skew Remainder Std Speed: C | [-2000 to 2000/0/0.001um] |
| 81 | Skew Remainder Mid Speed: C | [-2000 to 2000/32.657/0.001um] |
| 82 | Skew Remainder Low Speed: C | [-2000 to 2000/54.429/0.001um] |
| 83 | Skew Remainder Std Speed: Y | [-2000 to 2000/0/0.001um] |
| 84 | Skew Remainder Mid Speed: Y | [-2000 to2000/32.657/0.001um] |
| 85 | Skew Remainder Low Speed: Y | [-2000 to 2000/54.429/0.001um] |
| 90 | Bow Skew Upper Limit | [0 to 24/24/1 line] |

| | | |
|---|---|---|
| 91 | Bow Skew Lower Limit | [0 to 24/1/1 line] |

| 2156 | MUSIC Threshold Setting | |
|---|---|---|
| 1 | ch 0: 1st | [0.5 to 3/1.5/0.1 V] |
| 2 | ch 0: 2nd | |
| 3 | ch 0: 3rd | |
| 4 | ch 0: 4th | |
| 5 | ch 1: 1st | |
| 6 | ch 1: 2nd | |
| 7 | ch 1: 3rd | |
| 8 | ch 1: 4th | |
| 9 | ch 2: 1st | |
| 10 | ch 2: 2nd | |
| 11 | ch 2: 3rd | |
| 12 | ch 2: 4th | |

| 2180 | MUSIC Monitor | |
|---|---|---|
| | Lens temperature monitor. | |
| 1 | Lens Temp: K | [0 to 99.9/0/0.1 deg] |
| 3 | Lens Temp: M | |
| 10 | Previous Temp: K | |
| 12 | Previous Temp: M | |
| 15 | Previous Temp: Main Y | |
| 16 | Previous Temp: ITB FB Sensor | |

| 2181 | Alignment Result | |
|---|---|---|
| | These SP codes report the results of color registration alignment. | |
| 1 | General | [0 to 9999999/0/1] |
| 2 | Difference Main Left: C | [-2000 to 2000/0/0.001 um] |
| 3 | Difference Main Center: C | |
| 4 | Difference Main Right: C | |
| 5 | Difference Main Left: M | |
| 6 | Difference Main Center: M | |
| 7 | Difference Main Right: M | |
| 8 | Difference Main Left: Y | |
| 9 | Difference Main Center: Y | |
| 10 | Difference Main Right: Y | |
| 14 | Difference Sub Left: C | |
| 15 | Difference Sub Center: C | |
| 16 | Difference Sub Right: C | |
| 17 | Difference Sub Left: M | |
| 18 | Difference Sub Center: M | |
| 19 | Difference Sub Right: M | |
| 20 | Difference Sub Left: Y | |
| 21 | Difference Sub Center: Y | |
| 22 | Difference Sub Right: Y | |
| 26 | MUSIC Sub Scan Revision: C | [-4096 to 4095/0/1 line] |
| 27 | MUSIC Sub Scan Revision: M | |
| 28 | MUSIC Sub Scan Revision: Y | |

| | | |
|---|---|---|
| 30 | BowSkew Revision Left: C | [-2000 to 2000/0/0.001 um] |
| 31 | BowSkew Revision Center: C | |
| 32 | BowSkew Revision Right: C | |
| 33 | BowSkew Revision Left: M | |
| 34 | BowSkew Revision Center: M | |
| 35 | BowSkew Revision Right: M | |
| 36 | BowSkew Revision Left: Y | |
| 37 | BowSkew Revision Center: Y | |
| 38 | BowSkew Revision Right: Y | |
| 42 | Skew Amt: C | |
| 43 | Skew Amt: M | |
| 44 | Skew Amt: Y | |

| | | |
|---|---|---|
| 2183 | Main Scan Length Detection | |
| | These SP codes set and execute the standard speed of 2-dot measurement for each color. | |
| 1 | Execute : K | [0 to 1/0/1] |
| 4 | Execute : C | |
| 7 | Execute : M | |
| 10 | Execute : Y | |

| 2184 | Main Scan Length Target | |
|---|---|---|
| | These SP codes retrieve the results of 2-dot measurement for each color and display the counts. | |
| 1 | Execute: K | [0 to 1/0/1] |
| 2 | Execute: C | |
| 3 | Execute: M | |
| 4 | Execute: Y | |
| 6 | Count Value: K | [0 to 300000/266835/1] |
| 7 | Count Value: C | |
| 8 | Count Value: M | |
| 9 | Count Value: Y | |

| 2185 | Main Scan Length Detection | |
|---|---|---|
| | This SP selects 2-point measurement. | |
| 1 | Mode Selection | [0 to 2/2/1] |
| | | 0: OFF 1:ON 2:ALL ON |

| 2190 | Line Position Adj. Setting | |
|---|---|---|
| | This SP selects the amount of magnification in the main scan direction for the color registration method. | |
| 1 | Partial Mag: K | [0 to 1/1/1] |
| 2 | Partial Mag: C | |
| 3 | Partial Mag: M | |
| 4 | Partial Mag: Y | |
| 6 | Left Right Mag: C | |

| | | |
|---|---|---|
| 7 | Left Right Mag: M | |
| 8 | Left Right Mag: Y | |
| 12 | SnSErr Range | [-3500 to 3500/200/1 um] |



| | | |
|---|---|---|
| 2191 | Polygon Mirror Face Detection | |
| | Selects polygon mirror facet measurement method. | |
| 1 | Mode Selection | [0 to 1/1/1] 0:OFF 1:ON |

| | | |
|---|---|---|
| 2192 | LD Control | |
| 1 | LD On : K | [ 0 to 40 / 0 / 1]<br>K : LD1 to 40 : ON/OFF |
| 2 | LD On : C | [ 0 to 40 / 0 / 1]<br>C : LD1 to 40 : ON/OFF |
| 3 | LD On : M | [ 0 to 40 / 0 / 1]<br>M : LD1 to 40 : ON/OFF |
| 4 | LD On : Y | [ 0 to 40 / 0 / 1]<br>Y : LD1 to 40 : ON/OFF |

| | | |
|---|---|---|
| 2193 | PD Control | |
| 1 | Monitor PD Output: K | [ 0 to 1023 / - / 1] |
| 2 | Monitor PD Output: C | [ 0 to 1023 / - / 1] |
| 3 | Monitor PD Output: M | [ 0 to 1023 / - / 1] |
| 4 | Monitor PD Output: Y | [ 0 to 1023 / - / 1] |

| 2194 | MUSIC Execution Result | |
|---|---|---|
| 7 | Execution Result | [0 to 1/0/1] |
| 8 | N umber of Execution | [0 to 999999/0/1times] |
| 9 | N umber of Failure | |
| 10 | Error Result: M | [0 to 9/0/1] |
| 11 | Error Result: C | |
| 12 | Error Result: Y | |

| 2197 | MUSIC Start Time | |
|---|---|---|
| 1 | MUSIC Start Time (EDT) | [10 to 40/20/10 ms] |
| 2 | TM Sensor Position | [50 to 500/155/0.1 mm] |

| 2198 | Music A/D Interval | |
|---|---|---|
| | ADC Trigger Counter | [7.5 to 20/10/0.1 us] |

| 2199 | Music Error Time Setting | |
|---|---|---|
| | Error Detection Counter | [0.1 to 9.9/2.5/0.1 sec] |

| 2201 | Set DC Charge | |
|---|---|---|
| | These SP codes set the DC bias. However, these settings are enabled only when SP3-600-001 is selected and enabled as the method to control process control electrical potential. | |
| 1 | K | [-999 to -250/-560/1 V¥ |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 2202 | Set AC (Fixed) Charge | |
|---|---|---|
| | This SP setting determines the fixed electrical potential setting when AC electrical potential adjustment is off. | |
| 1 | AC Bias :K | [0 to 3/2.2/0.01 kV] |
| 2 | AC Bias :C | |
| 3 | AC Bias :M | |
| 4 | AC Bias :Y | |

| 2204 | Set AC Environ Corr | |
|---|---|---|
| | Sets the target value for the AC electrical potential charge adjustment. | |
| 1 to 4 | Norm:LL:Target:K, C, M, Y | [2.5 to 3.5/2.15/0.01 mA] |
| 6 to 9 | Norm:ML:Target: K, C, M, Y | [1.5 to 2.1/3/0.01 mA] |
| 11 to 14 | Norm:MM:Target:K, C, M, Y | [1.5 to 3/2.05/0.01 mA] |
| 16 to 19 | Norm:MH:Target: K, C, M, Y | |
| 21 to 24 | Norm:HH:Target:K, C, M, Y | |
| 26 to 29 | Mid:LL:Target:K, C, M, Y | [1.2 to 2.8/1.78/ 0.01 mA |
| 31 to 34 | Mid:ML:Target:K, C, M, Y | [1.2 to 2.8/1.74/ 0.01 mA |
| 36 to 39 | Mid:MM:Target:K, C, M, Y | [1.2 to 2.8/1.7/ 0.01 mA |
| 41 to 44 | Mid:MH:Target:K, C | |
| 46 to 47 | Mid:HH:Target: M, Y | |
| 48 to 49 | Mid:HH:Target:M, Y | |
| 51 to 54 | Low:LL:Target:K, C, M, Y | [1 to 2.5/1.56/ 0.01 mA |
| 56 to 59 | Low:ML:Target:K, C, M, Y | [1 to 2.5/1.53/ 0.01 mA |
| 61 to 64 | Low:MM:Target:K, C, M, Y | [1 to 2.5/1.5/0.01 mA] |

| | | |
|---|---|---|
| 66 to 69 | Low:MH:Target:K, C, M, Y | |
| 71 to 72 | Low:HH:Target:K, C | |
| 73 to 74 | Low:HH:Target:M, Y | |

| 2205 | Adj/Display AC Charge | |
|---|---|---|
| | Switches the AC electrical potential setting on/off. | |
| 1 | Select | [0 to 1/0/1] |
| 2 | Temp Threshold 1 | [0 to 50/3/1 deg] |
| 3 | Temp Threshold 2 | [0 to 50/1/1 deg] |
| 4 | Execution Interval | [0 to 200/10/5] |
| 5 | Previous Temp:BW | [0 to 50/0/1 deg] |
| 6 | Previous Temp:Col | |

| 2208 | Chg AC Adj.: Execute | |
|---|---|---|
| | Touch [EXECUTE] to force execute the AC electrical potential adjustment. | |
| 1 | Execute AC Reduction | [EXECUTE] |

| 2209 | Chg AC Adj: Result | |
|---|---|---|
| | Displays the result of the AC electrical potential adjustment. | |
| 1 | Chg AC Adj:Result | [0 to 9999/100/1]<br>[1111] denotes successful adjustment. |

| 2211 | Set LD Power | |
|---|---|---|
| | These SP codes set the LD power level for each laser unit. These settings take effect only when SP3600-001 is selected and set to "0" (ON). | |
| 1 | K | [80 to 170/100/1 %] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 2212 | Set Dev DC | |
|---|---|---|
| | These SP codes set the DC bias for each color. These settings take effect only when SP3600-001 is selected and set to "0" (ON). | |
| 1 | K | [-900 to 0/-450/1 V] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 2220 | Chg Roll Cleaning Timing | |
|---|---|---|
| | This SP sets the operation timing of the charge roller cleaning roller. | |
| | Execution Timing | [0 to 2/2/1]<br>0: No Operation<br>1: Power On & Distance<br>2: Distance |

| | | |
|---|---|---|
| 2221 | Chg Roll Cleaning Timing | |
| | These SP codes set up the parameters for the operation of the charge roller cleaning roller. | |
| 1 | Execution Interval: K | [0 to 999 999/100 000/100 cm] |
| 2 | Execution Interval: C | |
| 3 | Execution Interval: M | |
| 4 | Execution Interval: Y | |
| 5 | Distance: K | [0 to 999 999/0/1 cm] |
| 6 | Distance: C | |
| 7 | Distance: M | |
| 8 | Distance: Y | |
| 9 | Delay at Power On: K | [0 to 999 999/5000/100 cm] |
| 10 | Delay at Power On: C | |
| 11 | Delay at Power On: M | |
| 12 | Delay at Power On: Y | |
| 13 | Delay at Power On: Y | |

| 2222 | Chg Roll Cleaning Execute | |
|---|---|---|
| | This SP triggers forced manual cleaning of the charge roller with the charge roller cleaning roller. Cleaning can be done for charge roller independently or all at once together. | |
| 1 | All | [EXECUTE] |
| 2 | K | |
| 3 | C | |
| 4 | M | |
| 5 | Y | |

| 2224 | Set QL Power | |
|---|---|---|
| | Sets the power level of the quenching lamps which eliminate residual charge on the drums. | |
| 1 | Norm Image | [0 to 100/80/1%] |
| 2 | Norm Margin | |
| 3 | Mid Image | [0 to 100/56/1%] |
| 4 | Mid Margin | |
| 5 | Low Image | [0 to 100/40/1%] |
| 6 | Low Margin | |

| 2225 | Cleaning Speed: Col | |
|---|---|---|
| | These SP codes adjust the speed of the cleaning brush rollers relative to the speed of the drums. | |
| 1 | Norm | 0.1 to 1/0.38/0.01] |
| 2 | Mid | [0.1 to 1/0.56/0.01] |
| 3 | Low | [0.1 to 1/0.54/0.01] |

| | | |
|---|---|---|
| 4 | Period of Revs1 | [0 to 150 000/5000/1m] |
| 5 | Period of Temp | [0 to 50/34/1deg] |
| 6 | Distance Coefficient1 | [0.5 to 2/0.9/0.1] |
| 7 | Post Switching Coefficient | [0.5 to 2/1.25/0.1] |
| 8 | Period of Revs2 | [0 to 150000/15000/1m] |
| 9 | Period of Revs3 | [0 to 150000/40000/1m] |
| 10 | Distance Coefficient2 | [0.5 to 2/1/0.1] |
| 11 | Distance Coefficient3 | |
| 12 | Special Mode Selection: K | [0 to 1/0/1] |
| 13 | Special Mode Selection: C | |
| 14 | Special Mode Selection: M | |
| 15 | Special Mode Selection: Y | |
| 16 | Special Mode Coefficient1 | [0.5 to 2/0.9/0.1] |
| 17 | Special Mode Coefficient2 | [0.5 to 2/1.2/0.1] |
| 18 | Special Mode Coefficient3 | |

| 2301 | Current Value: FC | |
|---|---|---|
| 1 | Side1:ITB K | [0 to 70/0/0.1 uA] |
| 2 | Side1:ITB C | |
| 3 | Side1:ITB M | |
| 4 | Side1:ITB Y | |
| 7 | Side1:PTR | [-400 to 0/0/1 uA] |
| 8 | Side1:SepDC | [0 to 10/0/0.1 uA] |
| 9 | Side1:SepAC | [8 to 12/10/0.1 uA] |
| 11 | Side2:ITB K | [0 to 70/0/0.1 uA] |

| | | |
|---|---|---|
| 12 | Side2:ITB C | |
| 13 | Side2:ITB M | |
| 14 | Side2:ITB Y | |
| 17 | Side2:PTR | [-400 to 0/0/1 uA] |
| 18 | Side2:SepDC | [0 to 10/0/0.1 uA] |
| 19 | Side2:SepAC | [8 to 12/10/0.1 kV] |

| 2302 | Current Value: BK | |
|---|---|---|
| 1 | Side1:ITB K | [0 to 70/0/0.1uA] |
| 7 | Side1:PTR | [-400 to 0/0/1uA] |
| 8 | Side1:SepDC | [0 to 10/0/0.1uA] |
| 9 | Side1:SepAC | [8 to 12/10/0.1kV] |
| 11 | Side2:ITB K | [0 to 70/0/0.1uA] |
| 17 | Side2:PTR | [-400 to 0/0/1uA] |
| 18 | Side2:SepDC | [0 to 10/0/0.1uA] |
| 19 | Side2:SepAC | [8 to 12/10/0.1kV] |

| 2310 | Force Apply Lubricant | |
|---|---|---|
| | These SP codes control the forced application of lubricant to the ITB and display the histories of executed cleanings. | |
| 1 | Belt Cleaning | [0 to 1/0/1] |
| 2 | Operation Time Setting | [0 to 600/300/10sec] |
| 3 | Success App Date: History 1 | [0 to 991 231/0/1] |
| 4 | Success App Date: History 2 | |
| 5 | Success App Date: History 3 | |
| 6 | Success App Date: History 4 | |
| 7 | Success App Date: History 5 | |

| 2311 | Current R Division | |
|---|---|---|
| 11 | ITB K | [0 to 6/3/1] |
| 12 | ITB C | |
| 13 | ITB M | |
| 14 | ITB Y | |
| 17 | PTR | |

| 2312 | Measured Voltage | |
|---|---|---|
| 1 | ITB K | [0 to 7/0/0.01 kV] |
| 2 | ITB C | |
| 3 | ITB M | |
| 4 | ITB Y | |
| 7 | PTR | [0 to 12/0/0.01 kV] |
| 13 | Meas ITB | [0 to 6/3/0.01 kV] |
| 14 | Meas PTR | |

| 2313 | Execute Vltg Meas | |
|---|---|---|
| 1 | FC | [EXECUTE] then displays "Completed". |
| 2 | BW | |

| 2315 | Set:Int Vltg Meas | |
|---|---|---|
| 1 | Execute Interval | [0 to 20000/200/1 Sheet] |
| 2 | Counter:FC | [0 to 20000/0/1 Sheet] |
| 3 | Counter:BW | |

| 2321 | Set:R Thresh:LLL | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/1.8/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/2.48/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/3.5/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/4.8/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/7/0.01 kV] |

| 2322 | Set:R Thresh:LL | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/1.5/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/1.95/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/2.65/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/3.8/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/6/0.01 kV] |

| 2323 | Set:R Thresh:ML | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/1.2/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/1.55/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/2.05/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/2.9/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/5/0.01 kV] |

| 2324 | Set:R Thresh:MM | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/0.9/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/0.65/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/1.45/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/2/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/4/0.01 kV] |

| 2325 | Set:R Thresh:MH | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/0.5/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/6.5/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/0.8/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/1.2/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/2.5/0.01 kV] |

| 2326 | Set:R Thresh:HH | |
|---|---|---|
| 1 | R Thresh1:ITB | [0 to 10/0.8/0.01 kV] |
| 2 | R Thresh2:ITB | [0 to 10/1.15/0.01 kV] |
| 3 | R Thresh3:ITB | [0 to 10/1.5/0.01 kV] |
| 4 | R Thresh4:ITB | [0 to 10/3/0.01 kV] |
| 5 | R Thresh5:ITB | [0 to 10/6.5/0.01 kV] |
| 6 | R Thresh1:PTR | [0 to 10/0.4/0.01 kV] |
| 7 | R Thresh2:PTR | [0 to 10/0.52/0.01 kV] |
| 8 | R Thresh3:PTR | [0 to 10/0.65/0.01 kV] |
| 9 | R Thresh4:PTR | [0 to 10/0.95/0.01 kV] |
| 10 | R Thresh5:PTR | [0 to 10/2.4/0.01 kV] |

| 2401 | Set: ITB K: Standard | |
|---|---|---|
| 5 | FC | [0 to 70/33/0.1 uA] |
| 15 | BK | [0 to 70/34/0.1 uA] |
| 21 | Non Image | [0 to 70/5/0.1 uA] |

| 2411 | Set:ITB K:Eng Spd Coeff (100%) | |
|---|---|---|
| 5 | 100%:FC | [10 to 200/100/1 %] |
| 15 | 100%:BK | |
| 21 | 100%:Non Image | |

| 2412 | Set:ITB K:Eng Spd Coeff (70%) | |
|---|---|---|
| 5 | 70%:FC | [10 to 200/70/1%] |
| 15 | 70%:BK | |
| 21 | 70%:Non Image | |

| 2413 | Set:ITB K:Eng Spd Coeff (50%) | |
|---|---|---|
| 5 | 50%:FC | [10 to 200/50/1%] |
| 15 | 50%:BK | |
| 21 | 50%:Non Image | |

| 2427 | Set:ITB K:Env Coeff | |
|---|---|---|
| 1 | LLL:Bk:Side1 | [10 to 200/100/1%¥ |
| 2 | LLL:Bk:Side2 | |
| 3 | LLL:FC:Side1 | |
| 4 | LLL:FC:Side2 | |
| 5 | LLL:Non Image | |

| | | |
|---|---|---|
| 11 | LL:Bk:Side1 | |
| 12 | LL:Bk:Side2 | |
| 13 | LL:FC:Side1 | |
| 14 | LL:FC:Side2 | |
| 15 | LL:Non Image | |
| 21 | ML:Bk:Side1 | |
| 22 | ML:Bk:Side2 | |
| 23 | ML:FC:Side1 | |
| 24 | ML:FC:Side2 | |
| 25 | ML:Non Image | |
| 31 | MM:Bk:Side1 | |
| 32 | MM:Bk:Side2 | |
| 33 | MM:FC:Side1 | |
| 34 | MM:FC:Side2 | |
| 35 | MM:Non Image | |
| 41 | MH:Bk:Side1 | |
| 42 | MH:Bk:Side2 | |
| 43 | MH:FC:Side1 | |
| 44 | MH:FC:Side2 | |
| 45 | MH:Non Image | |
| 51 | HH:Bk:Side1 | |
| 52 | HH:Bk:Side2 | |
| 53 | HH:FC:Side1 | |
| 54 | HH:FC:Side2 | |

| | | |
|---|---|---|
| 55 | HH:Non Image | |

| 2428 | Set:ITB K:Env Coeff | |
|---|---|---|
| 1 | LLL:FC:Side1 | [10 to 200/100/1%] |
| 2 | LLL:FC:Side2 | |
| 3 | LLL:Non Image | |
| 11 | LL:FC:Side1 | |
| 12 | LL:FC:Side2 | |
| 13 | LL:Non Image | |
| 21 | ML:FC:Side1 | |
| 22 | ML:FC:Side2 | |
| 23 | ML:Non Image | |
| 31 | MM:FC:Side1 | |
| 32 | MM:FC:Side2 | |
| 33 | MM:Non Image | |
| 41 | MH:FC:Side1 | |
| 42 | MH:FC:Side2 | |
| 43 | MH:Non Image | |
| 51 | HH:FC:Side1 | |
| 52 | HH:FC:Side2 | |
| 53 | HH:Non Image | |

| 2431 | Set:ITB K:R Coeff | |
|---|---|---|
| | R-2 | [50 to 250/170/1 %] |

| 2432 | Set:ITB K:R Coeff | |
|---|---|---|
| | R-1 | [50 to 250/152/1%] |

| 2433 | Set:ITB K:R Coeff | |
|---|---|---|
| | R0 | [50 to 250/136/1%] |

| 2434 | Set:ITB K:R Coeff | |
|---|---|---|
| | R+1 | [50 to 250/124/1%] |

| 2435 | Set:ITB K:R Coeff | |
|---|---|---|
| | R+2 | [50 to 250/116/1%[ |

| 2436 | Set:ITB K:R Coeff | |
|---|---|---|
| | R+3 | [50 to 250/136/51%] |

| 2451 | Set:ITB C:Standard | |
|---|---|---|
| 5 | FC | [0 to 70/34/0.1uA] |
| 21 | Non Image | [0 to 70/5/0.1uA] |

| 2501 | Set:ITB M:Standard | |
|---|---|---|
| 5 | FC | [0 to 70/36/0.1 uA] |
| 21 | Non Image | [0 to 70/5/0.1 uA] |

| 2551 | Set:ITB Y:Standard | |
|---|---|---|
| 5 | FC | [0 to 70/38/0.1 uA] |
| 21 | Non Image | [0 to 70/5/0.1 uA] |

| 2661 | Set:ITB Col:Eng Spd Coeff | |
|---|---|---|
| 5 | 100%:FC | [10 to 200/100/1 %] |
| 21 | 100%:Non Image | |

| 2662 | Set:ITB Col:Eng Spd Coeff | |
|---|---|---|
| 5 | 70%:FC | [10 to 200/70/1 % |
| 21 | 70%:Non Image | |

| 2663 | Set:ITB Col:Eng Spd Coeff | |
|---|---|---|
| 5 | 50%:FC | [10 to 200/50/1 %] |
| 21 | 50%:Non Image | |

| 2665 | Set:SepDC:Standard | |
|---|---|---|
| 21 | Non Image | [0 to 10/1/0.1 uA] |

| 2666 | Set:SepDC:Eng Spd Coeff | |
|---|---|---|
| 1 | 100% | [10 to 200/100/1 %] |
| 2 | 70% | [10 to 200/70/1 %] |
| 3 | 50% | [10 to 200/50/1 %] |

| 2667 | Set:SepAC:Standard | |
|---|---|---|
| | Non Image | [8 to 12/8.4/0.1 kV] |

| 2668 | Set:SepAC:Eng Spd Coeff | |
|---|---|---|
| 1 | :100% | [10 to 200/100/1%] |
| 2 | :70% | [10 to 200/93/1%] |
| 3 | :50% | [10 to 200/88/1%] |

| 2669 | Set:SepDC:Env Coeff | |
|---|---|---|
| 1 | LLL:Bk:Side1 | [10 to 200/100/1%] |
| 2 | LLL:Bk:Side2 | |
| 3 | LLL:FC:Side1 | |
| 4 | LLL:FC:Side2 | |
| 11 | LL:Bk:Side1 | |
| 12 | LL:Bk:Side2 | |
| 13 | LL:FC:Side1 | |
| 14 | LL:FC:Side2 | |
| 21 | ML:Bk:Side1 | |
| 22 | ML:Bk:Side2 | |
| 23 | ML:FC:Side1 | |
| 24 | ML:FC:Side2 | |
| 31 | MM:Bk:Side1 | |
| 32 | MM:Bk:Side2 | |
| 33 | MM:FC:Side1 | |
| 34 | MM:FC:Side2 | |
| 41 | MH:Bk:Side1 | |
| 42 | MH:Bk:Side2 | |

| | | |
|---|---|---|
| 43 | MH:FC:Side1 | |
| 44 | MH:FC:Side2 | |
| 51 | HH:Bk:Side1 | |
| 52 | HH:Bk:Side2 | |
| 53 | HH:FC:Side1 | |
| 54 | HH:FC:Side2 | |

| | | |
|---|---|---|
| 2670 | Set:SepAC:Env Coeff | |
| 1 | LLL:Bk:Side1 | [10 to 200/100/1%] |
| 2 | LLL:Bk:Side2 | |
| 3 | LLL:FC:Side1 | |
| 4 | LLL:FC:Side2 | |
| 11 | LL:Bk:Side1 | |
| 12 | LL:Bk:Side2 | |
| 13 | LL:FC:Side1 | |
| 14 | LL:FC:Side2 | |
| 21 | ML:Bk:Side1 | |
| 22 | ML:Bk:Side2 | |
| 23 | ML:FC:Side1 | |
| 24 | ML:FC:Side2 | |
| 31 | MM:Bk:Side1 | |
| 32 | MM:Bk:Side2 | |
| 33 | MM:FC:Side1 | |
| 34 | MM:FC:Side2 | |
| 41 | MH:Bk:Side1 | |

| | | |
|---|---|---|
| 42 | MH:Bk:Side2 | |
| 43 | MH:FC:Side1 | |
| 44 | MH:FC:Side2 | |
| 51 | HH:Bk:Side1 | |
| 52 | HH:Bk:Side2 | |
| 53 | HH:FC:Side1 | |
| 54 | HH:FC:Side2 | |

| 2677 | Set:Sep:L Edge Length | |
|---|---|---|
| 1 | Side1 | [-10 to 30/5/1 mm] |
| 2 | Side2 | |

| 2678 | Set:Sep:T Edge Length | |
|---|---|---|
| 1 | Side1 | [-10 to +30/0/1 mm] |
| 2 | Side2 | |

| 2681 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R-2 | [50 to 250/170/1%] |

| 2682 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R-1 | [50 to 250/152/1%] |

| 2683 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R0 | [50 to 250/136/1%] |

| 2684 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R0 | [50 to 250/124/1%] |

| 2685 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R+2 | [50 to 250/116/1%] |

| 2686 | Set:ITB Col:R Coeff | |
|---|---|---|
| | R+3 | [50 to 250/106/1%] |

| 2690 | Set:PTR:Standard | |
|---|---|---|
| | Non Image | [0 to /0.83/1%] |

| 2691 | Set:PTR:R Coeff | |
|---|---|---|
| 1 | R-2 | [50 to 300/225/1] |
| 2 | R-1 | [50 to 300/185/1] |
| 3 | R0 | [50 to 300/160/1] |
| 4 | R+1 | [50 to 300/140/1] |
| 5 | R+2 | [50 to 300/125/1] |
| 6 | R+3 | [50 to 300/115/1] |

| 2692 | Set:RTR:Eng Spd Coeff | |
|---|---|---|
| 1 | 100% | [10 to 200/100/1%] |
| 2 | 70% | [10 to 200/70/1%] |
| 3 | 50% | [10 to 200/50/1%] |

| 2693 | Set:PTR:Env Coeff | |
|---|---|---|
| 1 | LLL:Bk:Side1 | [10 to 200/110/1 %] |
| 2 | LLL:Bk:Side2 | [10 to 200/115/1 %] |
| 3 | LLL:FC:Side1 | [10 to 200/110/1 %] |
| 4 | LLL:FC:Side2 | [10 to 200/115/1 %] |
| 5 | LLL:Non Image | [10 to 200/110/1 %] |
| 11 | LL:Bk:Side1 | [10 to 200/107/1 %] |
| 12 | LL:Bk:Side2 | [10 to 200/112/1 %] |
| 13 | LL:FC:Side1 | [10 to 200/107/1 %] |
| 14 | LL:FC:Side2 | [10 to 200/112/1 %] |
| 15 | LL:Non Image | [10 to 200/107/1 %] |
| 21 | ML:Bk:Side1 | [10 to 200/105/1 %] |
| 22 | ML:Bk:Side2 | [10 to 200/110/1 %] |
| 23 | ML:FC:Side1 | [10 to 200/105/1 %] |
| 24 | ML:FC:Side2 | [10 to 200/110/1 %] |
| 25 | ML:Non Image | [10 to 200/105/1 %] |
| 31 | MM:Bk:Side1 | [10 to 200/100/1 %] |
| 32 | MM:Bk:Side2 | [10 to 200/105/1 %] |
| 33 | MM:FC:Side1 | [10 to 200/100/1 %] |
| 34 | MM:FC:Side2 | [10 to 200/105/1 %] |
| 35 | MM:Non Image | [10 to 200/100/1 %] |
| 41 | MH:Bk:Side1 | [10 to 200/90/1 %] |
| 42 | MH:Bk:Side2 | [10 to 200/95/1 %] |
| 43 | MH:FC:Side1 | [10 to 200/90/1 %] |

| | | |
|---|---|---|
| 44 | MH:FC:Side2 | [10 to 200/95/1 %] |
| 45 | MH:Non Image | [10 to 200/90/1 %] |
| 51 | HH:Bk:Side1 | [10 to 200/85/1 %] |
| 52 | HH:Bk:Side2 | [10 to 200/90/1 %] |
| 53 | HH:FC:Side1 | [10 to 200/85/1 %] |
| 54 | HH:FC:Side2 | [10 to 200/90/1 %] |
| 55 | HH:Non Image | [10 to 200/85/1 %] |

| 2757 | Paper Size:Coeff | |
|---|---|---|
| 1 | Weight 1:1st | [50 to 600/105/1] |
| 2 | Weight 2:1st | [50 to 600/110/1] |
| 3 | Weight 3:1st | [50 to 600/120/1] |
| 4 | Weight 4:1st | [50 to 600/135/1] |
| 5 | Weight 5:1st | [50 to 600/155/1] |
| 6 | Weight 6:1st | [50 to 600/190/1] |
| 7 | Weight 7:1st | [50 to 600/240/1] |
| 11 | Weight 1:2nd | [50 to 600/110/1] |
| 12 | Weight 2:2nd | [50 to 600/120/1] |
| 13 | Weight 3:2nd | [50 to 600/135/1] |
| 14 | Weight 4:2nd | [50 to 600/155/1] |
| 15 | Weight 5:2nd | [50 to 600/190/1] |
| 16 | Weight 6:2nd | [50 to 600/240/1] |
| 17 | Weight 7:2nd | [50 to 600/290/1] |

| 2800 | Set Paper Texture Mode | |
|---|---|---|
| 1 | Custom Paper 001 | [0 to 1/0/1 Step] |

| 2801 | PTR AC Bias: Bk: 1st | |
|---|---|---|
| 2802 | PTR AC Bias: Bk: 2nd | |
| 2803 | PTR AC Bias: FC: 1st | |
| 2804 | PTR AC Bias: FC: 2nd | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 12/8/0.1 kV] |

| 2805 | PTR Bias | |
|---|---|---|
| 1 | AC | [0 to 12/8/0.1 kV] |
| 2 | DC | [-100 to -10/-25/0.1 kV] |

| 2806 | Set: PTR AC: Env Coeff | |
|---|---|---|
| 1 | LLL:Bk: Side 1 | [10 to 200/110/1 %] |
| 2 | LLL:Bk:Side2 | [10 to 200/105/1 %] |
| 3 | LLL:FC:Side1 | [10 to 200/110/1 %] |
| 4 | LLL:FC:Side2 | [10 to 200/115/1 %] |
| 5 | LLL:Non Image | [10 to 200/115/1 %] |
| 11 | LL:Bk:Side1 | [10 to 200/107/1 %] |
| 12 | LL:Bk:Side2 | [10 to 200/112/1 %] |
| 13 | LL:FC:Side1 | [10 to 200/107/1 %] |
| 14 | LL:FC:Side2 | [10 to 200/112/1 %] |
| 15 | LL:Non Image | [10 to 200/115/1 %] |
| 21 | ML:Bk:Side1 | [10 to 200/105/1 %] |

| | | | |
|---|---|---|---|
| 22 | ML:Bk:Side2 | [10 to 200/110/1 %] | |
| 23 | ML:FC:Side1 | [10 to 200/105/1 %] | |
| 24 | ML:FC:Side2 | [10 to 200/110/1 %] | |
| 25 | ML:Non Image | [10 to 200/105/1 %] | |
| 31 | MM:Bk:Side1 | [10 to 200/100/1 %] | |
| 32 | MM:Bk:Side2 | [10 to 200/105/1 %] | |
| 33 | MM:FC:Side1 | [10 to 200/100/1 %] | |
| 34 | MM:FC:Side2 | [10 to 200/105/1 %] | |
| 35 | MM:Non Image | [10 to 200/110/1 %] | |
| 41 | MH:Bk:Side1 | [10 to 200/90/1 %] | |
| 42 | MH:Bk:Side2 | [10 to 200/95/1 %] | |
| 43 | MH:FC:Side1 | [10 to 200/90/1 %] | |
| 44 | MH:FC:Side2 | [10 to 200/90/1 %] | |
| 45 | MH:Non Image | [10 to 200/115/1 %] | |
| 51 | HH:Bk:Side1 | [10 to 200/85/1 %] | |
| 52 | HH:Bk:Side2 | [10 to 200/90/1 %] | |
| 53 | HH:FC:Side1 | [10 to 200/85/1 %] | |
| 54 | HH:FC:Side2 | [10 to 200/90/1 %] | |
| 55 | HH:Non Image | [10 to 200/115/1 %] | |

| 2807 | Set: PTR AC: Eng Spd Coeff | |
|---|---|---|
| 1 | 100% | [10 to 200/100/1%] |
| 2 | 70% | [10 to 200/70/1%] |
| 3 | 50% | [10 to 200/50/1%] |

| 2808 | AC Size Coeff | |
|---|---|---|
| 1 | Thresh1 | [ 100 to 330 / 297 / 1 mm] |
| 2 | Thresh2 | [ 100 to 330 / 257 / 1 mm] |
| 3 | Thresh3 | [ 100 to 330 / 210 / 1 mm] |
| 4 | Thresh4 | [ 100 to 330 / 129 / 1 mm] |

| 2809 | AC Size Coeff : R-2 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2810 | AC Size Coeff : R-1 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2811 | AC Size Coeff : R-0 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2812 | AC Size Coeff : R + 1 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2813 | AC Size Coeff : R + 2 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2814 | AC Size Coeff : R + 3 | |
|---|---|---|
| 1 to 7 | Size1 : Side1 : Weight1 to 7 | [ 50 to 300 / 100 / 1 %] |
| 11 to 17 | Size1 : Side2 : Weight1 to 7 | |
| 21 to 27 | Size2 : Side1 : Weight1 to 7 | |
| 31 to 37 | Size2 : Side2 : Weight1 to 7 | |
| 41 to 47 | Size3 : Side1 : Weight1 to 7 | |
| 51 to 57 | Size3 : Side2 : Weight1 to 7 | |
| 61 to 67 | Size4 : Side1 : Weight1 to 7 | |
| 71 to 77 | Size4 : Side2 : Weight1 to 7 | |
| 81 to 87 | Size5 : Side1 : Weight1 to 7 | |
| 91 to 97 | Size5 : Side2 : Weight1 to 7 | |

| 2815 | LEdge Coeff AC: Bk | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 250/100/1%] |

| 2816 | LEdge Coeff AC: FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 250/100/1%] |

| 2817 | LEdge Length AC: BK | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 30/5/1 mm] |

| 2818 | LEdge Length AC: FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 30/5/1 mm] |

| 2819 | TEdge Coeff AC: Bk | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 250/100/1 %] |

| 2820 | TEdge Coeff AC: FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 250/100/1 %] |

| 2821 | TEdge Length AC: Bk | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 100/8/1 mm] |

| 2822 | TEdge Length AC: FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 100/8/1 mm] |

| 2823 | AC PT: Sep AC 1st | | | |
|---|---|---|---|---|
| 1 | Weight 1 | [8 to 12/8/1 0.01 kV] | 1 | 52.3 - 63.0 g/m$^2$ |
| 2 | Weight 2 | | 2 | 63.1 - 80.0 g/m$^2$ |
| 3 | Weight 3 | | 3 | 80.1 - 105.0 g/m$^2$ |
| 4 | Weight 4 | | 4 | 105.1 - 163.0 g/m$^2$ |
| 5 | Weight 5 | | 5 | 163.1 - 220.0 g/m$^2$ |
| 6 | Weight 6 | | 6 | 220.1 - 256.0 g/m$^2$ |
| ⇒ | Not used | | | |

| | | | | | |
|---|---|---|---|---|---|
| | 2824 | AC PT: Sep AC 2nd | | | |
| | 1 | Weight 1 | [8 to 12/8/1 0.01 kV] | 1 | 52.3 - 63.0 g/m$^2$ |
| | 2 | Weight 2 | | 2 | 63.1 - 80.0 g/m$^2$ |
| | 3 | Weight 3 | | 3 | 80.1 - 105.0 g/m$^2$ |
| | 4 | Weight 4 | | 4 | 105.1 - 163.0 g/m$^2$ |
| | 5 | Weight 5 | | 5 | 163.1 - 220.0 g/m$^2$ |
| | 6 | Weight 6 | | 6 | 220.1 - 256.0 g/m$^2$ |
| ⇒ | | Not used | | | |

| | | | |
|---|---|---|---|
| 2830 | AC Transcription Power Pack | | |
| | AC Transcription Power Pack | [0 to 1/0/1 step] 0:OFF 1:ON | |

| | | | |
|---|---|---|---|
| 2840 | SepDC:1st | | |
| 2841 | SepDC:2nd | | |
| 2842 | SepAC: 1st | | |
| 2843 | SepAC: 2nd | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [0 to 10/*/0.1 uA]<br>The default settings (*) are displayed to the right of "Initial" on the screen. | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight ($g/m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | |
|---|---|---|
| 2844 | SepDC:LEdge:Coeff | |
| 2845 | SepDC:TEdge:Coeff | |
| 2846 | SepAC:LEdge:Coeff | |
| 2847 | SepAC:TEdge:Coeff | |
| 1 to 77 | <Paper Type>: Weight<No.> | [50 to 200/*/1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. |

| | | | |
|---|---|---|---|
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight ($g/m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2850 | PTR Bias:Bk | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [-400 to 0/-40/1 uA] | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight ($g/m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2851 | PTR Bias: FC | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [-400 to 0/-70/1 uA] | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight ($g/m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2852 | LEdge Coeff:Bk | | |
| 2853 | LEdge Coeff:FC | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [5 to 300/*/1%]<br>The default settings (*) are displayed to the right of "Initial" on the screen. | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight ($g/m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2854 | LEdge Length:Bk | | |
| 2855 | LEdge Length:FC | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [0 to 30/*/1 mm]<br>The default settings (*) are displayed to the right of "Initial" on the screen. | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight (g/$m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2856 | TEdge Coeff:Bk | | |
| 2857 | TEdge Coeff:FC | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [5 to 300/100/1%] | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight (g/$m^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2858 | TEdge Length:Bk | | |
| 2859 | TEdge Length:FC | | |
| 1 to 77 | <Paper Type>: Weight<No.> | [0 to 100/8/1 mm] | |
| | Paper Type: | Plain, Glossy, Matte, Transparency, Translucent, Envelope | |
| | Weight (g/m$^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |

| | | | |
|---|---|---|---|
| 2880 | PTR Speed Control:100% | | |
| 2881 | PTR Speed Control:70% | | |
| 2882 | PTR Speed Control:50% | | |
| | Weight (g/m$^2$): | 1 | 52.3 - 63.0 |
| | | 2 | 63.1 - 80.0 |
| | | 3 | 80.1 - 105.0 |
| | | 4 | 105.1 - 163.0 |
| | | 5 | 163.1 - 220.0 |
| | | 6 | 220.1 - 256.0 |
| | | 7 | 256.1 - 300.0 |
| 1 | Plain: Weight 1 | [-0.5 to 0.5/0/0.1 %] | |

| | | |
|---|---|---|
| 2 | Plain: Weight 2 | [-0.5 to 0.5/-0.1/0.1 %] |
| 3 | Plain: Weight 3 | [-0.5 to 0.5/-0.2/0.1 %] |
| 4 | Plain: Weight 4 | [-0.5 to 0.5/-0.3/0.1 %] |
| 5 | Plain: Weight 5 | [-0.5 to 0.5/-0.4/0.1 %] |
| 6 | Plain: Weight 6 | [-0.5 to 0.5/-0.5/0.1 %] |
| 7 | Plain: Weight 7 | [-0.5 to 0.5/-0.5/0.1 %] |
| 12 | Glossy: Weight 2 | [-0.5 to 0.5/-0.3/0.1 %] |
| 13 | Glossy: Weight 3 | [-0.5 to 0.5/-0.3/0.1 %] |
| 14 | Glossy: Weight 4 | [-0.5 to 0.5/-0.3/0.1 %] |
| 15 | Glossy: Weight 5 | [-0.5 to 0.5/-0.4/0.1 %] |
| 16 | Glossy: Weight 6 | [-0.5 to 0.5/-0.5/0.1 %] |
| 17 | Glossy: Weight 7 | [-0.5 to 0.5/-0.5/0.1 %] |

| 2883 | PTR Speed Control | |
|---|---|---|
| 1 | Env Coeff: LLL | [-0.5 to 0.5/0.2/0.1%] |
| 2 | Env Coeff: LL | [-0.5 to 0.5/0.1/0.1%] |
| 3 | Env Coeff: ML | [-0.5 to 0.5/0/0.1%] |
| 4 | Env Coeff: MM | [-0.5 to 0.5/0/0.1%] |
| 5 | Env Coeff: MH | [-0.5 to 0.5/-0.1/0.1%] |
| 6 | Env Coeff: HH | [-0.5 to 0.5/-0.2/0.1%] |

| 2904 | Prevent Blade Bending | |
|---|---|---|
| | Do this SP to create a pattern on the drum at prescribed intervals to prevent the cleaning blade from bending. | |
| 1 | Pattern Create Interval | [0 to 200/0/1 Page] |
| 2 | Pattern Light Intensity | [0 to 15/5/1 ] |
| 3 | Op Pg Count Display | [0 to 200/0/1 Page] |
| 4 | Set Operation Temp | [0 to 50/40/1 deg] |

| 2905 | Non-stop Used Tnr Bottle Replacement | |
|---|---|---|
| | Do this SP to set the upper limit for level of used toner in the used toner bottle to trigger a bottle full alert. | |
| 1 | Savings Time Threshold Value | [0 to 999/300/1 sec.] |
| 2 | Discharge Time Threshold Value | [0 to 999/180/1 sec.] |
| 3 | Savings Time Count | [0 to 999/0/1 sec.] |
| 4 | Discharge Time Count | |

| 2906 | Stop Time Reverse Ctrl | |
|---|---|---|
| | The SP code sets the stop/reverse action of the ITB driver motor. | |
| 1 | Set Rev Execute: ImgTrans | [0 to 1/0/1 ] |
| 2 | Set Rev Execute: PaperTrans | 0:OFF 1:ON |
| 3 | Set Rev Execute Interval | [1 to 500/30/1 m] |
| 4 | Assign Execution | [0 to 1/0/1] 0:OFF 1:ON |
| 5 | Set Execute Interval | [1 to 500/250/1 m] |
| 6 | Op Time Setting: ImgTrans | [10 to 500/30/10 msec] |
| 7 | Op Time Setting: PaperTrans | |

| | | |
|---|---|---|
| 2907 | ACS Switch Set | |
| | This SP sets the threshold for the number of continuous black prints to ACS switching. | |
| | Bk image count | [0 to 10/5/1 sheet] |

| | | |
|---|---|---|
| 2909 | ITB Lift | |
| | This SP affects the operation of ITB Lift Motor 2, the motor that lifts the right end of the ITB against the bottom of the K drum. | |
| | Lift ITB | [0 to 1/0/1] 0: ON Lift operation on,1: OFF no lift. |

| | | |
|---|---|---|
| 2912 | Encoder Sn:Adj Light | |
| | This SP adjusts the strength of the LED beam of the ITB feed-back sensors (main sensor and sub sensor). | |
| 1 | Adj Light Amt | [0 to 1/0/1 ] |
| 2 | Light Amt Adj: Pass/Fail | [0 to 9/0/1 ] |
| 3 | Vref_Disp: Main Setting | [0 to 2.45/0/0.01 V] |
| 4 | Vref_Disp: Sub Setting | |
| 5 | Analog Out: Main: After F Adj | [0 to 5/0/0.01 V] |
| 6 | Analog Out: Sub: After F Adj | |

| 2913 | Encoder Sn:Output Disp | |
|---|---|---|
| | This SP displays the averaged values for the analog output from the ITB feed-back sensors. | |
| 1 | Analog: Ave: Main | [0 to 255/0/0.01 V¥ |
| 2 | Analog: Max: Main | |
| 3 | Analog: Min: Main | |
| 4 | Analog: Ave: Sub | |
| 5 | Analog: Max: Sub | |
| 6 | Analog: Min: Sub | |

| 2914 | Encoder Sn:Get 1stPhase | |
|---|---|---|
| | These SP codes reset and initialize the ITB feed-back sensors. | |
| 1 | Get Phases: Execute All | [EXECUTE] |
| 2 | 352.80 Line Speed: Execute | |
| 3 | 246.96 Line Speed: Execute | |
| 4 | 176.40 Line Speed: Execute | |
| 5 | 352.80 Phase Disp/Set | [0 to 65 535/0/1] |
| 6 | 246.96 Phase Disp/Set | |
| 8 | 176.40 Phase Disp/Set | |

| 2915 | Encoder Sn Ctrl Condition | |
|---|---|---|
| | These SP codes enables the scaled feed-back control and displays information about SC499. SC499 is issued when the ITB sensor that reads the encoded film strip on the front edge of the image transfer belt does not operate correctly. (The TDCU constantly monitors operation of the ITB with transfer feed-back control.) | |
| 1 | Scale FB Control Enable | [0 to 1/1/1] |
| 2 | SC499 Occurrences | [0 to 3/0/1] |
| 3 | MUSIC Executions After SC499 | [0 to 1/0/1] |

| 2916 | Fail Predict Banner Disp | |
|---|---|---|
| | This SP switches the banner display on the operation panel for the for the failure prediction feature. Default: Off | |
| 1 | Code 01 | [0 to 1/0/1] |
| 2 | Code 02 | *0: Banner Disable (Code **No.**) |
| 3 | Code 03 | 1: Banner Enable (Code **No**.) |
| 4 | Code 04 | Where **No.** = 01, 02, 03, 04, 05, 99 |
| 5 | Code 05 | |
| 6 | Code 99 | |

| | | |
|---|---|---|
| 2920 | Steering Control Roller | |
| | This SP must be executed after replacing the ITB. This SP initializes the position of the new belt on the rollers. | |
| 1 | Initialize Belt Position | [0 to 1/0/1] |
| 2 | Stable Position of Steering Roller | [-200 to 200/0/1 step] |
| 3 | Control ON/OFF | [0 to 1/1/1 ] |
| 4 | MUSIC Belt Init: On/Off | [0 to 1/1/1 ] |
| 5 | LED PWM of Belt Position Sensor | [0 to 80/70/0.1%] |
| 6 | Threshold for Control Rock | [0 to 1000/30/1 ] |
| 7 | Threshold for Sensor Error | [0 to 1/0.1/0.01 V] |
| 8 | Threshold for PWM Control | [0 to 2/0.3/0.01 V] |
| 9 | Sum of Sensor Output | [0 to 10/0/0.01 V] |
| 10 | Ratio of Sensor Output | [-1 to 1/0/0.001] |

| | | |
|---|---|---|
| 2949 | Process Interval | |
| | This SP codes extends the time between the end of a job and when the machine shifts to energy save mode. | |
| | Additional Time | [0 to 10/0/1 sec] |

| | |
|---|---|
| 2950 | Face Main Mag set & Adj |
| 2951 | Face Sub Mag set & Adj |
| 2952 | Verso Main Mag set & Adj |
| 2953 | Verso Sub Mag set & Adj |
| | These SP codes set or adjust the magnification rate for Face (Recto right or odd numbered pages) and Verso (reverse or left pages even numbered pages) in the main scan and sub scan directions. |

| | | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [-08 to 0.8/0/0.025%] |

| | | |
|---|---|---|
| 2970 | PTR Bias:Bk | |
| 1 to 100 | Custom Paper 001 to 100 | [-400 to 0/-34/1 uA] |

| | | |
|---|---|---|
| 2971 | PTR Bias:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [-400 to 0/-52/1 uA] |

| | | |
|---|---|---|
| 2972 | LEdge Coeff:Bk | |
| 2973 | LEdge Coeff:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [50 to 300/100/1%] |

| | | |
|---|---|---|
| 2974 | LEdge Length:Bk | |
| 2975 | LEdge Length:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 30/5/1 mm] |

| | | |
|---|---|---|
| 2976 | TEdge Coeff:Bk | |
| 2977 | TEdge Coeff:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [5 to 300/100/1%] |

| | | |
|---|---|---|
| 2978 | TEdge Length:Bk | |
| 2979 | TEdge Length:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [0 to 100/8/1 mm] |

| | | |
|---|---|---|
| 2981 | PTR Speed Control | |
| 1 to 100 | Custom Paper 001 to 100 | [-1 to +1/0/0.1 %] |

| 2988 | PT Gap Adjustment | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 3/0/1]<br>0:Auto 1:No 2:Weak 3:Strong |

| 2990 | ITB Bias:K:BK | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 70/34/0.1 uA] |

| 2991 | ITB Bias:K:FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 70/33/0.1 uA] |

| 2992 | ITB Bias:C:FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 70/34/0.1 uA] |

| 2993 | ITB Bias:M:FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 70/36/0.1 uA] |

| 2994 | ITB Bias:Y:FC | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [0 to 70/38/0.1 uA] |

| 2995 | 2nd Bias Coeff:BK | |
|---|---|---|
| 2996 | 2nd Bias Coeff:FC | |
| 1 to 100 | Custom Paper 001 to 100 | [50 to 150/100/1%] |

# 2.3 GROUP 3000

| 3011 | Manual ProCon :Exe | |
|---|---|---|
| | Executes process control. | |
| 1 | Normal ProCon | [0 to 1/0/1] |
| 2 | Density Adjustment | |
| 3 | ACC RunTime ProCon | |
| 4 | Full MUSIC | |
| 5 | Normal MUSIC | |

| 3012 | ProCon OK? | |
|---|---|---|
| | Confirms that the previous execution manual process control ended successfully,. | |
| 1 | History:Last | [0 to 999 99 999/0/1 |
| 2 | History:Last 2 | |
| 3 | History:Last 3 | |
| 4 | History:Last 4 | |
| 5 | History:Last 5 | |
| 6 | History:Last 6 | |
| 7 | History:Last 7 | |
| 8 | History:Last 8 | |
| 9 | History:Last 9 | |
| 10 | History:Last 10 | |

| | | |
|---|---|---|
| 3020 | Process Setup :Exe | |
| | Execute this SP at installation after all the PCDU units, toner bottles, and developer for each unit have been installed. This SP code confirms that developer/toner is in the PCDU, initializes drum cleaning, initializes the TD sensor, and executes process control to initialize toner density for each color. | |
| | Execute: ALL | [0 to 1/0/1] |

| | | |
|---|---|---|
| 3024 | Developer Fill :Exe | |
| | Fills the PCDU with developer/toner from the developer pack. This SP must be executed at installation for all PCDU units and after developer has been replaced in a PCDU. | |
| 1 | Execute: K | [0 to 1/0/1] |
| 2 | Execute: C | |
| 3 | Execute: M | |
| 4 | Execute: Y | |
| 11 | Drive Time Upper Limit | [0 to 255/30/1 sec] |

| | | |
|---|---|---|
| 3025 | Dev Fill OK? | |
| | Displays the results of developer/toner filling executed with SP3024. | |
| | From Left: YMCK | [0 to 9999/0/1]<br>Successful return: "1111" |

| 3030 | Init TD Sensor :Exe | |
|---|---|---|
| | These SP codes initialize the TD sensors mounted on the side of each PCDU. Adjustment of the Vt target settings is also possible. (Vt is the current output of the TD sensor.) | |
| 1 | Execute: ALL | [0 to 1/0/1 ] |
| 2 | Execute: COL | |
| 3 | Execute: K | |
| 4 | Execute: C | |
| 5 | Execute: M | |
| 6 | Execute: Y | |
| 20 | Agitatiton Time | [3 to 20/30/1]sec] |
| 21 | Initial TC | [1 to 15/7/0.1 wt%] |
| 31 | Vt Target:K | [0 to 5/2.7/0.01 V] |
| 32 | Vt Target:C | |
| 33 | Vt Target:M | |
| 34 | Vt Target:Y | |

| 3031 | TD Sens Init OK? | |
|---|---|---|
| | Displays the results of TD sensor initialization with SP3030. | |
| | From Left: YMCK | [0 to 9 999/0/1]<br>Successful return: "1111" |

| 3032 | Cleaning Setup :Exe | |
|---|---|---|
| | Execute this SP at installation and after replacement of the cleaning unit. | |
| 1 | Execute: ALL | [0 to 1/0/1] |
| 2 | Execute: COL | |
| 3 | Execute: K | |
| 4 | Execute: C | |
| 5 | Execute: M | |
| 6 | Execute: Y | |
| 21 | A3 Page Cover | [0 to 100/6/1 Sheet] |

| 3050 | Force Tnr Supply :Exe | |
|---|---|---|
| | Force supplies toner to the sub hoppers of the selected color. You can also specify the amount of toner to be supplied. | |
| 1 | Execute: ALL | [0 to 1/0/1] |
| 2 | Execute: COL | |
| 3 | Execute: K | |
| 4 | Execute: C | |
| 5 | Execute: M | |
| 6 | Execute: Y | |
| 21 | Supply Quantity: K | [0 to 5/1/0.1 wt%] |
| 22 | Supply Quantity: C | |
| 23 | Supply Quantity: M | |
| 24 | Supply Quantity: Y | |

| | | |
|---|---|---|
| 3051 | Manual Toner Fill :Exe | |
| | Executes toner filling of all sub hoppers. | |
| | Execute:ALL | [0 to 1/0/1] |

| | | |
|---|---|---|
| 3070 | M Pot.Sens Check :Exe | |
| | This SP checks the condition of each of the four potential sensors after installation at the factory. Use in the field to check the condition of the sensors. | |
| | All Colors | [EXECUTE] |

| | | | |
|---|---|---|---|
| 3071 | Pot.Sens Chk :Disp | | |
| | Displays the results of the potential sensor check executed with SP3070.<br>▪ Vd is the reading of the unexposed surface of the drum by the potential sensor<br>▪ Vr is residual voltage, the slight trace of voltage that remains on the drum after the QL quenches the surface of the drum. | | |
| 1 | Vd:K | [0 to 999/0/1 V] | |
| 2 | Vd:C | | |
| 3 | Vd:M | | |
| 4 | Vd:Y | | |
| 11 | Vr:K | | |
| 12 | Vr:C | | |
| 13 | Vr:M | | |
| 14 | Vr:Y | | |
| 21 | Voffset:K | | |
| 22 | Voffset:C | | |

| | | | |
|---|---|---|---|
| 23 | Voffset:M | | |
| 24 | Voffset:Y | | |

| | | |
|---|---|---|
| 3072 | TD. Sens Check :Exe | |
| | Checks the condition of the TD sensors attached to the side of each PCDU. Executed at the factory after assembly. Use in the field to check the condition of the TD sensors. | |
| 1 | All Colors | [EXECUTE] |

| | | |
|---|---|---|
| 3073 | TD.Sens Chk :Disp | |
| | Displays the results of the TD sensor check executed with SP3072. | |
| 1 | Vt:K | [0 to 1/0/0.01 V] |
| 2 | Vt:C | [0 to 5/0/0.01 V] |
| 3 | Vt:M | |
| 4 | Vt:Y | |

| | | |
|---|---|---|
| 3100 | TE Detect :Set | |
| | This SP switches the operation of the TE sensor off and on. | |
| | ON/OFF | [0 to 1/0/1] |

| 3101 | Toner Status :Disp | |
|---|---|---|
| | Displays the amount of toner remaining for each color. Uses a descending 10-step scale: 10: Full, 2: Almost near-toner end, 1: Almost toner-end, 0: Toner end | |
| 1 | K | [0 to 10/10/1] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 3102 | Toner Remains :Disp | |
|---|---|---|
| | Sets the toner remain display to show the amount toner remaining as a percentage. | |
| 1 | % Remains:K | [0 to 100/0/1 %] |
| 2 | % Remains:C | |
| 3 | % Remains:M | |
| 4 | % Remains:Y | |
| 11 | mg Remains:K | [0 to 999 999/0/0.1 mg] |
| 12 | mg Remains:C | |
| 13 | mg Remains:M | |
| 14 | mg Remains:Y | |
| 21 | Tnr mg(NewBtl):K | [100 to 999 999/1 386 000/0.1 mg] |
| 22 | Tnr mg(NewBtl):C | |
| 23 | Tnr mg(NewBtl):M | |
| 24 | Tnr mg(NewBtl):Y | |
| 31 | ImgArea:K | [0 to 999 999/0/1 $cm^2$] |

| | | |
|---|---|---|
| 32 | ImgArea:C | |
| 33 | ImgArea:M | |
| 34 | ImgArea:Y | |
| 41 | TnrRemainsCoef:K | [0 to 2.55/1.1/0.1 ] |
| 42 | TnrRemainsCoef:C | [0 to 2.55/1.13/0.1 ] |
| 43 | TnrRemainsCoef:M | [0 to 2.55/1.05/0.1 ] |
| 44 | TnrRemainsCoef:Y | [0 to 2.55/1.06/0.1 ] |
| 51 | Feed Counter:K | [0 to 999 999/0/1 msec] |
| 52 | Feed Counter:C | |
| 53 | Feed Counter:M | |
| 54 | Feed Counter:Y | |

| | | |
|---|---|---|
| 3110 | TNE Detect (Lvl1) Set | |
| | This setting determines whether Step 1 for toner near-end is displayed, and allows you to select the percentage to trigger the display. | |
| 1 | OFF/ON | [0 to 1/10/1] |
| 11 | Disp Timing:K | [10 to 100/10/1%] |
| 12 | Disp Timing:C | |
| 13 | Disp Timing:M | |
| 14 | Disp Timing:Y | |

| 3120 | TNE Detect(Lvl2) :Set | |
|---|---|---|
| | This setting determines whether Step 2 for toner near-end is displayed, and allows you to select the percentage to trigger the display. | |
| 1 | Set Cnt | [0 to 255/30/1 Counts] |
| 11 | Cnt:K | [0 to 255/0/1 Counts] |
| 12 | Cnt:C | |
| 13 | Cnt:M | |
| 14 | Cnt:Y | |

| 3130 | TE Detect :Set | |
|---|---|---|
| | This SP code allows you to set how long the machine can continue to operated after the toner near-end alert appears. This can be set to limit the number of prints by number of sheets, pixel count, or paper feed count. | |
| 1 | Set Sheets(Min) | [0 to 50/10/1 sheets] |
| 2 | Set Sheets(Max) | [0 to 5000/1000/1 sheets] |
| 11 | Page Cnt:K | [0 to 5000/0/1 sheets] |
| 12 | Page Cnt:C | |
| 13 | Page Cnt:M | |
| 14 | Page Cnt:Y | |
| 21 | Set Pxl Cnt | [0 to 1 000 000/15000/1 $cm^2$] |
| 31 | Pxl Cnt:K | [0 to 1 000 000/0/1 $cm^2$] |
| 32 | Pxl Cnt:C | |
| 33 | Pxl Cnt:M | |
| 34 | Pxl Cnt:Y | |
| 41 | Set Feed Cnt | [0 to 99 999 999/0/1 msec] |

| | | |
|---|---|---|
| 51 | Feed Cnt:K | |
| 52 | Feed Cnt:C | |
| 53 | Feed Cnt:M | |
| 54 | Feed Cnt:Y | |

| | | |
|---|---|---|
| 3150 | TE Sensor :Set | |
| | This SP sets up how the machine samples for toner-end sensor readings. | |
| 1 | Sampling Count | [4 to 20/10/1 Count] |
| 2 | Judge: P | [0.2 to 0.8/0.6/0.1] |

| | | |
|---|---|---|
| 3152 | Toner Pump CL :Set | |
| | This SP setting sets up on the toner pump clutch operates. (The toner pump clutch engages the toner pump to pump toner into the sub hopper.) | |
| 1 | On Time | [0 to 5000/400/1 msec] |
| 2 | Off Time | |
| 3 | Recovery Times (Upper Limit) | [0 to 255/140/1 counts] |
| 10 | Stop Timing :Set | [0 to 2000/0/1 counts] |
| 11 | Cnt:K | |
| 12 | Cnt:C | |
| 13 | Cnt:M | |
| 14 | Cnt:Y | |

| 3200 | Tnr Density | |
|---|---|---|
| | Displays the toner density by wt% for each color. | |
| 1 | K | [0 to 25.5/0/0.1 wt%] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 3201 | Tnr Density | |
|---|---|---|
| | This SP sets the upper limit and lower limit of the range (wt%) for toner density control. | |
| 1 | Upper TC | [1 to 15/9.5/0.1 wt%] |
| 2 | Lower TC | [1 to 15/4/0.1 wt%] |

| 3210 | TD.Sens:Vt :Disp | |
|---|---|---|
| | This SP code displays the TD sensor outputs for all the items below. | |
| 1-4 | Current: K, C, M, Y | [0 to 5.5/0/0.01 V] |
| 2 | Current: C | |
| 3 | Current: M | |
| 4 | Current: Y | |

| | | |
|---|---|---|
| 3220 | Vtcnt: Disp/Set | |
| | These SP codes display and allow setting of the current electrical potential of the TD sensors for each color. Vcnt is the gain value is calculated during TD sensor initialization. It is used to adjust the TD sensor output (Vt). A large gain increases Vt, and a small gain decreases Vt. Vcnt is also used to calibrate the TD sensor output (Vt) during TD sensor initialization. | |
| 1 | Current: K | [2 to 5/3.72/0.01V] |
| 2 | Current: C | |
| 3 | Current: M | |
| 4 | Current: Y | |
| 11 | Initial: K | |
| 12 | Initial: C | |
| 13 | Initial: M | |
| 14 | Initial: Y | |

| 3230 | Vtref :Disp/Set | |
|---|---|---|
| | These SP codes display and allow settings of the target reference voltage of the TD sensor. (Vtref is the control reference voltage.) | |
| 1 | Current: K | [0 to 5/2.7/0.01V] |
| 2 | Current: C | |
| 3 | Current: M | |
| 4 | Current: Y | |
| 11 | Initial: K | [0 to 5/0/0.01V] |
| 12 | Initial: C | |
| 13 | Initial: M | |
| 14 | Initial: Y | |

| 3231 | Vtref Limits :Set | |
|---|---|---|
| | This SP sets the upper limit for the target voltage of Vtref (control reference voltage). | |
| 1 | Upper:K | [0 to 5/4/0.01V] |
| 2 | Upper:C | |
| 3 | Upper:M | |
| 4 | Upper:Y | |
| 11 | Lower:K | [0 to 5/2/0.01V] |
| 12 | Lower:C | |
| 13 | Lower:M | |
| 14 | Lower:Y | |

| 3250 | ImgArea :Disp | |
|---|---|---|
| | Displays the amount of image surface area of the most recent page for the selected color. | |
| 1 | ImgArea:K | [0 to 9 999/0/1 $cm^2$] |
| 2 | ImgArea:C | |
| 3 | ImgArea:M | |
| 4 | ImgArea:Y | |

| 3251 | Dot Coverage : Disp | |
|---|---|---|
| | These SP codes display the percentage of the total area on the sheet used by the image for the most recent print, DC average, and total page information. | |
| 1 | DotCoverage:K | [0 to 100/0/0.01%] |
| 2 | DotCoverage:C | |
| 3 | DotCoverage:M | |
| 4 | DotCoverage:Y | |
| 11 | DC Avg.:S:K | [0 to 100/5/0.01%] |
| 12 | DC Avg.:S:C | |
| 13 | DC Avg.:S:M | |
| 14 | DC Avg.:S:Y | |
| 21 | DC Avg.:M:K | |
| 22 | DC Avg.:M:C | |
| 23 | DC Avg.:M:M | |
| 24 | DC Avg.:M:Y | |
| 31 | DC Avg.:L:K | |
| 32 | DC Avg.:L:C | |

| | | |
|---|---|---|
| 33 | DC Avg.:L:M | |
| 34 | DC Avg.:L:Y | |
| 41 | TotalPage:S:Set | [1 to 255/50/1 sheets] |
| 42 | TotalPage:M:Set | [1 to 65 535/100/1 sheets] |
| 43 | TotalPage:L:Set | [1 to 65 535/1/1 sheets] |

| | | |
|---|---|---|
| 3260 | Temp/Humid (PCU) | |
| | These SP codes display the temperature and humidity readings for the present conditions around the PCDUs. | |
| 1 | Temperature | [0 to 100/0/1 deg] |
| 2 | Relative Humidity | [0 to 100/0/1 %RH] |
| 3 | Absolute Humidity | [0 to 63/0/0.01 g/m3] |
| 4 | Environ:Recent | [0 to 9/0/1] |

| | | |
|---|---|---|
| 3261 | Temp/Humid(Body) | |
| | These SP codes display the temperature and humidity readings for the present conditions in the main machine. | |
| 1 | Temperature | [0 to 100/0/1 deg] |
| 2 | Relative Humidity | [0 to 100/0/1 %rH] |
| 3 | Absolute Humidity | [0 to 63/0/0.01 g/$m^3$] |
| 4 | Environ: Recent | [0 to 9/0/1] |

| 3262 | Env Set: PCU | |
|---|---|---|
| | Force executes an immediate reading of temperature/humidity conditions around the PCDUs. | |
| 1 | Force Settings | [0 to 6/0/1]<br>0:Sensor Detect<br>1:LLL 2:LL 3:ML 4:MM 5:MH 6:HH |

| 3263 | Env Set:Body | |
|---|---|---|
| | Force executes an immediate reading of temperature/humidity conditions inside the machine. | |
| 1 | Force Settings | [0 to 6/0/1]<br>0:Sensor Detect<br>1:LLL 2:LL 3:ML 4:MM 5:MH 6:HH |

| 3264 | Env Thresh:PCU | |
|---|---|---|
| | These SP codes set the thresholds for humidity readings around the PCDUs. | |
| 1 | Abs Humid:1 | [0 to 100/0/0.01 g/m3] |
| 2 | Abs Humid:2 | [0 to 100/5/0.01 g/m3] |
| 3 | Abs Humid:3 | [0 to 100/10/0.01 g/m3] |
| 4 | Abs Humid:4 | [0 to 100/18/0.01 g/m3] |
| 5 | Abs Humid:5 | [0 to 100/25/0.01 g/m3] |

| 3265 | Env Thresh:Body | |
|---|---|---|
| | These SP codes set the thresholds for humidity readings inside the main machine. | |
| 1 | Abs Humid:1 | [0 to 100/2.5/0.01 g/m3] |
| 2 | Abs Humid:2 | [0 to 100/5/0.01 g/m3] |
| 3 | Abs Humid:3 | [0 to 100/8.4/0.01 g/m3] |
| 4 | Abs Humid:4 | [0 to 100/15/0.01 g/m3] |
| 5 | Abs Humid:5 | [0 to 100/25/0.01 g/m3] |

| 3300 | ID Pattern :Disp | |
|---|---|---|
| | Displays the amount of toner on the drum at the ID sensor pattern created between sheets. M/A is the mass per area, or mass/unit area (mg/cm$^2$). This is calculated based on the ID sensor output value (Vsp). M/A is calculated for each grade of color. | |
| 1 | M/A(Latest):K | [0 to 1/0/0.001 mg/cm2] |
| 2 | M/A(Latest):C | |
| 3 | M/A(Latest):M | |
| 4 | M/A(Latest):Y | |
| 11 | M/A(Target):K | [0 to 1/0.229/0.001 mg/cm2] |
| 12 | M/A(Target):C | [0 to 1/0.472/0.001 mg/cm2] |
| 13 | M/A(Target):M | [0 to 1/0.52/0.001 mg/cm2] |
| 14 | M/A(Target):Y | [0 to 1/0.472/0.001 mg/cm2] |

| 3301 | ID Pattern :Set | |
|---|---|---|
| | These SP codes set up how ID sensor patterns are created on the drum between sheets of paper. As shown below, the intervals can be set up as prints, page counts, fluctuations in M/A, feed counts, and so on. | |
| 1 | Create Intrvl:K | [0 to 200/10/1 pages] |
| 2 | Create Intrvl:C | |
| 3 | Create Intrvl:M | |
| 4 | Create Intrvl:Y | |
| 11 | Page Cnt:K | [0 to 200/0/1 pages] |
| 12 | Page Cnt:C | |
| 13 | Page Cnt:M | |
| 14 | Page Cnt:Y | |
| 21 | M/A UppErr:K | [0 to 1/0.4/ mg/cm2] |
| 22 | M/A UppErr:Col | [0 to 2/0.80/0.001 mg/cm2] |
| 23 | M/A LowErr:K | [0 to 1/0.1/0.001 mg/cm2] |
| 24 | M/A LowErr:Col | [0 to 1/0.2/0.10 mg/cm2] |
| 31 | Feed Cnt :Set | [0 to 9 999 999/5000/1 msec] |
| 41 | Feed Cnt :K | [0 to 9 999 999/3330/1 msec] |
| 42 | Feed Cnt :C | [0 to 9 999 999/261/1 msec] |
| 43 | Feed Cnt :M | [0 to 9 999 999/1594/1 msec] |
| 44 | Feed Cnt :Y | [0 to 9 999 999/637/1 msec] |
| 51 | Vsg Detect Intrvl | [0 to 200/10/1 pages] |
| 61 | Vsg Page Cnt | [0 to 200/0/1 pages] |
| 70 | Voffset reg | [0 to 99/3/ 1 times¥ |

| | | |
|---|---|---|
| 71 | Voffset dif | [0 to 99/0/ 1 times¥ |
| 72 | Voffset TM(Front) | |
| 73 | Voffset TM(Center) | |
| 74 | Voffset TM(Rear) | |



| | | |
|---|---|---|
| 3310 | ID Sens: Offset | |
| | Displays the amount of voltage used to light the ID sensor LED to create the ID sensor pattern on the drum. | |
| 1 | Offset Reg | [0 to 5.5/0/0.01V] |
| 11 | V_Offset Dif | |
| 21 | V_Offset TM Front | |
| 22 | V_Offset TM Center | |
| 23 | V_Offset TM Rear | |

| | | |
|---|---|---|
| 3311 | ID.Sens :Vmin | |
| | Displays the Vmin output for black used in the gradation pattern. | |
| | Vmin_K | [0 to 5/0/0.01 V] |

| | | |
|---|---|---|
| 3320 | Vsg Adj: Execute | |
| | ALL | [0 to 1/1/1] |

| 3321 | Adjusted Vsg | |
|---|---|---|
| | Adjusts Vsg for B&W and the TM sensors. Vsg is the voltage measurement of the reflectivity of the bare transfer belt (ITB). There are three TM sensors mounted on the sensor array above the ITB. The front and rear sensors are MUSIC sensors. The middle sensor is also a MUSIC sensor but it also functions as the ID sensor. Throughout the service manuals these sensors are referred to as the rear MUSIC sensor, (middle) ID/MUSIC sensor, and front MUSIC sensor. | |
| 1 | Vsg reg | [0 to 5.5/3.84/0.01 V] |
| 11 | Vsg dif | [0 to 5.5/0/0.01 V] |
| 41 | Vsg TM(Front) | [0 to 5.5/3.83/0.01 V] |
| 42 | Vsg TM(Center) | [0 to 5.5/3.84/0.01 V] |
| 43 | Vsg TM(Rear) | [0 to 5.5/3,82/0.01 V] |

| 3322 | Adjusted Ifsg | |
|---|---|---|
| | Displays the reading of the ID sensor LED where the current was adjusted. | |
| 1 | Adjusted Ifsg | [0 to 50/7.2/0.1 mA] |
| 11 | Adjusted Ifsg | [0 to 50/6.4/0.1 mA] |
| 21 | Adjusted Ifsg | [0 to 50/6.2/0.1 mA] |
| 22 | Adjusted Ifsg | [0 to 50/7.2/0.1 mA] |
| 23 | Adjusted Ifsg | [0 to 50/6.6/0.1 mA] |

| 3323 | Vsg Adj OK? | |
|---|---|---|
| | These SP display a history of the results of Vsg adjustments. | |
| 1 | Latest | [0 to 999/0/1] |
| 2 | Latest 1 | |
| 3 | Latest 2 | |
| 4 | Latest 3 | |
| 5 | Latest 4 | |
| 6 | Latest 5 | |
| 7 | Latest 6 | |
| 8 | Latest 7 | |
| 9 | Latest 8 | |
| 10 | Latest 9 | |

| 3330 | ID.Sens Coef :Disp | |
|---|---|---|
| | | |
| 1 | K2(Latest) | [0 to 5/3.24/0.0001] |
| 2 | K5(Latest) | [0 to 5/2.56/0.0001] |

| 3400 | Toner Supply Type | |
|---|---|---|
| | These SP codes set the method of toner supply.<br>0: Fixed method<br>3: DANC (with Vtref correction)<br>4: DANC (without Vtref correction)<br>Note: DANC (Divided Area Noise Control) | |
| 1 | K | 0:FIXED 3:DANC (Vt_ref Fixed) 4:DANC (Vt_ref Control)<br>Default: 4 |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 3440 | Fixed Supply Mode | |
|---|---|---|
| | This SP sets the toner supply rate for the Fixed Supply Mode. | |
| 1 | Fixed Rate : K | [ 0 to 100 / 5 / 1 %] |
| 2 | Fixed Rate : C | |
| 3 | Fixed Rate : M | |
| 4 | Fixed Rate : Y | |

| 3500 | ImgQltyAdj :ON/OFF | |
|---|---|---|
| | These SP codes switch off and on the process control and MUSIC functions. | |
| 1 | ALL | [0 to 1/0/1] |
| 2 | ProCon | |
| 3 | MUSIC | |
| 4 | Init TD Sensor | |

| 3520 | ImgQltyAdj :Interval | |
|---|---|---|
| | This SP determines the interval for quality adjustment.. | |
| 1 | During Job | [0 to 100/30/1 Pages] |
| 2 | During Stand-by | [0 to 100/10/1 min.] |

| 3521 | Drum Stop Time :Disp | |
|---|---|---|
| | These SP codes display the last time the drums were used. | |
| 1 | Year | [0 to 99/0/1 year] |
| 2 | Month | [1 to 12/1/1 month] |
| 3 | Day | [1 to 31/1/1 day] |
| 4 | Hour | [0 to 23/0/1 hour] |
| 5 | Minute | [0 to 59/0/1 minute] |

| 3522 | Drum Stop Environ :Disp | |
|---|---|---|
| | These SP codes display the temperature and humidity around the drum when last used. | |
| 1 | Temperature | [-1280 to 1270/0/0.1 deg] |
| 2 | Rel Humidity | [0 to 1000/0/0.1 %RH] |
| 3 | Abs Humidity | [0 to 1000/0/0.1 g/m3] |

| 3529 | ProCon Interval Control :Set | |
|---|---|---|
| | These SP codes are used to determine when process control executes automatically. | |
| 1 | Gamma Corr | [0 to 1/1/1]  0:ON  1:OFF |
| 2 | Environ Corr | |
| 3 | Abs Hum Threshold | [0 to 99/4.3/0.1 g/m3] |
| 4 | Max Cnt Threshhold | [0 to 99/2/1 counts] |
| 5 | Exe Cnt | [0 to 255/0/1 counts] |
| 6 | Page Cnt: BW | [0 to 5000/0/1 sheets] |
| 7 | Page Cnt: FC | [0 to 5000/0/1 sheets] |

| 3530 | Power ON ProCon :Set | |
|---|---|---|
| | These SP codes set the conditions that trigger automatic execution of process control when the machine is switched on for a cold start. | |
| 1 | Non-use Time Setting | [0 to 1440/360/1 minute] |
| 2 | Temperature Range | [0 to 99/10/1 deg] |
| 3 | Relative Humidity Range | [0 to 99/50/1 %RH] |
| 4 | Absolute Humidity Range | [0 to 99/6/1 g/m3] |
| 5 | Interval:BW | [0 to 5000/0/1 sheets] |
| 6 | Interval:FC | |
| 7 | Page Cnt:BW | |
| 8 | Page Cnt:FC | |

| 3531 | Non-useTime Procon :Set | |
|---|---|---|
| | These SP codes set the conditions that trigger automatic execution of process control while the machine remains idle in standby mode. | |
| 1 | Non-use Time Setting | [0 to 1440/360/1 minute] |
| 2 | Temperature Range | [0 to 99/10/1 deg] |
| 3 | Relative Humidity Range | [0 to 99/50/1 %RH] |
| 4 | Absolute Humidity Range | [0 to 99/6/1 g/m3] |
| 5 | Maximum Execution Number | [0 to 99/10/1 times] |

| 3532 | JobIn Procon :Set | |
|---|---|---|
| | These SP codes set the conditions that trigger automatic execution of process control when the machine receives a new job. | |
| 1 | Non-use Time Setting | [0 to 1440/60/1 minute] |
| 2 | Temperature Range | [0 to 99/3/1 deg] |
| 3 | Relative Humidity Range | [0 to 99/10/1 %RH] |
| 4 | Absolute Humidity Range | [0 to 99/3/1 g/m3] |

| 3533 | Interrupt ProCon :Set | |
|---|---|---|
| | These SP codes set the conditions that trigger automatic execution of process control while the machine is printing. | |
| 1 | Interval: Set: BW | [0 to 5000/500/1 sheets] |
| 2 | Interval: Disp: BW | [0 to 5000/0/1 sheets] |
| 3 | Corr(Short): BW | [0 to 1/0/5/0.01] |
| 4 | Corr(Mid): BW | [0 to 1/1/0.01] |
| 11 | Interval: Set: FC | [0 to 5000/500/1 sheets] |
| 12 | Interval: Disp: FC | [0 to 5000/0/1 sheets] |
| 13 | Corr(Short): FC | [0 to 1/0.5/0.01] |
| 14 | Corr(Mid): FC | [0 to 1/1/0.01] |

| 3534 | JobEnd ProCon :Set | |
|---|---|---|
| | These SP codes set the conditions that trigger automatic execution of process control at job end. | |
| 1 | Interval: Set: BW | [0 to 5000/1000/1 sheets] |
| 2 | Interval: Disp: BW | [0 to 5000/0/1 sheets] |
| 3 | Corr(Short): BW | [0 to 1/0.75/0.01] |
| 4 | Corr(Mid): BW | [0 to 1/1/0.01] |
| 11 | Interval: Set: FC | [0 to 1000/1000/1 sheets] |
| 12 | Interval: Disp: FC | [0 to 5000/0/1 sheets] |
| 13 | Corr(Short): FC | [0 to 1/0.75/0.01] |
| 14 | Corr(Mid): FC | [0 to 1/1/0.01] |

| 3539 | Dev Agitating Time :Set | |
|---|---|---|
| | These SP codes set up the parameters that determine how the developer/toner is agitated in the development units. | |
| 1 | Time | [0 to 3000/0/1 sec] |
| 10 | ON/OFF(by RelHum) | [0 to 1/1/1 ] 0:ON 1:OFF |
| 30 | ON/OFF(by Non-use Time) | [0 to 1/0/1 ] 0:ON 1:OFF |
| 50 | ON/OFF(by Non-use Time) | [0 to 1/1/1 ] 0:ON 1:OFF |

| 3554 | Set Expel Dev Mode | |
|---|---|---|
| | These SP codes set the parameters for the expel toner function. | |
| 1 | Set Expel Dev Mode | [0 to 1/0/1] 0:ON 1:OFF |
| 2 | Execution Threshold Value: Run | [0 to 255/75/1 sec] |
| 3 | Execution Threshold Value: End | [0 to 255/15/1 sec] |
| 4 | Calculated Value: Half-Speed | [0 to 655.35/0.67/0.01 sec] |
| 11 | Required Expel Time: K | [0 to 655.35/0.00/0.01 sec] |
| 12 | Required Expel Time: C | |
| 13 | Required Expel Time: M | |
| 14 | Required Expel Time: Y | |

| | | |
|---|---|---|
| 3600 | Select ProCon | |
| | These SP codes select the potential control method. | |
| 1 | Potential Control | [0 to 1/1/1] 0:FIXED 1:CONTROL |
| 2 | LD Control | |
| 3 | TC Adj. Mode | [0 to 3/2/1] |
| | | 0:Do Not Execute<br>1:1st Power On<br>2: 1st Power On & Job End |
| 4 | ACC Before ProCon | [0 to 3/2/1] |
| | | 0:Not Execute<br>1:Process Control<br>2:TC Control |
| 5 | TC Adj. Times | [1 to 10/5/1] |
| 10 | Active Potential Control | [0 to 1/1/1] 0:ON 1:OFF |
| 20 | Exe. Mode Select | [0 to 9/3/1] |

| | | |
|---|---|---|
| 3610 | Chrg AC Control | |
| | These SP codes the AC control value that has been selected for potential AC control. | |
| 1 | Std Speed: K | [0 to 3/2.2/0.01 kV] |
| 2 | Std Speed: C | |
| 3 | Std Speed: M | |
| 4 | Std Speed: Y | |

| | | | |
|---|---|---|---|
| 3611 | Chrg DC Control | | |
| | These SP codes display the DC drum charge bias determined for process control for the color and speed. | | |
| | | **Mode** | **Speed** |
| | | Med. | 246.96 mm/s |
| | | Low | 176.4 mm/s |
| | | Std. | 352.8 mm/s |
| 1 | Std Speed: K | [300 to 1000/450/1 –V] | |
| 2 | Std Speed: C | | |
| 3 | Std Speed: M | [300 to 1000/550/1 –V] | |
| 4 | Std Speed: Y | | |
| 11 | Mid Speed: K | [300 to 1000/450/1 –V] | |
| 12 | Mid Speed: C | | |
| 13 | Mid Speed: M | [300 to 1000/550/1 –V] | |
| 14 | Mid Speed: Y | | |
| 21 | Low Speed: K | [300 to 1000/450/1 –V] | |
| 22 | Low Speed: C | | |
| 23 | Low Speed: M | [300 to 1000/550/1 –V] | |
| 24 | Low Speed: Y | | |

| | | | |
|---|---|---|---|
| 3612 | Dev DC Control | | |
| | These SP codes display the DC development charge bias determined for process control for the color and speed | | |
| | | **Mode** | **Speed** |
| | | Med. | 246.96 mm/s |
| | | Low | 176.4 mm/s |
| | | Std. | 352.8 mm/s |
| 1 | Std Speed: K | [200 to 800/350/1 -V] | |
| 2 | Std Speed: C | | |
| 3 | Std Speed: M | [300 to 1000/450/1 –V] | |
| 4 | Std Speed: Y | | |
| 11 | Mid Speed: K | [300 to 1000/350/1 –V] | |
| 12 | Mid Speed: C | | |
| 13 | Mid Speed: M | [300 to 1000/450/1 –V] | |
| 14 | Mid Speed: Y | | |
| 21 | Low Speed: K | [300 to 1000/350/1 –V] | |
| 22 | Low Speed: C | | |
| 23 | Low Speed: M | [300 to 1000/450/1 –V] | |
| 24 | Low Speed: Y | | |

| 3613 | LD Power Control | |
|---|---|---|
| | These SP codes display the LD power determined for process control for standard speed (352.8 mm/s), | |
| 1 | Std Speed: K | [60 to 180/107/1 %] |
| 2 | Std Speed: C | [60 to 180/88/1 %] |
| 3 | Std Speed: M | [60 to 180/110/1 %] |
| 4 | Std Speed: Y | [60 to 180/107/1 %] |

| 3620 | ProCon Target M/A | |
|---|---|---|
| | These SP codes set Beta Coverage for each color. | |
| 1 | Maximum M/A:K | [0.25 to 0.75/0.45/0.001 mg/cm2] |
| 2 | Maximum M/A:C | |
| 3 | Maximum M/A:M | |
| 4 | Maximum M/A:Y | |
| 11 | Maximum M/A Adj.:K | [-5 to 5/0/1] |
| 12 | Maximum M/A Adj.:C | |
| 13 | Maximum M/A Adj.:M | |
| 14 | Maximum M/A Adj.:Y | |
| 21 | Maximum M/A Corr:K | [-0.15 to 0.15/0.000/0.001 mg/cm2] |
| 22 | Maximum M/A Corr:C | [-0.15 to 0.15/0.012/0.001 mg/cm2] |
| 23 | Maximum M/A Corr:M | |
| 24 | Maximum M/A Corr:Y | |

| | | |
|---|---|---|
| 3622 | Dev Pot :Set | |
| | These SP codes display the background potential. | |
| 1 | K | [0 to 800/0/1 V] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |
| 51 | UpperLimit:K | [400 to 800/625/1 V] |
| 52 | UpperLimit:C | |
| 53 | UpperLimit:M | |
| 54 | UpperLimit:Y | |
| 61 | LowerLimit (K) | [0 to 400/200/1 V] |
| 62 | LowerLimit (C) | |
| 63 | LowerLimit (M) | |
| 64 | LowerLimit (Y) | |

| 3623 | LD Power Set | |
|---|---|---|
| | These SP codes set background potential for the four colors. The default is 100 V. If this setting is set too large, the carrier will not adhere. | |
| 51 | Line Width Adj.:K | [20 to 120/60/1 um] |
| 52 | Line Width Adj.:C | |
| 53 | Line Width Adj.:M | |
| 54 | Line Width Adj.:Y | |
| 61 | Line Width Adj.:K | [-5 to 5/0/1]- |
| 62 | Line Width Adj.:C | |
| 63 | Line Width Adj.:M | |
| 64 | Line Width Adj.:Y | |

| 3624 | TC Adj. Mode | |
|---|---|---|
| | These SP codes set the parameters for the range (upper and lower limits) for target gamma adjustment for process control toner density adjustment. | |
| 1 | Target(Upp Limit) | [0 to 1/0.15/0.01 mg/cm2/-kV] |
| 2 | Target(Lwr Limit) | [-1 to 0/-0.1/0.01 mg/cm2/-kV] |
| 3 | Maximum Counts | [1 to 50/5/1] |
| 5 | Force Consume Threshold | [1 to 6/1.9/0.01 mg/cm2/-kV] |
| 6 | Consume Pattern Area | [10 to 2550/250/10 cm2] |
| 7 | Consume(Upp Limit) | [0 to 16/8/1 times] |
| 8 | Force Supply Threshold | [0 to 1/1/0.65/0.01 mg/cm2/-kV] |
| 9 | Supply(Upp Limit) | [1 to 50/5/1 g] |
| 10 | Supply(Lwr Limit) | [1 to 50/1/1 g] |

| | | |
|---|---|---|
| 3630 | Dev gamma :Disp/Set | |
| | These SP codes display information about the most recent development gamma settings. | |
| 1 | Current:K | [0.1 to 6/0.1/0.1 mg/cm2/-kV] |
| 2 | Current:C | |
| 3 | Current:M | |
| 4 | Current:Y | |
| 11 | Target:K | [0.5 to 2.55/0.5/.5 mg/cm2/-kV] |
| 12 | Target:C | |
| 13 | Target:M | |
| 14 | Target:Y | |
| 21 | Initial:K | [0.5 to 2.55/1.25/0.01 mg/cm2/-kV] |
| 22 | Initial:C | |
| 23 | Initial:M | |
| 24 | Initial:Y | |
| 31 | Env Cor.(ON/OFF) | [0 to 1/0/1] |
| 32 | TC Cor.(ON/OFF) | |
| 41 | Environ Corr:K | [-1 to 1/1/0.01 mg/cm2/-kV] |
| 42 | Environ Corr:Col | |
| 51 | TnrDensity Corr:K | [-1 to 1/0/0.01 mg/cm2/-kV] |
| 52 | TnrDensity Corr:C | |
| 53 | TnrDensity Corr:M | |
| 54 | TnrDensity Corr:Y | |
| 61 | TnrDensity:K | [0 to 25.5/0/0.1 wt%] |
| 62 | TnrDensity:C | |

| | | |
|---|---|---|
| 63 | TnrDensity:M | |
| 64 | TnrDensity:Y | |
| 71 | Environ Corr1:K | [-1 to 1/-0.10/0.01 mg/cm2/-kV] |
| 72 | Environ Corr2:K | [-1 to 1/-0.05/0.01 mg/cm2/-kV] |
| 73 | Environ Corr3:K | [-1 to 1/0/0.01 mg/cm2/-kV] |
| 74 | Environ Corr4:K | [-1 to 1/0.05/0.01 mg/cm2/-kV] |
| 75 | Environ Corr5:K | [-1 to 1/0.1/0.01 mg/cm2/-kV] |
| 76 | Environ Corr6:K | [-1 to 1/0.15/0.01 mg/cm2/-kV] |
| 77 | Environ Corr7:K | [-1 to 1/0.1/0.01 mg/cm2/-kV] |
| 78 | Environ Corr8:K | |
| 81 | Environ Corr1:Col | [-1 to 1/-0.10/0.01 mg/cm2/-kV] |
| 82 | Environ Corr2:Col | [-1 to 1/-0.05/0.01 mg/cm2/-kV] |
| 83 | Environ Corr3:Col | [-1 to 1/0/0.01 mg/cm2/-kV] |
| 84 | Environ Corr4:Col | [-1 to 1/0.05/0.01 mg/cm2/-kV] |
| 85 | Environ Corr5:Col | [-1 to 1/0.10/0.01 mg/cm2/-kV] |
| 86 | Environ Corr6:Col | [-1 to 1/0.15/0.01 mg/cm2/-kV] |
| 87 | Environ Corr7:Col | [-1 to 1/0/0.01 mg/cm2/-kV] |
| 88 | Environ Corr8:Col | [-1 to 1/0/0.01 mg/cm2/-kV] |
| 90 | TC-Gamma | [0.1 to 0.25/0.12/0.01] |
| 91 | TC Corr Threshold:K | [7 to 12/9/0.1 wt%] |
| 92 | TC Corr Threshold:C | |
| 93 | TC Corr Threshold:M | |
| 94 | TC Corr Threshold:Y | |

| 3631 | Vk :Disp | |
|---|---|---|
| | These SP codes display the most recent development start voltages. Vk is the development start voltage. (One for each color.) | |
| 1 | K | [-300 to +300/0/1 –V] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| 3641 | Vd(700) :Disp | |
|---|---|---|
| | These SP codes display the values for OPC drum charge potential around the drum for:<br>▪ Averaged values for each color (with offset exposure)<br>▪ Maximum and minimum values<br>▪ Correction coefficients | |
| 1 | Average:K | [0 to 999/0/1 -V] |
| 2 | Average:C | |
| 3 | Average:M | |
| 4 | Average:Y | |
| 11 | Max:K | |
| 12 | Max:C | |
| 13 | Max:M | |
| 14 | Max:Y | |
| 21 | Min:K | |
| 22 | Min:C | |
| 23 | Min:M | |
| 24 | Min:Y | |

| | | |
|---|---|---|
| 31 | Corr Coef:K | [0.8 to 1.2/0.97/0.01] |
| 32 | Corr Coef:C | |
| 33 | Corr Coef:M | |
| 34 | Corr Coef:Y | |



| | | |
|---|---|---|
| 3642 | Vr :Disp **DFU** | |
| | These SP codes display the residual potential for each drum. (Vr is the residual voltage, the slight trace of voltage that may remain after the drum is quenched by the QL.) | |
| 1 | K | [0 to 999/0/1] |
| 2 | C | |
| 3 | M | |
| 4 | Y | |

| | | |
|---|---|---|
| 3649 | Pattern Pot: Vl Disp | |
| | These SP codes display the value of the drum potential after maximum laser exposure by reading the white patches of the potential sensor patterns of KCMY. | |
| 1 | Vl (P5): K | |
| 2 | Vl (P5): C | |
| 3 | Vl (P5): M | |
| 4 | Vl (P5): Y | |

| | | |
|---|---|---|
| 3650 | APC Set | |
| 1 | Interval | [0 to 200/50/1 pages] |

| | | |
|---|---|---|
| 3820 | Tnr Refresh Mode | |
| | These SP modes set the parameters for operation of the toner refresh mode:<br>▪ Image area threshold value.<br>▪ Amount of coverage<br>▪ Maximum between patterns<br>▪ Maximum job end pattern | |
| 1 | Img Area Thresh:K | [0 to 25.5/2/0.1 %] |
| 2 | Img Area Thresh:C | |
| 3 | Img Area Thresh:M | |
| 4 | Img Area Thresh:Y | |
| 11 | K Amount | [0 to 65535/0/1 mm] |
| 12 | C Amount | |
| 13 | M Amount | |
| 14 | Y Amount | |
| 21 | Max Between Pattern | [0 to 255/40/1 mm] |
| ⇒ 22 | Max Job End Pattern | [0 to 1000/100/1 mm] See Engine Firmware History v1.61:04 for important information. |

# 2.4 GROUP 4000

Important

- These SP codes are for the D074/D075 only. They are unavailable for the M044.



| | | |
|---|---|---|
| 4008 | Sub Scan Magnification Adj | |
| | Adjusts the sub-scan magnification by changing the scanner motor speed. | |
| | [-1 to +1/0/0.1%] | |

| | |
|---|---|
| 4010 | Sub Scan Registration Adj |
| | Adjusts the leading edge registration by changing the scanning start timing in the sub-scan direction. |
| | [-3 to +3/0/0.1 mm] |

| | |
|---|---|
| 4011 | Main Scan Reg |
| | Adjusts the side-to-side registration by changing the scanning start timing in the main scan direction.<br>**Note:** This adjustment is done for the ADF with SP6006 (ADF Reg. Adj.). |
| | [-25 to +2.5/0/0.1 mm] |

| 4012 | Set Scale Mask | |
|---|---|---|
| | These settings adjust the margins (erase margins) of the scanned area on the sheet. The leading, trailing, right, and left margins can be set independently. | |
| 1 | Book:Sub LEdge | [0 to 3/0/0.1 mm] |
| 2 | Book:Sub TEdge | |
| 3 | Book:Main:LEdge | |
| 4 | Book:Main:TEdge | |
| 5 | ADF:Sub:LEdge | |
| 7 | ADF:Main:LEdge | |
| 8 | ADF:Main:TEdge | |

| 4013 | Scanner Free run | |
|---|---|---|
| | Performs the scanner free run with the exposure lamp on or off for full-color, full size (A3 or DLT). | |
| 1 | Book mode :Lamp Off | [0 to 1/0/1] |
| 2 | Book mode :Lamp On | |

| 4014 | Scan **DFU** |
|---|---|
| | Touch [Execute] to execute one scanning operation with the scanner at the home position. |
| | [0 to 1/4/1] |

| | | |
|---|---|---|
| 4020 | Dust Check | |
| | This feature checks the ADF exposure glass for dust that can cause black lines in copies. If dust is detected, a message is displayed, but the process does not stop. | |
| 1 | Dust Detect:On/Off | [0 to 1/0/1] |
| | Issues a warning if there is dust on the narrow scanning glass of the ADF when the original size is detected before a job starts. This function can detect dust on the white plate above the scanning glass, as well as dust on the glass. Sensitivity of the level of detection is adjusted with SP4020-002.<br>**Note:** Always clean the ADF scanning glass and the white plate above the scanning glass before you switch this setting on. | |
| 2 | Dust Detect:Lvl | [0 to 8/4/1] |
| | Adjusts the sensitivity for dust detection on the ADF scanning glass. This SP is available only after SP4020-001 is switched on.<br>0: Off. No dust warning.<br>0> 4: Lower > Normal sensitivity<br>4> 8: Normal > High sensitivity<br>▪ If you see black streaks in copies when no warning has been issued, raise the setting to increase the level of sensitivity.<br>▪ If warnings are issued when you see no black streaks in copies, lower the setting.<br>▪ Dust that triggers a warning could move be removed from the glass by the originals in the feed path. If the dust is removed by passing originals, this is not detected and the warning remains on. | |
| 3 | Dust Reject:Lvl | [0 to 4/0/1] |
| | Sets the level for vertical line correction (the black vertical lines caused by dust on the ADF exposure glass).<br>0: No vertical line correction.<br>1-4: Enables and sets the level for vertical line correction.<br>If you select a higher number, this can decrease unwanted lines caused by dust but can also erase thin vertical lines of the original. | |

| | |
|---|---|
| 4301 | Operation Check APS Sensor |
| | [0 to 255/0/1] |

| | |
|---|---|
| 4303 | Min Size for APS |
| | Sets the minimum size of the original that the will be detected by APS (Auto Paper Select – with original width sensors) of the exposure glass of the flatbed scanner.<br>[0 to 2/0/1]<br>0: Unknown Document Size<br>1: A5 SEF (HLT SEF)<br>2: A5 LEF (HLT LEF) |

| | |
|---|---|
| 4305 | 8K/16K Detection |
| | This SP enables the machine to recognize 8K/16K size paper automatically.<br>[0 to 3/0/1]<br>[0: Normal<br>1: A4 for LEF, LT for SEF<br>2: LT for LEF, A4 for SEF<br>3: 8KAI, 16 KAI |

| 4400 | Org Edge Mask | |
|---|---|---|
| | This SP sets the mask area to remove shadows when scanning originals from the exposure glass in Book mode.<br>**Note:** "LE" denotes "leading edge" and "TE" denotes "trailing edge". | |
| 1 | Book:Sub:LEdge | [0 to 3/0/0.1 mm] |
| 2 | Book:Sub:TEdge | |
| 3 | Book:Main:LEdge | |
| 4 | Book:Main:Tedge | |
| 5 | ADF:Sub:LEdge | |
| 7 | ADF:Main:LEdge | |
| 8 | ADF:Main:TEdge | |

| 4417 | IPU Test Pattern | | | |
|---|---|---|---|---|
| | Use this SP to select the IPU test pattern to print. | | | |
| | | Test Pattern [0 to 24/0/1] | | |
| | 0 | Scanned Image | 13 | Grid Pattern CMYK |
| | 1 | Gradation Main Scan A | 14 | Color Patch CMYK |
| | 2 | Gradation Main Scan B | 15 | Gray Pattern (1) |
| | 3 | Gradation Main Scan C | 16 | Gray Pattern (2) |
| | 4 | Gradation Main Scan D | 17 | Gray Pattern (3) |
| | 5 | Gradation Sub Scan 1 | 18 | Shading Pattern |
| | 6 | Grid Pattern | 19 | Thin Line Pattern |
| | 7 | Slant Grid Pattern | 20 | Scanned + Grid Pattern |
| | 8 | Gradation RGBCMYK | 21 | Scanned + Grayscale |
| | 9 | UCR Pattern | 22 | Scanned + Color Patch |

| | | | | |
|---|---|---|---|---|
| | 10 | Color Patch 16 (1) | 23 | Scanned + Slant Grid C |
| | 11 | Color Patch 16 (2) | 24 | Scanned + Slant Grid D |
| | 12 | Color Patch 16 64 | | |

| | | |
|---|---|---|
| 4450 | Scan Image Pass Selection | |
| | These SP codes switch the operation of black reduction and shading correction off/on. | |
| 1 | Black Subtraction ON/OFF | [0 to 1/1/1] |
| | Switches the black reduction function in scanner data off/on. | |
| 2 | SH ON/OFF | [0 to 1/1/1] |
| | Switches shading reduction function in scanner data off/on. | |

| | | |
|---|---|---|
| 4460 | Digital AE **DFU** | |
| | These SP codes set parameters for the AE function. | |
| 1 | Low Limit Value | [0 to 1023/364/1] |
| | This setting determines the lower limit for level of background to be skipped for the AE function. The higher the setting, the more background will be ignored. | |
| 2 | Background level | [512 to 1535/972/1] |
| | This setting determines the level of background to be output for the AE function. | |

| | | |
|---|---|---|
| 4490 | FL Correction ON/OFF | |
| | | |
| 1 | RED | [0 to 1/0/1] |
| 2 | GREEN | |
| 3 | BLUE | |

| 4501 | ACC Target Den **Not Used** | |
|---|---|---|
| | This SP sets the target density for the ACC adjustment for machines connected with the Copier Connection Kit. | |
| 1 | Copy:K:Text | [0 to 10/5/1] |
| 2 | Copy:C:Text | |
| 3 | Copy:M:Text | |
| 4 | Copy:Y:Text | |
| 5 | Copy:K:Photo | |
| 6 | Copy:C:Photo | |
| 7 | Copy:M:Photo | |
| 8 | Copy:Y:Photo | |

| 4505 | ACC Cor:Bright **Not Used** | |
|---|---|---|
| | Sets correction for bright areas for ACC correction. | |
| 1 | Master:K | [-128 to +127/0/1] |
| 2 | Master:C | |
| 3 | Master:M | |
| 4 | Master:Y | |
| 5 | Slave:K | |
| 6 | Slave:C | |
| 7 | Slave:M | |
| 8 | Slave:Y | |

| 4506 | ACC Cor:Dark **Not Used** | |
|---|---|---|
| | Sets correction for dark areas for ACC correction. | |
| 1 | Master:K | [-128 to +127/0/1] |
| 2 | Master:C | |
| 3 | Master:M | |
| 4 | Master:Y | |
| 5 | Slave:K | |
| 6 | Slave:C | |
| 7 | Slave:M | |
| 8 | Slave:Y | |

| 4540 | Print Coverage | |
|---|---|---|
| | This SP corrects printer coverage of 12 hues (RY, YR, YG, etc. x 4 Colors (K, C, M, Y) for a total of 48 parameters. | |
| 1st | <x>Phase<y> | [0 to 255/0/1] |
| 2nd | <x>Phase<y> | [-256 to +255/0/1] |
| 3rd | <x>Phase<y> | |
| 4th | <x>Phase<y> | |
| 055 | BLACK G | [-256 to +255/8/1] |
| 056 | BLACK B | [-256 to +255/4/1] |

| | | |
|---|---|---|
| 4550 | Scan Apli:Txt/Print | |
| 4551 | Scan Apli:Txt | |
| 4552 | Scan Apli:Txt Dropout | |
| 4553 | Scan Apli:Txt/Photo | |
| 4554 | Scan Apli:Photo | |
| 4565 | Scan Apli:GrayScale | |
| 4570 | Scan Apli:Col Txt/Photo | |
| 4571 | MTF: 0(Off) 1-15 (Weak-Strong) | |
| 4572 | Scan Apli:AutoCol | |
| | These SP code share common parameters (see below). | |
| 5 | MTF: 0(Off) 1-15 (Weak-Strong) | [0 to 15/8/1] |
| | Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect. | |
| 6 | Smoothing: 0(x1) 1-7 (Weak-Strong) | [0 to 7/4/1] |
| | Use to remove "jaggies" if they appear. Set higher for smoother. | |
| 7 | Brightness: 1-255 | [1 to 255/128/1] |
| | Set higher for darker, set lower for lighter. | |
| 8 | Contrast: 1-255 | [1 to 255/128/1] |
| | Set higher for more contrast, set lower for less contrast. | |
| 9 | Ind Dot Erase: 0(Off) 1-7 (Weak-Strong) | [0 to 7/0/1] |
| | Use to remove individual dots in the background if they appear. Set higher for removal of more background. | |

| | | |
|---|---|---|
| 4600 | SBU Version Display | |
| | These SP codes display the readings of four ID codes read during automatic adjustment of the SBU every time the machine is turned on. An incorrect ID reading issues SC144. | |
| 1 | SBU_ ID | [0 to 255/0/1] |
| | Displays the ID code (1-byte hexadecimal) read for the SBU. | |
| 2 | GASBU-N_ID | [0 to 255/0/1] |
| | Displays the ID code (1-byte hexadecimal) read for the GASBU-N. | |
| 3 | VSP_F_ID | [0 to 255/0/1] |
| | Displays the ID code (1-byte hexadecimal) read for the VSP5100_F. | |
| 4 | VSP_L_ID | [0 to 255/0/1] |
| | Displays the ID code (1-byte hexadecimal) read for the VSP5100_. | |

| | |
|---|---|
| 4602 | Scanner Memory Access **DFU** |

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|---|---|
| 4609 | Gray Balance Adj Value R **DFU** |
| 4610 | Gray Balance Adj Value G **DFU** |
| 4611 | Gray Balance Adj Value B **DFU** |
| | These SP codes display the reference voltages stored in NVRAM at the factory for Red, Green, and Blue before the machine was shipped. The SBU acquires these settings every time the machine is switched on. |
| 1 | Book Scan<br>[0 to 1023 / 512 / 1 Step] |
| 2 | DF Scan<br>[0 to 255 / 97 / 1 Step] |

| | |
|---|---|
| 4623 | Black Level Adj Value **DFU** |
| 4624 | Black Level Adj Value **DFU** |
| 4625 | Black Level Adj Value **DFU** |

| | |
|---|---|
| 4628 | Analog Gain Adj Value **DFU** |
| 4629 | Analog Gain Adj Value **DFU** |
| 4630 | Analog Gain Adj Value **DFU** |

| | |
|---|---|
| 4631 | Digital Gain Adj Value **DFU** |
| | When switched on, this SP displays the current range for the E (EVEN) or O (ODD) in the ASCI on the SBU after white level adjustment every time the machine is switched on. |

| | |
|---|---|
| 4632 | Digital Gain Adj Value **DFU** |
| | When switched on, this SP displays the current range for E (EVEN) or O (ODD) gain of GREEN or B/W in the ASCI on the SBU after white level adjustment every time the machine is switched on. |

| | |
|---|---|
| 4633 | Digital Gain Adj Value **DFU** |
| | When switched on, this SP displays the current range for E (EVEN) or O (ODD) gain of GREEN or B/W in the ASCI on the SBU after white level adjustment every time the machine is switched on. |

| | | |
|---|---|---|
| 4635 | SSCG Noise Cancel **DFU** | |
| | Switches SSCG noise cancellation on/off. 0: Off, 1: On | |
| 1 | Correction ON/OFF | [0 to 1/1/1] |
| 2 | Adj ON/OFF | |

| | |
|---|---|
| 4636 | SSCG Correction **DFU** |
| 4637 | SSCG Correction Adj Value **DFU** |
| 4638 | SSCG Correction Adj Value **DFU** |
| 4639 | SSCG Correction Adj Value **DFU** |

| | |
|---|---|
| 4640 | SSCG Noise Size **DFU** |

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|---|---|
| 4646 | Scan Adjust Error **DFU** |

| | |
|---|---|
| 4647 | Scanner Hardware Error **DFU** |

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|---|---|
| 4654 | Black Level Adj Value **DFU** |

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|---|---|
| 4655 | Black Level Adj Value **DFU** |

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|---|---|
| 4656 | Black Level Adj Value **DFU** |

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|---|---|
| 4658 | Analog Gain Adj Value **DFU** |

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|---|---|
| 4659 | Analog Gain Adj Value **DFU** |

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|---|---|
| 4660 | Analog Gain Adj Value **DFU** |

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|---|---|
| 4661 | Digital Gain Adj Value **DFU** |

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|---|---|
| 4662 | Digital Gain Adj Value **DFU** |

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|---|---|
| 4663 | Digital Gain Adj Value **DFU** |

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|---|---|
| 4673 | Black Level Adj Value **DFU** |

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|---|---|
| 4674 | Black Level Adj Value **DFU** |

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|---|---|
| 4675 | Black Level Adj Value **DFU** |

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|---|---|
| 4677 | Analog Gain Adj Value **DFU** |

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|---|---|
| 4678 | Analog Gain Adj Value **DFU** |

| | |
|---|---|
| 4679 | Analog Gain Adj Value **DFU** |

| | |
|---|---|
| 4680 | Digital Gain Adj Value **DFU** |
| 4681 | Digital Gain Adj Value **DFU** |
| 4682 | Digital Gain Adj Value **DFU** |
| | When switched on, these SP codes display the settings done at the factory for Red (Green, Blue) O (ODD) and E (EVEN) gain in the ASIC on the SBU after white level adjustment every time the machine is switched on. |

| | |
|---|---|
| 4690 | White Level Peak Data R: FE **DFU** |
| 4691 | White Level Peak Data: G: FE **DFU** |
| 4692 | White Level Peak Data: B: FE **DFU** |
| | When switched on, these SP codes display E (EVEN) or O (ODD) for the white level peak Red (Green, Blue) data after white level detection (AGC) after the machine is switched on. |

| | |
|---|---|
| 4693 | Black Level Data R: FE **DFU** |
| 4694 | Black Level Data G: FE **DFU** |

| | | |
|---|---|---|
| 4695 | Black Level Data B: FE **DFU** | |
| | When switched on, these SP codes display E (EVEN) or O (ODD) for the black level check done in the SBU for RED after the machine is switched on. | |

| | | | |
|---|---|---|---|
| 4699 | SBU Test Pattern: F | | |
| | Selects the scan test pattern. | | |
| 1 | Select Test Pattern | | [0 to 4 / 0 / 1] |
| | 0 | Normal Image Output | |
| | 1 | Fixed Value Output | |
| | 2 | Main Scan Gradation | |
| | 3 | Sub Scan Gradation | |
| | 4 | Grid Pattern | |
| 2 | Set Output Level | | [0 to 1023/ 682 / 1] |
| 3 | Select Test Pattern | | [0 to 4 / 0 / 1] |
| | 0 | Normal Image Output | |
| | 1 | Fixed Value Output | |
| | 2 | Main Scan Gradation | |
| | 3 | Sub Scan Gradation | |
| | 4 | Grid Pattern | |
| 4 | Set Output Level | | [0 to 1023/ 682 / 1] |

| | | |
|---|---|---|
| 4802 | Scanner Free run | |
| | This SP sets the scanner in the free run mode for testing. The free run can be set with the exposure lamp off or on. | |
| 1 | DF mode :Lamp Off | [0 to 1/0/1] |
| 2 | DF mode :Lamp On | |

| | | |
|---|---|---|
| 4804 | Home Position Operation | [0 to 1/0/1] |
| | Touch [Execute] to do the home position operation once. | |

| | |
|---|---|
| 4805 | Scanner Carriage Retraction Operation |
| | [0 to 1/0/1] |

| | | |
|---|---|---|
| 4901 | Background Erase Settings | |
| 20 | Org Density High Mode (Light) | [-128 to 127/0/1 step] |
| 22 | Org Density High Mode (Light) | |
| 22 | Org Density High Mode (Light) | |

| | | | |
|---|---|---|---|
| 4902 | Disp ACC Data | | |
| | This SP outputs the final data read at the end of ACC execution. A zero is returned if there was an error reading the data. | | |
| 1 | R_DATA1 | Photo C Patch Level 1 (8-bit) | [0 to 255/0/1] |
| 2 | G_DATA1 | Photo M Patch Level 1 (8-bit) | |
| 3 | B_DATA1 | Photo Y Patch Level 1 (8-bit) | |
| 4 | R_DATA2 | Photo C Patch Level 17 (8-bit) | |
| 5 | G_DATA2 | Photo M Patch Level 17 (8-bit) | |
| 6 | B_DATA2 | Photo Y Patch Level 17 (8-bit) | |

| | |
|---|---|
| 4905 | Select Gradation Level |
| | This SP changes the threshold parameters of error diffusion.<br>[0 to 255/0/1] |

| 4918 | Man Gamma Adj **DFU** | |
|---|---|---|
| 1 | Offset:Highlight | [0 to 30/15/1] |
| 2 | Offset:Middle | |
| 3 | Offset:Shadow | |
| 4 | Offset:IDmax | |
| 5 | Option:Highlight | [0 to 255/0/1] |
| 6 | Option:Middle | [0 to 12/0/1] |
| 7 | Option:Shadow | [0 to 255/0/1] |
| 8 | Option:IDmax | |

| 4954 | Read/Restore Std **DFU** | |
|---|---|---|
| | Use this SP to calibrate the scanner gamma on each machine connected with the Copier Connection Kit. | |
| 1 | Read New Chart | [0 to 1/0/1] |
| 2 | Recall Prev Chart | |
| 3 | Read Std Chart | |
| 4 | Set Std Chart | |

| 4991 | IPU Image Path Selection | |
|---|---|---|
| | Use this SP to use the 10-key pad to enter the number to determine the image path. | |
| | IPU | [0 to 11/2/1] |
| | 0 | DFID input RGB images (upper 8 bits) |
| | 1 | Synchronous RGB images in DFID |
| | 2 | Data with shading correction on |
| | 3 | Data with shading correction off |
| | 4 | Data before black offset correction |
| | 5 | Data after black offset correction |
| | 6 | Shading data |
| | 7 | Test pattern data (grayscale) |
| | 8 | RGB image after line interval correction |
| | 9 | RGB image after dot correction and pre-gamma |
| | 10 | RGB image after vertiial line correction |
| | 11 | RGB image after scanner gamma correction |

| 4993 | High Light Correction **DFU** |
|---|---|

| 4994 | Adj Txt/Photo Recognition Level **DFU** |
|---|---|

| 4996 | White Paper Detection Level **DFU** |
|---|---|

## 2.5 GROUP 5000

| | | |
|---|---|---|
| 5024 | mm/inch Display Selection | CTL |
| | [0 to 1/0/1] 0: Europe/Asia (mm) 1: North America (inch) | |

| | | |
|---|---|---|
| 5051 | Refill Toner Panel Display | CTL |
| | Switches refill toner display off and on.<br>[0 to 1/0/1] 0:ON 1:OFF | |

| | | |
|---|---|---|
| 5045 | Accounting Counter | CTL |
| | Selects the counting method.<br>**Note**: When the A3/DLT double count function is switched on with SP5104, 1 A3/DLT page is counted as 2.. When SP5104-1 is switched ON, the "5 Developer" and "6 Prints" items below cannot be set. | |
| 1 | Counter method<br>[0 to 6/ * / - ]<br>**Note**:<br>▪ For the D074/D075 the default is "0 Developments"<br>▪ For M044 the default is 1: Prints | |
| | 0: Developments | |
| | 1: Prints | |
| | 2: Coverage<br>There are 5 counters for this selection: (1) Color Total, (2) Color 1, (3) Color 2, (4) Color 3, (5) B&W Total.<br>▪ Color 1, 2, 3 total the counts for KCMY.<br>▪ Color 1 totals 0 to 5% coverage, Color 2 5% to 20% coverage, Color 3 more than 20% coverage.<br>▪ Color 1 and Color 2 can be adjusted with SP7855. | |
| | 3: Not used | |

| | |
|---|---|
| | 4: Not used |
| | 5: Developer (A3/DLT & Larger)<br>There are four counters for this selection: (1) Color (YMC) Development, (2) Black Development, (3) Color (YMC) (A3/DLT&Larger), (4) Black Development (A3/DLT&Larger).<br>▪ The number of prints for the colors used are counted.<br>▪ When four colors are used for four-color printing, the count is done "Color (YMC) Development: +3", and "Black Development: +1"<br>▪ The A3/DLT&Larger counts are done only for paper larger than A3 (wider than 420 mm) |
| | 6: Prints (A3/DLT & Larger) |

| | | |
|---|---|---|
| 5055 | Display IP Address | CTL |
| | Switches the banner display of the IP address off and on. (Default: *Off)<br>[OFF] ON<br>For example, if this SP is switched on, the IP address will be displayed below "Ready" while the printer is in standby mode:<br>Ready<br>169.254.187.055 | |

| | | |
|---|---|---|
| 5056 | Coverage Counter Display | CTL |
| | This SP switches the counter list for the system administrator on/off.<br>[0 to 1/0/1] 0: On 1: Off | |

| | | |
|---|---|---|
| 5062 | Parts Replacement Banner | CTL |
| 1 to 118 | [0 to 1/0/1] 0: Display Off, 1: Display On<br>This SP codes switches the replacement parts banner on and off. Default: Display OFF.<br>Notes:<br>▪ This selection has no effect on the system alarm warnings.<br>▪ Switching this SP on enables SP7624.<br>▪ The setting of SP5066 affects what is displayed in the banner.<br>▪ Related SP codes are SP5066-1, SP7624, and SP5067 | |

| | | |
|---|---|---|
| 5066 | PM Parts Display | CTL |
| | [0 to 1/0/1]  0:No Display  1:Display | |

| | | |
|---|---|---|
| 5067 | Switching of Print Application | CTL |
| 1 to 118 | [0 to 1/0/1] | |

| | | |
|---|---|---|
| 5071 | Set Bypass Paper Size Display | CTL |
| | This SP determines whether long paper can be fed from the bypass tray.<br>Even if "1" is selected only paper up to 432 mm can be used.<br>[0 to 1 / 0 / 1]  0: Disable  1: Enable | |

| | | |
|---|---|---|
| 5104 | A3/DLT Double Count : SSP | CTL |
| 1 | Specifies whether the counter is double clicked for A3/DLT size prints.<br>When you have to change this SP, ask your supervisor.<br>**Note**: This SP cannot be changed if "5" or "6" is selected for SP5045.<br>[0 to 2 / 0 / 1 /step]<br>0: NO (Normal count)<br>1: YES (Double count)<br>2: YES except By-pass (Normal count for unknown size) | |

| | | |
|---|---|---|
| 5113 | Optional Counter Type **Japan Only** | CTL |
| 1 | Default Optional Counter Type | |
| | [0 to 12/0/1]<br>Selects the type of counter:<br>0: None<br>1: Key Card (RK3, 4) Japan Only<br>2: Key Card Down<br>3: Pre-paid Card<br>4: Coin Rack<br>5: MF Key Card<br>11: Exp Key Card (Add)<br>12: Exp Key Card (Deduct) | |
| 2 | External Optional Counter Type | |
| | Enables the SDK application. This lets you select a number for the external device for user access control.<br>Note: “SDK” refers to software on an SD card.<br>[0 to 3/0/1]<br>0: None<br>1: Expansion Device 1<br>2: Expansion Device 2<br>3: Expansion Device 3 | |

| | | |
|---|---|---|
| 5114 | Optional Card IF | CTL |
| | This SP code enables the interface for an optional counting device.<br>[0 to 8/0/1] Only settings that can be enabled for machines outside Japan are listed here.<br>0: Disabled<br>1: Key Cards (RK2, 3, 4)<br>2: Decrementing keycard<br>11: Incrementing key cards for use outside Japan<br>12: Decrementing key cards for use outside Japan | |

| | | |
|---|---|---|
| 5118 | Disable Copying | CTL |
| | Temporarily denies access to the machine.<br>[0 to 1/0/1]<br>0: Release for normal operation<br>1: Prohibit access to machine | |

| | | |
|---|---|---|
| 5120 | Mode Clear Count Removal | CTL |
| | For a machine that has a counting device, this SP sets the next action when a copy job stops because the card is removed, the card is expired, or if the paper supply runs out. Japan Only<br>[0 to 2/0/1 step]<br>0: Yes<br>1: Stand-by<br>2: No | |

| | | |
|---|---|---|
| 5121 | Counter Up Timing | CTL |
| | Determines whether the optional key counter counts up at paper feed-in or at paper exit.<br>[0 to 1/1/1]<br>0: Feed count<br>1: No feed count | |

| | |
|---|---|
| 5126 | Set F-size Document |
| | [0 to 2/0/1] 0:Foolscap 8.5x13 1:Folio 8.25x13 3:F 8 x 13 |

| | | |
|---|---|---|
| 5127 | APS Off Mode | CTL |
| | This SP can be used to switch APS (Auto Paper Select) off while a coin lock or pre-paid key card device is connected to the machine.<br>[0 to 1/0/1] 0: On 1: Off | |

| | | |
|---|---|---|
| 5128 | Code Mode With Key/Card Option **Japan Only** | CTL |

| | |
|---|---|
| 5131 | Paper Size Type Selection |
| | Selects the paper size type (for originals and copy paper). (Only needs to be adjusted if the optional printer controller is installed)<br>[0 to 2/1]<br>0: DOM (Japan)<br>1: NA (North America)<br>2: EU (Europe)<br>After changing the value, turn the main power switch off and on. |

| 5150 | Bypass Length setting | CTL |
|---|---|---|
| 1 | [0 to 1 / 0 / 1 /-]<br>0: OFF: Enables up to the standard 480mm<br>1: ON: Enables up to 630mm<br>▪ **Purpose**. To switch the paper feeding control for paper sizes larger than the often used standard paper sizes(487.7mm in sub-scan direction)<br>▪ **Basic Control**.<br><Target Paper Size(sub-scan direction)><br>Paper sizes (Lp) of 487.7mm - 630mm.<br><Target Feed Tray><br>Multi By-pass Tray ONLY<br>**Notes**:<br>▪ Paper must be set one sheet at a time on the feed tray because the end-fence can not support these paper sizes.<br>▪ Automatic duplexing must be disabled<br>▪ Only face-up stacking is possible<br>▪ The purge function for jams will be disabled<br>▪ Side-to-side registration correction will be disabled | |

| 5162 | App. Switch Method | CTL |
|---|---|---|
| | Determines if the application screen changes with a hardware switch or a software switch.<br>[0 to 1/0/1] 0: Soft Key Set 1: Hard Key Set | |

| 5169 | CE Login | CTL |
|---|---|---|
| | This SP enables and disables the CE log in mode. With this SP enabled, the machine is in the CE (Customer Engineer/Service Technician) login mode.<br>In the CE login mode:<br>▪ The machine power can be turned off and on in the SP mode, and it will remain in the SP mode after power is restored.<br>▪ This SP is automatically reset to "0" (disabled) after the service technician closes the SP mode with the [Exit] soft button or after the log out timer expires.<br>**Note**: The Auto Logout Timer is in the "System Settings" of User Tools.<br>[0 to 1/0/1]<br>0: Disable, 1: Enable<br>0: CE login mode disabled.<br>1: CE login mode enabled. | |

| 5185 | TCRU: Set Machine |
|---|---|
| | This SP code sets up the machine for the TCRU program. **Default**: OFF<br>[0 to 1/0/1] 0:OFF 1:ON<br>**Note**: The machine must be cycled on after changing this SP setting. |

| 5186 | RK4 |
|---|---|
| | This setting determines whether jam removal operation is enabled or disabled for RK4.<br>[0 to 1/0/1] 0: Disable 1: Enable |

| 5188 | Copy NV Version DFU | CTL |
|---|---|---|
| | This SP displays the NVRAM version to determine whether the NVRAM has been initialized. Used during debugging. | |

| | | |
|---|---|---|
| 5190 | Unit Life Target Change | CTL |
| | This SP determines whether counter reference values for the PM counter are set in the operator adjust mode or super operator adjust mode. The settings are used for display.<br>[0 to 1/0/1]  0:Enable  1:Disable | |

| | | |
|---|---|---|
| 5193 | External Controller Information Setting | CTL |
| | This SP selects the controller type. This setting needs to be done if an external controller is installed in the machine.<br>[0 to 6/0/1]<br>0: No external controller installed<br>1: EFI controller<br>2: Ratio controller<br>3: Egret controller<br>4: GJ<br>5: Creo<br>6: QX-100 | |

| | | |
|---|---|---|
| 5195 | Limitless Switch | CTL |
| | This SP selects the paper feed mode by switching between "productivity priority" (0) and "tray priority (1). This SP operates only if the operator has selected "Auto Paper Select".<br>[0 to 1 / 0 / 1]<br>0: **Productivity priority**. Switches from the current feed tray to the priority tray as soon as the machine detects the priority tray, even if paper still remains in the current feed tray.<br>1: **Tray priority.** Switches the feed tray only after the paper in the tray current tray runs out of paper. | |

| | | |
|---|---|---|
| 5199 | Paper Exit After Staple End | CTL |
| | This SP determines whether a machine that normally cannot continue to output paper if staple supply runs can continue to operate.<br>[0 to 1 / 0 / 1]<br>0: OFF. Paper cannot exit if no staples are available.<br>1: ON. Paper can exit with no staples. | |

| | | |
|---|---|---|
| 5212 | Page Numbering | CTL |
| | This program adjusts the position of the second side page numbers.<br>▪ A "– value" moves the page number positions to the left edge or leading edge (high position).<br>▪ A "+ value" moves the page number positions to the right edge or trailing edge (low position). | |
| 3 | Duplex Printout Right/Left Position | |
| | [-10 to +10/0/1 mm] -10 (left, +10 (right) | |
| 4 | Duplex Printout High/Low Position | |
| | [-10 to +10/0/1 mm] -10 (left, +10 (right) | |

| | | |
|---|---|---|
| 5227 | Page Numbering | CTL |
| 220 | Change Page No. Display | |
| | This SP code switches the job page number entry display on/off so you can enter a starting page number.<br>[0 to 1/0/1]  0: Disable  1: Enable | |
| 221 | Allow Page No. Entry | |
| | This SP code restricts the number of digits that can be entered in the job page number entry display. The default is 9 digits.<br>[2 to 9/9/1] | |
| 222 | Zero Surplus Setting | |
| | This SP code determines whether initial zeros are displayed for one and two digit numbers.<br>[0 to 1/0/1]<br>0: Do not suppress "0"<br>1: Suppress "0" | |

| | | |
|---|---|---|
| 5302 | Set Time | CTL |
| | Sets the time clock for the local time. This setting is done at the factory before delivery. The setting is GMT expressed in minutes.<br>[–1440 to 1440/1 min.]<br>AS: +480 (Hong Kong)<br>CH: +480 (Peking)<br>EU: +60 (Paris)<br>JA: +540 (Tokyo)<br>KO: +540 (Korea)<br>NA: -300 (NY)<br>TW: +480 (Taipei) | |

| | | | |
|---|---|---|---|
| 5307 | Summer Time | | CTL |
| | Lets you set the machine to adjust its date and time automatically with the change to Daylight Savings time in the spring, and back to normal time in the fall. This SP lets you set these items:<br>▪ Day and time to go forward automatically in April<br>▪ Day and time to go back automatically in October<br>▪ Set the length of time to go forward and back automatically<br>▪ The settings for 2 and 3 are done with 8-digit numbers | | |
| | Digits | Meaning | |
| | 1st, 2nd | Month. 4: April, 10: October (for months 1 to 9, the first digit of 0 cannot be input, so the eight-digit setting for 2 or 3 becomes a seven-digit setting) | |
| | 3rd | Day of the week. 0: Sunday, 1: Monday | |
| | 4th | The number of the week for the day selected at the 3rd digit. If “0” is selected for “Sunday”, for example, and the selected Sunday is the start of the 2nd week, then input a “2” for this digit. | |
| | 5th, 6th | The time when the change occurs (24-hour as hex code).<br>Example: 00:00 (Midnight) = 00, 01:00 (1 a.m.) = 01, and so on. | |
| | 7th | The number of hours to change the time. 1 hour: 1 | |
| | 8th | If the time change is not a whole number (1.5 hours for example), digit 8 should be 3 (30 minutes). | |
| | 1 | Setting | |
| | | Enables/disables the settings for 2 and 3.<br>0: Disable<br>1: Enable | |
| | 3 | Rule Set (Start) | |
| | | The start of summer time. | |
| | 4 | Rule Set (End) | |
| | | The end of summer time. | |

| | | |
|---|---|---|
| 5401 | Access Control **DFU** | CTL |
| | These SP's store settings that limit uses access to SDK (Software Development Kit) application data. | |
| 103 | Default Document ACL | |
| 104 | Authentication Time | |
| | This SP sets the length of time allowed for authentication.<br>[1 to 255 / 0 / 1] (0 = 60 sec. standard) | |
| 162 | Extend Certification Detail | |
| 200 | SDK1 Unique ID | "SDK" is the "Software Development Kit". This data can be converted from SAS (VAS) when installed or uninstalled. DFU |
| 201 | SDK1 Certification Method | |
| 210 | SDK2 Unique ID | |
| 211 | SDK2 Certification Method | |
| 220 | SDK3 Unique ID | |
| 221 | SDK3 Certification Method | |
| 230 | SDK Certification Device | |
| 240 | Detail Option | |

| | | |
|---|---|---|
| 5404 | User Code Count Clear | CTL |
| | Clears the counts for the user codes assigned by the key operator to restrict the use of the machine. Press [Execute] to clear. | |

| | | |
|---|---|---|
| 5411 | LDAP Certification | CTL |
| | This SP sets up LDAP certification. | |
| 4 | Easy Certification | |
| | When set to "1" does easy authentication according to the SP setting. [0 to 1 / 1 / 1] | |
| 5 | Password Null Not Permit | |
| | This SP is referenced only when SP5411-4 is set to "1" (On).<br>[0 to 1/1/1]<br>0: Password NULL not permitted.<br>1: Password NULL permitted | |
| 6 | Detail Options | |
| | (7) 0000 0000 (0) | |

| 5413 | Lockout Setting | CTL |
|---|---|---|
| 1 | Lockout On/Off<br>Switches on/off the lock on the local address book account.<br>[0 to 1/0/1]<br>0: Off<br>1: On | |
| 2 | Lockout Threshold<br>Sets a limit on the frequency of lockouts for account lockouts.<br>[1 to 10/5/1] | |
| 3 | Cancellation On/Off<br>Determines whether the system waits the prescribed time for input of a correct user ID and password after an account lockout has occurred.<br>[0 to 1/0/1]<br>0: Off (no wait time, lockout not cancelled)<br>1: On (system waits, cancels lockout if correct user ID and password are entered. | |
| 4 | Cancellation Time<br>Determines the length of time that the system waits for correct input of the user ID and password after a lockout has occurred. This setting is used only if SP5413-3 is set to "1" (on).<br>[1 to 999/60/1 min.] | |

| 5414 | Access Mitigation | CTL |
|---|---|---|
| 1 | Mitigation On/Off | |
| | Switches on/off masking of continuously used IDs and passwords that are identical.<br>[0 to 1/0/1]<br>0: Off<br>1: On | |
| 2 | Mitigation Time | |
| | Sets the length of time for excluding continuous access for identical user IDs and passwords.<br>[0 to 60/15/1 min.] | |

| 5415 | Password Attack | CTL |
|---|---|---|
| 1 | Permissible Number | |
| | Sets the number of attempts to attack the system with random passwords to gain illegal access to the system.<br>[0 to 100/30/1 attempt] | |
| 2 | Detect Time | |
| | Sets the time limit to stop a password attack once such an attack has been detected.<br>[1 to 10/5/1 sec.] | |

| | | |
|---|---|---|
| 5416 | Access Information | CTL |
| 1 | Access User Max Number | |
| | Limits the number of users used by the access exclusion and password attack detection functions.<br>[50 to 200/200/1 users] | |
| 2 | Access Password Max Number | |
| | Limits the number of passwords used by the access exclusion and password attack detection functions.<br>[50 to 200/200/1 passwords] | |
| 3 | Monitor Interval | |
| | Sets the processing time interval for referencing user ID and password information.<br>[1 to 10/3/1 sec.] | |

| 5417 | Access Attack | CTL |
|---|---|---|
| 1 | Access Permissible Number | |
| | Sets a limit on access attempts when an excessive number of attempts are detected for MFP features.<br>[0 to 500/100/1] | |
| 2 | Attack Detect Time | |
| | Sets the length of time for monitoring the frequency of access to MFP features.<br>[10 to 30/10/1 sec.] | |
| 3 | Productivity Fall Wait | |
| | Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected.<br>[0 to 9/3/1 sec.] | |
| 4 | Attack Max Number | |
| | Sets a limit on the number of requests received for certification in order to slow down the certification speed when an excessive number of access attempts have been detected.<br>[50 to 200/200/1 attempt] | |

| 5420 | User Authentication | CTL |
|---|---|---|
| | These settings should be done with the System Administrator.<br>**Note**: These functions are enabled only after the user access feature has been enabled. | |
| 1 | Copy | |
| | Determines whether certification is required before a user can use the copy applications.<br>[0 to 1/0/1]<br>0: On<br>1: Off<br>2: Color Security Setting | |

<table>
<tr><td>2</td><td colspan="4">Color Security Setting</td></tr>
<tr><td></td><td colspan="4">Color applications refer to this SP setting to limit the colors used.</td></tr>
<tr><td></td><td>Bit</td><td>Mode</td><td>Bit</td><td>Mode</td></tr>
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<tr><td>11</td><td colspan="4">Document Server<br>Determines whether certification is required before a user can use the document server.<br>[0 to 1/0/1]<br>0: On<br>1: Off</td></tr>
<tr><td>31</td><td colspan="4">Scanner<br>Determines whether certification is required before a user can use the scan applications.<br>[0 to 1/0/1]<br>0: On<br>1: Off</td></tr>
<tr><td>41</td><td colspan="4">Printer<br>Determines whether certification is required before a user can use the printer applications.<br>[0 to 1/0/1]<br>0: On<br>1: Off</td></tr>
<tr><td>51</td><td colspan="2">SDK1</td><td colspan="2" rowspan="3">[0 or 1/ 0 / 1] 0: ON. 1: OFF<br>Determines whether certification is required before a user can use the SDK application.</td></tr>
<tr><td>61</td><td colspan="2">SDK2</td></tr>
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</table>

| 5430 | Auth Dialog Message Change | CTL |
|---|---|---|
| 1 | Message Change On/Off | |
| | [0 to 1 / 0 / 1] | |
| 2 | Message Text Download | |
| | Touch [EXECUTE]. | |
| 3 | Message Text ID | |

| 5431 | External Auth User Preset | CTL |
|---|---|---|
| 10 | Tag | |
| 11 | Entry | |
| 12 | Group | |
| 20 | Mail | |
| 32 | Folder | |
| 33 | Protect Code | |
| 34 | SMTP Auth | |
| 35 | LDAP Auth | |
| 36 | SMB FTP Folder Auth | |
| 37 | Acnt Acl | |
| 38 | Document Acl | |
| 40 | Cert Crypt | |

| | | |
|---|---|---|
| 5481 | Authentication Error Code | CTL |
| | These SP codes determine how the authentication failures are displayed. | |
| 1 | System Log Disp | |
| | Determines whether an error code appears in the system log after a user authentication failure occurs.<br>[0 to 1/0/1]<br>0: Off<br>1: On | |
| 2 | Panel Disp | |
| | Determines whether an error code appears on the operation panel after a user authentication failure occurs.<br>[0 to 1/1/1]<br>1: On<br>0: Off | |

| | | |
|---|---|---|
| 5490 | MF Keycard **Japan Only** | CTL |
| 1 | Job Permit Setting | |
| | Sets up operation of the machine with a keycard.<br>[0 to 1/0/1]<br>0: Disabled. Cancels operation if no code is input.<br>1: Enabled. Allows operation if another code is input and decrements the counter once for use of the entered code. | |
| 2 | Count Mode Setting | |

| | | |
|---|---|---|
| 5501 | PM Alarm | CTL |
| 1 | PM Alarm Level | |
| | [0 to 9999 / 0 / 1 step]<br>0: Alarm off<br>1 to 9999: Alarm goes off when Value (1 to 9999) > PM counter | |

| | |
|---|---|
| 2 | Original Count Alarm |
| | [0 to 1/0/1]<br>0: No alarm sounds<br>1: Alarm sounds after the number of originals passing through the ARDF > 10,000 |

| | | |
|---|---|---|
| 5504 | Jam Alarm | CTL |
| | Sets the alarm to sound for the specified jam level (document misfeeds are not included).<br>[0 to 3 / 3 / 1 step]<br>0: Zero (Off)<br>1: Low (2.5K jams)<br>2: Medium (3K jams)<br>3: High (6K jams) | |

| | | |
|---|---|---|
| 5505 | Error Alarm | CTL |
| | Sets the error alarm level.<br>[0 to 255 / 35 / 1 Step]  (1 Step is 100 m) | |

| | | |
|---|---|---|
| 5507 | Supply Alarm | CTL |
| 1 | Paper Supply Alarm | |
| | Switches the control call on/off for the paper supply.<br>[0 to 1/0/1]<br>0: Off, 1: On<br>0: No alarm.<br>1: Sets the alarm to sound for the specified number transfer sheets for each paper size (A3, A4, B4, B5, DLT, LG, LT, HLT) | |
| 2 | Staple Supply Alarm | |
| | This SP determines whether the machine issues a supply alarm when the finisher runs out of staples.<br>[0 to 1/0/1] | |

| | | |
|---|---|---|
| 3 | Toner Supply Alarm | |
| | Switches the control call on/off for the toner end.<br>[0 to 1/0/1]<br>0: Off, 1: On<br>If you select “1” the alarm will sound when the main machine detects toner end. | |
| 6 | Waste Toner Bottle Supply Alarm | |
| | This SP determines whether the machine issues a supply alarm when the toner bottle is full.<br>[0 to 1/0/0] 0: No, 1: Yes | |
| 080 | Toner Call Timing | |
| | This SP switches the toner supply call for @Remote.<br>[0 to 1 / 0 / 1]<br>0: Toner replacement. Triggers the alarm when toner should be replaced with new toner.<br>1: Toner near-end. The alarm triggers at toner-end or toner near-end. | |
| | **Note**: The “Interval nn" SP's below specify the paper control call interval for the referenced paper sizes. | |
| 132 | Interval: A3 | [250 to 10000/1000/1 Step] |
| 133 | Interval: A4 | |
| 134 | Interval: A5 | |
| 141 | Interval: B4 | |
| 142 | Interval: B5 | |
| 160 | Interval: DLT | |
| 164 | Interval: LG | |
| 166 | Interval: LT | |
| 172 | Interval: HLT | |

| 5508 | CC Call | | CTL |
|---|---|---|---|
| 1 | Jam Remains | Enables/disables initiating a call. | |
| 2 | Continuous Jams | [0 to 1/1/1] 0: Disable, 1: Enable | |
| 3 | Continuous Door Open | | |
| 11 | Jam Detection: Time Length | | |
| | Sets the length of time to determine the length of an unattended paper jam.<br>[3 to 30/10/1]<br>This setting is enabled only when SP5508-4 is enabled (set to 1). | | |
| 12 | Jam Detection: Continuous Count | | |
| | Sets the number of continuous paper jams required to initiate a call.<br>[2 to 10/5/1]<br>This setting is enabled only when SP5508-4 is enabled (set to 1). | | |
| 13 | Door Open: Time Length | | |
| | Sets the length of time the remains opens to determine when to initiate a call.<br>[3 to 30/10/1]<br>This setting is enabled only when SP5508-4 is enabled (set to 1). | | |

| 5513 | Parts Alarm Level Count | | CTL |
|---|---|---|---|
| | This SP sets the level for the alarm to sound for the PM parts listed under SP7617-1. | | |
| 1 | Normal | [1 to 9 999/300/1 step] | |
| 2 | DF | | |

| | | |
|---|---|---|
| 5514 | Parts Alarm Level | CTL |
| | These SP codes determine how the parts alarm operates. | |
| 1 | Normal | |
| | Turns on or off the parts replacement alarm for the number of paper.<br>[0 or 1 / 1 / -]  0: OFF, 1: ON | |
| 2 | DF | |
| | Turns on or off the parts replacement alarm for the number of scanned originals.<br>[0 or 1 / 0 / -]  0: OFF, 1: ON | |

| | | |
|---|---|---|
| 5515 | SC/Alarm Setting | CTL |
| | Determines whether an SC call is issued when an SC error occurs while either CSS (Japan) or @Remote is enabled:<br>[0 to 1/1/1]<br>1: An SC call is issued when an SC error occurs.<br>0: An SC call is not issued when an SC error occurs. | |
| 1 | SC Call | |
| | Determines whether an SC call is issued when an SC error occurs while either CSS or @Remote is enabled:<br>[0 to 1/1/1]<br>1: An SC call is issued when an SC error occurs.<br>0: An SC call is not issued when an SC error occurs. | |
| 2 | Service Parts Near End Call | |
| 3 | Service Parts End Call | |
| 4 | User Call | |
| 6 | Communication Test Call | |
| 7 | Machine Information Notice | |
| 8 | Alarm Notice | |

| | |
|---|---|
| 10 | Supply Automatic Ordering Call |
| 11 | Supply Management Report Call |
| 12 | Jam/Door Open Call |



| 5516 | Individual PM Part Alarm Call | CTL |
|---|---|---|
| 1 | Disable/Enable Setting (0:Not Sound 1:Send) | [0 to 1/0/1] |
| 4 | Percent Yield for Triggering | [1 to 255/75/1] |

| 5517 | Failure Prediction | CTL |
|---|---|---|
| | An imminent failure warning is issued whenever the machine issues a report at the number of printed pages prescribed by SP8581-1 (Total Counter). The number of pages can also be set with SP5517-2 below. | |
| 1 | Alarm On/Off Setting | |
| | Enables or disables the notification alarm for the @Remote.<br>[0 or 1 / 0 / 1]<br>0: Off, 1: On | |
| 2 | Alarm Interval | |
| | Specifies the alarm interval for the @Remote.<br>[0 to 1000 / **10** / 100 sheets/step] | |

| 5610 | Base Gamma Ctrl Pt:Execute | CTL |
|---|---|---|
| 4 | Get Factory Default | [0 to 1/0/1] |
| 5 | Set Factory Default | [0 to 1/100/1] |
| 6 | Restore Original Value | |

| 5611 | Toner Color in 2C | CTL |
|---|---|---|
| 1 | B-C | [0 to 128/100/1] |
| 2 | B-M | |
| 3 | G-C | |
| 4 | G-Y | |
| 5 | R-M | [0 to 128/0/1] |
| 6 | R-Y | |

| 5618 | Color Mode Display Selection |
|---|---|
| | This SP switches the color display for the operation panel LCD.<br>[0 or 1 / **1** / -]<br>0: Domestic Japan<br>1: Overseas (Outside Japan) |

| 5711 | Custom Setting Paper: Data Set | CTL |
|---|---|---|
| | The Paper Library must be installed when the machine is installed. These files (library.mqp and user.mqp) are available from the Firmware Download Center. A new function has been added to allow customers to backup the Saved Paper Library data onto an SD card with DOS (Data Overwrite Security). The files are located in the MQP folder and copied to the /mnt/usb3/mqp folder in flash memory. | |
| 1 | Standard Paper Data Upload | |
| | Basic paper data upload from SD card to main machine. | |
| 2 | Custom Paper Data Upload | |
| | Custom paper data upload from SD card to main machine. | |
| 102 | Custom Paper Data Download | |
| | Custom paper data download from main machine to SD card. | |

| | |
|---|---|
| 201 | Standard Paper Data Ver. (Flash) |
| | This SP displays the version of Library.mqp (Paper Library) on the Flash ROM |
| 202 | Standard Paper Data Ver. (SD Card) |
| | This SP displays the version of Library.mqp (Paper Library) on the SD card. |



| | | |
|---|---|---|
| 5715 | Custom Paper: Thick | CTL |
| 5716 | Custom Paper: Thin | CTL |
| | This SP checks the type of machine to determine whether these paper sizes are supported. (These SP codes may appear even if the machine does not support these paper types.) | |
| 1 to 100 | ID1 to ID100 | |

| | | |
|---|---|---|
| 5717 | Custom Paper UP/Web Info. 1: P-Type | CTL |
| 5718 | Custom Paper UP/Web Info. 2: Coated | CTL |
| 5719 | Custom Paper UP/Web Info. 3: Punch | CTL |
| 5720 | Custom Paper UP/Web Info. 4: Color | CTL |
| | This SP checks the type of machine to determine whether these paper sizes are supported. (These SP codes may appear even if the machine does not support these paper types.) | |
| 1 to 100 | ID1 to ID100 | |

| | | |
|---|---|---|
| 5721 | Custom Paper: Size Code | CTL |
| 5722 | Custom Paper: Width (M-Scan 0.1 mm) | CTL |
| 5723 | Custom Paper: (S-Scan 0.1 mm) | CTL |
| 5724 | Custom Paper: MQP Version | CTL |
| 5725 | Custom Paper: Data Type | CTL |
| | This SP checks the type of machine to determine whether these paper sizes are supported. (These SP codes may appear even if the machine does not support these paper types.) | |
| 001 to 100 | ID1 to ID100 | |

| | | |
|---|---|---|
| 5731 | Counter Effect **Japan Only** | CTL |
| | Change MK1 Cnt (Paper -> Combine) | |

| | | |
|---|---|---|
| 5789 | Custom Paper Value Initialize | |
| | This SP clears the user paper settings selected by the user.<br>0: Clears all user paper settings.<br>1: Clears user paper settings 1 | |
| 1 | Custom Paper | [0 to 100/0/1] |

| | |
|---|---|
| 5792 | MCS Debug SW **DFU** |

| | |
|---|---|
| 5793 | ECS Debug SW **DFU** |

| | |
|---|---|
| 5801 | Memory Clear |
| | Resets NVRAM data to the default settings. Before executing any of these SP's, print an SMC Report. |
| 1 | All Clear |
| | Initializes items 2 to 22 below. |
| 2 | Engine |
| | Initializes all registration settings for the engine and copy process settings. |
| 3 | SCS/SRM |
| | Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information. |
| 4 | IMH Memory Clr |
| | Initializes the image file system. (IMH: Image Memory Handler) |
| 5 | MCS |
| | Initializes the automatic delete time setting for stored documents. (MCS: Memory Control Service) |
| 6 | Copier Application |
| | Initializes all main machine application settings. |
| 8 | Printer Application |
| | Initializes the printer defaults, programs registered, the printer SP bit switches, and the printer CSS counter. |
| 9 | Scanner Application |
| | Initializes the defaults for the scanner and all the scanner SP modes. |
| 10 | Web Service |

| | |
|---|---|
| | Deletes the Netfile (NFA) management files and thumbnails, and initializes the Job login ID.<br>Netfiles: Jobs to be printed from the document server using a PC and the Desk Top Binder software |
| 11 | NCS |
| | Initializes the system defaults and intersection settings (IP addresses also), the Smart Net Monitor for Admin settings, Web Status Monitor settings, and the TELNET settings.<br>(NCS: Network Control Service) |
| 14 | Clear DCS Setting |
| | Initializes the DCS (Delivery Control Service) settings. |
| 15 | Clear UCS Setting |
| | Initializes the UCS (User Information Control Service) settings. |
| 16 | MIRS Setting |
| | Initializes the MIRS (Machine Information Report Service) settings. |
| 17 | CCS |
| | Initializes the CCS (Certification and Charge-control Service) settings. |
| 18 | SRM Memory Clr |
| | Initializes information in non-volatile RAM. |
| 19 | LCS Memory Clr |
| | Initializes information in non-volatile RAM. |
| 20 | Web Uapli |
| | Initializes the web user application settings. |
| 21 | ECS |
| | Initializes the ECS settings. |

| 5803 | Input Check | | | |
|---|---|---|---|---|
| 5803-1 | Trio2 s1 PB | | Reading | |
| | Bit | Component | 0 | 1 |
| Paper Feed 1 | 0 | Not Used | --- | --- |
| | 1 | Mechanical Counter | Unconnected | |
| | 2 | Paper Set SW | Set | Not Set |
| | 3 | Width Sensor SW5 | ON | OFF |
| | 4 | Width Sensor SW4 | ON | OFF |
| | 5 | Width Sensor SW3 | ON | OFF |
| | 6 | Width Sensor SW2 | ON | OFF |
| | 7 | Width Sensor SW1 | ON | OFF |

| 5803-2 | Trio2 s1 PC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 2 | 0 | 2nd Tray Upper Limit Sensor | Normal | Overload |
| | 1 | 1st Tray Upper Limit Sensor | Normal | Overload |
| | 2 | 2nd Tray Feed Sensor | Paper Present | Paper Out |
| | 3 | 2nd Tray Transport Sensor | Paper Present | Paper Out |
| | 4 | 1st Tray Feed Sensor | Paper Present | Paper Out |
| | 5 | 1st Tray Transport Sensor | Paper Present | Paper Out |
| | 6 | Vertical Transport Sensor | Paper Present | Paper Out |

| | | | | |
|---|---|---|---|---|
| | 7 | Main Relay Sensor 1 | Paper Present | Paper Out |

| 5803-3 | Trio2 s1 PD | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 3 | 0 | Purged Paper Sensor | No Paper | Paper Present |
| | 1 | 2nd Tray Paper End Sensor | Paper Present | No Paper |
| | 2 | 1st Tray Paper End Sensor | Paper Present | No Paper |
| | 3 | Lower Limit Sensor | Home Position | Down |
| | 4 | Paper Height Sensor 4 | LOW | HIGH |
| | 5 | Paper Height Sensor 3 | LOW | HIGH |
| | 6 | Paper Height Sensor 2 | LOW | HIGH |
| | 7 | Paper Height Sensor 1 | LOW | HIGH |

| 5803-4 | Trio2 s1 PH | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 4 | 0 | Not Used | --- | --- |
| | 1 | Left Tandem Set Sensor | Set | Not Set |
| | 2 | Left Tray Paper Sensor | Paper Present | No Paper |
| | 3 | Not Used | --- | --- |
| | 4 | Right Tandem Set Sensor | Set | Not Set |
| | 5 | Right Tray Paper Sensor | No Paper | Paper Present |
| | 6 | Fusing Lamps ON2 Detect | OFF | ON |

| | | | | |
|---|---|---|---|---|
| | 7 | Fusing Relays ON2 Detect | OFF | ON |

| 5803-5 | Trio2 s1 PI | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 5 | 0 | 2nd Tray Lift Motor Paper Height Sensor 1 | ON | OFF |
| | 1 | 2nd Tray Lift Motor Paper Height Sensor 2 | ON | OFF |
| | 2 | Rear Side Fence Closed Sensor | LOW | HIGH |
| | 3 | Rear Side Fence Open Sensor | LOW | HIGH |
| | 4 | Front Side Fence Closed Sensor | LOW | HIGH |
| | 5 | Front Side Fence Open Sensor | LOW | HIGH |
| | 6 | Rear Fence Return Sensor | Out | In |
| | 7 | Rear Fence HP Sensotr | Not Home | Home |

| 5803-6 | Trio2 s2 PD | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 6 | 0 | Duplex Trans Sensor 1 | Paper Present | No Paper |
| | 1 | Duplex Trans Sensor 2 | Paper Present | |
| | 2 | Duplex Trans Sensor 3 | Paper Present | |
| | 3 | Duplex Trans Sensor 6 | Paper Present | |
| | 4 | Duplex Trans Sensor 7 | Paper Present | |
| | 5 | Not Used | | |
| | 6 | Not Used | | |
| | 7 | Not Used | | |

| 5803-7 | Trio2 s2 PF | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 7 | 0 | LCT Relay Sensor 2 | Paper Present | No Paper |
| | 1 | LCT Relay Sensor 1 | Paper Present | No Paper |
| | 2 | Main Relays Sensor 3 | Paper Present | No Paper |
| | 3 | Main Relay Sensor 2 | Paper Present | No Paper |
| | 4 | Bank Exit Sensor | Paper Present | No Paper |
| | 5 | Reg. Timing Sensor | Paper Present | No Paper |
| | 6 | Shift Unit HP Sensor | Not HP | At HP |
| | 7 | Gate Retract HP Sensor | Not HP | At HP |

| 5803-8 | Trio2 s3 PB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 8 | 0 | Transfer Timing Sensor | Paper Present | No Paper |
| | 1 | PTB Sensor | Paper Present | No Paper |
| | 2 | Fusing Belt Paper Sensor | Paper Present | No Paper |
| | 3 | Hot Roller Paper Sensor | Paper Present | No Paper |
| | 4 | Fusing Exit Sensor | Paper Present | No Paper |
| | 5 | Exit Unit Entrance Sensor | Paper Present | No Paper |
| | 6 | Exit JG Sensor | Paper Present | No Paper |
| | 7 | Exit Relay Sensor | Paper Present | No Paper |

| 5803-9 | Trio2 s3 PC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Paper Feed 9 | 0 | Exit Sensor | Paper Present | No Paper |
| | 1 | Invert/Duplex Sensor | Paper Present | No Paper |
| | 2 | Purge Relay Sensor | Paper Present | No Paper |
| | 3 | Pressure Roller Cam Position Sensor B | OFF | Malfunction |
| | 4 | Pressure Roller Cam Position Sensor A | UP | HP |
| | 5 | Web End Sensor | Normal | End |
| | 6 | Decurler Limit Sensor | Normal | Over Limit |
| | 7 | Decurler HP Sensor | At HP | Not HP |

| 5803-11 | Trio2 s1 PF | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 1 | 0 | Not Used | --- | --- |
| | 1 | 2nd Tray Lift Motor | Normal | Error |
| | 2 | Bank Exit Motor | Normal | Error |
| | 3 | Vertical Transport Motor | Normal | Error |
| | 4 | 2nd Grip Motor | Normal | Error |
| | 5 | 1st Tray Transport Motor | Normal | Error |
| | 6 | 2nd Paper Feed Motor | Normal | Error |
| | 7 | 1st Tray Feed Motor | Normal | Error |

| 5803-12 | Trio2 s2 PG | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 2 | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Registration Timing Motor | Normal | Error |
| | 3 | Shift Roller Motor | Normal | Error |
| | 4 | Shift Unit Motor | Normal | Error |
| | 5 | Registration Gate Motor | Normal | Error |
| | 6 | Registration Entrance Motor | Normal | Error |
| | 7 | Duplex Transport Motor 3 | Normal | Error |

| 5803-13 | Trio2 s3 PH | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 3 | 0 | Decurl Motor | Normal | Error |
| | 1 | Decurler Paper Transport Motor | Normal | Error |
| | 2 | Fusing Motor: Lock | Normal | Error |
| | 3 | Pressure Roller Lift Motor | Normal | Error |
| | 4 | Invert/Duplex Motor | Normal | Error |
| | 5 | Invert/Exit Motor | Normal | Error |
| | 6 | Exit Relay Motor | Normal | Error |
| | 7 | Duplex Transport Motor 1 | Normal | Error |

| 5803-14 | Trio2 m1 PA | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 4 | 0 | Not Used | --- | --- |
| | 1 | Paper Cooling Intake Fan: Lock | Error | Normal |
| | 2 | Not Used | --- | --- |
| | 3 | Toner Supply Cooling Fan | Error | Normal |
| | 4 | Ozone Exhaust Fan (Y): Lock | Error | Normal |
| | 5 | Ozone Exhaust Fan (M): Lock | Error | Normal |
| | 6 | Ozone Exhaust Fan (C): Lock | Error | Normal |
| | 7 | Ozone Exhaust Fan (K): Lock | Error | Normal |

| 5803-15 | Trio2 m1 P2 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 5 | 0 | Exit Exhaust Fan: Front: Lock | Error | Normal |
| | 1 | CIS Cleaning Fan: Lock | Error | Normal |
| | 2 | Exit Exhaust Fan: Rear: Lock | Error | Normal |
| | 3 | Duplex Exhaust Fan: Rear: Lock | Error | Normal |
| | 4 | Duplex Exhaust Fan: Front: Lock | Error | Normal |
| | 5 | Fusing Unit Exhaust Fan: Lock | Error | Normal |
| | 6 | Cooling Box Emission Exhaust Fan: Lock | Error | Normal |
| | 7 | Fusing Unit Transport Exhaust Fan: Lock | Error | Normal |

| 5803-16 | Trio2 m2 PI | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 6 | 0 | Pressure Roller Fan: Lock | Error | Normal |
| | 1 | ITB Cleaning Fan: Lock | Error | Normal |
| | 2 | Not Used | --- | --- |
| | 3 | ITB Intake Fan: Lock | Error | |
| | 4 | Controller Box Intake Fan 2: Lock | Error | Normal |
| | 5 | Controller Box Intake Fan 1: Lock | Error | Normal |
| | 6 | Cooling Box Heat Fan: Lock | Error | Normal |
| | 7 | Cooling Box Ozone Exhaust Fan: Lock | Error | Normal |

| 5803-17 | Trio2 m2 P3 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 7 | 0 | ITB Intake Fan: Lock | Normal | Error |
| | 1 | Ozone Collection Fan | Error | Error |
| | 2 | Fusing Exit Exhaust Fan | Error | Error |
| | 3 | Development Unit Cooling Fan 3: Lock | Error | Error |
| | 4 | Development Unit Cooling Fan 2: Lock | Error | Error |
| | 5 | Development Unit Cooling Fan 1: Lock | Error | Error |
| | 6 | Heat Sink Exhaust Fan: Lock | Error | Error |
| | 7 | Heat Sink Intake Fan: Lock | Error | Error |

| 5803-18 | Trio2 m3 PA | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 8 | 0 | Transfer Timing Motor: Lock | Normal | Error |
| | 1 | PTR/ITB Cleaning Motor: Lock | Normal | Error |
| | 2 | PTR Separation Motor: Lock | Normal | Error |
| | 3 | Not Used | --- | --- |
| | 4 | Drum Motor (Y): Lock | Normal | Error |
| | 5 | Drum Motor (M): Lock | Normal | Error |
| | 6 | Drum Motor (C): Lock | Normal | Error |
| | 7 | Drum Motor (K): Lock | Normal | Error |

| 5803-19 | Trio2 m3 PB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 9 | 0 | Development Motor (Y): Lock | Normal | Error |
| | 1 | Development Motor (M): Lock | Normal | Error |
| | 2 | Development Motor (C): Lock | Normal | Error |
| | 3 | Development Motor (K): Lock | Normal | Error |
| | 4 | Drum Cleaning Motor (Y): Lock | Normal | Error |
| | 5 | Drum Cleaning Motor (M): Lock | Normal | Error |
| | 6 | Drum Cleaning Motor (C): Lock | Normal | Error |
| | 7 | Drum Cleaning Motor (K): Lock | Normal | Error |

| 5803-20 | Trio2 m3 PC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Motor Error Detect 10 | 0 | Belt Cleaning Exhaust Fan: Lock | Error | Normal |
| | 1 | Not Used | --- | --- |
| | 2 | ITB AC Detection: Lock | Normal | Error |
| | 3 | Drive Exhaust Fan: Lock | Error | Normal |
| | 4 | Used Toner Bottle Motor: Lock | Normal | Error |
| | 5 | Toner Supply Motor: Lock | Normal | Error |
| | 6 | Used Toner Transport Motor: Lock | Normal | Error |
| | 7 | Stray Toner Intake Fan: Lock | Error | Normal |

| 5803-21 | Trio2 m1 PB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Toner Supply System | 0 | Toner Bottle Detection Sensor (Y) | Unlock | Lock |
| | 1 | Toner Bottle Detection Sensor (M) | Unlock | Lock |
| | 2 | Toner Bottle Detection Sensor (C) | Unlock | Lock |
| | 3 | Toner Bottle Detection Sensor (K) | Unlock | Lock |
| | 4 | Toner End Sensor (Y) | No Toner | Toner |
| | 5 | Toner End Sensor (M) | No Toner | Toner |
| | 6 | Toner End Sensor (C) | No Toner | Toner |
| | 7 | Toner End Sensor (K) | No Toner | Toner |

| 5803-22 | Trio2 m1 PH | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| High Voltage Error 1 | 0 | CB Power Pack (Y/M): Y | Normal | Error |
| | 1 | CB Power Pack (Y/M): M | Normal | Error |
| | 2 | CB Power Pack (C/K): C | Normal | Error |
| | 3 | CB Power Pack (C/K): K | Normal | Error |
| | 4 | Dev. Bias Check: Y | Normal | Error |
| | 5 | Dev. Bias Check: M | Normal | Error |
| | 6 | Dev. Bias Check: C | Normal | Error |
| | 7 | Dev. Bias Check: K | Normal | Error |

| 5803-23 | Trio2 m2 PA | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| High Voltage Error 2 | 0 | Fusing Lamps ON 1 Check | OFF | ON |
| | 1 | Fusing Relays ON 1 Check | OFF | ON |
| | 2 | Separation Power Pack | Error | Normal |
| | 3 | AC Transfer Power Pack | Error | Normal |
| | 4 | CB Power Pack (Y/M): Y | Error | Normal |
| | 5 | CB Power Pack (Y/M): M | Error | Normal |
| | 6 | CB Power Pack (C/K): C | Error | Normal |
| | 7 | CB Power Pack (C/K): K | Error | Normal |

| 5803-24 | Trio2 s2 PI | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Fusing Error Detection | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Pressure Roller Thermistor: Front | Error | Normal |
| | 3 | Heating Roller Thermistor: Rear | Error | Normal |
| | 4 | Hot Roller NC Sensor | Error | Normal |
| | 5 | Pressure Roller NC Sensor | Error | Normal |
| | 6 | Heating Roller NC Sensor: End | Error | Normal |
| | 7 | Heating Roller NC Sensor: Center | Error | Normal |

| 5803-25 | Trio2 m2 PF | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Used Toner System | 0 | Used Toner Exhaust Fan: Lock | Error | Normal |
| | 1 | Cooling Box Drive Exhaust Fan: Lock | Error | Normal |
| | 2 | 2nd Lift Sensor 1 (K) Sensor | Up | Down |
| | 3 | 2nd Lift Sensor 2 (K) Sensor | Down | Up |
| | 4 | Used Toner Bottle Full Sensor | OFF | ON |
| | 5 | Used Toner Bottle Near-Full Sensor | OFF | ON |
| | 6 | Used Toner Bottle Door Sensor | Closed | Open |
| | 7 | Used Toner Bottle Set Sensor | Set | Not Set |

| 5803-26 | Trio2 m2 PG | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Set Detect 1 | 0 | Not Used | --- | --- |
| | 1 | Web Unit Set Sensor | Set | Not Set |
| | 2 | Right Drawer Set Sensor: Left | Set | Not Set |
| | 3 | Right Drawer Set Sensor: Right | Set | Not Set |
| | 4 | Left Drawer Set Sensor 1 | Set | Not Set |
| | 5 | Left Drawer Set Sensor 2 | Set | Not Set |
| | 6 | Belt Cleaning Unit Set Switch | Set | Not Set |
| | 7 | Belt Cleaning Unit Cover Set Switch | Set | Not Set |

| 5803-27 | Trio2 s2 PH | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Set Detect 2 | 0 | Key Counter Feedback | Not Present | Present |
| | 1 | Key Counter Set | Set | Not Set |
| | 2 | Key Card Set | Set | Not Set |
| | 3 | Decurler Unit Set Switch | Set | Not Set |
| | 4 | Exit Motor: Lock | Normal | Error |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | Transfer Timing Motor: Lock | Normal | Error |

| 5803-28 | Trio2 m2 P8 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Set Detect 3 | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Cleaning Unit Set SW (Y) | IN | OUT |
| | 4 | Cleaning Unit Set SW (M) | IN | OUT |
| | 5 | Cleaning Unit Set SW (C) | IN | OUT |
| | 6 | Cleaning Unit Set SW (K) | IN | OUT |
| | 7 | Not Used | --- | --- |

| 5803-29 | Trio2 m2 PC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Power Supply | 0 | 24V Line Check: Fusing Motor, Decurler Motors) | Normal | Error |
| | 1 | 24V Line Check: IOB | Normal | Error |
| | 2 | 12V Line Check: IOB | Normal | Error |
| | 3 | 24V Interlock Check: IOB | Normal | Error |
| | 4 | 24V Line Check: DRB, LDB | Normal | Error |
| | 5 | 24V Line Check: Paper Bank Motors | Normal | Error |
| | 6 | 5V Line Check: DRB | Normal | Error |
| | 7 | VS_Door Open Check | Closed | Open |

| 5803-30 | AD Value Display |
|---|---|
| Dbl-Feed Receptor | 0 to FFFFh |

| 5803-31 | Count Display |
|---|---|
| CIS (Detect) | 0 to FFFFh |

| 5803-32 | Count Display |
|---|---|
| Used Toner Lock Sensor (Main) | 0 to FFFFh (Cycles) |

| 5803-33 | Count Display |
|---|---|
| Used Toner Bottle Lock Sensor | 0 to FFFFh (Cycles) |

| 5803-34 | TDCU Command Data Display | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Image Transfer Unit | 0 | ITB Unit Set Switch | Set | Not Set |
| | 1 | Belt Centering Roller HP Sensor | LOW | HIGH |
| | 2 | 1st Lift Motor Sensor | LOW | HIGH |
| | 3 | PTR Separation Sensor | LOW | HIGH |
| | 4 | Rear Overrun Sensor | Error | Normal |
| | 5 | Front Overrun Sensor | Error | Normal |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5803-35 | TDCU Command Data Temperature Display |
|---|---|
| ITB Thermistor | 0 to FFFFh<br>Temp.: Hexadecimal Data<br>Example: Hex. Data/100 = C° |

| 5803-82 | LCT-CPU-Port1 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | LCT Exit Roller HP Sensor | Not Detected | Detected |

| 5803-83 | LCT-CPU-Port7 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | LCT Front Door SW | Closed | Open |
| | 7 | Not Used | --- | |

| 5803-84 | LCT-CPU-Port9 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LICT | 0 | SW002-1 | ON | OFF |
| | 1 | SW002-2 | ON | OFF |
| | 2 | SW002-3 | ON | OFF |
| | 3 | SW002-4 | ON | OFF |
| | 4 | SW002-5 | ON | OFF |
| | 5 | SW002-6 | ON | OFF |
| | 6 | SW002-7 | ON | OFF |
| | 7 | SW002-8 | ON | OFF |

| 5803-85 | LCT-eIO1-PortB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 3rd Tray Paper Height Sensor 1 | Not Detected | Detected |
| | 1 | 3rd Tray Paper Height Sensor 2 | Not Detected | Detected |
| | 2 | 3rd Tray Paper Height Sensor 3 | Not Detected | Detected |
| | 3 | 3rd Tray Paper Height Sensor 4 | Not Detected | Detected |
| | 4 | 3rd Tray Paper Size Sensor 1 | Not Detected | Detected |
| | 5 | 3rd Tray Paper Size Sensor 2 | Not Detected | Detected |
| | 6 | 3rd Tray Paper Size Sensor 3 | Not Detected | Detected |
| | 7 | 3rd Tray Paper Length Sensor | Not Detected | Detected |

| 5803-86 | LCT-eIO1-PortC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 3rd Tray Unit Set SW | Set | Not Set |
| | 1 | 3rd Tray Paper End Sensor | Paper Present | No Paper |
| | 2 | 3rd Tray Upper Limit Sensor | At Limit | Not Limit |
| | 3 | 3rd Tray Feed Sensor | Paper Present | No Paper |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | 3rd Tray Set SW | Set | Not Set |

| 5803-87 | LCT-eIO1-PortD | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | LCT Exit Sensor | Paper Present | No Paper |
| | 5 | 3rd Tray Vertical Transport Sensor 2 | Paper Present | No Paper |
| | 6 | 3rd Tray Vertical Transport Sensor 1 | Paper Present | No Paper |
| | 7 | 3rd Tray Transport Sensor | Paper Present | No Paper |

| 5803-88 | LCT-eIO2-PortB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 4th Tray Paper Height Sensor 1 | Not Detected | Detected |
| | 1 | 4th Tray Paper Height Sensor 2 | Not Detected | Detected |
| | 2 | 4th Tray Paper Height Sensor 3 | Not Detected | Detected |
| | 3 | 4th Tray Paper Height Sensor 4 | Not Detected | Detected |
| | 4 | 4th Tray Paper Size Sensor 1 | Not Detected | Detected |
| | 5 | 4th Tray Paper Size Sensor 2 | Not Detected | Detected |
| | 6 | 4th Tray Paper Size Sensor 3 | Not Detected | Detected |
| | 7 | 4th Tray Paper Length Sensor | Not Detected | Detected |

| 5803-89 | LCT-eIO2-PortC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 4th Tray Unit Set SW | Set | Not Set |
| | 1 | 4th Tray Paper End Sensor | Paper Present | No Paper |
| | 2 | 4th Tray Upper Limit Sensor | At Limit | Not Limit |
| | 3 | 4th Tray Feed Sensor | Paper Present | No Paper |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | 4th Tray Set SW | Set | Not Set |

| 5803-90 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | 4th Tray Vertical Transport Sensor | Paper Present | No Paper |
| | 7 | 4th Tray Transport Sensor | Paper Present | No Paper |

| 5803-91 | LCT-eIO3-PortB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 5th Tray Paper Height Sensor 1 | Not Detected | Detected |
| | 1 | 5th Tray Paper Height Sensor 2 | Not Detected | Detected |
| | 2 | 5th Tray Paper Height Sensor 3 | Not Detected | Detected |
| | 3 | 5th Tray Paper Height Sensor 4 | Not Detected | Detected |
| | 4 | 5th Tray Paper Size Sensor 1 | Not Detected | Detected |
| | 5 | 5th Tray Paper Size Sensor 2 | Not Detected | Detected |
| | 6 | 5th Tray Paper Size Sensor 3 | Not Detected | Detected |
| | 7 | 5th Tray Paper Length Sensor | Not Detected | Detected |

| 5803-92 | LCT-eIO3-PortC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 6th Tray Unit Set SW | Set | Not Set |
| | 1 | 6th Tray Paper End Sensor | Paper Present | No Paper |
| | 2 | 6th Tray Upper Limit Sensor | At Limit | Not Limit |
| | 3 | 6th Tray Feed Sensor | Paper Present | No Paper |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | 6th Tray Set SW | Set | Not Set |

| 5803-93 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| ** | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | 6th Tray Vertical Transport Sensor | Paper Present | No Paper |
| | 7 | 6th Tray Transport Sensor | Paper Present | No Paper |

| 5803-94 | LCT-eIO4-PortB | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 7th Tray Paper Height Sensor 1 | Not Detect | Detect |
| | 1 | 7th Tray Paper Height Sensor 2 | Not Detect | Detect |
| | 2 | 7th Tray Paper Size Sensor 1 | Detect | Not Detect |
| | 3 | 7th Tray Paper Size Sensor 2 | Detect | Not Detect |
| | 4 | 7th Tray Paper Size Sensor 3 | Detect | Not Detect |
| | 5 | 7th Tray Paper Size Sensor 4 | Detect | Not Detect |
| | 6 | 7th Tray Paper Size Sensor 5 | Detect | Not Detect |
| | 7 | 7th Tray Paper Length Sensor | Detect | Not Detect |

| 5803-95 | LCT-eIO4-PortC | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| LCT | 0 | 7th Tray Lower Limit Sensor | At Low Limit | Not Low Limit |
| | 1 | 7th Tray Paper End Sensor | Paper Present | No Paper |
| | 2 | 7th Tray Upper Limit Sensor 1 | At Upper Limit | Not Upper Limit |
| | 3 | 7th Tray Feed Sensor | Paper Present | No Paper |
| | 4 | Not Used | --- | --- |
| | 5 | 7th Tray Lift SW | ON | OFF |
| | 6 | Bypass Slide Sensor | Closed | Open |
| | 7 | Bypass Set Sensor | Set | Not Set |

| 5803-96 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| ** | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | 7th Tray Upper Limit Sensor 2 | At Upper Limit | Not Upper Limit |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | 7th Tray Transport Sensor 7 | Paper Present | No Paper |

| 5803-140 | CTB_H8S-PORT9 | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Exhaust Fan 4 | Normal (Drive) | Error (Stop) |
| | 3 | Exhaust Fan 3 | Normal (Drive) | Error (Stop) |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Intake Fan 4 | Normal (Drive) | Error (Stop) |
| | 7 | Intake Fan 3 | Normal (Drive) | Error (Stop) |

| 5803-141 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Front Door Interlock SW | Closed | Open |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5803-142 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Transport Motor 2 | Normal (Drive) | Error (Stop) |
| | 1 | Transport Motor 1 | Normal (Drive) | Error (Stop) |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5803-143 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | Exhaust Fan 2 | Normal (Drive) | Error (Stop) |
| | 3 | Exhaust Fan 1 | Normal (Drive) | Error (Stop) |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Intake Fan 2 | Normal (Drive) | Error (Stop) |
| | 7 | Intake Fan 1 | Normal (Drive) | Error (Stop) |

| 5803-144 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Transport Sensor 6 | Paper Present | No Paper |
| | 1 | Transport Sensor 3 | Paper Present | No Paper |
| | 2 | Transport Sensor 7 | Paper Present | No Paper |
| | 3 | Transport Sensor 2 | Paper Present | No Paper |
| | 4 | Transport Sensor 8 | Paper Present | No Paper |
| | 5 | Transport Sensor 1 | Paper Present | No Paper |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5803-145 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Buffer Pass Unit | 0 | Not Used | --- | --- |
| | 1 | Not Used | --- | --- |
| | 2 | 24V Line Check | 24V ON | 24V OFF |
| | 3 | 24V_INT Line Check | 24V_INT ON | 24V_INT OFF |
| | 4 | Transport Unit (Drawer) | Set | Not Set |
| | 5 | Not Used | --- | --- |
| | 6 | Transport Sensor 5 | Paper Present | No Paper |
| | 7 | Transport Sensor 4 | Paper Present | No Paper |

| 5803-200 | HP Sensor | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| HP Sensor | 0 | Scanner HP Sensor | Home | Not Home |
| | 1 | Not Used | --- | --- |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5803-202 | ** | | Reading | |
|---|---|---|---|---|
| | Bit | Component | 0 | 1 |
| Scan Fan Lock Signal | 0 | Scanner Exhaust Fan | Normal (Drive) | Error (Stop) |
| | 1 | Lamp Regulator Cooling Fan | Normal (Drive) | Error (Stop) |
| | 2 | Not Used | --- | --- |
| | 3 | Not Used | --- | --- |
| | 4 | Not Used | --- | --- |
| | 5 | Not Used | --- | --- |
| | 6 | Not Used | --- | --- |
| | 7 | Not Used | --- | --- |

| 5804 | Output Check | |
|---|---|---|
| 1 | Feed Mtr 1 (Std Speed) | |
| 2 | Feed Mtr 1 (Med Speed) | |
| 3 | Feed Mtr 1 (Low Speed) | |
| 4 | Feed Mtr 2 (Std Speed) | |
| 5 | Feed Mtr 2 (Med Speed) | |
| 6 | Feed Mtr 2 (Low Speed) | |
| 7 | Bypass Grip Mtr 1 (Std Speed) | |
| 8 | Bypass Grip Mtr 1 (Med Speed) | |
| 9 | Bypass Grip Mtr 1 (Low Speed) | |
| 10 | Bypass Grip Mtr 2 (Std Speed) | |
| 11 | Bypass Grip Mtr 2 (Med Speed) | |
| 12 | Bypass Grip Mtr 2 (Low Speed) | |
| 13 | Bypass V-Transport (Std Speed) | |
| 14 | Bypass V-Transport (Med Speed) | |
| 15 | Bypass V-Transport (Low Speed) | |
| 16 | Bank Exit Mtr (Hi1:Std Speed) | |
| 17 | Bank Exit Mtr (Hi1:Med Speed) | |
| 18 | Bank Exit Mtr (Hi1:Low Speed) | |
| 19 | Bank Exit Mtr (Nor:Std Speed) | |
| 20 | Bank Exit Mtr (Nor:Med Speed) | |
| 21 | Bank Exit Mtr (Nor:Low Speed) | |
| 22 | Bank Exit Mtr (Slow Down:Std Speed) | |
| 23 | Bank Exit Mtr (Slow Down:Med Speed) | |

| | | |
|---|---|---|
| 24 | Bank Exit Mtr (Slow Down:Low Speed) | |
| 25 | Registration Entrance Mtr (Hi1:Std Speed) | |
| 26 | Registration Entrance Mtr (Hi1:Med Speed) | |
| 27 | Registration Entrance Mtr (Hi1:Low Speed) | |
| 28 | Registration Entrance Mtr (Nor:Std Speed) | |
| 29 | Registration Entrance Mtr (Nor:Med Speed) | |
| 30 | Registration Entrance Mtr (Nor:Low Speed) | |
| 31 | Registration Entrance Mtr (Slow Down:Std Speed) | |
| 32 | Registration Entrance Mtr (Slow Down:Med Speed) | |
| 33 | Registration Entrance Mtr (Slow Down:Low Speed) | |
| 34 | Registration Timing Mtr (Hi1:Std Speed) | |
| 35 | Registration Timing Mtr (Hi1:Med Speed) | |
| 36 | Registration Timing Mtr (Hi1:Low Speed) | |
| 37 | Registration Timing Mtr (Nor:Std Speed) | |
| 38 | Registration Timing Mtr (Nor:Med Speed) | |
| 39 | Registration Timing Mtr (Nor:Low Speed) | |
| 40 | Reg Tmg Mtr (Slow Dn:Std Spd) | |
| 41 | Reg Tmg Mtr (Slow Dn:Med Spd) | |
| 42 | Reg Tmg Mtr (Slow Dn:Low Spd) | |
| 43 | Shift Roller Motor (Std Speed) | |
| 44 | Shift Roller Motor (Med Speed) | |
| 45 | Shift Roller Motor (Low Speed) | |
| 46 | Unit Shift Motor (HP) | |
| 47 | Unit Shift Motor (Drive) | |

| | | |
|---|---|---|
| 48 | Gate Retract Motor (HP) | |
| 49 | Gate Retract Motor (Drive) | |
| 50 | 1st Tray: Bottom Plate (Lift: Drive) | |
| 51 | 1st Tray: Bottom Plate (Lift: HP) | |
| 52 | 2nd Tray: Bottom Plate (Lift: Drive) | |
| 53 | 2nd Tray: Bottom Plate (Lift: HP) | |
| 54 | Rear Fence Motor (Fws: 1s) | |
| 55 | Rear Fence Motor (Rev: 1s) | |
| 58 | CIS Cleaning Fan | |
| 59 | Paper Exit Cooling Fan 4 | |
| 60 | Paper Exit Cooling Fan 5 | |
| 61 | Paper Exit Cooling Fan 6 | |
| 62 | Paper Exit Cooling Fan 6 | |
| 63 | 1st Tray: Pickup SOL | |
| 64 | 1st Tray: Rev SOL | |
| 65 | 2nd Tray: Pickup SOL | |
| 66 | 2nd Tray: Rev SOL | |
| 67 | Relay SOL 1 | |
| 68 | Relay SOL 1 | |
| 69 | LCT Relay SOL | |
| 70 | Exit JG SOL | |
| 71 | Inverter JG SOL | |
| 72 | Exit/Inverter JG SOL | |
| 73 | Lock SOL | |

| | | |
|---|---|---|
| 74 | Connect SOL | |
| 75 | Rear Side Fence SOL | |
| 76 | Front Side Fence SOL | |
| 77 | Bank LED: 1st Tray | |
| 78 | Bank LED: 2nd Tray | |
| 80 | Polygon Motor: KC | |
| 81 | Polygon Motor: MY | |
| 90 | Used Toner Bottle Motor | |
| 91 | Toner Supply Motor | |
| 100 | Bk DrumMotor: HighSpeed | |
| 101 | C DrumMotor: HighSpeed | |
| 102 | M DrumMotor: HighSpeed | |
| 103 | Y DrumMotor: HighSpeed | |
| 104 | Bk DevelopmentMotor: HighSpeed | |
| 105 | C DevelopmentMotor: HighSpeed | |
| 106 | M DevelopmentMotor: HighSpeed | |
| 107 | Y DevelopmentMotor: HighSpeed | |
| 108 | Bk CleaningMotor: HighSpeed | |
| 109 | C CleaningMotor: HighSpeed | |
| 110 | M CleaningMotor: HighSpeed | |
| 111 | Y CleaningMotor: HighSpeed | |
| 112 | ITB Motor: HighSpeed | |
| 113 | PRT Motor: HighSpeed | |
| 114 | Fusing Motor: HighSpeed | |

| | | |
|---|---|---|
| 115 | Paper Ejection Motor: HighSpeed | |
| 116 | Bk DrumMotor: MiddleSpeed | |
| 117 | C DrumMotor: MiddleSpeed | |
| 118 | M DrumMotor: MiddleSpeed | |
| 119 | Y DrumMotor: MiddleSpeed | |
| 120 | Bk DevelopmentMotor: MiddleSpeed | |
| 121 | C DevelopmentMotor: MiddleSpeed | |
| 122 | M DevelopmentMotor: MiddleSpeed | |
| 123 | Y DevelopmentMotor: MiddleSpeed | |
| 124 | Bk CleaningMotor: MiddleSpeed | |
| 125 | C CleaningMotor: MiddleSpeed | |
| 126 | M CleaningMotor: MiddleSpeed | |
| 127 | Y CleaningMotor: MiddleSpeed | |
| 128 | ITB Motor: MiddleSpeed | |
| 129 | PRT Motor: MiddleSpeed | |
| 130 | Fusing Motor: MiddleSpeed | |
| 131 | Paper Ejection Motor: MiddleSpeed | |
| 132 | Bk DrumMotor: LowSpeed | |
| 133 | C DrumMotor: LowSpeed | |
| 134 | M DrumMotor: LowSpeed | |
| 135 | Y DrumMotor: LowSpeed | |
| 136 | Bk DevelopmentMotor: LowSpeed | |
| 137 | C DevelopmentMotor: LowSpeed | |
| 138 | M DevelopmentMotor: LowSpeed | |

| | | |
|---|---|---|
| 139 | Y DevelopmentMotor: LowSpeed | |
| 140 | Bk CleaningMotor: LowSpeed | |
| 141 | C CleaningMotor: LowSpeed | |
| 142 | M CleaningMotor: LowSpeed | |
| 143 | Y CleaningMotor: LowSpeed | |
| 144 | ITB Motor: LowSpeed | |
| 145 | PRT Motor: LowSpeed | |
| 146 | Fusing Motor: LowSpeed | |
| 147 | Paper Ejection Motor: LowSpeed | |
| 148 | Toner Discharge Motor | |
| 149 | Transfer Timing Motor (Std Speed) | |
| 150 | Transfer Timing Motor (Med Speed) | |
| 151 | Transfer Timing Motor (Low Speed) | |
| 161 | Exit/Relay Mtr (Hi2: Std Speed) | |
| 162 | Exit/Relay Mtr (Hi2: Med Speed) | |
| 163 | Exit/Relay Mtr (Hi2: Low Speed) | |
| 164 | Exit/Relay Mtr (Nor: Std Speed) | |
| 165 | Exit/Relay Mtr (Nor: Med Speed) | |
| 166 | Exit/Relay Mtr (Nor: Low Speed) | |
| 167 | Exit/Inverter Mtr (Fwd: Hi2: Std Speed) | |
| 168 | Exit/Inverter Mtr (Fwd: Hi2: Med Speed) | |
| 169 | Exit/Inverter Mtr (Fwd:Hi2:Low Speed) | |
| 170 | Exit/Inverter Mtr (Fwd:Nor:Std Speed) | |
| 171 | Exit/Inverter Mtr (Fwd:Nor:Med Speed) | |

| | | |
|---|---|---|
| 172 | Exit/Inverter Mtr (Fwd:Nor:Low Speed) | |
| 173 | Exit/Inverter Mtr (Rev:Hi2:Std Speed) | |
| 174 | Exit/Inverter Mtr (Rev:Hi2:Med Speed) | |
| 175 | Exit/Inverter Mtr (Rev:Hi2:Low Speed) | |
| 176 | Exit/Inverter Mtr (Rev:Nor:Std Speed) | |
| 177 | Exit/Inverter Mtr (Rev:Nor:Med Speed) | |
| 178 | Exit/Inverter Mtr (Rev:Nor:Low Speed) | |
| 179 | Duplex/Inverter Mtr (Fwd:Hi2:Std Speed) | |
| 180 | Duplex/Inverter Mtr (Fwd:Hi2:Med Speed) | |
| 181 | Duplex/Inverter Mtr (Fwd:Hi2:Low Speed) | |
| 182 | Duplex/Inverter Mtr (Fwd:Nor:Std Speed) | |
| 183 | Duplex/Inverter Mtr (Fwd:Nor:Med Speed) | |
| 184 | Duplex/Inverter Mtr (Fwd:Nor:Low Speed) | |
| 185 | Duplex/Inverter Mtr (Rev:Hi1:Std Speed) | |
| 186 | Duplex/Inverter Mtr (Rev:Hi1:Med Speed) | |
| 187 | Duplex/Inverter Mtr (Rev:Hi1:Low Speed) | |
| 188 | Dup Trans Mtr1 (Std Speed) | |
| 189 | Dup Trans Mtr1 (Med Speed) | |
| 190 | Dup Trans Mtr1 (Low Speed) | |
| 194 | Dup Trans Mtr3 (Std Speed) | |
| 195 | Dup Trans Mtr3 (Med Speed) | |
| 196 | Dup Trans Mtr3 (Low Speed) | |
| 200 | Scananer fanmotor | |
| 202 | Scananer Lamp | |

| | | |
|---|---|---|
| 203 | Scanner Motor | |
| 209 | De-curler Unit Move: Lower Default | |
| 210 | De-curler Unit Move: Upper Default | |
| 211 | De-curl Trans Mtr (Std Speed) | |
| 212 | De-curl Trans Mtr (Med Speed) | |
| 213 | De-curl Trans Mtr (Low Speed) | |
| 214 | De-curl Trans Mtr (Reverse) | |
| 217 | A3 LCT 3rd Tray: Pickup SOL | |
| 218 | A3 LCT 4th Tray: Pickup SOL | |
| 219 | A3 LCT 5th Tray: Pickup SOL | |
| 220 | Bypass Pickup SOL | |
| 221 | A3 LCT: 3rd Tray Feed Mtr (Std Speed) | |
| 222 | A3 LCT: 3rd Tray Feed Mtr (Med Speed) | |
| 223 | A3 LCT: 4th Tray Feed Mtr (Std Speed) | |
| 224 | A3 LCT: 4th Tray Feed Mtr (Med Speed) | |
| 225 | A3 LCT: 5th Tray Feed Mtr (Std Speed) | |
| 226 | A3 LCT: 5th Tray Feed Mtr (Med Speed) | |
| 227 | Bypass: Feed Mtr (Std Speed) | |
| 228 | Bypass: Feed Mtr (Med Speed) | |
| 229 | A3 LCT: 3rd Tray Grip Mtr (Std Speed) | |
| 230 | A3 LCT: 3rd Tray Grip Mtr (Med Speed) | |
| 231 | A3 LCT: 4th Tray Grip Mtr (Std Speed) | |
| 232 | A3 LCT: 4th Tray Grip Mtr (Med Speed) | |
| 233 | A3 LCT: 5th Tray Grip Mtr (Std Speed) | |

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| 234 | A3 LCT: 5th Tray Grip Mtr (Med Speed) | |
| 235 | Bypass: Transport Mtr (Std Speed) | |
| 236 | Bypass: Transport Mtr (Med Speed) | |
| 237 | A3 LCT: 3rd Transport Mtr (Std Speed) | |
| 238 | A3 LCT: 3rd Transport Mtr (Med Speed) | |
| 239 | A3 LCT: 4th Transport Mtr (Std Speed) | |
| 240 | A3 LCT: 4th Transport Mtr (Med Speed) | |
| 241 | A3 LCT: 5th Transport Mtr (Std Speed) | |
| 242 | A3 LCT: 5th Transport Mtr (Med Speed) | |
| 243 | Bypass: Transport Mtr (Std Speed) | |
| 244 | Bypass: Transport Mtr (Med Speed) | |
| 245 | A3 LCT: Exit Mtr (Std Speed) | |
| 246 | A3 LCT: Exit Mtr (Med Speed) | |
| 247 | A3 LCT: Exit Roller Retract Mtr | |
| 248 | A3 LCT: 3rd Tray Front Fan | |
| 249 | A3 LCT: 3rd Tray Rear Fan | |
| 250 | A3 LCT: 4th Tray Front Fan | |
| 251 | A3 LCT: 4th Tray Rear Fan | |
| 252 | A3 LCT: 5th Tray Front Fan | |
| 253 | A3 LCT: 5th Tray Rear Fan | |

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| 5805 | Output Check | |
| 4 | Heat Sink Suction Fan NS | |
| 5 | Heat Sink Suction Fan HS | |
| 6 | Heat Sink Exhaust Fan NS | |
| 7 | Heat Sink Exhaust Fan HS | |
| 8 | Paper Fan NS | |
| 9 | Paper Fan HS | |
| 10 | Fuse Exit Fan NS | |
| 11 | Fuse Exit Fan HS | |
| 12 | Back box Fan NS | |
| 13 | Back Box Fan HS | |
| 14 | Trans. Fuse Fan | |
| 15 | Belt Cleaning Fan NS | |
| 16 | Belt Cleaning Fan HS | |
| 17 | Press Roller Fan | |
| 18 | Press Roller Suction Fan NS | |
| 19 | Opt. Suction Fan HS | |
| 22 | PCB Box Suction Fan1 NS | |
| 24 | PCB Box Suction Fan2 NS | |
| 25 | PCB Box Suction Fan2 HS | |
| 27 | PCB Box Exhaust Fan1 | |
| 28 | PCB Box Exhaust Fan2 | |
| 29 | Ozone Fan: Y | |
| 30 | Ozone Fan: M | |

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|---|---|---|
| 31 | Ozone Fan: C | |
| 32 | Ozone Fan:K | |
| 33 | Ozone Collection Fan | |
| 34 | Back Box Ozone Fan NS | |
| 35 | Back Box Ozone Fan HS | |
| 37 | P-sensor Fan | |
| 38 | PT Fan: Front | |
| 39 | PT Fan: Center | |
| 40 | PT Fan: Rear | |
| 41 | Developer Liquid Cooling Fan 1 NS | |
| 43 | Developer Liquid Cooling Fan NS | |
| 45 | Developer Liquid Cooling Fan 3 NS | |
| 47 | Developer Liquid Cooling Pump NS | |
| 48 | PSU Fan | |
| 50 | Buffer Pass Unit:Feed Motor 1 | |
| 51 | Buffer Pass Unit:Feed Motor 2 | |
| 52 | Buffer Pass Unit:Cool Fan 1-2 | |
| 53 | Buffer Pass Unit:Exhaust Fan 1-2 | |
| 54 | Buffer Pass Unit:Cool Fan 3-4 | |
| 55 | Buffer Pass Unit:Exhaust Fan 3-4 | |
| 60 | Toner Bottle Motor (K) | |
| 61 | Toner Bottle Motor (C) | |
| 62 | Toner Bottle Motor (M) | |
| 63 | Toner Bottle Motor (Y) | |

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|---|---|---|
| 65 | Toner Pump CL (K) | |
| 66 | Toner Pump CL (C) | |
| 67 | Toner Pump CL (M) | |
| 68 | Toner Pump CL (Y) | |
| 70 | Toner Supply Clutch (K) | |
| 71 | Toner Supply Clutch (C) | |
| 72 | Toner Supply Clutch (M) | |
| 73 | Toner Supply Clutch (Y) | |
| 75 | Charge Roller Cleaner Lift SOL (K) | |
| 76 | Charge Roller Cleaner Lift SOL (C) | |
| 77 | Charge Roller Cleaner Lift SOL (M) | |
| 78 | Charge Roller Cleaner Lift SOL (Y) | |
| 80 | QL (K) | |
| 81 | QL (C) | |
| 82 | QL (M) | |
| 83 | QL (Y) | |
| 90 | ITB Lift Motor (K) | |
| 91 | ITB Lift Motor (YMC) | |
| 92 | PTR Lift Motor (Fwd: 1 sec.) | |
| 93 | PTR Lift Motor (Rev: 1 sec.) | |
| 94 | Steering Motor (HP) | |
| 100 | Web Motor | |
| 101 | Press Roller Lift Motor (HP) | |
| 102 | Press Roller Lift Motor (Up) | |

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| 110 | Dbl-Feed Sensor (Emitter) | |
| 111 | CIS LED (Duty 50% Fixed) | |
| 120 | Charge DC Voltage (K) | |
| 121 | Charge DC Voltage (C) | |
| 122 | Charge DC Voltage (M) | |
| 123 | Charge DC Voltage (Y) | |
| 124 | Charge AC Voltage (K) | |
| 125 | Charge AC Voltage (C) | |
| 126 | Charge AC Voltage (M) | |
| 127 | Charge AC Voltage (Y) | |
| 128 | Development Bias (K) | |
| 129 | Development Bias (C) | |
| 130 | Development Bias (M) | |
| 131 | Development Bias (Y) | |
| 132 | Primary Transfer (K) | |
| 133 | Primary Transfer (C) | |
| 134 | Primary Transfer (M) | |
| 135 | Primary Transfer (Y) | |
| 136 | Secondary Transfer (+) | |
| 137 | Secondary Transfer (-) | |
| 138 | Secondary Transfer (AC) | |
| 139 | Secondary Transfer (DC) | |
| 140 | Separation AC | |
| 141 | Separation DC | |

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|---|---|---|
| 150 | RFID ON/OFF:K | |
| 151 | RFID ON/OFF:C | |
| 152 | RFID ON/OFF:M | |
| 153 | RFID ON/OFF:Y | |
| 154 | RFID COM ON/OFF:K | |
| 155 | RFID COM ON/OFF:C | |
| 156 | RFID COM ON/OFF:M | |
| 157 | RFID COM ON/OFF:Y | |
| 158 | Dup Exhaust Fan Front NS | |
| 159 | Dup Exhaust Fan Front HS | |
| 160 | Dup Exhaust Fan Rear NS | |
| 161 | Dup Exhaust Fan Rear HS | |
| 162 | Exit Exhaust Fan Front NS | |
| 163 | Exit Exhaust Fan Front HS | |
| 164 | Exit Exhaust Fan Rear NS | |
| 165 | Exit Exhaust Fan Rear HS | |

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| 5806 | RFID CONT.READING | |
| | This SP is used for validation and testing of the RFIDs. After one of these SP codes is switched ON, a communication count will run until switched OFF. | |
| 1 | TIMES | [0 to 65535/0/1times] |
| 2 | NOT 0 | [0 to 65535/0/1times] |
| 3 | RET. | [0 to 65535/0/1times] |
| 4 | EXE.ALL | [0 to 1/0/1] |
| 5 | EXE.K | [0 to 1/0/1] |
| 6 | EXE.M | [0 to 1/0/1] |
| 7 | EXE.C | [0 to 1/1/1] |
| 8 | EXE.Y | [0 to 1/0/1] |

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| 5807 | Area Selection **DFU** |
| | Sets the machine for the geographical area where it will be used.<br>[1 to 3/2/1]  1:DOM (Japan)  2:NA  3:EU |

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| 5810 | SC Reset |
| | When the machine issues a "Level A" SC code, this indicates a serious problem in the fusing unit (SC542 to SC546, for example).<br>▪ As soon as the Level A SC code is issued, the machine is disabled immediately.<br>▪ The operator cannot reset the SC because the machine requires servicing immediately.<br>▪ The machine cannot be used until the machine has been service.<br>Touch [EXECUTE] to release the machine for servicing. |

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| 5811 | Machine Serial **DFU** | |
| | This SP presents the screen used to enter the 11-digit number of the machine. The allowed entries are "A" to "Z" and "0" to "9". The setting is done at the factory, and should not be changed in the field. | |
| 2 | Display | |
| 4 | Set: BCU | [0 to 255/1/1] |
| 5 | Set: Novita | [0 to 255/0/1] |

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| 5812 | Service Tel. No. Setting | | CTL |
| | Use these SP modes to input service and support telephone numbers. Enter the number and press<br>Press the [./*] key to input a pause. Press the “Clear modes” key to delete the telephone number. | | |
| 1 | Service | Service representative telephone number. | |
| 2 | Facsimile | Fax number of service representative | |
| 3 | Supply | Supplier of consumables | |
| 4 | Operation | Operation support | |

| 5816 | Remote Service | CTL |
|---|---|---|
| | I/F Setting | |
| 1 | Turns the remote diagnostics off and on.<br>[0 to 2/2/1]<br>0: Remote diagnostics off.<br>1: Serial (CSS or @Remote) remote diagnostics on.<br>2: Network remote diagnostics on for @Remote | |
| | CE Call | |
| 2 | Lets the operator engineer start or end of the remote machine check with CSS or @Remote; to do this, push the center report key | |
| | Function Flag | |
| 3 | Enables and disables remote diagnosis over the @Remote network.<br>[0 to 1/0/1]<br>0: Disables remote diagnosis over the network.<br>1: Enables remote diagnosis over the network. | |
| | Communication Test Call | |
| 4 | This SP issues a test call from a GW machine to determine whether it can communicate successfully with the call center after it has been set up for NRS. Successful return will be in the range 0 to 99. | |
| | Device Information Call | |
| 5 | Controls if the item for initial setting of the screen for the NRS device-information notification-call is shown.<br>[0 to 1/1]<br>0: Enabled. Item initial setting not shown.<br>1: Disable. Item for initial setting shown. | |

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| | SSL Disable |
| 7 | Controls if RCG (Remote Communication Gate) confirmation is done by SSL during an RCG send for the @Remote over a network intersection.<br>[0 to 1/0/1]<br>0: Yes. SSL not used.<br>1: No. SSL used. |
| | RCG Connect Timeout |
| 8 | Sets the length of time (seconds) for the time-out when the RCG (Remote Communication Gate) connects during a call via the @Remote network.<br>[1 to 90/30/1 sec.] |
| | RCG Write to Timeout |
| 9 | Sets the length of time (seconds) for the time-out when sent data is written to the RCG during a call over the @Remote network.<br>[0 to 100/60/1 sec.] |
| | RCG Read Timeout |
| 10 | Sets the length of time (seconds) for the timeout when sent data is written from the RCG during a call over the @Remote network.<br>[0 to 100/60/1 sec.] |
| | Port 80 Enable |
| 11 | Controls if permission is given to get access to the SOAP method over Port 80 on the @Remote network.<br>[0 to 1/0/1]<br>0: No. Access denied<br>1: Yes. Access granted. |
| | RFU Timing |
| 13 | This SP determines how the machine receives forum (RFU: @Remote Forum Updates) updates.<br>[0 to 1 / 1/ 1]<br>0: All forum updates<br>1: Energy status update only |

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| 21 | RCG – C Registed |
| | This SP displays the Embedded RC Gate installation end flag.<br>1: Installation completed<br>2: Installation not completed |
| 23 | Connect Type (N/M) |
| | This SP displays and selects the Embedded RC Gate connection method.<br>0: Internet connection<br>1: Dial-up connection |
| 61 | Cert. Expire Timing **DFU** |
| | Proximity of the expiration of the certification. |
| 62 | Use Proxy |
| | This SP setting determines if the proxy server is used when the machine communicates with the service center. |
| 63 | Proxy Host |
| | This is the address of the HTTP proxy server used to effect communication between Embedded RC Gate-M and the Gateway. The length of the address is limited to 127 characters (characters beyond the 127th character are ignored). |
| 64 | Proxy Port Number |
| | This is the port number of the HTTP proxy used to effect communication between Embedded RC Gate-N and the Gateway.<br>[0 to 0xffff/0/1] |
| 65 | Proxy User name |
| | This is the user name used for certification of the HTTP proxy. The length of the name is limited to 31 characters (characters beyond the 31st character are ignored). |
| 66 | Proxy Password |
| | This is the certification password of the HTTP proxy. The length of the password is limited to 31 characters (characters beyond the 31st character are ignored). |

**Note**: The proxy number, user name, and password comprise proprietary operator information required by the service technician to do the necessary settings for Embedded RC Gate-N. To prevent unauthorized access this information, these SP settings do not appear in the SMC report.



