# Model ME-P2/MF2
## Machine Code:
## Printer:M178/M181/M184
## 3 in 1: M179/M182/M185
## 4 in 1: M180/M183/M186
# Field Service Manual

September, 2013

# Safety, Symbols, Trademarks and Important safety notices

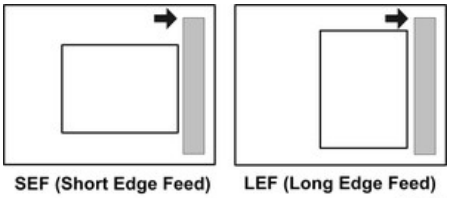
## Conventions

### Commonly Used Icons for Replacements and Adjustments

| 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 (wide threads for plastic) |
|  | Timing belt |

## Paper Feed: SEF/LEF



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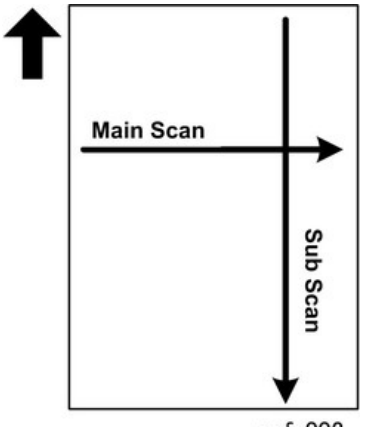
The notations "SEF" and "LEF" describe the direction of paper feed. The arrows indicate the direction of paper feed.



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

## Copy speed

Germany: 16PPM machine: 14PPM

Belgium: both 13/16 PPM: 9PPM

Austria: both 13/16 PPM: 9PPM

## Smart Organizing Monitor

In this service manual "Smart Organizing Monitor" is often abbreviated as "SOM".

**Important**

- **The detailed procedure for entering the service mode of the Smart Organizing Monitor is provided in the training materials for these machines. The procedure for entering the service mode is not described in the service manuals.**
- **Service technicians must know how to enter the service mode before servicing these machines. Please refer to the training materials.**

## Machine Names

| Abbrev. | Model No. | SN | Product Name | PPM | Refillable | Toner end detection |
|---|---|---|---|---|---|---|
| Printer | M181-21 | T99 | SP 110Q | 13 | No | NO |
| | M181-27 | | SP 110 | | YES | |
| | M181-29 | | | | | |
| | M178-21 | T98 | SP 111 | 16 | YES | |
| | M178-27 | | | | | |
| | M178-29 | | | | | |
| | M184-27 | X02 | SP 112 | | No | YES |
| | M184-17 | | | | | |

| Abbrev. | Model No. | SN | Product Name | PPM | Refillable | Toner end detection |
|---|---|---|---|---|---|---|
| 3in1 | M182-21 | T96 | SP 110SUQ | 13 | No | NO |
| | M182-27 | | SP 110SU | | YES | |
| | M182-29 | | | | | |
| | M179-21 | T94 | SP 111SU | 16 | YES | |
| | M179-27 | | | | | |
| | M179-29 | | | | | |
| | M185-27 | X00 | SP 112SU | | No | YES |
| | M185-17 | | | | | |
| 4in1 | M183-21 | T97 | SP 110SFQ | 13 | No | YES |
| | M183-27 | | SP 110SF | | YES | |
| | M183-29 | | | | | |
| | M180-21 | T95 | SP 111SF | 16 | YES | |
| | M180-27 | | | | | |
| | M180-29 | | | | | |
| | M186-27 | X00 | SP 112SF | | No | |
| | M186-17 | | | | | |

**Function**

| Abbrev. | FAX | Scanner | ADF | Display | Interface |
|---|---|---|---|---|---|
| Printer | NO | NO | NO | 2LED | USB |
| 3in1 | NO | YES | NO | 2Digit 7Segment | USB |
| 4in1 | YES | YES | YES | 2Line LCD | USB |

The abbreviated notations in the second column above (not used in these service manuals) are used in the operating instructions to distinguish the machine models:

- P: Printer only

- 3in1: Three-in-1 (printer, copier, scanner)
- 4in1: Four-in-1 (printer, copier, scanner, FAX)

## AIO (All In One) Cartridge

The AIO (print cartridge) in the center of the machine is permanently sealed around these main elements of the printing mechanisms: 1) OPC drum, 2) charge unit, 3) development unit, 4) drum cleaning unit, and 5) toner supply unit.

- This print cartridge is called the "AIO" (All-In-One) throughout this service manual.
- When toner runs out, the AIO can be refilled by the service technician or the AIO can be replaced by the operator. Refilling requires removal of two caps: the square cap to dump the toner and the round cap for refilling. These two parts are the only service parts for the AIO. There are no other service parts for the AIO.
- The AIO can be easily removed and replaced by the user. For more details, please refer to the operating instructions.

## Key Presses

| Symbol | What It Means |
|---|---|
| [Key] | The names of machine operation panel keys and PC keyboard keys are enclosed in square brackets. |
| Select | This means to press one of the arrow keys to move the menu selector up/down ( ) or left/right ( ) to the menu selection you want and then press [OK] on the machine operation panel. |
| > | A right angle bracket means to select a menu item (enclosed in quotation marks) by pressing the right or left arrow key and then pressing [OK]. For example,<br>[User Tools] > Select "System Settings" > "Tray Paper Settings" means, Press the [User Tools], press the right arrow to highlight "System Settings" and press [OK], and then press [OK] to select "Tray Paper Settings". |

## RoHS Compliance

These machines are fully compliant with Chinese RoHS and contain no restricted materials such as lead, mercury, cadmium, hexavalent chrome, polybrominated biphenyl, or polybrominated diphenyl ether.

## 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.

## General Safety Instructions

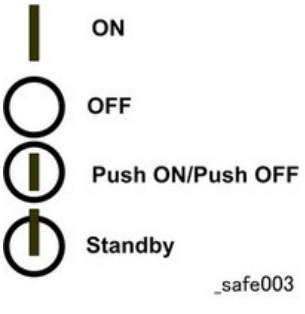
For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

### 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.

### 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, toner cartridges, or AIO units.
- Toner 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, AIO units, 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.

### 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), or AIO units in a location where they will be exposed to high temperature or an open flame.

**⚠WARNING**

- Do not use a vacuum cleaner to remove spilled toner (including used toner). Vacuumed toner may cause a fire or explosion due to sparks or electrical contact inside the cleaner. However, it is possible to use a cleaner designed to be dust explosion-proof. If toner is spilled over the floor, sweep up spilled toner slowly and clean up any remaining toner with a wet cloth.

**⚠CAUTION**

- Always store toner and developer supplies such as toner and developer packages, cartridges, bottles (including used toner and empty bottles and cartridges) and AIO units 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.
7. To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.

### Health Safety Conditions

1. If the machine has ozone filters, never operate the machine without the ozone filters installed. Always replace the ozone filters with the specified types at the proper intervals.

2. 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.
3. 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

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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.

## Trademarks

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# 1. Product Information



## Specifications

See "Appendices" for the following information:

- Before You Read These Specifications
- General Specifications
- Printer Specifications
- Copier Specifications
- Scanner Specifications
- Fax Specifications
- Reports
- Software Specifications

# New Product Information

1

## Series Machines Compared

### General Differences


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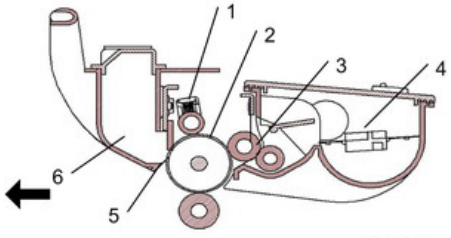
The three types machines are easily identified by their external appearances.

- The Printer Type has a very small operation panel (1) on the right with only two buttons and no display. The top of the machine is covered by a thin maintenance cover (2).
- The 3in1 Type has a larger operation panel (3) on the left with more buttons and a 2-digit display. The top of the machine is covered by a platen cover (4) and flatbed scanner unit (5).

- The 4in1 Type has an operation panel (6) in front with a full array of buttons, a 10-key panel, and a 7-digit display. The top of the machine is covered by an ADF (7) that can hold and feed 15 originals, and a flatbed scanner unit (8).



### Common AIO

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The AIO (All-In-One) cartridge (or print cartridge) in the center of the machine is permanently sealed around the main elements of the printing mechanisms: (1) drum charge unit, (2) drum, (3) development unit, (4) tone supply unit, (5) cleaning blade, and (6) waste toner collection tank.

- Throughout the service manual this unit is called the "AIO" (All-In-One).
- The AIO is common to all machines of this series.
- There are no serviceable parts inside the AIO. (Disassembly of an AIO is never required.)
- When the AIO runs out of toner, the toner waste tank can be emptied and the toner supply tank can be refilled with fresh developer/toner.
- An AIO can be refilled up to three times (this is the approximate service life of the drum). The refillings greatly extend the service life of the AIO.
- The AIO can be easily removed and replaced by the user.

## Feature Summary

### General Features

Unlike other machines in their class, these machines are not inkjet or GejJet printers—they are laser printers. The three machines of this series have these common features:

- Thin printers have a small footprint and require little space.
- They are extremely light and easy to carry Printer (6.7 kg or 14.8 lb.), 3 in 1 (8.5 kg or 18.7 lb), 4 in 1 (9.5 kg or 20.9 lb.).
- Their AIO units are identical and allow up to three refills with non-toxic developer/toner.
- All models has Output Tray (10 sheets) and Paper Tray (50 sheets).

The following features are not supported by these machines:

- Bulk paper feed unit
- USB to Print, Scan to USB
- Wireless LAN option
- NRS support (no UZ, Basil, or Cumin options available)
- Memory expansion
- HDD expansion
- G3 expansion (no G3 option available for 4 in 1)
- PictBridge

## Duplex Printing

These machines have no mechanism for automatic duplexing.

- However, the operator can run a print job and print on the first side of the pages, remove the printed sheets from the output tray, turn the stack over so the blank side is facing up, load the stack in the paper feed tray, and then run another job to print on the second sides of the pages.
- Both portrait and landscape printing are possible. Duplex printing must be set up with the print application. For more details, refer to the operating instructions.

## Important Points to Remember

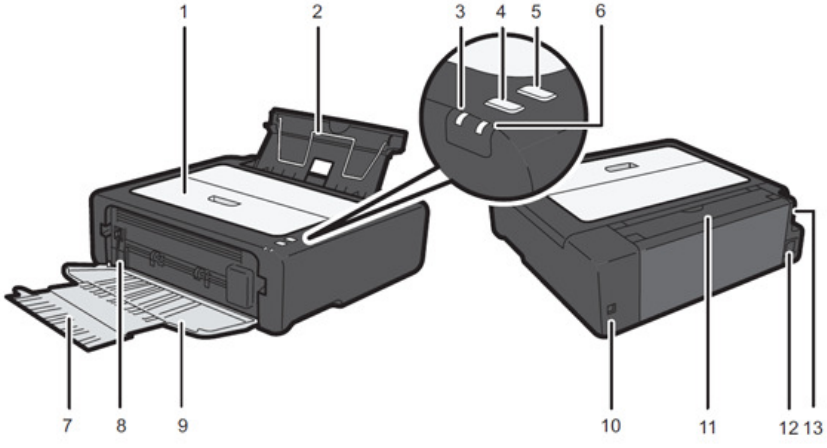
These are very important points to keep in mind while using the service manual:

- **Functionality**. Only the 4in1 has both the ADF and flatbed unit. The 3 in 1 has the flatbed unit but not the ADF. The Printer has neither ADF nor flatbed.
- **Smart Organizing Monitor**. This utility (installed with the printer driver at installation) is used to configure the system and handle errors of all machines of this series.
- **Message and error displays**. Only the 4in1 has a LCD display that can show errors (SC codes) and messages. The 3in1 display is limited to two digits, and the Printer has no display. The Service Mode of Smart Organizing Monitor can be used to view error messages for all three machines.
- **User Tool**. Only the 4in1 has a [User Tool] button which opens the User Tool menu settings used to configure the machine. The Service Mode of the Smart Organizing Monitor is used to configure all three machines. (The User Tool menus on the 4in1 are duplicated in the Service Mode, so either feature can be used to configure the 4in1.)
- **Scanning**. The 3in1 and 4in1 both support applications that use the TWAIN and WIA drivers for scanning. The originals can be scanned and saved directly onto a computer disk.

# General Configuration

## Printer Configuration






1. Maintenance Cover

   Lift up this cover to replace consumables or clear a paper jam.

2. Input Tray

   This tray can hold up to 50 sheets of plain paper.

3. Power indicator

   This indicator lights up blue when the machine is turned on. It flashes when a print job is received and while printing is in progress.

4. Form Feed Key

   Press this key to resume printing if printing stops due to paper running out or a paper settings error.

   You can also press this key to print a test page.

5. Job Reset key

   Press this key to cancel an ongoing print job.

6. Alert indicator

   This indicator lights up red when the machine runs out of paper or consumables, when the paper settings do not match the settings specified by the driver, or when other errors occur.

7. Output tray extension

   Pull out and extend this tray extension to hold the output paper.

8. Fusing Pressure Release Lever

   If paper is jammed, lower the lever on the left end, and then remove the paper.

9. Front Cover

   Open this cover to pull out the output tray before printing.

10. USB Port

    Use this port to connect the machine to a computer using a USB cable.

11. Input Tray Cover

    Set this cover up and pull out the paper source tray to load paper.

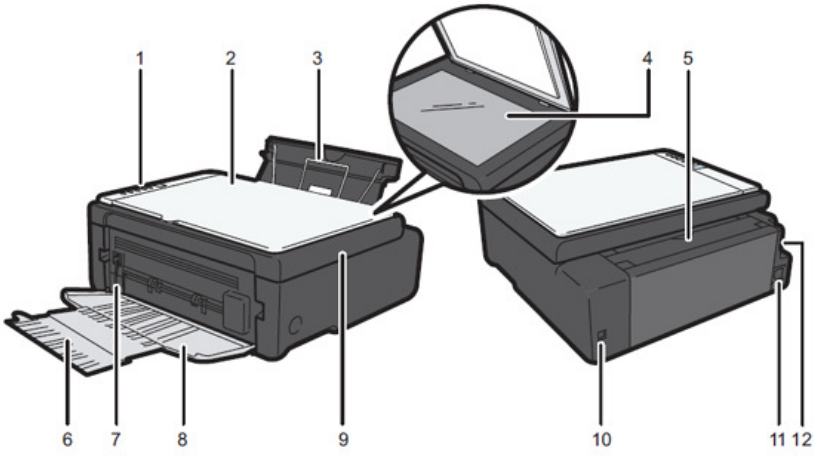
12. Power Connector

    Connect the power cord to the machine here. Insert the other end of the cable into a nearby wall outlet.

13. Power Switch

    Use this switch to turn the power on or off.

## 3 in 1 Configuration




1. Control panel

   Contains a screen and keys for machine control.

2. Exposure glass cover

   Open this cover to place originals on the exposure glass.

3. Input tray

   This tray can hold up to 50 sheets of plain paper.

4. Exposure glass

   Place originals here sheet by sheet.

5. Input tray cover

Set this cover up and pull out the paper source tray to load paper.

6. Output tray extension

   Pull out and extend this tray extension to hold the output paper.

7. Fusing Pressure Release Lever

   If paper is jammed, lower the lever on the left end, and then remove the paper.

8. Front cover

   Open this cover to pull out the output tray before printing.

9. Maintenance cover

   Lift up this cover to replace consumables or clear a paper jam.

10. USB port

    Use this port to connect the machine to a computer using a USB cable.

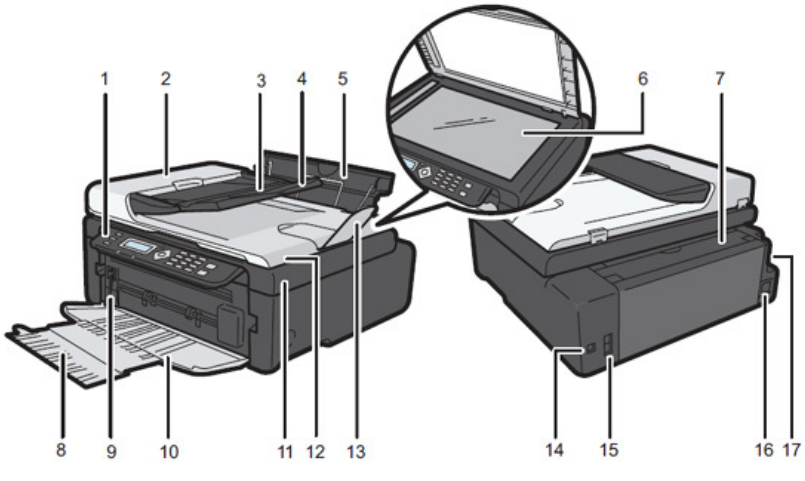
11. Power Connector

    Connect the power cord to the machine here. Insert the other end of the cable into a nearby wall outlet.

12. Power switch

    Use this switch to turn the power on or off.

## 4in1 Configuration




1. Control panel

   Contains a screen and keys for machine control.

2. ADF cover

   Open this cover to remove originals jammed in the ADF.

3. ADF input tray

   Place stacks of originals here. They will feed in automatically. This tray can hold up to 15 sheets of plain paper.

4. ADF extension tray

   Pull out this tray extension to hold the originals.

5. Paper tray

   This tray can hold up to 50 sheets of plain paper.

6. Exposure glass

   Place originals here sheet by sheet.

7. Paper tray cover

   Set this cover up and pull out the paper source tray to load paper.

8. Output tray extension

   Pull out and extend this tray extension to hold the output paper.

9. Fusing Pressure Release Lever

   If paper is jammed, lower the lever on the left end, and then remove the paper.

10. Front cover

    Open this cover to pull out the output tray before printing.

11. Maintenance Cover

    Lift up this cover to replace consumables or clear a paper jam.

12. Auto document feeder (Exposure Glass Cover)

    The auto document feeder (ADF) is integrated with the exposure glass cover. Open this cover to place documents on the exposure glass.

13. Original tray extension

    Pull out this tray extension to hold the originals.

14. USB port

    Use this port to connect the machine to a computer using a USB cable.

15. Line and TEL connectors

    - Upper port: Port for external telephone connection.
    - Lower port: G3 (analog) line Interface port for telephone line connection.

16. Power Connector

    Connect the power cord to the machine here. Insert the other end of the cable into a nearby wall outlet.

17. Power Switch

    Use this switch to turn the power on or off.

## Operation Panels

The operation panel for each machine of this series is different.

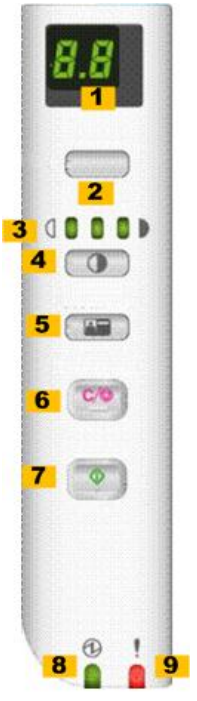


### Printer Operation Panel


w_m1782001

| No. | Name |
|---|---|
| 1 | Reset Key |
| 2 | Start Key |
| 3 | Power Indicator |
| 4 | Alert Indicator |

## 3in1 Operation Panel




m102f005

| No. | Name | No. | Name |
|---|---|---|---|
| 1 | Display (LCD) | 6 | Cancel/Stop Key |
| 2 | Copy Number Key | 7 | Start Key |
| 3 | Density Indicator | 8 | Power Indicator |
| 4 | Density Key | 9 | Alert Indicator |
| 5 | ID Copy Key | | |

## 4in1 Operation Panel


m103f005

| No. | Name | No. | Key Name |
|---|---|---|---|
| 1 | Copy/Fax Key | 7 | ID Copy/On Hook Key |
| 2 | Speed Dial Key | 8 | Power Indicator |
| 3 | User Tools Key | 9 | Display Screen (LCD) |
| 4 | OK key | 10 | Alert Indicator |
| 5 | Clear/Stop Key | 11 | Scroll Keys |
| 6 | Start Key | 12 | Number Keys |



## Alert LEDs

### Power LED

The Power LED remains OFF while the machine is turned off. The Power LED lights and remains ON when:

- After the machine is turned on and enters the Ready mode
- While the machine is in energy save mode

The Power LED FLASHES at 1 sec. intervals when

- The PC is communicating with the machine
- After picking up handset to talk (4in1)
- During copying
- During printing
- During scanning
- During firmware update

### Alert LED

The alert LED remains OFF while the printer is functioning normally or goes OFF after a problem with the machine has been resolved.

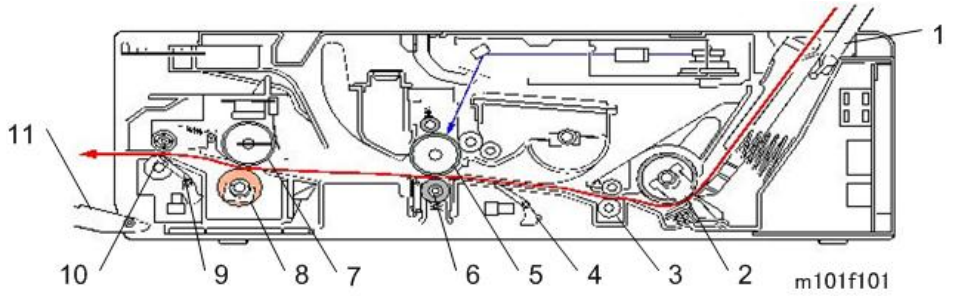
The alert LED lights and remains ON:

- When the machine malfunctions
- Service Call errors
- At toner end
- If the top cover or maintenance cover is open
- When a paper or original jam occurs
- When the paper tray runs out of paper

# Overview



## Paper Path




| | | | |
|---|---|---|---|
| 1 | Paper Tray | 7 | Hot Roller |
| 2 | Paper feed Roller | 8 | Pressure Roller |
| 3 | Paper Transport Rollers | 9 | Exit Sensor |
| 4 | Registration Sensor | 10 | Paper Exit Rollers |
| 5 | Drum | 11 | Output Tray |
| 6 | Image Transfer Roller | | |

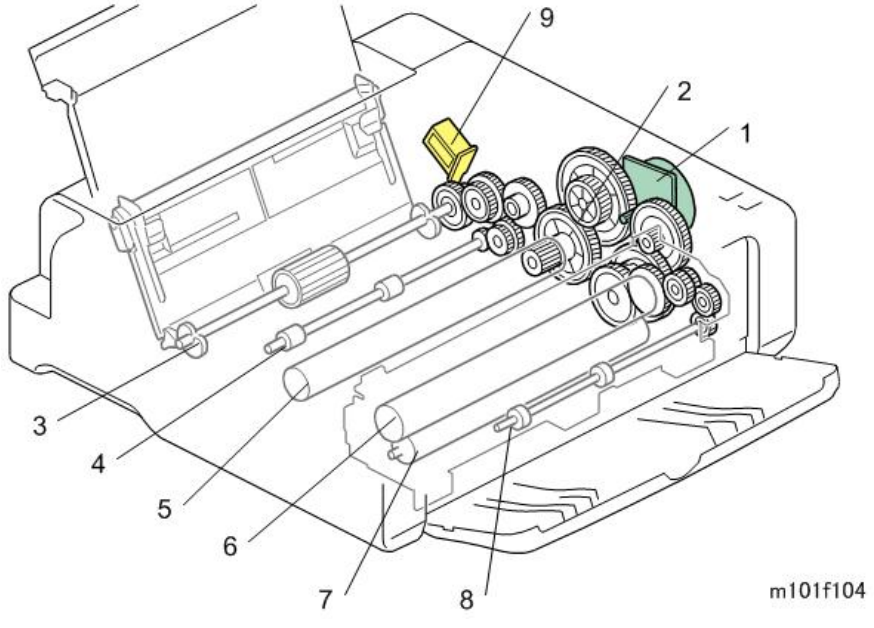
When paper passes through the machine:

- Paper (up to 50 sheets) is loaded in the paper tray (1). The paper feed roller (2), driven by the main motor and engaged by the bypass solenoid, starts to rotate while a cam on the paper transport roller (3) (also driven by the main motor) raises the bottom plate of the tray against the paper feed roller above. This pressure and the rotation of the paper feed roller, feeds the sheet of paper from the tray.
- The paper feeds between the nip of the paper transport rollers.
- The registration sensor (4) detects the leading edge of the paper. This triggers the laser unit above which writes the image onto the drum. The registration sensor will trigger an error if the leading and trailing edge of the paper does not pass within the prescribed time. (The timing is different, depending on the lengths of different paper sizes.)
- The paper passes through the nip of the drum (5) and transfer roller (6). The image transfer roller pulls the toner image from the drum onto the paper.
- The toner image is fused onto the paper when it passes through the nip of the hot roller (7) and pressure roller (8).

- The exit sensor (9) detects the leading edge and trailing edge of the paper. The sensor will trigger a jam alert if the leading and trailing edge do not pass within the time prescribed for the length of the paper (determined by the selected paper size).
- Finally, the paper passes through the nip of the paper exit rollers (10) and is stacked face-up on the output tray (11).



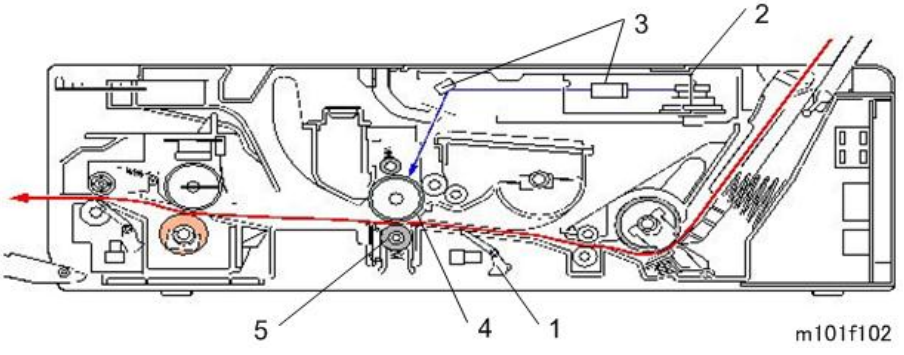
## Drive Layout




| | | | |
|---|---|---|---|
| 1 | Main Motor | 6 | Hot Roller |
| 2 | Gear Train | 7 | Pressure Roller |
| 3 | Paper Feed Roller | 8 | Paper Exit Rollers |
| 4 | Paper Transport Rollers | 9 | Paper Feed Roller Solenoid |
| 5 | Drum (inside AIO) | | |

One main motor (1) and a gear train (2) drive (3) paper feed roller, (4) paper transfer rollers, (5) drum, (6) hot roller, (7) pressure roller, and (8)paper exit rollers. The paper feed roller solenoid (9) engages and disengages the rotation of the paper feed roller during paper feed.

## Image Writing




| | |
|---|---|
| 1 | Registration Sensor |
| 2 | Polygon Mirror |
| 3 | Lenses, Mirrors |
| 4 | Drum |
| 5 | Image Transfer Roller |

The registration sensor (1) detects the leading edge of the paper fed from the paper transport rollers and triggers the laser unit to fire the laser. The polygon mirror (2) shoots the laser through lenses and mirrors (3) and onto the surface of the drum (4). Toner from the AIO forms the image on the drum. The toner image is pulled from the surface on the drum onto the paper by the image transfer roller (5).

# 2. Installation

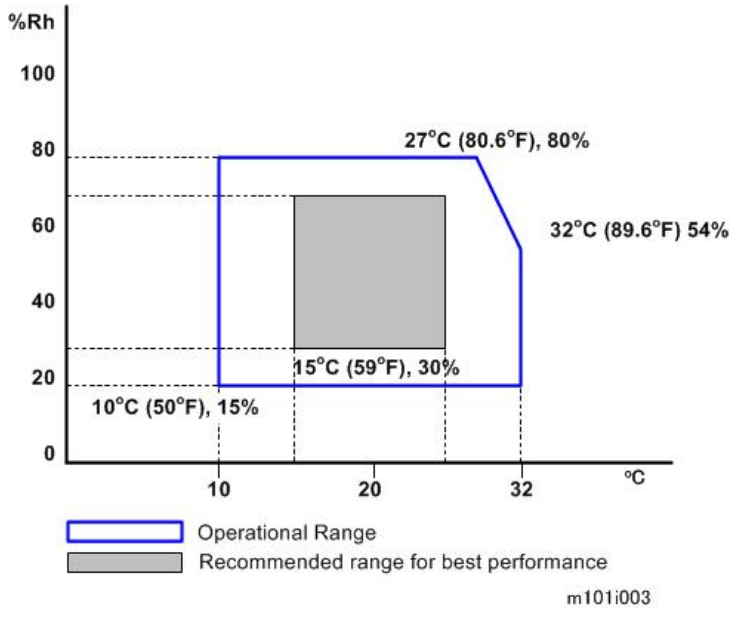
## Installation Requirements



### Installation Procedure

For instructions on unpacking the machine, installing the print cartridge, connection and software installation, please refer to the operating instructions Quick Installation Guide.

### Environment




| | |
|---|---|
| Temperature | 15°C to 25°C (59°F to 77°F) |
| Humidity | 30% to 70% Rh |

1. The machine can be used slightly out of the recommended ranges for temperature and humidity ("Operational Range"), but for best performance use the temperature within the recommended ranges.
2. Ambient Illumination: Less than 2,000 lux (do not expose the AIO to strong light, especially direct sunlight)
3. Ventilation: 3 times/hr/person

4. Do not put the machine in areas with sudden temperature changes. This includes:
    - Areas directly exposed to cool air from air conditioning
    - Areas directly exposed to heat from a heating system.
5. Do not put the machine in areas exposed to corrosive gas.
6. Do not install the machine at locations over 2,000 m (6,562 ft.) above sea level.
7. Put the machine on a strong, level base. (Tilting towards any side must be no more than 3 mm.)
8. Do not put the machine in areas with strong vibrations.



## Power Requirement

Power Source: 220 to 240V 50/60 Hz 4A or less

Check the machine installation and confirm the following important points:

- Power plug fits tightly in the outlet.
- Power plug is clean and free of dust.
- The machine power plug is not connected to a shared source.
- The machine should be properly grounded.
- The power cord should be free and not wrapped around the leg of a chair or table, or bundled.

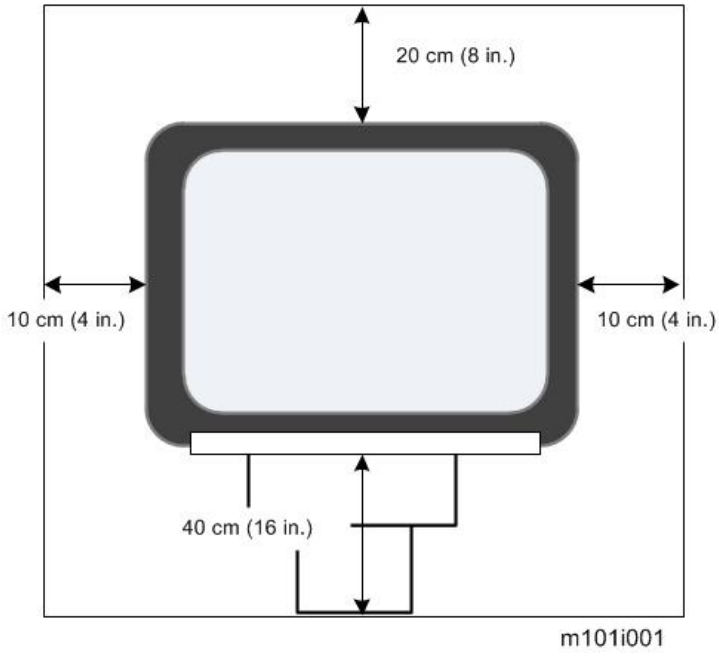
## Machine Level

Make sure that the machine is located on a flat surface.

| | |
|---|---|
| Front to back | Within 5 mm (0.2") of level |
| Right to left | Within 5 mm (0.2") of level |

## Space Requirements

The machine should be used in a location that meets these minimum space requirements.




There should be enough space at the front so the output tray can be opened and closed.

## Moving the Machine

The machine is light, but be careful when you move it:

- Always lift the printer by the inset handles on the left and right sides.
- Leave the AIO in the machine while moving it.
- Hold the machine horizontal while carrying it to prevent possible toner scatter inside the machine.
- Before transporting the printer to a remote location, re-pack it in its original box and packing material.

## Smart Organizing Monitor

Smart Organizing Monitor is the utility that allows the operator to view and change the machine settings for:

- Paper size and type
- System Settings:
- Printer settings
- Copy settings (for 3in1, 4in1)
- Fax settings (for the 4in1)

- Printing reports and test pages

The Smart Organizing Monitor is provided with the machine on a CD-ROM and must be installed together with the printer driver.

## Important Features



Here are some important features you should remember:

- The toner supply is monitored using a dot count for the 4in1 and unrefillable printer, 3in1 only.
- The refillable AIO units can be refilled by a trained service technician up to three times, depending on usage. This extends the service life of the AIO unit.
- Before loading paper, the paper size and paper type must be selected on the initial screen (System Settings) of the smart Organizing Monitor. The same paper size and paper type must also be selected with the printer driver at the start of a job. A mismatch error will occur if the paper size/type settings in the Smart Organizing Monitor and the printer driver are not the same.
- The starter AIO (capacity: 500 prints) provided with the machine should be installed in the machine at installation. After the accessory AIO runs out of toner, it can be replaced with a new AIO (capacity: 2000/1200 prints).

# 3. Preventive Maintenance

## Cleaning the Machine

There are no PM parts for this machine. This section describes how the machine should be cleaned.

### Before Cleaning



**⚠CAUTION**

- Always switch the machine off and unplug it before cleaning.
- At least once a year, disconnect the power cable and clean the plug. Accumulated dust causes a fire hazard.

**Important**

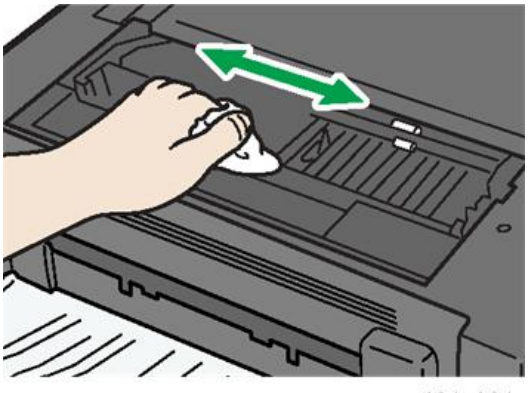
- **Never use an organic solvent like benzene, thinner, acetone, etc. to clean the machine. These materials can damage the plastic covers and other parts of the printer.**

Make sure that the operators know how to clean the machine.

- The machine should be cleaned periodically with a dry cloth.
- If dry wiping is not sufficient, used a soft damp cloth with a neutral detergent and then dry wipe.
- Inspect the plug and clean away any dust or grime before reconnecting. Accumulated dust can cause a fire hazard.

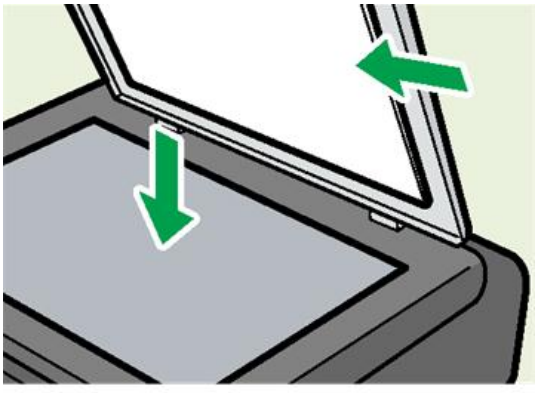
### Routine Cleaning

1. **Remove the AIO and clean the inside surfaces of the printer with a dry cloth.**



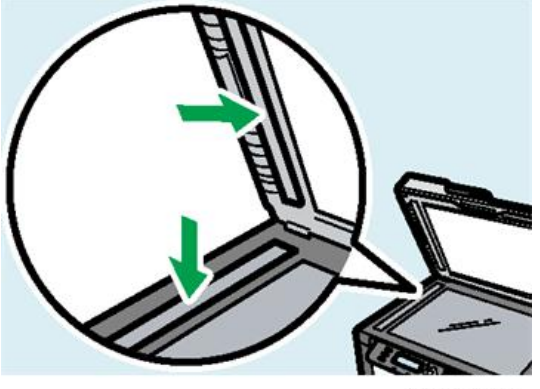
m101p001

1. **Clean the exposure glass and white plate above the exposure glass of the 3in1 / 4in1 with a soft damp cloth, and then wipe it with a dry cloth.**



m101p002

1. **Clean the scanning glass of the 4in1 with a soft damp cloth, and then wipe it with a dry cloth.**



m101p003

**Note**

- For more details about cleaning, please refer to the machine operating instructions.

# 4. Replacement and Adjustments

## Before You Begin

### Precautions

**⚠CAUTION**

- To prevent electrical shock, always switch the machine off and unplug it from its power source.
- Allow the machine to cool for at least 10 minutes. This allows the fusing unit to cool and also allows time for the polygon mirror inside the laser unit to stop rotating.



### Special Tools

There are no special tools required for disassembling the machine. However, you should have these items:

- Standard length hex screwdriver
- Stubby hex screwdriver
- Thin radio pliers

### Printing the Test Page and Reports

The table below is a quick reference to help you find how to print a report. Detailed descriptions of these reports are provided in another section of this manual. (☛page 148)

Keep these points in mind when you use this table:

- The User Tools menu is available for the 4in1. (Only the 4in1 has the User Tools key.)
- The Fax Maintenance menus are available for the 4in1 only because only this machine has the fax feature.
- The Smart Organizing Monitor is available for all three machines for printing the Configuration Page and Test Page.

| No. | Report | Procedure |
|---|---|---|
| 1 | Configuration Page | [User Tools] > "Report Print Set" > "Configuration Page" |
| | | Start SOM > User Tools > select "Configuration Page" from the List/Test list > click [Print] |

| No. | Report | Procedure |
|---|---|---|
| 2 | Error Log History List | [Stop/Reset] > [1] [0] [7] > [Start] > "Fax Maintenance" > "Report" > "Error Log History List" |
| 3 | Fax Journal | [User Tools] > "Fax Features" > "Report Print Set" > "Fax Journal" |
| | | [User Tools] > "Report Print Set" > "Fax Journal" |
| | | Start SOM > User Tools > select "Fax Journal" from the List/Test list > click [Print] |
| 4 | Fax Speed Dial List | [User Tools] > "Report Print Set" > "Fax Speed Dial List" |
| | | Start SOM > User Tools > select "Fax Speed Dial List" from the List/Test list > click [Print] |
| 5 | Fax Transmission Standby List | Start SOM > User Tools > select "Fax Transmission Standby List" from the List/Test list > click [Print] |
| 6 | Service Data List Sample | [Stop/Reset] > [1] [0] [7] > [Start] > "Fax Maintenance" > "Report" > "Service Data List Sample" |
| 7 | T.30 Protocol List Report | [Stop/Reset] > [1] [0] [7] > [Start] > "Fax Maintenance" > "Report" > "T.30 Protocol List Report" |
| 8 | TX Standby File List | [User Tools] > "Report Print Set" > "TX Standby File List" |
| 9 | TX Status Report | [User Tools] > "Fax Features" > "Report Print Set" > "TX Status Report" |
| 10 | Test Page | [User Tools] > "Report Print Set" > "Test Page"<br>Start SOM > User Tools > select "Test Page" from the List/Test list > click [Print] |

**Important**

- **The detailed procedure for entering the service mode is provided in the training materials for these machines.**

# Basic Procedures

## Before You Begin

This section describes the procedures that the service technician should know before servicing the machine. Most of the parts of the machines in this series are identical and interchangeable. However, please note that the main boards of these machines are not the same.

- **Printer**. Main board has no connectors for the flatbed scanner or ADF.
- **3in1**. Man board has flat connectors for the flatbed scanner only (not ADF).
- **4in1**. Main board has flat connectors for both the flatbed scanner and ADF.

**Important**

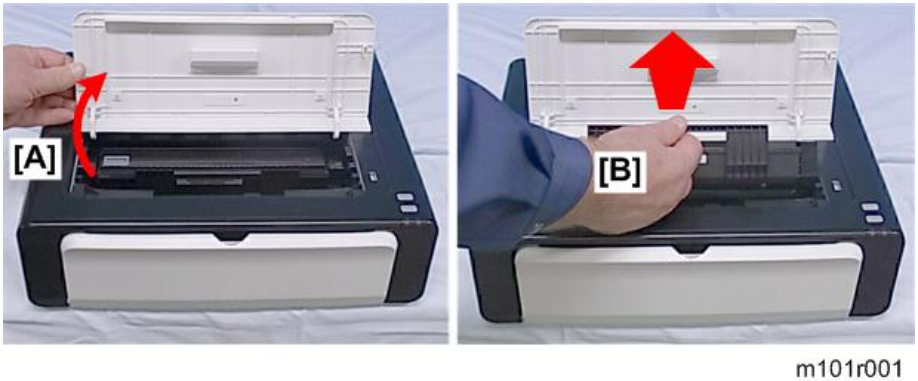
- **Before you service the machine, make sure that you know how to open the Service Mode screen of the Smart Organizing Monitor. This procedure is not described in this service manual.**
- **For more details about how to open the Service Mode screen of the Smart Organizing Monitor, refer to the service training material.**



## Printer Covers

### AIO

1. **Raise the top cover [A].**
2. **Grip the AIO [B] by its handle and pull it out of the machine.**

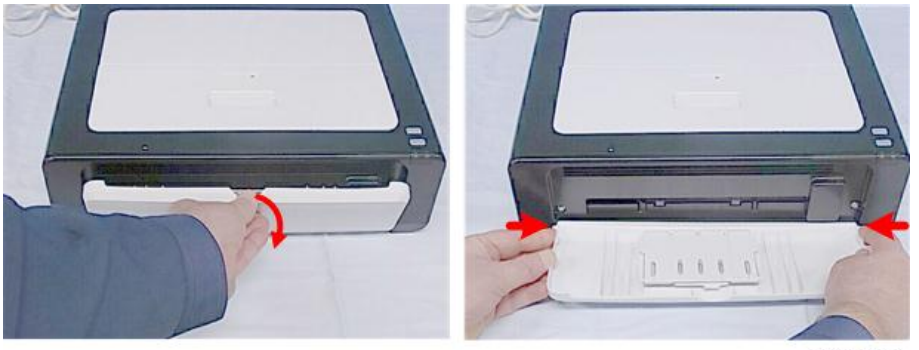



m101r001

3. **Place the AIO on a flat clean surface as shown above so the drum is not exposed to light.**

## Output Tray

1. **Lower the output tray.**
2. **Press in on both ends to release the pegs on the left and right from their holes and remove the tray.**



m101r003

**Note**

- You do not need to remove the output tray in order to remove the front cover.
- Avoid removal of the output tray unless you are replacing it.
- Repeatedly removing and attaching the output tray can weaken it a make it loose.

## Front Cover

1. **Lower the output tray and remove the front cover ( ×2).**

m101r004

## Top Cover

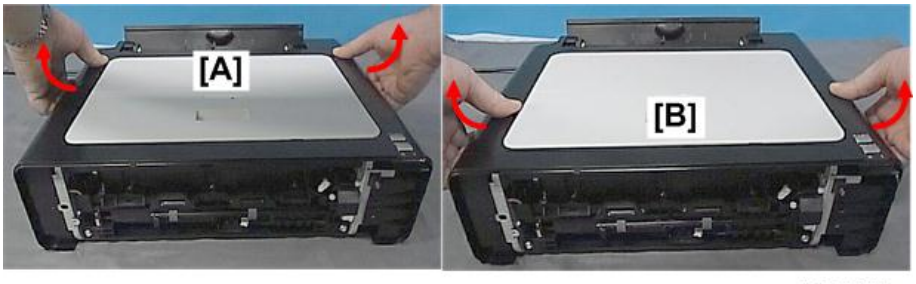
### Preparation

- Remove front cover (See above)

1. Open the paper tray cover.

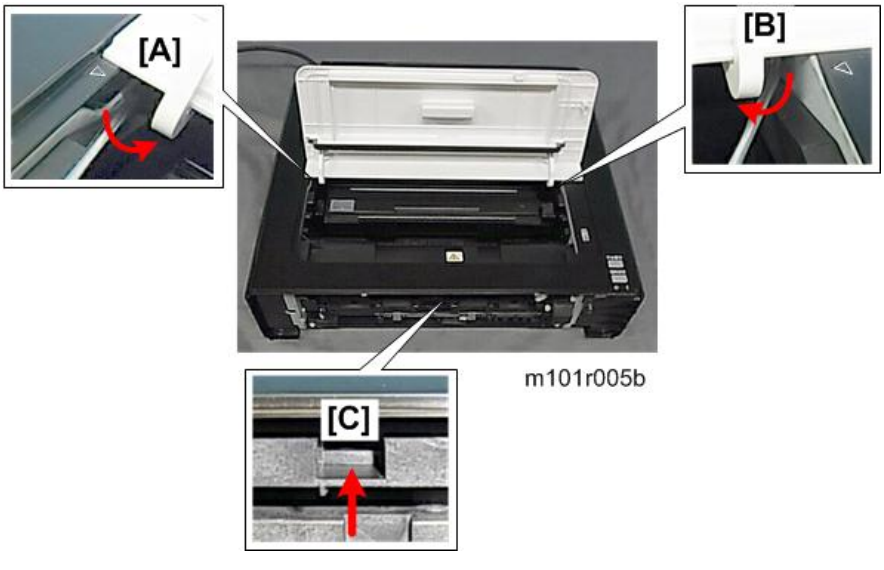
m101r005

2. Release the rear tabs [A] on the left and right.
3. Release the front tabs [B] on the left and right.




m101r005a

4. Use the tip of a small screw driver to release the tabs at [A], [B], [C] (×3)




m101r005b

5. Open the top cover [A] to the right.
6. Disconnect the operation panel [B], and then remove the cover (×1).

m101r006



## Maintenance Cover

### Preparation

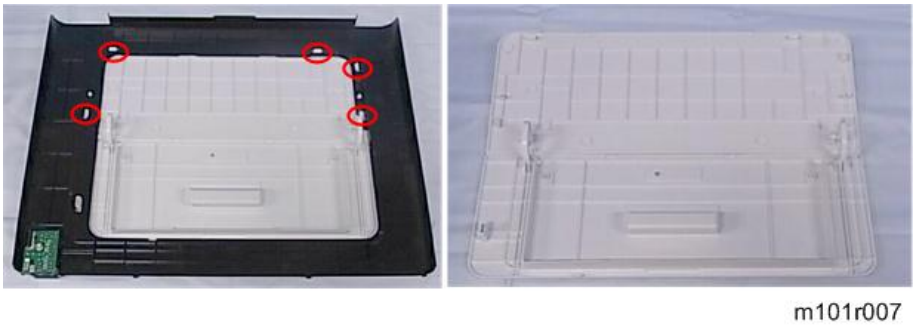
Remove:

- Front cover
- Top cover

**Important**

- The top cover can be removed easily with the maintenance cover attached.
- Do not remove the maintenance cover unless it needs to be replaced. Repeatedly removing and attaching the maintenance cover can weaken or break the fragile tabs.

1. Lay the top cover on a flat surface.
2. Release the tabs and remove the maintenance cover (×5).


m101r007

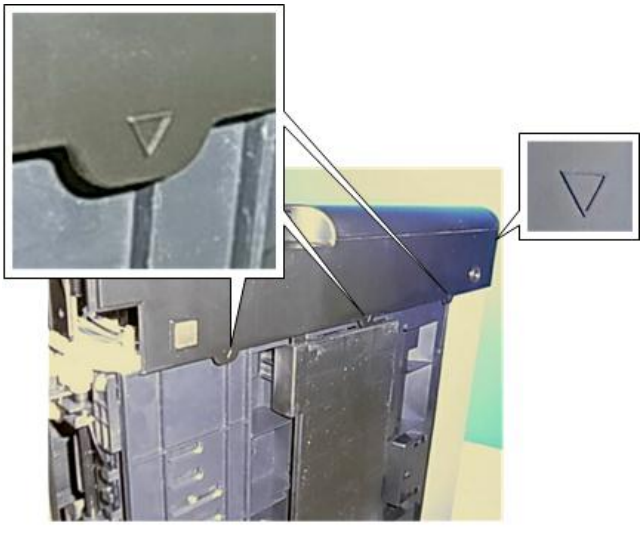
## Right Cover

### Preparation

Remove:

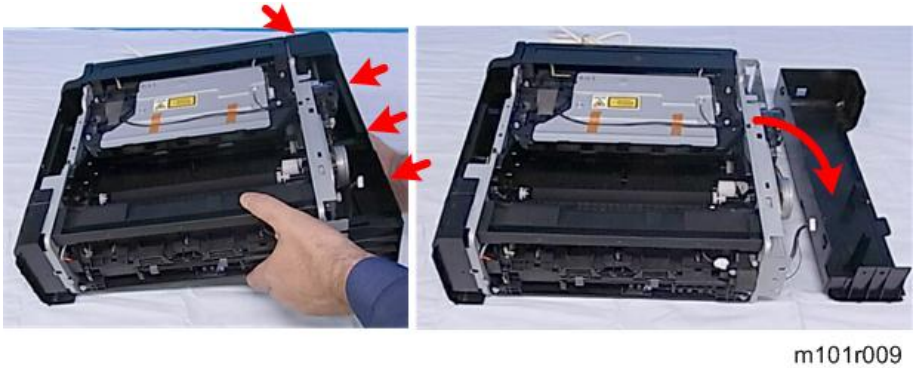
- Front cover
- Top cover

1. **Locate the triangle marks that show you where the tab releases are located.**
    - There are three tabs on the bottom.
    - There is one tab on the back.



m101r008

2. **Lift the machine slightly.**
3. **Release the tab on the back (▼ ×1).**
4. **Release the tabs on the bottom (▼ ×3).**
5. **Separate the cover from the right side of the machine.**



m101r009

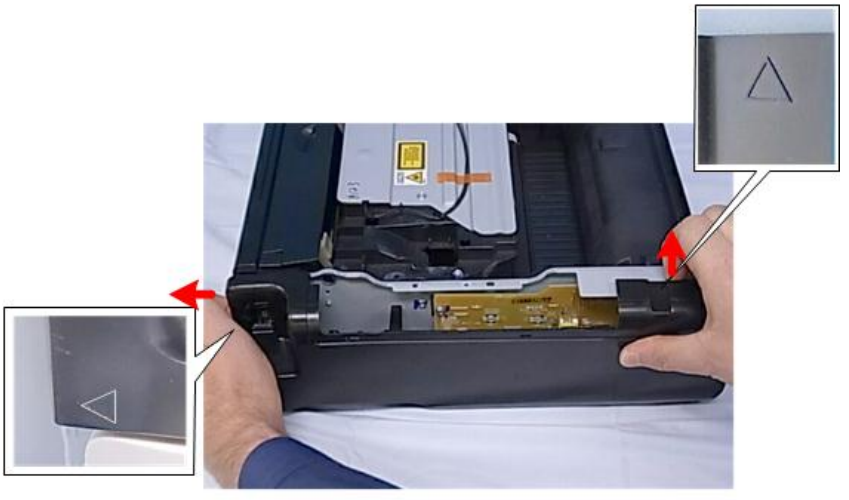
## Left Cover

### Preparation

Remove:

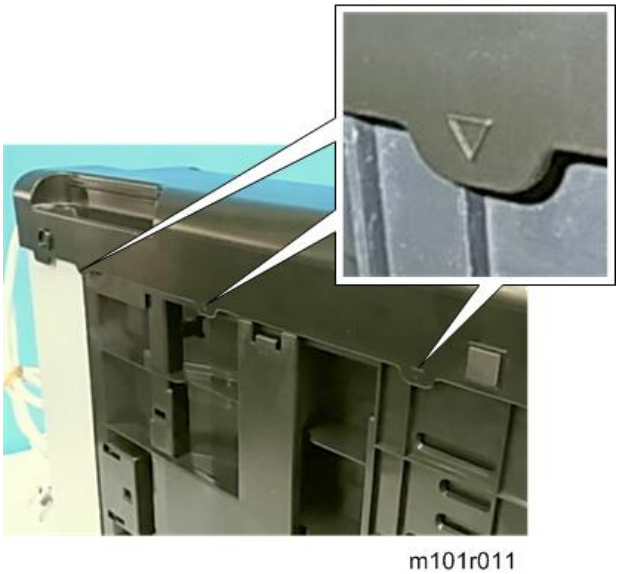
- Front cover
- Top cover

1. **Separate the tabs at the rear and front (×2).**



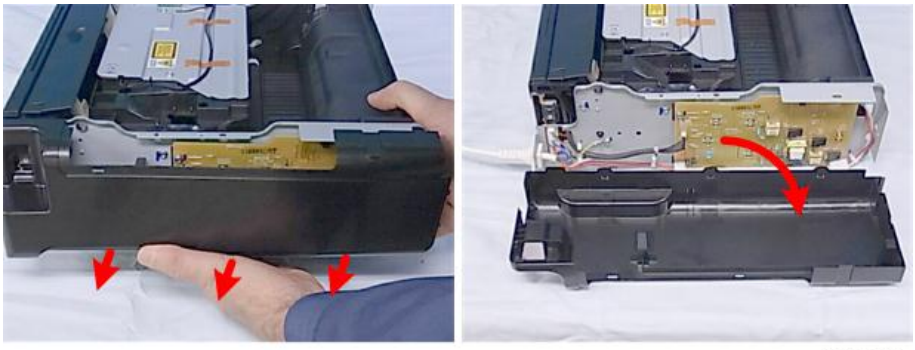
m101r010

2. **Locate the triangle marks that show you where the tab releases are located on the bottom.**



m101r011

3. **Release the tabs on the bottom (☛×3).**
4. **Separate the cover from the left side of the machine.**



m101r012



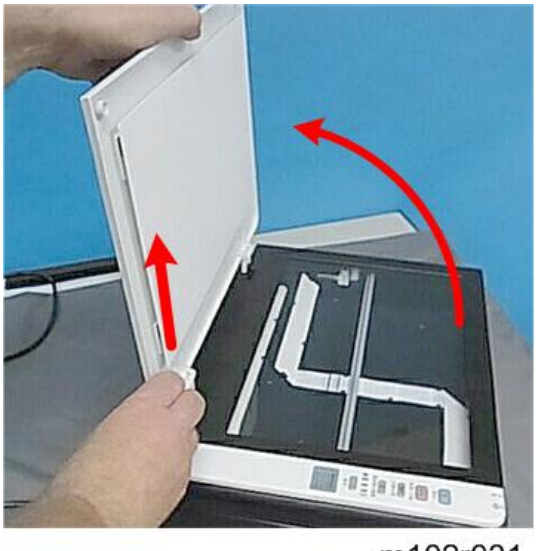
### Rear Cover

The rear cover does not require removal unless the PSU requires replacement (☛page 129)

## 3in1 Covers, Platen Cover, Flatbed Unit

### Platen

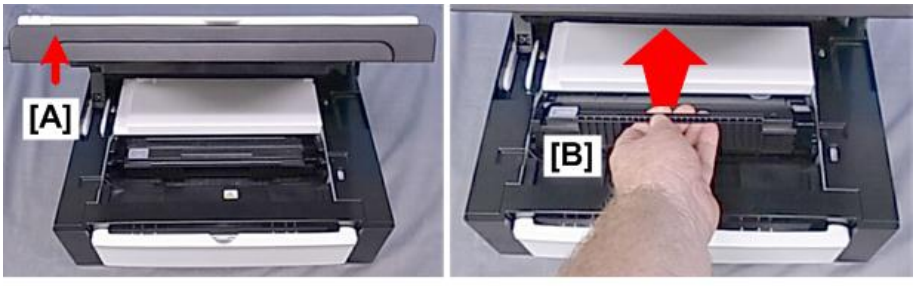
1. **Raise the platen and then lift it straight up to remove it.**



m102r031

## AIO

1. **Raise the flatbed unit [A].**
2. **Grip the AIO [B] by its handle and pull it out of the machine.**




m102r001

3. **Place the AIO on a flat clean surface as shown above so the drum is not exposed to light.**

## Output Tray

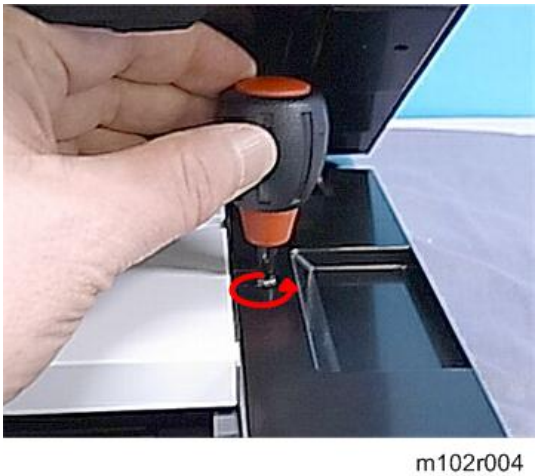
Same as the Printer. (page 45)

## Front Cover

Same as the Printer. (page 45)

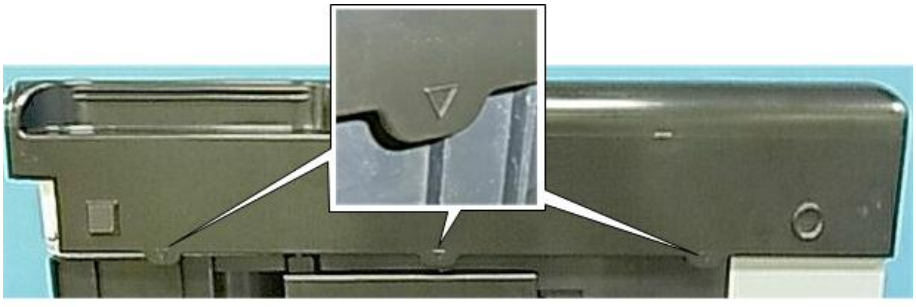
## Right Cover

1. **Remove the screw on top of the right cover ( ×1).**



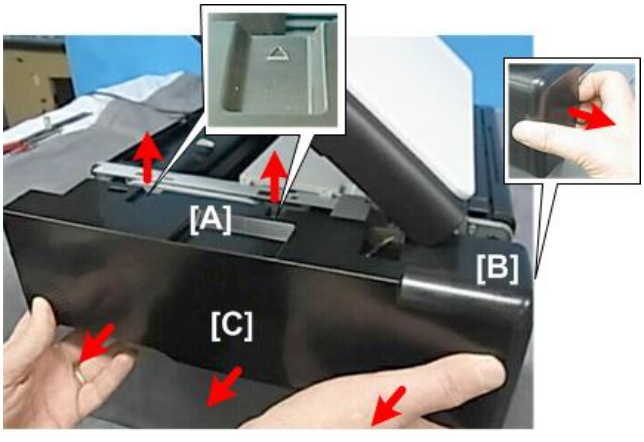
m102r004

2. **Locate the triangle marks that show you where the tab releases are located on the bottom.**



m103r007

3. **Release the tabs on the top [A] and rear [B] (×3).**
4. **Release the tabs on the bottom [C] and remove the cover (×3).**




m103r008

## Left Cover

### Preparation

- Raise the flatbed unit
- Remove the AIO
- Remove the front cover

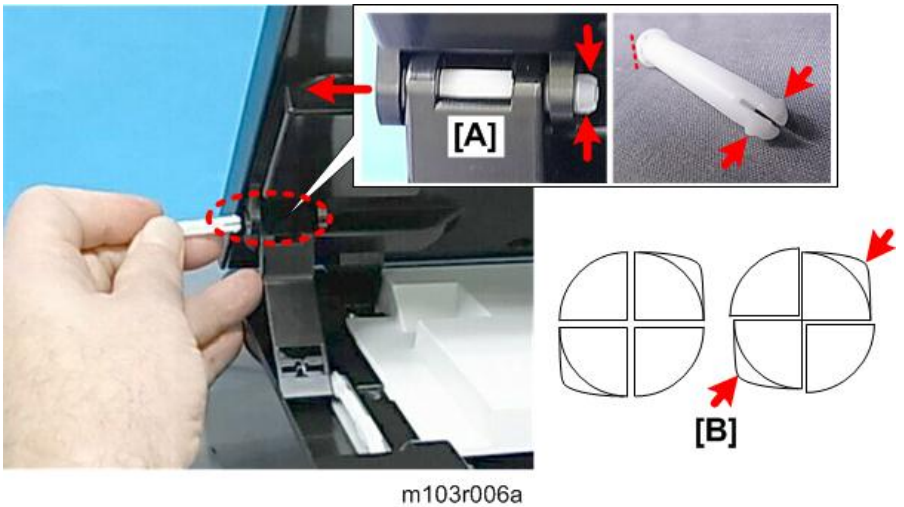
1. **Remove the screw on top of the left cover ( ×1).**

m102r005

2. **At the top of the hinge, look at the head of the cotter pin [A]. The flat side of the head shows you where the two split ends of the pin are located.**
3. **With your fingers or the tips of a pair of radio pliers compress the split ends [B] of the pin, push it to the left, and then remove it.**

**Important**

- The pin is split into four sections but only two sides protrude to lock and release the pin.



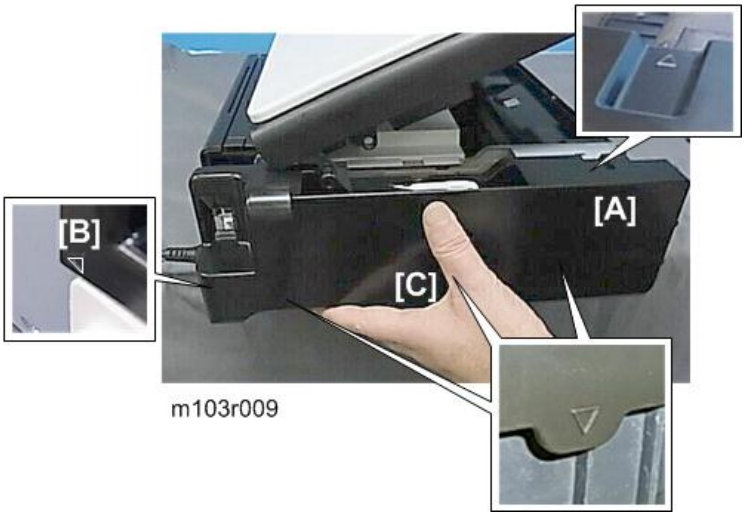

m103r006a

4. **At the triangle markers, release the tabs:**

[A] Front ( ×1)

[B] Rear ( ×1)

[C] Bottom ( ×3)



m103r009



## Left Hinge

The right hinge does not require removal unless it must be replaced.

### Preparation

- Remove the right cover

m103r010

1. **Use a pair of radio pliers to remove the spring [A] ( ×1).**
2. **Use the tip of a small screwdriver to release the guides [B] ( ×2).**

## Rear Cover

The rear cover does not require removal unless the PSU requires replacement (page 129)

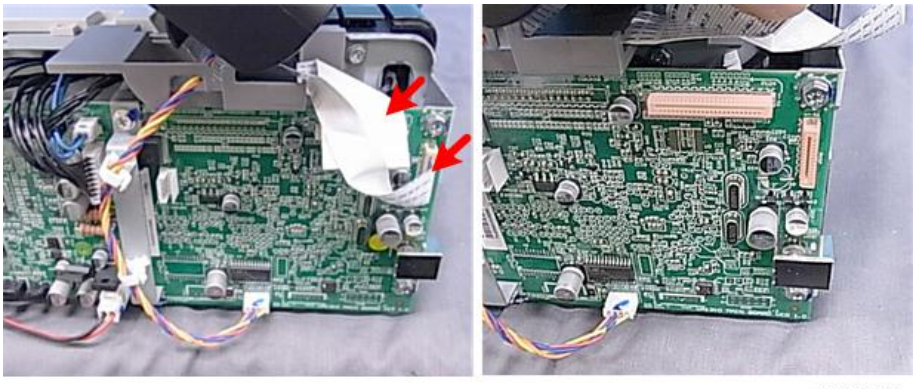
## Platen Cover, Flatbed Scanner Unit

### Preparation

Remove:

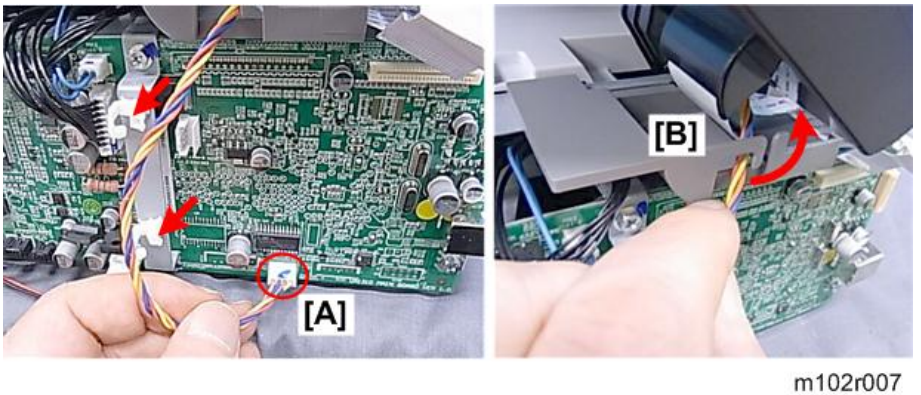
- AIO
- Front Cover
- Right Cover
- Left Cover

1. **Disconnect the flat cables ( ×2)**



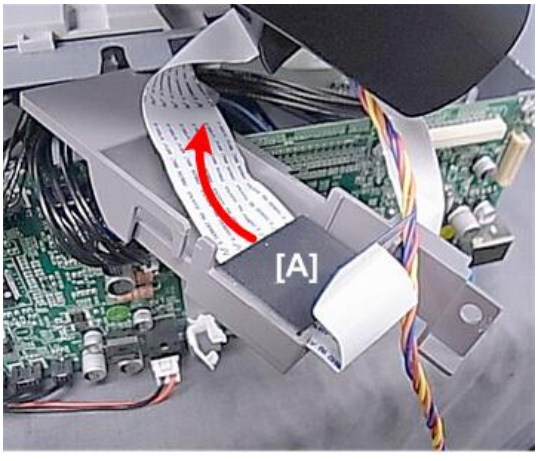
m102r006

2. **Disconnect harness [A] (×2, ×1).**
3. **Pull the harness out of harness guide [B].**




m102r007

4. Pull the flat cable out of the ferrite plate [A], and then remove the harness guide.




m102r008

5. Remove the right hinge pin ( ×1).

m102r009

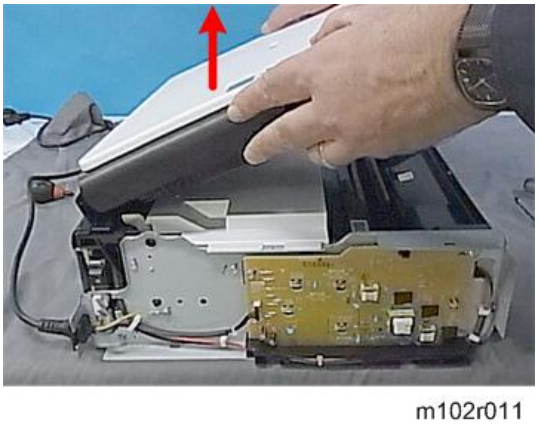
6. Remove the left hinge pin ( ×1).

m102r010

7. **The hinge pins are identical. Either pin can be re-installed on either side.**

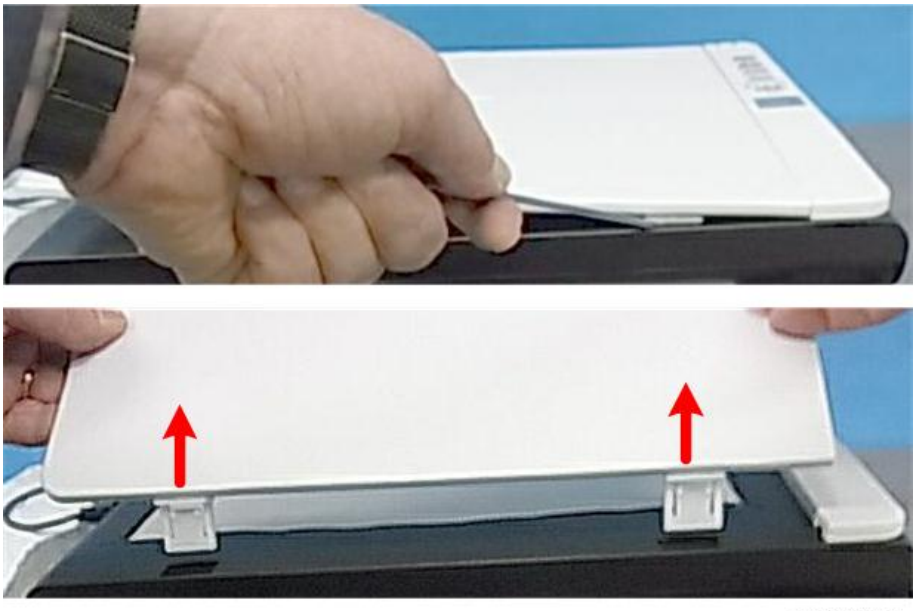
m103r017

8. **Lift the flatbed unit off the top of the machine.**



m102r011

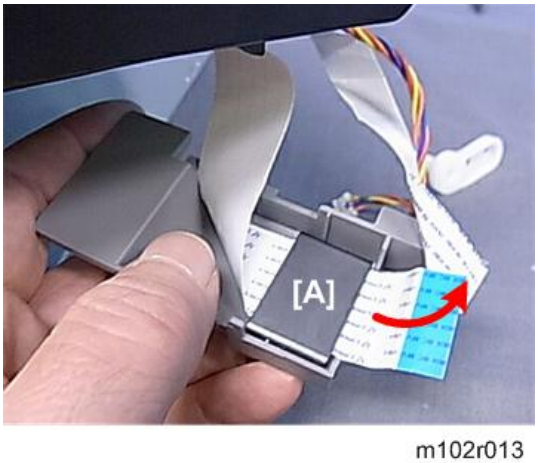
9. Use the tip of a small screwdriver to disconnect the platen cover tabs and then remove the cover.



m102r012



**Re-installation**




m102r013

1. Before you re-install the flatbed unit on top of the machine, insert the wide flat cable through the ferrite plate.

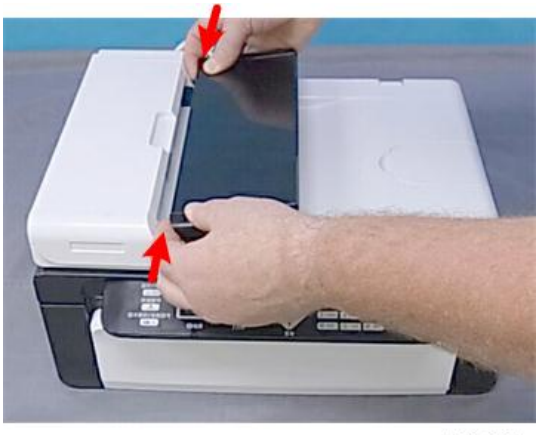
**Important**

- It is very difficult to thread this flat cable through the plate after setting the flatbed unit on top of the machine.