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| 67 | CERT: Up State | |
| | Displays the state of the certification update used for Embedded RC Gate. If Embedded RC Gate has not been set up, These SP settings are done automatically as soon as Embedded RC Gate is set up. | |
| | 0 | The certification used by Embedded RC Gate is set correctly. |
| | 1 | The certification request (SetAuthKey) for update has been received from the CTL URL and certification is presently being updated. |
| | 2 | The certification update is completed and the CTL URL is being notified of the successful update. |
| | 3 | The certification update failed, and the CTL URL is being notified of the failed update. |
| | 4 | The period of the certification has expired and new request for an update is being sent to the CTL URL. |
| | 11 | A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue CTL connection. |
| | 12 | The rescue certification setting is completed and the CTL URL is being notified of the certification update request. |
| | 13 | The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue CTL URL. |
| | 14 | The notification of the certification request has been received from the rescue CTL URL, and the certification is being stored. |
| | 15 | The certification has been s to red, and the CTL URL is being notified of the successful completion of this event. |
| | 16 | The storing of the certification has failed, and the CTL URL is being notified of the failure of this event. |

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| | 17 | The certification update request has been received from the CTL URL, the CTL URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded. |
| | 18 | The rescue certification of No. 17 has been recorded, and the CTL URL is being notified of the failure of the certification update. |
| 68 | CERT: Error | |
| | Displays a number code that describes the reason for the notification requesting the certification update. | |
| | 0 | Normal. No request for certification update in progress. |
| | 1 | Certification update in progress due to expiration of certification. |
| | 2 | SSL error has been issued after the certification has expired. |
| | 3 | There has been a shift from a common to individual certification. |
| | 4 | There has been a common certification without ID2. |
| | 5 | No certification has been issued. |
| | 6 | CTL URL does not exist. |
| 69 | CERT: Up ID | |
| | The ID of the request for certification. | |
| 83 | Firm Up Status | |
| | Displays the status of the firmware update. | |
| 85 | Firm Up User Check | |
| | This SP setting determines if the operator can check the previous version of the firmware before the firmware update execution. If the option to check the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL. | |

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| 86 | Firmware Size |
| | Allows the service technician to check the size of the firmware data files during the firmware update execution. |
| 87 | CERT: Macro Version |
| | Displays the macro version of the @Remote certification |
| 88 | CERT: PAC Version |
| | Displays the PAC version of the @Remote certification. |
| 89 | CERT: ID2 Code |
| | Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asterisks (****) indicate that no @Remote certification exists. |
| 90 | CERT: Subject |
| | Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (****) indicate that no DESS exists. |
| 91 | CERT: Serial No. |
| | Displays serial number for the @Remote certification. Asterisks (****) indicate that no DESS exists. |
| 92 | CERT: Issuer |
| | Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asterisks (****) indicate that no DESS exists. |
| 93 | CERT: Valid Start |
| | Displays the start time of the period for which the current @Remote certification is enabled. |
| 94 | CERT: Valid End |
| | Displays the end time of the period for which the current @Remote certification is enabled. |

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| 95 | Server CN Check **DFU** |
| | This is a design debugging tool. Not used. |
| 96 | GW Host **DFU** |
| | This is a design debugging tool. Not used. |
| 97 | GW URL Path **DFU** |
| | This is a design debugging tool. Not used. |
| 99 | Debug Rescue G/WURL **DFU** |
| | This is a design debugging tool. Not used. |
| 100 | Specific Gateway Host **DFU** |
| | This is a design debugging tool. Not used. |
| 101 | Specific Gateway URL Path **DFU** |
| | This is a design debugging tool. Not used. |
| 150 | Selection Country **DFU** |
| | Used only for Embedded RC Gate-M to select a country name. Once the number/country is selected, the following settings are checked:<br>▪ Access point telephone number<br>▪ Dial-up user name<br>▪ Modem parameters set for the country<br>[0 to 10/*/1]<br>*: 0: Japan, 1: USA, 3: UK<br>0:Japan, 1:USA, 2:Canada, 3:UK, 4:Germany, 5:France, 6:Italy, 7:Netherlands, 8:Belgium, 9:Luxembourg, 10:Spain |

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| 151 | Line Type Automatic Judgement **DFU** | |
| | Used only for Embedded RC Gate-M to determine whether the dial-up line is for manual rotary or push-button tone dialing.<br>▪ The status of the execution of this SP (dialing in progress, success, failure) is written to SP5816-152.<br>▪ If the check succeeds, the number (dial or push number) written to SP5816-153 can be used<br>▪ If the check succeeds, the number of the carrier line written to SP816-154 can be used. | |
| 152 | Line Type Judgement Result **DFU** | |
| | Used only for Embedded RC Gate-M to display the status of the execution of SP5816-151 identify the type of line. | |
| | 0 | Success |
| | 1 | Currently dialing |
| | 2 | Line abnormal |
| | 3 | Could not confirm external line carrier with automatic detection. |
| | 4 | Line disconnected |
| | 5 | Power supply insufficient |
| | 6 | Line determination not supported |
| | 7 | Error due to fax transmission in progress. |
| | 8 | Other error |
| | 9 | Line type identification still in progress. Please wait. |
| 153 | Selection Dial/Push **DFU** | |
| | Used only for Embedded RC Gate-M to set the telephone number of the dial-up access point of the line checked with SP5816-151. If a number is entered, use that number. If a number is not displayed, use the pre-set value for that country. | |

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| 154 | Outside Line Outgoing Number **DFU** |
| | Used only for Embedded RC Gate-M to set the number of the PSTN number to dial out where Embedded RC Gate-M is used with a PBX system. If a number is set here, the number will be replaced by the number returned by the successful execution of SP5816-151. |
| 156 | Dial Up User Name **DFU** |
| | This is the user name for dialing at the access point where Embedded RC Gate-M is used.<br>**Note**: Numbers with spaces or # marks appear enclosed with quotation marks in the user name. |
| 157 | Dial Up Password **DFU** |
| | This is the password for dialing at the access point where Embedded RC Gate-M is used.<br>**Note**: Numbers with spaces or # marks appear enclosed with quotation marks in the user name. |
| 161 | Local Phone Number **DFU** |
| | This is the number of the local line where Embedded RC Gate-M is connected. This is the line used to communicate with the Call Center. |
| 162 | Connection Timing Adjustment Incoming **DFU** |
| | When the Call Center calls out to the access point where Embedded RC Gate-M is used, the ID tone (*#1#) is sent repeatedly. This SP sets the amount of time to elapse for ID tone output.<br>[0 to 24/1/1 pause count]<br>1 pause count = 2 sec. |
| 163 | Access Point **DFU** |
| | This is the dial-up telephone line number of the access point connected to Embedded RC Gate-M. If a number is entered here that number is used. If no number is entered here then the pre-set country setting is used. |

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| 164 | Line Connecting **DFU** |
| | This SP code should be set for the customer using Embedded RC Gate-M, depending on the line usage (whether line is shared with a fax or not).<br>[0 to 1/0/1]<br>0: Line shared with facsimile<br>1: Line not shared with facsimile |
| 173 | Modem Serial No. **DFU** |
| | This SP code displays the serial number of the Embedded RC Gate-M (modem). |
| 174 | Retransmission Limit **DFU** |
| | Use this SP to manually send a registration update request to Embedded RC Gate-M. |
| 187 | FAX TX Priority **DFU** |
| | This SP is used with SP5816-164 for users who are using a line shared with a facsimile unit.<br>[0 to 1/0/1]<br>0: Disabled. Embedded RC Gate-M continues to operate if a fax transmission starts on the same line.<br>1: Enabled. Fax transmissions have priority. Embedded RC Gate-M will shut down when a fax transmission begins. |
| 200 | Manual Polling |
| | Executes manual polling. Embedded RC Gate periodically polls the @Remote Gateway by HTTPS. This is called "center polling". Use this SP at any time to poll the @Remote supply center. |

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| 201 | Regist: Status | |
| | Displays a number that indicates the status of the @Remote service device. | |
| | 0 | Neither the @Remote device nor Embedded RC Gate device are set. |
| | 1 | The Embedded RC Gate device is being set. Only Box registration is completed. In this status the Basil unit cannot answer a polling request. |
| | 2 | The Embedded RC Gate device is set. In this status the Basil unit cannot answer a polling request. |
| | 3 | The @Remote device is being set. In this status the Embedded RC Gate device cannot be set. |
| | 4 | The @Remote module has not started. |
| 202 | Letter Number | |
| | Allows entry of the number of the request needed for the Embedded RC Gate device. | |
| 203 | Confirm Execute | |
| | Executes the inquiry request to the @Remote CTL URL. | |
| 204 | Confirm Result | |
| | Displays a number that indicates the result of the inquiry executed with SP5816 203. | |
| | 0 | Succeeded |
| | 1 | Inquiry number error |
| | 2 | Registration in progress |
| | 3 | Proxy error (proxy enabled) |
| | 4 | Proxy error (proxy disabled) |
| | 5 | Proxy error (Illegal user name or password) |
| | 6 | Communication error |

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| | 7 | Certification update error |
| | 8 | Other error |
| | 9 | Inquiry executing |
| 205 | Confirm Place | |
| | Displays the result of the notification sent to the device from the CTL URL in answer to the inquiry request. Displayed only when the result is registered at the CTL URL. | |
| 206 | Register Execute | |
| | Executes Embedded RC Gate Registration. | |
| 207 | Register Result | |
| | Displays a number that indicates the registration result. | |
| | 0 | Succeeded |
| | 2 | Registration in progress |
| | 3 | Proxy error (proxy enabled) |
| | 4 | Proxy error (proxy disabled) |
| | 5 | Proxy error (Illegal user name or password) |
| | 6 | Communication error |
| | 7 | Certification update error |
| | 8 | Other error |
| | 9 | Registration executing |

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| 208 | Error Code | | |
| | Displays a number that describes the error code that was issued when either SP5816 204 or SP5816 207 was executed. | | |
| | Cause | Code | Meaning |
| | Illegal Modem Parameter | -11001 | Chat parameter error |
| | | -11002 | Chat execution error |
| | | -11003 | Unexpected error |
| | Operation Error, Incorrect Setting | -12002 | Inquiry, registration attempted without acquiring device status. |
| | | -12003 | Attempted registration without execution of an inquiry and no previous registration. |
| | | -12004 | Attempted setting with illegal entries for certification and ID2. |
| | Error Caused by Response from CTL URL | -2385 | Attempted dial up overseas without the correct international prefix for the telephone number. |
| | | -2387 | Not supported at the Service Center |
| | | -2389 | Database out of service |
| | | -2390 | Program out of service |
| | | -2391 | Two registrations for same device |
| | | -2392 | Parameter error |
| | | -2393 | Basil not managed |
| | | -2394 | Device not managed |
| | | -2395 | Box ID for Basil is illegal |
| | | -2396 | Device ID for Basil is illegal |

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| | | -2397 | Incorrect ID2 format |
| | | -2398 | Incorrect request number format |
| 209 | Instl Clear | | |
| | Releases a machine from its embedded RCG setup. | | |
| 250 | CommLog Print | | |
| | Prints the communication log. | | |

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| 5821 | Remote Service Address | CTL |
| | This SP sets the IP address for RCG (Remote Communication Gate) for processing calls to the @Remote service center. | |

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| 5824 | NVRAM Data Upload | CTL |
| | Uploads the UP and SP mode data (except for counters and the serial number) from NVRAM on the control board to an SD card inserted in Slot 2.<br>1. Remove the SD card slot cover on the back of the machine.<br>2. Insert a blank SD card in Slot 2.<br>3. Open this SP and touch [EXECUTE].<br>4. When you see "Completed", remove the SD card from Slot 2. | |

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|---|---|---|
| 5825 | NVRAM Data Download | CTL |
| | Downloads the content of an SD card in Slot 2 to the NVRAM on the control board.<br>▪ Remove the SD card slot cover on the back of the machine.<br>▪ Insert a blank SD card in Slot 2.<br>▪ Open this SP and touch [EXECUTE].<br>▪ When you see "Completed", remove the SD card from Slot 2. | |

| 5828 | Network Setting | CTL | |
|---|---|---|---|
| 1 | IPv4 Address (Ethernet/IEEE 802.11) | | |
| | This SP allows you to check and reset the IPv4 address for Ethernet and wireless LAN (802.11): aaa.bbb.ccc.ddd | | |
| 2 | IPv4 Subnet Mask (Ethernet/IEEE 802.11) | | |
| | This SP allows you to check and reset the IPv4 subnet mask for Ethernet and wireless LAN (802.11): aaa.bbb.ccc.ddd | | |
| 3 | IPv4 default Gateway (Ethernet/IEEE 802.11) | | |
| | This SP allows you to check and reset the IPv4 default gateway used by the network for Ethernet and wireless LAN (802.11): aaa.bbb.ccc.ddd | | |
| 6 | DHCP (Ethernet/IEEE 802.11) | | |
| | This SP code allows you check and change the setting that determines whether the IP address is used with DHCP on an Ethernet or wireless (802.11) LAN network.<br>[0 to 1 / **1** / 1]<br>0: Not used (manual setting)<br>1: Used | | |
| 21 | Active IPv4 Address | | |
| | This SP allows you to check the IPv4 address that was used when the machine started up with DHCP. | | |
| 22 | Active IPv4 Subnet Mask | | |
| | This SP allows you to check the IPv4 subnet mask setting that was used when the machine started up with DHCP. | | |
| 23 | Active IPv4 Gateway Address | | |
| | This SP allows you to check the IPv4 default gateway setting that was used when the machine started up with DHCP. | | |

| | | | | | |
|---|---|---|---|---|---|
| 50 | 1284 Compatibility (Centro) | | | | |
| | Enables and disables bi-directional communication on the parallel connection between the machine and a computer.<br>[0 to 1 / 1 / 1 ]<br>0:Off, 1: On | | | | |
| 52 | ECP (Centro) | | | | |
| | Disables and enables the ECP feature (1284 Mode) for data transfer.<br>[0 to 1 / 1 / 1]<br>0: Disabled, 1: Enabled | | | | |
| 65 | Job Spool | | | | |
| | Switches job spooling on and off.<br>[0 to 1/0/1]<br>0: No spooling 1: Spooling enabled | | | | |
| 66 | Job Spool Clear: Start Time | | | | |
| | This SP determines whether the job interrupted at power off is resumed at the next power on. This SP operates only when SP5828065 is set to 1.<br>[0 to 1/1/1]<br>1: Resumes printing spooled jog.<br>0: Clears spooled job. | | | | |
| 69 | Spooling (Protocol) | | | | |
| | This SP 8etermines whether job spooling is enabled or disabled for each pro to col. This is a 8-bit setting. | | | | |
| | 0 | LPR | 4 | BMLinks (Japan Only) | |
| | 1 | FTP (Not Used) | 5 | DIPRINT | |
| | 2 | IPP | 6 | Reserved (Not Used) | |
| | 3 | SMB | 7 | Reserved (Not Used) | |

| | | |
|---|---|---|
| 90 | TELNET (0:OFF 1:ON) | |
| | Disables or enables Telnet operation. If this SP is disabled, the Telnet port is closed.<br>[0 to 1/1/1]<br>0: Disable<br>1: Enable | |
| 91 | Web (0:OFF 1:ON) | |
| | Disables or enables the Web operation.<br>[0 to 1/1/1]<br>0: Disable<br>1: Enable | |
| 145 | Active IPv6 Link Local Address | |
| | This is the IPv6 local address referenced on the Ethernet or wireless LAN (802.11b) in the format:<br>"Link-Local address" + "Prefix Length"<br>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses " below this table. | |
| 147 | Active IPv6 Stateless Address 1 | |
| 149 | Active IPv6 Stateless Address 2 | |
| 151 | Active IPv6 Stateless Address 3 | |
| 153 | Active IPv6 Stateless Address 4 | |
| 155 | Active IPv6 Stateless Address 5 | |
| | SP codes 147 to 155 are the IPv6 stateless addresses (1 to 5) referenced on the Ethernet or wireless LAN (802.11b) in the format:<br>"Stateless Address" + "Prefix Length"<br>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. | |

| | | |
|---|---|---|
| 156 | IPv6 Manual Address | |
| | This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11b) in the format:<br>"Manual Set Address" + "Prefix Length"<br>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses" below this table. | |
| 158 | IPv6 Gateway Address | |
| | This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11b). The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses " below this table. | |
| 161 | IPv6 Stateless Auto Setting | |
| | Sets the machine to reference the stateless auto setting for Ethernet and wireless LAN operation.<br>[0 to 1 / 1 / 1]<br>0: Disable<br>1: Enable | |

Ethernet and the Wireless LAN (802.11b) reference the IPV6 "Link-Local address + Prefix Length". The IPV6 address consists of 128 bits divided into 8 blocks of 16 bits:
aaaa:bbbb:cccc:dddd:eeee:ffff:gggg:hhhh:
The prefix length is inserted at the 17th byte (Prefix Range: 0x0 to 0x80). The initial setting is 0x40(64).
For example, the data:
2001123456789012abcdef012345678940h
is expressed:
2001:1234:5678:9012:abcd:ef01:2345:6789: prefixlen 64
However, the actual IPV6 address display is abbreviated according to the following rules.

**Rules for Abbreviating IPV6 Addresses**

1. The IPV6 address is expressed in hexadecimal delmited by colons (:) with the following characters:
   0123456789abcdefABCDEF

2. A colon is inserted as a delimiter every 4th hexadecimal character.
   fe80:0000:0000:0000:0207:40ff:0000:340e
3. The notations can be abbreviated by eliminating zeros where the MSB and digits following the MSB are zero. The example in "2" above, then, becomes:
   fe80:0:0:0207:40ff:0:340e
4. Sections where only zeros exist can be abbreviated with double colons (::). This abbreviation can be done also where succeeding sections contain only zeros (but this can be done only at one point in the address). The example in "2" and "3" above then becomes:
   fe80**::**207:40ff:0:340e (only the first null sets zero digits are abbreviated as "::")
   -or-
   fe80:0:0:0:207:40ff**::**340e (only the last null set before "340e" is abbreviated as "::")

| | |
|---|---|
| 236 | Web Item visible |
| | Displays or does not display the Web system items.<br>[0 x 0000 to 0 x ffff / 0 x ffff] 0: Not displayed, 1: Displayed<br>bit0: Net RICOH<br>bit1: Consumable Supplier<br>bit2-15: Reserved (all) |
| 237 | Web shopping link visible |
| | Displays or does not display the link to Net RICOH on the top page and link page of the web system.<br>[0 to 1 / 1 / 1]<br>0: Not display, 1:Display |
| 238 | Web supplies Link visible |
| | Displays or does not display the link to Consumable Supplier on the top page and link page of the web system.<br>[0 to 1 / 1 / 1]<br>0: Not display, 1:Display |
| 239 | Web Link1 Name |
| | This SP confirms or changes the URL1 name on the link page of the web system. The maximum characters for the URL name are 31 characters. |

| | | |
|---|---|---|
| 240 | Web Link1 URL | |
| | This SP confirms or changes the link to URL1 on the link page of the web system. The maximum characters for the URL are 127 characters. | |
| 241 | Web Link1 Visible | |
| | Displays or does not display the link to URL1 on the top page of the web system.<br>[0 to 1 / 1 / 1]<br>0: Not display, 1:Display | |
| 242 | Web Link2 Name | Same as "-239" |
| 243 | Web Link2 URL | Same as "-240" |
| 244 | Web Link2 visible | Same as "-241" |

| | |
|---|---|
| 5831 | Initial Setting Clear |
| | This SP clears all the User Tools settings and restores them to their factory default settings. |

| | | |
|---|---|---|
| 5832 | HDD | CTL |
| | Enter the SP number for the partition to initialize, then press #. When the execution ends, turn the machine power off and on. | |
| 1 | HDD Formatting (All) | |
| 2 | HDD Formatting (IMH) | |
| 3 | HDD Formatting (Thumbnail) | |
| 4 | HDD Formatting (Job Log) | |
| 5 | HDD Formatting (Printer Fonts) | |
| 6 | HDD Formatting (User Info) | |
| 7 | Mail RX Data | |

| | |
|---|---|
| 8 | Mail TX Data |
| 9 | HDD Formatting (Data for Design) |
| 10 | HDD Formatting (Log) |
| 11 | HDD Formatting (Ridoc I/F) (for Ridoc DesktopBinder) |

| 5840 | IEEE 802.11 | CTL |
|---|---|---|
| 6 | Channel MAX | |
| | Sets the maximum range of the bandwidth for the wireless LAN. This bandwidth setting varies for different countries.<br>[1 to 14/14/1] | |
| 7 | Channel MIN | |
| | Sets the minimum range of the bandwidth for operation of the wireless LAN. This bandwidth setting varies for different countries.<br>[1 to 14/1/1] | |
| 8 | Transmission Speed | |
| | 0 x FF to Auto [Default]<br>0 x 11 – 55M Fix<br>0 x 10 – 48M Fix<br>0 x 0F – 36M Fix<br>0 x 0E – 18M Fix<br>0 x 0D – 12M Fix<br>0 x 0B – 9M Fix | 0 x 0A – 6M Fix<br>0 x 07 – 11M Fix<br>0 x 05 – 5.5M Fix<br>0 x 08 – 1M Fix<br>0 x 13 – 0 x FE (reserved)<br>0 x 12 – 72M (reserved)<br>0 x 09 – 22M (reserved) |
| 11 | WEP Key Select | |
| | Determines how the initiator (SBP-2) handles subsequent login requests.<br>[00 to 11/00/1]<br>**Note:** There are four settings (binary numbers): 00, 01, 10, 11. These settings are possible only after the wireless LAN card has been installed.<br>00: 1st key. If the initiator receives another login request while logging in, the request is refused.<br>01, 10, 11: 2nd, 3rd, 4th keys are "Reserved". | |

| | |
|---|---|
| 42 | Fragment Thresh |
| | Adjusts the fragment threshold for the IEEE802.11 card.<br>[256 to 2346 / 2346 / 1]<br>This SP is displayed only when the IEEE802.11 card is installed. |
| 43 | 11g CTS to Self |
| | Determines whether the CTS self function is turned on or off.<br>[0 to 1 / 1 / 1] 0: Off, 1: On<br>This SP is displayed only when the IEEE802.11 card is installed. |
| 44 | 11g Slot Time |
| | Selects the slot time for IEEE802.11.<br>[0 to 1 / 0 / 1] 0: 20 μm, 1: 9 μm<br>This SP is displayed only when the IEEE802.11 card is installed. |
| 45 | WPA Debug Lvl |
| | Selects the debug level for WPA authentication application.<br>[1 to 3 / 3 / 1] 1: Info, 2: warning, 3: error<br>This SP is displayed only when the IEEE802.11 card is installed. |

| | | |
|---|---|---|
| 5841 | Supply Name Setting | CTL |
| | Use the soft keyboard of this SP to enter the names and numbers of consumables. These are the names that appear on the display when [Inquiry] is pressed on the User Tools screen. | |

<table>
<tr><td>5842</td><td colspan="2">GWWS Analysis DFU</td><td>CTL</td></tr>
<tr><td rowspan="8">1</td><td colspan="3">Setting 1</td></tr>
<tr><td rowspan="8">This is a debugging tool. It sets the debugging output mode of each Net File process.<br>Bit SW 0011 1111</td><td>Bit</td><td>Groups</td></tr>
<tr><td>0</td><td>System & other groups (LSB)</td></tr>
<tr><td>1</td><td>Capture related</td></tr>
<tr><td>2</td><td>Certification related</td></tr>
<tr><td>3</td><td>Address book related</td></tr>
<tr><td>4</td><td>Machine management related</td></tr>
<tr><td>5</td><td>Output related (printing, delivery)</td></tr>
<tr><td>6</td><td>Repository related</td></tr>
<tr><td rowspan="3">2</td><td>Setting 2</td><td>Bit</td><td></td></tr>
<tr><td rowspan="2">This SP codes sets the optional setting for message log time stamp. Bit 7 is the 5682 message log where the following are set:</td><td>0-6</td><td>Not Used</td></tr>
<tr><td>7</td><td>Message log<br>1: mm:ss:ms<br>0: mm:ss (time)</td></tr>
</table>

| 5844 | USB | CTL |
|---|---|---|
| 1 | Transfer Rate | |
| | Sets the speed for USB data transmission.<br>[Full Speed], [Auto Change] | |
| 2 | Vendor ID **DFU** | |
| | Sets the vendor ID:<br>Initial Setting: 0x05A Ricoh Company<br>[0x0000 to 0xFFFF/1] | |
| 3 | Product ID **DFU** | |
| | Sets the product ID.<br>[0x0000 to 0xFFFF/1] | |
| 4 | Device Release Number **DFU** | |
| | Sets the device release number of the BCD (binary coded decimal) display.<br>[0000 to 9999/100/1]<br>Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD. | |
| 5 | Fixed USB Port | |
| | This SP standardizes for common use the model name and serial number for USB PnP (Plug & Play). It determines whether the driver requires re-installation.<br>[0 to 2 / 0 / 4]<br>0: Off<br>1: Level 1<br>2: Level 2 | |
| 6 | PnP Model Name | |
| | This SP sets the model name to be used by the USB PnP when "Function Enable (Level 2) is set so the USB Serial No. can have a common name (SP5844-5).<br>Default: Laser Printer (up to 20 characters allowed). | |

| | |
|---|---|
| 7 | PnP Serial Number |
| | This SP sets the serial number to be used by the USB PnP when "Function Enable (Level 2) is set so the USB Serial No. can have a common name (SP5844-5).<br>Default: None (up to 12 characters allowed for entry).<br>▪ Make sure that this entry is the same as the serial number in use.<br>▪ At initialization the serial number generated from the model name is used, not the setting of this SP code.<br>▪ At times other than initialization, the value set for this SP code is used. |
| 100 | Notify Unsupport |
| | This SP determines whether an alert message appears on the control panel when a a USB device (unsupported device) that cannot use an A-connector is connected.<br>[0 to 1/1/1]<br>0: Function enable<br>1: Function disable<br>▪ An unsupported device is a device that cannot use the functions of the USB device. For example, a USB mouse cannot be used even if it connected.<br>▪ If the PictBridge option is not mounted, even if a digital camera is connected it cannot be used because it is an unsupported device. |

| | | |
|---|---|---|
| 5845 | Delivery Server Setting | CTL |
| | Provides items for delivery server settings. | |
| 1 | FTP Port No. | [0 to 65535 / 3670 / 1] |
| | Sets the FTP port number used when image files are sent to the Scan Router Server. | |
| 2 | IP Address (Primary) | Range: 000.000.000.000 to 255.255.255.255 |
| | Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be referenced by the initial system setting. | |
| 6 | Delivery Error Display Time | [0 to 999 / 300 / 1] |
| | Use this setting to determine the length of time the prompt message is displayed when a test error occurs during document transfer with the NetFile application and an external device. | |
| 8 | IP Address (Secondary) | Range: 000.000.000.000 to 255.255.255.255 |
| | Specifies the IP address assigned to the computer designated to function as the secondary delivery server of Scan Router. This SP allows only the setting of the IP address without reference to the DNS setting. | |
| 9 | Delivery Server Model | [0 to 4/ 0 / 1] |
| | Allows changing the model of the delivery server registered by the I/O device.<br>0: Unknown<br>1: SG1 Provided<br>2: SG1 Package<br>3: SG2 Provided<br>4: SG2 Package | |
| 10 | Delivery Svr Capability | |
| | Changes the capability of the registered that the I/O device registered.<br>[0 to 255 / 0 / 1]<br>(7) [0000 0000] (1) | |
| | Bit7 = 1 Comment information exists | |

| | |
|---|---|
| | Bit6 = 1 Direct specification of mail address possible |
| | Bit5 = 1 Mail RX confirmation setting possible |
| | Bit4 = 1 Address book automatic update function exists |
| | Bit3 = 1 Fax RX delivery function exists |
| | Bit2 = 1 Sender password function exists |
| | Bit1 = 1 Function to link MK-1 user and Sender exists |
| | Bit0 = 1 Sender specification required (if set to 1, Bit6 is set to “0”) |
| 11 | Delivery Svr.Capability (Ext) |
| | These settings are for future use. They will let you increase the number of registered devices (in addition to those registered for SP5845-10).<br>There are eight bits (Bit 0 to Bit 7). All are unused at this time. |
| 13 | Server Scheme (Primary) |
| 14 | Server Port Number (Primary) |
| 15 | Server URL Path (Primary) |
| 16 | Server Scheme (Secondary) |
| 17 | Server Port Number (Secondary) |
| 18 | Server URL Path (Secondary) |
| 22 | Rapid Sending Control |
| | Switches instant transmission off/on.<br>[0 to 1/1/1]<br>0: Off. Instant transmission not possible with network setting errors.<br>1: On. Instant transmission possible with network setting errors.<br>**Note:**<br>▪ The machine will continue to transmit over the network, even if the network settings are incorrect. (This causes multiple errors, of course.)<br>▪ With this SP off, the machine will stop communicating with the network if the settings are wrong. This reduces the amount of spurious network traffic caused by errors due to incorrect settings. |

| 5846 | UCS Setting | CTL |
|---|---|---|
| | UCS (User Control Service) is the software that manages user codes and the address books for scan-to-email and scan-to-folder. | |
| 1 | Machine ID (for Delivery Server) | |
| | Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed.<br>This ID is created from the NIC MAC or IEEE 1394 EUI.<br>The ID is displayed as either 6-byle or 8-byte binary.<br>6-byte<br>%02X.%02X.%02X.%02X.%02X.%02X<br>8-byte<br>%02X.%02X.%02X.%02X.%02X.%02X.%02X.%02X | |
| 2 | Machine ID Clear (Delivery Server) | |
| | Clears the unique ID of the device used as the name in the file transfer directory. Execute this SP if the connection of the device to the delivery server is unstable. After clearing the ID, the ID will be established again automatically by cycling the machine off and on. | |
| 3 | Maximum Entries | |
| | Changes the maximum number of entries that UCS can handle.<br>[2000 to 20000/2000/1]<br>If a value smaller than the present value is set, the UCS managed data is cleared, and the data (excluding user code information) is displayed. | |
| 6 | Delivery Server Retry Timer | |
| | Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.<br>[0 to 255/0/1 sec.]<br>0: No retries | |
| 7 | Delivery Server Retry Times | |
| | Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.<br>[0 to 255/0/1] | |

| | |
|---|---|
| 8 | Delivery Server Maximum Entries |
| | Lets you set the maximum number of account entries and information about the users of the delivery server controlled by UCS.<br>[2000 to 20000/2000/1] |
| 10 | LDAP Search Timeout |
| | Sets the length of the time-out for the search of the LDAP server.<br>[1 to 255/60/1] |
| 20 | WSD Maximum Entries |
| | WSD (Web Services on Devices) is the Microsoft standard for connectivity to web-service enabled devices.<br>[50 to 250/250/1]<br>Default: 250 |
| 21 | Folder Auth Change |
| | This SP determines whether the user login information (Login User name and Password) or address (destination setting in the address book for Scan-to-SMB) is used to permit folder access. The machine must be cycled off/on for this setting to take effect if it is changed.<br>[0 to 1 / 0 / 1]<br>0: Uses operator login information (initial value of main machine)<br>1: Uses address authorization information |

| | |
|---|---|
| 40 | Addr Book Migration (SD -> HDD) |
| | This SP moves the address book data from an SD card to the HDD. You must turn the machine power off and on after executing this SP.<br>1. Turn the machine off.<br>2. Install the HDD.<br>3. Insert the SD card with the address book data in SD card Slot C3.<br>4. Turn the machine on.<br>5. Do SP5846-40.<br>6. Turn the machine off.<br>7. Remove the SD card from SD card Slot C3.<br>8. Turn the machine on.<br>**Notes:**<br>▪ Executing this SP overwrites any address book data already on the HDD with the data from the SD card.<br>▪ We recommend that you back up all directory information to an SD card with SP5846-51 before you execute this SP.<br>▪ After the address book data is copied to HDD, all the address book data is deleted from the source SD card. If the operation fails, the data is not erased from the SD card. |

| | |
|---|---|
| 41 | Fill Addr Acl Info. |
| | This SP must be executed immediately after installation of an HDD unit in a basic machine that previously had no HDD. The first time the machine is powered on with the new HDD installed, the system automatically takes the address book from the NVRAM and writes it to the new HDD. However, the new address book on the HDD can be accessed only by the system administrator at this stage. Executing this SP by the service technician immediately after power on grants full address book access to all users.<br>**Procedure**<br>1. Turn the machine off.<br>2. Install the new HDD.<br>3. Turn the machine on.<br>4. The address book and its initial data are created on the HDD automatically. However, at this point the address book can be accessed by only the system administrator or key operator.<br>5. Enter the SP mode and do SP5846-41. After this SP executes successfully, any user can access the address book. |
| 43 | Addr Book Media |
| | This SP displays the media where the address book currently in use is stored.<br>[0 to 30 / 0 /1]<br>0: Unconfirmed<br>1: SD Slot 1<br>2: SD Slot 2<br>4: USB Flash ROM<br>20: HDD<br>30: Nothing |
| 46 | Initialize All Settings & Address Book |
| | Initializes all settings and the address book. |
| 47 | Initialize Local Addr Book |
| | Clears all of the address information from the local address book of a machine managed with UCS. |

| | |
|---|---|
| 48 | Initialize Delivery Addr Book |
| | Push [Execute] to delete all items (this does not include user codes) in the delivery address book that is controlled by UCS. |
| 49 | Initialize LDAP Addr Book |
| | Push [Execute] to delete all items (this does not include user codes) in the LDAP address book that is controlled by UCS. |
| 50 | Initialize All Addr Book |
| | Clears everything (including user codes) in the directory information managed by UCS. However, the accounts and passwords of the system administrators are not deleted. |
| 51 | Backup All Addr Book |
| | Uploads all directory information to the SD card. |
| 52 | Restore All Addr Book |
| | Downloads all directory information from the SD card. |
| 53 | Clear Backup Info. |
| | Deletes the address book uploaded from the SD card in the slot. Deletes only the files uploaded for that machine. This feature does not work if the card is write-protected.<br>**Note**: After you do this SP, go out of the SP mode, turn the power off. Do not remove the SD card until the Power LED stops flashing. |

<table>
<tr><td rowspan="10">60</td><td colspan="2">Search Option</td></tr>
<tr><td colspan="2">This SP uses bit switches to set up the fuzzy search options for the UCS local address book.</td></tr>
<tr><td>Bit</td><td>Meaning</td></tr>
<tr><td>0</td><td>Checks both upper/lower case characters</td></tr>
<tr><td>1</td><td rowspan="3">Japan Only</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td><td>--- Not Used ---</td></tr>
<tr><td>5</td><td>--- Not Used ---</td></tr>
<tr><td>6</td><td>--- Not Used ---</td></tr>
<tr><td>7</td><td>--- Not Used ---</td></tr>
<tr><td>62</td><td colspan="2">Complexity Option 1<br>Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to upper case and sets the length of the password.<br>[0 to 32/0/1]<br>Note:<br>This SP does not normally require adjustment.<br>This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.</td></tr>
</table>

| | |
|---|---|
| 63 | Complexity Option 2 |
| | Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to lower case and defines the length of the password.<br>[0 to 32/0/1]<br>**Note:**<br>This SP does not normally require adjustment.<br>This SP is enabled only after the system administrator has set up a group password policy to control access to the address book. |
| 64 | Complexity Option 3 |
| | Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to numbers and defines the length of the password.<br>[0 to 32/0/1]<br>**Note:**<br>This SP does not normally require adjustment.<br>This SP is enabled only after the system administrator has set up a group password policy to control access to the address book. |
| 65 | Complexity Option 4 |
| | Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to symbols and defines the length of the password.<br>[0 to 32/0/1]<br>**Note:**<br>This SP does not normally require adjustment.<br>This SP is enabled only after the system administrator has set up a group password policy to control access to the address book. |
| 91 | FTP Auth. Port Settings |
| | Sets the FTP port to get the delivery server address book that is used in the individual authorization mode.<br>[0 to 65535/3671/1] |

| | |
|---|---|
| 94 | Encryption Stat |
| | Shows the status of the encryption function of the address book on the LDAP server. |

| | | | |
|---|---|---|---|
| 5847 | Rep. Resolution Reduction | | CTL |
| | These SP's change the default settings of image data sent externally by the Net File page reference function. [0 to 2/1]<br>**Note**:<br>▪ "NetFile" refers to jobs to be printed from the document server with a PC and the DeskTopBinder software.<br>▪ This SP is available only after the File Format Converter (B609) has been installed. | | |
| 1 | Rate for Copy Color | [0 to 5/2/1] | 0: 1x<br>1: 1/2x<br>2: 1/3x<br>3: 1/4x<br>4: 1/6x<br>5: 1/8x<br>6: 2/3x1 |
| 2 | Rate for Copy B&W Text | [0 to 6/0/1] | |
| 3 | Rate for Copy B&W Other | [0 to 5/2/1] | |
| 4 | Rate for Printer Color | | |
| 5 | Rate for Printer B&W | | |
| 7 | Rate for Printer B&W 1200 dpi | [0 to 32/1/1] | |
| | **Note**: "6:" above (2/3x) applies to 3, 5, 6 only. | | |
| 21 | Network Quality Default for JPEG | | |
| | Sets the default value for the quality of JPEG images sent as NetFile pages. This function is available only with the MLB (Media Link Board) option installed. [5 to 95/50/1] | | |

| | | |
|---|---|---|
| 5848 | Web Service | CTL |
| | 5847 2 sets the 4-bit switch assignment for the access control setting. Setting of 5848 1 has no effect on access and delivery from Scan Router. 5847 100 sets the maximum size of images that can be downloaded. The default is equal to 1 gigabyte. | |
| 2 | Acc. Ctrl.: Repository (only Lower 4 Bits) | 0000: No access control<br>0001: Denies access to DeskTop Binder. |
| 3 | Acc. Ctrl.: Doc. Svr. Print (Lower 4 Bits) | Switches access control on and off.<br>0000: OFF, 0001: ON |
| 4 | Acc. Ctrl.: User Directory (Lower 4 Bits) | |
| 9 | Acc. Ctrl.: Job Control (Lower 4 Bits) | |
| 11 | Acc. Ctrl: Device Management (Lower 4 Bits) | |
| 21 | Acc. Ctrl: Delivery (Lower 4 Bits) | |
| 22 | Acc. Ctrl: User Administration (Lower 4 Bits) | |
| 99 | Repository: Download Image Setting **DFU** | |
| | This is a bit-switch setting. Only the lower 4 bits are enabled/disabled.<br>Set to "0" (disabled) or "1" (enabled) as needed for image download.<br>(1) Mac OS<br>(2) Windows OS<br>(3) OS other than Mac or Windows<br>**Note:** This SP is used primarily by designers. | |
| 100 | Repository: Download Image Max. Size | [1 to 2048 /2048 /1 K] |
| 210 | Setting: Log Type: Job 1 **DFU** | |
| | [0 to 0xFFFFFFFF/0/1] | Note: These SP's are for display only; they cannot be changed. |
| 211 | Setting: Log Type: Job 2 **DFU** | |
| | [0 to 0xFFFFFFFF/0/1] | |

| | | |
|---|---|---|
| 212 | Setting: Log Type: Access **DFU** | |
| | [0 to 0xFFFFFFFF/0/1] | |
| 213 | Setting: Primary Srv **DFU** | |
| 214 | Setting: Secondary Srv **DFU** | |
| 215 | Setting: Start Time **DFU** | |
| | [0 to 0xFFFFFFFF/0/1] | |
| 216 | Setting: Interval Time **DFU** | |
| | [1 to 100/1/1] | |
| 217 | Setting: Timing **DFU** | |
| | [0 to 2/0/1]<br>0: Transmission off<br>1: Transmission 1 by 1<br>2: Periodic transmission | |

| | | |
|---|---|---|
| 5849 | Installation Date | CTL |
| | Displays or prints the installation date of the machine. | |
| 1 | Display | |
| | Displays the installation date. The installation date is set automatically after test copies are done at the installation site. | |
| 2 | Switch to Print | |
| | Determines whether the installation date or total count is printed on the total counter printout.<br>[0 to 1/0/1]<br>0: Off. No Print<br>1: On. Print | |
| 3 | Total Counter | |
| | Displays the total count starting from the installation date (SP5849-1). | |

| | |
|---|---|
| 5851 | Bluetooth **Not Used** |
| | Sets the operation mode for the Bluetooth Unit. Press either key.<br>[0 to 1/0/1]<br>[0:Public] [1: Private] |

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|---|---|---|
| 5853 | Stamp Data Download | CTL |
| | Push [Execute] to download the fixed stamp data from the machine ROM onto the hard disk so that these stamps can be used by the system. The customer will not be able to use these stamps (“Confidential”, “Secret”, etc.) until this SP has been executed.<br>**Note**:<br>▪ This SP must always be executed after the HDD has been reformatted or replaced.<br>▪ Always switch the machine off and on after executing this SP. | |

| | | |
|---|---|---|
| 5856 | Remote ROM Update | CTL |
| | When set to “1” allows reception of firmware data via the local port (IEEE 1284) during a remote ROM update. This setting is reset to zero after the machine is cycled off and on.<br>[0 to 1 / 0 / 1]<br>0: Not allowed<br>1: Allowed | |

| 5857 | Save Debug Log | CTL |
|---|---|---|
| | On/Off (1:ON 0:OFF) | |
| 1 | Switches on the debug log feature. The debug log cannot be captured until this feature is switched on.<br>[0 to 1/0/1]<br>0: OFF<br>1: ON | |
| | Target (2: HDD 3: SD Card) | |
| 2 | Selects the destination where the debugging information generated by the event selected by SP5858 will be s to red if an error is generated<br>[2 to 3 /2/1]<br>2: HDD<br>3: SD Card | |
| | Save to HDD | |
| 5 | Specifies the decimal key number of the log to be written to the hard disk. | |
| | Save to SD Card | |
| 6 | Specifies the decimal key number of the log to be written to the SD Card. | |
| | Copy HDD to SD Card (Latest 4 MB) | |
| 9 | Takes the most recent 4 MB of the log written to the hard disk and copies them to the SD Card. A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card. | |
| | Copy HDD to SD Card Latest 4 MB Any Key) | |
| 10 | Takes the log of the specified key from the log on the hard disk and copies it to the SD Card. A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4 MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card. This SP does not execute if there is no log on the HDD with no key specified. | |

| | |
|---|---|
| 11 | Erase HDD Debug Data |
| | Erases all debug logs on the HDD |
| 12 | Erase SD Card Debug Data |
| | Erases all debug logs on the SD Card. If the card contains only debugging files generated by an event specified by SP5858, the files are erased when SP5857-10 or -11 is executed.<br>to enable this SP, the machine must be cycled off and on. |
| 13 | Free Space on SD Card |
| | Displays the amount of space available on the SD card. |
| 14 | Copy SD to SD (Latest 4MB) |
| | Copies the last 4MB of the log (written directly to the card from shared memory) on to an SD card. |
| 15 | Copy SD to SD (Latest 4MB Any Key) |
| | This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number. |
| 16 | Make HDD Debug |
| | This SP creates a 32 MB file to store a log on the HDD. |
| 17 | Make SD Debug |
| | This SP creates a 4 MB file to store a log on an SD card. |

| | | |
|---|---|---|
| 5858 | Debug Save When | CTL |
| | These SP's select the content of the debugging information to be saved to the destination selected by SP5857-2. SP58583 stores one SC error specified by number. | |
| 1 | Engine SC Error (0:OFF 1:ON) | |
| | Stores SC codes generated by main machine engine errors.<br>[0 to 1/0/1] | |

| | |
|---|---|
| 2 | Controller SC Error (0:OFF 1:ON |
| | Stores SC codes generated by CTL controller errors.<br>[0 to 1/0/1] |
| 3 | Any SC Error |
| | 0:OFF 1:ON |
| 4 | Jam (0:OFF 1:ON |
| | Stores jam errors.<br>[0 to 1/0/1] |

| | | |
|---|---|---|
| 5859 | Debug Save Key No. | CTL |
| | These SP's allow you to set up to 10 keys for log files for functions that use common memory on the controller board.<br>[-9999999 to 9999999 / 0 / 1] | |
| 1 to 10 | Key 1 to Key 10 | |

| | | |
|---|---|---|
| 5860 | SMTP/POP3/IMAP4 | CTL |
| 20 | Partial Mail Receive Timeout | |
| | [1 to 168/72/1]<br>Sets the amount of time to wait before saving a mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time. | |
| 21 | MDN Response RFC2298Compliance | |
| | Determines whether RFC2298 compliance is switched on for MDN reply mail.<br>[0 to 1/1/1]<br>0: No<br>1: Yes | |

| | |
|---|---|
| 22 | SMTP Auth. From Field Replacement |
| | Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated.<br>[0 to 1/0/1]<br>0: No. “From” item not switched.<br>1: Yes. “From” item switched. |
| 25 | SMTP Auth Direct Sending |
| | Occasionally, all SMTP certifications may fail with SP5860-6 set to "2" to enable encryption during SMTP certification for the SMTP server. This can occur if the SMTP server does not meet RFC standards. In such cases you can use this SP to set the SMTP certification method directly. However, this SP can be used only after SP5860-3 has been set to "1" (On).<br>Bit0: LOGIN<br>Bit1: PLAIN<br>Bit2: CRAM_MD5<br>Bit3: DIGEST_MD5<br>Bit4 to Bit 7: Not Used |
| 26 | S/MIME:MIME Header Specification |
| | This SP determines the standard type of header for e-mails sent with S/MIME.<br>[0 to 1 / 0 / 1]<br>0: Microsoft Outlook Express<br>1: Internet Draft<br>2: RFC |

| | | |
|---|---|---|
| 5866 | Email Report | CTL |
| 1 | Report Validity | |
| | Disables and re-enables the email notification feature.<br>[0 to 1/0/1]<br>0: Enable<br>1: Disable | |
| 5 | Add Date Field | |
| | This SP adds the current date to the date field of an email alert that informs the operator that an error has occurred.<br>[0 to 1/0/1]<br>0: Date not added<br>1: Date added | |

| | | |
|---|---|---|
| 5870 | Common Key Info Writing | CTL |
| | Writes to flash ROM the common proof for validating the device for @Remote specifications. | |
| 1 | Writing | Note: These SP's are for future use and currently are not used. |
| 3 | Initialize | |

| | | |
|---|---|---|
| 5873 | SD Card Appli Move | CTL |
| | Moves an application from one SD card to another.. | |
| 1 | Move Exec | Executes the move from one SD card to another. |
| 2 | Undo Exec | This is an undo function. It cancels the previous execution. |

| 5875 | SC Auto Reboot | CTL |
|---|---|---|
| 1 | Reboot Setting | |
| | Determines whether the machine reboots automatically when an SC error occurs.<br>[0 to 1/0/1]<br>1: The machine does not reboot when an SC error occurs. However, the reboot does not occur for Type "A" SC codes.<br>0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. | |
| 2 | Reboot Type | |
| | Selects the reboot method after an SC error occurs.<br>[0 to 1/0/1]<br>0: Manual reboot by operator or technician<br>1: Automatic reboot | |

| 5878 | Option Setup | CTL |
|---|---|---|
| | Press [Execute] to initialize the Data Overwrite Security and HDD Encryption option. Both options are available on SD cards. | |
| 1 | Data Overwrite Security | |
| | This SP enables the Data Overwrite Security option.<br>**Note**:<br>▪ Before execution the SD card must be in SD Card Slot 1 (option slot).<br>▪ The SD card must reside in Slot 1 after execution. | |
| 2 | HDD Encryption | |
| | This SP enables the HDD Encryption option.<br>**Note**:<br>▪ Before execution the SD card must be in SD Card Slot 1 (option slot).<br>▪ The SD card can be removed after execution. | |

| | | |
|---|---|---|
| 5881 | Fixed Phrase Block Erasing | CTL |
| | Press [EXECUTE] to erase fixed phrases supplied by SKB. | |

| | | | |
|---|---|---|---|
| 5885 | Set WIM Function | | CTL |
| | This SP determines how access to the Web Image Monitor document server is controlled. These are bit settings where "1" enables and "0" disables. | | |
| 20 | DocSvr Acc Ctrl | | |
| | Allows or disallows the functions of web image monitor.<br>0: OFF, 1: ON | | |
| | | **(7) 0000 0000 (0)** | |
| | LSB | 0bit | Denies all access to document server |
| | | 1bit | Denies all access to User Tools |
| | | 2bit | Denies access to printing |
| | | 3bit | Denies access to fax |
| | | 4bit | Denis access to scan-to-email |
| | | 5bit | Denies access data downloading functions |
| | | 6bit | Denies access to data delete functions |
| | MSB | 7bit | Forbid guest user |
| 50 | DocSvr Format | | |
| | Selects the display type for the document box list.<br>[0 to 2 / 0 / 1]<br>0: Thumbnail, 1: Icon, 2: Details | | |
| 51 | DocSvr Trans | | |
| | Sets the number of documents to be displayed in the document box list.<br>[5 to 20 / 10 / 1] | | |

| | | |
|---|---|---|
| 100 | Set Signature | |
| | This SP determines whether a signature is attached to scanned documents queued for sending with Web Image Monitor.<br>[0 to 2 / 0 / 1]<br>0: Set individually<br>Operator selects signature on the send screen when documents are sent via email. Operator has the option of selecting or not selecting a signature.<br>1: Signature required. A signature must be selected for sending.<br>2: No signature. No signature requird. | |
| 101 | Set Encryption | |
| | Determines whether the scanned documents with the WIM are encrypted when they are transmitted by an e-mail.<br>[0 to 1 / 0 / 1]<br>0: Not encrypted, 1:Encryption | |
| 200 | Detect Mem Leak | |
| | This SP determines how Web Image Monitor memory leaks are handled. A "1" setting enables the function. | |
| | | **(7) 0000 0000 (0)** |
| | Bit 0 | Displays memory status at session timeouts. |
| | Bit 1 | Displays memory status at the start/end of PF handler only. |
| | Bit2-7 | Not used |
| 201 | DocSvr Timeout | |
| | This SP sets the length of time for session timeout. The default is 30 min. The time can be reduced to shorten the time between memory leak detections.<br>[1 to 255 / 30 / 1 min.] | |

| | | |
|---|---|---|
| 5887 | SD Get Counter | CTL |
| | After you touch [EXECUTE] this SP sends a text file to an SD card inserted in SD card Slot 2. The file is stored in a folder created in the root directory of the SD card called SD_COUNTER. The file is saved as a text file (*.txt) prefixed with the number of the machine.<br>▪ Insert the SD card in SD card Slot 1 (lower slot).<br>▪ Select SP5887 then touch [EXECUTE].<br>▪ Touch [EXECUTE] in the message when you are prompted. | |

| | | |
|---|---|---|
| 5888 | Personal Information Protect | CTL |
| | Selects the protection level for logs.<br>[0 to 1 / 0 / 1}<br>0: No authentication, No protection for logs<br>1: No authentication, Protected logs (only an administrator can see the logs) | |

| | | |
|---|---|---|
| 5893 | SDK Application Counter | CTL |
| | The machine stores up to six registered names in the SDK application.<br>▪ This SP has been implemented for all machines using Engine 08S and later.<br>▪ This SP is not needed if there are no SDK applications loaded. | |
| 1 to 6 | SDK1 to SDK-6 | |

| | | |
|---|---|---|
| 5894 | External Mech Count Setting | |
| | This SP switches the operation mode of the external counter. | |
| | Mech Counter Switch Setting | [0 to 2/22/1] |

| | |
|---|---|
| 5898 | HDD Pages |
| | [0 to 2/0/1]<br>0: Standard<br>1: Extension A<br>2: Extension B |

| | | |
|---|---|---|
| 5907 | Plug & Play Maker/Model Name | CTL |
| | Selects the brand name and the production name for Windows Plug & Play. This information is stored in the NVRAM. If the NVRAM is defective, these names should be registered again.<br>▪ After selecting, press the “Original Type” key and “#” key at the same time.<br>▪ When the setting is completed, the beeper sounds five times. | |

| | |
|---|---|
| 5913 | Switchover Permission Time |
| | Sets the length of time to elapse before allowing another application to take control of the display when the application currently controlling the display is not operating because a key has not been pressed.<br>[3 to 30/3/1 s] |

| | | |
|---|---|---|
| 5959 | Paper Size | |
| | Tray 1 (tandem tray) and the LCT do not have automatic paper size detection. Use these SP codes to set the paper size for Tray 1 and the optional LCT when it is installed. | |
| | 1st Tray (Tandem) | |
| 1 | The following paper sizes can be set. If the A3 DLT kit is not installed, you can only use settings 0 and 1<br>[0 to 1/0/1]<br>0: A4<br>1: 8.5x11 | |
| | 1st Tray (A3 Kit) | |
| | The 1st Tray accepts the paper sizes below after the A3 Kit has been installed. | |
| 2 | 0: A4 | 5: 11x17 |
| | 1: 8.5x11 | 6: 8.5x14 SEF |
| | 2: A3 SEF | 7: 8.5x11 SEF |
| | 3: B4 SEF | 8: Custom |
| | 4:A4 SEF | |

| | | |
|---|---|---|
| 5960 | A3 Tray Custom Paper Size Set | |
| | Sets the custom paper size for the A3/DLT option installed in Tray 1. | |
| 1 | Width (Main Scan) | [210 to 305/297/0.1] |
| 2 | Length (Sub Scan) | [210 to 439/210/0.1] |

| | |
|---|---|
| 5965 | Dehum-Heat on |
| | Sets the anti-condensation heaters to remain on at all times. Normally, the heaters switch on only after the machine has been switched off.<br>[0 to1/0/1] 0:OFF/1:ON |

| | | |
|---|---|---|
| 5967 | Copy Server: Set Function | CTL |
| | Disables and enables the document server. This is a security measure that prevents image data from being left in the temporary file sector of the HDD. After changing this setting, switch the main switch off and on to enable the new setting.<br>[0 to 1/0/1] 0: Enable 1: Disable | |

| | | |
|---|---|---|
| 5974 | Cherry Server | CTL |
| | Selects which version of the Scan Router application program, “Light” or “Full (Professional)”, is installed.<br>[0 to 1 / 0 / 1 /step]<br>0: Light version<br>1: Full version | |

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| | | |
|---|---|---|
| 5977 | Custom Size : Booklet Stapling | CTL |
| | When creating saddle-stitched booklets on Booklet Finisher SR5040 using custom size paper in a print job run on the Fiery controller set to “1”.<br>[0 to 1 / 0 / 1 /step]<br>0 : No Stapling 1 : Stapling OK | |

| | | |
|---|---|---|
| 5985 | Device Setting | CTL |
| | The NIC and USB support features are built into the CTL controller. Use this SP to enable and disable these features. In order to use the NIC and USB functions built into the controller board, these SP's must be set to "1".<br>[0 to 2/0/1]<br>0: Disable 1: Enable 2: Enable for @Remote | |

| | | |
|---|---|---|
| 001 | On Board NIC | |
| 002 | On Board USB | |

| | |
|---|---|
| 5987 | Mech. Counter |
| | This SP switches the mechanical counter on and off.<br>0: OFF / 1: ON |

| 5990 | SP Print Mode (SMC Printout) | CTL |
|---|---|---|
| 1 | All (Data List) | Prints all of the system parameter lists for the item selected.<br>Input the number for the item that you want to print, and then press [1]: “Execute” on the touch panel. |
| 2 | SP (Mode Data List) | |
| 3 | User Program | |
| 4 | Logging Data | |
| 5 | Diagnostic Report | |
| 6 | Non-Default | |
| 7 | NIB Summary | |
| 8 | Capture Log | |
| 21 | Copier User Program | |
| 22 | Scanner SP | |
| 23 | Scanner User Program | |
| 24 | SDK/J Summary | |
| 25 | SDK/J Application Info. | |

# 2.6 GROUP 6000

| | | |
|---|---|---|
| 6006 | ADF Reg Adj | D0704/D075 |
| 1 | ADF Main Reg Adj:Front | [-3 to 3/0/0.1 mm] |
| | Adjusts the side-to-side registration for the front in ADF mode. | |
| 2 | ADF Main Reg Adj:Rear | [-4 to 4/0/0.1 mm] |
| | Adjusts the side-to-side registration for the back in ADF mode. | |
| 3 | ADF Sub Reg Adj | [-29 to 29/0/1 step] |
| | Adjusts the vertical registration for the front in ADF mode. | |
| 5 | ADF Buckle Adj: Front | [-16 to 23/0/1 step] |
| | Adjusts the roller timing at the skew correction sensor/entrance roller. A higher setting causes more buckling. | |
| 6 | ADF Buckle Adj: Rear | [-20 to 20/0/1 step] |
| | These settings adjust the erase margin for the trailing edges for the rear. | |
| 7 | Rear Edge Rail Width (0.5mm/step) | [-20 to 20/-3/1 step] |
| | This SP is used to eliminate shadows that may appear at the trailing edge of copies. | |

| 6007 | ADF Input Check | D0704/D075 |
|---|---|---|
| 1 | ADF Group 1 | [0 to 0xFF/0] |
| 2 | ADF Group 2 | |
| 3 | ADF Group 3 | |

Open SP mode SP6007.

1. Select the SP number that corresponds to the component you wish to check. (Refer to the table below.)
2. Press On then press Off to test the selected item. You cannot exit and close this display until you click Off to switch off the output check currently executing.

| | Description | Reading | |
|---|---|---|---|
| | | 0 | 1 |
| 1 | Original Tray B5 Detect Sensor | No paper | Paper detected |
| 2 | Original Tray A4 Detect Sensor | No paper | Paper detected |
| 3 | Original Tray LG Detect Sensor | No paper | Paper detected |
| 4 | Original Width Sensor 1 | No paper | Paper detected |
| 5 | Original Width Sensor 2 | No paper | Paper detected |
| 6 | Original Width Sensor 3 | No paper | Paper detected |
| 7 | Original Width Sensor 4 | No paper | Paper detected |
| 8 | Original Width Sensor 5 | No paper | Paper detected |
| 9 | Original Set Sensor | No paper | Paper detected |
| 10 | Separation Sensor | No paper | Paper detected |
| 11 | Skew Correction Sensor | No paper | Paper detected |
| 12 | Entrance Sensor | No paper | Paper detected |
| 13 | Registration Sensor | No paper | Paper detected |

| | | | |
|---|---|---|---|
| 14 | Exit Sensor | No paper | Paper detected |
| 15 | Cover Sensor | Open | Close |
| 16 | ADF Position Sensor | Open | Close |
| 18 | Pick-up Roller HP Sensor | Not HP | HP |
| 20 | APS Start Sensor | Not Start | Start |
| 21 | Bottom Plate HP Sensor | Not HP | HP |
| 22 | Bottom Plate Position Sensor | Incorrect Position | Correct Position |

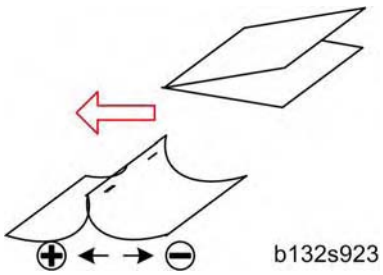
| 6008 | Output Check | D0704/D075 |
|---|---|---|
| | Turns on the selected ARDF motor (forward or reverse) or solenoid. You will hear a motor running, or you will a solenoid click. This confirms that the motor or solenoid is operating correctly. | |
| 1 | ADF Feed Motor (Fwd) | [0 to 1/0/1] |
| 2 | ADF Feed Motor (Rev) | |
| 3 | ADF Transport Motor (Fwd) | |
| 4 | ADF Exit Motor (Fwd) | |
| 5 | ADF Upper Inverter Motor (Fwd) | |
| 6 | ADF Upper Inverter Motor (Rev) | |
| 7 | ADF Lower Inverter Motor (Fwd) | |
| 8 | ADF Lower Inverter Motor (Rev) | |
| 9 | ADF Pick-up Motor (Fwd) | |
| 10 | ADF Bottom Plate Lift Motor (Fwd) | |
| 11 | ADF Upper Inverter SOL | |
| 12 | ADF Lower Inverter SOL | |

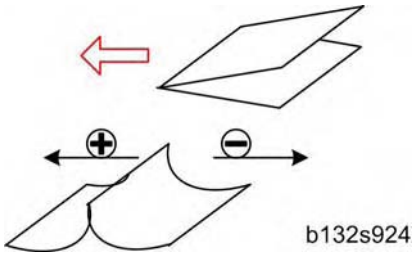
| 6009 | ADF Free Run | D0704/D075 |
|---|---|---|
| | This SP does an ADF free run in duplex original mode. | |
| 1 | Simplex | [0 to 1/0/1] |
| 2 | Duplex | |

| 6016 | ADF Priority Org Size Setting | D0704/D075 |
|---|---|---|
| | ADF Original Size Detection Priority. Allows selection of alternate settings for automatic original size detection. | |
| | [0 to 255/0/1] | |

| 6017 | ADF Adjust | D0704/D075 |
|---|---|---|
| | Adjusts magnification for the ARDF by changing scanning speed. | |
| | [-1 to 1/0/0.1%] | |

| 6020 | ADF Adjust | D0704/D075 |
|---|---|---|
| | If the original is small (B6, A5, HLT), the delay sensor detects the leading edge of the sheet and delays the original at the entrance roller for the prescribed number of pulses to buckle the leading edge and correct skew.<br>[0 to 1/1]<br>0: Delay skew correction only for small originals<br>1: Delay skew correction for all originals, regardless of size. (May reduce the scanning speed of the ADF) | |
| | [0 to 1/0/1] 0:Buckle Correction OFF 1:Buckle Correction ON | |

| | | |
|---|---|---|
| 6200 | Adjust Booklet Staple Position | |
| | This SP corrects the stapling position of the booklet stapler when paper is staple and folded by the Booklet Finisher (D513).. | |
| 1 | A3 SEF | [-2 to 2/0/0.2 mm] |
| 2 | B4 SEF |  |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 11 | Other | |

| | | |
|---|---|---|
| 6201 | Adjust Booklet Fold Position | |
| | This SP corrects the folding position when paper is stapled and folded by the Booklet Finisher (D513) | |
| 1 | A3 SEF | [-2 to 2/0/0.2 mm]<br>+ : Shifts staple position toward crease<br>- : Shifts staple position away from crease. |
| 2 | B4 SEF |  <br> |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 11 | Other | |

| | | |
|---|---|---|
| 6202 | Fine Adj Booklet Jogger Fence Position | |
| | This SP adjusts the distance between the jogger fences and the sides of the stack on the finisher stapling tray in the Booklet Finisher. The adjustment is done perpendicular to the direction of paper feed. | |
| 1 | A3 SEF | [-0.5 to 0.5/0/0.1 mm]<br>+ : Shifts staple position toward crease<br>- : Shifts staple position away from crease. |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 11 | Other | |

| | |
|---|---|
| 6203 | Set Number of Folds for Book |
| | This SP sets the number of times the folding rollers are driven forward and reverse to sharpen the crease of a folded booklet before it exits the folding unit.<br>When set at the default (0):<br>▪ The folding blade pushes the center of the stack into the nip of the folding roller.<br>▪ The folding rollers rotated ccw to crease the booklet, reverse cw, then rotate ccw again crease the booklet fold twice before feeding to the folding unit exit rollers. |
| | [-1 to 9/0/ step] |

| 6205 | Booklet Stapler Jog Pawl Adjust | |
|---|---|---|
| 1 | A3 SEF | [-3 to 3/0/0.2 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 11 | Other | |

| 6208 | Staple Position Adjustment | |
|---|---|---|
| 1 | A3 SEF | [-1 to 1/0/0.5 mm]<br>+ : Shifts staple position toward crease<br>- : Shifts staple position away from crease. |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 10 | LT LEF | |

| | | |
|---|---|---|
| 11 | 8-Kai SEF | |
| 12 | 16-Kai SEF | |
| 13 | 16-Kai LEF | |
| 14 | Other | |



| | | |
|---|---|---|
| 6209 | Punch Position Adjustment : Sub Scan | |
| | Adjusts the punch hole positions in the direction of paper feed. | |
| 1 | 2-Hole EU/JPN | [-3.5 to 3.5/0/0.5 mm] |
| 2 | 3-Hole NA | |
| 3 | 4-Hole EU | |
| 4 | 4-Hole Scandinavia | |
| 5 | 2-Hole Scandinavia | |

| | | |
|---|---|---|
| 6210 | Punch Position Adjustment : Main Scan | |
| | This SP adjusts the punch position (front-to-back) in the main scan direction. | |
| 1 | 2-Hole EU/JPN | [-3 to 3/0/0.5 mm] |
| 2 | 3-Hole NA | |
| 3 | 4-Hole EU | |
| 4 | 4-Hole Scandinavia | |
| 5 | 2-Hole NA | |

| 6211 | End Bind Jogger Adjustment | |
|---|---|---|
| 1 | A3 SEF | [-1 to 1/0/0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 10 | LT LEF | |
| 11 | 8-Kai SEF | |
| 12 | 16-Kai SEF | |
| 13 | 16-Kai LEF | |
| 14 | Other | |

| 6212 | Adjust Output Jog Position | |
|---|---|---|
| | This SP corrects the distance between the output jogger fences and the sides of the stack when the output jogger unit attached to the side of the machine jogs sheets as they exit the finisher. | |
| 1 | A3 SEF | [0 to 2/2/0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | [0 to 5/5/0.1 mm] |
| 4 | A4 LEF | |
| 5 | A5 SEF | |

| | | |
|---|---|---|
| 6 | A5 LEF | |
| 7 | B5 SEF | [0 to 2/2/0.1 mm] |
| 8 | B5 LEF | |
| 9 | DLT SEF | [0 to 5/5/0.1 mm] |
| 10 | LG SEF | |
| 11 | LT SEF | [0 to 2/2/0.1 mm] |
| 12 | LT LEF | [0 to 5/5/0.1 mm] |
| 13 | HLT SEF | |
| 14 | HLT LEF | |

| | | |
|---|---|---|
| 6213 | Pre Stack Adjustment | |
| | This SP sets the number of sheets sent to the pre-stack tray. With this SP set to the default:Normally with standard paper sizes 5 sheets are sent to the pre-stack tray. When the 6th sheet feeds, the 6th sheet and 5 sheets from the pre-stack tray are sent to the stapling tray together.<br>**Note**:<br>▪ You may need to adjust this setting or switch it off when feeding thick or slick paper.<br>▪ In the settings below "mai" means "sheets". | |
| 1 | A3 SEF | [0 to 2/2/1 mai] |
| 2 | B4 SEF | |
| 3 | A4 SEF | [0 to 5/5/1 mai] |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT SEF | [0 to 2/2/1 mai] |
| 8 | LG SEF | |

| | | |
|---|---|---|
| 9 | LT SEF | [0 to 5/5/1 mai] |
| 10 | LT LEF | |
| 11 | 8-Kai SEF | [0 to 2/2/1 mai] |
| 12 | 16-Kai SEF | [0 to 5/5/1 mai] |
| 13 | 16-Kai LEF | |
| 14 | Other | |

| 6214 | Adj Leading Edge Stopper Press | |
|---|---|---|
| 1 | A3 SEF | [-2.5 to 2.5/0/0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT SEF | |
| 8 | LG SEF | |
| 9 | LT SEF | |
| 10 | LT LEF | |
| 11 | 8-Kai SEF | |
| 12 | 16-Kai SEF | |
| 13 | 16-Kai LEF | |
| 15 | Other | |

| | |
|---|---|
| 6215 | Staple Jogging Repeat Setting |
| | Touch [1:+1 Time] to have the jogger fences press against the sides of the stack on the staple tray one more time to align the stack for corner stapling.<br>[0:Default] [1:+1 Time] |

| | |
|---|---|
| 6216 | Staple Tray Jog Off/On |
| | [0 to 6/0/1]<br>0:Yes, 1:No, 2:-10, 3:-5, 4:+5, 5:+10 |

| | |
|---|---|
| 6218 | Finisher Input Check |
| | [0 to 1/0/1] |
| 1 | Finisher Entrance Sensor |
| 2 | Pre-stack Paper Sensor |
| 3 | Pre-stack Roller HP Sensor |
| 4 | Proof Tray JG HP Sensor |
| 5 | Stack JG HP Sensor |
| 6 | Proof Tray Exit Sensor |
| 7 | Proof Tray Full Sensor |
| 8 | Punch Vertical Registration Sn |
| 9 | Punch Side-to-Side Regist Sn |
| 10 | Punch Blade HP Sensor |
| 11 | Punch Unit HP Sensor |
| 12 | Punch Switch |
| 13 | Punch Hopper Full Sensor |
| 14 | Punch Set Sensor |

| | |
|---|---|
| 15 | Stack Plate HP Sensor: Front |
| 16 | Stack Plate HP Sensor: Center |
| 17 | Stack Plate HP Sensor: Rear |
| 18 | Corner Stapler HP Sensor |
| 19 | Stapler Rotation HP Sn: Front |
| 20 | Stapler Rotation HP Sn: Rear |
| 21 | Bottom Fence HP Sensor |
| 22 | Jogger Fence HP Sensor: Front |
| 23 | Jogger Fence HP Sensor: Rear |
| 24 | Positioning Roller HP Sensor |
| 25 | Top Fence HP Sensor |
| 26 | Stack Feed-out Belt HP Sensor |
| 27 | Stapling Tray Paper Sensor |
| 28 | Corner Stapler HP Sensor |
| 29 | Staple End Sensor |
| 30 | Self-Limit Sensor |
| 31 | Stpl Trimmings Hopper Set Sn |
| 32 | Stpl Trimmings Hopper Full Sn |
| 33 | Stapling Tray Entrance Sensor |
| 34 | Stack Transport Unit HP Sensor |
| 35 | Stack JG HP Sensor |
| 36 | Bklet Top Fence HP Sensor |
| 37 | Bklet Stplr Clamp Roller HP Sn |
| 38 | Fold Plate Cam HP Sensor |

| | |
|---|---|
| 39 | Fold Plate HP Sensor |
| 40 | Bklet Side Fence HP Sn: Front |
| 41 | Bklet Side Fence HP Sn: Rear |
| 42 | Bklet Stplr Bottom Fence HP Sn |
| 43 | Fold Unit Entrance Sensor |
| 44 | Bklet Stapler Exit Sensor |
| 45 | Bklet Stapler HP Sensor |
| 46 | Bklet Stplr Stpl End Sn: Front |
| 47 | Bklet Stplr Stpl End Sn: Rear |
| 48 | Bklet Tray Full Sensor Upper |
| 49 | Bklet Tray Full Sensor Lower |
| 50 | Shift Tray Exit Sensor: Long |
| 51 | Shift Tray Exit Sensor: Short |
| 52 | Exit Guide HP Sensor |
| 53 | Drag Roller HP Sensor |
| 54 | Shift Tray Upper Limit Switch |
| 55 | Shift Tray HP Sensor: Front |
| 56 | Shift Tray HP Sensor: Rear |
| 57 | Paper Height Sensor: Staple |
| 58 | Paper Height Sensor: Shift |
| 59 | Paper Height Sensor: Z-Fold |
| 60 | Paper Height Sensor: TE |
| 61 | Shift Tray Full Sensor: 2500 |
| 62 | Shift Tray Full Sensor: 1500 |

| | |
|---|---|
| 63 | Shift Tray Full Sensor: 1000 |
| 64 | Shift Tray Full Sensor: 500 |
| 65 | Shift Tray Emergency Stop Sw |
| 66 | Shift Tray Jogger HP Sensor |
| 67 | Shift Jog Fence Retract HP Sn |
| 68 | Shift Tray Jogger HP Sensor |
| 69 | Front Door Switch |
| 70 | Punch Type 1 |
| 71 | Punch Type 2 |
| 72 | Staple Tray Set Sensor |
| 73 | Sub Board Set Sensor |
| 74 | Reserved |

| | | |
|---|---|---|
| 6219 | Finisher Output Check | |
| | [0 to 1/0/1] | |
| 1 | Entrance Motor | |
| 2 | Registration Motor | |
| 3 | Proof Tray Vertical Trans Mt | |
| 4 | Pre-stack Release Motor | |
| 5 | Pre-stack Motor | |
| 6 | Shift JG Motor | |
| 7 | Stapler JG Motor | |
| 8 | Proof Tray Exit Motor | |
| 9 | Horizontal Transport Motor | |
| 10 | Punch Movement Motor | |

| | | |
|---|---|---|
| 11 | Punch Switch Motor | |
| 12 | Punch Drive Motor | |
| 13 | Stapling Tray Entrance Motor | |
| 14 | Stack Plate Motor: Front | |
| 15 | Stack Plate Motor: Center | |
| 16 | Stack Plate Motor: Rear | |
| 17 | Punch S-to-S Regist: CIS Lamp | |
| 18 | Stapler Rotation Motor | |
| 19 | Stapler Movement Motor | |
| 20 | Bottom Fence Lift Motor | |
| 21 | Front Jogger Fence Motor | |
| 22 | Rear Jogger Fence Motor | |
| 23 | Positioning Roller Rotation Mt | |
| 24 | Positioning Roller Motor | |
| 25 | Stack Feed-out Belt Motor | |
| 26 | Top Fence Motor | |
| 27 | Shutter Solenoid | |
| 28 | Booklet Stapler Motor | |
| 29 | Stack Transport Motor | |
| 30 | Stack JG Motor | |
| 31 | Stack Transport Motor | |
| 32 | Reserved | |
| 33 | Bklet Stplr Clamp Roller Motor | |
| 34 | Bklet Stplr Bottom Fence Motor | |

| | | |
|---|---|---|
| 35 | Bklet Stplr Side Fence Motor | |
| 36 | Bklet Stplr Top Fence Motor | |
| 37 | Bklet Stplr Mt | |
| 38 | Fold Roller Motor | |
| 39 | Fold Plate Motor | |
| 40 | Shift Tray Exit Motor | |
| 41 | Shift Motor | |
| 42 | Drag Drive Motor | |
| 43 | Drag Roller Motor | |
| 44 | Exit Guide Motor | |
| 45 | Shift Tray Lift Motor | |
| 46 | Shift Tray Jogger Fence Motor | |
| 47 | Shift Tray Jog Fence Retra Mt | |

| | | |
|---|---|---|
| 6220 | Finisher Free Run 1 | |
| | Packing Mode | [0 to 1/0/1] |

| | | |
|---|---|---|
| 6221 | Punch Skew Correction | |
| | Skew Correction(0:On, 1:Off) | [0 to 1/0/1] |

| 6222 | Registration Buckle Adjustment | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.5 mm] |
| 2 | A5 SEF | |
| 3 | A5 LEF | |
| 4 | B5 LEF | |
| 5 | LT LEF | |
| 6 | HLT SEF | |
| 7 | HLT LEF | |
| 8 | Other | |

| 6223 | Exit Guide Plate Close Timing Adj |
|---|---|
| | [0 to 1/0/1] 0:Default 1:Thin Paper |

| 6224 | Exit Paper Tray Lowering Adj |
|---|---|
| | [0 to 2/0/1]<br>0: Default<br>1: Thin Paper<br>2: Thick Paper |

| 6309 | Input Check: Folder | |
|---|---|---|
| 1 | Entrance Sensor | [0 to 1/0/1] |
| 2 | Entrance JG HP Sensor | |
| 4 | Registration Sensor | |
| 5 | Dynamic Roller HP Sensor | |
| 6 | Registration Roller HP Sensor | |
| 7 | Fold Plate HP Sensor | |

| | | |
|---|---|---|
| 8 | Jogger Fence HP Sensor | |
| 10 | 1st Stopper Paper Sensor | |
| 11 | 1st Stopper HP Sensor | |
| 12 | 2nd Stopper Paper Sensor | |
| 13 | 2nd Stopper HP Sensor | |
| 14 | 3rd Stopper Paper Sensor | |
| 15 | 3rd Stopper HP Sensor | |
| 16 | Direct-Send JG HP Sensor | |
| 17 | FM6 Pawl HP Sensor | |
| 18 | Top Tray Paper Path Sensor | |
| 19 | Top Tray Exit Sensor | |
| 20 | Horizontal Path Exit Sensor | |
| 21 | Top Tray Full Sensor (E) | |
| 23 | Front Door Switch (SW1) | |
| 24 | Horizontal Path Paper Sensor | |
| 25 | Vertical Path Paper Sensor | |
| 26 | Bypass Entrance Paper Sensor | |
| 27 | Bypass Exit Paper Sensor | |

| 6310 | Output Check: Folder | |
|---|---|---|
| 1 | Horizontal Transport Motor | [0 to 1/0/1] |
| 2 | Top Tray Transport Motor | |
| 3 | Top Tray Exit Motor | |
| 4 | Dynamic Roller Transport Motor | |
| 5 | Registration Roller Transport Motor | |

| | | |
|---|---|---|
| 7 | Entrance JG Motor | |
| 8 | 1st Stopper Motor | |
| 9 | 2nd Stopper Motor | |
| 10 | 3rd Stopper Motor | |
| 11 | Dynamic Roller Lift Motor | |
| 12 | Registration Roller Release Motor | |
| 13 | Fold Plate Motor | |
| 14 | Jogger Fence Motor | |
| 16 | Direct-Send JG Motor | |
| 17 | FM6 Pawl Motor | |
| 18 | 1st Fold Motor | |
| 19 | 2nd Fold Motor | |
| 20 | Crease Motor | |
| 21 | Bypass JG Solenoid | |
| 22 | Exit JG Solenoid | |
| 23 | Top Tray JG Solenoid | |
| 24 | LE Stop Pawl Solenoid | |
| 25 | Reverse JG Solenoid | |
| 26 | Horizontal Exit Motor | |

| 6311 | Folder Free Run (D521) |
|---|---|
| 1 | Free Run 1 |
| | System free run. A4 LEF at 90 ppm, with simulated staple mode. |
| 2 | Free Run 2 |
| | Free run for durability testing. All motors and solenoids operate to simulate full staple mode run for durability testing. |
| 3 | Free Run 3 |
| | Shipping free run. Simulates standby conditions during shipping. |
| 4 | Free Run 4 |
| | Shift free run. A4 LEF at 90 ppm with simulated output jogging with the shift jogger unit mounted on the side of the finisher. |

| 6324 | Jogger Fence Position Adjust (D521) | |
|---|---|---|
| 1 | A3 SEF | [-2 to 2/0/0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | DLT SEF | |
| 5 | LG SEF | |
| 6 | LT SEF | |
| 7 | 12x18 | |
| 8 | 8-Kai | |
| 9 | B5T | |
| 19 | Other | |

| 6325 | Registration Buckle Adjust (D521) | |
|---|---|---|
| 1 | A3 SEF | [-4 to 2/0/1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | DLT SEF | |
| 5 | LG SEF | |
| 6 | LT SEF | |
| 7 | 12x18 | |
| 8 | 8-Kai | |
| 9 | B5T | |
| 19 | Other | |

| 6326 | Registration Buckle Adjust Select (D521) |
|---|---|
| | [0 to 1/0/1]<br>0: Buckle Control ON<br>1: Buckle Control OFF |

| 6400 | Cvr Inserter Input Check | |
|---|---|---|
| 1 | 1st Paper Feed Sensor | [0 to 1/0/1] |
| 2 | 2nd Paper Feed Sensor | |
| 3 | 1st Transport Roller | |
| 4 | 2nd Transport Roller | |
| 5 | 1st Vertical Transport Sensor | |
| 6 | 2nd Vertical Transport Sensor | |
| 7 | Output Sensor | |
| 8 | Entrance Sensor | |
| 9 | Exit Sensor | |
| 10 | 1st Pick-up Roller HP Sensor | |
| 11 | 2nd Pick-up Roller HP Sensor | |
| 12 | 1st Upper Limit Sensor | |
| 13 | 2nd Upper Limit Sensor | |
| 14 | 1st Lower Limit Sensor | |
| 15 | 2nd Lower Limit Sensor | |
| 16 | 1st Paper Near End Sensor | |
| 17 | 2nd Paper Near End Sensor | |
| 18 | 1st Paper End Sensor | |
| 19 | 2nd Paper End Sensor | |
| 20 | 1st Paper Length Sensor | |
| 21 | 2nd Paper Length Sensor | |
| 22 | 1st Paper Width Sensor 1 | |
| 23 | 1st Paper Width Sensor 2 | |

| | | |
|---|---|---|
| 24 | 1st Paper Width Sensor 3 | |
| 25 | 1st Paper Width Sensor 4 | |
| 26 | 1st Paper Width Sensor 5 | |
| 27 | 2nd Paper Width Sensor 1 | |
| 28 | 2nd Paper Width Sensor 2 | |
| 29 | 2nd Paper Width Sensor 3 | |
| 30 | 2nd Paper Width Sensor 4 | |
| 31 | 2nd Paper Width Sensor 5 | |
| 32 | 1st Feed Cover Sensor | |
| 33 | 2nd Feed Cover Sensor | |
| 34 | Cover Vertical Transport Switch | |
| 35 | Front Door Open Switch | |

| 6401 | Cvr Inserter Output Check | |
|---|---|---|
| 1 | OFF (Stop) | [0 to 1/0/1] |
| 2 | 1st Pick-up Motor | |
| 3 | 2nd Pick-up Motor | |
| 4 | 1st Paper Feed Motor | |
| 5 | 2nd Paper Feed Motor | |
| 6 | 1st Transport Motor | |
| 7 | 2nd Transport Motor | |
| 8 | Vertical Transport Motor | |
| 9 | Horizontal Transport Motor | |

| 6500 | Punch Adjustment | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.1 mm] |
| 2 | LT LEF | |

| 6501 | Paddle Pos Adjustment (D519) |
|---|---|
| | [-3 to 3/0/0.1 mm] |

| 6502 | Adj Binding Position 1 (D519) | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.1 mm] |
| 2 | LT LEF | |

| 6503 | Adj Binding Position 2 (D519) | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.1 mm] |
| 2 | LT LEF | |

| 6504 | Adj Jog: Punching (D519) | |
|---|---|---|
| 1 | A4 LEF | [-4 to 4/0/0.1 mm] |
| 2 | LT LEF | |

| 6505 | Adj Jog: Paddle (D519) |
|---|---|
| | [-3 to 3/0/0.1 mm] |

| 6506 | Adj Jog: Binding 1 (D519) | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.1mm] |
| 2 | LT LEF | |

| 6507 | Adj Jog: Binding 2 (D519) | |
|---|---|---|
| 1 | A4 LEF | [-2 to 2/0/0.1mm] |
| 2 | LT LEF | |

| 6508 | Input Check: Ring Binder (D519) | |
|---|---|---|
| 1 | Entrance Sensor | [0 to 1/0/1] |
| 2 | Transport Sensor | |
| 3 | Exit Sensor | |
| 4 | Punch Process Reference Sensor | |
| 5 | Binder Delivery Base Sensor | |
| 6 | Path JG HP Sensor | |
| 7 | Paper Jog HP Sensor | |
| 8 | Jog Roller Lift HP Sensor | |
| 9 | Punch HP Sensor | |
| 10 | Punch Encoder Sensor | |
| 11 | Unit Detect Sensor | |
| 12 | Punch Size A4/LT Sensor | |
| 13 | Punch Type Sensor | |
| 14 | Full Sensor | |
| 15 | Punchout Box Sensor | |

| | | |
|---|---|---|
| 16 | Output Belt 1 HP Sensor | |
| 17 | Output Belt 2 HP Sensor | |
| 18 | Output Belt Rotation HP Sensor | |
| 19 | Output Unit Entrance Sensor | |
| 20 | Booklet Pass Sensor | |
| 21 | Stack HP Sensor | |
| 22 | Stack Height Sensor 1 | |
| 24 | Stacker Paper Detect Sensor | |
| 25 | Tray Detect Sensor | |
| 26 | Obstacle Detect Sensor | |
| 27 | Book Position Sensor | |
| 28 | Binder Unit Sensor | |
| 29 | Width Align HP Sensor 1 | |
| 30 | Paddle Roller HP Sensor | |
| 31 | Clamp HP Sensor | |
| 32 | Alignment Pin HP Sensor | |
| 33 | Shutter HP Sensor | |
| 34 | 50-Sheet Detect Sensor | |
| 35 | Paper Thickness Sensor | |
| 37 | Paper LE Detect Sensor | |
| 38 | Alignment Pin Top Edge Sensor | |
| 39 | Width Align HP Sensor 2 | |
| 40 | De-curler Motor HP Sensor | |
| 41 | Shutter Motor HP Sensor | |

| | | |
|---|---|---|
| 42 | Roller Lift Motor HP Sensor | |
| 43 | Binder HP Sensor | |
| 44 | Bind Timing Sensor | |
| 45 | Ring Replace HP Sensor | |
| 46 | Ring Replace Timing Sensor | |
| 47 | Ring Supply Detect Sensor | |
| 48 | Cartridge Reversed Sensor | |
| 49 | Ring Near-End Sensor | |
| 50 | Ring 50/100 Sensor | |
| 51 | Ring A4/LT Sensor | |

| 6509 | Output Check: Ring Binder (D519) | |
|---|---|---|
| 1 | Entrance Motor | [0 to 1/0/1] |
| 2 | Transport Motor | |
| 3 | Exit Motor | |
| 4 | Path JG Motor | |
| 5 | Jog Roller Motor | |
| 6 | Side Jogger Motor | |
| 7 | After-Punch Output Motor | |
| 8 | Jog Roller Lift Motor | |
| 9 | Hole Clear Motor | |
| 10 | Top Fence SOL | |
| 11 | Output Belt 1 Motor | |
| 12 | Output Belt 2 Motor | |
| 13 | Output Belt Rotation Motor | |

| | | |
|---|---|---|
| 14 | Output Tray Lift Motor | |
| 15 | De-curler Motor | |
| 16 | Shutter Motor | |
| 17 | Paddle Roller Motor | |
| 18 | Alignment Pin Motor | |
| 19 | Paddle Roller Lift Motor | |
| 20 | Width Align Motor 1 | |
| 21 | Clamp Motor | |
| 22 | Width Align Motor 2 | |
| 23 | Roller Motor | |
| 24 | Roller Lift Motor | |
| 25 | Main Lift Motor | |
| 26 | 50/100 Adjustment Motor | |

| 6600 | Stacker Input Check (D515) | |
|---|---|---|
| 1 | Entrance Sensor | [0 to 1/0/1] |
| 2 | Shift Tray Exit Sensor | |
| 3 | Proof Tray Exit Sensor | |
| 4 | Exit Sensor | |
| 5 | Transport Sensor | |
| 6 | Proof Tray Full Sensor | |
| 7 | Shift Tray JG HP Sensor | |
| 8 | Proof Tray JG HP Sensor | |
| 9 | Shift Roller HP Sensor | |
| 11 | Front Jogger Fence HP Sensor | |

| | | |
|---|---|---|
| 12 | Rear Jogger Fence HP Sensor | |
| 13 | Jog Fence Retraction HP Sensor | |
| 14 | LE Stopper HP Sensor | |
| 15 | Paper Height Sensor | |
| 16 | Shift Tray Paper Sensor | |
| 17 | Tray Full Sensor 1: 25% | |
| 18 | Tray Full Sensor 2: 50% | |
| 19 | Tray Full Sensor 3: 75% | |
| 20 | Tray Full Sensor 4: 100% | |
| 21 | Tray Low Limit Sensor | |
| 22 | Roll Away Cart Set SW | |
| 23 | Tray Guard Sensor 1 | |
| 24 | Tray Guard Sensor 2 | |
| 25 | Sub Jogger HP Sensor | |
| 26 | Down Button | |
| 27 | Jam Button | |
| 28 | Top Door SW | |
| 29 | Front Door SW | |

| 6601 | Stacker Output Check (D515) | |
|---|---|---|
| 1 | Stop | [0 to 1/0/1] |
| 2 | Entrance Motor | |
| 3 | Proof Tray Exit Motor | |
| 4 | Shift Exit Motor | |
| 5 | Transport Motor | |

| | | |
|---|---|---|
| 6 | Shift JG Motor | |
| 7 | Proof Tray JG Motor | |
| 8 | Shift Motor | |
| 9 | Front Jogger Fence Motor | |
| 10 | Rear Jogger Fence Motor | |
| 11 | Jogger Fence Retraction Motor | |
| 13 | LE Stopper Motor | |
| 14 | Sub Jogger Motor | |
| 15 | Tray Lift Motor | |
| 16 | Front Door Lock SOL | |
| 17 | Fan Motor | |
| 18 | Tray Full LED | |
| 19 | Jog In Progress LED | |
| 20 | Tray Lift LED | |
| 21 | Error LED | |

| 6602 | Jog Fence Adjust: Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [-2 to 2/0/0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | A5 SEF | |
| 6 | A5 LEF | |
| 7 | B5 SEF | |
| 8 | B5 LEF | |
| 9 | DLT SEF | |
| 10 | LG SEF | |
| 11 | LT SEF | |
| 12 | LT LEF | |
| 13 | HLT SEF | |
| 14 | HLT LEF | |
| 15 | Other | |

| 6603 | LE Stopper Adjust: Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [-2 to 2/0/0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | A5 SEF | |
| 6 | A5 LEF | |
| 7 | B5 SEF | |
| 8 | B5 LEF | |
| 9 | DLT SEF | |
| 10 | LG SEF | |
| 11 | LT SEF | |
| 12 | LT LEF | |
| 13 | HLT SEF | |
| 14 | HLT LEF | |
| 15 | Other | |

| 6604 | SubJog Fence Adjust: Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [-2 to 2/0/0.1 mm] |
| 2 | B4 SEF | |
| 9 | DLT SEF | |
| 10 | LG SEF | |
| 15 | Other | |

| | |
|---|---|
| 6612 | Stacker Fan Setting |
| | [0 to 1/0/1]  0:ON  1:OFF |

| | | |
|---|---|---|
| 6650 | SHINJIKO Input Check | Trimmer Unit TR5040 (D520) |
| 1 | Entrance Sensor | [0 to 1/0/1] |
| 2 | Stopper Sensor | |
| 3 | Exit Sensor | |
| 4 | Booklet Sensor 1 | |
| 5 | Booklet Sensor 2 | |
| 6 | Booklet Sensor 3 | |
| 7 | Trimming Blade HP Sensor | |
| 8 | Cut Posion HP Sensor | |
| 9 | Press Roller HP Sensor | |
| 10 | Press Stopper HP Sensor | |
| 11 | Scrap Hopper Full HP Sensor | |
| 12 | Scrap Hopper HP Sensor | |
| 13 | Door Switch | |

| 6651 | SHINJIKO Output Check | Trimmer Unit TR5040 (D520) |
|---|---|---|
| 1 | Entrance Motor | [0 to 1/0/1] |
| 2 | Exit Motor | |
| 3 | Press Roller Motor | |
| 4 | Cut Position Motor | |
| 5 | Press Stopper Motor | |
| 6 | Tray Motor | |
| 7 | Trimming Blade Motor | |

| 6721 | Adjust Booklet Staple Position (D512) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.2 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | Other | |

| 6722 | Adjust Booklet Fold Position (D512) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.2 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | Other | |

| 6723 | Adjust Staple Position (D512/D513) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | LT LEF | |
| 11 | 8kai SEF | |

| | | |
|---|---|---|
| 12 | 16kai SEF | |
| 13 | 16kai LEF | |
| 14 | Other | |

| 6724 | Adj Punch Posi Sub Scan (D512/D513) | |
|---|---|---|
| 1 | 2-Hole EU/JPN | [ -4 to 4 / 0 / 0.5 mm] |
| 2 | 3-Hole NA | |
| 3 | 4-Hole EU | |
| 4 | 4-Hole Scandinavia | |
| 5 | 2-Hole NA | |

| 6725 | Adj Punch Posi Main Scan (D512/D513) | |
|---|---|---|
| 1 | 2-Hole EU/JPN | [ -2 to 2 / 0 / 0.5 mm] |
| 2 | 3-Hole NA | |
| 3 | 4-Hole EU | |
| 4 | 4-Hole Scandinavia | |
| 5 | 2-Hole NA | |

| 6726 | Fine Adj Booklet Jogger Fence Position (D512) | |
|---|---|---|
| 1 | A3 SEF | [ -0.5 to 0.5 / 0 / 0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |

| | | |
|---|---|---|
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | Other | |

| 6728 | Booklet Stapler Jog Pawl Adjust (D512) | |
|---|---|---|
| 1 | A3 SEF | [ -2 to 2 / 0 / 0.2 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | B5 SEF | |
| 5 | 12x18 | |
| 6 | 13x19 | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | Other | |

| 6729 | End Bin Jogger Adjustment (D512/D513) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | LT LEF | |
| 11 | 8kai SEF | |
| 12 | 16kai SEF | |
| 13 | 16kai LEF | |
| 14 | Other | |

| 6730 | Adjust Output Jog Position (D512/D513) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | A5 SEF | |
| 6 | A5 LEF | |
| 7 | B5 SEF | |

| | | |
|---|---|---|
| 8 | B5 LEF | |
| 9 | DLT | |
| 10 | LG | |
| 11 | LT SEF | |
| 12 | LT LEF | |
| 13 | HLT SEF | |
| 14 | HLT LEF | |
| 15 | Other | |

| 6731 | Adj Leading Edge Stopper Press (D512/D513) | |
|---|---|---|
| 1 | A3 SEF | [ -2.5 to 2.5 / 0 / 0.5 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | B5 SEF | |
| 6 | B5 LEF | |
| 7 | DLT | |
| 8 | LG | |
| 9 | LT SEF | |
| 10 | LT LEF | |
| 11 | 8kai SEF | |
| 12 | 16kai SEF | |
| 13 | 16kai LEF | |
| 14 | Other | |

| 6733 | Registration Buckle Adjustment (D512/D513) | |
|---|---|---|
| 1 | A4 LEF | [ -1 to 1 / 0 / 0.5 mm] |
| 2 | A5 SEF | |
| 3 | A5 LEF | |
| 4 | B5 LEF | |
| 5 | LT LEF | |
| 6 | HLT SEF | |
| 7 | HLT LEF | |
| 8 | Other | |

| 6740 | Jog Position Adjust Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | A5 SEF | |
| 6 | A5 LEF | |
| 7 | B5 SEF | |
| 8 | B5 LEF | |
| 9 | DLT | |
| 10 | LG | |
| 11 | LT SEF | |
| 12 | LT LEF | |
| 13 | HLT SEF | |
| 14 | HLT LEF | |

| | | |
|---|---|---|
| 15 | Other | |

| 6741 | LE Stopper Adjust Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.1 mm] |
| 2 | B4 SEF | |
| 3 | A4 SEF | |
| 4 | A4 LEF | |
| 5 | A5 SEF | |
| 6 | A5 LEF | |
| 7 | B5 SEF | |
| 8 | B5 LEF | |
| 9 | DLT | |
| 10 | LG | |
| 11 | LT SEF | |
| 12 | LT LEF | |
| 13 | HLT SEF | |
| 14 | HLT LEF | |
| 15 | Other | |

| 6742 | Sub Jog Adjust Stacker (D515) | |
|---|---|---|
| 1 | A3 SEF | [ -1 to 1 / 0 / 0.1 mm] |
| 2 | B4 SEF | |
| 9 | DLT | |
| 10 | LG | |
| 15 | Other | |

| 6746 | Stack Full Setting (D515) | |
|---|---|---|
| 1 | - | [ 0 to 3 / 0 / 1]<br>0:100%<br>1:75%<br>2:50%<br>3:25% |

| 6752 | FM2 Equal 1/2:FineAdjFld(D521) | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -4 to 4 / 0 / 0.2 mm] |
| 101 | A3 SEF | |
| 102 | B4 SEF | |
| 103 | A4 SEF | |
| 104 | DLT SEF | |
| 105 | LG SEF | |
| 106 | LT SEF | |
| 107 | 12x18 | |
| 108 | 8kai | |
| 109 | B5 SEF | |
| 110 | 13x19 | |
| 111 | Other | |

| 6753 | FM3 Equal 3rds:Fine Adj 1st (D521) | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -4 to 4 / 0 / 0.2 mm] |
| 101 | B4 SEF | |
| 102 | A4 SEF | |
| 103 | LG SEF | |
| 104 | LT SEF | |
| 107 | B5 SEF | |
| 108 | Other | |

| 6754 | FM3 Equal 3rds:Fine Adj 2nd (D521) | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -4 to 4 / 0 / 0.2 mm] |
| 101 | B4 SEF | |
| 102 | A4 SEF | |
| 103 | LG SEF | |
| 104 | LT SEF | |
| 107 | B5 SEF | |
| 108 | Other | |

| 6755 | FM4 3rds 1 Flap:Fine Adj 1st (D521) | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -4 to 4 / 0 / 0.2 mm] |
| 101 | A3 SEF | |
| 102 | B4 SEF | |
| 103 | A4 SEF | |
| 104 | DLT SEF | |
| 105 | LG SEF | |
| 106 | LT SEF | |
| 107 | 12x18 | |
| 108 | 8kai | |
| 109 | B5 SEF | |
| 110 | Other | |

| 6756 | FM4 3rds 1 Flap:Fine Adj 2nd (D521) | |
|---|---|---|
| 1 to 100 | Custom Paper 001 to 100 | [ -4 to 4 / 0 / 0.2 mm] |
| 101 | A3 SEF | |
| 102 | B4 SEF | |
| 103 | A4 SEF | |
| 104 | DLT SEF | |
| 105 | LG SEF | |
| 106 | LT SEF | |
| 107 | 12x18 | |
| 108 | 8kai | |
| 109 | B5 SEF | |

| | | |
|---|---|---|
| 110 | Other | |

| | |
|---|---|
| 6762 | Top Tray Full Set: Enable |
| | [0 to 1 /0/1] |

| | |
|---|---|
| 6763 | Top Tray Full Set: Limit Output |
| | [0 to 250/0/1] |

| | | |
|---|---|---|
| 6800 | Sheet Conversion **DFU** | CTL |
| | [1 to 3/3/1] | |
| | This SP code enables punch operation in Z-fold mode. Normally punch operation is disabled in Z-fold mode, but this feature can be enabled by the service technician. The machine calculates one sheet of paper as three sheets of plain paper by default.<br>[1 to 3 / 3 / 1]<br>1: 1 sheet<br>2: 2 sheets<br>3: 3 sheets | |

| | | |
|---|---|---|
| 6810 | Ring Binding Thick Paper **DFU** | CTL |
| | Selects the count type for binding the thick paper. The machine calculates one sheet of thick paper as three sheets of plain paper by default.<br>[1 to 3 / 3 /1 ]<br>1: 1 sheet<br>2: 2 sheets<br>3: 3 sheets | |

| | | |
|---|---|---|
| 6830 | Extra Staples **DFU** | CTL |
| | More than the standard number of corner staples can be loaded. This SP recognizes the maximum number of staples (This Setting + Standard Number).<br>▪ If the number of the maximum for staples is increased, and the mechanical warranty of the unit can be guaranteed, then the setting can take effect without changing the controller software.<br>▪ However, assurance that mechanical performance can be guaranteed is required before changing the setting to increase the staple load for more than the maximum in the feed/exit specifications. Raising this setting without quality assurance could damage the machine. | |
| 1 | 0 to 50 (Initial: 0)<br>[0 to 50 / 0 /1] | |
| 2 | 0 to 50 (Initial: 0)<br>[0 to 50 / 0 /1] | |

| | | |
|---|---|---|
| 6890 | Punch Function Enabled (Z-Fold) | CTL |
| | Permission for punching thick (tab) paper is forbidden and it is up to the service technician to pass this on to the customer.<br>[0 or 1/ 0 / -]<br>0: Simultaneous use forbidden<br>1: Simultaneous use allowed | |

| | | |
|---|---|---|
| 6900 | ADF Bottom Plate Lift Setting | D0704/D075 |
| | This SP setting determines whether the bottom plate lift motor of the of the ADF switches on when the original is set in the ADF original tray, or when the [Start] key is pressed.<br>The ADF bottom plate lift motor raises the bottom plate that pushes up the original tray and raises it to the optimum feed position.<br>[0 to 1 /0/1]<br>0: At Original Set<br>1: At Start | |

## 2.7 GROUP 7000

| | |
|---|---|
| 7001 | Engine Drive Distance Counter |
| | [0 to 99 999 999/0/1 m] |

| | | |
|---|---|---|
| 7401 | Total SC Counter | CTL |
| | Displays the total number of SCs logged. | |

| | | |
|---|---|---|
| 7403 | SC History | CTL |
| | Displays the latest 10 SC codes. | |
| 1 to 10 | Latest to Latest 9th | |

| | | |
|---|---|---|
| 7404 | SC991 History | CTL |
| | Displays the most recent occurrences of SC991. | |
| 1 to 10 | Latest to Latest 9th | |

| | | |
|---|---|---|
| 7502 | Total Paper Jam Counter | CTL |
| | Displays the total number of copy jams. | |

| | | |
|---|---|---|
| 7503 | Total Original Jam Counter | CTL |
| | Displays the total number of copy jams. | |

| 7504 | Paper Jam Total by Location | CTL |
|---|---|---|
| 1 | At Power On | |
| 3 | 1st Paper Feed Sensor: Late Error | |
| 4 | 2nd Paper Feed Sensor: Late Error | |
| 5 | 3rd Paper Feed Sensor: Late Error | |
| 6 | 4th Paper Feed Sensor: Late Error | |
| 7 | 5th Paper Feed Sensor: Late Error | |
| 8 | 6th Paper Feed Sensor: Late Error | |
| 9 | 1st Transport Sensor: Late Error | |
| 10 | 2nd Transport Sensor: Late Error | |
| 11 | 3rd Transport Sensor: Late Error | |
| 12 | 4th Transport Sensor: Late Error | |
| 13 | 5th Transport Sensor: Late Error | |
| 14 | 6th Transport Sensor: Late Error | |
| 15 | Vertical Transport Sensor: Late Error | |
| 16 | Bank Exit Sensor (Simplex): Late Error | |
| 17 | Bank Exit Sensor (Duplex): Late Error | |
| 18 | Main Relay Sensor 1: Late Error | |
| 19 | Main Relay Sensor 2: Late Error | |
| 20 | Main Relay Sensor 3: Late Error | |
| 21 | 3rd Vertical Trans Sn (Upper): Late Error | |
| 22 | 3rd Vertical Trans Sn (Lower): Late Error | |
| 23 | 4th Vertical Trans Sn: Late Error | |
| 24 | 5th Vertical Trans Sn: Late Error | |

| | |
|---|---|
| 25 | LCT Exit Sensor: Late Error |
| 26 | LCT Relay Sensor 1: Late Error |
| 27 | LCT Relay Sensor 2: Late Error |
| 28 | Registration Sensor (Main): Late Error |
| 29 | Registration Sensor (LCT): Late Error |
| 30 | Paper Late Jam |
| 31 | Transfer Timing Sensor: Late Error |
| 32 | PTB Jam Sensor: Late Error |
| 33 | Fusing Exit Sensor: Late Error |
| 34 | Feed-out Entrance Sensor: Late Error |
| 35 | Exit Junction Gate Sensor: Late Error |
| 36 | Exit Sensor: Late Error |
| 38 | Exit Relay Sensor (2nd Pass) : Late Error |
| 39 | Exit Relay Sensor (Duplex) : Late Error |
| 40 | Duplex Invert Sn (1st Pass) : Late Error |
| 41 | Duplex Invert Sensor (2nd Pass): Late Error |
| 42 | Duplex Transport Sensor 1: Late Error |
| 43 | Duplex Transport Sensor 2: Late Error |
| 44 | Duplex Transport Sensor 3: Late Error |
| 45 | Duplex Transport Sensor 6: Late Error |
| 46 | Duplex Transport Sensor 7: Late Error |
| 53 | 1st Paper Feed Sensor |
| 54 | 2nd Paper Feed Sensor |
| 55 | 4th Paper Feed Sensor |

| | |
|---|---|
| 56 | 5th Paper Feed Sensor |
| 57 | 6th Paper Feed Sensor |
| 58 | 7th Paper Feed Sensor (LCT) |
| 59 | 1st Transport Sensor: Lag Error |
| 60 | 2nd Transport Sensor: Lag Error |
| 61 | 3rd Transport Sensor: Lag Error |
| 62 | 4th Transport Sensor: Lag Error |
| 63 | 5th Transport Sensor: Lag Error |
| 64 | 6th Transport Sensor: Lag Error |
| 65 | Vertical Transport Sensor: Lag Error |
| 66 | Bank Exit Sensor: Lag Error |
| 68 | Main Relay Sensor 1: Lag Error |
| 69 | Main Relay Sensor 2: Lag Error |
| 70 | Main Relay Sensor 3: Lag Error |
| 71 | 3rd Vertical Trans Sn (Upper) : Lag Error |
| 72 | 3rd Vertical Trans Sn (Lower) : Lag Error |
| 73 | 4th Vertical Trans Sn: Lag Error |
| 74 | 5th Vertical Trans Sn: Lag Error |
| 75 | LCT Exit Sensor: Lag Error |
| 76 | LCT Relay Sensor 1: Lag Error |
| 77 | LCT Relay Sensor 2: Lag Error |
| 78 | Registration Sensor: Lag Error |
| 80 | Sub Scan Registration Correction: Lag Error |
| 81 | Transfer Timing Sensor: Lag Error |

| | |
|---|---|
| 82 | PTB Jam Sensor: Lag Error |
| 83 | Fusing Exit Sensor: Lag Error |
| 84 | Feed-out Entrance Sensor: Lag Error |
| 85 | Exit Junction Gate Sensor: Lag Error |
| 86 | Exit Sensor: Lag Error |
| 87 | Exit Relay Sensor (1st Pass) : Lag Error |
| 89 | Exit Relay Sensor (Duplex) : Lag Error |
| 90 | Duplex Invert Sn (1st Pass): Lag Error |
| 91 | Duplex Invert Sn (2nd Pass): Lag Error |
| 92 | Duplex Transport Sensor 1: Lag Error |
| 93 | Duplex Transport Sensor 2: Lag Error |
| 94 | Duplex Transport Sensor 3: Lag Error |
| 95 | Duplex Transport Sensor 6: Lag Error |
| 96 | Duplex Transport Sensor 7: Lag Error |
| 97 | Over Skew |
| 98 | Over Shift |
| 99 | Double-Feed |
| 101 | Entrance: Late Error (D512/D513) |
| 102 | Entrance: Lag Error (D512/D513) |
| 103 | Proof Tray Exit: Late Error (D512/D513) |
| 104 | Proof Tray Exit: Lag Error (D512/D513) |
| 105 | Shift Tray Exit: Late Error (D512/D513) |
| 106 | Shift Tray Exit: Lag Error (D512/D513) |
| 107 | Staple Tray Exit: Late Error (D512/D513) |

| | |
|---|---|
| 108 | Staple Tray Exit: Lag Error (D512/D513) |
| 109 | Pre-Stack: Tray Late Error (D512/D513) |
| 110 | Pre-Stack: Tray Lag Error (D512/D513) |
| 111 | Output (D512/D513) |
| 112 | Booklet Stapler: Late Error (D512/D513) |
| 113 | Booklet Stapler: Lag Error (D512/D513) |
| 114 | Booklet Stapler Exit: Late Error (D512/D513) |
| 115 | Booklet Stapler Exit: Lag Error (D512/D513) |
| 116 | Paper Path (D512/D513) |
| 117 | Shift Tray Lift Drive Train (D512/D513) |
| 118 | Jogger Fence Drive Train (D512/D513) |
| 119 | Shift Drive Train (D512/D513) |
| 120 | Stapler Drive Train (D512/D513) |
| 121 | Stack Output Drive Train (D512/D513) |
| 122 | Punch Drive Train (D512/D513) |
| 123 | Jogger System (D512/D513) |
| 124 | Pre-Stacker Drive Train (D512/D513) |
| 125 | Booklet Path (D512/D513) |
| 126 | Booklet Stapling System (D512/D513) |
| 127 | Folding System (D512/D513) |
| 128 | For Debugging: Cause Unknown) (D512/D513) |
| 129 | Main Machine Setting Incorrect (D512/D513) |
| 150 | 1st Feed Sensor: Late Error (D518) |
| 151 | 1st Feed Sensor: Lag Error (D518) |

| | |
|---|---|
| 152 | 2nd Feed Sensor: Late Error (D518) |
| 153 | 2nd Feed Sensor: Lag Error (D518) |
| 154 | 1st Transport Sensor: Late Error (D518) |
| 155 | 1st Transport Sensor: Lag Error (D518) |
| 156 | 2nd Transport Sensor: Late Error (D518) |
| 157 | 2nd Transport Sensor: Lag Error (D518) |
| 158 | 1st Ver. Transport Sn: Late Error (D518) |
| 159 | 1st Ver.Transport Sn: Lag Error (D518) |
| 160 | 2nd Ver.Transport Sn: Late Error (D518) |
| 161 | 2nd Ver.Transport Sn: Lag Error (D518) |
| 162 | Vertical Exit Sensor: Late Error (D518) |
| 163 | Vertical Exit Sensor: Lag Error (D518) |
| 164 | Entrance Sensor: Late Error (D518) |
| 165 | Entrance Sensor: Lag Error (D518) |
| 166 | Interposer Exit Sensor: Late Error (D518) |
| 167 | Interposer Exit Sensor: Lag Error (D518) |
| 168 | 1st Lift Motor Drive Train (D518) |
| 169 | 2nd Lift Motor Drive Train (D518) |
| 170 | 1st Pick-up Motor Drive Train (D518) |
| 171 | 2nd Pick-up Motor Drive Train (D518) |
| 198 | Plockmatic Jam |
| 199 | GBC Punch Unit Jam |
| 200 | Entrance Sensor: Late Error (D520) |
| 201 | Entrance Sensor: Lag Error (D520) |

| | |
|---|---|
| 202 | Skew Sensor: Late Error (D520) |
| 203 | Skew Sensor: Lag Error (D520) |
| 204 | Exit Sensor: Late Error (D520) |
| 205 | Exit Sensor: Lag Error (D520) |
| 206 | Trimming Blade Motor Lock (D520) |
| 207 | Cut Position Motor (D520) |
| 208 | Press Roller (D520) |
| 209 | Stopper/Press Roller (D520) |
| 210 | Tray Motor (D520) |
| 250 | Entrance: Late Jam (D521) |
| 251 | Entrance: Lag Jam (D521) |
| 252 | Top Tray Exit: Late Jam (D521) |
| 253 | Top Tray Exit: Lag Jam (D521) |
| 254 | Straight-Through Exit: Late Jam (D521) |
| 255 | Straight-Through Exit: Lag Jam (D521) |

| 7505 | Original Jam Total By Location | CTL |
|---|---|---|
| 1 | At Power On | |
| 3 | Separation Sn Late | |
| 4 | Skew Correction Sn: Late | |
| 5 | Interval Sn: Late | |
| 6 | Registration Sn: Lag | |
| 7 | Exit Sn: Lag | |
| 8 | Inverter Switch Sn: Lag | |
| 9 | Low Inverter Sn: Lag | |
| 53 | Separation Sn: Lag | |
| 54 | Skew Correction Sn: Lag | |
| 55 | Interval Sn: Lag | |
| 56 | Registration Sn: Late | |
| 57 | Exit Sn: Late | |
| 58 | Inverter Switch Sn: Late | |
| 59 | Low Inverter Sn: Late | |

| 7506 | Jam Count by Paper Size | CTL |
|---|---|---|
| | Displays the total number of jams by paper size. | |
| 5 | A4 LEF | |
| 6 | A5 LEF | |
| 14 | B5 LEF | |
| 38 | LT LEF | |
| 44 | HLT LEF | |
| 132 | A3 SEF | |
| 133 | A4 SEF | |
| 134 | A5 SEF | |
| 141 | B4 SEF | |
| 142 | B5 SEF | |
| 160 | DLT SEF | |
| 164 | LG SEF | |
| 166 | LT SEF | |
| 172 | HLT SEF | |
| 255 | Others | |

| 7507 | Plotter Jam History | |
|---|---|---|
| 1 | Latest | Displays the following items for the last 10 copy paper jams:<br>1) Jam code<br>2) Paper size<br>3) Total count when jam occurred<br>4) Date of jam.<br>The "jam codes" are listed in the SMC report under SP7504. |
| 2 | Latest 1 | |
| 3 | Latest 2 | |
| 4 | Latest 3 | |
| 5 | Latest 4 | |
| 6 | Latest 5 | |
| 7 | Latest 6 | |
| 8 | Latest 7 | |
| 9 | Latest 8 | |
| 10 | Latest 9 | |

| 7508 | Original Jam History | |
|---|---|---|
| 1 | Original Latest | Displays the following items for the Latest 10 original jams:<br>1) Jam code<br>2) Paper size<br>3) Total count when jam occurred<br>4) Date of jam.<br>The "jam codes" are listed in the SMC report under SP7504. |
| 2 | Latest 1 | |
| 3 | Latest 2 | |
| 4 | Latest 3 | |
| 5 | Latest 4 | |
| 6 | Latest 5 | |
| 7 | Latest 6 | |
| 8 | Latest 7 | |
| 9 | Latest 8 | |
| 10 | Latest 9 | |

| 7509 | Paper Jam Total By Location |
|---|---|
| 1 | 1st Stopper: Late Jam (D521) |
| 2 | 1st Stopper: Lag Jam (D521) |
| 3 | 2nd Stopper: Late Jam (D521) |
| 4 | 2nd Stopper: Lag Jam (D521) |
| 5 | 3rd Stopper: Late Jam (D521) |
| 6 | 3rd Stopper: Lag Jam (D521) |
| 7 | Skew Correction Jam (D521) |
| 8 | Top Tray Transport Jam(D521) |
| 9 | Entrance/Top Tray JG Motor Error (D521) |
| 10 | Entrance/Fold JG Motor Error (D521) |
| 11 | 1st Stopper Motor Error (D521) |
| 12 | 2nd Stopper Motor Error (D521) |
| 13 | 3rd Stopper Motor Error (D521) |
| 14 | Dynamic Roller Transport Motor Error (D521) |
| 15 | Registration Roller Release Motor Error (D521) |
| 16 | Fold Plate Motor Error (D521) |
| 17 | Jogger Fence Motor Jam (D521) |
| 18 | Positioning Roller Motor Jam (D521) |
| 19 | FM2 Direct Send JG Motor Jam (D521) |
| 20 | FM6 Pawl Motor (D521) |
| 21 | Main Machine Setting Incorrect for D521 |
| 45 | Entrance Sensor: Late Error (D515) |
| 46 | Entrance Sensor: Lag Error (D515) |

| | |
|---|---|
| 47 | Proof Tray Exit: Late Error (D515) |
| 48 | Proof Tray Exit: Lag Error (D515) |
| 49 | Stack Tray Exit: Late Error (D515) |
| 50 | Stack Tray Exit Sensor: Lag Error (D515) |
| 51 | Transport Sensor: Lag Error (D515) |
| 52 | Transport Sensor: Late Error (D515) |
| 53 | Exit Sensor: Late Error (D515) |
| 54 | Exit Sensor: Lag Error (D515) |
| 55 | Shift JG Motor (D515) |
| 56 | Proof Tray JG Motor (D515) |
| 57 | Shift Roller Motor (D515) |
| 58 | Main Jogger Front Motor (D515) |
| 59 | Main Jogger Rear Motor (D515) |
| 60 | Main Jogger Fence Retraction (D515) |
| 61 | Main Jogger Fence Retraction (D515) |
| 62 | Sub Jogger Motor (D515) |
| 63 | LE Stopper Motor (D515) |
| 64 | Tray Lift Motor (D515) |
| 65 | Main Machine Setting Incorrect for D515 |
| 95 | Entrance: Late Jam (D519) |
| 96 | Entrance: Lag Jam (D519) |
| 97 | Relay: Late Jam (D519) |
| 98 | Relay: Lag Jam (D519) |
| 99 | Exit: Late Error (D519) |

| | |
|---|---|
| 100 | Exit: Lag Error (D519) |
| 101 | Pre-punch Unit Jam (D519) |
| 102 | After Punch Unit Jam (D519) |
| 103 | Binder Unit TE Jam (D519) |
| 104 | Binder Unit LE Jam (D519) |
| 105 | Ring Jam: Wrong Ring Type (D519) |
| 106 | Binder Unit Jam (D519) |
| 107 | Output Belt 1 HP Jam (D519) |
| 108 | Output Belt 2 HP Jam (D519) |
| 109 | Stacker Jam (D519) |
| 110 | Punch Motor Jam (D519) |
| 111 | Shutter Motor Jam (D519) |
| 112 | Alignment Pin Motor Jam (D519) |
| 113 | Pre-Punch Jogger Jam (D519) |
| 114 | Alignment Pin Jam (D519) |
| 115 | Clamp Motor Jam (D519) |
| 116 | 50/100 Clamp Adjust Motor Jam (D519) |
| 117 | Output Belt Rotation Motor Jam (D519) |
| 118 | Main Machine Setting Incorrect for D519 |
| 145 | Relay Sensor 1: Late Error (D548) |
| 146 | Relay Sensor 1: Lag Error (D548) |
| 147 | Relay Sensor 2: Late Error (D548) |
| 148 | Relay Sensor 2: Lag Error (D548) |
| 149 | Relay Sensor 3: Late Error (D548) |

| | |
|---|---|
| 150 | Relay Sensor 3: Lag Error (D548) |
| 151 | Relay Sensor 4: Late Error (D548) |
| 152 | Relay Sensor 4: Lag Error (D548) |
| 153 | Relay Sensor 5: Late Error (D548) |
| 154 | Relay Sensor 5: Lag Error (D548) |
| 155 | Relay Sensor 6: Late Error (D548) |
| 156 | Relay Sensor 6: Lag Error (D548) |
| 157 | Relay Sensor 7: Late Error (D548) |
| 158 | Relay Sensor 7: Lag Error (D548) |
| 159 | Relay Sensor 8: Late Error (D548) |
| 160 | Relay Sensor 8: Lag Error (D548) |
| 161 | Main Machine Setting Incorrect for Fan Option |
| 245 | Finisher No Exiting Response |

| 7617 | Parts PM Counter Display | CTL |
|---|---|---|
| 1 | Normal | **Japan Only** |
| 2 | DF | **Japan Only** |

| 7618 | PM Parts Counter Reset (Japan Only) | CTL |
|---|---|---|
| 1 | Normal | |
| | Push [Execute] to clear the parts replacement alarm counter for the main machine. | |
| 2 | DF | |
| | Push [Execute] to clear the parts replacement alarm counter for the ADF. | |

| 7621 | PM Counter | |
|---|---|---|
| 7622 | Reset | |
| 7623 | Standard Value | |
| 7624 | Part Replacement Operation ON/OFF | |
| 1 | #K_Development Unit | |
| 2 | K_Developer | |
| 3 | K_Dev Filter | |
| 4 | #C_Development Unit | |
| 5 | C_Developer | |
| 6 | C_Dev Filter | |
| 7 | #M_Development Unit | |
| 8 | M_Developer | |
| 9 | M_Dev Filter | |
| 10 | #Y_Development Unit | |

| | | |
|---|---|---|
| 11 | Y_Developer | |
| 12 | Y_Dev Filter | |
| 13 | #K_Drum Cleaning Unit | |
| 14 | K_Cleaning Blade | |
| 15 | K_Lubricant Brush | |
| 16 | K_Lubricant Bar | |
| 17 | K_Lubricant Blade | |
| 18 | K_Joint | |
| 19 | K_Gears | |
| 20 | #C_Drum Cleaning Unit | |
| 21 | C_Cleaning Blade | |
| 22 | C_Lubricant Brush | |
| 23 | C_Lubricant Bar | |
| 24 | C_Lubricant Blade | |
| 25 | C_Joint | |
| 26 | C_Gears | |
| 27 | #M_Drum Cleaning Unit | |
| 28 | M_Cleaning Blade | |
| 29 | M_Lubricant Brush | |
| 30 | M_Lubricant Bar | |
| 31 | M_Lubricant Blade | |
| 32 | M_Joint | |
| 33 | M_Gears | |
| 34 | #Y_Drum Cleaning Unit | |

| | | |
|---|---|---|
| 35 | Y_Cleaning Blade | |
| 36 | Y_Lubricant Brush | |
| 37 | Y_Lubricant Bar | |
| 38 | Y_Lubricant Blade | |
| 39 | Y_Joint | |
| 40 | Y_Gears | |
| 41 | #K_Charge Unit | |
| 42 | #C_Charge Unit | |
| 43 | #M_Charge Unit | |
| 44 | #Y_Charge Unit | |
| 45 | #K_Drum Unit | |
| 46 | K_Drum | |
| 47 | #C_Drum Unit | |
| 48 | C_Drum | |
| 49 | #M_Drum Unit | |
| 50 | M_Drum | |
| 51 | #Y_Drum Unit | |
| 52 | Y_Drum | |
| 53 | #Image Transfer Unit | |
| 54 | ITB | |
| 55 | #ITB Cleaning Unit | |
| 56 | ITB Cleaning Blade | |
| 57 | ITB Brush Roller | |
| 58 | ITB Lubricant Bar | |

| | | |
|---|---|---|
| 59 | ITB Lubricant Blade | |
| 60 | #Paper Transfer Unit | |
| 61 | PTU Cleaning Blade | |
| 62 | PTU Lubricant Bar | |
| 63 | Separation PP | |
| 64 | PTR | |
| 65 | #Fusing Unit | |
| 66 | Fusing Belt | |
| 67 | Hot Roller | |
| 68 | Pressure Roller | |
| 69 | Pressure Roller Bearings | |
| 70 | #Fusing Cleaning Unit | |
| 71 | Cleaning Web | |
| 72 | Web Pressure Roller | |
| 73 | Web Roller Stopper | |
| 74 | #Main Unit Filters | |
| 75 | Dust Filter: Rear Upper Right | |
| 76 | Dust Filter: Rear Upper Left | |
| 77 | Dust Filter: Rear Lower Right | |
| 78 | Dust Filter: Rear Lower Left | |
| 79 | Dust Filter: Controller Box | |
| 80 | Ozone Filter 1 | |
| 81 | Ozone Filter 2 | |
| 82 | #ADF | |

| | | |
|---|---|---|
| 83 | ADF Transport Belt | |
| 84 | ADF Feed Belt | |
| 85 | ADF Separation Roller | |
| 86 | ADF Pick-up Roller | |
| 87 | #1st Feed Rollers | |
| 88 | 1st Pick-up Roller | |
| 89 | 1st Feed Roller | |
| 90 | 1st Separation Roller | |
| 91 | #2nd Feed Rollers | |
| 92 | 2nd Pick-up Roller | |
| 93 | 2nd Feed Roller | |
| 94 | 2nd Separation Roller | |
| 95 | #3rd Feed Rollers | |
| 96 | 3rd Pick-up Roller (D516) | |
| 97 | 3rd Feed Roller (D516) | |
| 98 | 3rd Separation Roller (D516) | |
| 99 | #4th Feed Rollers | |
| 100 | 4th Pick-up Roller (D516) | |
| 101 | 4th Feed Roller (D516) | |
| 102 | 4th Separation Roller (D516) | |
| 103 | #5th Feed Rollers | |
| 104 | 5th Pick-up Roller (D516) | |
| 105 | 5th Feed Roller (D516) | |
| 106 | 5th Separation Roller (D516) | |

| | | |
|---|---|---|
| 107 | #6th Feed Rollers | |
| 108 | Bypass Pick-up Roller | |
| 109 | Bypass Feed Roller | |
| 110 | Bypass Reverse Roller | |
| 111 | #(D518) 1st Feed Rollers | |
| 112 | 1st Pick-up Roller (D518) | |
| 113 | 1st Feed Belt (D518) | |
| 114 | 1st Reverse Roller (D518) | |
| 115 | #(D518) 2nd Feed Rollers | |
| 116 | 2nd Pick-up Roller (D518) | |
| 117 | 2nd Feed Belt (D518) | |
| 118 | 2nd Reverse Roller (D518) | |

| | | |
|---|---|---|
| 7625 | Pg Count History:Latest 1 | |
| 7626 | Pg Count History: Latest 2 | |
| 1 | #K_Development Unit | [0 to 99 999 999/0/1] |
| 2 | K_Developer | |
| 3 | K_Dev Filter | |
| 4 | #C_Development Unit | |
| 5 | C_Developer | |
| 6 | C_Dev Filter | |
| 7 | #M_Development Unit | |
| 8 | M_Developer | |
| 9 | M_Dev Filter | |
| 10 | #Y_Development Unit | |

| | | |
|---|---|---|
| 11 | Y_Developer | |
| 12 | Y_Dev Filter | |
| 13 | #K_Drum Cleaning Unit | |
| 14 | K_Cleaning Blade | |
| 15 | K_Lubricant Brush | |
| 16 | K_Lubricant Bar | |
| 17 | K_Lubricant Blade | |
| 18 | K_Joint | |
| 19 | K_Gears | |
| 20 | #C_Drum Cleaning Unit | |
| 21 | C_Cleaning Blade | |
| 22 | C_Lubricant Brush | |
| 23 | C_Lubricant Bar | |
| 24 | C_Lubricant Blade | |
| 25 | C_Joint | |
| 26 | C_Gears | |
| 27 | #M_Drum Cleaning Unit | |
| 28 | M_Cleaning Blade | |
| 29 | M_Lubricant Brush | |
| 30 | M_Lubricant Bar | |
| 31 | M_Lubricant Blade | |
| 32 | M_Joint | |
| 33 | M_Gears | |
| 34 | #Y_Drum Cleaning Unit | |

| | | |
|---|---|---|
| 35 | Y_Cleaning Blade | |
| 36 | Y_Lubricant Brush | |
| 37 | Y_Lubricant Bar | |
| 38 | Y_Lubricant Blade | |
| 39 | Y_Joint | |
| 40 | Y_Gears | |
| 41 | #K_Charge Unit | |
| 42 | #C_Charge Unit | |
| 43 | #M_Charge Unit | |
| 44 | #Y_Charge Unit | |
| 45 | #K_Drum Unit | |
| 46 | K_Drum | |
| 47 | #C_Drum Unit | |
| 48 | C_Drum | |
| 49 | #M_Drum Unit | |
| 50 | M_Drum | |
| 51 | #Y_Drum Unit | |
| 52 | Y_Drum | |
| 53 | #Image Transfer Unit | |
| 54 | ITB | |
| 55 | #ITB Cleaning Unit | |
| 56 | ITB Cleaning Blade | |
| 57 | ITB Brush Roller | |
| 58 | ITB Lubricant Bar | |

| | | |
|---|---|---|
| 59 | ITB Lubricant Blade | |
| 60 | #Paper Transfer Unit | |
| 61 | PTU Cleaning Blade | |
| 62 | PTU Lubricant Bar | |
| 63 | Separation PP | |
| 64 | PTR | |
| 65 | #Fusing Unit | |
| 66 | Fusing Belt | |
| 67 | Hot Roller | |
| 68 | Pressure Roller | |
| 69 | Pressure Roller Bearings | |
| 70 | #Fusing Cleaning Unit | |
| 71 | Cleaning Web | |
| 72 | Web Pressure Roller | |
| 73 | Web Roller Stopper | |
| 74 | #Main Unit Filters | |
| 75 | Dust Filter: Rear Upper Right | |
| 76 | Dust Filter: Rear Upper Left | |
| 77 | Dust Filter: Rear Lower Right | |
| 78 | Dust Filter: Rear Lower Left | |
| 79 | Dust Filter: Controller Box | |
| 80 | Ozone Filter 1 | |
| 81 | Ozone Filter 2 | |
| 82 | #ADF | |

| | | |
|---|---|---|
| 83 | ADF Transport Belt | |
| 84 | ADF Feed Belt | |
| 85 | ADF Separation Roller | |
| 86 | ADF Pick-up Roller | |
| 87 | #1st Feed Rollers | |
| 88 | 1st Pick-up Roller | |
| 89 | 1st Feed Roller | |
| 90 | 1st Separation Roller | |
| 91 | #2nd Feed Rollers | |
| 92 | 2nd Pick-up Roller | |
| 93 | 2nd Feed Roller | |
| 94 | 2nd Separation Roller | |
| 95 | #3rd Feed Rollers | |
| 96 | 3rd Pick-up Roller (D516) | |
| 97 | 3rd Feed Roller (D516) | |
| 98 | 3rd Separation Roller (D516) | |
| 99 | #4th Feed Rollers | |
| 100 | 4th Pick-up Roller (D516) | |
| 101 | 4th Feed Roller (D516) | |
| 102 | 4th Separation Roller (D516) | |
| 103 | #5th Feed Rollers | |
| 104 | 5th Pick-up Roller (D516) | |
| 105 | 5th Feed Roller (D516) | |
| 106 | 5th Separation Roller (D516) | |

| | | |
|---|---|---|
| 107 | #6th Feed Rollers | |
| 108 | Bypass Pick-up Roller | |
| 109 | Bypass Feed Roller | |
| 110 | Bypass Reverse Roller | |
| 111 | #(D518) 1st Feed Rollers | |
| 112 | 1st Pick-up Roller (D518) | |
| 113 | 1st Feed Belt (D518) | |
| 114 | 1st Reverse Roller (D518) | |
| 115 | #(D518) 2nd Feed Rollers | |
| 116 | 2nd Pick-up Roller (D518) | |
| 117 | 2nd Feed Belt (D518) | |
| 118 | 2nd Reverse Roller (D518) | |

| | |
|---|---|
| 7628 | Clear PM Counter |
| | Clears PM Counters. |
| 1 | Clear Exceeded Counts |
| | Do this SP to clear all PM counts that have exceeded their limits. |
| 2 | Reset All Counts |
| | Do this SP to clear all PM counts, including those that have not exceeded their limits. |

| | |
|---|---|
| 7801 | ROM No./Firmware Version |
| | Displays the serial number and the ROM version for each unit or peripheral. |

| | | |
|---|---|---|
| 7803 | PM Counter Display | CTL |
| | Displays the PM count since the last PM. | |

| | | |
|---|---|---|
| 7804 | PM Counter Reset | CTL |
| | Touch [EXECUTE] to reset the PM count. | |

| | | |
|---|---|---|
| 7807 | SC/Jam Counter Reset | CTL |
| | Touch [EXECUTE¥ to reset the SC and jam counters. | |

| | | |
|---|---|---|
| 7826 | MF Error Counter (**Japan Only**) | CTL |
| | Displays the number of counts requested of the card/key counter. | |
| 1 | Error Total | |
| | A request for the count total failed at power on. This error will occur if the device is installed but disconnected. | |
| 2 | Error Staple | |
| | The request for a staple count failed at power on. This error will occur if the device is installed but disconnected. | |

| | | |
|---|---|---|
| 7827 | MF Error Counter Clear (**Japan Only)** | CTL |
| | Press Execute to reset to 0 the values of SP7826. | |

| | | |
|---|---|---|
| 7832 | Self-Diagnostic Result Display | CTL |
| | Push [#] to display a list of error codes. Nothing is displayed if no errors have occurred. | |

| | | |
|---|---|---|
| 7835 | ACC Counter | CTL |
| | No information is available at this time. | |
| 1 | Copy ACC | |
| 2 | Printer ACC | |

| | | |
|---|---|---|
| 7836 | Total Memory Size | CTL |
| | Displays the contents of the memory on the controller board. | |

| | | |
|---|---|---|
| 7852 | ADF Exposure Glass | |
| | Displays the count for the number of times the machine has detected dust on the ARDF scanning glass at the beginning of copy jobs. This SP operates only after SP4020 1 has been turned on | |
| 1 | Dust Counter | [0 to 65 535/0/1] |
| 2 | Clear Counter | |

| | | |
|---|---|---|
| 7855 | Coverage Range **DFU** | |
| 1 | Coverage Range 1 | [1 to 200/5/1%] |
| 2 | Coverage Range 2 | [1 to 200/20/1%] |
| | **Note**:<br>▪ If Coverage Range 1 is less than Coverage Range 2, coverage is controlled by the firmware.<br>▪ If Coverage Range 1 is greater than or equal to Range 2, the value cannot be entered. | |

| | | |
|---|---|---|
| 7901 | Assert Info.**DFU** | CTL |
| 1 | File Name | Used for debugging. |
| 002 | Number of Lines | |
| 003 | Locations | |

| | | |
|---|---|---|
| 7931 | Toner Bottle Bk | |
| 7932 | Toner Bottle M | |
| 7933 | Toner Bottle C | |
| 7934 | Toner Bottle Y | |
| 1 | Machine Serial ID | [0 to 255/0/1] |
| 2 | Cartridge Ver | [0 to 255/0/1] |
| 3 | Brand ID | [0 to 255/0/1] |
| 4 | Area ID | [0 to 255/0/1] |
| 5 | Product ID | [0 to 255/0/1] |
| 6 | Color ID | [0 to 255/0/1] |
| 7 | Maintenance ID | [0 to 255/0/1] |
| 8 | New Product Information | [0 to 255/0/1] |

| | | |
|---|---|---|
| 9 | Recycle Counter | [0 to 255/0/1] |
| 10 | Date | [0 to 1/100/1] |
| 11 | SerialNo. | [0 to 1/0/1] |
| 12 | Toner Remaining | [0 to 100/0/1] |
| 13 | EDP Code | [0 to 1/0/1] |
| 14 | End History | [0 to 1/0/1] |
| 15 | Refill Information | [0 to 1/0/1] |
| 16 | Attachment: Total Counter | [0 to 99999999/0/1] |
| 17 | Attachment: Color Counter | [0 to 99999999/0/1] |
| 18 | End: Total Counter | [0 to 99999999/0/1] |
| 19 | End: Color Counter | [0 to 99999999/0/1] |
| 20 | Attachment Date | [0 to 1/0/1] |
| 21 | End Date | [0 to 1/0/1] |

| | | |
|---|---|---|
| 7935 | Toner Bottle Log 1: Bk | |
| 7936 | Toner Bottle Log 1: M | |
| 7937 | Toner Bottle Log 1: C | |
| 7938 | Toner Bottle Log 1: Y | |
| 1 | SerialNo. | [0 to 1/0/1] |
| 2 | Attachment Date | [0 to 1/0/1] |
| 3 | Attachment: Total Counter | [0 to 99999999/0/1] |
| 4 | Refill Information | [0 to 1/0/1] |
| 11 | SerialNo. | [0 to 1/0/1] |
| 12 | Attachment Date | [0 to 1/0/1] |
| 13 | Attachment: Total Counter | [0 to 99999999/0/1] |

| | | |
|---|---|---|
| 14 | Refill Information | [0 to 1/0/1] |
| 21 | SerialNo. | [0 to 1/0/1] |
| 22 | Attachment Date | [0 to 1/0/1] |
| 23 | Attachment: Total Counter | [0 to 99999999/0/1] |
| 24 | Refill Information | [0 to 1/0/1] |
| 31 | SerialNo. | [0 to 1/0/1] |
| 32 | Attachment Date | [0 to 1/0/1] |
| 33 | Attachment: Total Counter | [0 to 99999999/0/1] |
| 34 | Refill Information | [0 to 1/0/1] |
| 41 | SerialNo. | [0 to 1/0/1] |
| 42 | Attachment Date | [0 to 1/0/1] |
| 43 | Attachment: Total Counter | [0 to 99999999/0/1] |
| 44 | Refill Information | [0 to 1/0/1] |

| | | |
|---|---|---|
| 7940 | Drive Distance: End Std Value | |
| 7942 | Drive Distance % Counter | |
| 7944 | Drive Distance Counter | |
| 1 | #K_Development Unit | [0 to 99 999 999/99 999 999/1 m] |
| 2 | K_Developer | |
| 3 | K_Dev Filter | |
| 4 | #C_Development Unit | |
| 5 | C_Developer | |
| 6 | C_Dev Filter | |
| 7 | #M_Development Unit | |
| 8 | M_Developer | |

| | | |
|---|---|---|
| 9 | M_Dev Filter | |
| 10 | #Y_Development Unit | |
| 11 | Y_Developer | |
| 12 | Y_Dev Filter | |
| 13 | #K_Drum Cleaning Unit | |
| 14 | K_Cleaning Blade | |
| 15 | K_Lubricant Brush | |
| 16 | K_Lubricant Bar | |
| 17 | K_Lubricant Blade | |
| 18 | K_Joint | |
| 19 | K_Gears | |
| 20 | #C_Drum Cleaning Unit | |
| 21 | C_Cleaning Blade | |
| 22 | C_Lubricant Brush | |
| 23 | C_Lubricant Bar | |
| 24 | C_Lubricant Blade | |
| 25 | C_Joint | |
| 26 | C_Gears | |
| 27 | #M_Drum Cleaning Unit | |
| 28 | M_Cleaning Blade | |
| 29 | M_Lubricant Brush | |
| 30 | M_Lubricant Bar | |
| 31 | M_Lubricant Blade | |
| 32 | M_Joint | |

| | | |
|---|---|---|
| 33 | M_Gears | |
| 34 | #Y_Drum Cleaning Unit | |
| 35 | Y_Cleaning Blade | |
| 36 | Y_Lubricant Brush | |
| 37 | Y_Lubricant Bar | |
| 38 | Y_Lubricant Blade | |
| 39 | Y_Joint | |
| 40 | Y_Gears | |
| 41 | #K_Charge Unit | |
| 42 | #C_Charge Unit | |
| 43 | #M_Charge Unit | |
| 44 | #Y_Charge Unit | |
| 45 | #K_Drum Unit | |
| 46 | K_Drum | |
| 47 | #C_Drum Unit | |
| 48 | C_Drum | |
| 49 | #M_Drum Unit | |
| 50 | M_Drum | |
| 51 | #Y_Drum Unit | |
| 52 | Y_Drum | |
| 53 | #Image Transfer Unit | |
| 54 | ITB | |
| 55 | #ITB Cleaning Unit | |
| 56 | ITB Cleaning Blade | |

| | | |
|---|---|---|
| 57 | ITB Brush Roller | |
| 58 | ITB Lubricant Bar | |
| 59 | ITB Lubricant Blade | |
| 60 | #Paper Transfer Unit | |
| 61 | PTU Cleaning Blade | |
| 62 | PTU Lubricant Bar | |
| 63 | Separation PP | |
| 64 | PTR | |
| 65 | #Fusing Unit | |
| 66 | Fusing Belt | |
| 67 | Hot Roller | |
| 68 | Pressure Roller | |
| 69 | Pressure Roller Bearings | |
| 70 | #Fusing Cleaning Unit | |
| 71 | Cleaning Web | |
| 72 | Web Pressure Roller | |
| 73 | Web Roller Stopper | |

| | | |
|---|---|---|
| 7954 | Pg Counter(%) | |
| | This SP displays the current usage (listed as percent of usage) of the components listed below: Current Usage/Standard Usage Service Life x 100 | |
| 1 | #K_Development Unit | [0 to 255/0/1] |
| 2 | K_Developer | |
| 3 | K_Dev Filter | |

| | | |
|---|---|---|
| 4 | #C_Development Unit | |
| 5 | C_Developer | |
| 6 | C_Dev Filter | |
| 7 | #M_Development Unit | |
| 8 | M_Developer | |
| 9 | M_Dev Filter | |
| 10 | #Y_Development Unit | |
| 11 | Y_Developer | |
| 12 | Y_Dev Filter | |
| 13 | #K_Drum Cleaning Unit | |
| 14 | K_Cleaning Blade | |
| 15 | K_Lubricant Brush | |
| 16 | K_Lubricant Bar | |
| 17 | K_Lubricant Blade | |
| 18 | K_Joint | |
| 19 | K_Gears | |
| 20 | #C_Drum Cleaning Unit | |
| 21 | C_Cleaning Blade | |
| 22 | C_Lubricant Brush | |
| 23 | C_Lubricant Bar | |
| 24 | C_Lubricant Blade | |
| 25 | C_Joint | |
| 26 | C_Gears | |
| 27 | #M_Drum Cleaning Unit | |

| | | |
|---|---|---|
| 28 | M_Cleaning Blade | |
| 29 | M_Lubricant Brush | |
| 30 | M_Lubricant Bar | |
| 31 | M_Lubricant Blade | |
| 32 | M_Joint | |
| 33 | M_Gears | |
| 34 | #Y_Drum Cleaning Unit | |
| 35 | Y_Cleaning Blade | |
| 36 | Y_Lubricant Brush | |
| 37 | Y_Lubricant Bar | |
| 38 | Y_Lubricant Blade | |
| 39 | Y_Joint | |
| 40 | Y_Gears | |
| 41 | #K_Charge Unit | |
| 42 | #C_Charge Unit | |
| 43 | #M_Charge Unit | |
| 44 | #Y_Charge Unit | |
| 45 | #K_Drum Unit | |
| 46 | K_Drum | |
| 47 | #C_Drum Unit | |
| 48 | C_Drum | |
| 49 | #M_Drum Unit | |
| 50 | M_Drum | |
| 51 | #Y_Drum Unit | |

| | | |
|---|---|---|
| 52 | Y_Drum | |
| 53 | #Image Transfer Unit | |
| 54 | ITB | |
| 55 | #ITB Cleaning Unit | |
| 56 | ITB Cleaning Blade | |
| 57 | ITB Brush Roller | |
| 58 | ITB Lubricant Bar | |
| 59 | ITB Lubricant Blade | |
| 60 | #Paper Transfer Unit | |
| 61 | PTU Cleaning Blade | |
| 62 | PTU Lubricant Bar | |
| 63 | Separation PP | |
| 64 | PTR | |
| 65 | #Fusing Unit | |
| 66 | Fusing Belt | |
| 67 | Hot Roller | |
| 68 | Pressure Roller | |
| 69 | Pressure Roller Bearings | |
| 70 | #Fusing Cleaning Unit | |
| 71 | Cleaning Web | |
| 72 | Web Pressure Roller | |
| 73 | Web Roller Stopper | |
| 74 | #Main Unit Filters | |
| 75 | Dust Filter: Rear Upper Right | |

| | | |
|---|---|---|
| 76 | Dust Filter: Rear Upper Left | |
| 77 | Dust Filter: Rear Lower Right | |
| 78 | Dust Filter: Rear Lower Left | |
| 79 | Dust Filter: Controller Box | |
| 80 | Ozone Filter 1 | |
| 81 | Ozone Filter 2 | |
| 82 | #ADF | |
| 83 | ADF Transport Belt | |
| 84 | ADF Feed Belt | |
| 85 | ADF Separation Roller | |
| 86 | ADF Pick-up Roller | |
| 87 | #1st Feed Rollers | |
| 88 | 1st Pick-up Roller | |
| 89 | 1st Feed Roller | |
| 90 | 1st Separation Roller | |
| 91 | #2nd Feed Rollers | |
| 92 | 2nd Pick-up Roller | |
| 93 | 2nd Feed Roller | |
| 94 | 2nd Separation Roller | |
| 95 | #3rd Feed Rollers | |
| 96 | 3rd Pick-up Roller (D516) | |
| 97 | 3rd Feed Roller (D516) | |
| 98 | 3rd Separation Roller (D516) | |
| 99 | #4th Feed Rollers | |

| | | |
|---|---|---|
| 100 | 4th Pick-up Roller (D516) | |
| 101 | 4th Feed Roller (D516) | |
| 102 | 4th Separation Roller (D516) | |
| 103 | #5th Feed Rollers | |
| 104 | 5th Pick-up Roller (D516) | |
| 105 | 5th Feed Roller (D516) | |
| 106 | 5th Separation Roller (D516) | |
| 107 | #6th Feed Rollers | |
| 108 | Bypass Pick-up Roller | |
| 109 | Bypass Feed Roller | |
| 110 | Bypass Reverse Roller | |
| 111 | #(D518) 1st Feed Rollers | |
| 112 | 1st Pick-up Roller (D518) | |
| 113 | 1st Feed Belt (D518) | |
| 114 | 1st Reverse Roller (D518) | |
| 115 | #(D518) 2nd Feed Rollers | |
| 116 | 2nd Pick-up Roller (D518) | |
| 117 | 2nd Feed Belt (D518) | |
| 118 | 2nd Reverse Roller (D518) | |

| 7960 | Motor Drive Information | |
|---|---|---|
| 1 | K_Drum Ave. Torque | [0 to 65 535/0/1] |
| 2 | K_Drum Max. Torque | |
| 3 | K_Drum Min. Torque | |
| 4 | C_Drum Ave. Torque | |
| 5 | C_Drum Max. Torque | |
| 6 | C_Drum Min. Torque | |
| 7 | M_Drum Ave. Torque | |
| 8 | M_Drum Max. Torque | |
| 9 | M_Drum Min. Torque | |
| 10 | Y_Drum Ave. Torque | |
| 11 | Y_Drum Max. Torque | |
| 12 | Y_Drum Min. Torque | |
| 13 | ITB Drive Ave. Torque | |
| 14 | ITB Drive Max. Torque | |
| 15 | ITB Drive Min. Torque | |
| 16 | PTR Drive Ave. Torque | |
| 17 | PTR Drive Max. Torque | |
| 18 | PTR Drive Min. Torque | |
| 19 | Transfer Timing Ave. Torque | |
| 20 | Transfer Timing Max. Torque | |
| 21 | Transfer Timing Min. Torque | |
| 22 | Fusing Drive Ave. Torque | |
| 23 | Fusing Drive Max. Torque | |

| | | |
|---|---|---|
| 24 | Fusing Drive Min. Torque | |
| 25 | K_Drum Ave. Revolutions | |
| 26 | C_Drum Ave. Revolutions | |
| 27 | M_Drum Ave. Revolutions | |
| 28 | Y_Drum Ave. Revolutions | |
| 29 | ITB Mtr Ave. Revolutions | |
| 30 | PTR Mtr Ave. Revolutions | |
| 31 | ITB Timing Mtr Ave. Revolutions | |
| 32 | ITU FB Sensor: Main Ave. | |
| 33 | ITU FB Sensor: Sub Ave. | |

| | | |
|---|---|---|
| 7963 | Operation Env. Log: PCU: Bk | |
| | This SP displays the distance traveled by the K PCDU drum so the engine can acclimate operation for the ambient temperature and humidity. | |
| 1 | Temp<=5: 0<=Hum<30 | [0 to 99 999 999/0/1 m] |
| 2 | Temp<=5: 30<=Hum<55 | |
| 3 | Temp<=5: 55<=Hum<80 | |
| 4 | Temp<=5: 80<=Hum<100 | |
| 5 | 5<Temp<=15: 0<=Hum<30 | |
| 6 | 5<Temp<=15: 30<=Hum<55 | |
| 7 | 5<Temp<=15: 55<=Hum<80 | |
| 8 | 5<Temp<=15: 80<=Hum<100 | |
| 9 | 15<=Temp<25: 0<=Hum<30 | |
| 10 | 15<=Temp<25: 30<=Hum<55 | |
| 11 | 15<=Temp<25: 55<=Hum<80 | |
| 12 | 15<=Temp<25: 80<=Hum<100 | |
| 13 | 25<=Temp<30: 0<=Hum<30 | |
| 14 | 25<=Temp<30: 30<=Hum<55 | |
| 15 | 25<=Temp<30: 55<=Hum<80 | |
| 16 | 25<=Temp<30: 80<=Hum<100 | |
| 17 | 30<=Temp: 0<=Hum<30 | |
| 18 | 30<=Temp: 30<=Hum<55 | |
| 19 | 30<=Temp: 55<=Hum<80 | |
| 20 | 30<=Temp: 80<=Hum<100 | |

| | |
|---|---|
| 7964 | Operation Env. Log Clear |
| | Touch [EXECUTE¥ to clear the ambient temperature log. |

| | | |
|---|---|---|
| 7987 | Drum Motor Error Counter | |
| | Drum motor lock condition counts for the four drum motors. | |
| 1 | Drum Motor K | [0 to 3/ 0 / 1] |
| 2 | Drum Motor C | |
| 3 | Drum Motor M | |
| 4 | Drum Motor Y | |

| | |
|---|---|
| 7988 | Drum Motor Error Counter Clear |
| | Clears the motor lock condition counts for the four drum motors. |
| 1 | Drum Motor K |
| 2 | Drum Motor C |
| 3 | Drum Motor M |
| 4 | Drum Motor Y |

| | |
|---|---|
| 7989 | Trimmer Unit Counter |
| | Displays the count for the number of cuts performed by the trimmer unit cutting blade. |
| | [0 to 99 999 999/100/1 |

# 2.8 GROUP 8000

These new SP counters are provided for MFP, LP, and Wide Format machines that employ GW Architecture. These SP codes have been created in response to requests by customers, sales personnel and customer engineers, and R&D staff for a standardized set of counters that can be used to log more detailed information about machine operation.

These SP codes are absolutely essential to provide more detailed counters and job logs to match similar features that are being developed by competitors.

**Current Status of the SP8xxx Counters**

Many of these counters are provided for features that are currently not available, such as sending color faxes, and so on. However, here are some Group 8 codes that when used in combination with others, can provide useful information.

| SP Numbers | What They Do |
|---|---|
| SP8211 to SP8216 | The number of pages scanned to the document server. |
| SP8401 to SP8406 | The number of pages printed from the document server |
| SP8691 to SP8696 | The number of pages sent from the document server |

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

**Group 8 Service Table Keys**

Many of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an 'application'). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

| Prefixes | Meaning | |
|---|---|---|
| T: | Total: (Grand Total). | Grand total of items counted for all applications (C, F, P, etc.). |
| C: | Copy application. | Totals (pages, jobs, etc.) executed for each application when the job was not stored on the |
| P: | Print application. | |

| Prefixes | Meaning | |
|---|---|---|
| S: | Scan application. | document server |
| L: | Local storage (document server) | Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case. |
| O: | Other applications (external network applications, for example) | Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future. |

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs.

Important

- The C (Copy application) and S (Scan application) functions appear in the SP code displays for the D074/D075 only. They do not appear in the M044 SP code displays.

Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

| Abbreviation | What It Means |
|---|---|
| / | "By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application |
| > | More (2> "2 or more", 4> "4 or more" |
| AddBook | Address Book |
| Apl | Application |
| B/W | Black & White |

| Abbreviation | What It Means |
|---|---|
| Bk | Black |
| C | Cyan |
| ColCr | Color Create |
| ColMode | Color Mode |
| Comb | Combine |
| Comp | Compression |
| Deliv | Delivery |
| DesApl | Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example. |
| Dev Counter | Development Count, no. of pages developed. |
| Dup, Duplex | Duplex, printing on both sides |
| Emul | Emulation |
| FC | Full Color |
| FIN | Post-print processing, i.e. finishing (punching, stapling, etc.) |
| Full Bleed | No Margins |
| GenCopy | Generation Copy Mode |
| GPC | Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 =1) |
| IFax | Internet Fax |
| ImgEdt | Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc. |
| K | Black (YMCK) |
| LS | Local Storage. Refers to the document server. |

| Abbreviation | What It Means |
|---|---|
| LSize | Large (paper) Size |
| Mag | Magnification |
| MC | One color (monochrome) |
| NRS | New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan. |
| Org | Original for scanning |
| OrgJam | Original Jam |
| Palm 2 | Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats. |
| PC | Personal Computer |
| PGS | Pages. A page is the total scanned surface of the original. Duplex pages count as two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON. |
| PJob | Print Jobs |
| Ppr | Paper |
| PrtJam | Printer (plotter) Jam |
| PrtPGS | Print Pages |
| R | Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available. |
| Rez | Resolution |
| SC | Service Code (Error SC code displayed) |
| Scn | Scan |
| Sim, Simplex | Simplex, printing on 1 side. |

| Abbreviation | What It Means |
|---|---|
| S-to-Email | Scan-to-E-mail |
| SMC | SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report. |
| Svr | Server |
| TonEnd | Toner End |
| TonSave | Toner Save |
| TXJob | Send, Transmission |
| YMC | Yellow, Magenta, Cyan |
| YMCK | Yellow, Magenta, Cyan, BlacK |

**Note**: All of the Group 8 SPs are reset with SP5801 1 Memory All Clear, or the Counter Reset SP7808.

| | | |
|---|---|---|
| 8001 | T:Total Jobs | These SPs count the number of times each application is used to do a job.<br>[0 to 9999999/ 1]<br>Note: The L: counter is the total number of times the other applications are used to send a job to the document server, plus the number of times a file already on the document server is used. |
| 8002 | C:Total Jobs | |
| 8004 | P:Total Jobs | |
| 8005 | S:Total Jobs | |
| 8006 | L:Total Jobs | |

These SPs reveal the number of times an application is used, not the number of pages processed.

- When an application is opened for image input or output, this counts as one job.
- Interrupted jobs (paper jams, etc.) are counted, even though they do not finish.
- Only jobs executed by the customer are counted. Jobs executed by the customer engineer using the SP modes are not counted.
- When using secure printing (when a password is required to start the print job), the job is counted at the time when either "Delete Data" or "Specify Output" is specified.
- When a copy job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.

- When an original is both copied and stored on the document server, the C: and L: counters both increment.
- When a print job is stored on the document server, only the L: counter increments.
- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.
- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.
- When an image received from Palm 2 is received and stored, the L: counter increments.

| | | |
|---|---|---|
| 8011 | T:Jobs/LS | These SPs count the number of jobs stored to the document server by each application, to reveal how local storage is being used for input.<br>[0to9999999/ 1]<br>The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel. |
| 8012 | C:Jobs/LS | |
| 8014 | P:Jobs/LS | |
| 8015 | S:Jobs/LS | |
| 8016 | L:Jobs/LS | |
| 8017 | O:Jobs/LS | |

- When a scan job is sent to the document server, the S: counter increments. When you enter document server mode and then scan an original, the L: counter increments.
- When a print job is sent to the document server, the P: counter increments.
- When a network application sends data to the document server, the O: counter increments.
- When an image from Palm 2 is stored on the document server, the O: counter increments.

| | | |
|---|---|---|
| 8021 | T:Pjob/LS | These SPs reveal how files printed from the document server were stored on the document server originally.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel. |
| 8022 | C:Pjob/LS | |
| 8024 | P:Pjob/LS | |
| 8025 | S:Pjob/LS | |
| 8026 | L:Pjob/LS | |
| 8027 | O:Pjob/LS | |

- When a copy job stored on the document server is printed with another application, the C: counter increments.

- When an application like DeskTopBinder merges a copy job that was stored on the document server with a print job that was stored on the document server, the C: and P: counters both increment.
- When a job already on the document server is printed with another application, the L: counter increments.
- When a scanner job stored on the document server is printed with another application, the S: counter increments. If the original was scanned from within document server mode, then the L: counter increments.
- When images stored on the document server by a network application (including Palm 2), are printed with another application, the O: counter increments.
- When a copy job stored on the document server is printed with a network application (Web Image Monitor, for example), the C: counter increments.

| | | |
|---|---|---|
| 8031 | T:Pjob/DesApl | These SPs reveal what applications were used to output documents from the document server.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel. |
| 8032 | C:Pjob/DesApl | |
| 8034 | P:Pjob/DesApl | |
| 8035 | S:Pjob/DesApl | |
| 8036 | L:Pjob/DesApl | |
| 8037 | O:Pjob/DesApl | |

- When documents already stored on the document server are printed, the count for the application that started the print job is incremented.
- When the print job is started from a network application (Desk Top Binder, Web Image Monitor, etc.) the L: counter increments.

| | | |
|---|---|---|
| 8041 | T:TX Jobs/LS | These SPs count the applications that stored files on the document server that were later accessed for transmission over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax).<br>[0 to 9999999/ 1]<br>Note: Jobs merged for sending are counted separately.<br>The L: counter counts the number of jobs scanned from within the document server mode screen at the operation panel. |
| 8042 | C:TX Jobs/LS | |
| 8044 | P:TX Jobs/LS | |
| 8045 | S:TX Jobs/LS | |
| 8046 | L:TX Jobs/LS | |
| 8047 | O:TX Jobs/LS | |

- When a stored copy job is sent from the document server, the C: counter increments.
- When images stored on the document server by a network application or Palm2 are sent as an e-mail, the O: counter increments.

| | | |
|---|---|---|
| 8051 | T:TX Jobs/DesApl | These SPs count the applications used to send files from the document server over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). Jobs merged for sending are counted separately.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of jobs sent from within the document server mode screen at the operation panel. |
| 8052 | C:TX Jobs/DesApl | |
| 8054 | P:TX Jobs/DesApl | |
| 8055 | S:TX Jobs/DesApl | |
| 8056 | L:TX Jobs/DesApl | |
| 8057 | O:TX Jobs/DesApl | |

- If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

| | | |
|---|---|---|
| 8061 | T:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total the finishing methods. The finishing method is specified by the application. | |
| 8062 | C:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total finishing methods for copy jobs only. The finishing method is specified by the application. | |
| 8064 | P:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total finishing methods for print jobs only. The finishing method is specified by the application. | |
| 8065 | S:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total finishing methods for scan jobs only. The finishing method is specified by the application.<br>Note: Finishing features for scan jobs are not available at this time. | |

| | | |
|---|---|---|
| 8066 | L:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total finishing methods for jobs output from within the document server mode screen at the operation panel. The finishing method is specified from the print window within document server mode. | |
| 8067 | O:FIN Jobs | [0 to 9999999/ 1] |
| | These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application. | |
| 806x 1 | Sort | Number of jobs started in Sort mode. When a stored copy job is set for Sort and then stored on the document server, the L: counter increments. (See SP8066 1) |
| 806x 2 | Stack | Number of jobs started out of Sort mode. |
| 806x 3 | Staple | Number of jobs started in Staple mode. |
| 806x 4 | Booklet | Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments. |
| 806x 5 | Z-Fold | Number of jobs started in any mode other than the Booklet mode and set for Z-folding. (Multi Fold Unit) |
| 806x 6 | Punch | Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8064 6.) |
| 806x 7 | Other | Reserved. Not used. |
| 806x 8 | Inside Fold | Half-Fold (FM2) (Multi Fold Unit) |
| 806x 9 | Three-IN-Fold | Letter Fold-in (FM4) (Multi Fold Unit) |
| 806x 10 | Three-OUT-Fold | Letter Fold-out (FM3) (Multi Fold Unit) |
| 806x 11 | Four Fold | Double Parallel Fold (FM5) (Multi Fold Unit) |
| 806x 12 | KANNON-Fold | Gate Fold (FM6) (Multi Fold Unit D394) |

| | | |
|---|---|---|
| 806x 13 | Perfect-Bind | Perfect Binder **Not Used** |
| 806x 14 | Ring-Bind | Ring Binder |

| | | | | |
|---|---|---|---|---|
| 8071 | T:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used. | | | |
| 8072 | C:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count and calculate the number of copy jobs by size based on the number of pages in the job. | | | |
| 8074 | P:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count and calculate the number of print jobs by size based on the number of pages in the job. | | | |
| 8075 | S:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count and calculate the number of scan jobs by size based on the number of pages in the job. | | | |
| 8076 | L:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count and calculate the number of jobs printed from within the document server mode window at the operation panel, by the number of pages in the job. | | | |
| 8077 | O:Jobs/PGS | [0 to 9999999/ 1] | | |
| | These SPs count and calculate the number of "Other" application jobs (Web Image Monitor, Palm 2, etc.) by size based on the number of pages in the job. | | | |
| 807x 1 | 1 Page | | 807x 8 | 21 to 50 Pages |
| 807x 2 | 2 Pages | | 807x 9 | 51 to 100 Pages |
| 807x 3 | 3 Pages | | 807x 10 | 101 to 300 Pages |
| 807x 4 | 4 Pages | | 807x 11 | 301 to 500 Pages |
| 807x 5 | 5 Pages | | 807x 12 | 501 to 700 Pages |

| | | | |
|---|---|---|---|
| 807x 6 | 6 to 10 Pages | 807x 13 | 701 to 1000 Pages |
| 807x 7 | 11 to 20 Pages | 807x 14 | 1001 to Pages |

- For example: When a copy job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the copy job (SP 8072).
- When printing the first page of a job from within the document server screen, the page is counted.



| | | |
|---|---|---|
| 8131 | T:S-to-Email Jobs | [0 to 9999999/ 1] |
| | These SPs count the total number of jobs scanned and attached to an e-mail, regardless of whether the document server was used or not. | |
| 8135 | S:S-to-Email Jobs | |
| | These SPs count the number of jobs scanned and attached to an e-mail, without storing the original on the document server. | |
| 1 | B/W | Count for the number of jobs with black-and-white. |
| 2 | Color | Count for the number of jobs with color. |
| 3 | ACS | Count for the number of jobs using ACS mode. |

- These counters count jobs, not pages.
- If the job is stored on the document server, after the job is stored it is determined to be color or black-and-white then counted.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.

- If several jobs are combined for sending to the Scan Router, Scan-to-Email, or Scan-to-PC, or if one job is sent to more than one destination. each send is counted separately. For example, if the same document is sent by Scan-to-Email as well as Scan-to-PC, then it is counted twice (once for Scan-to-Email and once for Scan-to-PC).

| | | |
|---|---|---|
| 8141 | T:Deliv Jobs/Svr | [0 to 9999999/ 1] |
| | These SPs count the total number of jobs scanned and sent to a Scan Router server. | |
| 1 | B/W | Count for the number of jobs with black-and-white. |
| 2 | Color | Count for the number of jobs with color. |
| 3 | ACS | Count for the number of jobs using ACS mode. |
| 8145 | S:Deliv Jobs/Svr | |
| | These SPs count the number of jobs scanned in scanner mode and sent to a Scan Router server. | |
| 1 | B/W | Count for the number of jobs with black-and-white. |
| 2 | Color | Count for the number of jobs with color. |
| 3 | ACS | Count for the number of jobs using ACS mode. |

- These counters count jobs, not pages.
- The jobs are counted even though the arrival and reception of the jobs at the Scan Router server cannot be confirmed.
- If even one color image is mixed with black-and-white images, then the job is counted as a "Color" job.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be delivered, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

| | | |
|---|---|---|
| 8151 | T:Deliv Jobs/PC | [0 to 9999999/ 1] |
| | These SPs count the total number of jobs scanned and sent to a folder on a PC (Scan-to-PC).<br>Note: At the present time, 8151 and 8155 perform identical counts. | |
| 1 | B/W | Count for the number of jobs with black-and-white. |
| 2 | Color | Count for the number of jobs with color. |
| 3 | ACS | Count for the number of jobs using ACS mode. |
| 8155 | S:Deliv Jobs/PC | |
| | These SPs count the total number of jobs scanned and sent with Scan-to-PC. | |
| 1 | B/W | Count for the number of jobs with black-and-white. |
| 2 | Color | Count for the number of jobs with color. |
| 3 | ACS | Count for the number of jobs using ACS mode. |

- These counters count jobs, not pages.
- If the job is cancelled during scanning, it is not counted.
- If the job is cancelled while it is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

| | | |
|---|---|---|
| 8171 | T: Deliv Jobs/WSD | |
| 8175 | S: Deliv Jobs/WSD | |
| 8181 | T: Scan to Media Jobs | |
| 8185 | S: Scan to Media Jobs | |
| 1 | B/W | |
| 2 | Color | |
| 3 | ACS | |

| | | |
|---|---|---|
| 8191 | T:Total Scan PGS | These SPs count the pages scanned by each application that uses the scanner to scan images.<br>[0 to 9999999/ 1] |
| 8192 | C:Total Scan PGS | |
| 8195 | S:Total Scan PGS | |
| 8196 | L:Total Scan PGS | |

- SP 8191 to 8196 count the number of scanned sides of pages, not the number of physical pages.
- These counters do not count reading user stamp data, or reading color charts to adjust color.
- Previews done with a scanner driver are not counted.
- A count is done only after all images of a job have been scanned.
- Scans made in SP mode are not counted.