## 4in1 Covers, Flatbed Unit, ADF

### Original Feed Tray

1. **Press in and release the pegs on each end of the tray.**
2. **Remove the tray.**



m103r001



### AIO

Same as the Printer. (☛page 45)

### Output Tray

Same as the Printer. (☛page 45)

### Front Cover

Same as the Printer. (☛page 45)

### Right Cover

Same as the 3in1. (☛page 51)

### Left Cover

Same as the 3in1. (☛page 51)

## Left Hinge

Same as the 3in1. (☛page 51)

## Rear Cover

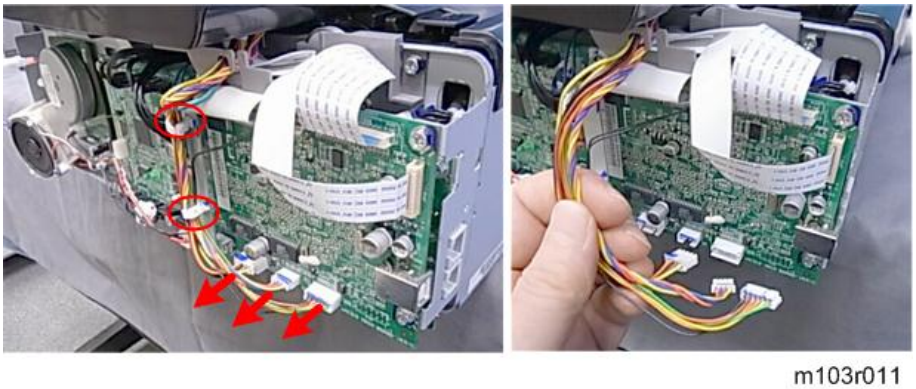
The rear cover does not require removal unless the PSU requires replacement (☛ page 129)

## ADF/Flatbed Unit

### Preparation

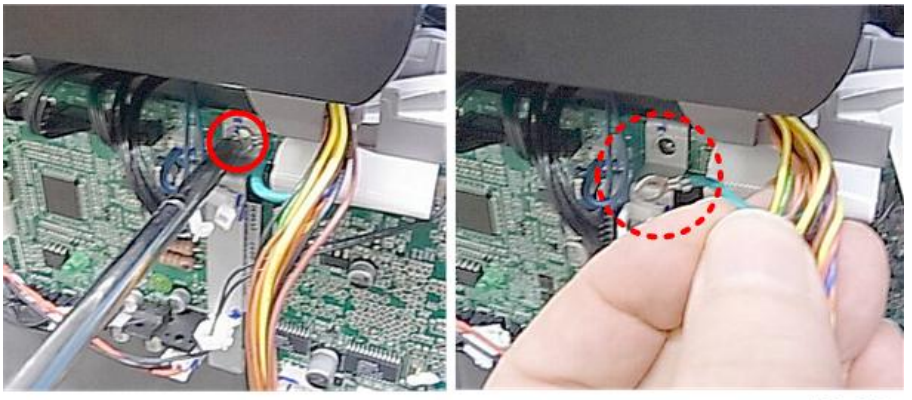
Remove:

1. **Original feed tray**
2. **AIO**
3. **Front Cover**
4. **Right Cover**
5. **Left Cover**
6. **Disconnect the bottom connectors on the right (×2, ×3).**



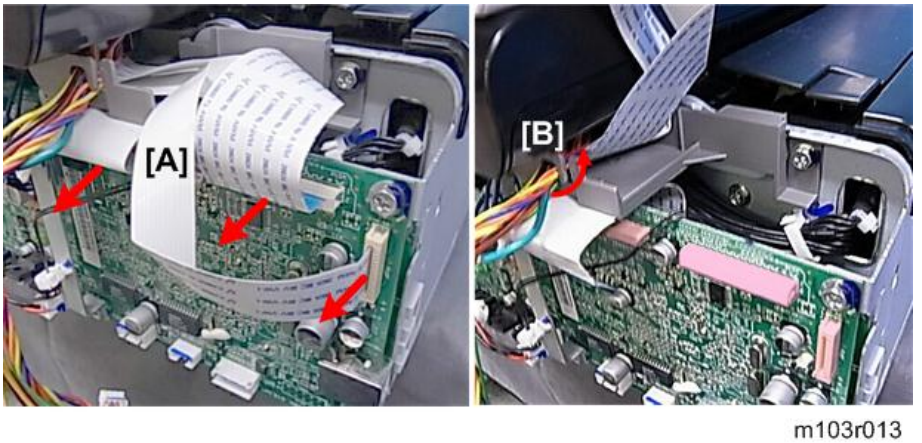
m103r011

7. Disconnect the ground wire ( ×1).



m103r012

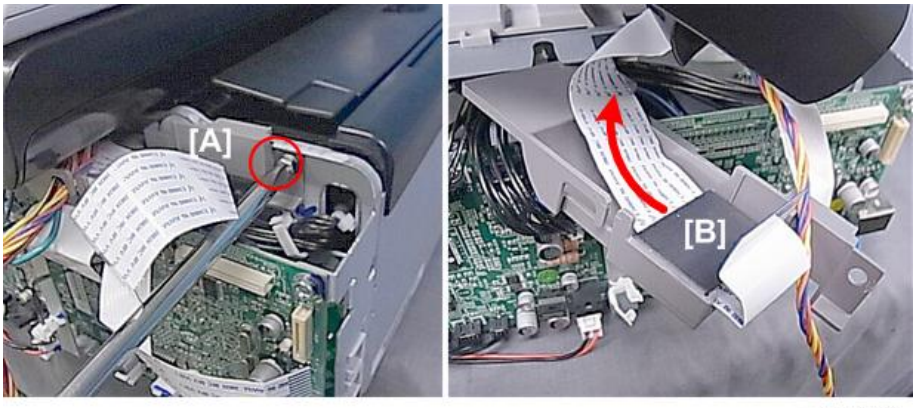
8. Disconnect the FFC's [A] ( ×3).
9. Disconnect the harness from the harness guide [B].




m103r013

10. Disconnect the harness guide [A] ( ×1).

11. Pull the flat cable out of the ferrite plate [B], and then remove the harness guide.




m103r014

12. Remove the right hinge pin ( ×1).

m103r015

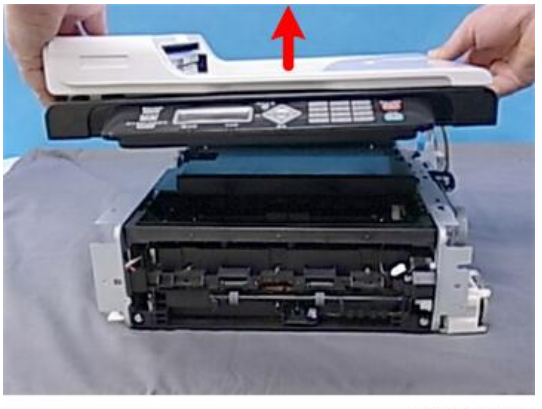
13. Remove the left hinge pin ( ×1).

m103r016

14. The hinge pins are identical. Either pin can be re-installed on either side.

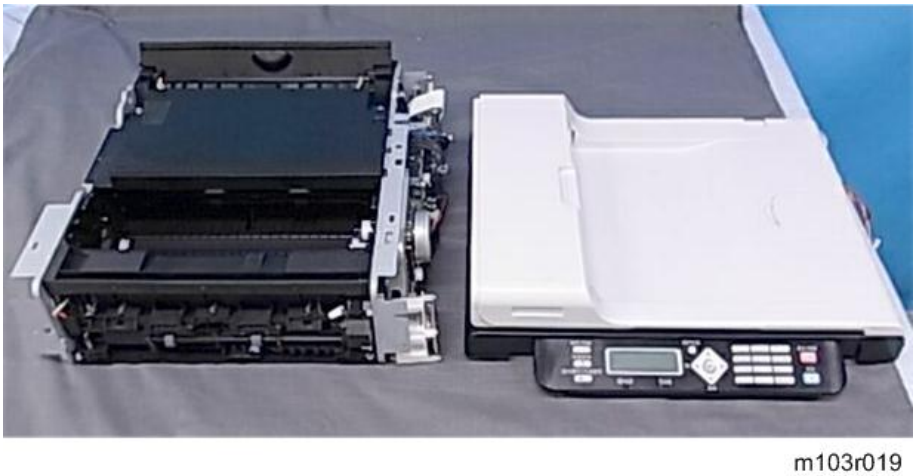
m103r017

15. Left the flatbed unit and ADF off the top of the machine together.



m103r018

16. Lay flatbed unit and ADF on a flat surface.



m103r019

17. Use the tip of a small screw driver to release the hinges (×2).

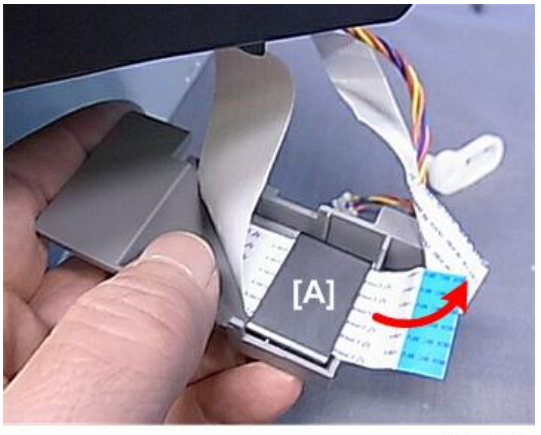
m1782014

18. Pull the harnesses through the rear right corner of the flatbed unit.

m103r021

m103r022

### Re-installation




m102r013

1. Before you re-install the flatbed unit on top of the machine, insert the wide flat cable through the ferrite plate.

   **Important**

   - It is very difficult to thread this flat cable through the plate after setting the flatbed unit and ADF on top of the machine.

## Removing the Fusing Unit

### Preparation

**Printer** (page 45)

- AIO
- Front cover
- Left cover

**3in1** (page 45)

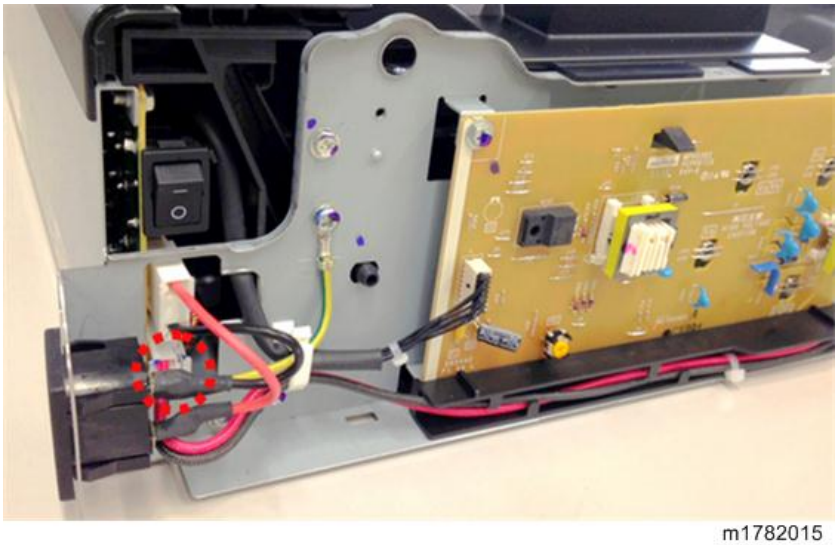
- AIO
- Front cover
- Left cover

**4in1** (page 45)

- AIO

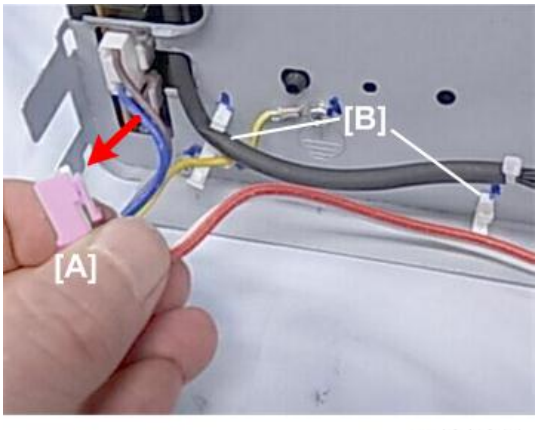
- Front cover
- Left cover

1. **Disconnect the fusing unit harness [A](×1)**



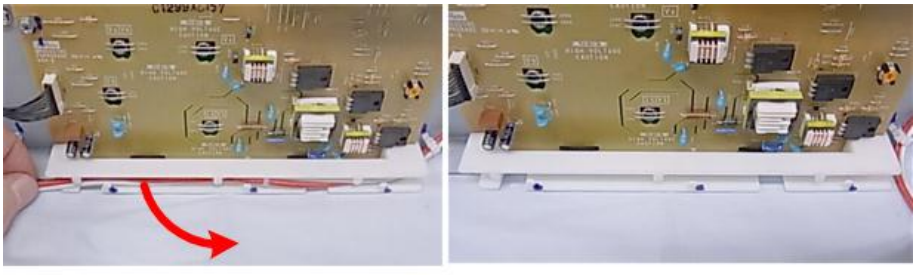
m1782015

2. **Free the harness [B] (×2).**



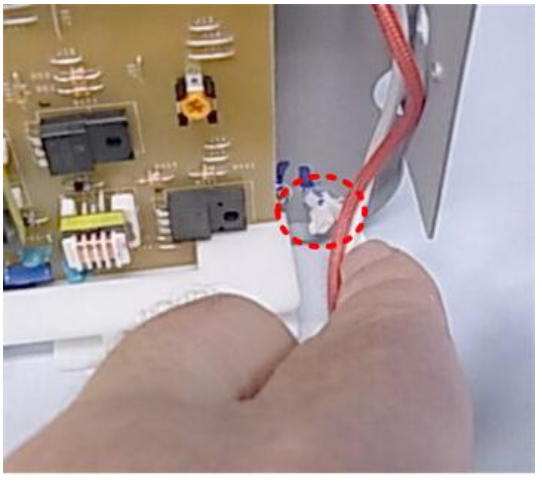

m101r014

3. Pull the harness out of the harness guide.



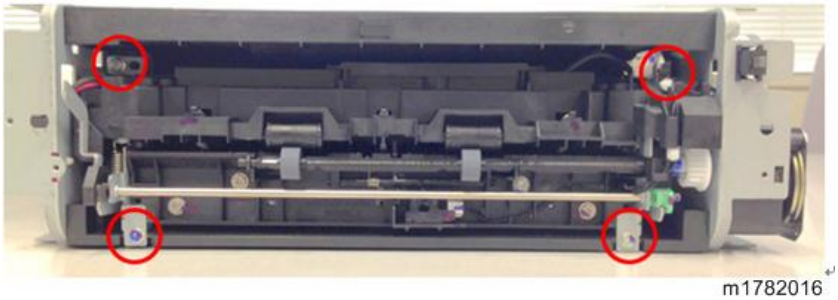
m101r015

4. Free the harness (×1).



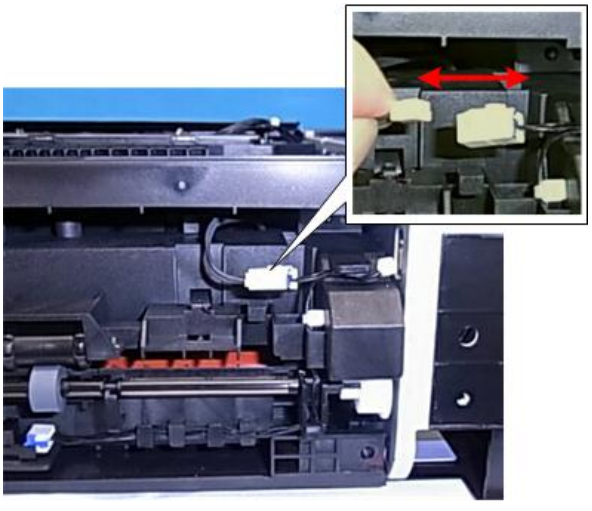
m101r016

5. At the front, disconnect the fusing unit ( ×4).



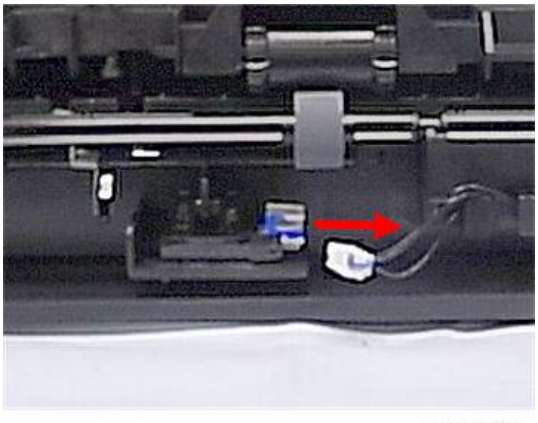
m1782016

6. Disconnect the thermistor harness (×1).



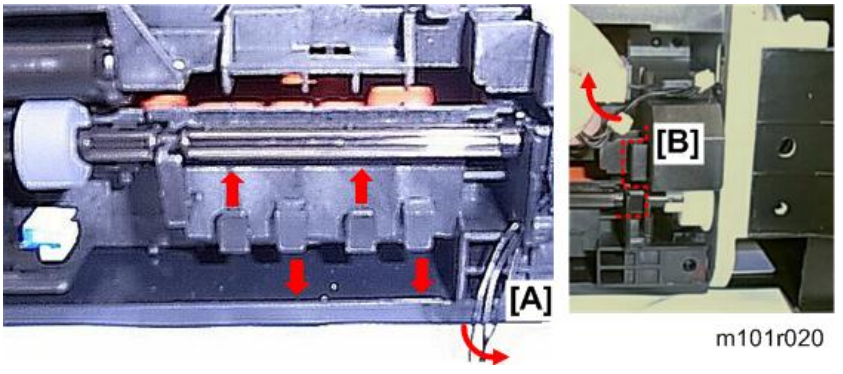
m101r018

7. Disconnect the exit sensor (×1).



m101r019

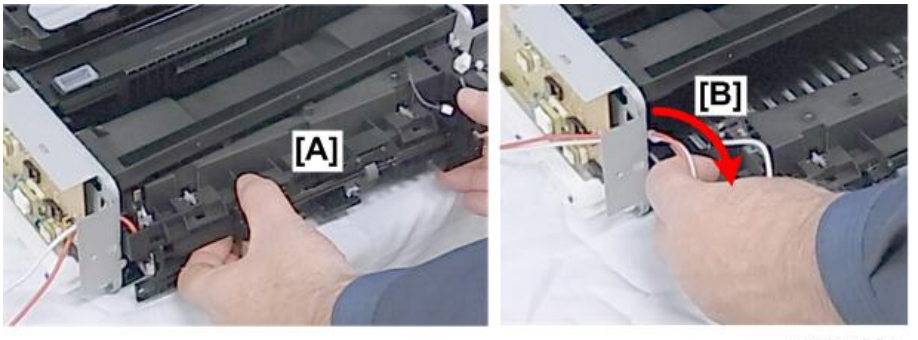
8. Separate the exit sensor harness from the fusing unit across the front [A] and up the right side [B].




m101r020

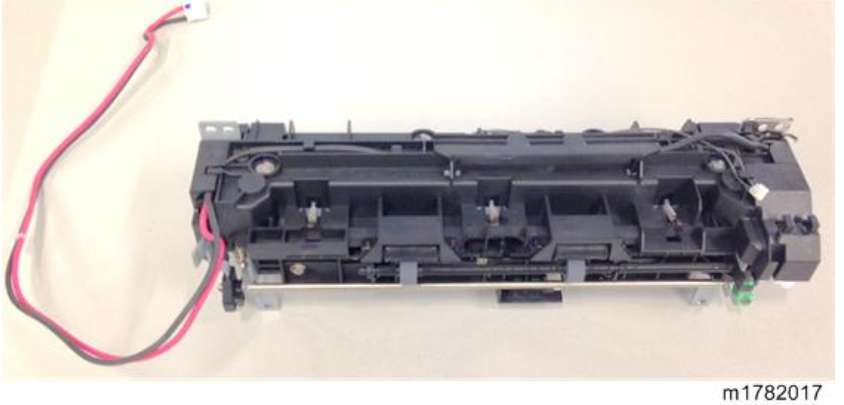


9. Pull the fusing unit [A] partially out of the front of the machine.
10. Pull the fusing unit harness through the hole [B].




m101r021

11. Pull the fusing unit out of the machine and lay it on a flat surface.



m1782017

## Utilities and Maintenance

This is a quick summary of the utilities that are available for machine servicing.

| No. | Function | Start From | Printer | 3in1 | 4in1 |
|---|---|---|---|---|---|
| 1 | Fax Maintenance | Operation Panel | No | No | Yes |
| 2 | Fax Test | Operation Panel | No | No | Yes |
| 3 | Engine Maintenance | SOM Service Mode Screen | Yes | Yes | Yes |
| 4 | Counter Information | | Yes | Yes | Yes |
| 5 | Error History | | Yes | Yes | Yes |



### 1. To start Fax Maintenance

1. **Make sure the machine is in the Ready mode.**
2. **Press [Stop/Reset] and then press [1] > [0] > [7].**
3. **Press and hold down [Start].**

### 2. To start Fax Test

1. **Switch the machine on.**
2. **With the machine in Ready mode, press [Copy/Fax].**

### 3. Engine Maintenance, Counter Information, Error History

Items 3, 4, and 5 in the table above are on the Service Mode screen of the Smart Organizing Monitor..

1. **Open Smart Organizing Monitor.**
2. **Enter the service mode to display the Service Mode screen.**

There are other important features in the Smart Organizing Monitor that are used during servicing:

- Printing a Test Page
- Firmware update
- Releasing the machine after a fatal fusing error
- Resetting the machine after correcting a fatal fusing error

More details about these utilities are available in another section of this service manual. (☛page 148)

**Important**

- **Many items in these menus duplicate the tasks that can be performed with the Smart Organizing Monitor.**

- Please remember that these User Tools menus are available with the 4in1 only. (The Printer, 3in1) do not have a User Tools key on their operation panels.

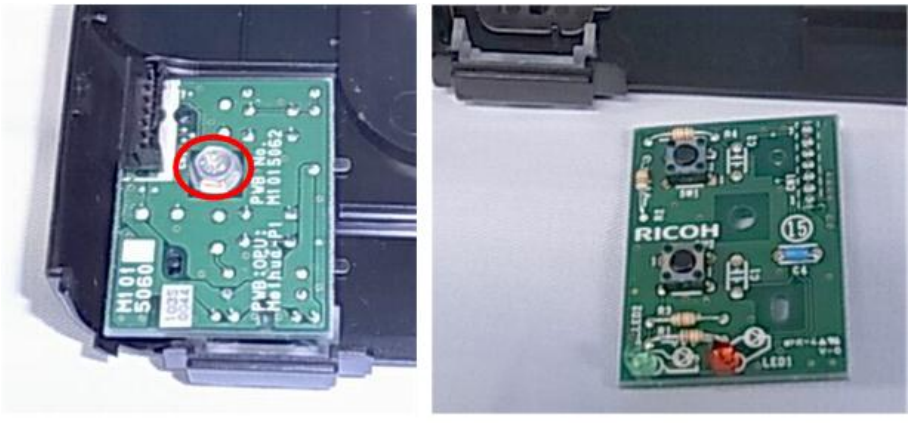
# Operation Panels

## Printer Operation Panel

### Preparation

Remove top cover (page 45)

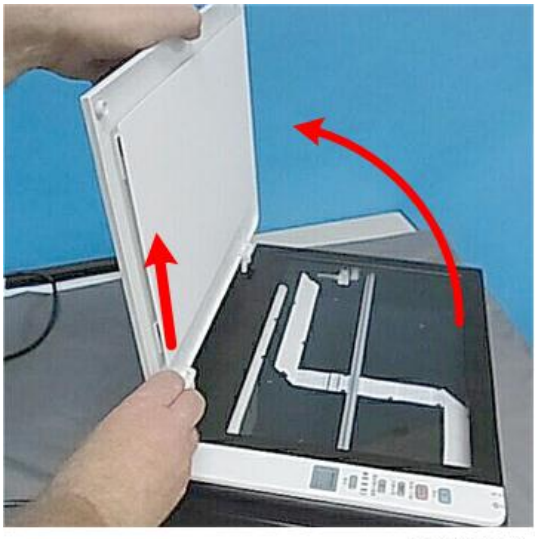
1. Lay the top cover on a flat surface.
2. Operation panel PCB (×1)




m101r023

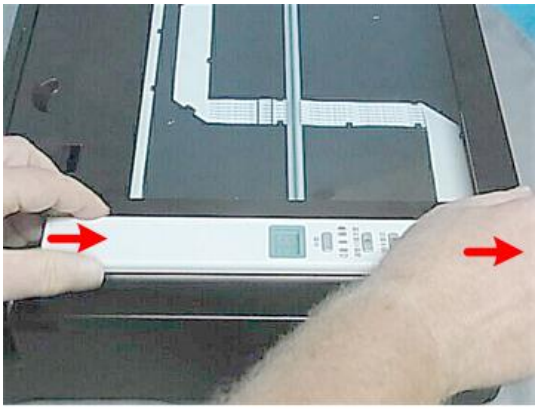
## 3in1 Operation Panel

1. **Raise the platen and then lift it straight up to remove it.**



m102r031

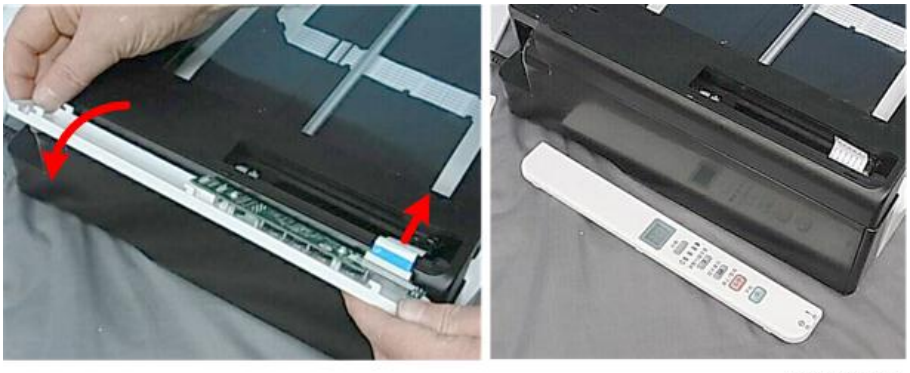
2. **Press firmly on the top edge of the operation panel and push toward the front of the machine until you hear it click and release.**



m102r032

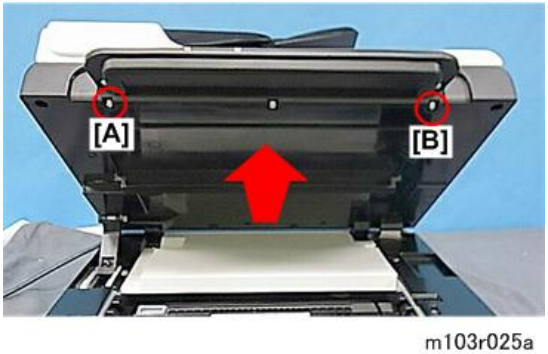
3. **Lift the operation panel straight up to disconnect the hooks at three points.**

4. **Turn the operation panel over, and then disconnect the flat cable ( ×1).**



m102r034

## 4in1 Operation Panel




m103r025a

1. Raise the ADF and flatbed unit.

2. Remove left screw [A] and right screw [B] ( ×2).

m103r026a



3. While supporting the operation panel with one hand, remove the center screw ( ×1).

m103r027a

4. Lower the operation panel slightly and disconnect it ( ×1).

m103r028a

# Laser Unit

## Removing the Laser Unit

**Important**

- **There are no serviceable parts inside the laser unit. Never attempt to disassemble the laser unit and then reinstall it in the machine.**

**Preparation**

**Printer** (page 45)

- AIO
- Front, top cover
- Top cover

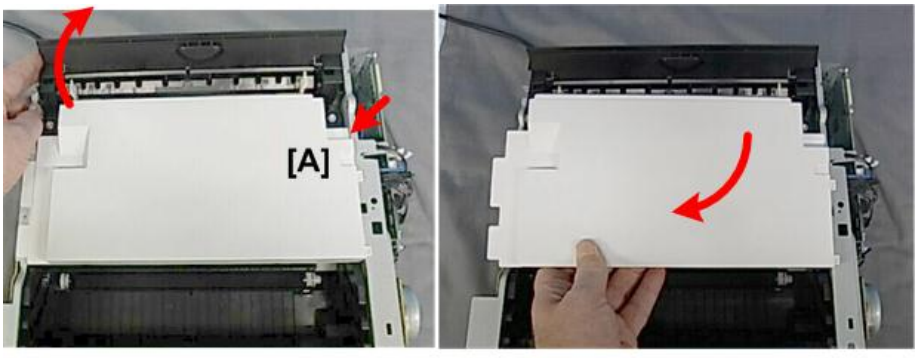
**3in1** (page 45)

- AIO
- Front, Left, Right covers
- Flatbed unit

**4in1** (page 45)

- Original feed tray
- AIO
- Front, Left, Right covers
- ADF/Flatbed Unit

1. **Lay the top cover on a flat surface. If you are servicing the 3in1 or 4 in1, you must release the tab on the right [A] and remove the laser unit cover (×1).**

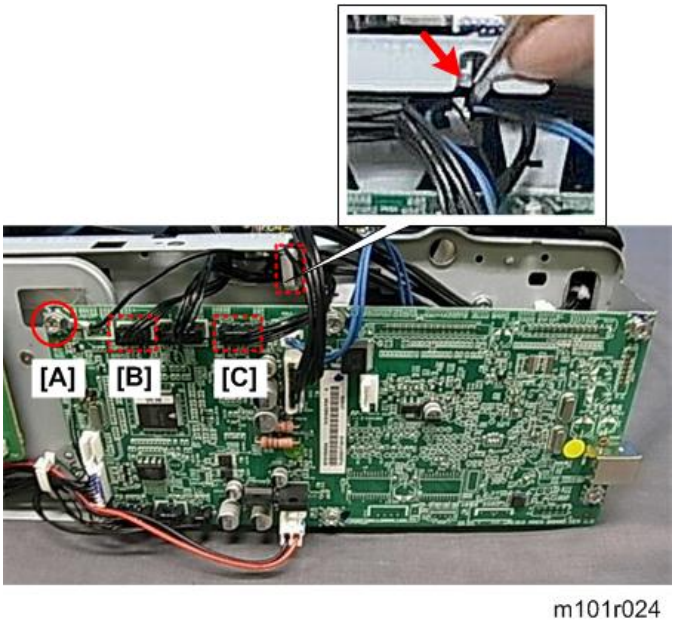



m103r024

**Note**

- The **Printer** does not have this white cover.
- The procedure below from Step 2 applies to all three machines.

2. **Disconnect the laser unit from the main board.**




m101r024

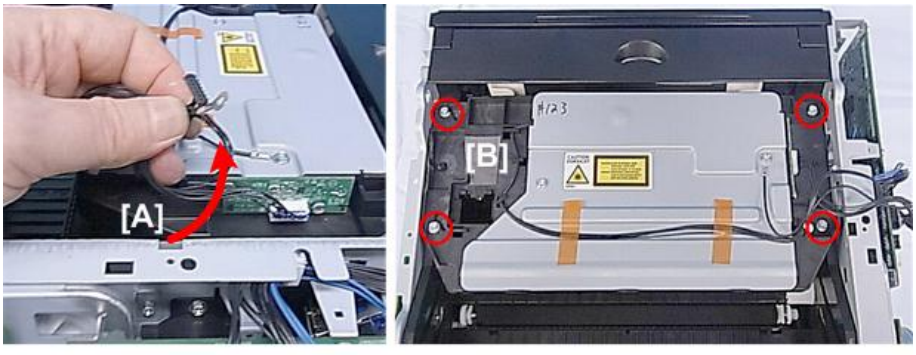
[A] Ground wire ( ×1)

[B] Connector ( ×1)

[C] Connector ( ×1, ×1). (You may need a small screwdriver to release the clamp).

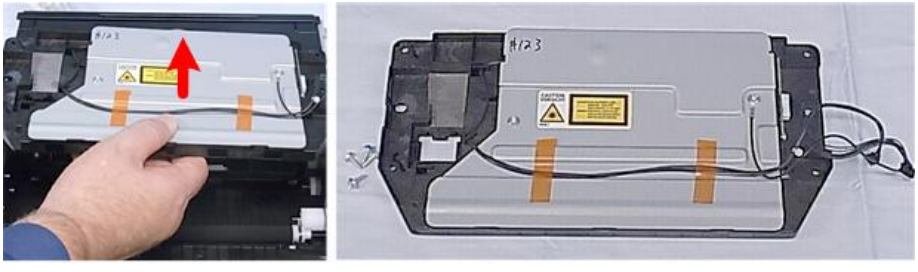
3. **Pull the ground wire and connectors [A] through the frame.**

4. **Disconnect the laser unit assembly ( ×4).**




m101r025

5. **Remove the laser unit and lay it on a flat surface.**



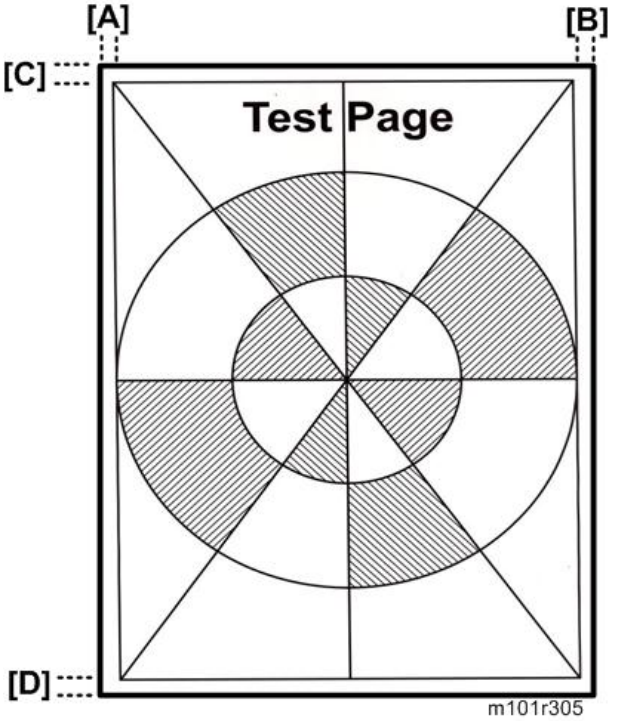
m101r026

## After Replacing the Laser Unit

After replacing the laser unit, print the Test Page and check the position of the image area on the page.

1. **Start Smart Organizing Monitor.**

2. **Click the User Tool tab (1), open the List/Test pull-down list (2), and then click [Print]. The Test Page prints.**




3. **Check the margins of the image area to see the width of the margins are satisfactory.**

| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 4.2 |
| [B] | Right | 4.2 |
| [C] | Leading | 4.2 |
| [D] | Trailing | 4.2 |

4. **Enter the service mode and display the Service Mode screen.**
5. **Adjust the Factory Registration settings to adjust the margins.**
   - **Horizontal**. Shifts the image left or right to adjust the left/margins.
   - **Vertical**. Shifts the image up or down to adjust the top/bottom margins.

# Paper Feed and Exit

This section describes how to remove these items:

- Paper Feed Roller
- Friction Pad
- Paper Transport Roller
- Image Transfer Roller
- Paper Exit Roller

**Preparation**

These items must be removed before doing any procedure in this section. Do this now before going to any other part of this section.



**Printer**

- AIO (☛page 45)
- Front cover
- Top cover
- Right cover
- Left cover
- Laser unit (☛page 77)

**3in1**

- AIO (☛page 45)
- Front cover
- Top cover
- Right cover
- Left cover
- Platen cover
- Flatbed unit
- Laser unit (☛page 77)

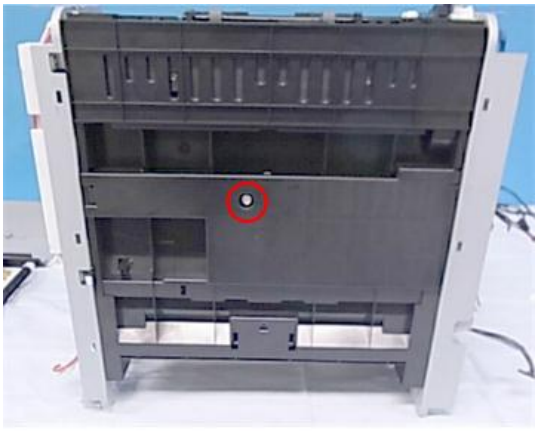
**4in1**

- AIO (☛page 45)
- Front cover
- Top cover
- Right cover
- Left cover
- Flatbed unit, ADF
- Laser unit (☛page 77)



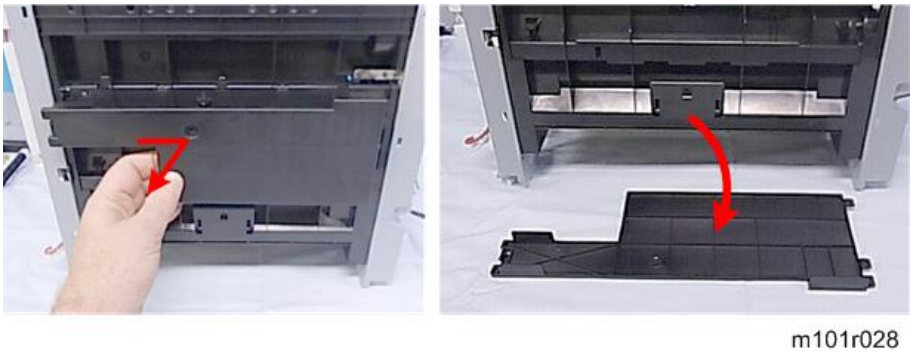
## Paper Feed Roller

1. **Set the machine so you can see the bottom plate.**
2. **Remove the screw that fastens the bottom plate ( ×1).**



m101r027

3. **Slide the plate to release and remove it.**

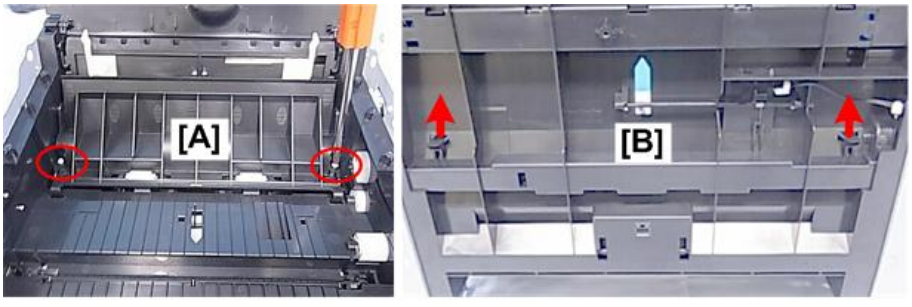


m101r028

4. **Disconnect the feed guide:**

   [A] At the top ( ×2)

   [B] On the bottom of the machine ( ×2)




m101r030

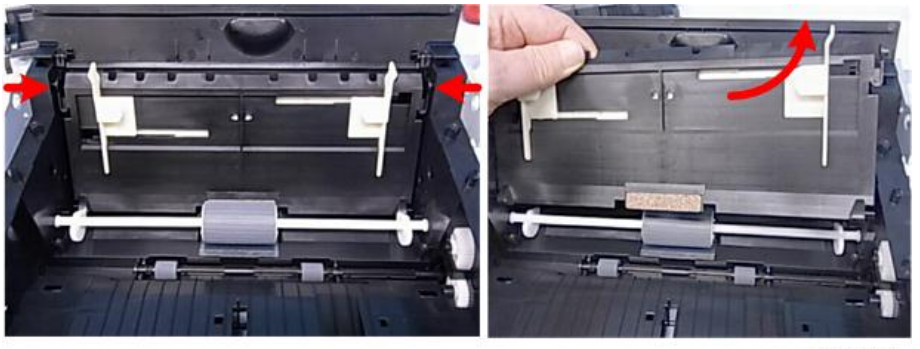
5. **At the top, disconnect the arm pegs on the left [A] and on the right [B].**


m101r031

6. **Lift the feed guide out of the machine.**

m101r032

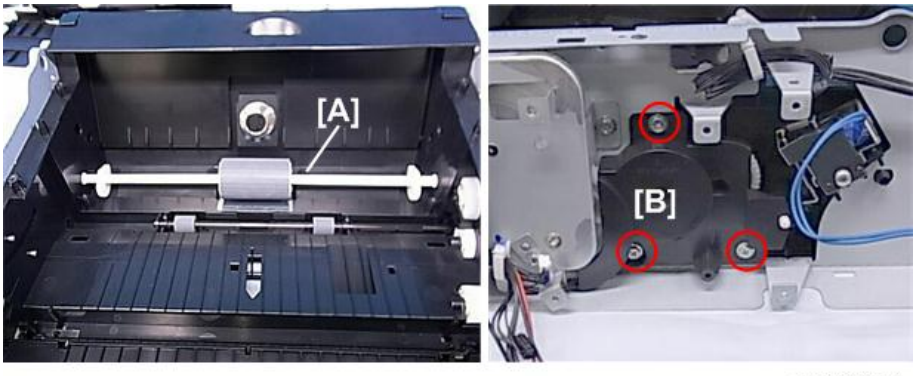
7. **Release the arm pegs on the left and right, and then remove the paper tray.**



m101r033

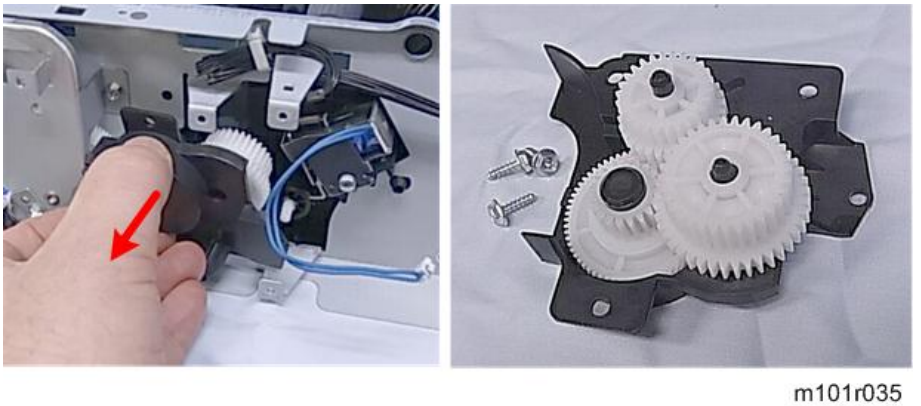


8. **The paper feed roller [A] in the center of the paper path is permanently attached to its shaft.**
9. **On the right, disconnect the gear train [B] ( ×3).**



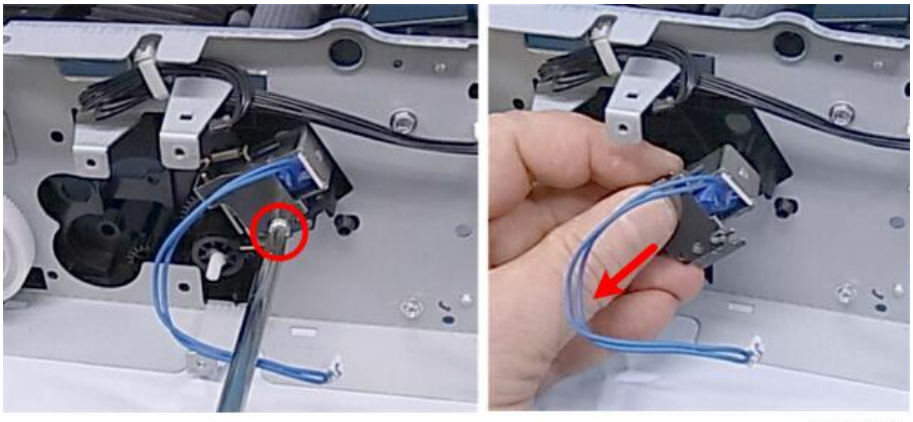

m101r034

10. **Remove the gear train and lay it on a flat surface as shown above to prevent the gears from falling off.**



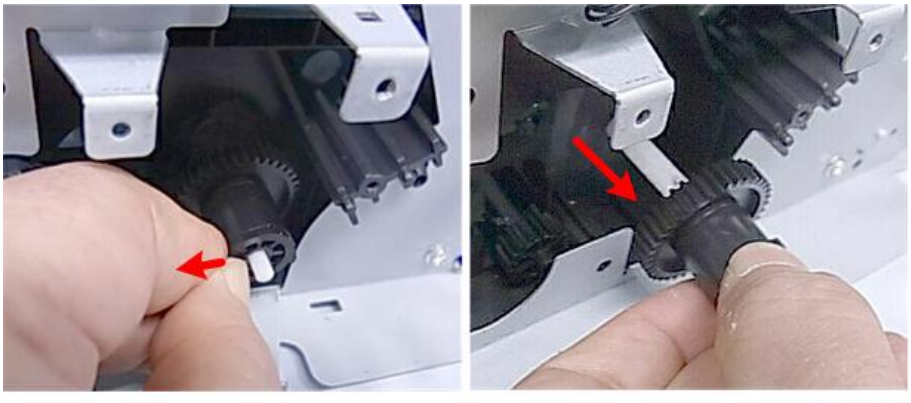
m101r035

11. Remove the pickup solenoid and plate (×1, ×1)



m101r036

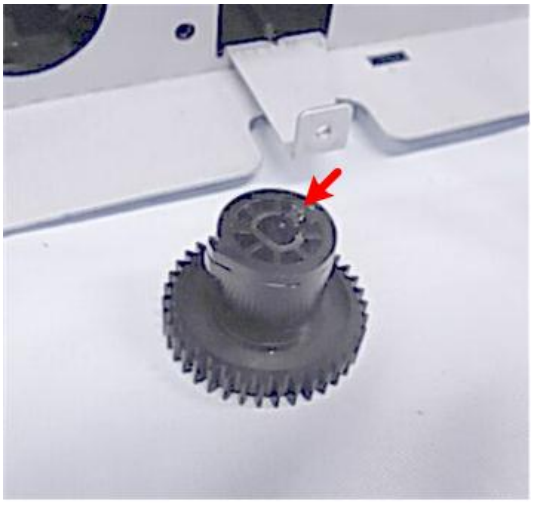
12. Pinch the hook lock/release on one-way clutch and pull the clutch off the shaft (×1).



m101r038

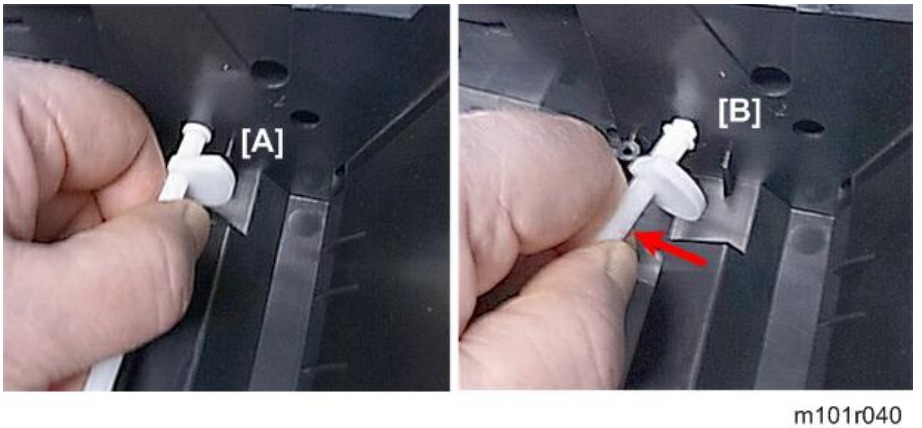
13. The one-way clutch comes off as one piece.

14. The hook lock/release locks the one-way clutch in place when it is re-installed.



m101r039

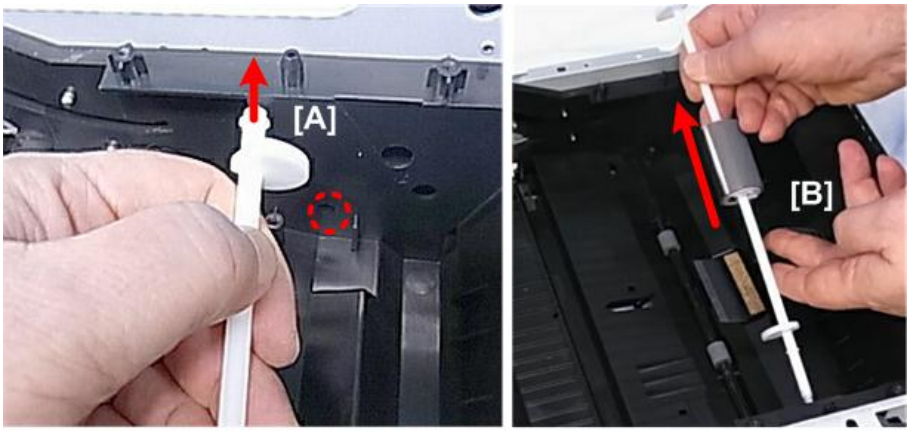
15. Inside the machine on the left, grip the end of the paper feed roller [A].
16. Bend it slightly [B] and pull it out of its guide hole.




m101r040

17. Pull the end of the shaft [A] straight up.

18. **Remove the shaft [B].**



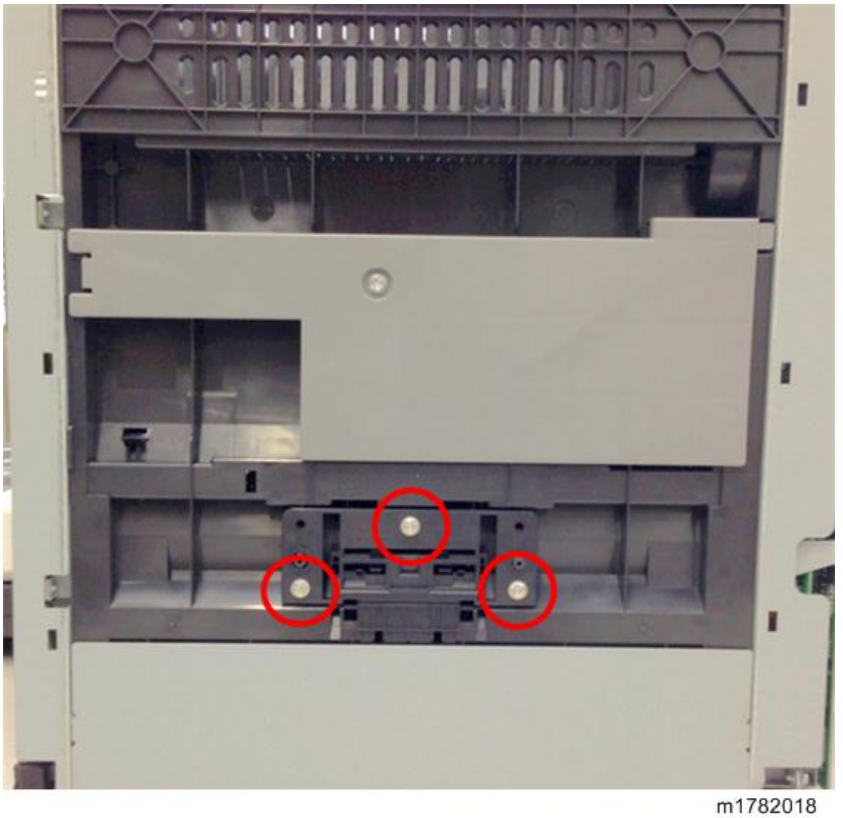

m101r041

19. **The paper feed roller and shaft are replaced as one unit (the roller is permanently attached to the shaft).**

m101r042

## Friction Pad

1. Remove 3 screws ( ×3).



m1782018

2. Release 2 tabs ( ×2).

m1782019

m1782020

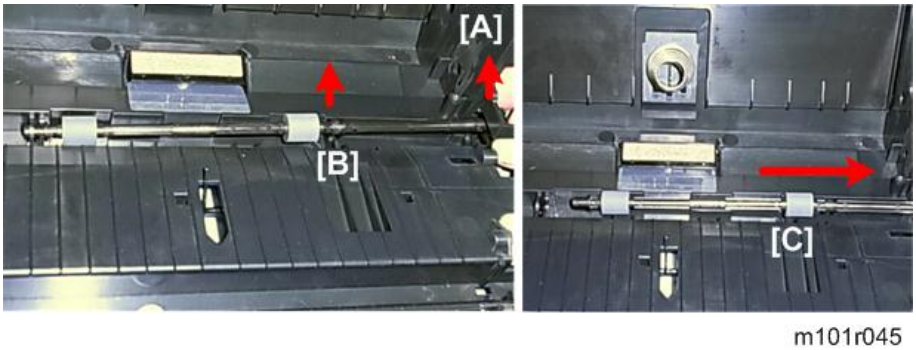


## Paper Transport Roller

### Preparation

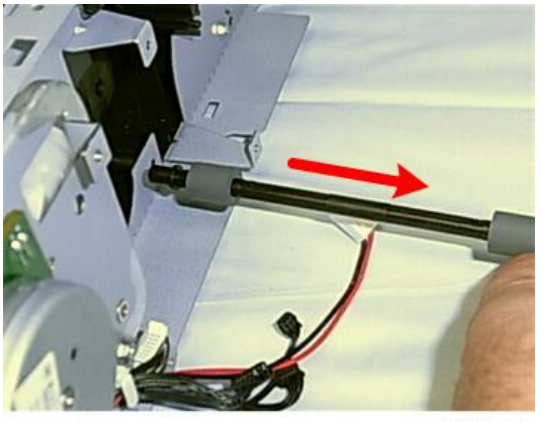
- Remove the paper feed roller (page 82)

1. **On the right end of the roller [A] lift the end of the shaft out of its groove.**
2. **Lift the roller out of the bracket at [B].**
3. **Start pulling out the roller from the right side [C].**




m101r045

4. **Pull the roller out of the machine.**



m101r046

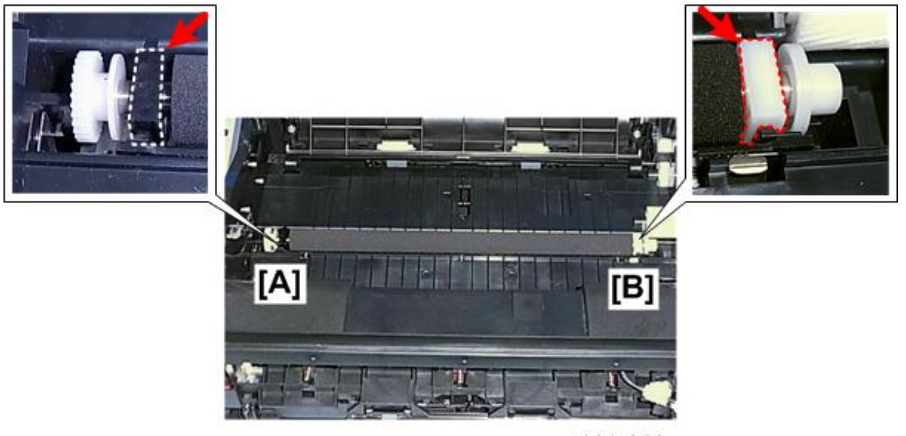


## Image Transfer Roller

### Preparation

- Remove the laser unit (page 77)

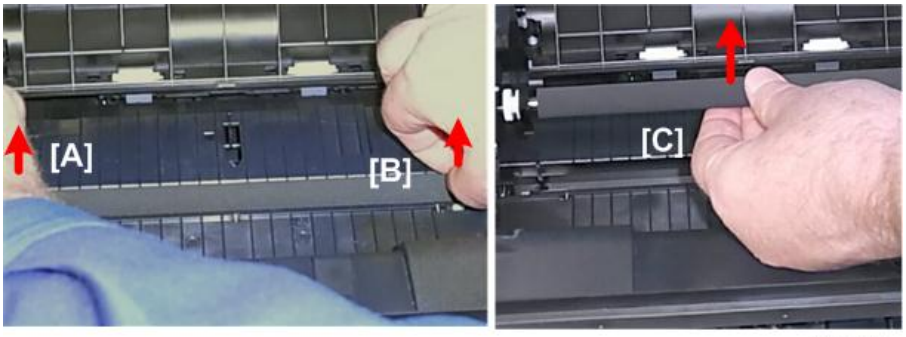
1. **Before you remove the transfer roller:**
   - The collar on the left end of the roller [A] is black.
   - The collar on the right end of the roller [B] is white.
   - The transfer roller must be installed the same way, with the black collar on the left and white collar on the right.




m101r062

2. **The collars are set in grooves. Pull up on both ends of the transfer roller [A] and [B] to free the collars.**

3. Lift the roller [C] out and remove it.




m101r063

4. Remove the spring from the left end [A] and right end [B] to prevent the springs from getting lost.

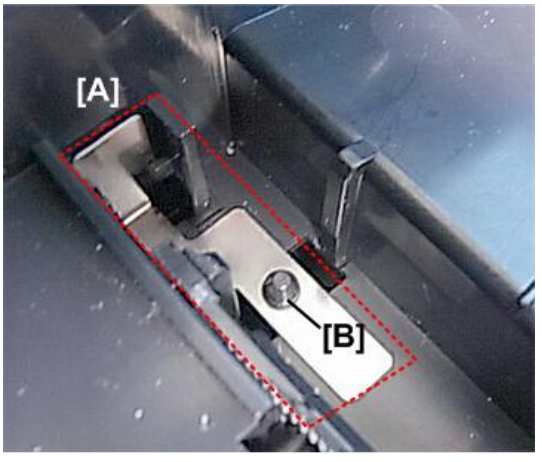

m101r064

**Important**

- If you are replacing the transfer roller, save these springs. New springs may not be provided with the new transfer roller.

Re-installation

1. **Clean the charge plates [A] on the side where the left end of the roller will be re-installed. The spring will be re-attached over the peg [B].**




m101r066

2. **After re-installing the transfer roller, press and release the transfer roller several times to confirm that the roller bounces up and down evenly.**

m101r067

- If the center or either end of the roller does not bounce up and down freely, this means that one or both springs at the ends of the roller are not installed correctly.
- Remove the transfer roller and re-install it. Make sure each spring is set onto the metal peg on both sides.

## Paper Exit Roller

The fusing unit must be removed in order to remove the exit roller. (☛page 66)

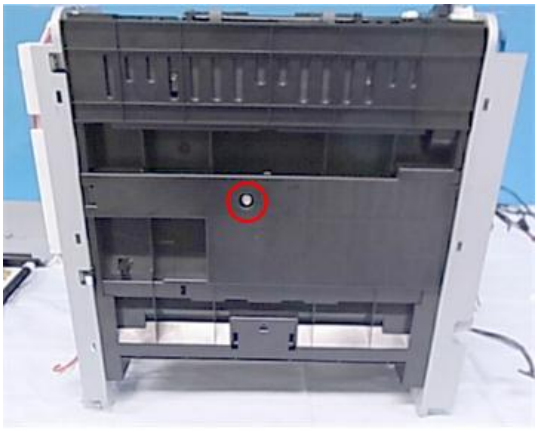
# Sensors

## Registration Sensor

### Preparation

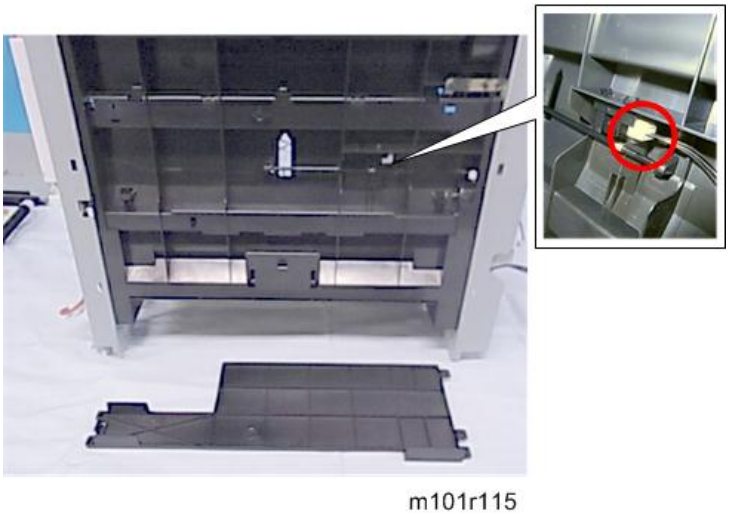
- Remove the AIO.

1. **Raise the machine so you can see the bottom.**
2. **Disconnect the bottom plate and remove it ( ×1).**



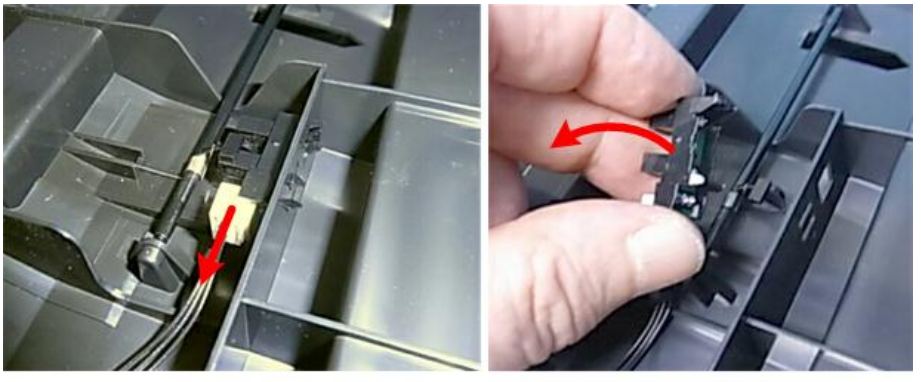
m101r027

3. **Locate the registration sensor on the bottom of the machine.**



m101r115

4. **Disconnect the sensor and remove it (×1, ×3).**



m101r029

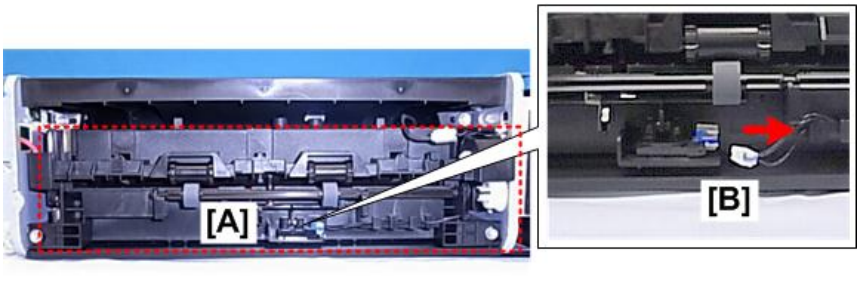


## Exit Sensor

### Preparation

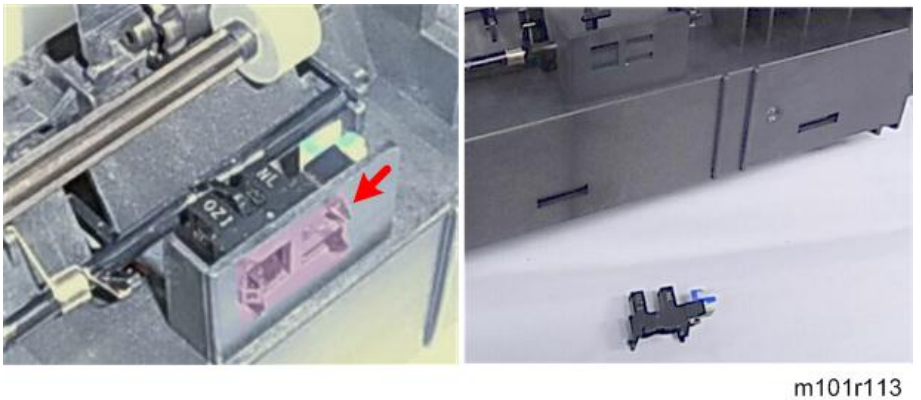
- Remove the front cover ( ×2).

1. **On the front of the fusing unit [A], disconnect the exit sensor [B] (×1).**




m101r114

2. **Remover the sensor (×3).**



m101r113

# Main Motor

## Removing the Main Motor

### Preparation

#### Printer

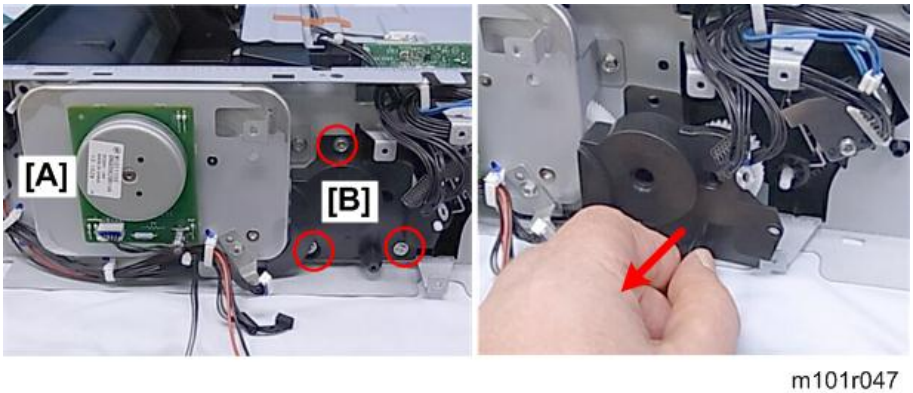
- AIO (☛page 45)
- Front cover
- Right cover

#### 3 in 1

- AIO (☛page 51)
- Front cover
- Right cover

#### 4 in 1

- AIO (☛page 60)
- Front cover
- Right cover



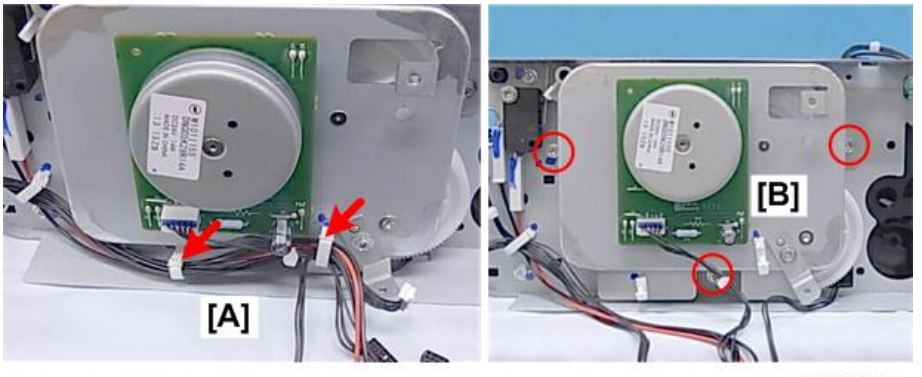

m101r047

1. The main motor [A] on the right side of the machine drives all gears and rollers in the paper path.
2. Disconnect and remove gear train [B] ( x3).

m101r048

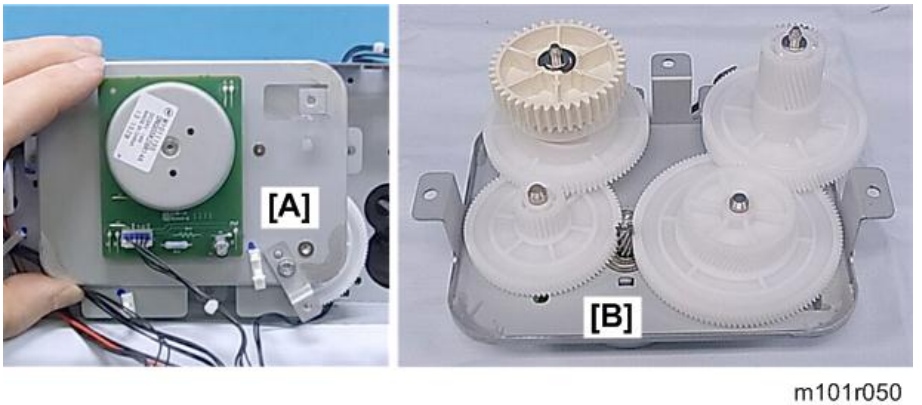


3. Remove the gear train and lay it on a flat surface as shown above to prevent the gears from falling off.



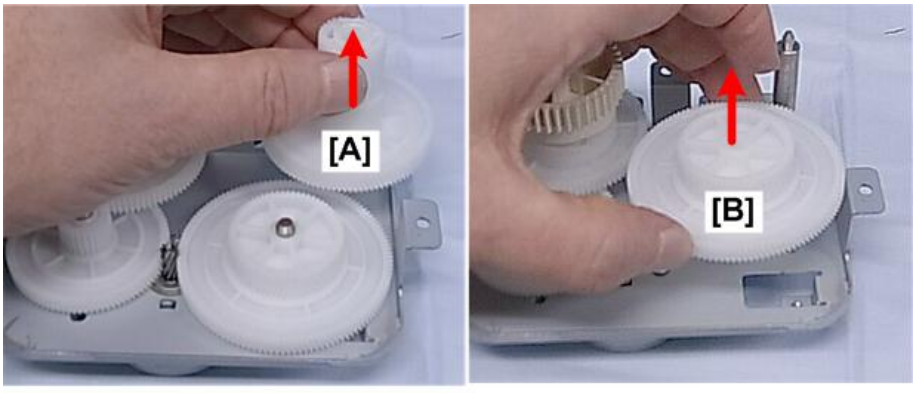

m101r049

4. Free the harnesses [A] (x2).
5. Disconnect the motor mount [B] ( x3).



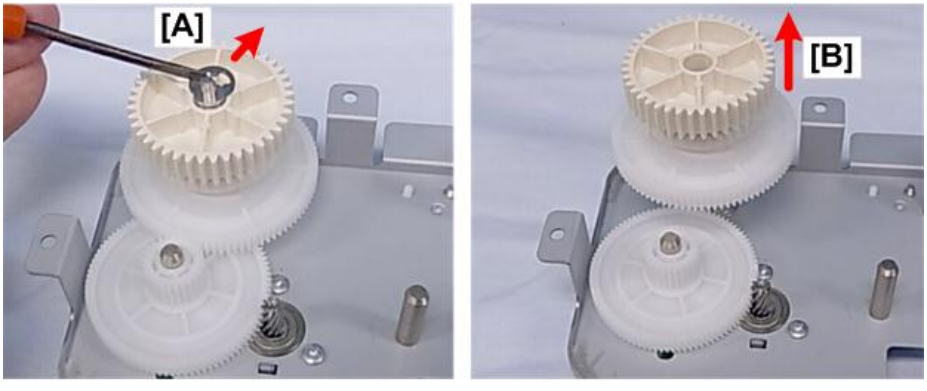

m101r050

6. Remove the motor mount [A] with the motor attached.
7. Lay the motor mount [B] face down so the gears are up.



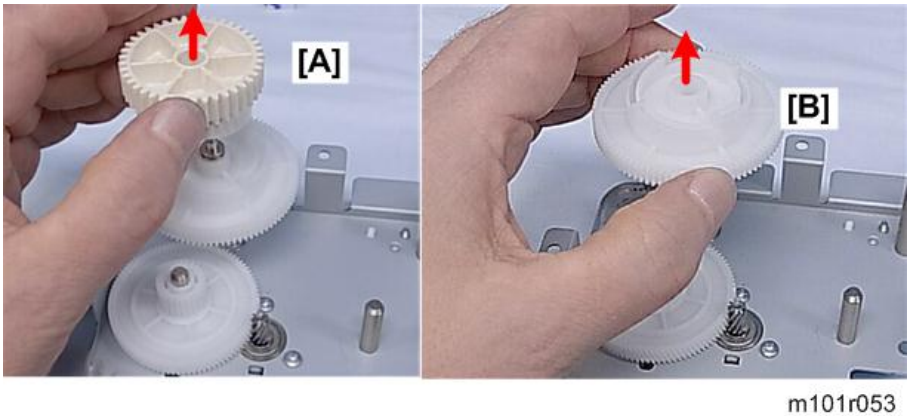

m101r051

8. Remove gear [A] and then gear [B].



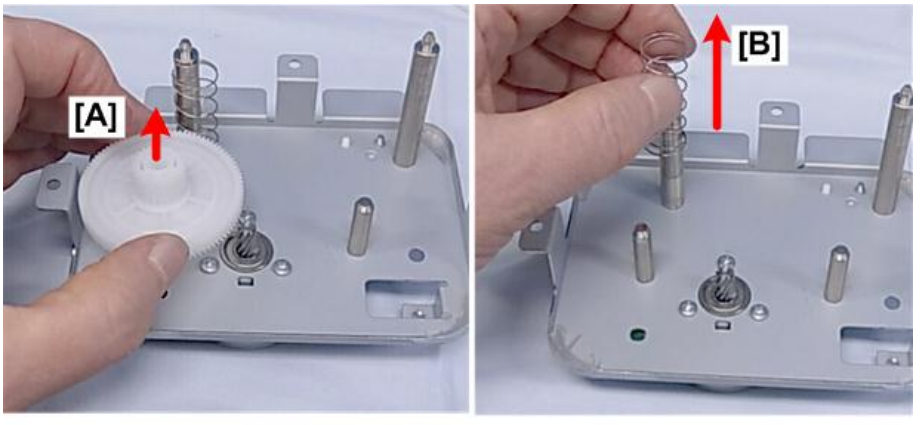

m101r052

9. Disconnect gear [A] (C x1).
10. After the e-ring is removed, the gears [B] will spring up slightly.



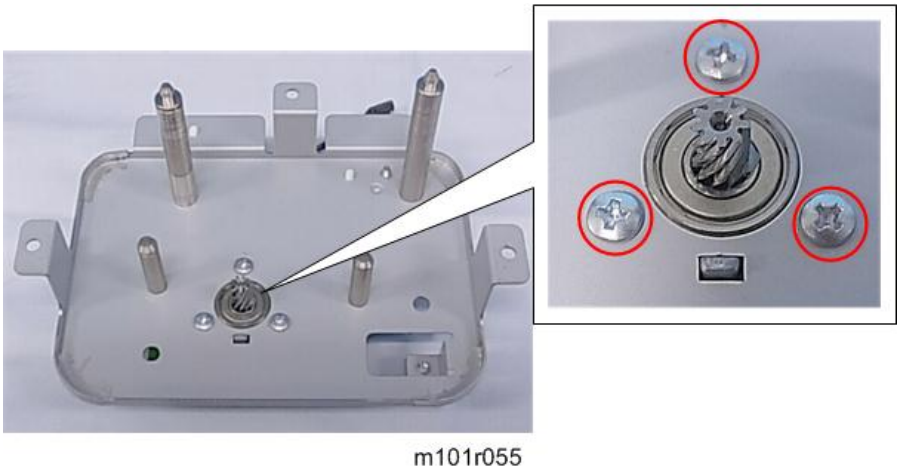

m101r053

11. Remove gear [A] and then gear [B].



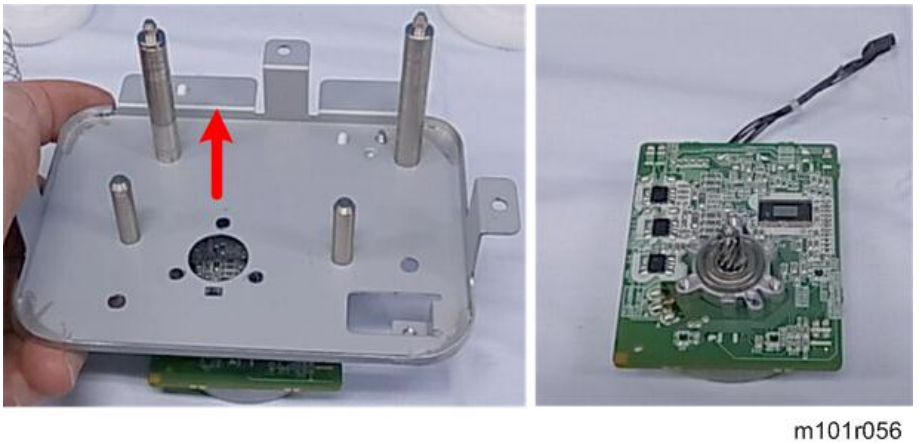

m101r054

12. Remove gear [A] and spring [B].



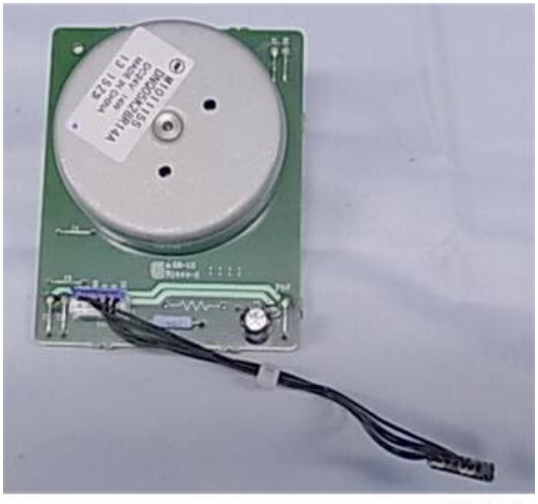
m101r055

13. Remove the screws (x3).



m101r056

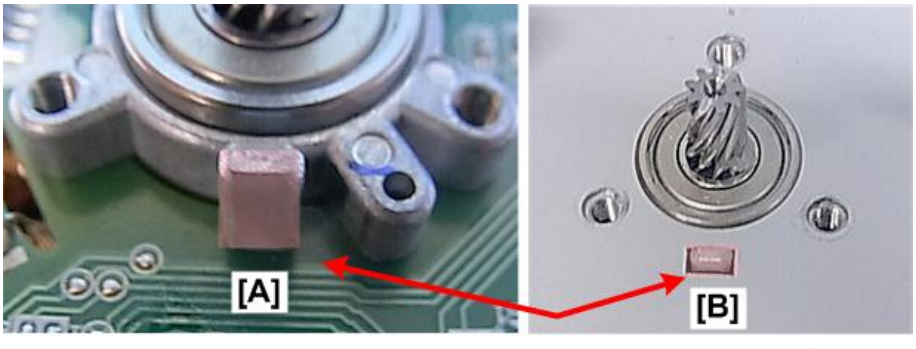
14. Lift the motor mount plate off the motor.



m101r057

15. Turn the motor over.

## Reinstalling the Main Motor




m101r058

1. Match boss [A] with the hole [B] on the motor plate. This aligns the holes correctly for re-attachment of the motor to the motor mount plate.