**Examples**

- If 3 B5 pages and 1 A3 page are scanned with the scanner application but not stored, the S: count is 4.
- If both sides of 3 A4 sheets are copied and stored to the document server using the Store File button in the Copy mode window, the C: count is 6 and the L: count is 6.
- If both sides of 3 A4 sheets are copied but not stored, the C: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

| | | |
|---|---|---|
| 8201 | T:LSize Scan PGS | [0 to 9999999/ 1] |
| | This SP counts the total number of large pages input with the scanner for scan and copy jobs.<br>Note: These counters are displayed in the SMC Report, and in the User Tools display. | |
| 8205 | S:LSize Scan PGS | [0 to 9999999/ 1] |
| | This SP counts the total number of large pages input with the scanner for scan jobs only<br>Note: These counters are displayed in the SMC Report, and in the User Tools display.. | |

| | | |
|---|---|---|
| 8211 | T:Scan PGS/LS | These SPs count the number of pages scanned into the document server .<br>[0 to 9999999/ 1]<br>The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen |
| 8212 | C:Scan PGS/LS | |
| 8215 | S:Scan PGS/LS | |
| 8216 | L:Scan PGS/LS | |

- Reading user stamp data is not counted.
- If a job is cancelled, the pages output as far as the cancellation are counted.
- If the scanner application scans and stores 3 B5 sheets and 1 A4 sheet, the S: count is 4.
- If pages are copied but not stored on the document server, these counters do not change.
- If both sides of 3 A4 sheets are copied and stored to the document server, the C: count is 6 and the L: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

| | | |
|---|---|---|
| 8221 | ADF Org Feeds | |
| | [0 to 9999999/ 0 / 1]<br>These SPs count the number of pages fed through the ADF for front and back side scanning. | |
| 1 | Front | Number of front sides fed for scanning:<br>With an ADF that can scan both sides simultaneously, the Front side count is the same as the number of pages fed for either simplex or duplex scanning.<br>With an ADF that cannot scan both sides simultaneously, the Front side count is the same as the number of pages fed for duplex front side scanning. (The front side is determined by which side the user loads face up.) |
| 2 | Back | Number of rear sides fed for scanning:<br>With an ADF that can scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex scanning.<br>With an ADF that cannot scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex rear-side scanning. |

- When 1 sheet is fed for duplex scanning the Front count is 1 and the Back count is 1.
- If a jam occurs during the job, recovery processing is not counted to avoid double counting. Also, the pages are not counted if the jam occurs before the first sheet is output.

| | | |
|---|---|---|
| 8231 | Scan PGS/Mode | |
| | [0 to 9999999/ 0 / 1]<br>These SPs count the number of pages scanned by each ADF mode to determine the work load on the ADF. | |
| 1 | Large Volume | Selectable. Large copy jobs that cannot be loaded in the ADF at one time. |
| 2 | SADF | Selectable. Feeding pages one by one through the ADF. |
| 3 | Mixed Size | Selectable. Select "Mixed Sizes" on the operation panel. |
| 4 | Custom Size | Selectable. Originals of non-standard size. |
| 5 | Platen | Book mode. Raising the ADF and placing the original directly on the platen. |
| 6 | Mixed 1side/2side | |

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.
- If the user selects "Mixed Sizes" for copying in the platen mode, the Mixed Size count is enabled.
- In the SADF mode if the user copies 1 page in platen mode and then copies 2 pages with SADF, the Platen count is 1 and the SADF count is 3.

| | | |
|---|---|---|
| 8241 | T:Scan PGS/Org | [0 to 9999999/ 1] |
| | These SPs count the total number of scanned pages by original type for all jobs, regardless of which application was used. | |
| 8242 | C:Scan PGS/Org | [0 to 9999999/ 1] |
| | These SPs count the number of pages scanned by original type for Copy jobs. | |
| 8245 | S:Scan PGS/Org | [0 to 9999999/ 1] |
| | These SPs count the number of pages scanned by original type for Scan jobs. | |
| 8246 | L:Scan PGS/Org | [0 to 9999999/ 1] |
| | These SPs count the number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen | |

| | 8241 | 8242 | 8245 | 8246 |
|---|---|---|---|---|
| 824x 1: Text | Yes | Yes | Yes | Yes |
| 824x 2: Text/Photo | Yes | Yes | Yes | Yes |
| 824x 3: Photo | Yes | Yes | Yes | Yes |
| 824x 4: GenCopy, Pale | Yes | Yes | Yes | Yes |
| 824x 5: Map | Yes | Yes | Yes | Yes |

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

| | | |
|---|---|---|
| 8251 | T:Scan PGS/ImgEdt | These SPs show how many times Image Edit features have been selected at the operation panel for each application. Some examples of these editing features are:<br>Erase> Border<br>Erase> Center<br>Image Repeat<br>Centering<br>Positive/Negative<br>[0 to 9999999/ 1]<br>Note: The count totals the number of times the edit features have been used. A detailed breakdown of exactly which features have been used is not given. |
| 8252 | C:Scan PGS/ImgEdt | |
| 8255 | S:Scan PGS/ImgEdt | |
| 8256 | L:Scan PGS/ImgEdt | |
| 8257 | O:Scan PGS/ImgEdt | |

- The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen.

| | | |
|---|---|---|
| 8261 | T:Scn PGS/ColCr | [0 to 9999999/ 1] |
| | These SPs count the total number of scanned pages by the color processing mode used. | |
| 8262 | C:Scn PGS/ColCr | [0 to 9999999/ 1] |
| | These SPs count the number of pages by the color processing mode used for Copy jobs only. | |
| 8265 | S: Scn PGS/ColCr | [0 to 9999999/ 1] |
| 8266 | L: Scn PGS/TWAIN | [0 to 9999999/ 1] |
| 8261 1 | Color Conversion | |
| 8261 2 | Color Erase | |
| 8261 3 | Background | |
| 8261 4 | Other | |

- These counters are enabled only for MFP machines that support color. The wide format machines do not support the "Background" or "Other" counters.

| | | |
|---|---|---|
| 8281 | T:Scan PGS/TWAIN | These SPs count the number of pages scanned using a TWAIN driver. These counters reveal how the TWAIN driver is used for delivery functions.<br>[0 to 9999999/ 1]<br>Note: At the present time, these counters perform identical counts. |
| 8285 | S:Scan PGS/TWAIN | |

| | | |
|---|---|---|
| 8291 | T:Scan PGS/Stamp | These SPs count the number of pages stamped with the stamp in the ADF unit.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen |
| 8295 | S:Scan PGS/Stamp | |

| | | |
|---|---|---|
| 8301 | T:Scan PGS/Size | [0 to 9999999/ 1] |
| | These SPs count by size the total number of pages scanned by all applications. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-441]. | |
| 8302 | C:Scan PGS/Size | [0 to 9999999/ 1] |
| | These SPs count by size the total number of pages scanned by the Copy application. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-442]. | |
| 8305 | S:Scan PGS/Size | [0 to 9999999/ 1] |
| | These SPs count by size the total number of pages scanned by the Scan application. Use these totals to compare original page size (scanning) and output page size [SP 8-445]. | |

| | | |
|---|---|---|
| 8306 | L:Scan PGS/Size | [0 to 9999999/ 1] |
| | These SPs count by size the total number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen. Use these totals to compare original page size (scanning) and output page size [SP 8-446]. | |
| 830x 1 | A3 | |
| 830x 2 | A4 | |
| 830x 3 | A5 | |
| 830x 4 | B4 | |
| 830x 5 | B5 | |
| 830x 6 | DLT | |
| 830x 7 | LG | |
| 830x 8 | LT | |
| 830x 9 | HLT | |
| 830x 10 | Full Bleed | |
| 830x 254 | Other (Standard) | |
| 830x 255 | Other (Custom) | |

| | | |
|---|---|---|
| 8311 | T:Scan PGS/Rez | [0 to 9999999/ 1] |
| | These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings. | |
| 8315 | S:Scan PGS/Rez | [0 to 9999999/ 1] |
| | These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.<br>Note: At the present time, 8311 and 8315 perform identical counts. | |
| 831x 1 | 1200dpi to 599dpi | |
| 831x 2 | 600dpi to 1199dpi | |
| 831x 3 | 400dpi to 599dpi | |
| 831x 4 | 200dpi to 399dpi | |
| 831x 5 | to 199dpi | |

- Copy resolution settings are fixed so they are not counted.
- The Fax application does not allow finely-adjusted resolution settings so no count is done for the Fax application.

| | | |
|---|---|---|
| 8381 | T:Total PrtPGS | These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter. |
| 8382 | C:Total PrtPGS | |
| 8384 | P:Total PrtPGS | |
| 8385 | S:Total PrtPGS | |
| 8386 | L:Total PrtPGS | |
| 8387 | O:Total PrtPGS | |

- When the A3/DLT double count function is switched on with SP5104, 1 A3/DLT page is counted as 2.
- When several documents are merged for a print job, the number of pages stored are counted for the application that stored them.
- These counters are used primarily to calculate charges on use of the machine, so the following pages are not counted as printed pages:
- Blank pages in a duplex printing job.
- Blank pages inserted as document covers, chapter title sheets, and slip sheets.
- Reports printed to confirm counts.
- All reports done in the service mode (service summaries, engine maintenance reports, etc.)
- Test prints for machine image adjustment.
- Error notification reports.
- Partially printed pages as the result of a copier jam.

| | | |
|---|---|---|
| 8391 | LSize PrtPGS | [0 to 9999999/ 1] |
| | These SPs count pages printed on paper sizes A3/DLT and larger.<br>Note: In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine. | |

| | | |
|---|---|---|
| 8401 | T:PrtPGS/LS | These SPs count the number of pages printed from the document server. The counter for the application used to print the pages is incremented.<br>The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.<br>[0 to 9999999/ 1] |
| 8402 | C:PrtPGS/LS | |
| 8404 | P:PrtPGS/LS | |
| 8405 | S:PrtPGS/LS | |
| 8406 | L:PrtPGS/LS | |

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the L: count.

| | | |
|---|---|---|
| 8411 | Prints/Duplex | This SP counts the amount of paper (front/back counted as 1 page) used for duplex printing. Last pages printed only on one side are not counted.<br>[0 to 9999999/ 1] |

| | | |
|---|---|---|
| 8421 | T:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing. This is the total for all applications. | |
| 8422 | C:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the copier application. | |
| 8424 | P:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the printer application. | |
| 8425 | S:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the scanner application. | |
| 8426 | L:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing from within the document server mode window at the operation panel. | |
| 8427 | O:PrtPGS/Dup Comb | [0 to 9999999/ 1] |
| | These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications | |
| 842x 1 | Simplex> Duplex | |
| 842x 2 | Duplex> Duplex | |
| 842x 3 | Book> Duplex | |
| 842x 4 | Simplex Combine | |
| 842x 5 | Duplex Combine | |
| 842x 6 | 2> | 2 pages on 1 side (2-Up) |
| 842x 7 | 4> | 4 pages on 1 side (4-Up) |
| 842x 8 | 6> | 6 pages on 1 side (6-Up) |

| | | |
|---|---|---|
| 842x 9 | 8> | 8 pages on 1 side (8-Up) |
| 842x 10 | 9> | 9 pages on 1 side (9-Up) |
| 842x 11 | 16> | 16 pages on 1 side (16-Up) |
| 842x 12 | Booklet | |
| 842x 13 | Magazine | |



- These counts (SP8421 to SP8427) are especially useful for customers who need to improve their compliance with ISO standards for the reduction of paper consumption.
- Pages that are only partially printed with the n-Up functions are counted as 1 page.
- Here is a summary of how the counters work for Booklet and Magazine modes:

| Booklet | | | Magazine | |
|---|---|---|---|---|
| **Original Pages** | **Count** | | **Original Pages** | **Count** |
| 1 | 1 | | 1 | 1 |
| 2 | 2 | | 2 | 2 |
| 3 | 2 | | 3 | 2 |
| 4 | 2 | | 4 | 2 |
| 5 | 3 | | 5 | 4 |
| 6 | 4 | | 6 | 4 |
| 7 | 4 | | 7 | 4 |
| 8 | 4 | | 8 | 4 |

| | | |
|---|---|---|
| 8431 | T:PrtPGS/ImgEdt | [0 to 9999999/ 1] |
| | These SPs count the total number of pages output with the three features below, regardless of which application was used. | |
| 8432 | C:PrtPGS/ImgEdt | [0 to 9999999/ 1] |
| | These SPs count the total number of pages output with the three features below with the copy application. | |
| 8434 | P:PrtPGS/ImgEdt | [0 to 9999999/ 1] |
| | These SPs count the total number of pages output with the three features below with the print application. | |
| 8436 | L:PrtPGS/ImgEdt | [0 to 9999999/ 1] |
| | These SPs count the total number of pages output from within the document server mode window t the operation panel with the three features below. | |
| 8437 | O:PrtPGS/ImgEdt | [0 to 9999999/ 1] |
| | These SPs count the total number of pages output with the three features below with Other applications. | |
| 843x 1 | Cover/Slip Sheet | Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2. |
| 843x 2 | Series/Book | The number of pages printed in series (one side) or printed as a book with booklet right/left pagination. |
| 843x 3 | User Stamp | The number of pages printed where stamps were applied, including page numbering and date stamping. |

| | | |
|---|---|---|
| 8441 | T:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed by all applications. | |
| 8442 | C:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed by the copy application. | |
| 8444 | P:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed by the printer application. | |
| 8445 | S:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed by the scanner application. | |
| 8446 | L:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel. | |
| 8447 | O:PrtPGS/Ppr Size | [0 to 9999999/ 1] |
| | These SPs count by print paper size the number of pages printed by Other applications. | |
| 844x 1 | A3 | |
| 844x 2 | A4 | |
| 844x 3 | A5 | |
| 844x 4 | B4 | |
| 844x 5 | B5 | |
| 844x 6 | DLT | |
| 844x 7 | LG | |
| 844x 8 | LT | |

| | | |
|---|---|---|
| 844x 9 | HLT | |
| 844x 10 | Full Bleed | |
| 844x 254 | Other (Standard) | |
| 844x 255 | Other (Custom) | |

- These counters do not distinguish between LEF and SEF.

| | | |
|---|---|---|
| 8451 | PrtPGS/Ppr Tray | [0 to 9999999/ 1] |
| | These SPs count the number of sheets fed from each paper feed station. | |
| 1 | Bypass | Bypass Tray |
| 2 | Tray 1 | Copier |
| 3 | Tray 2 | Copier |
| 4 | Tray 3 | Paper Tray Unit (Option) |
| 5 | Tray 4 | Paper Tray Unit (Option) |
| 6 | Tray 5 | LCT (Option) |
| 7 | Tray 6 | Currently not used. |
| 8 | Tray 7 | Currently not used. |
| 9 | Tray 8 | |
| 10 | Tray 9 | |
| 11 | Tray 10 | |
| 12 | Tray 11 | |
| 13 | Tray 12 | |
| 14 | Tray 13 | |
| 15 | Tray 14 | |
| 16 | Tray 15 | |

| | | |
|---|---|---|
| 8461 | T:PrtPGS/Ppr Type | [0 to 9999999/ 1] |
| | These SPs count by paper type the number pages printed by all applications.<br>These counters are not the same as the PM counter. The PM counter is based on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing.<br>Blank sheets (covers, chapter covers, slip sheets) are also counted.<br>During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1. | |
| 8462 | C:PrtPGS/Ppr Type | [0 to 9999999/ 1] |
| | These SPs count by paper type the number pages printed by the copy application. | |
| 8464 | P:PrtPGS/Ppr Type | [0 to 9999999/ 1] |
| | These SPs count by paper type the number pages printed by the printer application. | |
| 8466 | L:PrtPGS/Ppr Type | [0 to 9999999/ 1] |
| | These SPs count by paper type the number pages printed from within the document server mode window at the operation panel. | |
| 846x 1 | Normal | |
| 846x 2 | Recycled | |
| 846x 3 | Special | |
| 846x 4 | Thick | |
| 846x 5 | Normal (Back) | |
| 846x 6 | Thick (Back) | |
| 846x 7 | OHP | |
| 846x 8 | Other | |

| | | |
|---|---|---|
| 8471 | PrtPGS/Mag | [0 to 9999999/ 1] |
| | These SPs count by magnification rate the number of pages printed. | |
| 1 | to 49% | |
| 2 | 50% to 99% | |
| 3 | 100% | |
| 4 | 101% to 200% | |
| 5 | 201% to | |

- Counts are done for magnification adjusted for pages, not only on the operation panel but performed remotely with an external network application capable of performing magnification adjustment as well.
- Magnification adjustments done with printer drivers with PC applications such as Excel are also counted.
- Magnification adjustments done for adjustments after they have been stored on the document server are not counted.
- Magnification adjustments performed automatically during Auto Reduce/Enlarge copying are counted.
- The magnification rates of blank cover sheets, slip sheets, etc. are automatically assigned a rate of 100%.

| | | |
|---|---|---|
| 8481 | T:PrtPGS/TonSave | These SPs count the number of pages printed with the Toner Save feature switched on.<br>Note: These SPs return the same results as this SP is limited to the Print application.<br>[0 to 9999999/ 1] |
| 8484 | P:PrtPGS/TonSave | |

| | | |
|---|---|---|
| 8491 | T:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages output by the Copy, document server, and Fax applications. | |
| 8492 | C:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the total output by the Copy application only | |
| 8496 | L:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the total output from within the document server mode window at the operation panel. | |
| 8497 | O:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| 849x 1 | B/W | |
| 849x 2 | Single Color | Color MFP/2-color MFP machines only. |
| 849x 3 | Two Color | Color MFP/2-color MFP machines only. |
| 849x 4 | Full Color | Color MFP machines only |

**Notes for SP8491 to SP8496**

- These SPs apply to the Copy, document server, and Fax applications only. They do not apply to the Print application.
- When the ACS feature is used to select the color settings automatically, the results of the ACS execute is used to increment the appropriate counter.
- If a color stamp is selected for printing on a monochrome document, the count is for B/W.
- If the output is black and white even if color print mode was selected, the pages count as Full Color.
- The color mode selected for a document stored on the document server is counted. (The color selection cannot be changed once the document is stored on the document server.)

| | | |
|---|---|---|
| 8501 | T:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages printed. | |
| 8504 | P:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the number of pages printed with the Print application. | |
| 8507 | O:PrtPGS/Col Mode | [0 to 9999999/ 1] |
| | These SPs count by color mode the number of pages printed with the other applications. | |
| 1 | B/W | |
| 2 | Mono Color | Color MFP and 2-Color MFP machines only. |
| 3 | Full Color | Color MFP and Color LP machines only. |
| 4 | Single Color | B081/D082 only |
| 5 | Two Color | B081/D082 only |

- At the present time, 8501 and 8504 perform identical counts, because they are both limited to the Print application.

| | | |
|---|---|---|
| 8511 | T:PrtPGS/Emul | [0 to 9999999/ 1] |
| | These SPs count by printer emulation mode the total number of pages printed. | |
| 8514 | P:PrtPGS/Emul | [0 to 9999999/ 1] |
| | These SPs count by printer emulation mode the total number of pages printed. | |
| 851x 1 | RPCS | |
| 851x 2 | RPDL | |
| 851x 3 | PS3 | |

| | | |
|---|---|---|
| 851x 4 | R98 | |
| 851x 5 | R16 | |
| 851x 6 | GL/GL2 | |
| 851x 7 | R55 | |
| 851x 8 | RTIFF | |
| 851x 9 | PDF | |
| 851x 10 | PCL5e/5c | |
| 851x 11 | PCL XL | |
| 851x 12 | IPDL-C | |
| 851x 13 | BM-Links | Japan Only |
| 851x 14 | Other | |
| 851x 15 | IPDS | |

- SP8511 and SP8514 return the same results as they are both limited to the Print application.
- Print jobs output to the document server are not counted.

| | | | |
|---|---|---|---|
| 8521 | T:PrtPGS/FIN | [0 to 9999999/ 1] | |
| | These SPs count by finishing mode the total number of pages printed by all applications. | | |
| 8522 | C:PrtPGS/FIN | [0 to 9999999/ 1] | |
| | These SPs count by finishing mode the total number of pages printed by the Copy application. | | |
| 8524 | P:PrtPGS/FIN | [0 to 9999999/ 1] | |
| | These SPs count by finishing mode the total number of pages printed by the Print application. | | |
| 8525 | S:PrtPGS/FIN | [0 to 9999999/ 1] | |

| | | | |
|---|---|---|---|
| | These SPs count by finishing mode the total number of pages printed by the Scanner application. | | |
| 8526 | L:PrtPGS/FIN | [0 to 9999999/ 1] | |
| | These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel. | | |
| 852x 1 | Sort | | |
| 852x 2 | Stack | | |
| 852x 3 | Staple | | |
| 852x 4 | Booklet | | |
| 852x 5 | Z-Fold | | |
| 852x 6 | Punch | | |
| 852x 7 | Other | | |
| 806x 8 | Inside Fold | Half-Fold (FM2) (Multi Fold Unit) | |
| 806x 9 | Three-IN-Fold | Letter Fold-in (FM4) (Multi Fold Unit) | |
| 806x 10 | Three-OUT-Fold | Letter Fold-out (FM3) (Multi Fold Unit) | |
| 806x 11 | Four Fold | Double Parallel Fold (FM5) (Multi Fold Unit) | |
| 806x 12 | KANNON-Fold | Gate Fold (FM6) (Multi Fold Unit) | |
| 806x 13 | Perfect-Bind | Perfect Binder **Not Used** | |
| 806x 14 | Ring-Bind | Ring Binder | |

**Note**:

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.
- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

| | | |
|---|---|---|
| 8531 | Staples | This SP counts the amount of staples used by the machine.<br>[0 to 9999999/ 1] |

| | | |
|---|---|---|
| 8551 | T: PrtBooks/FIN | |
| 8552 | O: PrtBooks/FIN | |
| 8554 | P: PrtBooks/FIN | |
| 8556 | L: PrtBooks/FIN | |
| 1 | Perfect-Bind | Not Used |
| 2 | Ring-Bind | |

| | | |
|---|---|---|
| 8581 | T:Counter | [0 to 9999999/ 1] |
| | These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.<br>Note: These SPs are supported by color MFP and LP machines only. | |
| 1 | Total | |
| 2 | Total: Full Color | |
| 3 | B&W/Single Color | |
| 4 | Development: CMY | |
| 5 | Development: K | |
| 6 | Copy: Color | |
| 7 | Copy: B/W | |
| 8 | Print: Color | |
| 9 | Print: B/W | |
| 10 | Total: Color | |

| | |
|---|---|
| 11 | Total: B/W |
| 12 | Full Color: A3 |
| 13 | Full Color: B4 JIS or smaller |
| 14 | Full Color Print |
| 15 | Mono Color Print |
| 16 | Full Color GPC |
| 17 | Twin Color Mode Print |
| 18 | Full Color Print (Twin) |
| 19 | Mono Color Print (Twin) |
| 20 | Full Color Total (CV) |
| 21 | Mono Color Total (CV) |
| 22 | Full Color Print (CV) |
| 28 | Development: CMY (A3) |
| 29 | Development: K (A3) |
| 30 | Total: Color (A3) |
| 31 | Total: B/W (A3) |

| | | | |
|---|---|---|---|
| 8582 | C:Counter | [0 to 9999999/ 1] | |
| | These SPs count the total output broken down by color output for the Copy application only.<br>Note: These SPs are supported by color copy MFP machines only.<br>These counters are displayed in the SMC Report, and in the User Tools display on the copy machine. | | |
| 1 | B/W | | |
| 2 | Single Color | | |
| 3 | Two Color | | |
| 4 | Full Color | | |

| | | |
|---|---|---|
| 8584 | P:Counter | [0 to 9999999/ 1] |
| | These SPs count the total output broken down by color output for the Print application only. These counters are displayed in the SMC Report, and in the User Tools display on the copy machine.<br>Note: These SPs are supported by color MFP and LP machines only. | |
| 1 | B/W | |
| 2 | Mono Color | |
| 3 | Full Color | |
| 4 | Single Color | |
| 5 | Two Color | |

| | | |
|---|---|---|
| 8586 | L:Counter | [0 to 9999999/ 1] |

| | | | |
|---|---|---|---|
| | These SPs count the total output broken down by color for output from within the document server mode window at the operation panel. These counters are displayed in the SMC Report, and in the User Tools display on the copy machine.<br>Note: These SPs are supported only by color copy MFP machines only with the fax application installed. | | |
| | | **MFP Color** | **Replaced:** |
| 1 | B/W | Yes | --- |
| 2 | Single Color | Yes | --- |
| 3 | Two Color | Yes | --- |
| 4 | Single Color | Yes | --- |

| | | |
|---|---|---|
| 8591 | O:Counter | [0 to 9999999/ 1] |
| | These SPs count the totals for A3/DLT paper use, number of duplex pages printed, and the number of staples used. These totals are for Other (O:) applications only. | |
| 1 | A3/DLT | |
| 2 | Duplex | |

| | | |
|---|---|---|
| 8601 | Coverage Counter | |
| 1 | B/W | |
| 2 | Color | |
| 11 | B/W Printing Pages | |
| 12 | Color Printing Pages | |
| 21 | Coverage Counter 1 | |
| 22 | Coverage Counter 2 | |
| 23 | Coverage Counter 3 | |

| 8617 | SDK Apli Counter | |
|---|---|---|
| 1 | SDK-1 | |
| 2 | SDK-2 | |
| 3 | SDK-3 | |
| 4 | SDK-4 | |
| 5 | SDK-5 | |
| 6 | SDK-6 | |

| 8621 | Func Use Counter **DFU** |
|---|---|
| 1 to 64 | Function 001 to Function 064 |

| 8651 | T:S-to-Email PGS | [0 to 9999999/ 1] |
|---|---|---|
| | These SPs count by color mode the total number of pages attached to an e-mail for both the Scan and document server applications. | |
| 1 | B/W | |
| 2 | Color | Supported by Color MFP machines only. |
| 8655 | S:S-to-Email PGS | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only. | |
| 1 | B/W | |
| 2 | Color | Supported by Color MFP machines only. |

**Notes**

- The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.
- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).
- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20.).

| | | | |
|---|---|---|---|
| 8661 | T:Deliv PGS/Svr | | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications. | | |
| 1 | B/W | | |
| 2 | Color | Supported by Color MFP machines only. | |
| 8665 | S:Deliv PGS/Svr | | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application. | | |
| 1 | B/W | | |
| 2 | Color | Supported by Color MFP machines only. | |

**Notes**

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the counts are not done.
- The count is executed even if regardless of confirmation of the arrival at the Scan Router server.



| | | |
|---|---|---|
| 8671 | T:Deliv PGS/PC | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications. | |
| 1 | B/W | |
| 2 | Color | Supported by Color MFP machines only. |
| 8675 | S:Deliv PGS/PC | [0 to 9999999/ 1] |
| | These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application. | |
| 1 | B/W | |
| 2 | Color | Supported by Color MFP machines only. |

| | | |
|---|---|---|
| 8691 | T:TX PGS/LS | These SPs count the number of pages sent from the document server. The counter for the application that was used to store the pages is incremented.<br>[0 to 9999999/ 1]<br>The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter. |
| 8692 | C:TX PGS/LS | |
| 8694 | P:TX PGS/LS | |
| 8695 | S:TX PGS/LS | |
| 8696 | L:TX PGS/LS | |

**Notes**

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the count.
- If several documents are merged for sending, the number of pages stored are counted for the application that stored them

| | | |
|---|---|---|
| 8701 | TX PGS/Port | [0 to 9999999/ 1] |
| | These SPs count the number of pages sent by the physical port used to send them. For example, if a 3-page original is sent to 4 destinations via ISDN G4, the count for ISDN (G3, G4) is 12. | |
| 1 | PSTN-1 | |
| 2 | PSTN-2 | |
| 3 | PSTN-3 | |
| 4 | ISDN (G3,G4) | |
| 5 | Network | |

| | | |
|---|---|---|
| 8711 | T:Scan PGS/Comp | [0 to 9999999/ 1] |
| | These SPs count the number of compressed pages scanned into the document server, counted by the formats slisted below. | |
| 1 | JPEG/JPEG2000 | |
| 2 | TIFF (Multi/Single) | |
| 3 | PDF | |
| 4 | Other | |
| 5 | PDF/Comp | |

| | | |
|---|---|---|
| 8715 | S:Scan PGS/Comp | [0 to 9999999/ 1] |
| | These SPs count the number of compressed pages scanned by the scan application, counted by the formats slisted below. | |
| 1 | JPEG/JPEG2000 | |
| 2 | TIFF (Multi/Single) | |
| 3 | PDF | |
| 4 | Other | |
| 5 | PDF/Comp | |

| | |
|---|---|
| 8721 | T: Deliv PGS/WSD |
| 8725 | S: Deliv PGS/WSD |
| 8731 | T: Scan PGS/Media |
| 8735 | S: Scan PGS/Media |

| | | |
|---|---|---|
| 1 | B/W | |
| 2 | Color | |

| | | |
|---|---|---|
| 8741 | RX PGS/Port | [0 to 9999999/ 1] |
| | These SPs count the number of pages received by the physical port used to receive them. | |
| 1 | PSTN-1 | |
| 2 | PSTN-2 | |
| 3 | PSTN-3 | |
| 4 | ISDN (G3,G4) | |
| 5 | Network | |

| | | |
|---|---|---|
| 8771 | Dev Counter | [0 to 9999999/ 1] |
| | These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.<br>**Note:** For machines that do not support color, the Black toner count is the same as the Total count. | |
| 1 | Total | All toners (YMCK) |
| 2 | K | Black toner |
| 3 | Y | Yellow toner |
| 4 | M | Magenta toner |
| 5 | C | Cyan toner |
| 6 | R | Red toner (Wide Format A2 machines only) |

| | | |
|---|---|---|
| 8781 | Toner Use Count: Color | [0 to 65 535] |
| | These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners. | |
| 1 | BK | Black toner |
| 2 | Y | Yellow toner |
| 3 | M | Magenta toner |
| 4 | C | Cyan toner |

| | |
|---|---|
| 8791 | LS Memory Remain |
| | This SP displays the percent of space available on the document server for storing documents.<br>[0 to 100/ 1] |

| | | | |
|---|---|---|---|
| 8801 | Toner Remain | | [0 to 100/ 1] |
| | This SP displays the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time.<br>Note: This precise method of measuring remaining toner supply (1% steps) is better than other machines in the market that can only measure in increments of 10 (10% steps). | | |
| 1 | K | Black. | Supported by B/W, Color, Wide Format A2, Wide Format Roll machines. |
| 2 | Y | Yellow | Color machines only. |
| 3 | M | Magenta | |
| 4 | C | Cyan | |

| | | |
|---|---|---|
| 8851 | Toner Coverage 0-10% | [0 to 65 535] |
| | These SPs count the percentage of dot coverage for black other color toners. | |
| 11 | 0-2%: BK | |
| 12 | 0-2%: Y | |
| 13 | 0-2%: M | |
| 14 | 0-2%: C | |
| 21 | 3-4%: BK | |
| 22 | 3-4%: Y | |
| 23 | 3-4%: M | |
| 24 | 3-4%: C | |
| 31 | 5-7%: BK | |
| 32 | 5-7%: Y | |
| 33 | 5-7%: M | |

| | | |
|---|---|---|
| 34 | 5-7%: C | |
| 41 | 8-10%: BK | |
| 42 | 8-10%: Y | |
| 43 | 8-10%: M | |
| 44 | 8-10%: C | |

| | | | |
|---|---|---|---|
| 8861 | Toner Coverage 11-20% | [0 to 65 535] | |
| | These SPs count the percentage of dot coverage for black other color toners. | | |
| 8871 | Toner Coverage 21-30% | [0 to 65 535] | |
| | These SPs count the percentage of dot coverage for black other color toners. | | |
| 8881 | Toner Coverage 31 -% | [0 to 65 535] | |
| | These SPs count the percentage of dot coverage for black other color toners. | | |
| 8891 | Pages: Current Toner | [0 to 65 535] | |
| | These SPs count the number of pages for the current set toner. | | |
| 8901 | Page/Toner_Prev1 **DFU** | | |
| 8911 | Page/Toner_Prev2 **DFU** | | |
| 1 | BK | Black toner | |
| 2 | Y | Yellow toner | |
| 3 | M | Magenta toner | |
| 4 | C | Cyan toner | |

| 8921 | Cvr Cnt/Total | |
|---|---|---|
| 1 | Coverage (%): BK | |
| 2 | Coverage (%): Y | |
| 3 | Coverage (%): M | |
| 4 | Coverage (%): C | |
| 11 | Coverage/P: BK | |
| 12 | Coverage/P: Y | |
| 13 | Coverage/P: M | |
| 14 | Coverage/P: C | |

| 8941 | Machine Status | [0 to 9999999/ 1] |
|---|---|---|
| | These SPs count the amount of time the machine spends in each operation mode. These SPs are useful for customers who need to investigate machine operation for improvement in their compliance with ISO Standards. | |
| 1 | Operation Time | Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating). |
| 2 | Standby Time | Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes. |
| 3 | Energy Save Time | Includes time while the machine is performing background printing. |
| 4 | Low Power Time | Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing. |

| | | |
|---|---|---|
| 5 | Off Mode Time | Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches. |
| 6 | SC | Total down time due to SC errors. |
| 7 | PrtJam | Total down time due to paper jams during printing. |
| 8 | OrgJam | Total down time due to original jams during scanning. |
| 9 | Supply PM Unit End | Total down time due to toner end. |

| | | | |
|---|---|---|---|
| 8951 | AddBook Register | | |
| | These SPs count the number of events when the machine manages data registration. | | |
| 1 | User Code | User code registrations. | [0 to 9999999/ 1] |
| 2 | Mail Address | Mail address registrations. | |
| 3 | Fax Destination | Fax destination registrations. | |
| 4 | Group | Group destination registrations. | |
| 5 | Transfer Request | Fax relay destination registrations for relay TX. | |
| 6 | F-Code | F-Code box registrations. | |
| 7 | Copy Program | Copy application registrations with the Program (job settings) feature. | [0 to 255 / 255] |
| 8 | Fax Program | Fax application registrations with the Program (job settings) feature. | |

| | | | |
|---|---|---|---|
| 9 | Printer Program | Printer application registrations with the Program (job settings) feature. | |
| 10 | Scanner Program | Scanner application registrations with the Program (job settings) feature. | |



| 8999 | Admin Counter List | |
|---|---|---|
| 1 | Total | |
| 2 | Copy: Full Color | |
| 3 | Copy: BW | |
| 4 | Copy: Single Color | |
| 5 | Copy: Two Color | |
| 6 | Printer: Full Color | |
| 7 | Printer: BW | |
| 8 | Printer: Single Color | |
| 9 | Printer: Two Color | |
| 10 | Fax Print: BW | |
| 11 | Fax Print: Single Color | |
| 12 | A3/DLT | |
| 13 | Duplex | |
| 14 | Coverage: Color (%) | |
| 15 | Coverage: BW (%) | |
| 16 | Coverage: Color Print Page | |
| 17 | Coverage: BW Print Page | |
| 20 | Full Color: GPC | |

| | | |
|---|---|---|
| 101 | Transmission Total: Color | |
| 102 | Transmission Total: BW | |
| 103 | Fax Transmission | |
| 104 | Scanner Transmission: Color | |
| 105 | Scanner Transmission: BW | |

# D512/D513

# BOOKLET FINISHER

# SR5040/FINISHER SR5030

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# D512/D513

# BOOKLET FINISHER

# SR5040/FINISHER SR5030

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# READ THIS FIRST

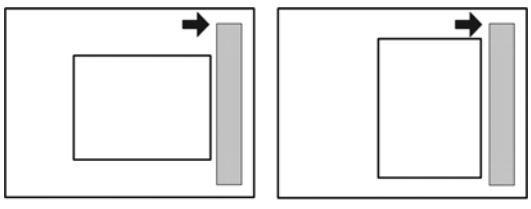
## Safety, Conventions, Trademarks

### Conventions

#### Common Terms

This is a list of symbols and abbreviations used in this manual.

| Symbol | What it means |
|---|---|
| | Screw |
| | Connector |
| | E-ring |
| | C-ring |
| | Harness clamp |
| FFC | Flexible Film Cable |
| JG | Junction Gate |
| LE | Leading Edge of paper |
| LEF | Long Edge Feed |
| SEF | Short Edge Feed |
| TE | Trailing Edge of paper |




The notations "SEF" and "LEF" describe the direction of paper feed, with the arrows indicating paper feed direction.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the finisher or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

## General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

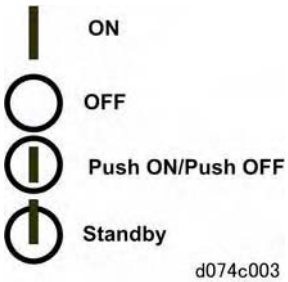
Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.

**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.



# Responsibilities of the Customer Engineer

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

# Before Installation, Maintenance

## Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

## Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

### Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

**⚠CAUTION**

- Always dispose of used items in accordance with the local laws and regulations regarding the disposal of such items.

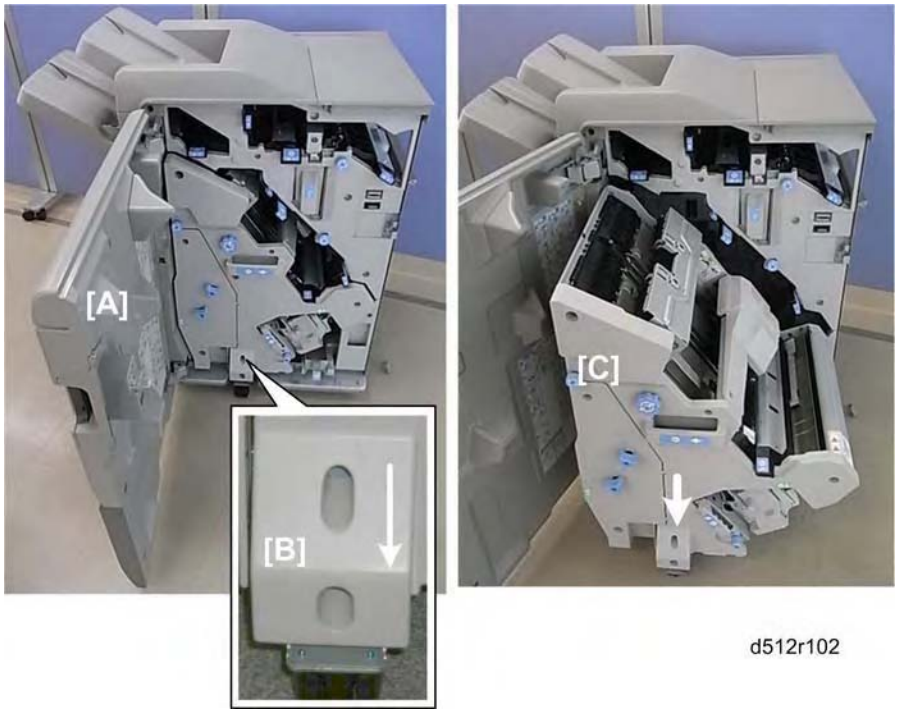
# 1. REPLACEMENT AND ADJUSTMENT

## 1.1 COMMON PROCEDURES

### 1.1.1 OVERVIEW

d512r101a

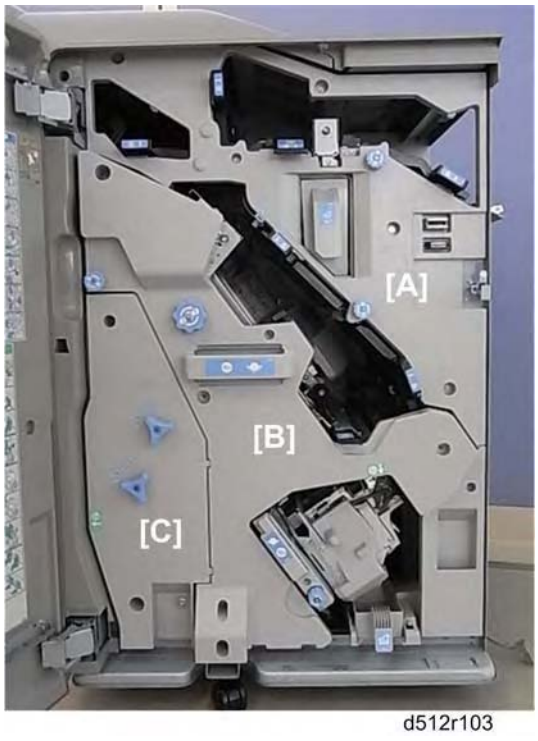
| | |
|---|---|
| ▪ [A]: Front<br>▪ [B]: Left | ▪ [C]: Rear<br>▪ [D]: Right |




[A] Open the front door.

[B] Adjustable caster

[C] Pull the stack/stapler unit out (pull handle **Rb12**).




- Inner covers:

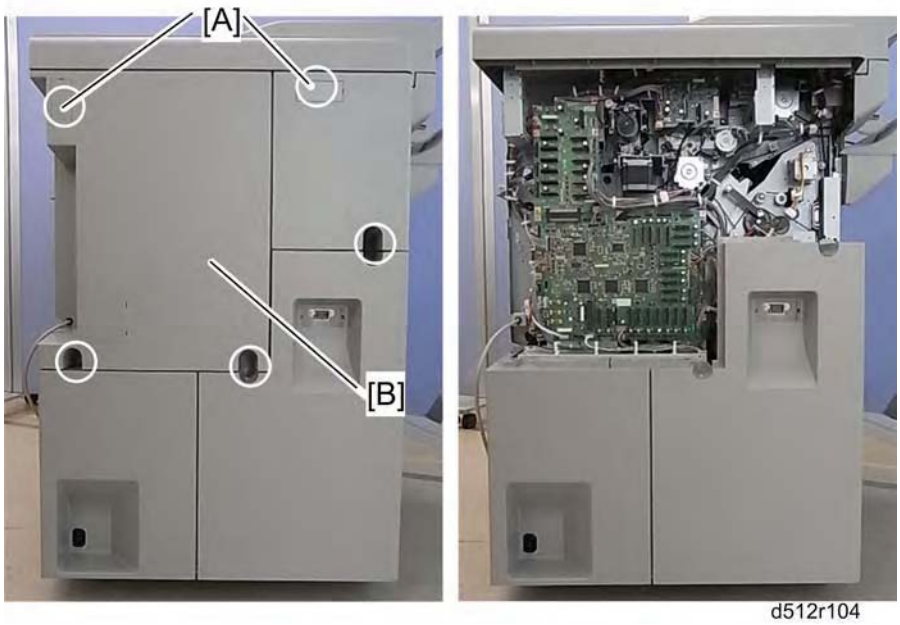
  [A] Upper: **Rb2**, **Rb8**

  [B] Center: **Rb14**, **Rb16**

  [C] Lower **Rb10**, **Rb11**

## 1.1.2 COVERS

### *Rear Upper Cover*




1. Screw covers [A] (hooks)
2. Rear upper cover [B] ( x5)

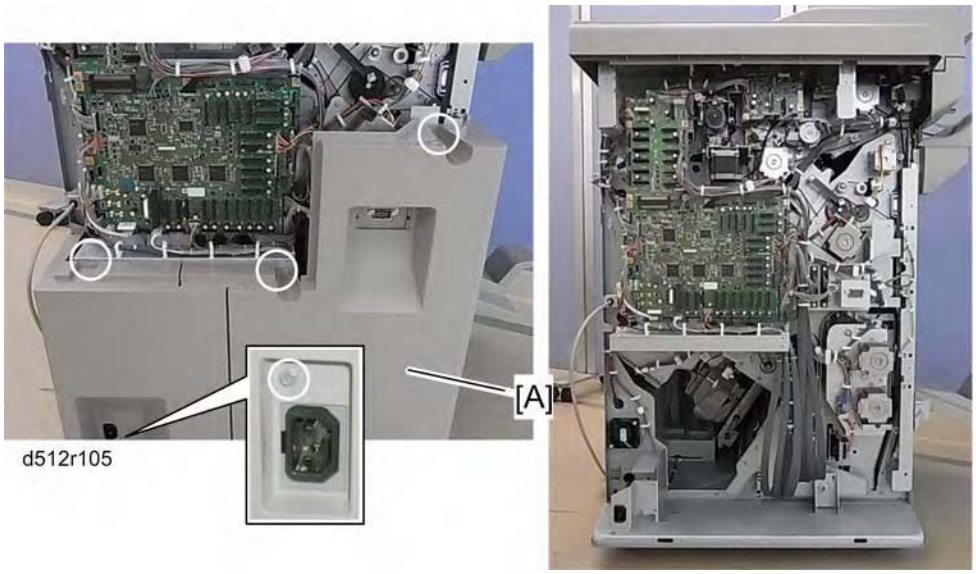
Important

- The rear upper cover must be removed before the rear lower cover.

## *Rear Lower Cover*

### Preparation

- Rear upper cover (☛p.3)



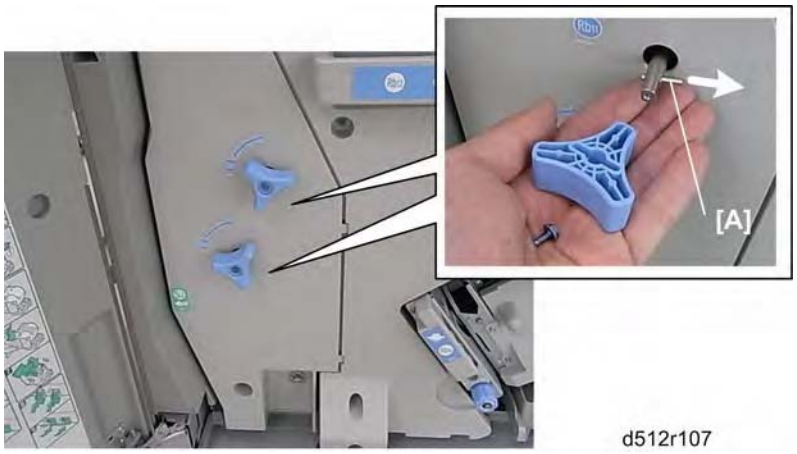

1. Rear lower cover [A] (x4)

   The screw near the power connection point is difficult to see.

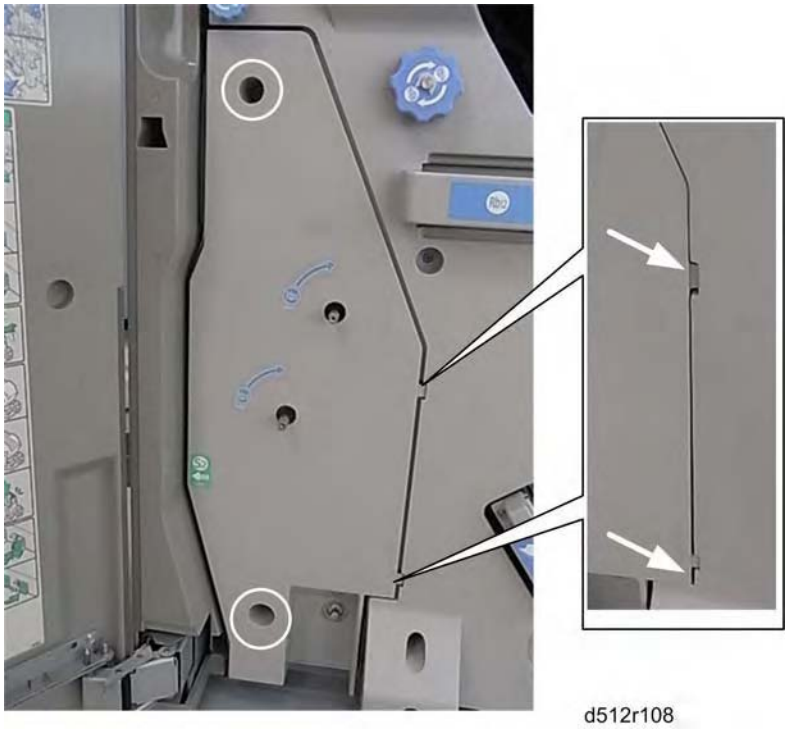
### Re-installation

1. Engage both tabs on the bottom of the rear lower cover before fastening the screws.

### *Lower Inner Cover: Rb10, Rb11*




1. Remove handles **Rb11**, **Rb12** ( x1 each, Pin x1 each).
2. Make sure that the pins [A] are removed and stored with the screws.

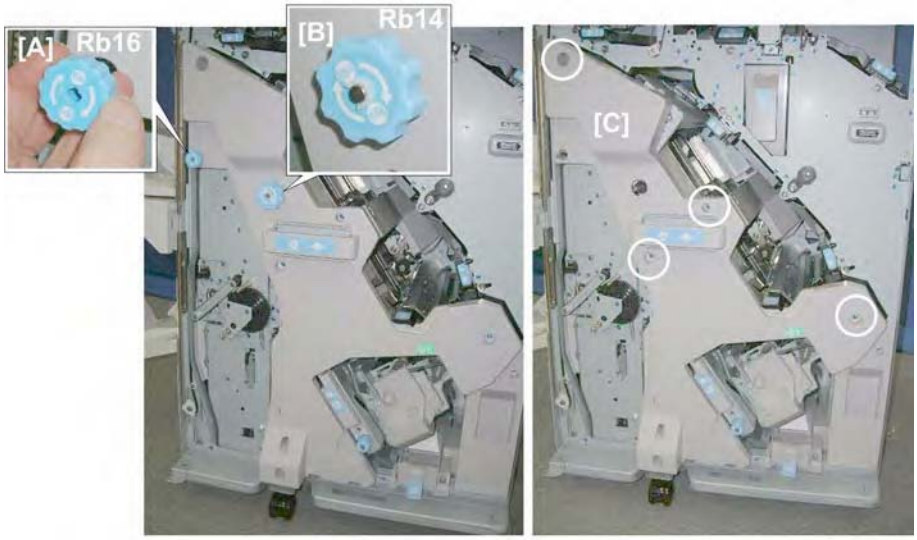



3. Remove the cover ( x2, Tabs x2).

## *Center Inner Cover: Rb14, Rb16*

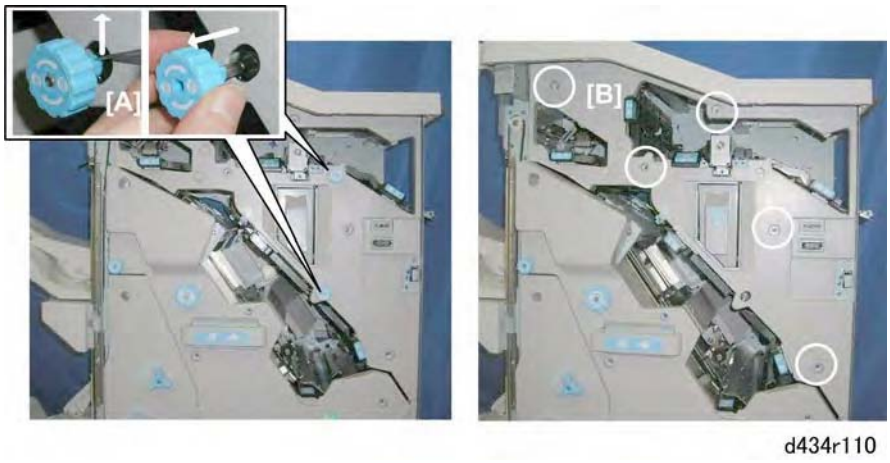
**Preparation**

- Lower inner cover (☛p.5)




1. Remove:
   [A] **Rb16**
   [B] **Rb 14** (x1)
   [C] Cover ( x4)

## *Upper Inner Cover: Rb2, Rb8*




1. Remove:
   [A] **Rb2**, **Rb8**.
   If these tab releases are stiff, use the point of a sharp tool to release these knobs, then pull them off. Work carefully to avoid breaking the tab releases.
   [B] Cover ( x5)

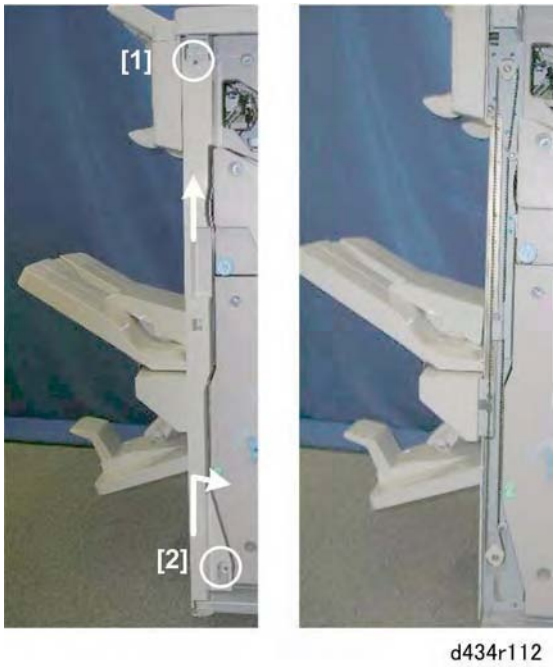
## *Front Door*

1. Open the front door.

2. Remove the clip [A].
3. Lift off the door [B] from its bottom post.

## *Corner Strip Cover*

1. Front door (☛p.7)




2. Remove the top and bottom screws [1], [2] ( x2).
3. Disconnect the tabs at the top and bottom.
4. Twist the cover away from the corner.

## *Proof Tray*

d512r118

1. Proof tray [A] ( x2)

## *Top Right Cover*

d512r119

1. Top right cover [A] ( x2)

## *Top Rear Cover*

**Preparation**

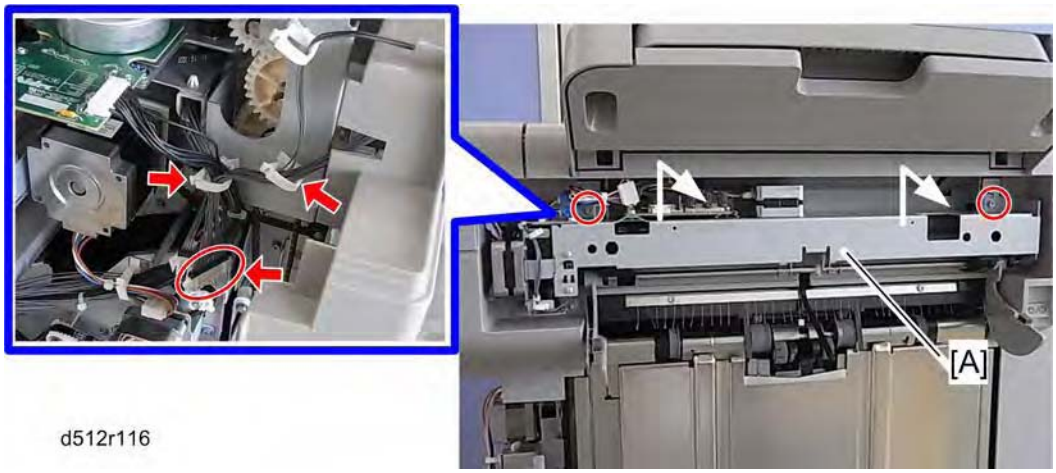
- Proof tray (☛p.8)
- Top right cover (☛p.8)
- Rear upper cover (☛p.3)

1. Top rear cover [A] ( x2).

## *Shift Tray Jogger Unit*

1. Top rear cover (☛p.9)

2. Remove:
   [A] Jogger unit cover ( x2)

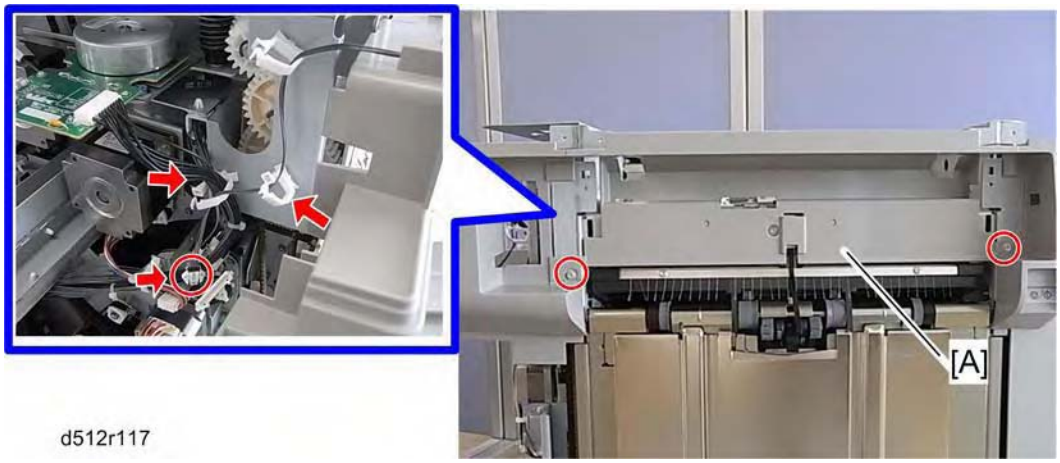



3. Lift the jogger unit [A] off ( x2, x2, x1).

## *Left Upper Cover*

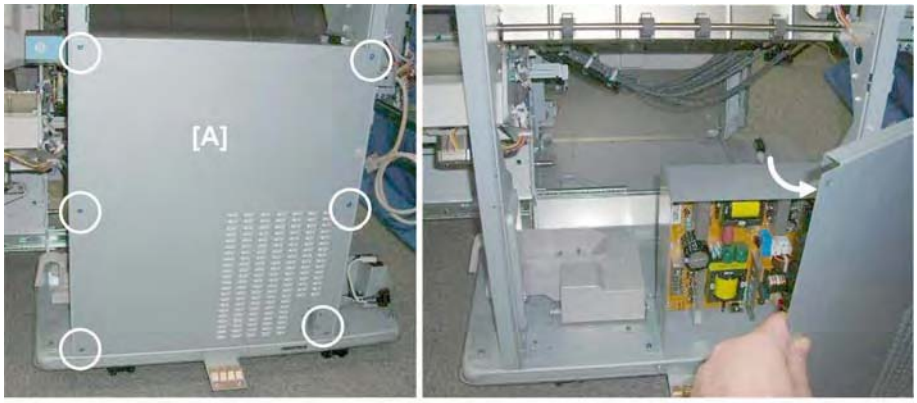
**Preparation**

- Proof tray (☛p.8)
- Shift tray jogger unit (☛p.9)




1. Remove the left upper cover [B] ( x2, x1, x2).

### *Right Panel*




d434r121

**CAUTION**

- The right panel covers the PSU, which retains residual voltage after the system is switched off.
- Before removing the right panel for any procedure, switch the machine off and wait 30 min. for the charge on the PSU to discharge.

1. Remove right panel [A] ( x6)

### *Shift Tray*

d434r122

1. While supporting the tray with one hand, pull gear [A] toward you to release the tray.
2. Lower the tray [B] slowly until it stops, then remove it. ( x4)

### *Booklet Tray*

1. Just lift and pull the booklet tray [A] away from the side.

## 1.1.3 BOOKLET UNIT

### *Booklet Stapler*

The booklet stapler weighs about 3 kg (6.6 lb.)

**Preparation**

- Open the front door.
- Pull stack/stapler unit out with **Rb12**.

d434r124

1. Remove both booklet staplers.
2. Remove booklet stapler unit cover [A] ( x2)

d434r125

3. Remove stapler unit [A] ( x1, x4)
4. Make sure connector [B] is disconnected.
5. Remove the stapler unit with its handle [C].

d434r126

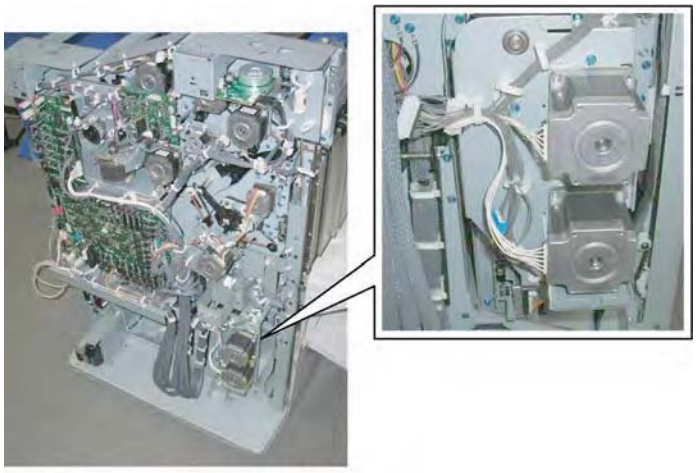
## *Booklet Unit*

### Preparation

- Open the front door.
- Front door (☛p.7)
- Corner strip cover (☛p.7)
- Lower inner cover **Rb10**, **Rb11** (☛p.5)
- Booklet stapler (recommended ☛p.13)

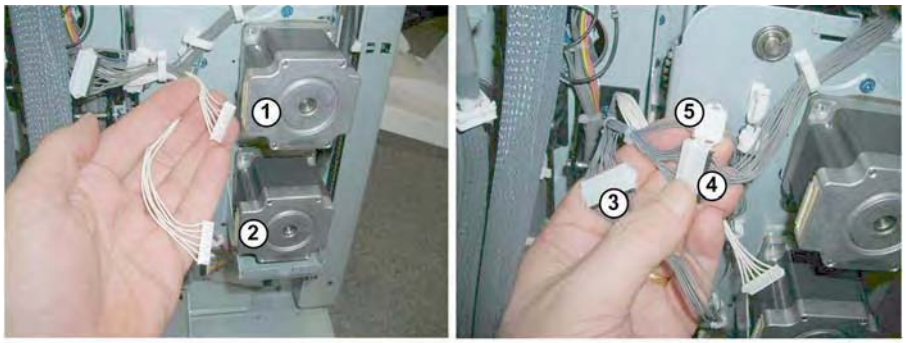
Note

- The booklet unit weighs about 18 kg (40 lb.) with the booklet stapler installed.
- The booklet stapler weighs about 3 kg (6.6 lb.)
- The booklet unit is lighter and easier to remove and re-install with the booklet stapler removed.



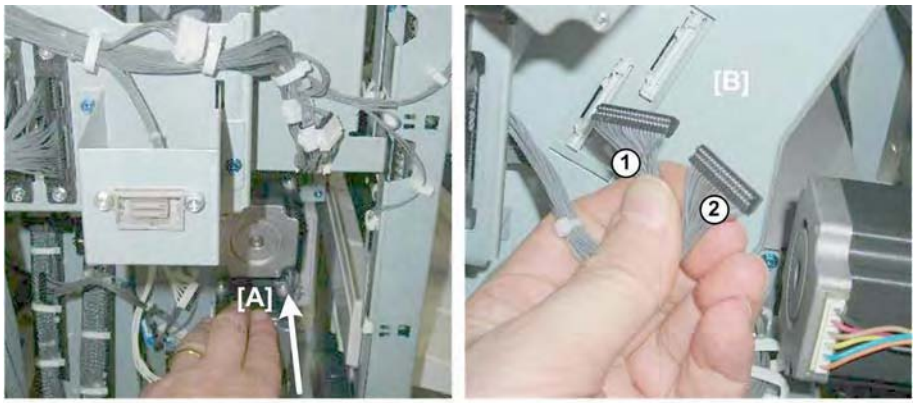
d434r127

1. Make sure that the stack/staple unit is closed.
2. Locate the two motors attached to the rear of the stack/staple unit.




d434r128

3. Disconnect the two motors ①, ②(x2).
4. Disconnect the connectors of the other harnesses attached to the rear of the stack/staple unit at ③, ④, ⑤ (x2, x2).

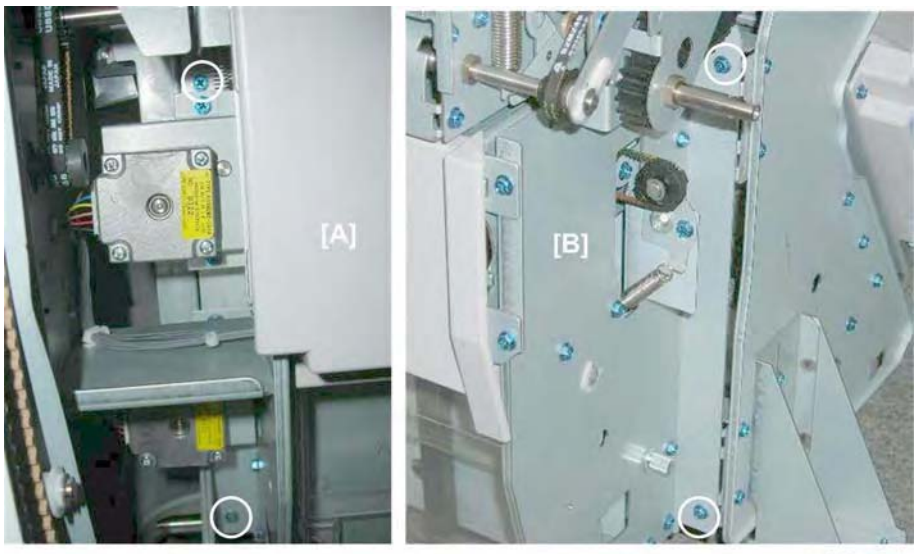



d434r129

5. Push the stack/staple unit [A] out about halfway, until you can see the two black connectors.
6. Disconnect the connectors [B] ( x2).

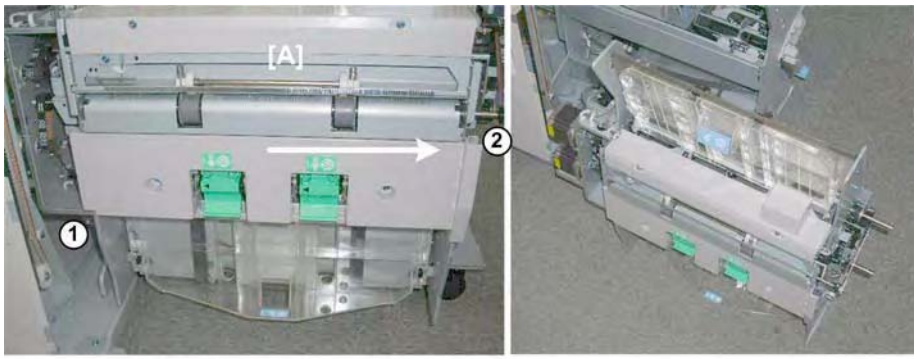
d434r130

7. Pull the stack/staple unit out until it stops.




d434r131

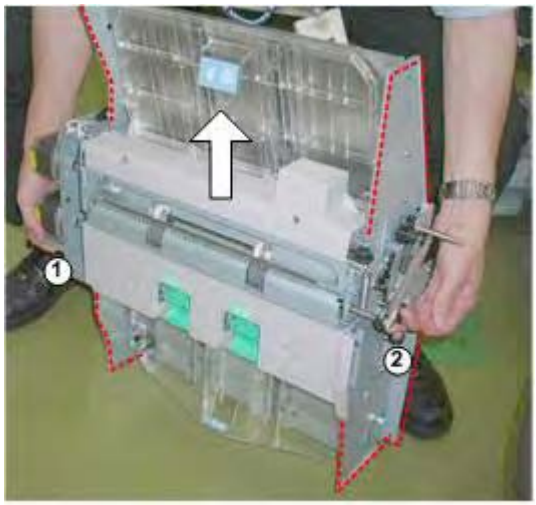
8. Remove:
   [A] Rear ( x2)
   [B] Front ( x2)



d434r132

9. Grip the unit [A] at ① and ②, slide it to the right, and set it down on the floor.

### *Handling and Moving the Booklet Unit*



d434r901

**⚠CAUTION**

- The metal edges of the booklet unit are sharp and can easily cut your hands or fingers. Always handle the unit carefully.

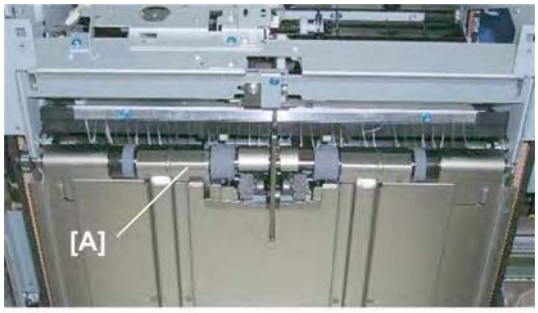
1. Always lift the booklet unit with your hands positioned at ① and ②.
2. Never attempt to lift the booklet unit by the edges (shown above by the red dotted lines).

## 1.1.4 SIDE FENCE

**Preparation**

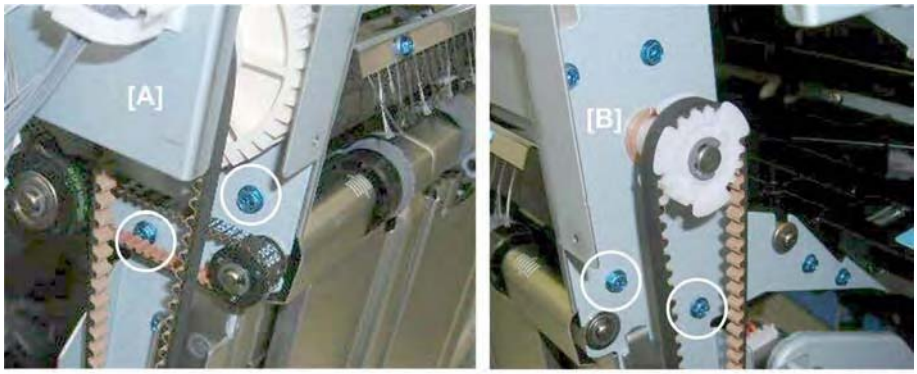
- Shift tray jogger unit.
- Pull stack/stapler unit out with handle **Rb12**.

### *Exit Roller Cover*



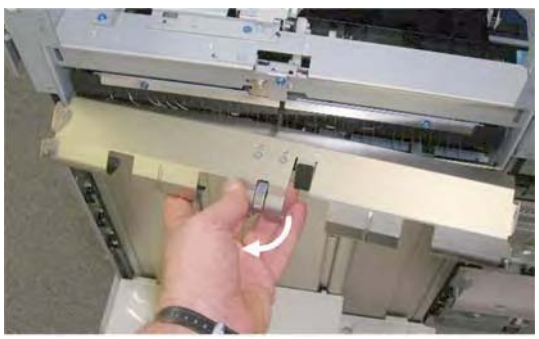

d434r133

This is the exit roller cover [A].




d434r134

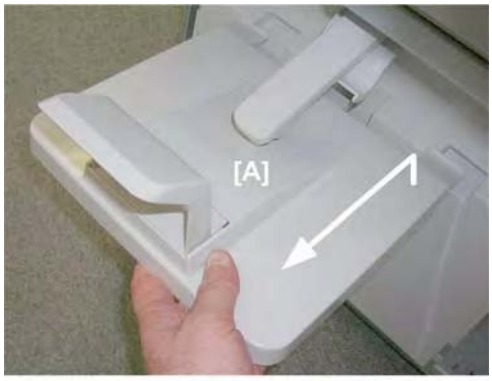
1. Remove:
   [A] Rear ( x2)
   [B] Front ( x2)



d434r135

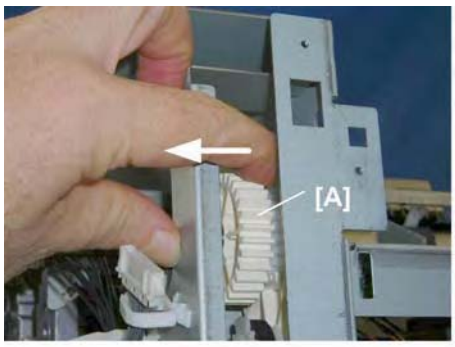
2. Remove the cover.

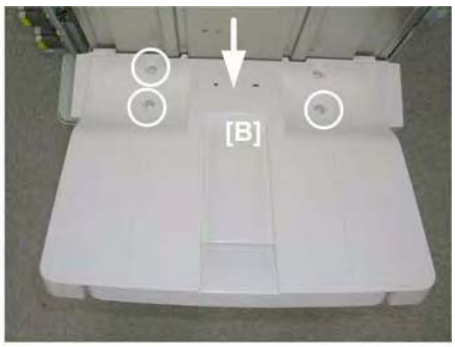
### *Shift Tray, Booklet Tray*




d434r136

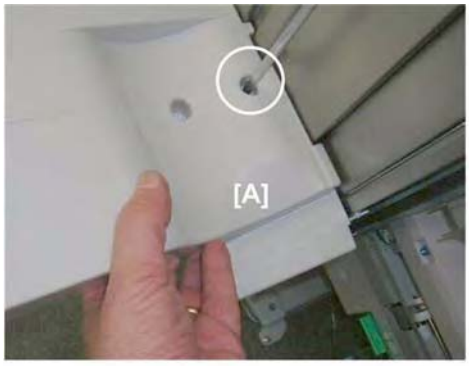
1. Remove the booklet tray [A].




d434r137

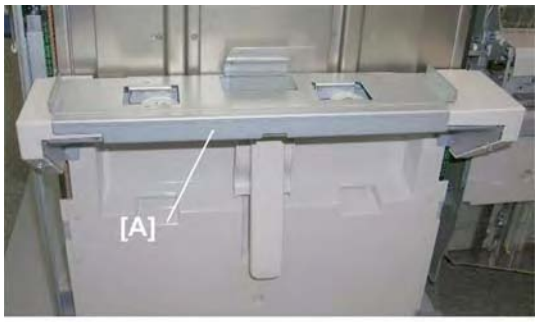
2. Support the shift tray with your hand.
3. At the left rear corner, pull the gear [A] toward to release the tray, then lower the tray.
4. Remove the screws [B] ( x3)



d434r138

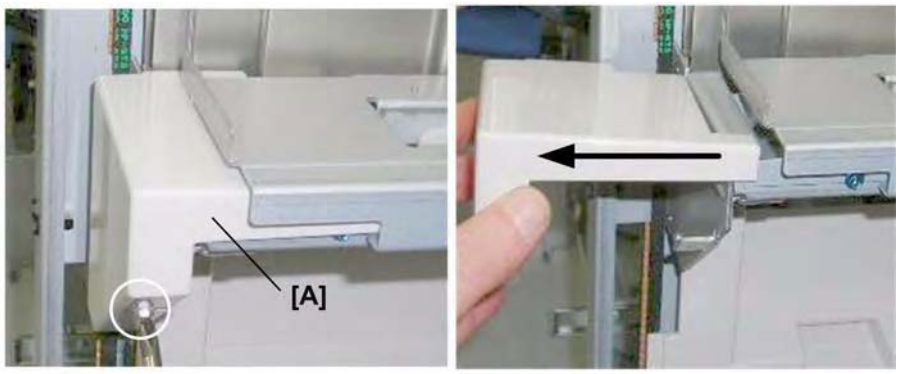
5. Support the tray [A] with your hand to prevent it from falling, then remove the last screw. ( x1)

### *Shift Tray Base*



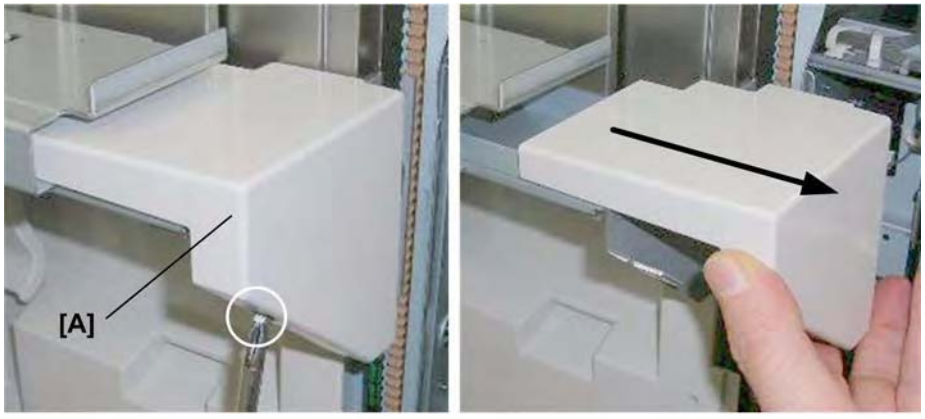

d434r139

This is the shift tray base [A].



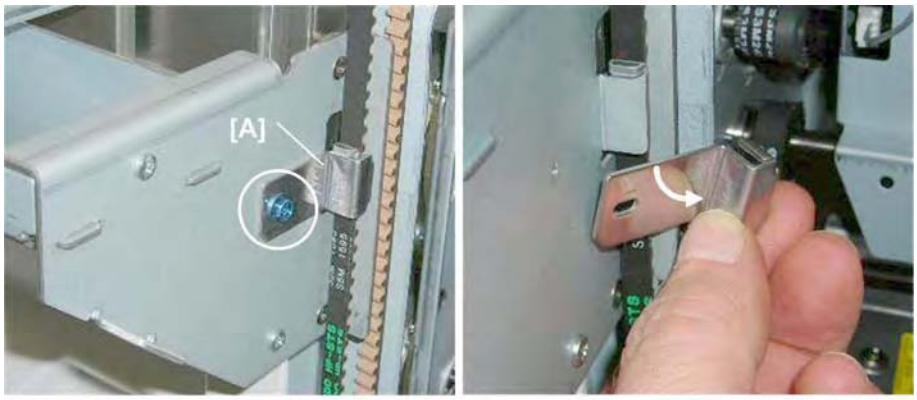

d434r140

1. Rear cover [A] ( x1).
2. Slide the cover off. You do not need to remove the screw.



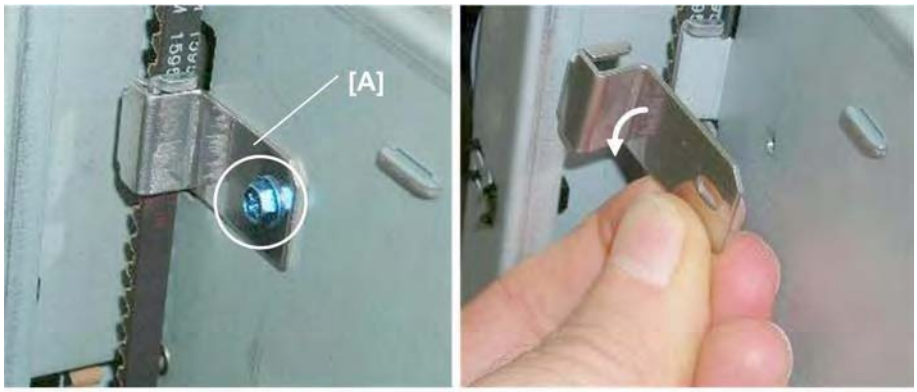

d434r141

3. Front cover [A] ( x1)
4. Slide the cover off. You do not need to remove the screw.



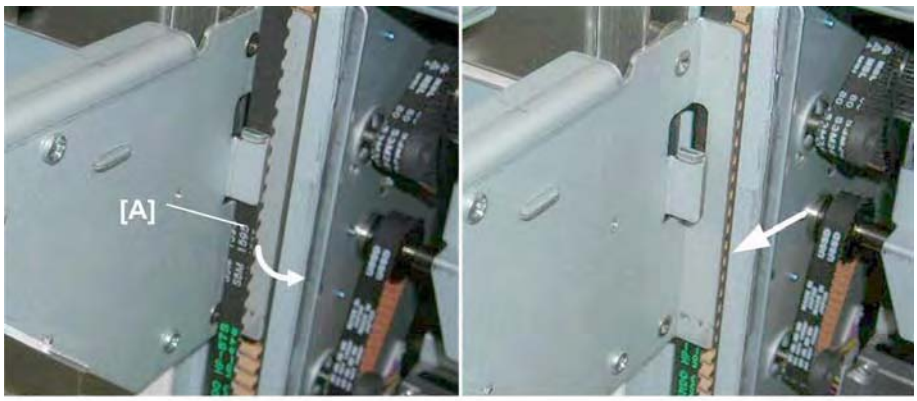

d434r142

5. Front belt clamp [A] ( x1)



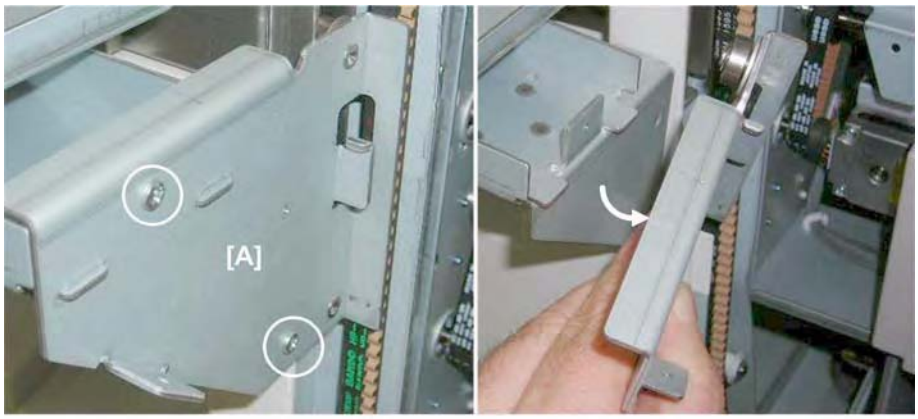

d434r143

6. Rear belt clamp [A] ( x1)



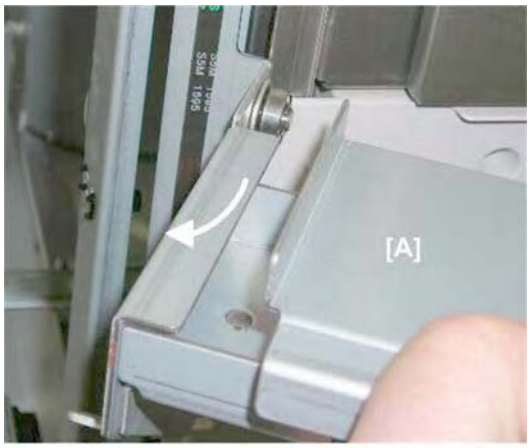

d434r144

7. At the front, pull the belt [A] out and set it behind the plate.




d434r145

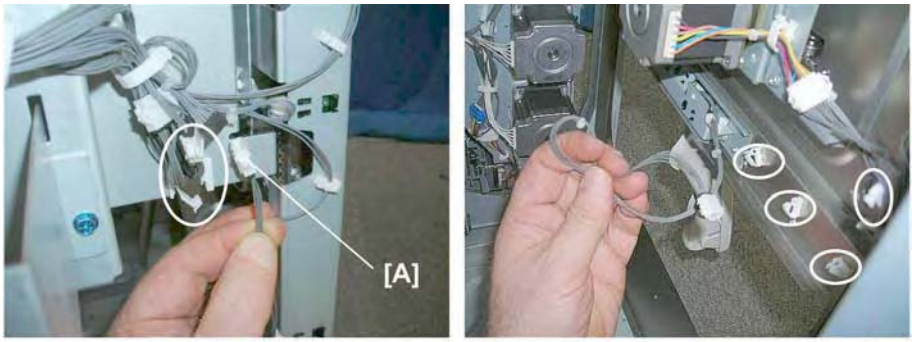
8. Front base plate [A] ( x2)




d434r146

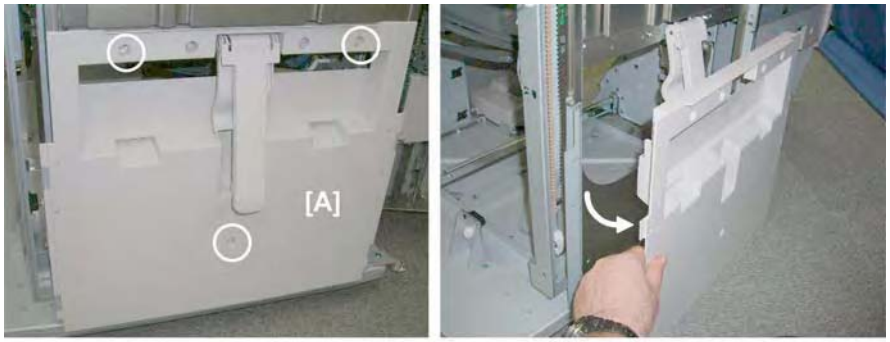
9. Disconnect the rear end of the base [A] from the side fence (you do not need to remove the plate).

## *Left Lower Cover, Booklet Tray Actuator Arm*




d434r147

1. Half-turn sensor harness [A] ( x6, x1)



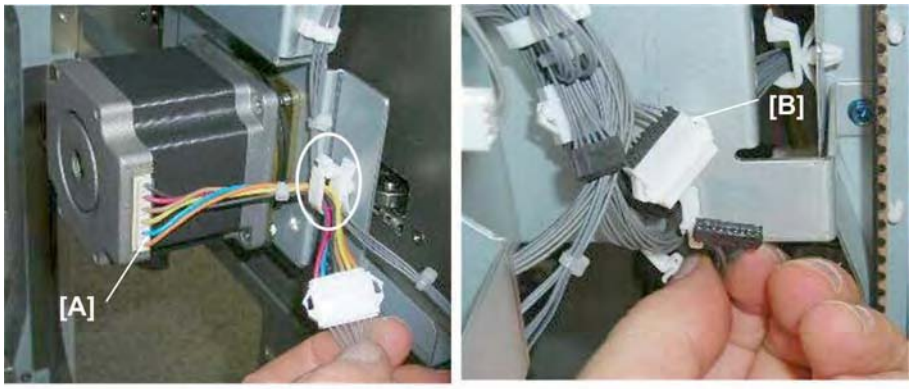

d434r148

2. Rear cover [A] ( x3)

d434r149a

3. Booklet tray actuator arm [A] ( x2)

## *End Fence*

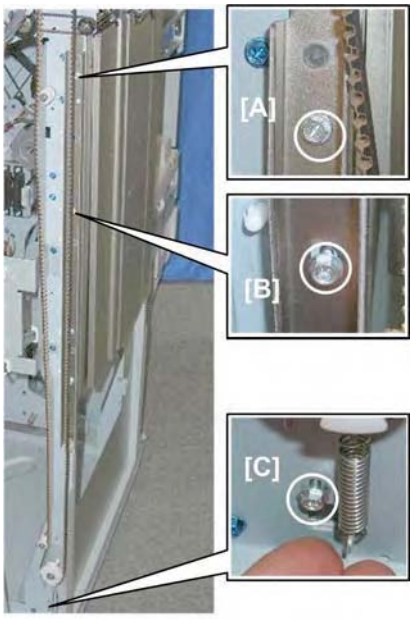



d434r149

1. Disconnect:

   [A] Motor ( x 1, x1)

   [B] Half-turn sensor ( x 1, x1)



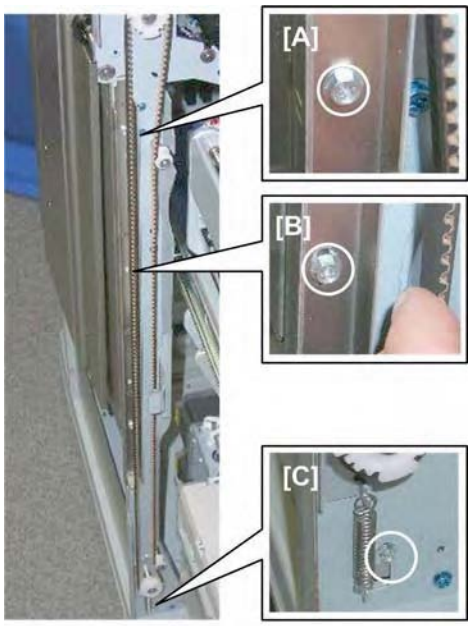

d434r150

2. Rear:

   [A] Top ( x1)

   [B] Center ( x1)

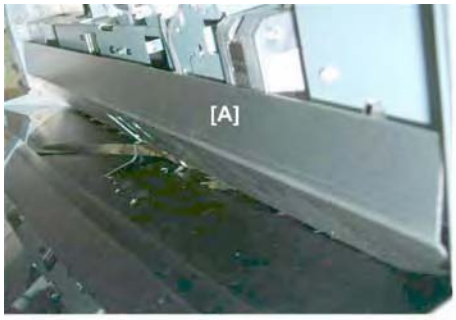
   [C] Bottom ( x1)



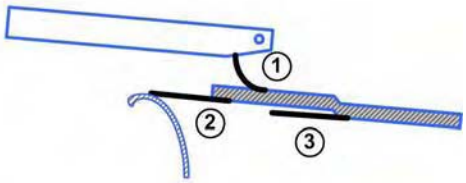
d434r151

3. Front:
   [A] Top ( x1)
   [B] Center ( x1)
   [C] Bottom ( x1)

**Re-installation**



d512r152

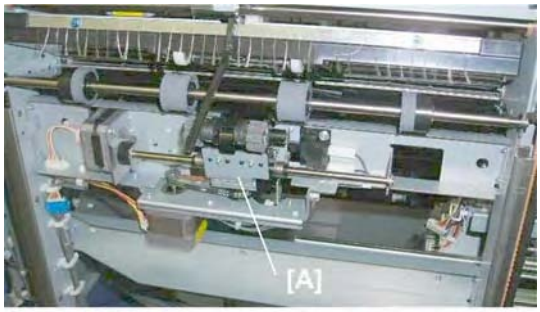



1. When you re-attach the exit roller cover [A]:
   - Make sure the small mylar ① is set as shown above.
   - Make sure the large mylars ② and ⑧ are set as shown above.

## 1.1.5 DRAG ROLLER UNIT

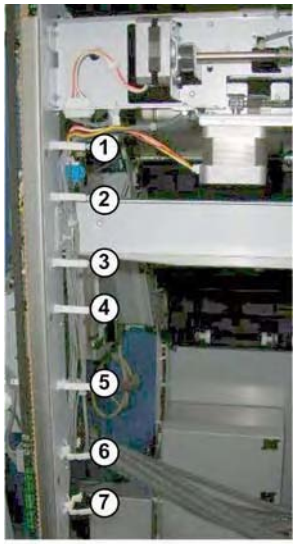
**Preparation**

- End fence (☛p.23)




d434r153

This is the drag roller unit [A].

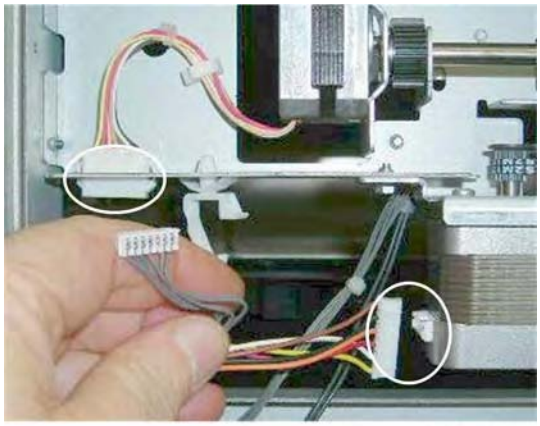



d434r154

1. Harness connectors (🔌 x7)

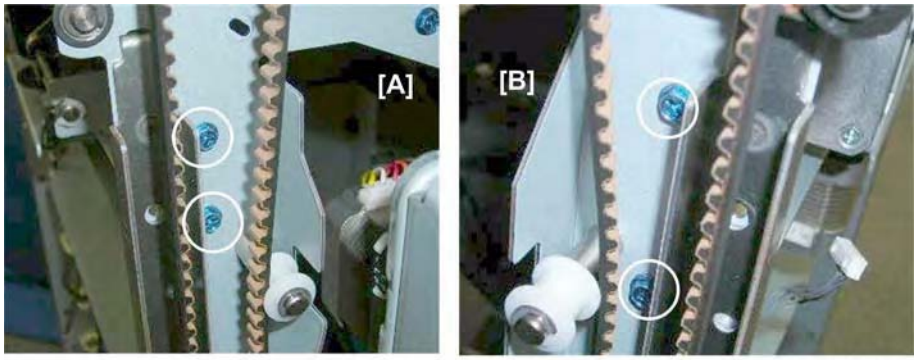
d434r155

2. Connectors (🔌 x1, 🔌 x2)



d434r156

3. Motor harnesses ( x2)

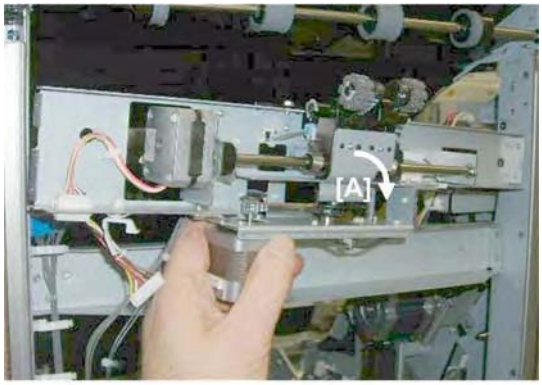



d434r157

4. Remove:

[A] Front ( x2)

[B] Rear ( x2)




d434r158

5. Remove the drag roller unit [A].

# 1.2 HORIZONTAL PAPER FEED

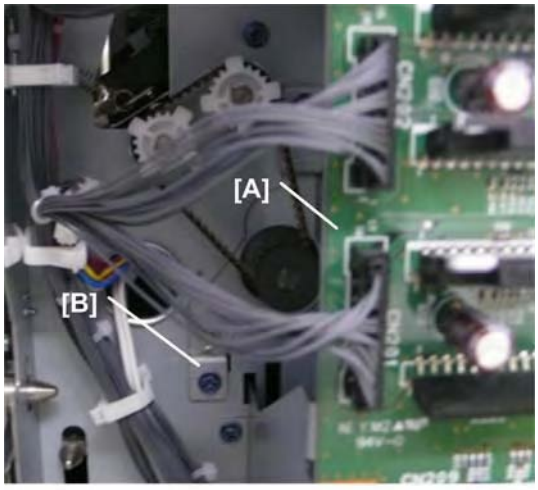
## 1.2.1 ENTRANCE

### *Entrance Roller Motor*

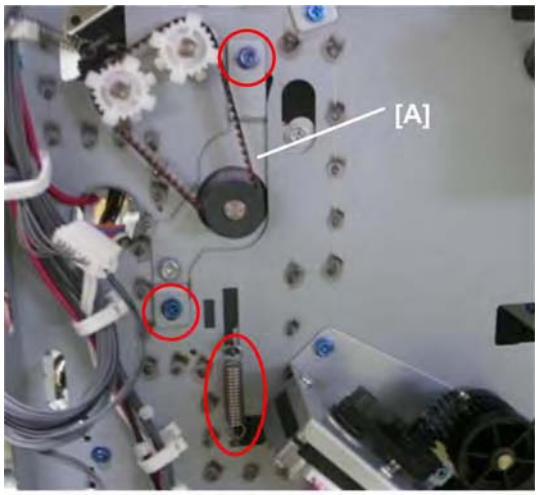
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)

The entrance roller motor is under the entrance paper guide.

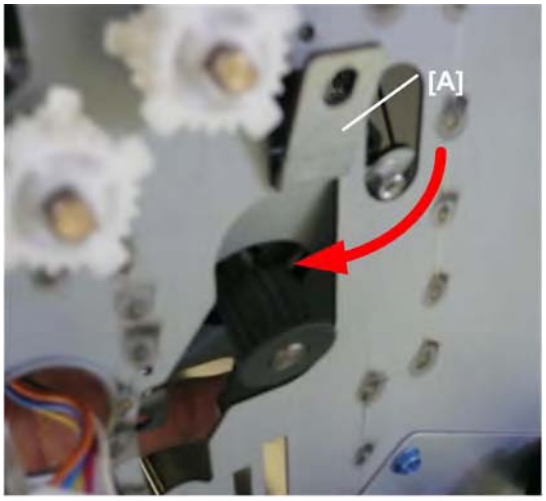



1. Disconnect and remove the main board [A] ( x4, Ground connectors x2, x All, x All) so you can access the motor bracket [B].



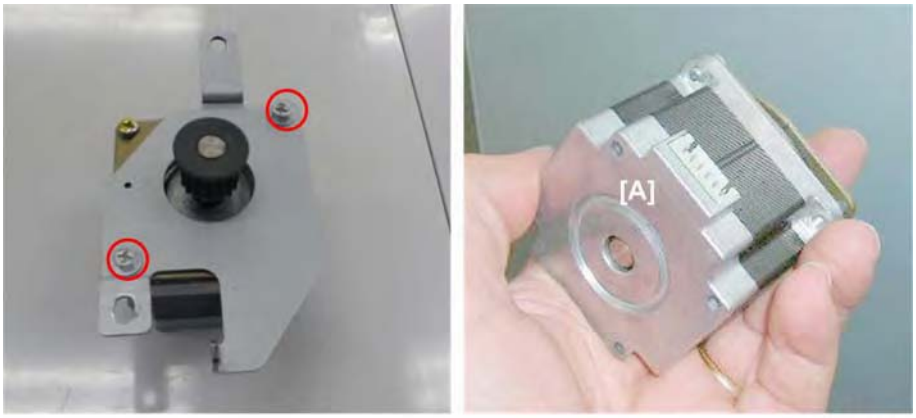

d434d911

2. Disconnect the motor bracket [A] ( x2, x1, x1).




d434r912

3. From inside the unit, pull the bracket [A] (with the motor attached) through the hole.



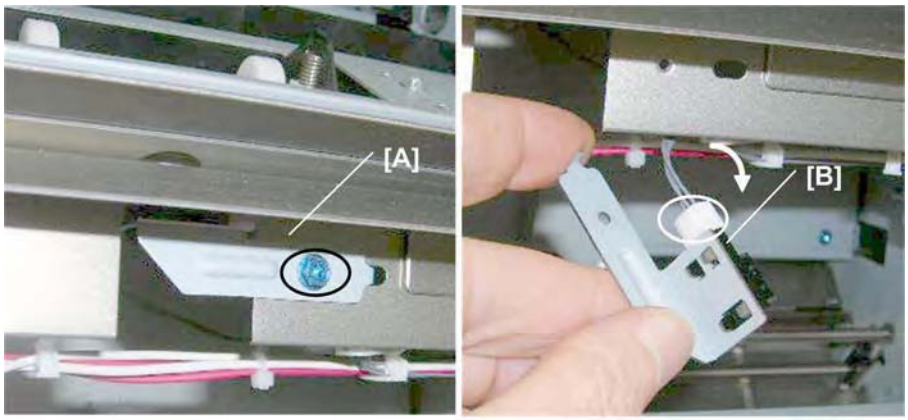

d434r913

4. Remove the motor [A] from the bracket ( x 2).

### *Entrance Sensor*

d434r164

The entrance sensor port is above the paper guide.




d434r165

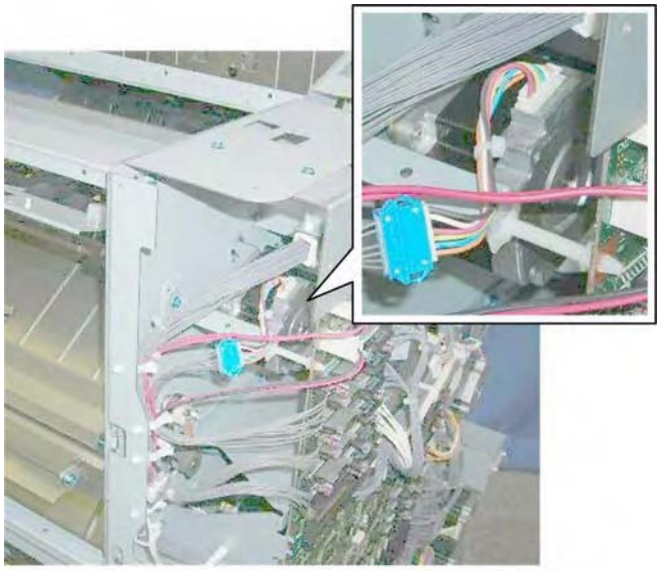
1. Remove:
   [A] Sensor bracket ( x1)
   [B] Sensor ( x1, x5)

## 1.2.2 REGISTRATION

### *Registration Motor*

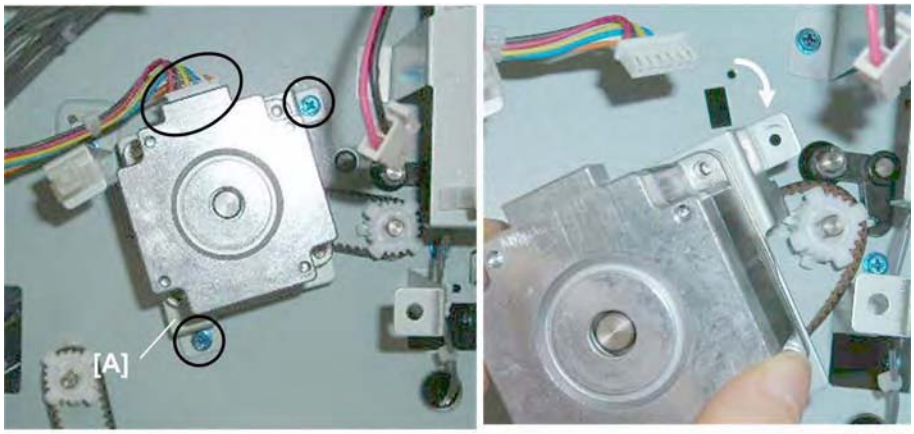
**Preparation**

- Rear upper cover (☛p.3)
- Sub board (☛p.144)



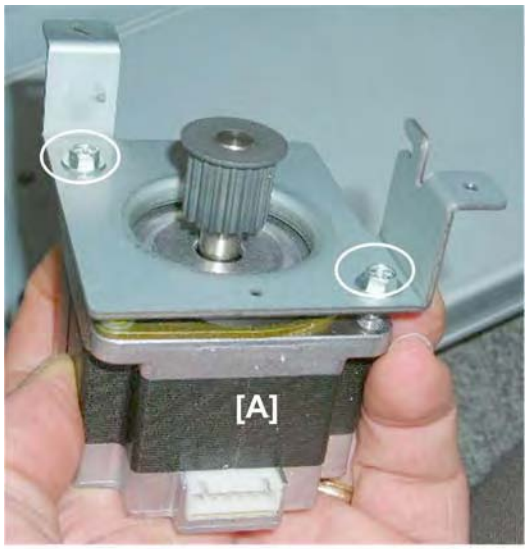
d434r166

The registration motor is behind the sub board.




d434r167

1. Disconnect motor bracket [A] ( x2, x1, x1)



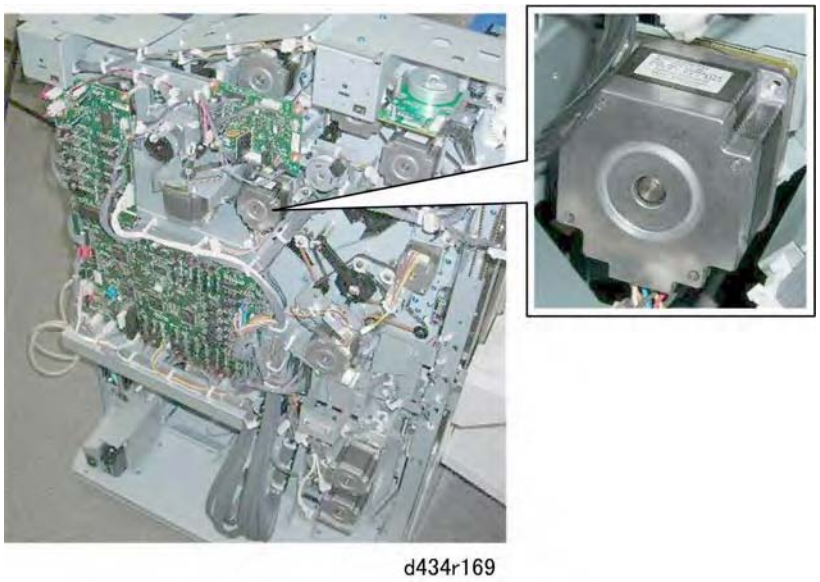

d434r168

2. Remove motor [A] ( x2)

## *Horizontal Transport Motor*

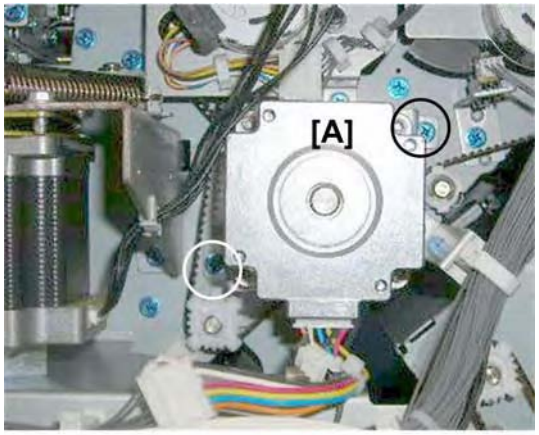
**Preparation**

- Rear upper cover (☛p.3)



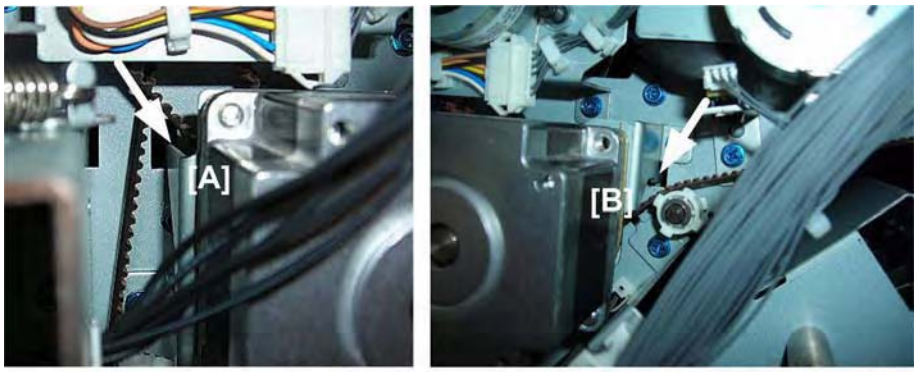
d434r169

The horizontal transport motor is in the center.



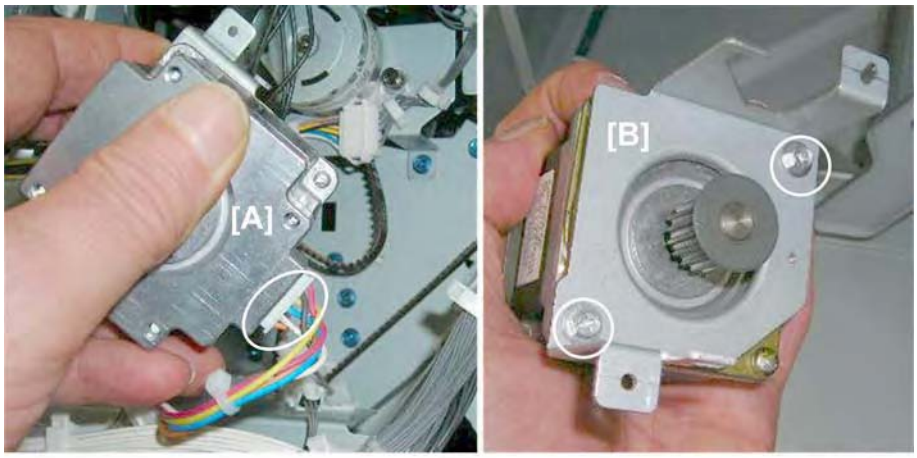

d343r170

1. Disconnect motor [A] ( x2)




d434r171

2. Disconnect the motor bracket:
   [A] Left hook
   [B] Right hook




d434r172

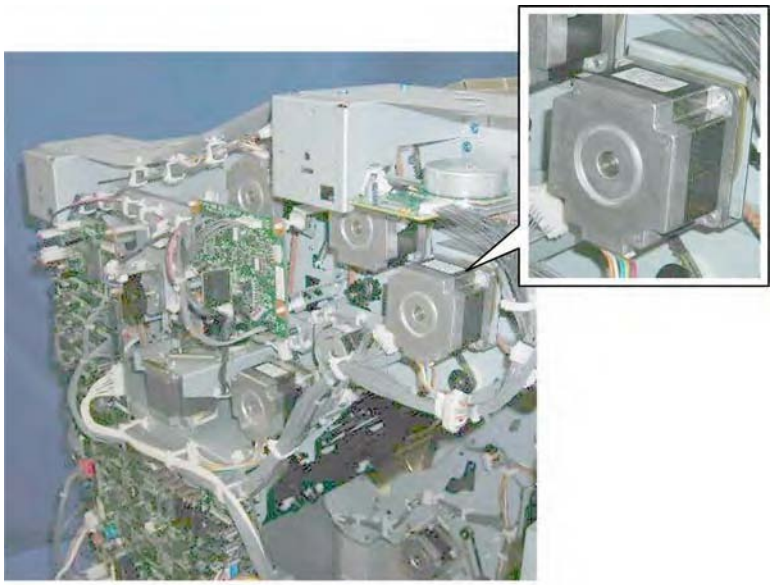
3. Disconnect motor [A] (Belt x1, x1)
4. Remove bracket [B] ( x2)

## 1.2.3 EXIT

### *Shift Tray Exit Motor*

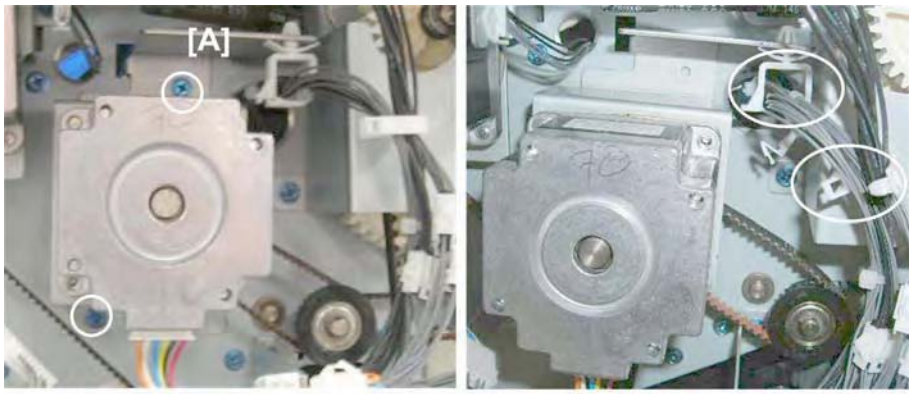
**Preparation**

- Rear upper cover (☛p.3)



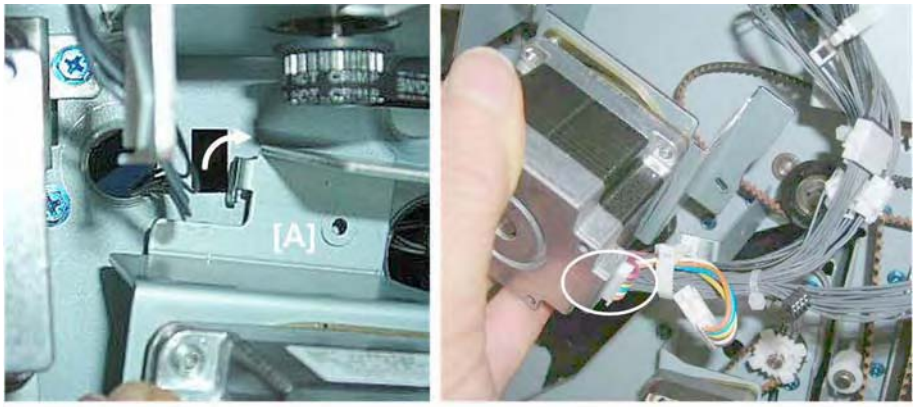
d434r173

The shift tray exit motor is at the rear left corner.



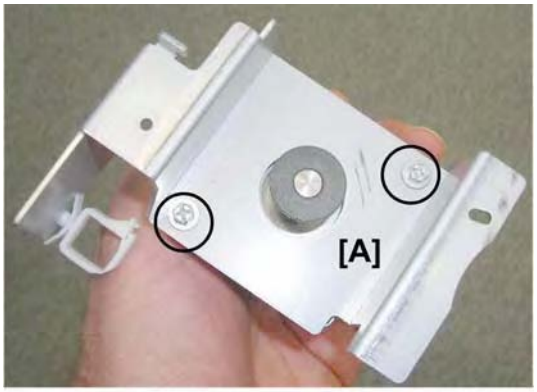

d434r174

1. Disconnect motor [A] ( x2, x2)




d434r175

2. Disconnect motor bracket [A] ( x1, x 1)




d434r176

3. Motor bracket [A] ( x2)

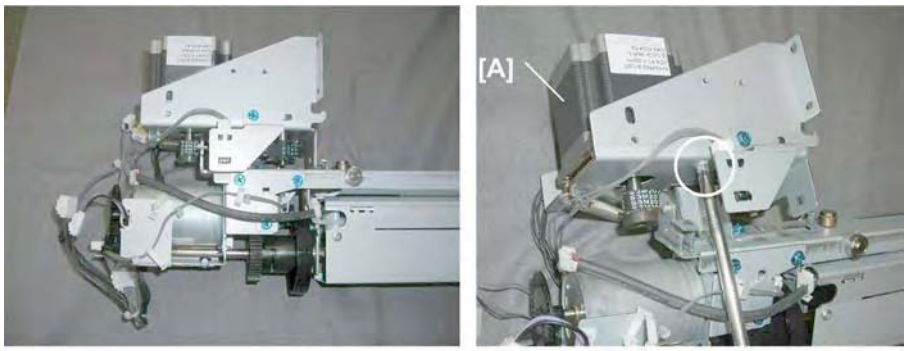
# 1.3 PUNCH UNIT

## 1.3.1 PUNCH MOTORS AND SENSORS

### *Punch Movement Motor*

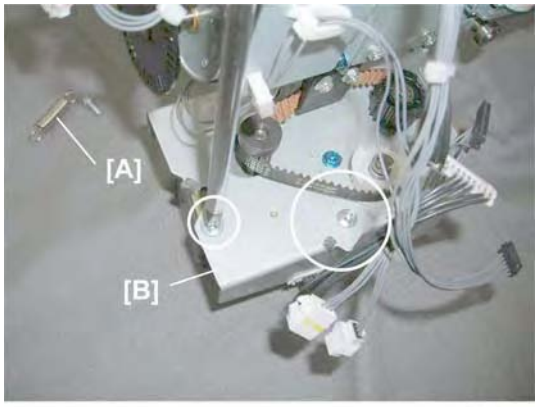
**Preparation**

- Punch unit (☛"Installation Procedure" for Finishers (D512/D513) in the Field Service Manual of the Main Machine)



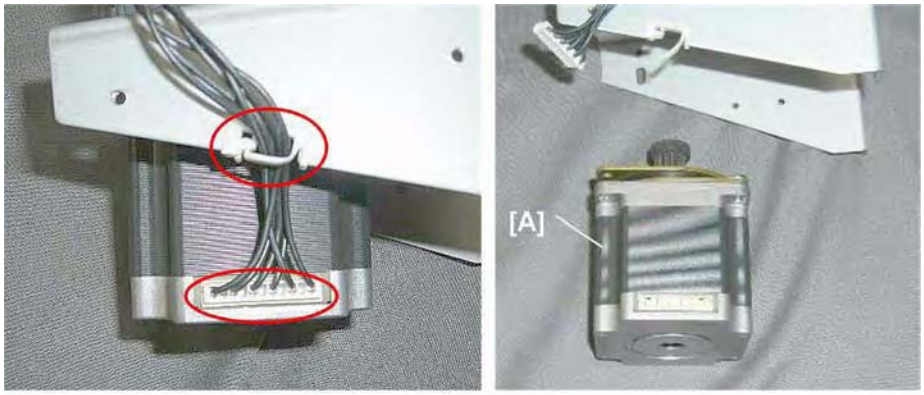

d434r177

1. Punch movement motor bracket [A] ( x1)




d434r178

2. Remove:
   [A] x1
   [B] Bracket ( x1)



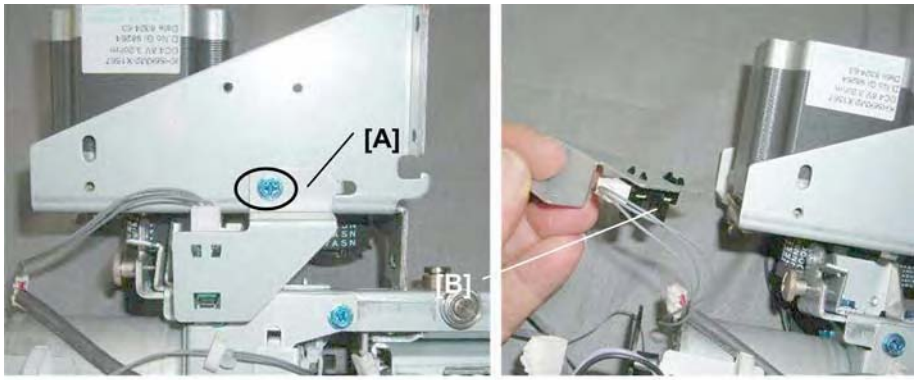

d434r179

3. Disconnect motor [A] ( x1, x1)

## *Punch Unit HP Sensor*

**Preparation**

- Punch unit ("Installation Procedure" for Finishers (D512/D513) in the Field Service Manual of the Main Machine)



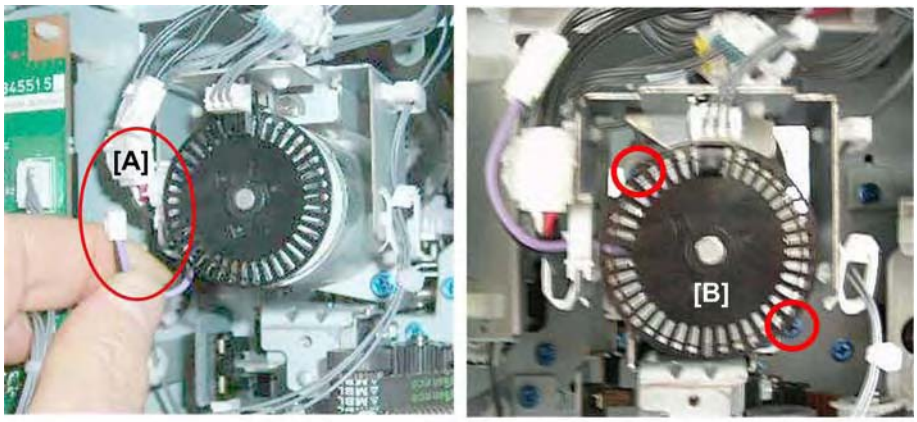

d434r180

1. Remove:
   [A] Sensor bracket ( x1)
   [B] Sensor ( x1, Pawls x5)

## *Punch Drive Motor*

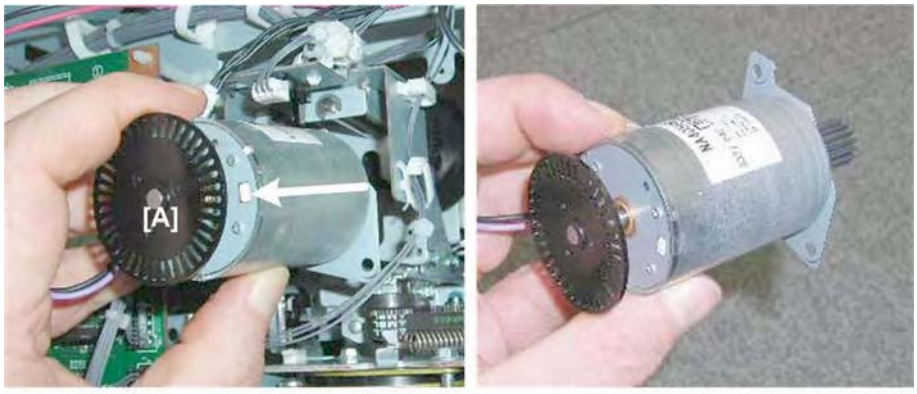
### Preparation

- Rear upper cover (☛p.3)




d434r181

1. Disconnect:
   [A] Motor (x1, x1)
   [B] Bracket ( x2)



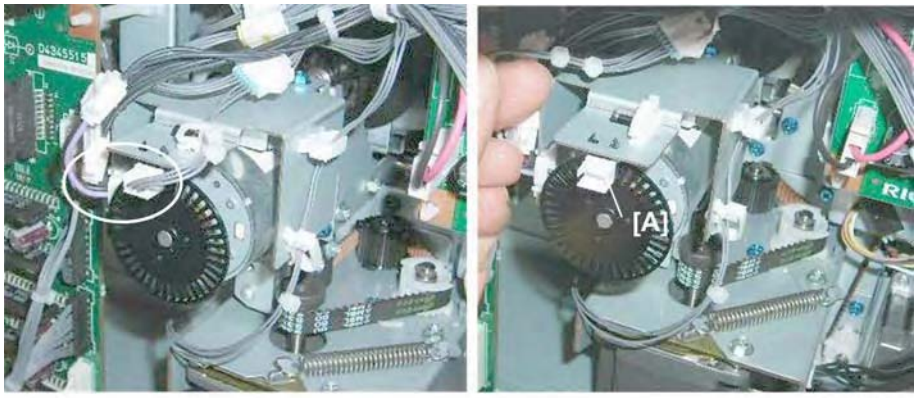

d434r182

2. Remove motor [A].

## *Punch RPS Sensor*

### Preparation

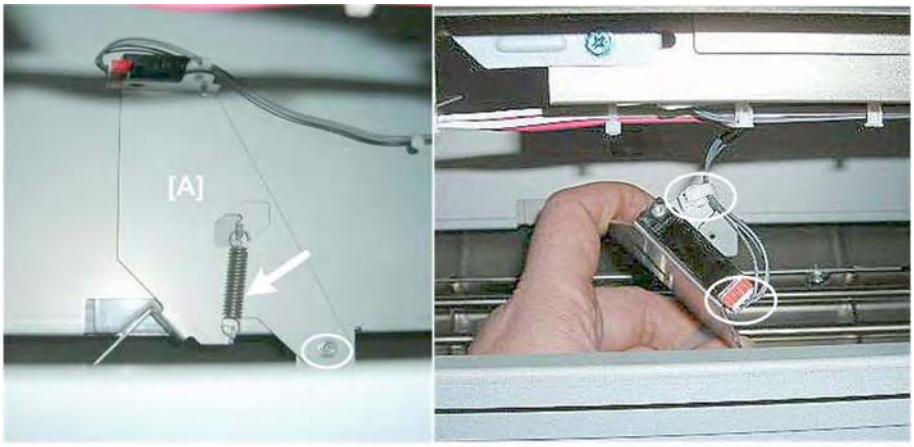
- Rear upper cover (☛p.3)




d434r183

1. Sensor [A] ( x1, x1, x5)

### *Punch-out Hopper Full Sensor*




d434r184

1. Sensor swing plate [A] (Spring x1, x1, x1, x1)

d434r184a

2. Sensor ( x1)

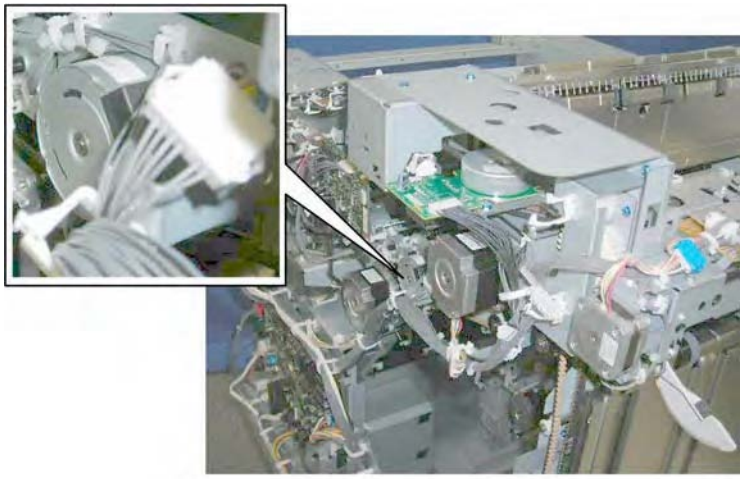
# 1.4 PROOF TRAY

## 1.4.1 PROOF TRAY MOTORS

### *Proof Tray JG Motor*

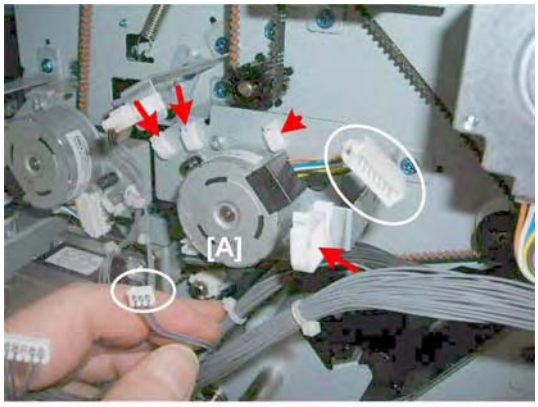
**Preparation**

- Rear upper cover (☛p.3)
- Punch unit PCB (☛p.147)



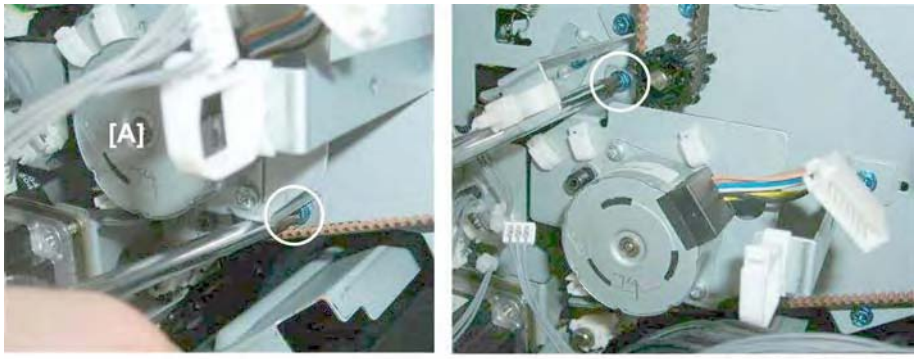
d434r185

The proof tray JG motor is located here.



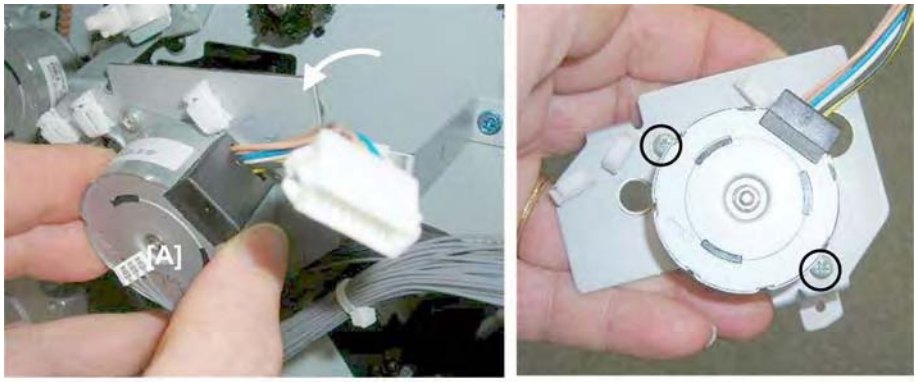

d434r186

1. Disconnect motor [A] ( x4,  x2)




d434r187

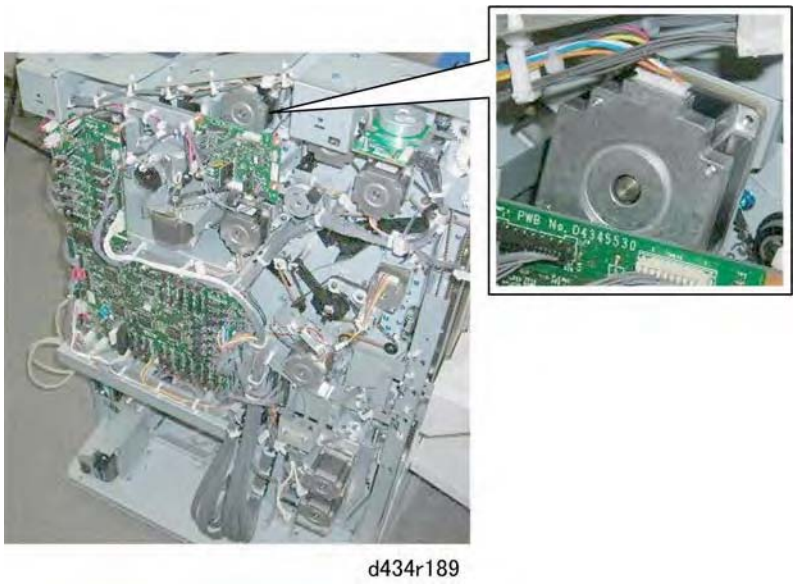
2. Bracket of the motor [A] ( x2)




d434r188

3. Remove:
   [A] Motor with bracket
   [B] Bracket ( x2)

## *Proof Tray Vertical Transport Motor*

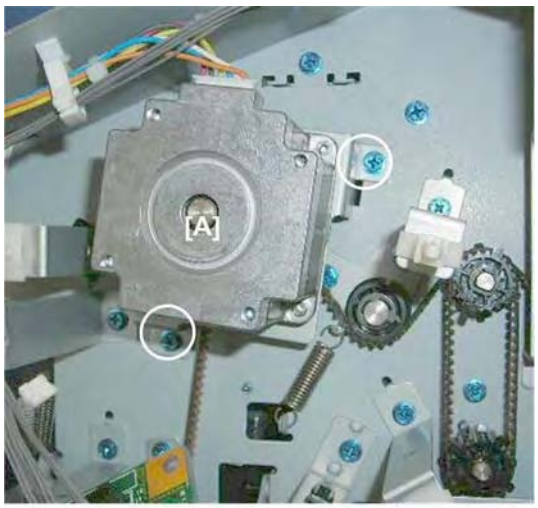


d434r189

The proof tray vertical transport motor is located here, partially covered by the punch unit PCB.

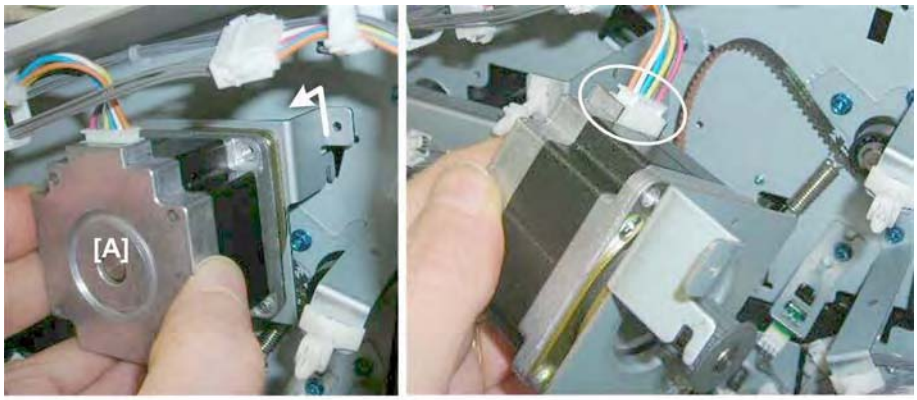
**Preparation**

- Rear upper cover (☛p.3)
- Top rear cover (☛p.9)
- Punch unit PCB (☛p.147)



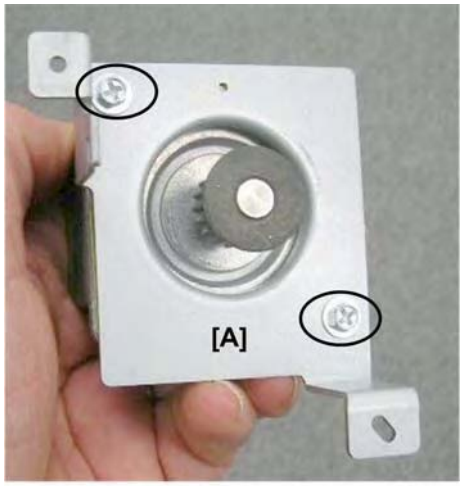

d434r190

1. Bracket of the motor [A] ( x2)




d434r191

2. Pull out motor [A] ( x1, x1, x1)



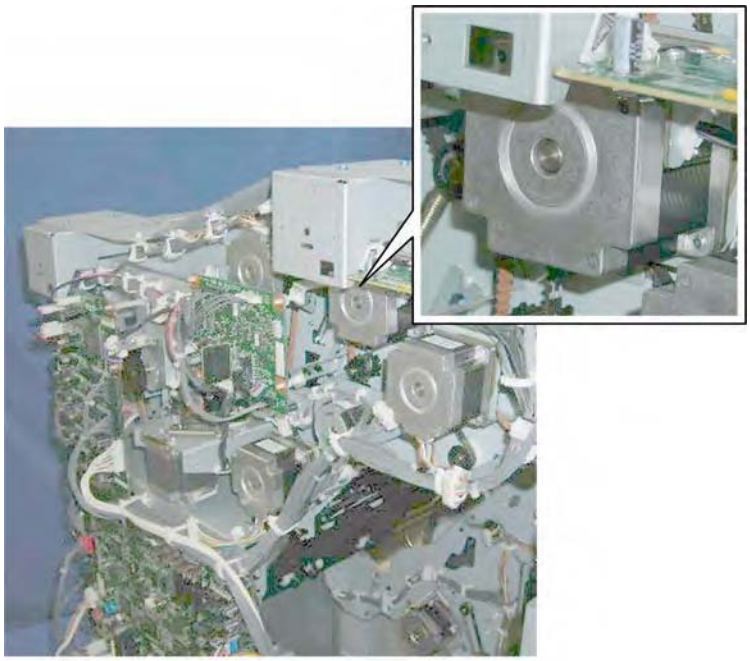

d434r192

3. Remove bracket [A] ( x2)

## *Proof Tray Exit Motor*

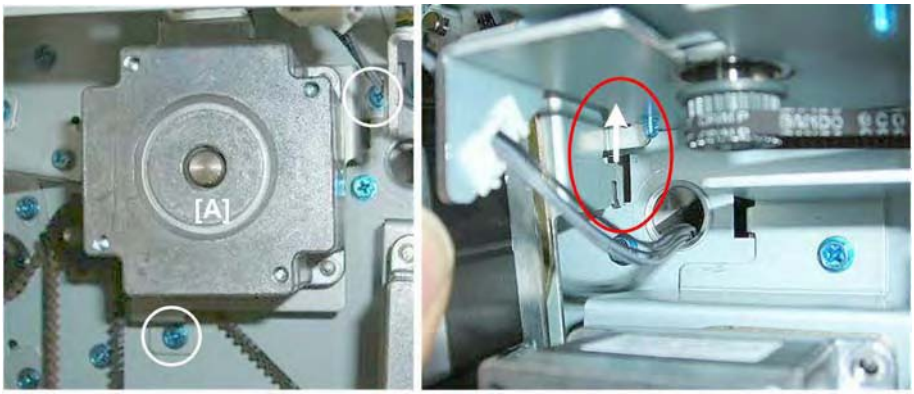
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Top rear cover (☛p.9)



d434r193

The proof tray exit motor is located here.




d434r194

1. Motor bracket [A] ( x2, x1)

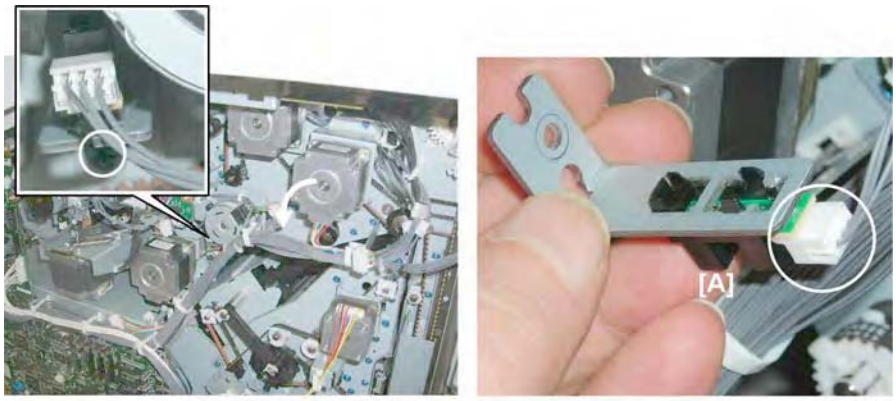
2. Remove the motor [A] and bracket ( x1, x1. x2)

## 1.4.2 PROOF TRAY SENSORS

### *Proof Tray JG HP Sensor*

**Preparation**

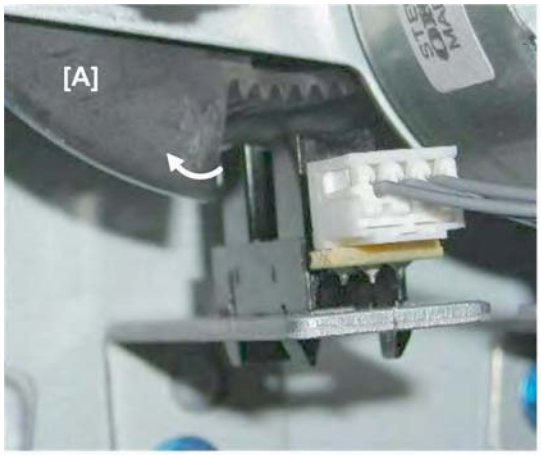
- Rear upper cover (☛p.3)




d434r196

1. Remove sensor bracket [A] and sensor ( x1, x1, x5)

**Re-installation**



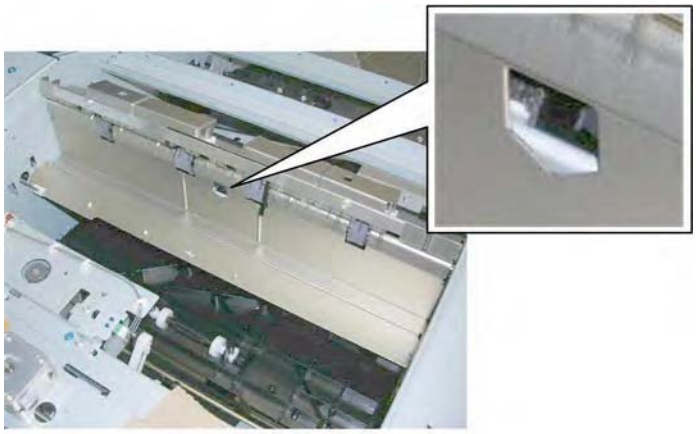

d434r197

1. Turn the proof JG motor [A] gear to move the actuator to the left if the sensor is difficult to re-install.

## *Proof Tray Exit Sensor, Proof Tray Full Sensor*

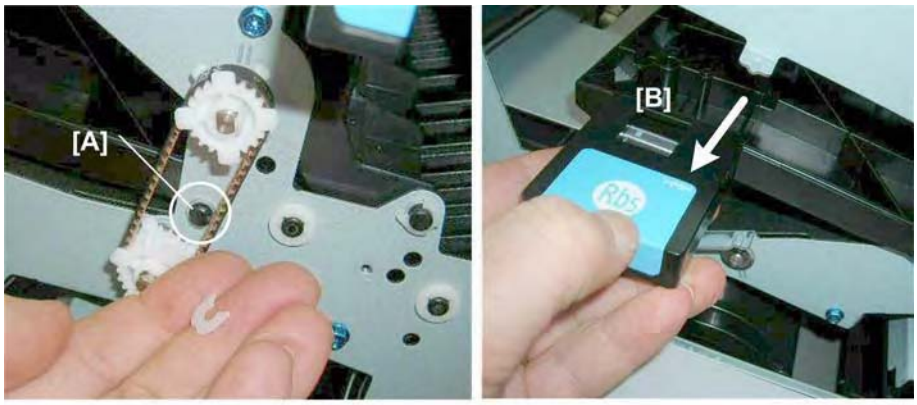
**Preparation**

- Upper inner cover (☛p.6)
- Top rear cover (☛p.9)
- Shift tray jogger unit (☛p.9)
- Left upper cover (☛p.10)
- Proof tray (☛p.8)



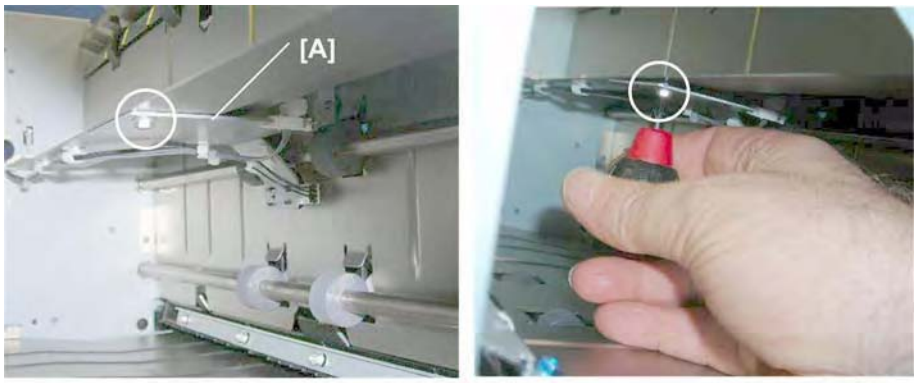
d434r198

These sensors are mounted on the same bracket under the paper path cover.



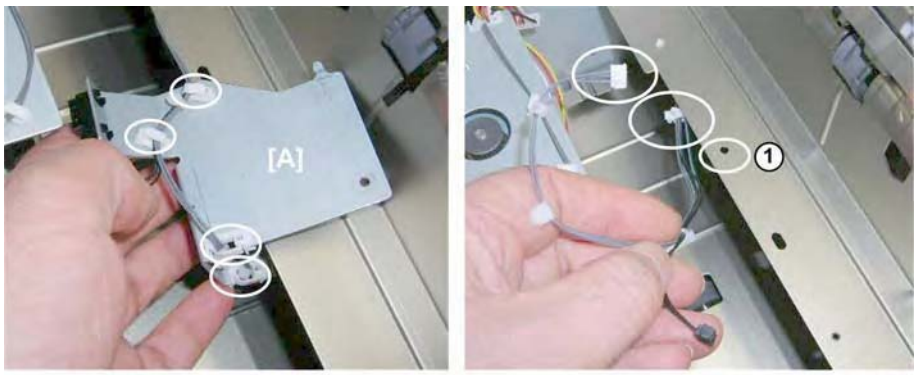

d434r199

1. At the front, disconnect the shaft [A] of plate Rb5. (⟲ x1)
2. Remove **Rb5** [B]



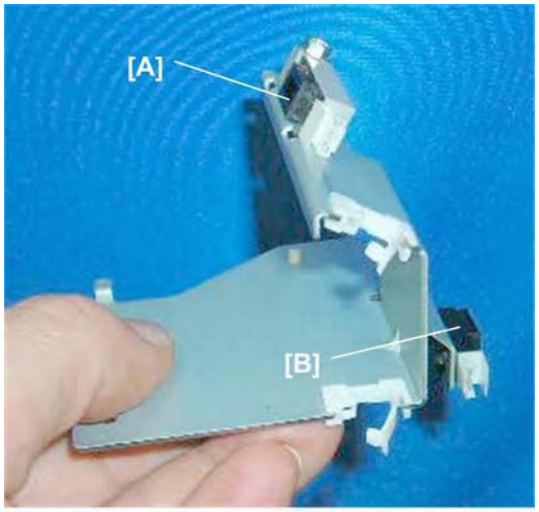

d434r200

3. Use a short screwdriver to remove bracket plate [A]. ( x1)




d434r201

4. Use a pencil or marker to mark the color and location of the harnesses.
5. Disconnect a standoff ① to create slack in the harnesses.
6. Disconnect the bracket and sensors [A] (x4, x2).




d434r202

7. Remove:
   [A] Tray full sensor ( x1)
   [B] Tray exit sensor (x5)

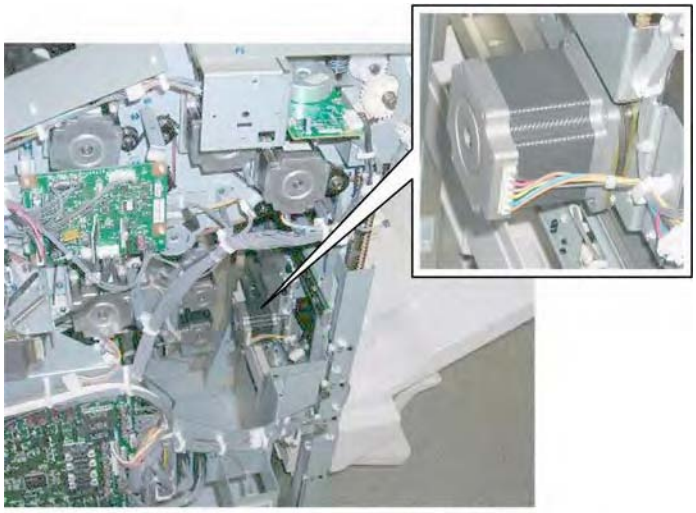
# 1.5 SHIFT TRAY

## 1.5.1 SHIFT TRAY SIDE-TO-SIDE MOVEMENT

### *Shift Motor*

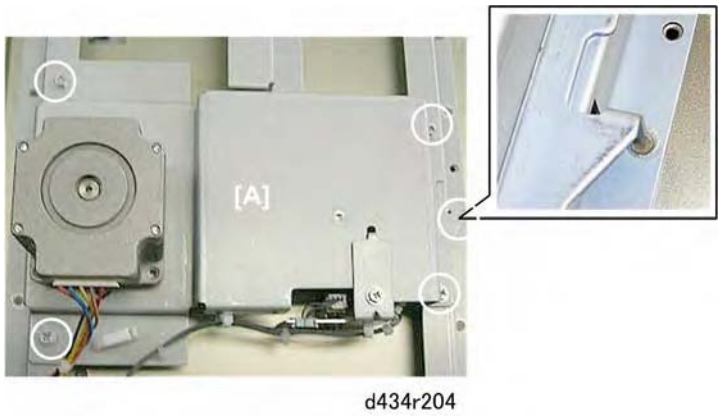
**Preparation**

- End fence (☛p.23)



d434r203

The shift motor is visible inside the machine, but the end fence must be removed for servicing this motor.




d434r204

1. Lay the end fence on a flat surface.
2. Remove bracket [A] ( x4, x1)

d434r205

3. Turn the bracket over and remove the motor [A] ( x2, x1)

## *Shift Tray HP Sensors (Front, Rear)*

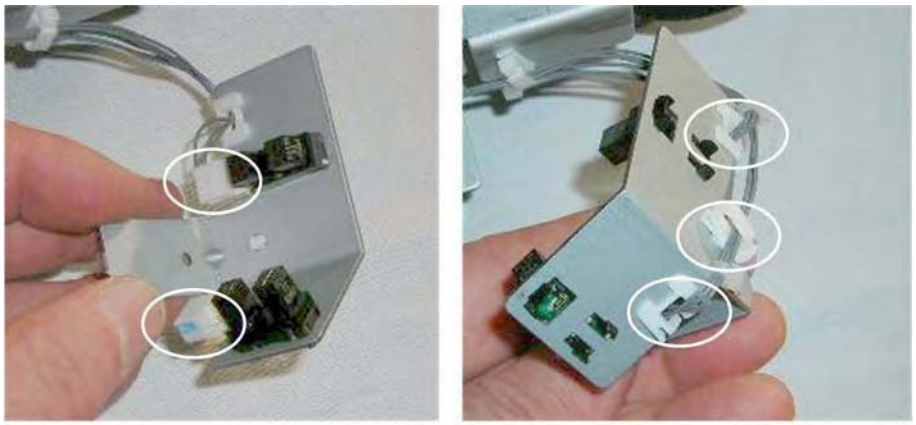
These sensors are mounted on the same bracket as the shift motor.

**Preparation**

- End fence (p.23)

d434r206

1. Remove sensor bracket [A] ( x1).



d434r207

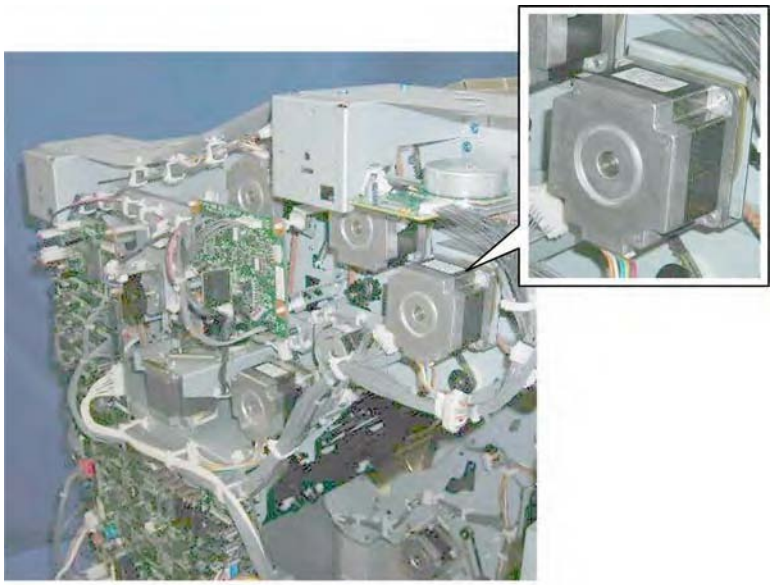
2. Remove sensors ( x2, x3, x 5 each)

## 1.5.2 SHIFT TRAY EXIT

### *Shift Tray Exit Motor*

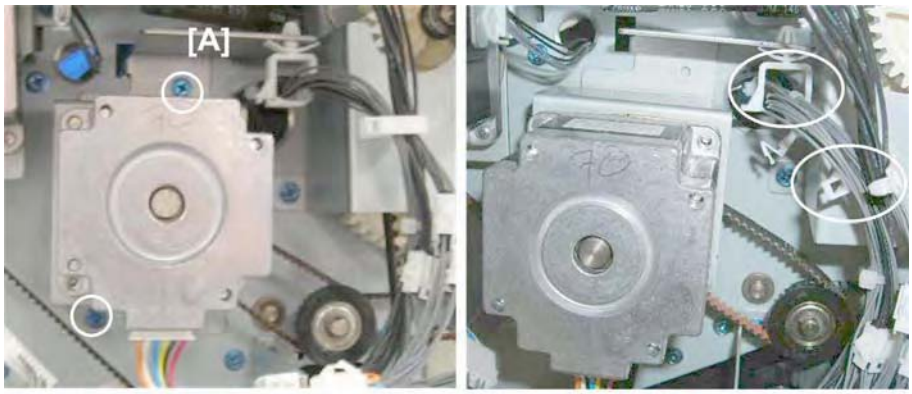
**Preparation**

- Rear upper cover (☛p.3)



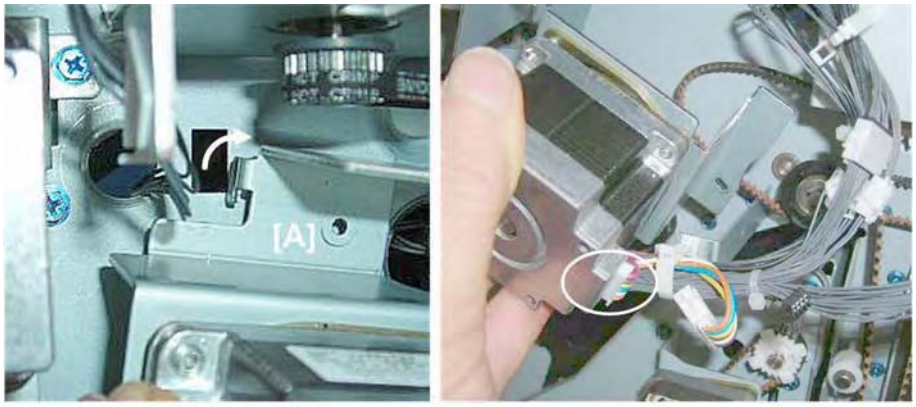
d434r173

The shift tray exit motor is at the rear left corner.



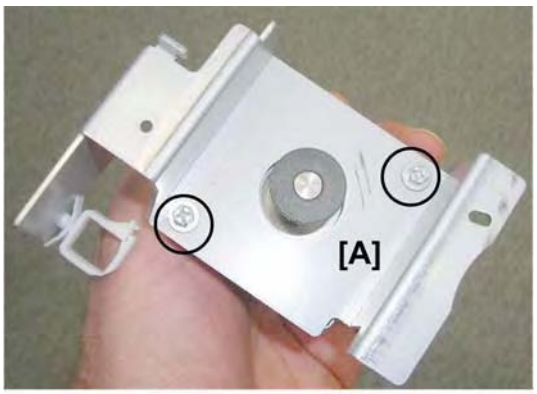

d434r174

1. Disconnect motor [A] ( x2, x2)




d434r175

2. Disconnect motor bracket [A] ( x1)



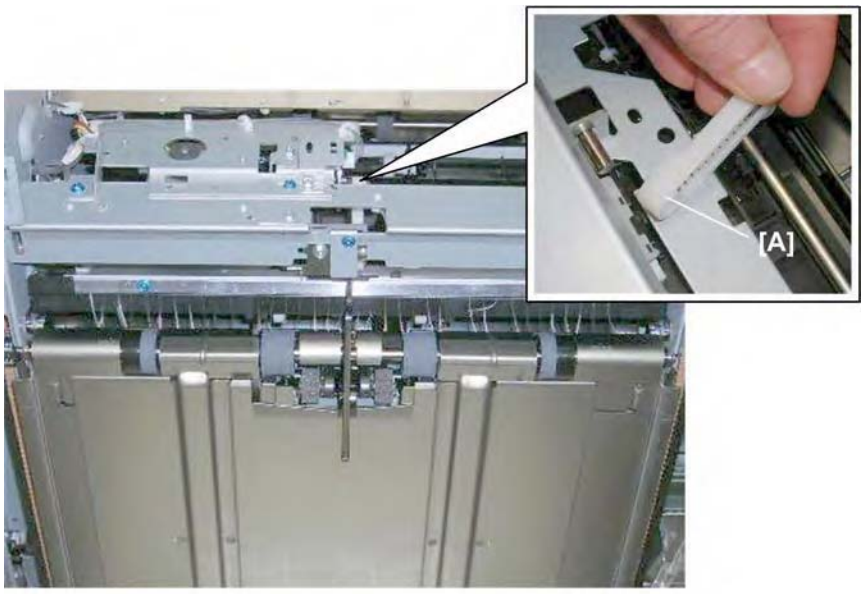

d434r176

3. Motor bracket [A] ( x2)

## *Shift Tray Exit Sensors (Long and Short)*

**Preparation**

- Proof tray (☛p.8)

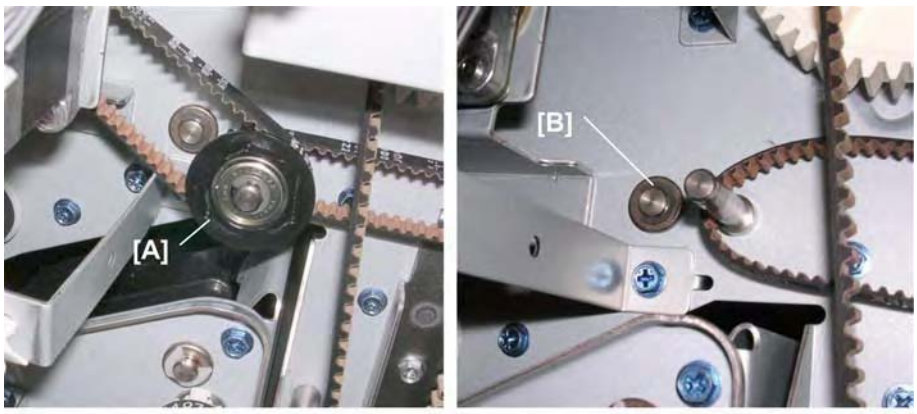



d434r208

1. Lift arm [A] (x1).

d434r209

2. At the front, remove the bushing ( x1).




d434r209a

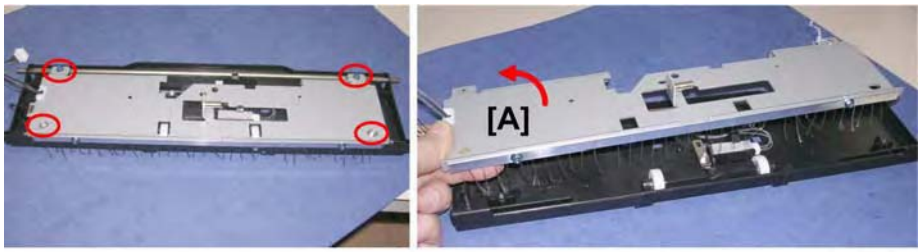
3. At the rear, remove:
   [A] Gear (x1, x2)
   [B] Bushing (x1)

d434r209b

4. At the rear, disconnect the sensor harness.
5. Pull it though the hole into the machine.

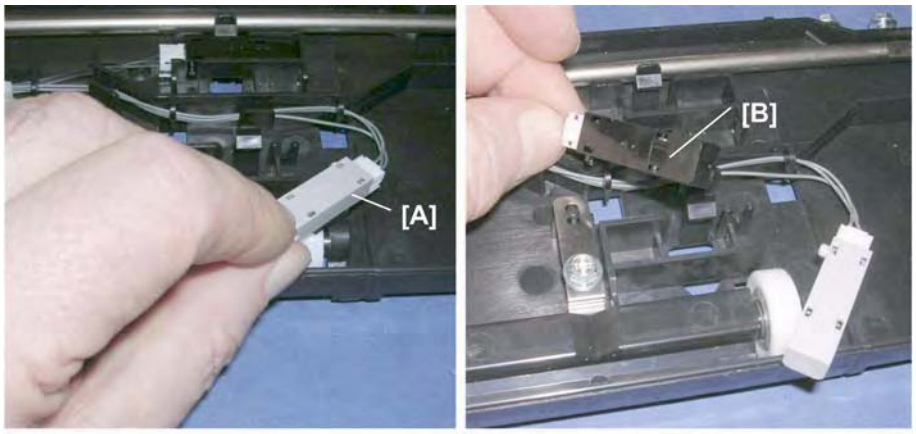
d434r209c

6. Pull the plate assembly out from the front of the machine.




d434r209d

7. Lay the assembly on a flat surface.
8. Remove the plate [A].




d434r209e

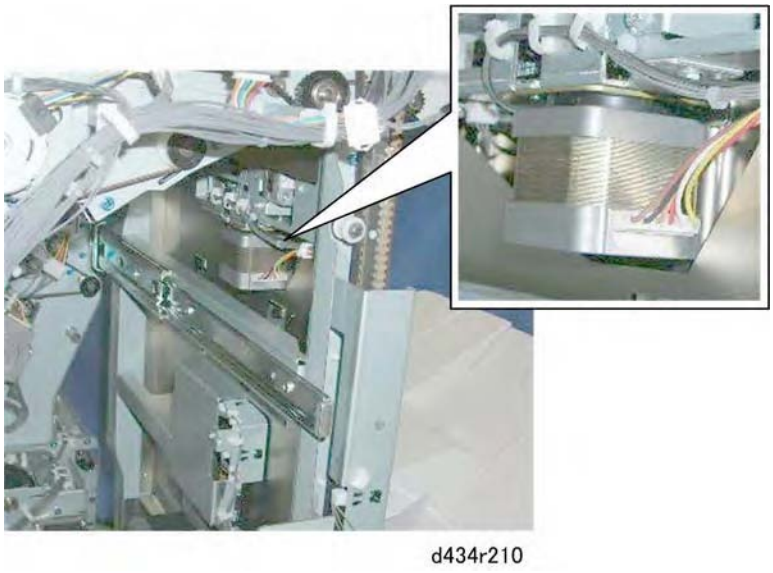
9. Remove:

   [A] Exit sensor (long) ( x1,  x1)

   [B] Exit sensor (short) ( x1,  x1))

## 1.5.3 DRAG ROLLER MOTORS, SENSORS

### *Drag Roller Motor*

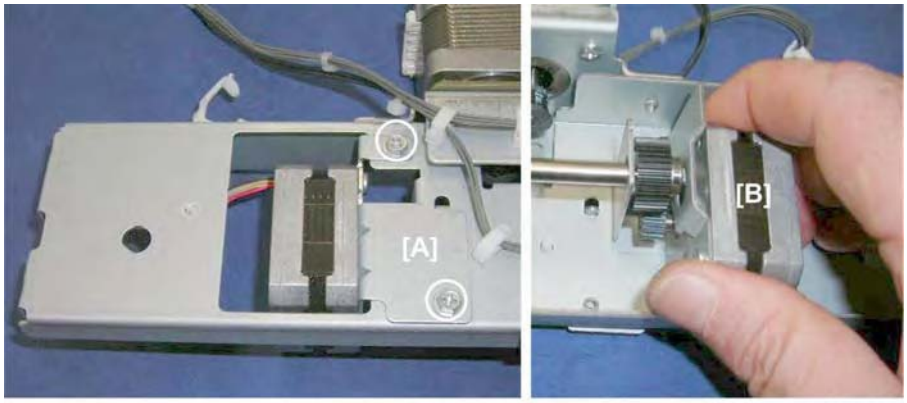


d434r210

The drag roller motor is visible inside the machine, but the side fence and drag roller unit must be removed to service this motor.

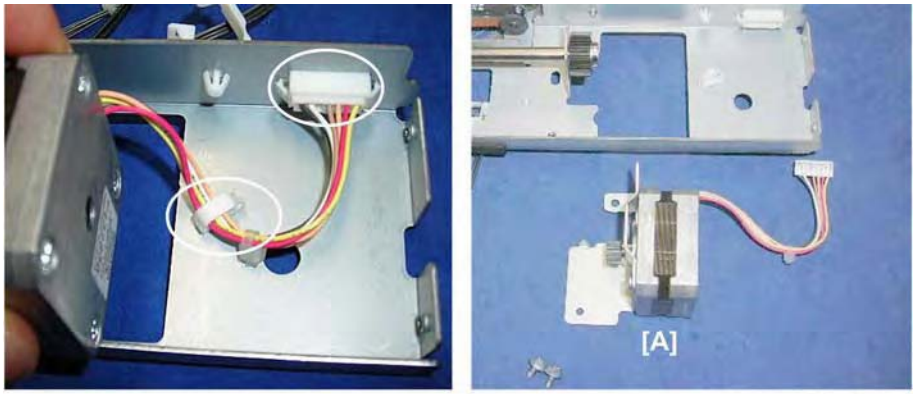
**Preparation**

- End fence (☛p.23)
- Drag roller unit (☛p.25)




d434r211

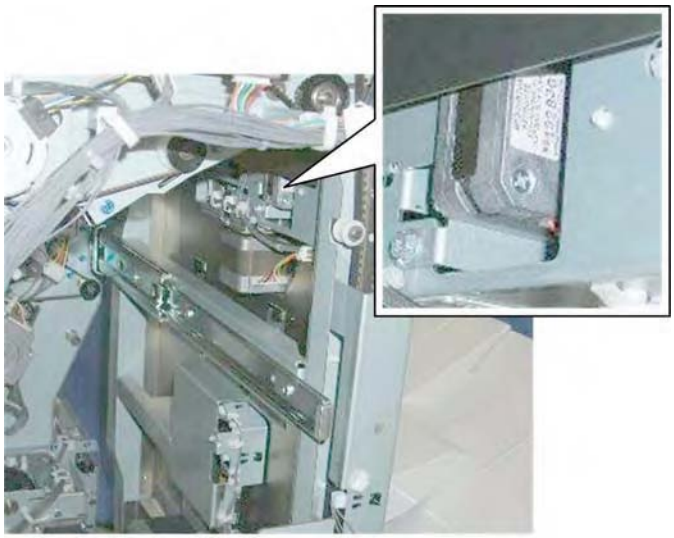
1. Disconnect motor bracket [A] ( x2).
2. Turn the drag roller unit over and remove the motor [B].




d434r212

3. Remove motor [A] ( x1, x1).

## *Drag Drive Motor*



d434r213

The drag roller motor is visible inside the machine, but the side fence and drag roller unit must be removed to service this motor.

**Preparation**

- End fence (☛p.23)
- Drag roller unit (☛p.25)

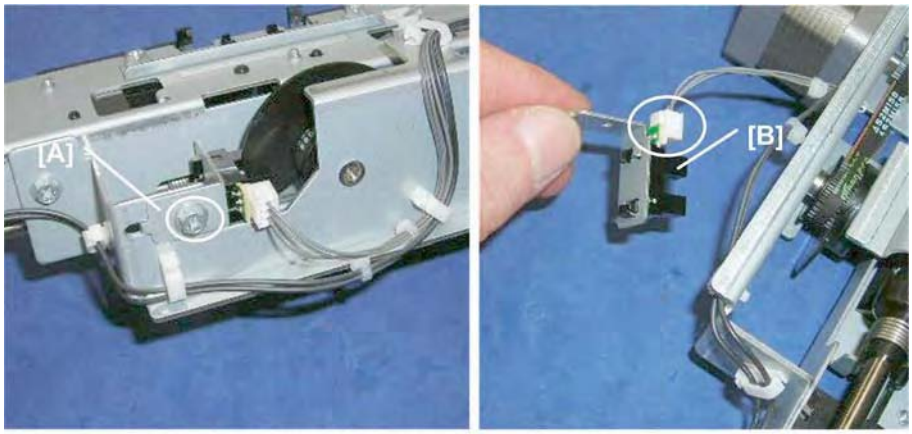
d434r214

1. Turn the drag roller unit on its side with the face of the motor down.
2. Remove the motor [A] ( x2).

## *Drag Roller HP Sensor*

**Preparation**

- End fence (☛p.23)
- Drag roller unit (☛p.25)



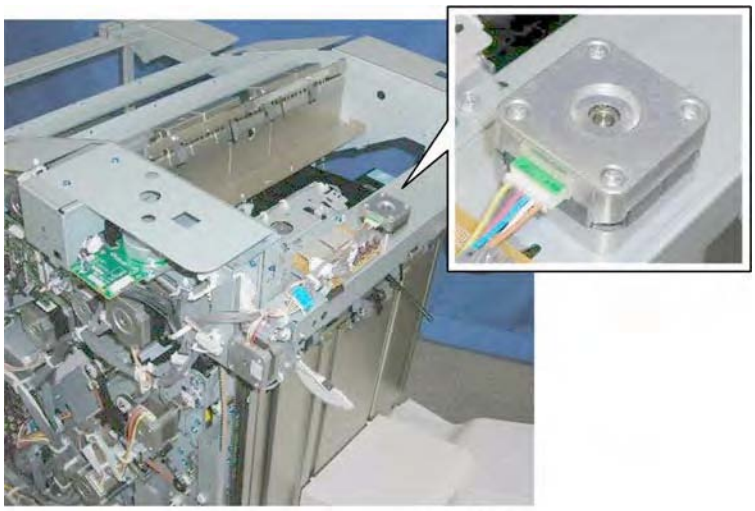

1. Remove:

   [A] Sensor bracket ( x1)

   [B] Sensor ( x1, x5)

## 1.5.4 SHIFT TRAY JOGGER UNIT

### *Shift Jogger Motor*

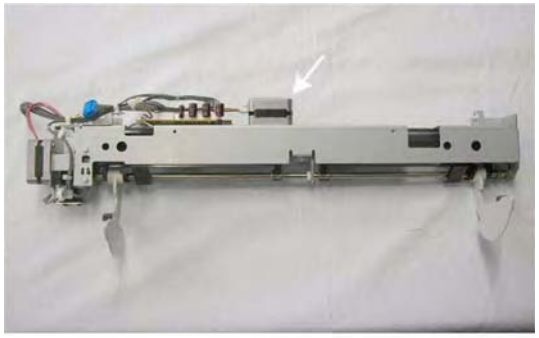


d434r217

This motor is on top of the shift tray jogger unit, near the center.

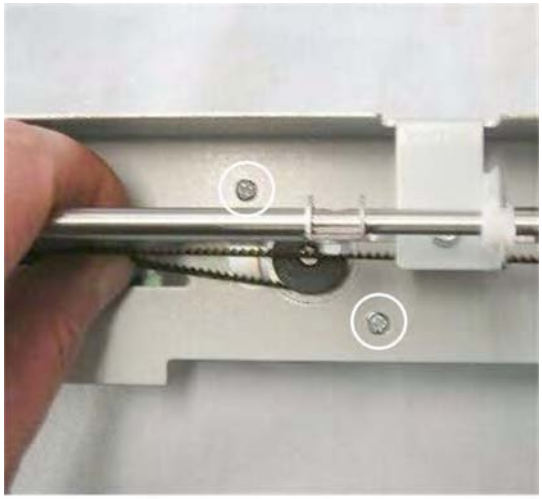
**Preparation**

- Shift tray jogger unit (☛p.9)



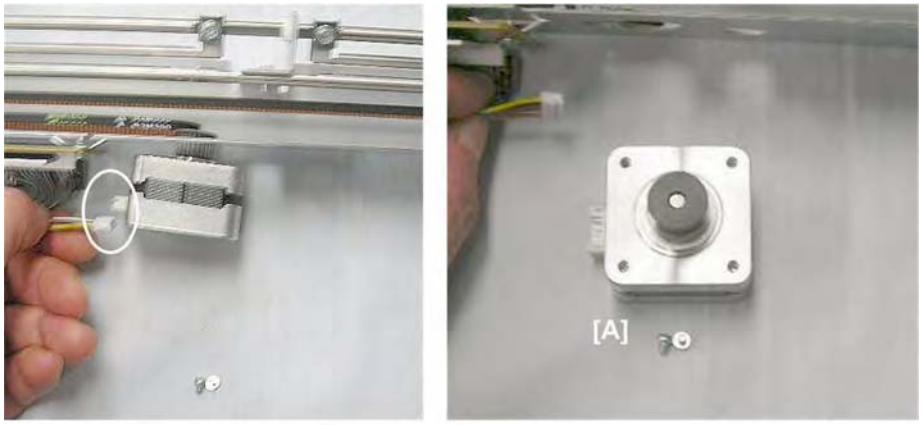
d434r218

This is the location of the motor with the shift jogger unit removed.



d434r219

1. Turn the unit over and disconnect the motor ( x2, x1).



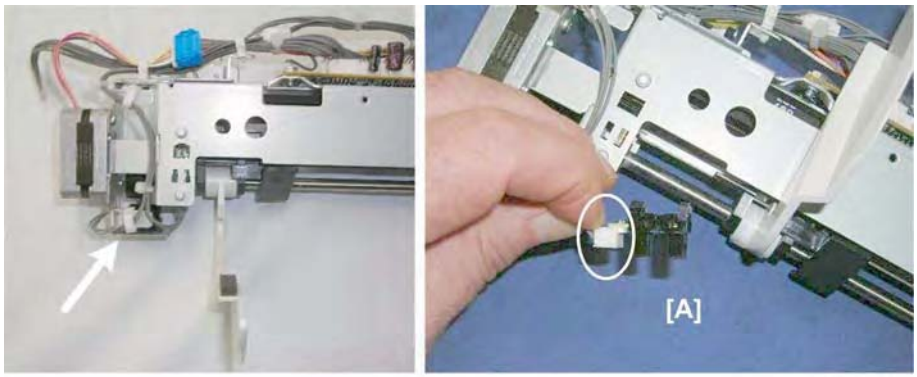

d434r220

2. Disconnect motor [A] ( x1)

## *Shift Tray Jogger Fence HP Sensor*

**Preparation**

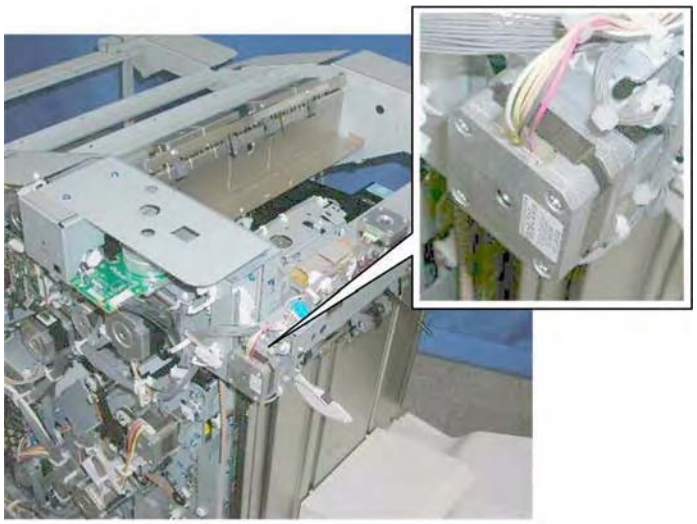
- Shift tray jogger unit (☛p.9)




d434r221

1. Remove sensor [A] ( x1, x5)

## *Shift Jogger Retraction Motor*

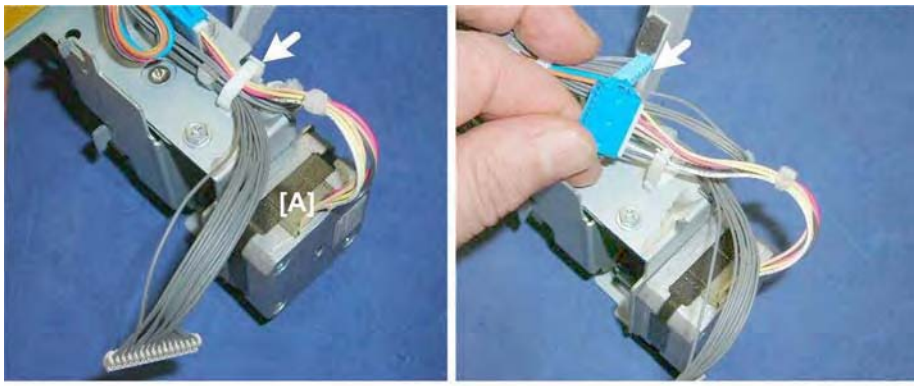


d434r222

This is the motor on the end of the shift tray jogger unit.

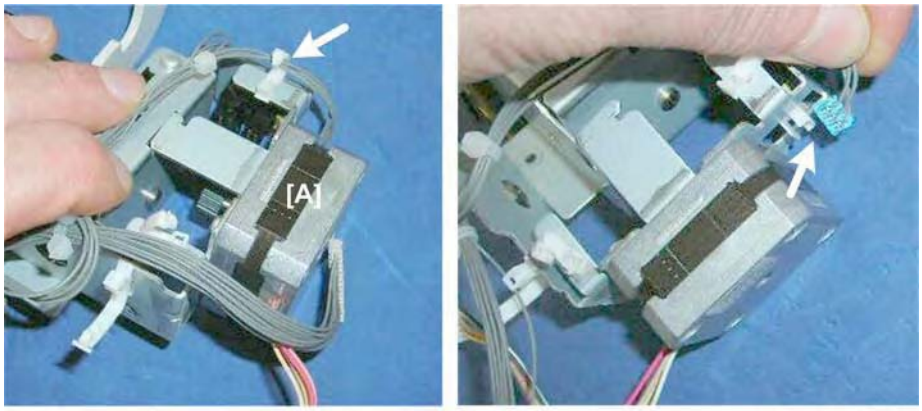
**Preparation**

- Shift tray jogger unit (☛p.9)



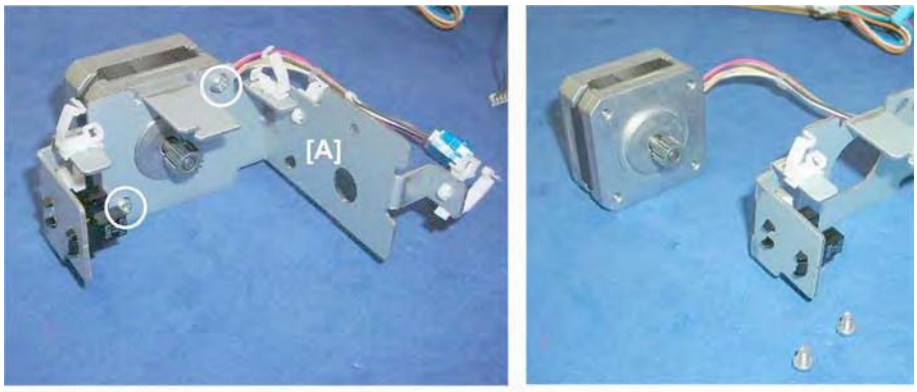

d434r223

1. Disconnect the motor harness [A] ( x1, x1)




d434r224

2. Disconnect the retraction HP sensor on the same bracket as the motor [A] ( x1)



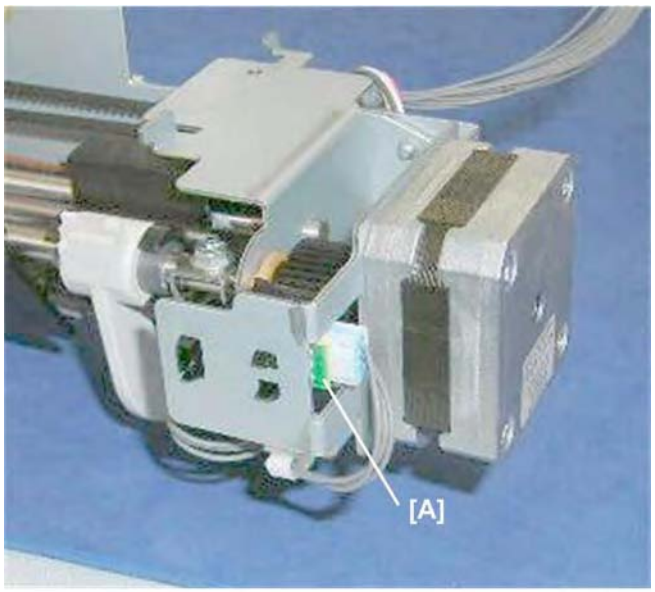

d434r225

3. Disconnect motor bracket [A] ( x1, x2)

### *Shift Jogger Fence Retract HP Sensor*

**Preparation**

- Shift tray jogger unit (☛p.9)




d434r226

1. Remove sensor [A] ( x1, x5)

Note

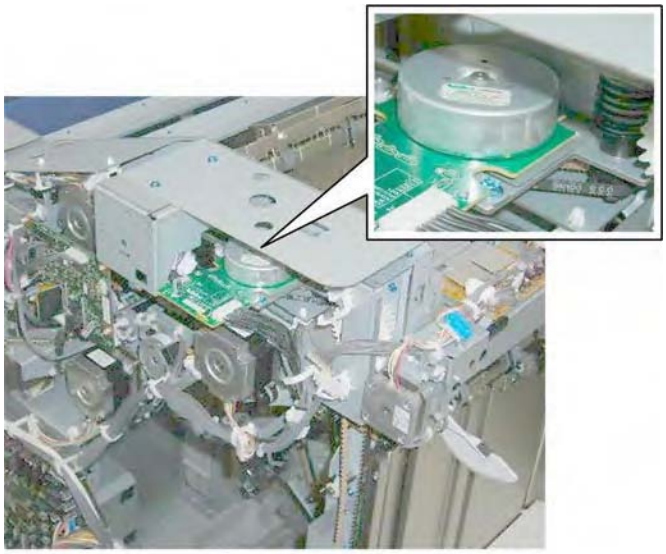
- If it is difficult to remove the sensor directly from the frame (or re-install), do the procedure in the previous section to remove the shift jogger retraction motor bracket.

## 1.5.5 SHIFT TRAY OPERATION

### *Shift Tray Lift Motor*

**Preparation**

- Rear upper cover (☛p.3)
- Top rear cover (☛p.9)
- Proof tray (☛p.8)



d434r227

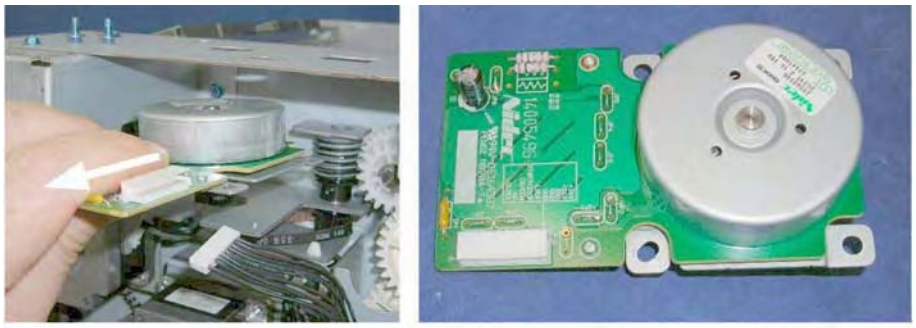
The shift tray lift motor is near the left rear corner.

d434r228

1. Disconnect the motor drive board ( x1).

d434r229

2. Remove:
   [A] Rear ( x1)
   [B] Front ( x1)



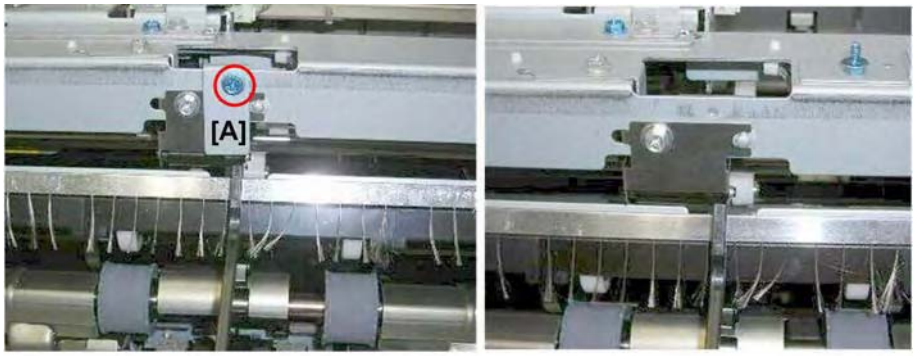
d434r230

3. Pull the motor and drive board motor out.

## *Paper Height Sensors 1, 2, 3 (Shift, Staple, Z-Fold)*

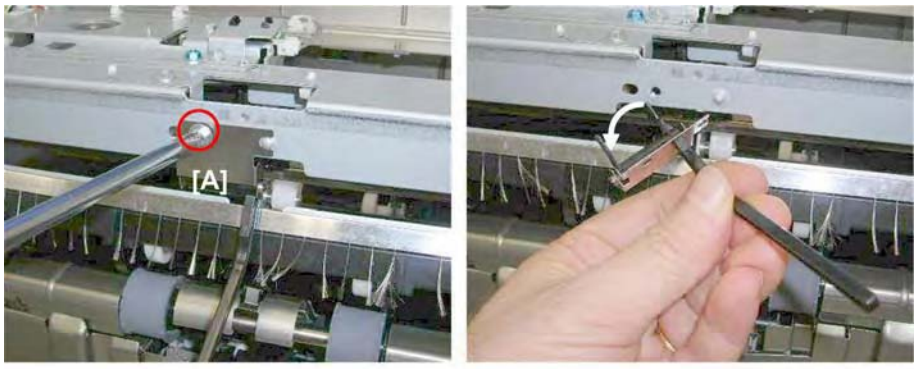
### Preparation

- Proof tray (☛p.8)



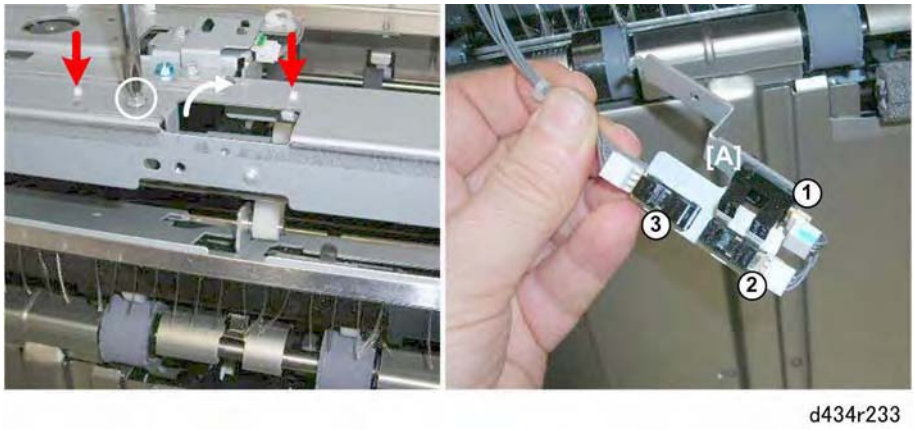

d434r231

1. Remove the protector plate [A] ( x1).




d434r232

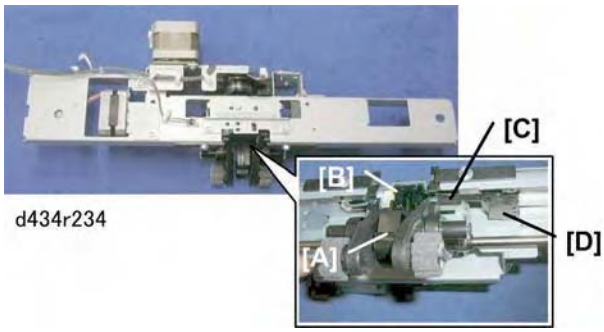
2. Remove feeler [A] ( x1).




d434r233

3. Remove sensor bracket [A] ( x1, Standoffs x2)
4. Sensors ( x1 each)
   - ① Paper Height Sensor 1: Staple Mode
   - ② Paper Height Sensor 2: Shift Mode
   - ③ Paper Height Sensor 3: Z-Fold Mode

## *Paper Height Sensor (TE), Shift Tray Upper Limit Switch*




The actuator [A] of the paper height sensor performs two functions:

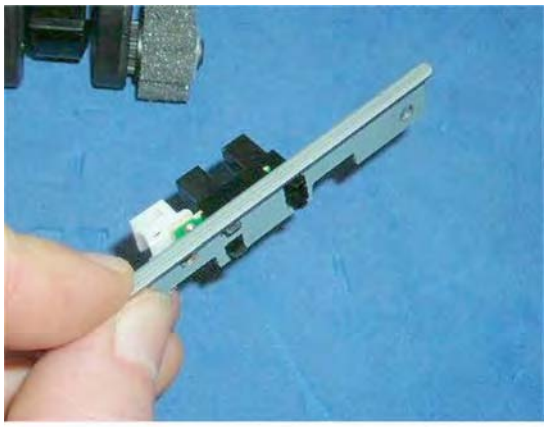
- First, it rises and actuates the Paper Height Sensor (TE) [B] to detect tray full.
- Second, if the actuator rises far enough through the gap of the interrupt sensor (TE) it will trip the arm [C] of a micro-switch [D]. This is a fail-safe device to switch the finisher off if one or more other sensors fail.

**Preparation**

- End fence (☛p.23)
- Drag roller unit (☛p.25)

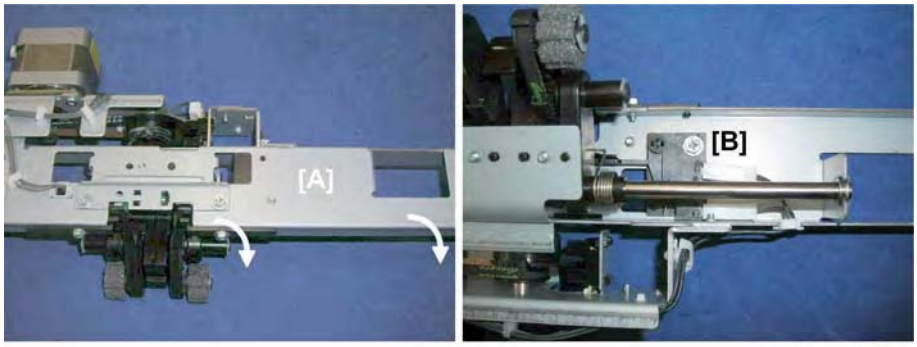
**Paper Height Sensor (TE)**

1. Remove sensor plate [A] ( x2, x2)



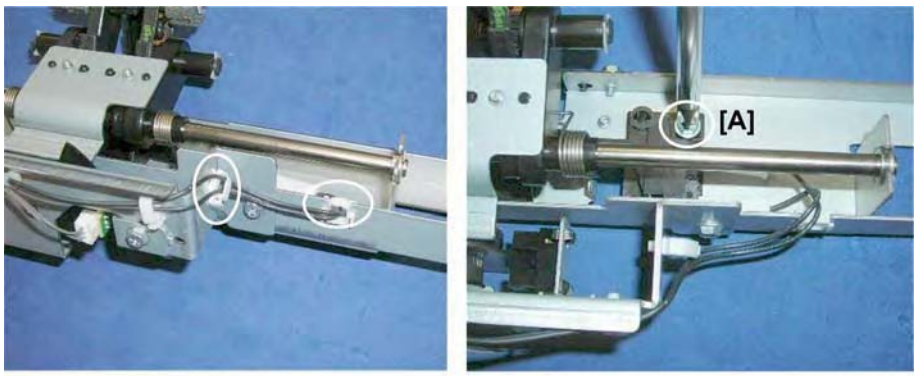
2. Sensor ( x1, x5)

**Shift Tray Upper Limit Switch**



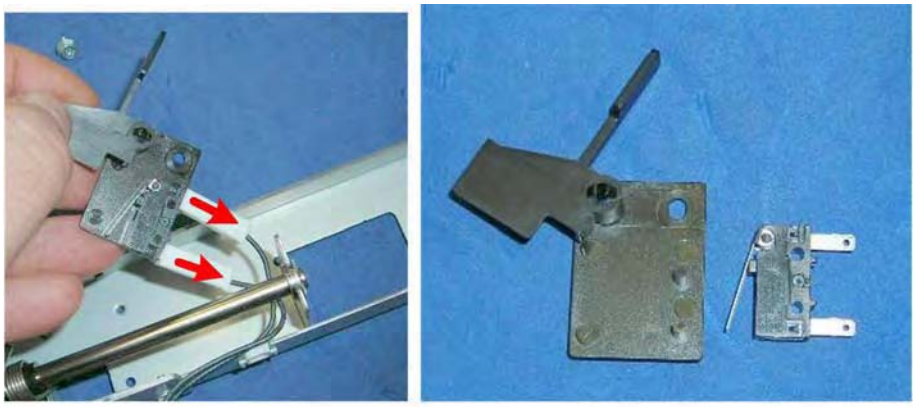

d434r237

1. Turn the drag roller unit [A] over so that you can see the micro-switch [B].




d434r238

2. Remove the switch [A] from the frame ( x2, x1)



d434r239

3. Disconnect the switch ( x2)

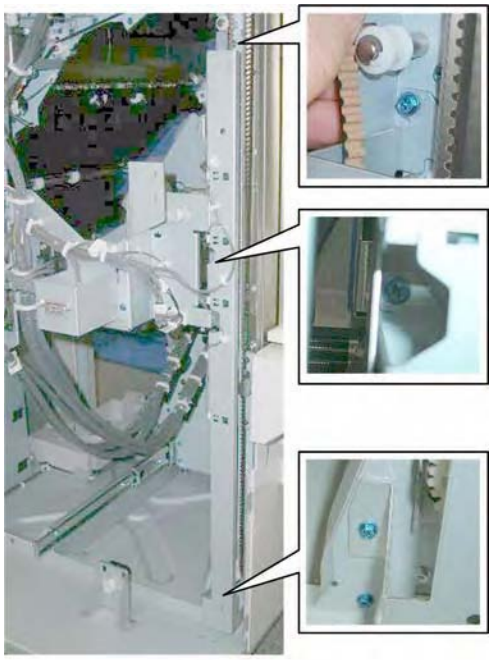
## *Shift Tray Full Sensors 1, 2, 3, 4 (500)*

The tray full sensors are all mounted on the same vertical stay at the left rear corner of the finisher:

- Shift Tray Full Sensor (500)
- Shift Tray Full Sensor (1000)
- Shift Tray Full Sensor (1500)
- Shift Tray Full Sensor (2500)

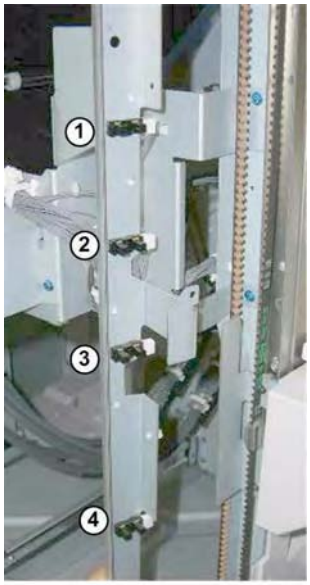
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)



d434r240

1. Remove the vertical stay cover ( x3).



d434r241

2. The four sensors, ( x1 each, x5 each)
   ① Shift Tray Full Sensor (500)
   ② Shift Tray Full Sensor (1000)
   ③ Shift Tray Full Sensor (1500)
   ④ Shift Tray Full Sensor (2500)

# 1.6 PRE-STACKER

## 1.6.1 PRE-STACKER MOTORS

The pre-stack motor is visible from the right side of the finisher below the lock bar.

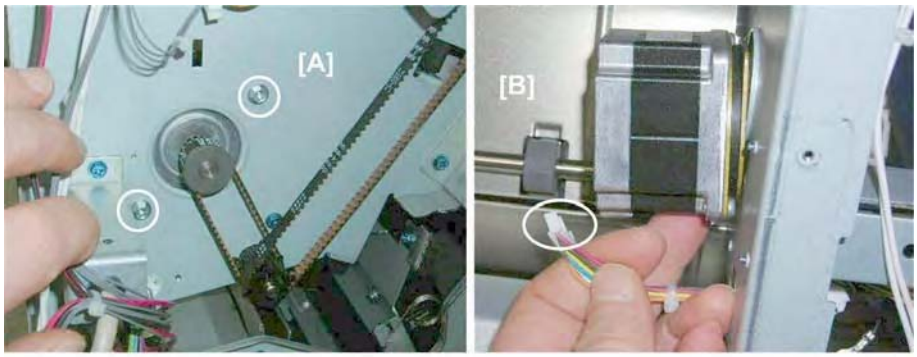
### *Pre-Stack Motor*

**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)
- Main board (☛p.145)
- Right panel (☛p.11)

Important

- The motor does not hang on a bracket. Work carefully and do not allow it to fall after you remove the last screw.

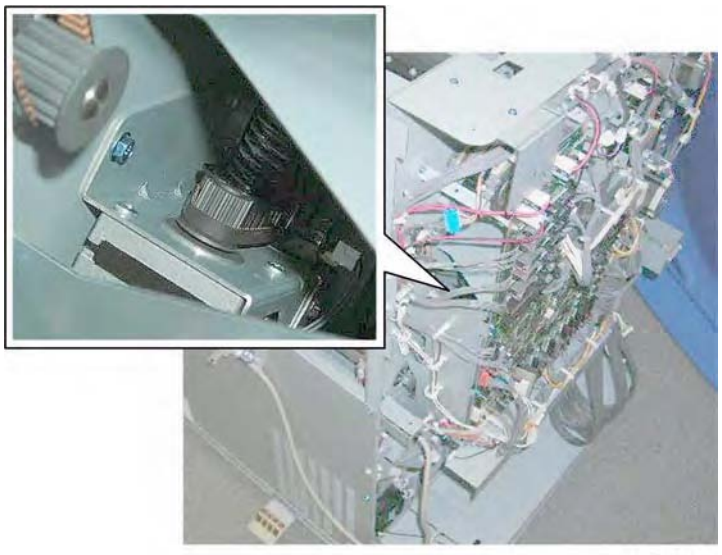



d434r243

1. Rear [A] ( x2, x1)
2. Front [B]: Remove the motor (x1)

d434r244

## *Pre-Stack Release Motor*



d434r245

The pre-stack motor is only partially visible behind the sub board and main board.

**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)
- Main board (☛p.145)

d434r246

1. At the rear, disconnect the motor (x1).
2. Disconnect the drive assembly cam and cam follower at [A] (Teflon gear x1, x1, x1).