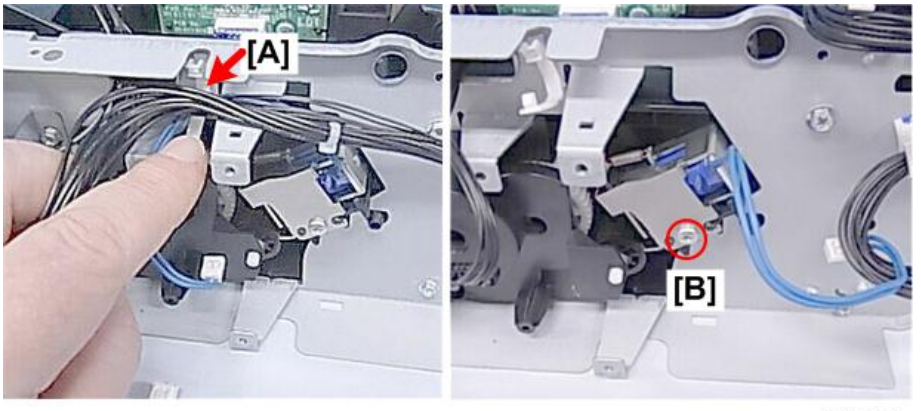
# Solenoid

## Pickup Roller Solenoid

### Preparation

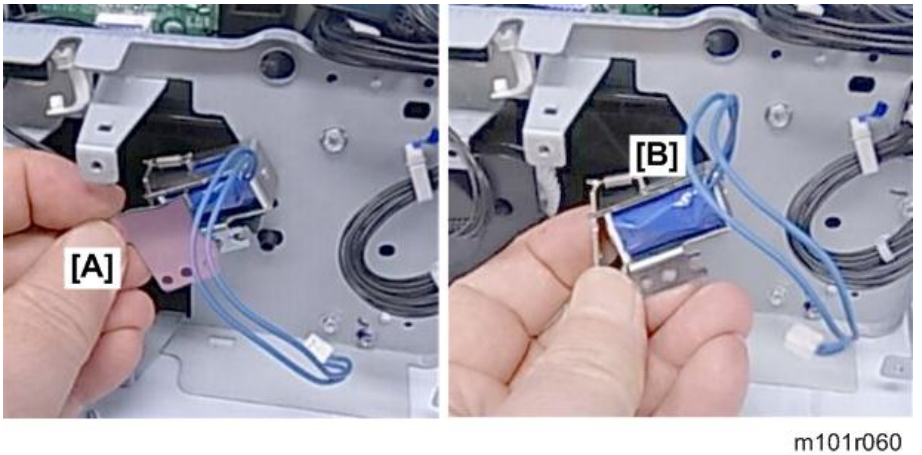
Remove the right cover (☛page 45)

1. **Free the solenoid harness [A] (×1).**
2. **Remove screw [B] (×1).**

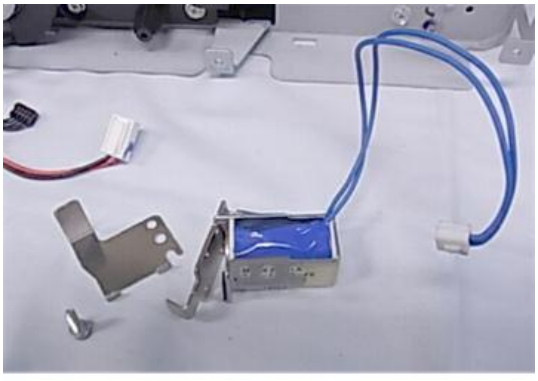



m101r059

3. **Remove plate [A] and then solenoid [B].**




m101r060



m101r061

# Switches

## Safety Switch

### Preparation

**Printer** (☛page 45)

- AIO
- Front cover
- Left cover

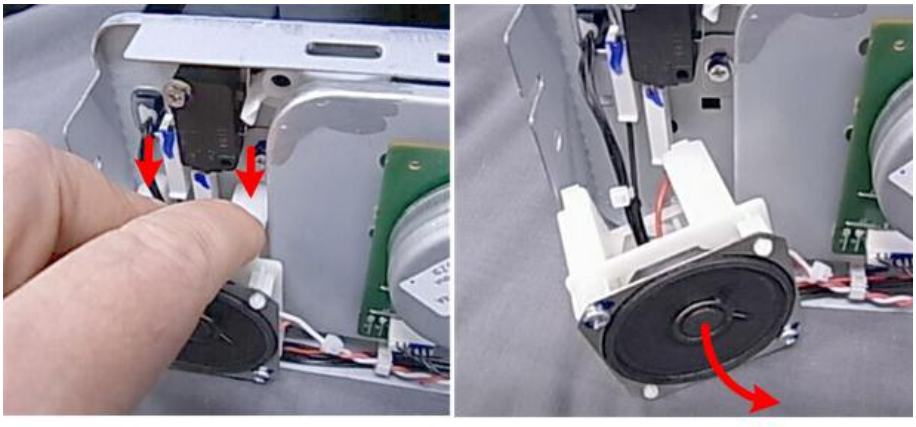
**3in1** (☛page 45)

- AIO
- Front cover
- Left cover

**4in1** (☛page 45)

- AIO
- Front cover
- Left cover
- Speaker (see below)

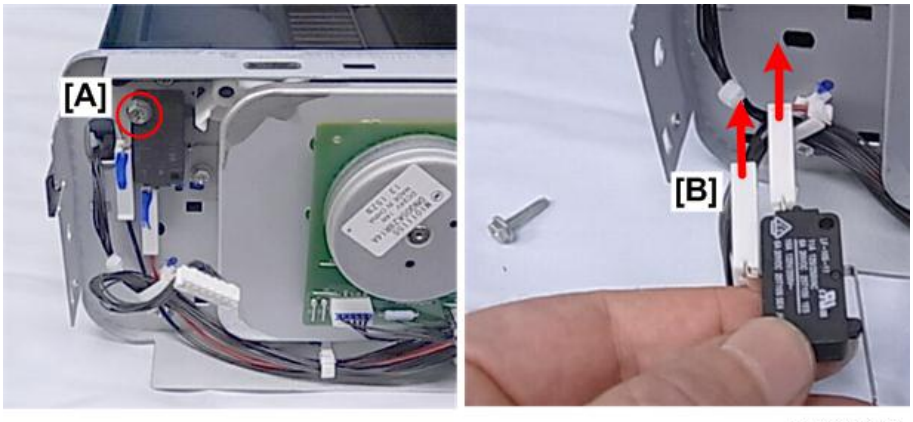
1. **If you are servicing the 4in1, you must move the speaker so you can access the breaker switch.**
   - Release the tabs at the top of the speaker mounting plate (×2).
   - Move the speaker slightly to the right (you do not need to remove it).



m101r110



2. Remove the breaker switch screw [A] ( ×1).
3. Disconnect and remove the switch [B] ( ×2).




m101r111

m101r112

## Output Tray Switch

### Preparation

**Printer** (☛page 45)

- Front cover
- Top cover
- Left cover

**3in1** (☛page 45)

- Front cover
- Right cover

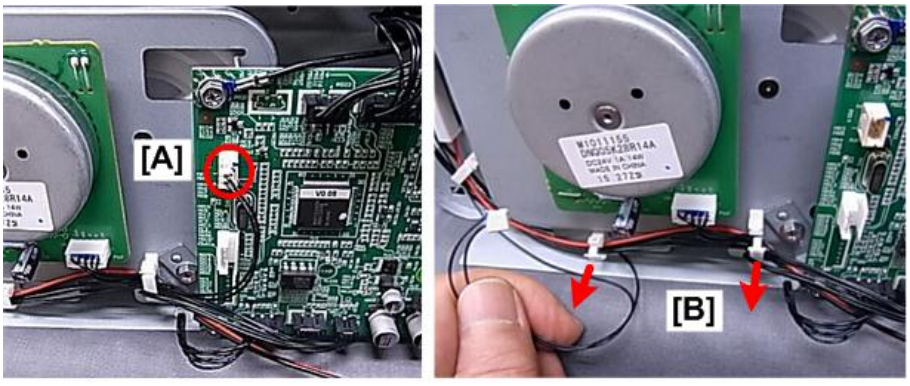
**4in1** (☛page 45)

- Front cover
- Right cover

1. **The output tray push-switch is mounted at [A] and connected to the main board at [B].**

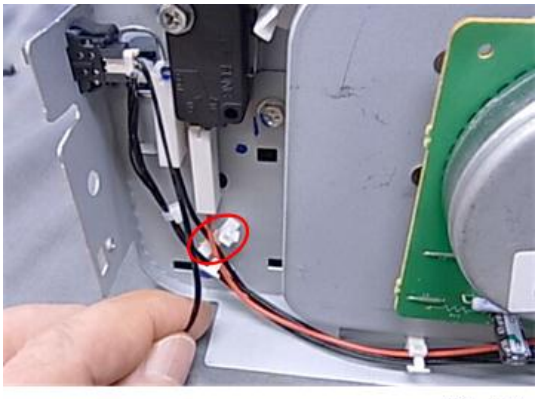

m101r135

2. Disconnect the harness at [A] and [B] (×1, ×2).



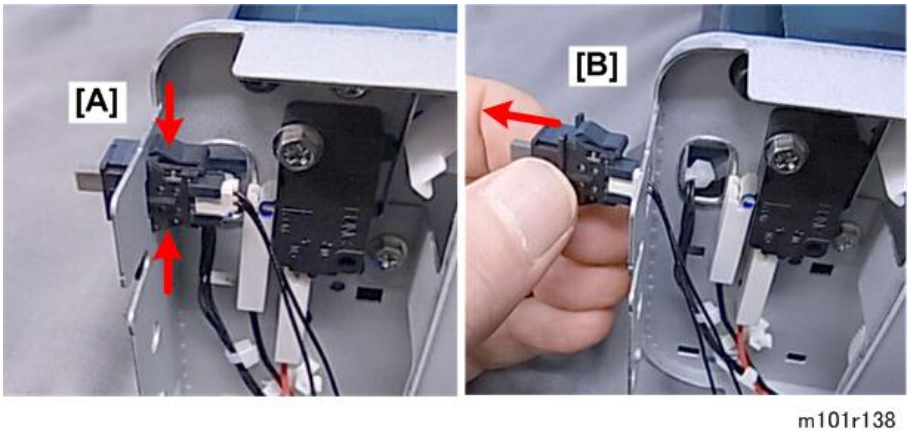

m101r136

3. Release the harness (×1).



m101r137

4. With finger tips or a pair of radio pliers, depress the top and bottom of the switch release at [A].
5. Pull out the switch [B].




m101r138

m101r139

# Fusing Unit

This section describes how to remove these items:

- Fusing Lamp
- Thermistor
- Paper Exit Roller
- Hot Roller
- Pressure Roller
- Fusing Unit Thermostat
- Ground Plate

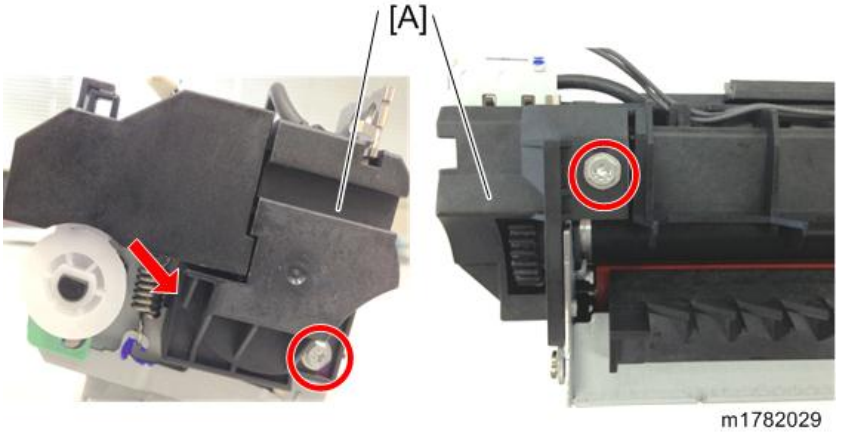


## Fusing Lamp

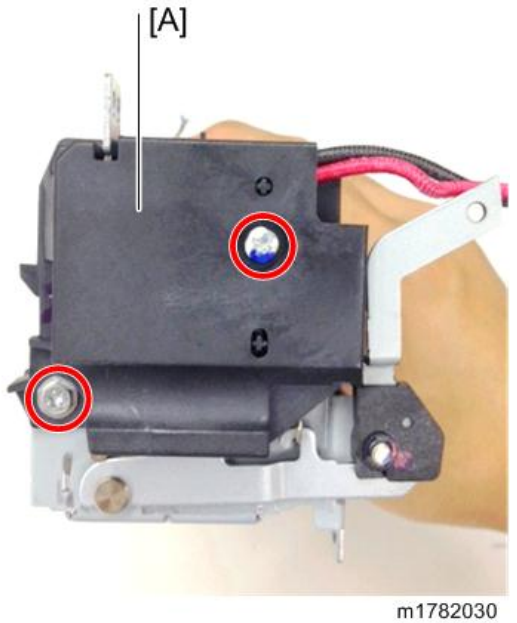
### Preparation

- Remove the fusing unit (page 66)

1. Remove the right cover[A] of the fusing unit ( x2, x1)

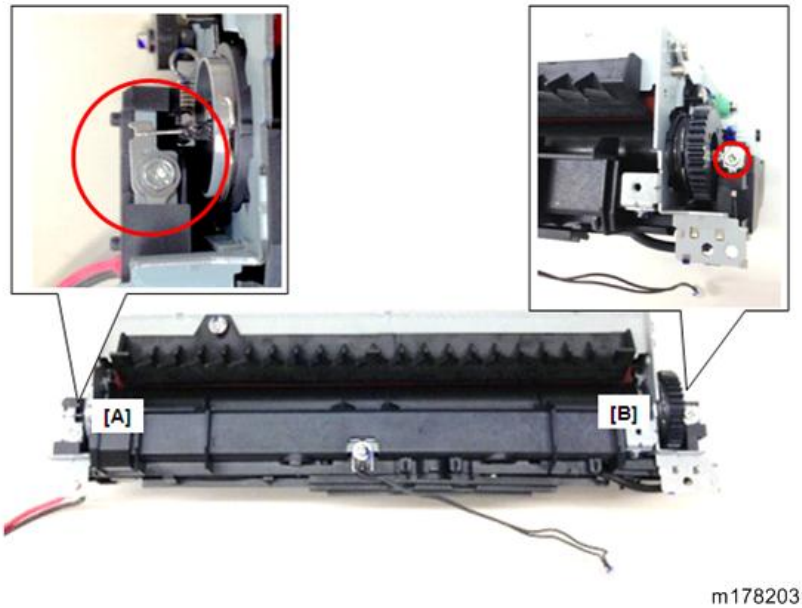



2. Remove the left cover[A] of the fusing unit ( x2)




m1782030

3. Remove the screws on the left side [A] and the right side [B] to free the Fusing Lamp ( x2).




m1782031

4. Pull out the Fusing Lamp carefully and lay it on a clean and flat surface. Do not lose the little metal plate.

m1782032

## Fusing Unit Thermistor



### Preparation

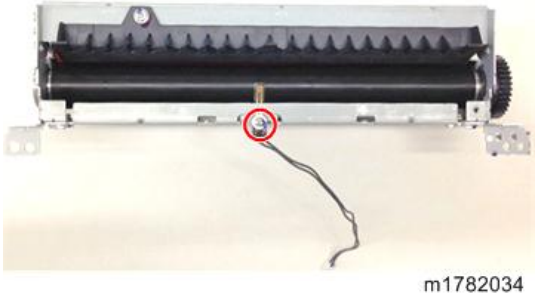
- Remove the fusing unit (page 66)
- Remove the fusing lamp
- Remove the top cover of the fusing unit ( x4).

m1782033

**Note**

- The small springs hold the three stripper pawls on the opposite side of the hot roller. It is recommended to remove the pawl springs in order to prevent the springs or pawls from falling off and being lost.

1. Free the thermistor in the fusing unit from the frame ( x4).



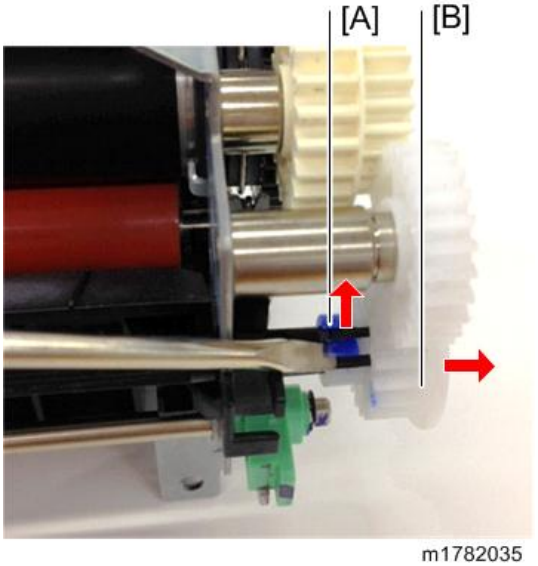
m1782034

## Paper Exit Roller

### Preparation

- Remove the fusing unit (page 66)
- Remove the fusing Lamp
- Remove the top cover of the fusing unit

1. Use the tip of a small screwdriver to release the lock pawl [A] of the exit roller gear (x1).
2. Remove the gear on the paper exit roller [B].

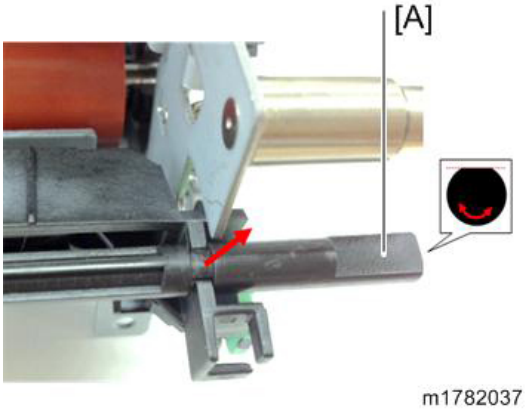


m1782035

3. Free the front plate ( x4)

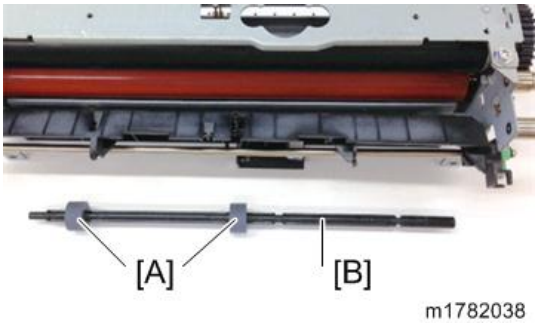

m1782036

4. Slide the front plate out of the metal frame and turn the paper exit roller [A] until you see the flat side of the roller shaft facing up.
5. Pull out the paper exit roller [A] straight up to remove it from its cradle.




m1782037

6. Remove the rollers [A] and the roller shaft [B]. (The rollers are permanently attached on the shaft.)



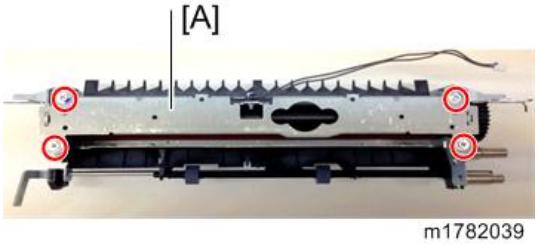

m1782038

## Hot Roller

### Preparation

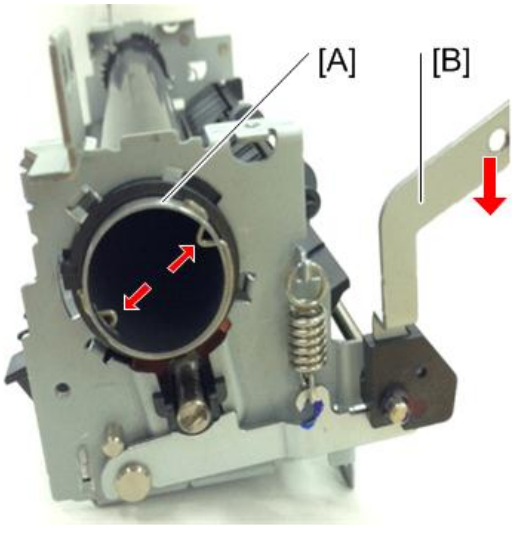
- Remove the fusing unit (page 66)
- Remove the top cover of the fusing unit

1. Remove the metal plate [A] attached to the thermistor in the fusing unit ( x4).



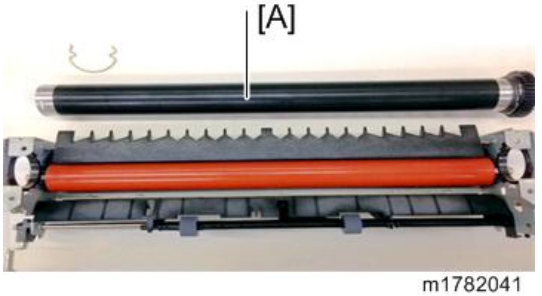

m1782039

2. Remove the ring on the left side which has no gear.
3. Pull down the lever to reduce pressure.




m1782040

4. Remove the hot roller [A] then lay it on a flat and clean surface.




m1782041

**Note**

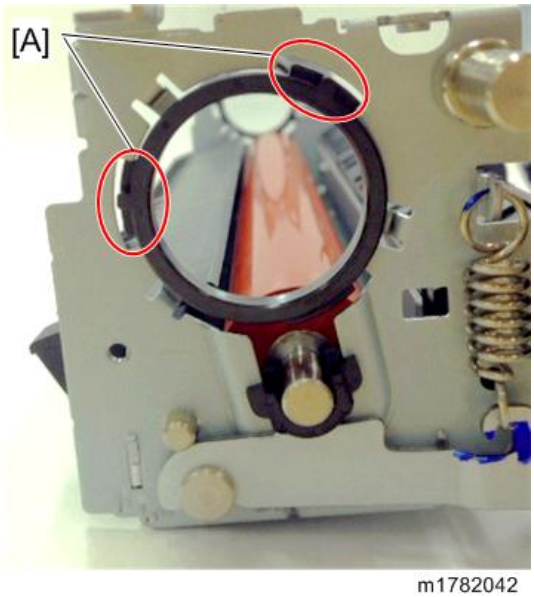
- Avoid touching the surface of the hot roller with your fingers or bare hands. If the roller requires cleaning, wipe the surface with a clean and dry cloth.

## Pressure Roller

### Preparation

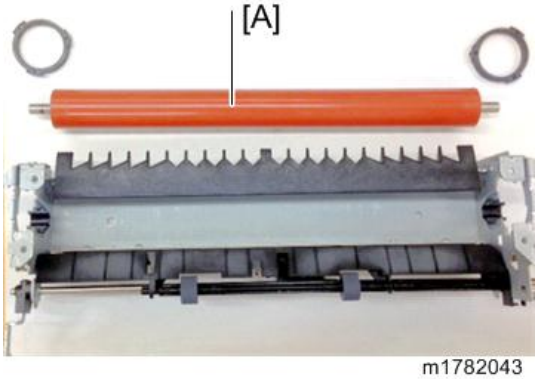
- Remove the fusing unit (page 66)
- Remove the hot roller

1. Remove two bearings [A] on the hot roller.




m1782042

2. Lift the pressure roller [A] out of the metal frame and lay it on a flat and clean surface.




m1782043

**Note**

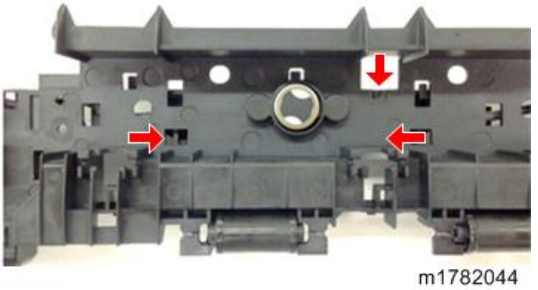
- Avoid touching the surface of the hot roller with your fingers or bare hands. If the roller needs cleaning, wipe the surface with a clean and dry cloth.

## Thermostat

### Preparation

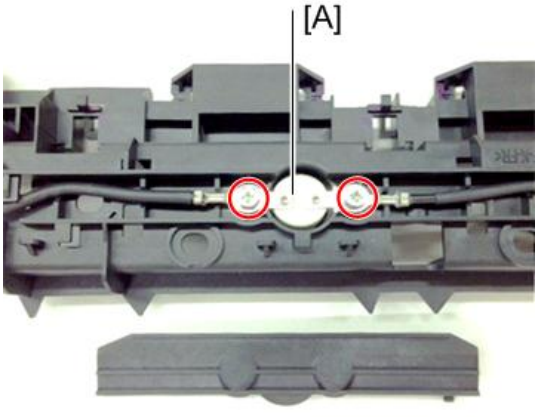
- Remove the fusing unit (page 66)
- Remove the top cover of the fusing unit

1. Turn the top cover of the fusing unit inside out and remove the cover of the thermostat. ( x3)



m1782044

2. Remove the thermostat [A] ( x2)

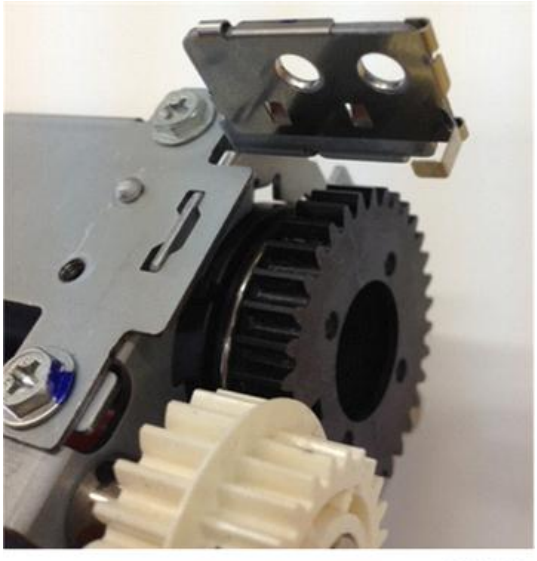



m1782045

**Note**

- Anytime you change an old blown thermostat to another, use NEW one.
- 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 a failure to detect overheating in the fusing unit and cause a fire hazard.

## Ground Plate



m1782046

1. Note the correct position for the ground plate before re-installation.

# PCB

## Before You Begin

- The PPM is decided by the combination of Laser Unit and Main Board.
- Service part Main Board is different from preinstalled Main Board.
- Replace a Preinstalled Main board to other machine may change its PPM. Please be careful.
- There are no backup function for settings and user information. Before you replacing the main board or FAXboard, be sure to print out information pages, e.g. configuration page, Fax Speed Dial List.



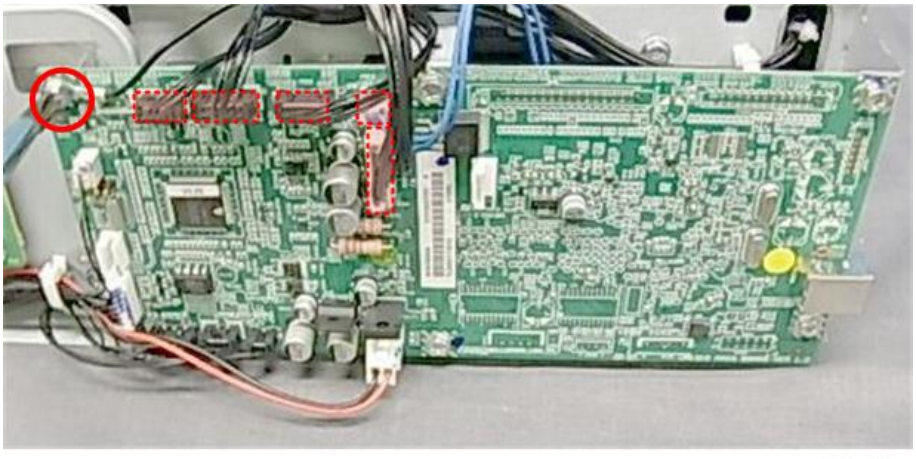
| LaserU / Main board | 16ppm LaserU | 13ppm LaserU |
|---|---|---|
| Service part | 16ppm | 13ppm |
| Preinstalled on 16 ppm Machine | 16ppm | 13ppm |
| Preinstalled on 13 ppm Machine | 13ppm | 13ppm |

## Printer Main Board

**Preparation** (page 45)

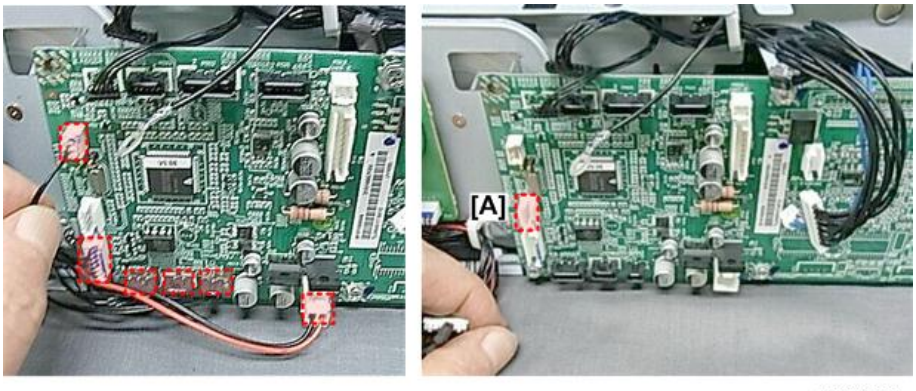
- Front cover
- Top cover
- Right cover

1. **Disconnect board at the top ( ×1, ×5).**



m101r087

2. **Disconnect board on the left and bottom edges ( ×6).**

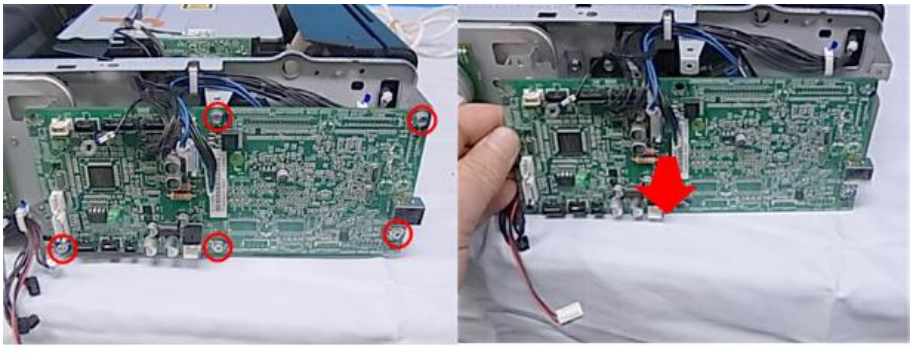



m101r088

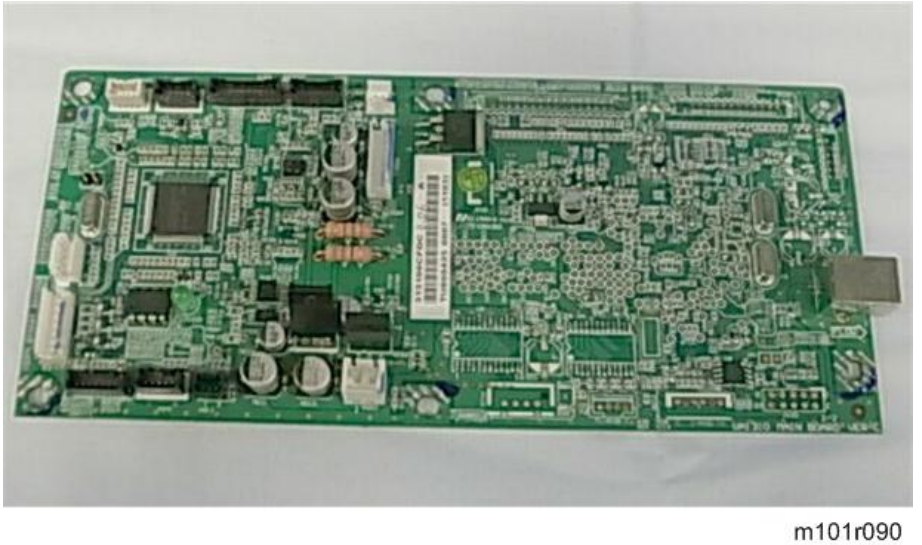
**Note**

- The socket at [A] is empty. Nothing is disconnected or reconnected here.