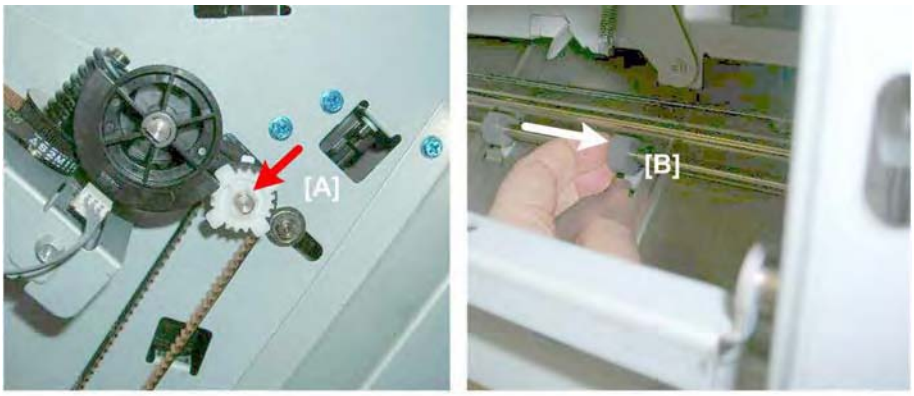
d434r247

3. Remove the motor bracket ( x2).

d434r248

4. Remove motor [A] ( x2)

**Re-installation**




d434r249

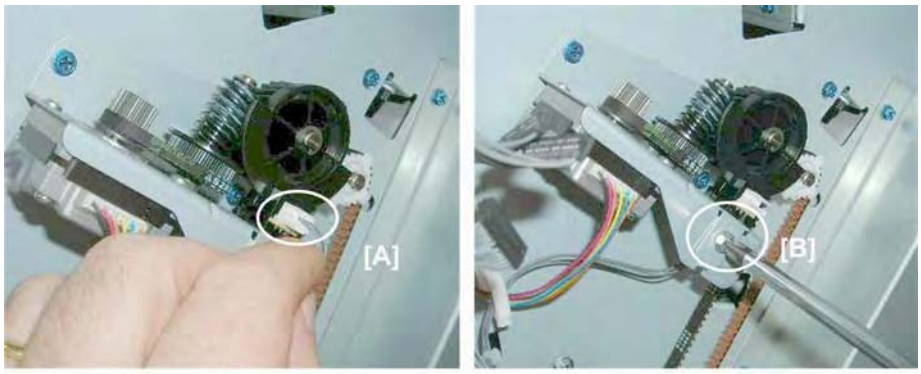
1. If the Teflon gear [A] will not lock in place, behind the frame pull the shaft of the pre-stack roller [B] toward the motor.

## 1.6.2 PRE-STACKER SENSORS

### *Pre-stack Roller HP Sensor*

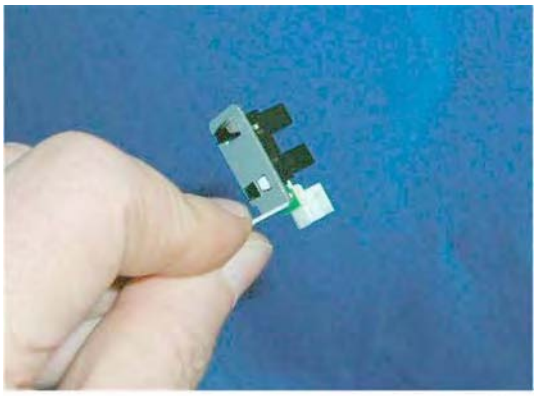
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)
- Main board (☛p.145)




d34r251

1. Disconnect sensor harness [A] (x1)
2. Remove sensor bracket [B] ( x1)



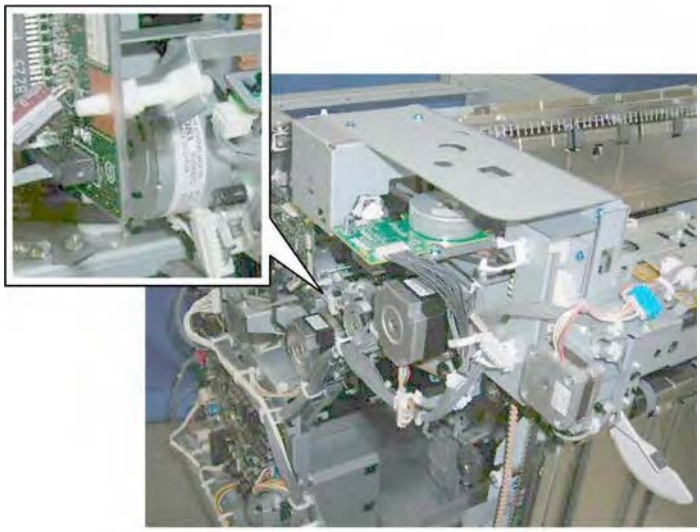
d434r252

3. Sensor ( x5)

# 1.7 CORNER STAPLER UNIT

## 1.7.1 CORNER STAPLER UNIT ENTRANCE

### *Stapler JG Motor*

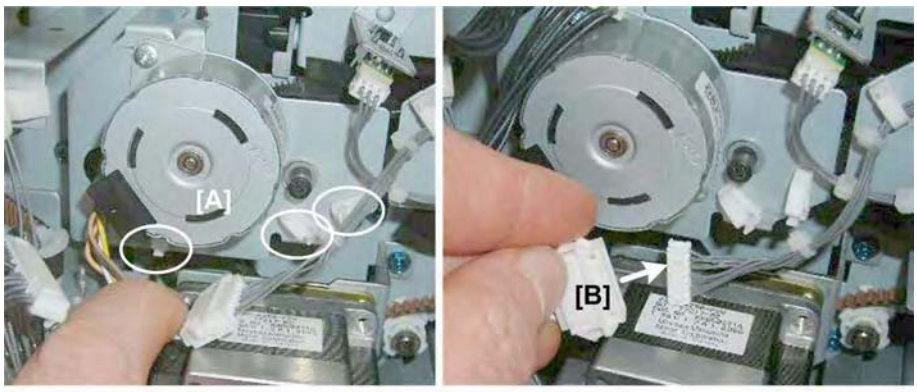


d434r253

The stapler junction gate motor is behind the punch unit PCB.

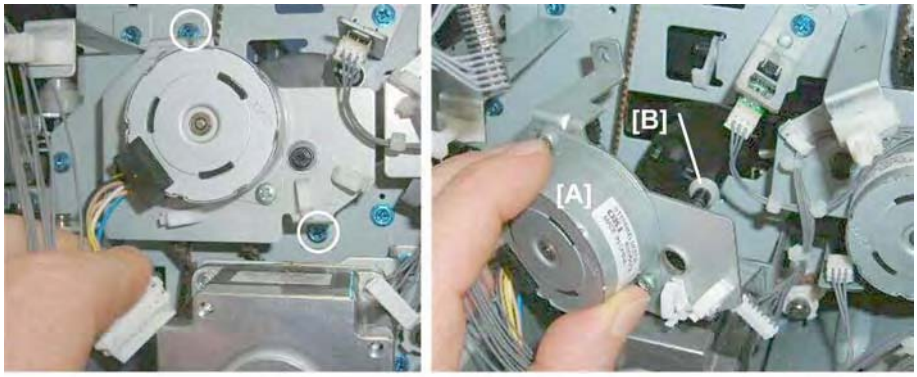
**Preparation**

- Rear upper cover (☛p.3)
- Punch unit PCB (☛p.147)




d434r254

1. Open the harness clamps of the motor [A] ( x3)
2. Disconnect the motor at [B] ( x1)




d434r255

3. Remove motor bracket [A] ( x2)
   - Slowly, pull the bracket away.
   - Make sure the Teflon collar [B] does not fall off the end of the junction gate shaft. Remove it so that it does not accidentally slip off the end of the shaft.

## *Stapler JG HP Sensor*

### Preparation

- Rear upper cover (☛p.3)
- Punch unit PCB (☛p.147)

d434r256

1. Remove sensor bracket [A] (x1, x).
2. Sensor ( x5).

## *Stapling Tray Entrance Sensor*

**Preparation**

- Right panel (☛p.11)
- Pull out the stack/staple unit.

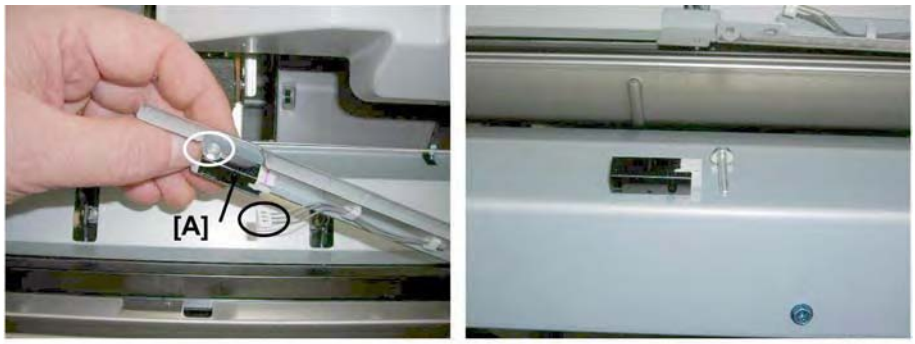
d434r257

The stapling tray entrance sensor is under the bracket [A] at the right rear corner of the stack/staple unit.

1. .At the back of the stack/staple unit, disconnect the sensor at [B] ( x1)

d434r258

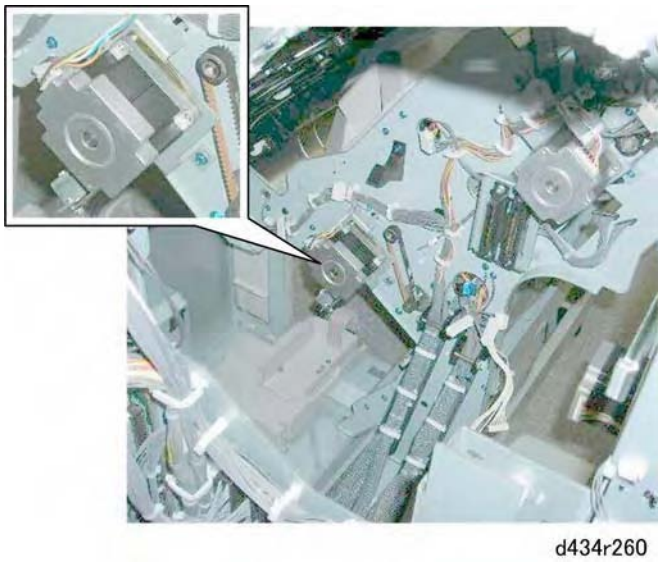
2. Remove bracket [A] ( x2)




d434r259

3. Remove sensor [A] ( x1, x1)

### *Stapling Tray Entrance Motor*

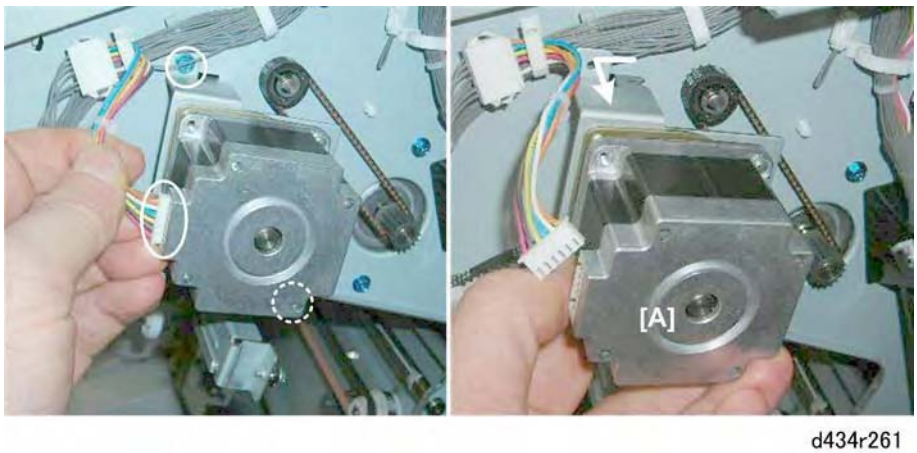


d434r260

The stapling tray entrance motor is on the back of the stack/staple unit.

**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)
- Main board (☛p.145)




d434r261

1. Remove motor [A] ( x1, x2)

d434r262

2. Remove motor [A] ( x2).

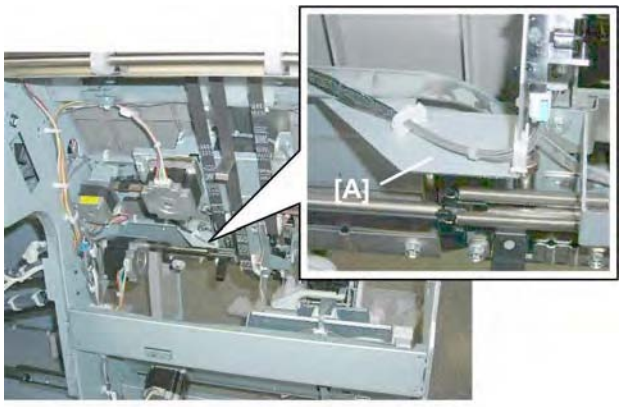
## *Stapling Tray Paper Sensor*

### Preparation

- Booklet unit (☛p.14)

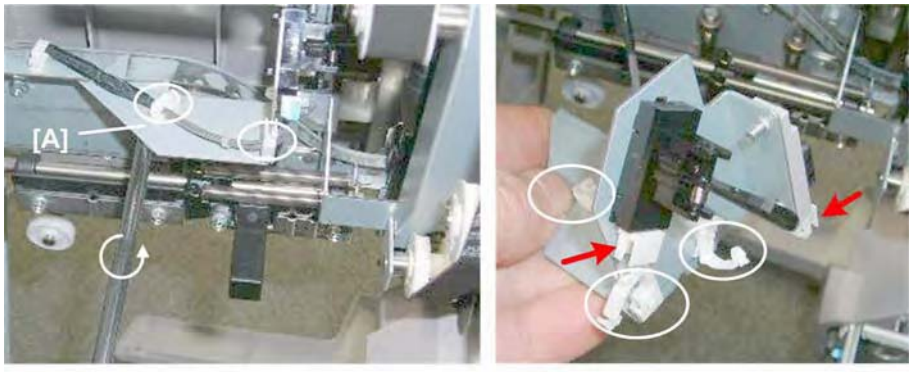
Important

- The stapling tray paper sensor shares the same bracket with the top fence HP sensor.
- Use a marker to mark one of the harnesses to prevent incorrect correction at re-installation.



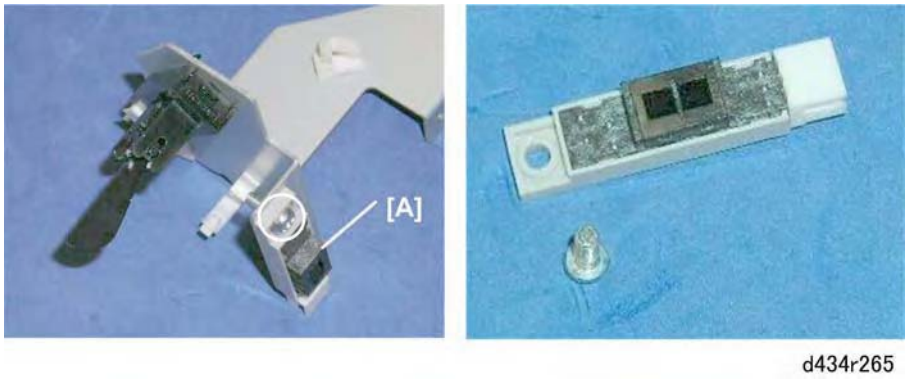

d434r263

The stapling tray paper sensor is on bracket [A].




d434r264

1. Remove and disconnect bracket [A] ( x, x5, x2)



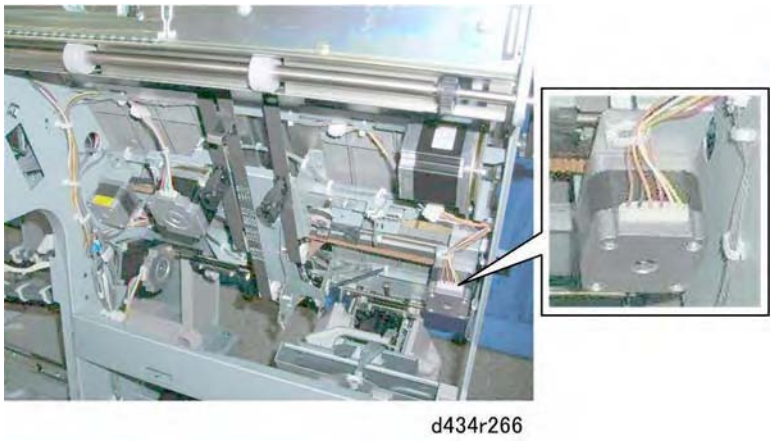

2. Remove the paper sensor [A] (the photosensor) ( x1)

Note

- The other sensor is the top fence HP sensor.

## 1.7.2 CORNER STAPLER SIDE-TO-SIDE JOGGING

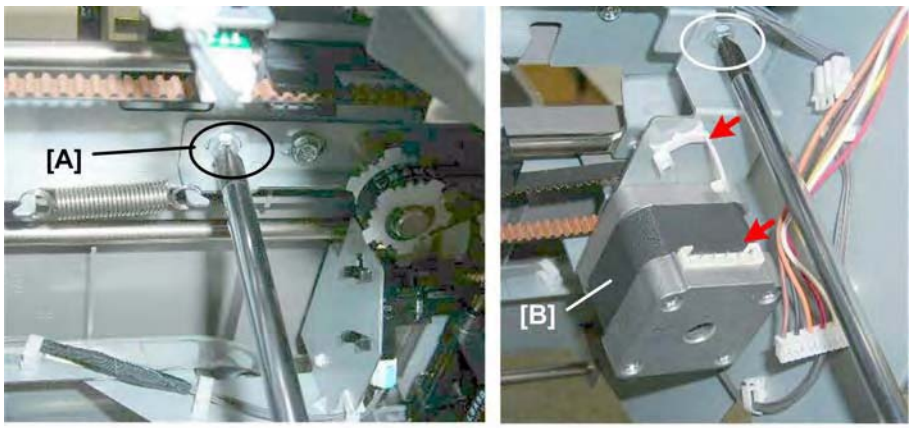
### *Front Jogger Fence Motor*




The front jogger fence motor is behind the front plate of the stack/staple unit.

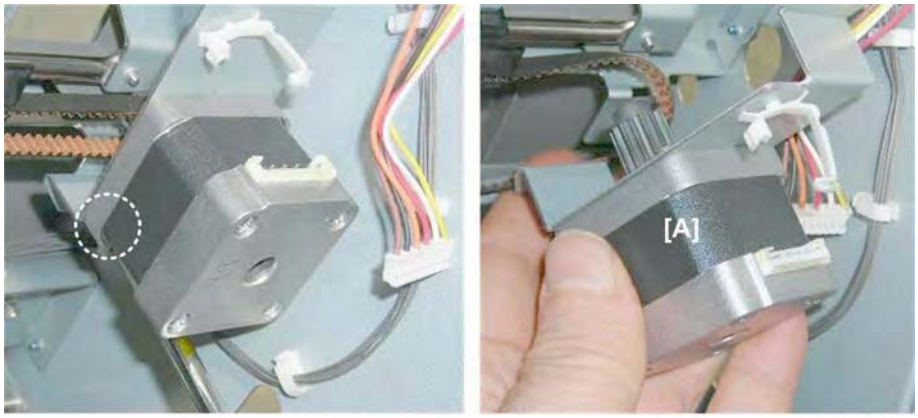
**Preparation**

- Booklet unit (☛p.14)




d434r267

1. Loosen screw [A] to release the belt tension ( x1).
2. Disconnect motor [B] ( x1, x1, x1)



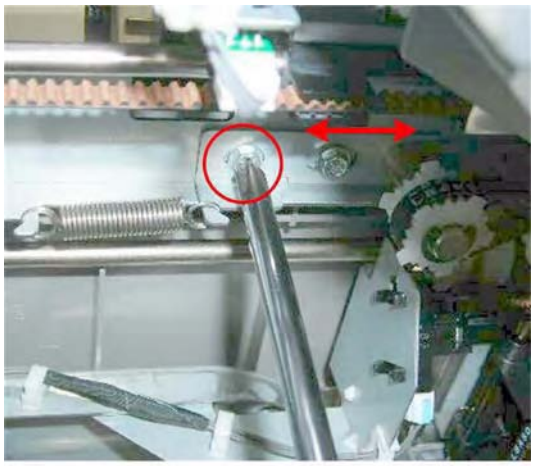

d434r268

3. Remove motor [A] ( x1, Belt x1).

d434r269

4. Disconnect motor [A] ( x2)

**Re-installation**



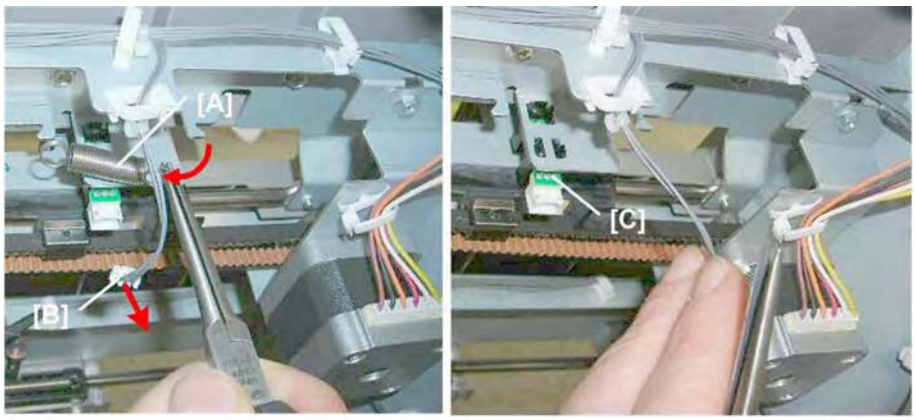
d434r270

1. After re-installing the motor, be sure to re-tighten the belt screw.
   - Make sure the belt is tight.
   - The tension of the belt can be adjusted to compensate for stretching in the belt that may occur when it reaches the end of its service life.

## *Jogger Fence HP Sensor (Front)*

**Preparation**

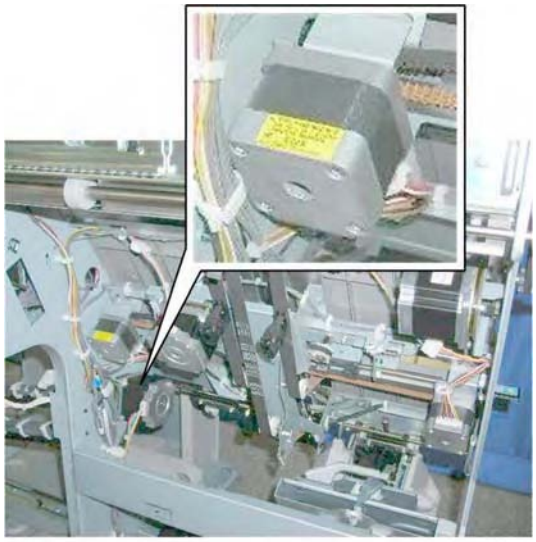
- Booklet unit (☛p.14)




d434r271

1. Disconnect:
   [A] x1
   [B] x1
   [C] x5

## *Rear Jogger Fence Motor*



d434r272

The rear jogger fence motor is mounted on the rear plate of the stack/staple unit.

**Preparation**

- Booklet unit (☛p.14)

d434r273

1. Loosen screw [A] to release the belt tension ( x1).

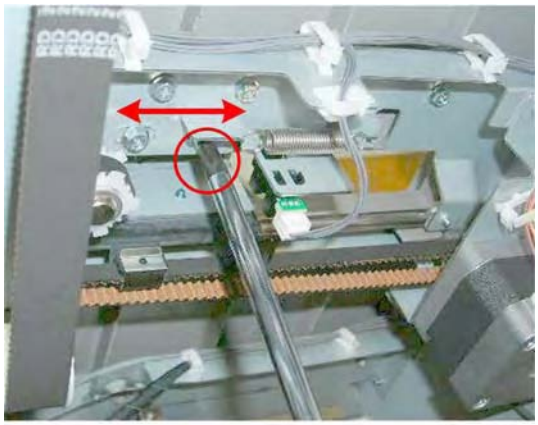
d434r274

2. Disconnect motor [A] ( x1, x1, x2).

d434r275

3. Disconnect motor [A] ( x2)

**Re-installation**



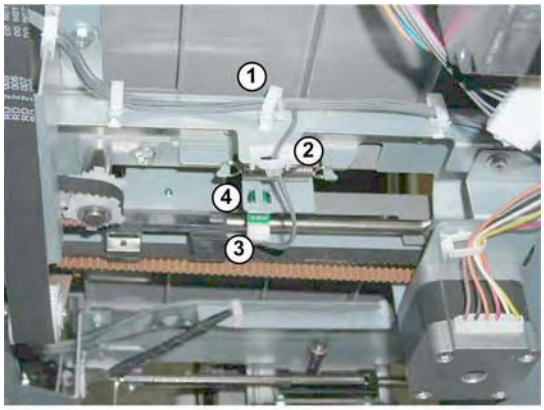
d434r276

1. After re-installing the motor, be sure to re-tighten the belt screw.
   - Make sure the belt is tight.
   - The tension of the belt can be adjusted to compensate for stretching in the belt that may occur when it reaches the end of its service life.

## *Jogger Fence HP Sensor (Rear)*

**Preparation**

- Booklet unit (☛p.14)

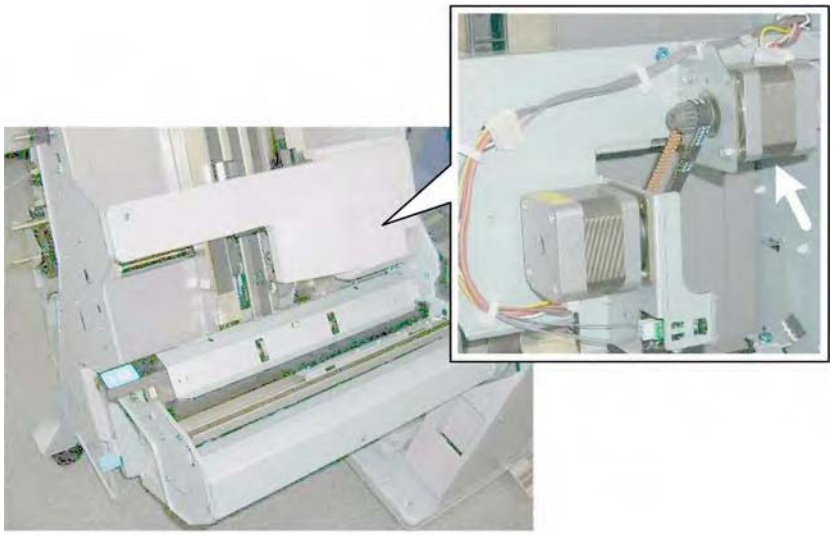



d434r276a

1. Disconnect and remove the sensor:
   ① x1
   ② x1
   ③ x1
   ④ x5

## 1.7.3 CORNER STAPLING BOTTOM/TOP JOGGING

### *Positioning Roller Rotation Motor*

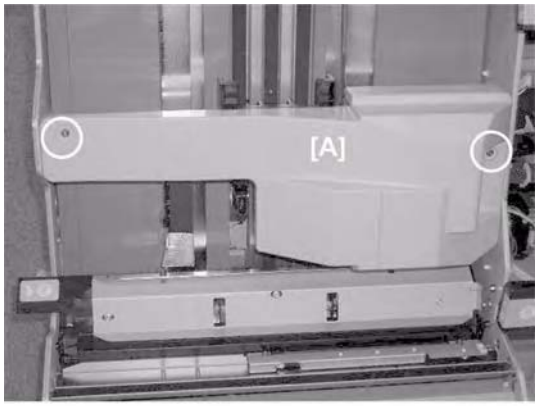


d434r277

The positioning roller rotation motor is under the motor cover on the right side of the stack/staple unit.

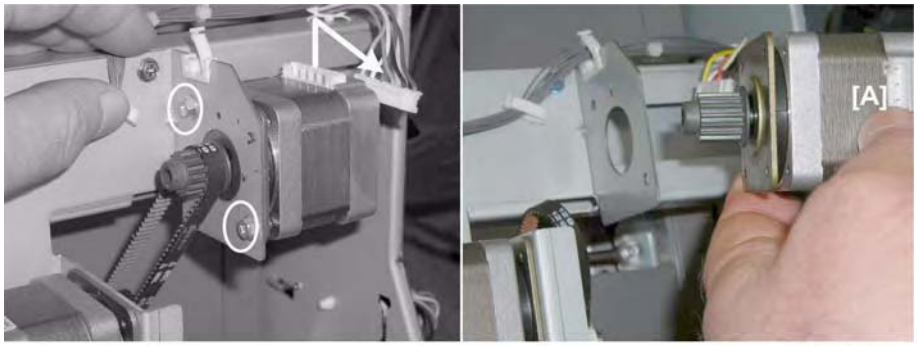
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**




d434r278

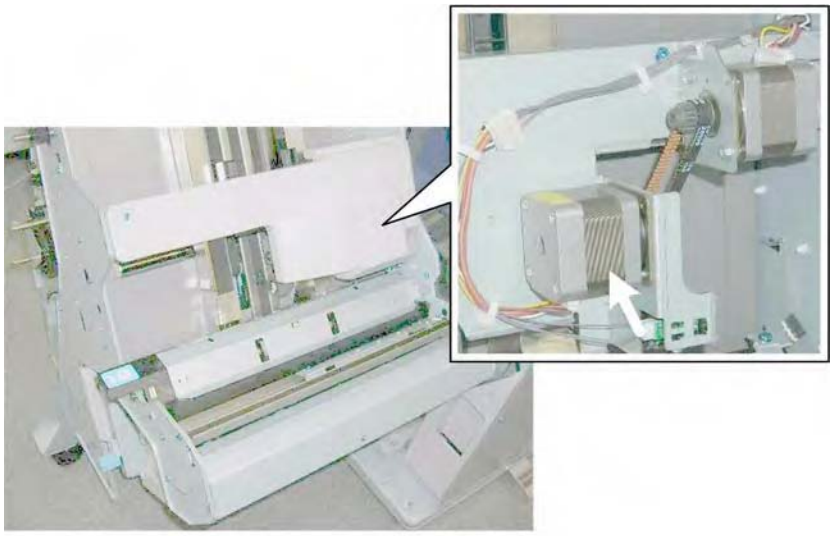
1. Remove motor cover [A] ( x2)




d434r279

2. Remove motor [A] ( x1, x1, x2)

## *Positioning Roller Motor*

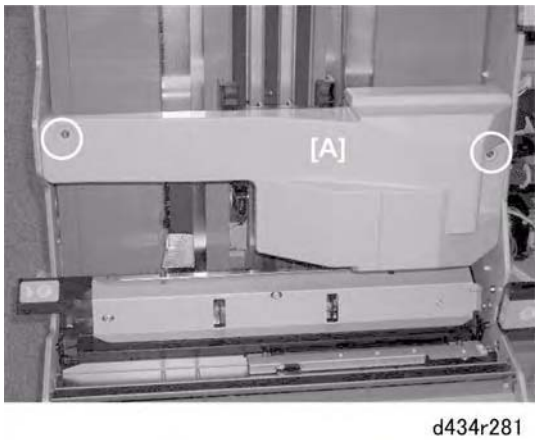


d434r280

The positioning roller motor is under the motor cover on the right side of the stack/staple unit.

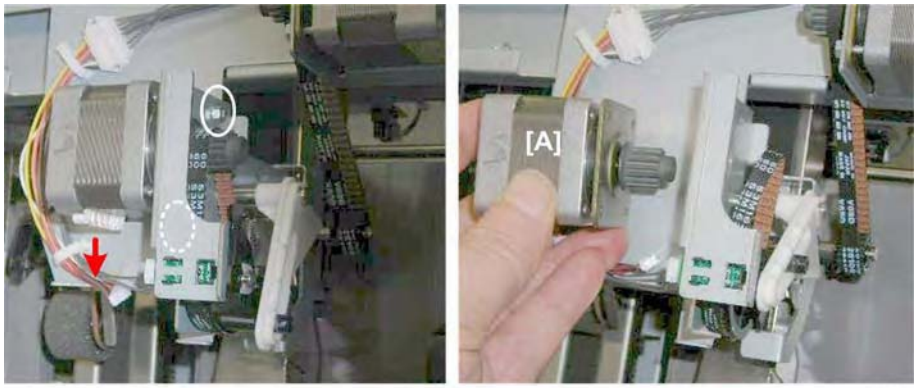
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**
- Right panel (☛p.11)




d434r281

1. Remove motor cover [A] ( x2)



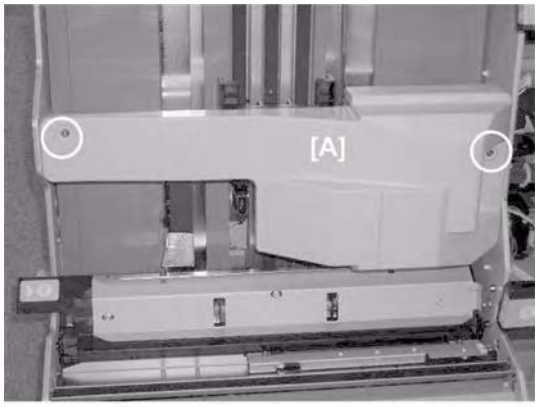

d434r282

2. Remove motor [A] ( x1, x2, x1)

## *Positioning Roller HP Sensor*

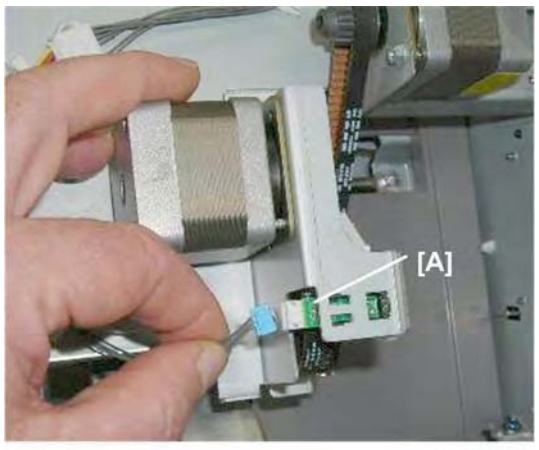
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**




d434r283

1. Remove motor cover [A] ( x2).




d434r284

2. Remove sensor [A] ( x1, x5)

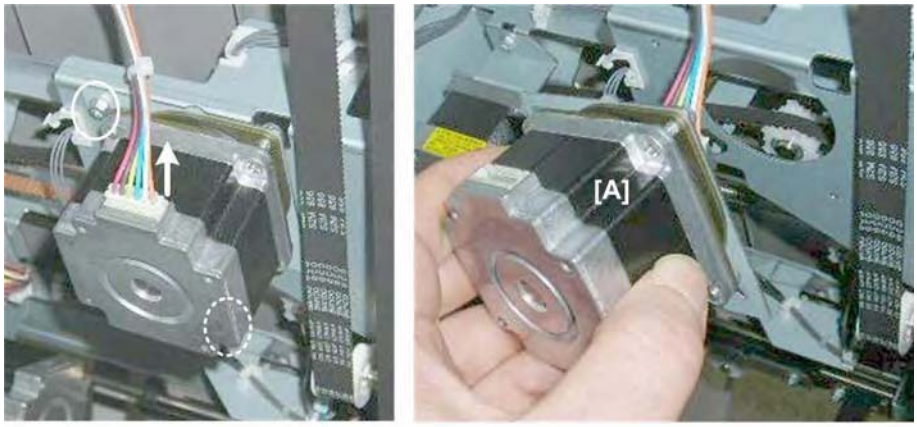
### *Corner Stapler Bottom Fence Motor*

d434r285

The corner stapler bottom fence motor is near the center of the stack/staple unit.

**Preparation**

- Booklet unit (☛p.14)




d434r286

1. Remove motor [A] ( x1, x2).

d434r287

2. Separate motor [A] from the bracket ( x2).

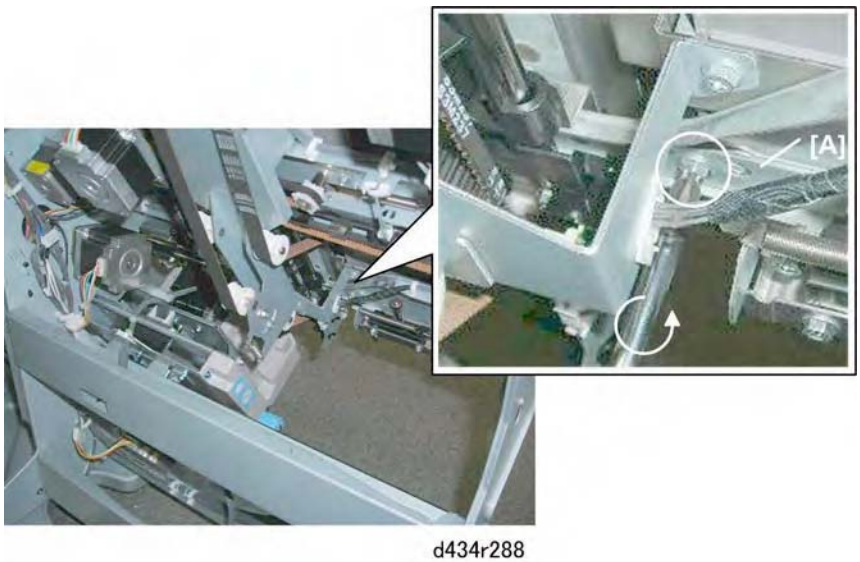
## *Bottom Fence HP Sensor*

### Preparation

- Booklet unit (p.14)

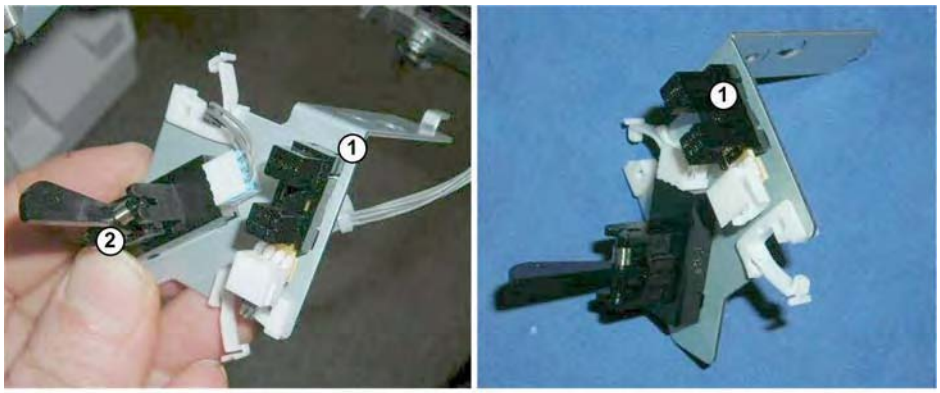
Important

- The bottom fence HP sensor shares the same bracket with the stack feed-out belt HP sensor. Use a marker to mark one of the harnesses to avoid incorrect connection at re-installation.




d434r288

1. Remove bracket [A] ( x1, x1)

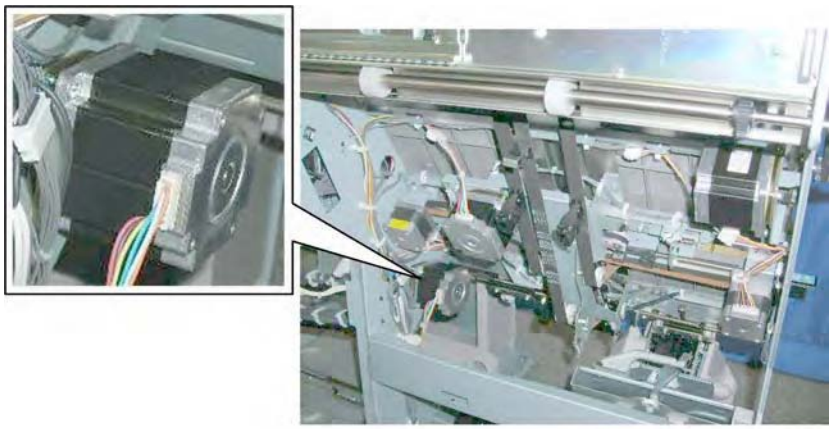



d434r289

2. Disconnect the bottom fence HP sensor ① (x1, x2, x5).

- The bottom fence HP sensor ① (the interrupt sensor without the feeler) is on the same bracket as the ② (sensor with feeler attached).

## *Corner Stapler Top Fence Motor*

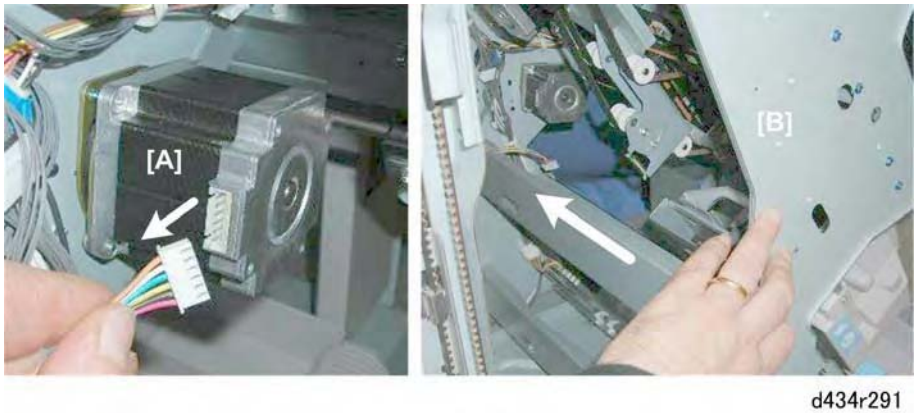


d434r290

The corner stapler top fence motor is on the rear panel of the corner stapler unit.

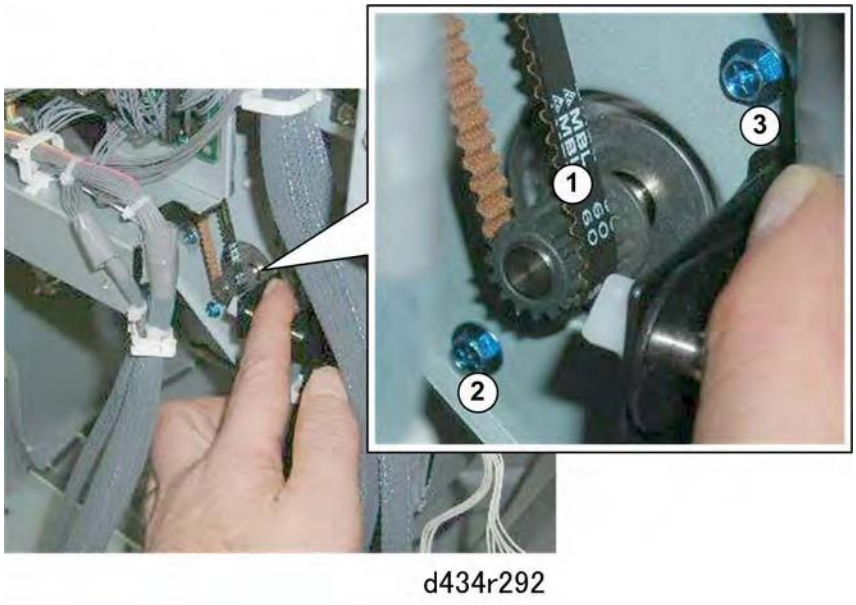
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Booklet unit (☛p.14)




d434r291

1. Disconnect motor [A] ( x1)
2. Push the stack/staple unit [B] into the finisher until it stops and locks.

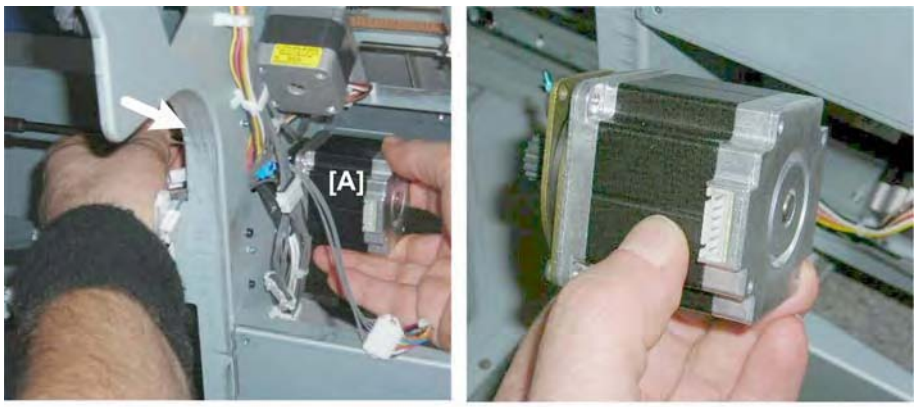



d434r292

3. Remove the belt ① and screw ②. ( x1, x1)
4. Loosen screw ③ slightly.

Important

- Do not remove screw ③! The motor will fall if you remove this screw.



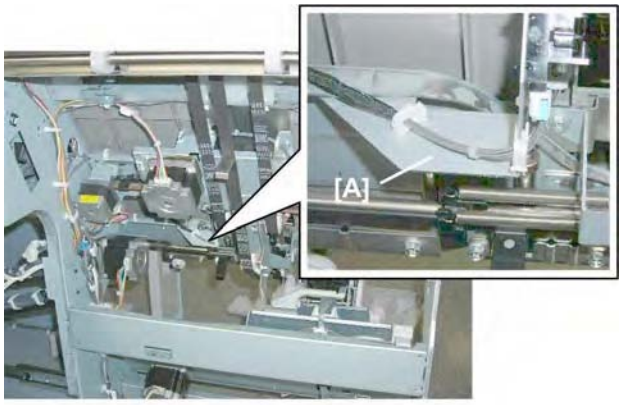

d434r293

5. While supporting the motor [A] with your right hand to prevent the motor from falling, remove the remaining screw from behind the panel ( x1).

## *Top Fence HP Sensor*

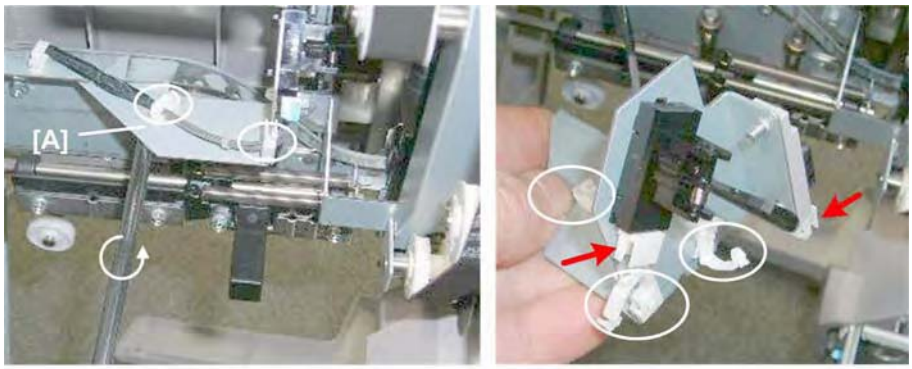
### Preparation

- Booklet unit (☛p.14)



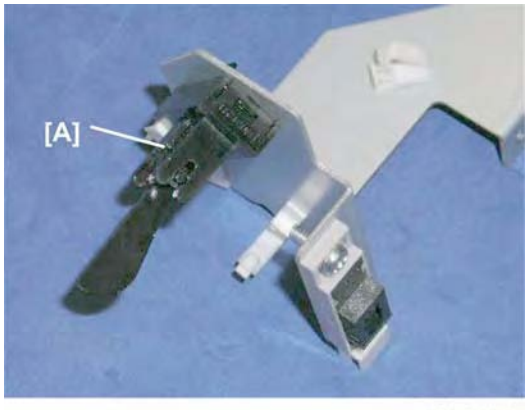

d434r294

The top fence HP sensor is on bracket [A].




d434r264

1. Remove and disconnect bracket [A] ( x, x5, x2)




d434r296

2. Remove the top fence HP sensor [A] (the photointerrupter sensor with the feeler ( x1)

Note

- The other sensor is the stapling tray paper sensor.

## 1.7.4 CORNER STAPLING EDGE PRESS BEFORE STAPLING

### *Edge Press Motor/Sensor Plate*

Important

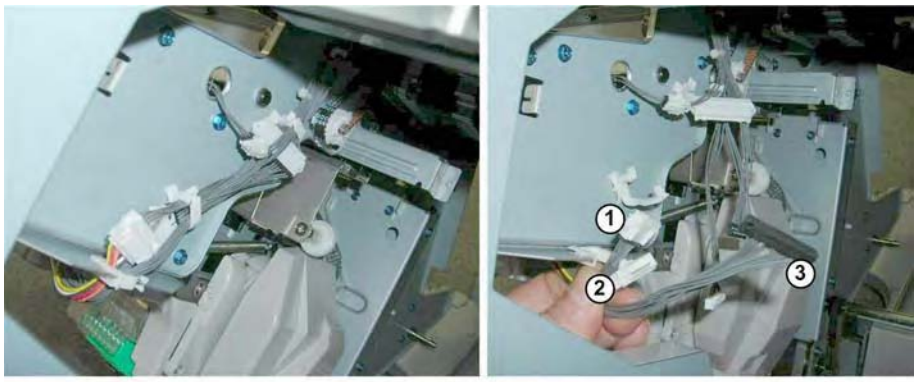
- The removal of this motor/sensor plate is a common procedure for the next three procedures below.

**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**
- Right panel (☛p.11)

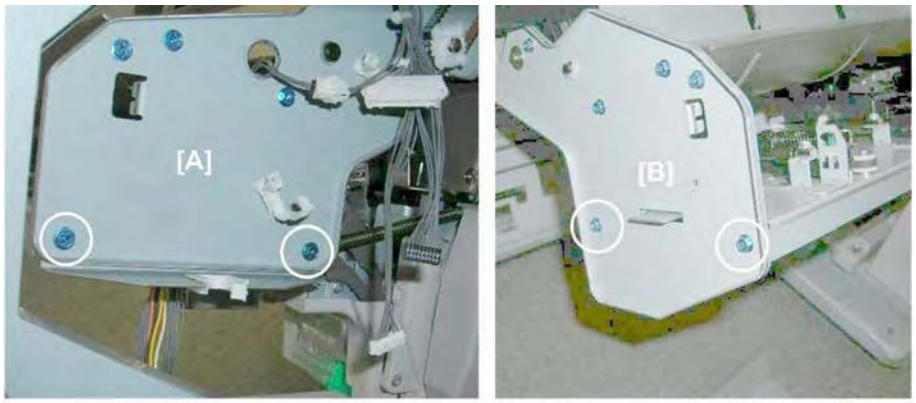
d434r297

1. Remove cover [A] ( x1)




d434r298

2. At the back, disconnect the motors and sensors ①, ②, ③ ( x3, x3)

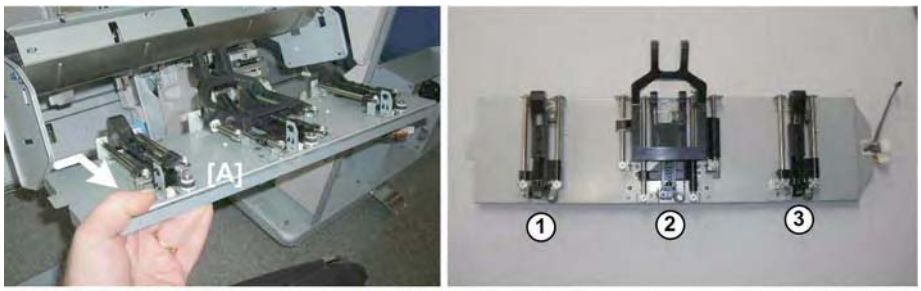



d434r299

3. Remove:

   [A] Rear ( x2)

   [B] Front ( x2)




d434r300

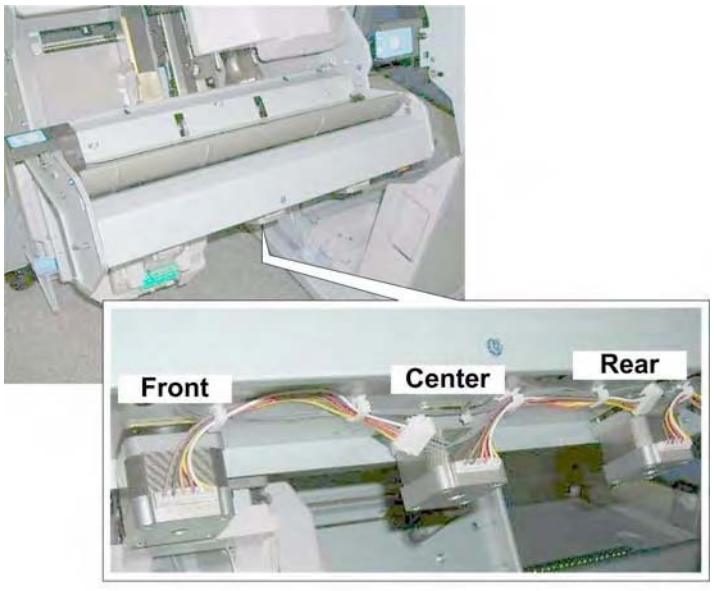
4. Remove the plate [A] and set it on a flat surface.

   ① Front motor, sensor, plunger

   ② Center motor, sensor, plunger

   ③ Rear motor, sensor, plunger

## *Stack Plate Motor, Stack Plate HP Sensor (Rear)*




d434r301

The rear stack plate motor is under the motor cover with the front and center stack motor.

**Preparation**

- Edge Press Motor/Sensor Plate (☛p.94)

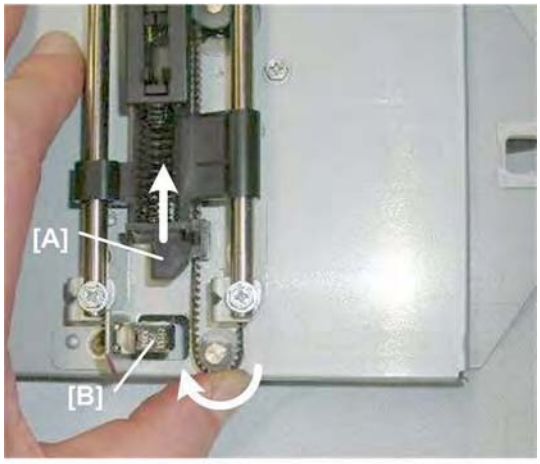
**Stack Plate Motor (Rear)**

d434r302

1. Depress plunger [A] to see the other screw.
2. Remove both screws ( x2).
3. Turn the plate over.
4. Remove motor [B] ( x1, x1)

d434r303

**Stack Plate HP Sensor (Rear)**



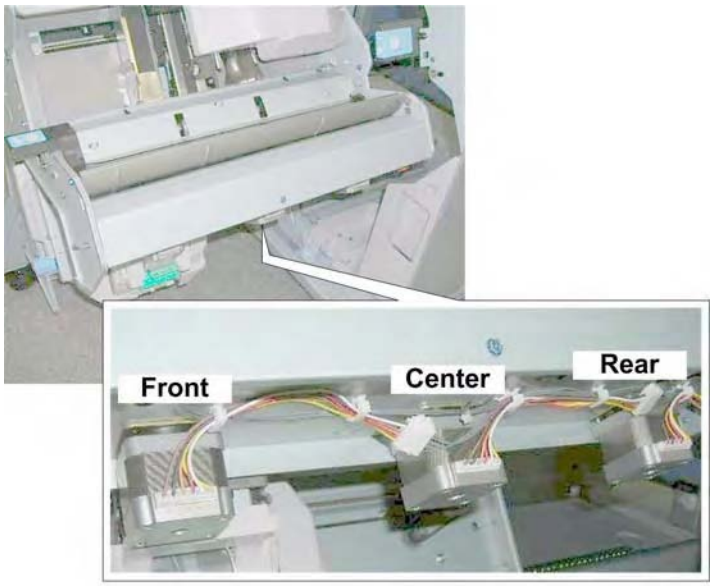

d434r304

1. Rotate the gear and belt to move actuator [A] out of the gap of the sensor [B]
2. Turn the plate over.

d434r305

3. Disconnect the sensor at [A] ( x1).
4. Turn the plate over.
5. Remove sensor [B] ( x5).

## *Stack Plate Motor, Stack Plate HP Sensor (Center)*



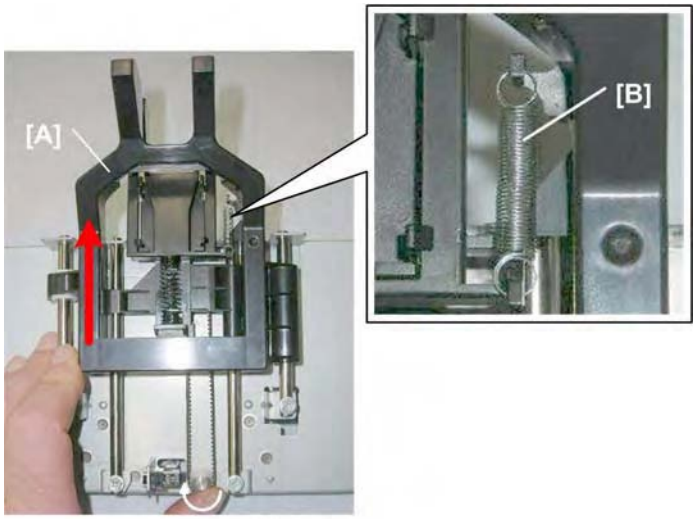

d434r301

The center stack plate motor is under the motor cover with the front and rear stack motors.

**Preparation**

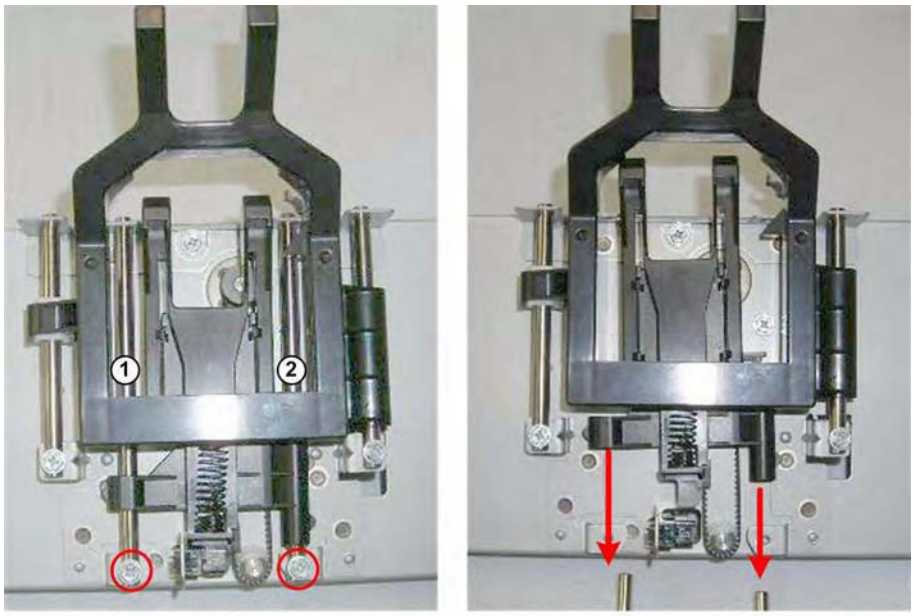
- Edge Press Motor/Sensor Plate (☛p.94)

**Stack Plate Motor (Center)**



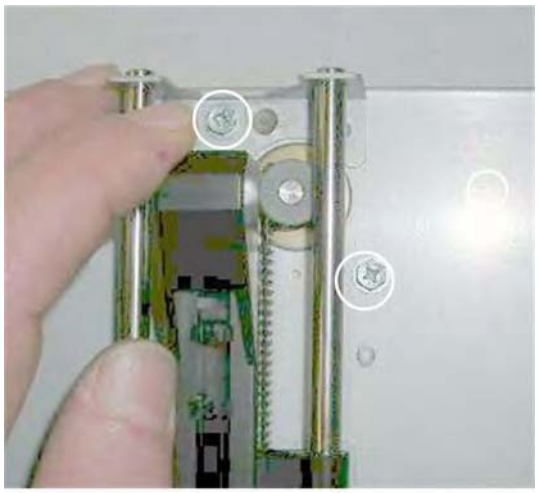

d434r306

1. Rotate the gear clockwise to raise the plunger [A] and relieve the tension on the spring [B].
2. Remove spring [B].



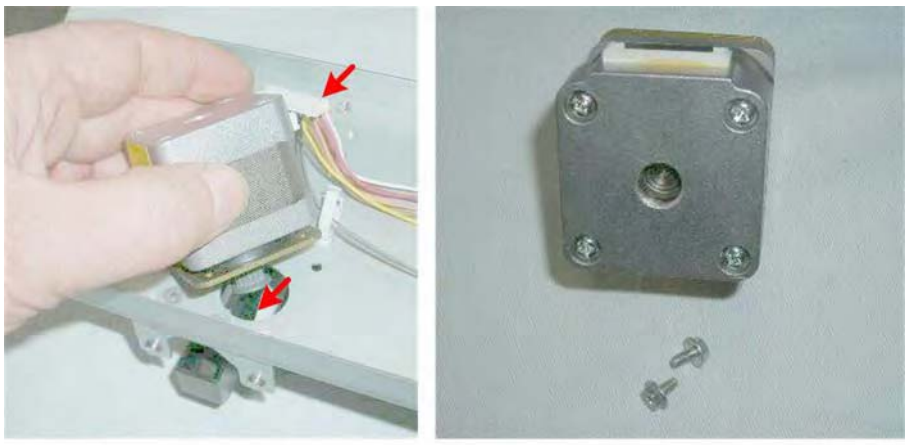

d434r307

3. Disconnect shafts ① and ② and slide them out ( x2).



d434r308

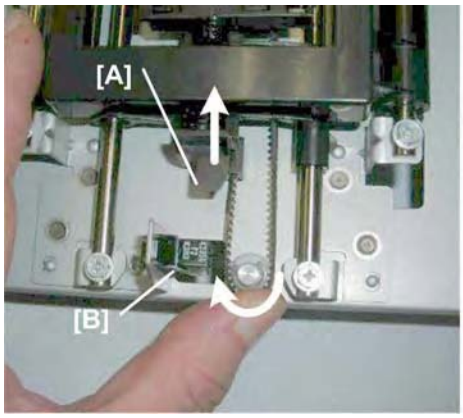
4. Turn the plate over.
5. Remove the screws ( x2).

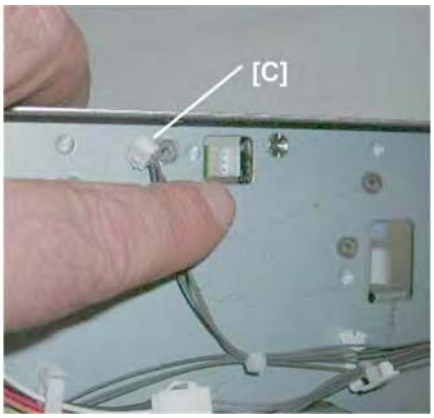


d434r309

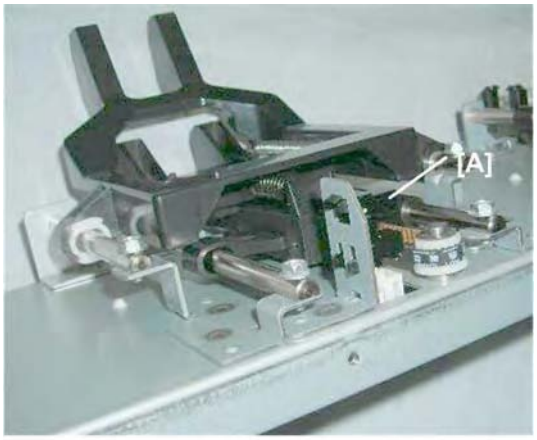
6. Remove the motor ( x1,  x1).

**Stack Plate HP Sensor (Center)**



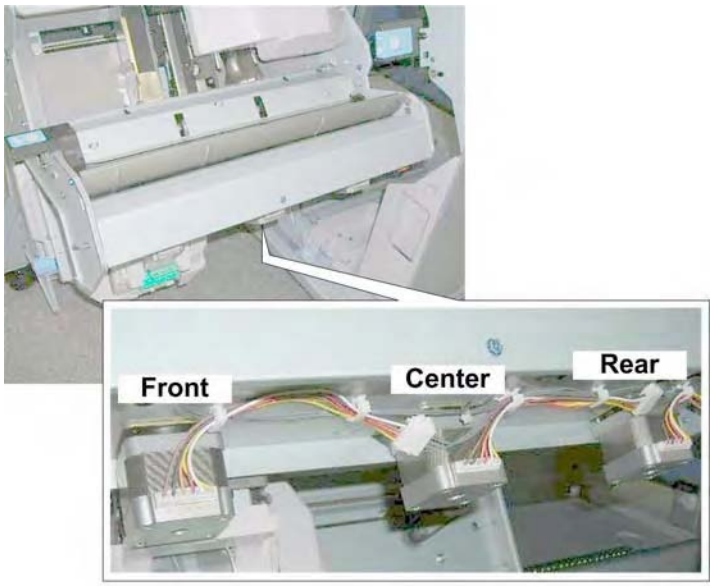




1. Rotate the gear to move actuator [A] out of the gap [B].
2. Turn the plate over.
3. Disconnect the sensor at [C]




4. Remove sensor [A] ( x5)

## *Stack Plate Motor, Stack Plate HP Sensor (Front)*

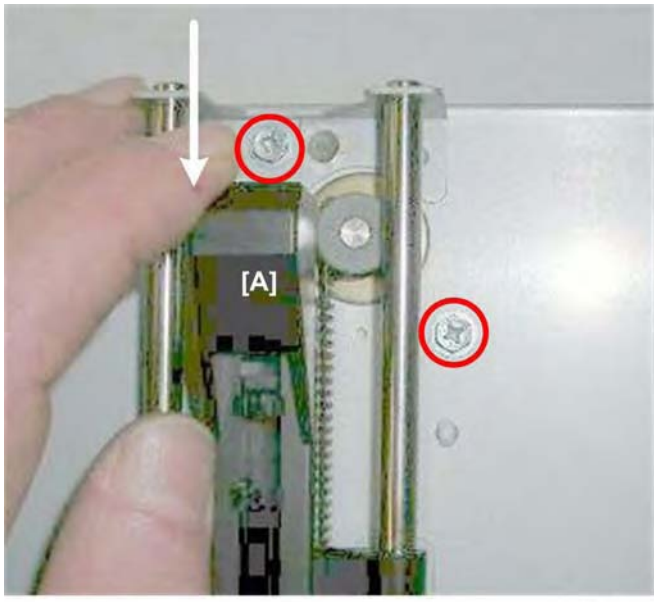



d434r301

**Preparation**

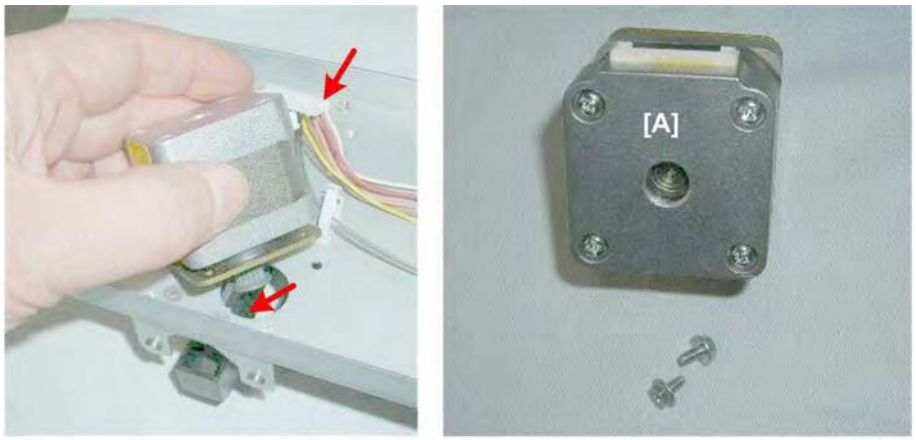
- Edge Press Motor/Sensor Plate (☛p.94)

**Stack Plate Motor (Front)**




d434r312

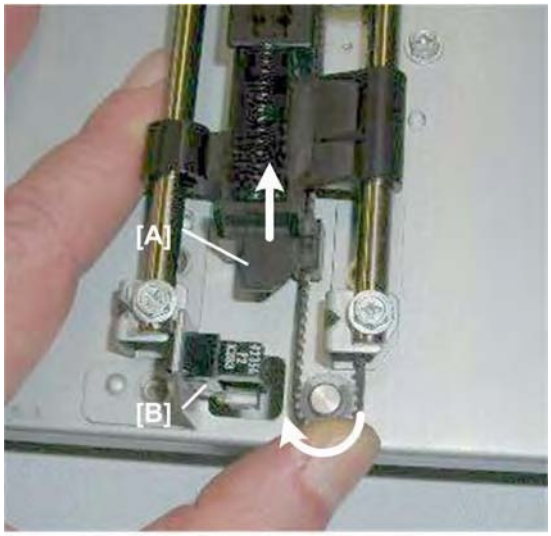
1. Depress plunger [A] so you can see the screw.
2. Remove the screws. ( x2)




d434r313

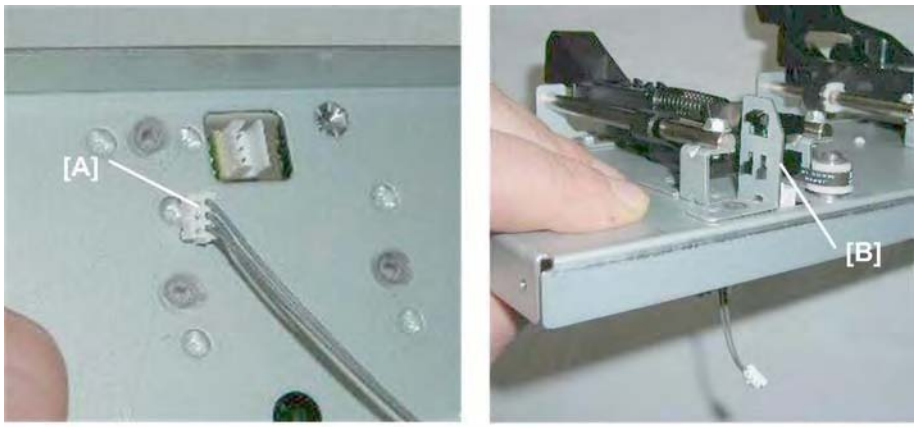
3. Remove motor [A] ( x1, x1, x1).

**Stack Plate HP Sensor (Front)**




d434r314

1. Rotate the gear to move plunger [A] out of the gap of the sensor [B].
2. Turn the plate over.




d434r315

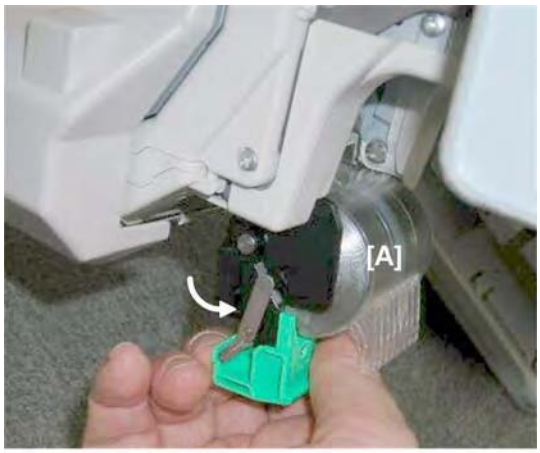
3. Disconnect the sensor at [A] ( x1).
4. Remove sensor [B] x5).

## 1.7.5 CORNER STAPLING

### *Corner Stapler*

**Preparation**

- Pull the stack/staple unit with handle **Rb12.**

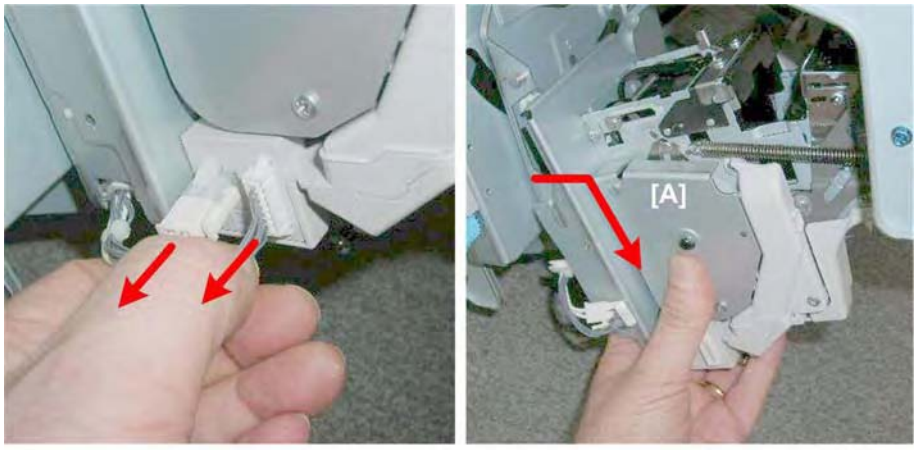



d434r316

1. Remove the stapler cartridge [A].

d434r317

2. Remove cover [A] ( x2)

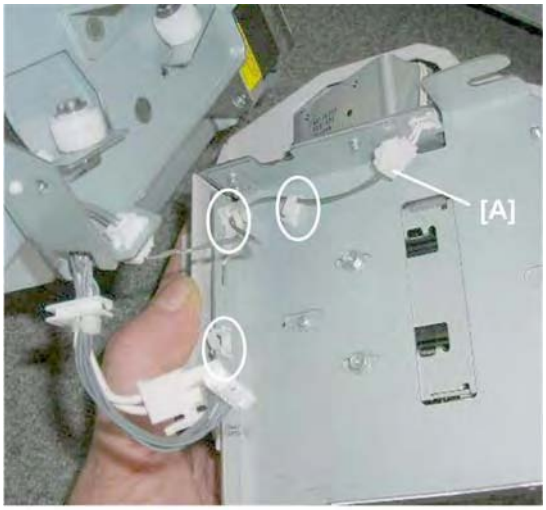



d434r318

3. Disconnect the stapler [A] ( x2).
4. Lift the stapler off its posts but do NOT pull it away.

Important

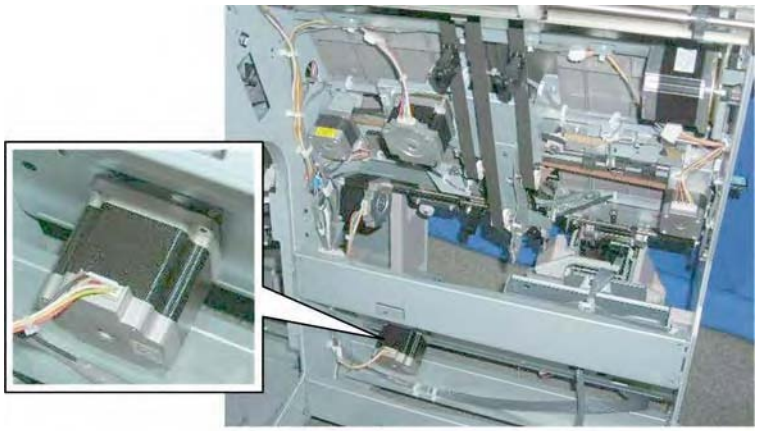
- This is still one harness connected inside the stapler.




d434r319

5. Disconnect harness [A] ( x3,  x1)

### *Corner Stapler Movement Motor*

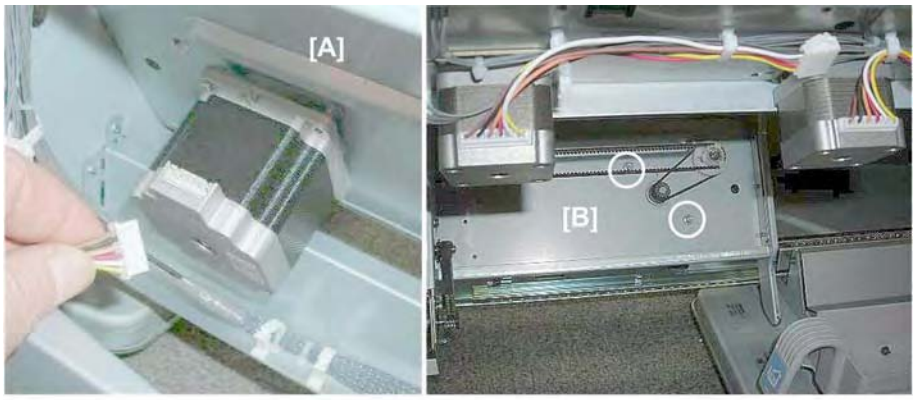


d434r320

The corner stapler movement motor is at the bottom of the corner stapler unit.

**Preparation**

- Booklet unit (☛p.14)

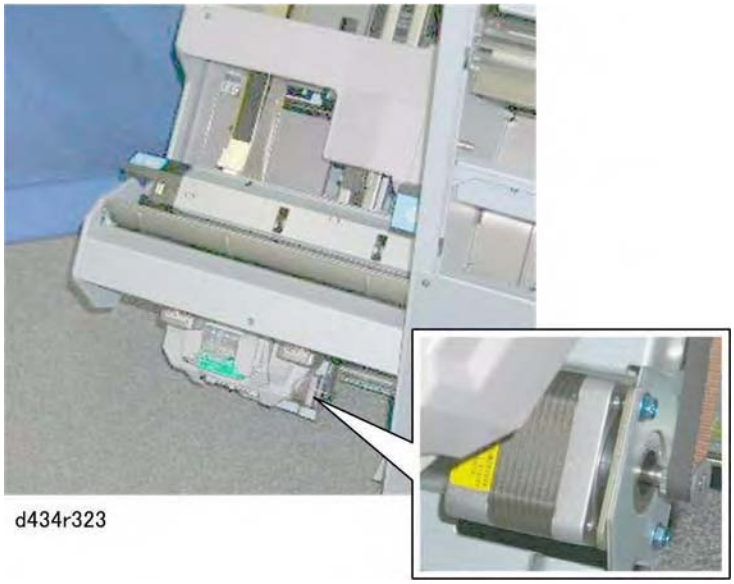



d434r321

1. On the left [A], disconnect the motor ( x1).
2. On the right [B], remove the motor ( x2, x1)

d434r322

## *Stapler Rotation Motor*

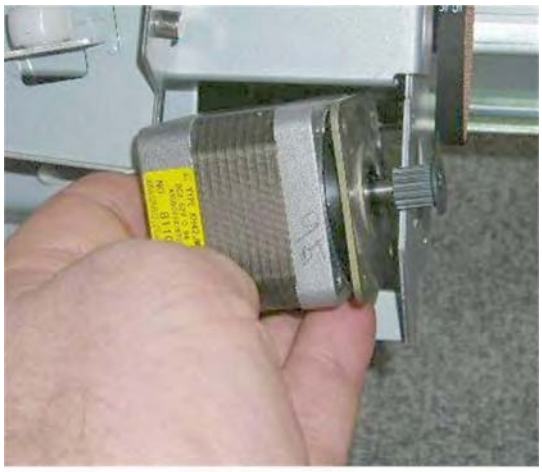



You can see the stapler rotation motor on the bottom of the corner stapler unit next to the corner stapler.

**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**

1. Disconnect the motor at [A] ( x1).
2. Remove the motor at [B] ( x2, x1).



d434r325

## *Staple Trimmings Hopper Full/Set Sensors*

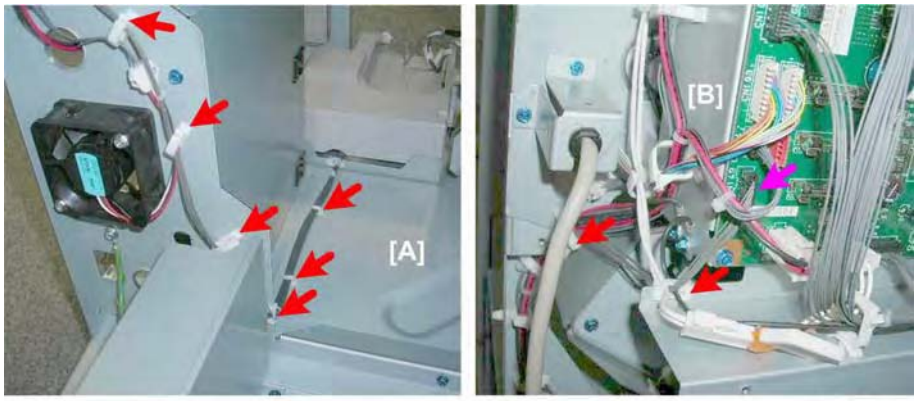
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**
- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)

**Trimmings Hopper Unit**

d434r326

1. Remove the staple trimmings hopper.

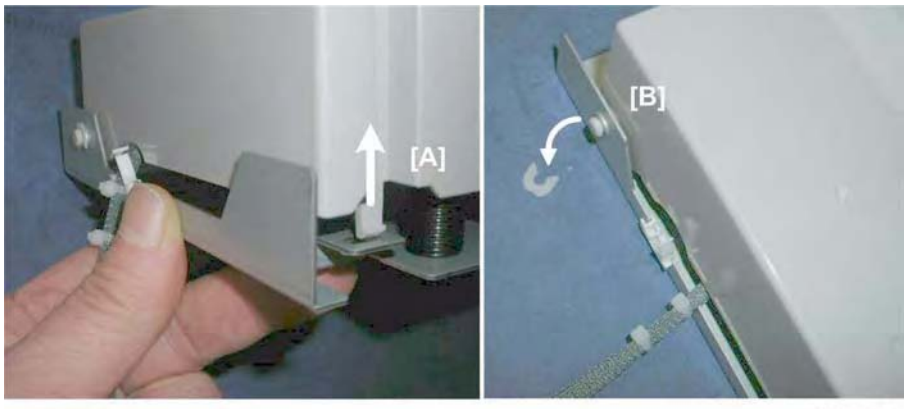



d434r327

2. Free the harness [A] and disconnect it from the main board [B] ( x11, x1).

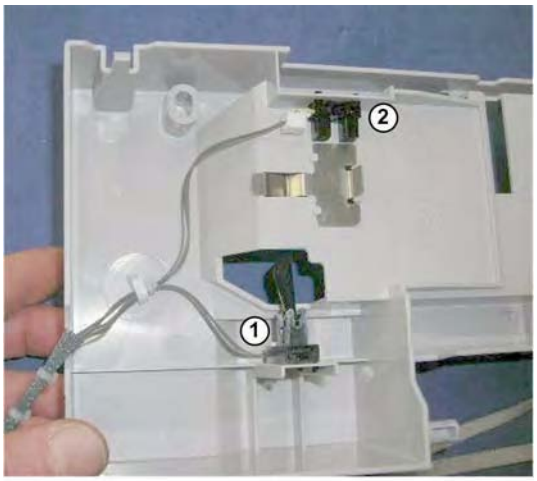
d434r328

3. Gather the disconnected harness [A].
4. Disconnect the trimmings collection unit [B] ( x2).




d434r329

5. Disconnect tab [A] (Tab x1, x2).
6. Release hinge shaft [B] ( x1).
7. Open the unit.



d434r330

8. Detach:
   ① Hopper set sensor ( x5)
   ② Hopper full sensor

## *Stapler Movement Sensors*

Common procedures

- Corner Stapler HP Sensor
- Corner Stapler Rotation HP Sensor (Rear)
- Corner Stapler Rotation HP Sensor (Front)

**Preparation**

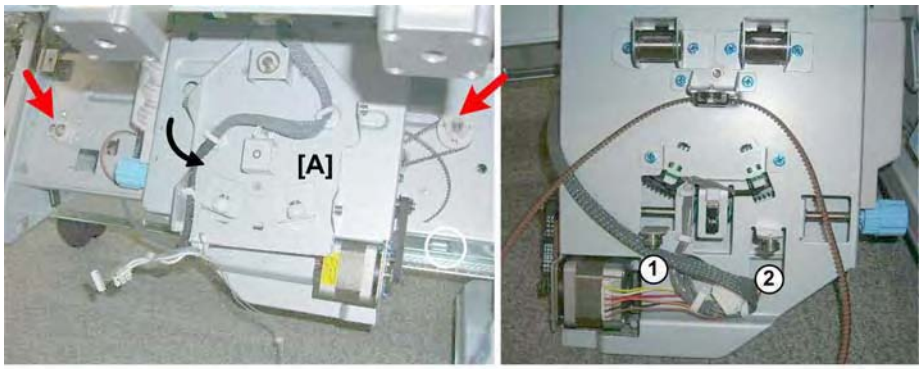
- Pull out the stack/staple unit with handle **Rb12**.
- Corner stapler (☛p.103)

d434r331

1. Push the stapler to the rear [A].
2. Remove the screw of the stapler guide rail [B] ( x1).
3. Push the guide rail [C] to the rear and remove it.

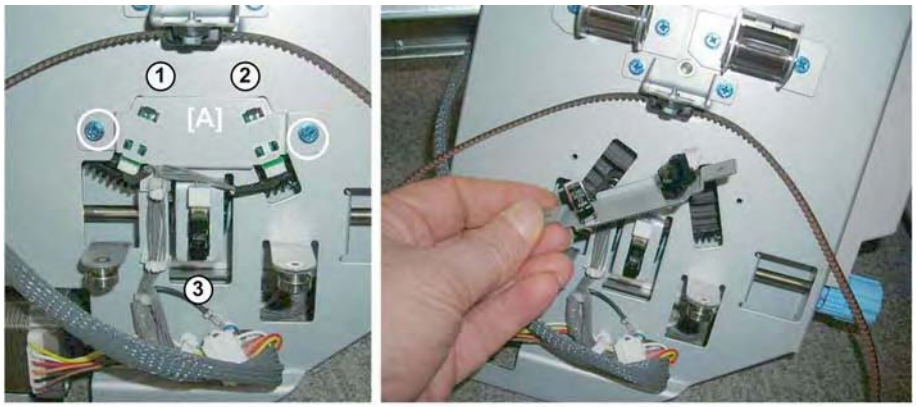
d434r332

4. Remove spring [A].
5. Loosen screw [B] (do not remove it).
6. Rotate the plate down to relieve tension on the belt.




d434r333

7. Disconnect the belt at the front and back.
8. Lift the stapler mount [A] off its rails and turn it toward the rear so you can see the back of the mount. The mount is on two steel rollers ① and ② that rest on the bottom rail of the corner stapler unit.



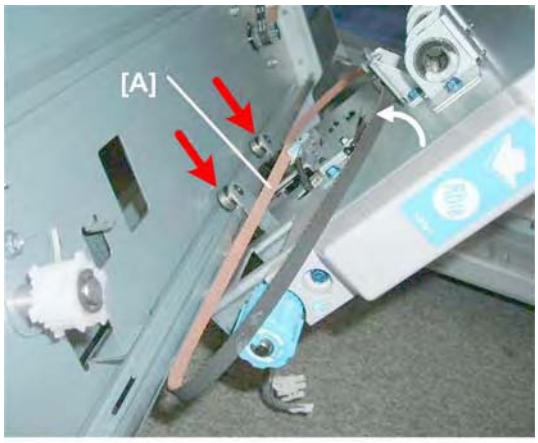

d434r334

9. Remove sensor bracket [A] ( x2).
   Three sensors are on this bracket:
   ① Rotation HP sensor (rear) ( x1, x5)

② Rotation HP sensor (front) ( x1, x5)

③ Stapler HP sensor ( x1, x5)

**Re-installation**




d434r335

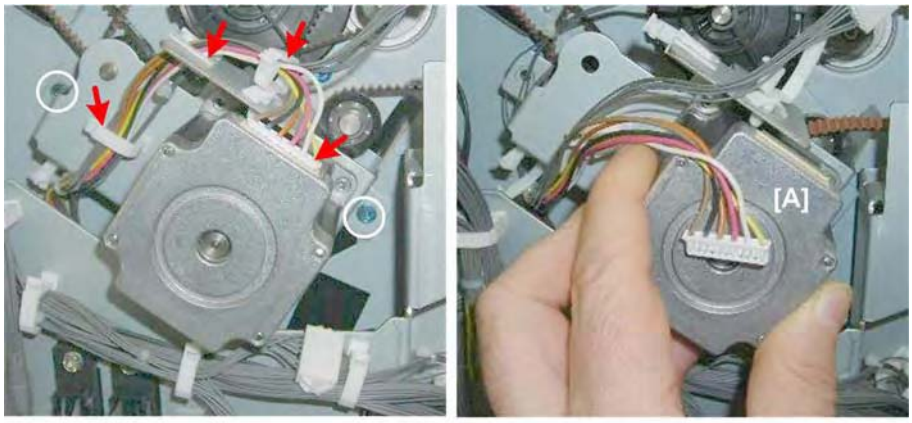
1. When you set the stapler mount on its rails, make sure the belt [A] is not tangled and above the two rollers.

## 1.7.6 CORNER STAPLED STACK FEED OUT

### *Stack Transport Motor*

**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)




d434r355

1. Remove motor [A] ( x3, x1, x2)

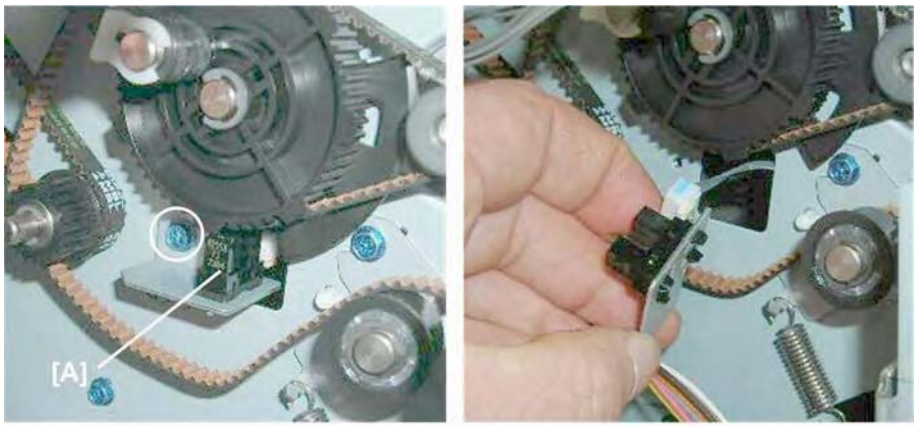
d434r356

2. Separate motor [A] from the bracket ( x2).

## *Stack Transport Unit HP Sensor*

**Preparation**

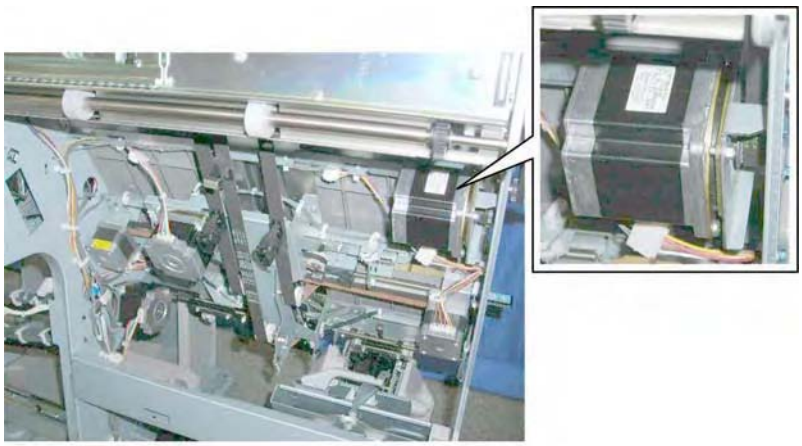
- Rear upper cover (☛p.3)
- Stack transport motor (☛ p.112)




d434r336

1. Remove sensor bracket and sensor [A] ( x1).
2. Remove the sensor ( x1, x5)

## *Stack Feed-Out Belt Motor*

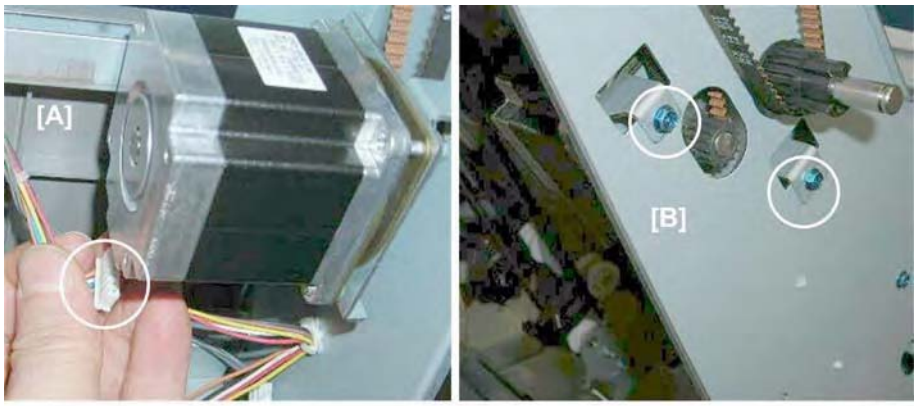


d434r337

The stack feed-out belt motor is behind the front plate of the corner stack/staple unit.

**Preparation**

- Booklet unit (☛p.14)




d434r338

1. Behind the front plate [A], disconnect the motor ( x1).
2. On the face of the front plate [B], remove the screws ( x2)

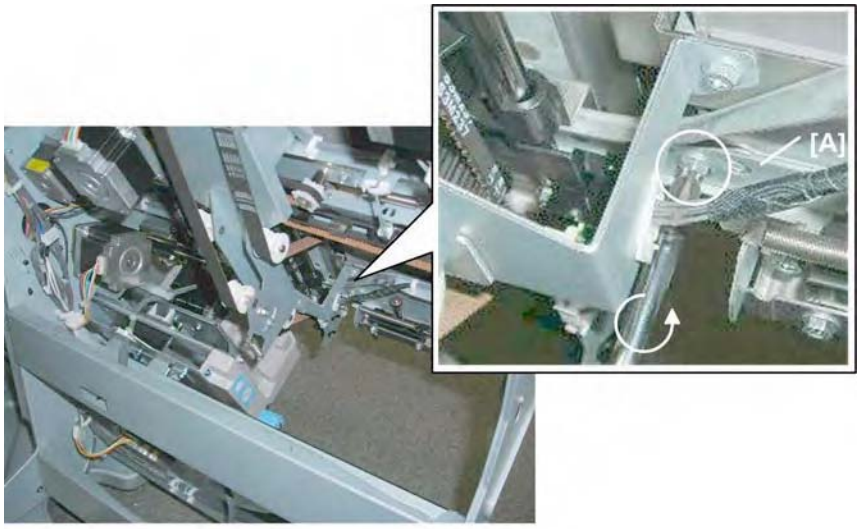
d434r339

3. Remove the motor ( x1).
4. Separate the bracket and motor [A] ( x2).

## *Stack Feed-Out Belt HP Sensor*

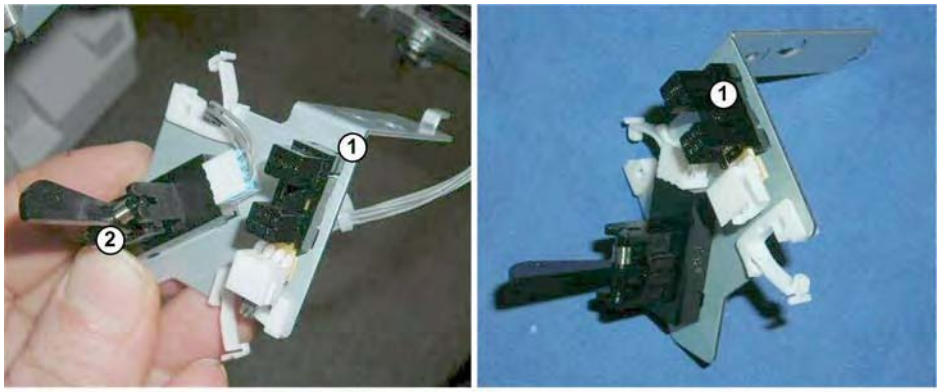
**Preparation**

- Booklet unit (☛p.14)




d434r288

1. Remove bracket [A] ( x1, x1)

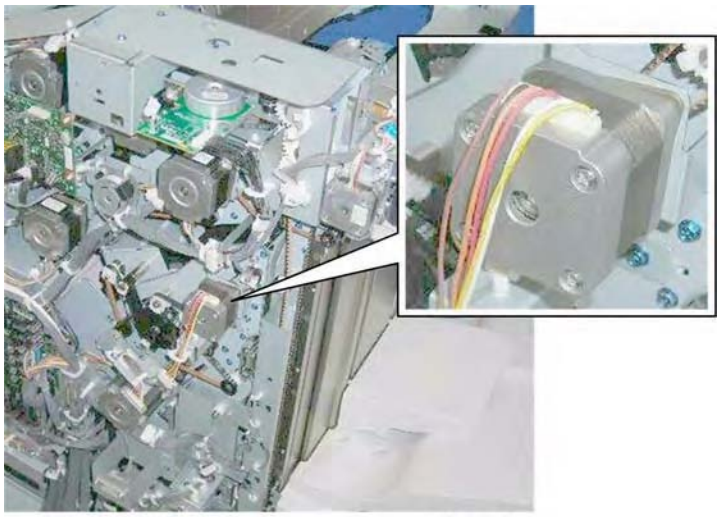



d434r289

2. Disconnect the stack feed-out belt HP sensor ② ( x1, x2, x5).

- The bottom fence HP sensor ① (the photointerrupter without the feeler) is on the same bracket as the stack feed-out belt HP sensor ② (sensor with feeler attached).

## *Stack Junction Gate Motor*

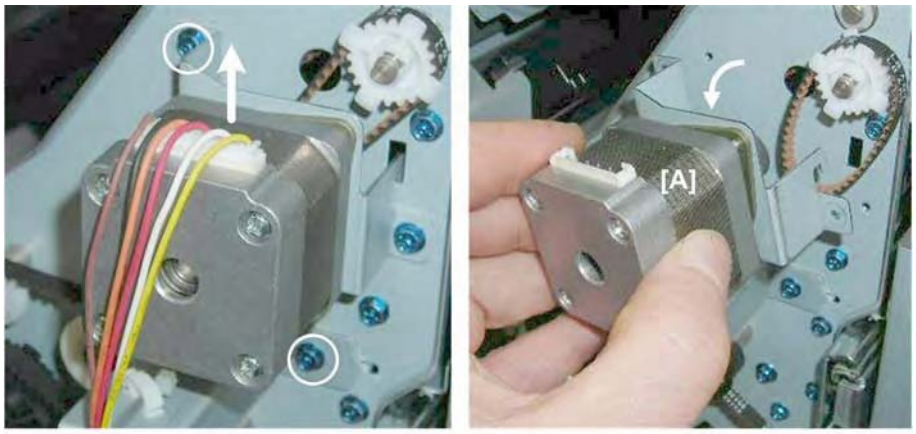


d434r340

The stack junction gate motor is on the back of the finisher.

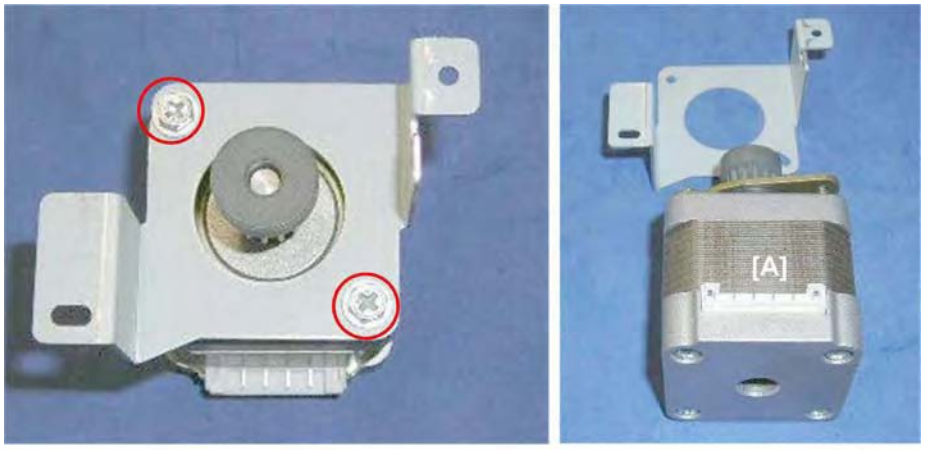
**Preparation**

- Rear upper cover (☛p.3)




d434r341

1. Remove motor [A] ( x1, x2).



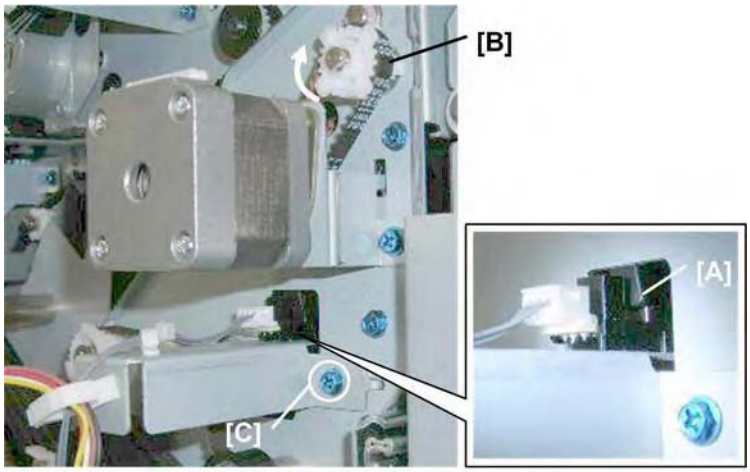

d434r342

2. Separate the bracket and motor [A] ( x2).

## *Stack JG HP Sensor*

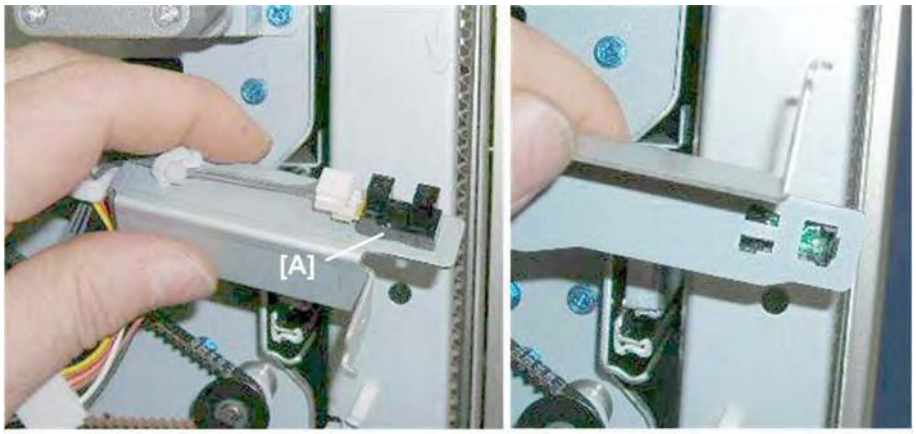
### Preparation

- Rear upper cover (☛p.3)



d434r343

1. If the actuator [A] is in the gap of the sensor, rotate gear and belt [B] until the actuator is out of the gap.
2. Remove sensor bracket [C] ( x1).



d434r344

3. Remove sensor [A] ( x1, x5).

## 1.7.7 CORNER STAPLED STACKS EXIT TO SHIFT TRAY

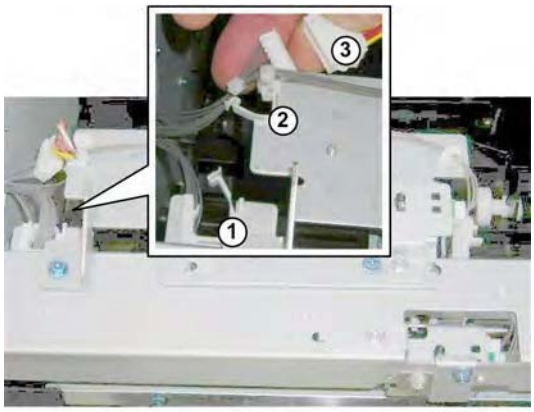
### *Exit Guide Motor*

d434r345

The exit guide motor assembly is at the left rear corner of the finisher.

**Preparation**

- Proof tray (☛p.8)

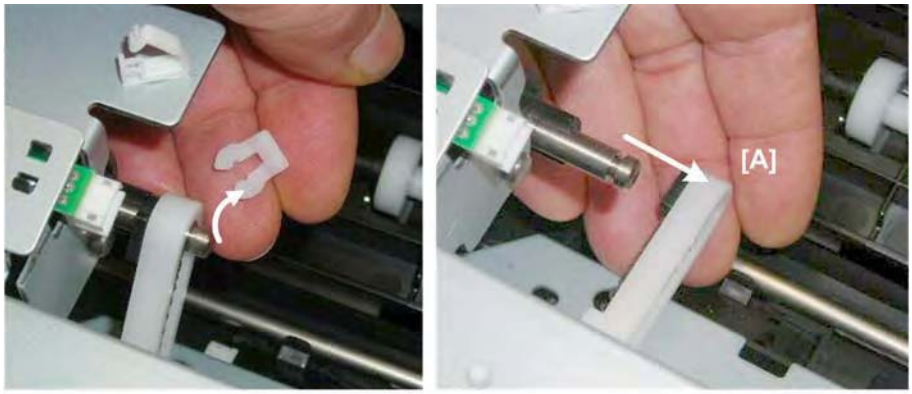



d434r346

1. Disconnect the harnesses ( x2, x1).

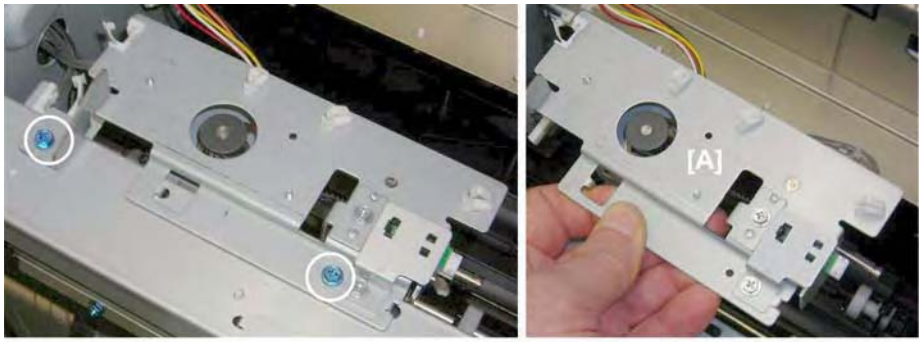
d434r347

2. Disconnect sensor harness [A] ( x3, x1)



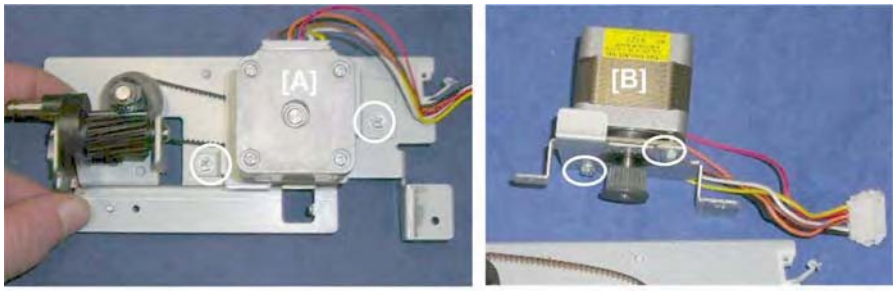

d434r348

3. Disconnect and remove rocker arm [A] ( x1).




d434r349

4. Remove the exit guide plate assembly [A] ( x2).




d434r350

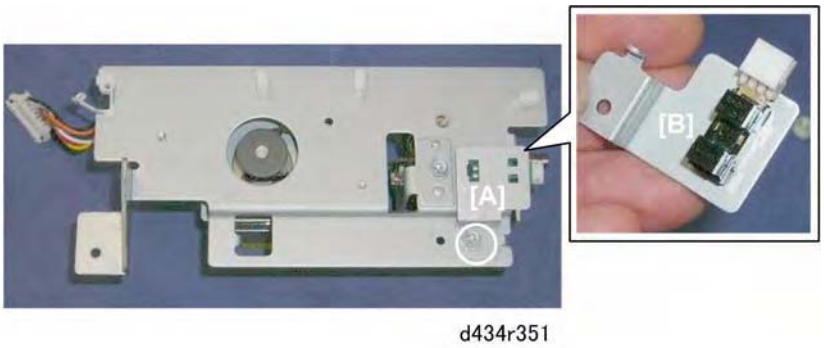
5. Disconnect motor [A] ( x2, x1)
6. Separate the motor [B] and bracket ( x2).

## *Exit Guide HP Sensor*

**Preparation**

- Proof tray (☛p.8)

1. Remove the exit guide motor assembly (see the previous procedure)




1. Remove sensor bracket [A] ( x1, x1)
2. Remove sensor [B] ( x5).

# 1.8 BOOKLET UNIT

## 1.8.1 BOOKLET STAPLER

**Preparation**

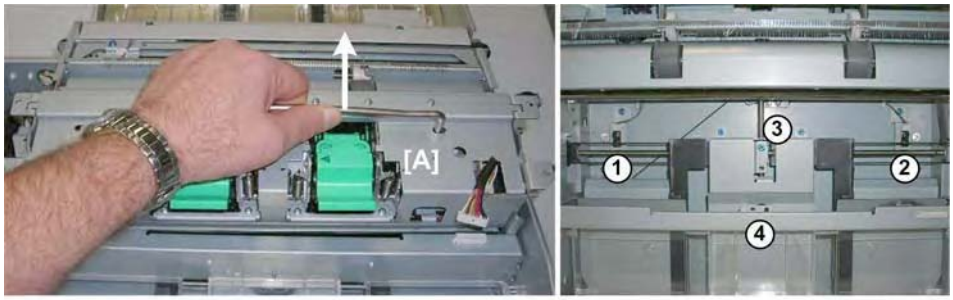
- Booklet unit (☛p.14)

Note

- This procedure describes removal of the booklet stapler after the booklet unit has been removed.
- Actually, the booklet stapler can be easily removed before removing the booklet unit.
- Removing the booklet stapler from the booklet stapler unit is recommended. This makes the booklet unit lighter and easier to handle.

d434r352

1. Remove cover [A] ( x2).
2. Remove the stapler unit [B] ( x4, x1)




d434r353

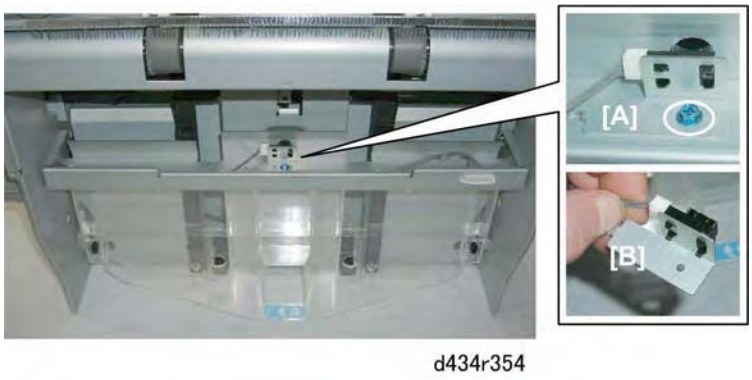
3. Lift the stapler unit [A] out with its handle.
4. Four sensors are behind the stapler unit:
   ① Rear jogger fence HP sensor
   ② Front jogger fence HP sensor
   ③ Bottom fence HP sensor
   ④ Folder unit entrance sensor

## 1.8.2 BOOKLET UNIT TRANSPORT, ENTRANCE

### *Fold Unit Entrance Sensor*

**Preparation**

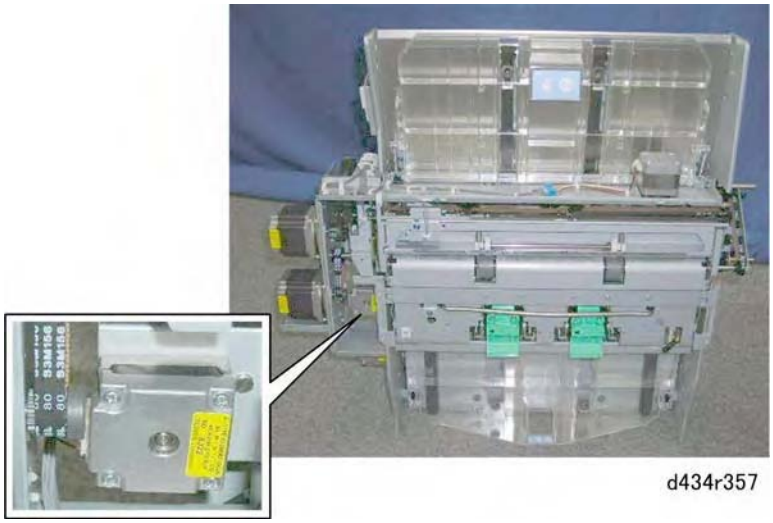
- Booklet unit (☛p.14)
- Booklet stapler (☛p.13)




1. Remove sensor bracket [A] ( x1).
2. Remove sensor [B] ( x1, x5)

## 1.8.3 BOOKLET SIDE-TO-SIDE JOGGING

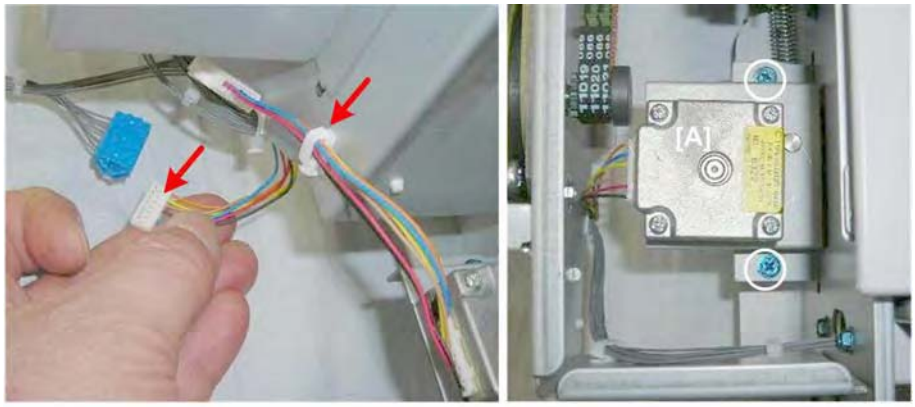
### *Booklet Stapler Side Fence Motor*




The booklet stapler side fence motor is on the back of the booklet unit.

**Preparation**

- Booklet unit (☛p.14)




d434r358

1. Remove motor [A] ( x1, x1, x2)

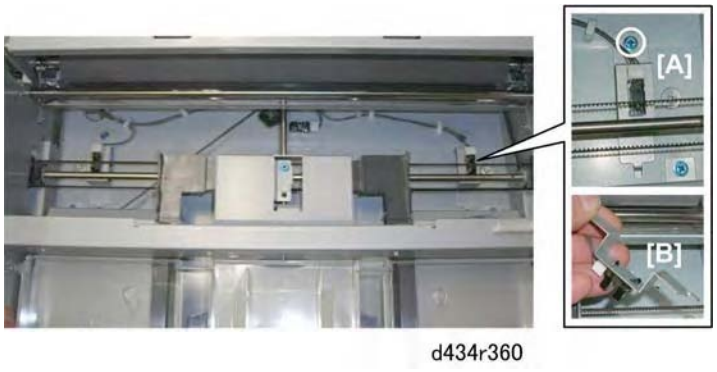
d434r359

2. Separate motor [A] from the bracket ( x2).

## *Booklet Stapler Side Fence HP Sensor (Front)*

**Preparation**

- Booklet unit (☛p.14)
- Booklet stapler (☛p.13)




1. Remove:
   [A] Sensor bracket ( x1)
   [B] Sensor ( x1, x5)

## *Booklet Stapler Jogger HP Sensor (Rear)*

**Preparation**

- Booklet unit (☛p.14)
- Booklet stapler (☛p.13)

1. Remove:
   [A] Sensor bracket ( x1)
   [B] Sensor ( x1, x5)

## 1.8.4 BOOKLET BOTTOM/TOP JOGGING

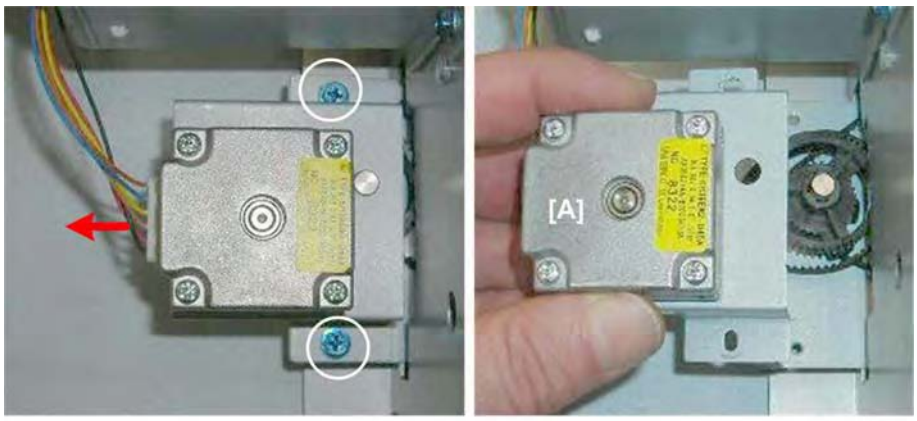
### *Booklet Stapler Bottom Fence Motor*

d434r362

The booklet stapler bottom fence motor is on the back of the booklet unit.

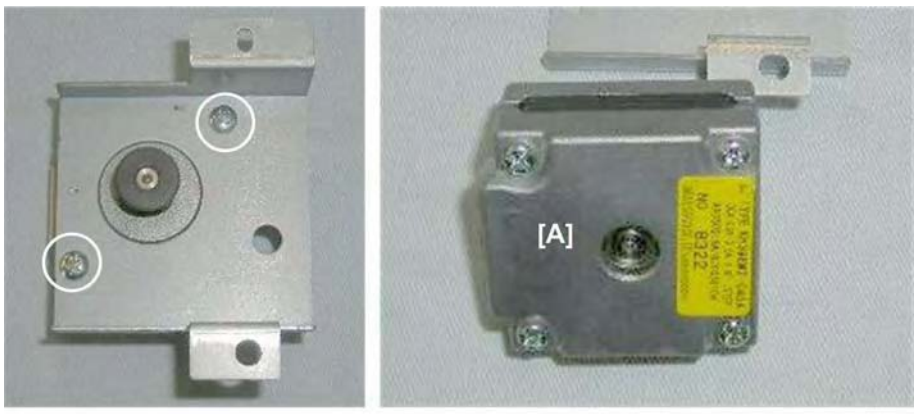
**Preparation**

- Booklet unit (☛p.14)




d434r363

1. Remove motor [A] ( x2, x1).



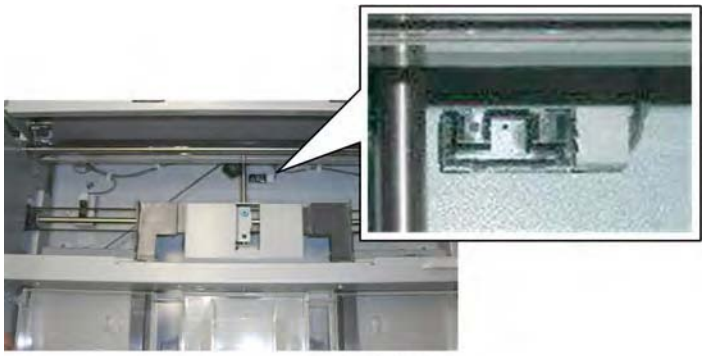

d434r364

2. Separate the motor [A] from the bracket ( x2).

## *Booklet Stapler Bottom Fence HP Sensor*

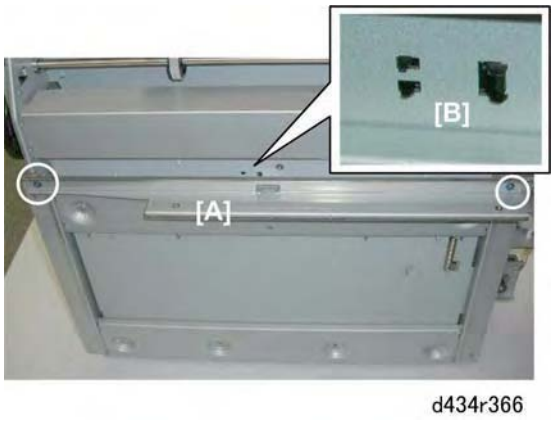
**Preparation**

- Booklet unit (☛p.14)
- Booklet stapler (☛p.13)



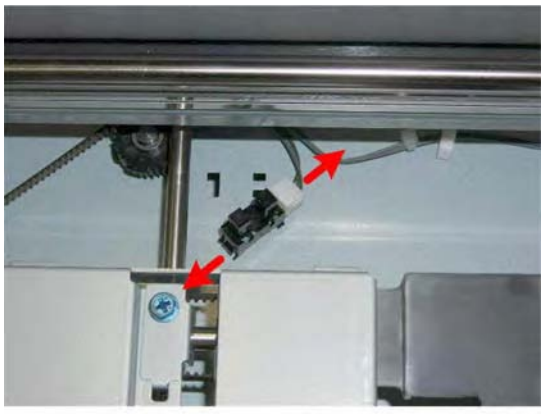
d434r365

The bottom fence HP sensor is fastened to the right plate of the booklet unit.




d434r366

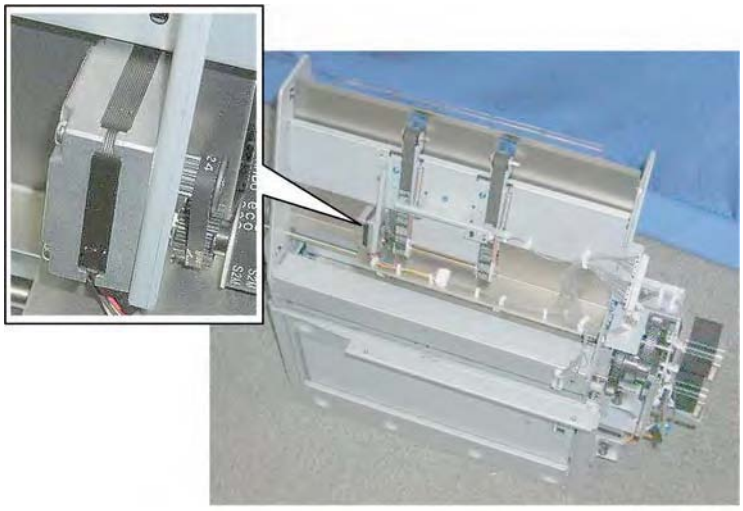
1. On the right side, remove brace [A] so that you can see the sensor pawls ( x2).
2. Release the pawls [B] and push them through the plate ( x5).



d434r367

3. Disconnect the sensor ( x1).

## *Booklet Stapler Top Fence Motor*



d434r368

The top fence motor and sensor are on top of the booklet unit.

**Preparation**

- Booklet unit (☛p.14)

d434r369

1. Remove sensor bracket [A] ( x1, x1)

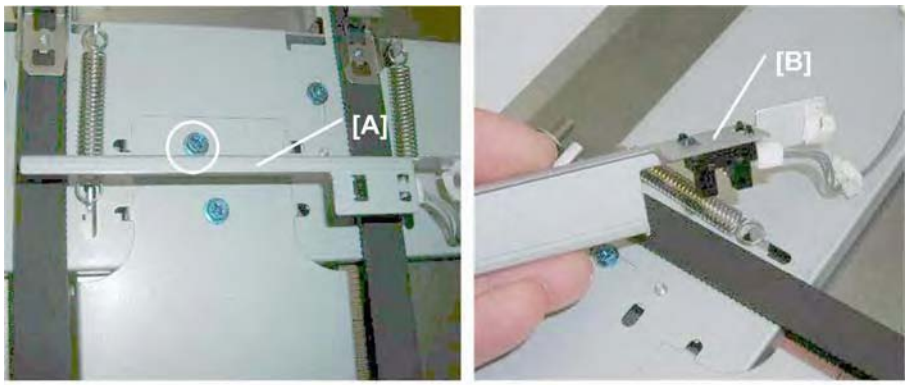
d434r370

2. Separate motor [A] from the bracket ( x2)

### *Booklet Top Fence HP Sensor*

**Preparation**

- Booklet unit (☛p.14)

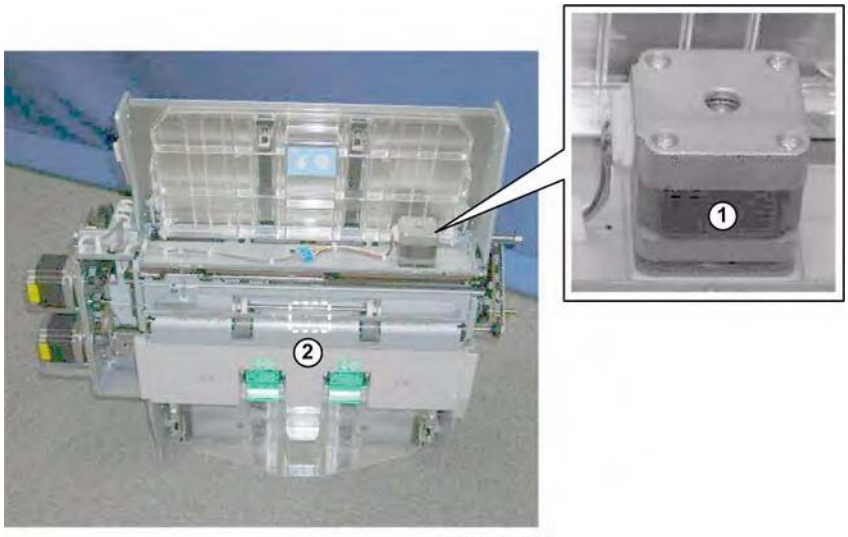



d434r371

1. Remove sensor bracket [A] ( x1).
2. Remove sensor [B] (x1, x1, x5)

## 1.8.5 BOOKLET PRESS FOR STAPLING

### *Booklet Stapler Clamp Roller Motor, Booklet Unit Exit Sensor*




d434r372

The clamp roller motor ① and exit sensor ② cannot be removed until the motor base has been removed.

**Preparation**

- Booklet unit (☛p.14)

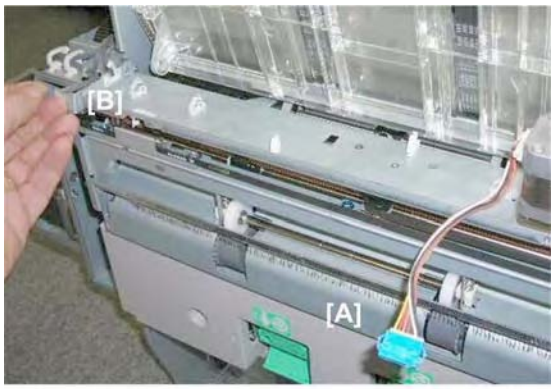
**Motor Base Plate**

d434r373

1. Remove cover [A] ( x2).

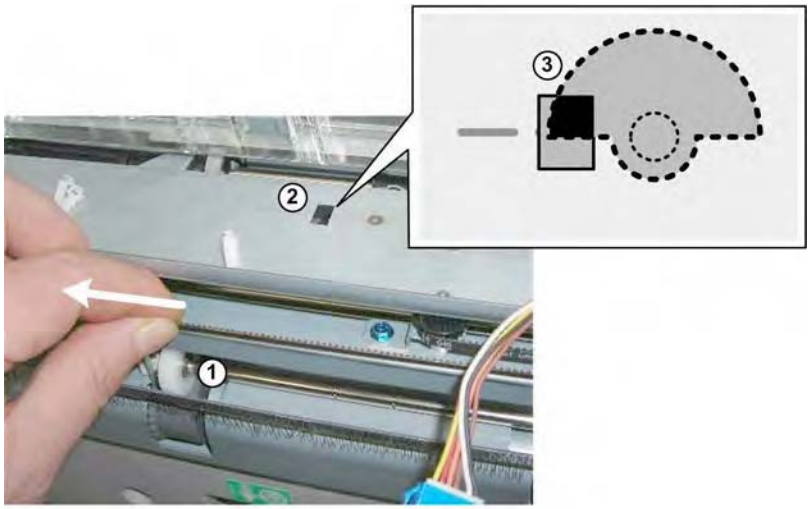
d434r374

2. Disconnect sensor bracket [A] and harness [B] ( x1, x2, x1).




d434r375

3. Disconnect motor harness [A] ( x6, x1).

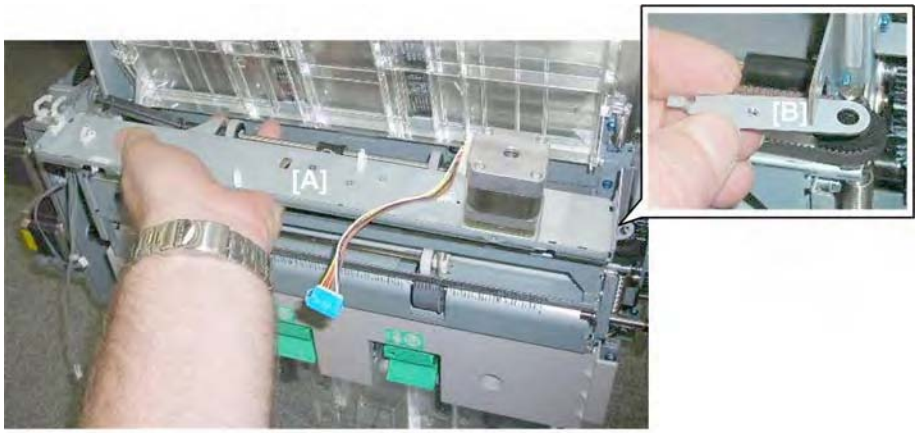



d434r376

4. Pull belt ① until you can see through the hole ② that the edge of the actuator ③ below the hole is aligned as shown.
   - The edge of the actuator and the line on the left side of the hole must be aligned.
   - This releases the clamp roller so that there is no pressure on the base plate.

d434r377

5. Remove:
   [A] Rear ( x2)
   [B] Front ( x3)



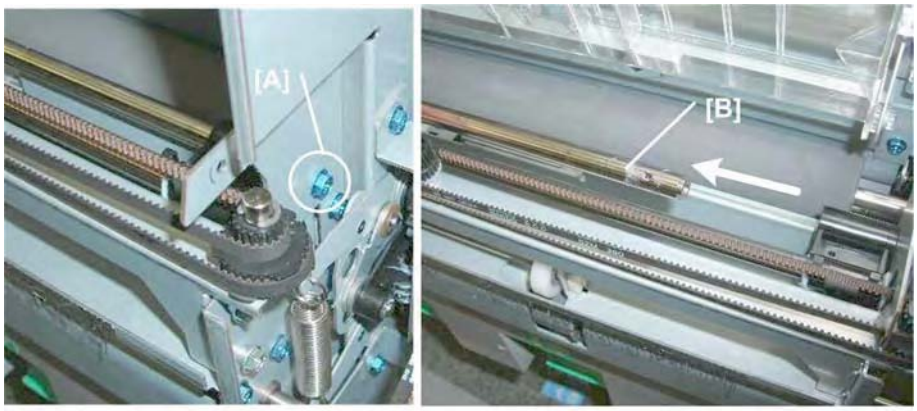

d434r378

6. Remove base plate [A].
7. Remove end-piece [B].

**Exit Sensor**

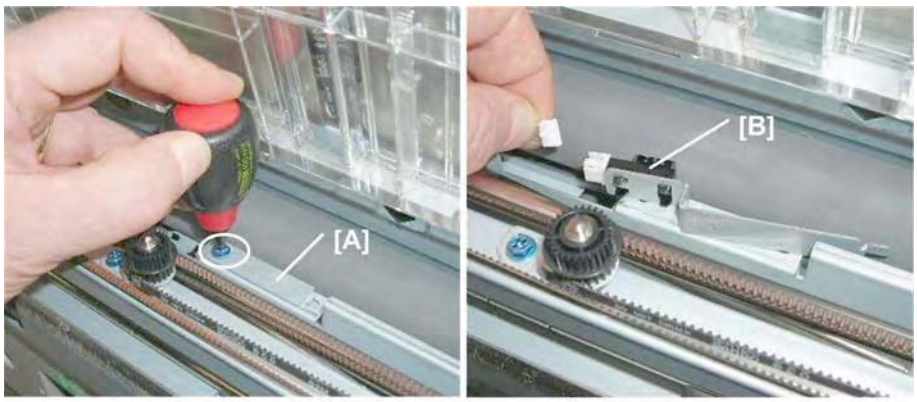
d434r379

A guide shaft blocks access to the exit sensor bracket [A].




d434r380

1. Remove guide shaft screw [A] ( x1).
2. Rotate then slide the guide shaft [B] to the rear until you have enough space to remove the bracket screw. (The guide does not need to be removed.)



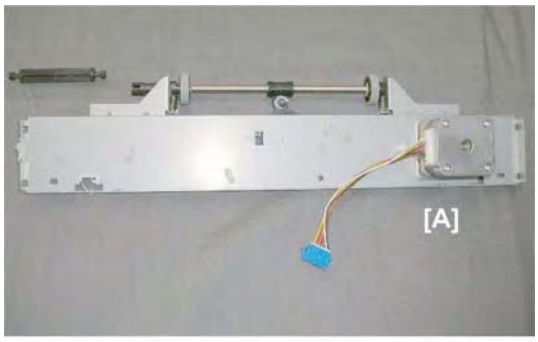

d434r381

3. Use a short screwdriver to remove the exit sensor bracket [A] ( x1).
4. Disconnect the exit sensor [B] ( x1, x5).

**Clamp Roller Motor**

**Preparation**

- Motor base plate



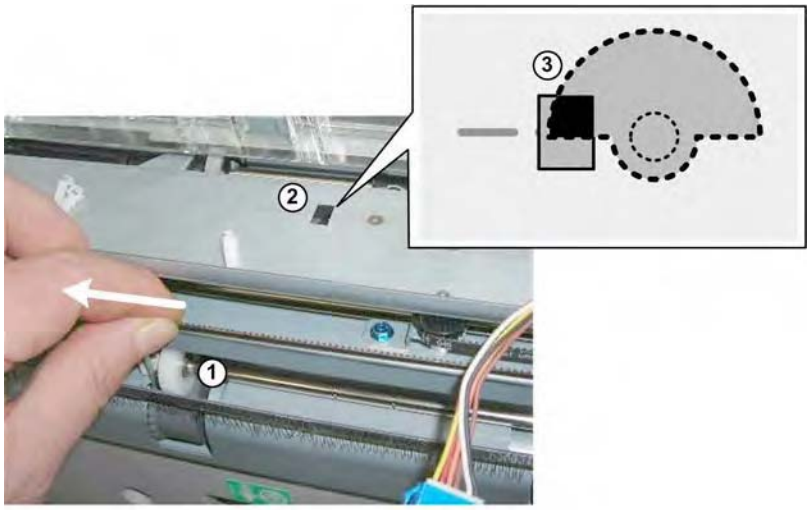

d434r382

1. Lay the motor base plate [A] on a flat surface.

d434r383

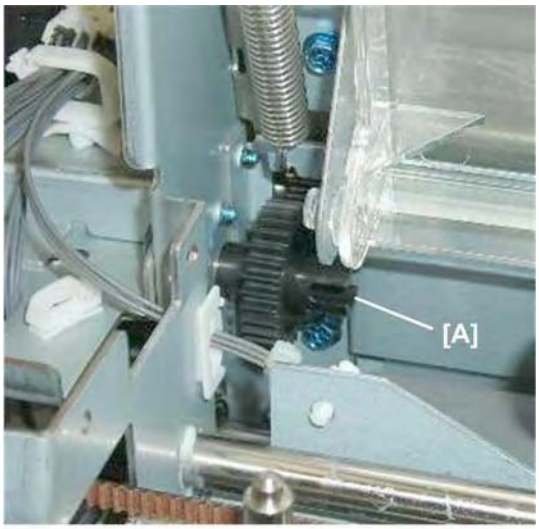
2. Turn the base plate over.
3. Remove motor [A] ( x2, x1).

**Re-installation**



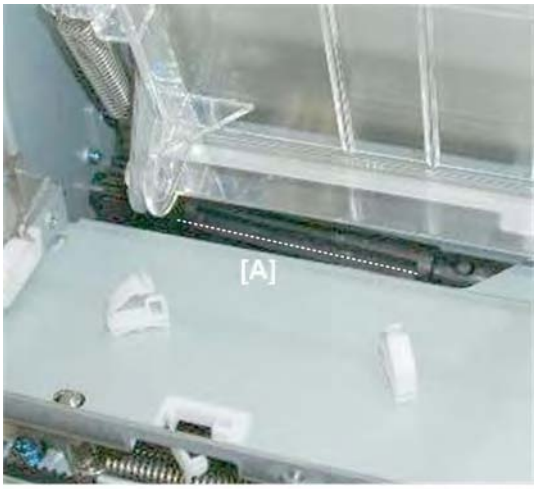

d434r376

- To make sure there is no pressure on the base plate, pull belt ① until you can see through the hole ② that the edge of the actuator ③ below the hole is aligned as shown.




d434r384

- Turn gear [A] so that you can see the cut-out. The post of the linkage must be re-inserted here when the motor base plate is re-installed.

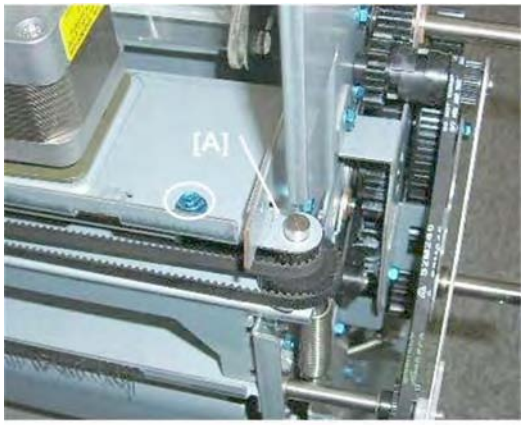



d434r385

- After the motor base plate [A] has been re-installed, the linkage will not be straight. It will slant slightly from rear to front. This is normal.

d434r386

- Confirm that the ends of the vertical shafts fit correctly through the holes in the motor base plate before you re-attach any screws.




d434r387

- Re-attach end-piece [A] at the front before you re-attach any other screws.

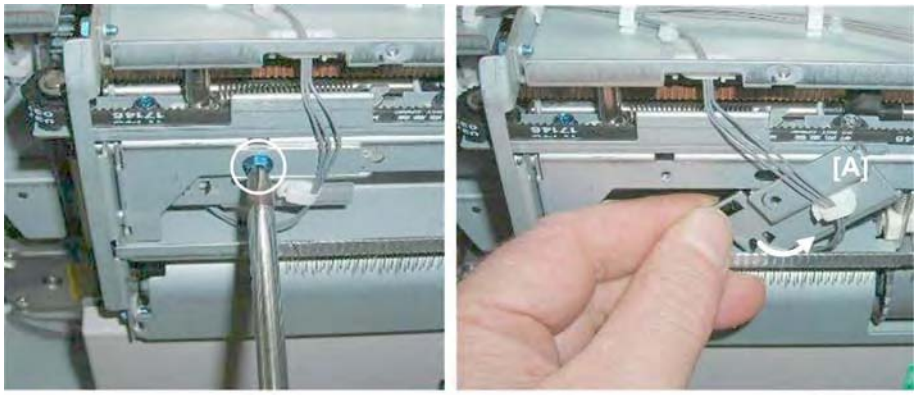
## *Booklet Stapler Clamp Roller Sensor*

**Preparation**

- Booklet unit (☛p.14)

d434r388

1. Remove cover [A] ( x2).




d434r389

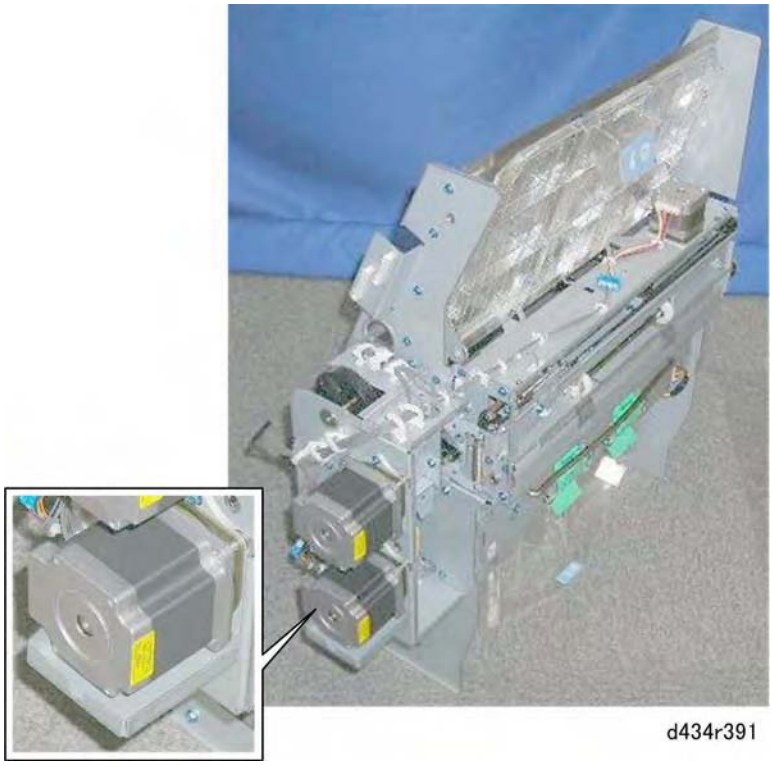
2. Remove sensor bracket [A] ( x1).

d434r390

3. Remove sensor [A] ( x1, x5).

## 1.8.6 BOOKLET FOLDING

### *Fold Plate Motor*

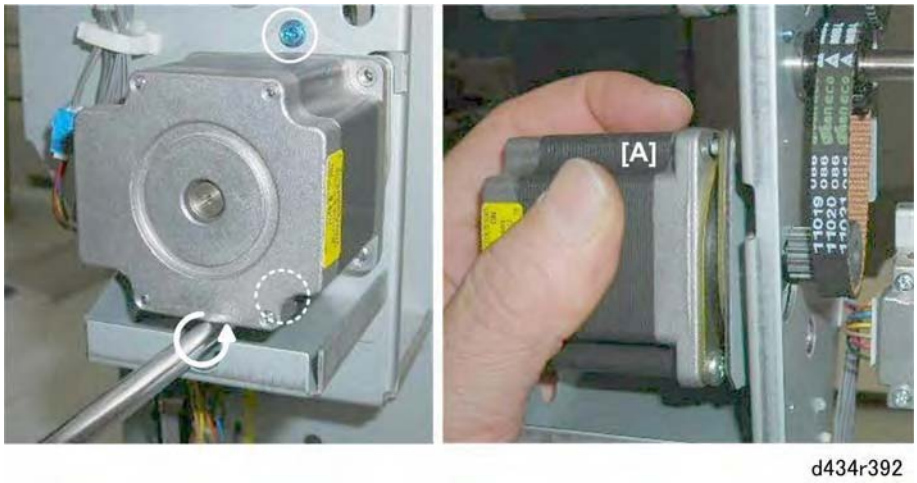


d434r391

The fold plate motor is on the back of the booklet unit, below the fold roller motor.

**Preparation**

- Booklet unit (☛p.14)




d434r392

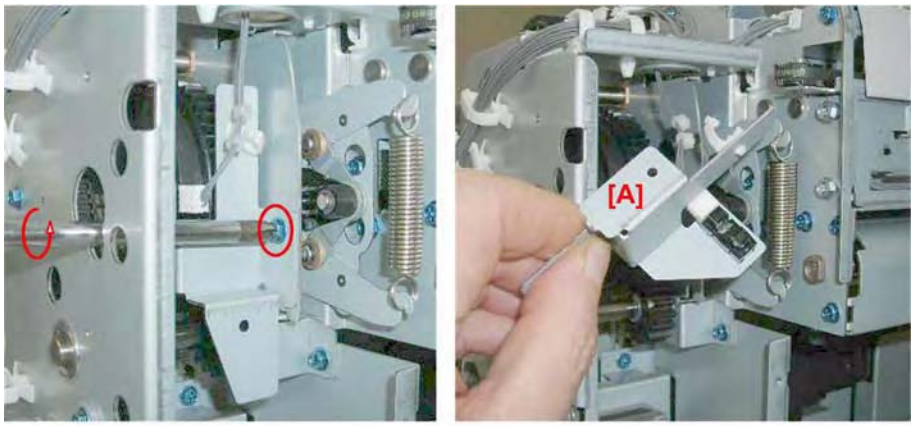
1. Remove motor [A] ( x2, x1).

d434r393

## *Fold Plate Cam HP Sensor*

**Preparation**

- Booklet unit (☛p.14)
- Fold roller motor (described in the previous section)



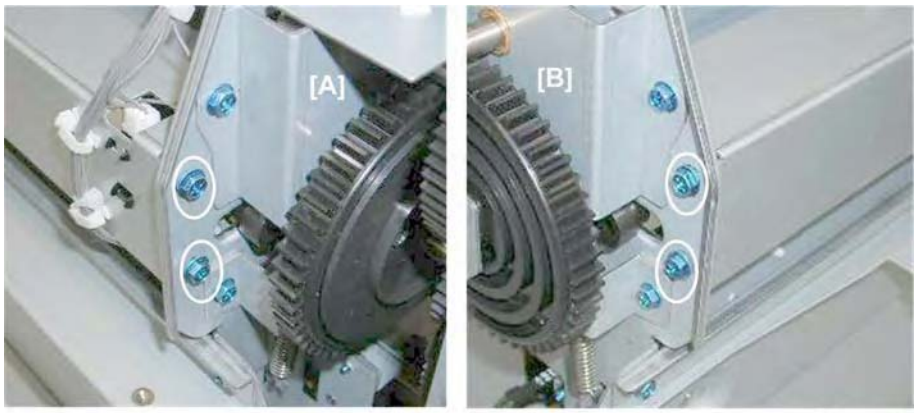

d434r394

1. Remove sensor bracket [A] ( x1, x1, x1).
2. Sensor ( x5)

## *Fold Plate HP Sensor*

**Preparation**

- Booklet unit (☛p.14)

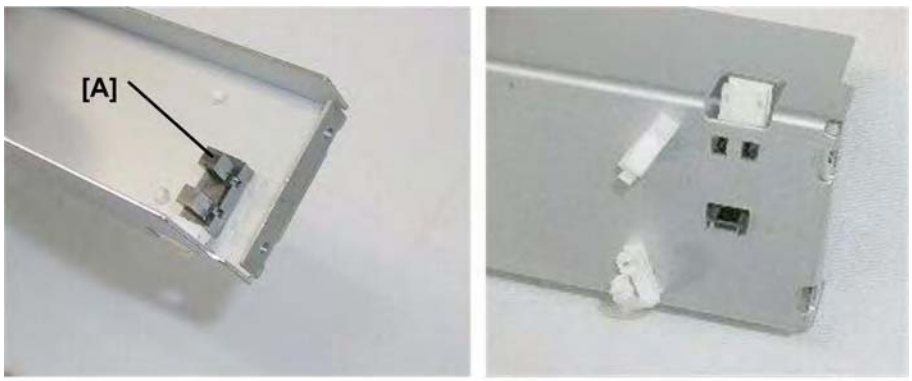



d434r395

1. Remove:
   [A] Rear ( x2)
   [B] Front ( x2)

d434r396

2. Remove cross-brace [A] ( x2, x1)

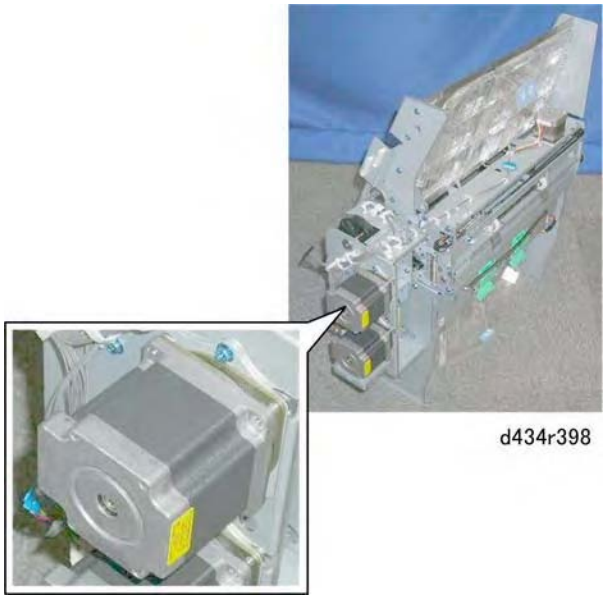



d434r397

3. Sensor [A] ( x5)

## 1.8.7 BOOKLET EXIT, BOOKLET TRAY

### *Fold Roller Motor*

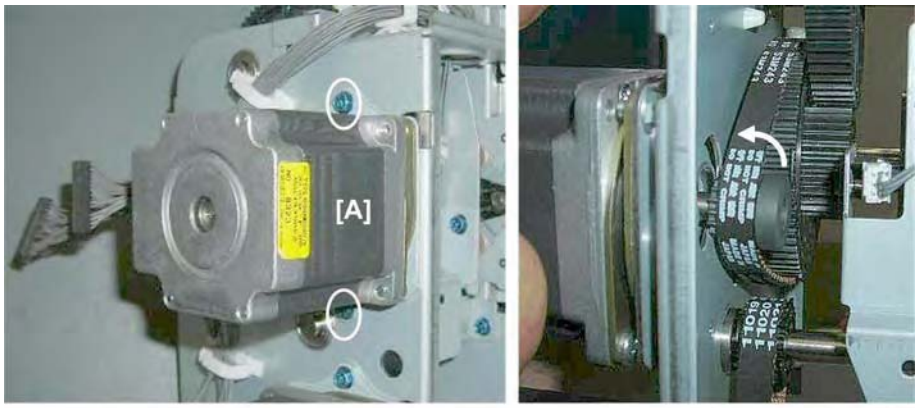


d434r398

The fold roller motor is on the back of the booklet unit, above the fold plate motor.

**Preparation**

- Booklet unit (☛p.14)




d434r399

1. Remove motor [A] ( x2, x1).

d434r400

## *Booklet Stapler Exit Sensor*

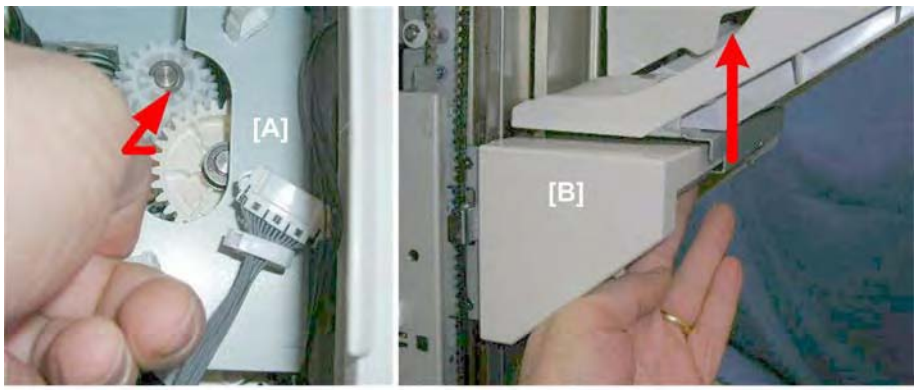
See p.128 "Booklet Stapler Clamp Roller Motor, Booklet Unit Exit Sensor".

## *Booklet Staple Tray Full Sensors (Upper/Lower)*

These sensors are on the same bracket.

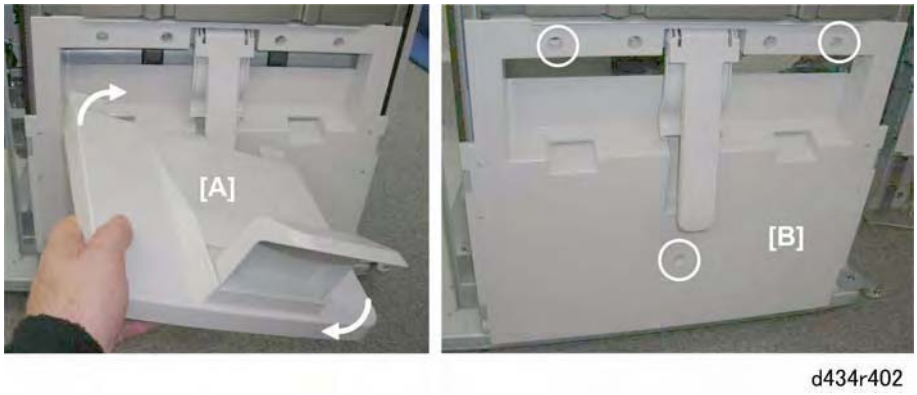
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12**.
- Right panel (☛p.11)
- Rear upper cover (☛p.3)



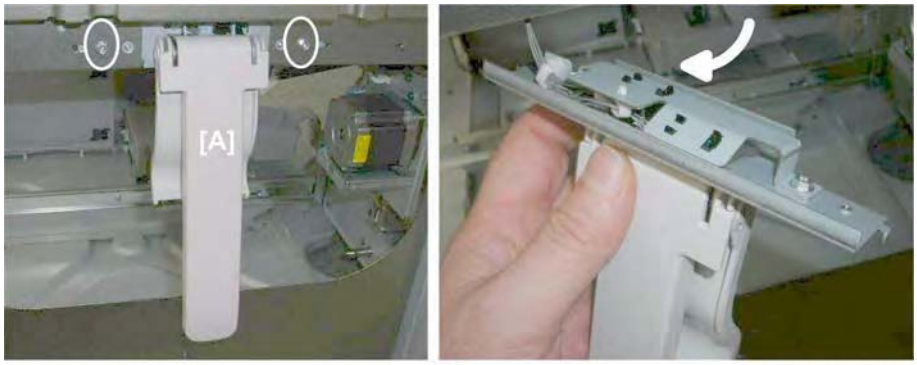

d434r401

1. Raise the shift tray if it is down.
2. At the top of the left rear corner, pull gear [A] out while supporting the tray [B] with your other hand, then push the tray up.



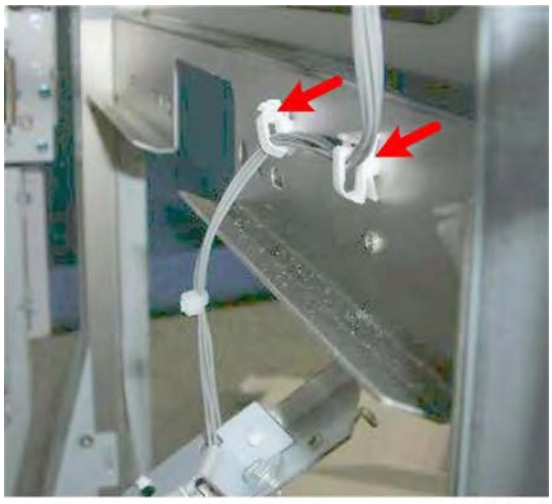

d434r402

3. Remove the booklet tray [A].
4. Remove the left lower cover [B] ( x3).



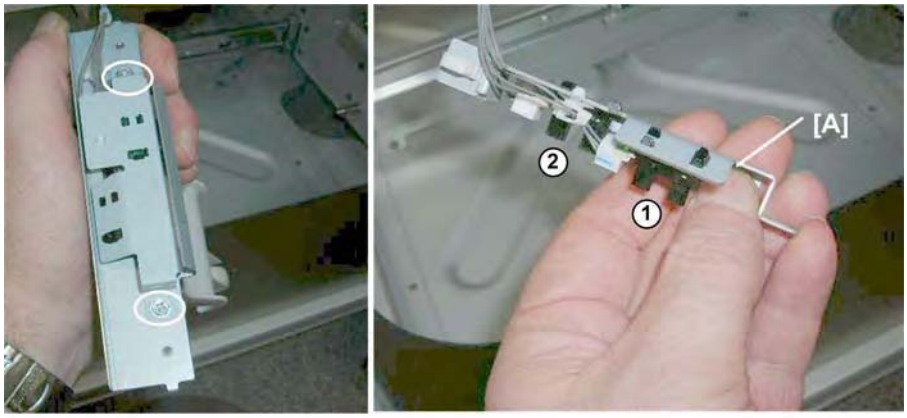

d434r403

5. Remove the booklet tray actuator arm [A] ( x2).



d434r404

6. Inside the finisher, open one or two clamps to create some slack in the harness. ( x2)




d434r405

7. Remove sensor bracket [A] ( x2)
   ① Upper sensor ( x2, x1)
   ② Lower sensor ( x1, x1)

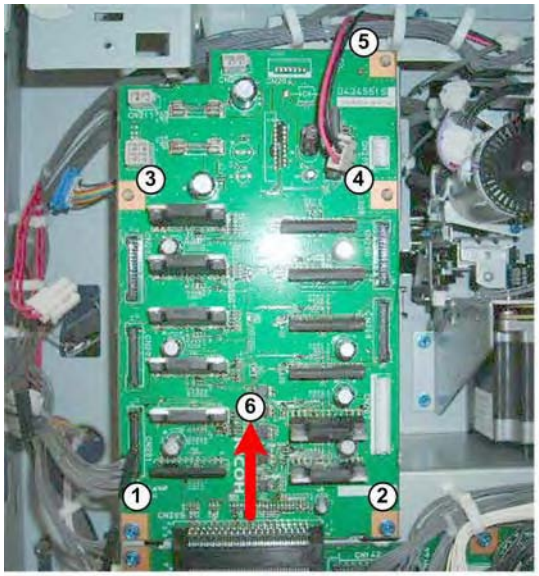
# 1.9 BOARDS

## 1.9.1 SUB BOARD

The sub board can be removed without removing the main board.

**Preparation**

- Rear upper cover (☛p.3)

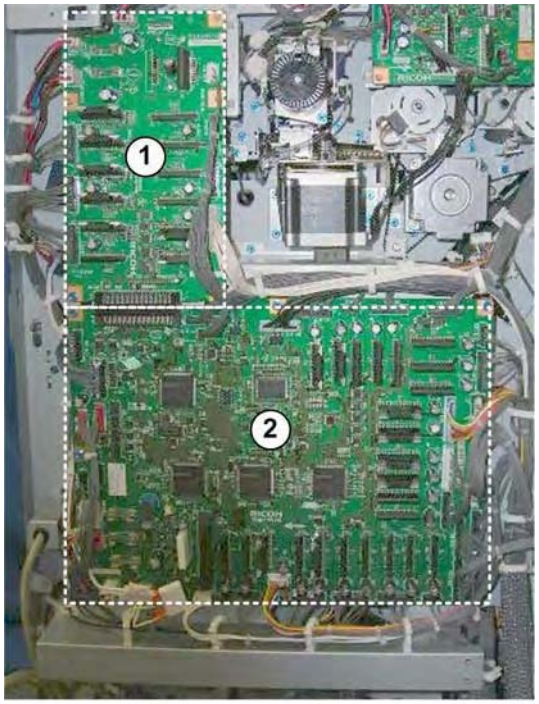



1. Disconnect the harnesses ( x10).
2. Remove the sub board:
   - Screws ①, ② ( x2)
   - x3, ③, ④, ⑤
3. Raise the board ⑥ and disconnect it from the main board below.

## 1.9.2 MAIN BOARD

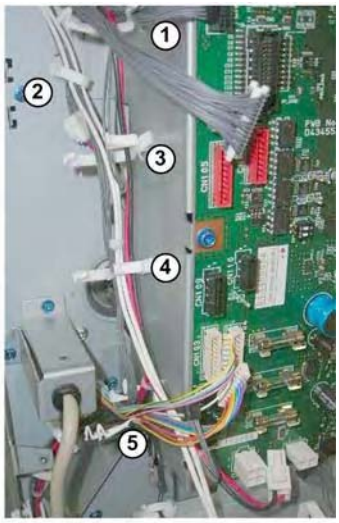
**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)
- Sub board (☛p.144)



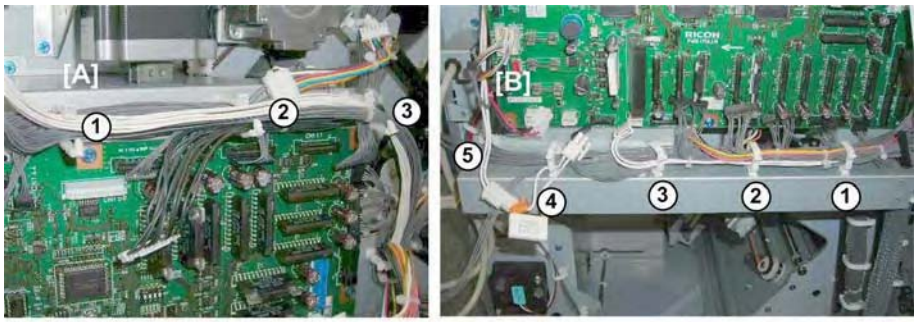

d434r408

1. The sub board ① and main board ②are on the back of the finisher.
2. Remove the sub board.
3. Disconnect the main board harnesses ( x38).




d434r408

4. On the left, disconnect grid wires [A] and harnesses ( x2, x5).

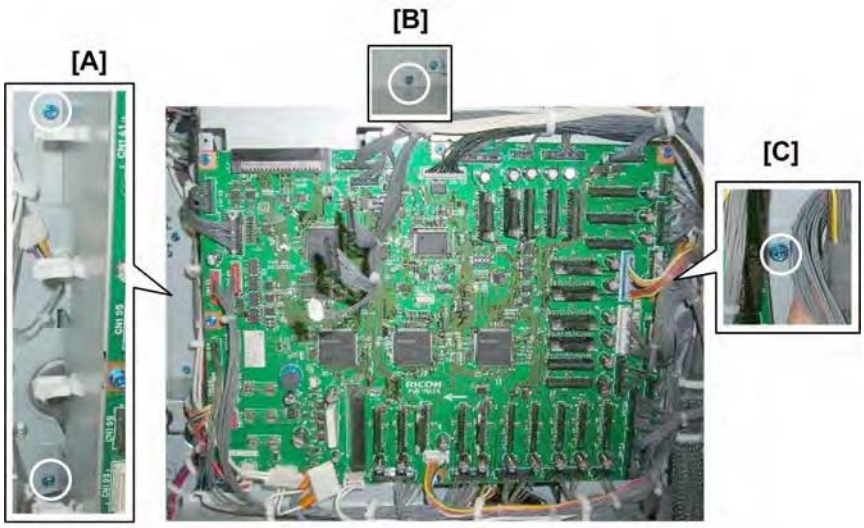



d434r409

5. Open harness clamps:

   [A] Top ( x3)

   [B] Bottom ( x5)




434r410

6. Remove the board bracket:

   [A] Left ( x2)

   [B] Top ( x1)

   [C] Right ( x1)

d434r411

7. Separate the board from the bracket ( x8)

## 1.9.3 PUNCH UNIT PCB

**Preparation**

- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)

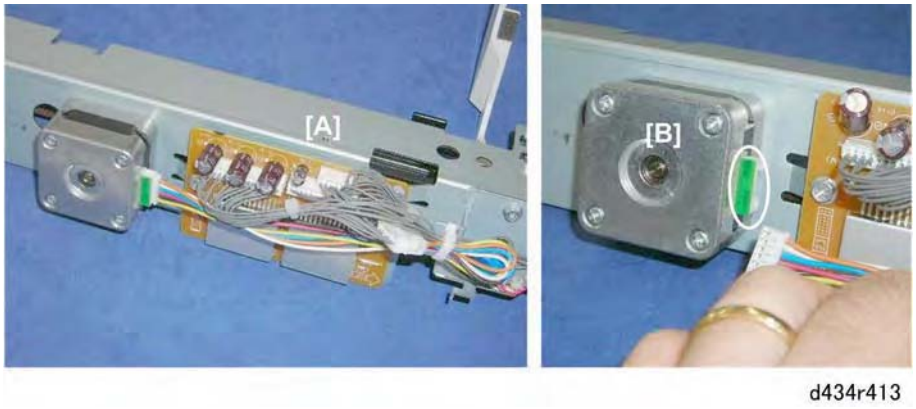
d434r412

1. Remove the punch unit PCB ( x6, x4).

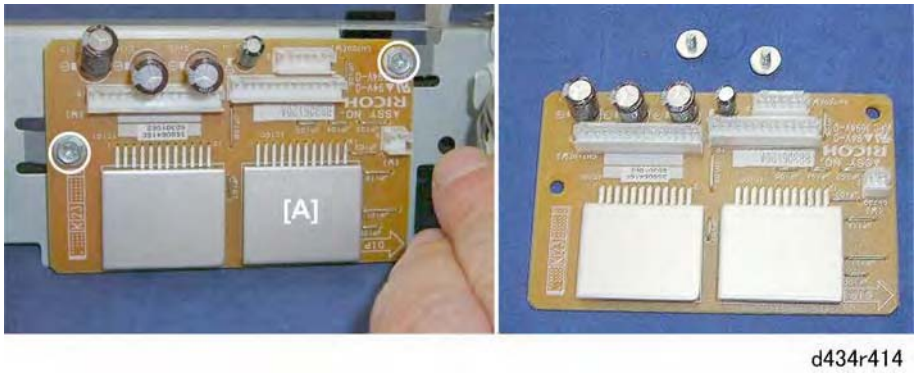
## 1.9.4 SHIFT TRAY JOGGER UNIT PCB

**Preparation**

- Shift tray jogger unit (☛p.9)




1. Lay the shift jogger unit [A] on a flat surface.
2. Disconnect motor [B]. ( x1)

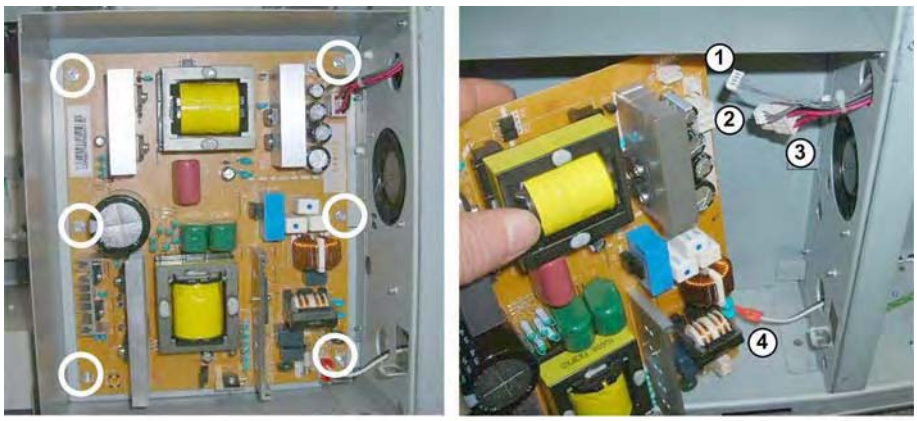



3. Remove PCB [A] ( x5, x2).

## 1.9.5 PSU

**Preparation**

- Switch the system off.
- Disconnect the finisher from its power source.
- Wait at least 30 minutes for the PSU to cool.
- Right panel (☛p.11)



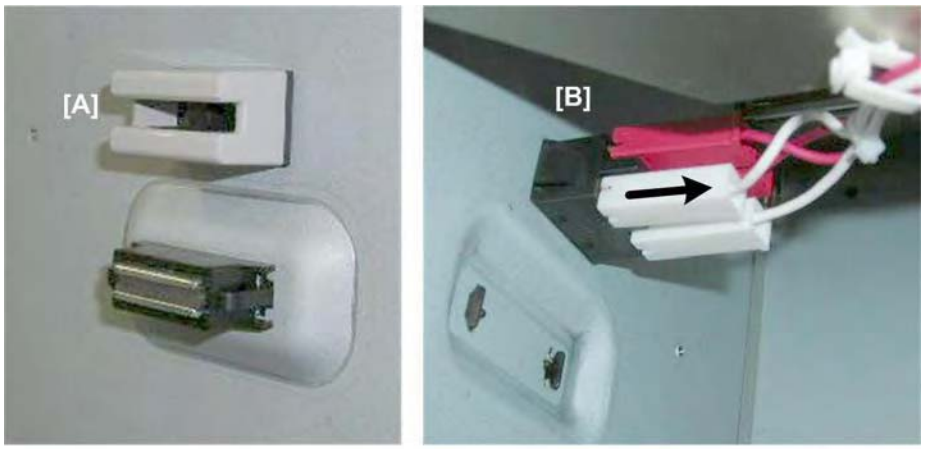

1. Remove the PSU board ( x6, x4)

# 1.10 SWITCHES

## 1.10.1 FRONT DOOR SWITCH

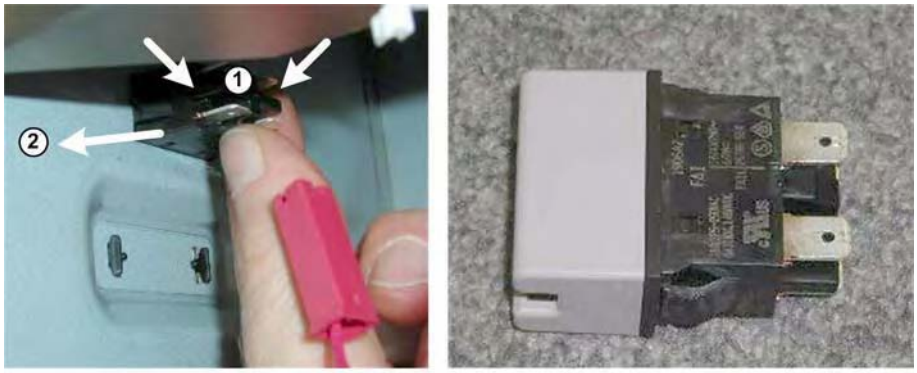
**Preparation**

- Open the front door.
- Upper inner cover (☛p.6)




d434r416

1. Locate the door switch [A] on the front.
2. Inside the finisher, disconnect switch [B] (x4).



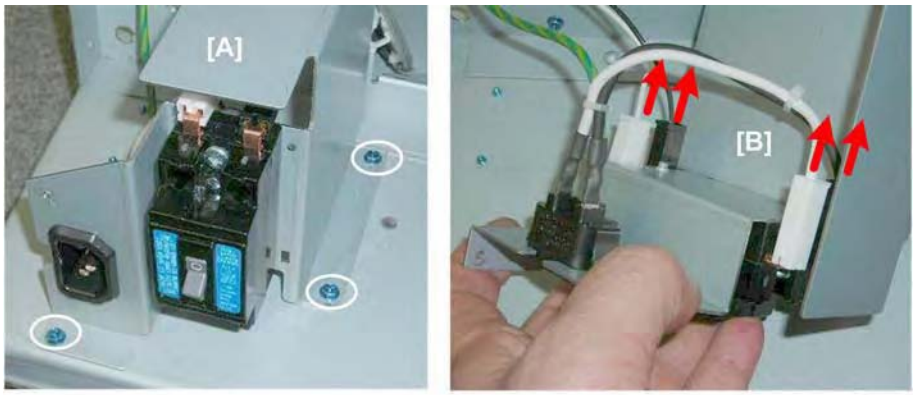

d434r417

3. Pinch both sides of the switch and push it out.

## 1.10.2 BREAKER SWITCH

**Preparation**

- Switch the system off.
- Disconnect the finisher from its power source.
- Rear upper cover (☛p.3)
- Rear lower cover (☛p.4)




d434r418

1. Remove mounting bracket [A] ( x3).
2. Disconnect breaker switch [B] ( x4)

d434r419

3. Remove breaker switch [A] ( x2)

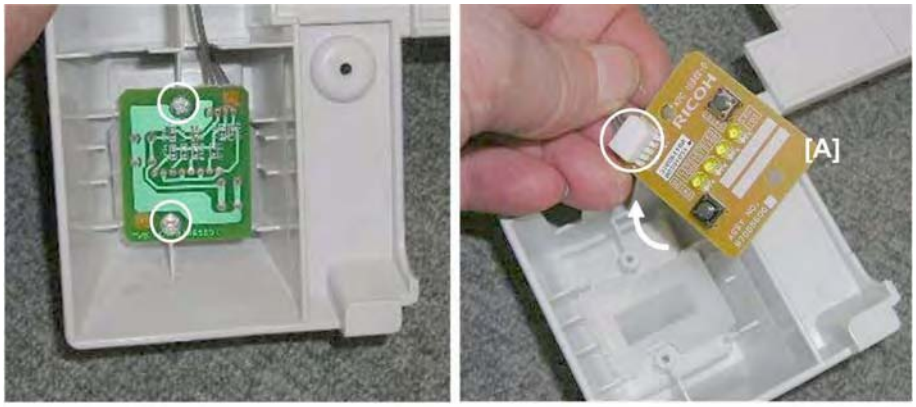
## 1.10.3 EMERGENCY SHIFT TRAY STOP SWITCH

**Preparation**

- Shift tray jogger unit (☛p.9)
- Left upper cover (☛p.10)

d434r420

The switch [A] is on the front end of the left upper cover.



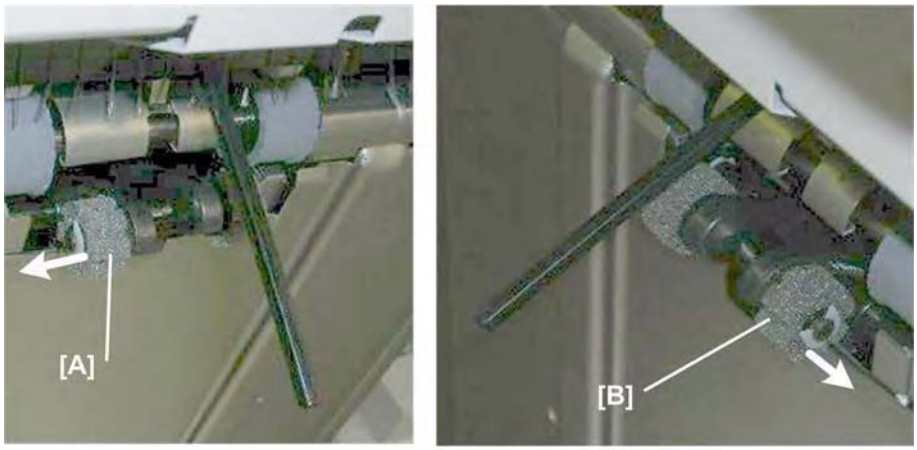

d434r421

1. Turn the cover over.
2. Remove the switch [A] ( x2, x1).

# 1.11 ROLLERS AND BRUSHES

## 1.11.1 ROLLERS

### *Drag Roller*



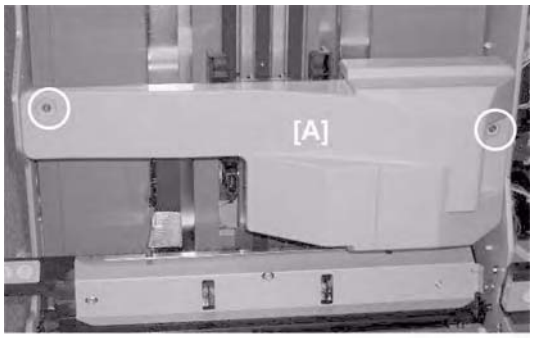

d434r422

1. Replace:
   [A] Rear ( x1, Belt x1)
   [B] Front (x1, Belt x1)

## *Positioning Roller*

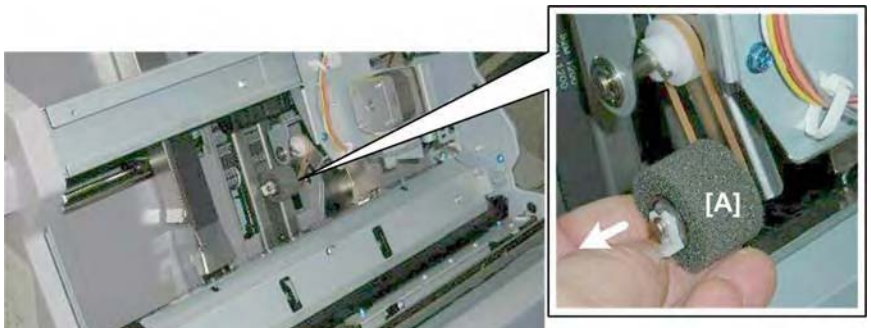
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12**.




d434r423

1. Remove motor cover [A] ( x2).




d434r424

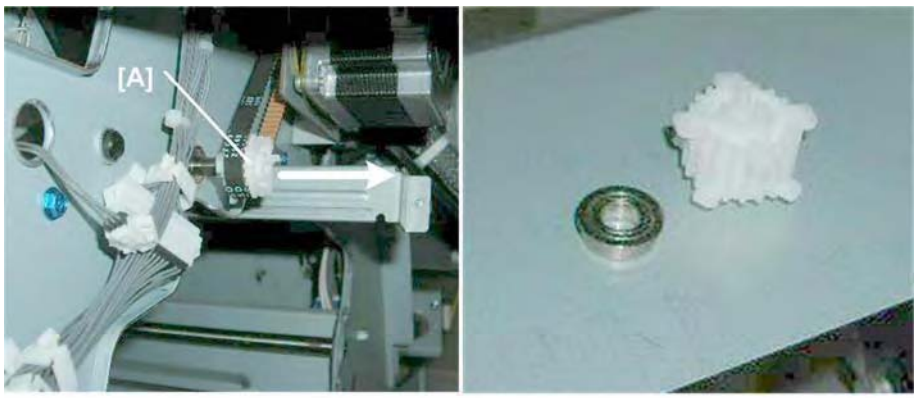
2. Replace sponge roller [A] ( x1, x1)

## *Alignment Brush Roller*

**Preparation**

- Open the front door.
- Lower inner cover **Rb10**, **Rb11** (☛p.5)
- Center inner cover **Rb14**, **Rb 16** (☛p.6)
- Right panel (☛p.11)

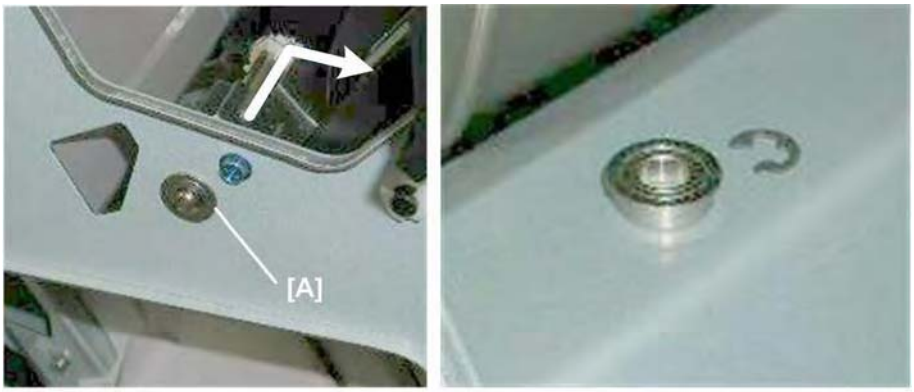
**Rear**




d434r425

1. Remove gear [A].
2. Remove gear and bushing (⚙ x1, ◌ x1, Bushing x1)

**Front**

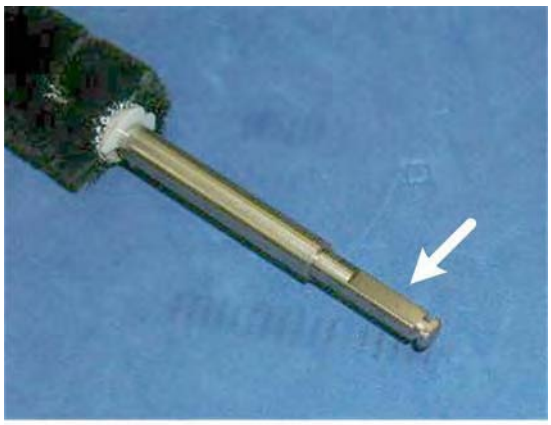



d434r426

1. Remove the bushing [A] (x1).
2. Remove the alignment brush roller.

d434r427

**Re-installation**



d434r428

1. The end of the shaft with the flat bevel is the rear end of the shaft where the gear and belt must be re-attached.

## 1.11.2 DISCHARGE BRUSHES

### *Shift Tray Exit*

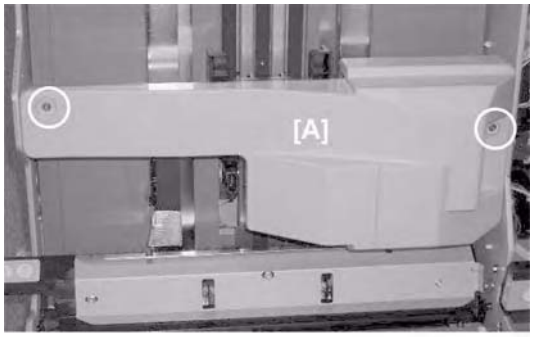
d434r429

1. Remove discharge brush [A] ( x2).

### *Corner Stapler Entrance*

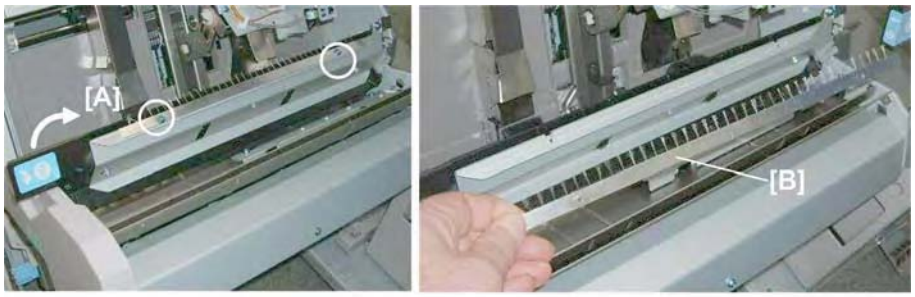
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12**.




d434r423

1. Remove cover [A] ( x2)



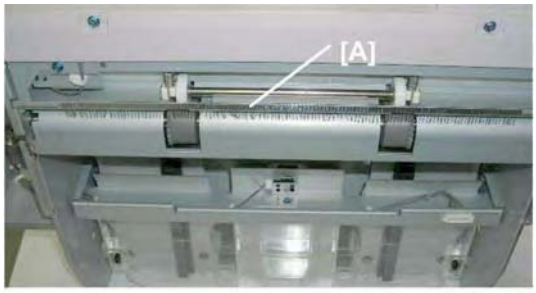

d434r430

2. Raise **Rb13** [A].
3. Remove discharge brush [B] ( x2)

## *Booklet Unit Exit*

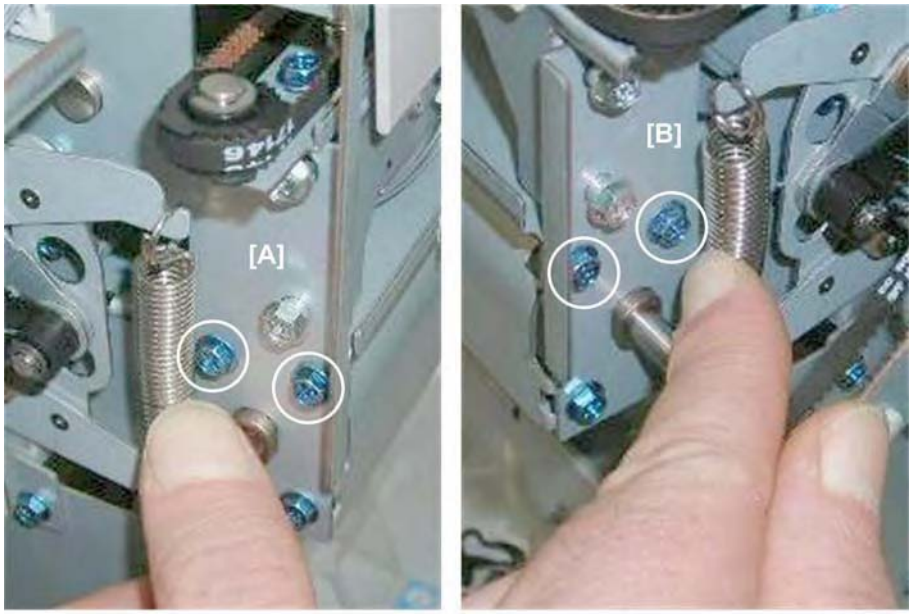
### Preparation

- Booklet unit (☛p.14)




d434r431

The discharge brush [A] is on the left side of the booklet unit.




d434r432

1. Remove:

   [A] Rear ( x2)

   [B] Front ( x2)

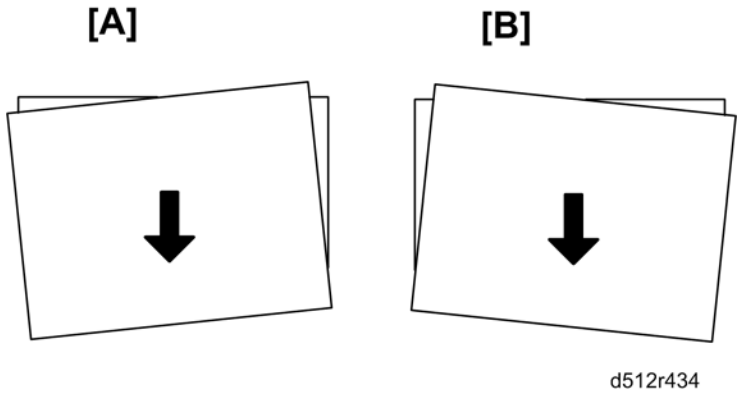
d434r433

# 1.12 SPECIAL ADJUSTMENTS

## 1.12.1 HORIZONTAL SKEW

The booklet unit is adjusted for optimum performance before the finisher is shipped from the factory. Do this adjustment only if the edges of folded booklets are not even.

1. Run a fold/staple job through the booklet unit with A3 (or DLT) paper.
2. Hold the folded sheet with the creased side pointing down and face-up (the same way that it came out of the finisher).




d512r434

3. Referring to the diagram above, determine if the skew is [A] or [B].
   - [A] indicates that the rear fence is low and must be raised.
   - [B] indicates that the front fence is low and must be raised.

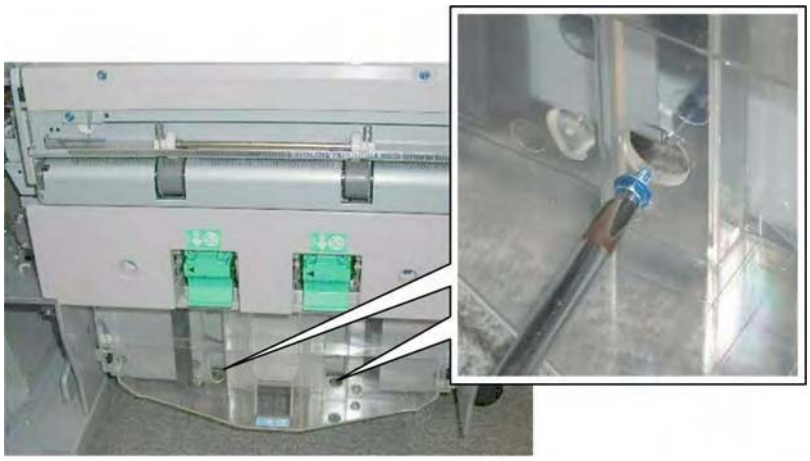
**Preparation**

- Pull the stack/staple unit out with handle **Rb12**
- Remove the lower inner cover **Rb10**, **Rb11**

d434r434a

1. Before doing any adjustment:

- Rotate the knob counter-clockwise ① so that it is loose.
- Rotate the knob clockwise ② until you feel some resistance, then stop.



d434r435

2. Remove the screw.

Important

- There is only one screw to remove. Check both holes.
- The screw may be at the front or at the rear, depending on where it was attached before shipping from the factory.

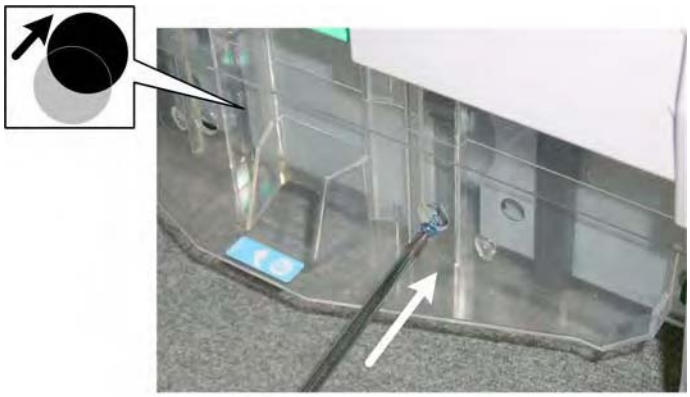
## *[A] Adjustment: Rear Fence Low*

d434r436

1. For **[A] type skew**, turn the adjustment screw on the front of the booklet unit to the **left** (**clockwise**) to raise the rear fence.

Important

- Every notch adjusts the height 0.1 mm.

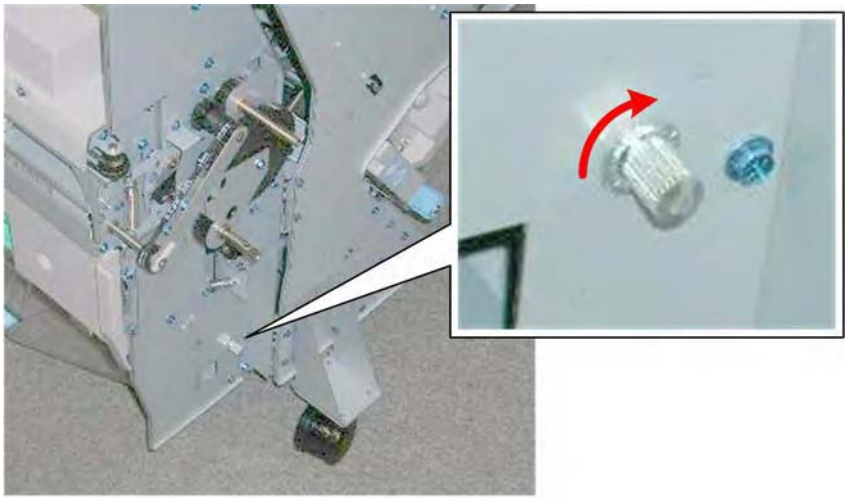


d434r437

Turning the adjustment screw to the right may raise the rear fence so the holes at the rear will no longer be aligned.

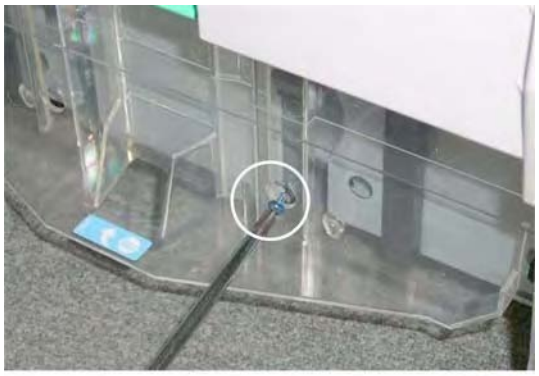
2. Re-attach the screw in the front hole where the holes are aligned.

## *[B] Adjustment: Front Fence Low*



d434r438

1. For **[B] type skew**, turn the adjustment screw on the front of the booklet unit to the **right** (**clockwise**) to raise the front fence.



d434r439

2. Re-attach the screw at the front hole.

## 1.12.2 VERTICAL SKEW

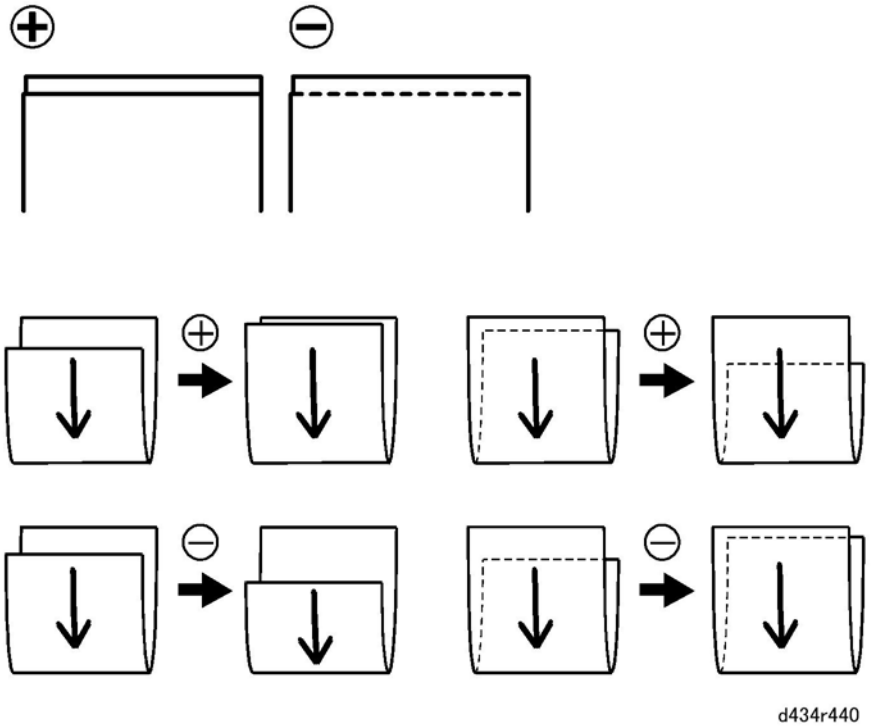
The booklet unit is adjusted for optimum performance before the finisher is shipped from the factory. Do this adjustment only if the edges of folded booklets are not even.

1. Switch the main machine and do a test run for booklet folding with either A3 or DLT paper

Important

- This procedure shows you how to test and adjust vertical skew for A3/DLT paper.
- This same adjustment can be done for other paper sizes as well with **SP6201**.

2. Look at the paper and determine what kind of skew (if any is present).




3. Referring to the diagram, determine if the skew is positive or negative.
4. Measure the amount of skew.
5. Enter the SP mode
   - Europe, Asia: Use **SP6201-1** (this is for A3 paper).
   - North America: Use **SP 6201-7** (this is for DLT paper).

Important

- The illustration above shows the effects of +/- adjustment with **SP6201**.
- The vertical arrows show the direction of paper feed.

6. Enter one-half the measured amount of skew.
   - Example: If the measure amount of skew is -1.2 mm, enter -0.6 mm
   - The range for measurement is –2.0 mm to +2.0 mm in 0.2 mm steps for every notch adjustment.
7. Exit the SP mode, do another test print and repeat the adjustment procedure if necessary.

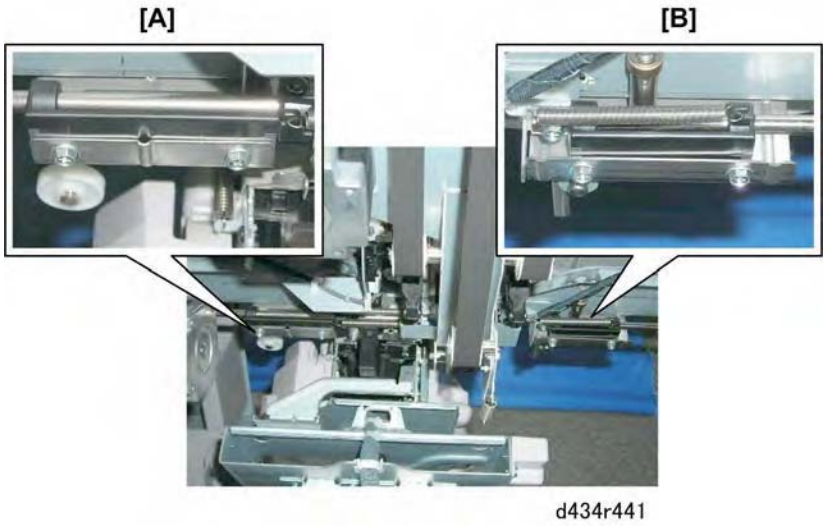
## 1.12.3 BOTTOM FENCE REPLACEMENT

**Before You Begin**

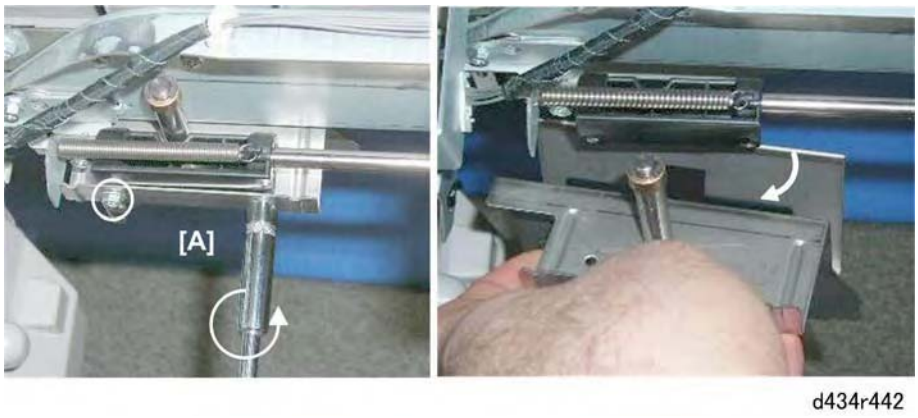
- The bottom fences can be replaced separately or together.
- Only replacement of the front fence is described here. The replacement procedure for the rear bottom fence is the same.

**Preparation**

- Pull out the stack/staple unit with handle **Rb12**.
- Remove the booklet unit (☛p.14).




1. Look at the corner staple unit from the left side:
   [A] Rear bottom fence
   [B] Front bottom fence



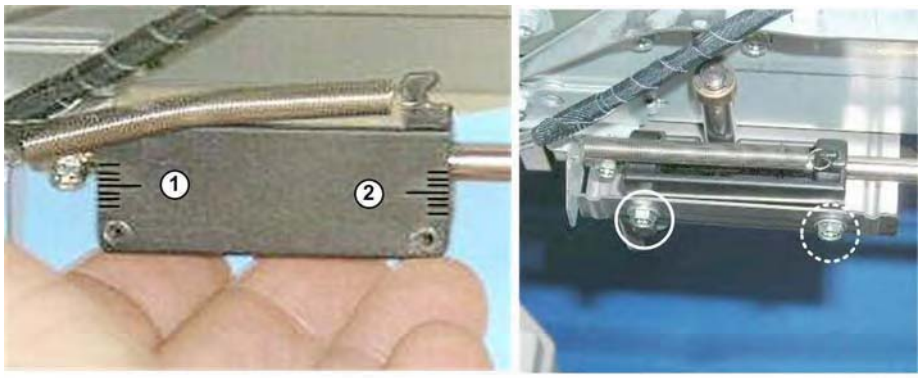

2. Use a socket wrench or socket driver to remove the bottom fence [A] ( x1).

Note

- These screws are very tight, so we recommend use of a socket wrench or socket driver to avoid damaging the screw heads.

This shows the front bottom fence removed.

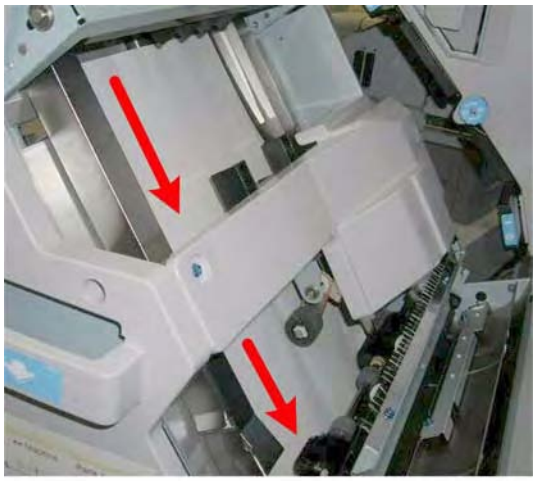
d434r443




d434r444

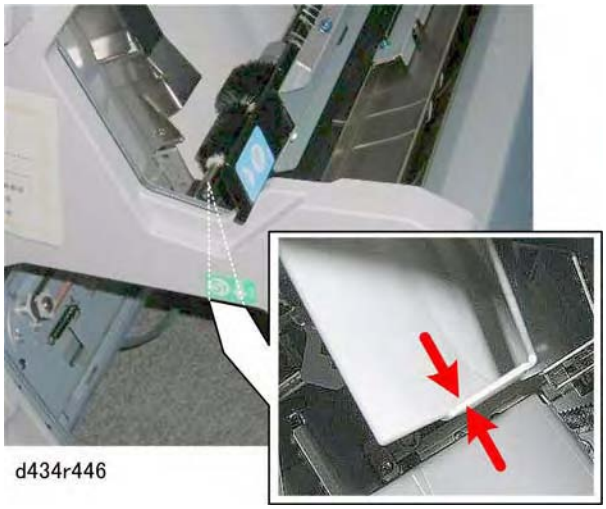
The mount where the new bottom fence will be attached has a scale on each side ① and ②.

3. Attach both the rear and front screws.
   - Do not tighten the front screw.
   - Align the rear screw with the center line of the rear scale ① and tighten it slightly.
   - Leave the front screw loose.



d434r445

4. On the right side, set a sheet of A3 (or DLT) paper in the tray.



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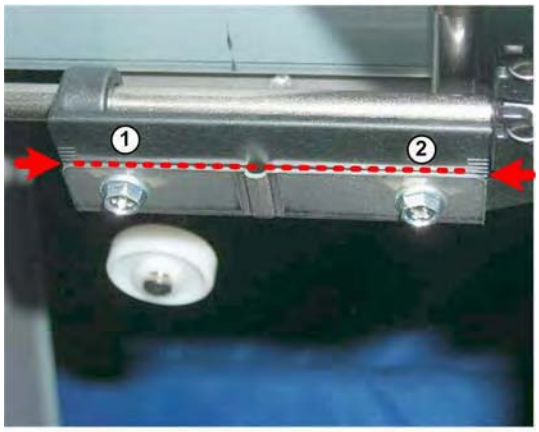
5. Look under the unit to confirm that the edge of the paper is flat and level on the side fence.




d434r447

6. Align the front end of the fence at ② with the center line of its scale and tighten the front screw.
7. Check the alignment of the paper again.
8. If the paper is slightly out of alignment, adjust the front of the bottom fence to the paper and tighten the front screw.

# D516

# LCIT RT5060

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# D515
# LCIT RT5060

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# Read This First

## Safety, Conventions, Trademarks

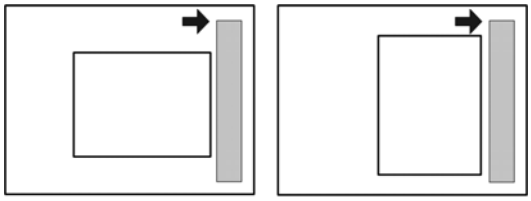
### Conventions

#### Common Terms

This is a list of symbols and abbreviations used in this manual.

| Symbol | What it means |
|---|---|
| | Binding screw (shoulder hexagonal head) |
| | Binding screw (round flathead) |
| | Black screw (heavy, fusing unit, TCRU) |
| | Bushing |
| | C-ring |
| | Connector |
| | E-ring |
| | FFC (Flat Film Connector) |
| | FFC (Flat Film Connector) |
| | Gear |
| | Harness clamp |
| | Harness clamp (metal: fusing unit) |
| | Hook (or tab release) |
| | Knob screw (black) |
| | Knob screw (sliver) |
| | Pivot screw |
| | Screw (common screw) |

| Symbol | What it means |
|---|---|
| | Shoulder screw |
| | Spring |
| | Standoff |
| | Stud screw |
| | Tapping screw (for plastic) |
| | Timing belt |



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The notations "SEF" and "LEF" describe the direction of paper feed, with the arrows indicating paper feed direction.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the finisher or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

# General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

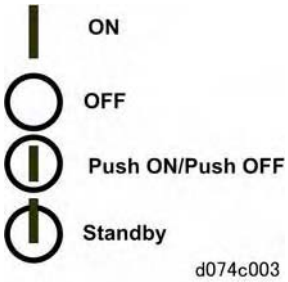
Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.

**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.




# Responsibilities of the Customer Engineer

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

# Before Installation, Maintenance

## Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

### Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

### Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

**⚠CAUTION**

- Always dispose of used items in accordance with the local laws and regulations regarding the disposal of such items.

# 1. REPLACEMENT AND ADJUSTMENT

## 1.1 REMOVING TRAYS

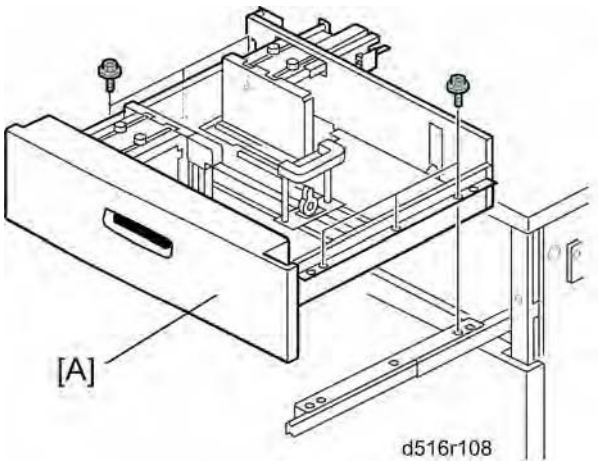
**CAUTION**

- Tray 4 weighs 27 kg (60 lb) empty. Trays 3 and 5 weigh 20 kg (44 lb) each empty.
- To prevent damage to the tray and personal injury, never attempt to lift a tray alone or without attaching the carrying handles, especially if a tray is loaded with paper.
- Two people on each side of the tray should lift the carrying handles together to lift and move the tray.
- Never remove the tray if the LCT has not been docked to the copier. Removing the tray while the LCT is standing alone can unbalance the LCT and cause it to fall over.



Note

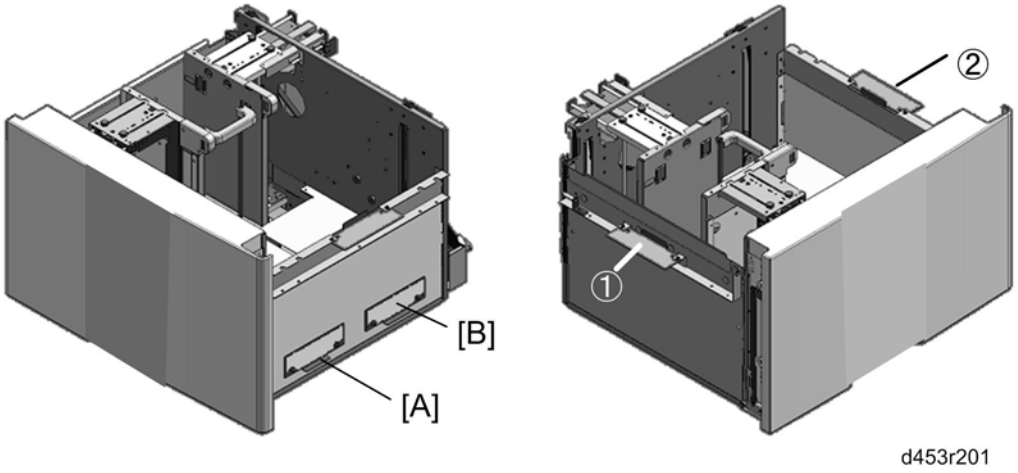
- Only one set of carrying handles is attached to the side of Tray 4. Follow the procedure below to attach and use these handles to move Tray 3, 4, or 5.




1. Pull the tray [A] out of the LCT until it stops.
2. Remove the screws from the right rail [B] ( x3)
3. Remove the screws from the left rail [D] ( x3)

Note

- You do not need to remove screw for the stopper pin bracket at the back of the left rail.




4. Remove carrying handles [A] and [B] from the right side of the tray ( x 2 ea.)
5. Use the same screws to attach the carrying handles at ① and ②.
6. With one person on each side of the tray, lift it carefully and remove it from the rails.

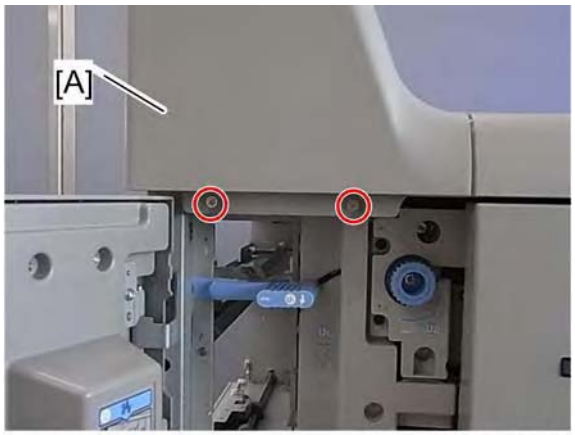
# 1.2 DOOR AND COVERS

## 1.2.1 DOOR AND COVERS

### *Front Cover*

d516r514

1. Open the front door [A].



d516r515

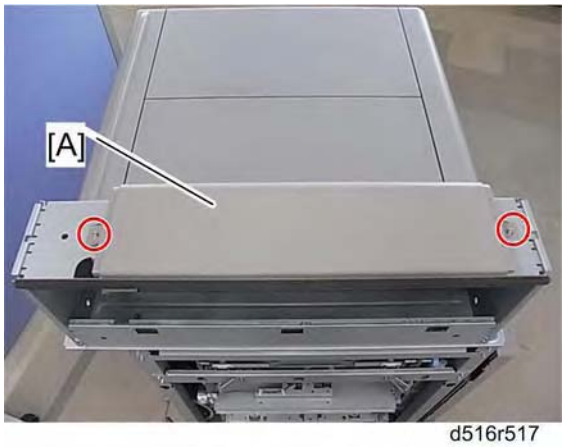
2. Front cover [A] ( x2)

## *Rear Cover*

1. Rear cover [A] ( x2)

## *Top Cover*

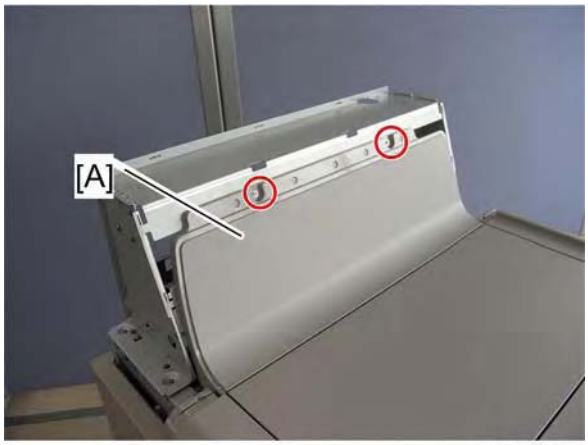
1. Front cover (p.3)
2. Rear cover (p.4)




3. Top cover [A] ( x2)

### *Side Cover*

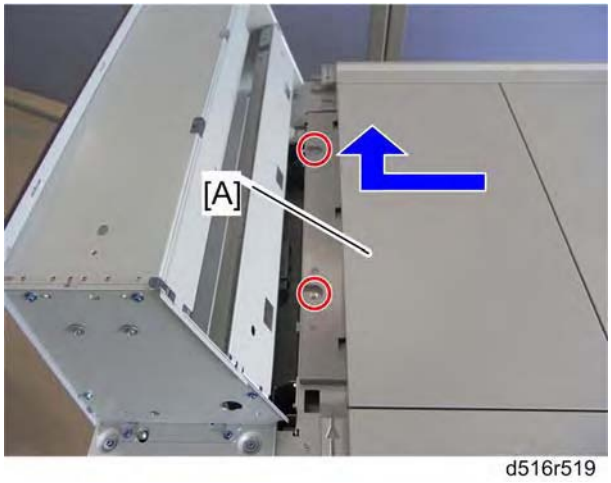
1. Top cover (☛p.4)




2. Side cover [A] ( x2)

### *Left Top Cover*

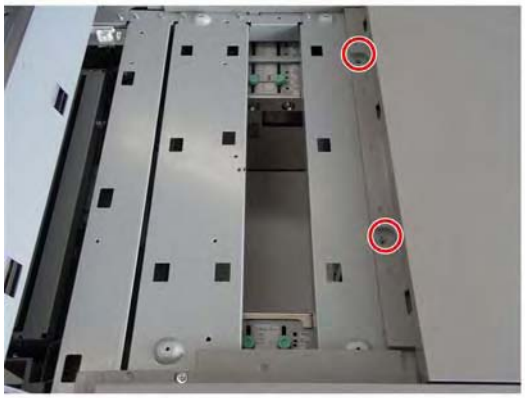
1. Top cover (☛p.4)
2. Side cover (☛p.5)

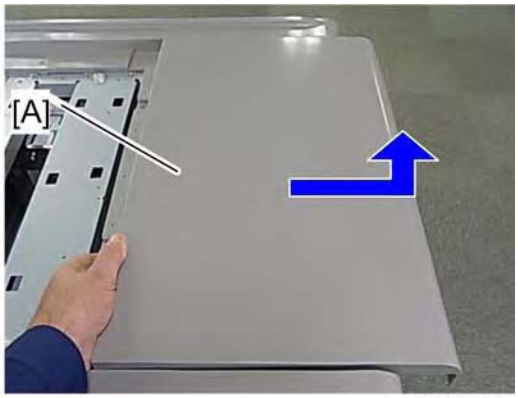



3. Left top cover [A] ( x2)

### *Right Top Cover*

1. Left top cover (☛p.5)



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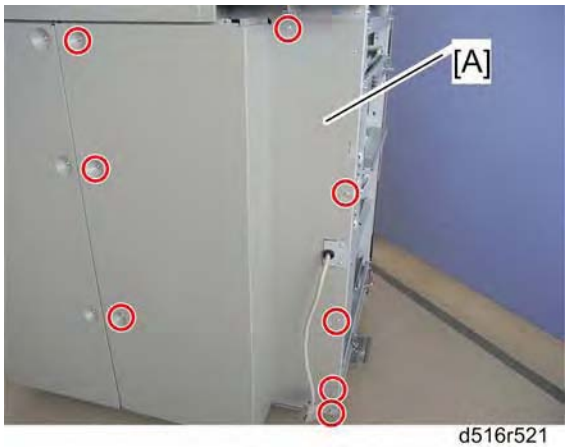
2. Right top cover [A] ( x2)

### *Left Rear Cover*

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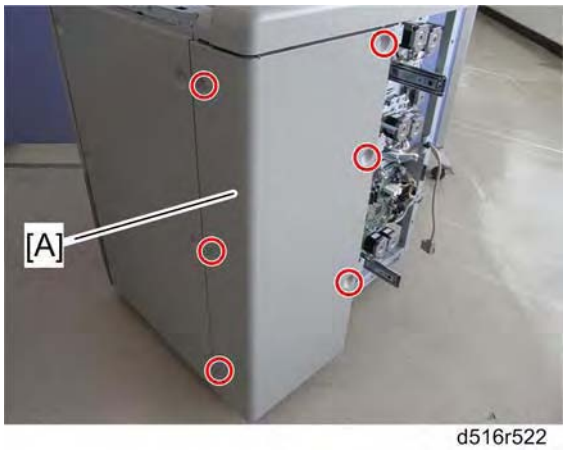
1. Left rear cover [A] ( x8)

### *Right Rear Cover*

1. Left rear cover (☛p.6)




2. Right rear cover [A] (x6)

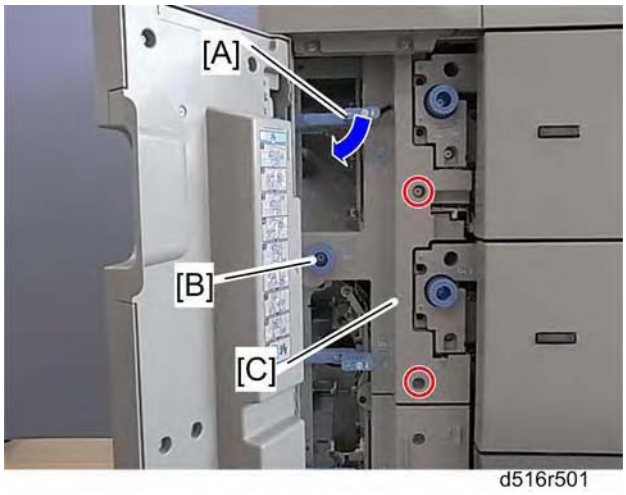
### *Right Cover*

1. Pull all the LCT trays out a short distance.
2. Right cover [A] (x6)

## 1.2.2 INNER COVERS

### *Inner Upper Cover*

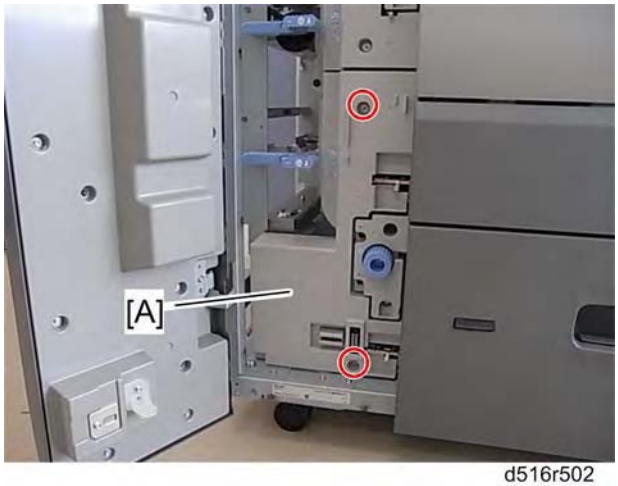
1. Open the front door.




2. Pull down the U1 lever [A].
3. Remove:
   [B] Knob ( x1)
   [C] Inner upper cover ( x2)

### *Inner Lower Cover*

1. Open the front door.

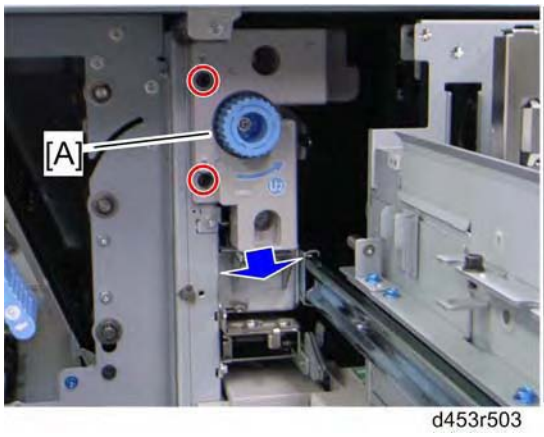



2. Inner lower cover [A] ( x2)

# 1.3 PAPER FEED

## 1.3.1 PAPER FEED UNIT

1. Pull out the top, middle or bottom tray.
2. Inner upper or lower cover (☛p.8)
   - For the paper feed unit in the top tray or middle tray, remove the inner upper cover.
   - For the paper feed unit in the bottom tray, remove the inner lower cover.



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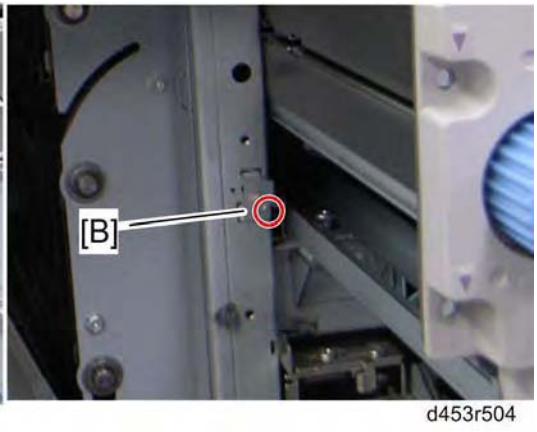

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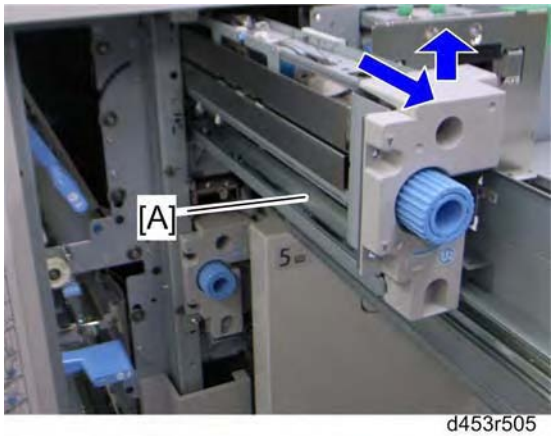
3. Pull the paper feed unit [A] ( x 2).
4. Stopper bracket [B] ( x 1)



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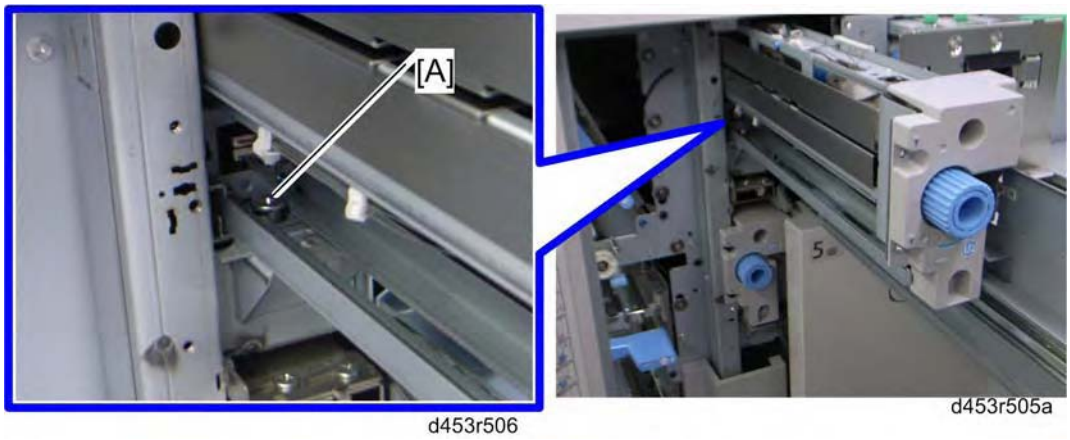
5. Pull the paper feed unit [A] out fully, and then lift it.

### *When reinstalling the paper feed unit*



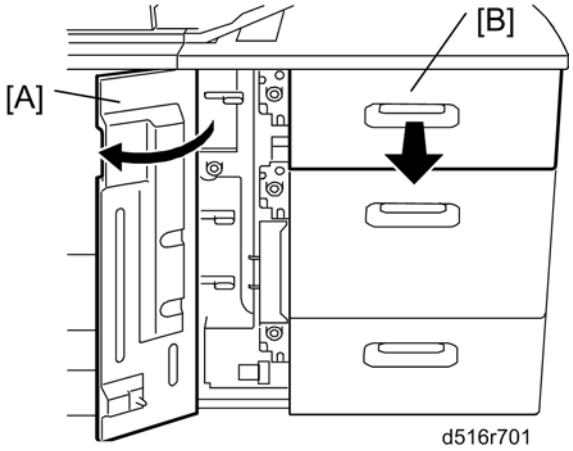

When reinstalling the paper feed unit, align the cutout in the slide rail with the stud screw, and then install the paper feed unit.

## 1.3.2 PAPER FEED, SEPARATION AND PICKUP ROLLERS

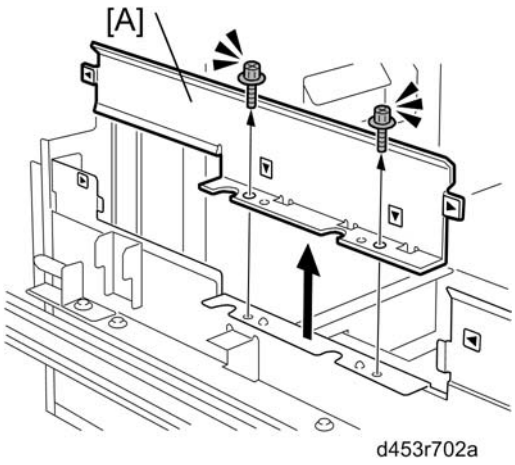
### *Top Tray (Tray 3)*

**⚠CAUTION**

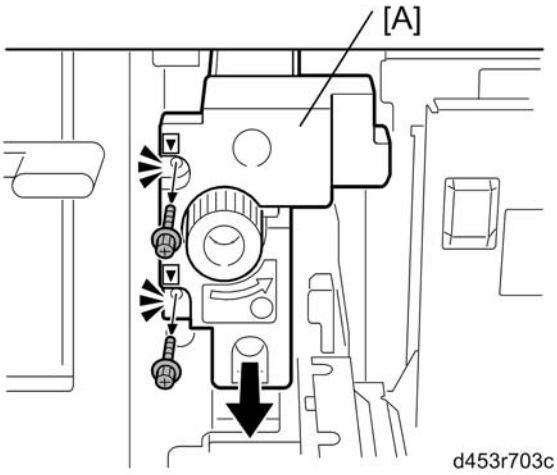
- Before doing this procedure, turn off the main machine and disconnect it from its power source.



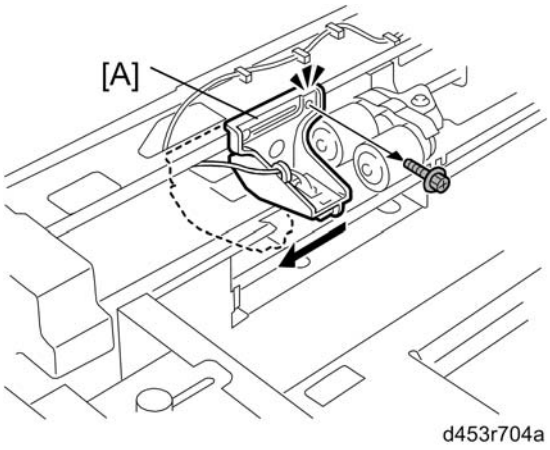

1. Open the front door [A].
2. Pull out the top tray [B] until it stops.




3. Side plate [A] ( x 2)



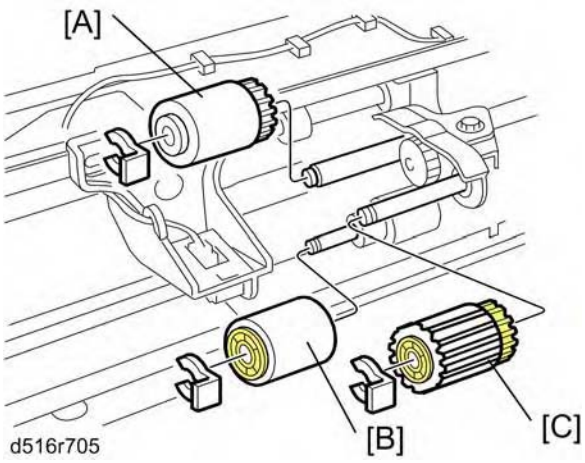

4. Pull the paper feed unit [A].




5. Slide the sensor bracket [A] to the front ( x 1).

Important

- Note the original position of this bracket. It must be re-installed at its original position.




6. Remove:

[A]: Paper feed roller ( x 1)

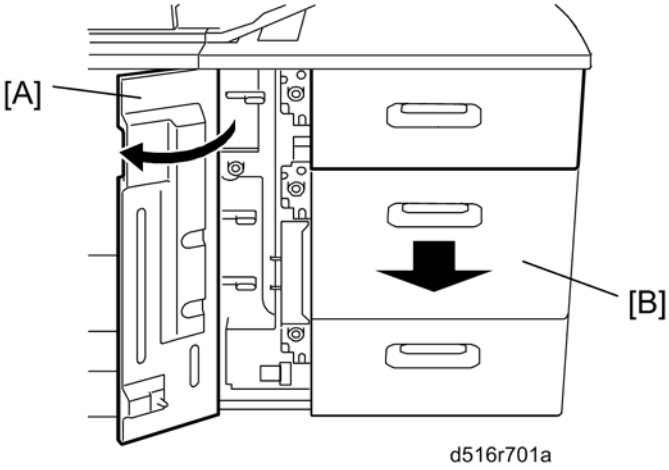
[B]: Separation roller ( x 1)

[C]: Pickup roller ( x 1)

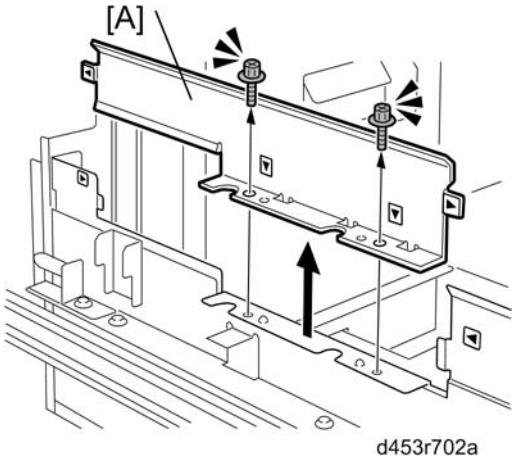
### *Middle Tray (Tray 4)*

**⚠CAUTION**

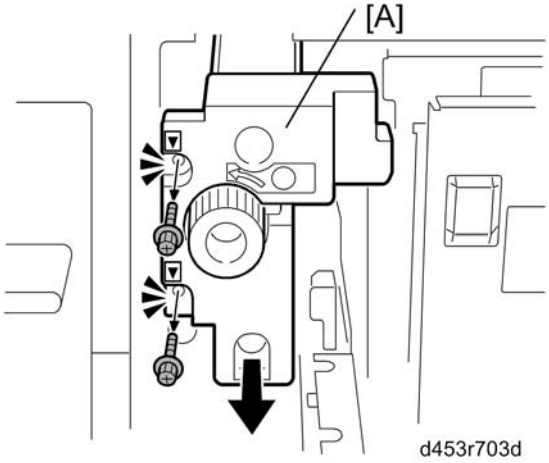
- Before doing this procedure, turn off the main machine and disconnect it from its power source.



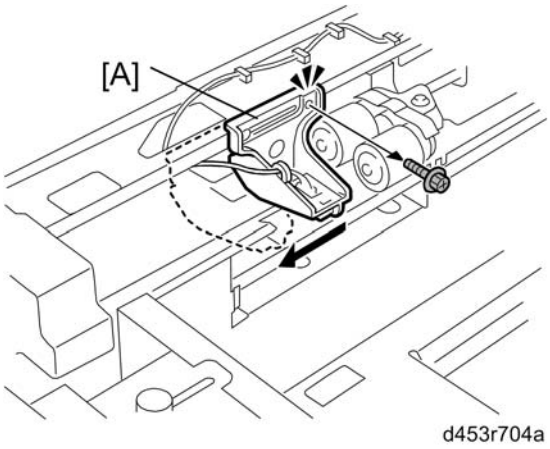

1. Open the front door [A].
2. Pull out the middle tray [B].




3. Side plate [A] ( x 2)



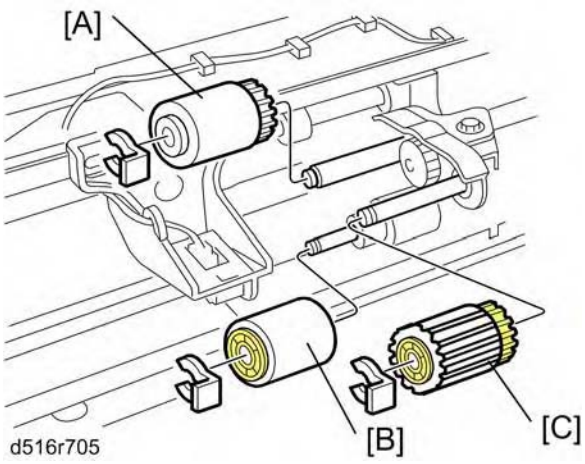
4. Pull the paper feed unit [A] ( x 2).




5. Slide the sensor bracket [A] to the front ( x 1).

Important

- Note the original position of this bracket. It must be re-installed at its original position.




6. Remove:

[A]: Paper feed roller ( x 1)

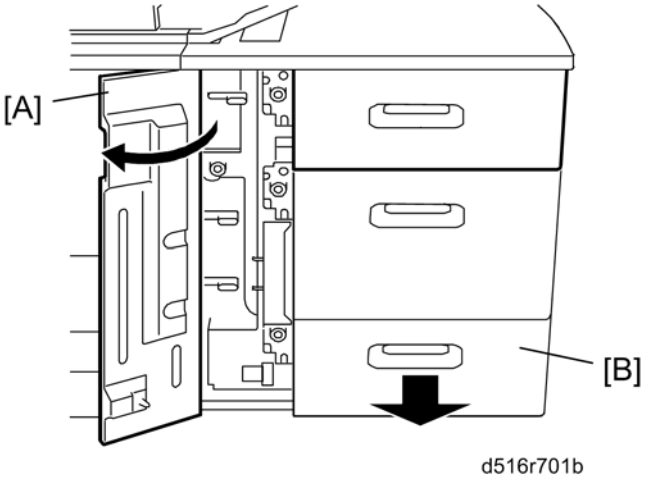
[B]: Separation roller ( x 1)

[C]: Pickup roller ( x 1)

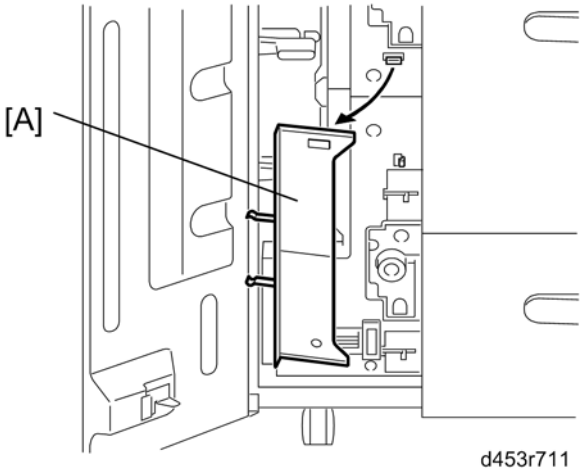
### *Bottom Tray (Tray 5)*

**CAUTION**

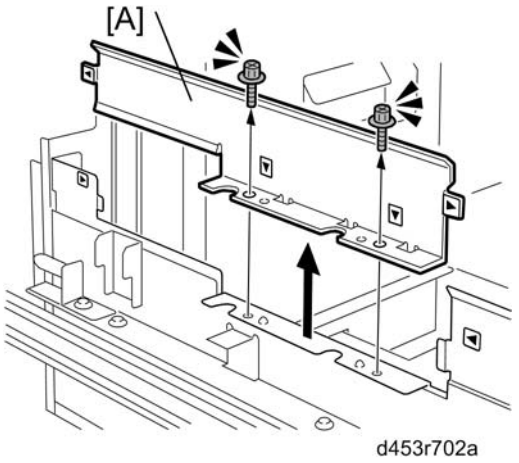
- Before doing this procedure, turn off the main machine and disconnect it from its power source.



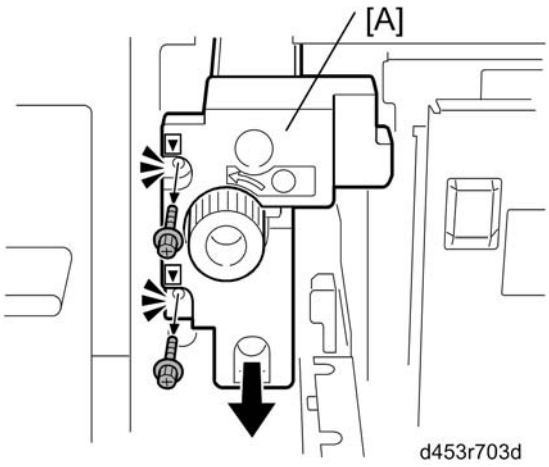

1. Open the front door [A].
2. Pull out the bottom tray [B].



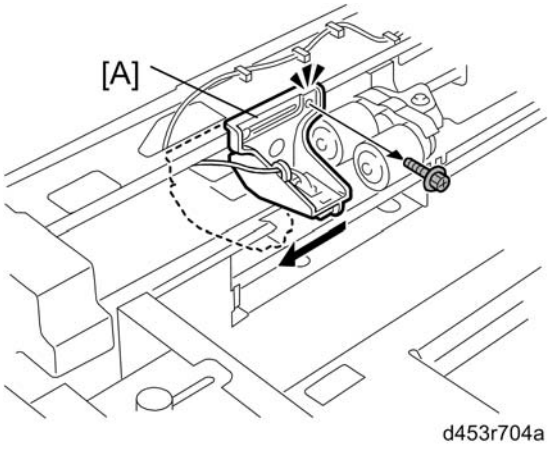
3. Paper end fence [A] if it is stored here.




4. Side plate [A] ( x 2)



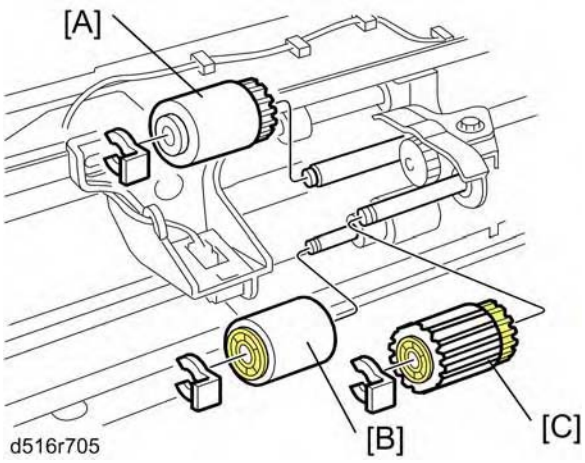

5. Pull the paper feed unit [A] ( x 2).




6. Slide the sensor bracket [A] to the front ( x 1).

Important

- Note the original position of this bracket. It must be re-installed at its original position.




7. Remove:

   [A]: Paper feed roller (x 1)

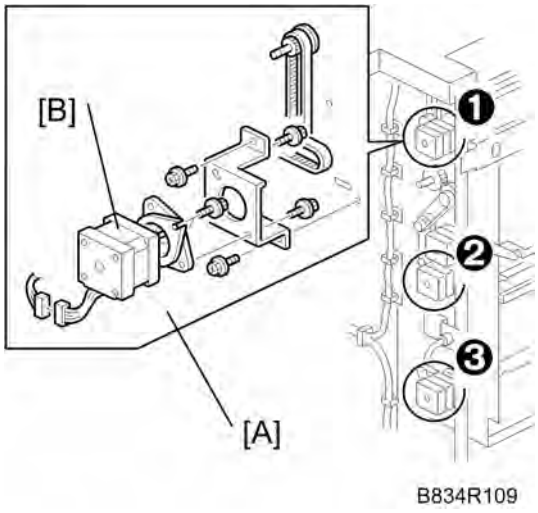
   [B]: Separation roller (x 1)

   [C]: Pickup roller (x 1)

# 1.4 LCT MOTORS

## 1.4.1 TRANSPORT MOTORS, LCT EXIT MOTOR

### *3rd, 4th, and 5th Transport Motors* ① ② ③



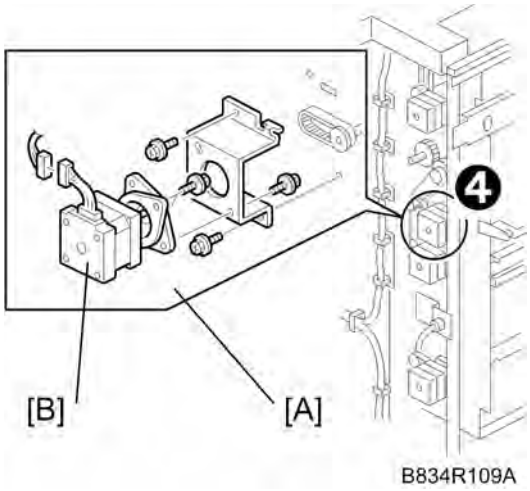

Remove:

- Left rear cover (☛p.6)

[A] Motor unit (x1, x1, x2)

[B] Motor (x2)

### *LCT Exit Motor* ④



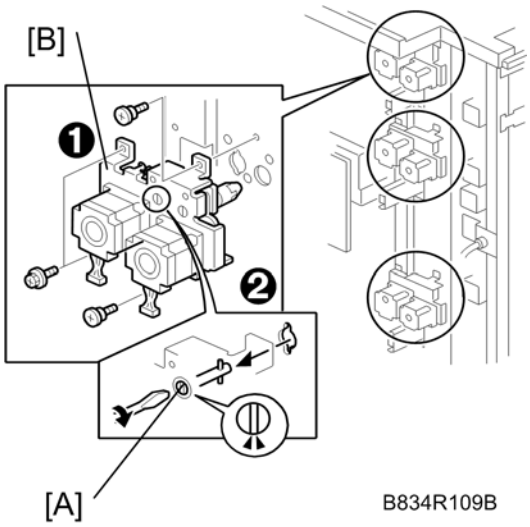

Remove:

- Left rear cover (☛p.6)

[A] Motor unit (x1, x1, x3)

[B] Motor (x2)

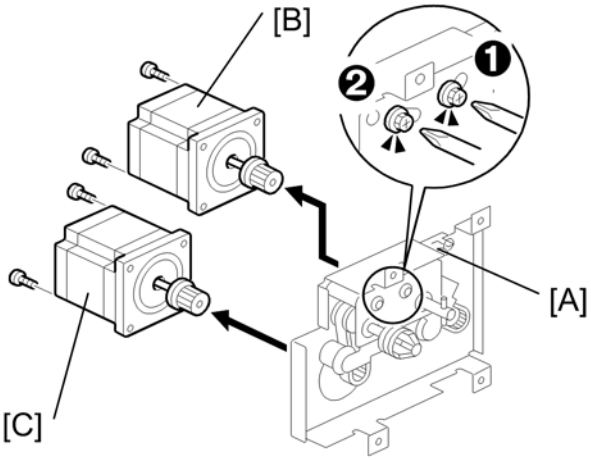
## 1.4.2 FEED MOTORS/GRIP MOTORS




B834R109B

Each paper feed unit has a pick-up feed motor ① and a grip motor ②. The removal procedure is the same for each feed tray.

1. Left rear cover (☛p.6)
2. Use a small screwdriver to turn the shaft [A] so the pin can slip out of the keyhole.
3. Motor unit [B] ( x4, x2, x2)




B834R109C

4. Remove:
   [A]: Springs (x2) (First, loosen the screws (x2) ①, ②.)
   [B]: Paper feed motor ( x2, x1)
   [C]: Grip motor ( x2, x1)

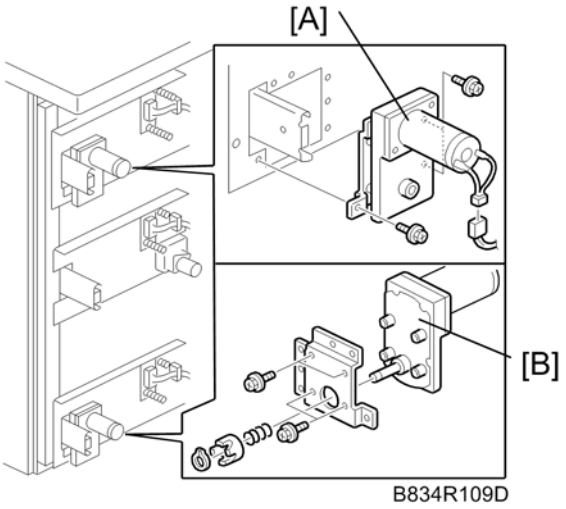
### *Reinstallation*

Attach the tension spring, then tighten the screws to tighten the belts.

## 1.4.3 LIFT MOTORS

### *3rd, 5th Lift Motors*

The procedure for removing the 3rd and 5th lift motors is the same.




Remove:

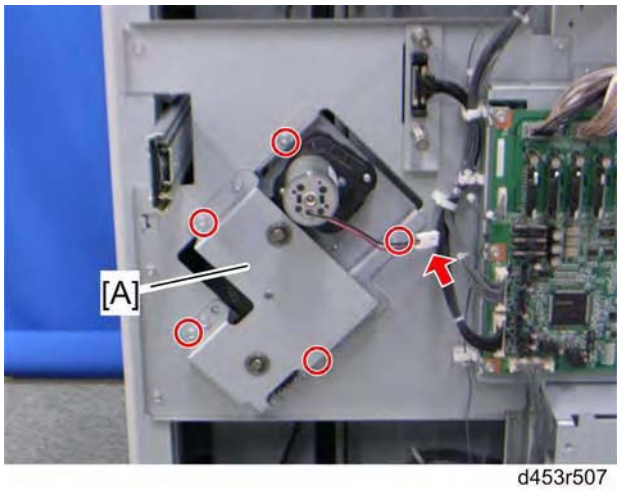
- Right rear cover (☛p.7)

[A]: Motor unit ( x 3, x1).

[B]: 3rd (or 5th) lift motor ( x4, x1, Coupling x1, x1)

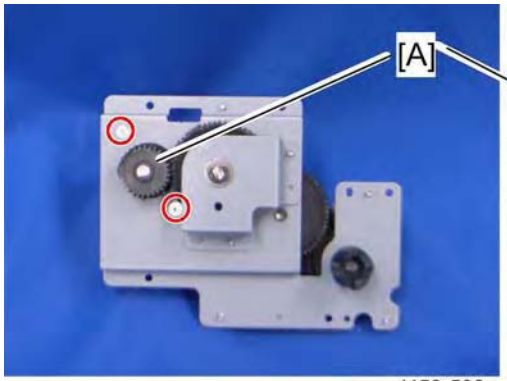
### *4th Lift Motor*

1. Right rear cover (☛p.7)



d453r507

2. Motor unit [A] ( x 5, x1)



d453r508

d453r509

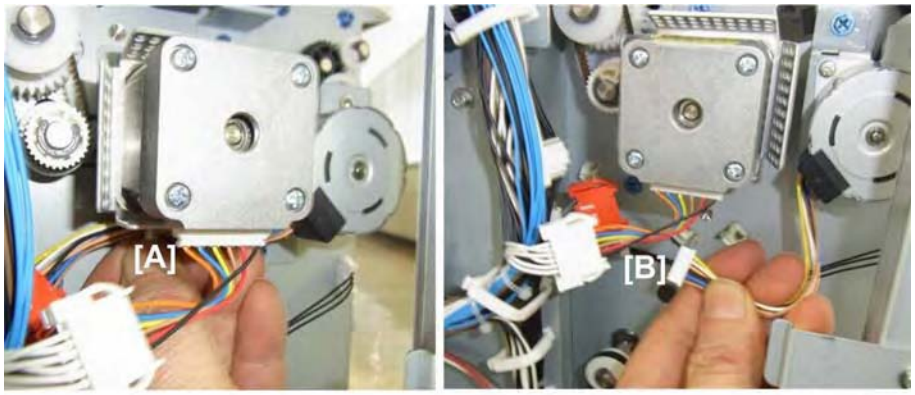
3. 4th lift motor [A] ( x 2)

## 1.4.4 EXIT ROLLER LIFT MOTOR

1. Left rear cover (☛p.6)

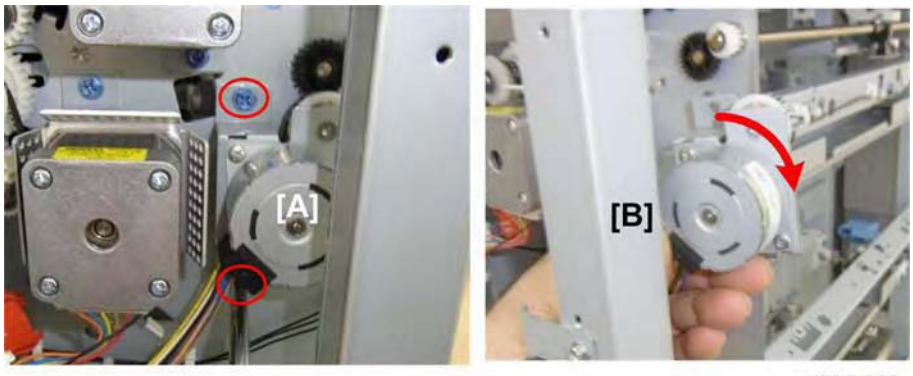
d516r001

2. The motor is located at [A].



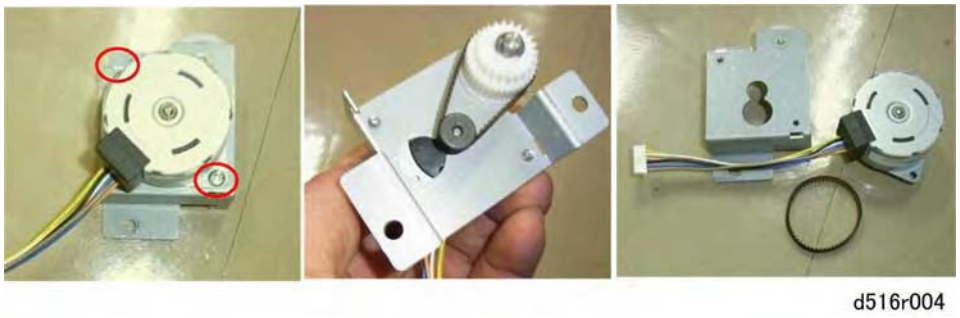

d516r002

3. Disconnect the motor at [A] and [B] (x1,x1)




d516r003

4. Disconnect the motor mount [A] ( x1).
5. Remove the motor [B].

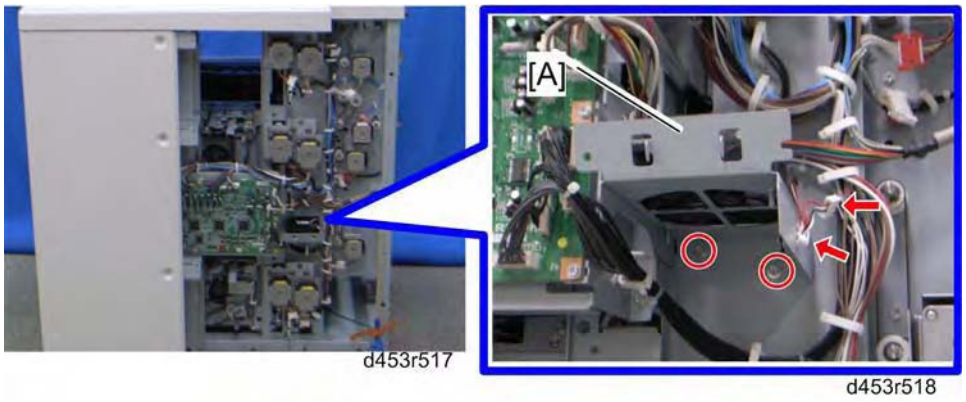


d516r004

6. Separate the motor and bracket ( x2, x1).

## 1.4.5 COOLING FAN

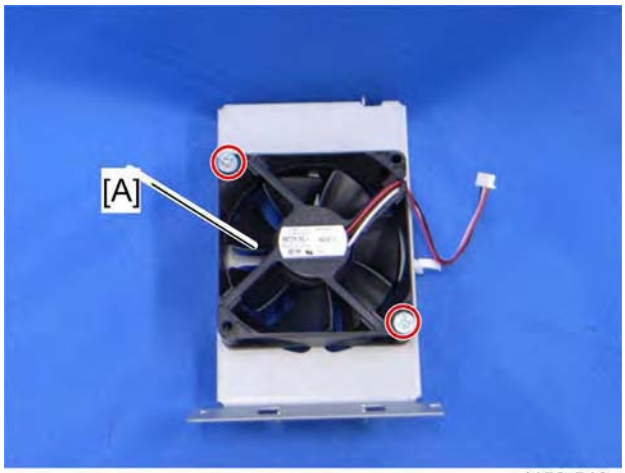
1. Left rear cover (☛p.6)




d453r517

d453r518

2. Fan bracket [A] ( x 2, x 1, x 1)




d453r519

3. Cooling fan [A] ( x 2)

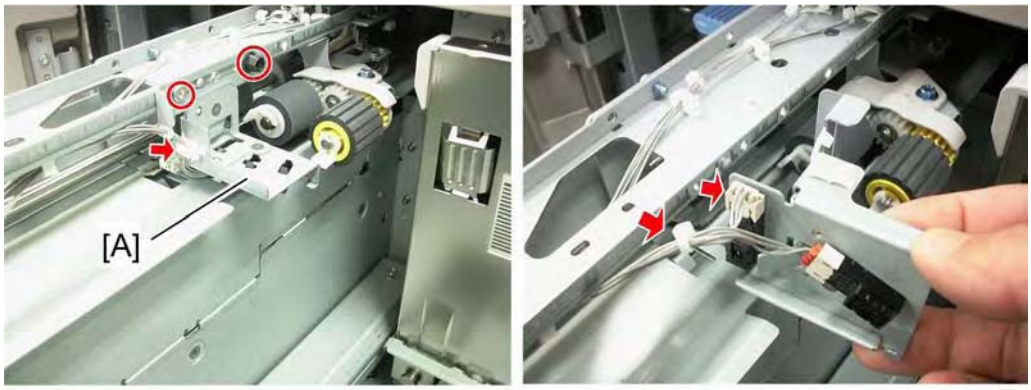
Important

- When reinstalling the cooling fan, make sure that the cooling fan is installed with its decals facing upward.

# 1.5 ELECTRICAL COMPONENTS

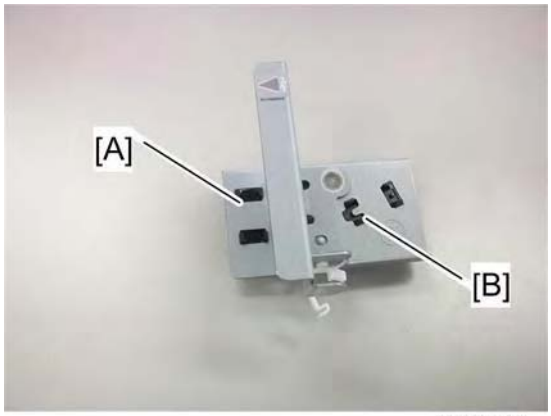
## 1.5.1 PAPER FEED AND END SENSORS

1. Pull out the paper feed unit (☛p.9)



d516r510

2. Sensor bracket [A] ( x1, black screw x1, x1, x 2)

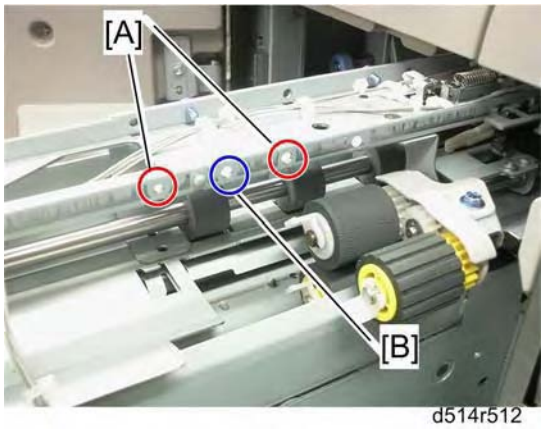


d516r511

3. Remove:
   [A]: Paper feed sensor (hooks)
   [B]: Paper end sensor (hooks)

### *When reinstalling the sensor bracket*

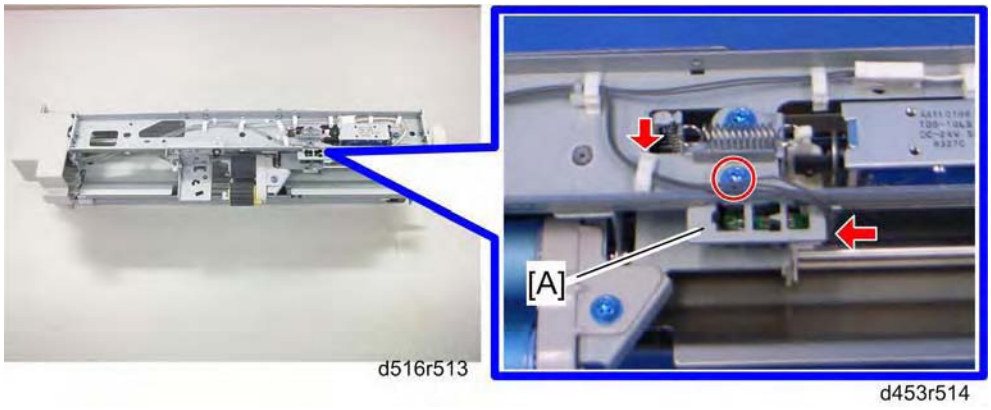
- Make sure that the white connector is connected to the paper feed sensor and the red connector is connected to the paper end sensor.



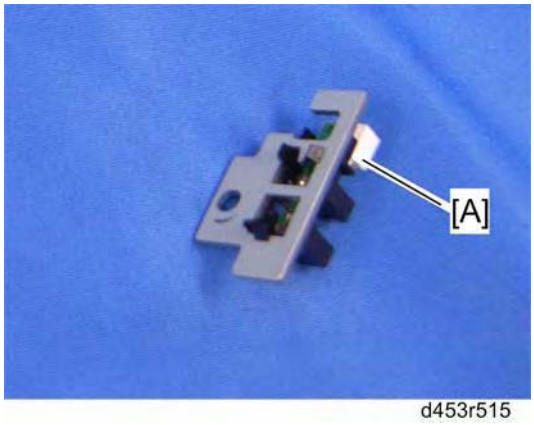

- Use two holes [A] when attaching the sensor bracket. Do not use the hole [B].

## 1.5.2 LIFT SENSOR

1. Paper feed unit (☛p.9)

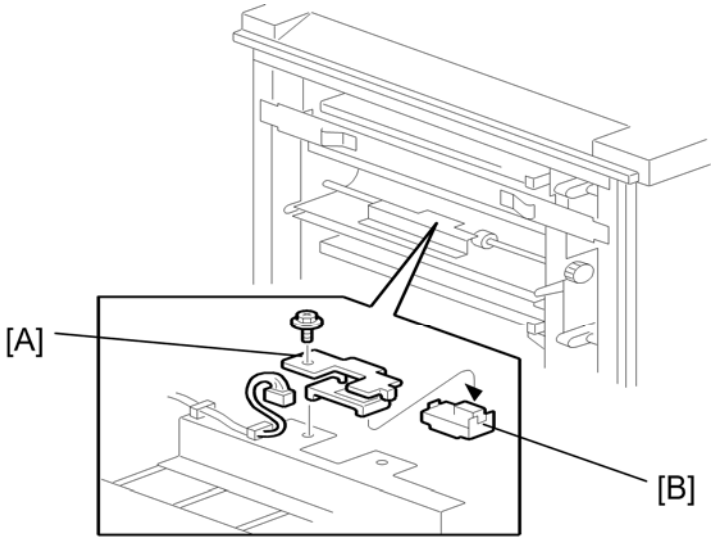



2. Sensor bracket [A] ( x1, x1, x1)




3. Lift sensor [A] ( x3)

## 1.5.3 LCT EXIT SENSOR




B834R105

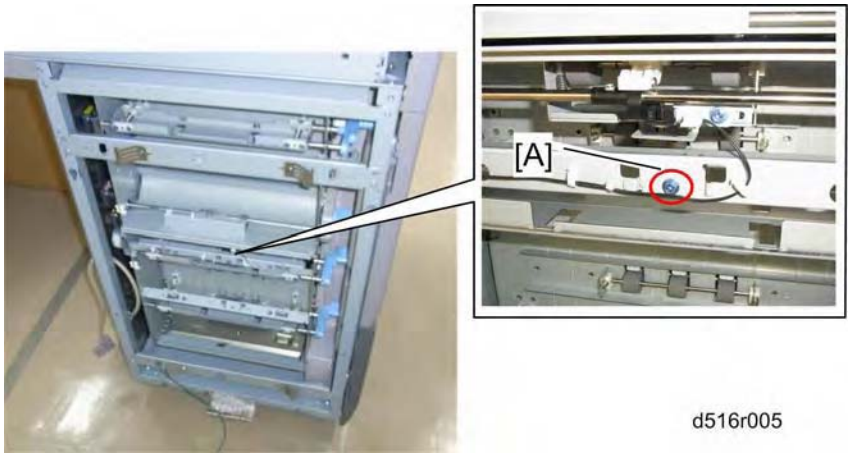
- Disconnect the LCT from the copier.

[A] Exit sensor unit ( x1, x1)

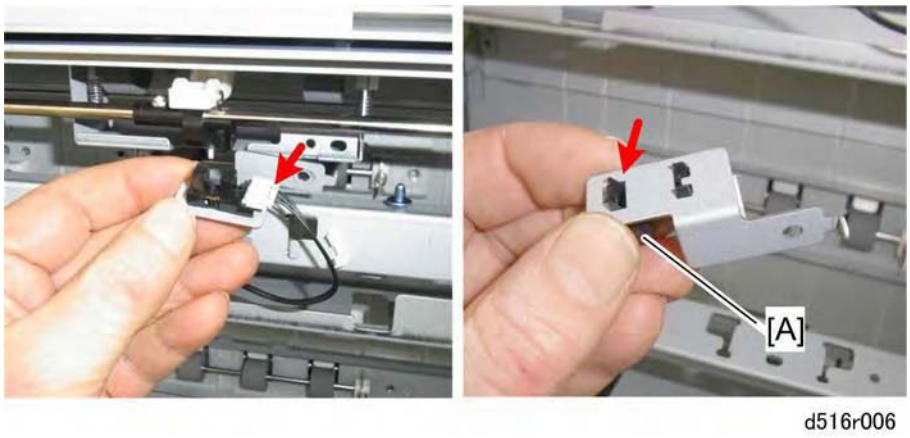
[B] Exit sensor

## 1.5.4 EXIT ROLLER LIFT SENSOR

- Disconnect the LCT from the main machine.



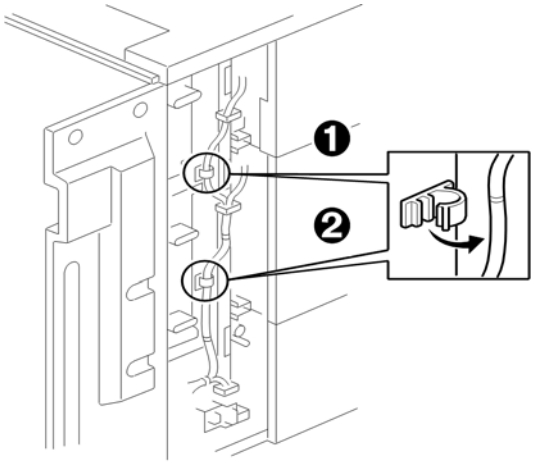

1. Sensor bracket [A] ( x1)




2. Exit roller lift sensor [A] ( x1, x4)

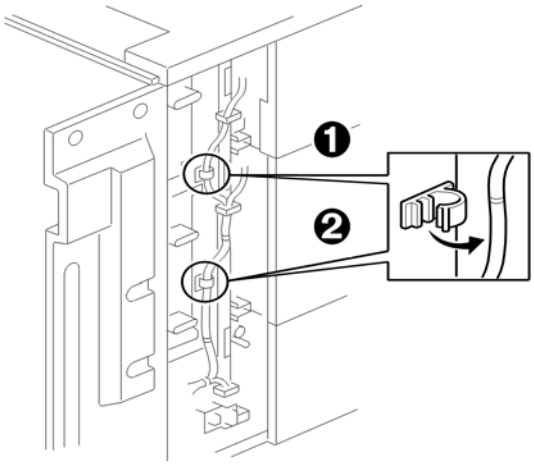
## 1.5.5 PAPER PATH SENSORS

### *Removing the Vertical Feed Unit*



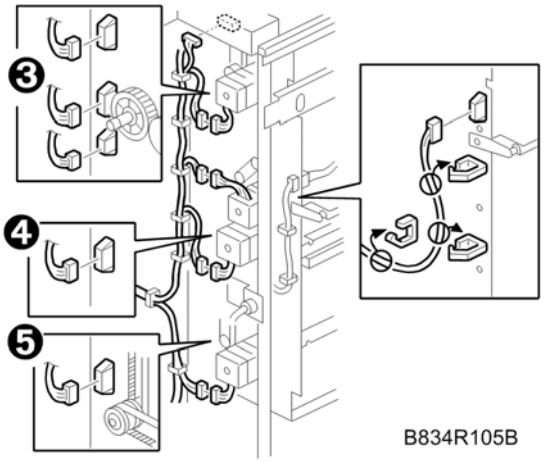

B834R105A

1. Open the front door.
2. Remove:
   - Inner upper cover (☛p.8)
   - Inner lower cover (☛p.8)
   - Left rear cover (☛p.6)



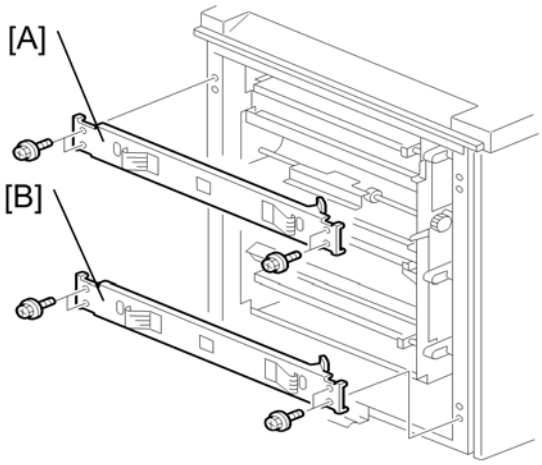

B834R105A

3. Disconnect the harness clamps ① and ② (x 2).




B834R105B

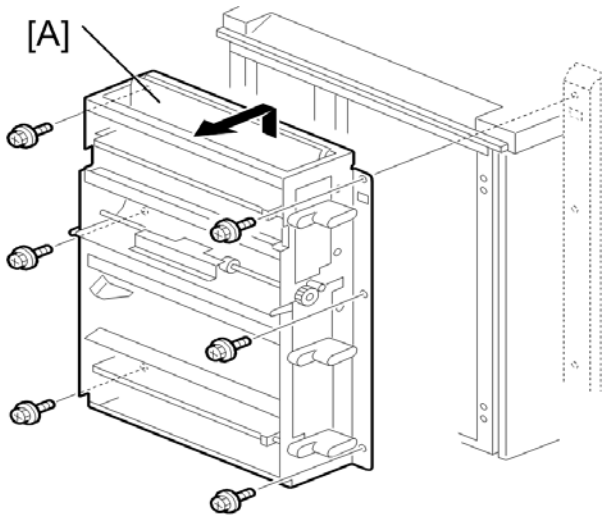
4. Disconnect the motor harnesses ③, ④, ⑤ ( x 3, x11).




B834R105C

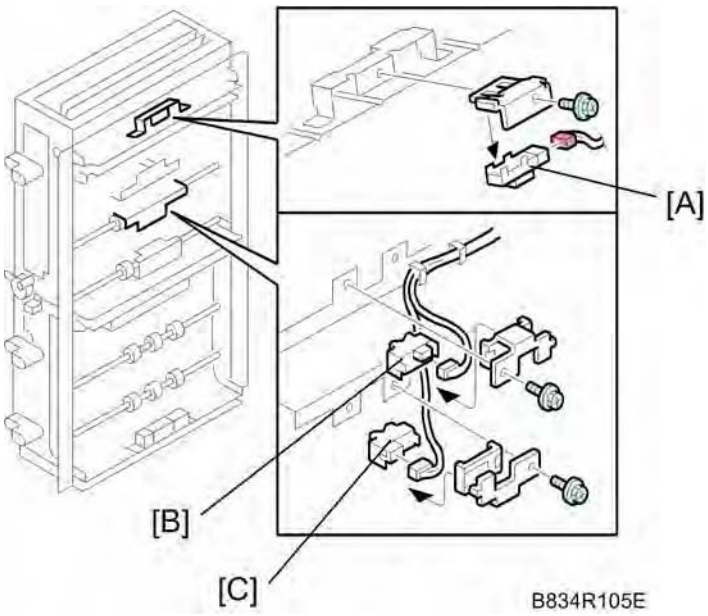
5. Remove:
   [A]: Upper stay ( x 2)
   [B]: Lower stay ( x 2)

6. Vertical feed unit [A] ( x 6)



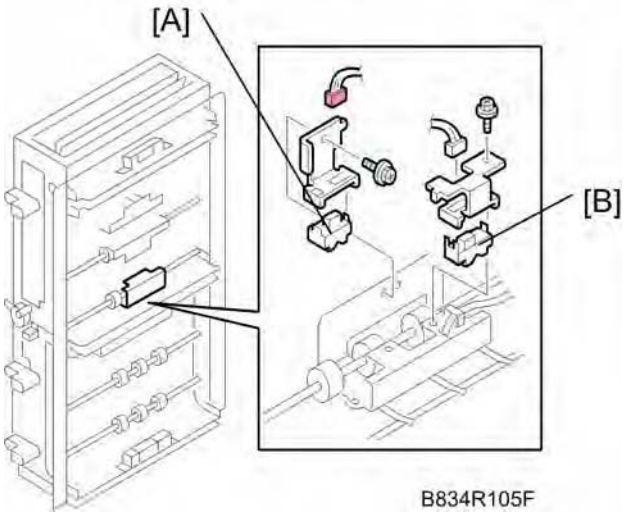

B834R105D

## 1.5.6 3RD TRANSPORT, 3RD RELAY UPPER, LOWER SENSORS



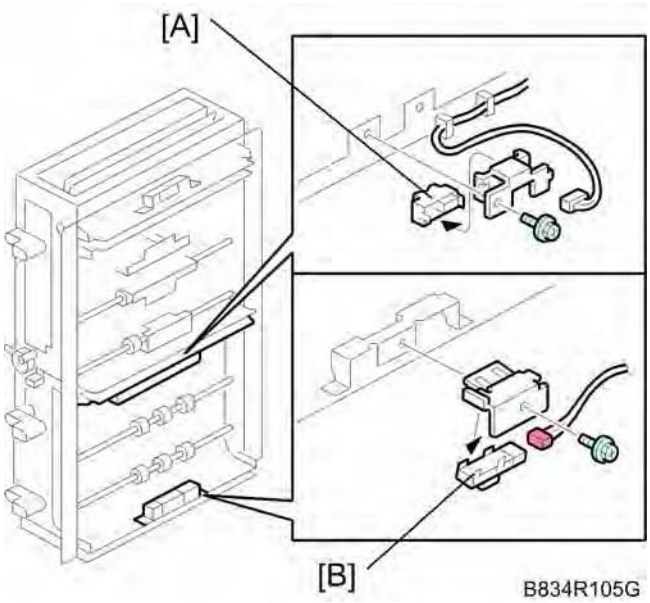

1. Vertical feed unit (☛p.29)
2. Remove:
   [A]: 3rd Transport sensor ( x1, x1)
   [B]: 3rd Relay sensor – upper ( x1, x1)
   [C]: 3rd Relay sensor – lower ( x1, x1)

## 1.5.7 4TH RELAY SENSOR, 4TH TRANSPORT SENSOR




1. Vertical feed unit (☛p.29)
2. Remove:
   [A]: 4th Relay sensor ( x1, x1)
   [B]: 4th Transport sensor ( x1, x1)

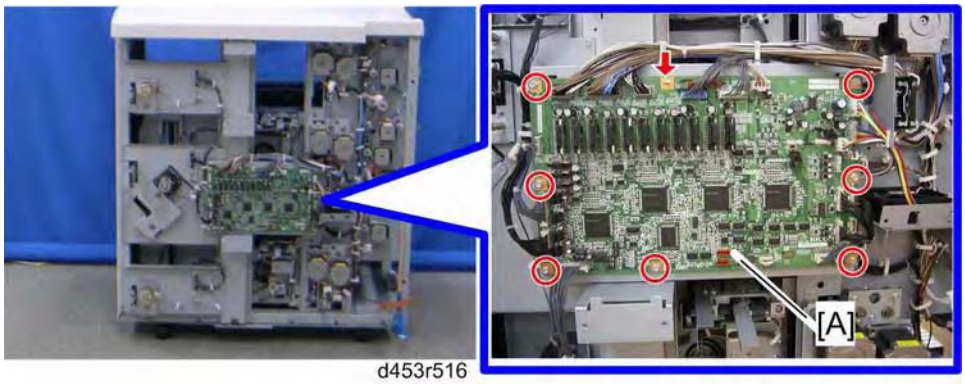
## 1.5.8 5TH RELAY SENSOR, 5TH TRANSPORT




1. Vertical feed unit (☛p.29)
2. Remove:
   [A]: 5th Relay sensor ( x1, x1)
   [B]: 5th Transport sensor ( x1, x1)

## 1.5.9 MAIN CONTROL BOARD

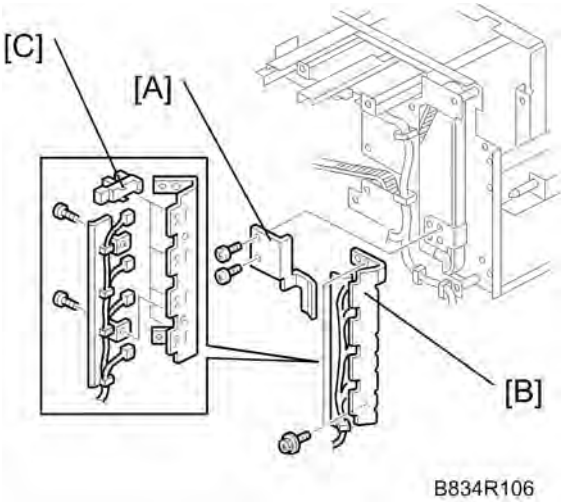
1. Left rear cover (☛p.6)
2. Right rear cover (☛p.7)




3. Main control board [A] ( x 7, x1, x All).

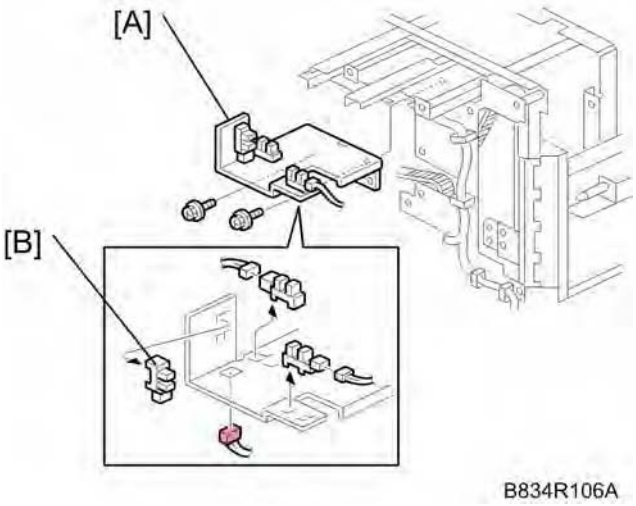
## 1.5.10 PAPER HEIGHT, PAPER WIDTH SENSORS

### *Paper Height Sensors*




1. Left rear cover (☛p.6)
2. Remove:
   [A]: Paper height sensor unit ( x 2, x 4).
   [B]: Clamp bracket ( x 2)
   [C]: Paper height sensors (x 4) ( x3, x 2 each)

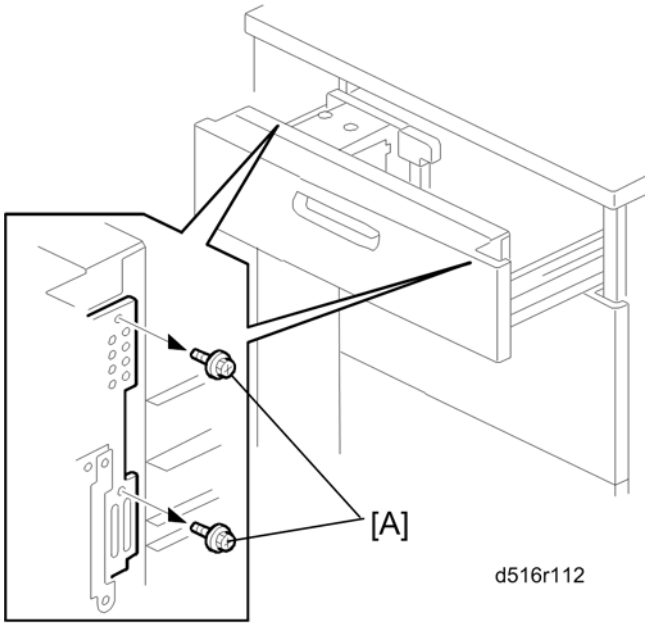
### *Paper Width Sensors*




1. Left rear cover (☛p.6)
2. Remove:
   [A]: Paper width sensor unit ( x 2, x 3)
   [B]: Paper width sensors (x 3) ( x2 each)

# 1.6 ADJUSTMENT

## 1.6.1 SIDE REGISTRATION ADJUSTMENT




Normally the side registration of the image can be adjusted with SP1002-004 to -006 (Side-to-Side Registration – Tray 3, 4, 5). When the punch hole positions are not aligned from a particular feed station, adjust the side registration by changing the tray cover position for the tray, as described below. Then adjust the side registration of the image with the SP1002.

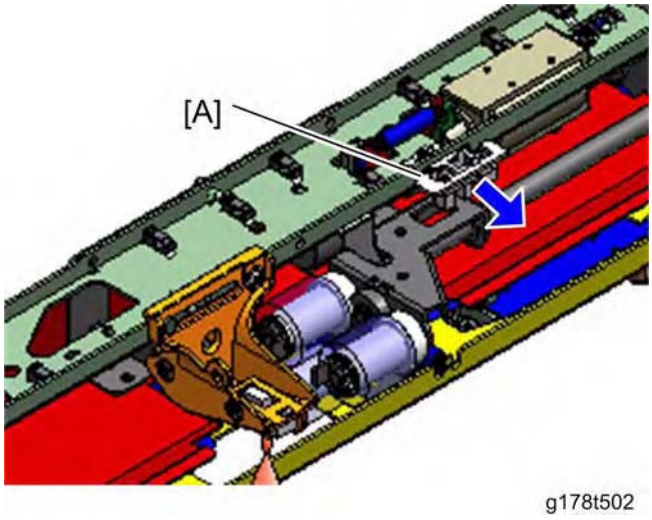
1. Pull out the tray.
2. Change the screw positions [A] at both the right and left sides as shown.

Note

- Adjustment range: 0 ± 2.0 mm adjustment step: 0.5 mm/step

## 1.6.2 DOUBLE FEED PROBLEM FROM LCT

If double feed occurs several times when paper is fed from an LCT (Tray 3, 4 or 5), try to change the upper limit of the paper stack in the LCT tray. Changing the upper limit of the paper stack in the LCT tray can improve paper separation for the paper stack in the LCT tray.




1. Remove the paper feed unit of the LCT unit (☛p.9).
2. Loosen the screw on the paper lift sensor bracket [A].
3. Move the bracket 0.5 mm in the arrow direction as shown above.
4. Tighten the screw on the paper lift sensor bracket [A].

Important

- To return the upper limit position to the default position, move the paper lift sensor bracket 0.5 mm to the opposite side.
- Return the upper limit position to the default if a paper jam occurs at the paper feed sensor in the LCT.
-

# D517

# MULTI BYPASS TRAY BY5010

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# D517
# MULTI BYPASS TRAY BY5010

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# READ THIS FIRST

## Safety, Conventions, Trademarks

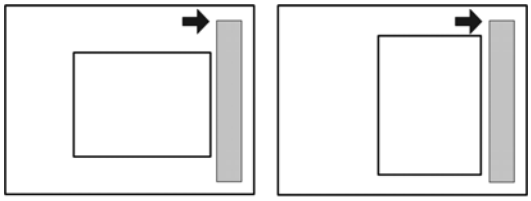
### Conventions

#### Common Terms

This is a list of symbols and abbreviations used in this manual.

| Symbol | What it means |
|---|---|
| | Binding screw (shoulder hexagonal head) |
| | Binding screw (round flathead) |
| | Black screw (heavy, fusing unit, TCRU) |
| | Bushing |
| | C-ring |
| | Connector |
| | E-ring |
| | FFC (Flat Film Connector) |
| | FFC (Flat Film Connector) |
| | Gear |
| | Harness clamp |
| | Harness clamp (metal: fusing unit) |
| | Hook (or tab release) |
| | Knob screw (black) |
| | Knob screw (sliver) |
| | Pivot screw |
| | Screw (common screw) |

| Symbol | What it means |
|---|---|
| | Shoulder screw |
| | Spring |
| | Standoff |
| | Stud screw |
| | Tapping screw (for plastic) |
| | Timing belt |



d074c001

The notations "SEF" and "LEF" describe the direction of paper feed, with the arrows indicating paper feed direction.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the finisher or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

# General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

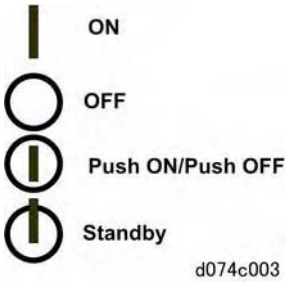
Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.

**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.




# Responsibilities of the Customer Engineer

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

# Before Installation, Maintenance

## Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

### Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

### Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

**⚠CAUTION**

- Always dispose of used items in accordance with the local laws and regulations regarding the disposal of such items.

# 1. REPLACEMENT AND ADJUSTMENT

## 1.1 COMMON PROCEDURES

### 1.1.1 OPENING THE BYPASS TRAY

d517r801

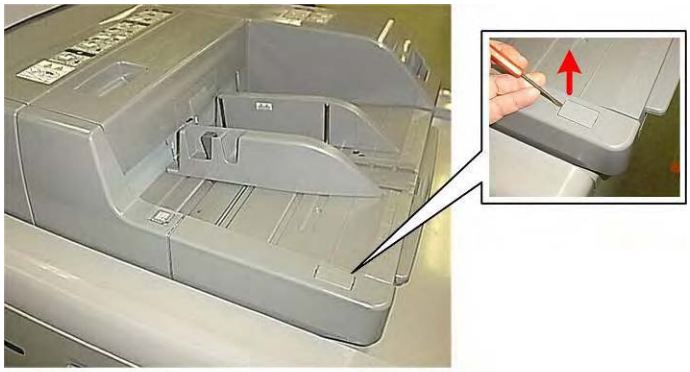
1. Pull in the direction indicated by the arrow at the front left cover.

Important

- When moving the LCT with the bypass unit attached, grip and push the body of the LCT unit.
- To avoid damaging the bypass tray, never attempt to push or rotate the assembled units by pulling or pushing on the bypass tray.

## 1.1.2 COVERS

### *Right Front Cover*



d517r802

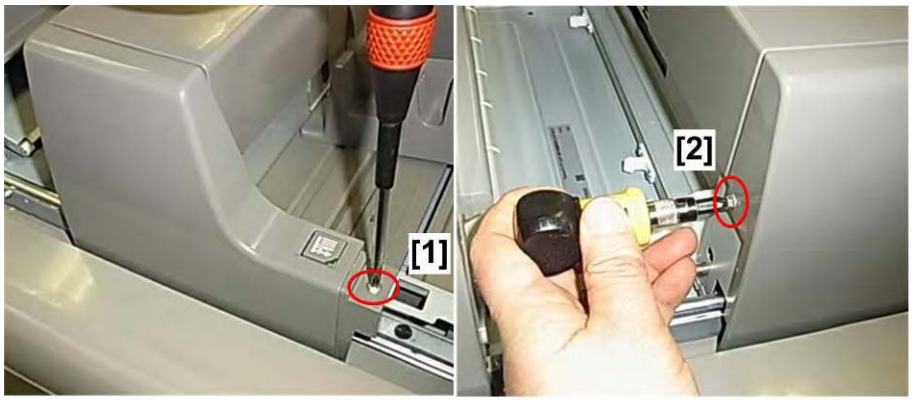
1. At the front remove the screw cover.

d517r803

2. Remove right front cover [1] ( x1)

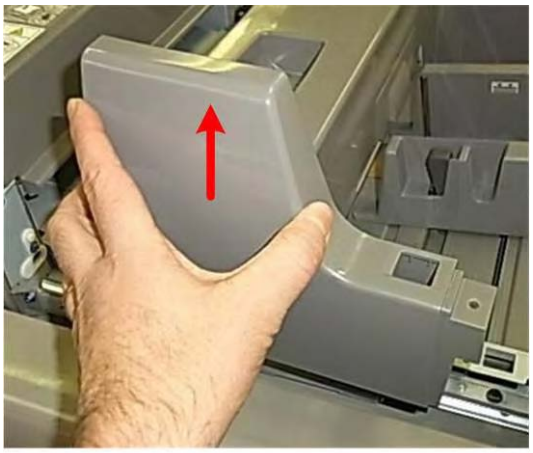
### *Left Front Cover*

1. Remove the right front cover.




d517r804

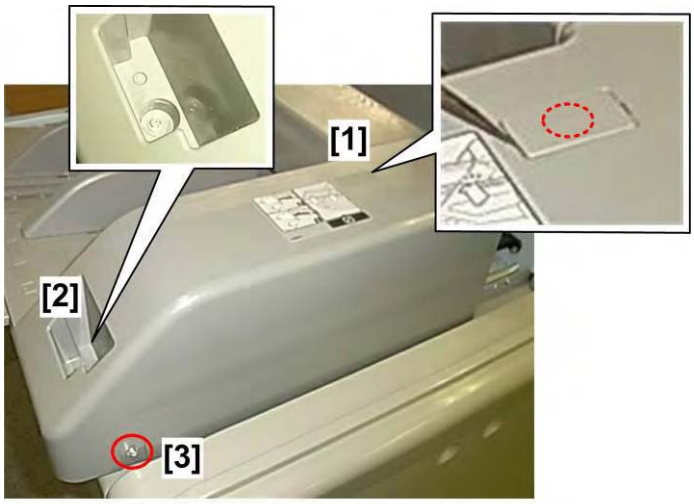
2. Disconnect right side [1] ( x1).
3. Disconnect left side [2] ( x1). You need a stubby driver to remove this screw.



d517r805

4. Remove the cover.

### *Rear Cover*



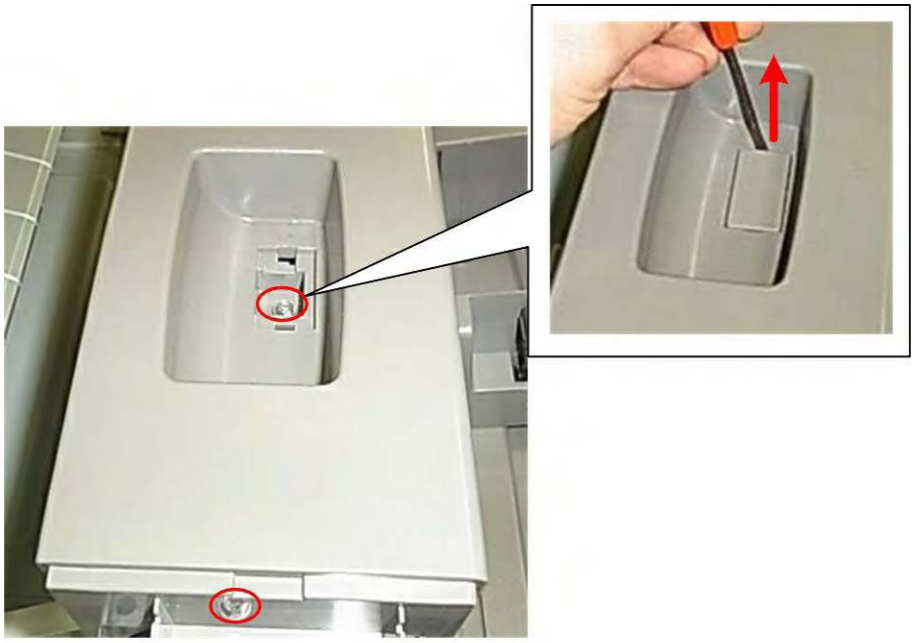

d517r806

1. Disconnect the rear cover.
   [1] Covered screw ( x1)
   [2] Rear screw ( x1)
   [3] Well screw ( x1)

d517r807

2. Remove the cover.

## *Top Cover*



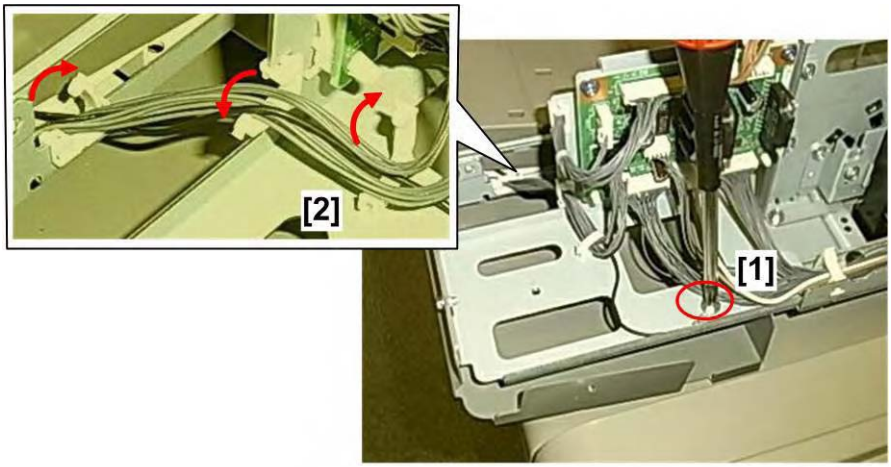
d517r808

1. Remove the front covers, and the rear cover. (See previous sections).
2. At the front, remove the screw cover [1] and screw below, and then remove the front screw [2] ( x2).

d517r809

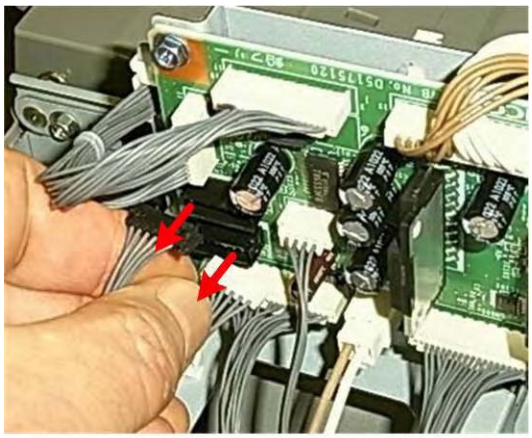
3. At the rear, disconnect the top cover and remove it ( x1).

## 1.1.3 FEED TRAY



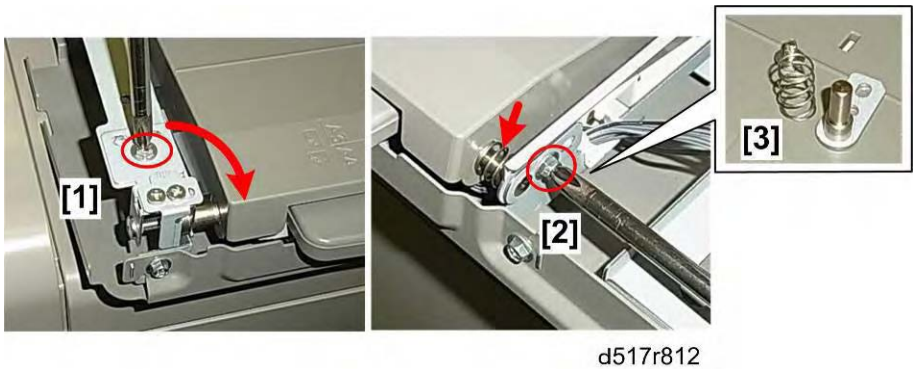

d517r810

1. Remove the covers (☛p.2).
2. At the right rear corner, disconnect the ground wire [1] and open clamps [2] (x1, x3).



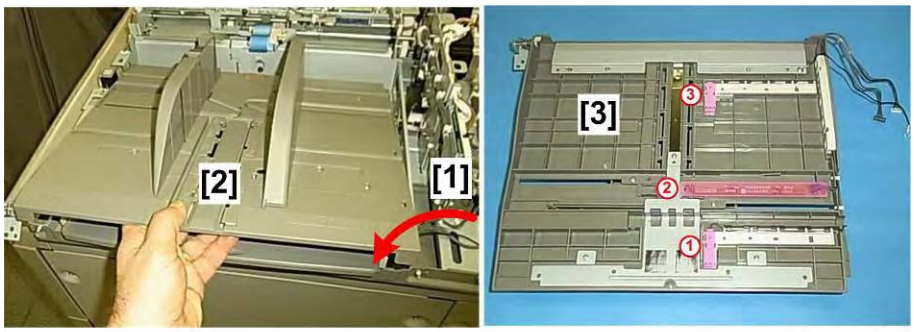
d517r811

3. Disconnect the harnesses (x2).




d517r812

4. At the front, disconnect hinge plate [1] and swing the hinge plate to the right ( x1).
5. At the rear disconnect hinge plate [2] ( x1).
6. Carefully disconnect the hinge and spring [3].



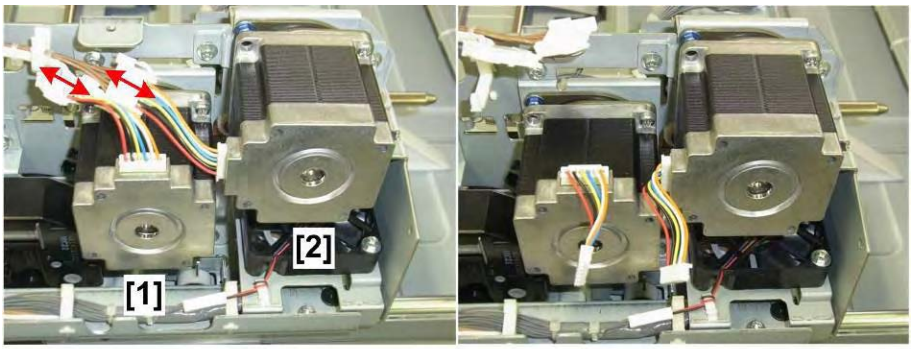

d517r813

7. Pull the harnesses through the frame [1].
8. Remove feed tray [2].
9. Turn over the feed tray. There are three sensors on the bottom of the feed tray.

| | |
|---|---|
| ① | Paper end sensor |
| ② | Paper width sensor |
| ③ | Paper length sensor |

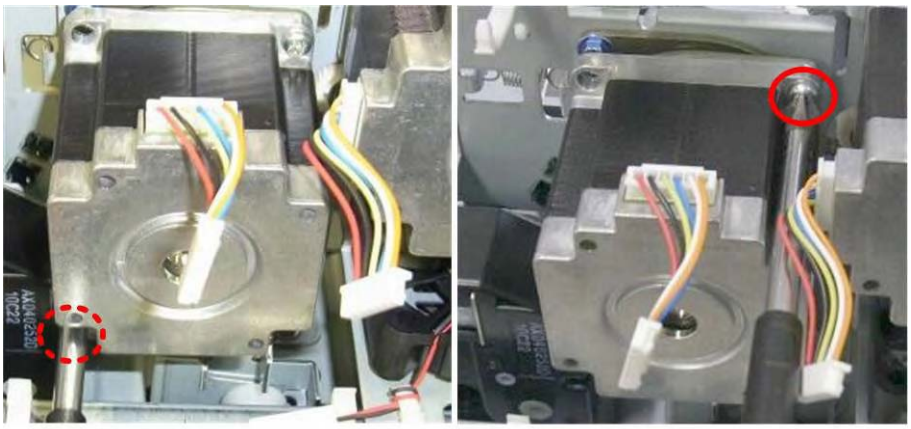
# 1.2 MOTORS

## 1.2.1 PAPER FEED MOTOR, PAPER TRANSPORT MOTOR



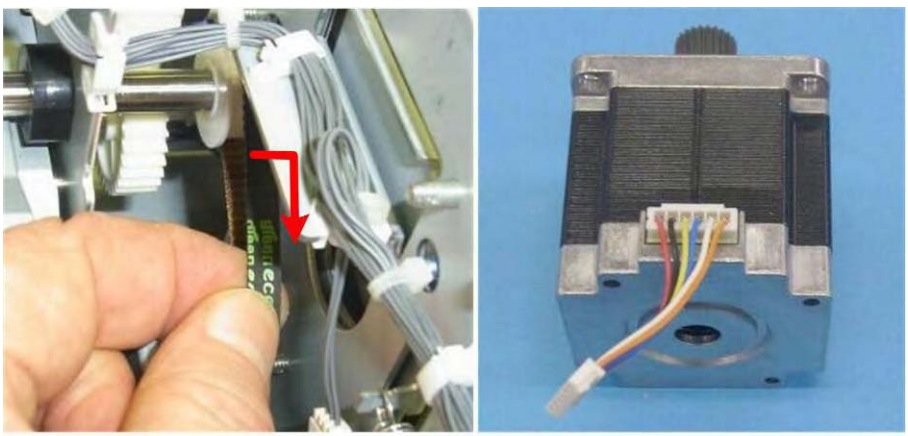

d517r824

1. Rear cover (☛p.4)
2. Disconnect:
   [1] Paper feed motor (x1, x1)
   [2] Transport motor (x1)



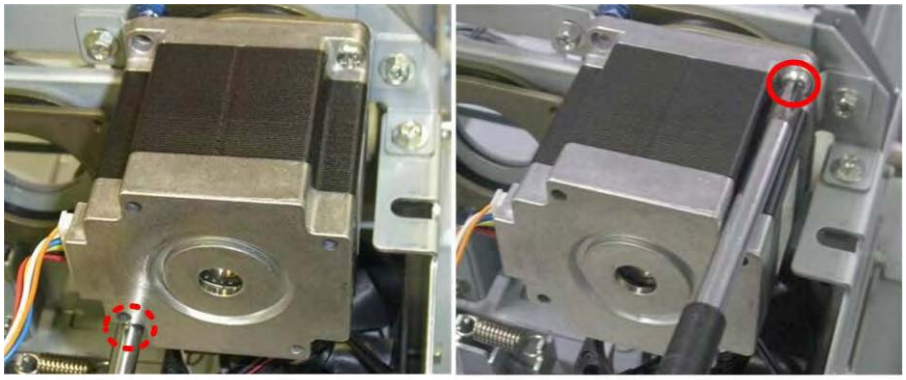
d517r825

3. Disconnect the transport motor ( x2)



d517r826

4. Disconnect the timing belt behind the motor and remove the motor (x1).



d517r827

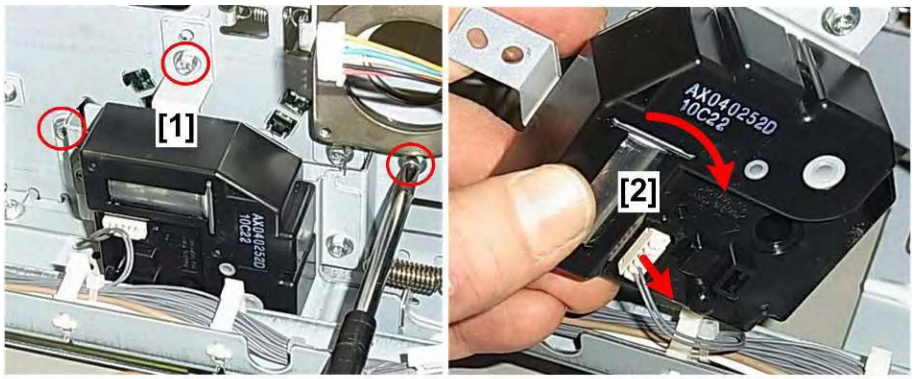
5. Disconnect the transport motor ( x2).

d517r828

6. Disconnect the timing belt behind the motor and remove the motor (x1).

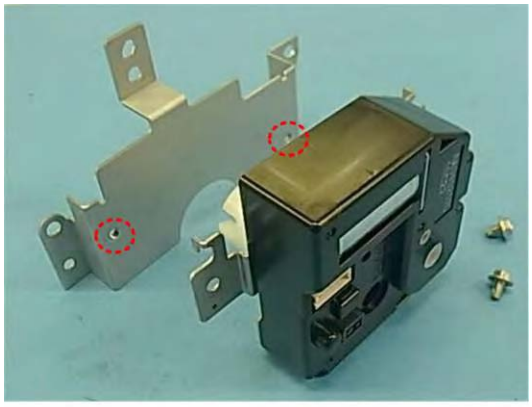
## 1.2.2 LIFT MOTOR

1. Rear cover (☛p.4)
2. Remove the paper feed motor (☛p.8).




d517r830

3. Disconnect motor bracket [1] ( x3).
4. Disconnect the motor [2] and remove it (x1).



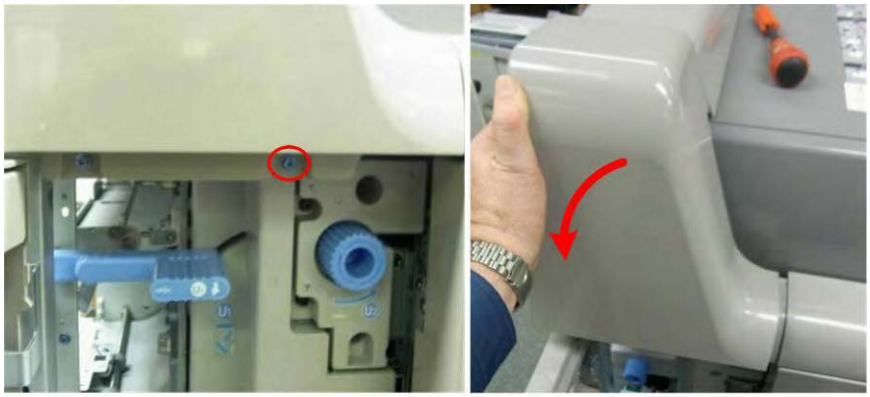
d517r831

5. Separate the motor and bracket ( x2).

## 1.2.3 RELAY MOTOR

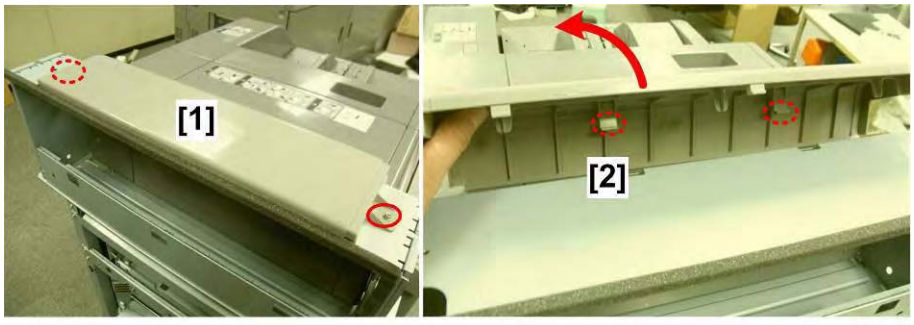
d517r837

1. Remove the rear outer cover unit ( x2).



d517r838

2. Remove the front outer cover ( x1).

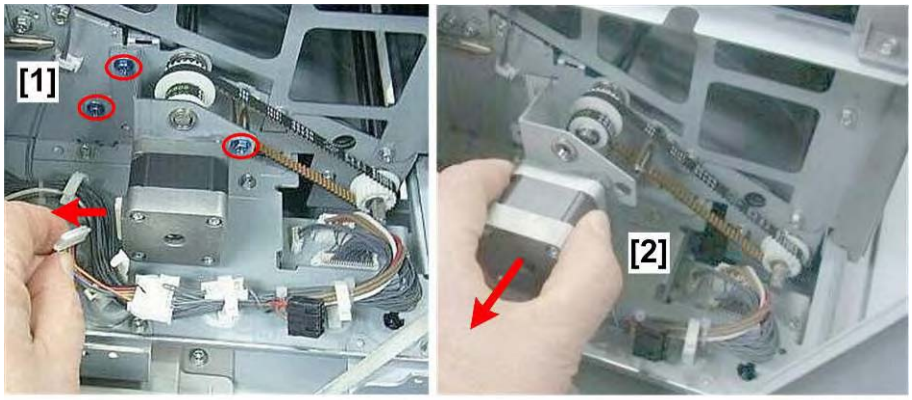



d517r839

3. Disconnect top cover [1] ( x2).
4. Remove the top carefully to avoid breaking the large tabs [2] under the cover.

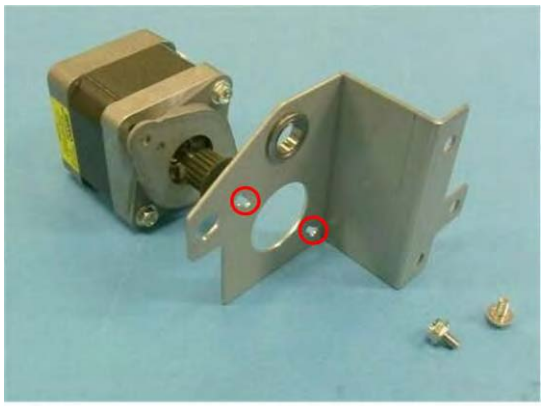
d517r840

5. Remove the rear inner cover ( x1).




d517r841

6. At the rear, disconnect the relay motor bracket [1] and remove the motor [2] ( x1, x3, x1)

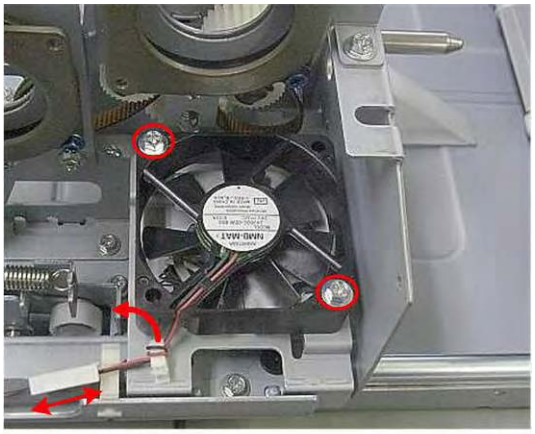


d517r842

7. Separate the motor and bracket ( x2).

## 1.2.4 MOTOR FAN

1. Remove:
   - Rear cover (☛p.4)
   - Paper Transport Motor (☛p.8)



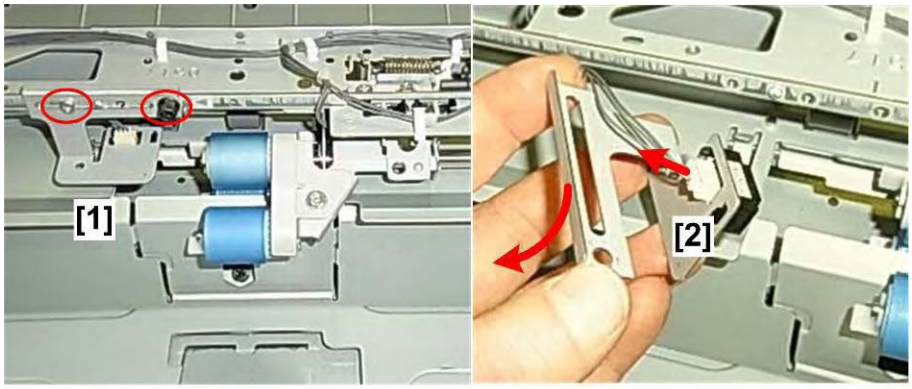
d517r829

2. Remove the fan (x1, x1, x2)

# 1.3 SENSORS

## 1.3.1 PAPER FEED SENSOR

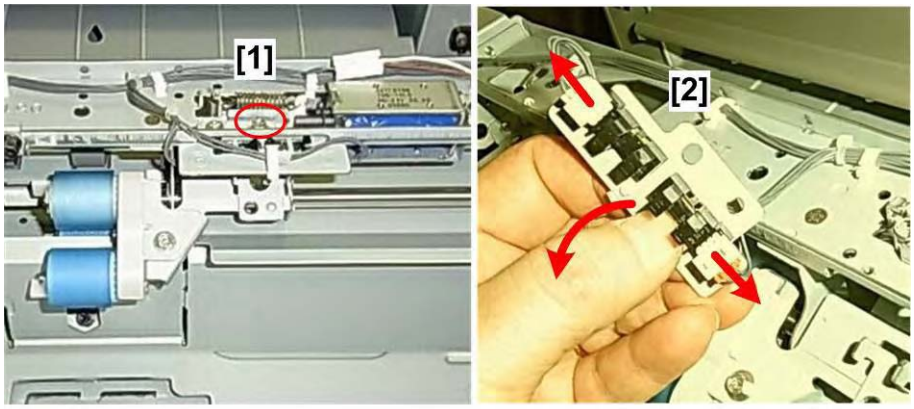
1. Remove the front, rear, and top covers (☛p.2).




2. Disconnect the sensor bracket [1] ( x1,  x1).
3. Remove the sensor [2] ( x1,  x3).

## 1.3.2 LIFT SENSORS

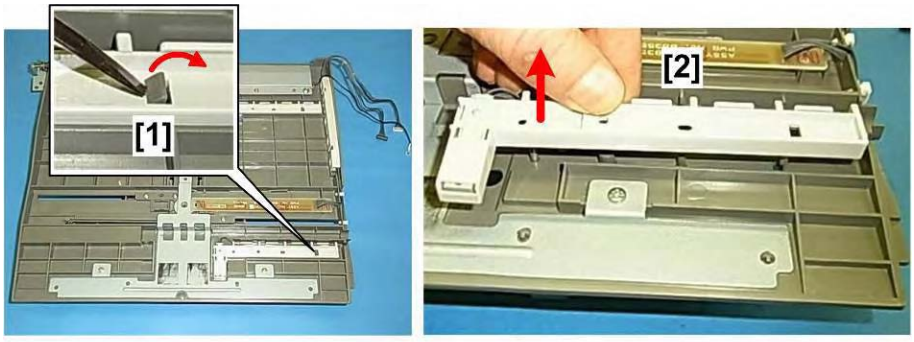
1. Remove the front, rear, and top covers (☛p.2).




2. Disconnect sensor bracket [1] (x1).
3. Disconnect and remove sensors ( x1,  x3 each).

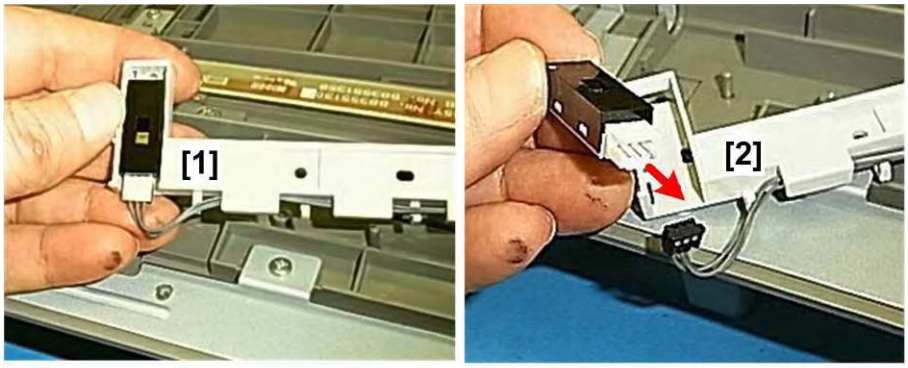
## 1.3.3 PAPER END SENSOR

1. Feed tray (☛p.6)
2. Turn the feed tray upside down and lay it on a flat surface.




d517r814

3. Release tab [1] and remove sensor cover [2] (☚ x1).

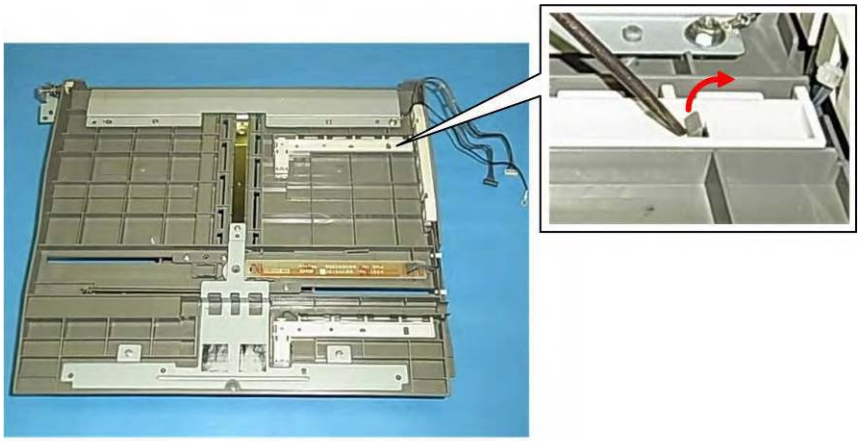



d517r815

4. Turn over the sensor cover [1].
5. Remove sensor [2] (🖴 x1).

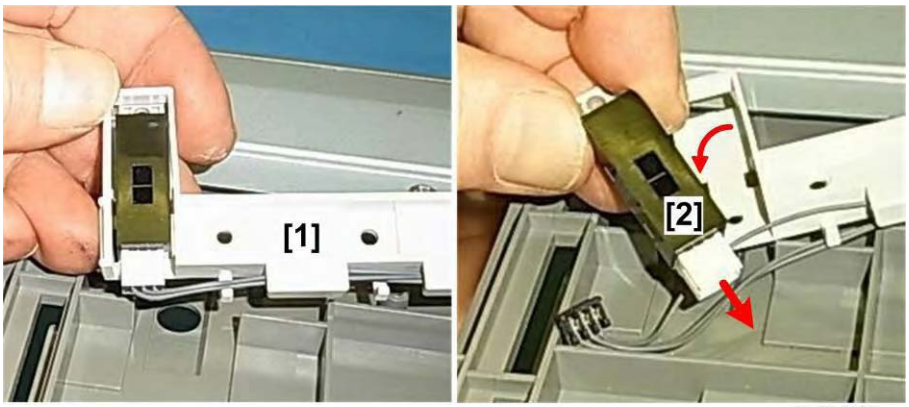
## 1.3.4 PAPER LENGTH SENSOR

1. Feed tray (☛p.6)
2. Turn the feed tray upside down and lay it on a flat surface.



d517r819

3. Release the hook.

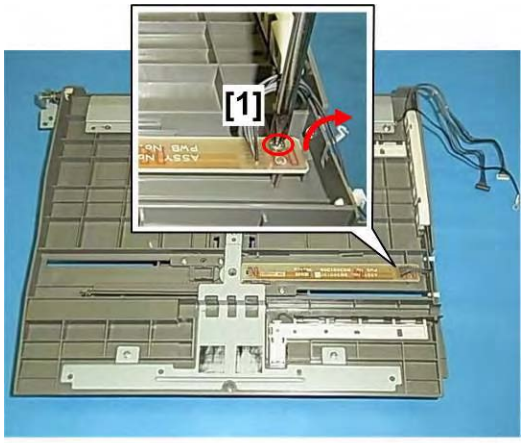



d517r820

4. Remove the sensor cover [1] and turn it over.
5. Remove sensor [2] (x1)

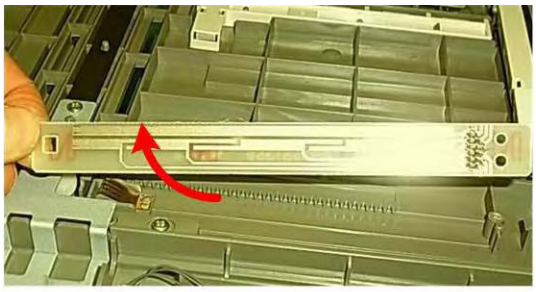
## 1.3.5 PAPER WIDTH SENSOR

1. Feed tray (☛p.6).
2. Turn the feed tray upside down and lay it on a flat surface.



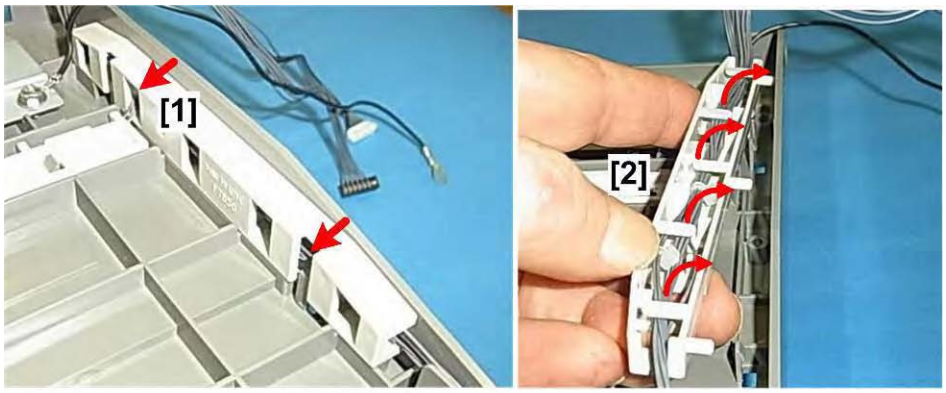

d517r816

3. Disconnect sensor plate [1] (☞x1).



d517r817

4. Remove the sensor plate (☚x3).

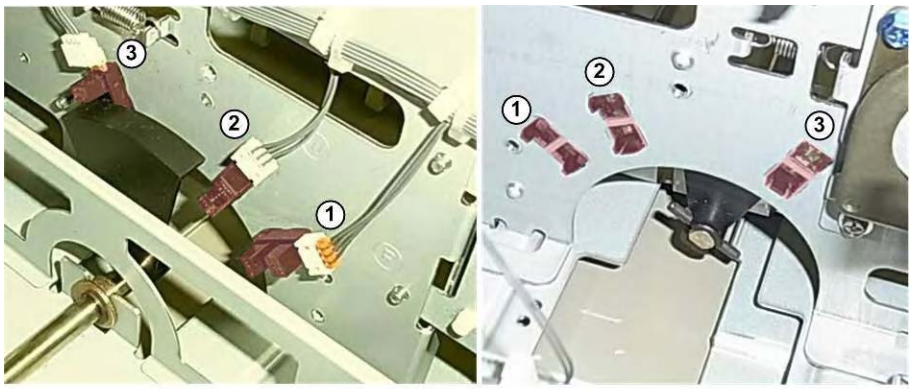



d517r818

5. Disconnect sensor cover [1] (☚x2).
6. The sensor cover over [2] and remove the sensor harness from the cover.

## 1.3.6 PAPER HEIGHT SENSORS

1. Remove
   - Front and rear covers (☛p.2).
   - Feed Tray (☛p.6)

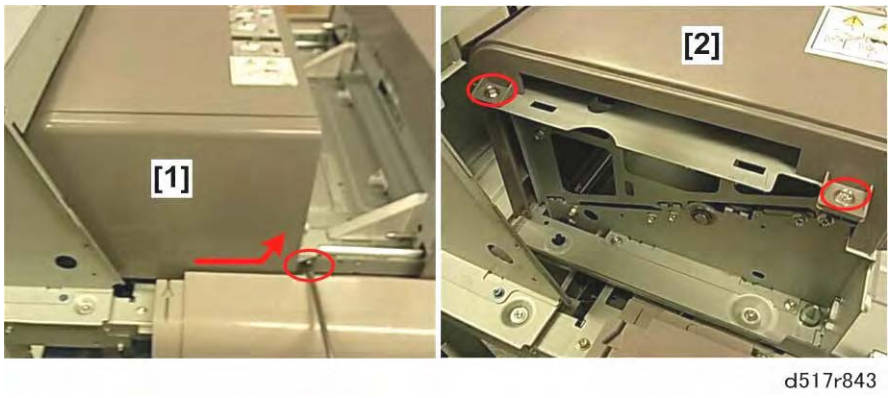



d517r832

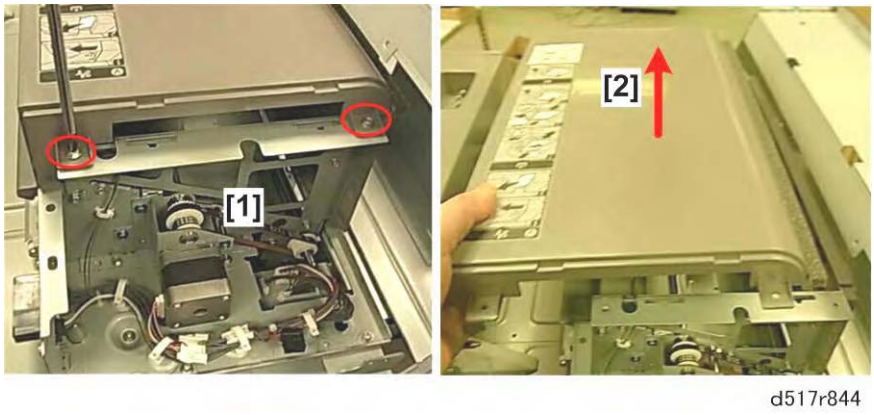
2. Paper height sensors 1, 2, and 3 are mounted on the frame.
   - The left photo shows the sensors and connectors on the front side of the frame.
   - The right photo shows where the sensor pawls protrude from the back of the frame.
3. To remove a sensor, disconnect it from the frame and harness (☚ x3, 🖑 x1).

## 1.3.7 RELAY SENSOR

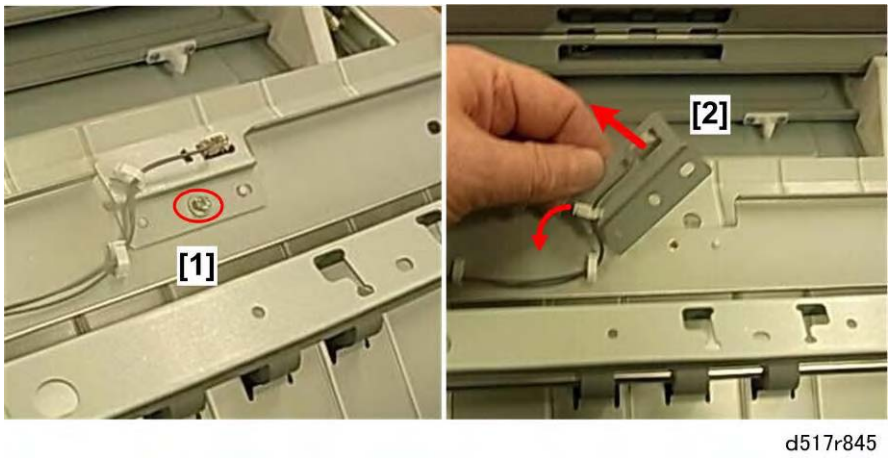
1. Remove the covers for the relay motor removal (☛p.11 "Relay Motor").




2. Remove front inner cover [1] ( x1).
3. Disconnect top cover [2] at the front ( x2).




4. Disconnect top cover [1] at the rear ( x2).
5. Remove top cover [2].




6. Remove sensor bracket [1] ( x1).
7. Remove sensor [2] ( x1,  x1).

# 1.4 ROLLERS

## 1.4.1 OVERVIEW

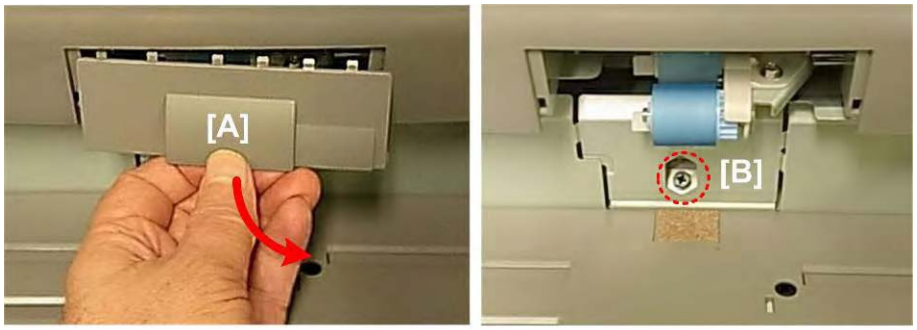
d517r701a

The bypass feed rollers can be accessed from the top of LCIT.

## 1.4.2 ROLLER REMOVAL

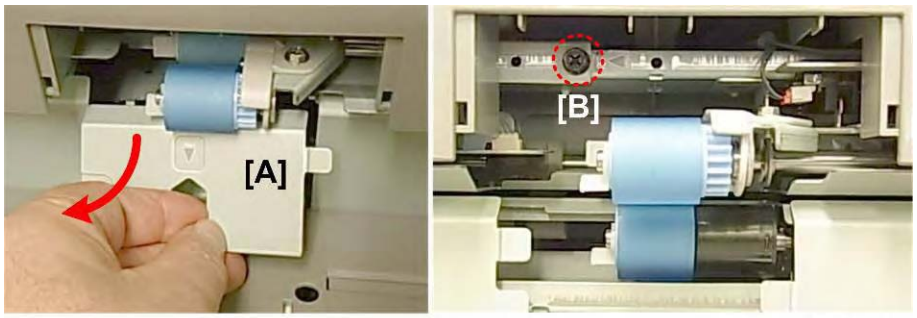
d517r751

1. The rollers are behind the snap-off cover.



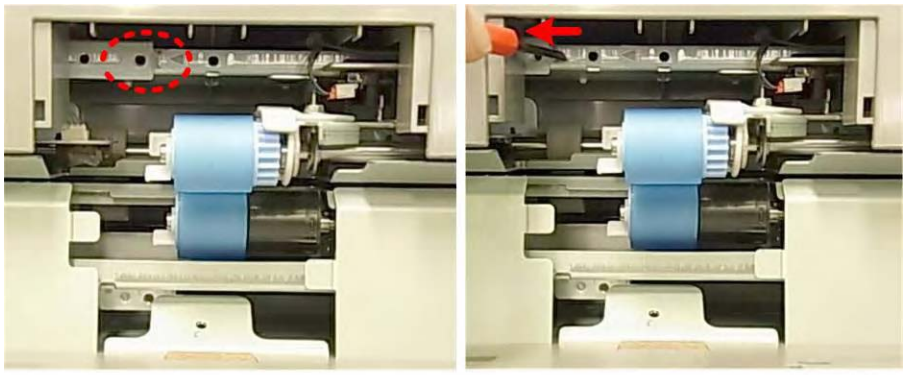

d571r752

2. Pull off cover [A].
3. Remove screw [B].



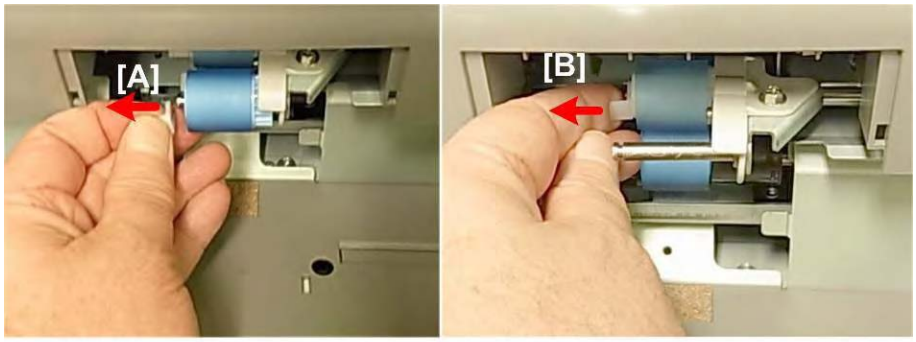

d517r753

4. Remove plate [A].
5. Remove screw [B].



d517r754

6. Push the sensor positioning plate to the left.
   - If this plate is not pushed to the left you will not be able to remove the feed roller.

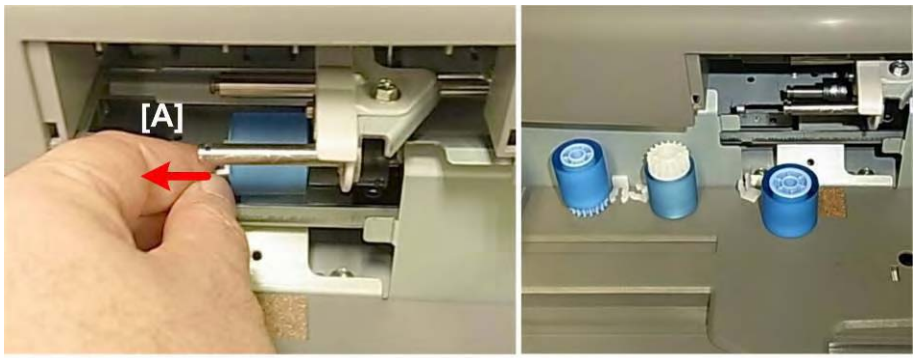



d517r755

7. Remove:

   [A] Pick-up roller snap ring and roller.

   [B] Feed roller snap ring and roller.

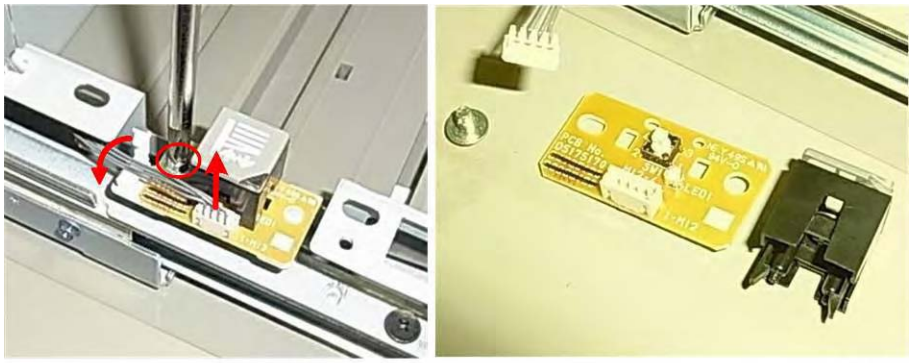



d517r756

8. Remove separation snap ring and roller [A].
9. Turn on the machine and wait for it to warm up.
10. Re-set the PM Count for the replaced rollers.

# 1.5 SWITCH, SOLENOID, PCB

## 1.5.1 TRAY LIFT SWITCH

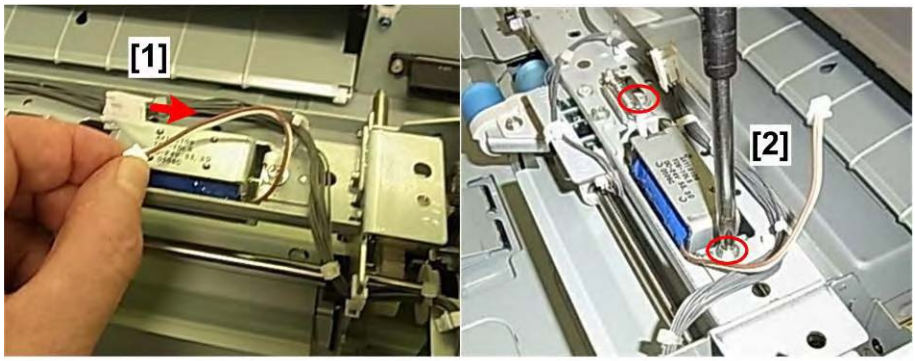


d517r846

1. Remove the front covers (☛p.2)
2. Disconnect and remove the switch ( x1, x1, x1)

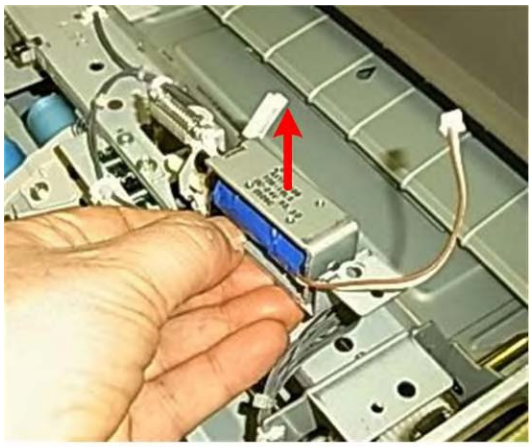
## 1.5.2 PICKUP SOLENOID

1. Remove the covers (☛p.2).




d517r833

2. Disconnect the solenoid [1] (x1).



d517r834

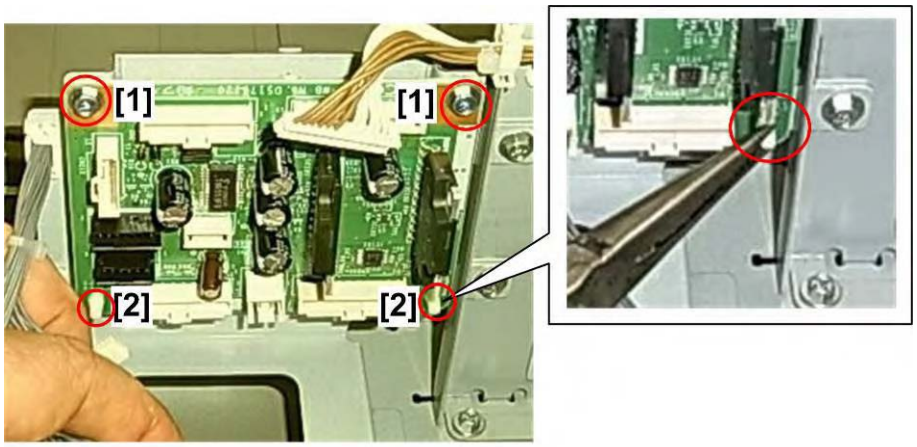
3. Remove the solenoid.

**Re-installation**

- When re-installing the solenoid, make sure that the arm of the solenoid is positioned above and in contact with the plate of the pick-up roller shaft below.
- To confirm correct installation, manually move the solenoid to the left and right. When the solenoid plunger is moved, the pick-up roller should move up and down smoothly.

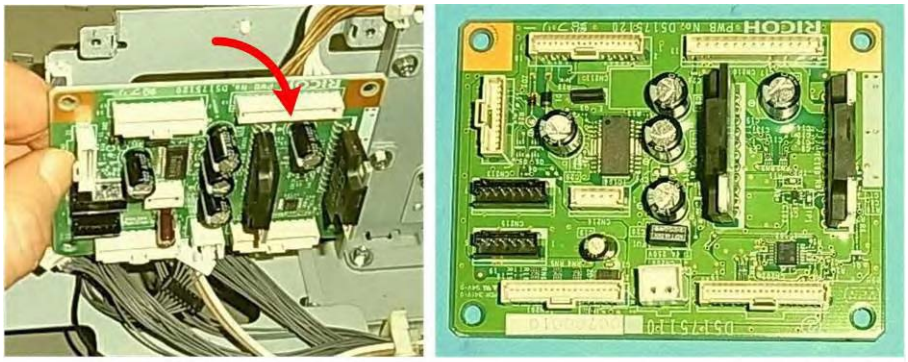
## 1.5.3 BYPASS TRAY PCB

1. Rear cover (☛p.4)




d517r822

2. Disconnect connectors (x9).
3. Disconnect the board at [1] and [2] ( x2, x2).



d517r823

4. Remove the board.

# D521

# MULTI-FOLDING UNIT FD5010

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# D521
# Multi-Folding Unit FD5010

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# READ THIS FIRST

## Safety, Conventions, Trademarks

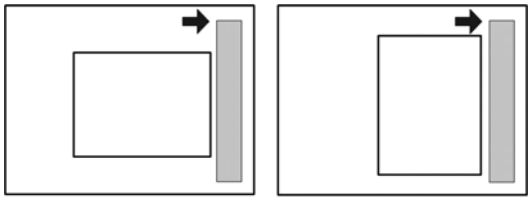
### Conventions

#### Common Terms

This is a list of symbols and abbreviations used in this manual.

| Symbol | What it means |
|---|---|
| | Binding screw (shoulder hexagonal head) |
| | Binding screw (round flathead) |
| | Black screw (heavy, fusing unit, TCRU) |
| | Bushing |
| | C-ring |
| | Connector |
| | E-ring |
| | FFC (Flat Film Connector) |
| | FFC (Flat Film Connector) |
| | Gear |
| | Harness clamp |
| | Harness clamp (metal: fusing unit) |
| | Hook (or tab release) |
| | Knob screw (black) |
| | Knob screw (sliver) |
| | Pivot screw |
| | Screw (common screw) |

| Symbol | What it means |
|---|---|
| | Shoulder screw |
| | Spring |
| | Standoff |
| | Stud screw |
| | Tapping screw (for plastic) |
| | Timing belt |



d074c001

The notations "SEF" and "LEF" describe the direction of paper feed, with the arrows indicating paper feed direction.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the finisher or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

# General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

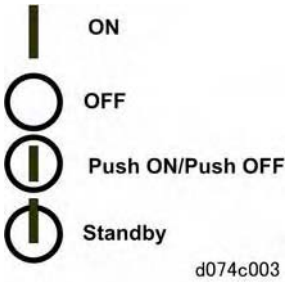
Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.

**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.




# Responsibilities of the Customer Engineer

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

# Before Installation, Maintenance

## Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

### Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

### Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

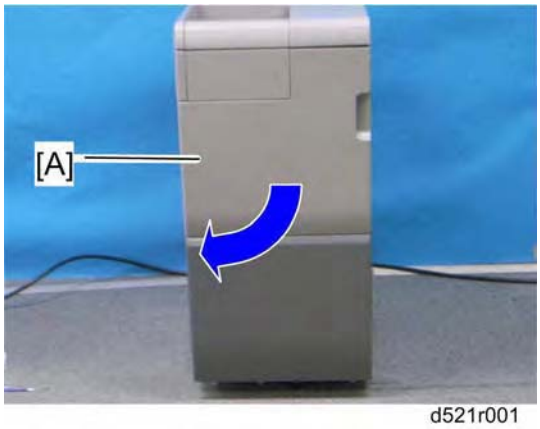
**⚠CAUTION**

- Always dispose of used items in accordance with the local laws and regulations regarding the disposal of such items.

# 1. REPLACEMENT AND ADJUSTMENT

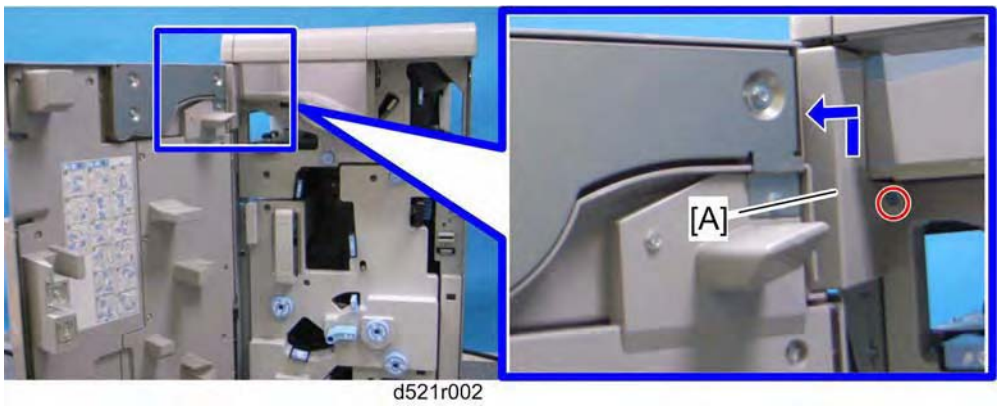
## 1.1 EXTERIOR AND INNER COVERS

### 1.1.1 FRONT DOOR UPPER COVER



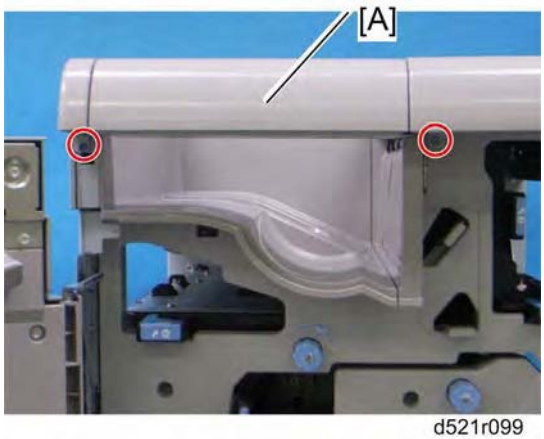
d521r001

1. Open the front door [A].



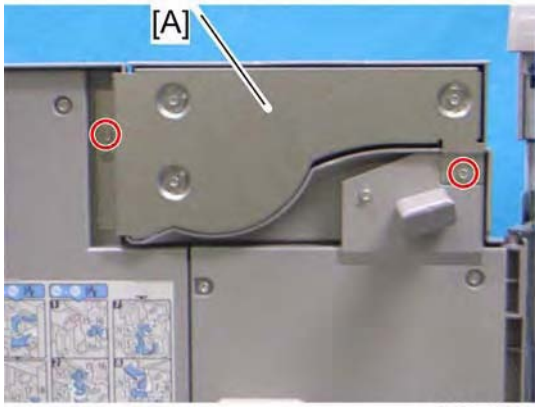
d521r002

2. Hinge cover [A] ( x 1)



d521r099

3. Cross-piece [A] ( x 2)

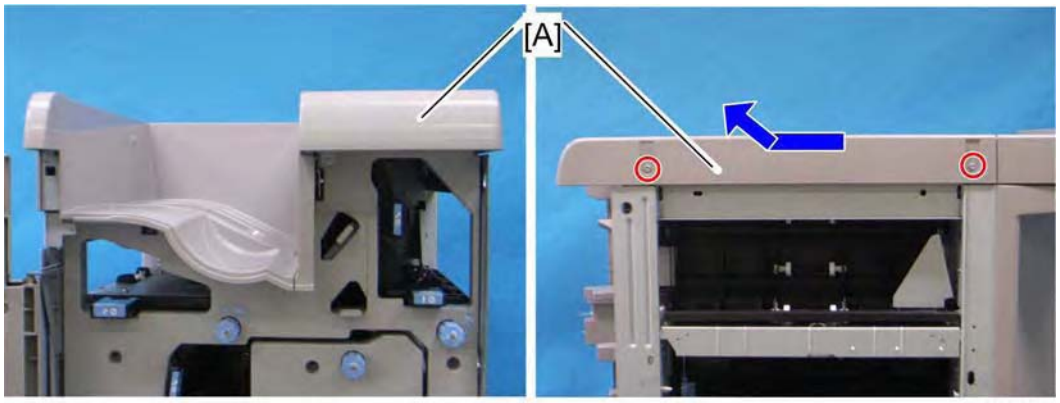


d521r100

4. Front door upper cover [A] ( x 2)

## 1.1.2 TOP COVER

1. Open the front door.
2. Hinge cover (☛p.1 "Front Door Upper Cover")
3. Cross-piece (☛p.1 "Front Door Upper Cover")

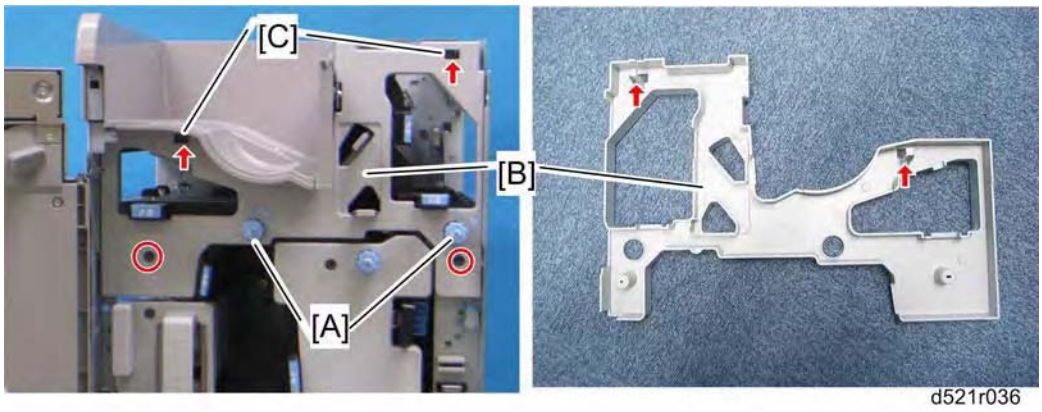


d521r020

4. Top cover [A] ( x 2)

## 1.1.3 INNER UPPER COVER

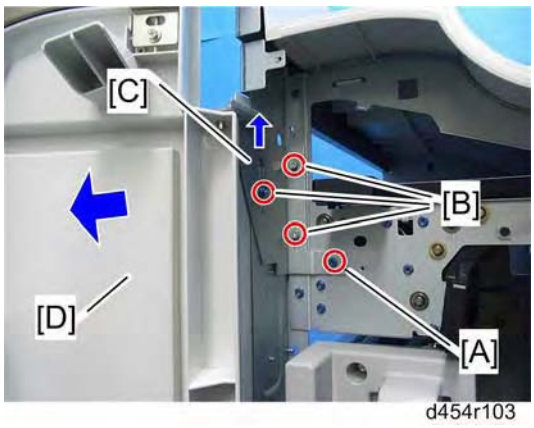
1. Top cover (☛p.2)




2. Remove the knobs [A] ( x 1 each).
3. Inner upper cover [B] ( x 2)
   - Release the hooks [C] to remove the inner upper cover.

## 1.1.4 FRONT DOOR

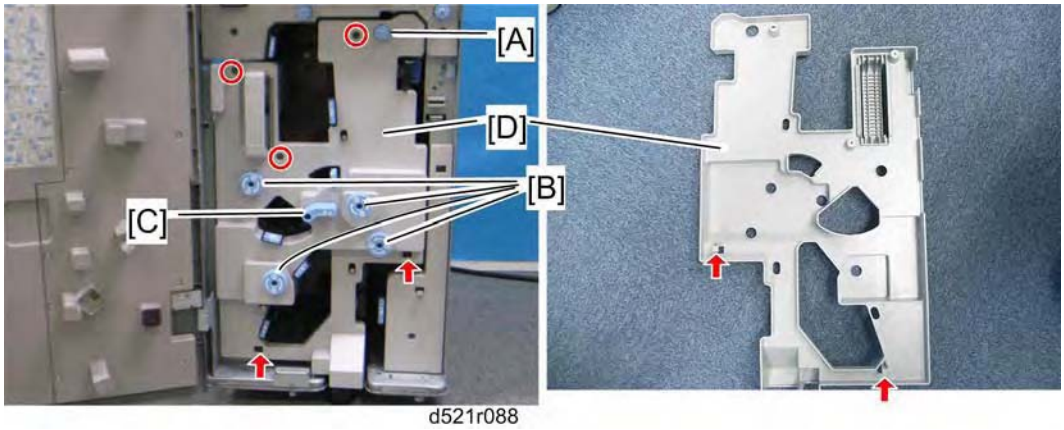
1. Top cover (☛p.2)
2. Inner upper cover (☛p.3)




3. Remove the screw [A].
4. Loosen three screws [B].
5. Lift up the hinge bracket [C].
6. Front door [D]

## 1.1.5 FOLDING UNIT COVER

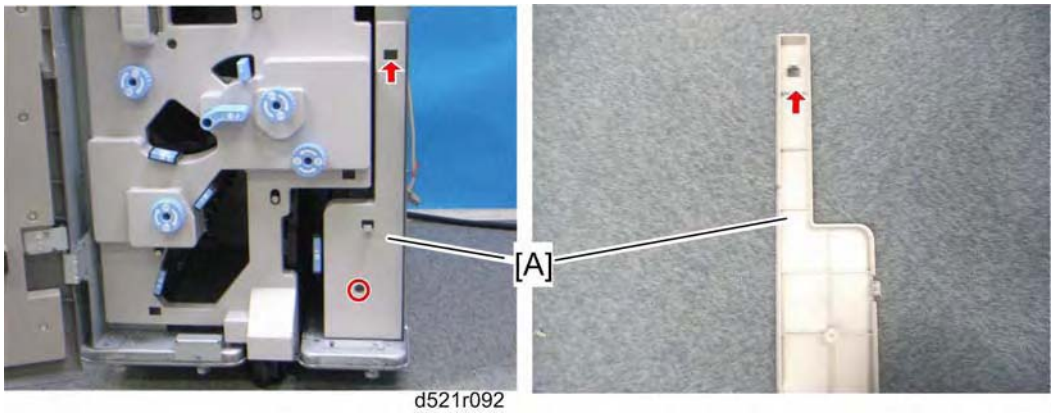
1. Open the front door.




2. Remove the knob [A] ( x 1).
3. Remove four knobs [B] ( x 1 each).
4. Remove the lever [C] ( x 1).
5. Folding unit cover [D] ( x 3, hook x 2)

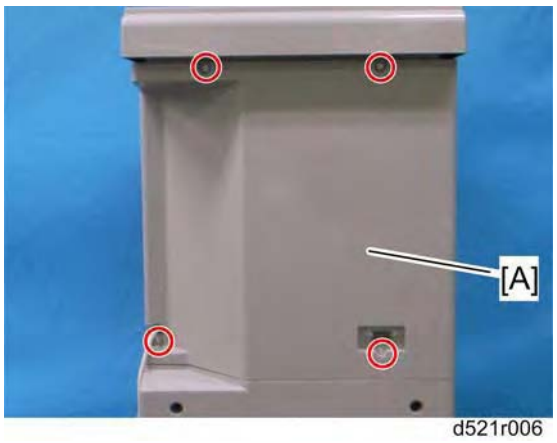
## 1.1.6 INNER LOWER COVER

1. Open the front door.




2. Inner lower cover [A] ( x 1, hook)

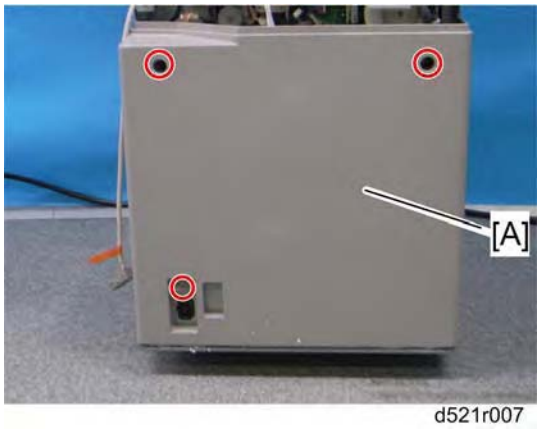
## 1.1.7 REAR UPPER COVER




1. Rear upper cover [A] ( x 4)

## 1.1.8 REAR LOWER COVER

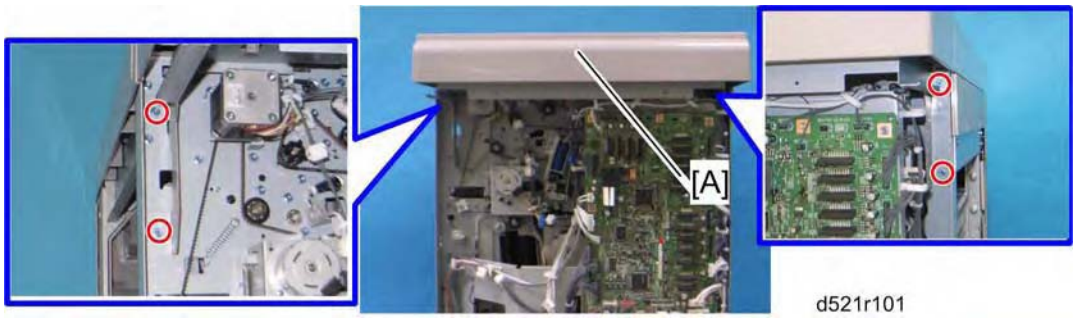
1. Rear upper cover (☛p.5)




2. Rear lower cover [A] ( x 3)

## 1.1.9 TOP REAR COVER

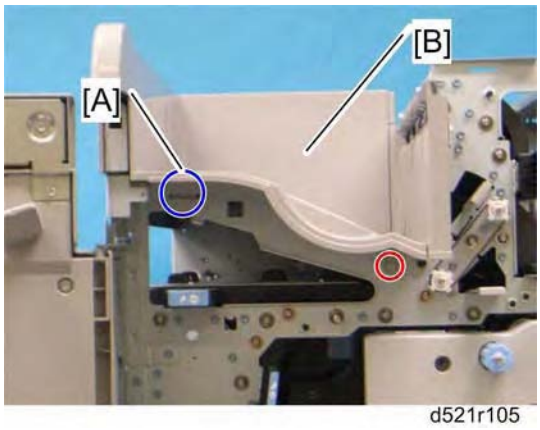
1. Rear upper cover (☛p.5)




2. Top rear cover [A] ( x 4)

## 1.1.10 TOP TRAY

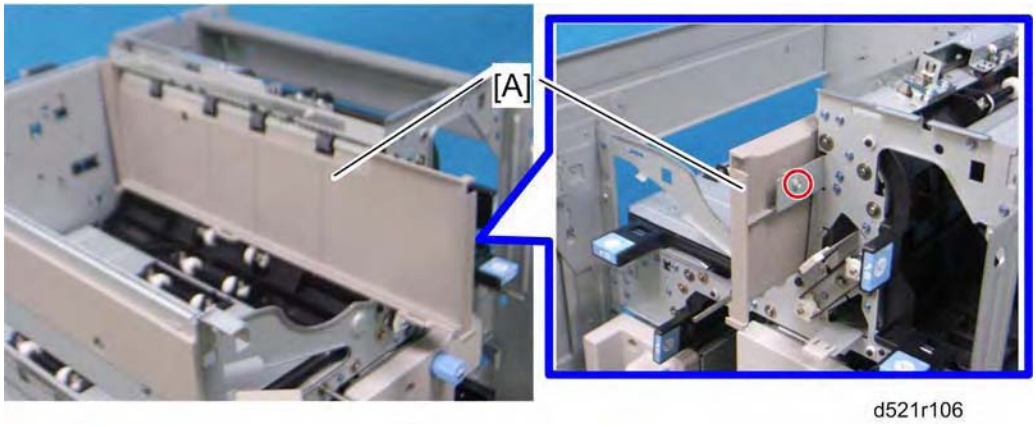
1. Top rear cover (☛p.6)
2. Inner upper cover (☛p.3)




3. Release the hook [A], and remove the top tray [B] ( x 1).

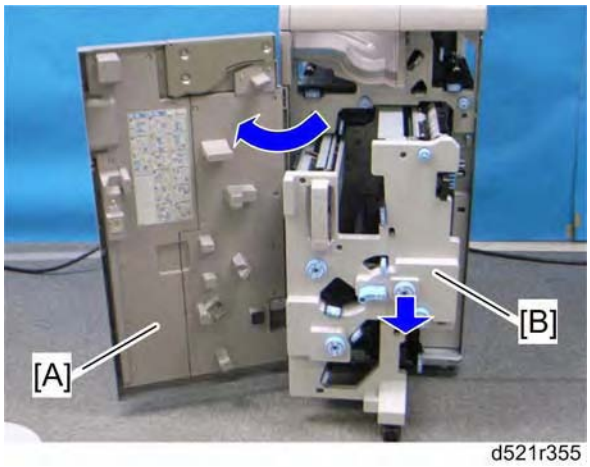
## 1.1.11 TOP TRAY RIGHT COVER

1. Top tray (☛p.6)




2. Top tray right cover [A] ( x 1)

## 1.1.12 PULLING OUT THE FOLDING UNIT DRAWER

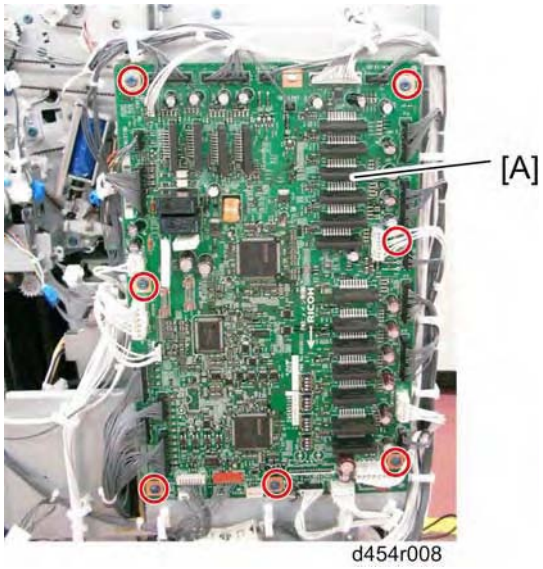



1. Open the front door [A]
2. Pull out the folding unit drawer [B].

# 1.2 ELECTRICAL COMPONENTS: REAR SIDE

## 1.2.1 MAIN BOARD

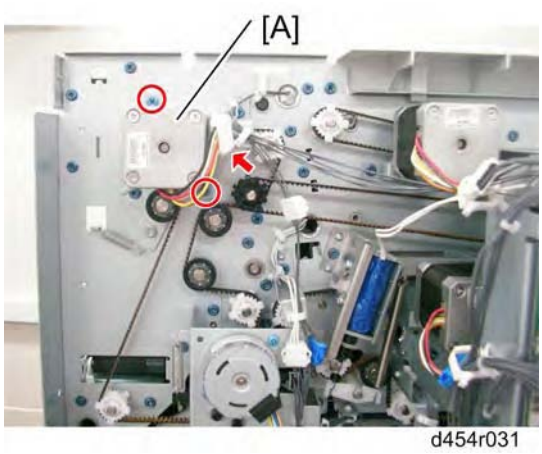
1. Rear upper cover (☛p.5)



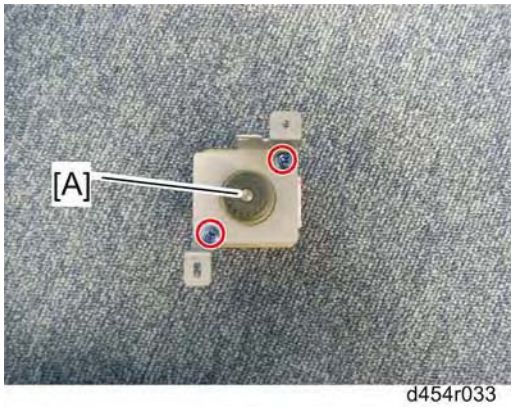

2. Main board [A] ( x all, x 7)

## 1.2.2 HORIZONTAL TRANSPORT MOTOR

1. Rear upper cover (☛p.5)
2. Top rear cover (☛p.6)



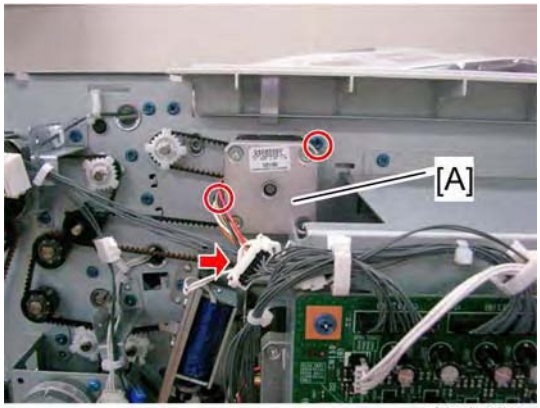

3. Horizontal transport motor bracket [A] ( x 1, x 2)




4. Horizontal transport motor [A] ( x 2)

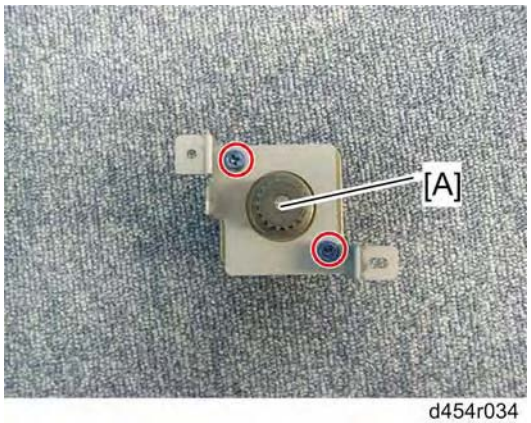
## 1.2.3 TOP TRAY EXIT MOTOR

1. Rear upper cover (☛p.5)
2. Top rear cover (☛p.6)



d454r032

3. Top tray exit motor bracket [A] ( x 1, x 1, x 2)

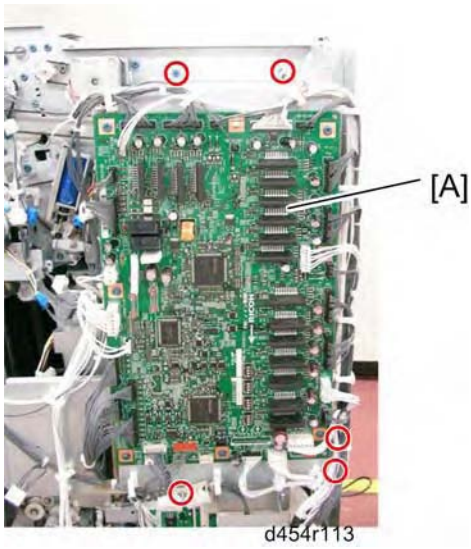


d454r034

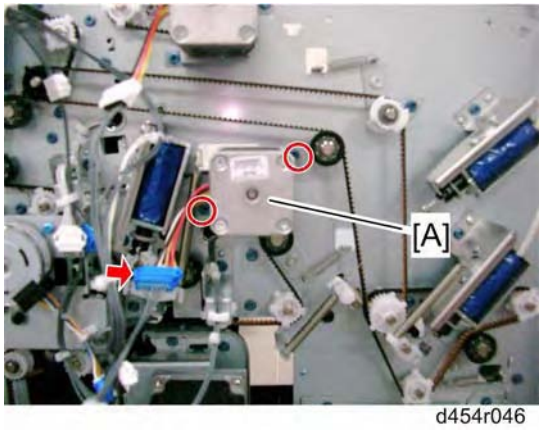
4. Top tray exit motor [A] ( x 2)

## 1.2.4 TOP TRAY TRANSPORT MOTOR

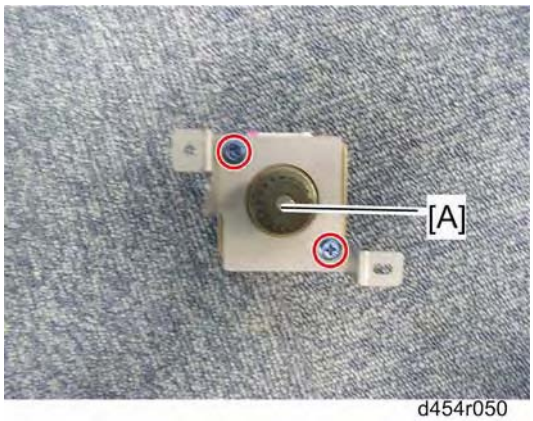
1. Rear upper cover (☛p.5)
2. Top rear cover (☛p.6)




3. Main board bracket [A] ( x all, x 5, ground cable x 1)



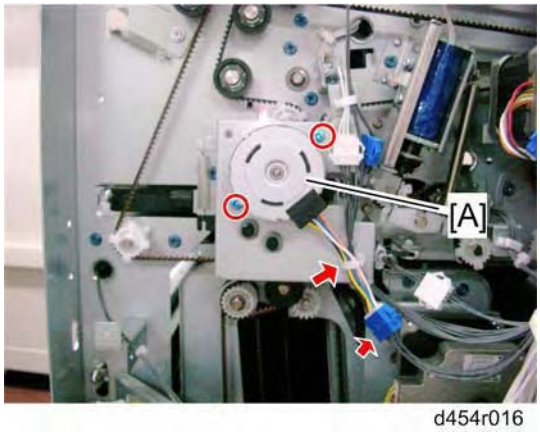

4. Top tray transport motor bracket [A] ( x 1, x 2)




5. Top tray transport motor [A] ( x 2)

## 1.2.5 ENTRANCE JG (JUNCTION GATE) MOTOR

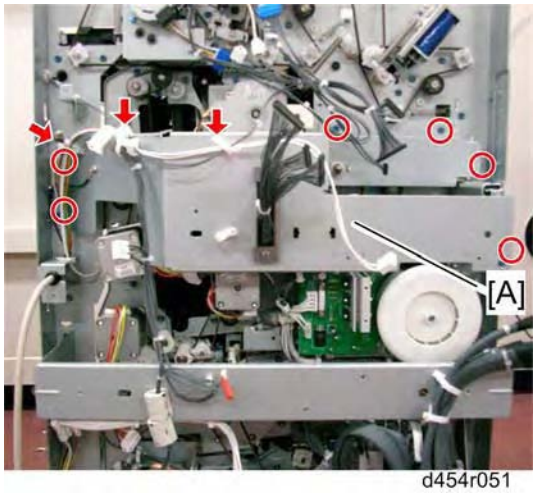
1. Rear upper cover (☛p.5)



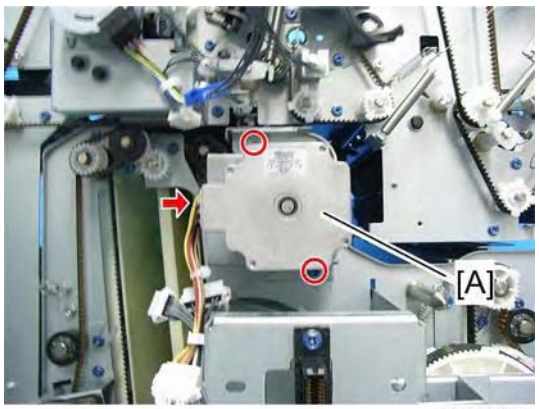

2. Entrance JG motor [A] ( x 1, x 1, x 2)

## 1.2.6 DYNAMIC ROLLER LIFT MOTOR

1. Rear upper cover (☛p.5)
2. Top rear cover (☛p.6)
3. Main board bracket (☛p.11 "Top Tray Transport Motor")

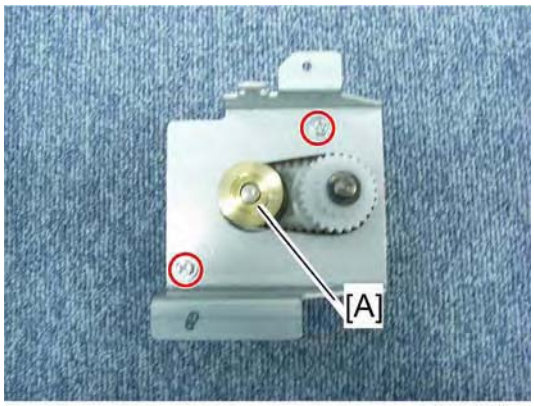



4. Rear upper stay [A] ( x 3, x 6)




d454r052

5. Dynamic roller lift motor bracket [A] ( x 1, x 2)

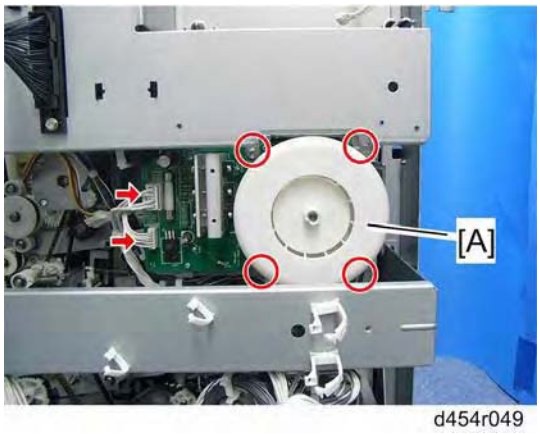



d454r055

6. Dynamic roller lift motor [A] ( x 2)

## 1.2.7 CREASE MOTOR

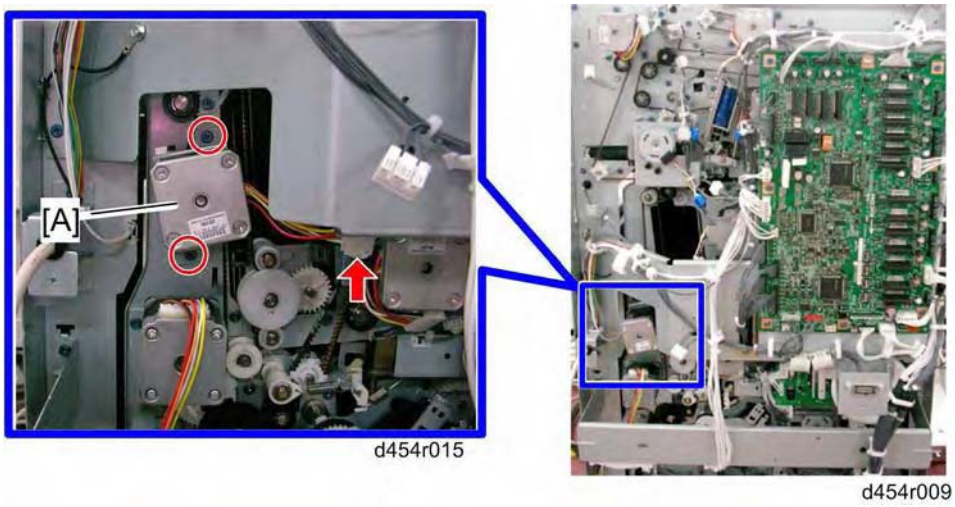
1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)
3. Top rear cover (☛p.6)
4. Main board bracket (☛p.11 "Top Tray Transport Motor")



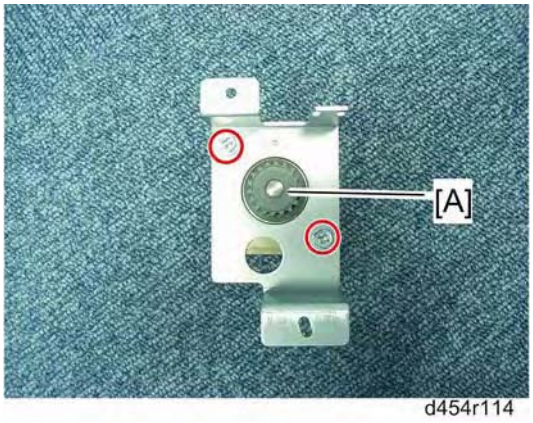

5. Crease motor [A] ( x 2, x 4)

## 1.2.8 DYNAMIC ROLLER TRANSPORT MOTOR

1. Rear upper cover (☛p.5)



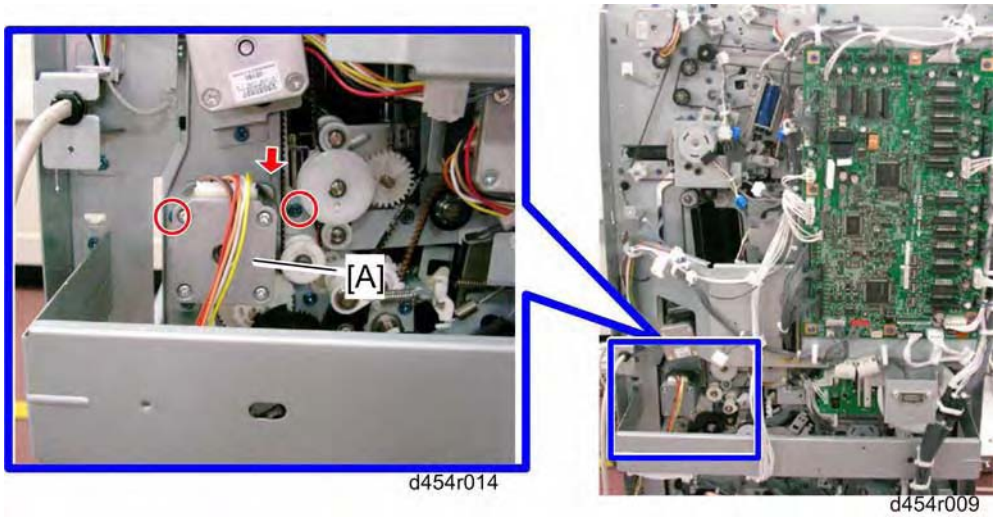

2. Dynamic roller transport motor bracket [A]( x 1, x 2)



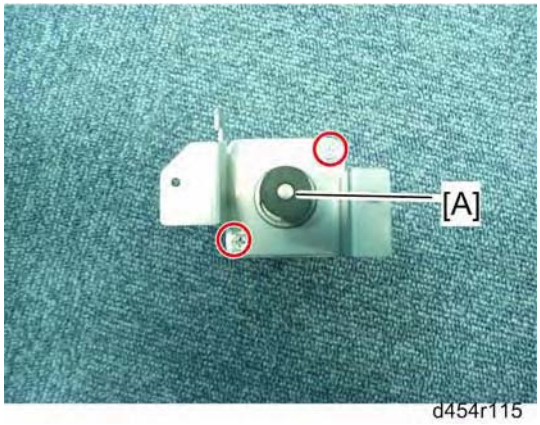

3. Dynamic roller transport motor ( x 2)

## 1.2.9 REGISTRATION ROLLER RELEASE MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



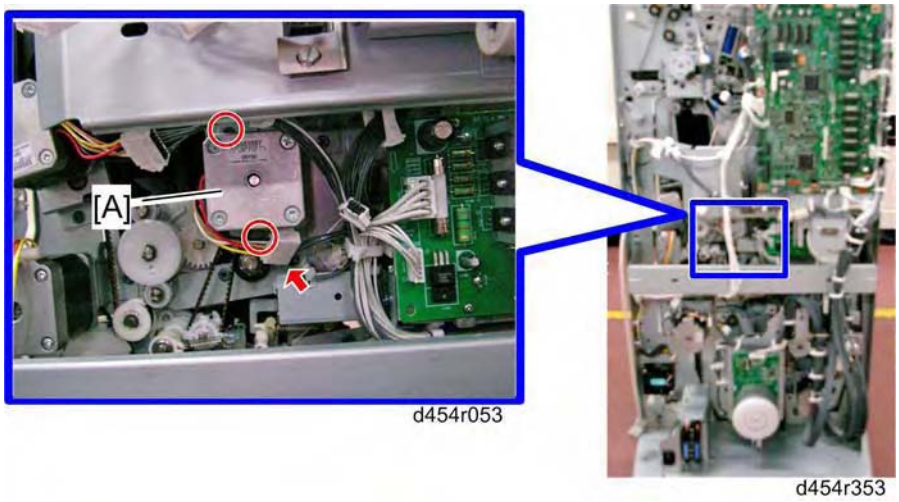

3. Registration roller release motor bracket [A] ( x 1, x 2)



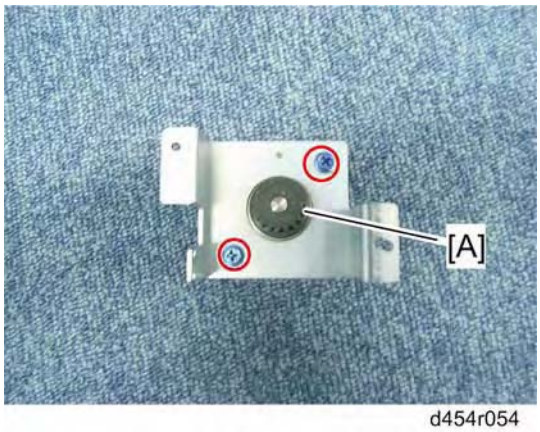

4. Registration roller release motor [A] ( x 2)

## 1.2.10 REGISTRATION ROLLER TRANSPORT MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)




3. Registration roller transport motor bracket [A] ( x 1, x 2)

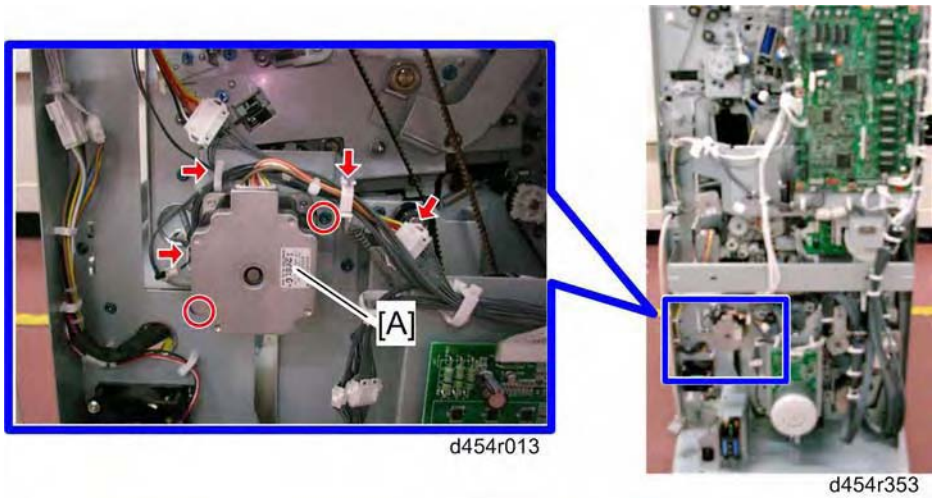



4. Registration roller transport motor [A] ( x 2)

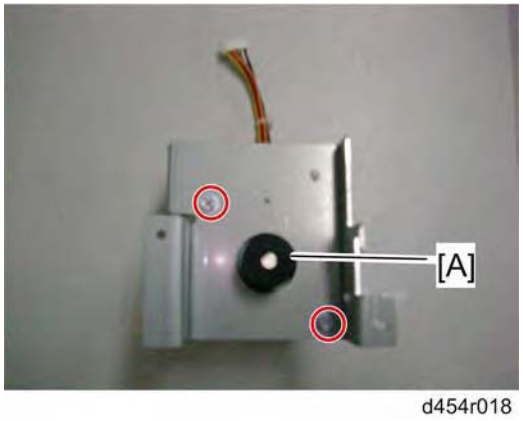
# 1.3 ELECTRICAL COMPONENTS: 1ST STOPPER

## 1.3.1 FOLD PLATE MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



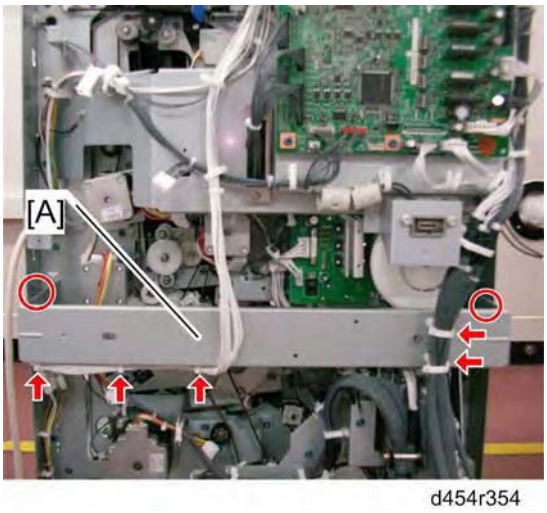

3. Fold plate motor bracket [A] ( x 3, x 1, x 2)




4. Fold plate motor [A] ( x 2)

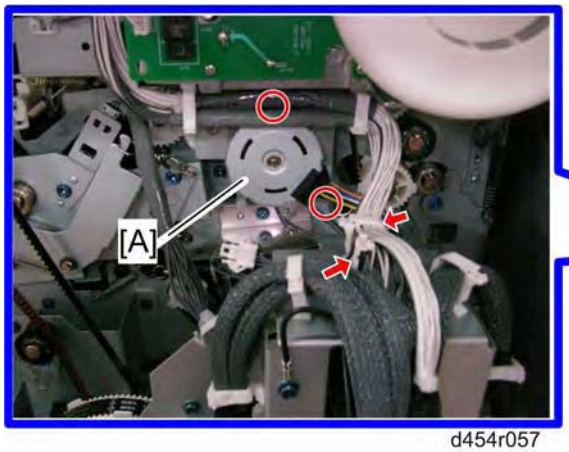
## 1.3.2 DIRECT-SEND JG MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)

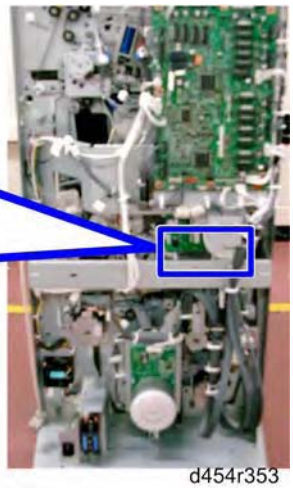


d454r354

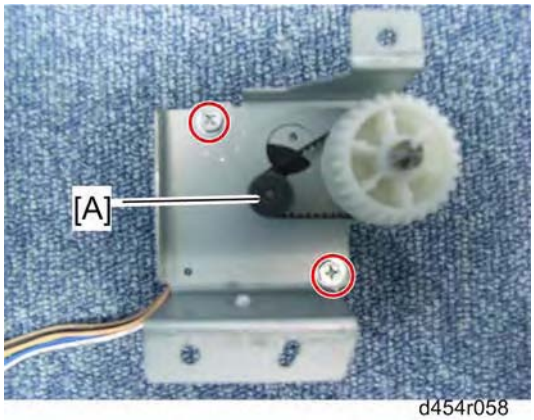
3. Rear lower stay [A] ( x 5, x 2)



d454r057


d454r353

4. Direct-Send JG motor bracket [A] ( x 1, x 1, x 2)

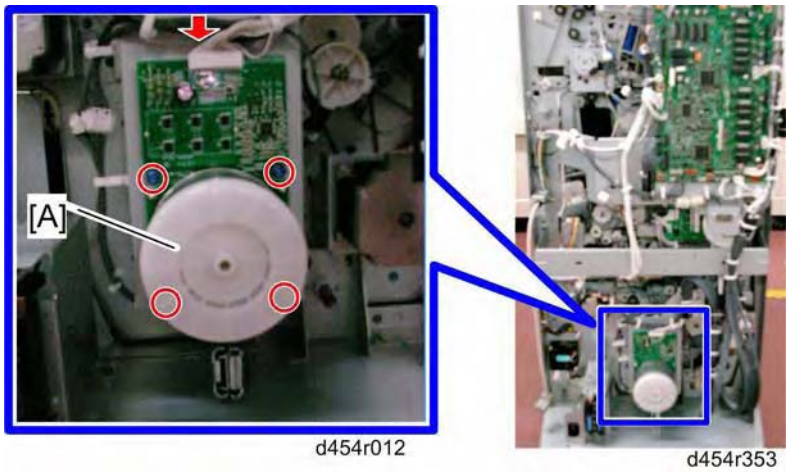


d454r058

5. Direct-Send JG motor [A] ( x 2)

## 1.3.3 1ST FOLD MOTOR

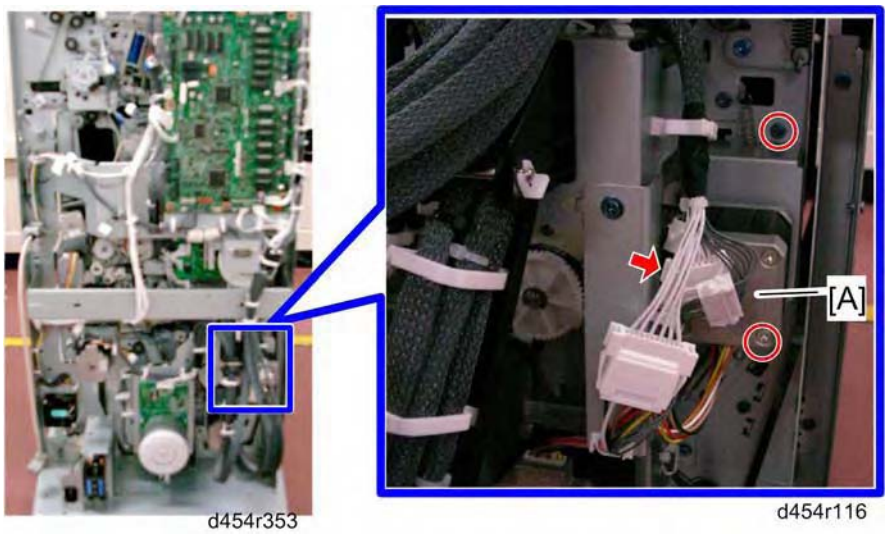
1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



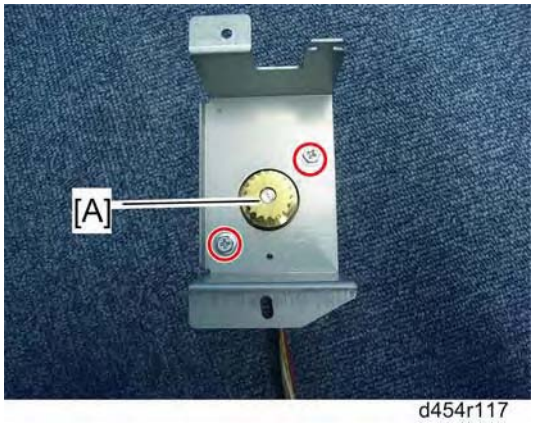

3. 1st fold motor [A] ( x 1, x 4)

## 1.3.4 FM6 PAWL MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



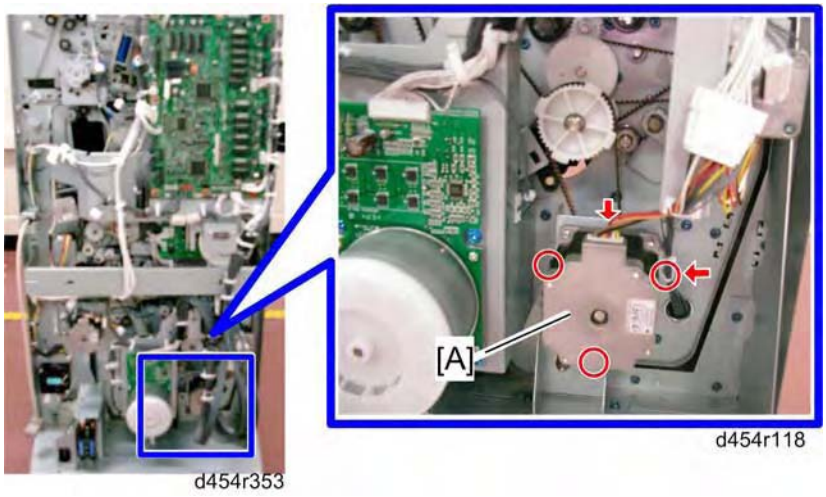

3. FM6 pawl motor bracket [A] ( x 1, x 1, x 2)



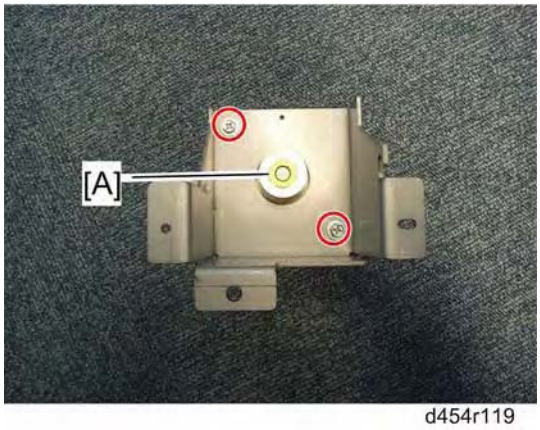

4. FM6 pawl motor [A] ( x 2)

## 1.3.5 2ND FOLD MOTOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



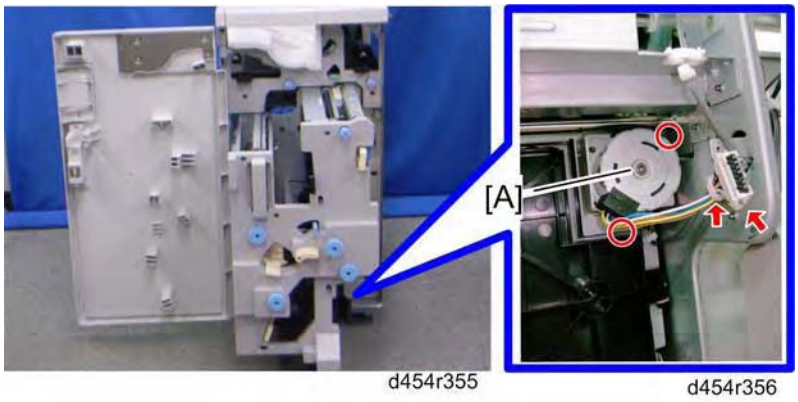

3. 2nd fold motor bracket [A] ( x 1, x 1, x 3)



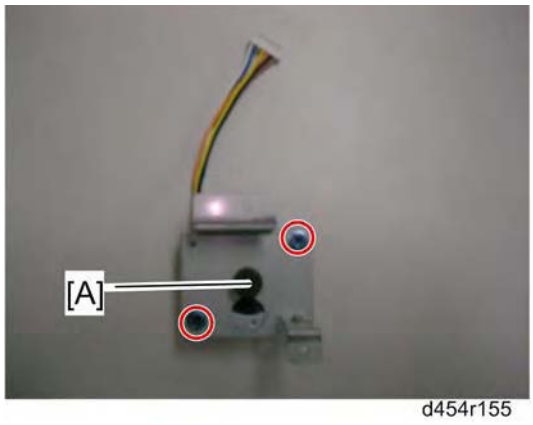

4. 2nd fold motor [A] ( x 2)

## 1.3.6 JOGGER FENCE MOTOR

1. Pull out the folding unit drawer (☛p.7).



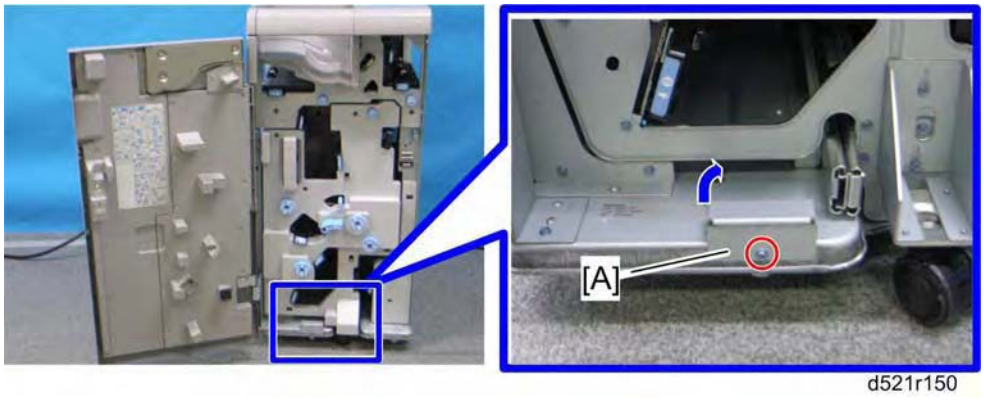

2. Jogger fence motor bracket [A] ( x 1, x 1, x 2)



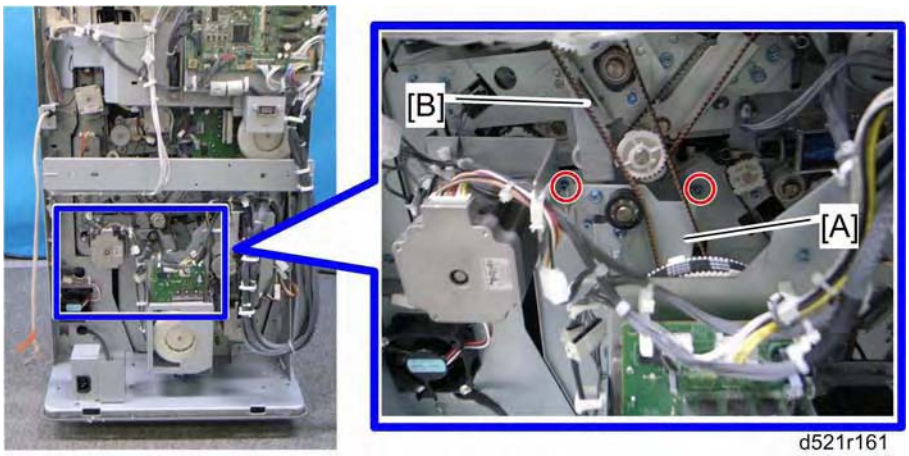

3. Jogger fence motor [A] ( x 2)

## 1.3.7 1ST STOPPER UNIT

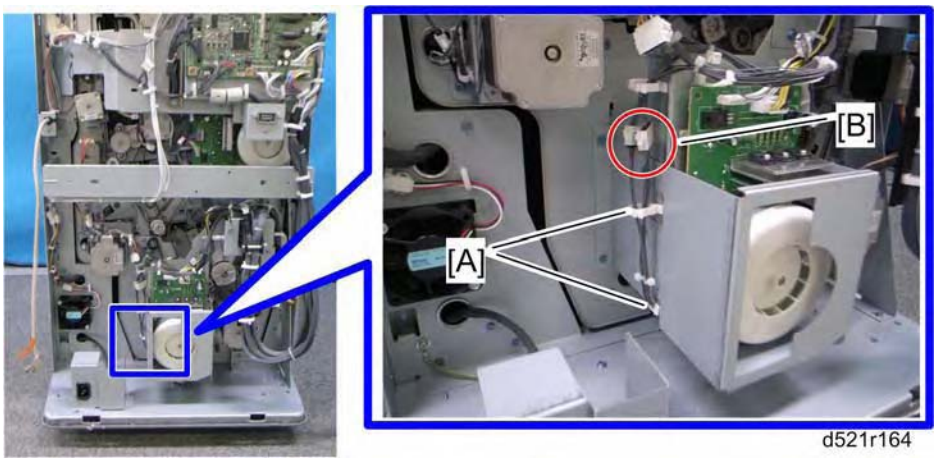
1. Folding unit cover (☛p.4)
1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



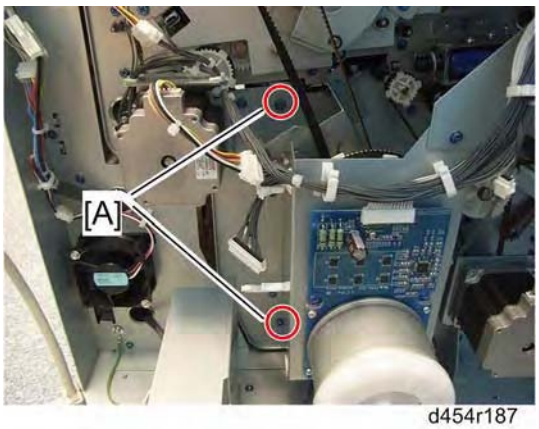
3. Drawer stopper [A] ( x 1)



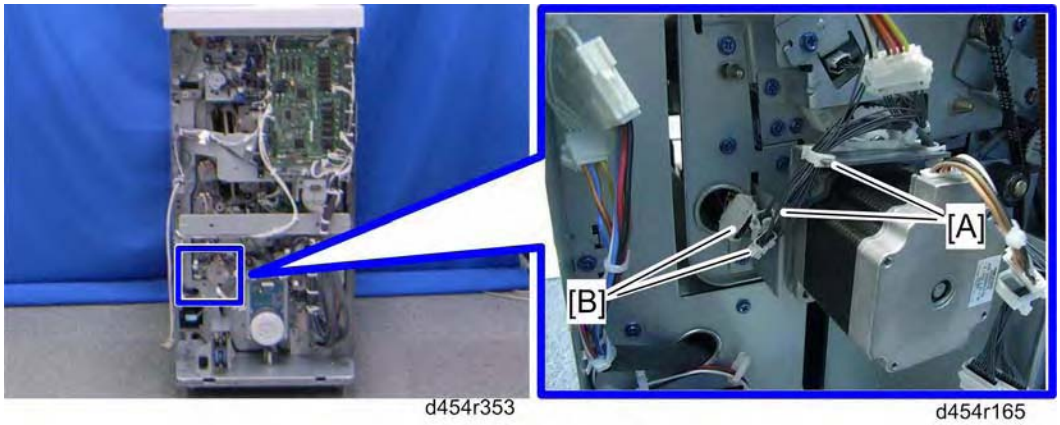

4. Belt tension bracket [A] ( x 2)
   - Release the timing belt [B] to take out the belt tension bracket.



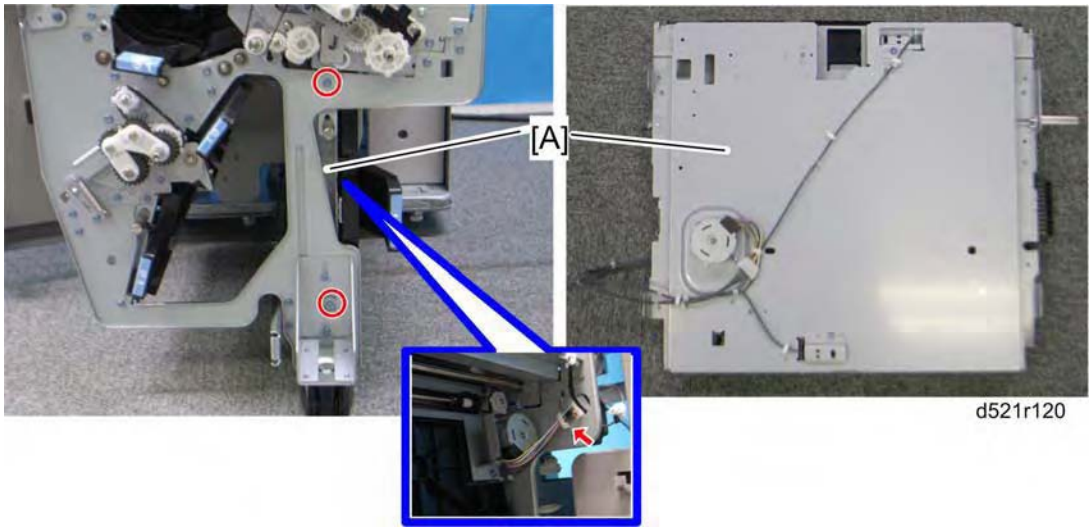

5. Release two clamps [A].
6. Disconnect two connectors [B].




7. Remove two screws [A].




8. Release two clamps [A].
9. Disconnect two connectors [B].
10. Pull out the folding unit drawer (☛p.7).



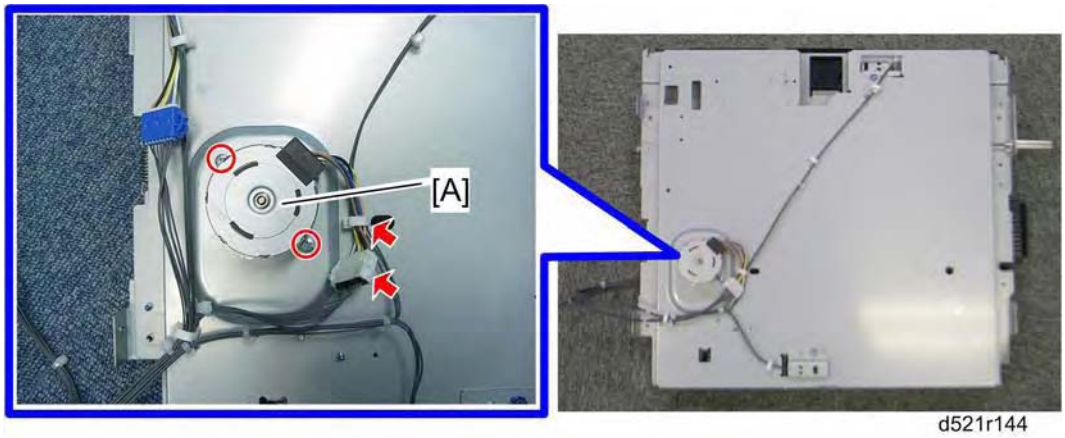

11. Hold the 1st stopper unit [A], and then remove it ( x 2, x 1).

Important

- The 1st stopper unit cannot hang the folding unit drawer without the two screws. If you remove the 1st stopper unit without any support, the 1st stopper unit can fall and be broken.