3. Disconnect and remove the board ( ×5).



m101r089

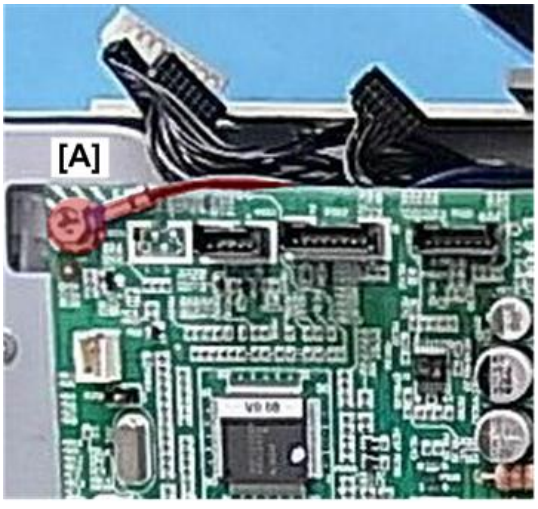


m101r090

Re-installation

1. When you re-install the board, be sure to re-connect the ground wire at the upper left corner of the main board.

2. **If the main board has been replaced, be sure to do the procedures for after replacing a main board. (☛page 126)**



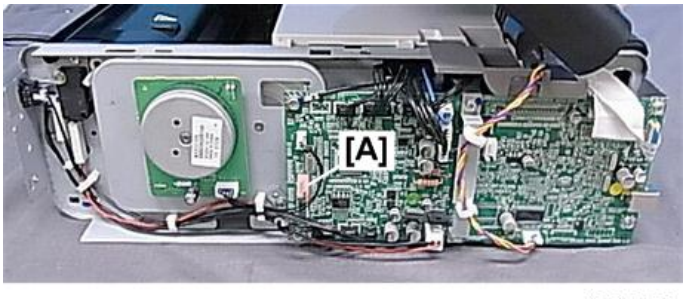

m102r030

## 3in1 Main Board

**Preparation** (☛page 45)

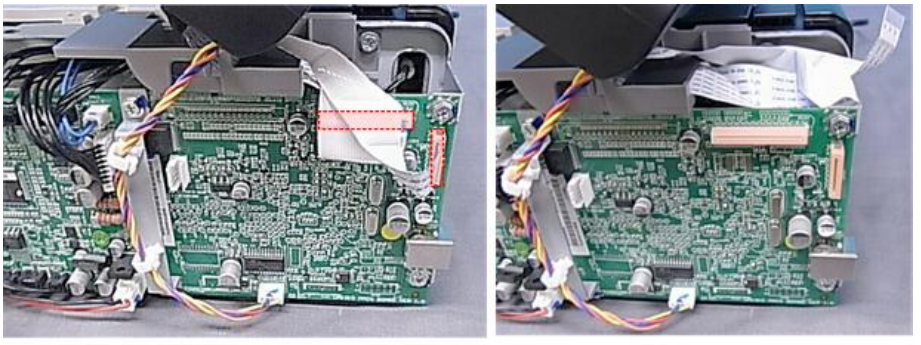
- Front cover
- Right cover

1. **Before you begin, note that there is no connector at [A].**



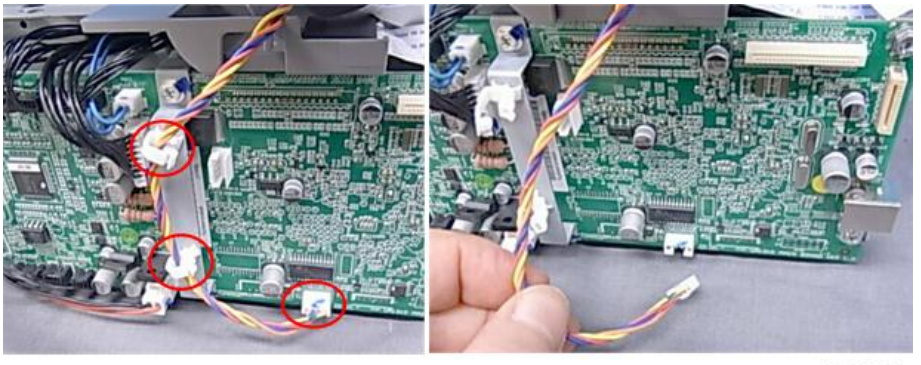

m102r020

2. Disconnect the flat cables at the upper right corner ( ×2).



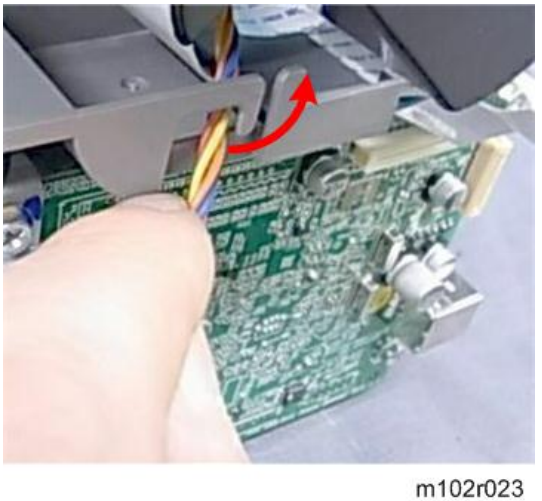
m102r021

3. Disconnect the center harness (×2, ×1)



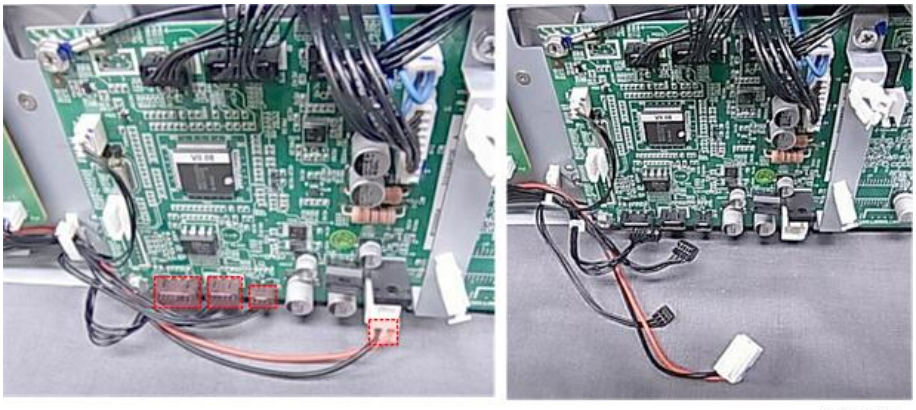
m102r022

4. Above the board, disconnect the center harness from the harness guide.



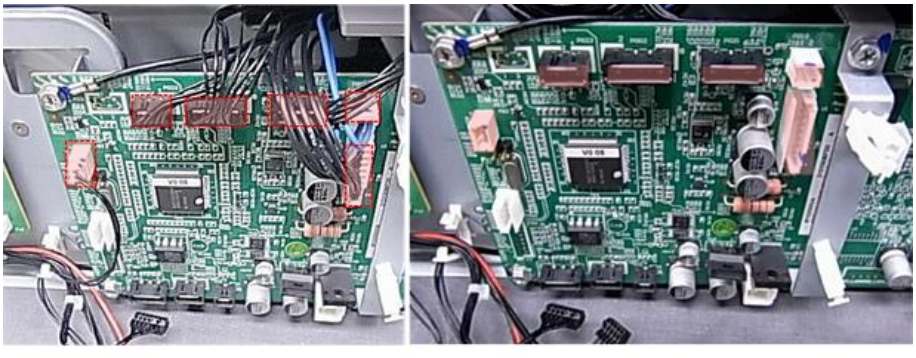
m102r023

5. Disconnect the lower left corner of the board (×4).



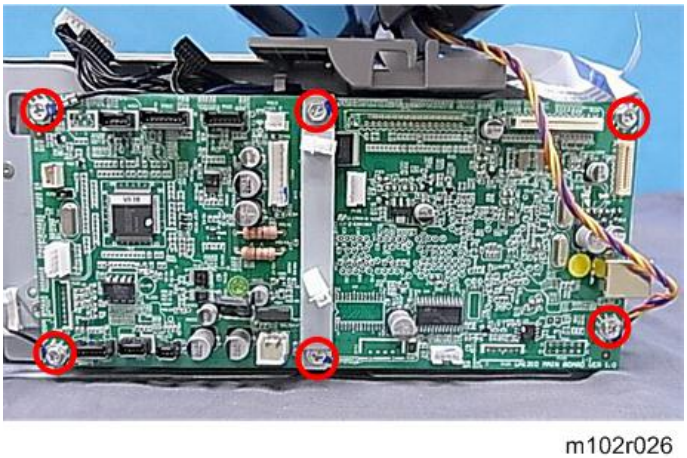
m102r024

6. Disconnect the upper right corner of the board (×6).



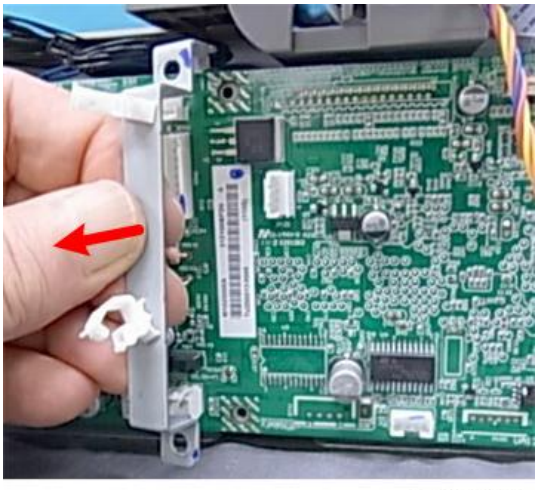
m102r025

7. Disconnect the main board ( ×6).



m102r026

8. **Remove the center harness bracket.**



m102r027

9. **Remove the board.**

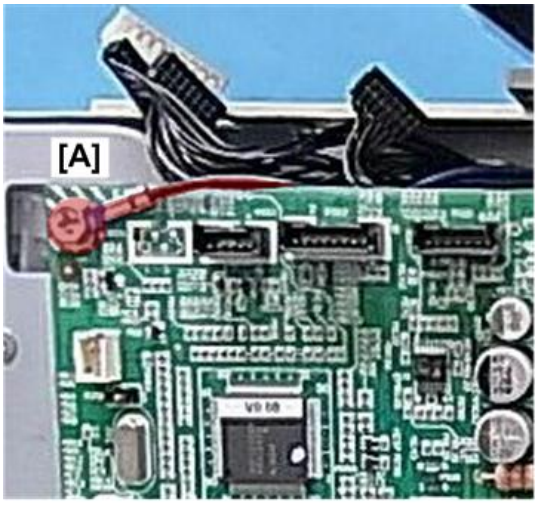
m102r028

m102r029

### Re-installation

1. **When you re-install the board, be sure to re-connect the ground wire at the upper left corner of the main board.**

2. If the main board has been replaced, be sure to do the procedures for after replacing a main board. (☛page 126)




m102r030

## 4in1 Main Board

Preparation (☛page 45)

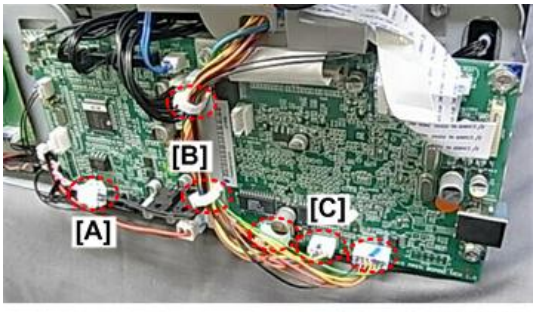
- Front cover
- Right cover

1. Before you begin, note that one connector socket is empty.

m103r087

2. Disconnect speaker harness [A] (×1).
3. Open clamps [B] (×2).

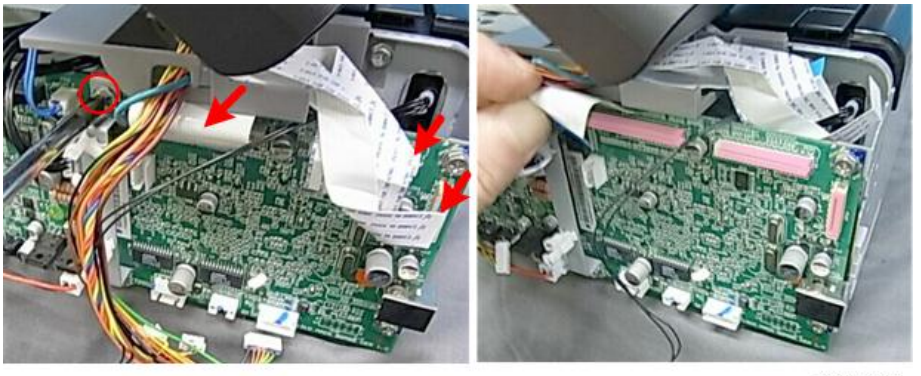
4. Disconnect lower right connectors [C] ( ×3).




m103r088

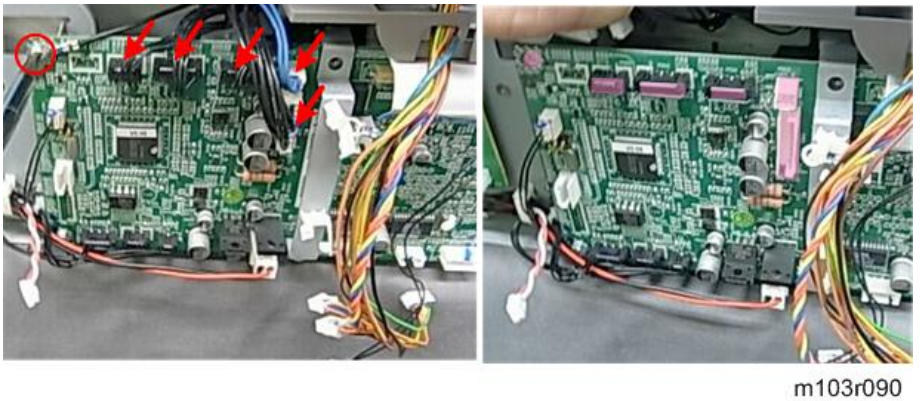


5. Remove the ground screw and flat connectors ( ×1, ×3).



m103r089

6. On the top left corner of the board, remove the ground screw and connectors ( ×1, ×5).



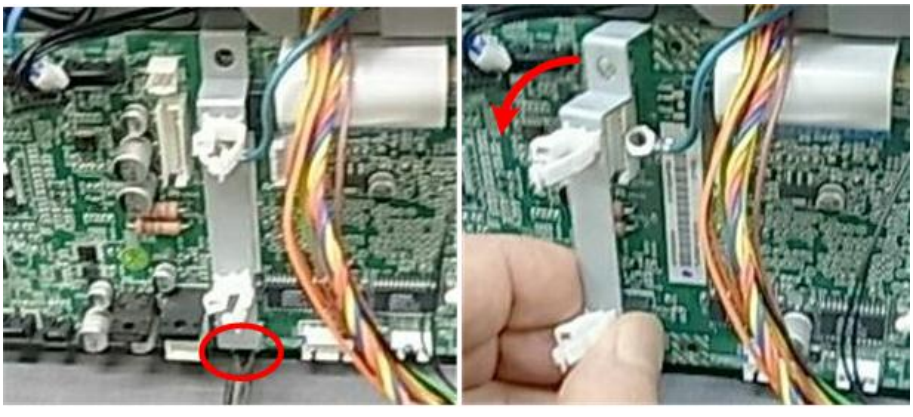
m103r090

7. On the left side and bottom left edge of the board, disconnect the connectors (×5).

m103r091



8. Disconnect the bottom of the center brace and remove it (×1).

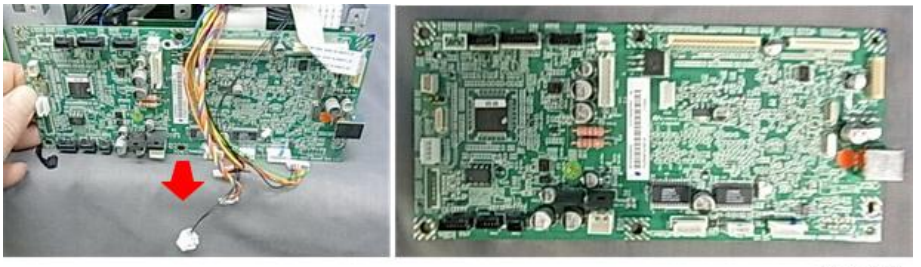


m103r092

9. Remove the remaining screws (×3).

m103r093

10. **Remove the board.**



m103r094

Re-installation

1. **When you re-install the board, be sure to re-connect the ground wires at the upper left corner and center of the main board.**
2. **If the main board has been replaced, be sure to do the procedures for after replacing a main board. (☛page 126)**

m103r095

## After Replacing the Main Board

Do the procedures below after replacing the main board.

1. **Start Smart Organizing Monitor.**
2. **Enter the service mode to display the Service Mode screen.**
3. **Do these settings on the service mode screen.**

| Setting | Comment |
|---|---|
| Fuser SC Detect | Signals a fatal error after three consecutive jams in the fusing unit. |
| Serial No. | Serial number of the machine. |

| Setting | Comment |
|---|---|
| Destination | Your geographic location. |
| PnP Name | Plug-and-Play number of the machine. |
| Horizontal | Restores factory setting for horizontal alignment of the image area. |
| Vertical | Restores factory setting for vertical alignment of the image area. |

## 4in1 Fax Board

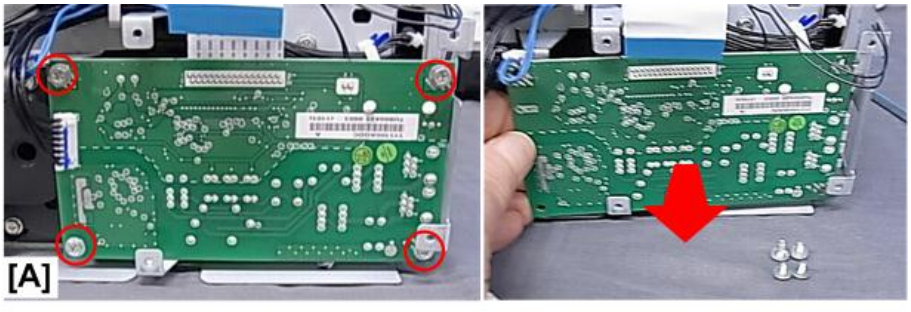


The fax board is behind the main board.

**Preparation**

- Remove the 4in1 Main Board (page 123)

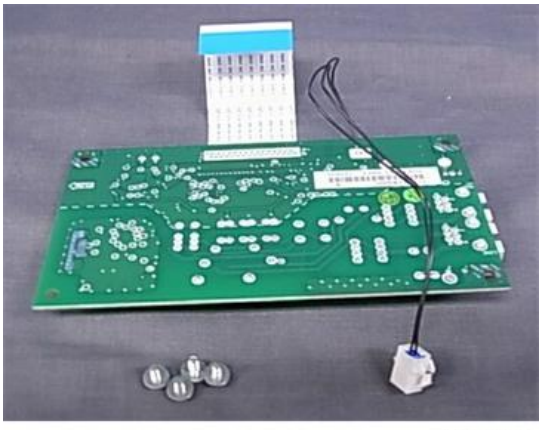
1. **Disconnect and remove the fax board ( ×1, ×3).**




m103r096

**Important**

- **The screw at [A] is a wide-thread tapping screw (for plastic). Make sure that you re-fasten it at this position.**



m103r097

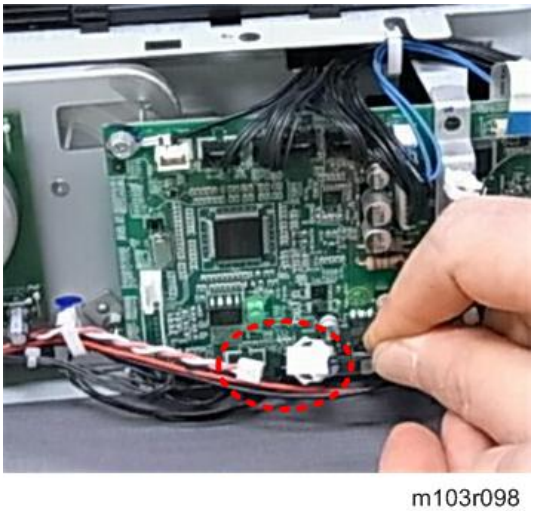


## 4in1 Fax Speaker

**Preparation** (page 45)

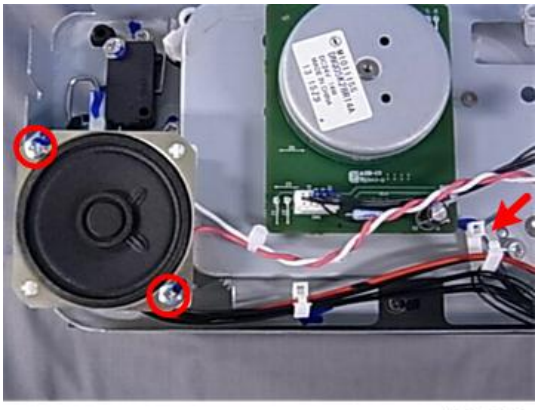
- Front cover
- Left cover

1. **Disconnect the speaker harness (×1).**



m103r098

2. Disconnect and remove the speaker (×1, ×2).



m103r099

m103r100

## PSU

### Preparation

Printer

- Front cover (page 45)
- Right cover
- PCB

3in1

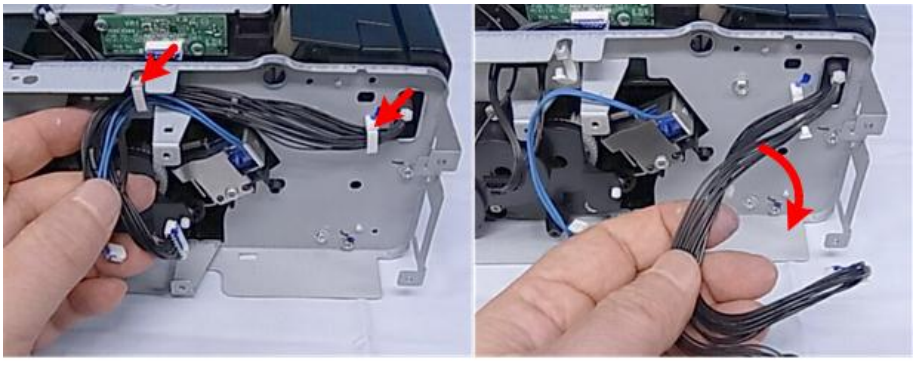
- Front cover (page 45)
- Right cover

- PCB

4in1

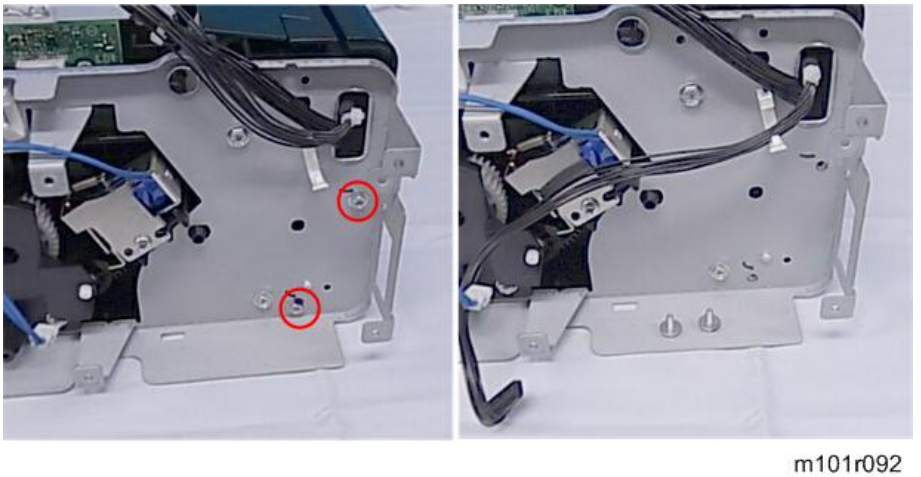
- Front cover (page 45)
- Right cover
- PCB

1. **Open the clamps and free the harnesses (×2).**



m101r091

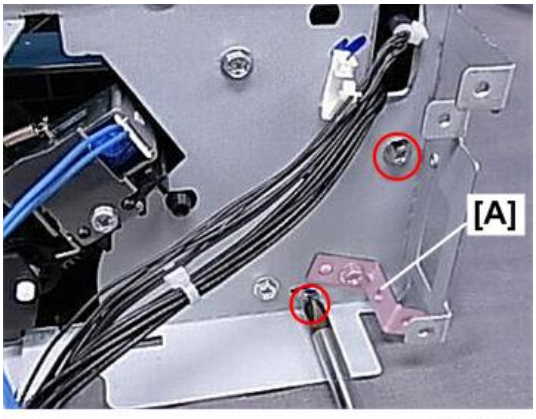
2. **Disconnect the rear cover on the right ( ×2).**



m101r092

**Note**

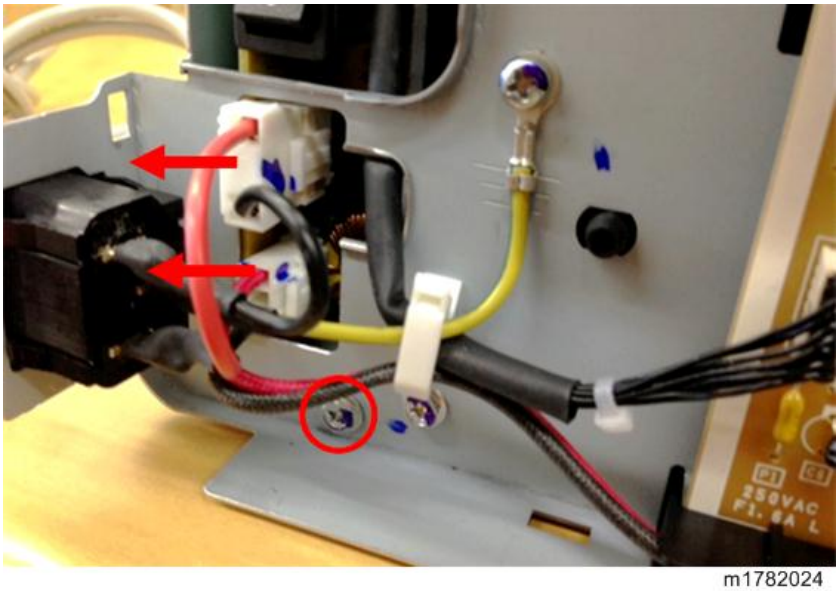
- If you are servicing the 4in1, you do not need to remove the clamp [A]




m101r093



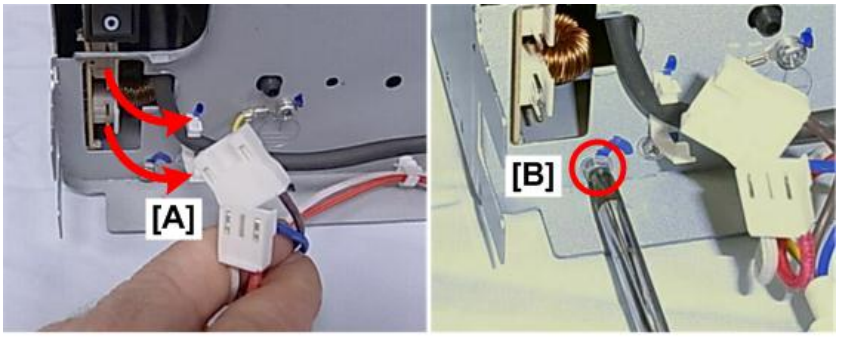
3. On the left side, slide the base of the supply plug off its mount.



m1782024

4. Disconnect both connectors (×2).

5. Disconnect the left side of the rear cover ( ×1).



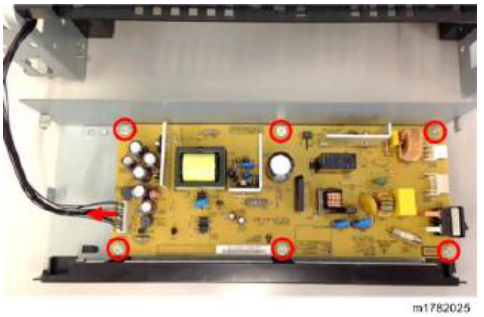

m101r095



6. Pull the rear cover a short distance away from the back of the machine, and then pull the harness through the hole at the corner of the machine.

m101r096

7. Lay the rear cover on a flat surface.
8. Disconnect the PSU ( ×1).



m1782025

9. Remove the PSU. ( ×6).

## HVPS

### Preparation

Printer

- Front cover (☛page 45)
- Top cover
- Left cover

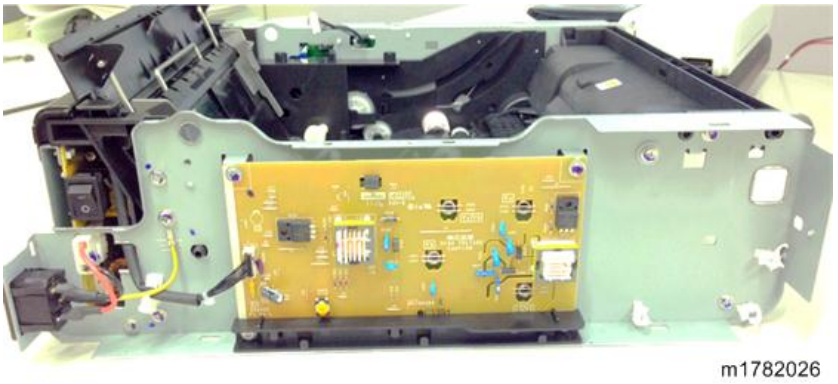
3in1

- Front cover (☛page 45)
- Top cover
- Right cover
- Left cover
- Platen cover
- Flatbed unit

4in1

- Front cover (☛page 45)
- Top cover
- Right cover
- Left cover
- Flatbed unit, ADF

1. **The HVPS is in contact with four spring-loaded terminal heads behind the board. (These contacts are from the AIO.)**

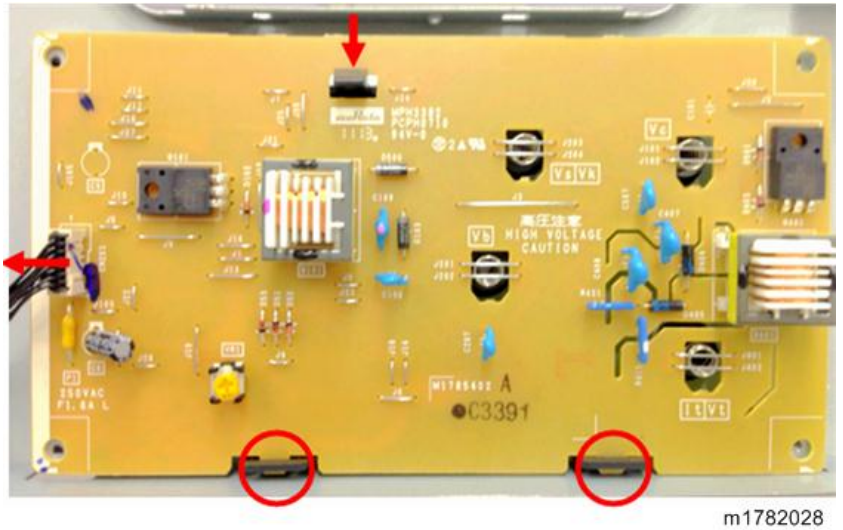



2. **Free the fusing unit harness out of the guide. (☛page 66)**

3. **Remove 4 screws, remove the harness guide.**

m1782027

4. **Disconnect the board (harness x1), press the tab to release it, pull the 2 edge tabs to remove the board.**

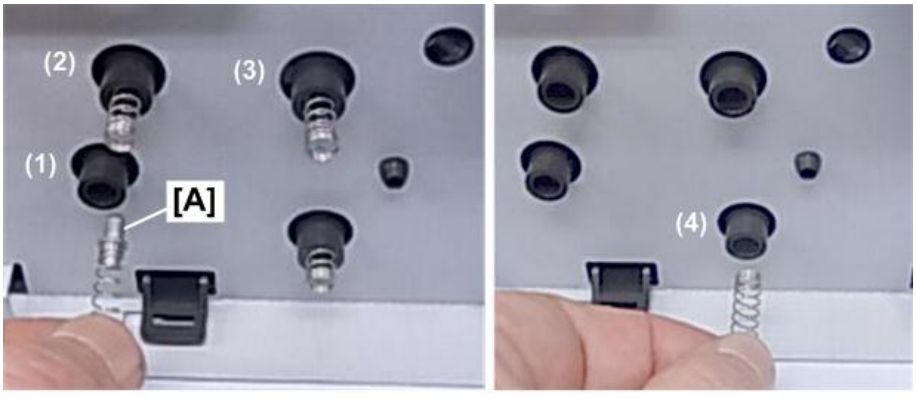


m1782028

### AIO Terminals

There are four AIO springs but only three terminal nodes'

- Points (1), (2), (3) have terminal nodes on the end of the springs.
- Point (4) consists of a spring only.

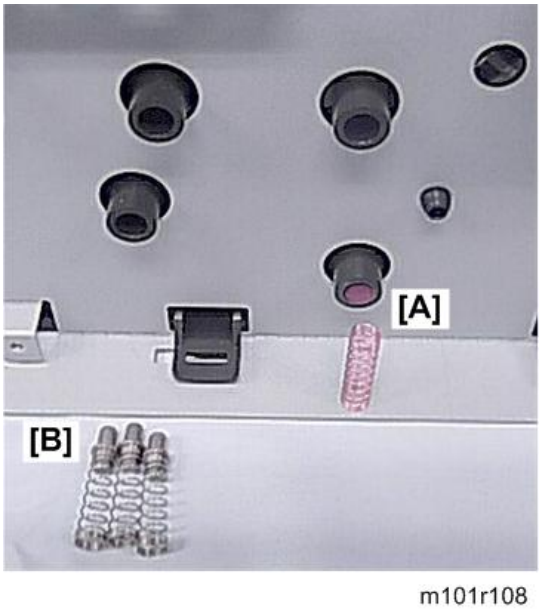



m101r107



Re-installation

1. The empty spring is re-attached at [A], and then the other springs with the terminal nodes are inserted in the other holes.




m101r108

2. When you re-install the board, make sure that the edge tabs are inserted into the bottom slots. If the board is not inserted correctly, you will not be able to re-attach the harness guide (the holes will not align correctly).

# Scanner Unit (3in1 and 4in1)

There are no serviceable parts in the scanner unit. If other part malfunctions occur, replace the whole scanner unit.

☛page 45

# ADF (4in1 only)

The only serviceable part in the ADF is the original tray cover.

If other part malfunctions occur, replace the whole ADF.

# Refilling the AIO

## Before You Begin

**Important**

- **Following procedure is only for refillable models**
- **Do not refill one AIO over three times because the limit of OPC drum life and old toner tank capacity**
- **There is no counter for counting refilled times**



## AIO, Toner Packs

- Always store AIOs and toner packs in a cool, dark place.
- The service life of the AIO supplied with the machine is approximately 500 printed pages. This should be installed at installation and used until it runs out.
- The service life of a replacement AIO is approximately 2,000/1,200 printed pages. But this will depend on the image volume and density, number of sheets printed at a time, paper type and size, and ambient conditions such as temperature and humidity. Also, toner quality may deteriorate if the printer is not used for a long period of time.
- Encourage operators to have at least one replacement AIO on hand.
- For optimum printing results, use only the AIOs and toner packs (for refilling) recommended for use with this machine.