## 1.3.8 1ST STOPPER MOTOR

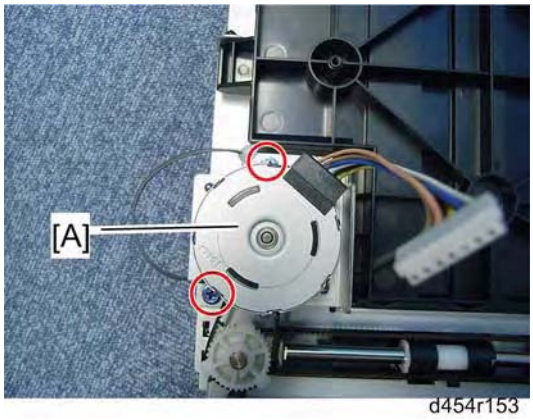
1. 1st stopper unit (☛p.23)



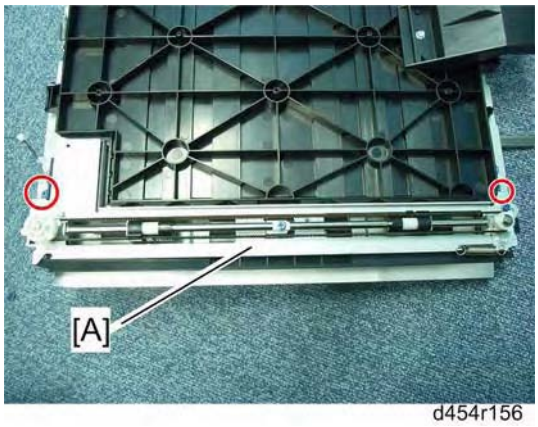

2. 1st stopper motor [A] ( x 1, x 1, x 2)

## 1.3.9 JOGGER FENCE HP SENSOR

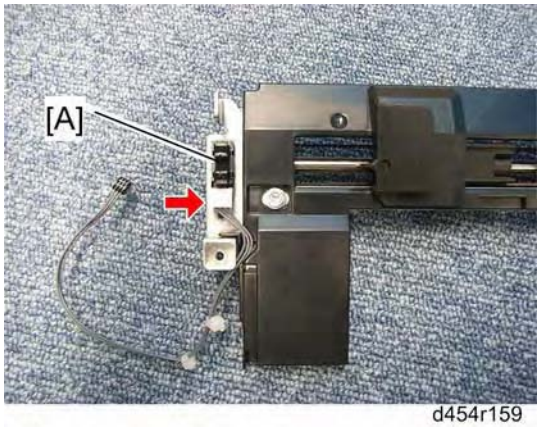
1. 1st stopper unit (☛p.23)




2. Jogger fence motor bracket [A] ( x 2)



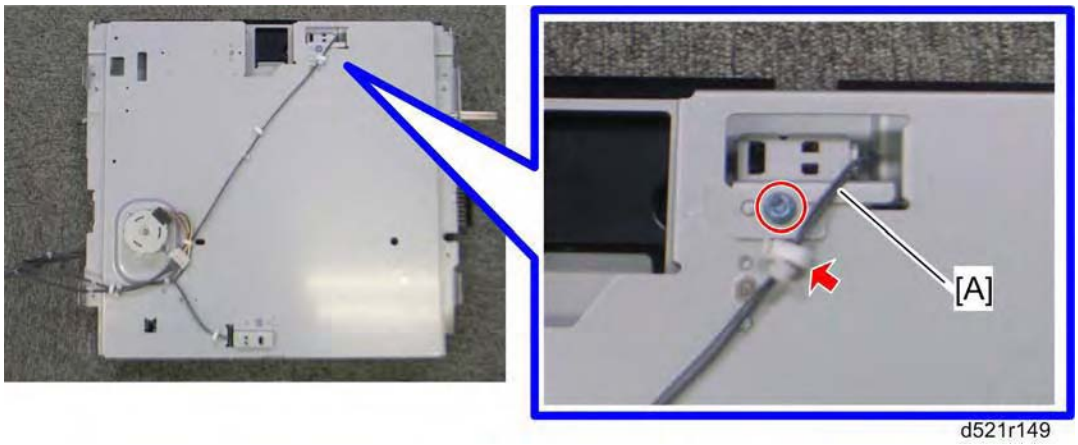

3. Jogger fence timing belt bracket [A] ( x 2)



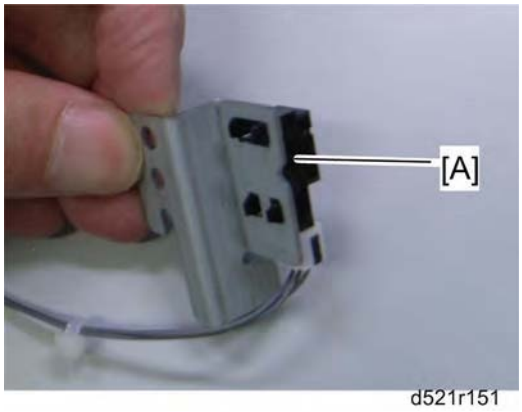

4. Jogger fence HP sensor [A] (hooks, x 1)

## 1.3.10 1ST STOPPER PAPER SENSOR

1. 1st stopper unit (☛p.23)



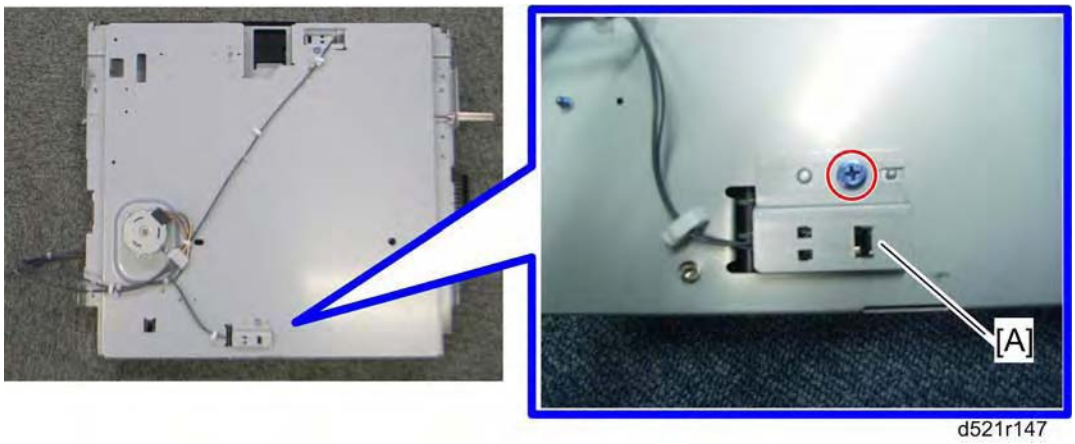

2. 1st stopper paper sensor bracket [A] ( x 1)



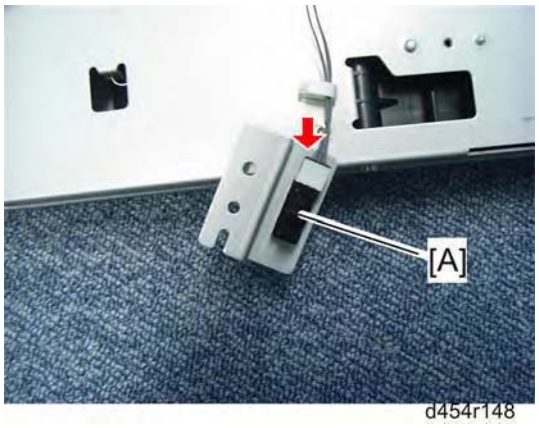

3. 1st stopper paper sensor [A] (hooks)

## 1.3.11 1ST STOPPER HP SENSOR

1. 1st stopper unit (☛p.23)



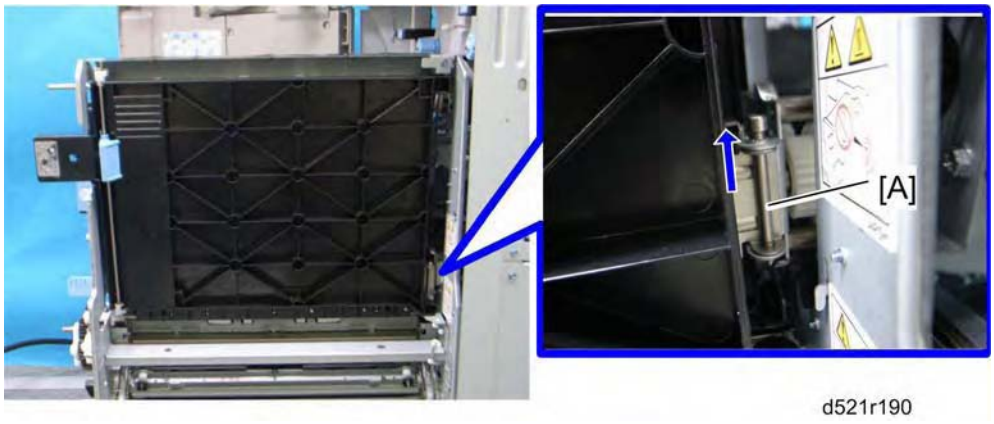

2. 1st stopper HP sensor bracket [A] ( x 1)



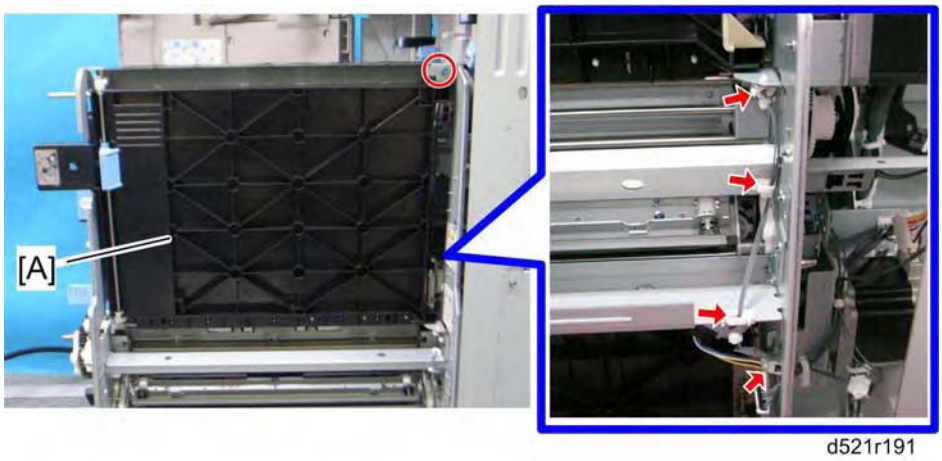

3. 1st stopper HP sensor [A] (hooks)

## 1.3.12 REGISTRATION SENSOR

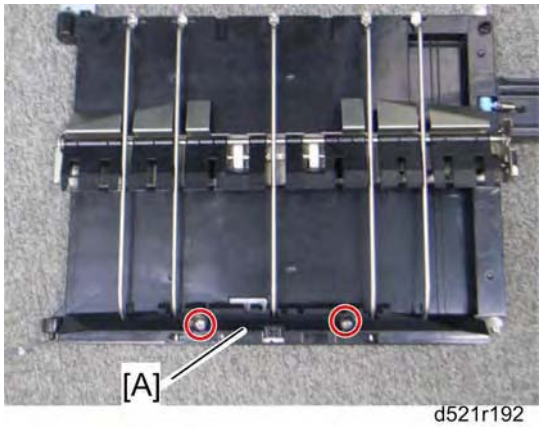
1. Pull out the folding unit drawer (☛ p.7)



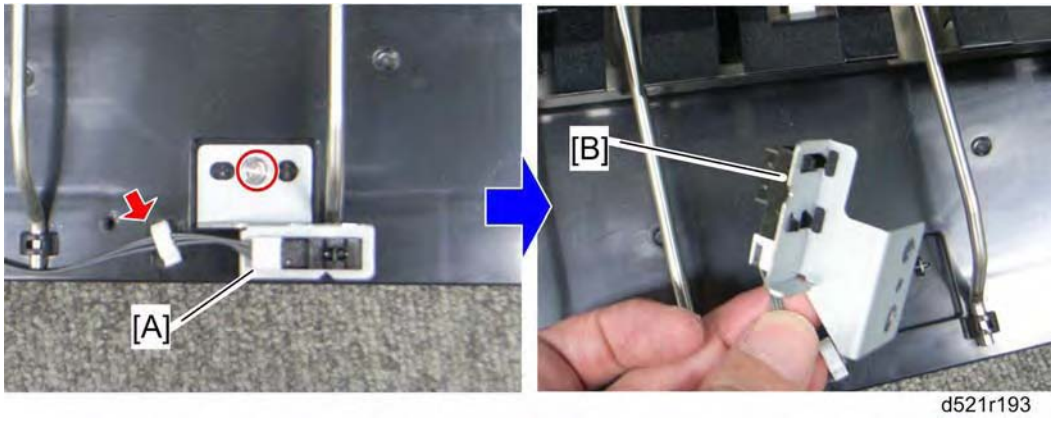

2. Pull out the pin [A] ( x 1)




3. Jam removal door [A] ( x 1, x 3, x 1)




4. Dynamic roller bottom guide [A] ( x 2)



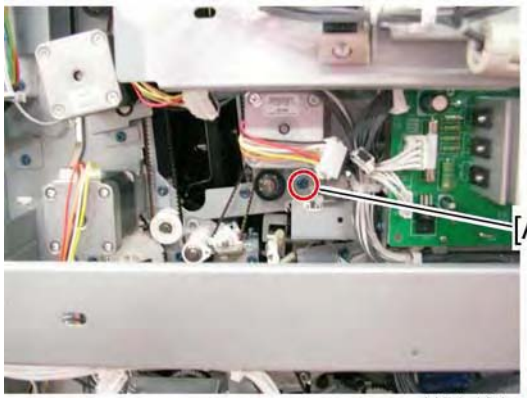

5. Registration sensor bracket [A] ( x 1, x1)
6. Registration sensor [B] (hooks, x 1)

# 1.4 ELECTRICAL COMPONENTS: 2ND STOPPER

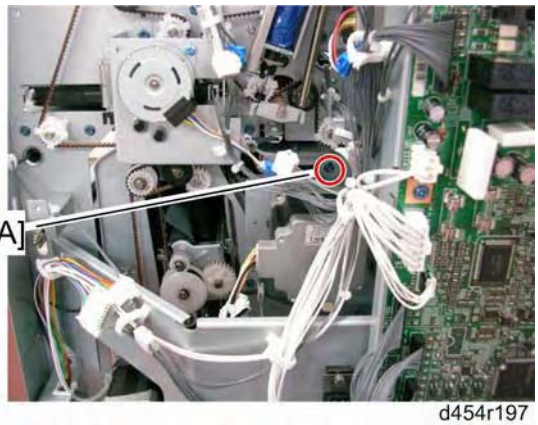
## 1.4.1 2ND STOPPER UNIT

1. 1st stopper unit (☛p.23)
2. Jam removal door (☛p.30 "

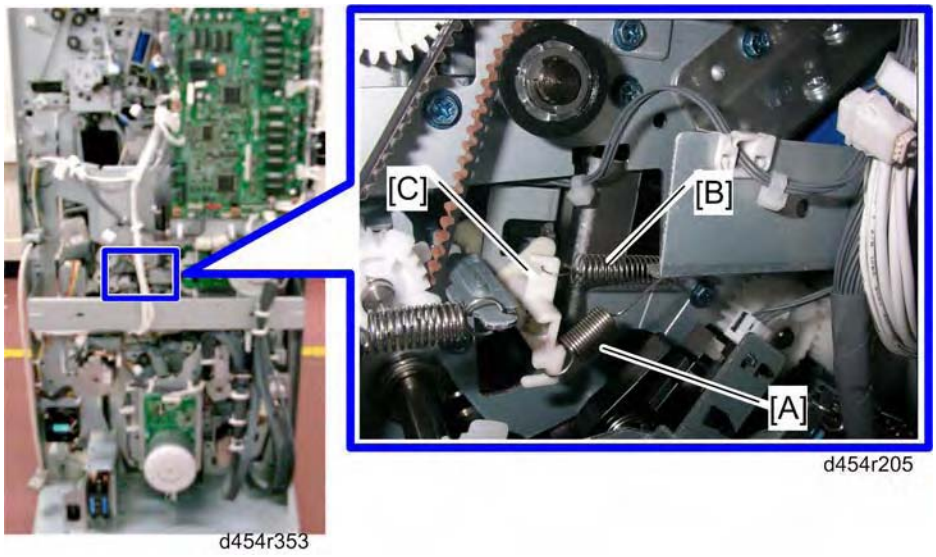
Registration Sensor")



d454r194


d454r197

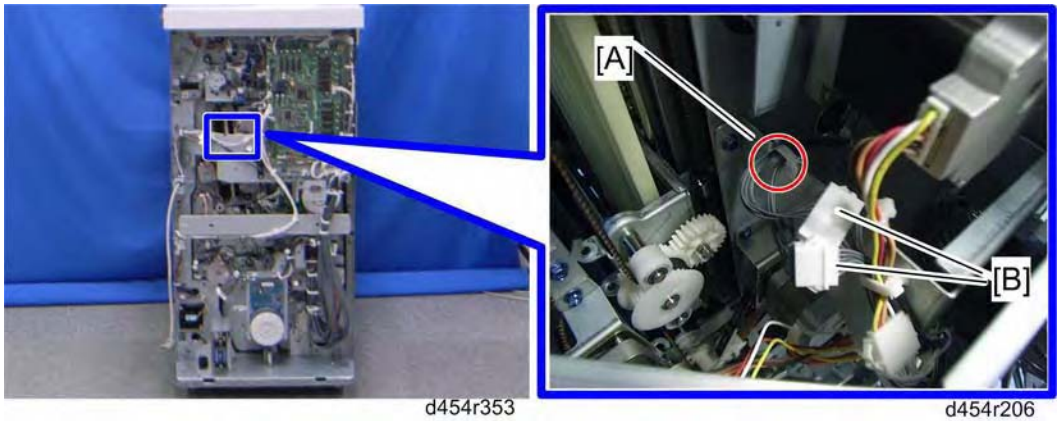
3. Remove two screws [A] at the rear side of the folding unit drawer.



d454r205

d454r353

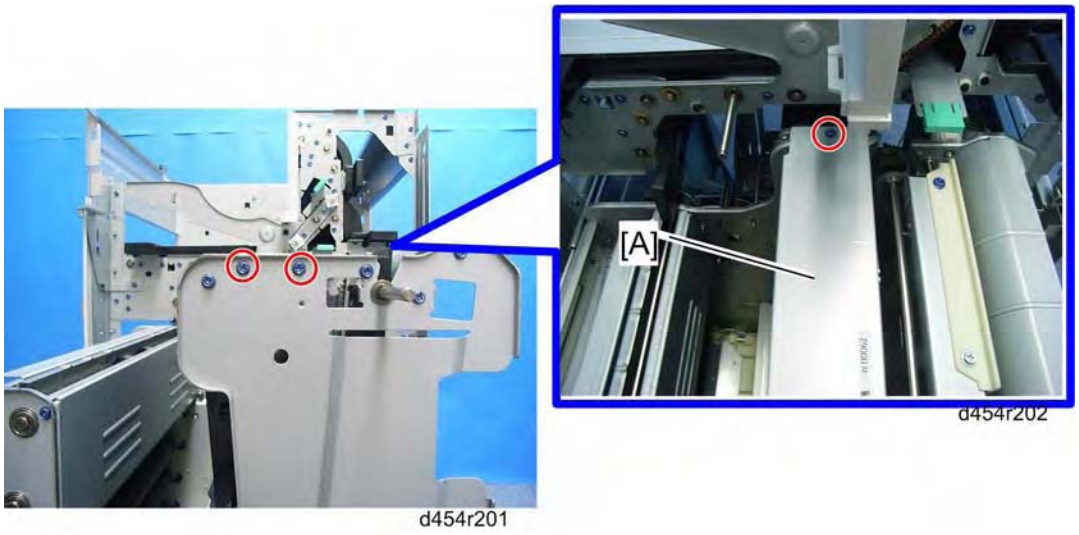
4. Remove the spring [A] for the solenoid spring [B] for the guide plate.
5. Remove the arm [C] for the guide plate.



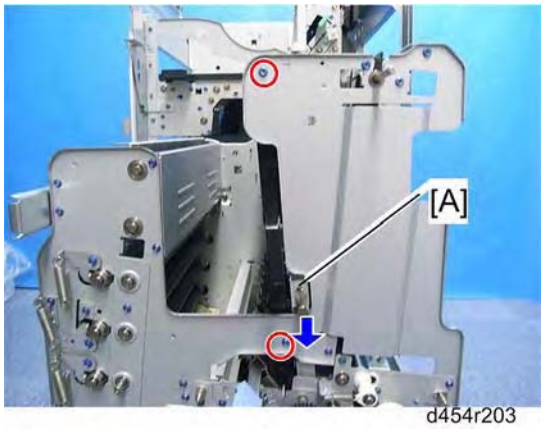
d454r353

d454r206

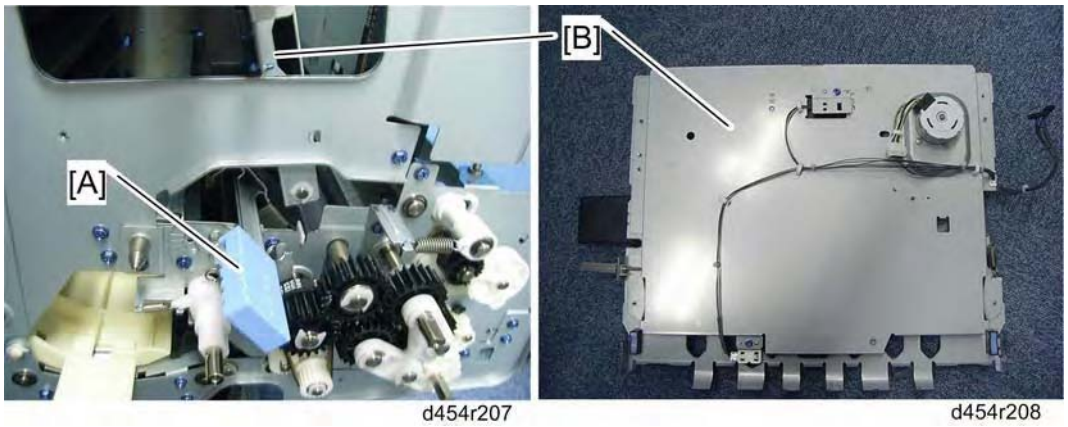
6. Release the clamp [A] and disconnect two connectors [B].
7. Pull out the folding unit drawer.




8. Top stay [A] ( x 3)



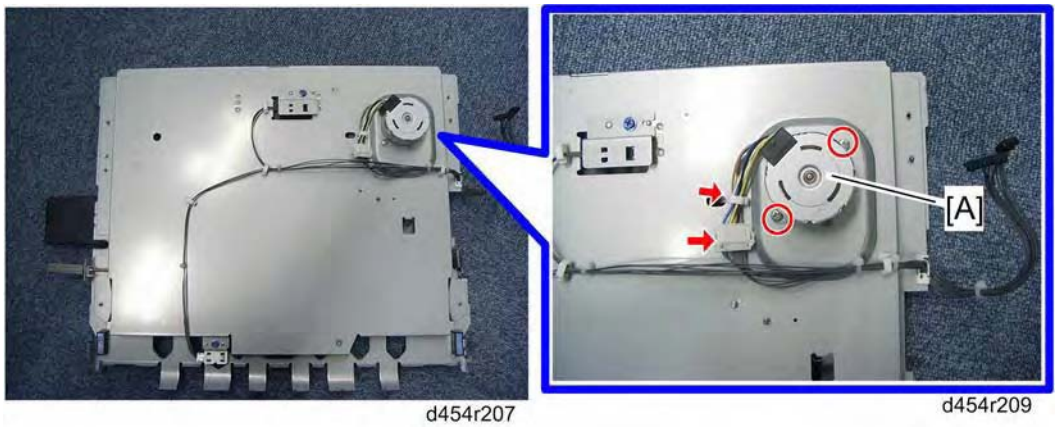

9. Move down the 2nd stopper unit [A] a little bit ( x 2).




10. Open the jam removal door [A], and then remove the 2nd stopper unit [B].

## 1.4.2 2ND STOPPER MOTOR

1. 2nd stopper unit (☛p.32)

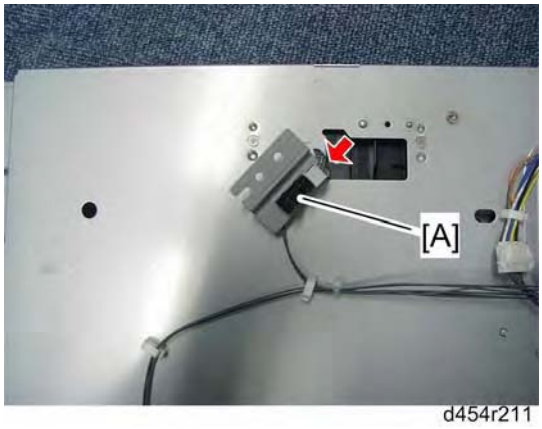



2. 2nd stopper motor [A] ( x 1, x 1, x 2)

## 1.4.3 2ND STOPPER HP SENSOR

1. 2nd stopper unit (☛p.32)

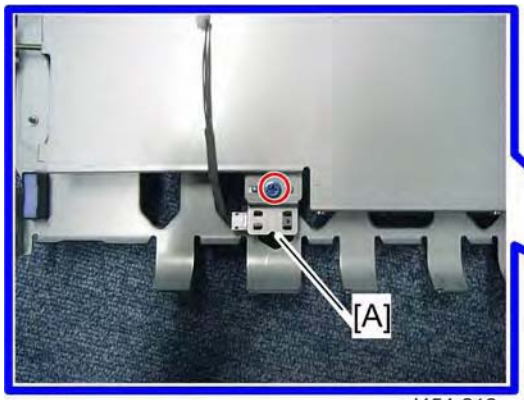
2. 2nd stopper HP sensor bracket [A] ( x 1)




3. 2nd stopper HP sensor [A] (hooks, x 1)

## 1.4.4 2ND STOPPER PAPER SENSOR

1. 2nd stopper unit (☛p.32)



d454r212

d454r207

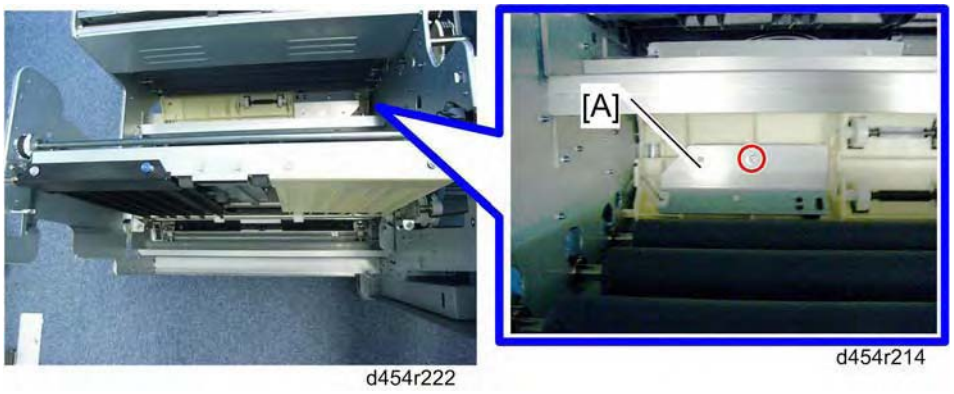
2. 2nd stopper paper sensor bracket [A] ( x 1)

d454r213

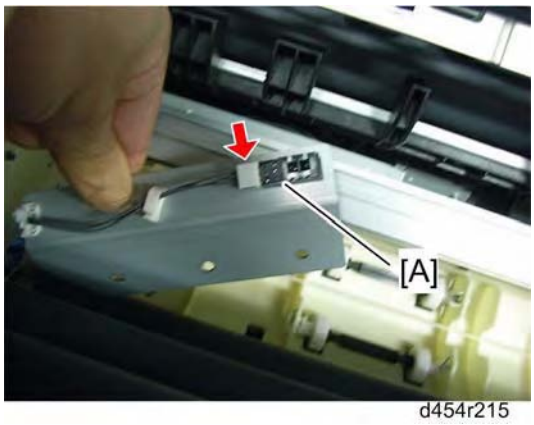
3. 2nd stopper paper sensor [A] ( x 1)

## 1.4.5 BYPASS EXIT PAPER SENSOR

1. Pull out the folding unit drawer (☛p.7).
2. 2nd stopper unit (☛p.32)




3. Bypass exit paper sensor bracket [A] ( x 1)

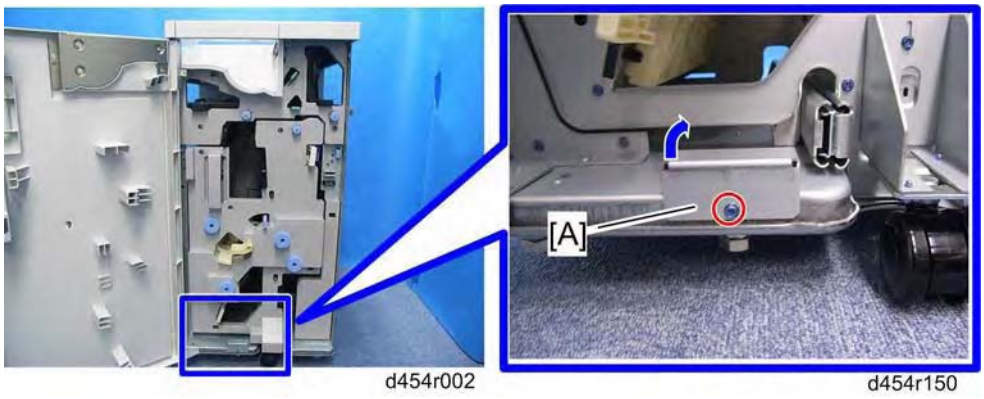



4. Bypass exit paper sensor [A] ( x 1)

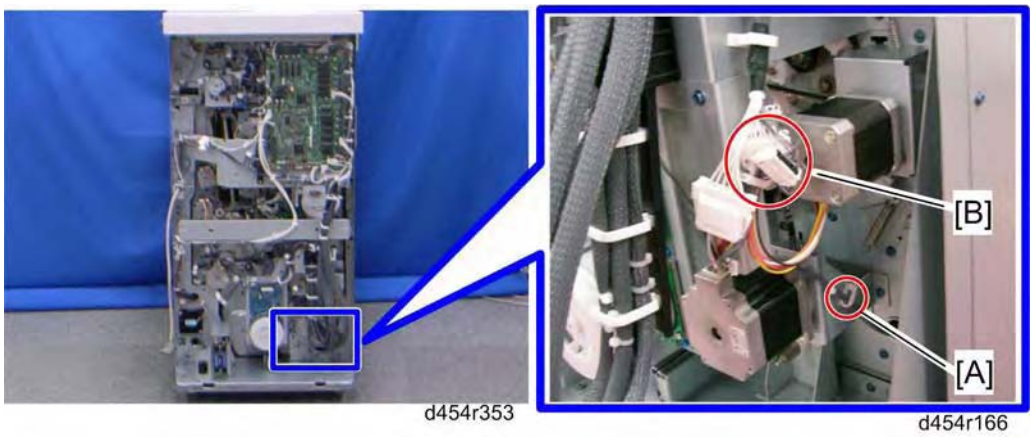
# 1.5 ELECTRICAL COMPONENTS: 3RD STOPPER

## 1.5.1 3RD STOPPER UNIT

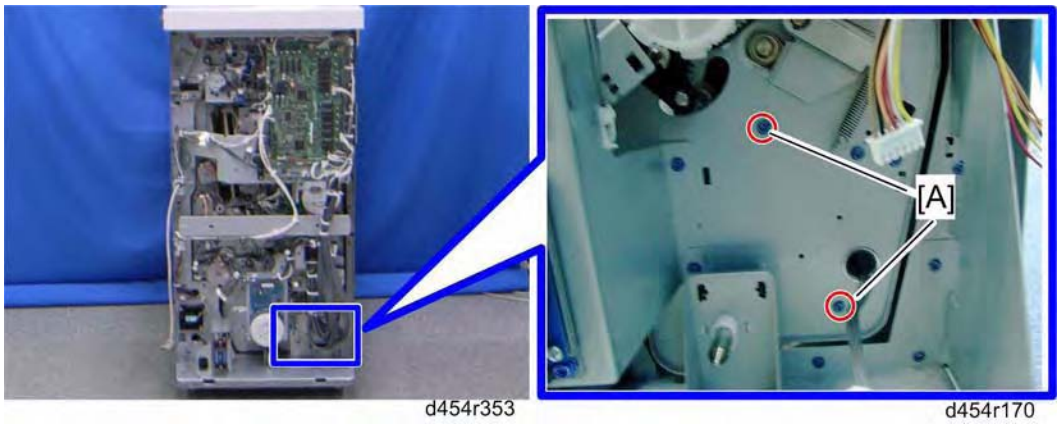
1. Folding unit cover (☛p.4)
2. Rear upper cover (☛p.5)
3. Rear lower cover (☛p.5)



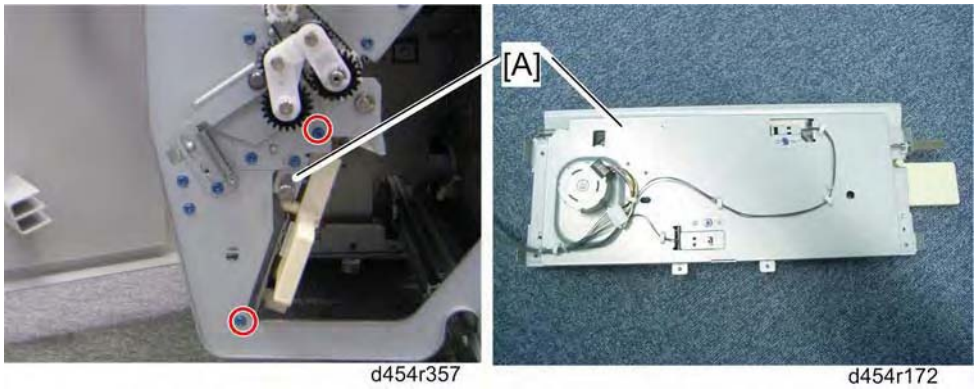

4. Drawer stopper [A] ( x 1)




5. Release the clamp [A].
6. Disconnect two connectors [B].
7. 2nd fold motor bracket (☛p.22 "2nd Fold Motor")




8. Remove two screws [A].



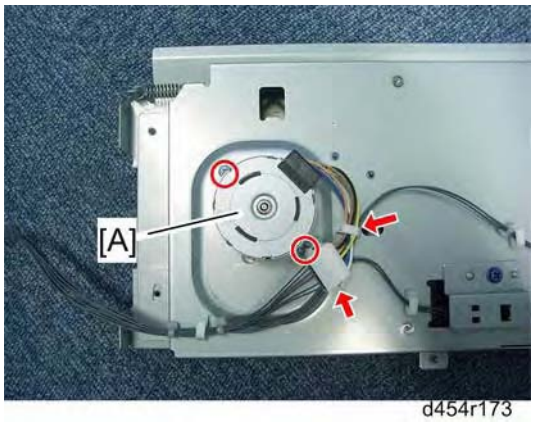

9. Hold the 3rd stopper unit [A], and then remove it ( x 2).

Important

- The 3rd stopper unit cannot hang the folding unit drawer without the two screws. If you remove the 1st stopper unit without any support, the 3rd stopper unit can fall and be broken.

## 1.5.2 3RD STOPPER MOTOR

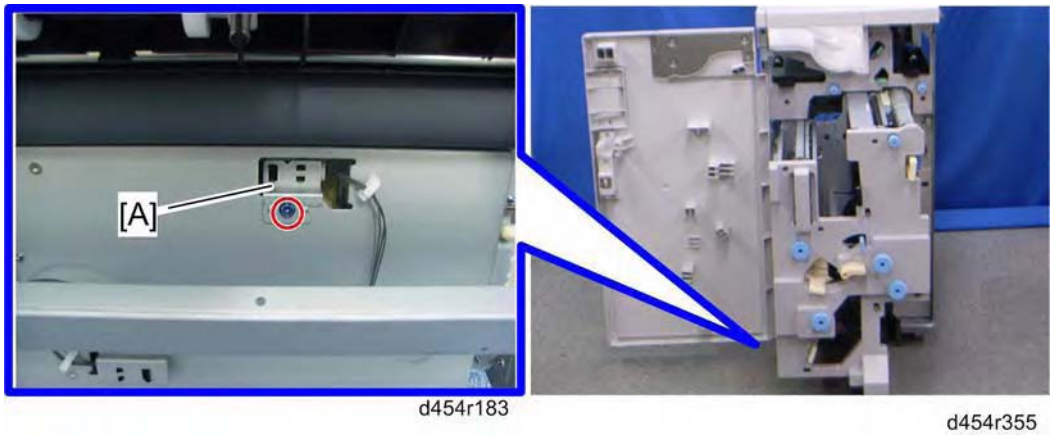
1. 3rd stopper unit (☛p.39)



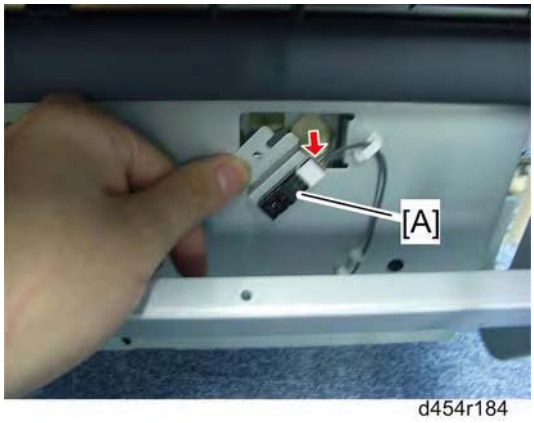

2. 3rd stopper motor [A] ( x 1, x 1, x 2)

## 1.5.3 3RD STOPPER PAPER SENSOR

1. Pull out the folding unit drawer (☛p.7).



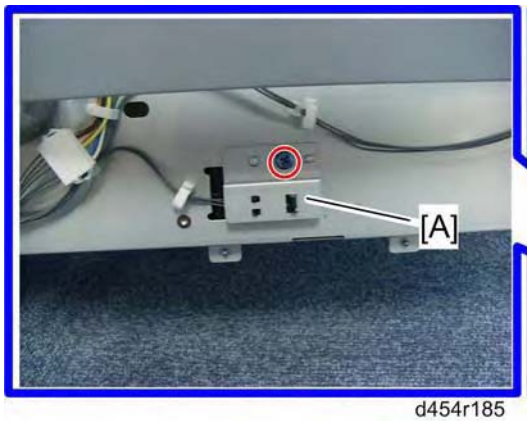

2. 3rd stopper paper sensor bracket [A] ( x 1)



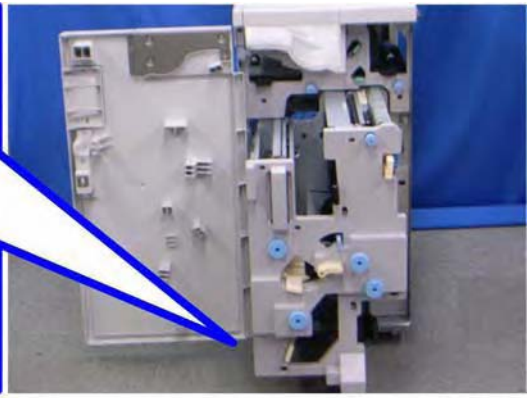

3. 3rd stopper paper sensor [A] ( x 1)

## 1.5.4 3RD STOPPER HP SENSOR

1. Pull out the folding unit drawer (☛p.7).



d454r185


d454r355

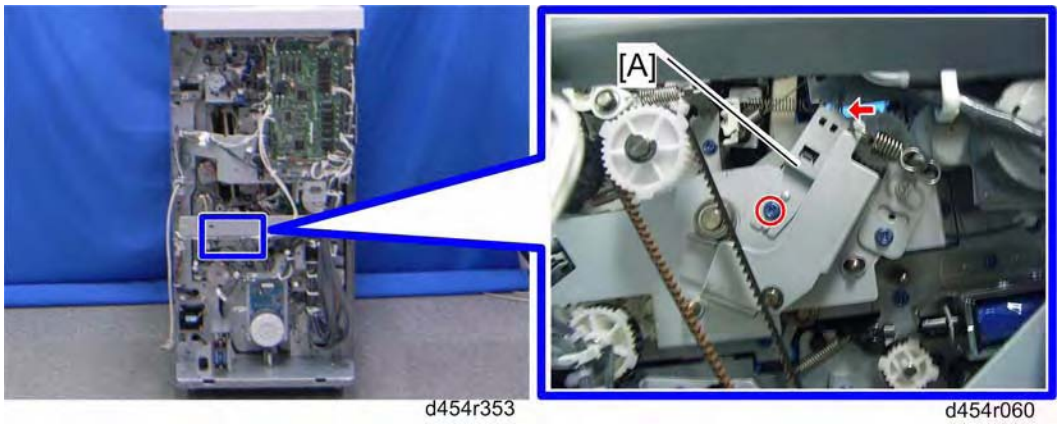
2. 3rd stopper HP sensor bracket [A] ( x 1)

d454r186

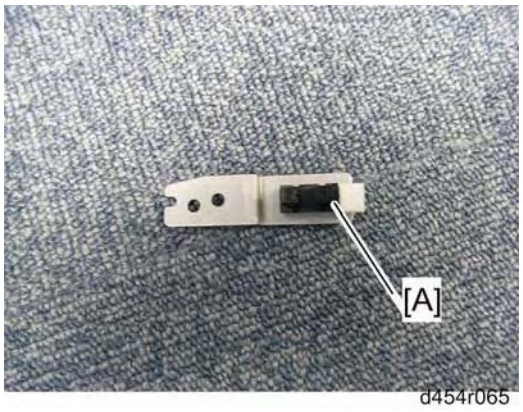
3. 3rd stopper HP sensor [A] ( x 1)

## 1.5.5 DIRECT-SEND JG (JUNCTION GATE) HP SENSOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



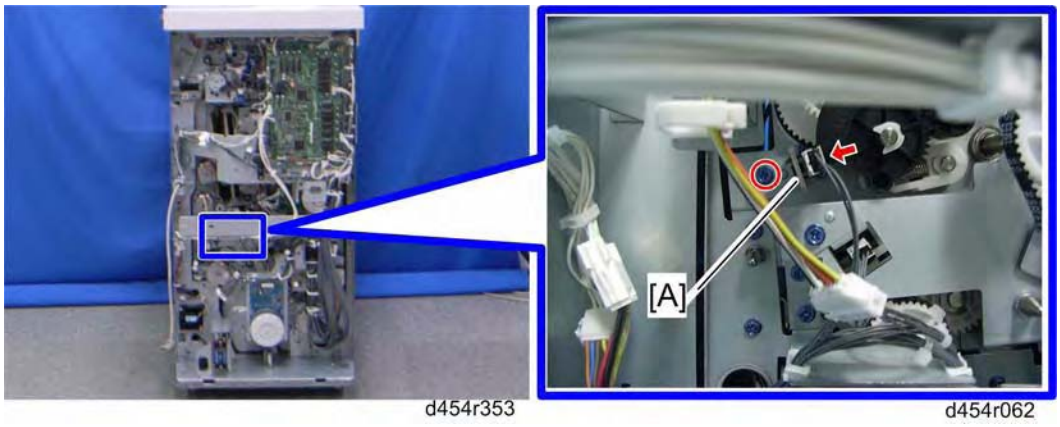

3. Direct-Send JG HP sensor bracket [A] ( x 1, x 1)



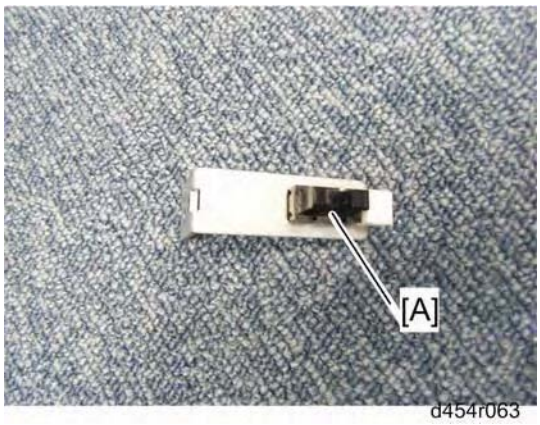

4. Direct-Send JG HP sensor [A] (hooks)

## 1.5.6 REGISTRATION ROLLER HP SENSOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



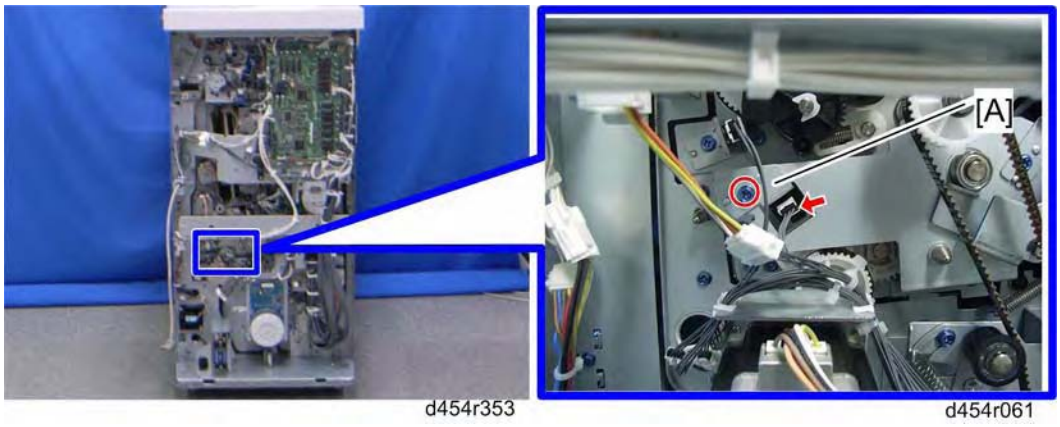

3. Registration roller HP sensor bracket [A] ( x 1, x 1)



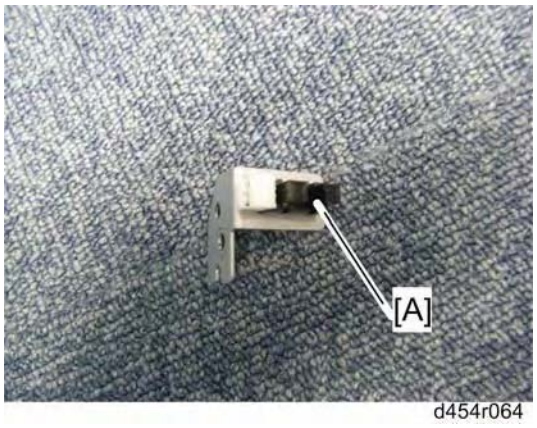

4. Registration roller HP sensor [A] (hooks)

## 1.5.7 FOLD PLATE HP SENSOR

1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)



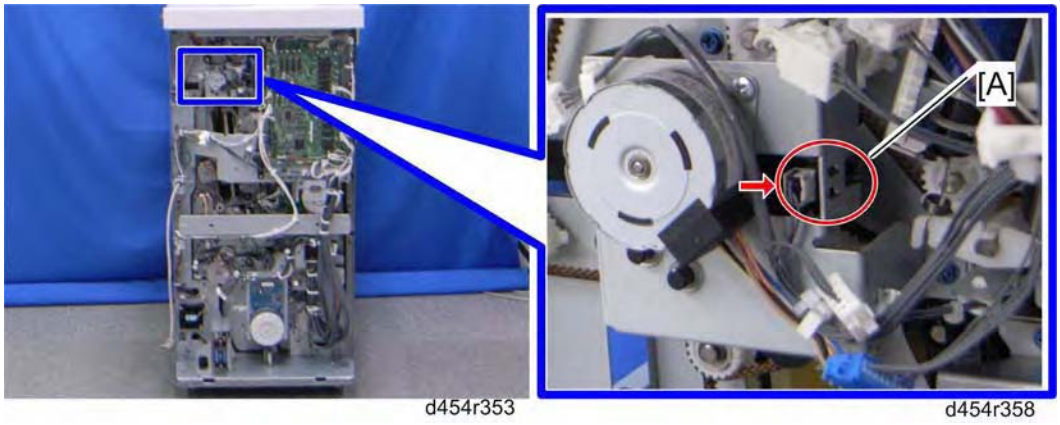

3. Fold plate HP sensor bracket [A] ( x 1, x 1)




4. Fold plate HP sensor [A] (hooks)

## 1.5.8 ENTRANCE JG (JUNCTION GATE) HP SENSOR

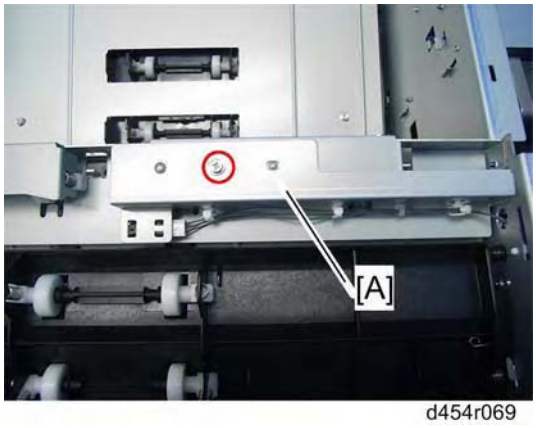
1. Rear upper cover (☛p.5)



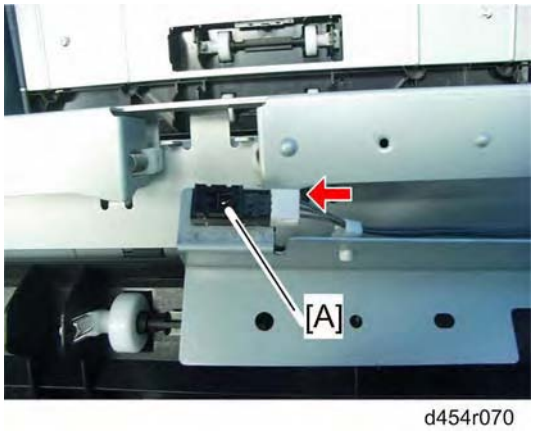

2. Entrance JG HP sensor [A] (hooks, x 1)

## 1.5.9 TOP TRAY EXIT SENSOR

1. Top cover (☛p.2)

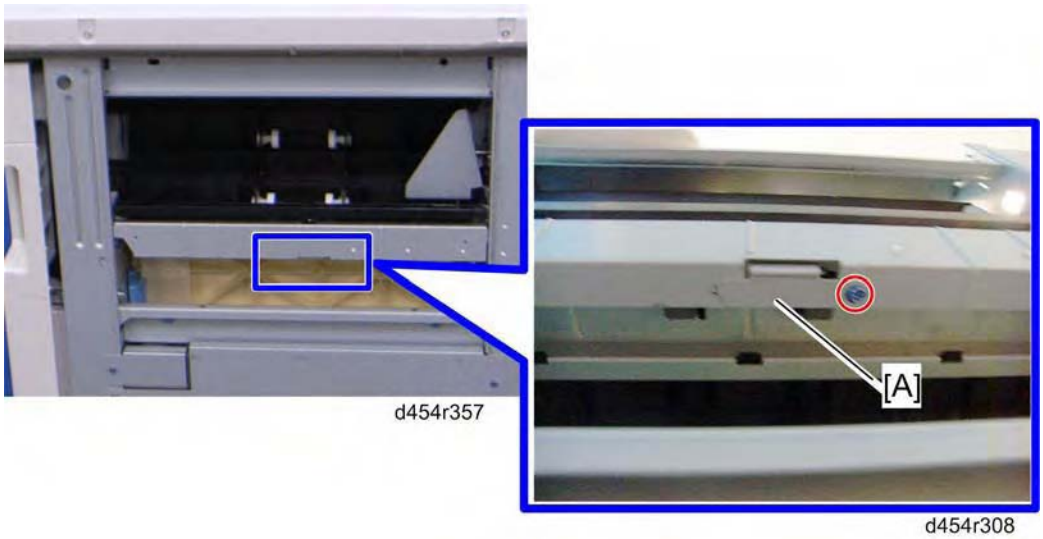



2. Top tray exit sensor bracket [A] ( x 1)

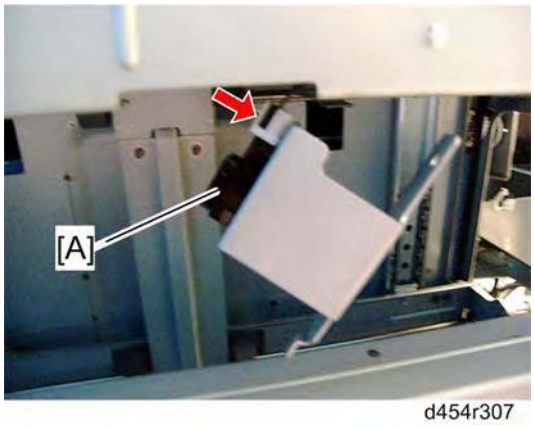



3. Top tray exit sensor [A] ( x 1)

## 1.5.10 ENTRANCE SENSOR



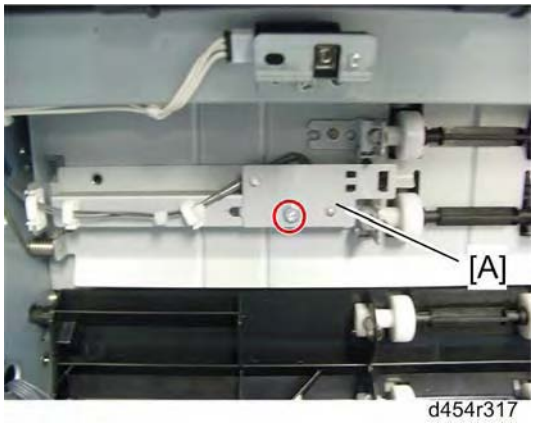

1. Entrance sensor bracket [A] ( x 1)



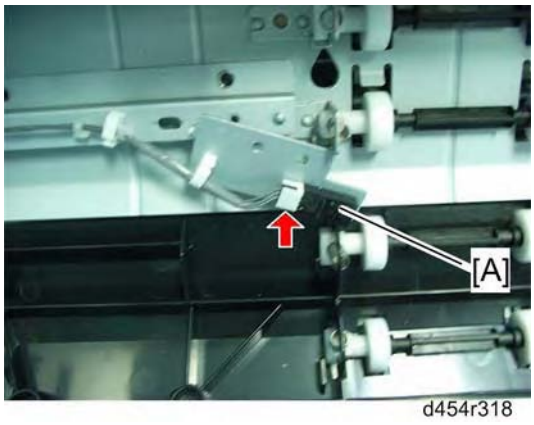

2. Entrance sensor [A] (hooks, x 1)

## 1.5.11 TOP TRAY PAPER PATH SENSOR

1. Top tray right cover (☛p.7)




2. Top tray paper path sensor bracket [A] ( x 1)

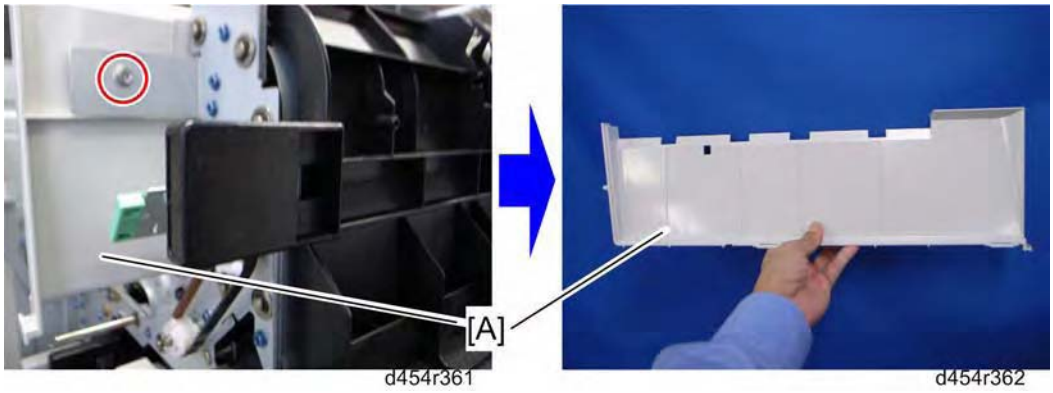



3. Top tray paper path sensor [A] (hooks, x 1)

# 1.6 ELECTRICAL COMPONENTS: MAIN 1

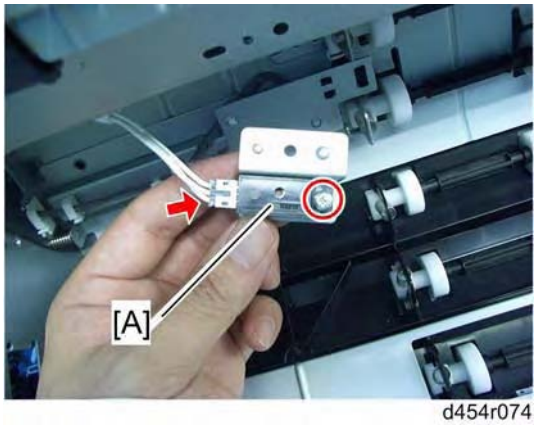
## 1.6.1 TOP TRAY FULL SENSOR (E)

1. Top tray (☛p.6)




2. Paper exit cover [A] ( x 1)

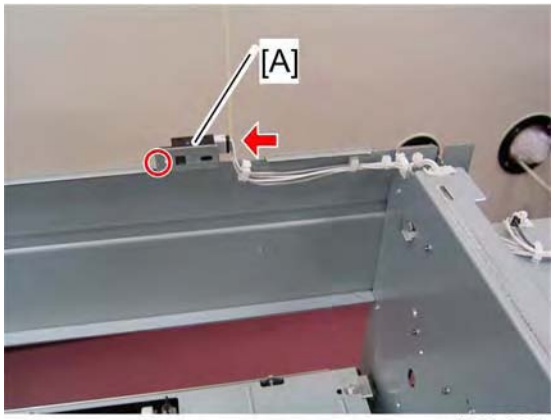
3. Top tray full sensor (E) bracket ( x 1)




4. Top tray full sensor (E) [A] ( x 1, x 1)

## 1.6.2 TOP TRAY FULL SENSOR (R)

1. Top tray (☛p.6)

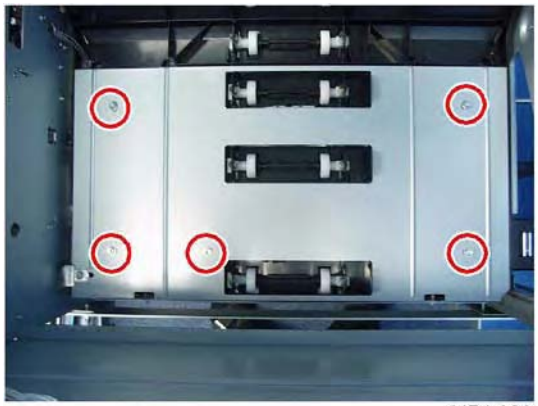


d454r067

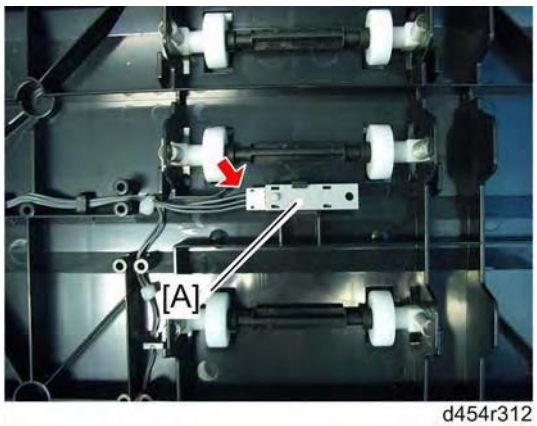
2. Top tray full sensor (R) [A] ( x 1, x 1)

## 1.6.3 VERTICAL PATH PAPER SENSOR

1. Top tray (☛p.6)


d454r309

2. Remove the bracket ( x 5)



d454r312

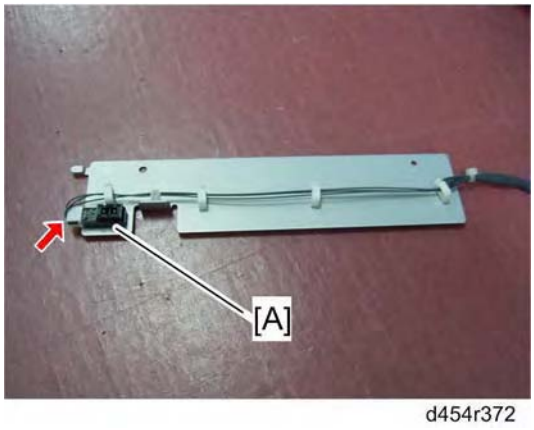
3. Vertical path paper sensor [A] ( x 1, hooks)

## 1.6.4 HORIZONTAL PATH PAPER SENSOR

1. Top tray (☛p.6)

d454r371

2. Remove the bracket ( x 2)

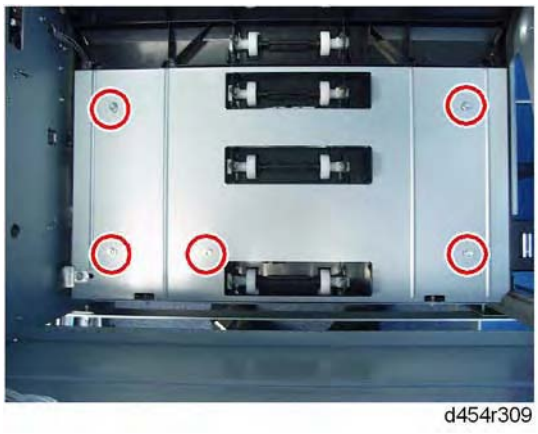


d454r372

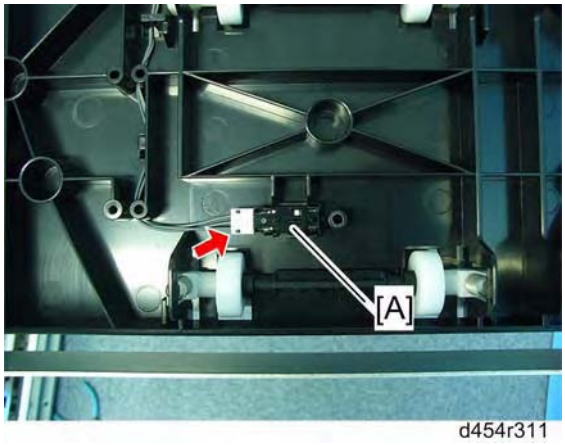
3. Horizontal path paper sensor [A] ( x 1)

## 1.6.5 HORIZONTAL PATH EXIT SENSOR

1. Top tray (☛p.6)



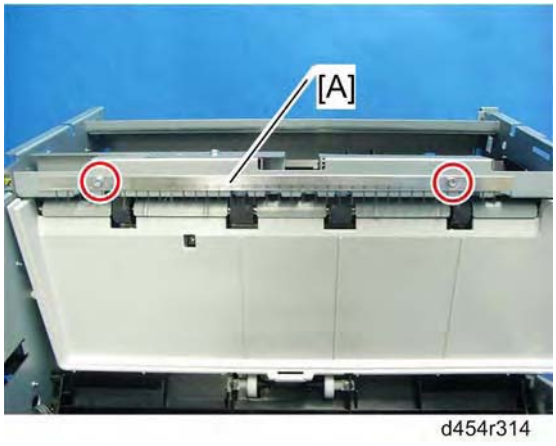

2. Remove the bracket ( x 5)




3. Horizontal path exit sensor ( [A] x 1)

## 1.6.6 DISCHARGE BRUSH 1

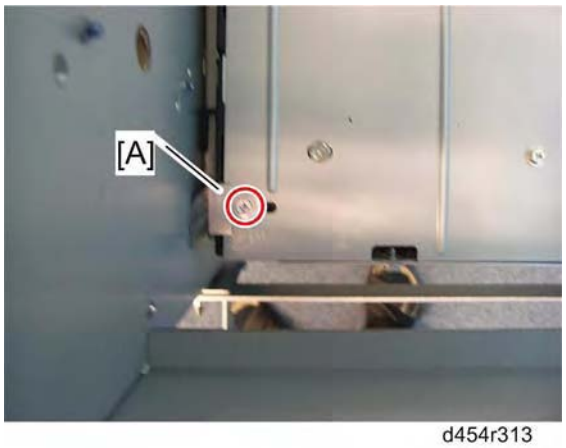
1. Top cover (☛p.2)




2. Discharge brush 1 [A] ( x 2)

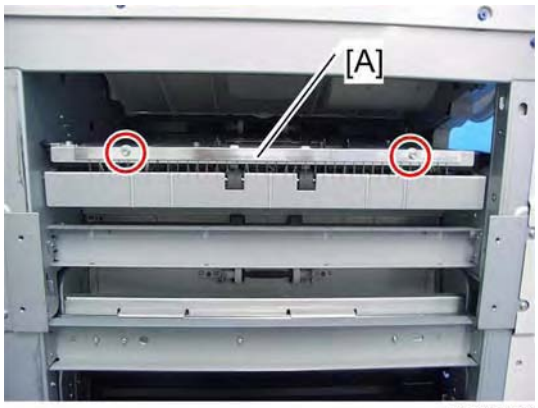
## 1.6.7 DISCHARGE BRUSH 2

1. Top tray (☛p.6)




2. Discharge brush 2 [A] ( x 1)

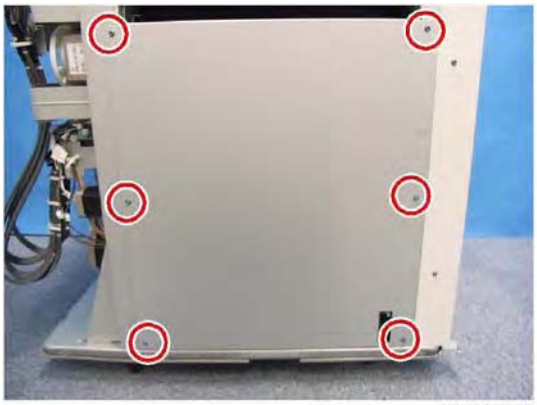
## 1.6.8 DISCHARGE BRUSH 3




d454r350

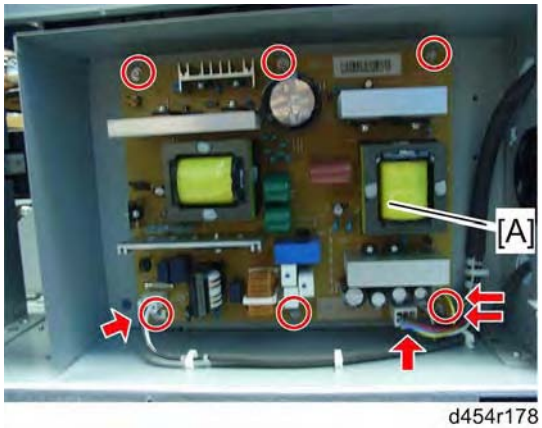
1. Discharge brush 3 [A] ( x 2)

## 1.6.9 PSU



d454r349

1. Left lower bracket ( x 6)

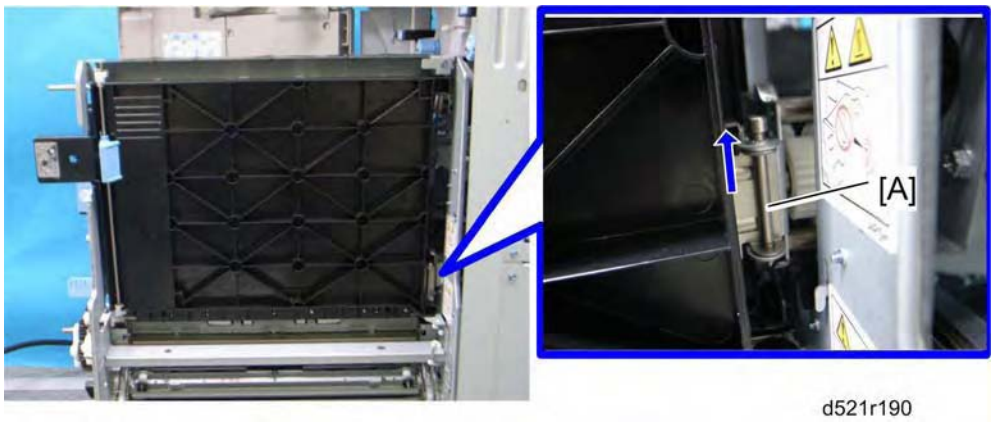



d454r178

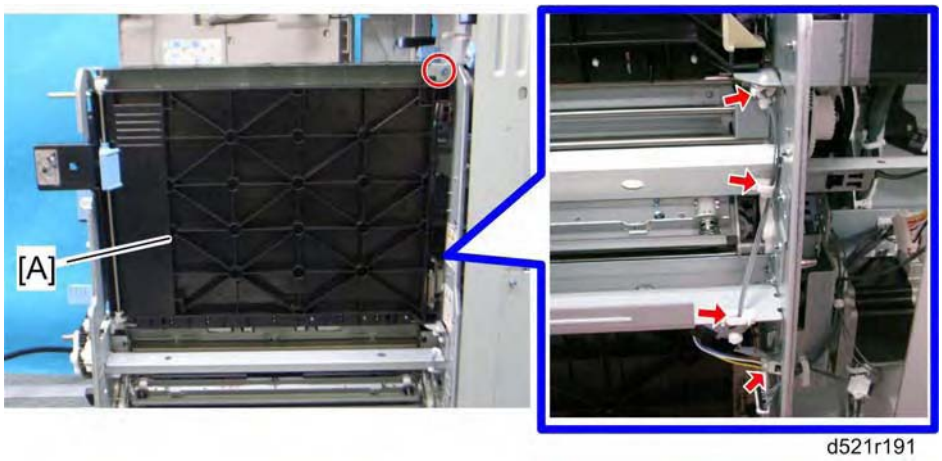
2. PSU [A] ( x 6, x 4)

## 1.6.10 FIRST FOLD UNIT

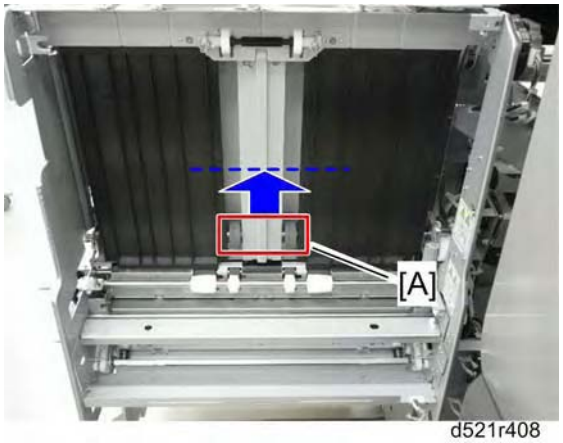
1. 1st stopper unit (☛p.23)



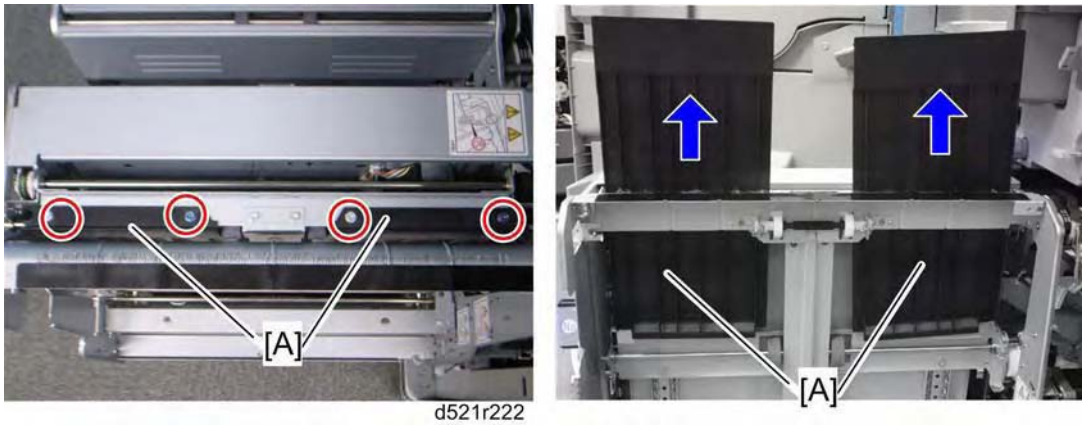

2. Pull out the pin [A] ( x 1)



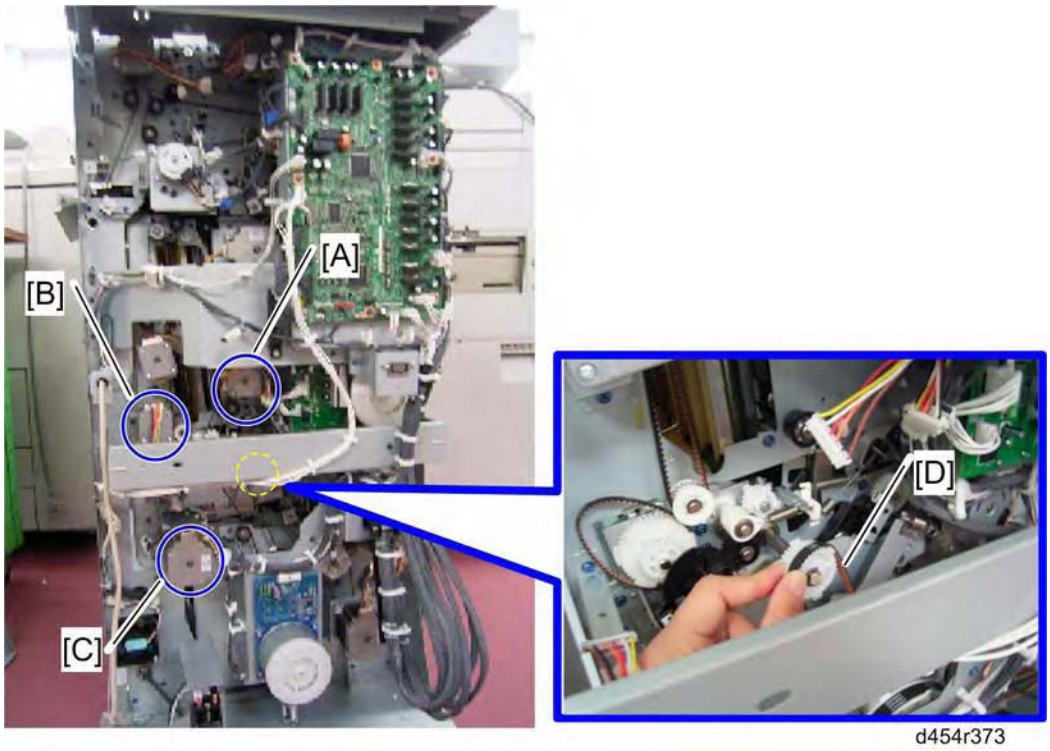

1. Jam removal door [A] ( x 1, x 3, x 1)



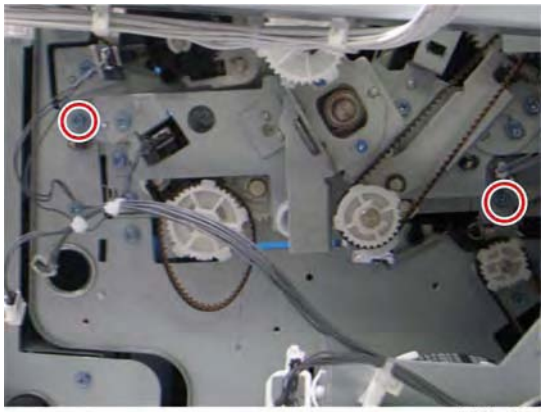

2. Lift up the dynamic roller [A].




3. Lift up two guide plates [A] (each x 2).

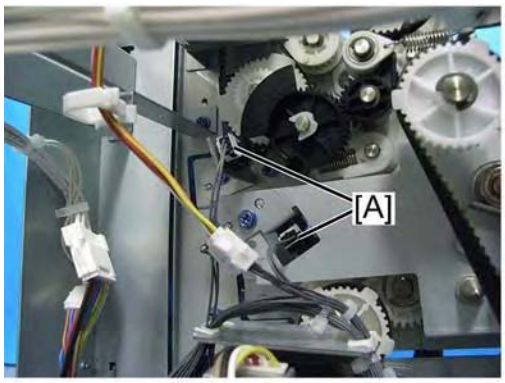


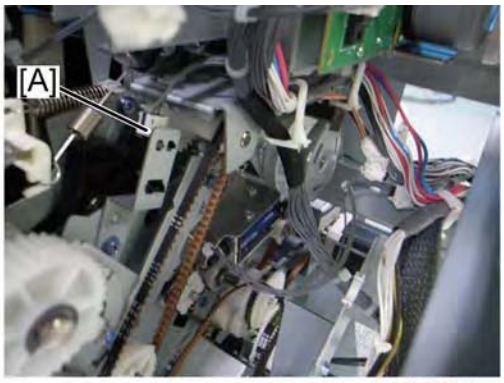

4. Registration roller transport motor bracket [A] (☛p.17 "Registration Roller Transport Motor")
5. Registration roller release motor bracket [B] (☛p.16 "Registration Roller Release Motor")
6. Fold plate motor bracket [C] (☛p.18 "Fold Plate Motor")
7. Timing belt of the 1st plate motor [D]



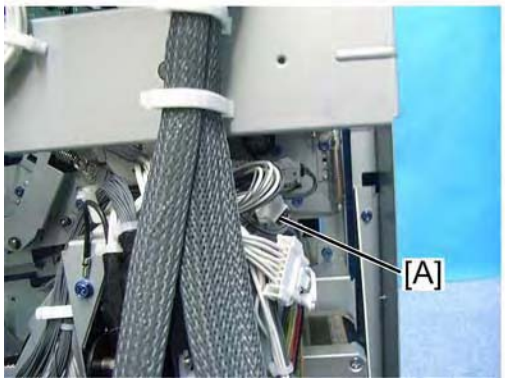
d521r235

8. Remove two screws on the rear side.

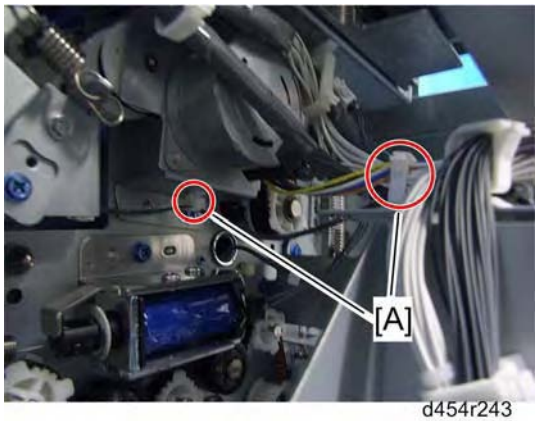



d521r227

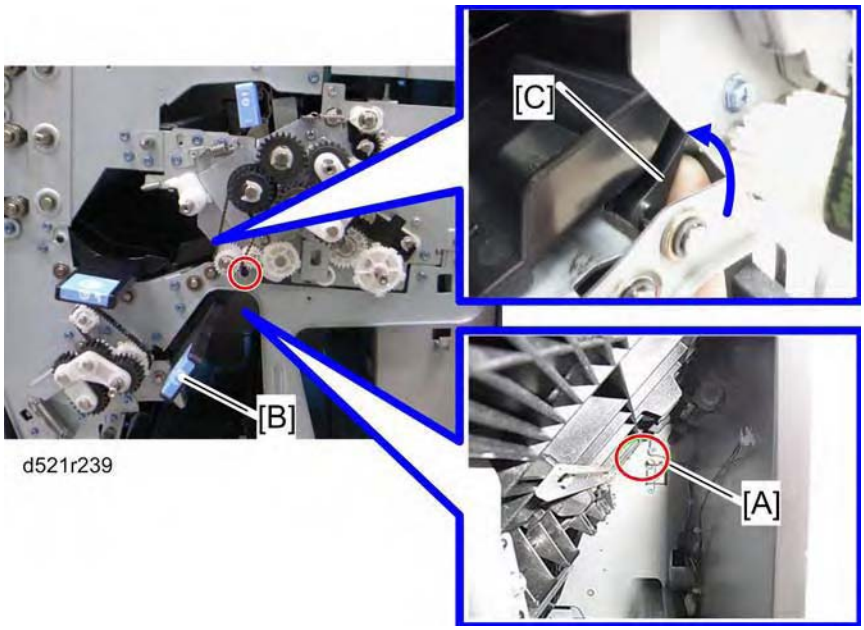



9. Disconnect four harnesses [A] on the rear side.




d454r243

10. Release two clamps [A].

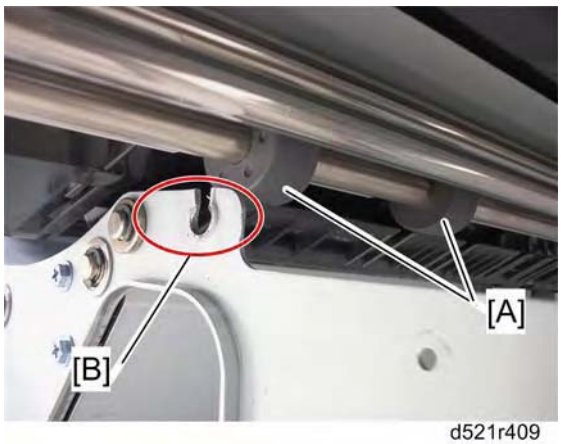


d521r239

11. Remove the spring [A] at the rear frame of the folding unit drawer.
12. Lower guide plate [B] ( x 1)
    - First, push the lower guide plate to the rear side while keeping the upper guide plate [C] open.
    - Secondly, take out the lower guide plate [B].

d521r250

13. Pull the first fold unit [A] until it stops ( x 3).



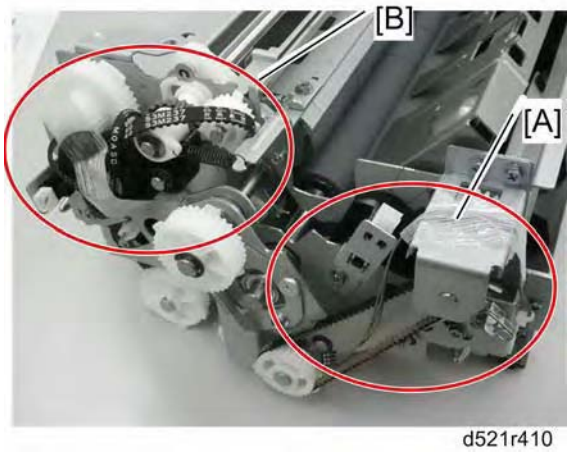
d521r409

- At this time, one of the transport rollers [A] at the bottom of the first fold unit is caught in

the frame [B] of the fold unit drawer.

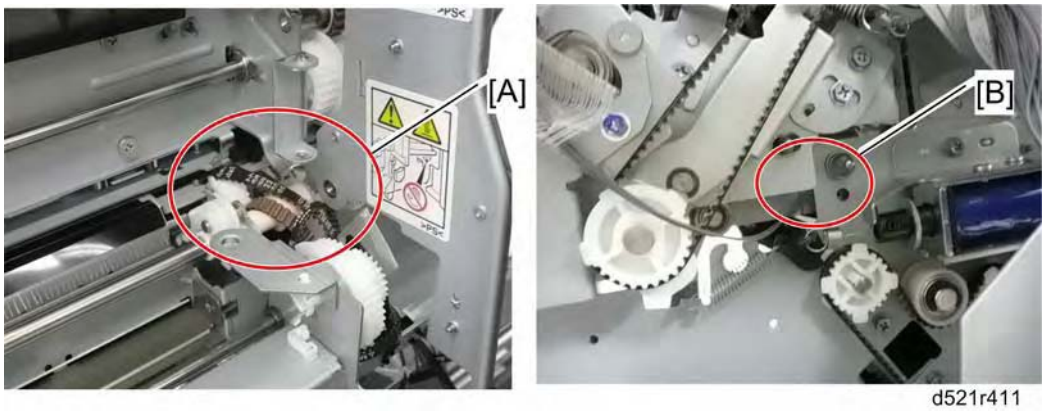
14. Lift the first fold unit little bit, and then remove it.

### *When installing the first fold unit*




Attach the harness [A] and timing belts [B] tightly to the first fold unit with tapes so that the harness and timing belts are not caught in any parts when installing the first fold unit into the fold unit drawer.

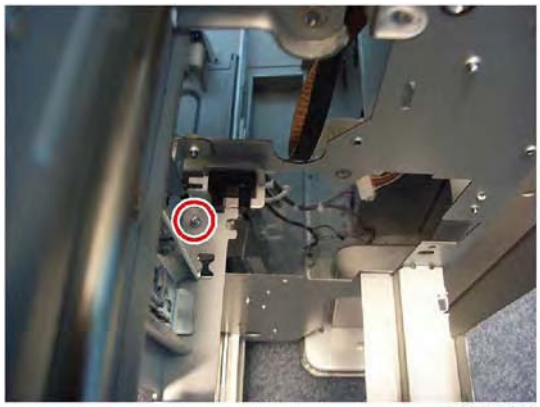
If the first fold unit is not completely installed in the fold unit drawer, check the following:



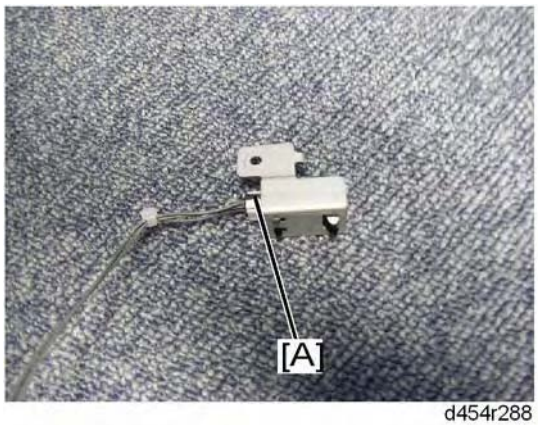

- The timing belts are not caught [A] between the rear frame of the fold unit drawer and frame of the first fold unit.
- The harness of the first fold unit is pinched [B] between the rear frame of the fold unit drawer and frame of the first fold unit.

## 1.6.11 DYNAMIC ROLLER HP SENSOR

1. First fold unit (☛p.56)




2. Dynamic roller HP sensor bracket ( x 1)

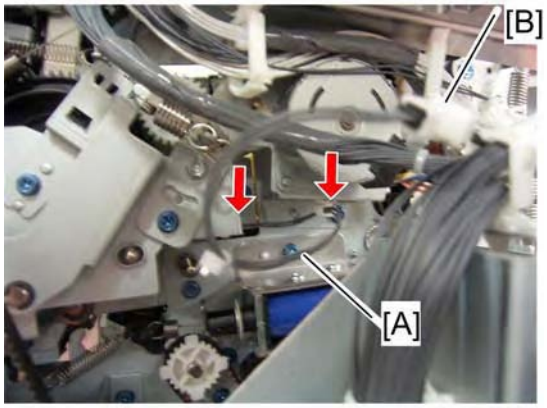



3. Dynamic roller HP sensor [A] ( x 1)

# 1.7 ELECTRICAL COMPONENTS: MAIN 2

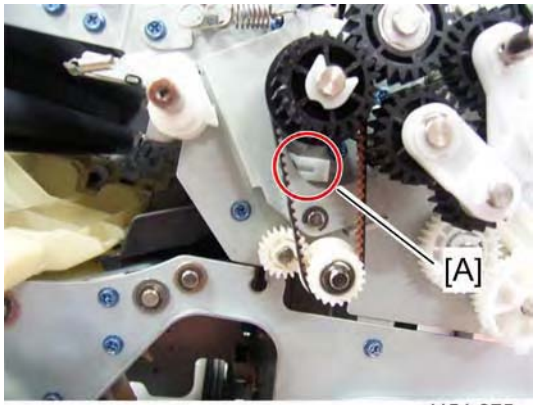
## 1.7.1 BYPASS ENTRANCE PAPER SENSOR

1. Folding unit cover (☛p.4)
2. Rear upper cover (☛p.5)
3. Rear lower cover (☛p.5)



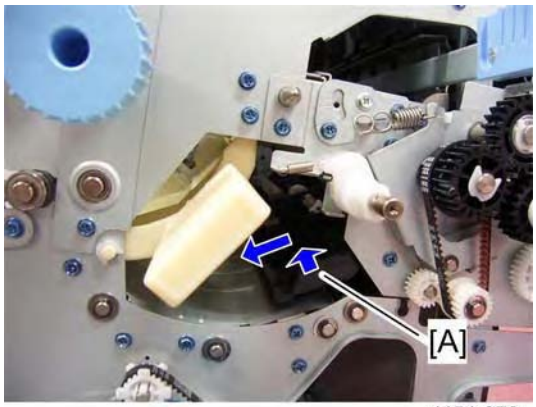
d454r374

4. Disconnect the bypass entrance paper sensor harness [A] from the connector [B] ( x 2).



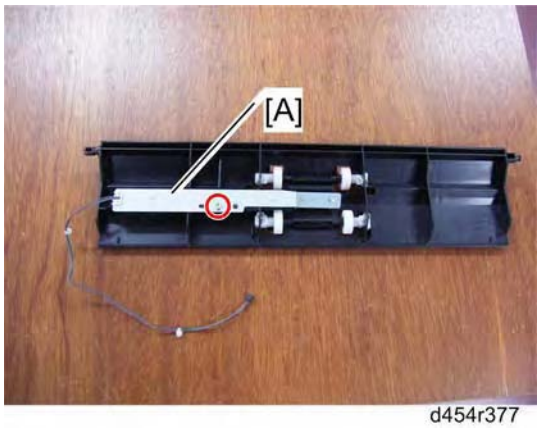
d454r375

5. Remove the clip [A] for the bypass entrance guide plate.

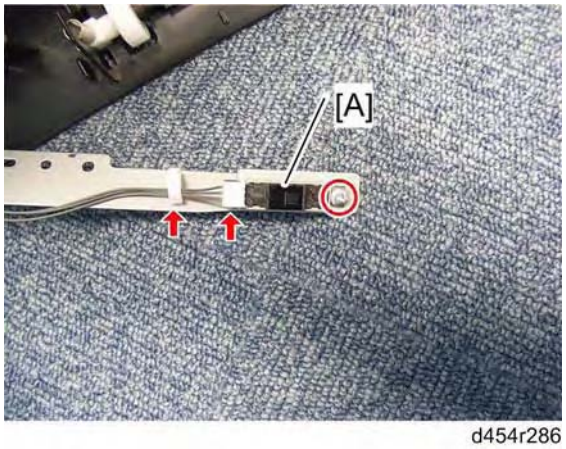


d454r376

6. Push the bypass entrance guide plate [A] to the rear, then slide it to the left, and remove it.

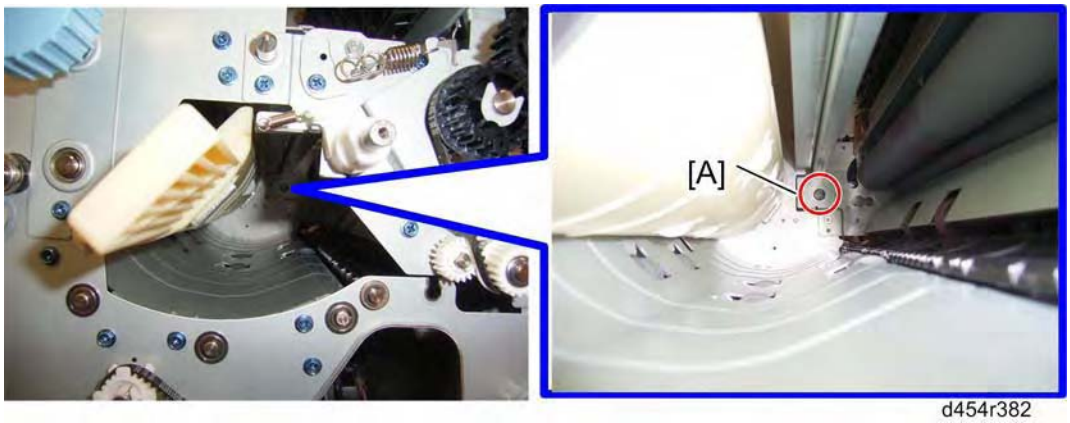



7. Bypass entrance paper sensor bracket [A] ( x 1)




8. Bypass entrance paper sensor [A] (x 1, x 1, x 1)

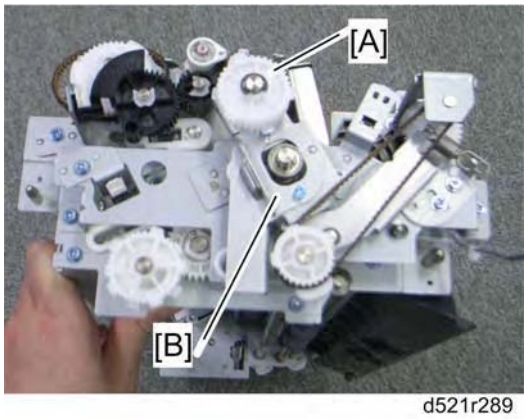
### *Reinstalling the bypass entrance paper sensor*



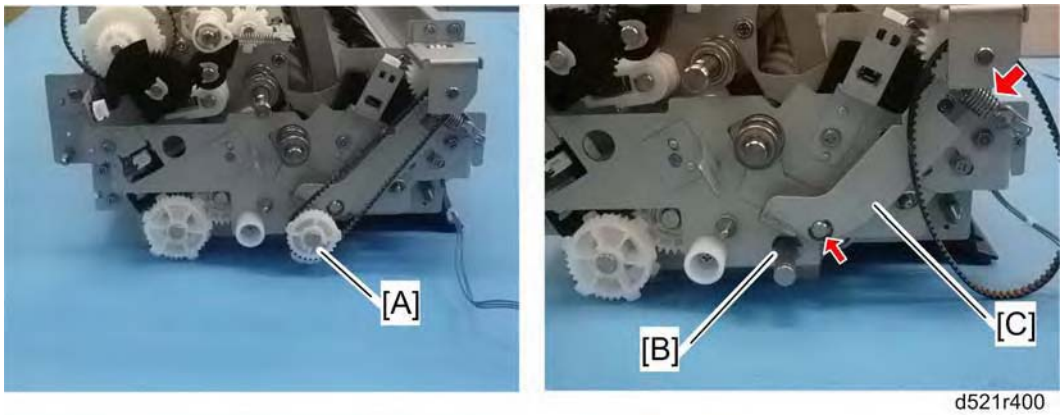

Put the harness of the bypass entrance paper sensor through the hole [A] in the rear frame of the drawer.

## 1.7.2 FIRST/ SECOND/ THIRD FOLD ROLLER

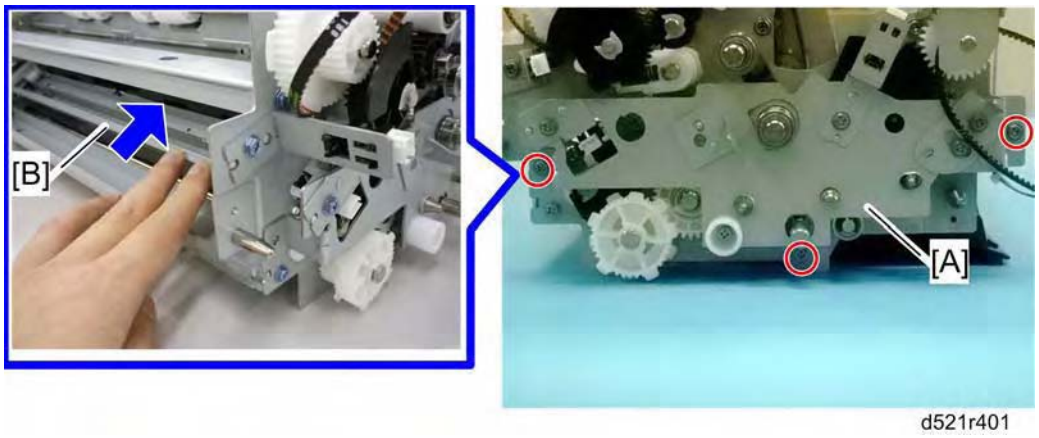
1. First fold unit (☛p.56)



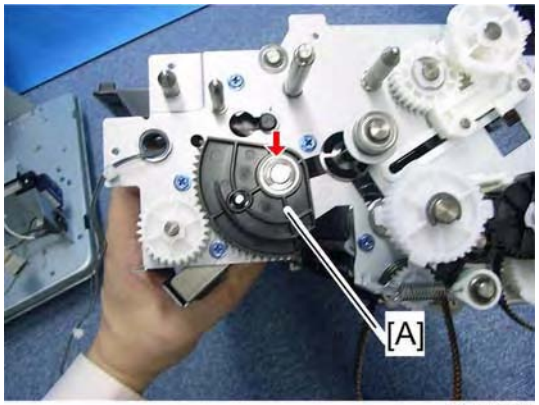

2. First fold roller gear [A] ( x 1, pin x 1, spacer x 1)
3. Pressure release bracket [B]




4. Rear cam gear [A] ( x 1, timing belt x 1)
5. Bushing [B] ( x 1)
6. Rear tension bracket [C] (spring x 1, x 1)

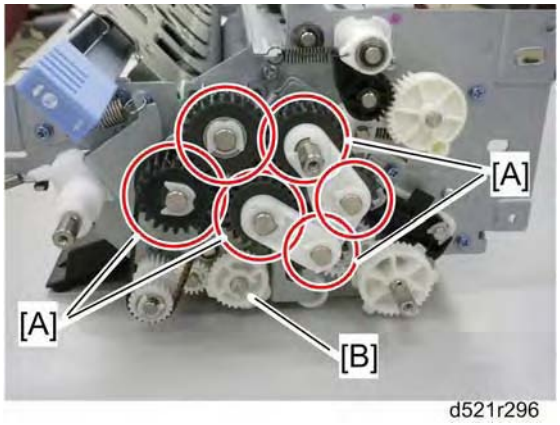



7. Rear bracket [A] ( x 3)
   - When removing the rear bracket, slide the fold assist plate [B] in the arrow direction.



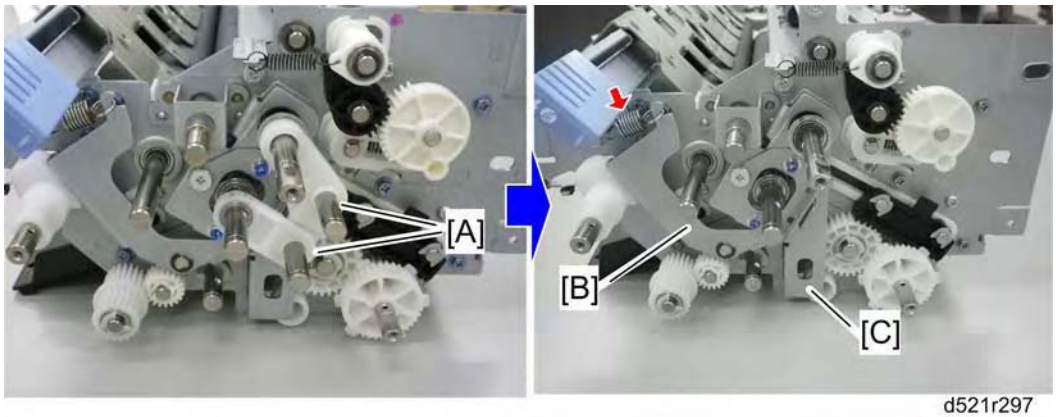
d454r293

8. Remove the gear [A] ( x 1)



d521r296

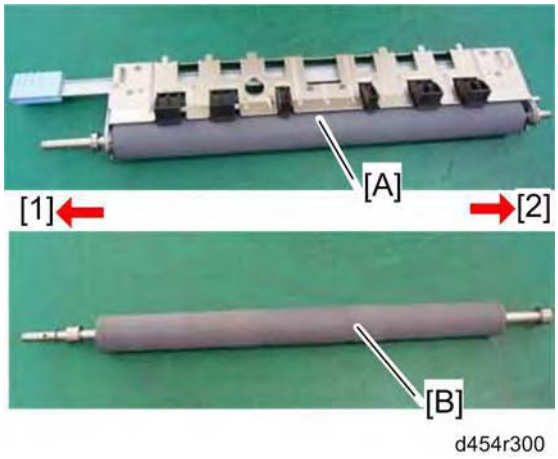
9. Remove six gears (clip x 1 each, pin x 1 each for four gears [A]).
10. Cam gear [B] ( x 1, pin x 1)



d521r297

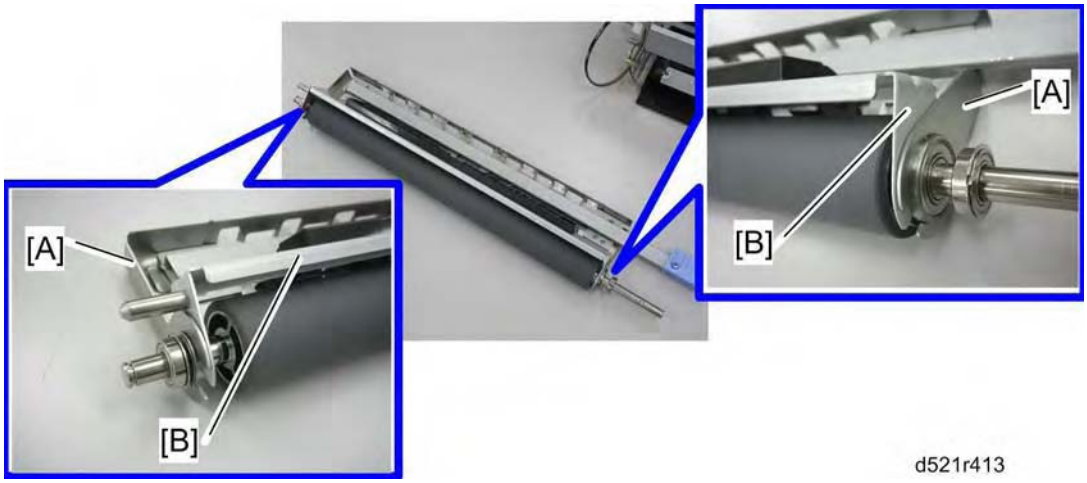
11. Remove the gear links [A].
12. Front tension bracket [B] (spring x 1, x 1)
13. Frond shaft holder bracket [C] ( x 1, bushing x 1, spacer x 1)

14. Front bracket [A] ( x 2)
15. Third fold roller with the guide plate and direct send junction gate[B]
16. Second fold roller [C].



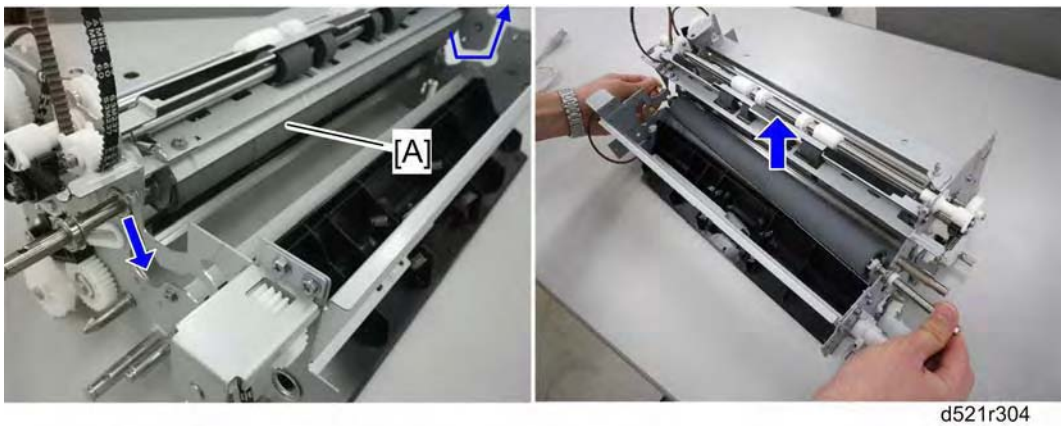

[1]: Front side, [2]: Rear side

- [A]: Third fold roller with the guide plate and direct send junction gate
- [B]: Second fold roller

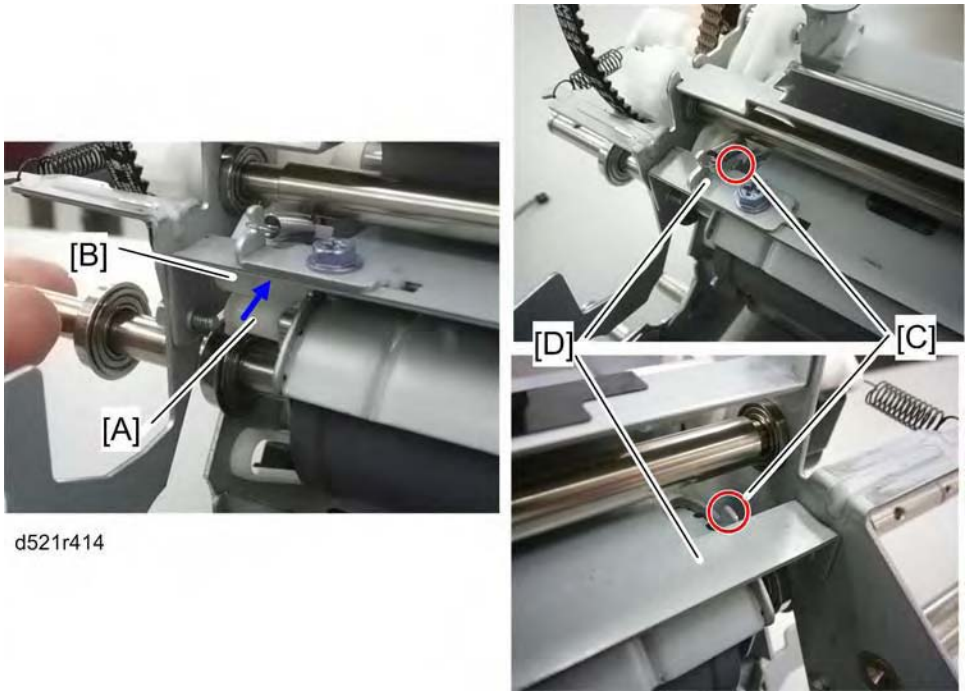



When assembling the third fold roller with direct send junction gate and guide plate, install the guide plate [A] and direct send junction gate [B] in the third fold roller unit as shown above. (The arms of the guide plate should be placed on the outer side of the arms of the

direct send junction gate.)

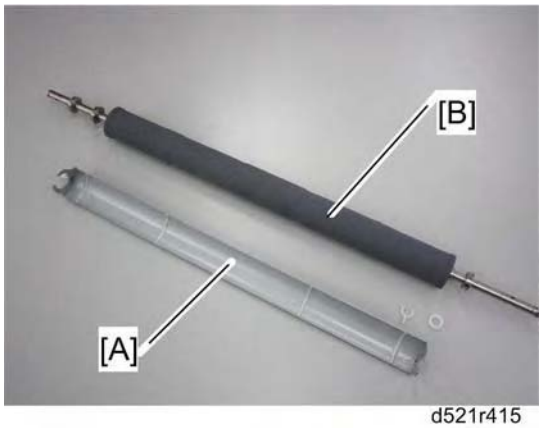



17. First fold roller with roller bracket [A]




- When reinstalling the first fold roller, insert the white pivot [A] in the rail [B].
- Make sure that two projections [C] hook the stay bracket [D].

18. Roller stopper [A]

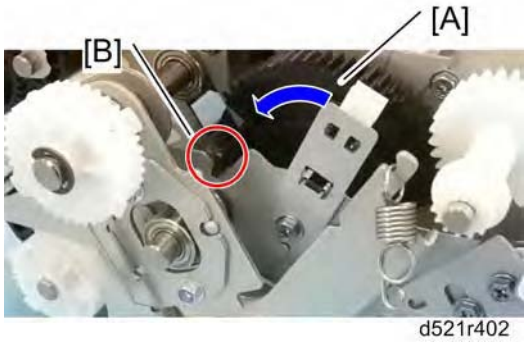



19. Roller bracket [A]
20. First fold roller [B] (spacer x 1)

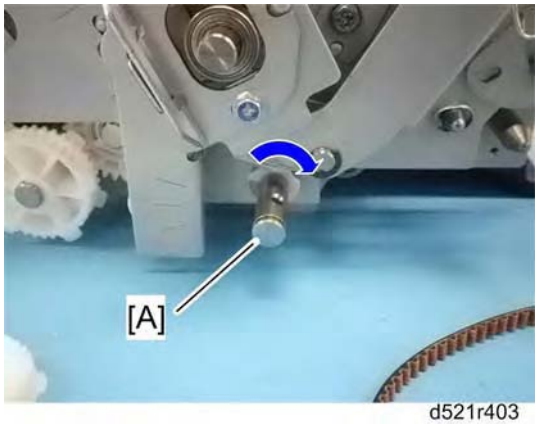
### *When reinstalling the first, second and third fold rollers*

The rear cam gear (removed in step 10) must be adjusted when reinstalling the first, second and third fold rollers. Do the following procedure.

1. Remove the rear gear holder [A] ( x 2).

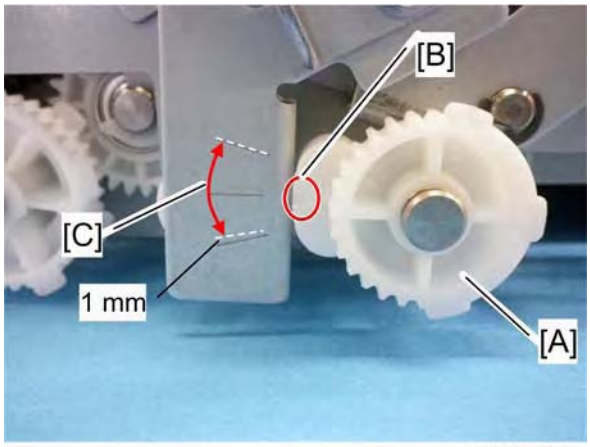



2. Turn the direct send junction gate gear [A] to the left until the direct send junction gate gear stops at the edge [B] of the frame.



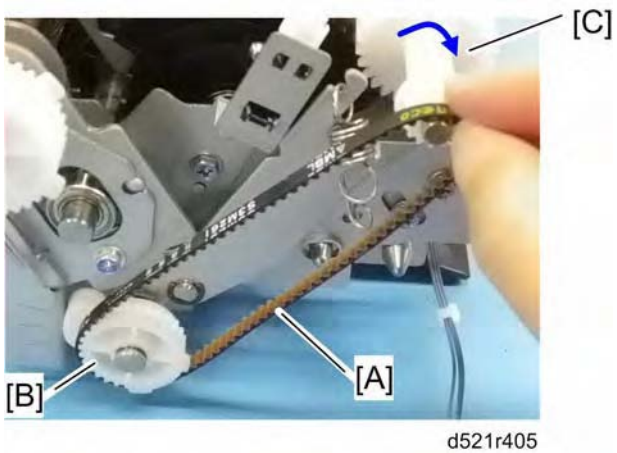
d521r403

3. Turn the cam gear shaft [A] clockwise until the cam gear shaft is stopped.



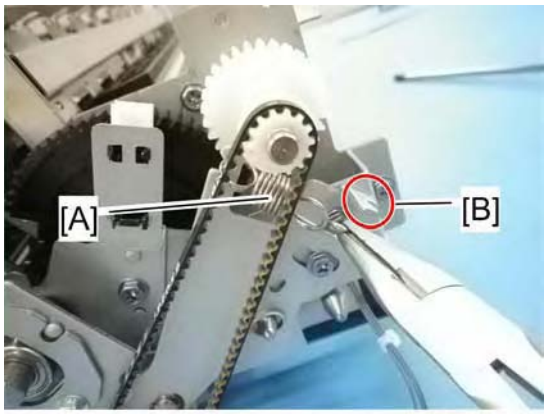
d521r404

4. Set the pin and rear cam gear [A] on the cam gear shaft.
   - Make sure that the notch [B] of the rear cam gear is positioned within the proper range [C]. The lowest position is 1 mm above the lowest of the three lines.



d521r405

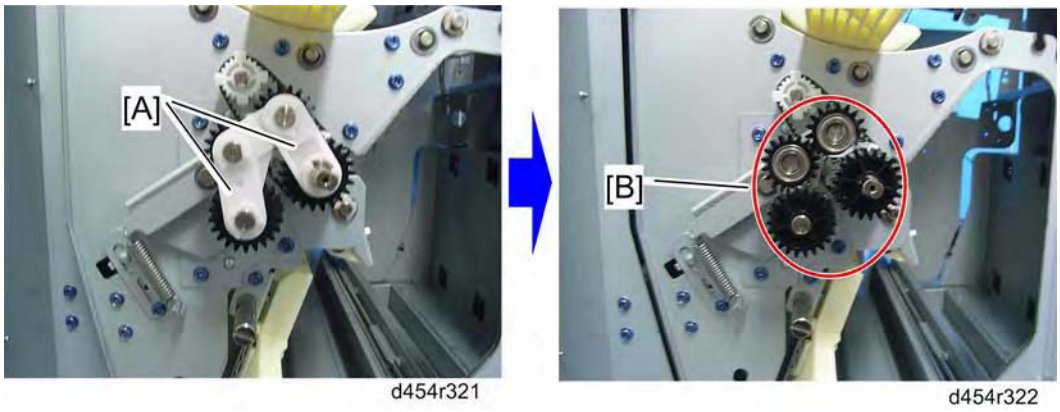
5. Hook the timing belt [A] over the rear cam gear [B] first, and then hook the timing belt over the idle gear [C] while rotating the idle gear clockwise.
6. Check if the notch position of the rear cam gear is positioned within the proper range again.
7. Attach the rear cam gear ( x 1).
8. Attach the rear idle gear holder ( x 2).



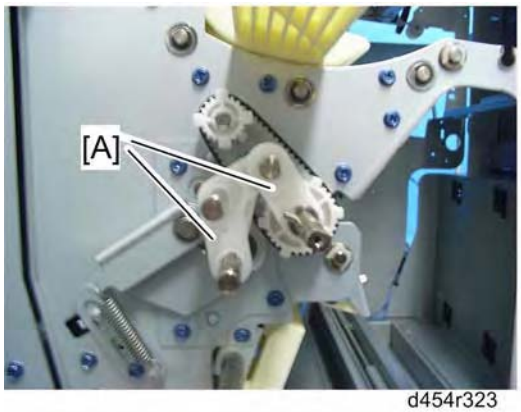

9. Hook the tension spring [A].

## 1.7.3 FOURTH / FIFTH FOLD ROLLER

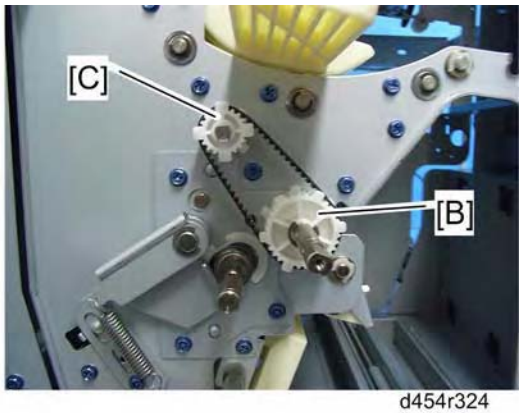
1. Rear upper cover (☛p.5)
2. Rear lower cover (☛p.5)
3. Drawer stopper (☛p.39 "3rd Stopper Unit")




4. Remove the links [A] on the front side (clip x 2 each).
5. Remove four gears [B].

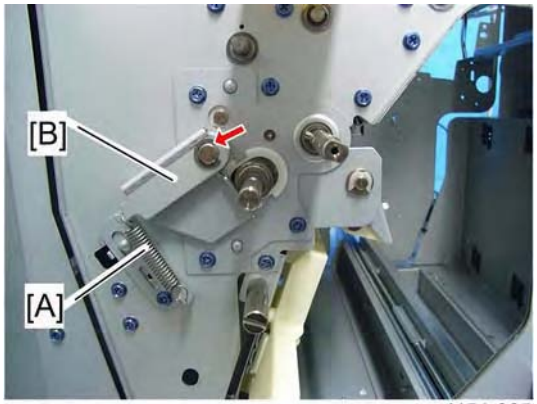


d454r323



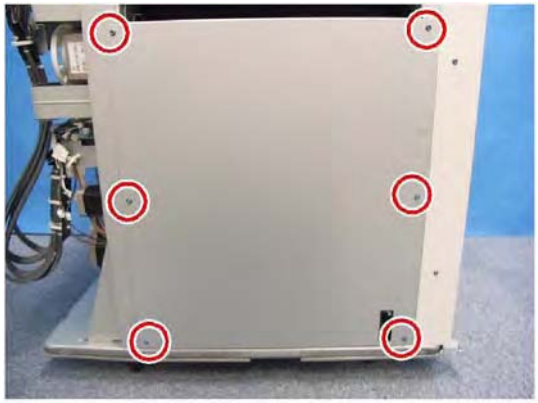
d454r324

6. Remove the links [A] (pin x 1 each)
7. Remove the gear [B] ( x 1), and the gear [C] (timing belt x 1).

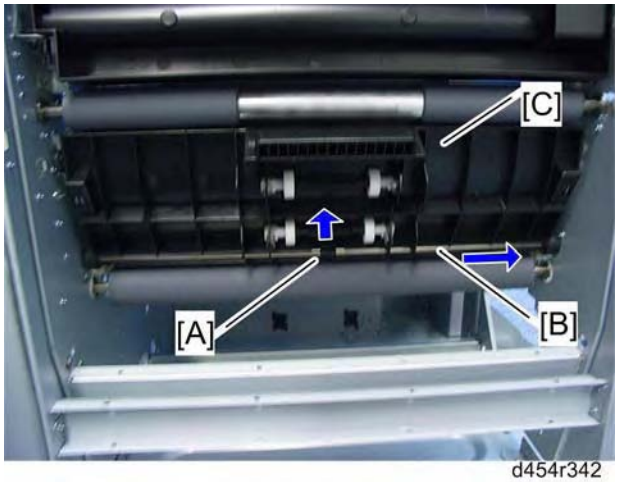


d454r325

8. Remove the spring [A] and the tension bracket [B] ( x 1).

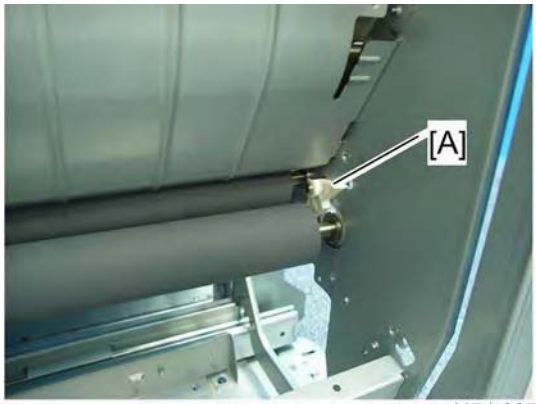

d454r349

9. Left lower bracket ( x 6)

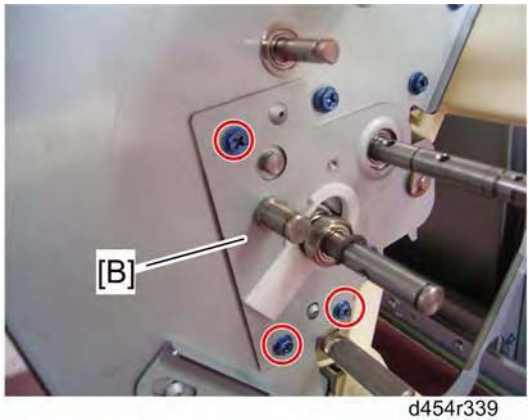


d454r342

10. Lift up the hook [A] to release the guide plate shaft [B].
11. Move the guide plate shaft [B] to the front side (arrow direction), and then remove the guide plate [C].

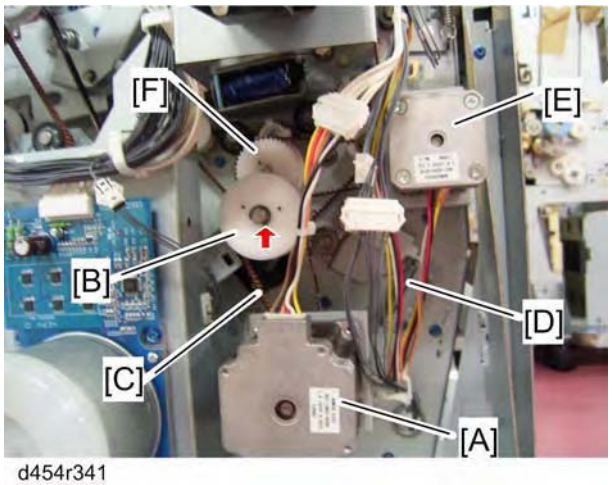


d454r327



d454r339

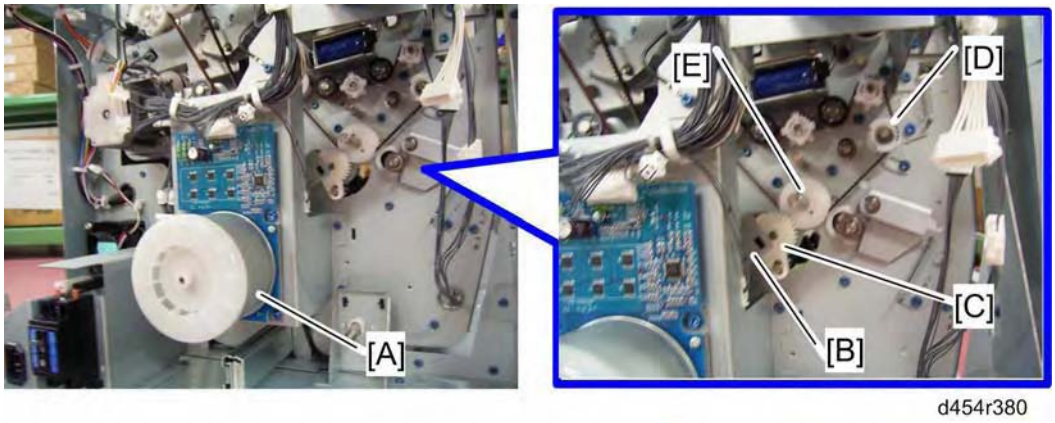
12. Remove the cam [A] on the front side.
13. Fold roller fixing front plate [B] ( x 3)



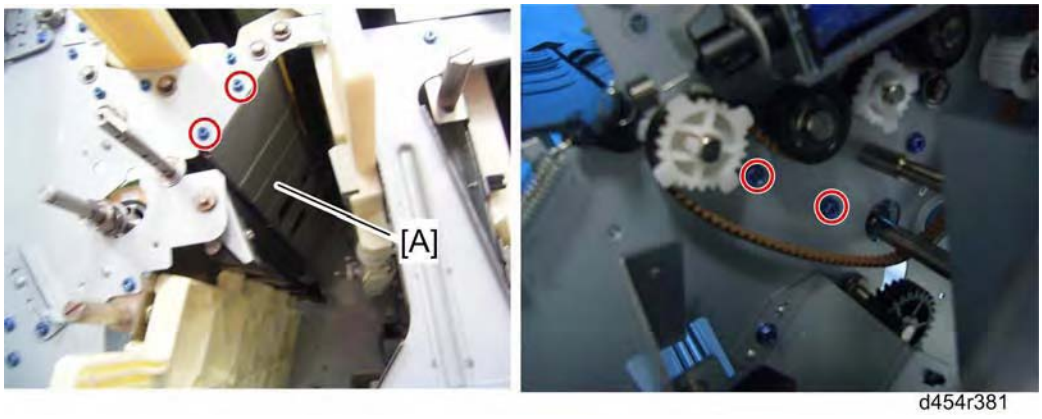
d454r341

14. 2nd fold motor [A] (☛p.22)
15. 2nd fold pulley gear [B] (☪x 1) and idle gear
16. Timing belt [C]
17. Spring [D]

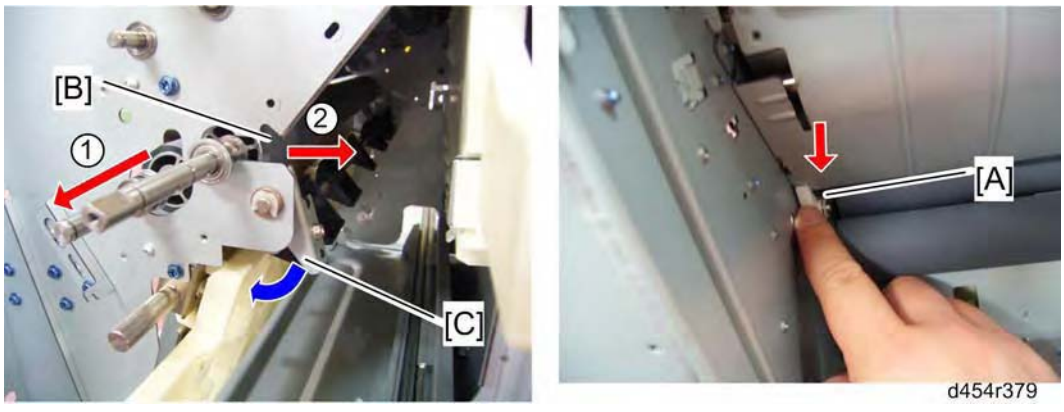
18. FM6 pawl motor [E] (☛p.21)
19. Pulley gear [F]




20. 1st fold motor [A] (☛p.20)
21. FM6 pawl HP sensor bracket [B]
22. FM6 pawl cam gear [C]
23. Release the tension bracket [D], and then remove the transmission pulley gear [E] (pin x 1)



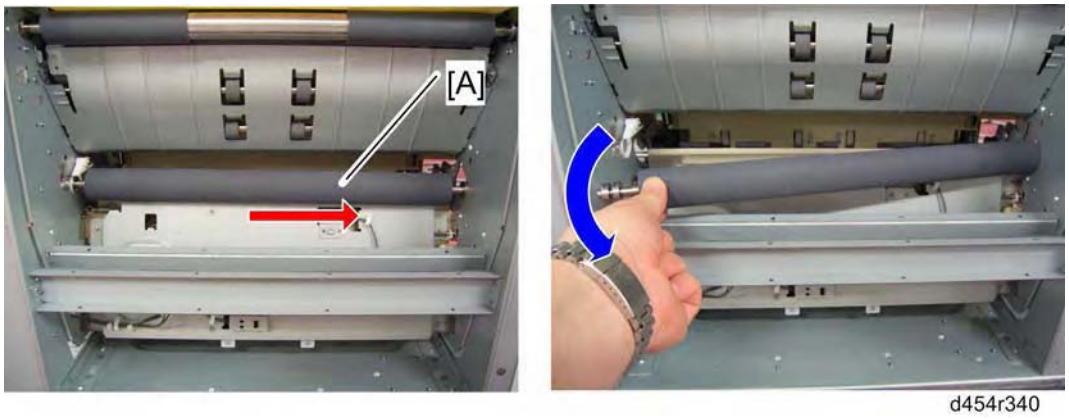

24. Remove the entrance guide plate [A] at the 2nd fold unit ( x 4).




25. Hold the fourth fold roller cam [A] at the rear of the drawer unit.
26. Pull the fourth fold roller [B] to the front side ①.
27. Keep the FM6 pawl [C] open, and then remove the fourth fold roller ②.

Note

- Hold the holder [A] when pulling the fourth fold roller [B] in the ① direction.

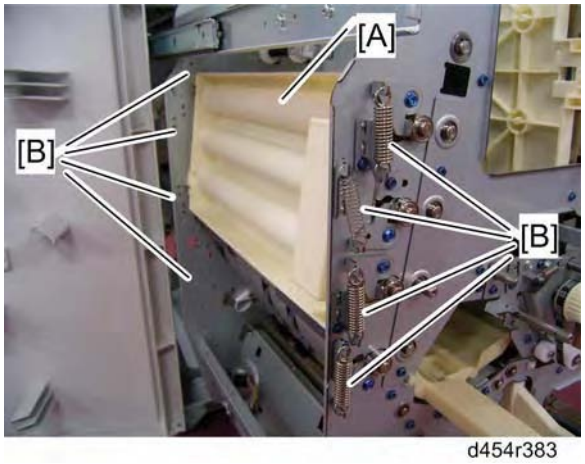



28. Remove the fifth fold roller [A].

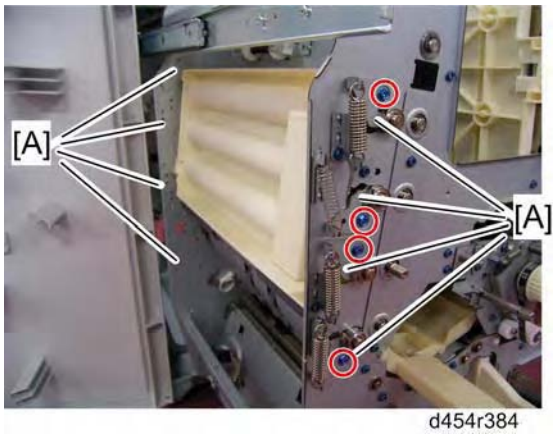
## 1.7.4 CREASE ROLLERS

### *Crease Rollers: Idle Rollers*

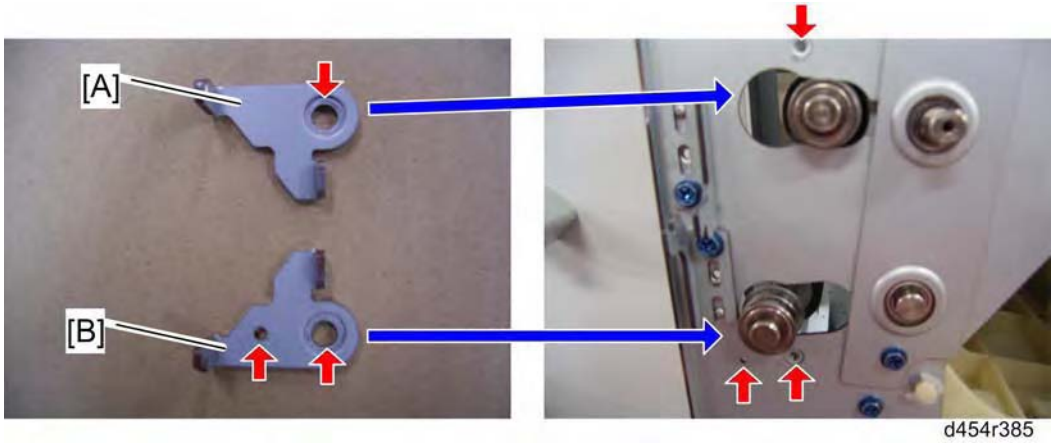
1. Folding Unit Cover (☛p.4)
2. Drawer stopper (☛p.39 "3rd Stopper Unit")
3. Pull out the folding unit drawer fully (☛p.7).




4. Crease jam removal door [A]
5. Tension springs [B] (front: 4, rear: 4)
   - The lowest spring should be a black one when reinstalling the springs.



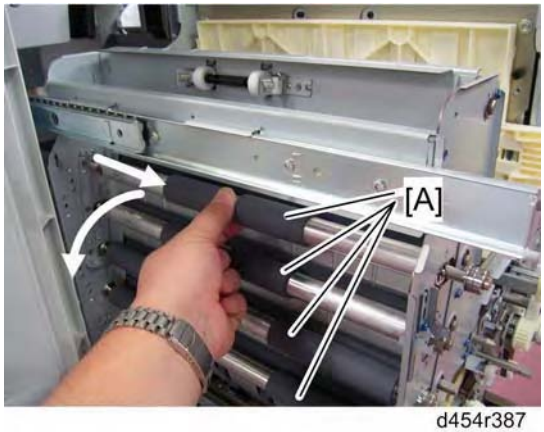

6. Tension brackets [A] ( x 1 each/ front: 4, rear: 4)




There are two types of tension brackets at the crease roller area. The difference between these brackets is the number of screw holes ([A]: one hole, [B]: two holes).

- Attach a bracket [A] with one hole to the crease roller frame with one hole.
- Attach a bracket [B] with two holes to the crease roller frame with two holes.

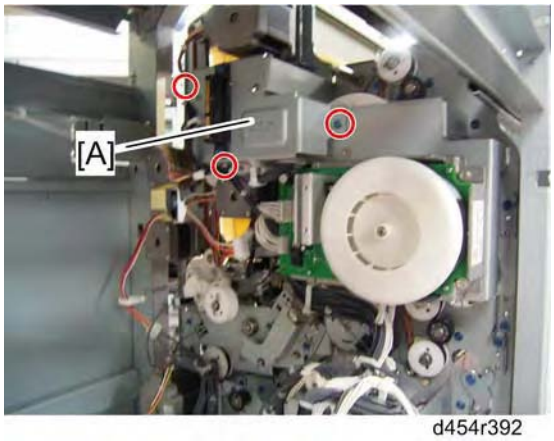
7. Magnet attachment bracket [A] ( x 1)




8. Crease rollers: idle rollers [A]

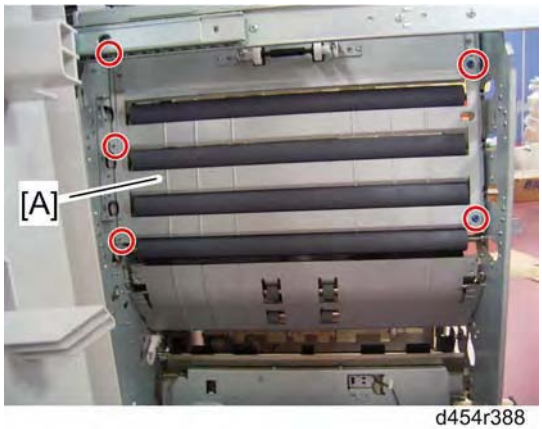
### *Crease Rollers: Drive Rollers*

1. Crease Rollers: Idle Rollers (described above)
2. Rear upper cover (☛p.5)
3. Rear lower cover (☛p.5)
4. Main board bracket (☛p.11 "Top Tray Transport Motor")
5. Rear upper stay (☛p.12 "Dynamic Roller Lift Motor")



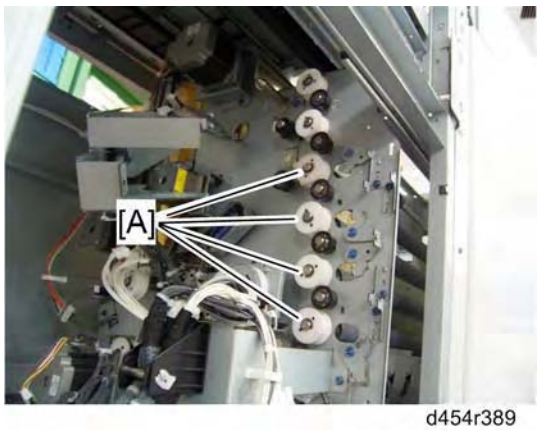
d454r392

6. Drawer connector bracket [A] ( x 3)
7. Crease motor (☛p.14)



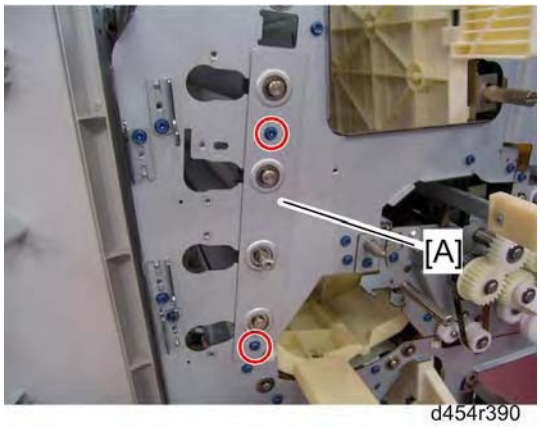
d454r388

8. Crease path guide plate [A] ( x 5)

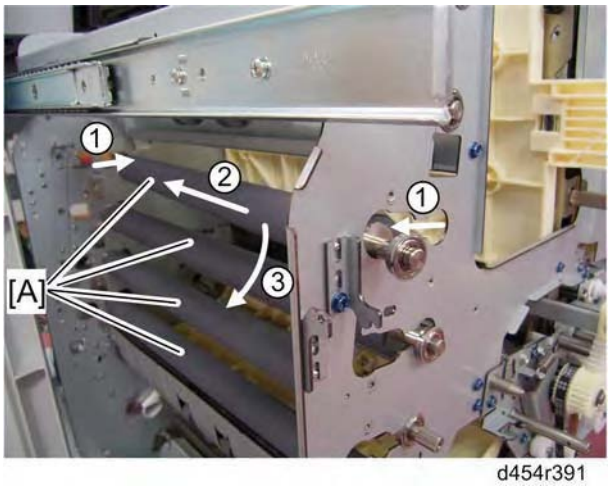


d454r389

9. Crease roller pulley gears [A] (ℭ x 1 each)




10. Crease roller fixing plate [A] ( x 2)




11. Crease rollers: drive rollers [A]

# 1.8 FOLD ADJUSTMENTS

## 1.8.1 FINE FOLD ADJUSTMENT

### *Before You Begin*

The fold positions can be adjusted in the User Tools (Operators and Skilled Operators), the engine SP mode and Advanced Settings.

- Administrator Log-in is required to adjust Advanced Settings.
- Advanced Settings is enabled only for Custom Paper.
- Advanced Settings should be specified for each Custom Paper Profile.

**Advanced Settings**

| Mode | Fold | Advanced Settings*[1] | SP |
|---|---|---|---|
| FM1 | 1st | 54 Adjust Z-fold Position 1 | - |
| | 2nd | 55 Adjust Z-fold Position 2 | - |
| FM2 | 1st | 56 Half Fold Position: Single-sheet Fold | - |
| FM3 | 1st | 57 Letter Fold-out Posn 1: Single-sheet Fld | - |
| | 2nd | 58 Letter Fold-out Posn 2: Single-sheet Fld | - |
| FM4 | 1st | 59 Letter Fold-in Posn 1: Single-sheet Fold | - |
| | 2nd | 60 Letter Fold-in Posn 2: Single-sheet Fold | - |
| FM5 | 1st | 61 Double Parallel Fold Position 1 | - |
| | 2nd | 62 Double Parallel Fold Position 2 | - |
| FM6 | 1st | 63 Adjust Gate Fold Position 1 | - |
| | 2nd | 64 Adjust Gate Fold Position 2 | - |
| | 3rd | 65 Adjust Gate Fold Position 3 | - |

*[1]: These numbers are the same for the advanced settings of Administrator. These settings can be adjusted for each paper profile.

**Adjustment Settings for Skilled Operators and Engine SP modes**

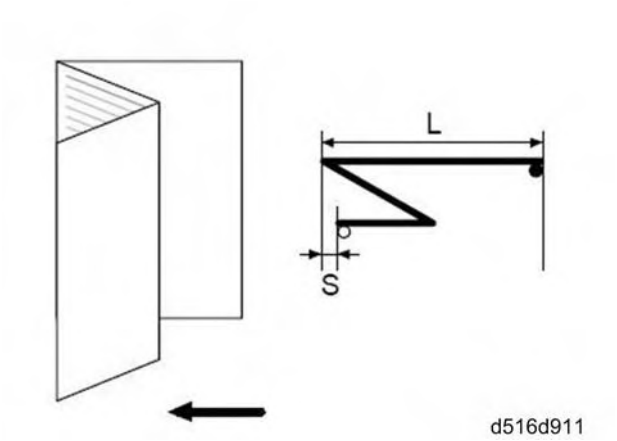
| Mode | Fold | User Tools*[2] | SP |
|---|---|---|---|
| FM3 | 1st | 0601 Half Fold Position (Multi-sheet Fold) | 6-752-101 to -111 |
| FM4 | 1st | 0602 Letter Fold-out Position 1 (Multi-sheet Fold) | 6-753-101 to -111 |
| | 2nd | 0603 Letter Fold-out Position 2 (Multi-sheet Fold) | 6-754-101 to -111 |
| FM5 | 1st | 0604 Letter Fold-in Position 1 (Multi-sheet Fold) | 6-755-101 to -111 |
| | 2nd | 0605 Letter Fold-in Position 2 (Multi-sheet Fold) | 6-756-101 to -111 |

*[2]: These numbers are the same for the User Tools (Operators and Skilled Operators).

## *FM1 Z-Folding*

### 54: Adjust Z-fold Position 1

Adjust the width of the bottom end segment (S) of Z-folded sheets when using the multi-folding unit.




Press [+] to increase and [-] to reduce (S).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All sizes | S | 0 mm | -4 to 4 mm |
| **Pitch Adj.** | **0.2 mm** | | |



### 55: Adjust Z-fold Position 2

Adjust the overall fold size (L) of Z-folded sheets when using the multi-folding unit. Press [+] to increase and [-] to reduce (L).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

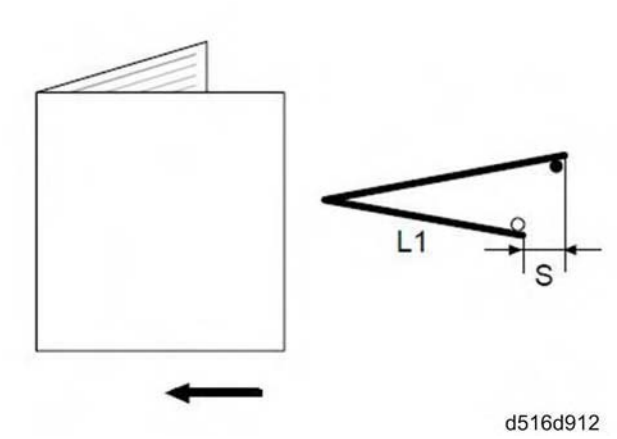
| Size | Setting | Default | Range |
|---|---|---|---|
| All sizes | L | 0 mm | -4 to 4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

## *FM2 Half Fold: Single-sheet Fold and Multi-sheet Fold*

**56: Half Fold Position: Single-sheet Fold**

Adjust the fold position (S) of half folded sheets when using the multi-folding unit.

This setting will not be applied when the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S).

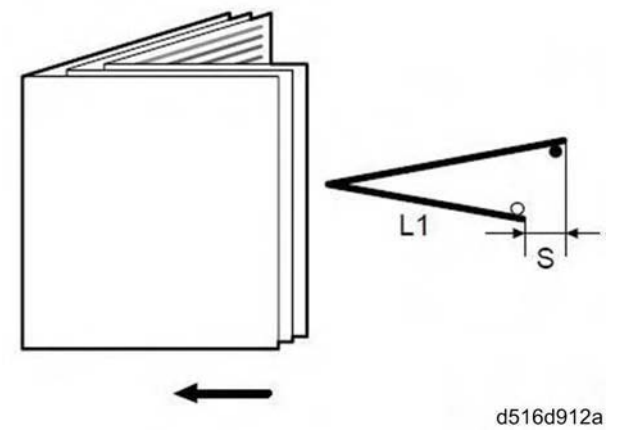
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All sizes | L1 | 0 mm | -4 to 4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

**0601: Half Fold Position (Multi-sheet Fold)/ SP6-752-101 to -111**

Adjust the folded position (S) of half folded sheets when using the multi-folding unit.

This setting will be applied if the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

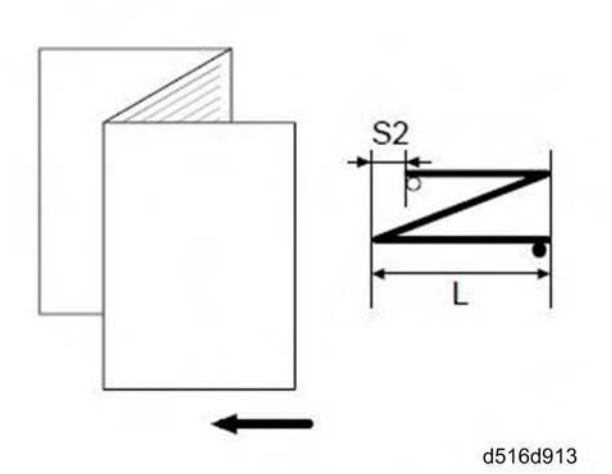
| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| A3 SEF | S | 0 mm | ±4 mm | 6-752-101 |
| B4 SEF | S | 0 mm | ±4 mm | 6-752-102 |
| A4 SEF | S | 0 mm | ±4 mm | 6-752-103 |
| B5 SEF | S | 0 mm | ±4 mm | 6-752-109 |
| 13”x19” SEF | S | 0 mm | ±4 mm | 6-752-110 |
| 12”x18” SEF | S | 0 mm | ±4 mm | 6-752-107 |
| 11”x17” SEF (DLT SEF) | S | 0 mm | ±4 mm | 6-752-104 |
| $8_{1/2}$"x14" SEF (LG SEF) | S | 0 mm | ±4 mm | 6-752-105 |
| $8_{1/2}$"x11" SEF (LT SEF) | S | 0 mm | ±4 mm | 6-752-106 |
| 8K (8-Kai) | S | 0 mm | ±4 mm | 6-752-108 |
| Other (Custom) | S | 0 mm | ±4 mm | 6-752-111 |
| **Pitch Adj.** | **0.2 mm** | | | |

## *FM3 Letter Fold-out: Single-sheet Fold and Multi-sheet Fold*

### 57 Letter Fold-out Posn 1: Single-sheet Fld

Adjust the fold position for the bottom segment (S2) of letter fold-out sheets when using the multi-folding unit.

This setting will not be applied when the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S2).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Sizes | S2 | 0 mm | ±3 mm |
| **Pitch Adj.** | **0.2 mm** | | |

### 58: Letter Fold-out Posn 2: Single-sheet Fld

Adjust the overall fold size (L) of letter fold-out sheets when using the multi-folding unit.

This setting will not be applied when the multi-sheet fold function is enabled.

Press [+] to increase and [-] to reduce (L).

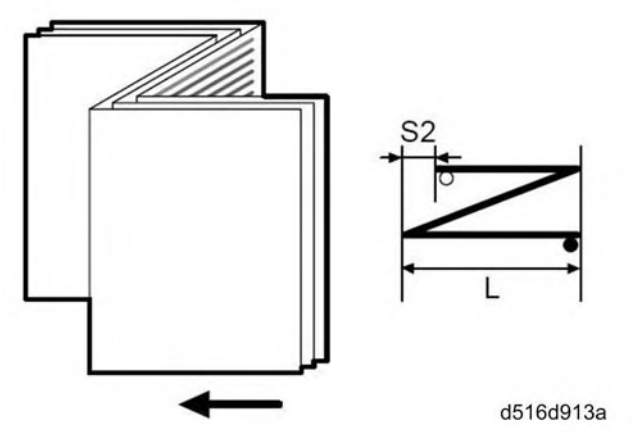
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Sizes | L | 0 mm | ±3 mm |
| **Pitch Adj.** | **0.2 mm** | | |

**0602: Letter Fold-out Position 1 (Multi-sheet Fold)/ SP6-753-101 to -108**

Adjust the fold position for the bottom segment (S2) of letters fold-out sheets when using the multi-folding unit.

This setting will be applied if the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S2).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| B4 SEF | S2 | 0 mm | ±4 mm | 6-753-101 |
| A4 SEF | S2 | 0 mm | ±4 mm | 6-753-102 |
| B5 SEF | S2 | 0 mm | ±3 mm | 6-753-107 |
| $8_{1/2}$"x14" SEF (LG SEF) | S2 | 0 mm | ±4 mm | 6-753-103 |
| $8_{1/2}$"x11" SEF (LT SEF) | S2 | 0 mm | ±4 mm | 6-753-104 |
| Other (Custom) | S2 | 0 mm | ±4 mm | 6-753-108 |
| **Pitch Adj.** | **0.2 mm** | | | |

**0603: Letter Fold-out Position 2 (Multi-sheet Fold)/ SP6-754-101 to -108**

Adjust the overall fold size (L) of letters fold-out sheets when using the multi-folding unit.

This setting will be applied if the multi-sheet fold function is enabled.

Press [+] to increase and [-] to reduce (L).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

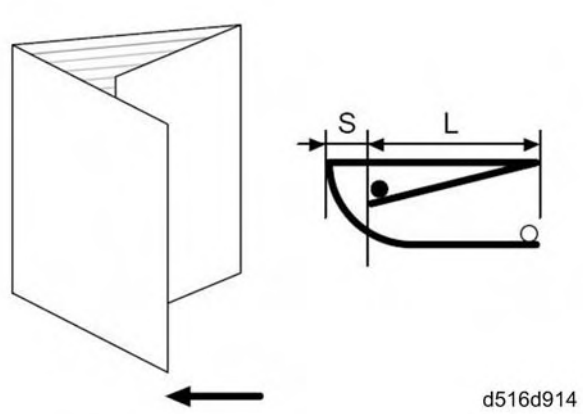
| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| B4 SEF | L | 0 mm | ±4 mm | 6-754-101 |
| A4 SEF | L | 0 mm | ±4 mm | 6-754-102 |
| B5 SEF | L | 0 mm | ±3 mm | 6-754-107 |
| $8_{1/2}$"x14" SEF (LG SEF) | L | 0 mm | ±4 mm | 6-754-103 |
| $8_{1/2}$"x11" SEF (LT SEF) | L | 0 mm | ±4 mm | 6-754-104 |
| Other (Custom) | L | 0 mm | ±4 mm | 6-754-108 |
| **Pitch Adj.** | **0.2 mm** | | | |

## *FM4 Letter Fold-in: Single-sheet Fold and Multi-sheet Fold*

**59: Letter Fold-in Posn 1: Single-sheet Fold**

Adjust the fold position of the bottom segment (S) of letter fold-in sheets when using the multi-folding unit.

This setting will not be applied when the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Sizes | S | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

**60: Letter Fold-in Posn 2: Single-sheet Fold**

Adjust the overall fold size (L) of letter fold-in sheets when using the multi-folding unit.

This setting will not be applied when the multi-sheet fold function is enabled.

Press [+] to increase and [-] to reduce (L).

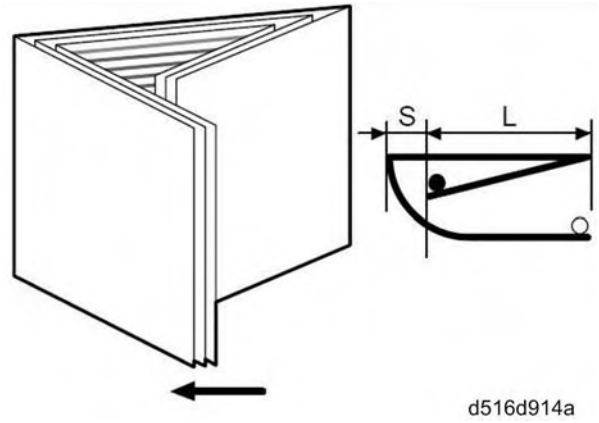
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | L | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

**0604: Letter Fold-in Position 1 (Multi-sheet Fold)/ SP6-755-101 to -111**

Adjust the fold position of the bottom segment (S) of letters fold-in sheets when using the multi-folding unit.

This setting will be applied if the multi-sheet fold function is enabled.




Press [+] to increase and [-] to reduce (S).

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| A3 SEF | S | 0 mm | ±4 mm | 6-755-101 |
| B4 SEF | S | 0 mm | ±4 mm | 6-755-102 |
| A4 SEF | S | 0 mm | ±4 mm | 6-755-103 |
| B5 SEF | S | 0 mm | ±4 mm | 6-755-109 |
| 12”x18” SEF | S | 0 mm | ±4 mm | 6-755-107 |
| 11”x17” SEF<br>(DLT SEF) | S | 0 mm | ±4 mm | 6-755-104 |
| $8_{1/2}$"x14" SEF<br>(LG SEF) | S | 0 mm | ±4 mm | 6-755-105 |

| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| $8_{1/2}$"x11" SEF (LT SEF) | S | 0 mm | ±4 mm | 6-755-106 |
| 8K (8-Kai) | S | 0 mm | ±4 mm | 6-755-108 |
| Other (Custom) | S | 0 mm | ±4 mm | 6-755-110 |
| **Pitch Adj.** | **0.2 mm** | | | |

**0605: Letter Fold-in Position 2 (Multi-sheet Fold)/ SP6-756-101 to -111**

Adjust the fold position(L) of letters fold-in sheets when using the multi-folding unit.

This setting will be applied if the multi-sheet fold function is enabled.

Press [+] to increase and [-] to reduce (L).

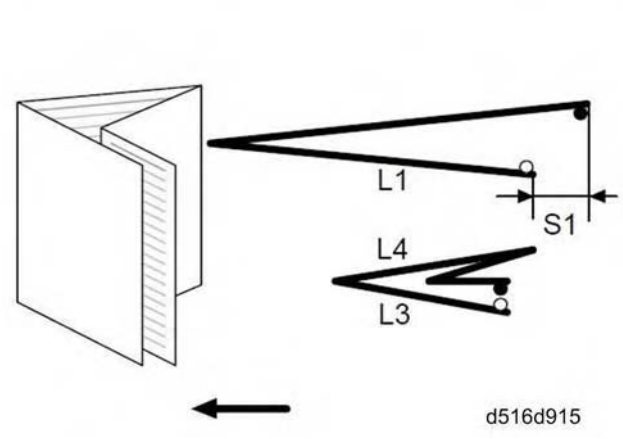
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range | SP |
|---|---|---|---|---|
| A3 SEF | L | 0 mm | ±4 mm | 6-756-101 |
| B4 SEF | L | 0 mm | ±4 mm | 6-756-102 |
| A4 SEF | L | 0 mm | ±4 mm | 6-756-103 |
| B5 SEF | L | 0 mm | ±4 mm | 6-756-109 |
| 12”x18” SEF | L | 0 mm | ±4 mm | 6-756-107 |
| 11”x17” SEF (DLT SEF) | L | 0 mm | ±4 mm | 6-756-104 |
| $8_{1/2}$"x14" SEF (LG SEF) | L | 0 mm | ±4 mm | 6-756-105 |
| $8_{1/2}$"x11" SEF (LT SEF) | L | 0 mm | 0 to 4 mm | 6-756-106 |
| 8K (8-Kai) | L | 0 mm | ±4 mm | 6-756-108 |
| Other (Custom) | L | 0 mm | ±4 mm | 6-756-110 |
| **Pitch Adj.** | **0.2 mm** | | | |

## *FM5 Double Parallel Fold*

**61: Double Parallel Fold Position 1**

Adjust the fold position of the bottom segment 1 (S1) of double parallel-folded sheets when using the multi-folding unit.]




Press [+] to increase and [-] to reduce (S1).

The upper right illustration shows a partly opened, double parallel-folded sheet (folded in half), and the lower right illustration shows a fully folded sheet.

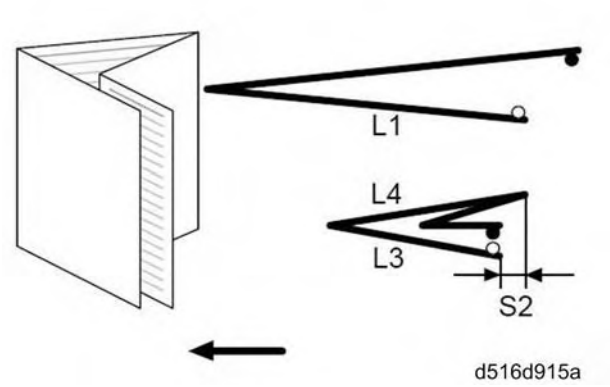
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | S1 | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |



**62: Double Parallel Fold Position 2**

Adjust the fold position of the bottom segment 2 (S2) of double parallel-folded sheets when using the multi-folding unit.




Press [+] to increase and [-] to reduce (S2).

The upper right illustration shows a partly opened, double parallel-folded sheet (folded in half), and the lower right illustration shows a fully folded sheet.

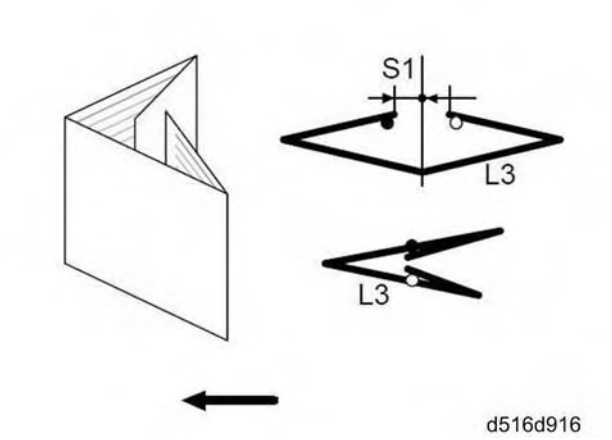
The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | S2 | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

## *FM6 Gate Fold*

**63: Adjust Gate Fold Position 1**

Adjust the fold width of the bottom segment 1 (S1) of gate folded sheets when using the multi-folding unit.




Press [+] to increase and [-] to reduce (S1).

The upper right illustration shows a partly opened, gate folded sheet, and the lower right illustration shows a fully folded sheet.

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

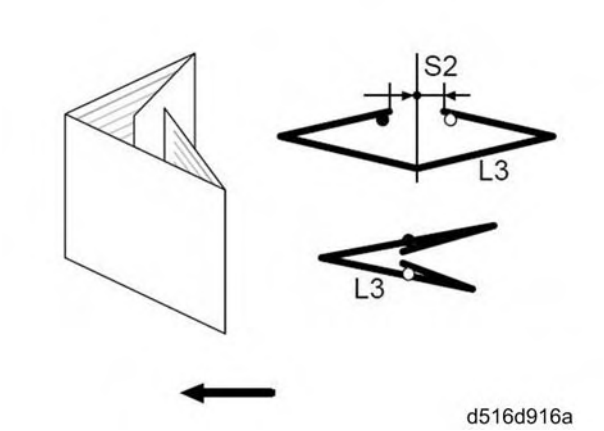
| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | S1 | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

Note

- You cannot specify this setting when using 12"x 18"L paper.

### 64: Adjust Gate Fold Position 2

Adjust the fold width of the bottom segment 2 (S2) of gate folded sheets when using the multi-folding unit.




Press [+] to increase and [-] to reduce (S2).

The upper right illustration shows a partly opened, double parallel-folded sheet (folded in half), and the lower right illustration shows a fully folded sheet.

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

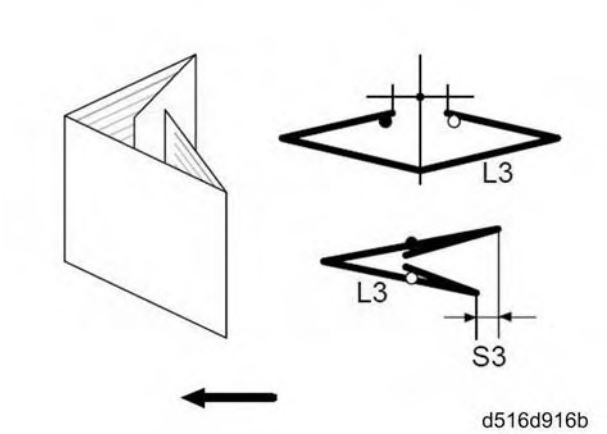
| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | S2 | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

Note

- You cannot specify this setting when using 12"x 18"L paper.

**65: Adjust Gate Fold Position 3**

Adjust the fold position of the bottom segment 3 (S3) of gate folded sheets when using the multi-folding unit.




Press [+] to increase and [-] to reduce (S3).

The upper right illustration shows a partly opened, double parallel-folded sheet (folded in half), and the lower right illustration shows a fully folded sheet.

The mark ● indicates the leading edge (relative to the paper feed direction), and the mark ○ indicates the trailing edge.

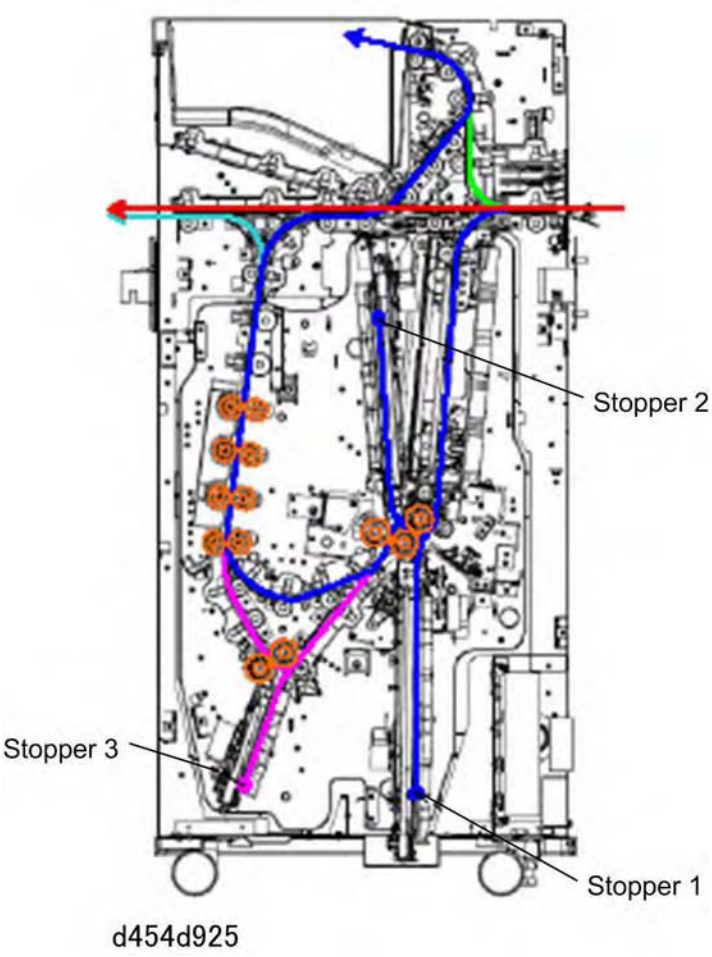
| Size | Setting | Default | Range |
|---|---|---|---|
| All Supported Sizes | S3 | 0 mm | ±4 mm |
| **Pitch Adj.** | **0.2 mm** | | |

# 1.9 SKEW ADJUSTMENT

## 1.9.1 MANUAL ADJUSTMENTS BY SERVICE TECHNICIAN

### *Before You Begin*

These adjustments can be done by the service technician adjusting the set and adjustment screws on the multi-folder unit.