## Toner End Alert: Printer, 3in1

The Printer and 3in1 have no system to alert the operator when the toner supply of the AIO is at near end or toner end. Show "**" for the remaining toner level in SOM.

The operator simply replaces the AIO when printed sheets become faint or blurred.

## Toner End Alert: 4in1

The 4in1 has a system to monitor toner consumption using a dot count system by the controller.

- The number of pages that can be printed between the toner near end and toner end alerts is approximately 100 pages.
- Approximately 50 pages can be printed after the toner end alert.

## More About the Toner End Option for 4in1

The Toner End Option Enables/Disables monitoring the level of toner in the AIO as toner is consumed. (Default: On). The operator can adjust the Toner End Option setting with the User Tools menu by press [User Tools] on the 4in1 operation panel, and then setting the Toner End Option and selecting either "Stop Printing" or "Continue Printing".

- **Stop Printing**. Toner end detection is on, and the machine issues the toner near-end alert when there is enough toner remaining for about only 100 pages. When toner runs out, the machine stops printing.
- **Continue Printing**. The machine continues printing when it reaches the near end level. There is neither a toner near-end nor toner end alert. Once printing becomes faint, the operator must replace the AIO or re-fill the AIO with new toner.



The status of the Toner End Option setting can be checked in three ways.

- When toner detection is on (Toner End Option is set for "Stop Printing"), the machine displays a progress display as shown below in the left column. When toner detection is off (Toner End Option is set for "Continue Printing"), the progress bar is blank with two asterisks to the right.

  **[User Tools] > Toner End Option**

| Stop Printing | Continue Printing |
|---|---|
| □□□□□~■■■■■ | ** |

- The status of the toner detection setting is also displayed on the printed Configuration page printed with Smart Organizing Monitor.

  **[User Tools] > Toner End Option**

| Stop Printing | Continue Printing |
|---|---|
| 10% to 100% | ** |

- The status of the toner detection setting, once again, displayed in the "Error History" box on the Service Mode screen of Smart Organizing Monitor

  **[User Tools] > Toner End Option**

| Stop Printing | Continue Printing |
|---|---|
| Error History | |
| Out of Toner Error Code 5 | ** |
| Toner Almost Empty Error Code 6 | ** |

## What You Need


m101r117

| No. | Item |
|---|---|
| 1 | Scissors |
| 2 | Funnel |
| 3 | Flathead (-) screwdriver |
| 4 | Toner Pack |
| 5 | Gloves |
| 6 | Gauze Mask |

## Refill Procedure

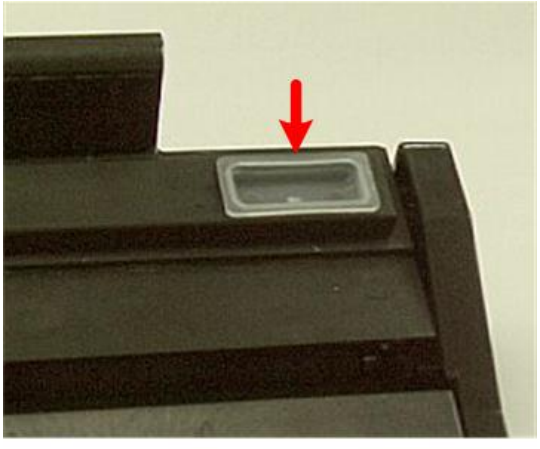
**Important**

- **The refilling procedure should be performed by a trained service technician.**

### Removing Old Toner

Different from ME-P1/MF1, ME-P2/MF2 don't have old toner output port on AIO.

The capacity of old toner tank can support three times refilling.

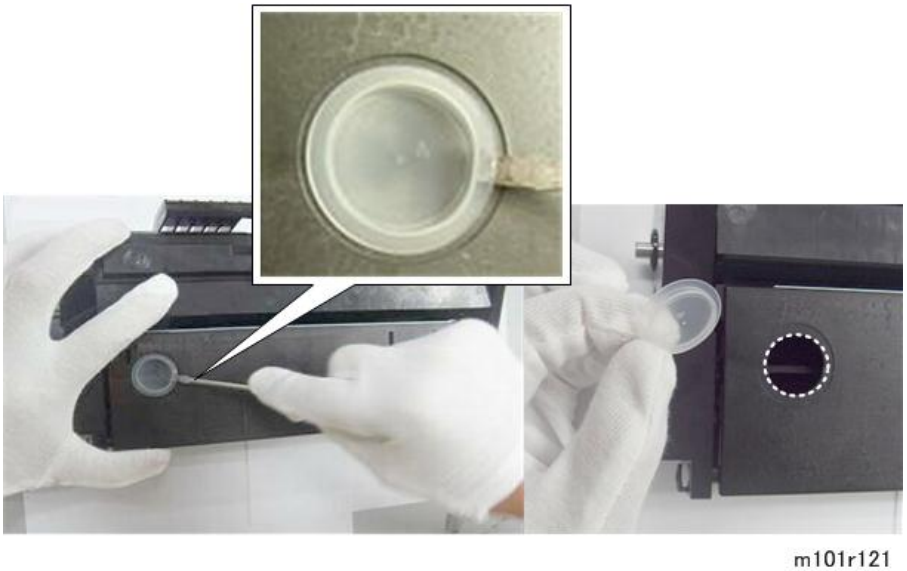


m101r120



## Filling the AIO with New Toner

1. **Remove the round cap of the toner supply tank with a screwdriver.**



m101r121

2. Use scissors to cut off one small part of a corner of the toner pack as shown above. The cut should be about 10 to 16 mm long (about 1/2 in.).


m101r122

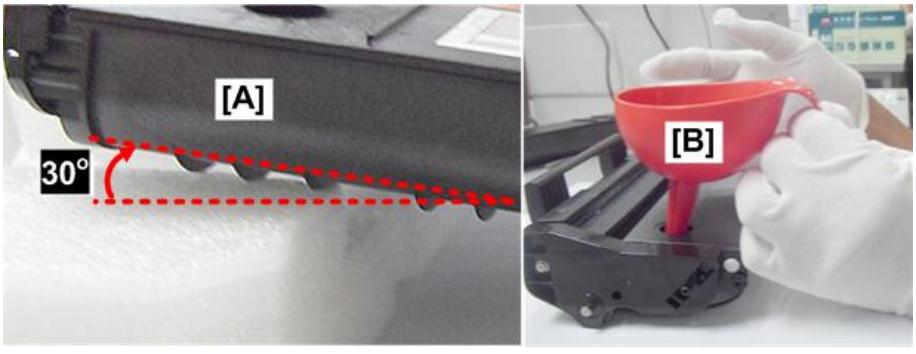
**Important**

- The cut must be small. Cutting large a hole will cause toner to scatter.

3. Raise the end of the AIO about 30 degrees by placing something under the toner supply tank as shown above.
4. Insert the tip of the funnel in the port of the toner supply tank.

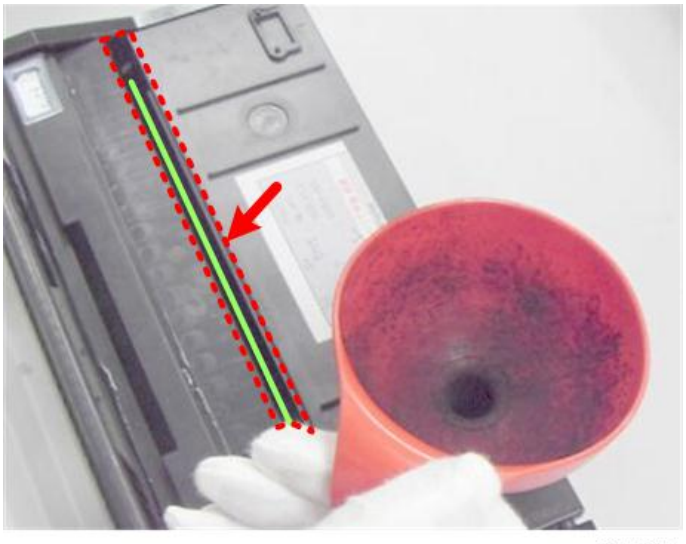
**Important**

- You must hold the funnel to prevent the tip of the funnel from touching and damaging components inside the AIO.



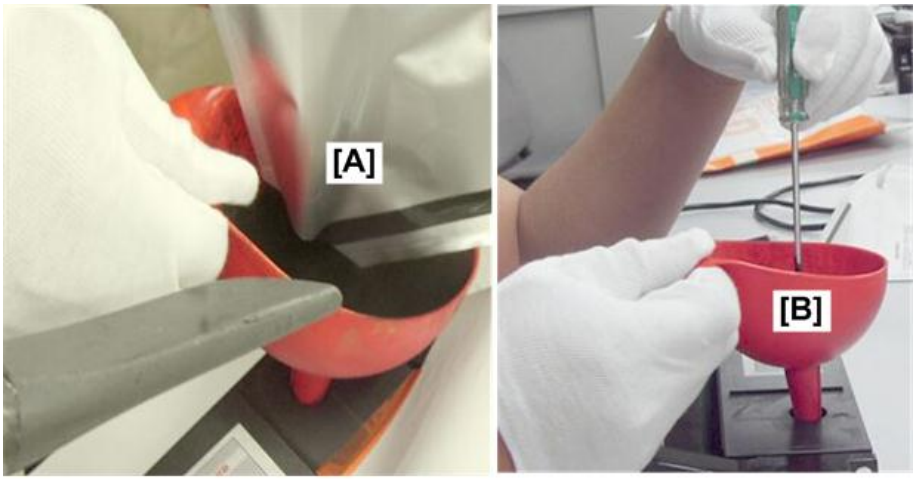

m101r123

5. **Work carefully. Never allow toner to fall into the open slot where the green surface of the drum is exposed.**



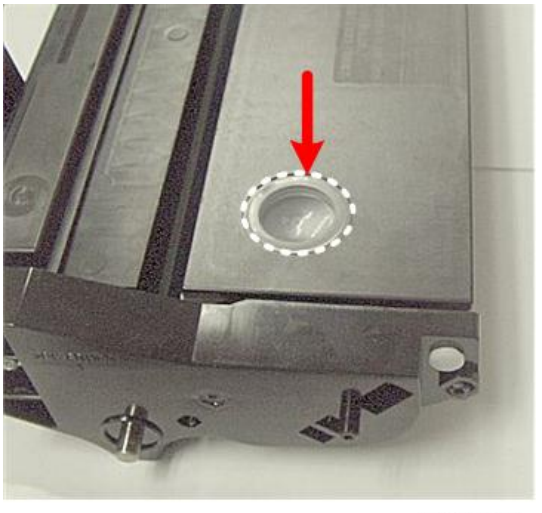
m101r124

6. **Slowly pour the toner from the pack [A] into the mouth of the funnel.**
   - Pour the toner slowly to prevent it from clumping the neck of the funnel.
   - If the toner flow stops, use the tip of the screwdriver [B] to stir the toner gently so it falls through the neck of the funnel.




m101r125

7. **Re-attach the round cap of the toner supply tank.**



m101r126

## After Refilling

Different from ME-MF1 4in1, toner counter of ME-MF2 4in1 can't be reset.

It need to be setting at [User Tools] > Toner End Option > Continue Printing.

# 5. System Maintenance Reference

## Firmware Update

The machine firmware can be updated with packages downloaded from a Web site. The firmware update procedure is described in the Operating Instructions and can be performed by the operator.

### Before Updating the Firmware

Important

- **An engine firmware update failure may trigger SC670, which can only be cleared by replacing main board.**
- **Because of this, make sure to do the following:**
- **Update the firmware in Ready mode**
- **Unplug the fax cable before starting the update**
- **Do not cut the power, unplug the USB cable, or do any other operation during the update**

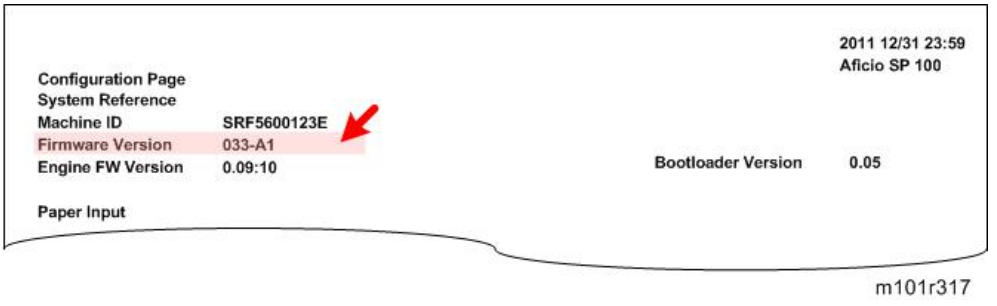
Before you update the firmware:

- Print a Configuration Page before and after updating the firmware.
- Make sure that the machine is on and connected to the PC by its USB cable.
- Never disconnect the USB cable while the firmware is being updated.
- Make sure that the PC is set so it does not enter standby mode or sleep mode automatically during the firmware update. The firmware update may take a while to complete, so you may need to switch off the standby or sleep mode settings in the PC operating system.

### Firmware Update Procedure

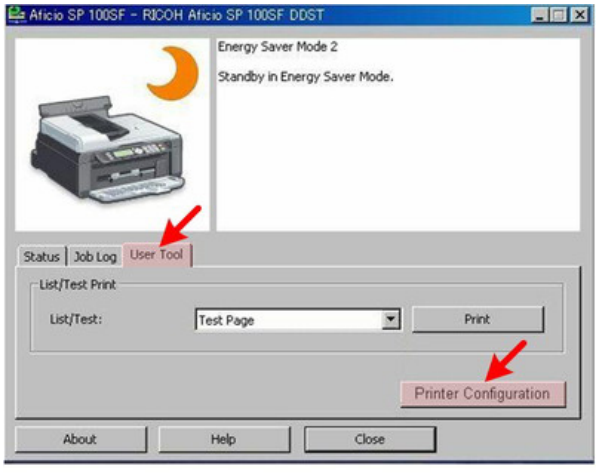
1. **Start Smart Organizing Monitor.**
2. **Open the List/Test drop-down list, select Configuration Page, and then click [Print].**

3. The Configuration Prints the current Firmware Version number.



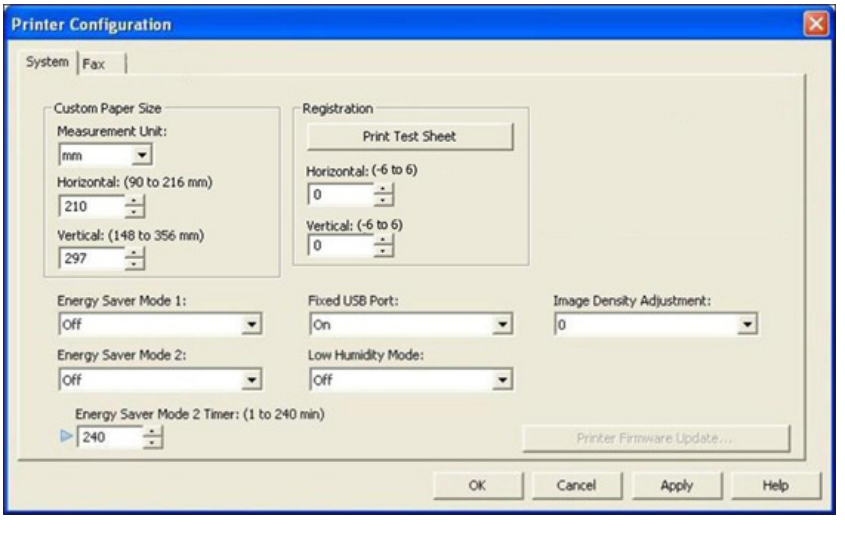

m101r317

4. Click the [User Tools] tab, and then click [Printer Configuration].

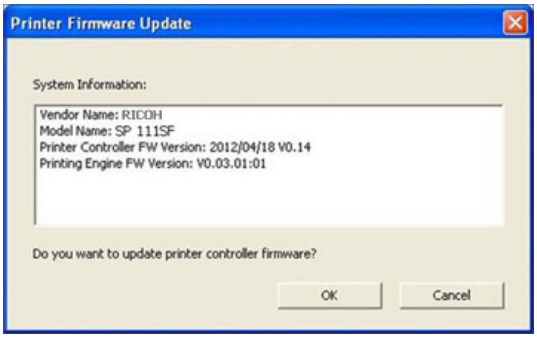



m101r315

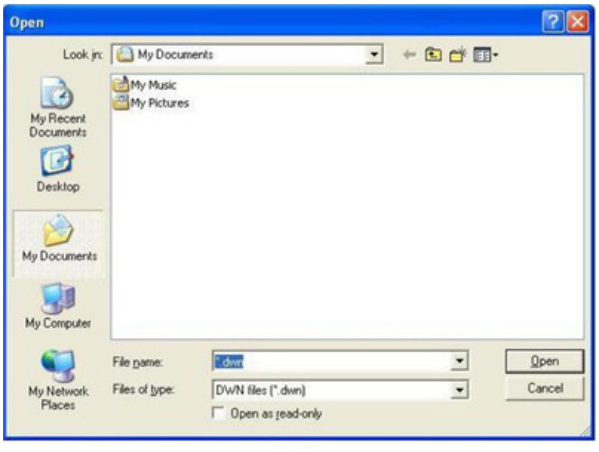
5. Click [Printer Firmware Update].



6. Click [OK].




7. Specify the location of the DWN file, and then click [Open].




m101r314

8. A message will alert you if you select the wrong file.


9. After selecting the correct file, a message confirms that firmware update has completed
10. Cycle the machine off/on to initialize the new firmware.
11. Print another Configuration Page (as you did in Step 4).
12. Compare the Firmware Version numbers to confirm that the number for the new version of the firmware is printed.

# Utilities

## Smart Organizing Monitor

The Smart Organizing Monitor screens are slightly different for each machine. For example, on the Service Mode screen all the machines have the System and Printer tab but:

- Printer has the System and Printer tab but neither the Copy nor Fax tab
- 3in1 has the System, Printer, and Copy tab but not the Fax tab
- 4in1 has the System, Printer, Copy, and Fax tab

| | Status tab Job log tab<br>User tool tab | Print log | Fax log | System tab | Printer tab | Copy tab | Fax tab |
|---|---|---|---|---|---|---|---|
| Printer | Yes | Yes | No | Yes | Yes | No | No |
| 3in1 | Yes | Yes | No | Yes | Yes | Yes | No |
| 4in1 | Yes | Yes | Yes | Yes | No | No | Yes |

**Note**

- In the screen samples used below to describe the Smart Organizing Monitor, are from the 4in1.
- Differences between the screens are noted when appropriate.

### Initial Screen


m101t021

**Image area**. The image area on the top left, displays the image of the connected machine.

**Message area**. The message area on the top right, displays the current status of the machine (Ready, Energy Saver 1, etc.)

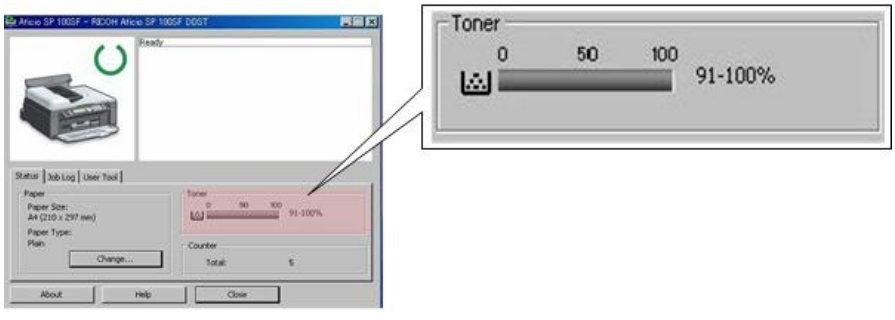
**Status tab and area**. Indicates the current paper size and type selected for operation.

**Change button**. Opens the Paper Size/Type Settings dialog box so the operator can choose the paper size and type to be used in the machine (see below).

**Job Log tab**. Displays the print job history.

**User Tool tab**. Presents the Print and Printer Configuration buttons that allow the operator to do test prints and change the device settings.

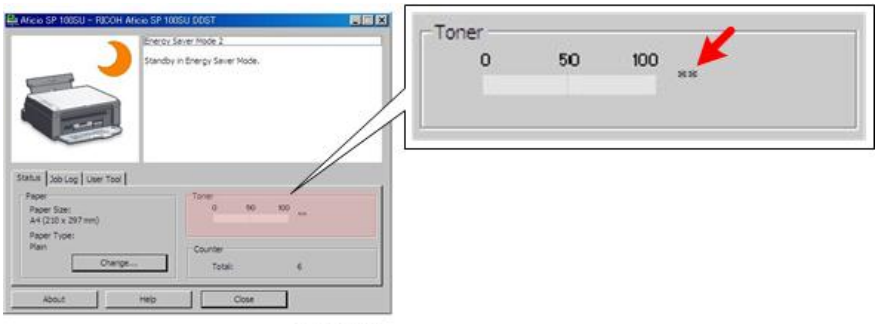
**Toner**. (4in1 and unrefillable printer, 3in1) This is the toner count progress bar that shows the progress of toner consumption.




m101t057

- When the progress bar appears as shown above, the Toner End Option in User Tools is set for "Stop Printing". The machine will issue a near end alert when the AIO is almost out of toner, and then stop printing when the AIO is out of toner.
- 4in1 can continue to print after toner and by change User Tool -> System setting -> Toner End Option.

| Toner Condition | Sample Image |
|---|---|
| Toner remained | 0 50 100 11-20% |
| Toner almost empty | 0 50 100 Almost Empty |
| Toner empty | 0 50 100 Empty |

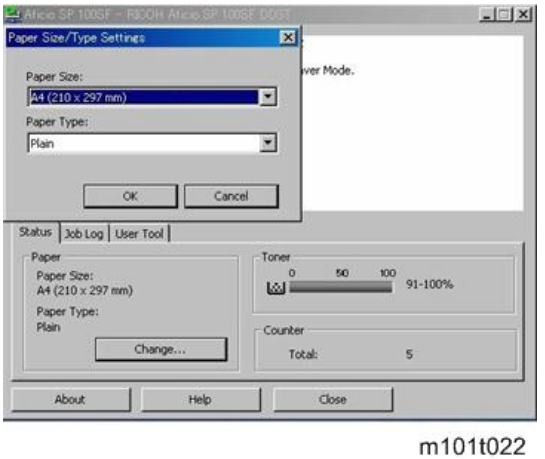



m101t056

- When the progress bar appears blank with two asterisks to the right as shown above, for refillable printer 3in1, and the 4in1 which the Toner End Option in User Tools is set for "Continue Printing". The machine does not count toner consumption, does not issue a toner near-end alert, and does not issue a toner end alert. The machine will keep printing until all the toner is used in the AIO. (The operator will know when it is time to replace or re-fill the AIO when prints become faint.)

**Counter**. Displays the total number of sheets printed by the machine.

## Status Tab Change Button




m101t022

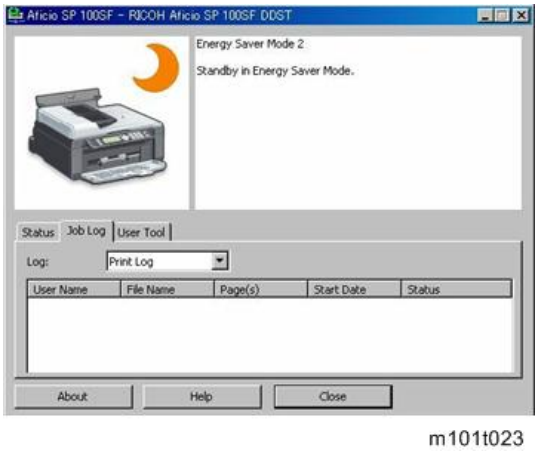
**Paper Size**. Allows the operator to select the size of the paper that will be loaded in the printer.

| Name | Size |
|---|---|
| A4 | 210 x 290 mm |
| A5 | 148 x 210 mm |
| A6 | 105 x 148 mm |

| Name | Size |
|---|---|
| Legal | 81/2" × 14" |
| F/GL | 8" × 13" |
| Foolscap | 81/2" × 13 " |
| Folio | 81/4" × 13" |
| Letter | 8.5 x 11 in. |
| 5 1/2"x 8 1/2" | --- |
| Executive | 7 1/4" x 10 1/2" |
| B5 JIS | 182 x 257 mm |
| B6 JIS | 128 x 182 mm |
| 16K | 197 x 273 mm |
| 16K | 195 x 270 mm |
| 16K | 184 x 260 mm |
| Custom Paper Size | Configure the actual size of the paper with the Custom Paper Size settings on the Printer tab of the Printer Configuration screen. |

**Paper Type**. Allows the operator to select the type of paper that will be loaded in the printer. (Thin, Plain, Thick, Recycled)

## Job Log Tab




m101t023

**Log: Print Log**. Operator can select either Print Log or Fax Log (4in1 only).

- The Print Log is the only log available on this screen with the Printer ands 3in1.
- The Print Log is limited to the last 20 jobs. Once this limit is exceeded, the log for the oldest job is deleted so the most recent job can be displayed in the log.
- The current log is erased when the machine is powered off/on.

**User Name**. The name of the user who logged on and executed the job

**File Name**. The name of the printed document.

**Page(s)**. The number of pages printed from the document.

**Start Date**. Date and time the job was printed. The date and time are displayed in the format YYYY/MM/DD and HH:MM:SS

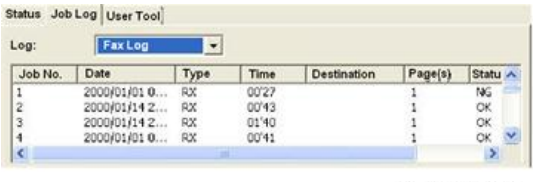
**Status**. Current status of the job.

- **Completed**. Job has been completed.
- **Canceled**. Job was canceled before completion.
- **Error**. Error in the current job (paper jam, mismatch)

**Note**

- "Error" is also displayed while the machine is waited paper printed on one side to be set again for reverse side printing.
- **Processing**. Job is current in progress.

**Fax Log Information**




m101t023a

**Log: Fax Log**. The Fax Log is available for the 4in1 only.

- The Fax Log is limited to the last 100 fax jobs. Once this limit is exceeded, the log for the oldest job is deleted so the most recent job can be displayed in the log.
- The current Fax Log remains stored in the machine after the machine is powered off/on.

**Job No**. The number of the fax job

**Date**. Date fax was printed. Date/Time are displayed in the format YYY:MM:DD/HH:MM:SS)

**Type**. RX or TX.

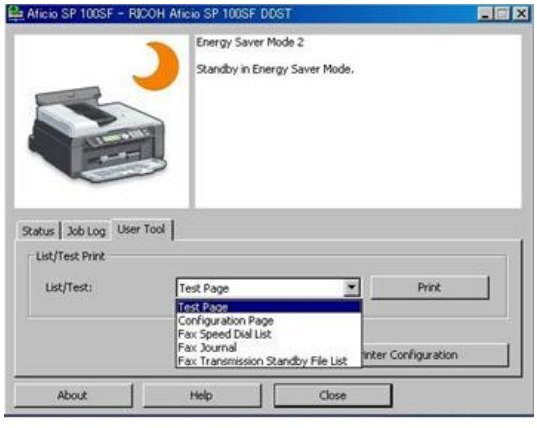
**Time**. Duration of the RX or TX job.

**Destination**. Fax number of the remote station.

**Pages**. Number of pages in the RX/TX job.

**Status**. Status of the job (OK or NG).

## User Tool Tab




m101t024

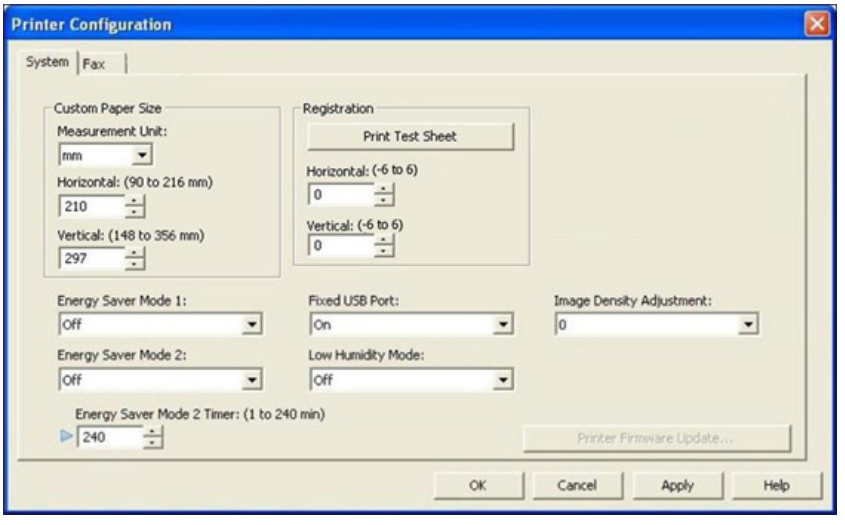
**List/Test**. This drop-down list presents a list of choices for printing (the fax prints are available for the 4in1 only):

- **Test Page**. Used to check image quality.
- **Configuration Page**. Lists current machine settings.
- **Fax Speed Dial List**. Lists the numbers registered for speed dialing.
- **Fax Journal**. Lists the TX/RX transactions
- **Fax Transmission Standby List**. Lists all the faxes stored in memory and queued for transmission.

**Print button**. Prints the item selected from the List/Test drop-down list.

**Printer Configuration button**. Opens the Printer Configuration Screen (see below).

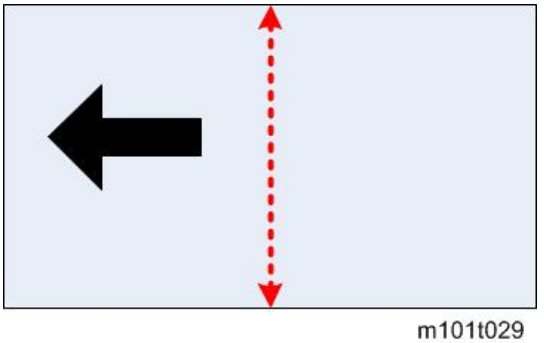
## System Tab






### Custom Paper Size

- **Measurement Unit**. Select either mm or inch for the entries into the Horizontal and Vertical boxes below.
- **Horizontal (90 to 216 mm)**. Enter the size of the paper that is vertical relative to the feed direction of the machine.



m101t029

Width Range: 90 to 216 mm (3.54 to 8.5 inch)

Adjustment: 1 mm or 0.01 inch steps

- **Vertical :148 to 356 mm(5.83 to 14.02 inch)**. Enter the size of the paper that is horizontal relative to the feed direction of the machine.

Default: 210 x 297 (8.50 x 11.00)

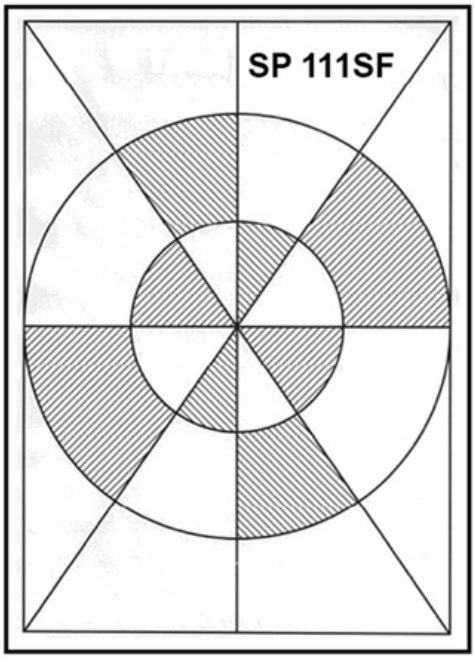
m101t030

Length Range: 148 to 356 mm (5.83 to 14.02 inch).

Adjustment: 1 mm or 0.01 steps

**Registration**

- **Print Test Sheet button**. Prints the Print Test Sheet.




- Horizontal (-15 to 15). Adjusts the horizontal position of the image area. Adjustable in 0.1 mm steps.
- Vertical (-15 to 15). Adjusts the vertical position of the image area. Adjustable in 0.1 mm steps.

**Energy Saver Mode 1**. Switches Energy Saver Mode 1 off/on. When this feature is on the machine enters Energy Saver Mode 1 after the machine remains idle for 30 sec. This time limit is not adjustable.

**Energy Saver Mode 2**. Switches Energy Saver Mode 2 off/on. When this feature is on the machine enters Energy Save Mode 2 after the machine remains idle for 1 min. (default setting). This time limit is adjustable.

- **Energy Saver Mode 2 Timer (1 to 240 min.)** Allows adjustment of the timer.

Range: 1 to 240 min. (Default: 1 min.(

**Fixed USB Port**. Two settings are available.

- **On**. Not Fixed USB Port (Default). The Plug-and-Play function will start up and require re-installation of the printer driver.
- **Off**. Fixed USB Port. The PC will not recognize another machine of the same model as a new device. This prevents the PC's Plug-and-Play function from starting up, and allows the current printer driver to be used without reinstallation.

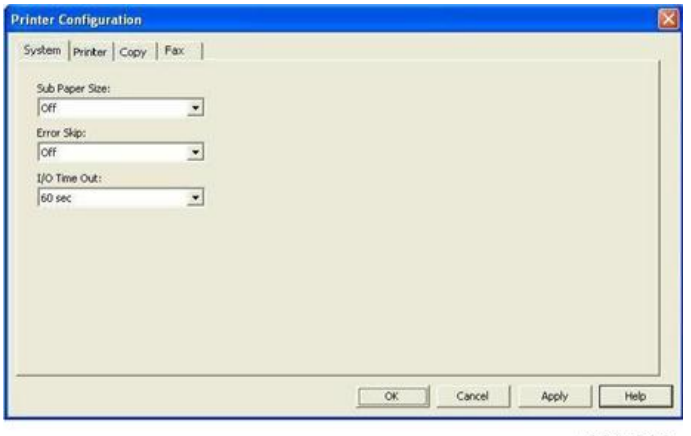
**Low Humidity Mode**. Two settings are available.

- **Off**. (Default)
- **On**. Black lines a few millimeters thick may appear in prints when the machine operates in a low humidity environment. Switching this feature on may eliminate these lines.

**Image Density Adjustment**. Adjusts the overall density of printed pages. Adjustable in 6 steps (Default: 3)

**Printer Firmware Update Button**. Clicking this button starts the firmware update procedure. (☛ page 145)

## Printer Tab




m101t026

**Sub Paper Size**. Allows substitution of A4 for LT, or LT for A4. This substitution feature is allowed for A4/LT paper sizes only.

- **Off**. The machine stops when a paper mismatch error occurs between A4/LT.
- **On**. (Default)The machine automatically allows A4 to be substituted for LT (or LT for A4) without interrupting printing.

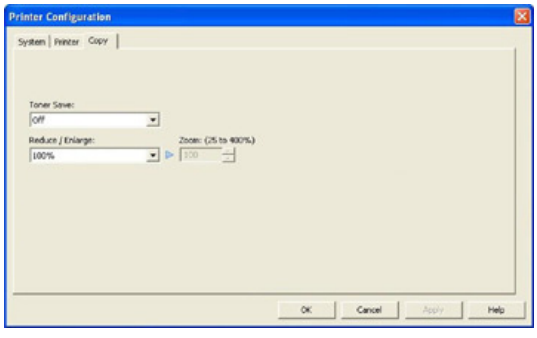
**Error Skip**. Determines whether printing stops or continues when a paper size or paper type mismatch occurs.

- **On**. (Default) Printing stops when a printer size or printer type mismatch occurs.
- **Off**. The machine ignores a printer size or printer type mismatch and continues print.

**I/O Time Out**. Sets the length of time for the machine to wait for data from the USB port before it issues an error.

Range: Off, 15 sec., 60 sec., 300 sec.

## Copy Tab




**Toner Save**. Two settings are available.

- **Off**. Normal amount of toner is used for printing.
- **On**. Reduces the amount of toner used when printing. This setting extends the service life of the AIO but prints appear slightly lighter. Use this setting for printing drafts, and then switch it off for final prints.