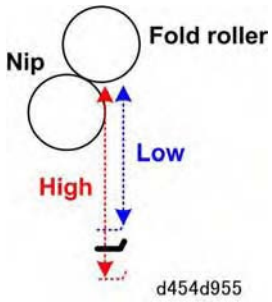



The illustration above shows the positions of the three stoppers inside the machine. The positioning of the stoppers is critical because this determines the types of folding.

### *Front and Rear*

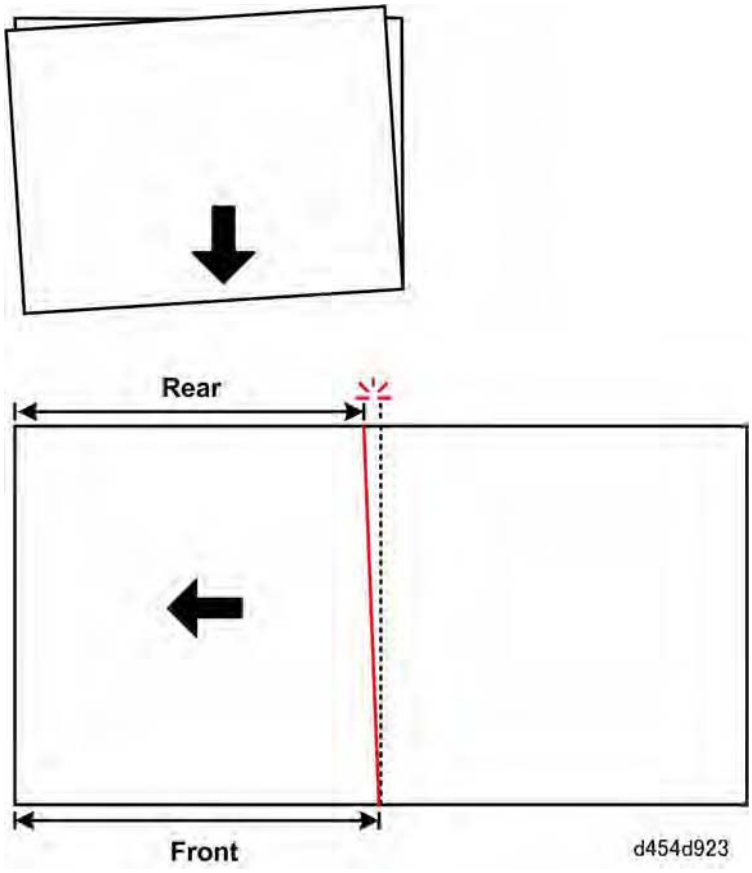
The terms "Front" and "Rear" are critical to understanding how paper is skewing during folding. These terms are defined relative to the positioning of the paper in the paper path as it feeds and exits.

- "High" means the distance from the nip of the fold roller to the stopper is too far on one end of the fence.
- "Low" means the distance from the nip of the fold roller to the stopper is too short.



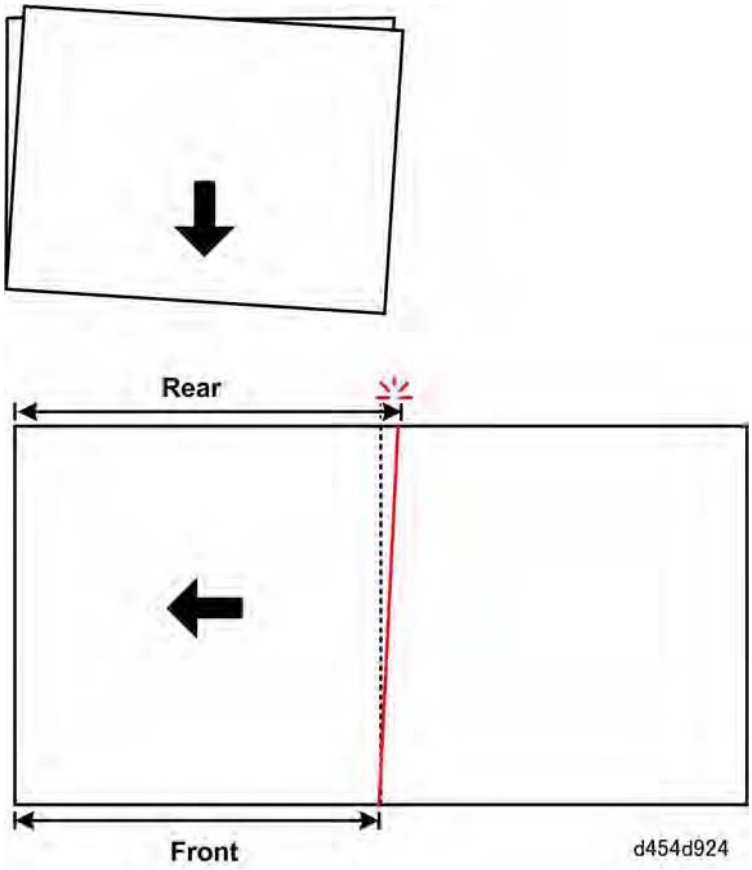

Two examples are shown below.

**Example 1: High (Stopper Too Far From The Nip)**




The black arrow shows the direction of paper feed from right to left. When the skew sheet is opened the **Front** edge is **longer** than the **Rear** edge.

**Example 2: FM2: Low (Stopper to Close to the Nip)**



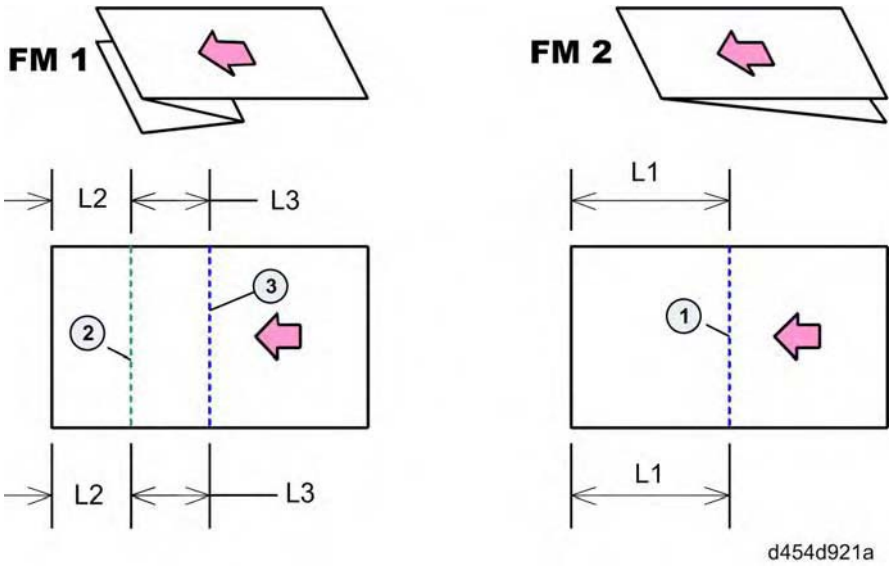

The black arrow shows the direction of paper feed from right to left. When the skew sheet is opened the **Front** edge is **shorter** than the **Rear** edge.

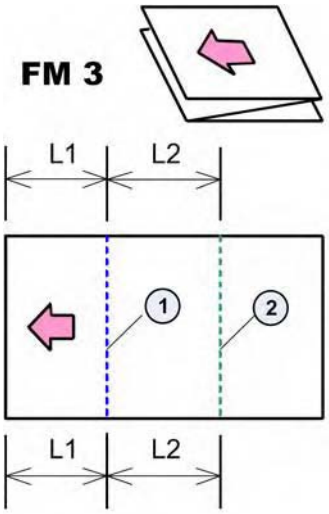
## *Skew Correction Reference Diagrams and Table*

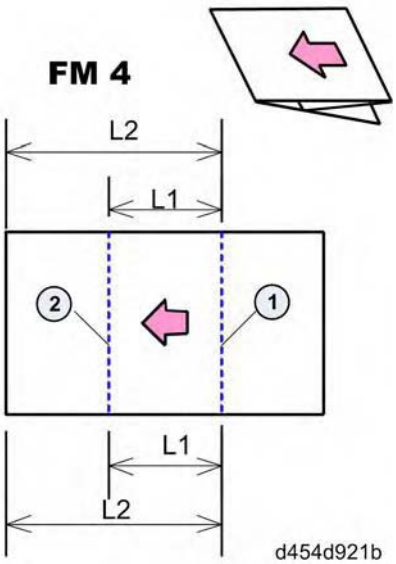
**Skew Correction Reference Diagrams**

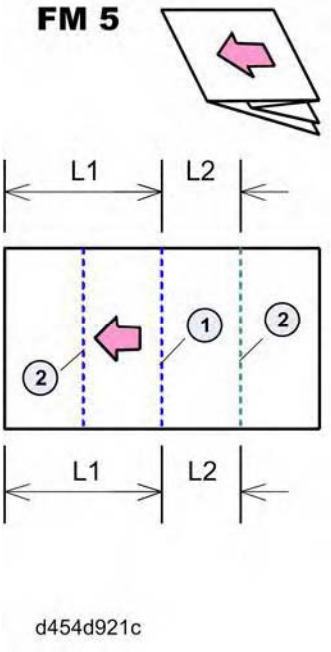
**Key**

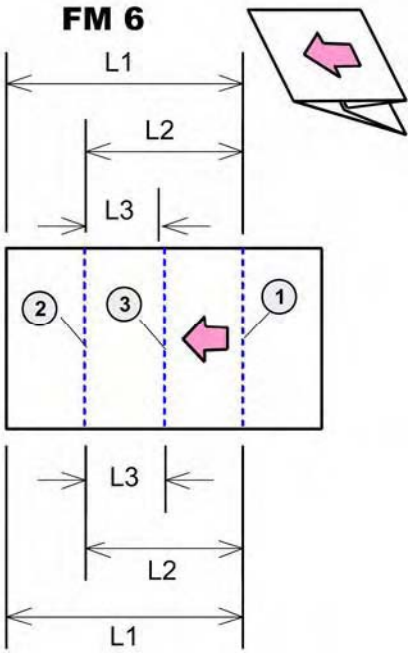
| Symbol/Color | What It Means |
|---|---|
| ① | Stopper 1 needs adjustment |
| ② | Stopper 2 needs adjustment |
| ③ | Stopper 3 needs adjustment |
| **Blue line** | Peak fold (points left) |
| **Green line** | Valley fold (points right) |



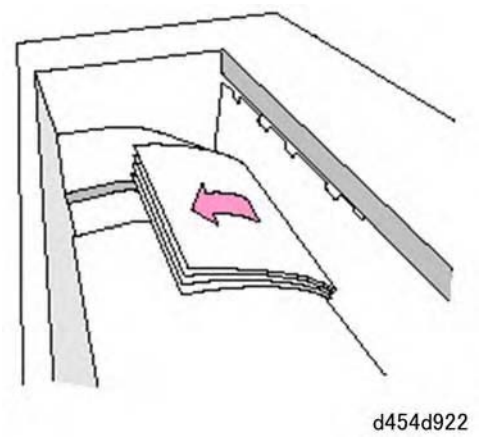

FM 3
L1
L2
1
2
L1
L2


FM 4
L2
L1
2
1
L1
L2
d454d921b


FM 5
L1
L2
2
1
2
L1
L2
d454d921c


FM 6
L1
L2
L3
2
3
1
L3
L2
L1

## *General Procedure*



d454d922

1. Retrieve the first folded paper from the top of the multi-folder. The first sheet is on the bottom of the stack.
2. If a fold is skewed, spread the paper out in the direction of paper feed shown in the diagrams above.
3. Carefully measure the distances between the folds between L1, L2, L3.
4. Compare the **Front** and **Rear** measurements.
5. Refer to the table below to determine where the paper is skewing and what type of adjustment is required.

**Skew Correction Reference Table**

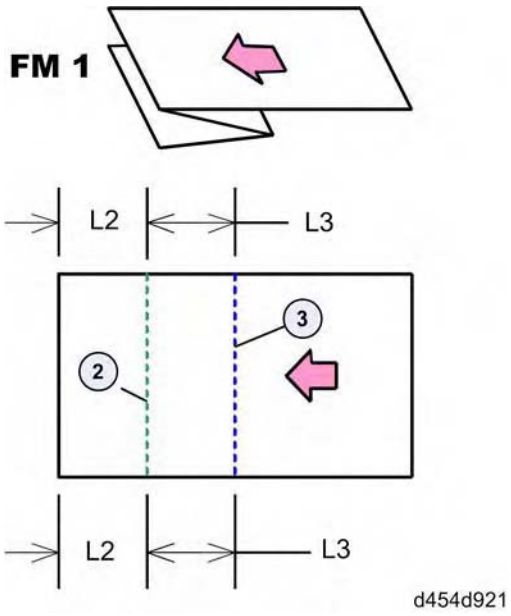
| | L1 | L2 | L3 | S1 | S2 | S3 |
|---|---|---|---|---|---|---|
| FM1 | --- | **F** Long | **F** Long | --- | Lower **F** | Raise **F** |
| | --- | **F** Short | **F** Short | --- | Raise **F** | Lower **F** |
| FM2 | **F** Long | --- | --- | Raise **F** | --- | --- |
| | **F** Short | --- | --- | Lower **F** | --- | --- |
| FM3 | **F** Long | **F** Long | --- | Raise **F** | Lower **F** | --- |
| | **F** Short | **F** Short | --- | Lower **F** | Raise **F** | --- |
| FM4 | **F** Long | **F** Long | --- | Raise **F** | Lower **F** | --- |
| | **F** Short | **F** Short | --- | Lower **F** | Raise **F** | --- |
| FM5 | **F** Long | **F** Long | --- | Raise **F** | Lower **F** | --- |
| | **F** Short | **F** Short | --- | Lower **F** | Raise **F** | --- |
| FM6 | **F** Long | **F** Long | **F** Long | Lower **F** | Lower **F** | Raise **F** |
| | **F** Short | **F** Short | **F** Short | Raise **F** | Raise **F** | Lower **F** |

**Table Key**

You must refer to the "Skew Correction Reference Diagrams". The following abbreviations are used in the table above.

| Term | What It Means |
|---|---|
| **F** Long | **Front** measurement of L1, L2, or L3 is **longer** than **Rear**.. |
| **F** Short | **Front** measurement of L1, L2, or L3 is **shorter** than **Rear**.. |
| **S1, S2, S3** | Refers to Stopper 1, Stopper 2, Stopper. In the diagrams these are annotated as:①, ②, ③ respectively. |
| Raise **F** | Raise the front end of the stopper fence. For more, see below. |
| Lower **F** | Lower the front end of the stopper fence. For more, see below. |

**Example: FM1 (Z-fold)**




First, compare the L2 measurements.

- In this example, imagine that L2 is longer at the front than at the rear.
- Look at the table, in the row for FM1, and the column for L2.
  - ‘F Long’ means Front measurement longer than Rear
  - ‘F Short’ means Rear measurement longer than Front
- L2 is longer at the front, so we have an ‘F Long’ situation.
- Then look at the next line, below ‘F Long’. It says ‘Lower F on S2’.
- This means you must lower the front end of stopper 2.

Then, compare the L3 measurements.

- In this example, imagine that L3 is longer at the front than at the rear.
- Look at the table, in the row for FM1, and the column for L3.
  - ‘F Long’ means Front measurement longer than Rear
  - ‘F Short’ means Rear measurement longer than Front
- L3 is longer at the front, so we have an ‘F Long’ situation again.
- Then look at the next line, below ‘F Long’. It says ‘Raise F on S3’.
- This means you must raise the front end of stopper 3.

## *Stopper Adjustment Procedures*

1. Use the "Skew Correction Reference Diagrams" and "Skew Correction Reference Table" in the previous section to determine the location of the skew and which stopper needs adjustment.
2. Now you are ready to do the adjustment on the multi-folder unit.

3. The illustration above shows the location for each stopper adjustment.
   - Each stopper is equipped with two screws.
   - The black plastic screw is the Set screw and the metal silver screw is the Adjustment screw.

d454d941

4. Remove the Set screw.

d454d942

5. Turn the Adjustment screw to do the adjustment for the stopper.

**1st, 3rd Stopper**

- Turn the Adjustment screw **clockwise** to **lower** the front end of the fence.

  -or-

- Turn the Adjustment screw **counter-clockwise** to **raise** the front of the fence.

**2nd Stopper**

- Turn the Adjustment screw **clockwise** to **raise** the front end of the fence.

  -or-

- Turn the Adjustment screw **counter-clockwise** to **lower** the front of the fence.

d454d943

6. Fasten the Set screw in the hole of the diagonal cutout near the hole where you removed it.

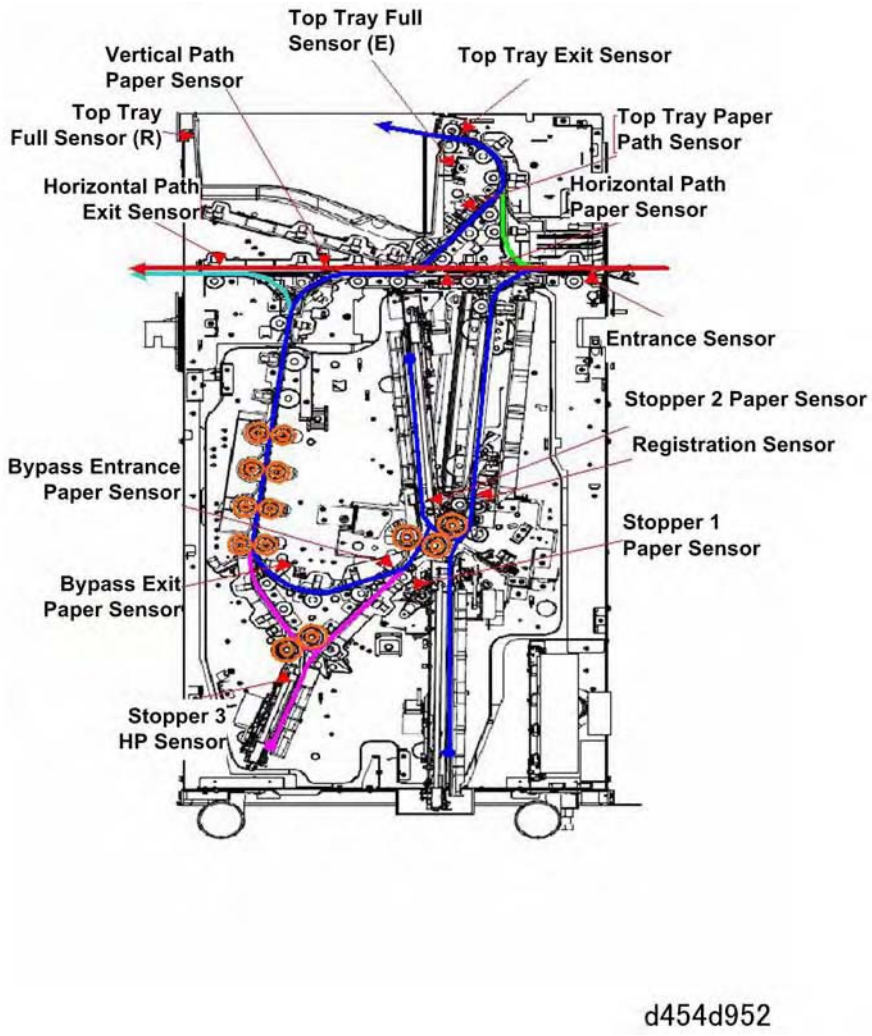
Note

- The diagonal cut may be above or below the original hole, depending on which stopper you are adjusting.
- The photo above shows the Set screw for Stopper 2.

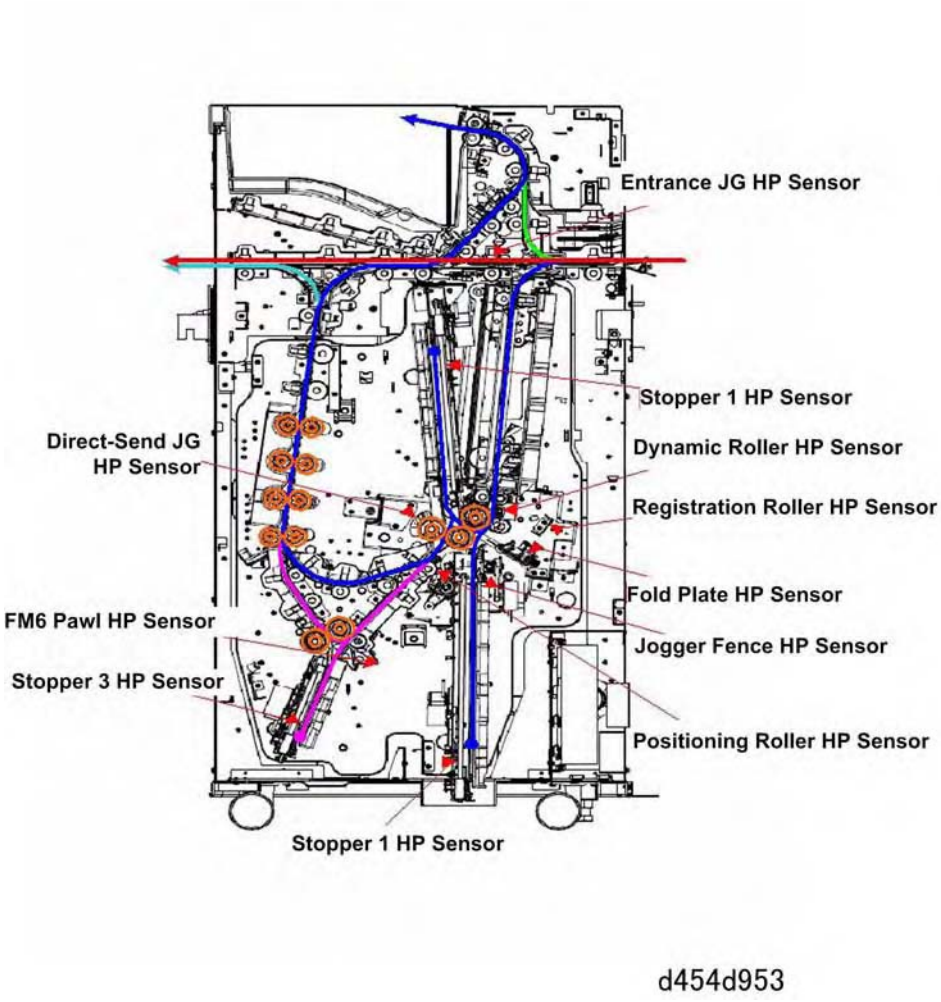
7. Tighten the Set screw so the plate holds the adjustment.

# 1.10 ELECTRICAL COMPONENTS

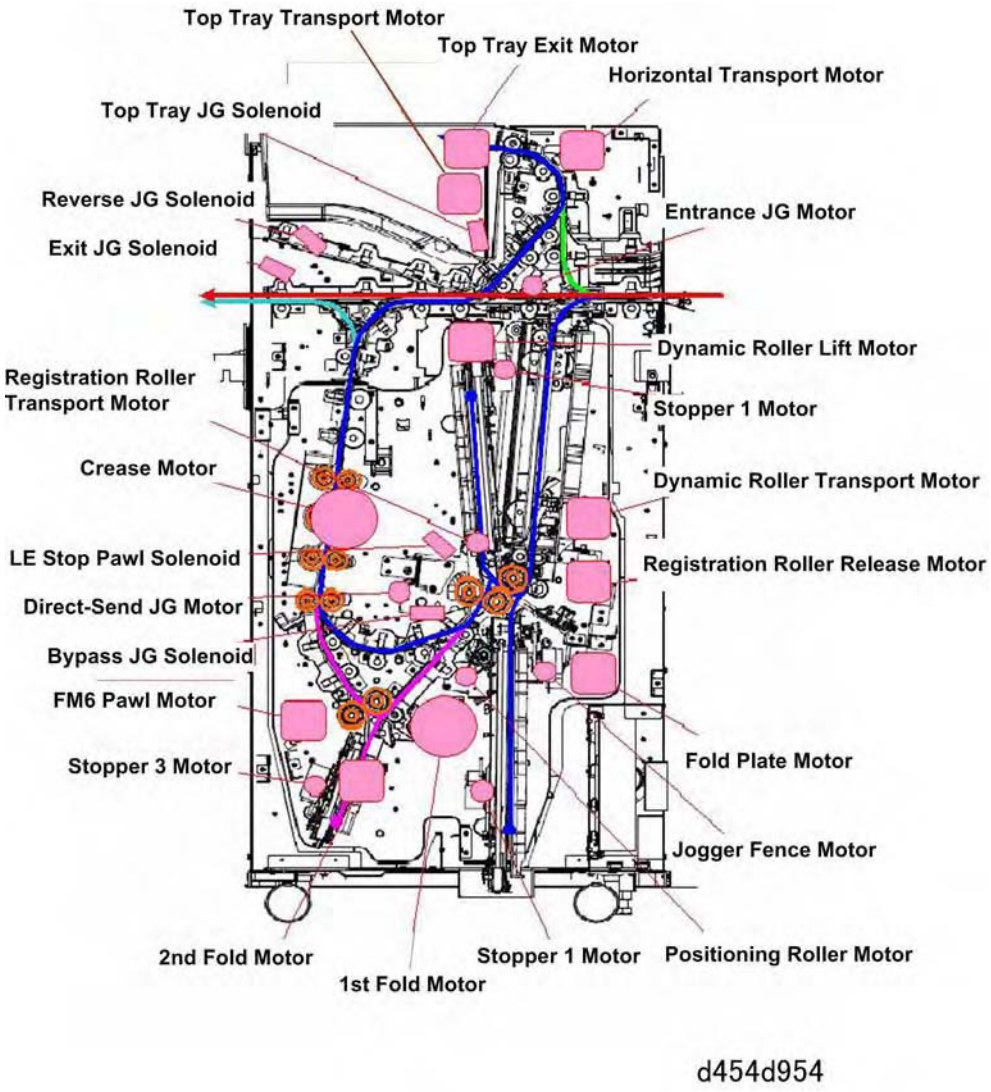
## 1.10.1 TRANSPORT SENSORS



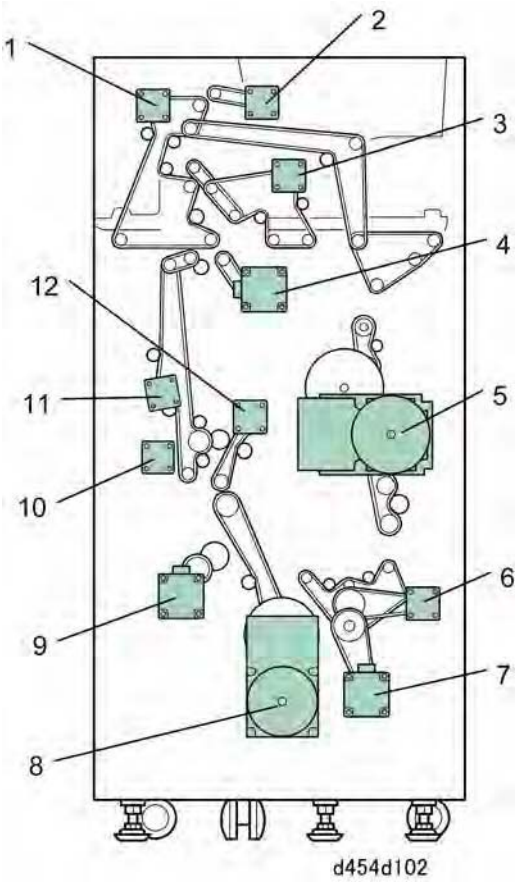
## 1.10.2 OPERATION SENSORS



## 1.10.3 MOTORS, SOLENOIDS

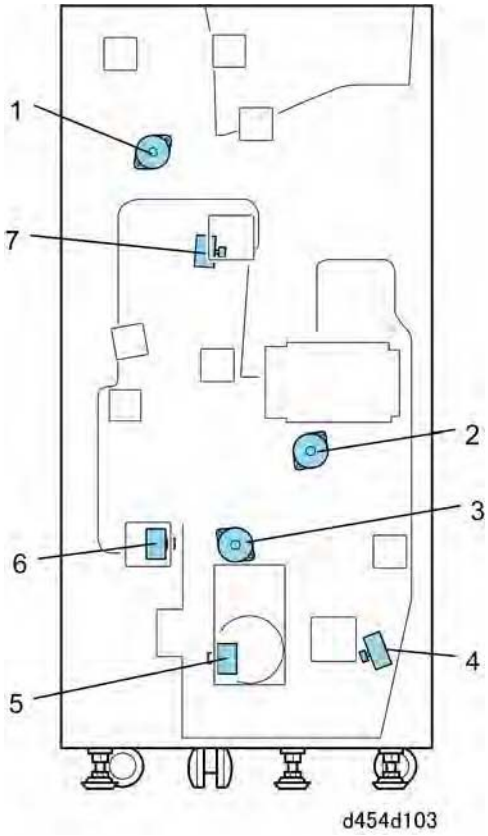


## 1.10.4 PAPER TRANSPORT MOTORS



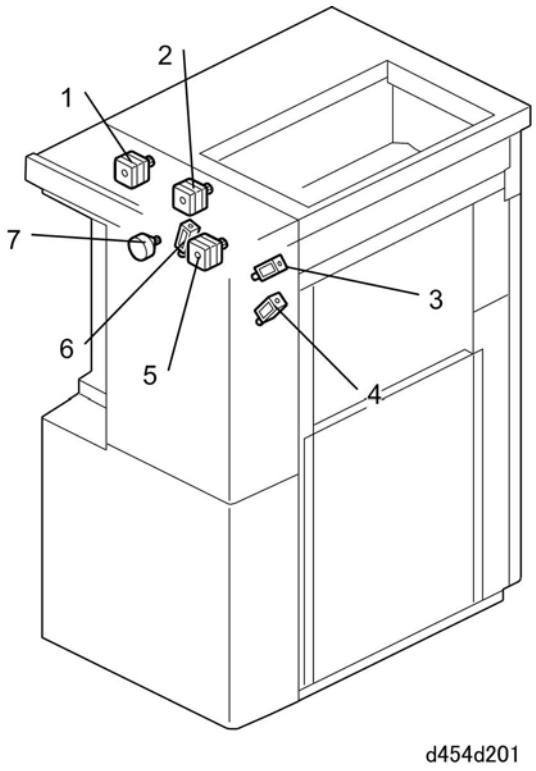

| | | | |
|---|---|---|---|
| 1. | Horizontal Transport Motor | 7. | 2nd Fold Motor |
| 2. | Top Tray Exit Motor | 8. | 1st Fold Motor |
| 3. | Top Tray Transport Motor | 9. | Fold Plate Motor |
| 4. | Dynamic Roller Lift Motor | 10. | Registration Roller Release Motor |
| 5. | Crease Motor | 11. | Dynamic Roller Transport Motor |
| 6. | FM6 Pawl Motor | 12. | Registration Roller Transport Motor |

## 1.10.5 FOLD MOTORS



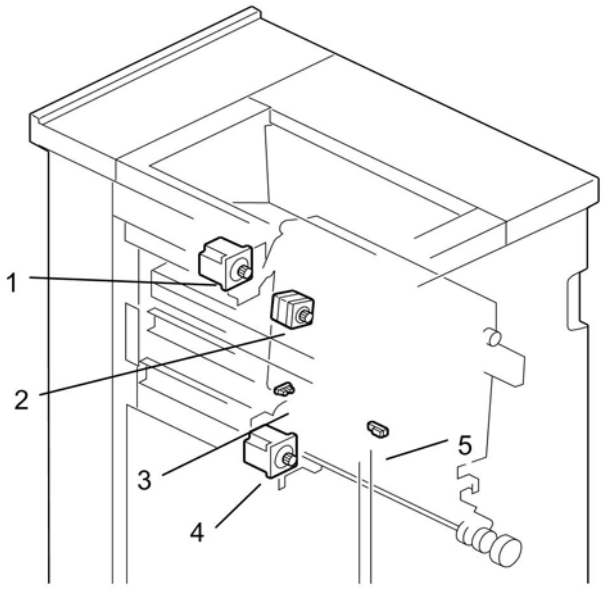

| | |
|---|---|
| 1. | Entrance JG Motor |
| 2. | Direct Send JG Motor |
| 3. | Positioning Roller Motor |
| 4. | Stopper 3 Motor |
| 5. | Stopper 1 Motor |
| 6. | Jogger Fence Motor |
| 7. | Stopper 2 Motor |

## 1.10.6 MOTORS, SOLENOIDS AROUND THE TOP TRAY




| | |
|---|---|
| 1. | Horizontal Transport Motor |
| 2. | Top Tray Exit Motor |
| 3. | Reverse JG Solenoid |
| 4. | Exit JG Solenoid |
| 5. | Top Tray Transport Motor |
| 6. | Entrance JG Solenoid |
| 7. | Top Tray JG Solenoid |

## 1.10.7 MOTORS, SENSORS TOP

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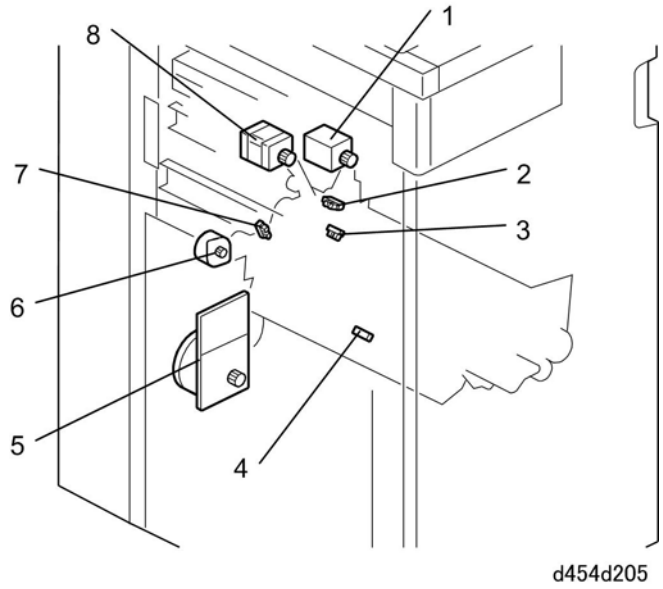
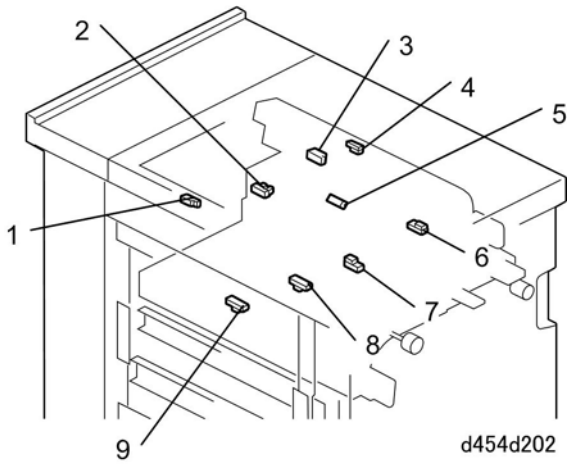
| | |
|---|---|
| 1. | Dynamic Roller Lift Motor |
| 2. | Dynamic Roller Transport Motor |
| 3. | Dynamic Roller HP Sensor |
| 4. | Fold Plate Motor |
| 5. | Registration Sensor |

## 1.10.8 MOTORS, SENSORS BOTTOM



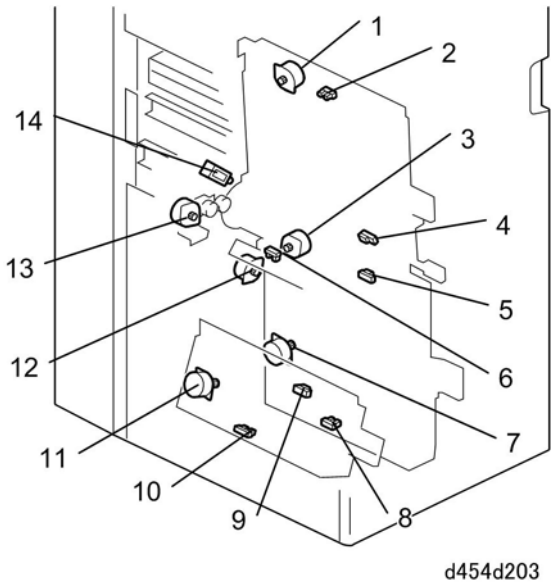

| | |
|---|---|
| 1. | Registration Roller Release Motor |
| 2. | Jogger Fence HP Sensor |
| 3. | Fold Plate HP Sensor |
| 4. | FM6 Pawl HP Sensor |
| 5. | 1st Fold Motor |
| 6. | Positioning Roller Motor |
| 7. | Direct Send JG HP Sensor |
| 8. | Registration Roller Transport Motor |

## 1.10.9 SENSORS AROUND TOP TRAY

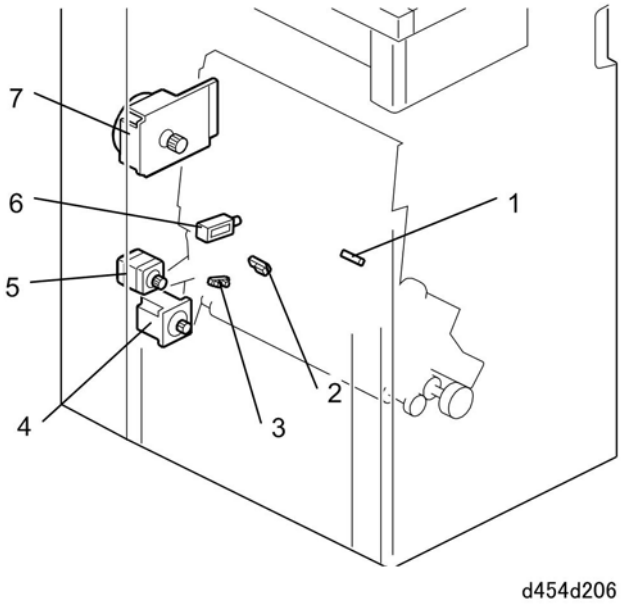



| | |
|---|---|
| 1. | Top Tray Full Sensor (R) |
| 2. | Entrance JG HP Sensor |
| 3. | Top Tray Full Sensor (E) |
| 4. | Top Tray Exit Sensor |
| 5. | Top Tray Paper Path Sensor |
| 6. | Entrance Sensor |
| 7. | Horizontal Path Paper Sensor |
| 8. | Vertical Path Paper Sensor |
| 9. | Horizontal Path Exit Sensor |

## 1.10.10 FOLD MOTORS, SENSORS, SOLENOIDS

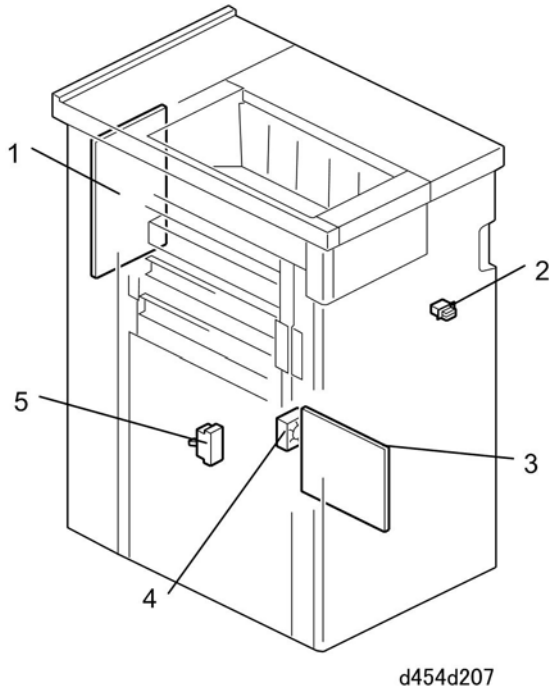



| | | | |
|---|---|---|---|
| 1. | Stopper 2 Motor | 8. | Stopper 1 HP Sensor |
| 2. | Stopper 2 HP Sensor | 9. | Stopper 3 Paper Sensor |
| 3. | Jogger Fence Motor | 10. | Stopper 3 HP Sensor |
| 4. | Stopper 2 Paper Sensor | 11. | Stopper 3 Motor |
| 5. | Stopper 1 Paper Sensor | 12. | Positioning Roller Motor |
| 6. | Positioning Roller HP Sensor | 13. | Direct Send JG Motor |
| 7. | Stopper 1 Motor | 14. | LE Stop Pawl Solenoid |




| | |
|---|---|
| 1. | Bypass Entrance Paper Sensor |
| 2. | Bypass Exit Paper Sensor |
| 3. | FM6 Pawl HP Sensor |
| 4. | 2nd Fold Motor |
| 5. | FM6 Pawl Motor |
| 6. | Bypass JG Solenoid |
| 7. | Crease Motor |

## 1.10.11 BOARDS, SWITCHES, FAN




| | |
|---|---|
| 1. | Main Board |
| 2. | Front Door Switch |
| 3. | PSU |
| 4. | PSU Fan |
| 5. | Breaker Switch |

## 1.10.12 COMPONENT LIST

| Motors | | |
|---|---|---|
| M | Entrance JG Motor | Operates the entrance junction that directs paper from the upstream device to the 1) horizontal paper path, 2) paper fold path, 3) top tray. |
| M | Top Tray Transport Motor | Drives the transport rollers that feed unfolded paper to the downstream unit. Reverses and feeds folded paper to the folded paper tray. |
| M | Horizontal Transport Motor | Drives the entrance roller at the entrance where the paper from the upstream device is received. Drives the exit roller that feeds the paper out to the downstream unit. Drives other transport rollers in the horizontal paper path. |
| M | Top Tray Exit Motor | Drives the exit roller that feeds paper into the top tray. |
| M | 1st Fold Motor | Drives the 1st fold roller. |
| M | Jogger Fence Motor | Moves the jogger fence according to the width of the paper to align its edges. |
| M | Positioning Roller Motor | Operates the positioning roller when the paper strikes stopper 1 when more that one sheet of paper is stacked for folding. |
| M | Stopper 1 Motor | Moves Stopper 1 to the correct position for folding according to the paper size. |
| M | Fold Plate Motor | Operates the fold plate for the first fold during multi-sheet folding. Operates Stopper 1 1 during Z-folding. |

| Motors | | |
|---|---|---|
| M | Registration Roller Release Motor | Releases the pressure of the registration roller so paper can be stacked for multi-sheet folding. |
| M | Dynamic Roller Lift Motor | Raises and lowers the dynamic roller to the correct position for folding. |
| M | Stopper 2 Motor | Moves Stopper 2 to the correct position for folding according to the paper size. |
| M | Dynamic Roller Transport Motor | Drives the Dynamic roller. |
| M | Registration Roller Transport Motor | Drives the registration roller. |
| M | Direct-Send JG Motor | Operates the direct send junction gate to the Stopper 2. |
| M | FM6 Pawl Motor | Drives the double-flap pawl that prevents bending of the leading edge when the 3rd fold is executed for FM6 folding (Fourths with 2 Flaps In) |
| M | Stopper 3 Motor | Moves Stopper 3 to the correct position for folding according to the paper size. |
| M | 2nd Fold Motor | Drives 3rd fold roller. Reverses when the paper does not pass through the 3rd fold unit. |
| M | Crease Motor | Drives the crease rollers. |

| Sensors | | |
|---|---|---|
| S | Top Tray Exit Sensor | Checks for the presence of paper at power on. Detects paper jams at the exit of the top tray. Used to create timing for control of paper fed to the top tray. |
| S | Entrance Sensor | Checks for the presence of paper at power on. Detects paper jams of paper fed from the upstream unit. Used to create timing for operation of the shift roller during multiple-sheet folding. |
| S | Entrance JG HP Sensor | Detects when the entrance junction gate is in and out of its home position. |
| S | Horizontal Path Paper Sensor | Checks for the presence of paper at power on. |
| S | Top Tray Paper Path Sensor | Checks for the presence of paper at power on. Also checks for jams during paper feed. |
| S | Top Tray Full Sensor (E) | Detects when the top tray is full. |
| S | Top Tray Full Sensor (R) | Detects when the top tray is full. |
| S | Horizontal Path Exit Sensor | Checks for the presence of paper at power on. Checks for paper jams when paper exits to the downstream unit. Used to create timing for paper exit to the downstream unit. |
| S | Vertical Path Paper Sensor | Checks for the presence of paper at power on. |
| S | Positioning Roller HP Sensor | Detects when the jog roller is in and out of its home position. |

| Sensors | | |
|---|---|---|
| S | Stopper 1 Paper Sensor | Checks for the presence of paper at power on. Also checks for jams during paper feed. Detects the condition of the stacked sheets during multi-sheet folding. |
| S | Stopper 1 HP Sensor | Detects when Stopper 1 is in and out of its home position. |
| S | Jogger Fence HP Sensor | Detects when jogger fence is in and out of its home position. |
| S | FM6 Pawl HP Sensor | Detects when the FM! pawl is in and out of its home position. |
| S | Registration Sensor | Checks for the presence of paper at power on. Also checks for jams during paper feed. Used to create timing for registration buckle adjustment during paper feed. Detects the condition of the stacked sheets during multi-sheet folding. |
| S | Registration Roller HP Sensor | Detects when registration roller is in and out of its home position. |
| S | Dynamic Roller HP Sensor | Detects when dynamic roller is in and out of its home position. |
| S | Fold Plate HP Sensor | Detects when the fold plate is in and out of its home position. |
| S | Direct-Send JG HP Sensor | Detects when the direct-send junction gate is in and out of its home position. |
| S | Stopper 2 Paper Sensor | Checks for the presence of paper at power on. Also checks for jams during paper feed. Used to create operation timing of the LE pawl solenoid. |
| S | Stopper 2 HP Sensor | Detects when Stopper 2 is in and out of its home position. |

| Sensors | | |
|---|---|---|
| S | Bypass Exit Paper Sensor | Checks for the presence of paper at power on. |
| S | Bypass Entrance Paper Sensor | Checks for the presence of paper at power on. |
| S | Stopper 3 Paper Sensor | Checks for the presence of paper at power on. Also checks for jams during paper feed. Used to create the timing that operates the 2nd fold motor during FM6 folding.. |
| S | Stopper 3 HP Sensor | Detects when Stopper 3 is in and out of its home position. |

| Switches | | |
|---|---|---|
| SW | Breaker Switch | - |
| SW | Front Door Switch (SW1) | Detects when the front door is opened or closed. When the front door is opened the interlock switch cuts off the 24V power supply. |

| Solenoids | | |
|---|---|---|
| SOL | Top Tray JG Solenoid | Operates the junction gate that sends the paper to the top tray after the direction of the paper has been reversed up and out of the horizontal paper path. |
| SOL | Exit JG Solenoid | Operates the exit junction gate that directs paper from the multi-fold unit to the exit for the downstream unit or to the exit for the folded paper tray. |
| SOL | Reverse JG Solenoid | Operates the junction gate that opens the horizontal feed path to paper sent from the fold crease unit. |
| SOL | LE Stop Pawl Solenoid | Operates the pawl that prevents bending of the leading edge while the paper is being folded in the 2nd fold unit. |
| SOL | Bypass JG Solenoid | Operates the bypass junction gate which directs paper from the 2nd fold unit to either the bypass or the 3rd fold unit. |

| Boards | | |
|---|---|---|
| PCB | PSU | Supplies the 24V power for the operation of the motors and solenoids, and the 5V power for the main board and sensors. |
| PCB | PSU Fan | Cools the PSU. |
| PCB | Main Board | Controls operation of the motors, solenoids, sensors, and interface with the main machine. |

# D544

# DECURLER UNIT DU5010

| REVISION HISTORY | | |
|---|---|---|
| **Page** | **Date** | **Added/Updated/New** |
| | | None |

# D544 (DECURLER UNIT DU5010)

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# READ THIS FIRST

## Safety, Conventions, Trademarks

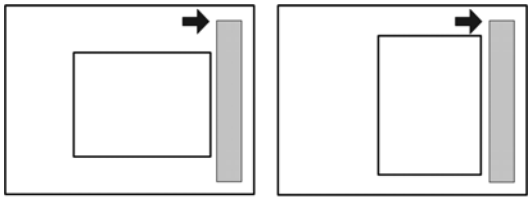
### Conventions

#### Common Terms

This is a list of symbols and abbreviations used in this manual.

| Symbol | What it means |
|---|---|
| | Binding screw (shoulder hexagonal head) |
| | Binding screw (round flathead) |
| | Black screw (heavy, fusing unit, TCRU) |
| | Bushing |
| | C-ring |
| | Connector |
| | E-ring |
| | FFC (Flat Film Connector) |
| | FFC (Flat Film Connector) |
| | Gear |
| | Harness clamp |
| | Harness clamp (metal: fusing unit) |
| | Hook (or tab release) |
| | Knob screw (black) |
| | Knob screw (sliver) |
| | Pivot screw |
| | Screw (common screw) |

| Symbol | What it means |
|---|---|
| | Shoulder screw |
| | Spring |
| | Standoff |
| | Stud screw |
| | Tapping screw (for plastic) |
| | Timing belt |



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The notations "SEF" and "LEF" describe the direction of paper feed, with the arrows indicating paper feed direction.

## Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

**⚠WARNING**

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

**⚠CAUTION**

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the finisher or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.

Note

- This information provides tips and advice about how to best service the machine.

# General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

**Safety Information**

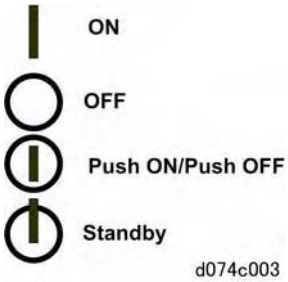
Always obey the following safety precautions when using this product.

**Safety During Operation**

In this manual, the following important symbols and notations are used.

**Switches and Symbols**

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.




# Responsibilities of the Customer Engineer

## Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

# Before Installation, Maintenance

## Installation, Disassembly, and Adjustments

**⚠CAUTION**

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

### Special Tools

**⚠CAUTION**

- Use only standard tools approved for machine maintenance.
- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

## During Maintenance

### General

**⚠CAUTION**

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

### Power

**⚠WARNING**

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

### Organic Cleaners

**⚠CAUTION**

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

### Power Plug and Power Cord

**⚠WARNING**

- Before servicing the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.
- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.
- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.
- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.
- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.
- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.
- Connect the power cord directly into the power source. Never use an extension cord.
- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

## After Installation, Servicing

### Disposal of Used Items

**⚠CAUTION**

- Always dispose of used items in accordance with the local laws and regulations regarding the disposal of such items.

# 1. REPLACEMENT AND ADJUSTMENT

## 1.1 DECURLER UNIT AND ELECTRICAL COMPONENTS

### 1.1.1 DECURLER UNIT

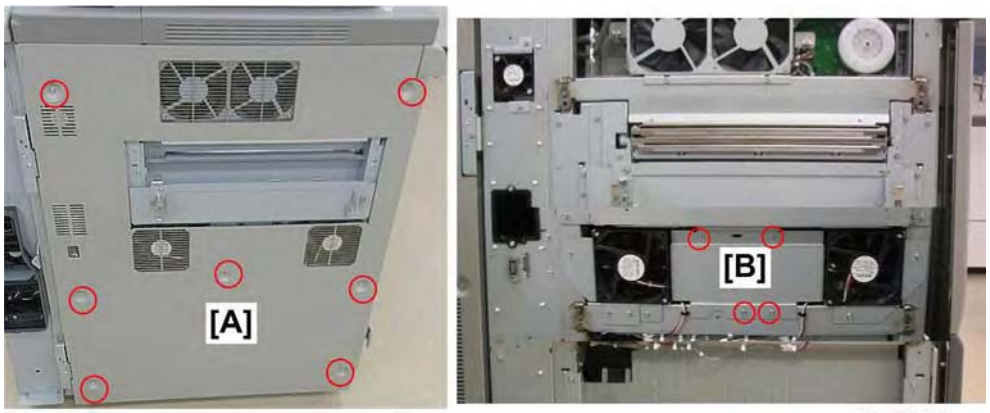
#### *Removal Procedure*

**⚠CAUTION**

- Most parts in the decurler unit have been precisely adjusted at the factory. Do not remove the parts for which replacement procedures are not mentioned in this manual. Otherwise, adjustment for the decurler unit requires special tools.

Only the following parts can be replaced without decurler unit adjustment.

- DDRB (Decurler Drive Board)
- Decurler Unit Motor
- Decurler Feed Motor
- Decurler Unit HP and Limit Sensor

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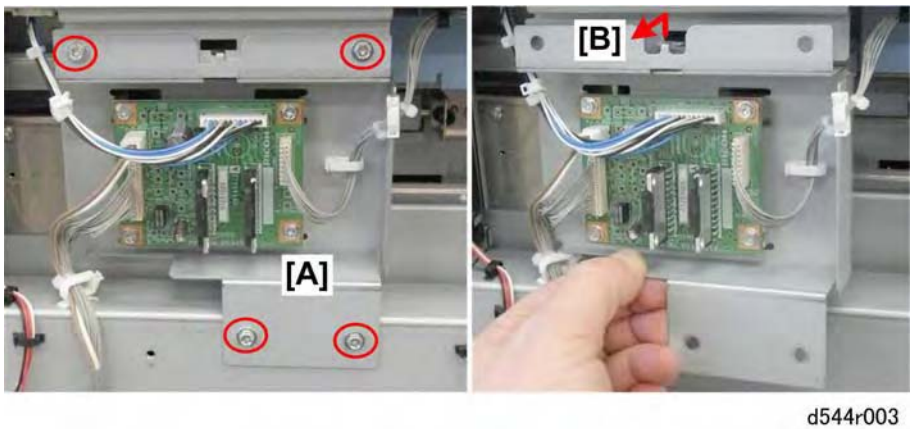
1. Left cover [A] of the main machine ( x7)
2. Bracket [B] ( x4)

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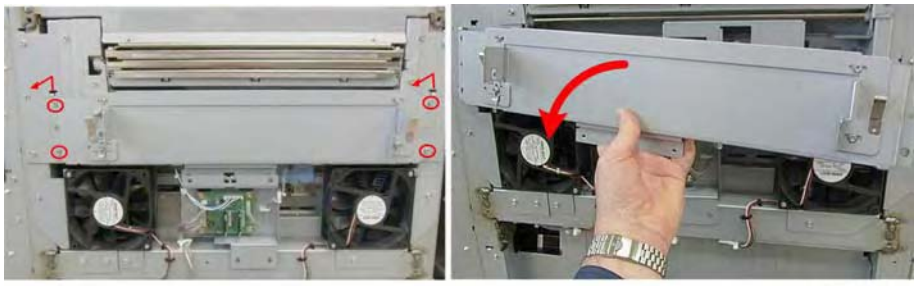
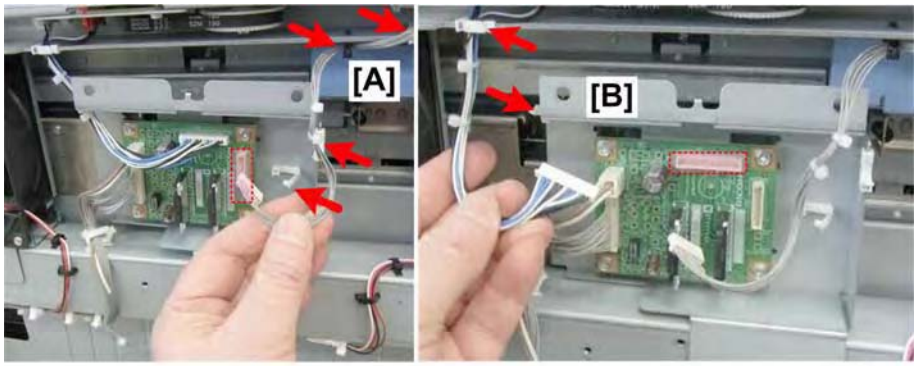
3. Disconnect the DDRB bracket [A] ( x4).
4. Lift the bracket off its hook [B] so that it hangs free.



d544r004

5. Disconnect the cover and remove it ( x4).

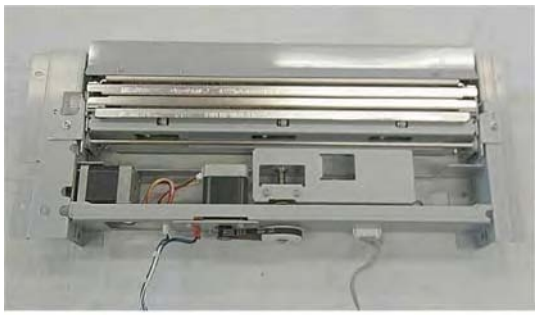



d544r005

6. Disconnect harness [A] at the front ( x1, x4).
7. Disconnect harness [B] at the rear ( x1, x2).

d544r006

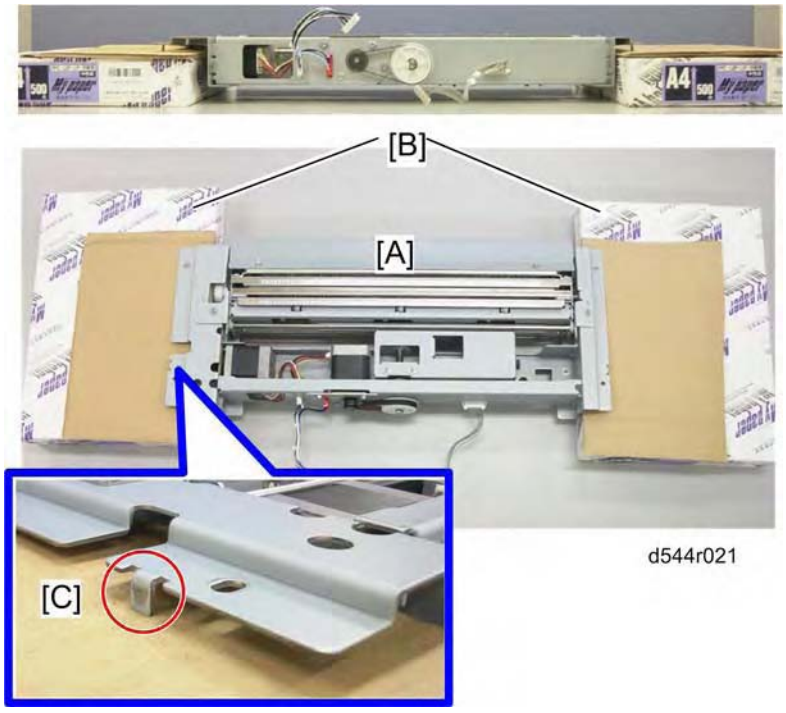
8. Make sure harnesses [A] and [B] are separated from the clamps so that they will not snag when you remove the decurler unit.



d544r007

9. Remove the decurler unit from the side of the main machine.
10. Keep the decurler unit in the “Maintenance Position” as described below.

### *Maintenance Position*



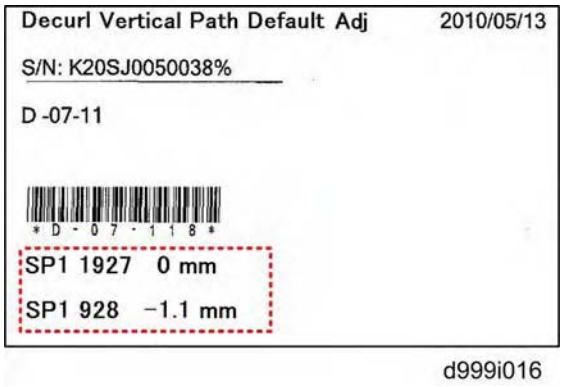

d544r021

Lay the Decurler Unit [A] on temporary supports [B] as shown above. The entrance guide of the decurler unit must not touch the floor or any object. Otherwise, the mylars on the entrance gate may be bent or folded.

- Keep this position during maintenance.
- Place an object like a sheet of cardboard on the supports so that the frame projection [C] does not damage the supports.

## *SP Settings After Installing a New Decurler Unit*

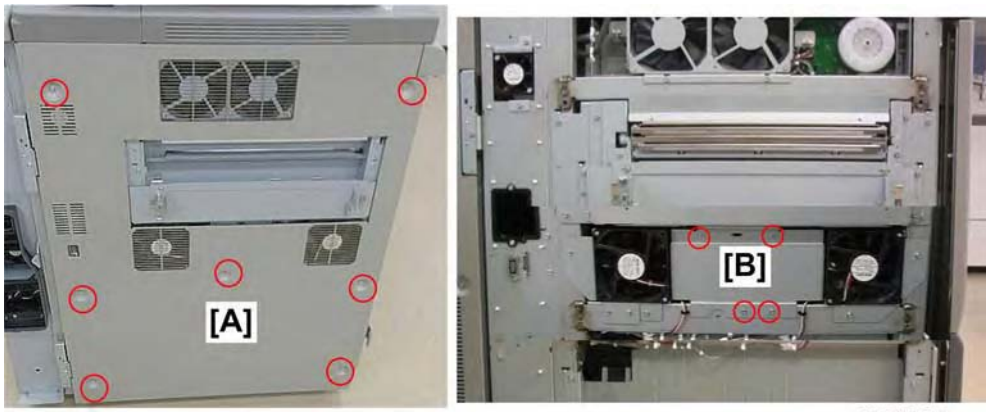
1. Switch on the machine and enter the SP mode.




d999i016

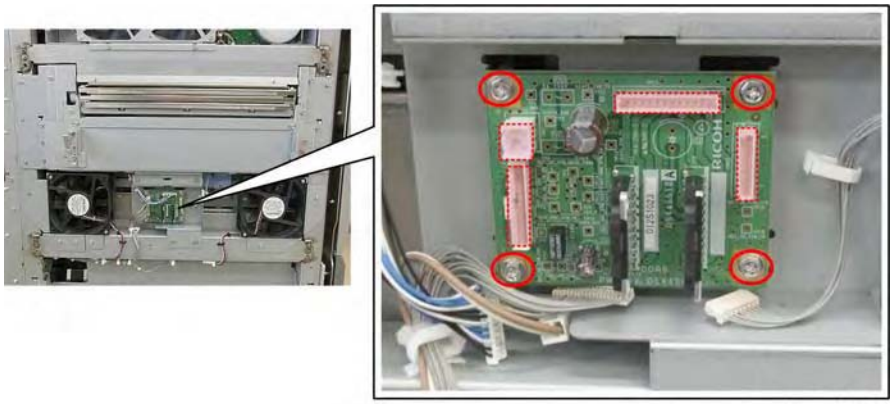
2. Refer to the accessory sheet and enter the settings for SP1927 and SP1928.
3. Exit SP mode and turn off the main machine.

## 1.1.2 DDRB



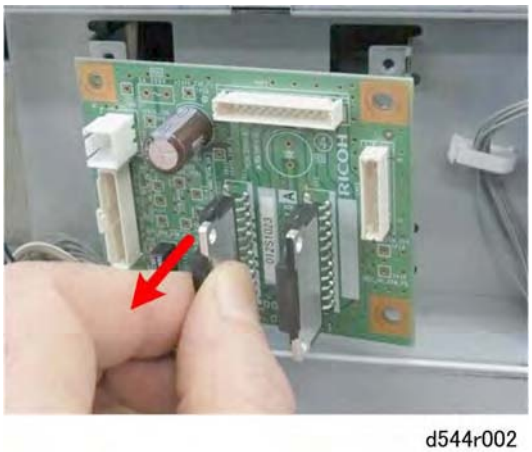

d074r003

1. Left cover [A] of the main machine ( x7)
2. Bracket [B] ( x4)



d544r001

3. Disconnect the DDRB ( x4, x4).

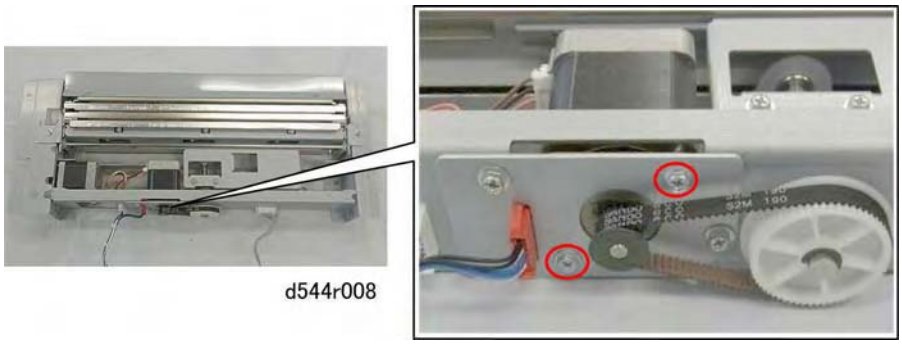


d544r002

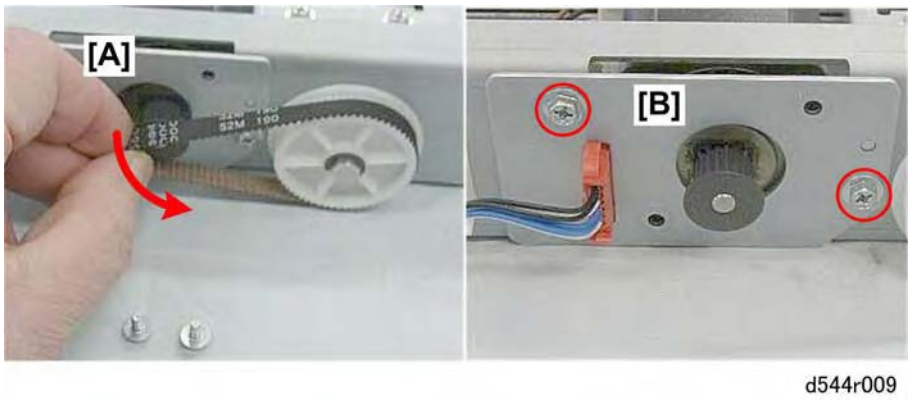
4. Remove the DDRB.

## 1.1.3 DECURLER UNIT MOTOR

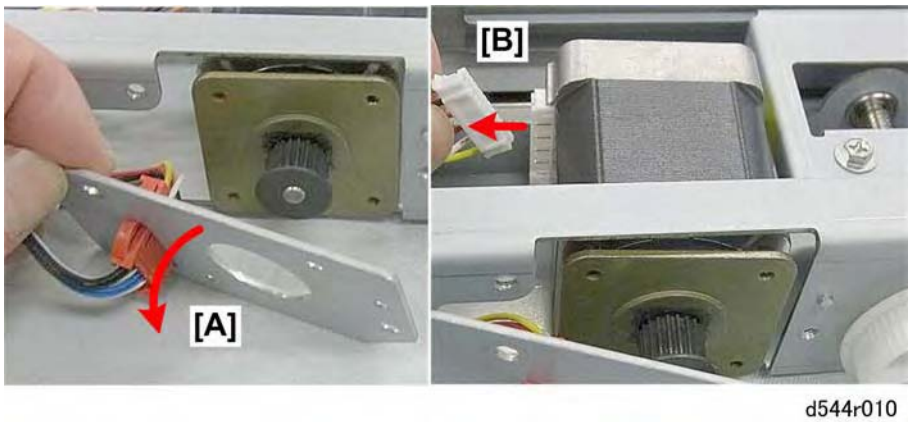
1. Decurler unit (☛p.1)




2. Disconnect the motor ( x2).




3. Disconnect:
   [A] Timing belt (○ x1)
   [B] Motor mount ( x2).



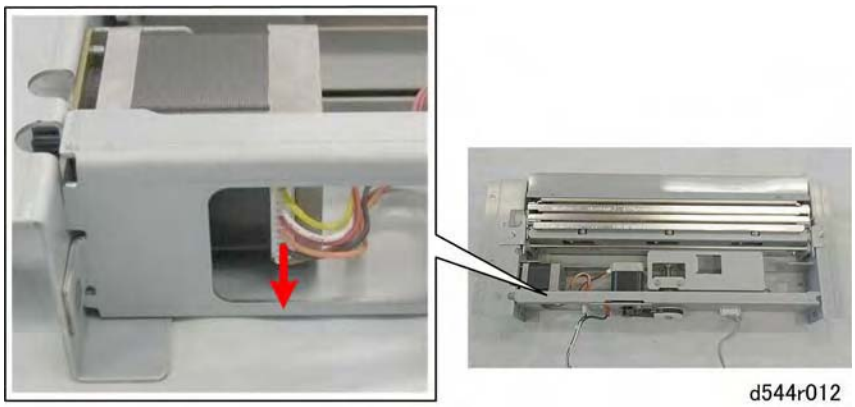

4. Pull away the motor mount [A].
5. Disconnect the motor at [B] ( x1).

d544r011

6. Pull the motor through the frame to remove it.

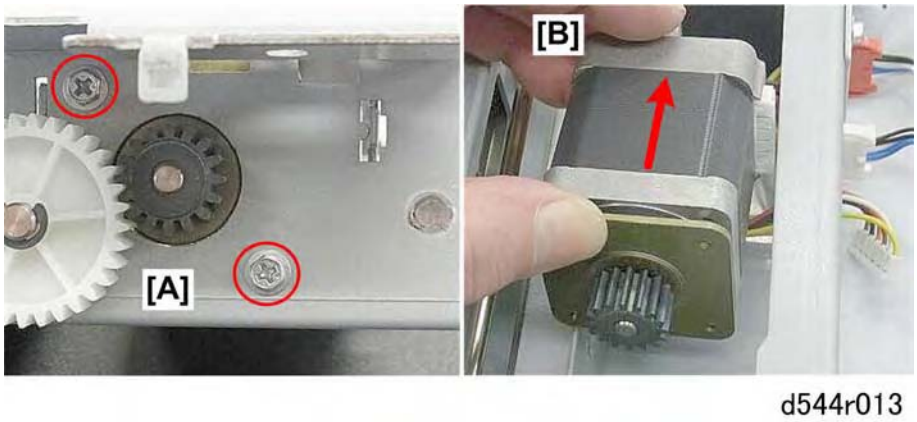
## 1.1.4 DECURLER FEED MOTOR

1. Decurler unit (☛p.1)



d544r012

2. On the rear side, disconnect the motor (x1).




d544r013

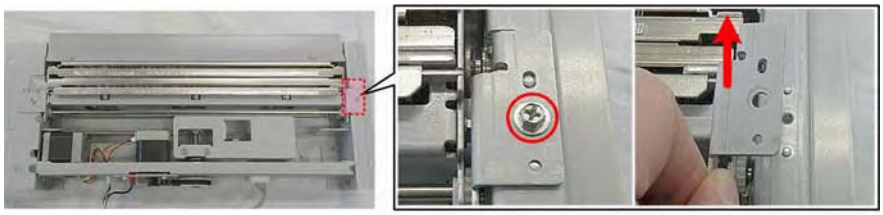
3. At the rear side of the unit [A], disconnect the motor ( x2).
4. Pull the motor [B] out from rear to front.

d544r014

5. Remove the motor.

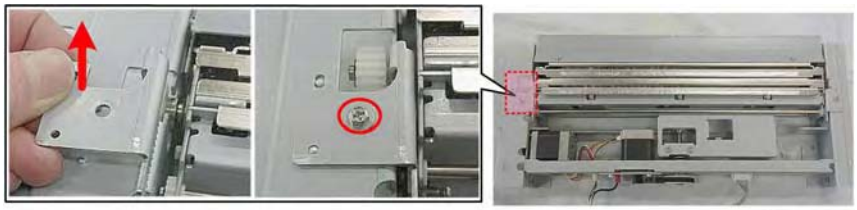
## 1.1.5 DECURLER UNIT HP AND LIMIT SENSOR

1. Decurler unit (☛p.1)



d544r015

2. On the front side, remove the rack of the front pinion gear ( x1).

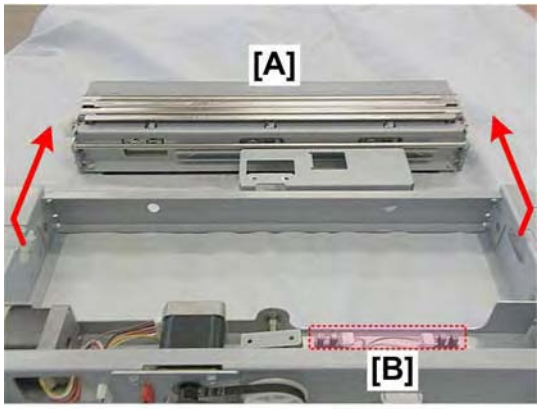


d544r016

3. On the rear side, remove the rack of the rear pinion gear ( x1).

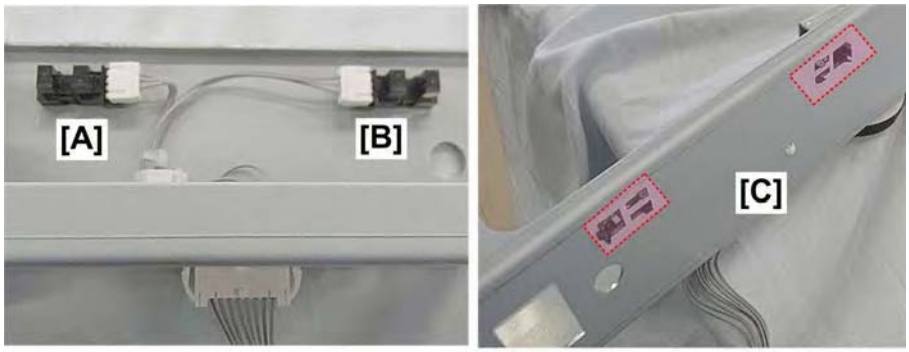
d544r017

4. In the center, disconnect the tongue bracket ( x2).




d544r018

5. Remove the decurler unit assembly [A] so that you can see both sensors [B].



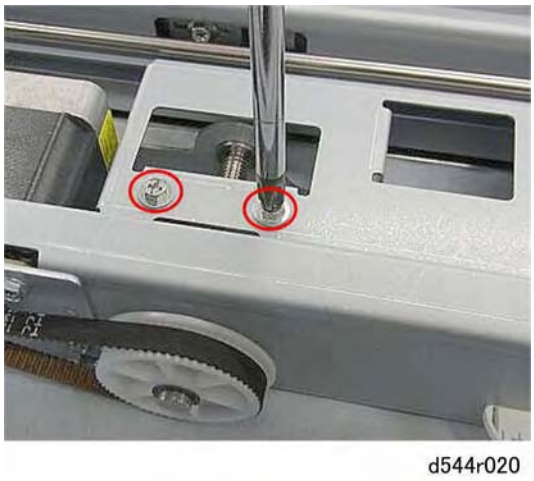

d544r019

Note

- [A] is the decurler unit HP sensor and [B] is the decurler unit limit sensor.

6. Disconnect a sensor (x1).
7. On the other side of the unit, release the sensor (x3).

**Re-installation**



d544r020

1. Set the decurler unit assembly in the frame.
2. Fasten the tongue bracket before you attach the front and rear racks ( x2).
   - This ensures that the assembly is perfectly aligned so that the front and rear racks will mesh correctly with the front and rear pinion gears below.
   - When you re-attach the front and rear rack, make sure that the racks are flat and meshed with the pinion gears below before you re-fasten the screws.

Color Controller E-41A

# Installation and Service Guide

## A guide for service technicians

Replacement parts and specifications are subject to change. For a current parts list, contact your authorized service/support center.

Part Number: 45097626
19 May 2011

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# PREFACE

The *Installation and Service Guide* is intended for authorized E-41A and copier/printer service technicians installing or servicing the Color Controller E-41A. If you are not an authorized service technician, do not attempt to install or service the Color Controller E-41A. Electronics For Imaging, Inc. does not warrant the performance of the server if it is installed or serviced by non-authorized personnel.

**NOTE:** The term "E-41A" is used throughout this guide to refer to the Color Controller E-41A. The term "copier/printer" is used throughout this guide to refer to the Pro C751/ Pro C751EX/Pro C651EX.

## E-41A customer media pack

The E-41A customer media pack contains the following:

- System Software media (for service use only; multiple languages; includes the Microsoft Windows XP Pro for Embedded Systems operating system software and Fiery Server Software)
- User Software media
- Fiery Options Utility DVD (for service use only)
- Fiery Clone Tool (for service use only; includes documentation)
- User Documentation CD
- Printed *Welcome* document
- Printed *Secure Erase Administrator Guide*
- Printed *Release Notes*
- Other documentation

# About the documentation

The documentation for the E-41A is described in the following sections.

## Service documentation

The scope of the *Installation and Service Guide* is limited to describing how to install E-41A hardware and system software and how to service and troubleshoot the E-41A. The Troubleshooting chapter focuses on the individual components of the E-41A hardware, as well as the E-41A connection to the network and copier/printer.

Details about the copier/printer, network, remote computers, software applications, and Microsoft Windows operating system software are beyond the scope of this guide.

For details about the content, terminology, and conventions of this guide, see the sections beginning on page 11.

## Customer documentation

Customer documentation (also known as "user documentation") is designed primarily for users and administrators. It also contains information that may be useful to service technicians; therefore, cross-references to the customer documentation are included in the *Installation and Service Guide*.

Service technicians can obtain user documentation from the User Documentation CD. Client users can obtain user documentation by using a Web browser to download documentation files from the E-41A. The documents are provided as Adobe Acrobat PDF (Portable Document Format) files, which are indexed and cross-referenced. In addition, some E-41A utilities (such as Command WorkStation) offer built-in Help.

For a complete description of the E-41A user documentation, see *Welcome* on the User Documentation CD.

## About this guide

The *Installation and Service Guide* is organized into the following topics:

- Preface

  General information, including a list of precautions.

- Introduction

  General description of the E-41A.

- Installation

  Checking the customer site and unpacking the E-41A; installing and connecting the E-41A.

- Using the E-41A

  Overview of the E-41A functions and user interfaces; printing system pages; shutting down and restarting the E-41A.

- Service Procedures

  Removal and replacement procedures for E-41A components; restoring and verifying functionality.

- System and user software

  Overview of the system software; installing system and user software; backing-up and restoring configuration settings; updating system and user software.

- Troubleshooting

  Common problems and ways of correcting them; startup error messages; general system error conditions.

- Specifications

  E-41A specifications.

- Servicing the E-41A with Furniture (FACI option)

  Assembly and disassembly instructions for systems that are mounted on the optional furniture with the optional monitor attached.

**NOTE:** The E-41A *Installation and Service Guide* is not intended for customer use. Do not leave the *Installation and Service Guide* at the customer site after servicing the E-41A.

### About the illustrations in this guide

Illustrations reflect the current shipping version of the E-41A at the time of publication. Components shown in these illustrations are subject to change. To receive information about any E-41A components that do not match the illustrations in this guide, contact your authorized service/support center.

## Terminology and conventions

The following sections explain the terminology and conventions used throughout this guide.

### Service technician

In this guide, responsibilities attributed to the service technician may include the following:

- Making sure that the customer site has an appropriate electrical outlet and sufficient physical space for the E-41A
- Unpacking the E-41A
- Installing and connecting the E-41A

**NOTE:** The preceding functions may be performed by a trained rigger or service technician.

- Servicing the E-41A components
- Installing system and user software on the E-41A

### Network administrator

In this guide, responsibilities attributed to the network administrator include the following:

- Verifying that the customer site is network-ready
- Configuring E-41A Network Setup options
- Configuring the connection between the E-41A and the Command WorkStation application installed on the E-41A
- Installing the user software shipped with the E-41A onto the networked Windows and Apple Mac OS computers that will print to it
- Configuring the connection between each remote computer and the E-41A

### E-41A components

The terms “replace” and “replacing” are used throughout this guide to mean the reinstallation of existing components. Install new components only when necessary.

**NOTE:** Replacement parts and specifications are subject to change. When ordering replacement parts, refer to the current parts list maintained by your authorized service/support center. Install the correct parts as directed by your service/support center.

The term “Control Panel” refers to the area on the front of the E-41A, including the green/red activity light, the display window (LCD—liquid crystal display), and the buttons to the left and right of the display window.

The term “LCD” refers to the display window of the E-41A Control Panel.

The term “monitor” refers to the optional E-41A flat panel monitor.

The term “DVD drive” (Digital Versatile Disk drive) refers to the E-41A DVD drive.

The term “system software” refers to the following software installed on the E-41A hard disk drive (HDD):

- Windows XP Pro for Embedded Systems operating system software and Fiery Server Software (System Software DVD)
- User Software (User Software DVD)

For other terms used to identify components of the E-41A, see the reference key in Figure 11 on page 49.

### Connectors and components labeled “not used”

Connectors and components labeled “not used” are disabled or are not used in the standard E-41A configuration.

### Document conventions

References to E-41A user documentation, such as *Configuration and Setup,* are displayed in italics. The user documentation files are installed from the User Documentation CD.

**NOTE:** The NOTE format highlights important messages and additional information.

**WARNING** The WARNING format indicates a potentially hazardous situation which, if instructions are not followed, could result in death or serious injury. To use the E-41A safely, always pay attention to these WARNINGs.

**CAUTION** The CAUTION format indicates a caution concerning operations which, if not performed correctly, may lead to injury. To use the E-41A safely, always pay attention to these CAUTIONs.

**IMPORTANT** The IMPORTANT format indicates operational requirements and restrictions. To operate the E-41A correctly and avoid damage to the E-41A or other property, be sure to read the IMPORTANT items carefully.

## Precautions

Always observe the following general precautions when installing and servicing the E-41A:

- **Avoid pressing the surface of the LCD.**

  Applying excessive pressure to the LCD window will cause it to change color.

- **Use a soft cloth moistened with Lens and Mirror Cleaner to clean the surface of the E-41A display window.**

  Other solvents, such as water, may damage the polarizer on the display window.

**WARNING**

**Never lift the E-41A by grasping the top panel. The top panel does not support the weight of the system.**

**ATTENTION:** Ne jamais soulever le serveur d'impression par sa partie supérieure : celle-ci ne peut pas supporter le poids du système.

**AVVERTENZA:** Il server di stampa non deve essere mai sollevato afferrandolo dal pannello superiore, in quanto quest'ultimo non può sostenere il peso dell'intero sistema.

**WARNUNG:** Heben Sie den Druckserver nicht an der oberen Gehäuseabdeckung an. Die obere Gehäuseabdeckung ist nicht dafür ausgelegt, das Gesamtgewicht des Systems zu tragen.

**DVERTENCIA:** No levante nunca el servidor de impresión agarrándolo por el panel superior. El panel superior no soporta el peso del sistema.

**ADVERTÊNCIA:** Nunca erga o servidor de impressão pelo painel superior. O painel superior não suporta o peso do sistema.

**WAARSCHUWING:** Til de afdrukserver nooit op door het bovenpaneel vast te nemen. Het bovenpaneel kan het gewicht van het systeem niet dragen.

**IMPORTANT**

- **When connecting or disconnecting the power cord:**
  - *Only use* the power cord that shipped with the E-41A or an appropriate replacement power cord available from an authorized provider.
  - *Always* disconnect the power cord from the E-41A back panel before opening the unit and servicing internal components.
  - *Do not* pull on the power cord when unplugging the E-41A. Pull the plug instead.
  - *Do not* place objects on the power cord. Place the power cord away from foot traffic.
  - *Do not* tamper with or disable the power cord grounding plug.
  - *Do not* use a 3-prong adapter in a 2-hole ungrounded outlet.
  - *Do not* use an extension cord.
  - *Do not* plug the E-41A into a circuit with heating or refrigeration equipment (including water dispensers).
  - *Do not* plug the E-41A into a switchable power outlet. This can result in the E-41A being turned off accidentally.
- **Never set any liquid on or near the E-41A or copier/printer. If liquid is spilled into the E-41A or copier/printer, disconnect the power cord immediately.**
- **Do not attempt to open the power supply, DVD drive, or hard disk drive (HDD).**

- **Handle the E-41A LCD window with care.**

  If the E-41A LCD window breaks and the liquid crystal inside leaks out, avoid contact with it. If you come in contact with the liquid crystal, wash it off your skin immediately with soap and water.

- **Use care when handling parts of the E-41A, as some edges on the unit may be sharp.**

- **Do not install third-party applications onto the E-41A. Third-party applications are not supported and can cause system problems. Although virus scans are permitted on the E-41A, virus-protection software should not be loaded in memory-resident mode.**

- **Do not change the Windows operating system software preference settings.**

  Depending on the changes made, the E-41A may become unstable or even unusable. If this occurs, we recommend that you reinstall the E-41A System Software, which reliably restores the Windows operating system software to its factory defaults.

- **Never alter an existing network without permission.**

  The E-41A will probably be connected to an existing Local Area Network (LAN) based on Ethernet hardware. The network is the link between the customer's computer, existing laser printers, and other prepress equipment. Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and explicit permission of the system or network administrator or shop supervisor.

- **Unless you are the network administrator, never assign an IP address in E-41A Network Setup.**

  In a DHCP environment, the system assigns the IP address automatically. In a non-DHCP environment, you should enter only the IP address that has been assigned by the network administrator. Only the network administrator should assign an IP address to a network device. Assigning the E-41A an incorrect IP address may cause unpredictable errors on any or all devices connected to the network.

## Creating an ESD safe environment

IMPORTANT

- **Follow standard ESD (electrostatic discharge) precautions while working on the internal components of the E-41A.**

  Static is always a concern when servicing electronic devices. It is highly unlikely that the area around the copier/printer and the E-41A is static-free. Carpeting, leather-soled shoes, synthetic clothing fibers, silks, and plastics may generate a static charge of more than 10,000 volts. Static discharge is capable of destroying the circuits etched in silicon microchips, or dramatically shortening their life span. By observing standard precautions, you may avoid extra service calls and save the cost of a new board.

  When possible, work on a ground-connected antistatic mat. Wear an antistatic grounding strap, grounded at the same place as the antistatic mat. If that is not possible, do the following:

  - Attach a grounding strap to your wrist. Attach the other end to a good ground.
  - When you unpack the E-41A from the carton for the first time, touch a metal area of the copier/printer to discharge the static on your body.
  - Before you remove any of the E-41A panels and handle internal components, touch a metal part of the E-41A.
  - Leave new electronic components inside their antistatic bags until you are ready to install them. When you remove components from an antistatic bag, place them on a grounded antistatic surface, component-side up.
  - When you remove an electronic component, place it in an antistatic bag immediately. Do not walk across a carpet or vinyl floor while carrying an unprotected board.
  - During service to the motherboard, avoid using excessive force and always place the motherboard on a grounded, non-metallic, static-free surface. Never allow any metal to touch the solder contacts on the underside of the motherboard, especially beneath the battery socket. Improper handling can short-circuit and permanently damage the motherboard.

- **Handle printed circuit boards by their opposing edges only and avoid touching the contacts on the edge of the board.**

## Power Supply Cord Notice

IMPORTANT

The power supply cord is used as the main disconnect device. Ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

**ATTENTION:** Le cordon d'alimentation doit être débranché pour une mise hors tension totale du produit. La prise de courant doit être située ou installée à proximité du matériel et être facilement accessible.

**ATTENZIONE:** Il cavo di alimentazione deve essere scollegato per interrompere completamente la corrente. Accertarsi che la presa di corrente si trovi o sia installata vicino alla macchina e sia facilmente accessibile.

**ACHTUNG:** Der Netzstecker dient zur sicheren Trennung des Gerätes von der Stromversorgung. Stellen Sie sicher, dass sich die Steckdose in unmittelbarer Nähe des Gerätes befindet und leicht zugänglich ist.

**CUIDADO:** El cable de alimentación eléctrica se utiliza como dispositivo de desconexión principal. Asegúrese de que el enchufe-toma esté situado/instalado cerca del equipo y que sea fácilmente accesible.

**CUIDADO:** O cabo de força é usado como dispositivo principal de desconexão. Assegure-se de que a saída de energia esteja localizada/instalada próxima ao equipamento e facilmente acessível.

**VOORZICHTIG:** Het netsnoer moet worden uitgetrokken om de stroomvoorziening te onderbreken. Zorg ervoor dat het stopcontact zich dicht bij het apparaat bevindt en gemakkelijk toegankelijk is.

## Lithium Battery Notice

CAUTION

There is a danger of explosion if the battery is replaced with an incorrect type. Replace a battery only with the same type recommended by the manufacturer. Dispose of used batteries according to local regulations.

**ACHTUNG:** Es besteht Explosionsgefahr, wenn die Batterie durch eine Batterie falschen Typs ersetzt wird. Als Ersatz dürfen nur vom Hersteller empfohlene Batterien gleichen oder ähnlichen Typs verwendet werden. Verbrauchte Batterien müssen entsprechend den jeweiligen gesetzlichen Bestimmungen entsorgt werden.

**ATTENTION:** Il y a risque d'explosion si la pile est remplacée par un modèle qui ne convient pas. Remplacez-la uniquement par le modèle recommandé par le constructeur. Débarrassez-vous des piles usées conformément aux réglementations locales en vigueur.

**ADVARSEL!:** Litiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Batteriet må kun udskiftes med et andet batteri af samme fabrikat og type. Brugte batterier skal bortskaffes i henhold til gældende regler.

**VAROITUS:** Paristo voi räjähtää, jos se on vaihdetaan väärän tyyppiseen paristoon. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo paikallisten määräysten mukaisesti.

**ADVARSEL:** Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til lokal lovgivning.

**VARNING:** Risk för explosion om batteriet byts ut mot en felaktig batterityp! Byt bara ut batteriet mot en batterityp som har godkänts av tillverkaren. Hantera använda batterier enligt lokal miljölagstiftning.

**CUIDADO:** Existe peligro de explosión si la batería se sustituye por una batería del tipo incorrecto. Sustituya la batería sólo por una batería del mismo tipo que recomienda el fabricante. Deseche las baterías usadas respetando la normativa local.

**ATTENZIONE:** Esiste pericolo di esplosione se la batteria viene sostituita con una di tipo non corretto. Sostituirla solamente con un tipo raccomandato dal produttore. Lo smaltimento delle batterie usate deve essere eseguito secondo le normative locali.

**AVISO:** Existe o perigo de explosão se a bateria for substituída por uma do tipo incorreto. Substitua somente por uma do tipo recomendado pelo fabricante. Descarte as baterias conforme as normas locais.

**GEVAAR:** Er bestaat ontploffingsgevaar indien de batterij door een verkeerd type wordt vervangen. Vervang de batterij uitsluitend door hetzelfde door de fabrikant aanbevolen type. Ruim gebruikte batterijen op volgens de plaatselijke voorschriften.

### Short Circuit Protection

**WARNING**

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

**ATTENTION :** La protection contre les courts-circuits (surtension) du produit est assurée par l'installation électrique du local où il est installé. S'assurer qu'un fusible ou un disjoncteur inférieur ou égal à 120 V CA , 15 A aux Etats-Unis (240 V CA, 10 A dans les autres pays) est utilisé pour les conducteurs de phase (conducteurs de courant).

**AVVERTENZA:** La protezione contro i short-circuit (sovracorrente) del prodotto dipende dall'impianto elettrico dell'edificio in cui è installato. Accertarsi che sui conduttori di fase (che portano la corrente) venga utilizzato un fusibile o interruttore non superiore a 120 Vc.a., 15 A negli Stati Uniti (240 Vc.a., 10 A internazzionale).

**WARNUNG:** Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 10 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.

**DVERTENCIA:** Este producto depende de la instalación del edificio en lo relativo a la protección frente a cortocircuitos (sobretensión). Asegúrese de utilizar un fusible o un interruptor de circuito que no sea de más de 120 V CA, 15A en EE.UU. (240 V CA, 10A internacional) en los conductores de fase (todos los conductores que transportan corriente).

**ADVERTÊNCIA:** Esse produto depende da instalação de proteção contra curto-circuito (sobrecarga) do edifício. Assegure-se de que um fusível ou disjuntor de até 120 VAC, 15A U.S. (240 VAC, 10 A internacional) seja usado nos condutores de fase (todos os condutores de corrente).

**WAARSCHUWING:** Dit apparaat wordt tegen kortsluiting (overstroom) beveiligd via de elektrische installatie van het gebouw. Zorg ervoor dat de fasegeleiders (alle stroomvoerende geleiders) beveiligd zijn met een zekering of stroomonderbreker met een maximale capaciteit van 120 V wisselstroom, 15 A in de V.S. (240 V wisselstroom, 10 A internationaal).

## Tools you will need

To install or service the E-41A, you will need the following tools and parts:

- ESD wrist grounding strap and antistatic mat
- Flathead screwdriver
- #0, #1, and #2 Phillips head screwdrivers
- Needlenose pliers
- E-41A documentation, including the customer media pack and any related service bulletins

**IMPORTANT**

Avoid touching magnetic tools to storage media such as HDDs. Contact between magnetic tools and magnetic storage media may result in data corruption.

# INTRODUCTION

The E-41A adds computer connectivity and highly efficient Adobe PostScript 3 color printing capability to the copier/printer. It is optimized for high-speed network communications, processing, rasterization, and printing of continuous tone color and monochrome pages.

## Features

The E-41A, as an integral part of a color printing system, enables users to:

- Send images over AppleTalk and TCP/IP networks to E-41A supported devices.
- Spool print jobs and select a printing priority for each job. Users can control spooled print jobs sent to the E-41A with remote user software running on networked Windows and Mac OS computers.
- Print color, grayscale, and black-and-white jobs.
- Use the copier/printer as a high-resolution color scanner with Fiery Scan software.
- Use 136 resident fonts (126 Adobe Type 1 PostScript and 10 TrueType), plus several Adobe Multiple Master fonts used for font substitution when printing PDF files. Command WorkStation or any third-party LaserWriter downloader, such as the Adobe Font Downloader, can be used to download additional fonts.
- Use built-in ColorWise color management and NetWise network features.

The E-41A also supports the Microsoft version of Internet Printing Protocol (IPP) for Windows XP, Windows Vista, Windows Server 2003/2008/2008 R2, Windows 7, and e-mail printing.

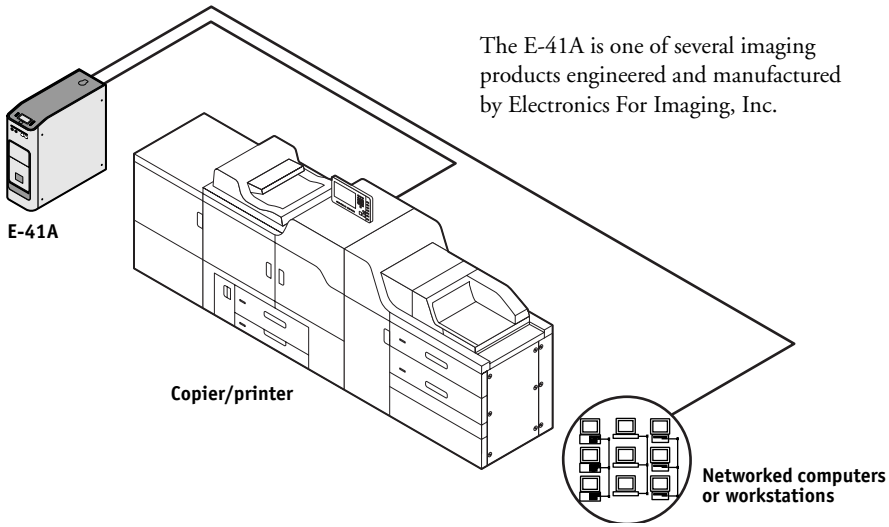



**FIGURE 1:** Printing system

## How the E-41A operates

The E-41A enables the customer to use the copier/printer as a high-performance, networked PostScript color printer and scanner. Users at the customer site can print to the E-41A from networked Windows computers, Mac OS computers, and networked UNIX workstations running TCP/IP.

The E-41A custom-designed boards and system software provide efficient image processing and printing controls. The main functions of E-41A components and software are described in the following paragraphs.

The E-41A uses the motherboard and a custom video board to process image data for printing and scanning images.

The motherboard includes an Intel Core 2 Duo E8400 3.0GHz CPU that controls the image data transfer to and from the motherboard and runs the interpreter. The interpreter rasterizes the page description file and compresses the image pattern into memory using compression technology.

The interpreter outputs compressed raster data through the image frame buffer memory to the E-41A video board. The video board decompresses the image data and sends it to the copier/printer through a crossover Ethernet copier/printer interface cable connected to an RJ-45 port on the E-41A back panel. The raster data is supplied to the copier/printer, which then renders the final image on paper at full rated engine speed.

High-speed DIMMs (dual in-line memory modules) on the motherboard hold the image data during printing. The E-41A is configured with two 1GB DIMMs for a total of 2GB of memory.

When Fiery Scan uses the copier/printer as a scanner, the E-41A acquires RGB (red, green, and blue) image data from the copier/printer, stores it in memory, and transmits it to the computer that requested the scan.

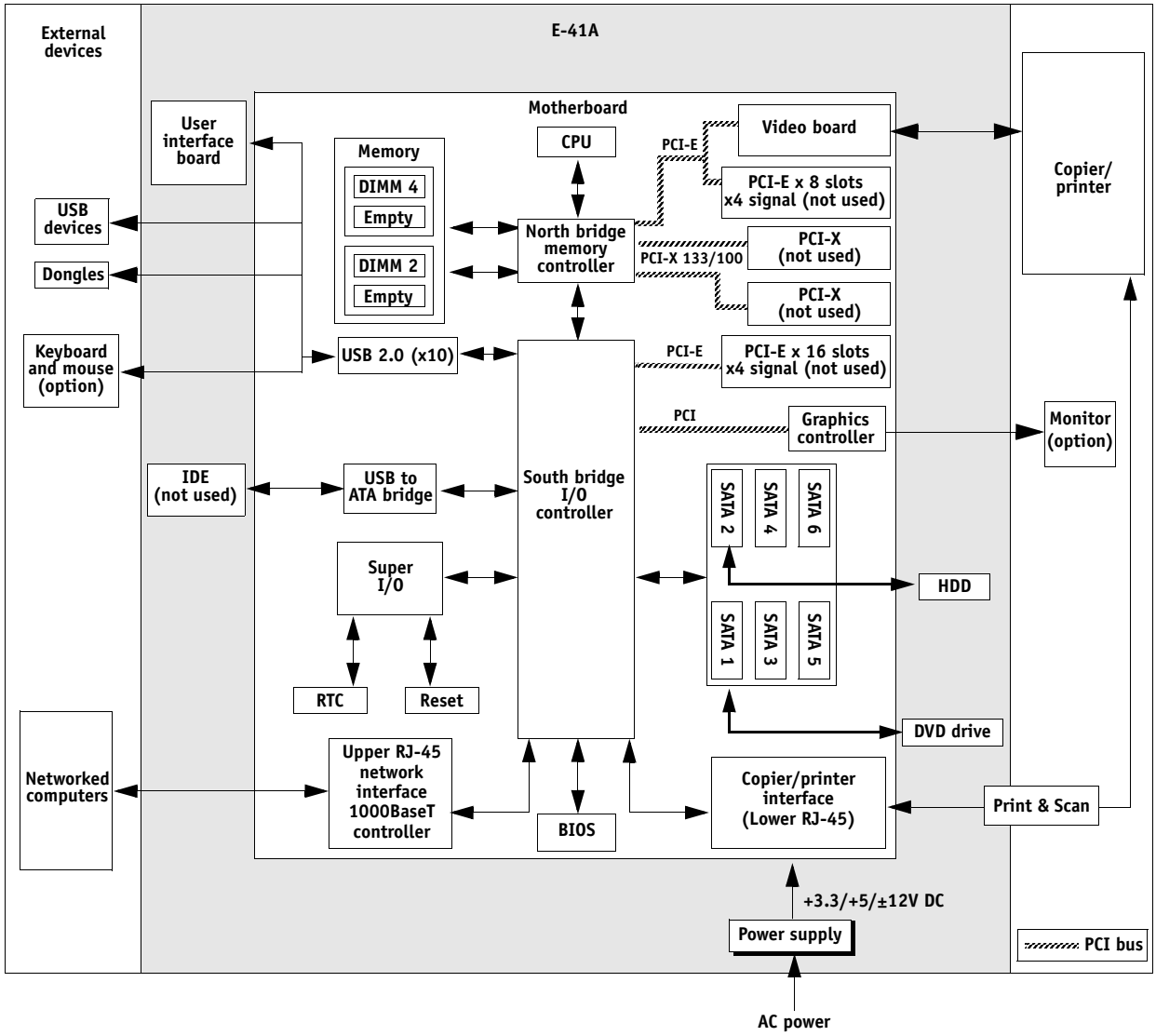



**FIGURE 2:** E-41A functional diagram

# INSTALLATION

This chapter includes information about the following:

- Installation sequence (see below)
- Checking the customer site (see page 24)
- Unpacking the E-41A (see page 26)
- Installing the E-41A and connecting it to the copier/printer and network (see page 29)
- Completing the installation (see page 32)
  - Print a Test Page and Configuration page (page 38).
  - Remind the site administrator to install current user software on networked computers that print to the E-41A (see *Printing* and *Utilities* on the User Documentation CD).

## Installation sequence

Familiarize yourself with this chapter before you attempt an installation. The installation sequence described in this chapter is designed to make your job as easy as possible. Installation problems are easier to avoid and diagnose if you proceed from the component to the system level and verify functionality at each stage. Figure 3 on page 23 outlines the recommended installation procedure for connecting the E-41A to the copier/printer.

Because the E-41A is a node on the customer's computer network, make sure that you coordinate your scheduled installation with the network administrator at the customer site. For Network Setup information, refer the network administrator to *Configuration and Setup* on the User Documentation CD.

**NOTE:** You can change the default language preinstalled at the factory using the Configure tool available through Command WorkStation and WebTools. Launch Configure and then navigate to Server > General > Choose Server Language and then click Apply.

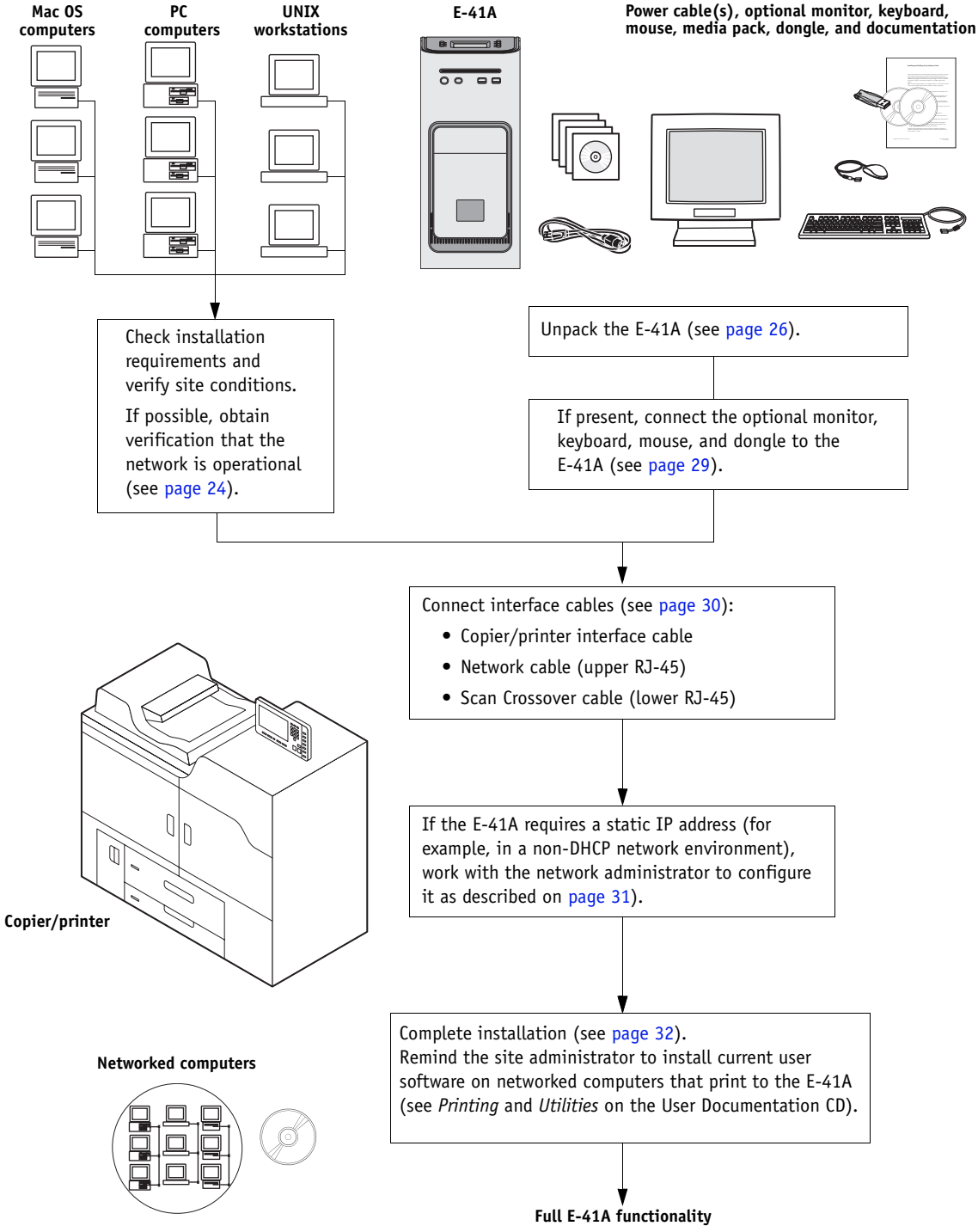



**FIGURE 3:** Summary of installation steps and references

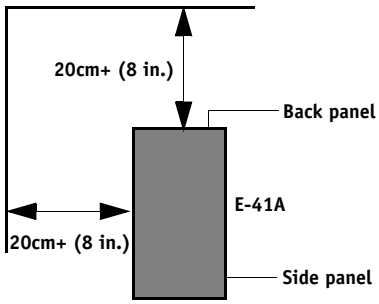
## Checking the customer site

Before you install the E-41A, check site conditions and inform the customer of any installation requirements.

### Copier/printer readiness

- ❑ **Is the copier/printer configured for use with the E-41A?**
- ❑ **Is space available near the copier/printer for the E-41A?**

Make sure that adequate space is available for the E-41A. Allow enough space at the back panel for the cables to route easily and at the side panel so that the E-41A does not interfere with use of or service to the copier/printer (such as clearing a paper jam). You may need to move the copier/printer away from the wall so that the interface connectors are accessible.




- ❑ **Does the copier/printer require service or adjustments?**

Print the copier/printer Test Page before you install the E-41A.

If the image indicates that the copier/printer needs adjustment, inform the customer. After getting approval, complete the necessary copier/printer service.

### Power

- ❑ **Is a dedicated, grounded electrical outlet for the E-41A available near the copier/printer?**

Locate the grounded electrical outlet that will supply power to the E-41A. Do not run the E-41A and the copier/printer on the same circuit. Use a surge suppressor for the E-41A if the customer has provided one.

- *Do not* use a 3-prong adapter in a 2-hole ungrounded outlet.
- *Do not* use an extension cord.
- *Do not* plug the E-41A into a circuit with heating or refrigeration equipment (including water coolers).
- *Do not* plug the E-41A into a switchable wall outlet. This can result in the E-41A being turned off accidentally.
- *Do not* pull on the cable when unplugging the E-41A. Pull the plug instead.

**Network**

- ❑ **Make sure that the network will be available at the time set for installation.**
- ❑ **Verify with the network administrator that the network is functioning before you attach the E-41A.**
- ❑ **Make sure that the configuration requirements specified in *Configuration and Setup* (on the User Documentation CD) have been met for remote computers and the network.**

## Setting customer expectations

When the site is ready, installation of the E-41A takes about one hour. Inform the customer of the following:

- Some nodes on the network may be unavailable for up to one hour.
- The copier/printer may be unavailable for up to one hour.
- The network administrator must be available during the installation for network connectivity.

  Equipment downtime and impact on the network can be minimized if the network administrator installs a network connector for the E-41A and confirms network functionality with the connector in place before the date scheduled for the E-41A installation.
- The network administrator must make a networked computer available during the installation. The appropriate software must be installed in advance. Documentation for the networked computer and network operating software should be available.
- The network administrator must install the user software shipped with the E-41A onto networked Windows and Mac OS computers that print to the E-41A (user documentation is also included).

**NOTE:** This guide covers hardware installation and service and provides general information about connecting the E-41A to the customer's network. Network Setup and configuration information exceeds the scope of this guide. For Network Setup and configuration information, refer the network administrator to *Configuration and Setup* on the User Documentation CD.

# Unpacking the E-41A

The E-41A is assembled and shipped from the factory with all necessary cables (except the network cable) and documentation (see page 27).

**NOTE:** The E-41A weighs approximately 20 kg (44 lbs). Use caution when you move the E-41A.

**WARNING**

**Never lift the E-41A by grasping the top panel. The top panel does not support the weight of the system.**

**AVERTISSEMENT:** Ne jamais soulever le serveur d'impression par sa partie supérieure : celle-ci ne peut pas supporter le poids du système.

**AVVERTENZA:** Il server di stampa non deve essere mai sollevato afferrandolo dal pannello superiore, in quanto quest'ultimo non può sostenere il peso dell'intero sistema.

**WARNUNG:** Heben Sie den Druckserver nicht an der oberen Gehäuseabdeckung an. Die obere Gehäuseabdeckung ist nicht dafür ausgelegt, das Gesamtgewicht des Systems zu tragen.

**ADVERTENCIA:** No levante nunca el servidor de impresión agarrándolo por el panel superior. El panel superior no soporta el peso del sistema.

**AVISO:** Nunca erga o servidor de impressão pelo painel superior. O painel superior não suporta o peso do sistema.

**WAARSCHUWING:** Til de afdrukserver nooit op door het bovenpaneel vast te nemen. Het bovenpaneel kan het gewicht van het systeem niet dragen.

### TO UNPACK THE E-41A

1. **Open the box and remove the packing material.**

   Save the original boxes and packing material in case you need to transport the E-41A at a later date.

2. **Remove the contents from the top container. Inspect the contents for visible damage. The top container should include the following items:**

   - Bags containing the copier/printer interface cable (Ethernet crossover, 39.3 ft./12m) and region-specific AC power cables
   - Customer Kit containing the EFI/Fiery decal and other Ricoh-provided materials
   - Printed *Quick Setup*
   - Customer media pack (includes disks for system software, user software, Fiery Options Utility DVD, user documentation, and other documentation)

3. **Set aside the remaining components from the top container.**

4. **Remove the top container and any packing material.**

   Set aside the packing material and note the orientation of the E-41A inside the shipping container, in case you need to repack it later.

5. **Carefully lift the E-41A out of the box.**

   If you notice shipping damage to any component, save the shipping container in case the carrier needs to see it. Call the carrier immediately to report the damage and file a claim.

6. **Give the media pack to the customer or network administrator.**

   Let the customer or network administrator know that in order to take full advantage of the E-41A, the user software must be installed on computers that will print to the E-41A.

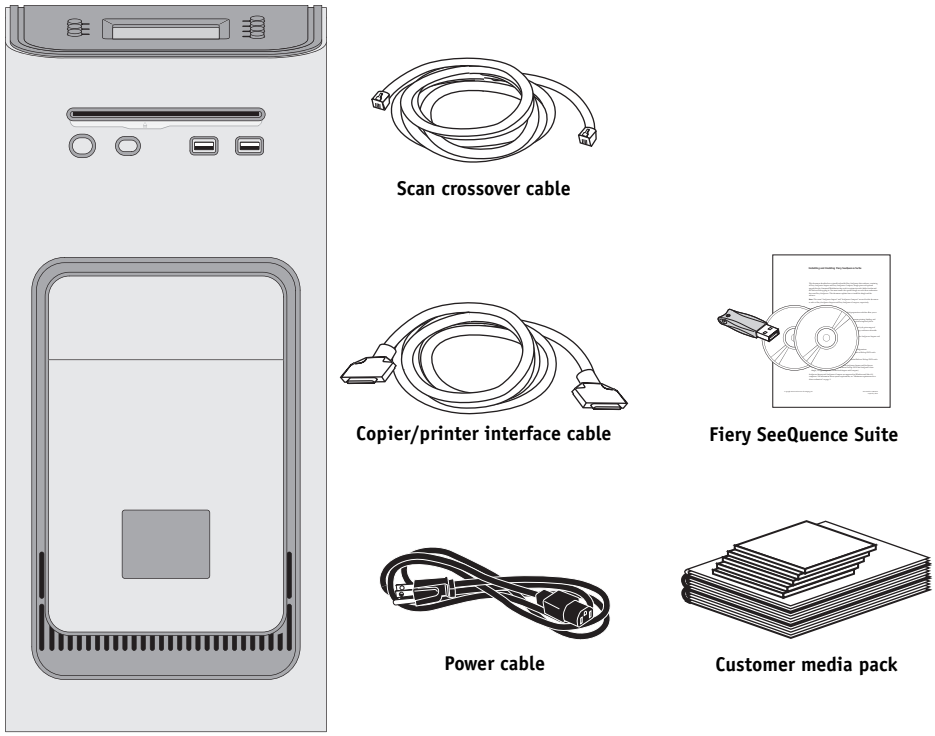



**FIGURE 4:** E-41A shipping contents

7. **Locate the EFI/Fiery decal in the shipping container and affix it to the copier/printer as shown.**

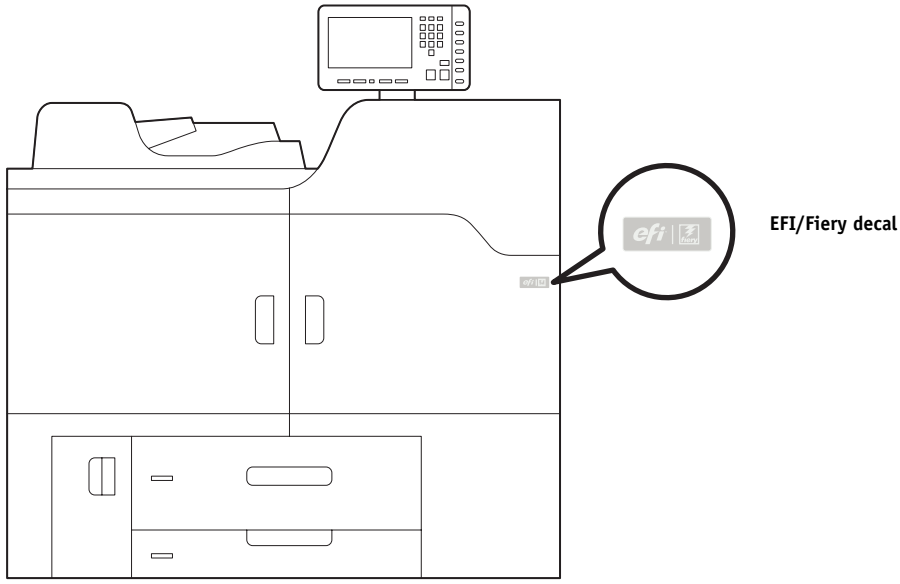



**FIGURE 5:** Affixing the decal to the copier/printer

## Connecting the E-41A

You are now ready to make the following connections:

- Optional monitor, keyboard, and mouse (if present)
- Optional dongle (if present)
- Power cable connection
- Copier/printer interface cable connection
- Network cable connection

For detailed information about the monitor, keyboard, and mouse, see the documentation that accompanies the optional kit.

**IMPORTANT**

Follow standard ESD precautions when handling components.

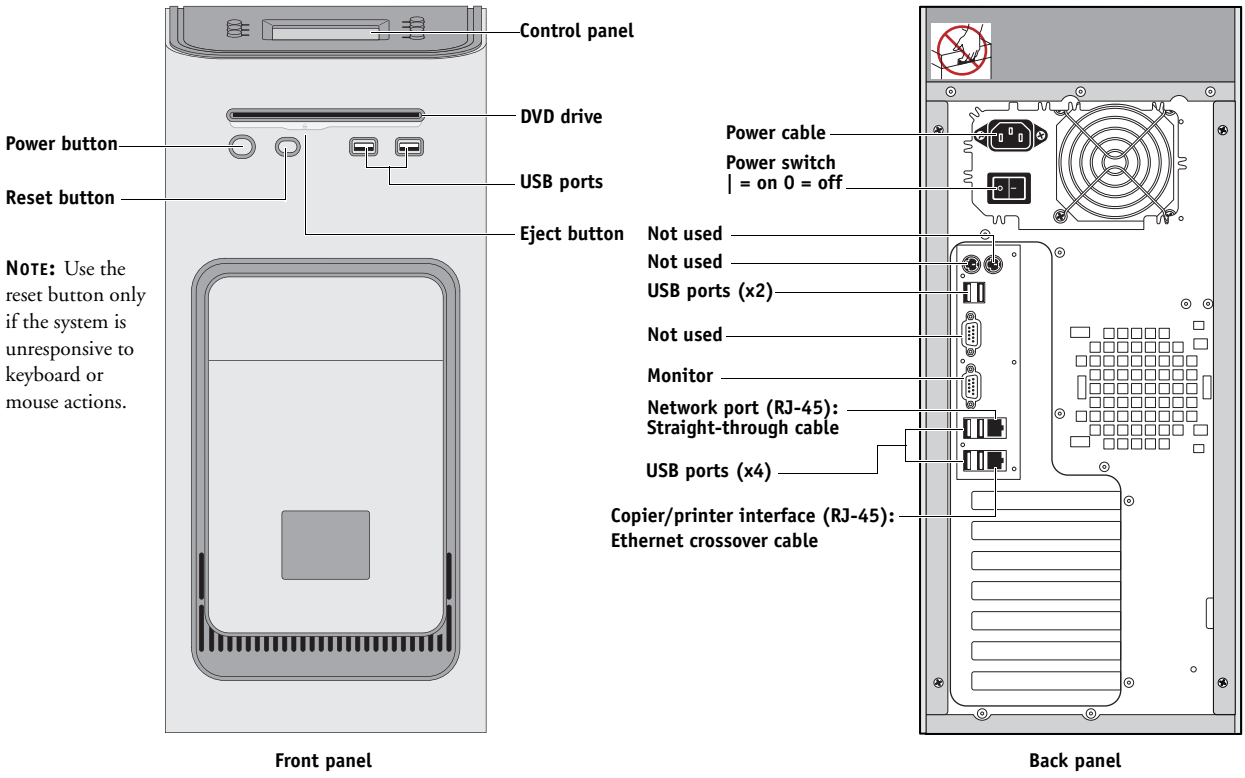



**FIGURE 6:** E-41A connections

### TO CONNECT POWER

1. **Connect the recessed end of the E-41A power cable to the power connector on the back of the E-41A (see Figure 6 on page 29).**
2. **Connect the other end of the E-41A power cable to a wall outlet.**

   Make sure to use the correct power cable for your region. Also, to prevent the risk of cross-talk, make sure that the copier/printer interface cable does not touch the system power cables. Otherwise, image quality problems or E-41A shutdowns could result.

### TO CONNECT TO THE COPIER/PRINTER

1. **Make sure that the E-41A and the copier/printer are powered off.**
2. **Connect one end of the copier/printer interface cable to the lower RJ-45 port on the E-41A back panel.**
3. **Connect the other end of the copier/printer interface cable to the copier/printer.**

   Make sure that you connect the cable to the correct RJ-45 port (see Figure 6 on page 29). The network and copier/printer interface cables look similar but are not interchangeable. The copier/printer interface cable included with the E-41A is a 39.3 ft. Ethernet *crossover* cable that connects to the **lower** RJ-45 port on the E-41A back panel. The network cable at the customer site is a *straight-through* Ethernet cable that connects to the **upper** RJ-45 port on the E-41A back panel. To verify the cable type, align the connectors on each end of the cable as shown in Figure 7. On a straight-through cable, the wire arrangements are identical on both ends; on a crossover cable, the wire arrangements are different.

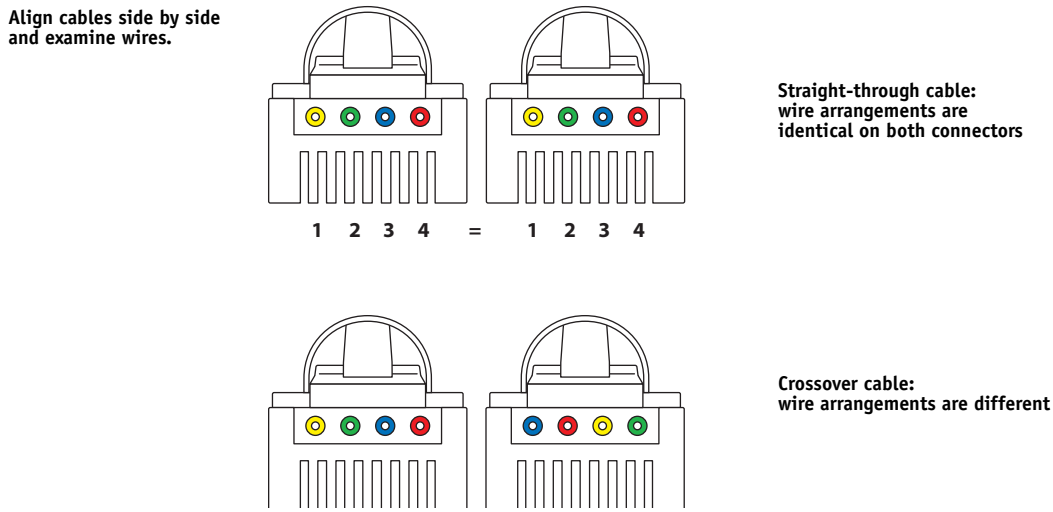



**FIGURE 7:** Straight-through and crossover Ethernet cables

### TO CONNECT TO THE NETWORK

1. **Make sure that the E-41A is powered off.**
2. **Connect the straight-through network cable to the upper RJ-45 port on the E-41A back panel (see Figure 6 on page 29).**

**IMPORTANT**

Make sure that you connect the cable to the correct RJ-45 port (see Figure 6 on page 29). The network and copier/printer interface cables look similar but are not interchangeable. The network cable at the customer site is a *straight-through* Ethernet cable that connects to the **upper** RJ-45 port on the E-41A back panel. The copier/printer interface cable included with the E-41A is a 39.3 ft. Ethernet *crossover* cable that connects to the **lower** RJ-45 port on the E-41A back panel.

The E-41A provides twisted pair connectivity to an Ethernet network. When the network cable is connected, the Ethernet interface automatically detects the speed of the network environment. Depending on your network speed, the following unshielded twisted pair (UTP) network cables are supported:

- For 10BaseT, Category 3 or higher
- For 1000BaseT, Category 5e or higher (4-pair/8-wire, short-length)

**NOTE:** After power on, the network administrator should perform Network Setup, verify the network connection, verify that the E-41A appears in the list of printers, and print a few test documents from a networked computer that will use the E-41A. For more information, see *Configuration and Setup* on the User Documentation CD.

## Completing installation and starting up

To finish the installation of the E-41A at the customer site, make sure to do the following:

1. **Affix the EFI/Fiery decal to the engine (see page 28).**
2. **Make sure that the copier/printer is powered on.**
3. **Power on the E-41A (see page 42).**

   Make sure that the power cord is attached and that the power switch on the back panel is in the ON position. Press the power button on the front panel once and release the button. The power supply automatically senses the correct voltage.

4. **When the E-41A has finished starting, access the Fiery menu screen by pressing the "fierydriven®" button on the copier/printer Control Panel (see page 36).**

   The E-41A takes approximately three to five minutes to power on and display Idle on the Fiery menu screen of the copier/printer Control Panel.

5. **Perform any required system software upgrades (see page 113).**

   Microsoft Windows operating system updates should be obtained from Microsoft directly. Because such updates are available directly from Microsoft, EFI does not maintain or provide these updates via the System Updates feature.

6. **Print the Test Page and Configuration page (see page 38) and ask the customer to verify the output.**
7. **If more than one E-41A is (or will be) installed at the customer site, advise the site administrator that it may be helpful to create a backup of the Setup configuration settings and place the backup file on a thumb drive or CD, which can then be used to configure Setup on other E-41A print servers. For details, see *Configuration and Setup*.**
8. **Ask the network administrator to perform Setup and print some test documents over the network.**
9. **Store the output and the current Configuration page(s) near the copier/printer.**
10. **Inform the site administrator that the E-41A user software must be installed on networked computers that print to the E-41A.**
11. **Ask the site administrator to make sure that all media (DVDs and/or CDs) shipped with the E-41A is stored in a safe location accessible to you.**

# USING THE E-41A

This chapter includes the following information:

- Using the E-41A Control Panel
- Using the copier/printer display panel
- Checking Network status LEDs
- Shutting down and restarting the E-41A

## Overview

Two main user interfaces are available for the E-41A:

- The Control Panel on the front of the E-41A (see following figure)
- The copier/printer display panel (see page 36)

**NOTE:** A third user interface—the Fiery Advanced Controller Interface (FACI), which includes a monitor, keyboard, and mouse—is sold separately, as an optional kit.

## Using the E-41A Control Panel

The Control Panel on the front of the E-41A allows you to do the following:

- Eject CDs and DVDs. (A hardware eject button is also provided below the disc slot.)
- View the IP address of the E-41A.
- Shut down, restart, or reboot the E-41A (see page 42).

**NOTE:** You can also shut down and restart the E-41A through the copier/printer display panel (see page 44).

- Interact with the E-41A during software installation (see page 107).

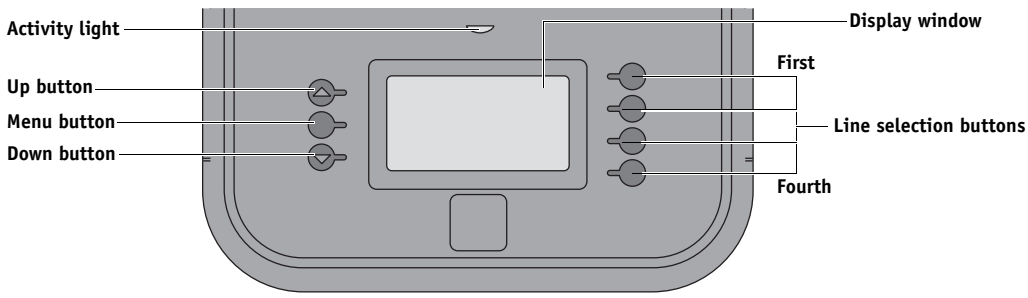



**FIGURE 8:** E-41A Control Panel

## Buttons

| | |
|---|---|
| Line selection buttons | Use the four line selection buttons on the right side of the Control Panel to select the command displayed on the corresponding line of the LCD display. |
| Up and Down buttons | Use these buttons to scroll to different screens in multi-screen lists or prompts. |
| Menu button | Press this button to view the Eject CD/DVD, IP Address, Restart Server, Shut Down System, and Reboot System options. |

## Activity light

The activity light on the E-41A Control Panel indicates current E-41A activity. If the light is:

| | |
|---|---|
| Flashing amber | The E-41A is starting up and the BIOS has established communication with the User Interface Board (UIB). |
| Flashing green | The E-41A is continuing startup and the Windows operating system has established communication with the UIB. |
| Solid green | The E-41A is powered on and in the Idle state. |
| Solid amber | The E-41A is powered off, but the AC power cable is plugged into the power source. The Control Panel LCD continues to draw power when the E-41A is off. |
| Flashing or solid red | An error has caused printing to be disabled. |
| No light | The E-41A is powered off and the AC power cable is not connected to a power source. |

## E-41A Control Panel Functions menu

The following options are available from the E-41A Functions menu:

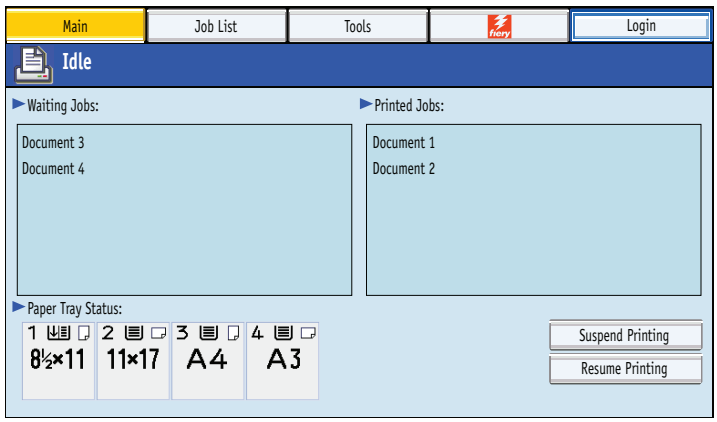
**Use the line selection buttons to the right to select an option.**

- Eject CD/DVD—Allows you to eject media from the DVD drive. Media is also automatically ejected whenever the E-41A is restarted, shut down, or rebooted. A hardware eject button is also provided below the disc slot.
- IP Address—Displays the current IP address of the E-41A.
- Restart Server—Includes options to Restart (soft reset) or Reboot (hard reset) the E-41A. Selecting Restart resets the E-41A server software, but does not reboot the entire system. Selecting Reboot shuts down all E-41A activity and reboots the system. When you select Restart or Reboot, network access to the E-41A is temporarily interrupted and all currently processing jobs are aborted and may be lost.
- Shut Down System—Shuts down all E-41A server software and powers off the system. Always select this option to power off the system.

**NOTE:** Avoid using the reset button on the front panel, as doing so may cause the system to operate unpredictably. Use the reset button on the front of the E-41A only if the system is frozen and unresponsive to keyboard or mouse actions.

## Using the copier/printer display panel

The "fierydriven®" area of the copier/printer display panel allows you to interact with the E-41A from the copier/printer. The menus provide access to many of the same options available from Command WorkStation.




### Main tab

The Main tab is displayed as the starting point. It summarizes waiting and printed jobs and displays paper tray status and other information.

Suspend Printing — Suspend print activity between the E-41A and the copier/printer. Use this command to interrupt the current E-41A job, for example, to perform maintenance tasks. Jobs continue to process on the E-41A. After you complete maintenance tasks, choose Resume Printing to continue printing jobs from the E-41A.

Resume Printing — Resume print activity between the copier/printer and the E-41A after you select Suspend Printing.

Start Sample Print — Prints a sample sheet or sample set of the job currently printing on the E-41A. The sample print is sent to the output tray specified in E-41A Setup.

### Job List tab

The Job List tab on the copier/printer display panel provides access to jobs according to the status of the job, similar to the Active and Printed Jobs windows in Command WorkStation. The lists are as follows:

Active — Jobs currently waiting to print.

Held — Held jobs.

Printed — Printed jobs.

Secure — Allows you to log on to display secure print jobs.

To change from one list to another, press the tab for the desired list.

On each of these lists, you can scroll up and down one line at a time, or advance to the top or bottom of the job list. Select a job, and choose the appropriate button to Print, Print and Hold, Delete, or display the Properties of the job. On the Properties tab, you can change the number of copies, but not any other job properties.

## Tools tab

The Tools tab allows you to perform tray alignment and calibration.

Tray Alignment — Adjust the placement of text and images on a page so that they are correctly aligned on the sheet of paper and both sides of a duplex sheet have the exact same alignment. For more information about this function, see *Utilities*.

Calibration — Calibrate the E-41A using ColorCal. For more information, see the Calibration Instruction Page and *Color Printing*.

Print Instructions — Print the Calibration Instruction Page containing instructions on how to calibrate the E-41A using ColorCal.

## Scan tab

The Scan tab allows you to scan documents. For more information, see *Utilities*.

## Fiery tab

The Fiery tab provides access to many of the same features available through Command WorkStation.

Fiery Info — Displays information about the current configuration of the E-41A.

Printable Info — Allows you to print these system pages from the E-41A:

**PS Test Page/PCL Test Page:** Confirms that the E-41A is properly connected to the copier/printer, and provides color and grayscale samples to troubleshoot problems with the copier/printer or the E-41A. Settings on the Test Page may include: Server Name, color settings, printer model, and date and time the Test Page was printed.

**PS Font List/PCL Font List:** Prints a list of all fonts currently on the E-41A hard disk.

**Configuration:** Provides general information about the hardware and software configuration of the E-41A, the current settings for Setup, the current calibration, the IP address of the E-41A, and a log of system updates.

**Color Charts:** Prints samples of the RGB, CMY, and PANTONE colors available from the E-41A.

**Control Panel Map:** Prints the Control Panel Map, which is an overview of the screens you can access from the Control Panel.

**Calibration Instructions:** Prints the Calibration Instruction Page containing instructions on how to calibrate the E-41A using ColorCal.

**Job Log:** Prints a log of the last 55 jobs.

**E-mail Log:** Prints a log listing recent e-mail activity.

**FTP Log:** Prints a log listing recent FTP activity.

**Custom Paper Instructions:** Prints a page containing instructions on how to create a custom Paper Catalog entry.

**NOTE:** To print the E-mail or FTP log, you must first enable the appropriate service.

Setup — Enter the Setup menu and change Setup option settings.

Run Diagnostics — To troubleshoot video board or e-mail printing issues, choose this menu. For more information, see page 144.

Clear Server — Clear all jobs in all server queues, as well as all jobs archived on the E-41A hard disk, the index of archived jobs (in the Archive window), all FreeForm masters, and the index of FreeForm masters (in the FreeForm window). Consult with your administrator or operator before choosing Clear Server.

Restart Fiery

Shut down all E-41A activity in the correct manner and then restart. The following options are available from the submenu that appears:

**Restart Fiery Service:** Resets the server software but does not reboot the entire system. Network access to the E-41A is temporarily interrupted and all currently processing jobs are aborted and may be lost.

**Restart System:** Shuts down and then reboots the E-41A. Network access to the E-41A is terminated and all currently processing jobs are aborted and may be lost.

**Shut Down:** Shuts down all E-41A activity properly.

## Printable Info menu

This section describes how to print pages such as the Test Page and Configuration page from the Printable Info menu (described on page 38). The Printable Info menu is accessed through the Fiery tab (see page 38).

Printing the **Configuration page** can be helpful during installation, Setup, and service. After installing the E-41A (including connecting to the network), and before default settings are changed in Run Setup, you can obtain a record of the defaults by printing the Configuration page.

Before you perform any service procedure, you should print the E-41A Configuration page, if possible, so you are prepared to return the settings to their former configuration, if necessary.

Printing the **Test Page** indicates that the E-41A is functional and that the connection between the E-41A and the copier/printer is working.

---

**TO PRINT A PAGE FROM THE PRINTABLE INFO MENU**

1. **If it is not powered on already, power on the copier/printer and allow it to warm up.**
2. **If it is not powered on already, power on the E-41A using the power button on the front panel and allow it to start up completely (approximately three minutes).**
3. **Make sure that Idle appears on the Fiery Main menu.**

   If Busy or Printing appears, the E-41A is processing and you must wait until Idle appears.
4. **Touch the Fiery tab.**
5. **Touch Printable Info and then select the page that you want to print.**

   The E-41A sends the selected page(s) to the copier/printer.
6. **If you printed the Test Page, examine the quality of the page.**

   If the Test Page prints, you know the E-41A is functional and the connection between the E-41A and the copier/printer is working. If the Test Page fails to print, look up printing problems in the Troubleshooting table on page 141.

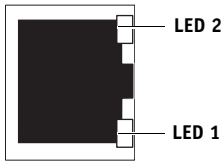
   When you examine the Test Page, keep in mind the following:

   - All color patches should be visible, even though they may be very faint in the 5% and 2% range.
   - Each color's patch set should show uniform gradation from patch to patch as the color lightens from 100% to 0%.

   Poor image or color quality may indicate a need to calibrate the system or service the copier/printer. Information on the Test Page includes the date and time of the last calibration, so the Test Page can be kept for future reference. For more information, look up printing problems in "E-41A error messages and conditions" on page 133, or see *Color Printing* on the User Documentation CD.

## Network Status LEDs

Two LEDs next to the Ethernet connector indicate the network speed. When a data transfer occurs between the E-41A and the network, the appropriate LED(s) blink to indicate network activity. For additional network information, see *Configuration and Setup* on the User Documentation CD.




**Ethernet network port (Upper RJ-45)**

| Network link speed | LED 1 | LED 2 |
|---|---|---|
| 10 Megabits/second | Off | Green |
| 100 Megabits/second | Green | Green |
| 1000 Megabits/second | Amber | Green |

**IMPORTANT**

Make sure that you connect the cable to the correct RJ-45 port (see Figure 6 on page 29 and Figure 7 on page 30). The network and copier/printer interface cables look similar but are not interchangeable. The network cable at the customer site is a *straight-through* Ethernet cable that connects to the **upper** RJ-45 port on the E-41A back panel. The copier/printer interface cable included with the E-41A is a 39.3 ft. Ethernet *crossover* cable that connects to the **lower** RJ-45 port on the E-41A back panel.

## Starting, shutting down, restarting, and rebooting

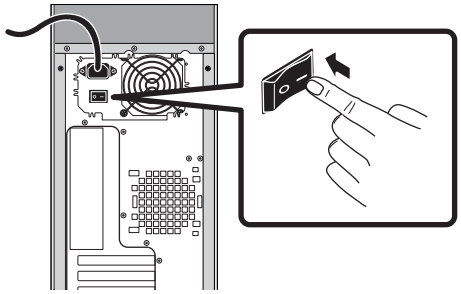
The customer will generally leave the E-41A on all the time. Remember that when the E-41A is powered off, network access to the copier/printer is interrupted. Power off the E-41A when you need to service it and before you remove or attach any cables to it.

**NOTE:** Use the reset button on the front of the E-41A only if the system is unresponsive to keyboard or mouse actions.

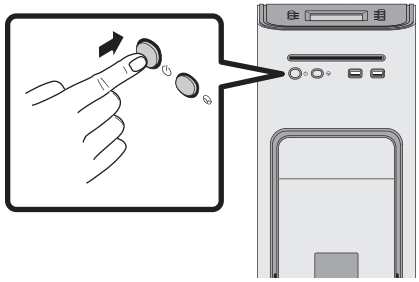
---

### TO START THE E-41A

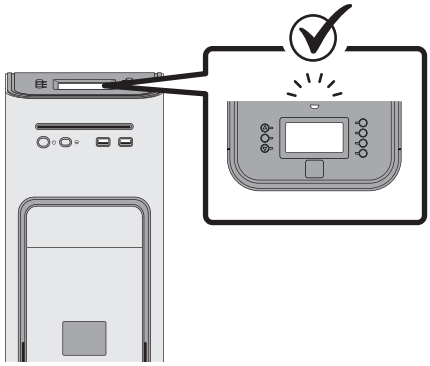
1. **Make sure that the power cable is attached and that the power switch (if present) is in the ON position.**



2. **Press the power button on the front panel.**



3. **Check the Activity light on the Control Panel.**



The power supply automatically senses the correct voltage. Allow startup to proceed without interruption. Do not press any buttons on the Control Panel while the system is starting.

## Configuring a Static IP Address

**IMPORTANT**

If you are working in a DHCP network environment, do not perform the following task.

If you are working in a static network environment, you must configure a static IP address the second time you start the Fiery controller. If you do not, the controller cannot be recognized on the network.

---

**TO SET UP A STATIC IP ADDRESS**

1. **Press the "fierydriven®" button on the copier/printer and make sure that Idle appears on the copier/printer display panel (see page 36).**
2. **Press the Fiery tab.**
3. **Press Setup.**
4. **On the Login screen, press Password. Enter Fiery.1. Press OK.**

   Type Fiery.1 exactly as shown. The password is case-sensitive; for example, fiery.1 will not work.
5. **On the Setup screen, do the following:**
   - Press WINS. If enabled (yellow), press Use WINS to disable this feature. Press Save.
   - Press DNS. If enabled (yellow), press Get DNS address automatically to disable this feature. Press Save.
   - Press IP Address. Enter an IP address. Press Save.
   - Press IPv4 Address. Press Manual Configuration.
6. **On the Manual Configuration screen, do the following:**
   - In the IP Address field, enter an IPv4 address. Press OK.
   - In the Subnet Mask field, enter a subnet mask IP address. Press OK.
   - In the Default gateway field, enter a default gateway IP address. Press OK.
   - When done, press Save. Press Go Back.
7. **On the Setup screen, press Exit Setup.**
8. **Press Reboot Now.**

### TO SHUT DOWN, RESTART, OR REBOOT THE E-41A FROM THE COPIER/PRINTER DISPLAY PANEL

1. **Press the "fierydriven®" button on the copier/printer and make sure that Idle appears on the copier/printer display panel (see page 36).**

   If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the shutdown procedure.

   **NOTE:** Notify the network administrator before you remove the E-41A from the network.

2. **Press the Fiery tab.**
3. **Press Restart Fiery.**
4. **At the next screen, select one of the following options:**

   - Restart Fiery Service (soft reset)—Resets the E-41A server software but does not reboot the entire system. Network access to the E-41A is temporarily interrupted and all currently processing jobs are aborted and may be lost. If you choose this option, you may need to wait 1 minute or more for the server software to reset.
   - Reboot System (hard reset)—Shuts down all E-41A activity properly and then reboots. Network access to the E-41A is temporarily interrupted and all currently processing jobs are aborted and may be lost.
   - Shut Down—Shuts down all E-41A server software and powers off the system. You should always select this option when you want to power off the system. Network access to the E-41A is terminated and all currently processing jobs are aborted and may be lost.

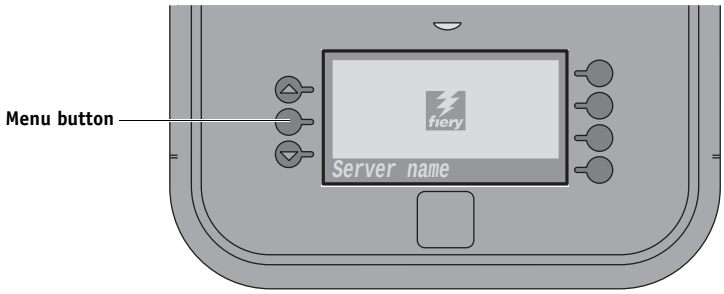
   **NOTE:** Use the reset button on the front of the E-41A only if the system is unresponsive to keyboard or mouse actions.

5. **Press OK.**

   Before accessing internal components, make sure that all cables are disconnected from the back of the E-41A.

### TO SHUT DOWN, RESTART, OR REBOOT THE E-41A FROM THE E-41A CONTROL PANEL

1. **Make sure that the following logo screen is displayed on the E-41A Control Panel.**



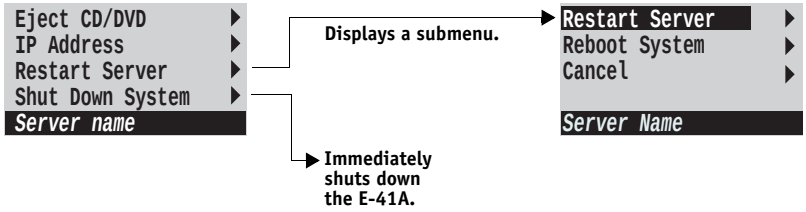

**This logo screen indicates that the E-41A is Idle.**

If the system has just finished processing, wait at least five seconds before beginning the shutdown procedure.

**NOTE:** Notify the network administrator before you remove the E-41A from the network.

2. **Press the Menu button once to display the Functions menu.**
3. **Make a selection:**

- To restart or reboot the E-41A, select Restart Server. A submenu displays, allowing you to select Restart Server, Reboot System, or Cancel.
- To shut down the E-41A immediately, select Shut Down System.




**NOTE:** Use the reset button on the front of the E-41A only if the system is unresponsive to keyboard or mouse actions.

Allow the system to shut down and power off or restart.

If you selected Restart Server, you may need to wait 1 minute or more for the server software to restart.

Before accessing internal components, make sure that all cables are disconnected from the back of the E-41A.

# SERVICE PROCEDURES

Generally, the E-41A requires no regular service or maintenance. Use the procedures in this chapter to inspect, remove, reseat, and replace major hardware components, as well as install system software.

## Overview

This chapter includes information about servicing the following components:

- Boards and cables
- Motherboard components (DIMMs, CPU, CMOS, jumpers, and battery)
- Fans
- Power supply
- HDD (hard disk drive)
- DVD drive

Replacement parts are available from your authorized service representative. The terms “replace” and “replacing” are used throughout this guide to mean the reinstallation of existing components. Install new components only when necessary. If you determine that a component that you have removed is not faulty, reinstall it.

**IMPORTANT**

When performing the service procedures described in this chapter, follow the precautions listed on page 14.

The tools required to service the E-41A are listed on page 18.

## E-41A overview diagrams

The following figures provide an overview of E-41A components.

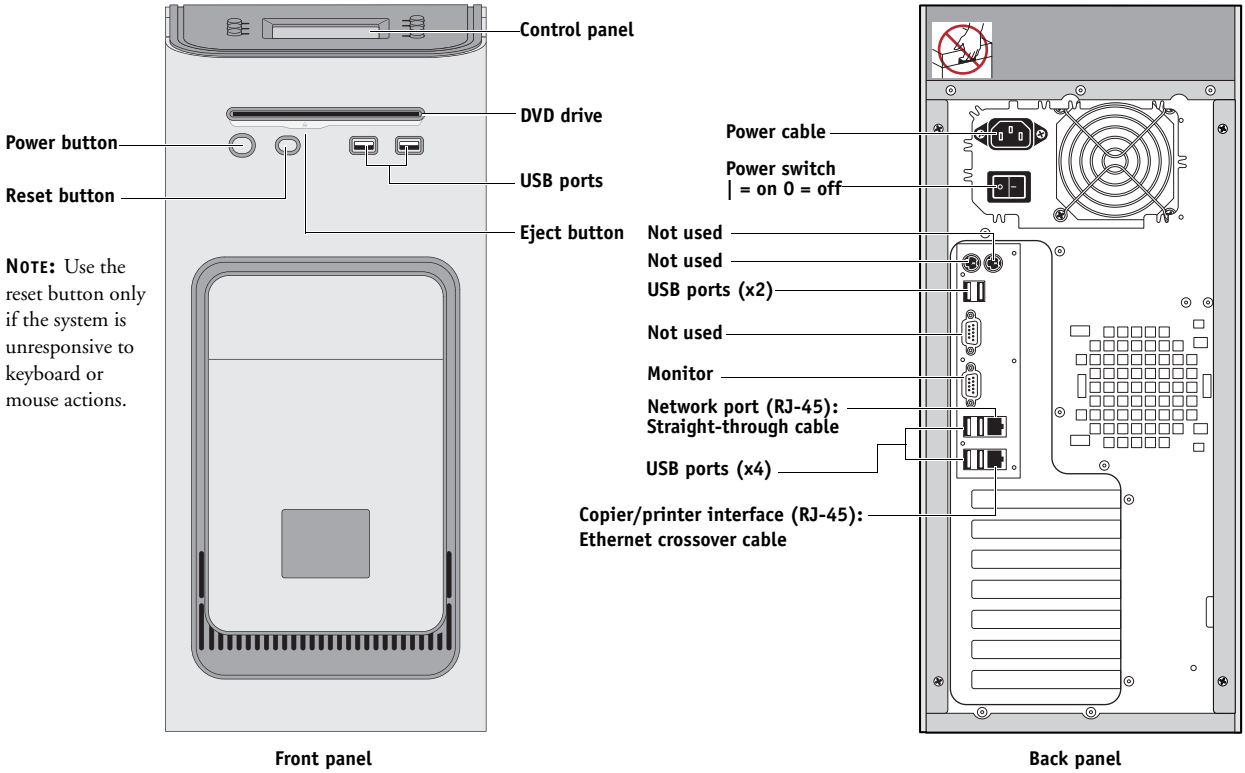
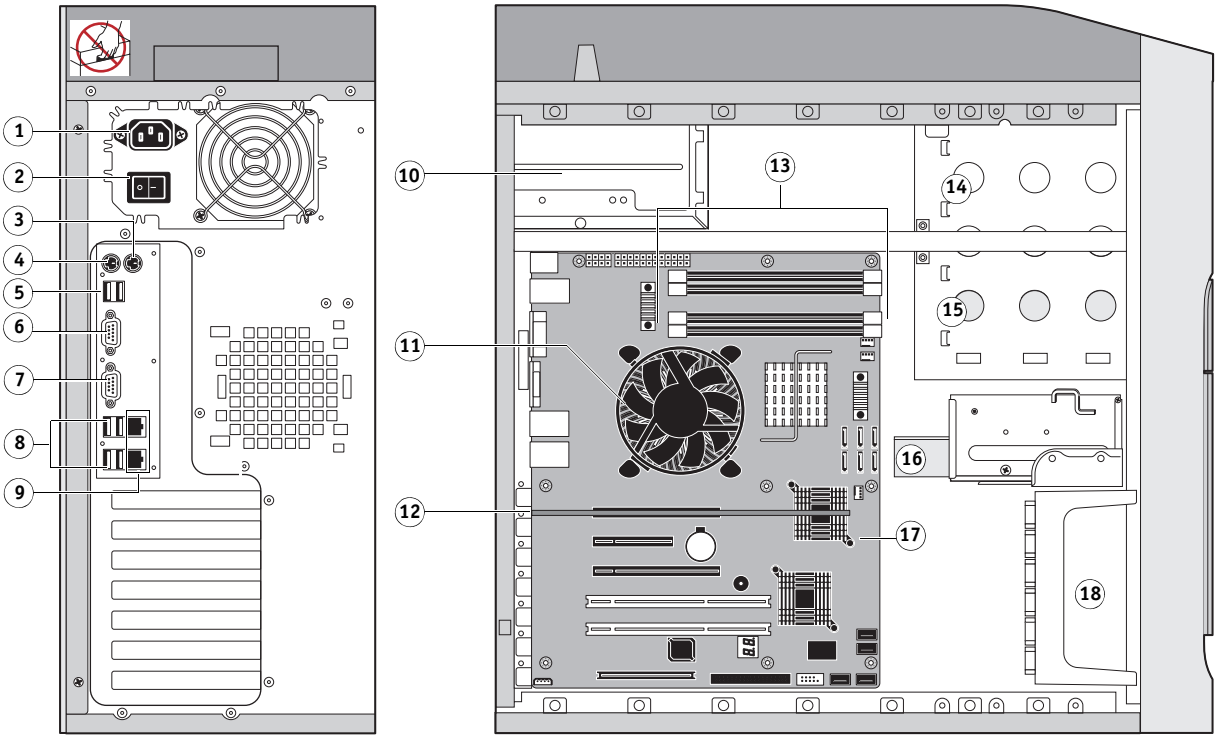



**FIGURE 9:** Front and back panels

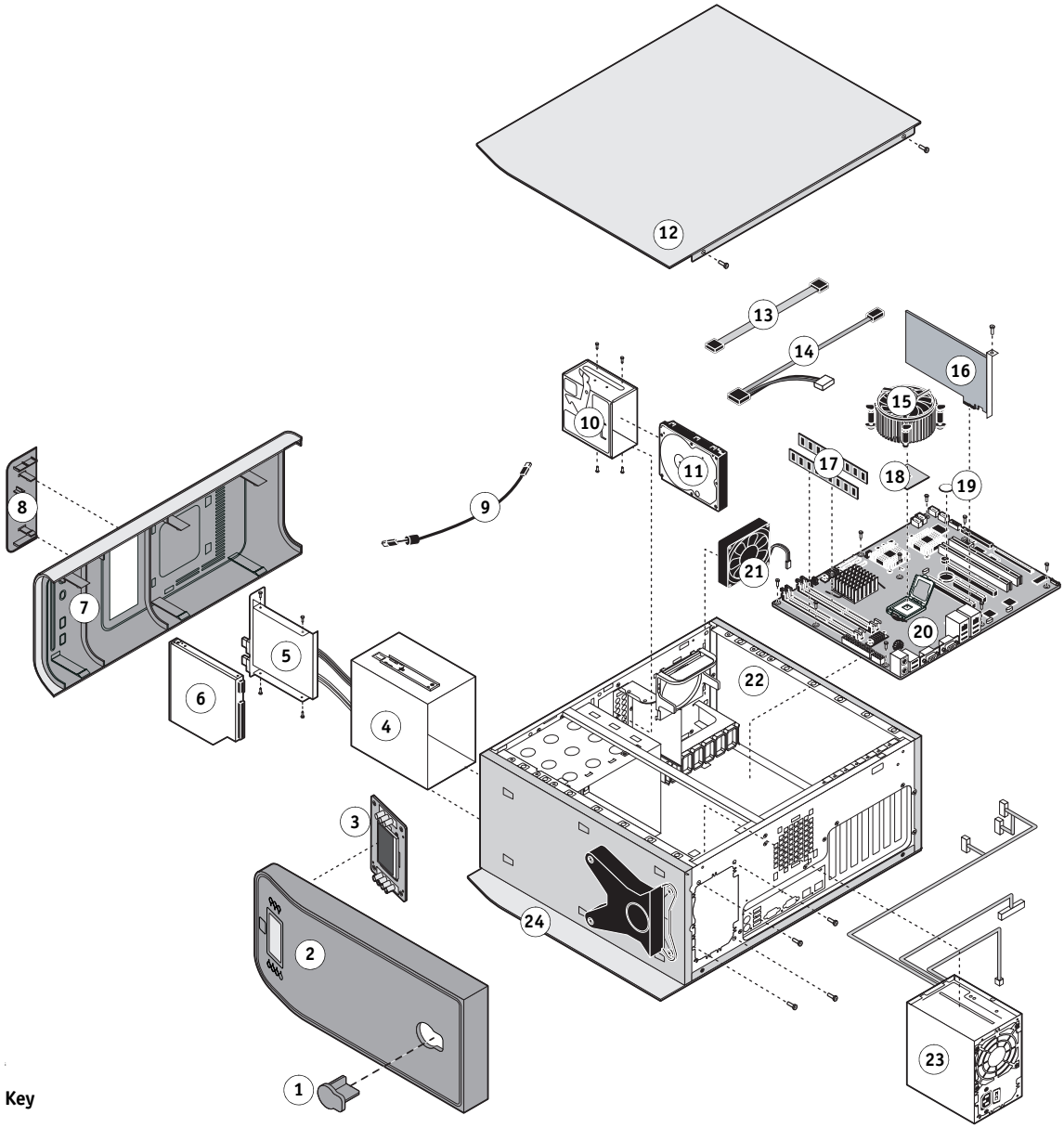



**Key**

1. Power cable connector
2. Power switch, back panel
3. Not used
4. Not used
5. USB ports (x2)
6. Not used
7. Monitor (option)
8. USB ports (x4)
9. Top = Network; Bottom = Copier/printer interface
10. Power supply
11. CPU cooling assembly
12. Video board (J12)
13. DIMM slots
14. DVD drive
15. Removable drive (option)
16. HDD in bracket
17. Motherboard
18. Front fan

**NOT SHOWN:** Cables, UIB, or front panel USB ports

**FIGURE 10:** Back panel and internal side view

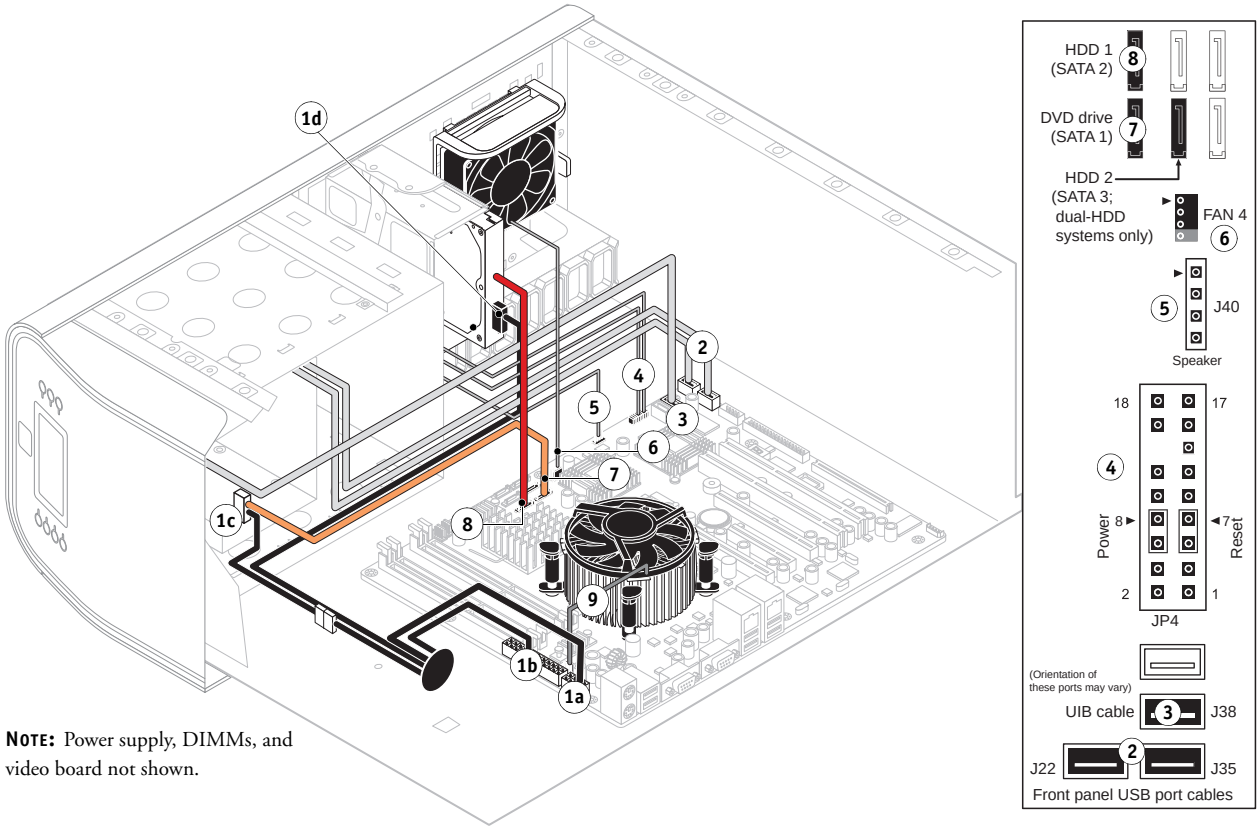



Key

1. Top panel plug
2. Top panel
3. User Interface Board (UIB)
4. Component sled
5. Switch bank assembly
6. DVD drive
7. Front panel
8. Upper faceplate
9. UIB cable
10. HDD bracket
11. HDD
12. Side panel (left)
13. HDD data cables
14. DVD drive power/data combination cable
15. CPU cooling assembly
16. Video board
17. DIMMs
18. CPU
19. Battery
20. Motherboard
21. Fan
22. Chassis
23. Power supply
24. Side panel (right)

**NOT SHOWN:** UIB buttons, CPU fan cable, tie-wraps, cable clamps, dongle(s), or external cables

**FIGURE 11:** Exploded view of E-41A components




**NOTE:** Power supply, DIMMs, and video board not shown.

| Cable key | From | To |
|---|---|---|
| 1. Power supply cable | Power supply | a. CPU power connector (PW1)<br>b. Motherboard power connector (PW2)<br>c. DVD drive power connector (combined with data)<br>d. HDD power connector |
| 2. Front panel USB port cables | Front panel | Motherboard connectors J22, J35 (see detail above) |
| 3. UIB cable | User Interface Board | Motherboard connector J38 (see detail above) |
| 4. Power and reset cables | Front panel | Motherboard connector JP4 (see detail above) |
| 5. Speaker cable | Front panel | Motherboard connector J40 (see detail above) |
| 6. Front panel fan cable | Front panel fan | Motherboard connector FAN 4 |
| 7. DVD drive power/data combo cable | DVD drive | Motherboard connector SATA 1 (see detail above) |
| 8. HDD data cable | HDD | Motherboard connector SATA 2 (see detail above) |
| 9. CPU fan cable | CPU fan | Motherboard connector FAN 1 (If present, keep the cable cover on the CPU fan cable.) |

**FIGURE 12:** Power and data cable connections in the E-41A

# Accessing internal components

This section describes how to shut down and open the E-41A. Always use the following procedures when opening the E-41A for inspection or service.

## Shutting down the system

When shutting down the E-41A, do the following:

- Remove the power cable from the back panel before removing or connecting interface cables or accessing the internal components.

IMPORTANT

- Remember that when the E-41A is powered off, network access to the copier/printer is interrupted. Always obtain permission from the network administrator before you take the E-41A off the network.
- If you are cycling power, wait at least 10 seconds before powering back on.
- If you are unable to shut down the E-41A through the Control Panel, power off by holding down the power button on the front of the E-41A for up to eight seconds.

IMPORTANT

- Using the reset button may cause the system to operate unpredictably. Use the reset button on the front of the E-41A only if the system is frozen and unresponsive to keyboard or mouse actions.

---

**TO SHUT DOWN THE E-41A FROM THE COPIER/PRINTER CONTROL PANEL**

1. **Press the "fierydriven®" button on the copier/printer and make sure that Idle appears on the copier/printer Control Panel (see page 36).**

   If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the shutdown procedure.

2. **Press the Fiery tab.**
3. **Press Restart Fiery.**
4. **At the next screen, select Shut Down.**

   **NOTE:** Use the reset button on the front of the E-41A only if the system is unresponsive to keyboard or mouse actions.

5. **Press OK.**

   Before accessing internal components, make sure that all cables are disconnected from the back of the E-41A.

---

**TO SHUT DOWN FROM THE E-41A CONTROL PANEL**

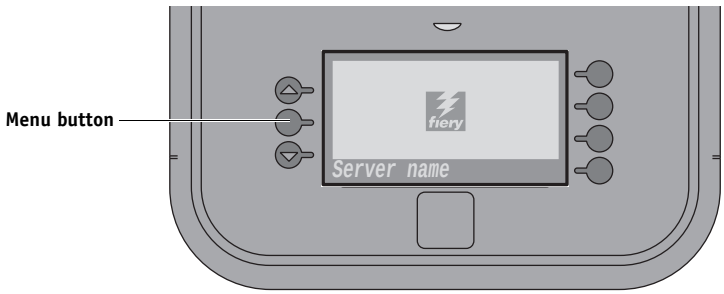
**NOTE:** Notify the network administrator before you remove the E-41A from the network.

1. **Make sure that the E-41A is not receiving, processing, or printing any jobs.**

   If Printing appears on the Control Panel, the E-41A is processing. You must wait until the system finishes and reaches the Idle state before restarting or shutting down.

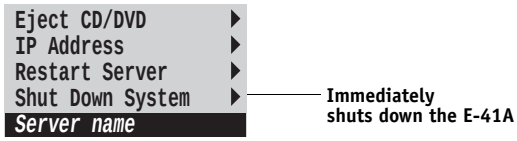
   If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the shutdown procedure.

2. **If the logo screen is displayed, press the Menu button once to display the Functions menu.**




**This logo screen indicates that the E-41A is Idle.**

3. **Select Shut Down System.**




**NOTE:** Use the reset button on the front of the E-41A only if the system is unresponsive to keyboard or mouse actions.

Allow the system to shut down and power off.

Before accessing internal components following a shutdown, make sure that all cables are disconnected from the back of the E-41A.

## Opening the E-41A

To service internal components, open the E-41A as described in the following procedure.

### TO OPEN THE E-41A

**WARNING**

**Never lift the E-41A by grasping the top panel. The top panel does not support the weight of the system.**

1. **Shut down the E-41A (see page 51).**
2. **Remove all cables from the back of the E-41A.**
3. **If the E-41A is mounted on the optional furniture, and the optional monitor is attached, perform the disassembly instructions in "Servicing the E-41A with Furniture" on page 148.**
4. **Remove all panels necessary to access the component that you need to access.**

   For guidelines on which panels to remove, see the service procedure for the component that you want to access.

   **NOTE:** When removing multiple panels from the E-41A, use the following order:

   - Left panel (see page 54)
   - Right panel (see page 54)
   - Front panel (see page 55)
   - Top panel (see page 56)

   **NOTE:** When replacing panels, reverse the order.

5. **Place the E-41A on a flat surface. Attach an ESD wrist strap before handling internal parts (see "Precautions" on page 14).**
6. **Carefully position the E-41A so that it is resting on its side and the internal components are facing up.**

   Place removed components on a grounded, antistatic surface.

### TO REMOVE AND REPLACE THE LEFT OR RIGHT PANEL

1. **Remove the screws that secure the panel to the back of the chassis.**

   Set aside the screws so that you can replace them later.

2. **Pull the back edge of the panel away from the chassis and lift the panel off the chassis.**

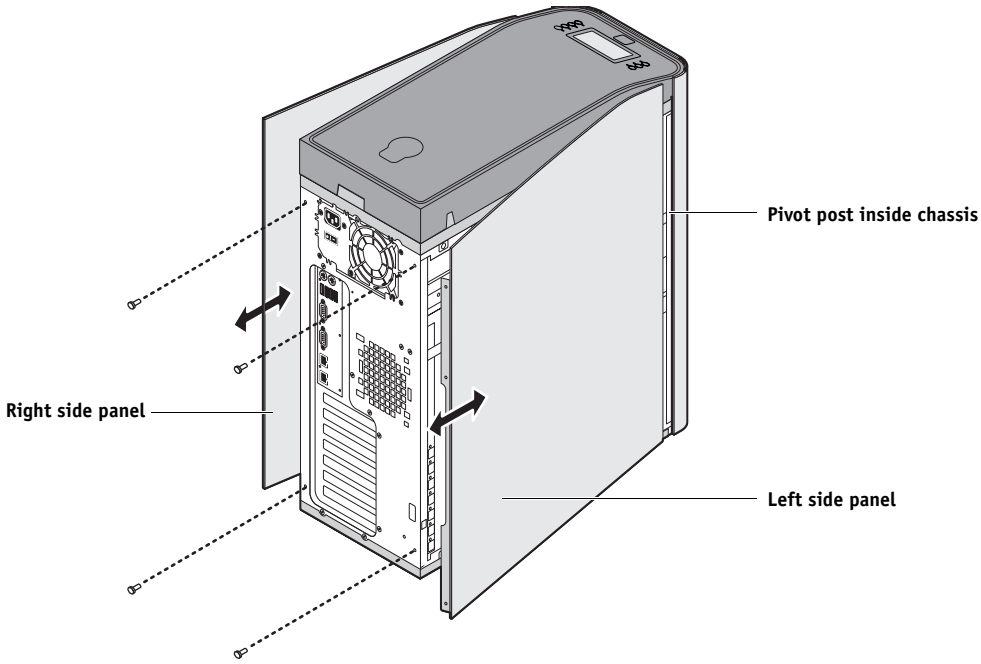



**FIGURE 13:** Removing/replacing the side panels

3. **To replace the panel, fit the front edge of the panel on the pivot post in the chassis.**
4. **Rotate the panel closed against the back of the chassis and replace the screws that you removed earlier.**

   Make sure not to damage cables as you replace the panel. Fold all cables inside the chassis before closing the panel against the chassis.

### TO REMOVE AND REPLACE THE FRONT PANEL

**NOTE:** To remove the front panel, you must first remove the left and right panels.

1. **Remove the upper faceplate from the front of the chassis.**

   Press down to release the two tabs that secure the upper faceplate to the front panel, and then carefully remove the upper faceplate from the front panel.

   **NOTE:** You must remove the upper faceplate in order to remove the front panel from the chassis.

2. **Pull outward on the tabs that secure the front panel to the chassis, and then lift the panel off of the chassis.**

   First remove the two top tabs, then the middle tabs, and then the bottom tabs.

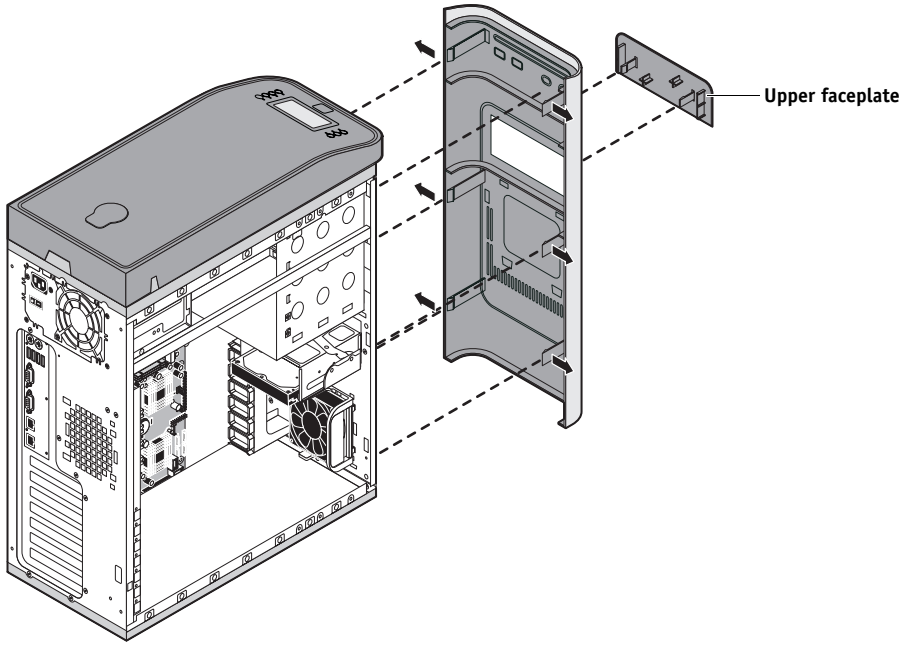



**FIGURE 14:** Removing/replacing the front panel

3. **To replace the front panel, align the four cutouts in the panel with the power and reset buttons and front USB ports.**
4. **Press the panel against the chassis to snap it into place.**

   Snap the tabs in pairs (first the top tabs, then the middle tabs, and then the bottom tabs).

5. **Replace the upper faceplate.**

   Insert the two standoffs at the base of the faceplate into the chassis, and then carefully press the faceplate against the chassis to lock the faceplate into place.

### TO REMOVE AND REPLACE THE TOP PANEL

**NOTE:** To remove the top panel, you must first remove the left, right, and front panels.

1. **Remove the plug from the top panel.**

   From the cutout in left side of the top panel, access and loosen the locking bolt, and then remove the plug.

2. **Loosen the top panel.**

   Slide the top panel a few inches toward the front of the chassis to disengage the hooks in the panel from the slots in the top of the chassis.

   **NOTE:** You may need to tap the back edge of the panel toward the front of the chassis to disengage the panel.

3. **Detach the UIB cable from the motherboard.**

4. **Remove the panel from the chassis.**

   Carefully route the UIB cable out of the hole in the top of the chassis as you remove the top panel.

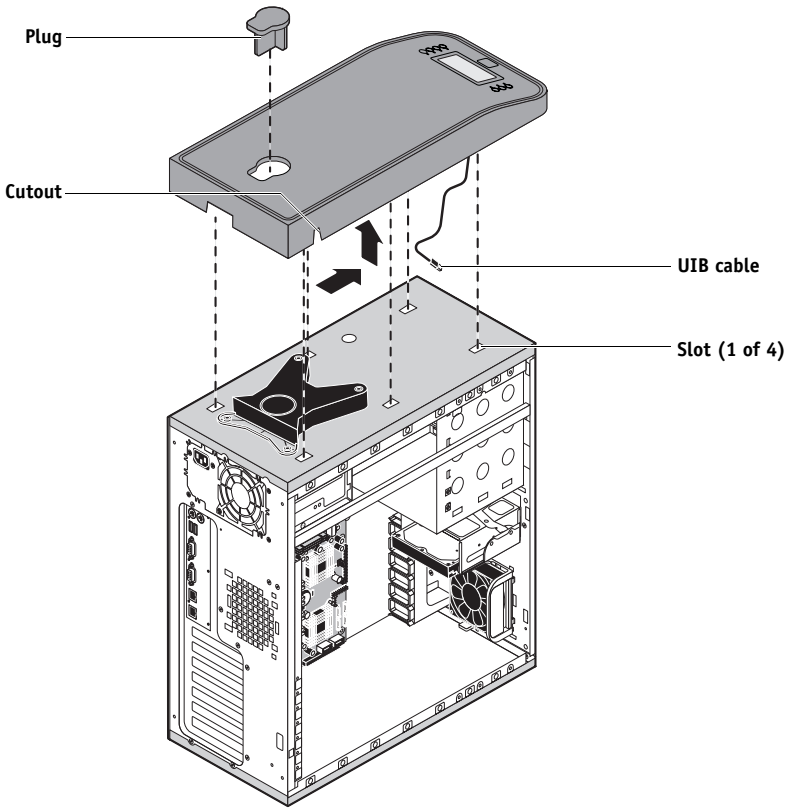



**FIGURE 15:** Removing/replacing the top panel

5. **To replace the top panel, first route the UIB cable through the hole in the top of the chassis and attach it to motherboard connector J38.**

6. **Position the top panel on the top of the chassis.**

   Place the hooks on the underside of the panel into the slots in the top of the chassis, and then slide the top panel toward the back of the chassis to engage the hooks.

   **NOTE:** You may need to tap the front edge of the panel toward the back of the chassis to engage the panel completely.

7. **Replace the plug on the top panel.**

   Correctly align the plug, and then place it into the receptacle on the top panel. Secure the plug by replacing the locking bolt through the cutout in the left side of the top panel.

## Removing and replacing boards

This section includes procedures for removing and replacing the following boards:

- Video board
- User Interface Board
- Motherboard

The E-41A is shipped from the factory with a standard board configuration, as shown in Figure 10 on page 48. If optional components have been installed, see the documentation that accompanies the particular option kit.

### Video board

The video board is installed in motherboard connector J12. The video board processes the image data and sends it to the copier/printer through a crossover cable connected to the lower RJ-45 port on the E-41A back panel.

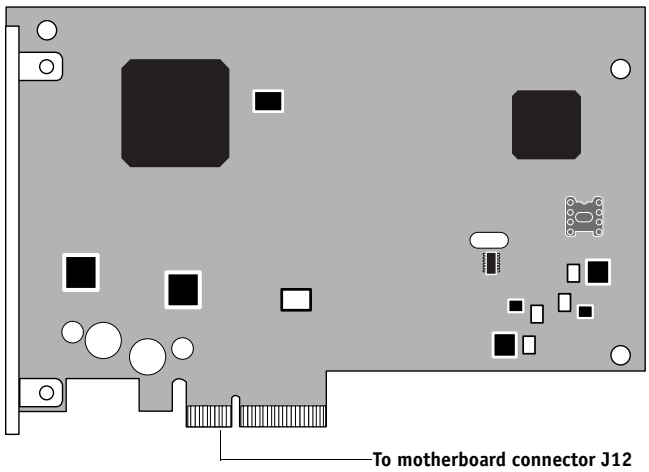



**FIGURE 16:** Diagram of the video board

### TO REMOVE THE VIDEO BOARD

1. **Shut down and open the E-41A (see pages 51 and 53).**

   To remove the video board, you must remove the left panel.

2. **Remove the board mounting bracket screw that attaches the video board to the chassis.**

3. **Remove the video board from motherboard connector J12.**

   Grasp the video board at the front and back edges and gently pull the board straight out of its motherboard connector.

4. **Place the video board in an antistatic bag.**

### TO REPLACE THE VIDEO BOARD

1. **If you are replacing the copier/printer interface board with a new board, unpack the new board from the kit, locate the L-shaped mounting bracket in the spare kit and attach it to the new board.**

2. **Seat the video board in connector J12 on the motherboard (the topmost connector), and then secure it to the chassis with the board mounting bracket screw that you removed earlier.**

   The video board edge connector is keyed to fit in slot J12 only when properly oriented.

3. **Reassemble the E-41A and verify its functionality (see page 106).**

## User Interface Board assembly

The User Interface Board (UIB) provides the interface between the E-41A and the user. The front of the UIB contains circuitry for the following:

- Activity lights (amber, green, and red LEDs)
- Display window (LCD)
- Four line selection buttons
- Up and Down buttons
- Menu button
- Jewel lights

The UIB cable is routed from a connector on the back of the User Interface Board to connector J38 on the motherboard (see Figure 20 on page 64).

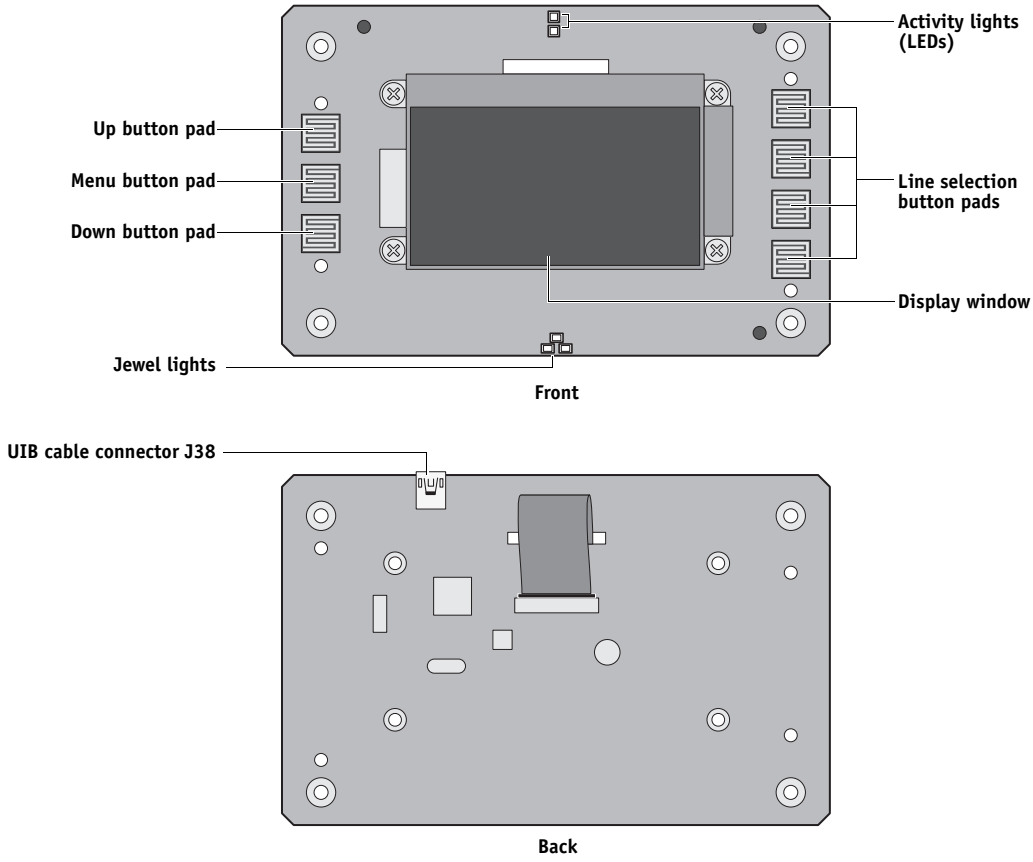



**FIGURE 17:** Diagram of the User Interface Board (front and back)

### TO REMOVE THE USER INTERFACE BOARD

1. **Shut down and open the E-41A (see page 51).**

   To access the User Interface Board, you must remove the left, right, front, and top panels.

   **NOTE:** Be sure to detach the UIB cable from its connector on the motherboard, and then carefully route the cable out of the hole in the top of the chassis as you remove the top panel.

2. **Turn the top panel over to expose its underside and place it on a padded surface.**
3. **Detach the UIB cable from the connector on the back of the UIB.**

   Detach the UIB cable by grasping the cable connector. Avoid pulling on the cable.

4. **Remove the four screws that secure the UIB to the underside of the top panel.**
5. **Remove the UIB from the top panel. Be sure to remove the plastic lens that covers the display window of the UIB.**

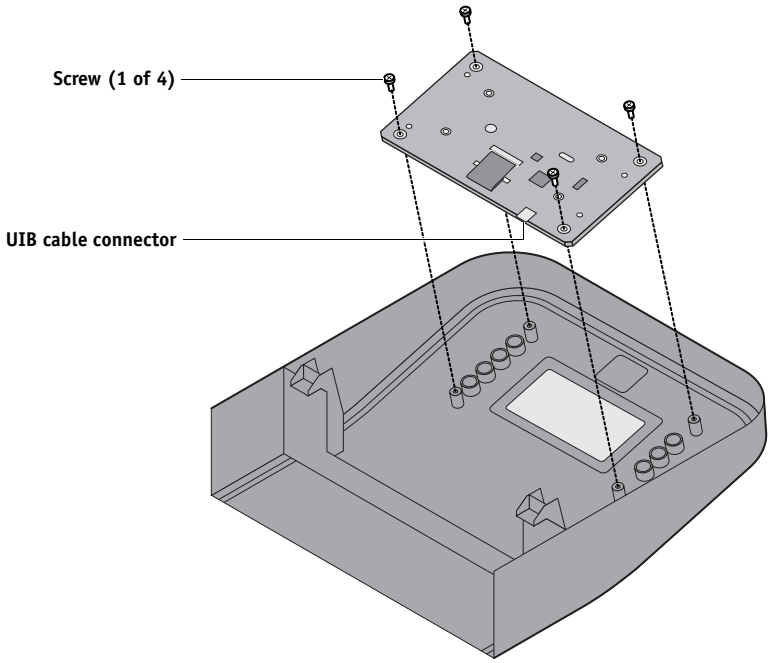



**FIGURE 18:** Removing/replacing the User Interface Board

6. **If you are removing the UIB to replace it with a new board, remove the UIB buttons from the old UIB (see Figure 19 on page 62).**

   When removing the buttons, take care not to damage the pointed tabs that hold the buttons onto the UIB.

7. **Place the UIB in an antistatic bag.**

### TO REPLACE THE USER INTERFACE BOARD

1. **If you are installing a new UIB, correctly orient the UIB buttons, and then mount them on the new UIB.**

   The UIB buttons attach directly to the front of the UIB and extend through channels in the top panel. When correctly positioned, the buttons make contact with the button pads on the front of the UIB and provide users with manual status and control capability from the Control Panel.

   Use needlenose pliers to pull the button tabs carefully through the anchoring holes in the UIB until the buttons are secured in place.

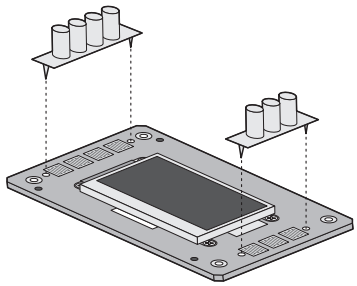


   **FIGURE 19:** Removing/replacing the UIB buttons

2. **Attach the UIB cable to the connector on the back of the UIB (see Figure 18 on page 61).**
3. **Turn the top panel over to expose its underside and place it on a padded surface.**
4. **Position the plastic lens around the display window of the UIB.**
5. **Secure the UIB to the underside of the top panel.**

   Grasp the UIB in one hand while using the other hand to hold the plastic lens steady against the UIB display window. Place the UIB in the mounting area of the top panel and carefully fit the buttons through the cutouts in the top panel as you hold the plastic lens in place.

   Replace the four screws that secure the UIB to the underside of the top panel. Be sure to use the same screws that you removed earlier.

6. **If you are replacing the UIB cable with a new cable, do the following:**

   If present, cut the clamp securing the old cable to the underside of the top panel and remove the old cable. Attach a new UIB cable to the connector on the UIB. If a new tie-wrap is included in the new UIB cable spare kit, use it to secure the new UIB cable to the underside of the top panel.

7. **Replace the top panel (see page 56).**

   Route the UIB cable through the chassis and connect it to motherboard connector J38 (see Figure 12 on page 50).

8. **Reassemble the E-41A and verify its functionality (see page 106).**

## Motherboard

**IMPORTANT**

If you are removing the motherboard in order to replace it with a new motherboard, review the troubleshooting and motherboard cautions on page 67.

The Intel Core 2 Duo E8400 3.0GHz CPU mounted on the motherboard controls the image data transferred to and from the video board. The motherboard also controls HDD functions and the communication between the E-41A and external devices. The motherboard has four DIMM sockets. Two sockets contain a 1GB DIMM, for a total of 2GB of memory (see Figure 23 on page 79). The motherboard also includes the following PCI expansion slots (from top to bottom):

- One PCI-E x16 slots with x8 signal occupied by the video board
- One PCI-E x8 slots with x4 signal (not used)
- One PCI-E x16 slots with x4 signal (not used)
- Two PCI-X 133/100/66MHz (not used)

### Removing the motherboard

The motherboard attaches to the side of the chassis below the power supply. Before you remove the motherboard, you must remove the following:

- The left panel
- All boards installed on the motherboard

  All cables connected to the motherboard
  (Including the motherboard power cable, CPU power cable, front panel fan cable, HDD data cable, DVD drive power and data combination cable, power button cable, reset button cable, speaker cable, front panel USB port cables, and UIB cable.)

This section also includes information about the following:

- Replacing DIMMs
- Replacing the CPU
- Replacing the battery
- Clearing the CMOS
- Jumper configurations

**IMPORTANT**

Follow standard ESD and other safety precautions when handling components (see page 14). During service to the motherboard, avoid using excessive force and always place the motherboard on a grounded, non-metallic, static-free surface. Never allow any metal to touch the solder contacts on the underside of the motherboard, especially beneath the battery socket. Improper handling can short-circuit and permanently damage the motherboard.

Key

1. PS/2 ports (not used)
2. USB ports (x2)
3. Not used
4. Monitor
5. Network interface/USB ports (x2)
6. USB ports (x2)
7. CPU power (PW1)
8. CPU fan power (FAN 1)
9. Motherboard power (PW2)
10. CPU, heatsink, CPU fan
11. Battery (BT1)
12. Video board
13. Empty PCI-E (J11)
14. Empty PCI-E (J10)
15. Empty PCI-X (J17)
16. Empty PCI-X (J16)
17. BIOS chip (U29)
18. DIMM 4
19. DIMM 3
20. DIMM 2
21. DIMM 1
22. Not used (FAN 3)
23. Not used (FAN 2)
24. SATA 1, DVD drive data connection
25. SATA 2, HDD data connection
26. SATA 3 (Not used)
27. SATA 4 (Not used)
28. SATA 5 (Not used)
29. SATA 6 (Not used)
30. Front panel fan (FAN 4)
31. Speaker (J40); PWR & RST (JP4); CMOS (JP1)
32. Unused USB port
33. UIB cable (J38)
34. Front panel USB port cable (J35)
35. Front panel USB port cable (J22)
36. Unused (J20)
37. Unused (IDE)
38. Unused (J15)

MH—Mounting holes

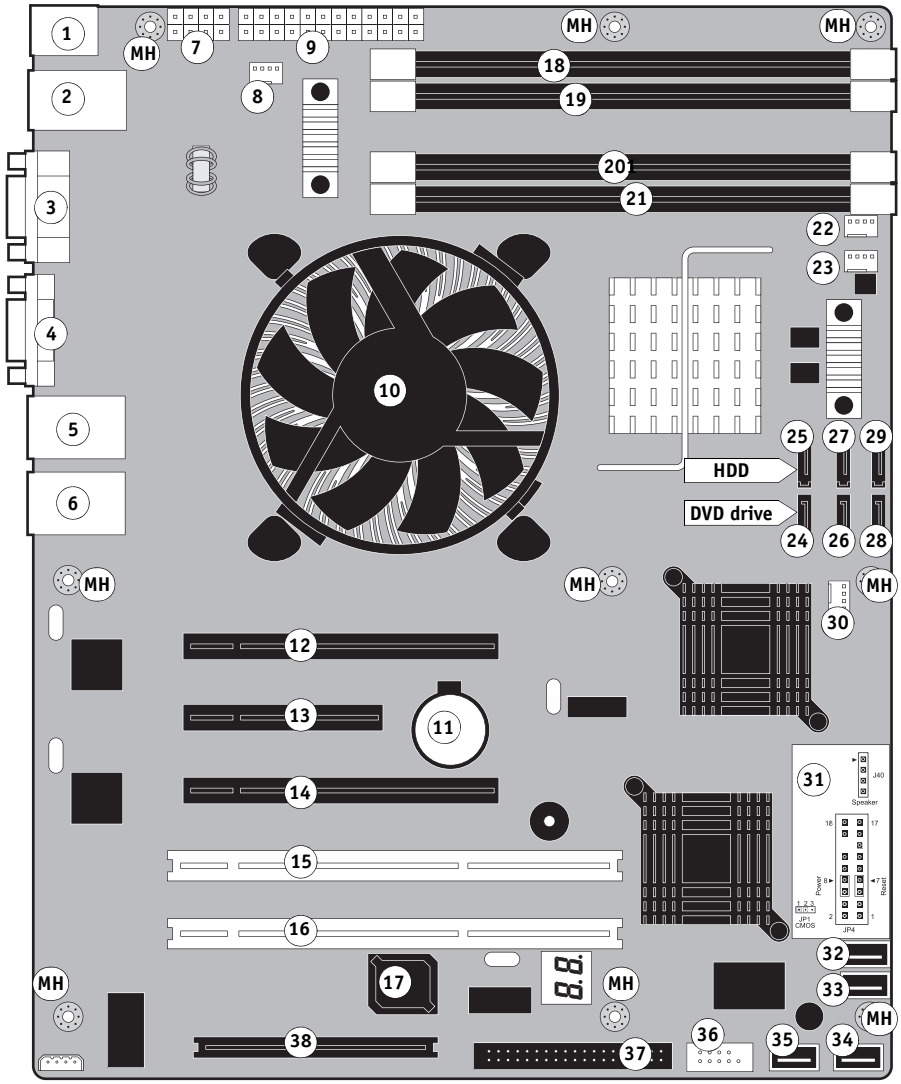



**FIGURE 20:** Diagram of the E-41A motherboard

### TO REMOVE BOARDS AND CABLES FROM THE MOTHERBOARD

1. **Shut down and open the E-41A (see pages 51 and 53).**

   To access the motherboard, you must remove the left side panel.

2. **Remove all boards installed in slots on the motherboard.**

   Note the location of the slot where each board resides so that you can reinstall the board in the same slot later.

3. **Remove the following cables from the old motherboard:**

   **NOTE:** First remove any plastic cable clamp(s) securing internal cables and reusable tie-wraps, if present.

   - Front panel fan cable (FAN 4)
   - Reset button cable (JP4)
   - Power button cable (JP4)
   - Speaker cable (J40)
   - UIB cable (J38)
   - Front panel USB port cables (J22 and J35)
   - DVD drive cables:
     - SATA data cable from motherboard connector SATA 1
     - Power and data combination cable from the back of the DVD drive
   - HDD cables:
     - SATA data cable from motherboard connector SATA 2
     - Power supply cable from the back of the HDD
   - Motherboard power cable (20-pin, PW2)
   - CPU power cable (8-pin, PW1)

   For motherboard connector locations, see Figure 20 on page 64.

### TO REMOVE THE MOTHERBOARD

**NOTE:** This procedure assumes that you have already performed the procedure "To remove boards and cables from the motherboard" on page 65.

1. **Remove the HDD bracket, with HDD attached (see page 95).**

   Remove the screw that attaches the bracket to the shelf. Removing the HDD and HDD bracket provides the clearance necessary for removing the motherboard. You must also detach the HDD power cable to remove the HDD.

2. **Remove the 9 mounting screws securing the motherboard to the chassis (for screw locations, see Figure 20 on page 64).**

3. **Remove the motherboard from the chassis.**

   Lift the edge of the motherboard (see Figure 21). Make sure that the back panel connectors on the motherboard clear the chassis while you lift it out of the chassis. Do not touch the contacts and avoid using excessive force.

**IMPORTANT**

During service, avoid using excessive force and always place the motherboard on a grounded, non-metallic, static-free surface. Never allow any metal to touch the solder contacts on the underside of the motherboard, especially beneath the battery socket. Improper handling can short-circuit and permanently damage the motherboard.

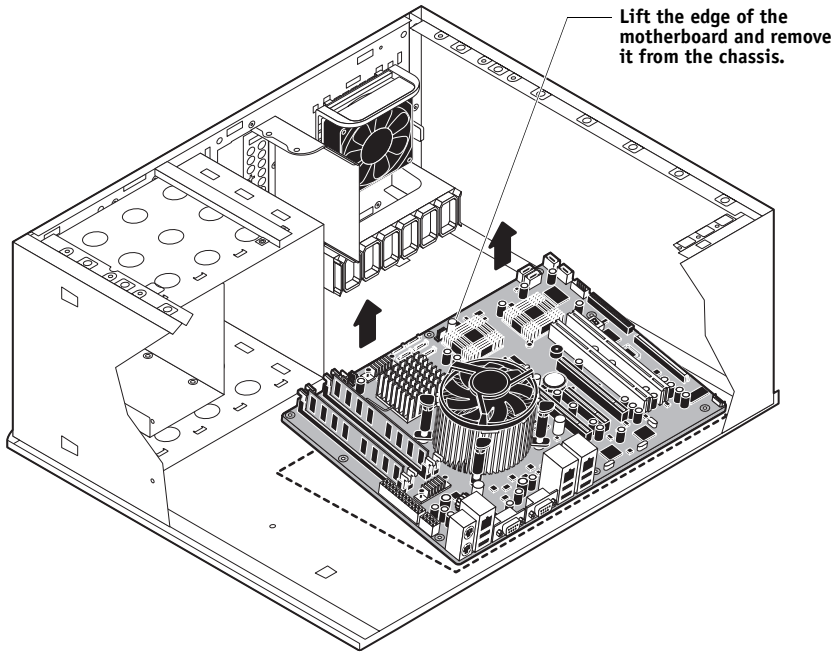



**FIGURE 21:** Removing the motherboard

## Replacing the motherboard

**IMPORTANT**

Follow the procedures in this section to replace the motherboard. Failure to follow the instructions in this section may corrupt the system (not easily repaired in the field) or result in an incomplete installation (see "Error messages" on page 78).

**IMPORTANT**

### Troubleshooting cautions

- Before deciding to install a new motherboard, consult "Troubleshooting" on page 122.
- Inspect all cables and internal components as described on pages 124 and 125. If these inspections do not solve the problem, locate symptoms in the troubleshooting table beginning on page 132 and perform the suggested actions in the order listed.
- If troubleshooting strategies (checking cables and connections, reinstalling system software, and so forth) do not solve the problem, and you suspect that either the HDD or the motherboard is faulty, always troubleshoot in the following order:

  (Troubleshooting in the wrong order will cause the system to malfunction. In general, it is highly unlikely that both the HDD and the motherboard are defective; therefore, avoid replacing both to solve one problem.)

  – First, replace the HDD and install system software.

    Always replace a faulty HDD with a new HDD. Transferring a HDD from one E-41A to another is incorrect and strongly discouraged.

  – If the problem persists, reinstall the original HDD in the system, and then replace the motherboard.

### Motherboard cautions

If you have exhausted all other troubleshooting remedies and determined that you need to install a new motherboard, be sure to observe the following cautions:

- **Transfer the DIMMs, CPU, and CPU cooling assembly from the old motherboard onto the new motherboard.**

IMPORTANT

- ***Do not* transfer the BIOS chip from the old motherboard onto the new motherboard.**

  BIOS chips are not interchangeable.

- ***Do not* reinstall system software at this time.**

  Reinstalling system software is not necessary when installing a new motherboard and can result in an error if done before transferring options to the new motherboard (described on page 75.)

- **Before you use the one-time use dongle and Fiery Options Utility DVD to transfer options (for example, Fiery Graphic Arts, Premium Edition, if applicable) to the new motherboard, enter Service Mode (see page 73) and make sure that the new motherboard solves the problem that you are troubleshooting.**

  The E-41A can remain in Service Mode indefinitely. Use Service Mode to carefully verify the new motherboard before transferring options to the new motherboard.

  Transferring options to the new motherboard permanently customizes the new motherboard. Once customized, the motherboard cannot be returned to inventory or installed in another E-41A. If the new motherboard does not solve the problem in Service Mode, do not transfer options. Return the new motherboard and unexpended one-time use dongle to inventory.

- **If you can verify in Service Mode that the new motherboard solves the problem that you are troubleshooting, transfer options to the new motherboard using the Fiery Options Utility DVD and one-time use dongle included with the new motherboard (see page 75).**

IMPORTANT

- ***Do not* remove the one-time use dongle while transferring options to the new motherboard.**

  Removing the one-time use dongle prematurely will corrupt the dongle and possibly damage the motherboard. If either become corrupted, you must contact your authorized service/support center and order a new replacement motherboard kit.

### TO REPLACE THE MOTHERBOARD

1. **If you are installing a new motherboard, do the following:**

   - Unpack the new motherboard.
   - Open the load plate covering the CPU socket (see page 83) and remove the protective plastic cover on the CPU socket on the new motherboard. Later, you will transfer the protective plastic cover to the CPU socket of the old motherboard to protect the circuitry.
   - Remove the DIMMs from the old motherboard and install them on the new motherboard (see page 79).
   - Remove the CPU and cooling assembly from the old motherboard and install them on the new motherboard (see page 81). Make sure that the cable cover (if present) remains on the cooling assembly fan cable when transferring the cooling assembly to the new motherboard.

**IMPORTANT**

When transferring the CPU to the new motherboard, make sure to use the fresh thermal compound that came with the new motherboard. For more information about the thermal compound, see page 84.

**IMPORTANT**

Do not transfer the BIOS chip from the old motherboard onto the new motherboard. Doing so can damage the E-41A. BIOS chips are not interchangeable.

2. **Install the motherboard in the chassis.**

   Angle the motherboard so that the back panel connectors on the motherboard fit into the cutouts in the back of the chassis (see Figure 21 on page 66).

**IMPORTANT**

Make sure that the flexible grounding tabs on the cutouts for the network ports make contact with the outside of the ports. Do not allow the tabs to fold over or become bent inside the ports. The ports will not function if the tabs are placed improperly. Take care when lowering the new motherboard into the chassis. Do not strike the motherboard against the metal standoffs attached to the chassis, as doing so can damage the components on the underside of the motherboard.

3. **Align the mounting holes on the motherboard with the standoffs located in the base of the chassis.**

4. **Secure the motherboard to the chassis using the 9 mounting screws that you removed earlier.**

   Partially tighten each screw before completely tightening any one screw. Do not overtighten the screws; doing so could damage traces on the motherboard.

   You are now ready to complete motherboard installation.

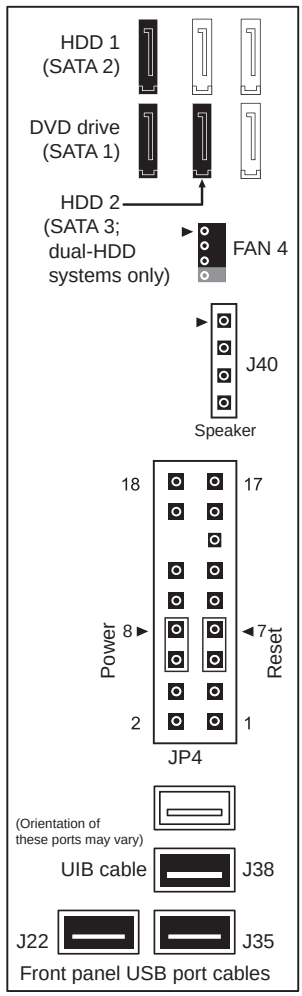
### TO REPLACE BOARDS, CABLES, AND COMPONENTS

1. **Replace the HDD bracket, with HDD attached (see page 97).**

   You removed the HDD bracket to provide clearance for removing the motherboard.

2. **Replace the following cables:**

   - CPU power cable (8-pin, PW1)
   - Motherboard power cable (20-pin, PW2)
   - UIB cable (J38; see detail below)
   - HDD cables:
     - Power supply SATA cable to the back of the HDD
     - SATA data cable to the HDD and motherboard connector SATA 2
   - DVD drive cables:
     - Power and data combination cable to the back of the DVD drive
     - SATA data cable to motherboard connector SATA 1




**IMPORTANT**

**NOTE:** Connect the thin, black SATA power cable connectors to the HDD and DVD drive. Do not connect the white, 4-pin power cable connectors. Connecting both types of power cables will damage the HDD and DVD drive.

- Front panel USB port cables (J22 and J35; see detail)
- Speaker cable (J40; see detail)

  Make sure that the small triangle on the cable connector is aligned with pin 1 on J40.

- Power button cable (JP4 pins 6 and 8)

  Make sure that the small triangle on the cable connector is aligned with pin 8 on JP4.

- Reset button cable (JP4 pins 5 and 7; see detail)

  Make sure that the small triangle on the cable connector is aligned with pin 7 on JP4.

- Front panel fan cable (FAN 4)

3. **Secure cables as necessary with any plastic cable clamp that you may have removed earlier.**
4. **Replace the video board in motherboard connector J12 (see Figure 20 on page 64).**

   Make sure to install the board mounting bracket screw to secure the board to the chassis. Press down firmly on the top of the board as you insert the screw.

IMPORTANT

**NOTE:** Make sure that unused back panel slots are covered with slot covers. Uncovered slots reduce air flow and may cause the E-41A to overheat.

5. **If you reinstalled the old motherboard, reassemble the E-41A and verify its functionality (see page 106).**
6. **If you replaced the motherboard with a new motherboard, clear the CMOS as follows:**

IMPORTANT

**NOTE:** You must clear the CMOS after installing a new motherboard to ensure compatibility between the new component and the previous settings stored in the BIOS. Make sure that the power cable is removed from the power outlet before clearing the CMOS.

- Remove the battery (see page 86).
- Wait 2 minutes to allow the motherboard electrical components to fully discharge.
- Reinstall the battery.

7. **If you replaced the motherboard with a new motherboard and cleared the CMOS, do the following:**
   - Reassemble the E-41A (see page 106).
   - Reset the time and date in Setup (see the *Configuration and Setup*).
   - Proceed to "Verifying new motherboard installation and transferring options" on page 72.

## Verifying new motherboard installation and transferring options

After you install a new motherboard and reassemble the system, do the following:

- Verify all functionality by using the one-time use dongle to enter Service Mode. (Service Mode is not indicated on the monitor or LCD, but is entered once you power on with a new motherboard installed and the one-time use dongle installed on a USB port.)

  Service Mode is a temporary state that allows you to make sure that the motherboard solves the problem that you are troubleshooting. Service Mode is exited automatically when you expend the one-time use dongle to transfer options to the new motherboard (see "Transferring options to the new motherboard" on page 75).

**NOTE:** Features of Impose and Compose are not available while in Service Mode.

- If the new motherboard solves the problem that you are troubleshooting, use the one-time use dongle and the Fiery Options Utility DVD to transfer options to the new motherboard.

  If you determine while in Service Mode that the problem you are troubleshooting was not fixed by installing a new motherboard, do not expend the one-time use dongle to transfer options to the new motherboard (described below), do not install system software, and do not replace the HDD. Reinstall the old motherboard and return the new motherboard and the unused one-time use dongle to inventory. You may then perform additional service and troubleshooting procedures.

  Transferring options (for example, Fiery Graphic Arts, Premium Edition, if applicable) expends the one-time use dongle. For details, see "Transferring options to the new motherboard" on page 75.

**IMPORTANT**

*Do not* transfer options to the new motherboard prematurely. Do so only after you verify the new motherboard in Service Mode. Remember that once options are transferred to the new motherboard using the one-time use dongle, the motherboard is customized and cannot be used in another system.

### Entering Service Mode

Use the following procedure to verify that the system functions properly after installing a new motherboard.

---

#### TO ENTER SERVICE MODE AND VERIFY THE SYSTEM

**NOTE:** This procedure assumes that the E-41A is powered off, no DVD is in the DVD drive, you have installed a new motherboard, and that you have reassembled the E-41A and attached external cables.

**NOTE:** Do not insert the Fiery Options Utility DVD into the DVD/CD-ROM drive yet. You will install the Fiery Options Utility DVD when you are ready to transfer options to the new motherboard (page 75) *after* you verify the system in Service Mode.

1. **Make sure the E-41A is connected to the copier/printer (see page 29).**
2. **Locate the one-time use dongle provided with the new motherboard and connect it to a USB port on the front or back panel.**
3. **Remove and set aside all other dongles and USB storage devices (such as a flash or thumb drive) that may be connected to any other USB port.**

   Reconnect other dongles and USB devices only after you verify that the E-41A starts up successfully in Service Mode.

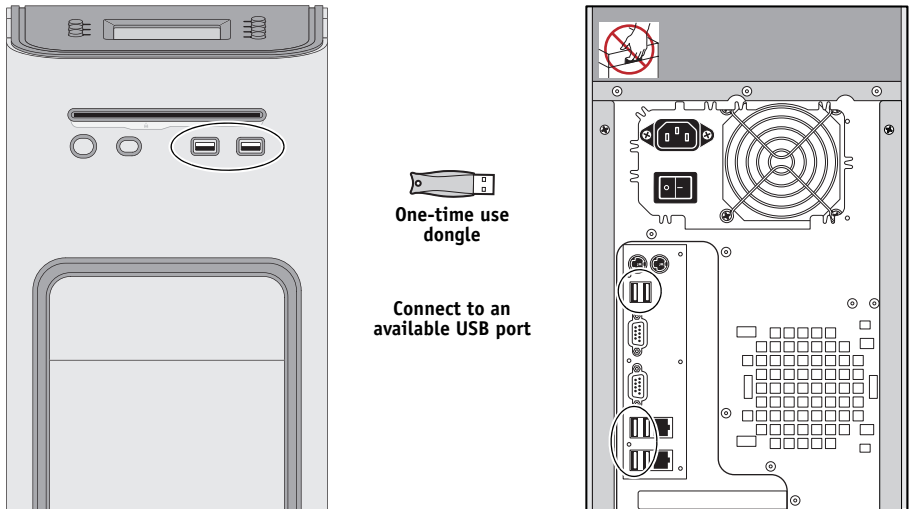



**FIGURE 22:** Connecting the dongle

4. **Power on the E-41A and allow it to boot without interruption.**

   If a monitor is connected to the E-41A:

   - At the Log On to Windows dialog box, type Administrator in the user name field, type Fiery.1 in the password field, and then press Enter on the keyboard. Type Fiery.1 exactly as shown. The password is case-sensitive; for example, fiery.1 will not work.

   At this point the E-41A is in Service Mode, so you can verify that the new motherboard solves the problem that you are trying to troubleshoot. Service Mode is not indicated on the monitor or on the E-41A Control Panel.

5. **Print the E-41A Test Page (see page 38).**

6. **Ask the network administrator to connect the E-41A to the network and download a print job over the network (see *Configuration and Setup* on the User Documentation CD).**

   If the problem that you are troubleshooting persists, or if you are unable to perform steps 4 through step 6 above while in Service Mode, you may conclude that the old motherboard was not the source of the problem and does not need to be replaced. If so, do not transfer options to the new motherboard (described on page 75), do not install system software, and do not replace the HDD. Reinstall the old motherboard and return the new motherboard with the unexpended one-time use dongle to inventory. For more information about troubleshooting system problems, see "Troubleshooting" on page 122.

   If installing a new motherboard solved the problem that you are troubleshooting and you are able to print a Test Page and send a print job over the network, you are ready to transfer options to the new motherboard. Service Mode ends automatically when you transfer options to the new motherboard (see page 75).

### Transferring options to the new motherboard

After you verify that the new motherboard solves the problem that you are troubleshooting, you must use the Fiery Options Utility DVD and the one-time use dongle to transfer options to the new motherboard.

---

#### TO TRANSFER OPTIONS TO THE NEW MOTHERBOARD

**NOTE:** This procedure assumes that the E-41A is fully assembled, verified in Service Mode (see page 73), and powered off.

1. **Make sure that the one-time use dongle is firmly attached to a USB port on the E-41A and that no other dongles or USB storage devices (for example, a flash or thumb drive) are attached to the E-41A.**

   The options transfer process may fail if other dongles and/or USB storage devices are connected to the E-41A during the process.

2. **Power on the E-41A.**

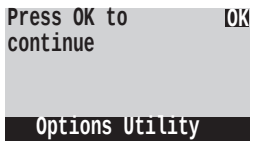
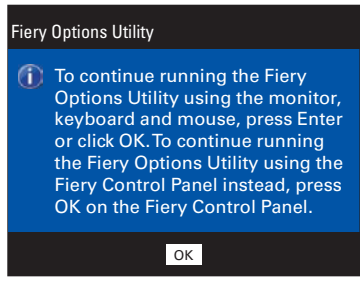
3. **Immediately insert the Fiery Options Utility DVD into the DVD drive.**

   **NOTE:** The Fiery Options Utility DVD must be in the DVD drive in time for the E-41A to boot from it. If the E-41A does not boot from the Fiery Options Utility DVD, allow the E-41A to start up, eject the CD, turn off the E-41A, and then repeat steps 2 and 3.

   **NOTE:** If an error message displays, see page 78.

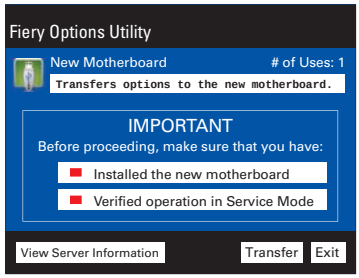
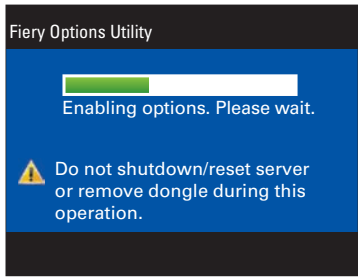
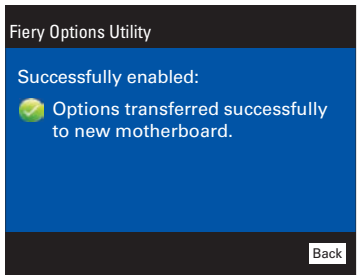
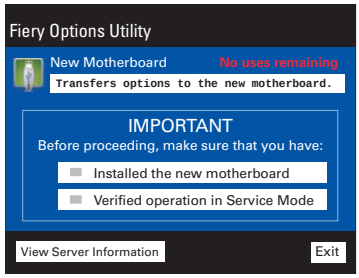
4. **To continue, choose the Control Panel or monitor (if present) as the interface to use throughout the option transfer process.**

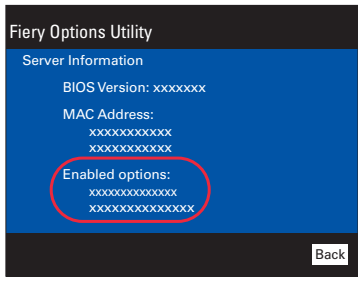
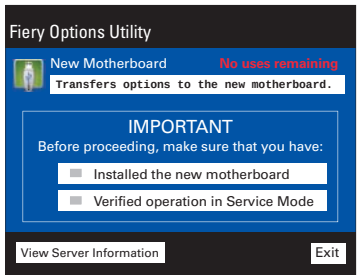
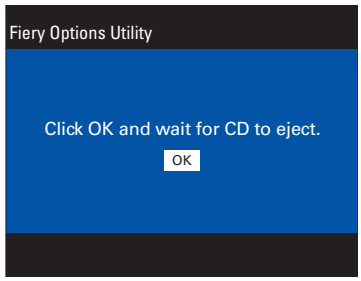
   The first screen that displays when you start the Fiery Options Utility allows you to choose the interface that you will use throughout the procedure. Choose an interface by selecting OK on the Control Panel or monitor. The interface not chosen is then disabled during the option transfer process.

| Control Panel | Monitor |
|---|---|
|  |  |

5. **Follow the prompts on the interface that you chose.**

   **NOTE:** If an error message appears during the update process, see page 78.

| Control Panel | Action | Monitor | Action |
|---|---|---|---|
| Server Info ▶<br>Dongle Info ▶<br>Enable option(s) ▶<br>Exit & Reboot ▶<br>Main Menu | Select **Enable option(s)**. |  | Click each item to confirm, and then select **Transfer** to transfer options.<br>The **Transfer** button is unavailable until you click both items. |
| # of Uses: 1 OK<br>Option:<br>-New MB<br>Dongle Info | To verify the type of dongle connected to the E-41A, select **Dongle Info.** | | |
| Before proceeding, make sure you have YES NO<br>Enable option(s) | Select **YES** to confirm items and transfer options.<br>**- or -**<br>Select **NO** to return to the Main Menu. |  | Wait 1 minute or longer for the next prompt. |
| 1) Installed new MB YES<br>2) Verified in Service Mode NO<br>Enable option(s) | | | |
| Enabling options.<br>Please wait..<br>Do not shut down or reset server or remove dongle. | Wait 1 minute or longer for the next prompt. |  | Select **Back**. |
| Options transferred successfully. OK<br>Enable Option(s) | Select **OK** to continue to the Main menu. | | |
| Server Info ▶<br>Dongle Info ▶<br>Enable option(s) ▶<br>Exit & Reboot ▶<br>Main Menu | Select **Server Info**. |  | Select **View Server Information**. |

| Control Panel | Action | Monitor | Action |
|---|---|---|---|
| BIOS Version:<br>x.xx xxxx<br>OK<br>Server Info<br><br>MAC Address<br>XXXXXXXXX<br>XXXXXXXXX<br>OK<br>Server Info<br><br>Enabled option:<br>-[*Option name*]<br>-[*Option name*]<br>-[*Option name*]<br>OK<br>Server Info | Scroll down and verify that transferred options appear under Enabled option, then select **OK**. |  | Verify that transferred options appear under Enabled options, then select **Back**. |
| Server Info ▶<br>Dongle Info ▶<br>Enable option(s) ▶<br>Exit & Reboot ▶<br>Main Menu | Select **Exit & Reboot**. |  | Select **Exit**. |
| Select OK and wait for CD to eject.<br>OK | Select **OK**. |  | Select **OK**. |

After you select OK, the message "Please standby...System restarting..." displays. Allow the system to restart without interruption. The Fiery Options Utility DVD ejects automatically.

6. **Remove the Fiery Options Utility DVD and the one-time use dongle.**

   The new motherboard is now customized and cannot be used in another system.

7. **If a monitor is connected to the E-41A:**

   - When the Log On to Windows dialog box appears on the monitor, type Administrator in the user name field, type Fiery.1 in the password field, and then press Enter on the keyboard.

   **NOTE:** Type Fiery.1 exactly as shown. The password is case-sensitive; for example, fiery.1 will not work.

   - Wait for Idle to display on FieryBar on the monitor.

     If the E-41A is not connected to the copier/printer, or if the copier/printer is not powered on, a message displays indicating the status. Expect this message. The E-41A detects the copier/printer after you connect the E-41A to the copier/printer.

8. **Reattach any dongle(s) (for example, for Compose or Impose) or USB storage device you may have removed previously.**

### Error messages

One of the following error messages may display on the E-41A Control Panel or monitor when you attempt to transfer options to the new motherboard.

**Could not mount the dos/boot partition**—You have attempted to transfer options using the Feature Update CD. The Feature Update CD is not supported by the E-41A. Obtain the Fiery Options Utility DVD and try the procedure again.

**Invalid dongle found! Please remove dongle and connect the correct dongle**—The attached dongle is not supported by the Fiery Options Utility. The dongle may have been attached by mistake. Obtain a valid dongle and try again.

**More than one dongle found. Remove all dongles except the correct dongle**—The Fiery Options Utility will not work when more than one dongle is attached to the system.

**No uses remaining**—The dongle has already been used and cannot be reused. Obtain an unused dongle and start again.

**Check power and Video cable connections**—There is a problem with the connection between the E-41A and the copier/printer. Make sure that the interface cables are properly connected and the copier/printer is on and ready to print.

If an error condition cannot be corrected, restore the previous hardware configuration, if possible, and contact your authorized service/support center.

## Replacing parts on the motherboard

This section describes how to remove and replace the DIMMs, CPU, and battery on the motherboard. Before you perform any of these procedures, shut down and open the E-41A (see page 51).

### DIMMs

The motherboard has four DIMM sockets. The E-41A standard memory configuration populates two sockets, each containing a 1GB DIMM, for a total of 2GB of memory.

**NOTE:** When installing DIMMs, note the following:

- Different capacity DIMMs look alike. Make sure that you know the capacity of each DIMM before you install it in a socket.
- Install only approved DIMMs available from your service representative.
- DIMMs must be installed in matched pairs. A matched pair is comprised of two alternate sockets (see below). DIMMs within a pair must be identical (same capacity and same number of chips on each side). For example, in a two-DIMM configuration, populate DIMM 4 and DIMM 2 with DIMMs of identical capacity, with the same number of chips on each side.

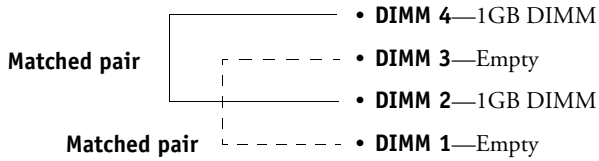



**FIGURE 23:** Motherboard DIMM sockets

### TO REPLACE A DIMM

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To access the DIMMs, you must remove the left panel.

2. **To release a DIMM, push outward on the levers on each side of the DIMM.**

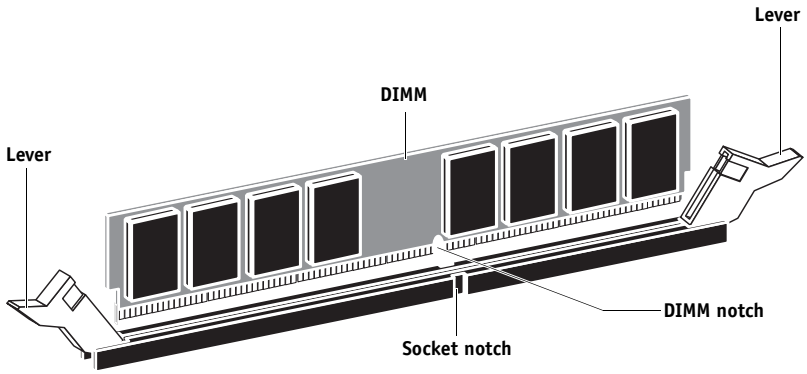



**FIGURE 24:** Releasing a DIMM

3. **Pull the DIMM straight out of the socket.**
4. **To replace a DIMM, insert the DIMM straight into the socket and close the levers at each side to lock it into place.**

   **NOTE:** The socket is keyed so that the DIMM fits only one way. (See the notches in the preceding figure.)

IMPORTANT

   Make sure that the entire length of the DIMM (ends and center) is fully seated in the socket and that the levers close securely around the ends of the DIMM.

5. **If you installed a new DIMM, clear the CMOS as follows:**

   **NOTE:** You must clear the CMOS after installing a new DIMM to ensure compatibility between the new component and the previous settings stored in the BIOS. Make sure that the power cable is removed from the power outlet before clearing the CMOS.

   - Remove the battery (see page 86).
   - Wait 2 minutes to allow the motherboard electrical components to fully discharge.
   - Reinstall the battery.

6. **If you installed a new DIMM and cleared the CMOS, make sure to reset the time and date in Setup (see *Configuration and Setup*).**
7. **Reassemble the E-41A and verify its functionality (see page 106).**

### CPU

The CPU is installed in a socket on the motherboard. Before you remove the CPU from its socket, remove the motherboard from the chassis (see page 63), disconnect the CPU fan cable from the motherboard, and then remove the cooling assembly from the E-41A (see page 82). The CPU cooling assembly consists of a fan and a heatsink.

**NOTE:** Do not remove the CPU fan from the heatsink.

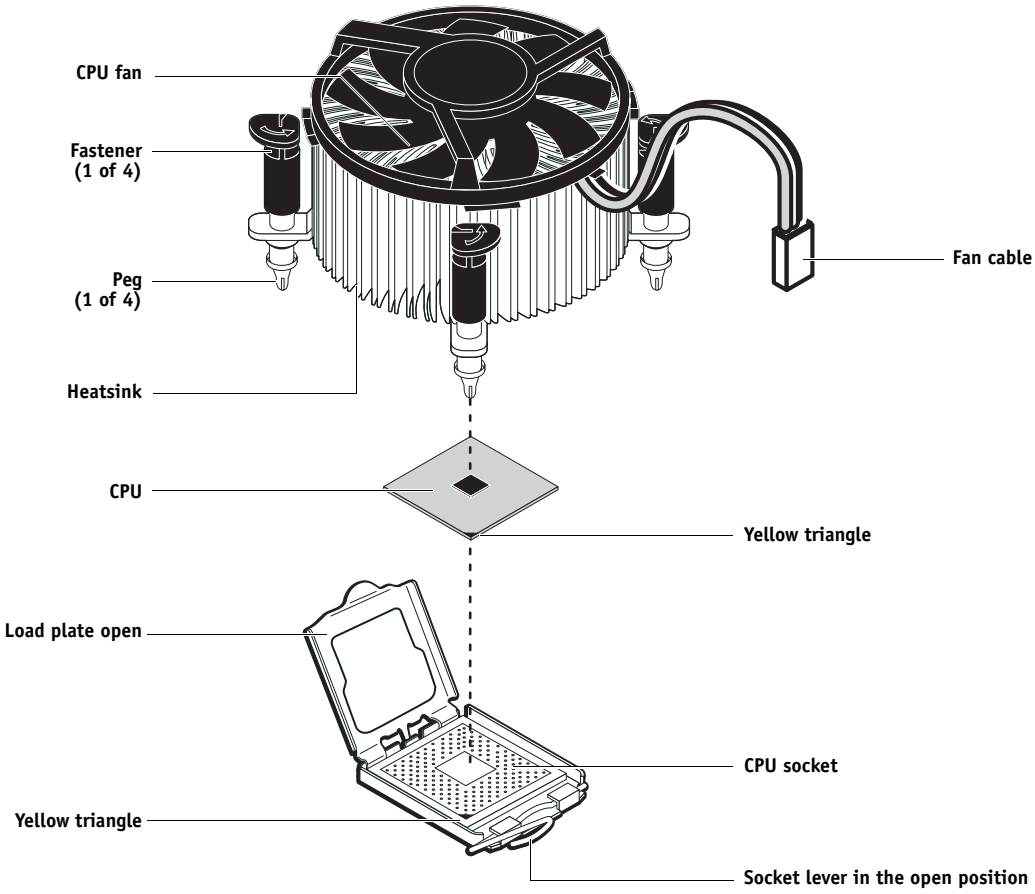



**FIGURE 25:** CPU cooling assembly

**IMPORTANT**

If you remove the CPU from the motherboard in order to install it on a new motherboard, unpack the new motherboard and remove the protective plastic cover on the CPU socket. Transfer the protective cover to the CPU socket of the old motherboard to protect the circuitry. Follow standard ESD precautions while handling the motherboard and all components.

### TO REMOVE THE COOLING ASSEMBLY

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To access the CPU, you must remove the left panel.

2. **Remove the motherboard (see page 63).**

**IMPORTANT**

Place the motherboard on a padded, static-free work surface outside of the chassis when removing and replacing the cooling assembly. After you replace the cooling assembly, inspect the back of the motherboard to verify that the cooling assembly is fully mounted on the motherboard (see Figure 27 on page 85).

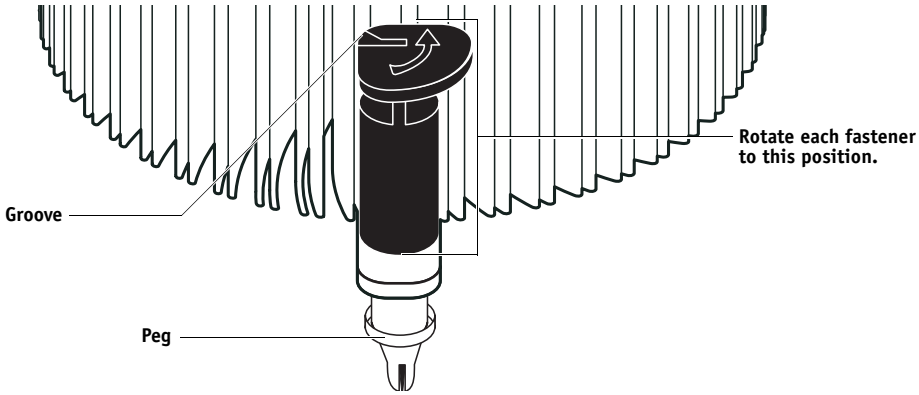
3. **Remove the CPU fan cable from motherboard connector FAN 1.**

4. **Remove the CPU cooling assembly.**

   - Insert a flathead screwdriver into the groove on the top of a fastener cap and rotate the fastener counterclockwise (that is, in the direction of the arrow) to the position shown below.
   - Pull straight up on the fastener cap until the peg is out of the motherboard.

**IMPORTANT**

You may need to use moderate force to pull the pegs out of the motherboard. Be careful not to damage the components on the motherboard or the CPU cooling assembly when pulling up on the fasteners.




5. **Lift the cooling assembly off the CPU socket and set it aside.**

**CAUTION**

Be aware that the cooling assembly and the CPU may be very hot. You may need to let the components cool before attempting to remove them.

### TO REMOVE AND REPLACE THE CPU

1. **Unlock the CPU socket lever and raise it into the open position (flex the lever away from the retention post, and then raise it).**
2. **Open the load plate (see Figure 26 on page 83).**
3. **Grasp the CPU by its edges, lift it out of the socket, and then place the CPU in a safe place.**

   **NOTE:** If you remove the CPU from the motherboard to install it on a new motherboard, unpack the new motherboard and remove the protective plastic cover from the CPU socket. Transfer the protective cover to the CPU socket of the old motherboard to protect the circuitry.
4. **Wipe the contact surface of the CPU (the smooth, gray side of the chip) with a clean, lint-free cloth to ensure proper contact with the new heatsink.**

   If you remove the CPU from the motherboard to install it on a new motherboard, make sure that you completely remove any thermal compound residue on the surface of the CPU and at the base of the heatsink. It may help to scrape all the residue off of the surface using the flat edge of something non-conductive.
5. **Prepare the CPU socket by ensuring that:**
   - The socket lever is in the open position.
   - The load plate is open.
6. **Place the CPU in the socket.**

   The CPU and the socket are keyed to ensure correct installation. The notches on the edges of the CPU correspond with the two small posts inside the socket. Align the yellow triangle on the CPU with the yellow triangle on the socket. Do not force the CPU.
7. **Close the load plate.**
8. **Lower the socket lever and place it in the locked position under the retention post.**

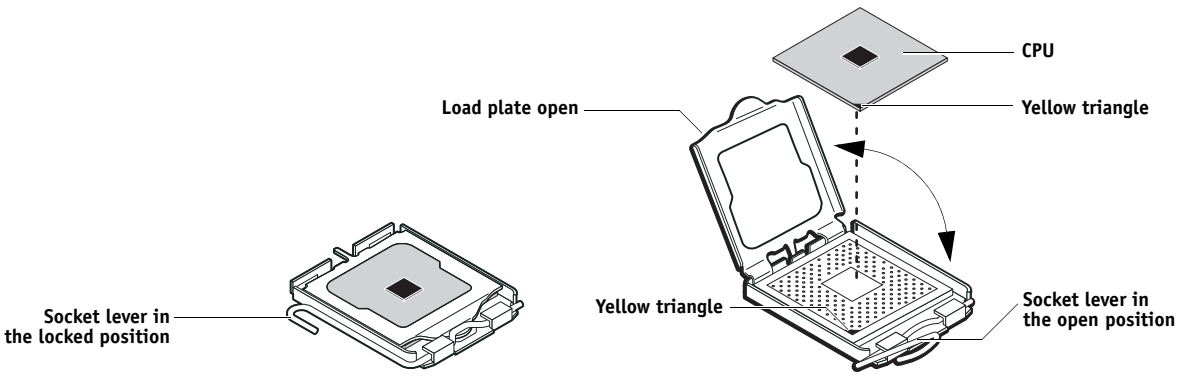
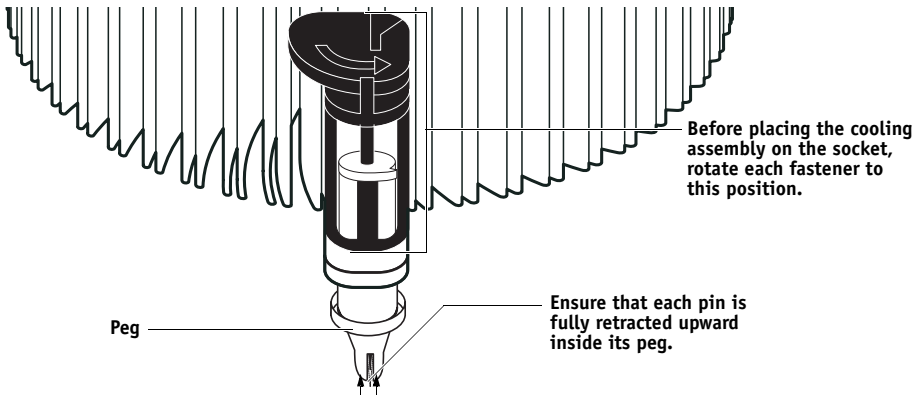



**FIGURE 26:** Removing/replacing the CPU

### TO REPLACE THE CPU COOLING ASSEMBLY

**NOTE:** Before you install the cooling assembly, completely remove any thermal compound residue on the surface of the CPU and the base of the heatsink, and then apply a fresh thermal compound square to the base of the heatsink. When installing the thermal compound square, make sure to remove the plastic backing **on both sides** of the square. Avoid creating any bubbles or wrinkles on the square. Bubbles and wrinkles reduce the heat-transfer efficiency of the cooling assembly.

1. **Prepare the CPU cooling assembly for installation.**
   - Make sure that the motherboard is placed on a padded, static-free work surface.
   - Apply a fresh thermal compound square, as described in the note above.
   - Rotate fasteners to the position shown below by turning them clockwise (that is, in the *opposite* direction of the arrow on top of the fastener).
   - Ensure that the pin inside each peg is fully retracted upward.
   - Align the cooling assembly so that when it is installed, the fan cable easily reaches the CPU fan power connector FAN 1 on the motherboard.
   - Align the pegs over their mounting holes in the motherboard.




2. **Place the heatsink over the CPU socket.**
3. **At alternate corners, press down on each fastener to engage the mount on the motherboard. Engage all four pegs.**

**NOTE:** Do not rotate the fasteners after installation.

**IMPORTANT**

Engaging the pegs at alternate corners applies clamping force equally over the CPU and socket. Avoid using excessive force and take care not to flex the motherboard when you engage the pegs.

4. **Turn the motherboard over and verify that the black pins protrude through the mounting holes on the underside of the motherboard.**

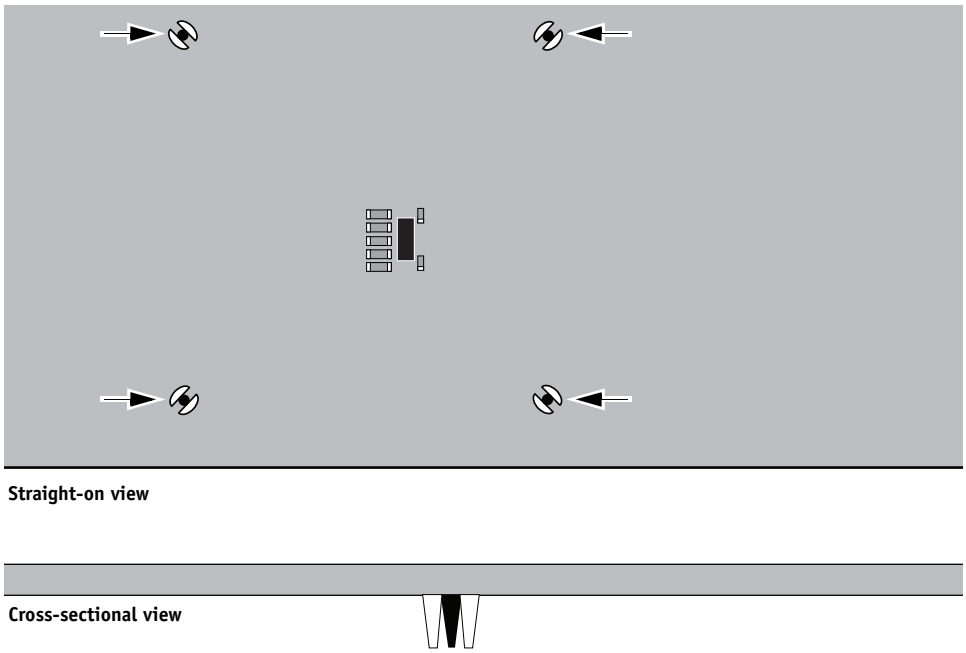



**FIGURE 27:** Inspecting the cooling assembly pins on the underside of the motherboard

5. **Connect the CPU fan cable to the motherboard connector FAN 1.**

**IMPORTANT**

If you are installing a new CPU, secure slack in the fan cable using a tie-wrap. The tie-wrap prevents the fan cable from interfering with the CPU fan. Also, make sure the connector on the cable is securely connected to the motherboard.

6. **If you replaced the CPU with a new CPU, clear the CMOS as follows:**

**IMPORTANT**

You must clear the CMOS after installing a new CPU to ensure compatibility between the new component and the previous settings stored in the BIOS. Make sure that the power cable is removed from the power outlet before clearing the CMOS.

- Remove the battery (see page 86).
- Wait 2 minutes to allow the motherboard electrical components to fully discharge.
- Reinstall the battery.

7. **If you installed a new CPU and cleared the CMOS, make sure to reset the time and date in Setup (see *Configuration and Setup*).**
8. **Reassemble the E-41A and verify its functionality (see page 106).**

## Battery

The battery on the motherboard is located at BT1. To replace it, use a 3V manganese dioxide lithium coin cell battery (Sony CR2032 or equivalent).

**WARNING**

There is danger of explosion if the battery is replaced with an incorrect type. Replace it only with the same type recommended by the manufacturer. Dispose of used batteries according to local regulations.

**ACHTUNG:** Es besteht Explosionsgefahr, wenn die Batterie durch eine Batterie falschen Typs ersetzt wird. Als Ersatz dürfen nur vom Hersteller empfohlene Batterien gleichen oder ähnlichen Typs verwendet werden. Verbrauchte Batterien müssen entsprechend den jeweiligen gesetzlichen Bestimmungen entsorgt werden.

**ATTENTION:** Il y a risque d'explosion si la pile est remplacée par un modèle qui ne convient pas. Remplacez-la uniquement par le modèle recommandé par le constructeur. Débarrassez-vous des piles usées conformément aux réglementations locales en vigueur.

**ADVARSEL!:** Litiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Batteriet må kun udskiftes med et andet batteri af samme fabrikat og type. Brugte batterier skal bortskaffes i henhold til gældende regler.

**VAROITUS:** Paristo voi räjähtää, jos se on vaihdetaan väärän tyyppiseen paristoon. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo paikallisten määräysten mukaisesti.

**ADVARSEL:** Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til lokal lovgivning.

**VARNING:** Risk för explosion om batteriet byts ut mot en felaktig batterityp! Byt bara ut batteriet mot en batterityp som har godkänts av tillverkaren. Hantera använda batterier enligt lokal miljölagstiftning.

**CUIDADO:** Existe peligro de explosión si la batería se sustituye por una batería del tipo incorrecto. Sustituya la batería sólo por una batería del mismo tipo que recomienda el fabricante. Deseche las baterías usadas respetando la normativa local.

**ATTENZIONE:** Esiste pericolo di esplosione se la batteria viene sostituita con una di tipo non corretto. Sostituirla solamente con un tipo raccomandato dal produttore. Lo smaltimento delle batterie usate deve essere eseguito secondo le normative locali.

**AVISO:** Existe o perigo de explosão se a bateria for substituída por uma do tipo incorreto. Substitua somente por uma do tipo recomendado pelo fabricante. Descarte as baterias conforme as normas locais.

**GEVAAR:** Er bestaat ontploffingsgevaar indien de batterij door een verkeerd type wordt vervangen. Vervang de batterij uitsluitend door hetzelfde door de fabrikant aanbevolen type. Ruim gebruikte batterijen op volgens de plaatselijke voorschriften.

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### TO REPLACE THE BATTERY

1. **Shut down, and then open the E-41A (see pages 51 and 53).**
2. **Locate the battery on the motherboard (see Figure 20 on page 64).**
3. **Carefully push the clip away from the battery until the socket ejects the battery.**

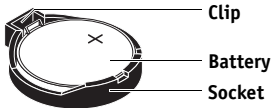



**FIGURE 28:** Motherboard battery

4. **Slide the battery out of its socket.**
5. **Wait 2 minutes to allow the motherboard electrical components to fully discharge.**
6. **To insert a new battery, slide it into the socket so that the positive (+) side of the battery faces up.**
7. **Press the battery down into the socket until it snaps into place.**

   Make sure that the battery is securely installed in the socket.
8. **Reassemble the system and verify its functionality (see page 106).**
9. **Configure the time and date in Setup (see *Configuration and Setup*).**

**IMPORTANT**

Failure to configure the time and date will cause the E-41A to hang when user software is being installed on the E-41A. (See page 138).

## Clearing the CMOS

Clear the CMOS after installing a new motherboard, CPU, DIMM, or DVD drive to ensure compatibility between the new component and previous settings stored in the BIOS.

### TO CLEAR THE CMOS

1. **Shut down, and then open the E-41A (see pages page 51 and page 53).**

IMPORTANT

Make sure to remove the AC power cable from the power outlet before opening the E-41A and clearing the CMOS.

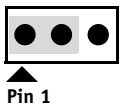
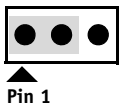
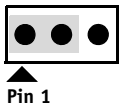
2. **Remove the battery (see page 86).**
3. **Wait 2 minutes to allow the motherboard electrical components to fully discharge.**
4. **Reinstall the battery (see page 86).**
5. **Reassemble the E-41A and verify its functionality (see page 106).**
6. **Reset the time and date in Setup (see *Configuration and Setup*).**

IMPORTANT

Failure to configure the time and date will cause the E-41A to hang when user software is being installed on the E-41A. (See page 138.)

## Jumpers

This section lists the factory default configuration for jumpers on the motherboard. Jumper configurations should not be changed.

| Jumper | Description |
|---|---|
| **JP1**<br>  <br>Pin 1 | JP1 is the Clear CMOS and Password jumper.<br>Default configuration: jumper cap installed on pins 1 and 2.<br>NOTE: Because JP1 is not easily accessed on the motherboard and the jumper cap is very small, it is not necessary—and could introduce an error—to remove the jumper cap in order to clear the CMOS settings. Instead, clear the CMOS by denying power to the motherboard, as described earlier. |
| **JP2**<br>  <br>Pin 1 | The jumper cap on JP2 should not be removed.<br>Default configuration: Jumper cap installed on pins 1 and 2. |
| **J2**<br>  <br>Pin 1 | The jumper cap on J2 should not be removed.<br>Default configuration: Jumper cap installed on pins 1 and 2. |

## Fan

A fan mounted inside the E-41A chassis draws air into the E-41A to cool components. The fan runs continuously when the system is on. You should hear the fan start as soon as you power on the E-41A. If you do not hear the fan, there may be a faulty power connection (see page 50).

The following procedures describe how to remove and replace the fan.

---

**TO REMOVE THE FAN**

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To access the fan, you must remove the left panel.

2. **Remove the fan cable from motherboard connector FAN 4.**

3. **Release the fan from the fan bracket by bending the hooks on the bracket.**

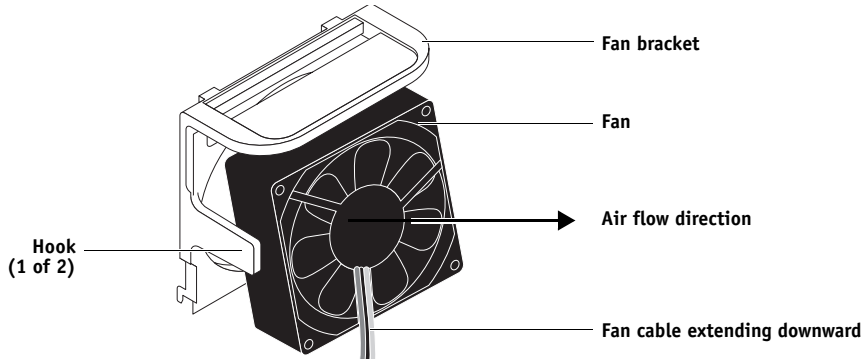



**FIGURE 29:** Removing the fan

4. **Remove the fan from the chassis.**

---

**TO REPLACE THE FAN**

1. **Align the fan.**

   An arrow on the side of the fan indicates the airflow direction. Make sure that the fan is positioned so that the arrow points inside the E-41A and the fan cable extends downward toward the motherboard (see Figure 29).

2. **Press the fan into the bracket until it clicks into place.**

   Make sure that the hooks on the bracket close over the edge of the fan.

3. **Connect the fan cable to motherboard connector FAN 4.**

4. **Reassemble the E-41A and verify its functionality (see page 106).**

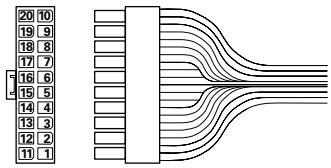
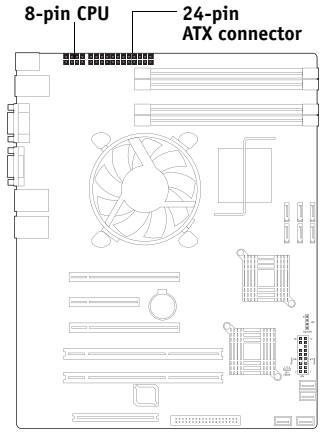
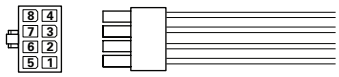
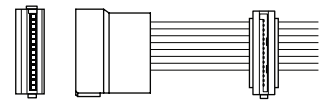
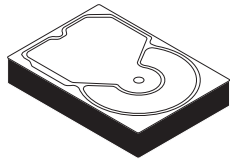
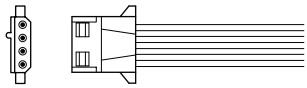
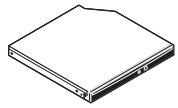
## Power supply

The following table describes the power supply cables that connect to E-41A components. For more information on the power supply, see "Specifications" on page 146.

**IMPORTANT**

Do not open the power supply for service or troubleshooting. Opening the power supply will void the warranty.

**TABLE 1:** Power supply cable details

| Cable connector | Pin(s) | Wire color | Voltage | Connection |
|---|---|---|---|---|
| **NOTE:** All voltages listed in this table are direct current voltages (VDC). | | | | |
|  20-pin ATX power connector to motherboard | 1, 2 | Orange | +3.3V |   |
| | 3, 5, 7, 13, 15, 16, 17 | Black | COM | |
| | 4, 6, 19, 20 | Red | +5V | |
| | 8 | Gray | PW-OK | |
| | 9 | Purple | +5Vsb | |
| | 10 | Yellow | +12V | |
| | 11 | Orange | +3.3V | |
| | | Brown | +3.3V sense | |
| | 12 | Blue | -12V | |
| | 14 | Green | PS-ON | |
| | 18 | White | -5V | |
|  8-pin CPU power connector to motherboard | 1, 2, 3, 4 | Black | COM | |
| | 5, 6, 7, 8 | Yellow & Black | +12V | |
|  SATA (5-pin) power connector to HDD | 1 | Yellow | +12V |  |
| | 2 | Black | COM | |
| | 3 | Red | +5V | |
| | 4 | Black | COM | |
| | 5 | — | not connected | |
|  4-pin PATA power connector to DVD drive power/data combo cable | 1 | Yellow | +12V |  |
| | 2 | Black | COM | |
| | 3 | Black | COM | |
| | 4 | Red | +5V | |

### TO REMOVE THE POWER SUPPLY

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To access the power supply, you must remove the left panel.

2. **Remove the power cable from the HDD.**
3. **Remove the power and data combination cable from the DVD drive.**
4. **Remove the 20-pin motherboard power cable from motherboard connector PW2.**
5. **Remove the 8-pin CPU power cable from motherboard connector PW1.**
6. **Remove the reusable tie-wrap securing the power cables to the chassis support beam.**

   Do not cut the tie-wrap. Squeeze the tab to unlock it, and then open it completely and remove it. You will reattach the tie-wrap later when you replace the power supply.

7. **Remove the ferrites that are installed around the HDD power cables.**

   Carefully pry open the latches on the sides of the ferrites and remove the ferrites from the cables. Set the ferrites aside so that you can replace them later.

8. **Remove four of the five screws that attach the power supply to the back of the chassis (see Figure 30 on page 91).**
9. **While supporting the power supply, remove the fifth screw.**

   Set the screws aside so that you can replace them later.

10. **Lift the power supply out of the chassis.**

    Carefully gather the power supply cables as you remove the power supply.

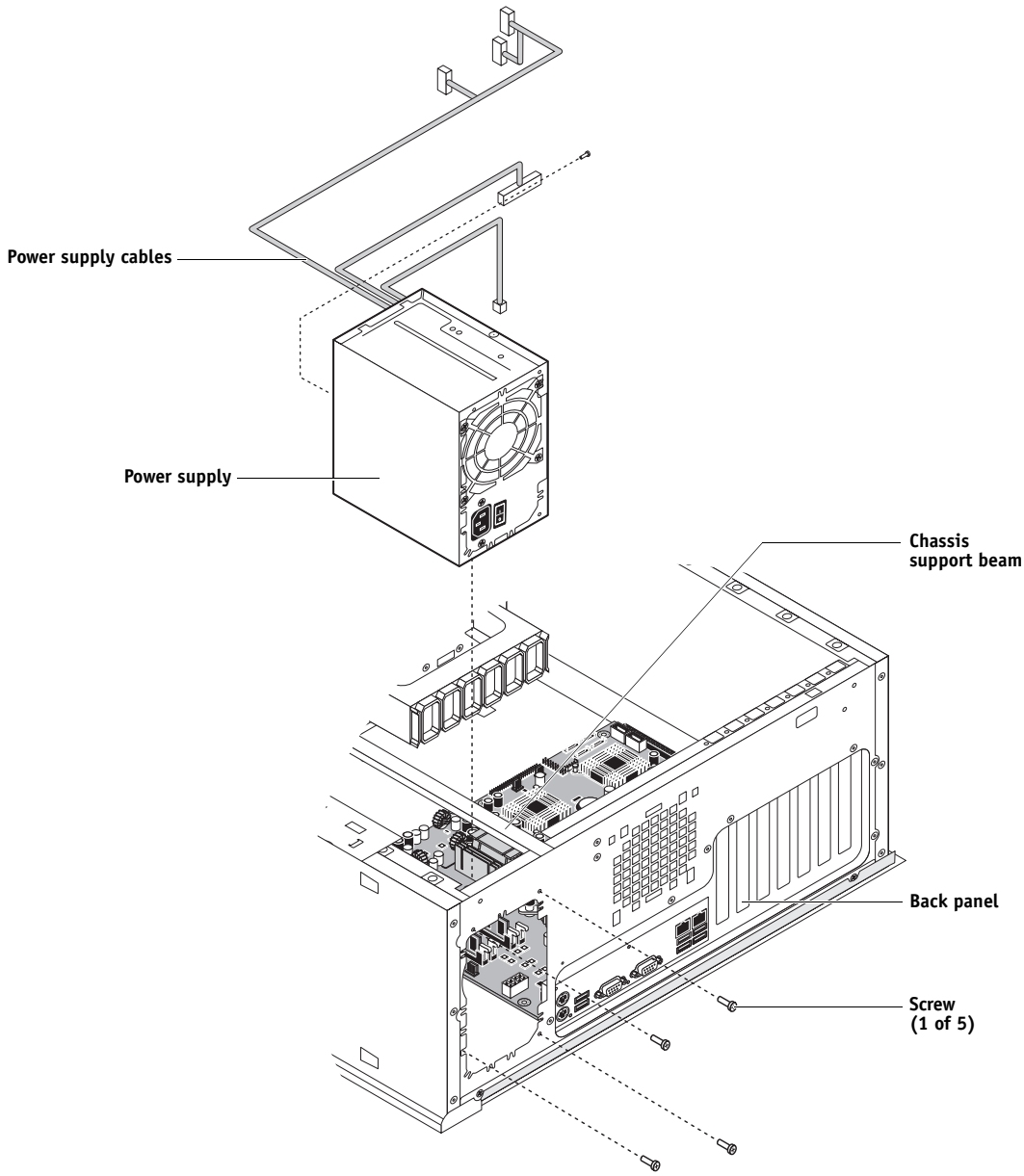



**FIGURE 30:** Removing/replacing the power supply

### TO REPLACE THE POWER SUPPLY

1. **Support the power supply inside the chassis and align the mounting holes.**
2. **Attach the power supply to the chassis with the four screws that you removed earlier (see Figure 30 on page 91).**

   If you are installing a new power supply, make sure to use the screws that came with it to attach the new power supply to the chassis.
3. **Connect the 8-pin CPU power cable to motherboard connector PW1 (for connector locations, see Figure 20 on page 64).**
4. **Connect the 20-pin motherboard power cable to motherboard connector PW2.**
5. **Connect the power and data combination cable to the DVD drive.**
6. **Install the ferrite around the HDD power cable.**

   Use the ferrite that you removed earlier. Place the ferrite around the cable near the connector and snap the edges of the ferrite closed.
7. **Connect the power cable to the HDD.**

   **IMPORTANT**

   Connect the thin, black SATA power cable connector to the HDD. Do not connect the white, 4-pin power cable connector. Connecting both types of power cables will damage the HDD.
8. **Locate the reusable tie-wrap that you removed earlier and use it to attach the loose section of the power cable to the chassis support beam (see Figure 30 on page 91).**

   Gather the cable against the support beam with the tie-wrap, and then thread the tie-wrap to secure the cable.
9. **Reassemble the E-41A and verify its functionality (see page 106).**

## Hard disk drive

The factory-installed hard disk drive (HDD) is formatted and loaded with system software, network drivers, and printer fonts. The HDD is also used to store spooled print jobs. Available space on the HDD is displayed on the Fiery Info screen of the copier/printer Control Panel and in Command WorkStation.

If you replace the HDD with a new one, you must install system software as described on page 107. (Spare HDDs are not shipped with preinstalled system software.)

**IMPORTANT**

Do not replace the HDD and the motherboard at the same time. Doing so in the wrong order, without updating the system (see page 67), will cause the system to malfunction.

It is unlikely that both the HDD and the motherboard are defective. Avoid replacing both to solve one problem. If troubleshooting strategies (such as checking cables and connections; see pages 124 and 125) do not solve the problem, and you suspect either the HDD or the motherboard is at fault, use the following order to troubleshoot: replace the HDD, install system software, and then check to see if the problem persists. If it does, perform other procedures, such as replacing the motherboard (see page 67).

**IMPORTANT**

### Proper handling

Improper handling can damage a HDD. Handle the HDD with extreme care.

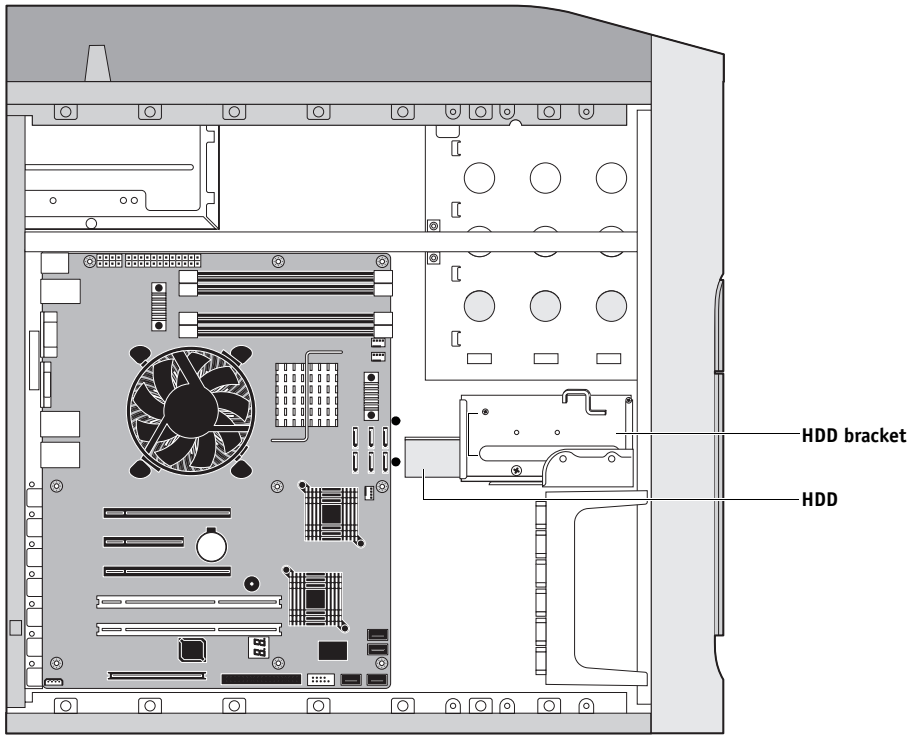
- Use proper ESD practices when grounding yourself and the E-41A.
- Keep magnets and magnetic-sensitive objects away from the HDD.
- Do not remove the screws on top of the HDD. Loosening these screws voids the warranty.
- Never drop, jar, bump, or put excessive pressure on the HDD.
- Handle the HDD by its sides and avoid touching the printed circuit board.
- Allow the HDD to reach room temperature before installation.

HDD problems may be caused by the following:

- Loose or faulty connections
- Faulty data or power cable
- Faulty HDD

**IMPORTANT**

Make sure that you attach an ESD grounding wrist strap and follow standard ESD precautions before handling E-41A components.




**NOTE:** Video board and internal cables are not shown.

**FIGURE 31:** E-41A HDD

The HDD is mounted inside a bracket.

If you are replacing the HDD with a new one, you will need:

- The appropriate system software and documentation for the E-41A that you are servicing.
- A compatible version of the user software for the networked computers that will print to the E-41A.

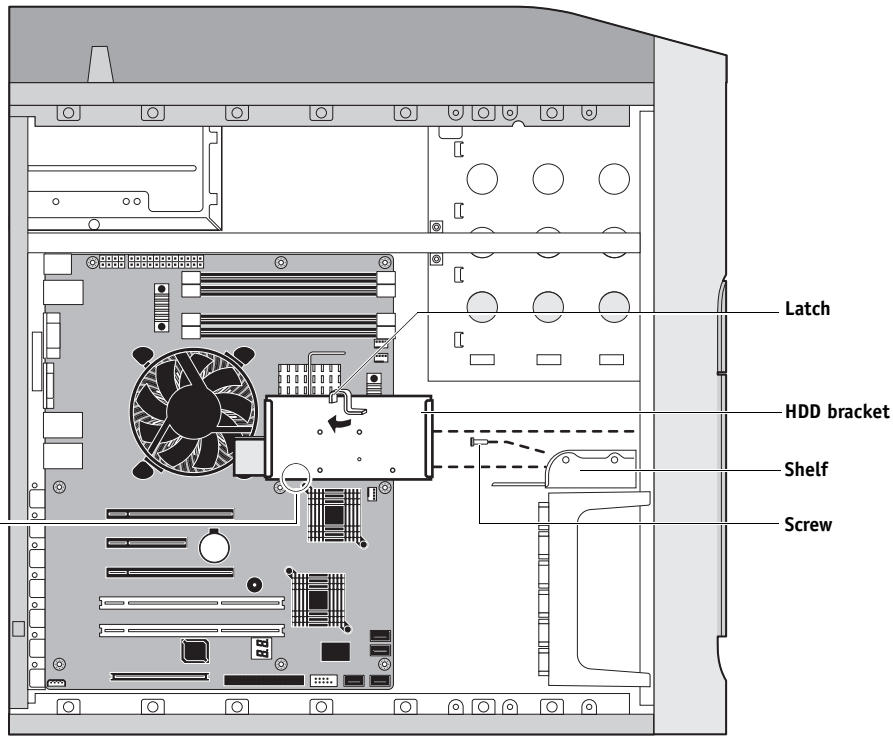
### TO REMOVE THE HDD

1. **If you are removing the HDD in order to install a new drive, give the network administrator the opportunity to print the Job Log and save any custom simulations. If possible, print the Configuration page and Font List (see page 38).**
2. **Shut down and open the E-41A (see pages 51 and 53).Remove the power supply cable from the HDD.**
3. **Remove the HDD data cable from the HDD.**
4. **Remove the screw securing the HDD bracket to the bracket shelf.**
5. **Slide the HDD bracket off the shelf and lift it out of the chassis (see Figure 32).**

   Unlock the HDD bracket by moving the latch toward the back panel, and then sliding the bracket off the bracket shelf.

**IMPORTANT**

**NOTE:** Avoid striking the DIMMs as you remove the HDD bracket.You will encounter slight resistance as you slide the bracket off the shelf. The resistance is caused by two tension points on the bottom of the bracket. The resistance helps control the bracket's movement during removal and installation.




**NOTE:** Video board and internal cables are not shown.

**FIGURE 32:** Removing/replacing the HDD bracket

6. **Remove the four screws that attach the HDD to the HDD bracket (see below).**

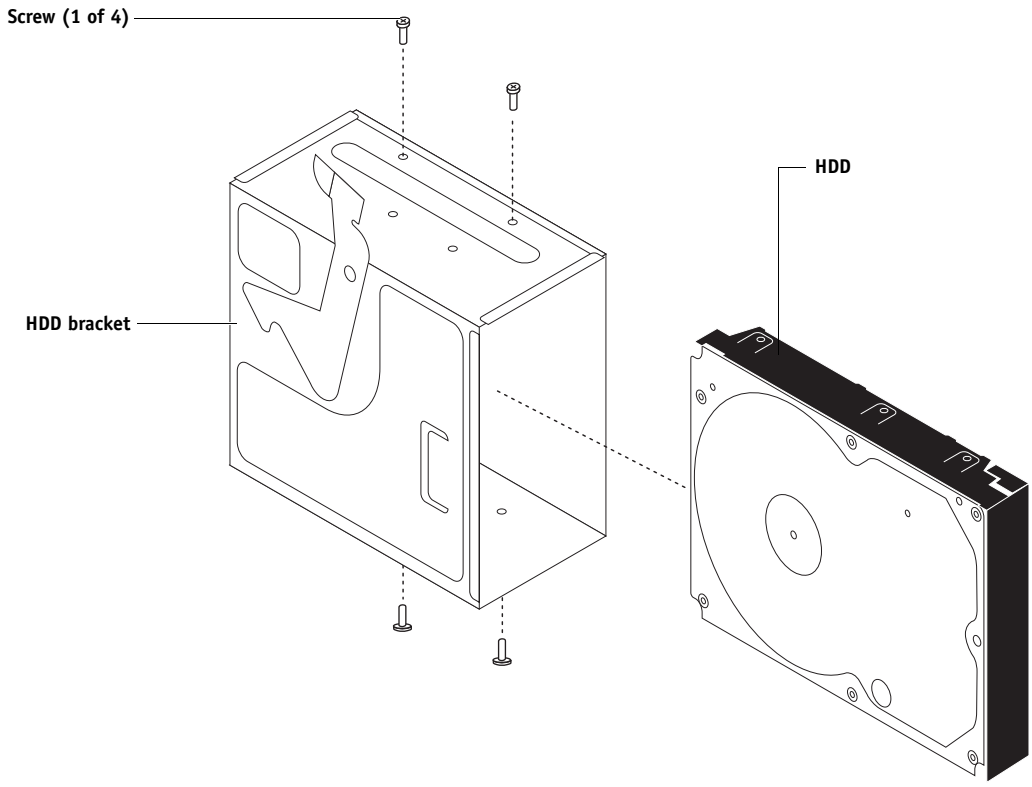



**FIGURE 33:** Removing/replacing the HDD from/in the HDD bracket

7. **Remove the HDD from the HDD bracket and place it in an antistatic bag.**

**IMPORTANT**

Do not unscrew the screws on the HDD cover. Loosening these HDD screws breaks the seal and voids the HDD warranty.

Do not touch the drive with magnetic objects (such as magnetic screwdrivers), and avoid placing items such as credit cards and employee ID cards that are sensitive to magnets near the HDD.

Replacement HDDs are not shipped with preinstalled system software. After you install the drive, you must install the appropriate system software.

### TO REPLACE THE HDD

**IMPORTANT**

Do not install a new HDD and a new motherboard at the same time. If you suspect that the E-41A needs a new HDD and a new motherboard, first install the new HDD and install system software, then install a new motherboard and transfer options (see pages 67 and 75).

1. **If you are installing a new HDD, unpack the drive.**

   Do not drop, jar, or bump the HDD. Do not touch the HDD with magnetic objects or place objects sensitive to magnets near the HDD.

2. **Position the HDD inside the HDD bracket and align the front-most mounting holes on the HDD with the four holes in the bracket (see Figure 32 on page 95).**

   When correctly installed, the HDD extends about an inch past the rear of the bracket.

3. **Replace the four screws that you removed earlier to attach the HDD to the bracket.**

4. **Slide the bracket all the way onto the shelf and lock it by moving the latch toward the front panel.**

**IMPORTANT**

Avoid striking the DIMMs as you replace the HDD bracket.

**NOTE:** You will encounter slight resistance as you slide the bracket onto the shelf. The resistance is caused by two tension points on the bottom of the bracket. The resistance helps control the bracket's movement during removal and installation.

5. **Secure the HDD bracket to the HDD shelf using the screw that you removed earlier.**

6. **Connect one end of the HDD data cable to the HDD and the other end to SATA 2 on the motherboard.**

7. **Connect the other end of the HDD data cable to the appropriate SATA connector on the motherboard (J19; see Figure 20 on page 64).**

8. **Connect the power cable to the HDD.**

**IMPORTANT**

Connect the thin, black SATA power cable connector to the HDD. Do not connect the white, 4-pin power cable connector. Connecting both types of power cables will damage the HDD.

9. **Reassemble the E-41A (see page 106).**

(Continued on next page)

10. **If you replaced the HDD with a new HDD, install system software (see page 107).**

    Troubleshooting tips:

    - Following system software installation, if the E-41A boots up much slower than usual, clear the CMOS as follows:
      - Make sure that the power cable is removed from the power outlet, and then remove the battery (see page 86).
      - Wait 2 minutes to allow the motherboard electrical components to fully discharge.
      - Reinstall the battery.
      - After reassembling the system, reset the time and date in Setup (see *Configuration and Setup* on the User Documentation CD).
    - If a startup error displays on the Control Panel when you power on the E-41A, check the connections.

11. **Verify functionality (see page 106).**

## Switch bank assembly

The switch bank assembly attaches to the Component Sled. The switch bank assembly includes the following components:

- DVD drive
- Power button and cable
- Reset button and cable
- Speaker and cable
- Front USB ports and cables

**NOTE:** For more information about servicing the DVD drive, see page 103.

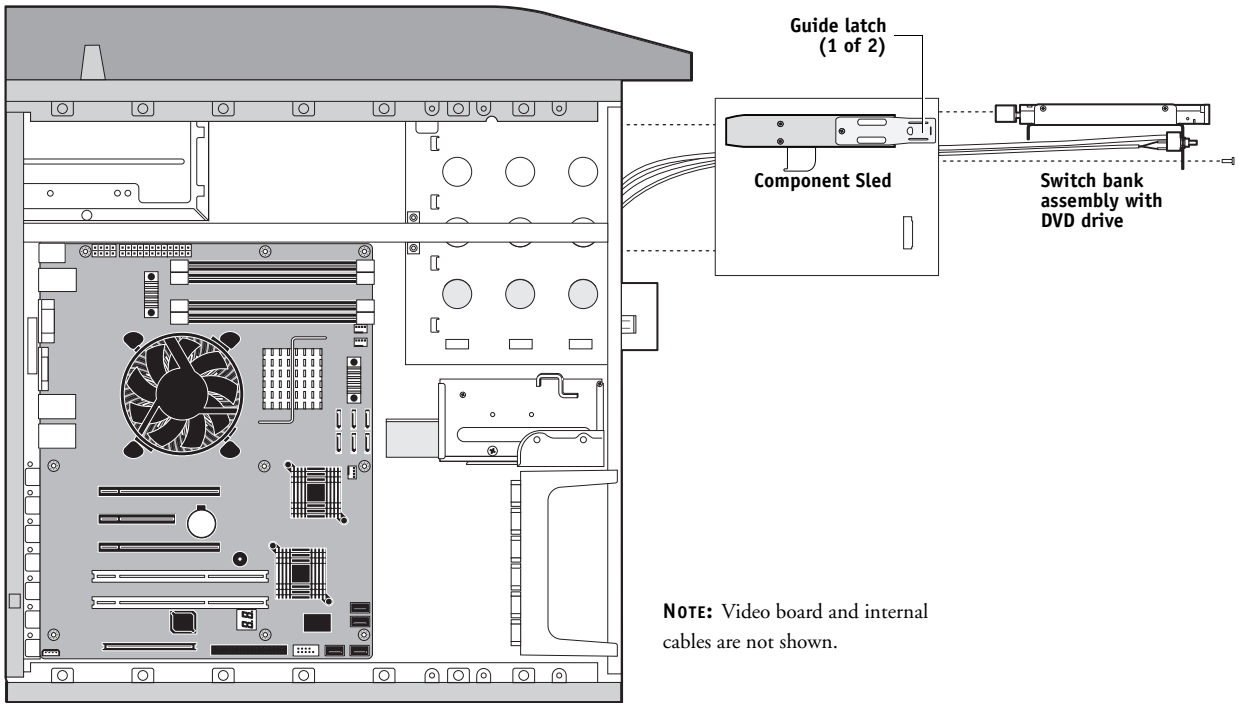



**FIGURE 34:** Component Sled with switch bank assembly

### TO REMOVE THE SWITCH BANK ASSEMBLY

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To remove the switch bank assembly, you must remove the left, right, and front panels.

2. **Disconnect the following cables:**

   - Power and data combination cable from the back of the DVD drive
   - Power and reset button cables from motherboard connector JP4
   - Speaker cable from motherboard connector J40
   - Front panel USB port cables from motherboard connectors J22 and J35

3. **Remove the ferrite that is installed around the front panel USB port cables near the motherboard.**

   Carefully pry open the latch on the side of the ferrite and remove the ferrite from the cables. Set the ferrite aside so that you can replace it later.

4. **Unharness the cables from the cable clamp(s) and tie-wraps inside the chassis.**

5. **Remove the Component Sled from the chassis (see Figure 34 on page 99).**

   Press the guide latches on the sides of the Component Sled and carefully pull the sled out of its slot in the front of the chassis.

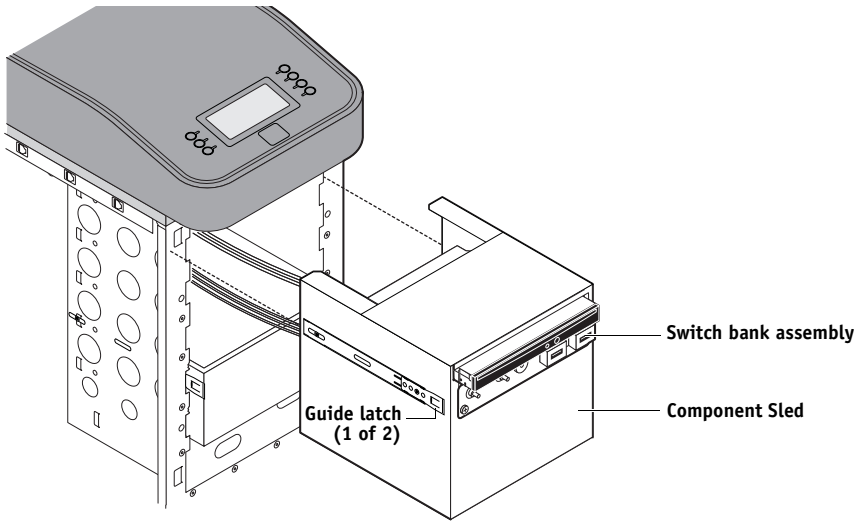



**FIGURE 35:** Removing/replacing the Component Sled from the chassis

**NOTE:** Be careful not to damage the EMI gasket around the slot in the chassis. Guide the cables out of the chassis as you remove the Component Sled to prevent them from catching or tangling on internal parts.

6. **Remove the switch bank assembly from the Component Sled.**
   - Remove the three screws that attach the switch bank assembly to the Component Sled.
   - Pull the switch bank assembly straight out of the Component Sled.

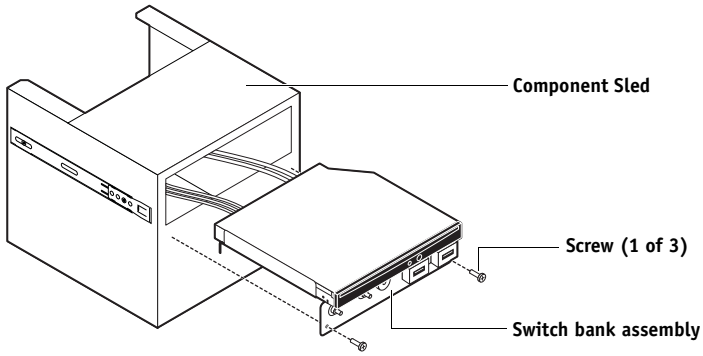



**FIGURE 36:** Removing/replacing the switch bank assembly

**NOTE:** Guide the cables as you remove the assembly from the Component Sled. Be careful not to damage the EMI gasket around the opening in the Component Sled.

7. **If you are removing the switch bank assembly to replace it with a new assembly, remove the DVD drive (see page 104).**

### TO REPLACE THE SWITCH BANK ASSEMBLY

1. **If it is not already attached, attach the DVD drive to the switch bank assembly (see page 105).**
2. **Install the switch bank assembly in the Component Sled (see Figure 36).**

   **NOTE:** If you are replacing the switch bank assembly with a new one, discard the cable extensions that may be provided with the new switch bank assembly.

   - Starting with the cables, insert the switch bank assembly through the opening in the front of the Component Sled. Be sure to fold the EMI gasket under and through the opening when inserting the assembly.
   - Replace the three screws that secure the switch bank assembly to the Component Sled.
3. **Install the Component Sled in the chassis (see Figure 35).**

   - Route the cables of the switch bank assembly in through the chassis so that the cables are within reach of their connectors on the motherboard.
   - Slide the sled into the front of the chassis until the guide latches click into place.

   **NOTE:** Be careful not to damage the EMI gasket around the slot in the chassis when installing the Component Sled.
4. **Connect the following cables (see Figure 20 on page 64 for the location of connectors on the motherboard):**

   - Power and data combination cable to the back of the DVD drive
   - DVD data cable to motherboard connector SATA 1
   - Power button cable to motherboard connector JP4, pins 6 and 8

     Make sure that the small triangle on the cable connector is aligned with pin 8 on JP4.
   - Reset button cable to motherboard connector JP4, pins 5 and 7

     Make sure that the small triangle on the cable connector is aligned with pin 7 on JP4.
   - Speaker cable to motherboard connector J40

     Make sure that the small triangle on the cable connector is aligned with pin 1 on J40.
   - Front panel USB port cables to motherboard connectors J22 and J35
5. **Install the ferrite around the two front USB port cables near the motherboard.**

   Use the ferrite that you removed earlier. Place the ferrite around both cables in between the two preinstalled tie-wraps, and snap the edges of the ferrite closed.
6. **Secure the cables with the cable clamp(s) inside the chassis.**
7. **Reassemble the E-41A and verify its functionality (see page 106).**

## DVD drive

The DVD drive is attached to the switch bank assembly. The DVD drive is used to install system software onto the HDD and archive data onto writable media.

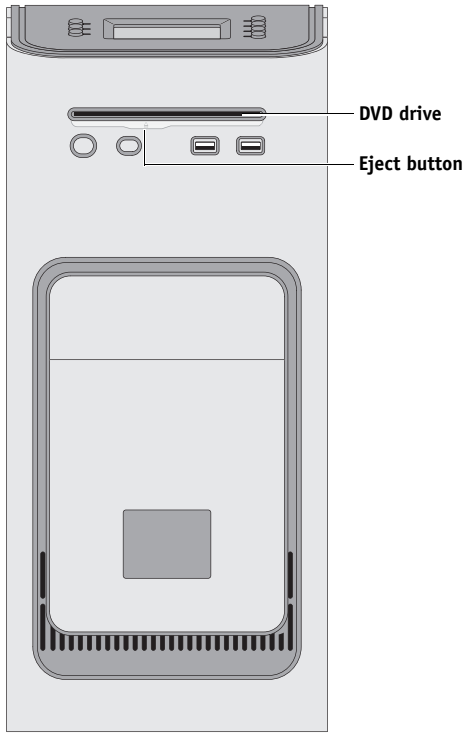



**FIGURE 37:** E-41A DVD drive

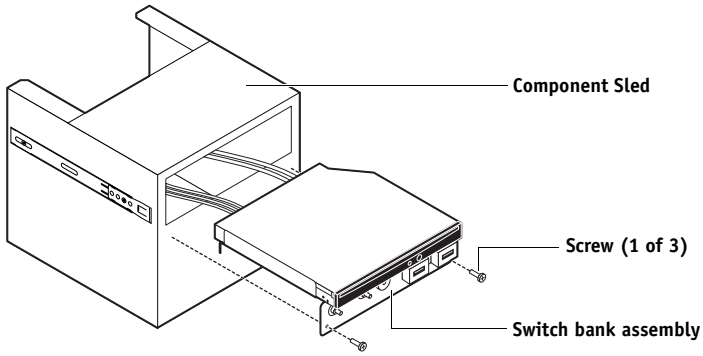
### TO REMOVE THE DVD DRIVE

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

   To remove the DVD drive, you must remove the left, right, and front panels, the Component Sled, and the switch bank assembly.

2. **Remove the power and data combination cable from the back of the DVD drive.**

3. **Remove the Component Sled from the chassis, and then remove the switch bank assembly from the Component Sled (see page 100).**




4. **Remove the four screws that secure the DVD drive to the switch bank assembly.**

   Set aside the screws so that you can replace them later.

   **NOTE:** On some systems, a small metal post in the switch bank assembly is used in place of one of the screws.

5. **Remove the DVD drive from the switch bank assembly.**

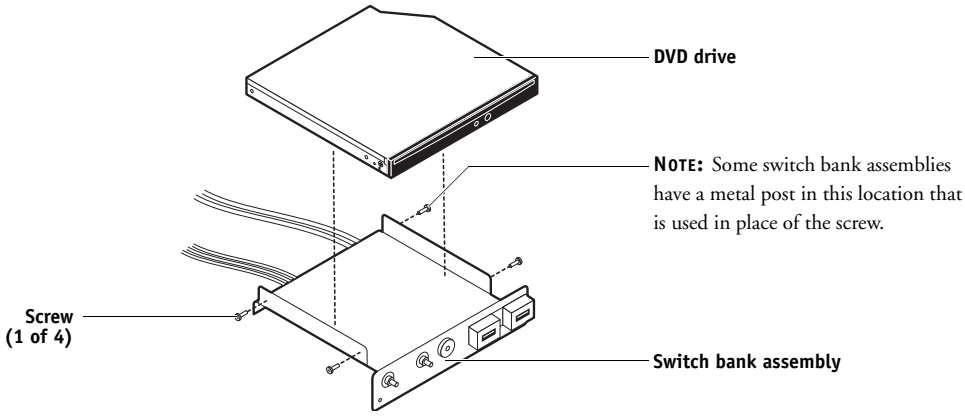



**FIGURE 38:** Removing/replacing the DVD drive

### TO REPLACE THE DVD DRIVE

1. **Install the DVD drive in the switch bank assembly.**
2. **Install the switch bank assembly in the Component Sled, and then install the Component Sled in the chassis (see page 102).**
3. **Attach the power and data combination cable to the back of the DVD drive.**

   Make sure that the other end of the data cable is connected to motherboard connector SATA 1.
4. **If you replaced the DVD drive with a new DVD drive, clear the CMOS as follows:**

   IMPORTANT

   You need to clear the CMOS after installing a new DVD drive to ensure compatibility between the new component and the previous settings stored in the BIOS. Make sure the power cable is removed from the power outlet before clearing the CMOS.

   - Remove the battery (see page 86).
   - Wait 2 minutes to allow the motherboard electrical components to fully discharge.
   - Reinstall the battery.
5. **If you installed a new DVD drive and cleared the CMOS, make sure to reset the time and date in Setup (see *Configuration and Setup*).**
6. **Reassemble the E-41A and verify its functionality (see page 106).**

## Restoring and verifying functionality after service

Before you leave the customer site, make sure that you complete the following steps. If you cannot complete a step, determine the reason and correct the problem before continuing. For more information, see Troubleshooting on page 122.

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**TO REASSEMBLE THE E-41A AND VERIFY FUNCTIONALITY**

1. **Reseat all boards, cables, connectors, and other parts loosened or removed during service.**

   When routing cables inside the E-41A, make sure that:

   - Cables are securely installed after routing cables
   - Cable routing does not interfere with the operation of internal components nor interfere with removing or replacing components
   - Cables are not tangled nor looped around internal circuit boards, or components (such as capacitors and resistors)
   - Cables do not lie on or against any internal heating element
   - Cables do not interfere with opening or closing E-41A panels
   - Cable slack is secured with a tie-wrap

2. **Restore the E-41A to the upright position.**
3. **Replace any panels that you removed earlier, as described on page 53.**
4. **If you replaced the motherboard, make sure that the new motherboard solves the problem that you are troubleshooting, and then transfer options to the new motherboard (see page 75).**
5. **If the E-41A is to be mounted on the optional furniture with the optional monitor, see the reassembly instructions on page 148.**
6. **Connect the power cable to the E-41A (see page 29).**
7. **If you cleared the CMOS during service, reset the E-41A time and date in Setup.**
8. **Connect the E-41A to the copier/printer (see page 29).**
9. **Print the Test Page and Configuration page (see page 40).**

   - If the E-41A does not start up, refer to the startup problems listed on page 133.
   - If pages do not print, verify that the interface cables are properly connected (see printing problems on page 141).
   - If image quality is poor, test the copier/printer. (See the service documentation that accompanies the copier/printer.)

10. **Connect to the network (see page 29).**
11. **Ask the network administrator to download a test job over the network.**

    If the job does not print or has poor image quality, see printing problems and the Troubleshooting sections of the user documentation.

# SYSTEM AND USER SOFTWARE

This chapter describes how to install system and user software on the E-41A HDD. It also details backing up and restoring Setup configuration settings (page 112) and updating system and user software (page 113).

## Overview

The E-41A ships with pre-installed system software on the HDD (hard disk drive). If you must reinstall system and user software when servicing the E-41A, use the latest System Software and User Software DVDs.

**NOTE:** You can change the default language preinstalled at the factory using the Configure tool available through Command WorkStation and WebTools. Launch Configure and then navigate to Server > General > Choose Server Language and then click Apply.

## Before you install system software

When installing software, keep in mind the following:

- **Jobs**—All jobs in all print queues and all jobs archived locally on the E-41A HDD are deleted when you install system and user software. To save jobs, ask the network administrator to archive them to a CD or location on the network, so that the jobs can be imported back into the E-41A queue after software installation. For more information, see Command WorkStation Help.

CAUTION

**NOTE:** Notify the network administrator at the customer site that some archived jobs may no longer print after you install an updated version of system and user software.

- **Job Log**—The list of jobs in the Job Log and any jobs in the queues are deleted when you install system and user software. The network administrator can use Command WorkStation to save a current list of jobs (not the actual jobs) from the Job Log.
- **Fonts**—All fonts on the HDD are deleted when you install system and user software. Resident fonts are reinstalled when you reinstall system and user software. Any customer-supplied fonts must be reinstalled by the network administrator using Command WorkStation.

  To determine which additional fonts were downloaded to the E-41A, print the Font List before you install the software and again after you complete the software installation. Any fonts not listed after installation must be reinstalled. For more information, see Command WorkStation Help.

- **Backing-up/Restoring Setup configuration**—The existing Setup configuration (typically configured by the customer; see *Configuration and Setup*) is deleted when you install system and user software. The Setup configuration can be backed-up before installing system software and saved to a file on a client computer, then restored to the E-41A after system software reinstallation (see page 112). Print a Configuration page (see page 38) before you install system and user software in order to preserve a record of the Setup configuration settings.
- **User documentation**—All user documentation files that are resident on the E-41A are deleted when you install system and user software. If user documentation is resident on the E-41A, remind the site administrator to reinstall the documentation files after you finish installing system and user software.
- **Custom simulation and output profiles**—Custom simulation and custom output profiles saved on the HDD are deleted when you install system and user software. Ask the site administrator to save a copy of any custom profiles to a CD or network location before you install system software. For more information, see *Color Printing*, *Fiery Color Reference*, and *Workflow Examples* on the User Documentation CD.
- **Monitor profiles**—Monitor profiles saved to the HDD are deleted when you install system and user software. Monitor profiles for the E-41A monitor are automatically reinstalled when you reinstall Command WorkStation on the system.
- **System software updates**—All updates to system software (Windows OS and Fiery System Software) which may be available for the E-41A and installed from any source (for example, System Updates (see page 113), patches provided on CD or downloaded by the customer) are deleted when you install system and user software.
- **Compatibility**—When upgrading the software on the E-41A, make sure that the latest user software is installed on all computers that print to the E-41A. Using incompatible versions of the software on the E-41A and the software on client computers may result in system problems.

## Installing system and user software

System and user software are provided on the following media:

- System Software DVD
- User Software DVD

The System and User Software DVDs include the system software, fonts, and user software. You install system and user software when you:

- Remedy an error condition (see "Error messages and conditions" on page 132).
- Replace the HDD.
- Upgrade to a more recent version of the software.

Software installation takes approximately one hour (not including the time required to configure or restore Setup).

---

### TO INSTALL SYSTEM AND USER SOFTWARE

**IMPORTANT**

Notify the network administrator at the customer site that some archived jobs may no longer print after you install an updated version of system software.

1. **If you have not yet done so, consider backing up configuration settings. The settings are deleted when you install system and user software (see page 112).**
2. **Allow the network administrator the opportunity to print the Job Log. Also, print the following (if possible):**
   - Configuration page—lists any installed options and records the customer's current Setup configuration.
   - Font List—lists the fonts currently on the HDD. In addition to the fonts provided in system software, the customer may have installed other fonts.
3. **Remove all USB storage devices and dongles (if any) that may be connected to any E-41A USB ports.**

**IMPORTANT**

The system will hang if USB storage devices or dongles are connected to E-41A USB ports during software installation.

4. **Insert the System Software DVD into the DVD/CD-RW drive.**

   **NOTE:** If you installed a new HDD, power on the system, insert the System Software DVD, allow the system to boot, and then proceed to step 6.

5. **From the E-41A Control Panel or the copier/printer Control Panel (or the Start menu, if a monitor is connected), reboot the E-41A.**

   Allow the system to shut down and reboot. Do not push any buttons during this time.

6. **At the message "All data will be deleted?", select Yes.**

7. **When prompted, select a language.**

   Wait as messages display describing the installation process.

   **NOTE:** This installation segment takes approximately 12 minutes.

8. **At the message "System Software is copied to the system. Remove media and select OK to reboot," remove the System Software DVD, and then select OK.**

   The E-41A reboots several times and status messages display as the installation process continues.

   **NOTE:** This installation segment takes approximately 12 minutes.

9. **At the message "Please insert User Software to continue installation," insert the User Software DVD into the DVD/CD-RW drive.**

   **NOTE:** If a monitor is connected (FACI), click OK to continue.

   During this process, the following installations are performed:

   - The entire contents of the System Software DVD are copied to a shared folder on the E-41A HDD, in e:\efi\user_sw.

     After installation, when the E-41A is connected to the customer's network, users can access the user software in the shared folder and install it onto client computers.

   The message "Copying User Software to Fiery shared folder. Please wait" and other messages display describing the user software installation process.

   **NOTE:** This installation segment takes approximately 30 minutes.

10. **At the message "Setup finished. Remove CD/DVD. Press OK to reboot," remove the User Software DVD and select OK.**

    If the User Software DVD does not eject automatically, wait for the system to boot completely and the following logo screen to display on the E-41A Control Panel, then access the Functions menu on the E-41A Control Panel and select Eject CD/DVD to remove the User Software DVD.

**This logo screen indicates that the E-41A is Idle.**

**NOTE:** This installation segment takes approximately 5 minutes.

11. **If user documentation was previously resident on the E-41A, remind the site administrator that user documentation files may be reinstalled to the E-41A shared folder from the User Documentation CD as follows:**

    - If the E-41A is equipped with FACI:
      - Insert the User Documentation CD in the E-41A DVD drive.
      - Browse to the desired language folder on the CD.
      - Select and copy the files you want to place in the shared folder on the E-41A.
      - Browse to the shared file location: e:\efi\user_software\Documentation and paste the documentation files.
    - From a client computer on the same network as the E-41A (assumes that the E-41A is powered on, has an IP address, and is accessible on the customer's network):
      - Insert the User Documentation CD in the CD drive of the client computer.
      - Browse to the desired language folder on the CD.
      - Open a web browser and type two back-slashes followed by the E-41A IP address.

        For example: **\\xx.xx.xx.x**, where **xx.xx.xx.x** is the IP address of the E-41A.
      - Open the User-Docs folder.
      - Copy and paste the documentation files into the folder.

12. **Use the System Updates feature to install required software updates that may be available for the E-41A that would have been deleted when you installed system software (see "Updating E-41A system and user software" on page 113).**

13. **Reconnect any USB storage devices or dongles that you may have removed earlier.**

14. **Input the settings from the Configuration page that you printed earlier, or restore settings if they were backed up prior to system software installation.**

    If a backup file of the configuration settings exists, restore it after the network configuration is completed (see "Backing up and restoring the E-41A Setup Configuration" on page 112).

    Bypass any settings that are not included on the Configuration page if it is more appropriate for the network administrator to set them. For more information, see *Configuration and Setup* on the User Documentation CD.

15. **Reinstall fonts or custom simulations that may have been deleted when you installed software.**

## Backing up and restoring the E-41A Setup Configuration

The current E-41A Setup configuration settings can be backed-up before system software installation and restored afterward using WebTools.

The following configuration settings can be backed up:

- Settings made using the Configure WebTool (except Server Name)
- Custom editing curves
- Custom spot colors
- Impose templates saved in the default directory for these files on the Print Server
- Preflight setup
- Address books
- Paper Catalog

**NOTE:** The configuration file is saved on the computer from which you access the Configure WebTool. Make sure that you do not save the configuration file to the E-41A itself. Otherwise, when you reinstall system software, the configuration file residing on the E-41A is deleted.

---

**TO BACK UP OR RESTORE E-41A SETTINGS**

1. **From a client computer, start an Internet browser and type the IP address or DNS name of the E-41A.**

   The E-41A home page appears.

2. **Click Launch Configure.**

3. **At the Login prompt, select Administrator in the user name field (if needed), type Fiery.1 in the password field, and then select OK.**

   **NOTE:** Type Fiery.1 exactly. The password is case-sensitive; for example, fiery.1 will not work.

4. **Choose Server > Backup/Restore, and then choose one of the following options:**

| To backup settings | To restore settings |
|---|---|
| • Click **Backup Fiery Settings.** | • Click **Restore Fiery Settings.** |
| • In the dialog box that appears, accept the default file name or type a new name for the backup file. | • In the dialog box that appears, type the name of the configuration settings file or select it from the list. |
| • Click **Save.** | • Click **Open.** |

# Updating E-41A system and user software

Using the tools **System Updates** and **Check for Product Updates (Software Downloads Site)**, you can obtain updates to E-41A System Software and User Software from a secure site on the Internet (referred to throughout this documentation as the Update Server).

## Before updating the E-41A

Keep in the mind the following before updating the E-41A using System Updates or Check for Product Updates:

**IMPORTANT**

- If you reinstall system software onto the E-41A HDD from DVDs, all patches and updates previously downloaded and installed are deleted and must be reinstalled. You should obtain the most recent patches from the Update Server immediately after system software is reinstalled.
- The term **FACI** refers to the optional Fiery Advanced Controller Interface Kit which includes a monitor, keyboard, mouse, and enablement mechanism.
- If the E-41A is behind a firewall and unable to access the Internet, the site administrator can configure a proxy server at the customer's organization to allow the E-41A to receive updates (see page 117).
- While updates are being installed, you cannot print to the E-41A. Schedule the automatic updates when no one plans to print. While updates are being installed, the E-41A may need to reboot several times.
- To view updates that have already been installed, print the Configuration page or access **Check Now** and select the History tab (see "Using Check Now" on page 117). Check Now is available when you access System Updates directly from a FACI-equipped E-41A or a client computer using Remote Desktop (see page 118).
- The list that displays when you access Check for Product Updates (Software Downloads Site) may include:
  - Updates that are unavailable through System Updates and/or are not approved for all users.
  - Updates that may already be installed on some E-41A print servers. To help you choose the updates to download, compare the list displayed with the E-41A print server's Configuration Page > Updates log.

**NOTE:** Check Now is not available when you access System Updates from Command WorkStation or WebTools.

## System Updates

System Updates allows you to schedule regular inquiries to an Update Server on the Internet for available E-41A updates. The E-41A checks automatically for updates by contacting the Update Server periodically.

System Updates also allows users to obtain updated versions of E-41A user software (utilities) and install them onto client computers that connect to the E-41A. The updated applications are first downloaded from the Update Server to a partition on the E-41A HDD. Users access the E-41A over the Internet and download the updated applications onto client computers and then manually install them.

You can also view and download updates at any time using the **Check Now** feature (requires FACI or a Remote Desktop connection; see page 117). Use Check Now to view and manually download updates that are available for installation (Patches tab) and/or view a list of updates that have already been installed (History tab).

You can also launch Check Now by clicking on an update notification in the task bar on the E-41A monitor.

System Updates can be accessed in the following ways:

- Directly from a FACI-equipped E-41A.
- From a client computer through a Remote Desktop connection (must be enabled in Setup and on the client computer; see "Enabling Remote Desktop" on page 118).
- From a client computer through WebTools > Configure > Launch Configure.
- From a client computer through Command WorkStation > Server > Setup > Server > System Update.

For a detailed procedure, see "To schedule System Updates" on page 115.

Make sure to review "Before updating the E-41A" on page 113 before scheduling System Updates.

### TO SCHEDULE SYSTEM UPDATES

1. **Access System Update.**

   You can access System Updates directly from a FACI-equipped E-41A, a Remote Desktop connection from a client computer (see page 118), or a client computer using WebTools or Command WorkStation.

   If you access System Updates directly from a FACI-equipped E-41A or through Remote Desktop, an additional feature, Check Now, is available (see page 117). Check Now lists the updates that are currently available (Patches tab) and the updates that have already been installed (History tab).

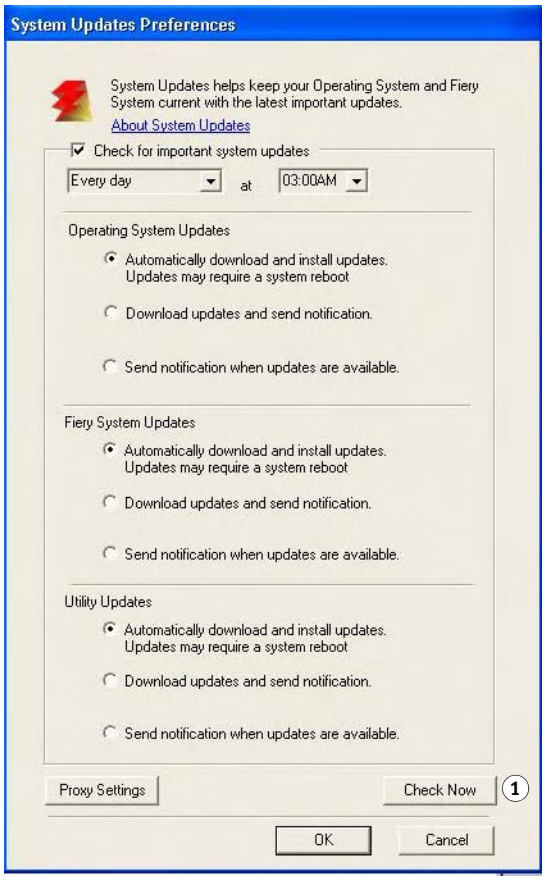
   **NOTE:** Check Now is not available when you access System Updates from Command WorkStation or WebTools.

| From the E-41A (requires FACI or Remote Desktop) | From a Client using Command WorkStation | From a client using WebTools |
|---|---|---|
| • Click Start > All Programs > Fiery > System Updates.<br><br>**NOTE:** If the E-41A is not equipped with FACI, you can access System Updates on the E-41A from a client computer using Remote Desktop (see page 118). | • Start Command WorkStation.<br>• Log on with Administrator privileges.<br>• Choose Server > Setup.<br>• Choose Server > System Update. | • Open your web browser, type the IP address or DNS name of the E-41A, and then press Enter.<br>• Click the Configure tab, and then click Launch Configure.<br>• Log on with Administrator privileges.<br>• Choose Configure > Server > System Update.<br>• Choose Server > System Update. |

   **NOTE:** While updates are being installed, you cannot print to the E-41A. Schedule the automatic updates when no one plans to print. The E-41A may also need to reboot several times during the update process.

2. **Select "Check for important system updates" (or "Enable System Updates" in Command WorkStation or WebTools).**

1. Not available when accessed from WebTools or Command WorkStation




3. **Specify how often the E-41A contacts the Update Server.**

   This feature sets a schedule for installing, downloading, and/or notification of updates.

4. **Choose a method for updating the E-41A operating software, system software, and utility software:**

   - **Automatically download and install updates (preferred method)**—Automatically downloads updates to the E-41A and installs them. Your intervention is not required.
   - **Download updates and send notification**—Automatically downloads updates to the E-41A but does not install them; sends a notification that updates have been downloaded. After the updates are downloaded, you can install the updates manually.
   - **Send notification when updates are available**—A notification displays in the E-41A task bar when new updates are available for download from the Update Server. To manually download the updates to the E-41A, access Check Now by clicking the notification in the task bar. (Requires FACI or a Remote Desktop connection; see "Using Check Now" on page 117.)

5. **If you use a proxy server to connect through a firewall to the Update Server, click Proxy Settings, select Enable Proxy, and type the appropriate information in the following fields:**
   - Address—proxy server IP address
   - Port—port used by the proxy server
   - User Name—user name for accessing the proxy server
   - Password—password for accessing the proxy server
6. **Click Save in the Proxy Settings window.**
7. **Click Apply.**

### Using Check Now

Check Now is available when you access System Updates directly from a FACI-equipped E-41A (see definition on page 113) or by using a Remote Desktop connection from a client computer (see page 118).

Use Check Now to view updates that are available for installation (Patches tab) and updates that have already been installed (History tab).

**NOTE:** Check Now is not available when you access System Updates from Command WorkStation or WebTools.

### Enabling Remote Desktop

Remote Desktop is a Microsoft application that allows client computers to manage and control the Windows desktop features of the E-41A. You can enable Remote Desktop to access the Check Now feature (page 117) of System Updates on E-41As that are not equipped with FACI.

Remote Desktop must be enabled in both E-41A Setup and on the client computer, as described in the following procedure.

---

**TO ENABLE REMOTE DESKTOP**

1. **Enable Remote Desktop on the E-41A.**
   - Open your web browser, type the IP address or DNS name of the E-41A, and then press Enter.
   - Click the Configure tab, and then click Launch Configure.
   - Log on with Administrator privileges.
   - Choose Configure > Server > General.
   - Select Enable Remote Desktop.
   - Click Apply.
   - Click Reboot.
2. **Enable Remote Desktop on the client computer.**
   - Click Start and choose All Programs > Accessories > Communications > Remote Desktop Connection.
   - Make sure that the E-41A is Idle, type the IP address or DNS name of the E-41A, and then click Connect.
   - Type the Administrator password, if prompted.

## Check for Product Updates (Software Downloads Site)

The Check for Product Updates URL (also known as the Software Downloads Site) allows you to access the Update Server to view and manually download all available updates for E-41A System and User Software. You can access Check for Product Updates by copying and pasting a unique URL into a web browser from a client computer. (For details, see page 120.)

**NOTE:** The list that displays when you access Check for Product Updates may include:

- Updates that are unavailable through System Updates and/or are not approved for all users.
- Updates that may already be installed on some E-41A print servers. To help you choose the updates to download, compare the list displayed with the E-41A print server's Configuration Page > Updates log.

Check for Product Updates is especially useful if your E-41A cannot access the Internet, is behind a firewall, or is otherwise unable or not configured to seek and accept automatic updates from the Update Server (for instance, if you do not want—or the E-41A is unable—to take advantage of the auto-download/auto-installation/auto-notification features available through System Updates).

For a detailed procedure, see "To install updates using Check For Product Updates" on page 120.

Make sure to review "Before updating the E-41A" on page 113 before using Check for Product Updates.

### TO INSTALL UPDATES USING CHECK FOR PRODUCT UPDATES

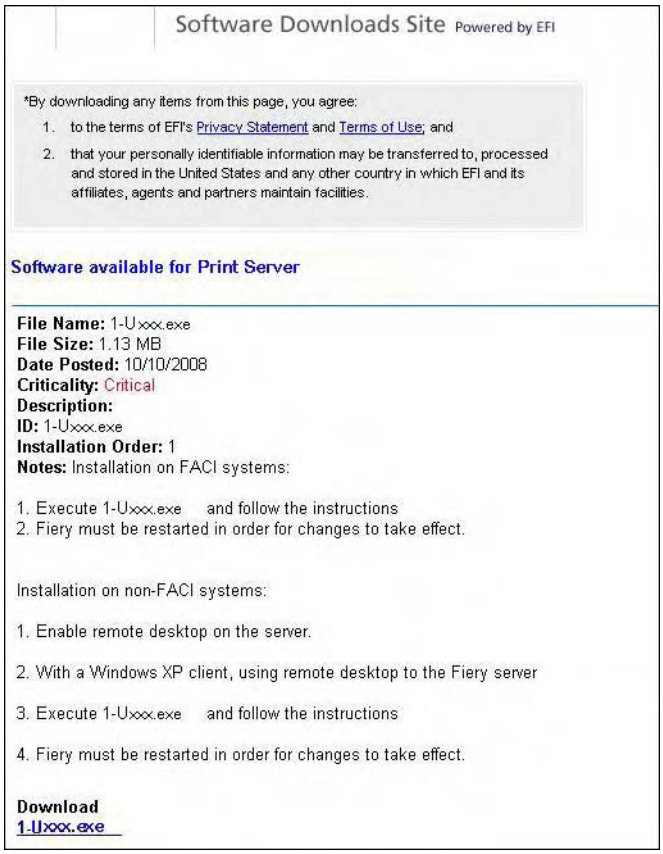
1. **From a client computer, open a web browser, copy-and-paste or type the following URL, and then press Enter.**

https://liveupdate.efi.com/webupdater/default.aspx?sid=1c9c230ecb31df3a6bff2b3797cfbb3cEF015105.PPD

For Japanese products, use the following URL instead.

https://liveupdate.efi.com/webupdater/default.aspx?sid=f86ac7726deb30b073691561341c9f26EF030453.PPD

A window appears, listing available updates.




**NOTE:** The list that displays when you access Check for Product Updates may include:

- Updates that are unavailable through System Updates and/or are not approved for all users.
- Updates that may already be installed on some E-41A print servers. To help you choose which updates to download, compare the list displayed with the E-41A print server's Configuration Page > Updates log.

2. For each update that you want to download, click the file name under Download and then select Save to download the update file to a location on the client computer.
3. When the updates files have been downloaded, browse to the location of the update file on the client computer and handle it according to the file type, circumstances, and site conditions.

# TROUBLESHOOTING

This chapter identifies the source of common problems that may occur with the E-41A and suggests ways of correcting the problems.

## Troubleshooting process

The E-41A is a server for copier/printers, and is generally part of a configuration like the one shown in the following figure. Problems may occur in one of three areas:

- Inside the E-41A
- In the interface between the E-41A and the copier/printer
- In the interface between the E-41A and the workstations or computers to which it is connected

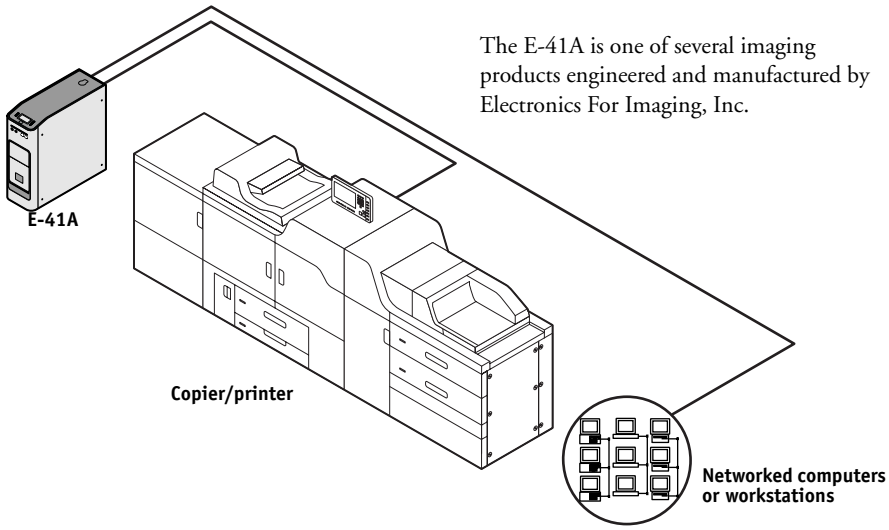



**FIGURE 39:** Troubleshooting the system

This chapter does not attempt to provide troubleshooting information for attached computers such as PCs or Mac OS computers, copier/printers, or extensive networks. Refer problems in these areas to the appropriate service departments and network administrators.

**IMPORTANT**

When performing the service procedures described in this chapter, follow the precautions listed in "Precautions" on page 14.

The terms "replace" and "replacing" are typically used throughout this guide to mean reinstallation of existing components. Install new components only when necessary. If you determine that a component that you have removed is not faulty, reinstall it. Replacement parts and specifications are subject to change. When ordering replacement parts, refer to the current parts list maintained by your authorized service/support center. Install the correct parts as directed by your service/support center.

## Preliminary on-site checkout

Most problems with the E-41A are caused by loose board or cable connections. This section describes the quick checks that you can do to locate and fix obvious problems. It describes how to eliminate any problems with external connections to the back of the E-41A, and then addresses checking internal board and cable connections. Check external and internal connections before replacing any components.

**NOTE:** Verify that the network is functioning, no unauthorized software or hardware is installed on the E-41A, and no problems have occurred with a particular print job or application. The on-site administrator can help you verify these issues.

For problems that persist after you check the external and internal connections, this section provides a comprehensive list of internal and external checks that may help you fix the problem.

This section includes the following:

- "Checking external connections" on page 124

  Describes the quick checks that you can do to make sure that the problem is not caused by a loose connection at the back of the E-41A.

- "Checking internal components" on page 125

  Describes the quick checks that you can do to make sure that the problem is not caused by a loose board or cable connection inside the E-41A.

- "Inspecting the system" on page 126

  Provides a more comprehensive checklist that you can use to check the E-41A internally and externally. If your initial checks fail, complete this checklist before concluding that you need to replace a cable or component.

To troubleshoot problems that present specific symptoms, see "Table 3: E-41A error messages and conditions" on page 133. Locate symptoms listed in the table to help you determine possible causes and steps to remedy them.

## Checking external connections

Before removing the side and front panels of the E-41A to check internal components, eliminate the most obvious sources of problems. Make sure that:

- All interface cables to the system are plugged into the proper connectors (see Figure 40).
- The power cable is plugged into the wall power outlet.
- The LED on the network port is blinking to indicate network activity.

**IMPORTANT**

Make sure that the cables are connected to the correct RJ-45 port (see Figure 6 on page 29). The network and copier/printer interface cables look similar but are not interchangeable. The network cable at the customer site is a *straight-through* Ethernet cable that connects to the **upper** RJ-45 port on the E-41A back panel. The copier/printer interface cable included with the E-41A is a 39.3 ft. Ethernet *crossover* cable that connects to the **lower** RJ-45 port on the E-41A back panel.

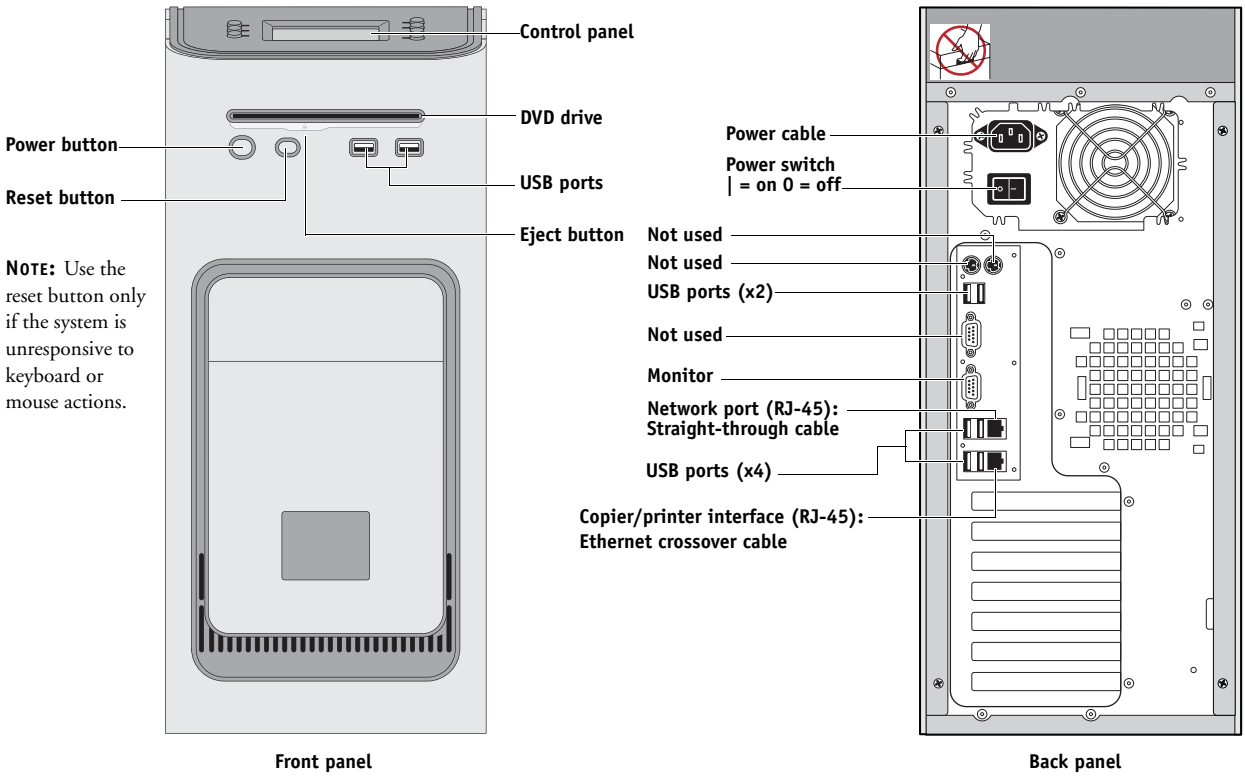



**FIGURE 40:** E-41A external cable connections

## Checking internal components

To check the internal components, you must remove the side and front panels of the E-41A.

**IMPORTANT**

Before you remove the E-41A panels, be aware of the safety precautions that you should take when handling the E-41A. Use standard ESD precautions when handling printed circuit boards and electronic components. To review the safety precautions, see "Precautions" on page 14.

See the disassembly procedures on page 53 and the reassembly procedures on page 106.

---

**TO CHECK INTERNAL COMPONENTS**

1. **Shut down, and then open the E-41A (see pages 51 and 53).**

**IMPORTANT**

2. **Before you touch any components inside the E-41A, attach a grounding strap to your wrist and discharge any static electricity on your body by touching a metal part of the E-41A.**
3. **Inspect the inside of the E-41A (see Figure 12 on page 50).**

   Make sure that no foreign materials have been dropped into the chassis.

   - Make sure that the DVD and HDD data cables are connected to the correct SATA connectors on the motherboard (see Figure 12 on page 50):
     - DVD drive power/data combination cable to motherboard connector SATA 1
     - HDD data cable to motherboard connector SATA 2
   - Look for obviously loose boards and reseat each board securely in its connector on the motherboard.
   - Look for obviously loose cables and reseat each cable connector firmly.
   - Make sure that each connector is properly aligned with its mating connector. If the pins are offset from each other, the affected board will not function properly.
4. **Reassemble the E-41A and verify its functionality (see page 106).**

## Inspecting the system

**IMPORTANT**

If your initial checks of the cable and board connections do not fix the problem, you may need to inspect the system on a component-by-component basis, as described in "Table 2: Verifying the system." A comprehensive inspection allows you to verify that each hardware component is properly installed and configured, and helps you avoid replacing expensive components unnecessarily.

If the system you are servicing does not meet a condition listed in Table 2 and it is not obvious what action(s) you should take to fix the problem (for example, if the system hangs before reaching Idle), locate the symptom in "Table 3: E-41A error messages and conditions" on page 133 and perform the suggested action(s) for the condition.

**TABLE 2:** Verifying the system

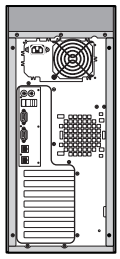
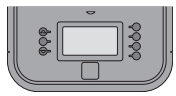
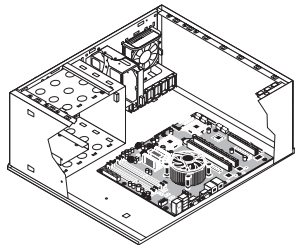
| Conditions to verify | Part and additional page references |
|---|---|
| When the problem occurs, verify that:<br>• Power cable is connected properly into the power outlet.<br>• Chassis fans are operating.<br>• Network link activity LED on RJ-45 connector is blinking.<br>• All external cables required are present, in correct connectors, and well-seated.<br>• Cables, cable connectors, and mating connectors appear undamaged. | Back panel external connectors, chassis fans, and power button, page 124 and page 125<br>  |
| If the problem occurs at power up or reboot, verify that:<br>• Activity light on the Control Panel illuminates.<br>• Display window lights up.<br>• The system does not hang, and no error messages occur before the systems reaches Idle.<br>• After the system reaches Idle, the Control Panel buttons function. | Control Panel, page 33<br>  |
| • All replaceable parts are:<br>– Present<br>– Properly aligned<br>– Installed securely<br>– Installed on the appropriate site<br>– The correct part for the system<br>– Properly configured, if configurable (such as HDD jumper)<br>– Not visibly damaged<br>• Chassis and contents have not been tampered with.<br>• Chassis does not contain any foreign objects. | Chassis<br>  |

**TABLE 2:** Verifying the system

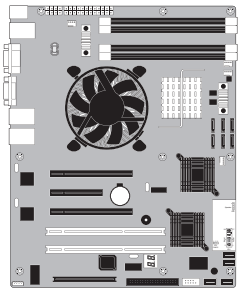
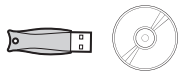
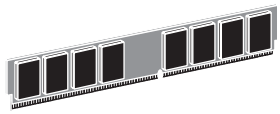
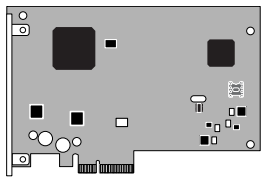
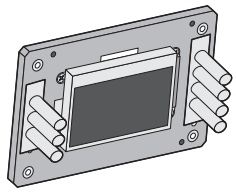
| Conditions to verify | Part and additional page references |
|---|---|
| • Motherboard, including components and traces, appears undamaged, and no foreign objects are evident.<br>• CPU is present, well-seated, and appears undamaged.<br>• CPU cooling assembly is well-aligned and firmly attached.<br>• Each fan required (including fan cable) is well-positioned (not upside down), installed in the correct connector, and appears undamaged.<br>• Boards required on the motherboard are present, well-seated, and in the correct slots.<br>• Each DIMM is well-seated.<br>• Battery is installed.<br>• BIOS is well seated. | Motherboard (with the Fiery Options Utility DVD and one-time use dongle), page 63.<br>  <br>**IMPORTANT:** When replacing the motherboard, carefully review the cautions on page 67.<br>  |
| • Each DIMM is well-seated.<br>• DIMM edge connectors are not oxidized. | DIMMs for E-41A, page 79<br>  |
| Each board required is:<br>• Present<br>• Installed in the correct slot<br>• Well-seated<br>• Appears undamaged<br>Required cables (if applicable) are:<br>• Present<br>• Firmly connected in the correct connectors<br>• Not visibly damaged | Video board, page 58<br>  |
| User Interface Board (UIB) is:<br>• Present<br>• Correctly attached to its bracket<br>• Appears undamaged<br>UIB cable is:<br>• Present<br>• Firmly connected in the correct connector on the motherboard and the back of the UIB<br>• Not visibly damaged | User Interface Board page 60<br>  |

**TABLE 2:** Verifying the system

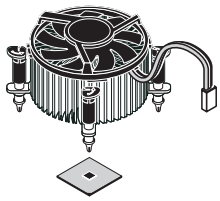
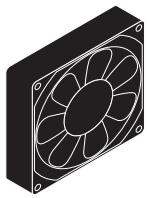
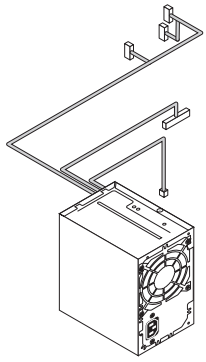
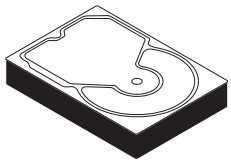
| Conditions to verify | Part and additional page references |
|---|---|
| CPU is:<br>• Present<br>• Well-seated<br>• Not visibly damaged<br>The CPU cooling assembly is:<br>• Well-aligned<br>• Firmly attached | CPU with cooling assembly, page 81<br>  |
| Fan is:<br>• Properly positioned (not backwards)<br>• Installed in the correct connector<br>The fan, fan cable, cable connector, and mating connector are not visibly damaged. | Front panel fan, page 88<br>  |
| The power supply required is:<br>• Present<br>• Correctly installed<br>• Not visibly damaged<br>Cable connectors are:<br>• Firmly connected<br>• Not visibly damaged<br>• Installed in the correct devices | Power supply, page 89<br>  |
| The HDD required is:<br>• Present<br>• Correctly installed<br>• Not visibly damaged<br>• Jumpered as the master (primary) according to label<br>HDD data cable is:<br>• Present<br>• Firmly connected to motherboard connector SATA 2<br>• Not visibly damaged | Hard disk drive (HDD), page 93<br>  |

**TABLE 2:** Verifying the system

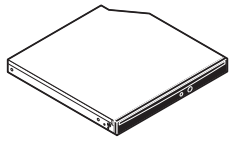
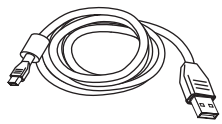
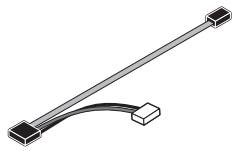
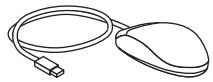
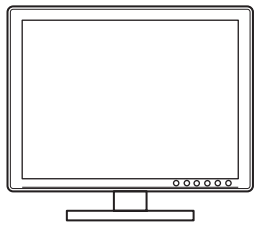
| Conditions to verify | Part and additional page references |
|---|---|
| The drive required is:<br>• Present<br>• Correctly installed<br>• Not visibly damaged<br>• Jumpered as the master (secondary) according to label<br>• Activity LED lights on power up<br>DVD drive SATA cable is:<br>• Firmly connected to motherboard SATA 1<br>• Not visibly damaged | DVD drive, page 103<br>  |
| Each cable required is:<br>• Present<br>• The correct type<br>• Installed in the correct connector<br>• Well-seated<br>• Not visibly damaged (including connectors) | UIB cable, page 50<br>  <br>HDD data cable, page 50<br> <br>Copier/printer interface cable, page 124<br> <br>DVD drive power and data combination cable, page 50<br>  <br>Power cable(s), page 124<br> |

**TABLE 2:** Verifying the system

| Conditions to verify | Part and additional page references |
|---|---|
| If included in the system, the required mouse, monitor, and keyboard are present and appear undamaged. The mouse and keyboard are connected to the correct ports on the E-41A back panel.<br><br>The cables required are:<br>• Present<br>• Installed in the correct connector<br>• Well-seated<br>• Not visibly damaged (including connectors) | For the following items, see the document that accompanies the FACI kit, if applicable.<br>• Mouse (if applicable)<br>  <br>• Monitor (if applicable)<br>  <br>• Keyboard (if applicable)<br> <br>• Monitor power cord (not pictured) |

## Normal startup sequence

**NOTE:** The following description is approximate. The screens, times, and sequences that you observe may vary slightly.

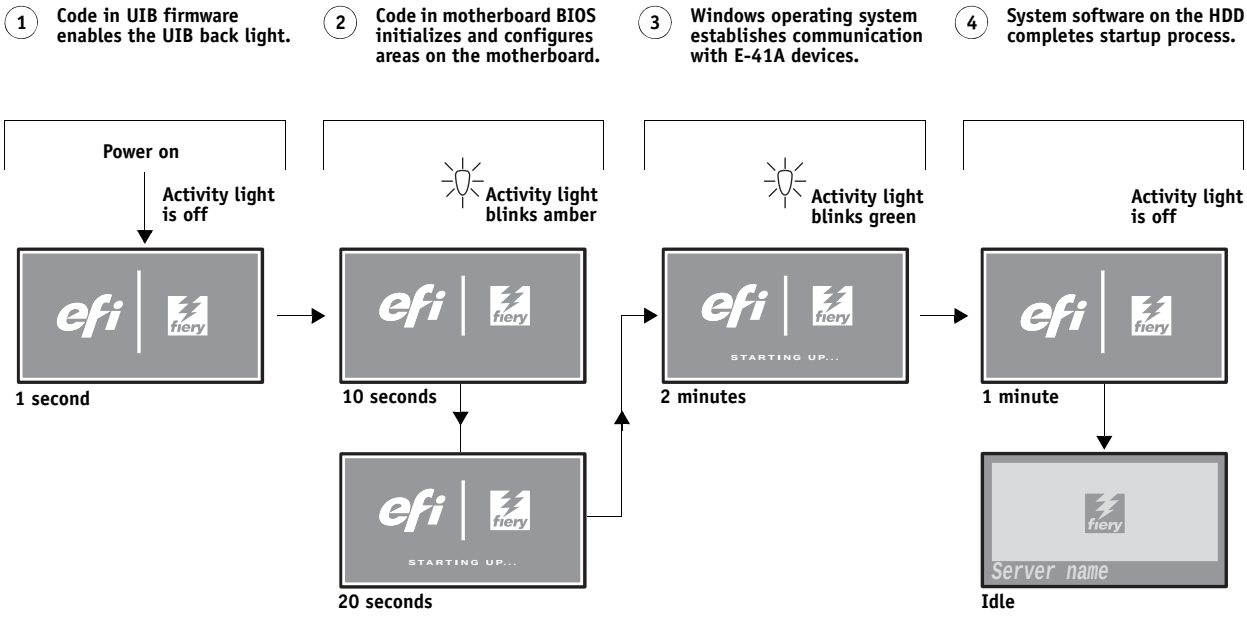



**FIGURE 41:** Normal startup sequence

## Error messages and conditions

To address specific error messages or conditions, see "Table 3: E-41A error messages and conditions" on page 133. Use the table to locate the problem or symptom that you want to fix, read about the possible causes, and then perform the suggested actions to solve the problem.

**IMPORTANT**

Do not replace the HDD and the motherboard at the same time. Doing so in the wrong order, without updating the system, will cause the system to malfunction.

If troubleshooting strategies (checking cables and connections, reinstalling system software, and so forth) do not solve the problem and you suspect that the HDD or motherboard is faulty, note that it is highly unlikely that the HDD and the motherboard are both defective; therefore, avoid replacing both to solve one problem. Always troubleshoot in the following order.

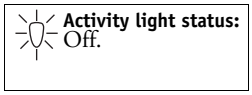
- First, replace the HDD and install system software.

  Always replace a faulty HDD with a new HDD. Transferring a HDD from one E-41A to another is incorrect and strongly discouraged.

- If the problem persists, reinstall the original HDD in the system, and then replace the motherboard.

If replacing a component does not correct the problem, make sure that you reinstall the old component back in the E-41A.

**TABLE 3:** E-41A error messages and conditions

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Beep codes during Startup** | | |
| 1 beep | No error—the E-41A is starting up normally. | **None** |
| 1 beep, followed by 3 beeps, followed by 3 beeps, followed by 1 beep | Missing, unmatched, incorrect, or faulty DIMMs | **Check for missing, unmatched, incorrect or faulty DIMMs and reseat the DIMMs to remove any oxidation on the connector (see page 79).** |
| **Startup** | | |
| E-41A does not start and the Control Panel is black.<br>  <br>**Activity light status:** Off.<br>**NOTE:** If the Activity light is solid yellow while the Control Panel is black, the E-41A is in Sleep Mode. | Possibly one of the following:<br>• The E-41A is powered off<br>• Power cable is not plugged into the power connector on the E-41A back panel, or into the wall power outlet<br>• The back panel power switch is in the OFF position<br>• UIB cable is not connected to the motherboard, the user interface board, or both<br>• Faulty power cable<br>• Faulty power supply (power supply may not be supplying power to the motherboard)<br>• The CMOS jumper is not in the default position<br>• Faulty motherboard (motherboard power plane may not be supplying power to components) | **1. Recheck all cables and connections.**<br>**2. Make sure the back panel power switch is in the ON position (see page 42).**<br>**3. Listen for the power supply fan and feel for air at the back of the unit where the power supply is located.**<br>If air is not coming from the power supply fan, isolate a possible faulty power cable as follows:<br>• Power on using a different power cable.<br>• Install a new or "known good" power supply.<br>**4. Check the back panel fan vent and feel for air coming out of the back of the system.**<br>If air is coming out of the power supply fan vent but is not coming out of the back panel fan vent, the motherboard may be faulty. You may need to replace the motherboard (see page 67).<br>**5. Review the jumper section on page 87 and ensure that the jumper is in the default position, then clear the CMOS (see page 87).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Startup (cont.)** | | |
| E-41A is getting power, but the Control Panel is black.<br>**Activity light status:** Off. | • UIB cable is not connected to the motherboard, the User Interface Board, or both<br>• Faulty UIB cable<br>• Faulty User Interface Board | **1. Recheck all cables and connections.**<br>**2. Use a different UIB cable.**<br>**3. If the problem persists and you have verified that the power supply and motherboard are functioning properly as described earlier, replace the User Interface Board (see page 60).** |
| Following installation of a new User Interface Board, the Control Panel remains blank, yet backlit, for more than 5 minutes.<br>**Activity light status:** N/A. | System software requires an additional reboot to synchronize with the firmware on the new User Interface Board. | **Wait 5 minutes, power off using the power button, wait 10 seconds, and then press the power button to power on again.** |
| NOT following installation of a new User Interface Board, system stops responding at this screen:<br> <br>**Activity light status:** Off. | Possibly one of the following:<br>• Faulty BIOS<br>• Faulty motherboard | **1. Recheck all cables and connections.**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, replace the motherboard (see page 67).** |
| System stops responding at this screen:<br> <br>**Activity light status:** Blinking green. | Problem with the Fiery application. | **1. Recheck all cables and connections.**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, reinstall system software (see page 107).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Startup (cont.)** | | |
| Control Panel screen and Activity light appear as follows:<br> <br>**Activity light status:** Off, then solid red. | Possibly one of the following:<br>• Wrong, missing, incorrectly connected, or faulty DIMM(s)<br>• Faulty motherboard | **1. Recheck all cables and connections.**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, verify that the DIMMs are installed as described in the DIMM section on page 79. DIMMs must be installed in matching pairs in alternating sockets. Check for incorrect type, wrong capacity, missing, or faulty DIMM(s). Reseat the DIMM(s) to remove any oxidation on the connector (see page 79).**<br>**4. If the problem persists, you may need to replace the motherboard (see page 67).** |
| Control Panel screen and Activity light appear as follows:<br> <br>**Activity light status:** Blinking amber, then solid red. | Possibly one of the following:<br>• Faulty disk in the DVD drive<br>• Faulty motherboard | **1. Reboot the E-41A.**<br>**2. If the problem occurs when you are installing software from bootable media (DVD or CD), the media may be damaged. Try another DVD or CD.**<br>**3. If the problem persists, replace the motherboard (see page 67).** |
| Control Panel screen and Activity light appear as follows:<br> <br>**Activity light status:** Blinking amber. | Possibly one of the following:<br>• Faulty or incorrectly connected HDD data cable<br>• HDD power cable disconnected<br>• Faulty HDD<br>• Faulty motherboard | **1. Recheck all cables and connections. Make sure that the HDD data cable is connected to the correct SATA port (SATA 2) on the motherboard (see Figure 12 on page 50).**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, replace the HDD SATA cable (see Figure 12 on page 50).**<br>**4. If the problem persists, replace the HDD (see page 93).**<br>If replacing the HDD does not correct the problem, reinstall the old HDD in the system.<br>**5. If the problem persists, replace the motherboard (see page 67).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Startup (cont.)** | | |
| Control Panel screen and Activity light appear as follows:<br> <br>**Activity light status:** Blinking green, then solid red. | Problem with the Windows operating system. | **1. Recheck all cables and connections.**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, reinstall system software (see page 107).** |
| Activity light status progresses from solid green to solid red.<br>**Activity light status:** Solid green, then solid red. | Possibly one of the following:<br>• Problem with system software<br>• Print job is corrupt or too large<br>• Faulty UIB cable<br>• CPU overheated<br>• Faulty motherboard | **1. If you suspect that the problem may be caused by a print job, try printing a different job.**<br>**2. Recheck all cables and connections.**<br>**3. Reboot the E-41A and check whether the CPU cooling assembly fan is operating. If the fan is properly connected to the motherboard but does not operate, replace the cooling assembly.**<br>**4. If the problem persists, reinstall system software (see page 107).**<br>**5. If the problem persists, try connecting another UIB cable (see Figure 12 on page 50).**<br>**6. If the problem persists, replace the motherboard (see page 67).** |
| **FieryBar messages** | | |
| Check copier/printer power & cable connections appears on the optional monitor, if present. | Possibly one of the following:<br>• Problem with the connection between the E-41A and the copier/printer<br>• The copier/printer is not powered on<br>• The copier/printer is on but is not ready to print | **1. Make sure that the copier/printer is powered on and ready to print.**<br>**2. Make sure that the copier/printer interface cable is the correct type and is correctly connected to both the copier/printer and the E-41A.**<br>**3. If the problem persists:**<br>• Recycle power on the copier/printer.<br>• Recycle power on the E-41A by shutting down through the E-41A Control Panel, waiting 10 seconds, and then powering the E-41A back on (see page 42).<br>**4. If the problem persists, replace the copier/printer interface cable (see page 124).**<br>**5. If the problem persists, replace the video board (see page 59).**<br>**6. If the problem persists, you may need to service the copier/printer.** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Control Panel messages** | | |
| Could not mount the dos/ boot partition. | When transferring options following installation of a new motherboard (page 75), you used the Feature Update CD. The E-41A does not support the Feature Update CD. | **Obtain the Fiery Options Utility DVD and try the procedure again.** |
| Invalid dongle found! Please remove dongle and connect the correct dongle. | The attached dongle is not supported by the Fiery Options Utility. The dongle may have been attached by mistake. | **Obtain a valid dongle and try again.** |
| More than one dongle found. Remove all dongles except the correct dongle. | The Fiery Options Utility will not work when more than one dongle is attached to the system. | **Remove all dongles except the correct dongle.** |
| No uses remaining. | The dongle has already been used and cannot be reused. | **Obtain an unused dongle and try again.** |
| **Control Panel functions** | | |
| E-41A is getting power, the Control Panel is not black, but the buttons on the Control Panel do not function. | Possibly one of the following:<br>• Problem with the Fiery application<br>• Faulty User Interface Board | **1. Recheck all cables and connections.**<br>**2. Reboot the E-41A.**<br>**3. If the problem persists, reinstall system software (see page 107).**<br>**4. If the problem persists, replace the User Interface Board (see page 60).** |
| **DVD drive** | | |
| DVD drive is not responding, cannot be located, or the disk will not eject. | Possibly one of the following:<br>• A disk is stuck in the DVD drive<br>• Cable connections to the DVD drive are loose or data cable is faulty<br>• DVD drive is faulty<br>• Motherboard is faulty | **1. If the problem persists, check the cable connections to the DVD drive (see Figure 12 on page 50).**<br>**2. If a disk in the DVD drive will not eject, remove the front panel (see page 53) to access the eject button on the DVD drive itself. Power on the E-41A and press the eject button to eject the disk.**<br>**3. Check the DVD drive data cable connection to the motherboard.**<br>**4. If the problem persists, you may need to replace the DVD drive (see page 103).**<br>**5. If the problem persists, you may need to replace the motherboard (see page 67).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **System performance** | | |
| System performs slowly and/or hangs periodically. | Possibly one of the following:<br>• Board or cable connections are loose or faulty<br>• System software is corrupted<br>• Missing or faulty DIMM(s)<br>• CPU is overheated or faulty<br>• CMOS settings need to be reset or are corrupted<br>• Motherboard is faulty | **1. Recheck all cables and connections.**<br>**2. Make sure that the CPU is firmly seated in its socket and that the fan cable is connected to the motherboard.**<br>**3. If the problem persists, reinstall the system software (see page 107).**<br>**4. Check for missing or faulty DIMM and reseat the DIMM to remove any oxidation on the connector (see page 79).**<br>**5. Clear the CMOS (see page 87).**<br>**6. If the problem persists, you may need to replace the motherboard (see page 67).** |
| Clock is slow. | • CMOS settings need to be reset or are corrupted<br>• Missing or dead battery on the motherboard | **1. Clear the CMOS (see page 87).**<br>**2. Replace the battery on the motherboard and update the time in the Windows Control Panel (if a monitor is connected), Command WorkStation, or WebTools.** |
| The E-41A hangs during the user software installation segment. | Possibly one of the following:<br>• The time and date need to be configured in the E-41A BIOS. (If the battery was removed from the E-41A motherboard during service and the time and date were not configured in Setup afterward, the E-41A will hang during the user software installation segment.)<br>• User Software DVD is corrupted.<br>• The DVD drive is faulty.<br>• The HDD is faulty. | **1. Set the time and date in the BIOS:**<br>• Power off the E-41A and remove the User Software DVD when it ejects.<br>• If not already connected, connect a keyboard and a monitor to the E-41A.<br>• Power on the E-41A and immediately press F2 repeatedly to launch the BIOS setup utility.<br>• Configure the time and date. (To navigate, use the tab key and the -/+ keys).<br>• Save changes and exit (F10).<br>• When the E-41A reaches Idle, power off and then begin a full software installation again starting with the System Software DVD (see page 107).<br>**2. If the problem persists, obtain another User Software DVD and begin software installation again starting with the System Software DVD (see page 107).**<br>**3. If the problem persists, you may need to replace the DVD drive (see page 103).**<br>If replacing the DVD drive does not correct the problem, reinstall the old DVD drive in the system.<br>**4. If the problem persists, replace the HDD (see page 93).**<br>If replacing the HDD does not correct the problem, reinstall the old HDD in the system. |

| Symptom | Possible cause | Suggested action |
|---|---|---|

## Network

If you suspect a network problem, keep in mind the following:

- If the E-41A does not appear in the list of printers on the network, another device on the network may have been assigned the same Ethernet hardware address.
- Conflicting network settings may have been configured in Setup and on the customer's workstation.
- Printing problems may be caused by inappropriate Setup options.
- Application-specific printing errors may be caused by missing or incorrectly placed printer description files.
- System software may be corrupted.

For additional information, see *Configuration and Setup* on the User Documentation CD.

| | | |
|---|---|---|
| Unable to connect to the network, or the green LED on the RJ-45 network port is not lit. | Possibly one of the following:<br>• Network cable is connected to the wrong RJ-45 port<br>• No cable/wrong type of cable is connected to the network port<br>• Network cable or connection is fault<br>• Network is faulty<br>• System software is corrupted<br>• Network interface on the E-41A motherboard is faulty | **1. Make sure that the correct cables are connected to the correct ports on the E-41A back panel. The lower RJ-45 port is the copier/printer interface; the upper RJ-45 port is the network interface.**<br>**2. If the green LED on the (upper) RJ-45 network port is not lit, check the cable connection of the upper RJ-45 network port and the network. Make sure that the cable is a straight-through cable, not a crossover cable (see page 124).**<br>**3. If the network cable is a straight-through cable and not a crossover cable and is properly connected to the (upper) RJ-45 network port, connect a new network cable to the (upper) RJ-45 network port.**<br>**4. If the problem persists, have the network administrator check Network Setup.**<br>**5. If the problem persists, make sure that the network administrator has checked other devices on the network.**<br>If other devices are not functioning, the problem may be with the network.<br>**6. If the problem persists, reinstall the system software (see page 107).**<br>Corrupt system software may cause the system to hang.<br>**7. If the rest of the network is functioning properly and the problem persists, replace the motherboard (see page 67).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Network (cont.)** | | |
| System starts up slowly then displays one or more DHCP error messages on the Control Panel. | Possibly one of the following:<br>• Network cable is connected to the wrong RJ-45 port<br>• No cable/wrong type of cable is connected to the network port<br>• Network cable or connection is faulty<br>• Network is faulty<br>• System searches for a nonexistent DHCP server because DHCP is enabled by default on the E-41A, but the customer's network is not using DHCP<br>• Ethernet interface on the E-41A motherboard is faulty<br>• System software is corrupted | **1. Make sure that the correct cables are connected to the correct ports on the E-41A back panel. The lower RJ-45 port is the copier/printer interface; the upper RJ-45 port is the network interface.**<br>**2. If the green LED on the (upper) RJ-45 network port is not lit, check the cable connection of the upper RJ-45 network port and the network. Make sure that the cable is a straight-through cable, not a crossover cable (see page 124).**<br>**3. If the network cable is a straight-through cable and not a crossover cable and is properly connected to the (upper) RJ-45 network port, connect a new network cable to the (upper) RJ-45 network port.**<br>**4. If the problem persists, ask the network administrator to check Network Setup.**<br>**5. If the problem persists, ask the network administrator to check other devices on the network.**<br>If other devices are not functioning, the problem may be with the network.<br>**6. If the problem persists, reinstall system software (see page 107).**<br>Corrupt system software may cause the system to hang.<br>**7. If the rest of the network is functioning properly and the problem persists, replace the motherboard (see page 67).** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Printing** | | |
| **NOTE:** Intermittent print quality and color quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a color Test Page to make sure that the copier/printer does not need servicing or adjusting. | | |
| Test Page fails to print. | The copier/printer is not ready to print. | **Make sure that the copier/printer is turned on and ready to print.** |
| | A problem exists with the connection between the E-41A and the copier/printer. | **1. Recheck that the copier/printer interface cable is present and properly connected to the E-41A and the copier/printer (see page 124).**<br>**2. If the problem persists:**<br>• Recycle power on the copier/printer.<br>• Recycle power on the E-41A by shutting down through the Functions menu, waiting 10 seconds, and then powering the E-41A back on (see page 42).<br>**3. If the problem persists, replace the copier/printer interface cable (see page 124).**<br>**4. If the problem persists, replace the video board (see page 58).**<br>**5. If the problem persists, you may need to service the copier/printer.** |
| The E-41A appears in the list of printers on the customer's workstation, but certain jobs do not print. | A PostScript error | **Make sure that Print to PostScript Error in Setup is set to Yes. Check for error messages on the E-41A output.** |
| | An application problem | **1. Print a job from a different application to determine if the problem is associated with a particular application.**<br>**2. Make sure that the connection between the E-41A and the workstation is working by downloading a Test Page from the workstation, or by printing a simple file such as a text file.**<br>**3. Resend the problem file.** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Printing (cont.)** | | |
| A print job stalls or stops after one or a few pages. | Possibly one of the following:<br>• A PostScript or application error<br>• System software is corrupted | **1. Cancel the E-41A print job.**<br>**2. If this fails to clear the problem, reboot the E-41A (see page 42).**<br>**3. If the problem persists, select Clear Server from Command WorkStation.**<br>**4. Set Print Cover Page to Yes and resend the problem job. The Cover Page will indicate "PS Error."**<br>For more information about the PostScript error, double-click the problem job in the Command WorkStation window.<br>**5. If the problem persists, reinstall system software (see page 107).**<br>Corrupt system software may cause the system to hang at this screen. |
| | Incorrect or faulty DIMM or faulty DIMM connection | **1. Reseat the DIMMs to remove any oxidation on the connectors (see page 79).**<br>**2. Verify memory amount on the Configuration page.**<br>**3. If the problem persists after replacing the DIMM, replace the motherboard (see page 67).** |
| Color quality is inconsistent. | A copier/printer problem | **Test the copier/printer and perform service, if necessary. See the service documentation that accompanies the copier/printer.** |

| Symptom | Possible cause | Suggested action |
|---|---|---|
| **Printing (cont.)** | | |
| Print quality is poor. | Possibly one of the following:<br>• A file or application problem<br>• A missing or outdated printer description file<br>• The application cannot find the appropriate printer description file | **1. Print a E-41A Test Page (see page 40).**<br>**2. If the quality of the E-41A Test Page is good, the error condition may be a file or application problem.**<br>**3. Make sure that the appropriate printer description file is installed. (For details, see *Printing* on the User Documentation CD.)** |
| | The system is out of calibration. | **Calibrate the system.** |

If the user can print the E-41A Test Page, but cannot print a job from a computer on the network, make sure that the network administrator has:

- Checked all components of the network, including cables, connectors, terminators, network adapter boards, and network drivers.
- Activated the network and used it to communicate with other printers.
- Confirmed that the applicable network settings in Setup (such as AppleTalk zone, IP address, Subnet mask, and Gateway address) match the settings used in the network.

**NOTE:** EPS file generation is not completely standardized among applications. Some users may encounter problems while printing certain EPS files.

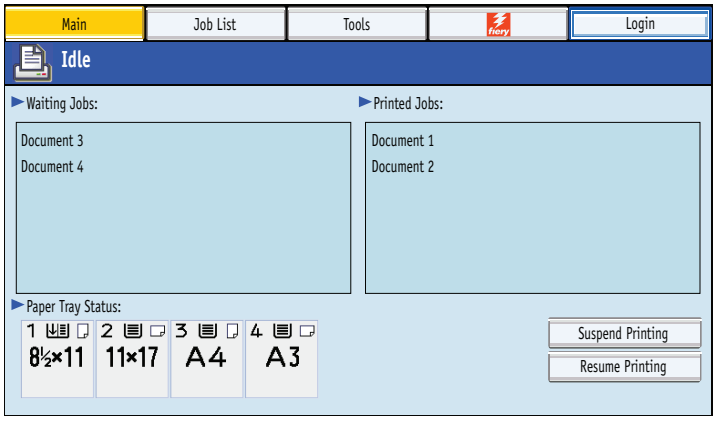
# Diagnostic tools

E-41A diagnostic tools include video board diagnostics and E-mail diagnostics.

## Video board diagnostics

If you suspect that there may be a problem with the video board (for example, the quality of print output is poor), run the Check Video Board diagnostics from the copier/printer Control Panel to make sure that the video board is installed properly.

1. **Access the Fiery Main menu by pressing the "fierydriven®" button on the copier/printer Control Panel.**




2. **Make sure that Idle appears on the Fiery Main menu.**

   If Busy or Printing appears, the E-41A is processing and you must wait until Idle appears.

   If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the video board diagnostics.

3. **Touch the Fiery tab.**
4. **Touch Run Diagnostics.**
5. **Touch Check Video Board, and then touch OK.**
6. **If the message "Video diags failed" appears, do the following:**
   - Power off the E-41A and open the system.
   - Reseat the video board.
   - Inspect the copier/printer interface cable.
   - Power on the E-41A and run the test again. If the test fails again, you may need to replace the video board.
7. **When the message "Video diags passed" appears, touch OK.**

## Test E-mail

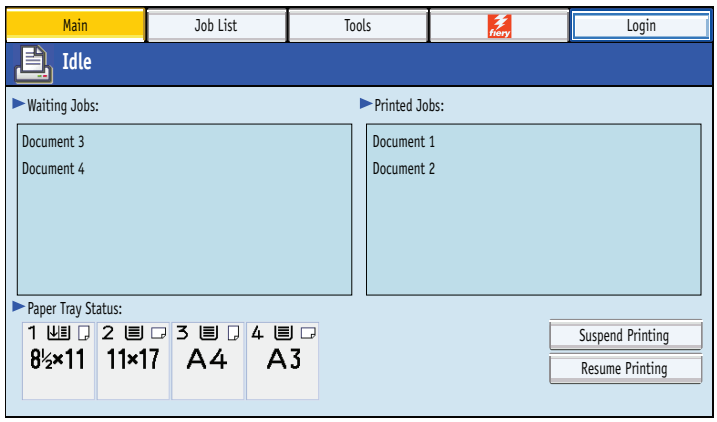
This diagnostic tool allows you to perform a quick test of the E-41A E-mail feature without actually having to submit a print job as an e-mail attachment. You review the results of the test by printing an E-mail log through the copier/printer Control Panel > "fierydriven®" button > Fiery Tab > Printable Info.

**NOTE:** E-mail services must be enabled in Setup for Test E-mail to be available. Test E-mail can also be run through the copier/printer Control Panel, Fiery tab (see page 38).

For more information, see *Configuration and Setup* on the User Documentation CD.

### TO RUN E-MAIL DIAGNOSTICS

1. **Access the Fiery Main menu by pressing the "fierydriven®" button on the copier/printer Control Panel.**




2. **Make sure that Idle appears on the Fiery Main menu.**

   If Busy or Printing appears, the E-41A is processing and you must wait until Idle appears.

   If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the video board diagnostics.

3. **Touch the Fiery tab.**
4. **Touch Run Diagnostics.**
5. **Touch Check Mail System, and then touch OK.**
6. **If the message "Mail service is not enabled" appears, touch OK to exit Mail diagnostics. The network administrator must enable E-mail printing in Setup.**
7. **If E-mail printing is enabled and the message "Sending Test E-mail. Please print the E-mail log for the diagnostic result" appears, do the following:**
   - Touch OK.
   - Touch Printable Info.
   - At the message "Confirm Print Page: E-mail Log," touch OK.

   A successful transmission indicates that the E-41A is able to send an e-mail over the network. If the transmission fails, advise the network administrator at the customer site to check the E-41A Setup options and the customer's e-mail server.

# SPECIFICATIONS

This section provides an overview of E-41A features, specifications, and safety certifications.

**NOTE:** Replacement parts and specifications are subject to change. When ordering replacement parts, refer to the current parts list maintained by your authorized service/support center. Install the correct parts as directed by your service/support center.

## Hardware features

- Single Intel Core 2 Duo E8400 3.0GHz CPU
- Memory—2GB (2 x 1GB)
- An RJ-45 connector for 10BaseT/100BaseTX/1000BaseT Mbs connectivity over twisted pair cable (upper port)
- 160GB HDD standard
- Built-in DVD drive

## Physical specifications

- Operating Environment:
  - Temperature: +5°C to +40°C
  - Relative Humidity: 10%-85% (non-condensing)
- Power Supply Rating: 100-240V, 50-60Hz, 6A
- Power Supply Voltage Input: 100-240V @ 50-60Hz
- Power Supply Current Input: 100V @ 6A Max.; 240V @ 3A Max.
- Rated Power Consumption: 350W
- Dimensions (Height x Depth x Width):

  48.5 cm (19.1 in.) x 48.3 cm (19.0 in.) x 21.5 cm (8.5 in.)
- Weight: approximately 20 kg (44 lbs)

## Networking and connectivity

- Supports AppleTalk and TCP/IP protocols simultaneously.
- Supports EtherTalk Phase 2 (allows users to print from a Mac OS computer to the E-41A using the AppleTalk network protocol over an Ethernet network).
- RJ-45 connector (lower port) that provides the print and scan interface between the E-41A and the copier/printer.
- RJ-45 connector (upper port) that supports 10BaseT/100BaseTX/1000BaseT twisted pair network connectivity.

The copier/printer interface cable included with the E-41A is a 39.3 ft./12m Ethernet *crossover* cable that connects to the **lower** RJ-45 port on the E-41A back panel. The network cable at the customer site is a *straight-through* Ethernet cable that connects to the **upper** RJ-45 port on the E-41A back panel. The cables look similar but are not interchangeable. Make sure that you connect the cables to the correct ports (see Figure 6 on page 29 and Figure 7 on page 30).

## User software

A complete description of user software is provided in *Welcome* on the User Documentation CD. For optimal performance, maintain current versions of the user software on every network computer used to print to the E-41A. User software may be installed directly on client computers equipped with a DVD drive, or over a network via the Fiery User Software Installer that resides on the E-41A.

## Safety and emissions compliance

The E-41A has been certified to meet or surpass the following government standards:

| Safety approvals | EMI/EMC approvals |
|---|---|
| • UL 60950-1, 2nd edition, 2007-03-27 (UL-listed mark) | • FCC Class A |
| • CAN/CSA C22.2 No.60950-1-07-2nd edition, 2007-03 | • ICES-003 Class A |
| • EN 60950-1: 2006+A11,(TUV/GS mark) | • EN55022: 2006 plus A1:2007, Class A |
| • CB scheme IEC 60950-1: 2005(2nd Edition) | • EN55024 |
| | • EN61000-3-2: 2006 |
| | • EN61000-3-3: 2008 |
| | • AS/NZS CISPR22: 2006 Class A |
| | • VCCI, Class A |

# SERVICING THE E-41A WITH FURNITURE

This chapter describes how to remove the E-41A from the furniture, in order to access internal components for service.

## Procedures

If the E-41A is installed in the optional furniture, you must remove it from the furniture before performing most service procedures.

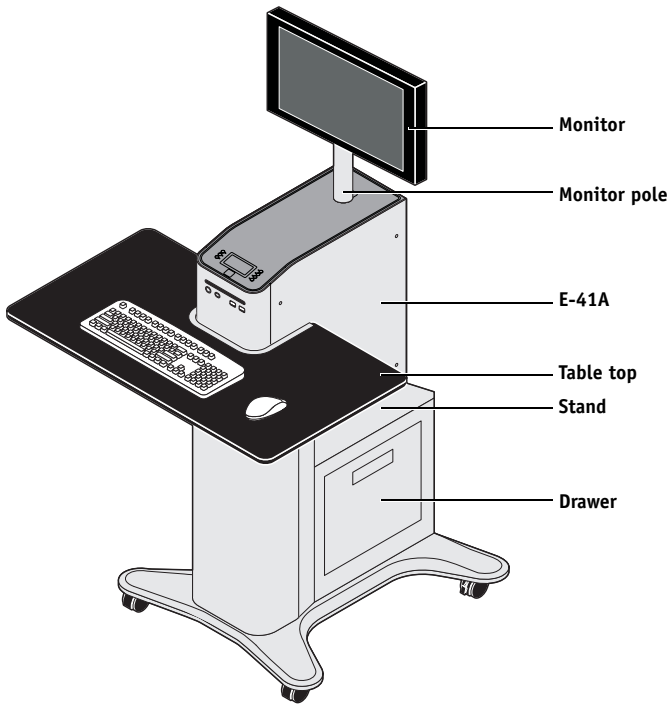



**FIGURE 42:** E-41A installed on the furniture

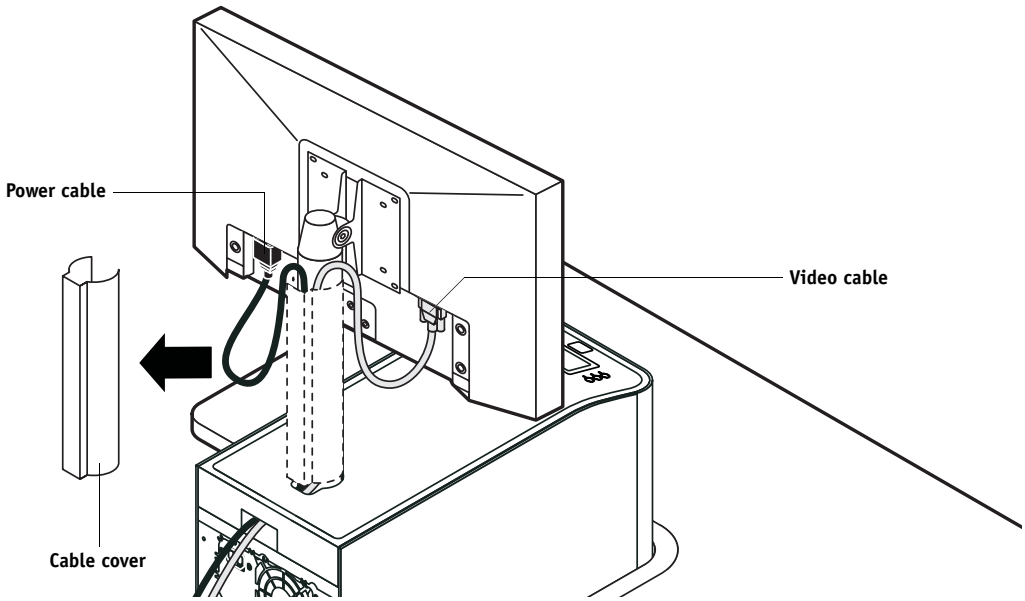
### REMOVING THE E-41A FROM THE FURNITURE

**NOTE:** The E-41A weighs approximately 20 kg (44 lb). Use caution when you move the E-41A.

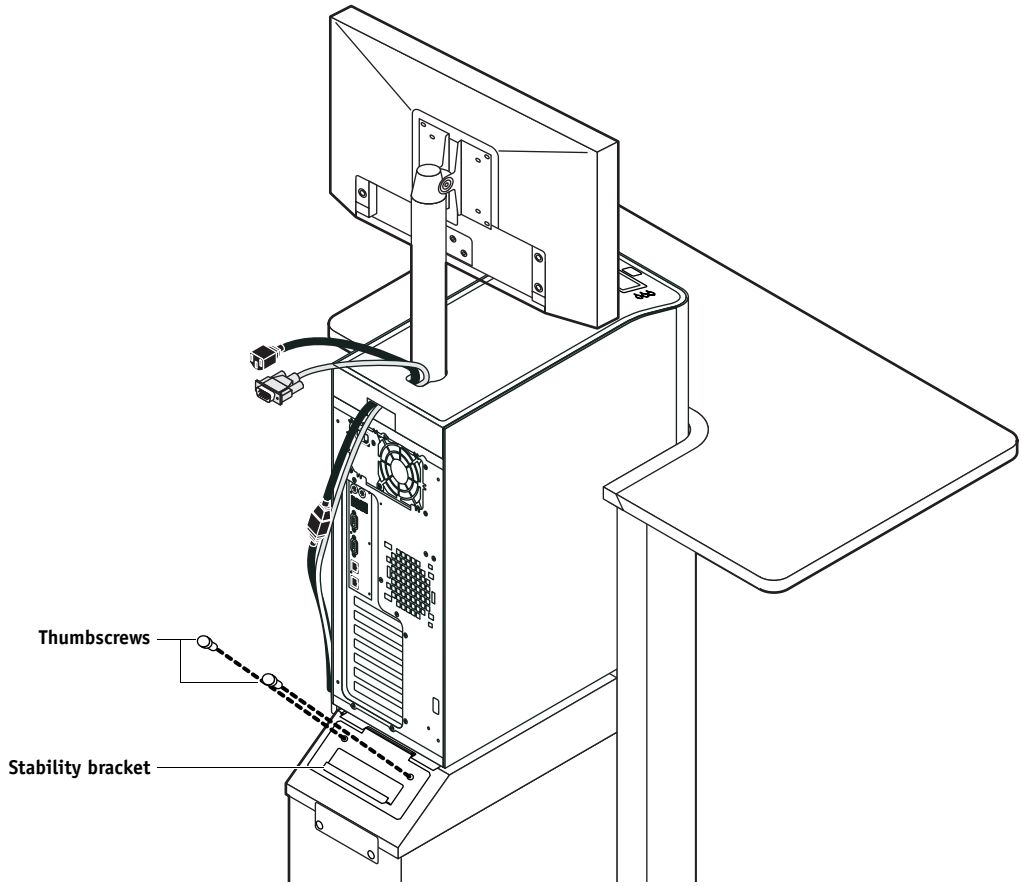
WARNING

**WARNING:** Never lift the E-41A by grasping the top panel. The top panel does not support the weight of the system.

1. **Make sure that the E-41A is shut down and that all the cables are removed from the back of the E-41A.**
2. **Remove the cable cover and disconnect the two monitor cables (power and video):**
   - Power—from the back of the monitor and from the wall outlet
   - Video—from the back of the monitor and from the back of the E-41A



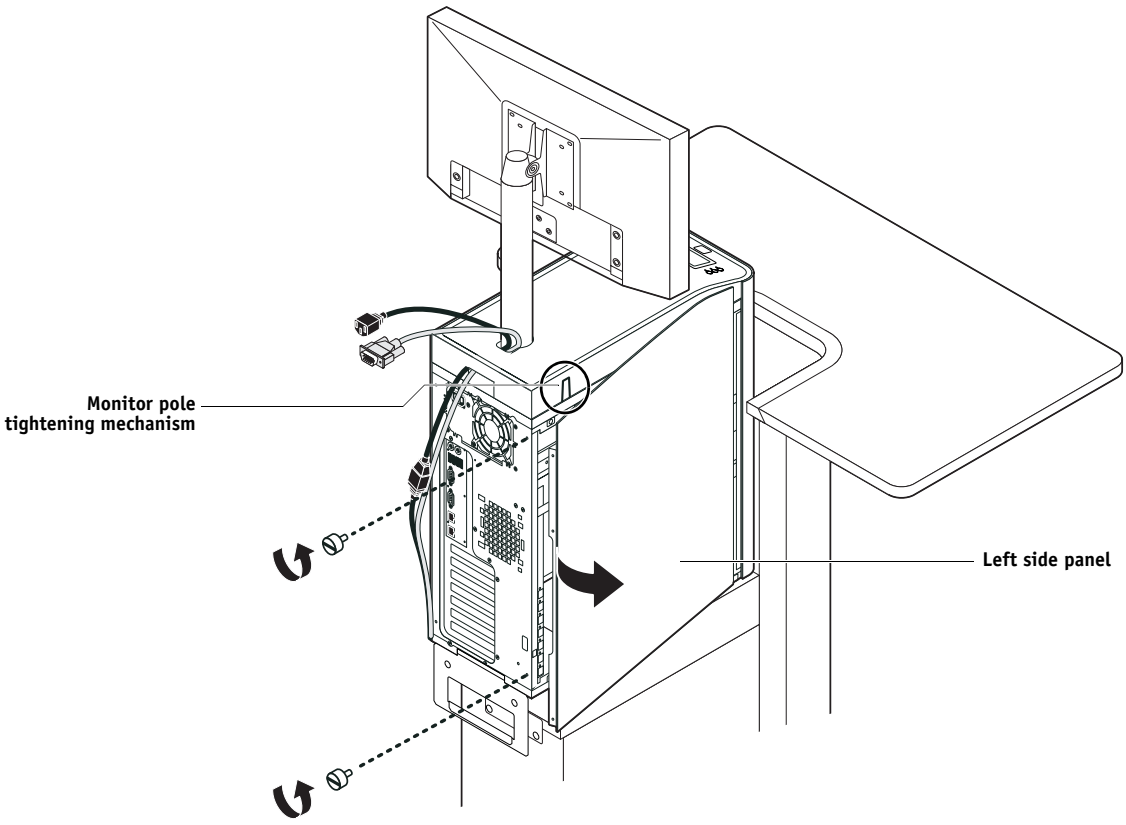
3. **Remove the thumbscrews that attach the E-41A stability bracket to the stand.**




4. **Lift the bracket and gently pull the E-41A away from the table top.**

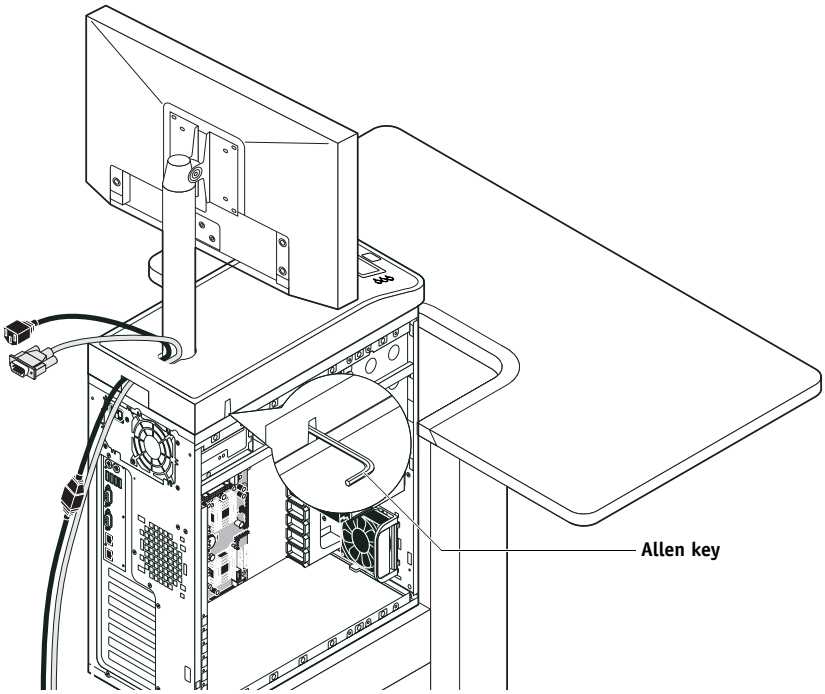
   Make sure to pull the E-41A out just enough so that the front panel of the E-41A is aligned with the back edge of the table top.

5. **Remove the E-41A left side panel (two screws) so that you can access the monitor pole tightening mechanism.**

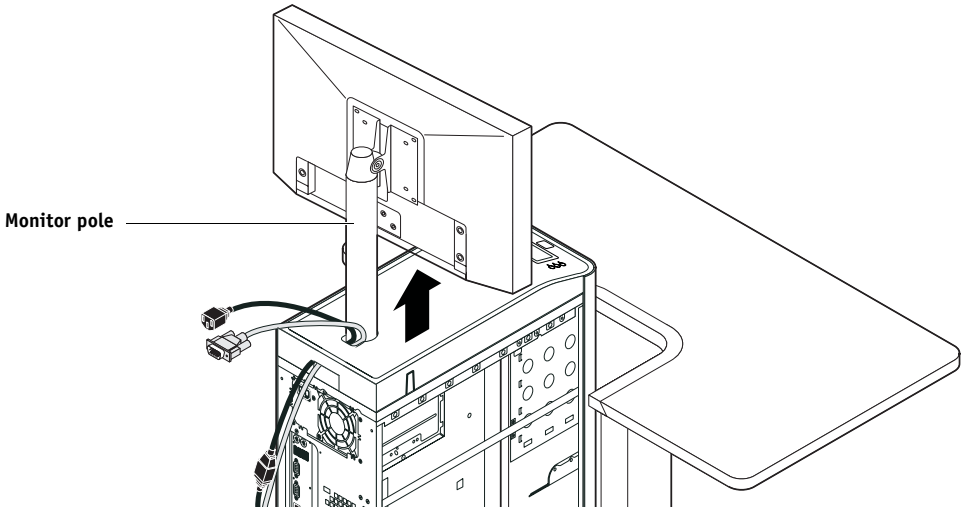


6. **Use the allen key to loosen the screw that secures the monitor pole to the E-41A.**

   The allen key should be stored in the side drawer of the furniture.




7. **Holding the monitor pole, gently lift the monitor pole assembly up and out of the E-41A monitor mount.**

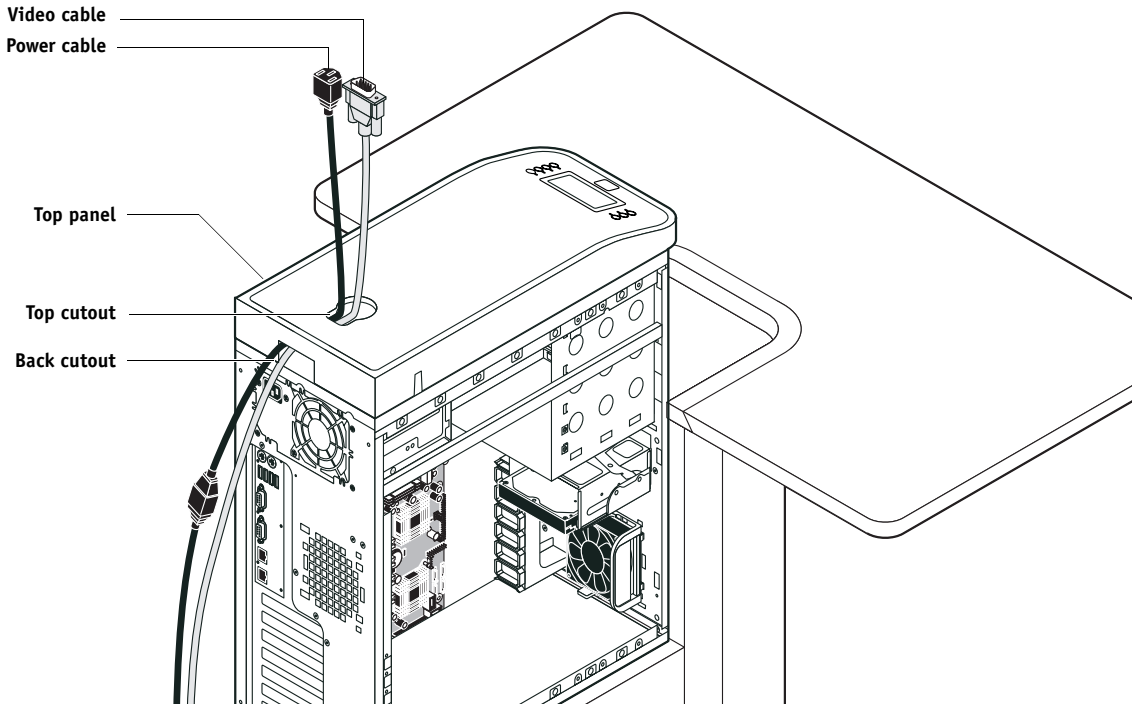



8. **Continue with the procedure "To open the E-41A" on page 53.**

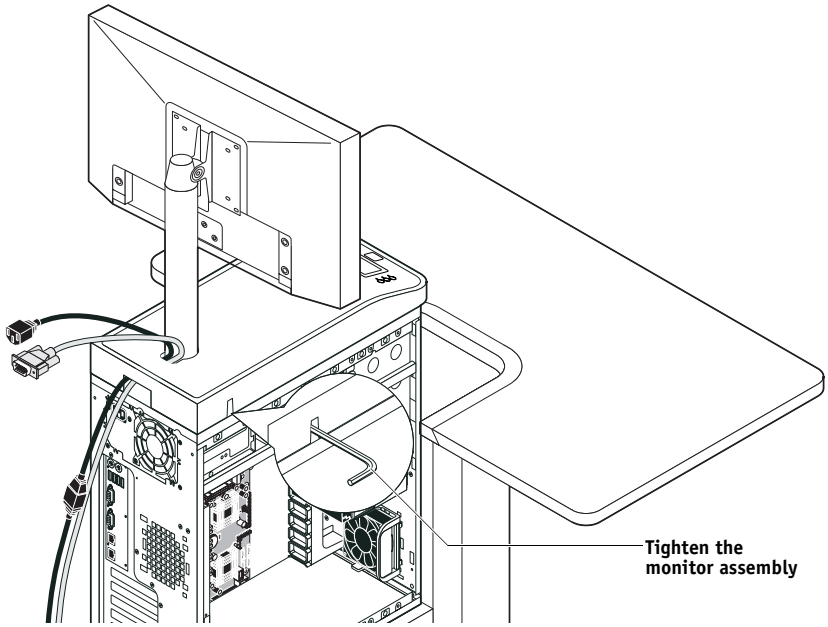
### REPLACING THE E-41A IN THE FURNITURE

1. **Make sure that the left side panel is removed from the E-41A.**
2. **Place the E-41A upright on the furniture stand. Slide the E-41A forward just until its front panel is aligned with the back edge of the table top.**

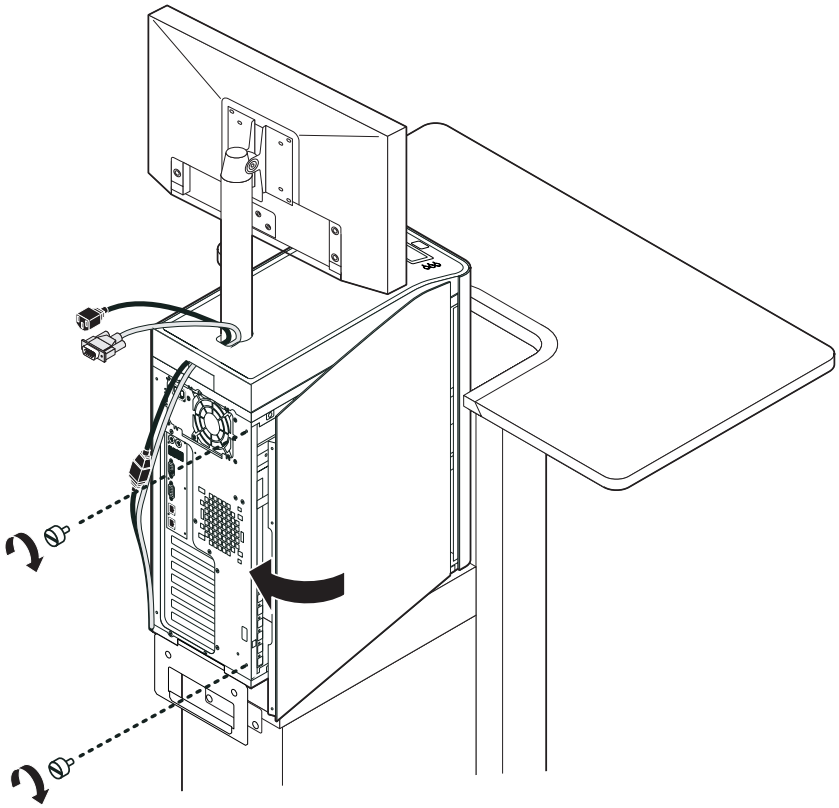
   Use the handle on the stability bracket to lift the rear of the E-41A and slide it forward.
3. **Route the monitor cables (power and video) into the cutout in the back of the top panel. Pull each cable out of the cutout in the top panel.**



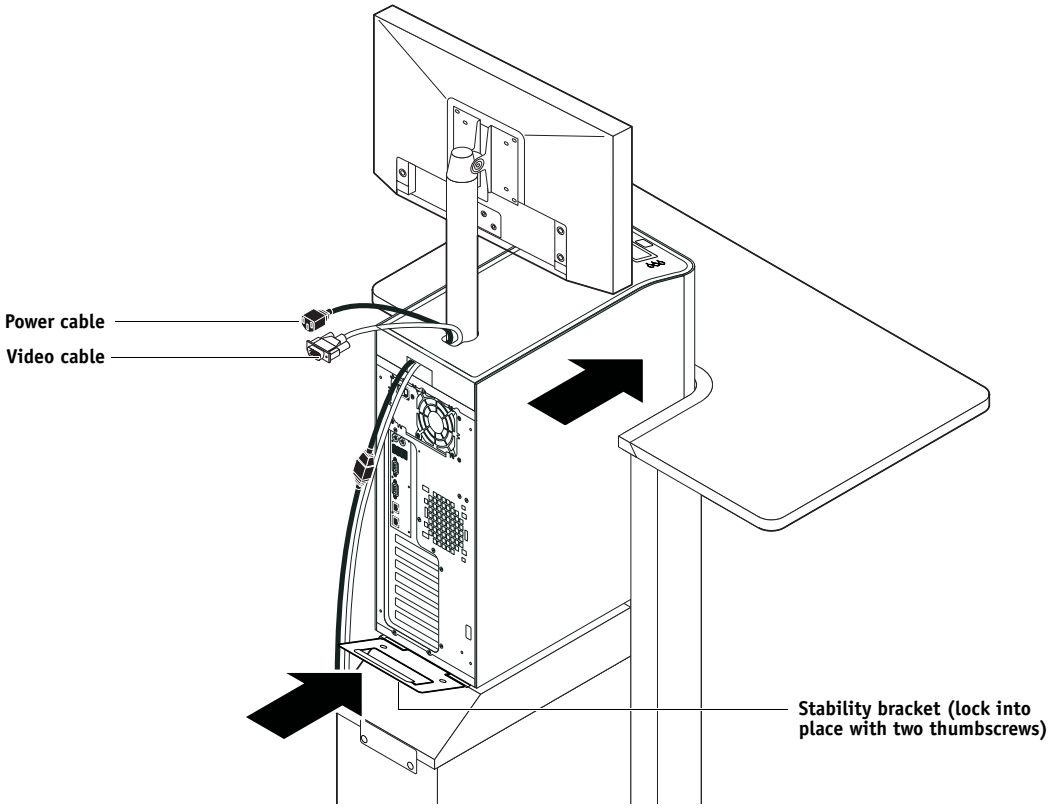
4. **Lift up the pole assembly and insert the pole into the top of the E-41A so that it is inside the monitor mount. Tighten the assembly into place using the allen key.**



5. **Replace the left side panel on the E-41A with the screws that you removed earlier.**

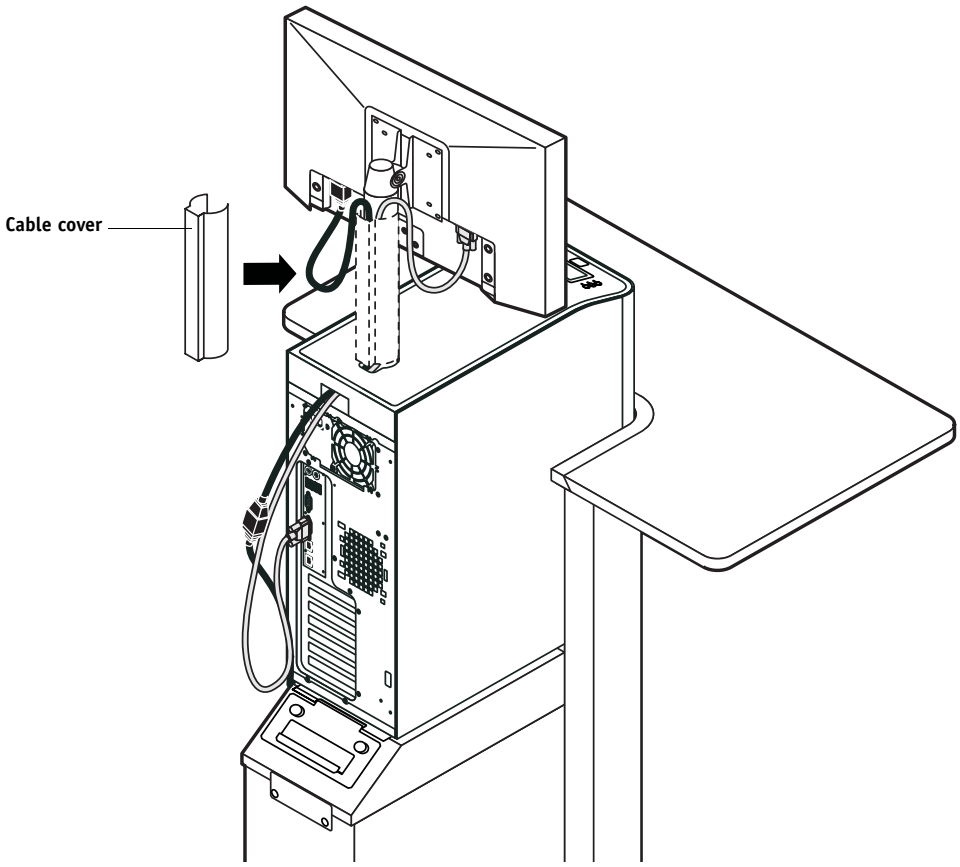


6. **Use the handle on the stability bracket to lift the rear of the E-41A. Slide the E-41A all the way forward into the stand. Lock the E-41A into place with the two thumbscrews that you removed earlier.**




7. **Connect the two monitor cables (power and video):**
   - Power—to the back of the monitor and to the wall outlet
   - Video—to the back of the monitor and to the back of the E-41A

8. Replace the cable cover over the cables and monitor pole.




9. Replace the allen key in the furniture drawer and continue with the procedure "To reassemble the E-41A and verify functionality" on page 106.

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