**Reduce/Enlarge**. Selects a pre-set zoom rate for enlargement or reduction of copied images. Selecting "Custom" enables the "Zoom" feature.

| Destination | Value |
|---|---|
| EU/AP/China or other | 200, 141, 122, **100** (default), 93, 82, 71, 50%<br>Zoom: 25 to 400% (Default: 100%) |
| NA | 200, 155, 129, **100** (default) , 93, 78, 65, 50%<br>Zoom: 25 to 400% (Default: 100%) |

**Zoom (25 to 400%)**. Enabled only after "Custom" has been selected for Reduce/Enlarge above.

- Range: 25 to 400%
- Adjustable in 1% steps.

## Fax Tab


m101t028



**Program Fax Information**. This is the name and fax number of the local machine. This information is printed at the top of every fax sent.

- **Own Name**. Name of the local machine. Range: 20 alphanumeric single-byte characters or 10 double-byte characters.
- **Own Fax Number**. Fax number of the local machine. Range: Up to 20 digits, spaces, and "+" permitted.

**Speed Dial**. Allows the operator to register speed dial information.

- **No. (00 to 99)**. Selects the number where a new speed dial entry will be registered. This is the number the operator will press on the machine operation panel to speed dial a destination number for fax sending.
- **Destination**. Name of the remote machine to receive faxes. Range: 20 alphanumeric single-byte characters or 10 double-byte characters.
- **Fax Number**. The fax number of the remote machine to receive faxes. Range: Up to 20 digits, spaces, and "+" permitted.

  **Note**

  - These settings are used to either register new speed dial settings or to edit existing settings.
  - To edit and existing speed dial setting, use the scroll bar to display the setting to edit, and then click it once to highlight it. The information will appear in the Destination and Fax Number boxes for edit.
- **Apply**. Saves the newly registered or edited speed dial settings..

**Speed Dial Destination List**. This area list all the currently registered information for speed dialing. Use the scroll bar on the right to display more settings.

- **No**. Speed dial number where information is registered.
- **Destination**. Name of the remote machine.

- **Fax Number**. Fax number of the remote machine.

**Delete**. Deletes the line highlighted line in the Speed Dial Destination List. A line can be highlighted with pointing the cursor and clicking the mouse.

**Delete All**. Deletes all information registered for speed dialing.

## Smart Organizing Monitor Service Mode

### What Is Service Mode?

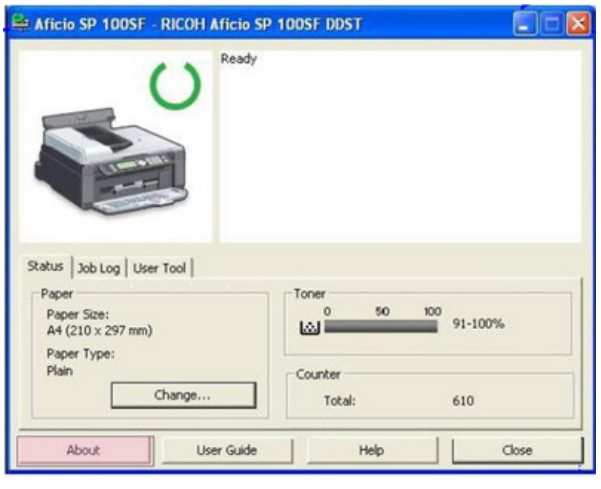
The Service Mode is opened from inside the Smart Organizing Monitor. Smart Organizing Monitor is the utility that allows the operator to view and change the machine settings. It is installed from the CD ROM with the Smart Organizing Monitor selection.



### Service Mode Screen

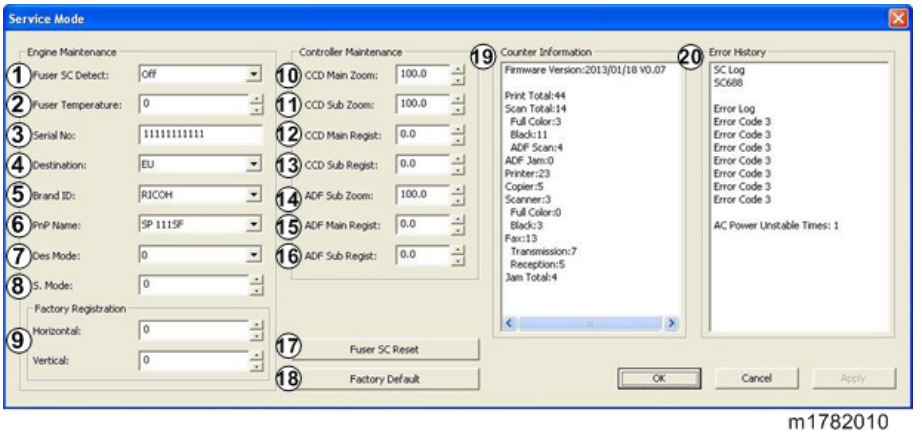
The Service Mode is opened from inside the Smart Organizing Monitor that was installed from the CD ROM at installation.

1. **Start Smart Organizing Monitor.**




M103v012

2. **Enter the service mode to display the Service Mode screen.**



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| (1) | Fuser SC Detect |
|---|---|
| | When ON detects a third successive paper jam in the fusing unit and shuts down the machine. The machine cannot be operated until the service technician resets the machine with the "Fuser SC Reset" button below. This minimizes the dangers of a fire hazard.<br>[On to Off/On]<br>**Note**: This feature should always be set to "On" to ensure safe operation of the machine.<br>Here is a list of SC errors that are considered fatal errors. Once three of any of following errors occurs, the machine will shut down and cannot be operated until the service technician has executed a reset (see next feature):<br>• SC541 Fusing Unit Thermistor Error<br>• SC542 Fusing Reload Temperature Error<br>• SC543 High Temperature Error (Soft)<br>• SC544 High Temperature Error (Hard)<br>• SC545 Fusing Lamp Remains ON Error<br>• SC559 Fusing Unit Third Jam error |

| (2) | Fuser Temperature |
|---|---|
| | Raises the target fusing temperature in 1 degree increments to improve fusing. [0 to 40/0/1 1°C steps] |

| (3) | Serial No. |
|---|---|

| | |
|---|---|
| | Displays the serial number of the machine and allows editing of the current number. Name length: 11 alphanumeric characters. |

| (4) | Destination |
|---|---|
| | This setting should be done for the area where the machine is sold and used. JPN, NA, EU, ASIA, China, Taiwan, ROK, Other. This is an important selection because it affects the following options, depending on which destination is selected:<br>• Default paper size. LT in NA and A4 for all other areas.<br>• Units of measure. Inches in NA millimeters in all other areas.<br>• Fixed steps for reduction/enlargement (see Specifications).<br>• Toner End Option |

| (5) | Brand ID |
|---|---|
| | This setting should be done for the appropriate brand.<br>Settings: 1:Ricoh |

| (6) | PnP Name |
|---|---|
| | This is the "Plug and Play" name. This facilitates the discovery the machine the system, without the need for physical device configuration, or user intervention in resolving resource conflicts.<br>Settings: 0: SP111, 1: SP111SU, 2: SP111SF, 3: SP112, 4: SP112SU, 5: SP112SF, 6: SP110, 7: SP110SU, 8: SP110SF |

| (7) | Des Mode |
|---|---|
| | 0: For emerging countries<br>1: For developed countries |

| (8) | S Mode |
|---|---|
| | Application settings for unexpected problems.<br>**Important**: Ignore this setting and do not change it. This is for future use.<br>[0 to 255/0/1 step] |

| (9) | Factory Registration |
|---|---|

| | | |
|---|---|---|
| | These are the image registration settings entered at the factory before the machine is shipped. | |
| | Horizontal | [-40 to 40/0/1 mm steps] |
| | Vertical | [-40 to 40/0/1 mm steps] |

| (10) | CCD Main Zoom | 3in1, 4in1 |
|---|---|---|
| | Adjusts magnification in the horizontal direction, vertical relative to the direction of paper feed (main scan direction)<br>[98 to 102/0.4% steps] | |

| (11) | CCD Sub Zoom | 3in1, 4in1 |
|---|---|---|
| | Adjusts magnification in the vertical direction, horizontal relative to the direction of paper feed (sub scan direction).<br>[98 to 102/0.4% steps] | |

| (12) | CCD Main Regist | 3in1, 4in1 |
|---|---|---|
| | Adjusts the scan start position in the vertical direction.<br>[-5 to 5/0.5 mm steps] | |

| (13) | CCD Sub Regist | 3in1, 4in1 |
|---|---|---|
| | Adjusts the scan start position in the horizontal direction.<br>[-5 to 5/0.5 mm steps] | |

| (14) | ADF Sub Zoom | 4in1 |
|---|---|---|
| | Adjusts the magnification of the image in the sub scan direction copied from an original fed from the ADF.<br>[98 to 102/0.4% steps] | |

| (15) | ADF Main Regist | 4in1 |
|---|---|---|
| | Adjusts the magnification of the image in the main scan direction copied from an original fed from the ADF.<br>[-5 to 5/0.5 mm steps] | |

| (16) | ADF Sub Regist | 4in1 |
|---|---|---|
| | Adjusts the magnification of the image in the main scan direction copied from an original fed from the ADF.<br>[-5 to 5/0.5 mm steps] | |

| (17) | Fuser SC Reset |
|---|---|
| | Fuser SC can only be cleared in service mode.<br>To clear Fuser Service call: SC541, SC542, SC543, SC544, SC545, SC559. |

| (18) | Factory Default |
|---|---|
| | The function clears all logs and returns all settings to their default settings. The settings that are returned to their factory defaults include:<br>• Counters (The total counter which printed on configuration cheat don't be cleared)<br>• Error Log (SC codes)<br>• Print Log<br>• Fax TX/RX Log (4in1)<br>• Image Data for Faxes (TX/RX) (4in1)<br>• Report Images<br>• Fax Speed Dial List (4in1)<br>• User Tool Settings (4in1)<br>• Service Mode settings<br>• Fax Maintenance (fax-related service mode settings). (4in1)<br>When this button is clicked the service mode made during will be closed. |

| (19) | Counter Information | | | |
|---|---|---|---|---|
| | Counts are totaled for these items. Note that there are some differences, depending on the machine. | | | |
| | Item | Printer | 3in1 | 4in1 |
| | Print Total | Yes | Yes | Yes |
| | Scan Total | No | Yes | Yes |
| | Full Color | No | Yes | Yes |

| | | | | |
|---|---|---|---|---|
| | Black | No | Yes | Yes |
| | ADF Scan | No | Yes | Yes |
| | Printer | Yes | Yes | Yes |
| | Copier | No | Yes | Yes |
| | Scanner | No | Yes | Yes |
| | Full Color | No | Yes | Yes |
| | Black | No | Yes | Yes |
| | Fax | No | No | Yes |
| | Transmission | No | Yes | Yes |
| | Reception | No | Yes | Yes |
| | JAM Total | Yes | Yes | Yes |



Notes

- **Print Total.** The print counter increments every time a printed sheet is output. A sheet is not counted when one of the following occurs: 1) Paper misfeed or paper jam, 2) top cover open error, 3) paper size error
- **Scan Total**. The scan counter increments every time an original is scanned on the exposure glass (3in1, 4in1) or by ADF original feed (4in1). An original is not counted if it jams in the ADF.
- **Fax TX**. The Fax TX counter increments at completion of each transmission.
- **Fax RX.** The Fax RX counter increments when a Fax prints and when a report prints. The counter increments for these reports: 1) TX Standby File List, 2) Fax Journal, 3) TX Status Report and 4) Power Failure

| (20) | Error History | |
|---|---|---|
| | There are two classes of errors: The "SC Log" and the "Error Log". | |
| | • The "SC Log" displays the numbers of the latest 8 errors. The errors are listed by their "SC" (Service Code) number. (☛page 192)<br>• The "Error Log" lists the 8 most recent error results cleared by cycling the machine off/on. (See list below.) | |
| | **Engine Error** | **Display** |
| | Printer Jam/Paper Out | Error Code 3 |

| | | |
|---|---|---|
| | ADF Jam | Error Code 3 |
| | Size Error | Error Code 3 |
| | Cover Open | Error Code 3 |
| | Not Set Print Cartridge | Error Code 3 |
| | Out of Toner | Error Code 5 |
| | Toner Almost Empty | Error Code 6 |

## 4in1 User Tools

The operator can manage the User Tools settings. For more details about how to configure the User Tools settings, please refer to the Operating Instructions. The list below is provided for quick reference for the Service Technician. Here are some important points to keep in mind about User Tools

- Users Tools is a menu driven system. You can open the menus on the 4in1 by pressing the [User Tools] button on the machine operation panel.

  **Important**

  - **Only the 4in1 has a [User Tools] button. With the Printer or 3in1 you have to use the Service Mode of the Smart Organizing Monitor for engine maintenance and other settings.**
- The User Tools settings are saved after the machine is powered off.
- The User Tools default settings are determined by which language is selected.
- The table below is a map of the User Tools menu on the 4in1. For more details, please refer to the Operating Instructions.

| System Settings | | |
|---|---|---|
| | **Tray Paper Settings** | **Paper Size** |
| | | Presents a variety of standard paper sizes for selection (A6 to A4, LT, HLT, Executive, Legal, F/GL, Foolscap folio, three 16K Chinese paper sizes, and Custom. |
| | | **Paper Type** |
| | | Plain Paper(default), Recycled Paper, Thick Paper, Thin Paper |
| | **Adjust Sound Volume** | Four settings are available for the sound volume levels listed below: Off, Low, Middle, High. |
| | | **Panel Key Sound** |

| | |
|---|---|
| | For the key buzzer. |
| | **Alarm Volume** |
| | For the error buzzer. |
| | **On Hook Mode** |
| | For hook mode. |
| | **Copy Job End Tone** |
| | For copy job end sound alert. |
| | **Copy Job Error Tone** |
| | For copy job error sound alert. |
| | **Print Job End Tone** |
| | For print job end sound alert. |
| | **Scan Job End Tone** |
| | For scan job end sound alert. |
| | **Scan Job Error Tone** |
| | For scan job error sound alert. |
| | **Fax TX End Tone** |
| | For fax transmission end sound alert. |
| | **Fax TX Error Tone** |
| | For fax transmission error sound alert. |
| | **Fax RX End Tone** |
| | For fax reception job end sound alert. |
| | **Fax RX Error Tone** |
| | For fax reception job error sound alert. |
| **Set Date/Time** | **Set Date** |

| | | |
|---|---|---|
| | | Allows setting the current date in the format:<br>YYYY MM/DD (Year Month/Day)<br>DD/MM/YYYY<br>YYYY/MM/DD |
| | | **Set Time** |
| | | Allows setting the time in 24-hour or 12-hour format: |
| | **Program Fax Info.** | **Own Fax Number** |
| | | User fax no: 20 numeric digits (spaces, "+" allowed) |
| | | **Own Name** |
| | | User name: 20 alphanumeric 1-byte characters, or 10 2-byte characters. |
| | **Function Priority** | Copier (default) or Fax |
| | **Energy Save Mode** | **Energy Save Mode 1** |
| | | ON/OFF (default)<br>Enters energy saver mode if the machine remains idle for 30 sec. |
| | | **Energy Save Mode 2** |
| | | ON (default)/OFF<br>Enters the energy saver mode after the length of time for the machine to remain idle has expired. Default: 1 min. This setting can be adjusted in the range 1 to 240 min. |
| | **Language** | Simplified Chinese, English |

| | | |
|---|---|---|
| | **Country Code**<br>**(WW model only)** | China Model:<br>1. Simplified Chinese (Default)<br>2. English<br>WW Model:<br>1. English (Default)<br>2. German<br>3. French<br>4. Italian<br>5. Spanish<br>6. Dutch<br>7. Swedish<br>8. Norwegian<br>9. Danish<br>10. Finnish<br>11. Portuguese<br>12. Czech<br>13. Hungarian<br>14. Polish<br>15. Russian<br>16. Portuguese(BR)<br>17. Turkish |
| | **Fixed USB Port** | Off: Fixed USB Port<br>The PC will not recognize another machine of the same model as a new device. This prevents the PC's Plug-and-Play function from starting up, and allows the current printer driver to be used without reinstallation.<br>On: Not Fixed USB Port (Default) |
| | **Print Cartridge** | This is the progress bar for toner remaining in the AIO.<br>• If Toner End Option (see below) is on ("Stop Printing") this progress bar is also displayed on the initial screen of the SOM.<br>• If Toner End Option is off ("Continue Printing") the progress bar is blank with two asterisks to the right here (and on the initial screen of the SOM). |

| | | |
|---|---|---|
| | **Low Humidity Mode** | Off (default)/On<br>Black lines a few millimeters thick may appear in prints when the machine operates in a low humidity environment. Switching this feature on may eliminate these lines. |
| | **Registration** | This is image registration. It determines how the image is projected onto the drum and then onto the paper.<br>• **Horizontal**. [-6 to 6/0/1 mm steps]<br>• **Vertical.** [-6 to 6/0/1 mm steps] |
| | **Adjust Image Density** | Adjusts the overall image density. Three settings (reflected in the progress bar) are available.<br>-3 to 3/0/1 |
| | **Toner End Option** | Stop Printing (default)/Continue Printing<br>• **Stop Printing**. The machine monitors the level of toner in the AIO. When toner runs low, the machine issues the toner-near end alert, and there is enough toner remaining to print about 100 pages. When the toner runs out, the machine issues the toner end alert and the machine will stop printing.<br>• **Continue Printing**. The machine will continue to print, even after the AIO runs out of toner. The operators must replace the AIO when they see the quality of the prints deteriorate.<br>**Note**<br>• When "Stop Printing" is selected the machine monitors the toner level in the AIO, and you will see the toner end progress bar on the first screen of the SOM.<br>• When "Continue Printing" is selected, the machine does not monitor the toner level, you will see a blank progress bar and two asterisks displayed at the right side. |
| | **Reset Settings** | **Reset All Settings** |

| | | |
|---|---|---|
| | | [Execute], [Cancel]<br>Touching [Execute] restores all User Tool settings to their factory defaults except:<br>• Language<br>• Date/Time(but format will be reset to default)<br>• Fax Speed Dial numbers registered<br>Touching [Cancel] rotates the menu to the previous level without changing any settings. |
| | | **Clear Address Book** |
| | | [Execute], [Cancel]<br>Touching execute erases all destination numbers registered for Fax Speed Dial. Touching [Cancel] rotates the menu to the previous level without deleting anything. |
| **Printer Features** | | |
| | **I/O Timeout** | Sets the length of time for the machine to wait for data from the USB port before it issues an error.<br>Off, 15 sec., 60 sec(default)., 300 sec. |
| | **Auto Continue** | Sets the machine to pause temporarily and then ignore paper size or paper type mismatches and continue printing.<br>• OFF: Error displayed.<br>• 0 Sec: No Error displayed and continue printing. (Default)<br>• 10 Sec: Error displayed and restarts printing automatically after 10 seconds.<br>• 30 Sec: Error displayed and restarts printing automatically after 30 seconds. |
| | **Sub Paper Size** | Allows substitution of A4 for LT, or LT for A4.<br>• **Off**. The machine stops when a paper mismatch error occurs between A4/LT.<br>• **On**. (Default) The machine automatically allows A4 to be substituted for LT (or LT for A4) without interrupting printing. |
| **Copier Features** | | |

| | | |
|---|---|---|
| | **Sort** | Sets the sort mode.<br>• **Off**. (Default) Non-sort mode.<br>• **On**. Sort mode. |
| | **Original Type** | Selects the copy function for the type of original for optimum results.<br>• **Text/Photo**. (Default) Original contains both text and photos (or illustrations).<br>• **Text**. Original contains text only.<br>• **Photo**. Original contains mostly photos or illustrations. |
| | **Density** | Sets the copy scanning density.<br>The setting selections are reflected in a progress bar, from left to right: Lighter, Normal, Darker |
| | **Reduce/Enlarge** | Sets the rate for reduction and enlargement. |
| | EU/AP | 200, 141, 122, **100** (default), 93, 82, 71, 50%<br>Zoom: 25 to 400% (Default: 100%) |
| | NA | 200, 155, 129, **100** (default) , 93, 78, 65, 50%<br>Zoom: 25 to 400% (Default: 100%) |
| | **Combine** | Combines document pages on paper.<br>• **Off**. (Default) 1 document page prints per 1 side of a sheet of paper.<br>• **2on1**. 2 document pages print per 1 side of a sheet of paper. Portrait (Default) or Landscape can be selected.<br>• **4on1**. 4 document pages print per 1 side of a sheet of paper. The operator can also select Portrait: L to R, Portrait: T to B, Landscape: L to R(Default), Landscape: R to L. |
| | **2 Sided Copy** | Allows the operator to set up printing on both sides of the paper.<br>• **Off**. (Default)<br>• **Top to Top**. The operator can also select Portrait (default) or Landscape.<br>• **Top to Bottom**. The operator can also select Portrait (default) or Landscape. |

| | | |
|---|---|---|
| | **Toner Saving** | This setting conserves toner when printing copies.<br>• **Off**. (Default)<br>• **On**. Printing copies consumes less toner. |
| **Fax Features** | | These features set up fax communication, sending, and receiving. |
| | **TX Settings** | **Immediate TX** |
| | | Determines whether the original is scanned into memory or sent directly over the line.<br>• **Off** (Default). The original is scanned into memory and queued for sending.<br>• **On**. The original is scanned and sent immediately (not scanned into memory).<br>• **New Fax Only**. Sends next fax transmission by Immediate TX, and then resets automatically to "Off". |
| | | **Resolution** |
| | | Sets the resolution for fax scanning.<br>• **Standard**. (Default) 8x3.85 dots/mm<br>• **Detail**. 8x7.7 dots/mm<br>• **Photo**. 8x7.7 dots/mm<br>**Note**: The Erase Background setting (see below) is disabled when "Photo" is selected. |
| | | **Erase Background** |
| | | Erases spurious background dots and other imperfections during scanning.<br>On (Default) / Off<br>**Note**: This features does not operate when "Photo" is selected for "Erase Background" above. |
| | | **Density** |
| | | Adjusts the overall image density for scanning originals for fax sending. Three settings (reflected in the progress bar) are available.<br>Lighter, Normal (Default), Darker |
| | | **Pause Time** |

| | | |
|---|---|---|
| | | Specifies the length of time to pause between digits of a fax number when dialing.<br>Time (1-15 sec.) Default: 3 sec. |
| | | **Auto Redial** |
| | | Determines whether the machine automatically redials after transmission failed because the remote fax was busy.<br>Off/On (Default)<br>The number of redial attempts and time interval between attempts to redial are determined by the Service Mode setting. (Defaults: 5 min./3 times) |
| | | **Print Fax Header** |
| | | Determines whether a header appears in faxes sent by the machine.<br>• **On**. (Default) Faxes sent from the machine have a header (4mm) that includes: date, time, transmitter's name, transmitter's fax number, session number, page number, and page total.<br>• **Off**. No header included. |
| | | **Fax Mode** |
| | | Simplify the manual TX/RX operation when there is no original in ADF.<br>• **Easy Mode** (Default: Chine)<br>RX is performed<br>• **Advanced Mode**<br>(Default: For other destinations than China)<br>Users select whether to perform TX or RX<br>Note: The default value is determined according to the Destination setting in PC-Service Mode. |
| | **RX Settings** | **Switch RX Mode** |

| | | |
|---|---|---|
| | | Determines how the machine handles incoming calls.<br>• **Auto**. (Default) Automatically receives all incoming call in Fax RX mode.<br>• **Manual**. Machine rings for all incoming calls and the operator must manually switch to RX mode. |
| | | **Auto Reduction** |
| | | Determines how the machine handles large images sent by fax.<br>• **On**. (Default) Reduction Print Mode. Automatically reduces the image to fit the paper.<br>• **Off**. Cut Mode. Data larger than one page is cut and not reduced. |
| | | **Sort** |
| | | Determines the order of printing pages received by fax.<br>• **Off**. (Default) Prints pages immediately face-up in the order that they are received.<br>• **On**. Stores received pages in memory and then prints them face-up in reverse order. |
| | | **Number of Rings** |
| | | Specifies the number of rings before the machine starts to receive an incoming fax.<br>China Model<br>• Rings: 3 (Default: 3) Range: 3-5:<br>WW Model:<br>• Country: Japan 1: 1 to 5<br>• Other than Japan 3: 3 to 5 |
| | | **Add Footer** |
| | | Determines whether a footer is printed 4 mm from the bottom of the print area of a fax.<br>• **On**. (Default)<br>• **Off**. |
| | **Del. TX Standby File** | **Delete File** |

| | | |
|---|---|---|
| | | Allows the operator to delete an unsent fax stored in memory.<br>• **Delete**. Deletes the specified job.<br>• **Cancel Deleting**. Returns to the previous menu level without deleting. |
| | | **Delete All Files** |
| | | Allows the operator to delete all unsent faxes stored in memory.<br>• **Delete**. Deletes all unsent faxes.<br>• **Cancel Deleting**. Returns to the previous menu level without deleting. |
| | **Comm. Settings** | These are the fax communication settings |
| | | **ECM Transmission** |
| | | Sets the machine to automatically re-send parts of data that may have been lost in transmission.<br>• **On**. (Default) Enable.<br>• **Off**. Disable. |
| | | **ECM Reception** |
| | | Sets the machine to automatically receive parts of data that may have been lost in transmission.<br>• **On**. (Default) Enable.<br>• **Off**. Disable. |
| | | **Dial Tone Detect** |
| | | Sets the machine to detect a dial tone before dialing the destination fax number.<br>• **Detect**. (Default) Detects dial tone before dialing remove fax number.<br>• **Do Not Detect**. Does not wait for dial tone before dialing remote fax number. |
| | | **Transmission Speed** |

| | |
|---|---|
| | Sets the transmission speed for the fax modem.<br>• 33.6 Kbps (Default)<br>• 2.4 to 33.6 Kbps<br>**Note**: A slower speed may be required in areas where the telephone lines are in poor condition. |
| | **Reception Speed** |
| | Sets the reception speed for the fax modem.<br>• 33.6 Kbps (Default)<br>• 2.4 to 33.6 Kbps<br>**Note**: A slower speed may be required in areas where the telephone lines are in poor condition. |
| | **Dial/Push Phone** |
| | Specifies the type of line connected to the machine's fax modem.<br>• **Push Phone**. (Default) Tone dial.<br>• **Dial Phone (10 PPS)**. Rotary dial.<br>• **Dial Phone (20 PPS)**. Japan and Thailand only |
| | **PSTN/PBX** |
| | Specifies how the telephone line is routed.<br>• **PSTN**. Line connection through PSTN.<br>• **PBX**. Line connection through PBX. The number to access and outside line must be entered for "PBX Access Number" (see below). |
| | **PBX Access Number** |
| | The operator enters the number to access and outside line if the machine is connected via PBX. "PBX" must be selected for "PSTN/PBX" above.<br>• **Access Number:** 9 (Default) Range: 3 digits (000-999) |
| | **Fax No. Confirmation** |

| | | |
|---|---|---|
| | | Switches fax number confirmation for direct sending on and off.<br>• **Off**. (Default) No confirmation required.<br>• **On**. When operator sends a fax using direct sending, a message prompts them to enter the number again to confirm the first number entered.<br>**Note**: This feature does not operate for direct or memory sending using registered speed dial fax numbers, or manual re-dialing. |
| | **Report Print Set** | **TX Status Report** |
| | | Determines how status reports print for fax transmissions.<br>• **Every TX with Image**. (Default) A report prints after every transmission with an image of the sent document.<br>• **Error Only**. A report print only after an error occurs during transmission.<br>• **Error: With Image**. A report prints with an image of the document only after an error occurs during transmission.<br>• **Every TX**. A report prints for every transmission.<br>• **Every TX: With Image.** A report prints with an image of the document after every transmission.<br>• **Do Not Print**. A report never prints. |
| | | **Fax Journal** |
| | | Determines whether the fax journal prints automatically.<br>• **Auto Print**. (Default) A fax journal prints automatically after every 100 fax jobs (sending and receiving).<br>• **Do Not Auto Print**. Fax journal never prints automatically. |
| | | **PC Fax Error Report** |
| | | Setting PC FAX Error Report need or not automatic printings when an error occurs before a TX file is normally created in the device.<br>• **Auto Print**. (Default) Automatic output is performed<br>• **Do Not Auto Print**. Automatic output is not performed. |
| **Address Book** | | This is the feature the operator uses to register fax numbers for speed dialing. |

| | | |
|---|---|---|
| | **Fax Speed Dial Dest.** | These entries are allowed:<br>• Fax number. 40 digits (0-9), space, *, #, Pause<br>• Name. 20 alphanumeric characters |
| **Print List/Report** | | |
| | **Configuration Page** | Prints a list of the current machine settings |
| | **Test Page** | Prints the Test Page pattern which illustrations the quality of printing (lines, coverage) and the borders of the of the print area (image registration) on the page. |
| | **Fax Journal** | Prints a record of the last 100 fax transactions (RX/TX). |
| | **TX Status Report** | Prints a record of the most recent fax transmission. |
| | **TX Standby File List*1** | Prints a list of unsent documents queued in memory for sending. |
| | **Fax Speed Dial List** | Prints a list of the fax numbers registered for speed dialing. |



## Fax Maintenance (4in1)

**To start Fax Maintenance**

1. **Make sure the machine is in the Ready mode.**
2. **Press [Stop/Reset] and then press [1] > [0] > [7].**
3. **Press and hold down [Start].**

| Modem Settings | | |
|---|---|---|
| | RX Level | Adjusts reception level. Default: -43dBm |
| | TX Level | Adjusts transmission level.<br>• -10 dBm (Default)<br>• -2 dBm to -14 dBm<br>• -16 dBm to -17 dBm |

| | | |
|---|---|---|
| | Cable Equalizer | Improves the pass-band characteristics of analog signals on a telephone line.<br>• General Value (Default)<br>• 0 Km<br>• 1.8 Km<br>• 3.6 Km<br>• 7.2 Km |
| | First TX Speed | Sets the transmission start speed.<br>• V.34 First TX Speed (Default: 33600 bps)<br>• V.17 First TX Speed (Default: 14400 bps)<br>• V.29 First TX Speed (Default: 9600 bps)<br>• V.27 First TX Speed (Default: 4800 bps)<br>**Note**:<br>• If 33.6 is selected for TX Speed setting in User Tool, the V. 34 First TX Speed setting in Service Mode is enabled.<br>• In this case, the Service Mode setting is given priority over the 33.6 setting in User Tool, so the actual First TX Speed is not always 33.6 |
| | First RX Speed | Sets the reception start speed.<br>• V.34 First RX Speed (Default: 33600 bps)<br>• V.17 First RX Speed (Default: 14400 bps)<br>• V.29 First RX Speed (Default: 9600 bps)<br>• V.27 First RX Speed (Default: 4800 bps)<br>**Note**:<br>• If 33.6 is selected for RX Speed setting in User Tool, the V. 34 First RX Speed setting in Service Mode is enabled.<br>• In this case, the Service Mode setting is given priority over the 33.6 setting in User Tool, so the actual First RX Speed is not always 33.6 |
| **Protocol Definition** | | |

| | | |
|---|---|---|
| | Training Retries | Sets the number of training retries to be repeated before automatic fallback takes effect.<br>• **1 Time**. Reduce speed to next level after 2 PPR commands.<br>• **2 Times**. (Default) Reduce speed to next level after 3 PPR commands.<br>• **3 Times**. Reduce speed to next level after 4 PPR commands.<br>• **4 Times**. Reduce speed to next level after 5 PPR commands. |
| | Encoding | Selects data compression mode for TX/RX. The first selection is the most complex, the third selection the least complex:<br>• MMR+MR+MH (Default)<br>• MR+MH<br>• MH |
| **Protocol Definition Timer** | | |
| | T0 Timer | Timeout for the remote station to respond in automatic send mode.<br>• Default: 55 sec.<br>• Range: 35 to 140 sec. |
| | T1 Timer | Sets the DIS waiting time.<br>• Default: 40 sec.<br>• Range: 40 or 50 sec. |
| | T4 Timer | Sets the time interval between command signal transmissions.<br>• Default: 3 sec.<br>• Range: 3 or 4.5 sec. |
| **RX Settings** | | |
| | Tone Sound Monitoring | Determines when tones are monitored.<br>• No Monitoring<br>• Up to Phase B (Default)<br>• All TX Phases |

| | | |
|---|---|---|
| | Stop/Clear Key | Enables and disables fax RX stop by pressing [Stop/Clear].<br>• **Not Functional**. (Default) Pressing [Stop/Clear] has no effect on the fax transmission being received.<br>• **Functional**. Pressing [Stop/Clear] cancels the fax transmission being received. Pressing the key after the fax has started print has no effect. |
| **TX Settings** | | |
| | Redial Interval | Sets the time interval being redialing attempts if a TX fails.<br>• Default: 5 min.<br>• Range: 2 min. to 6 min. |
| | Redialings | Sets the number of redial attempts if a TX fails.<br>• Default: 3 Times<br>• Range: 1to4 Times |
| **Overseas Comm Mode Settings** | | |
| | Overseas Comm Mode | Sets the machine to ignore a DIS (Digital Identification Signal) sent from a called station. This setting determines whether the machine waits the echo canceller to stop after the CED/ANSam signal is sent. To wait means to ignore the first DIS and wait until the echo canceller that responds stops and restarts.<br>• Off (Default)<br>• Ignore DIS Once |
| | Minimum Time Length | If Overseas Comm Mode is "Off" the machine detects the CNG signal as long as the line is connected. If set to "On" the machine detects the CNG signal after the line is connected.<br>• Default: 350 ms<br>• Range: 100 to 400 ms |
| **Dial Pulse Setting** | | |

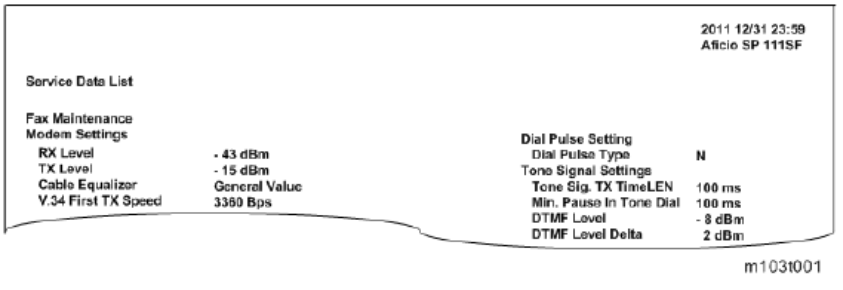
| | | |
|---|---|---|
| | Dial Pulse Type | Sets the number of pulses generated during dialing.<br>• N. (Default) Dialed "0" generates 10 pulses, "9" generates 9 pulses.<br>• N+1. Dialed "0" generates 1 pulse, "9" generates 10 pulses.<br>• 10-N. Dialed "0" generates 10 pulses, "9" generates 1 pulse. |
| Tone Signal Settings | | |
| | Tone Signal Transmission Time Length | Sets the time length tone signal transmission. Default: 100 ms |
| | Minimum Pause in Tone Dialing | Sets the minimum pause during tone dialing.<br>• Default: 100 ms<br>• Range: 100, 150,200 ms |
| | DTMF Level | Dual tone output level High.<br>• -2dBm<br>• -3dBm to -6dBm<br>• -7dBm (Default)<br>• -8dBm to -16dBm<br>• -17dBm |
| | DTMF Delta | Sets the difference in the level between high and low band frequency signals DTMF tones are sent.<br>• 2 dBm (Default)<br>• 3 dBm |
| 1 Dial Tone Detection | | |
| | Wait Time | The machine starts dialing after the time below has expired without detecting a dial tone after dial toner detection has been set for "No detection".<br>• Default: 3.5 sec.<br>• Range: 3.5, 7.0, 10.5, 14.0 sec. |

| | | |
|---|---|---|
| | Timeout Length | Sets the length of the time-out for the 1st dial tone connection. The machine waits the time specified below for a dial tone, and then disconnects automatically if no dial tone is detected.]<br>• Default: 10 sec.<br>• 10, 15, 20, 30 sec. |
| **BT (Busy Tone) Detection** | | |
| | BT Setting | Sets busy tone detection.<br>• On (Default)<br>• Off |
| **Comm Settings** | | |
| | RTN Rate | Sets the error ratio for error judgment on data received in non-ECM mode.<br>• Default: 11%<br>• Range: 11% or 14% |
| | V34 Modem | A V34 modem cannot operate if use of a V34 modem is prohibited with the setting below. Therefore, if 33.6 is selected for the TX/RX Speed setting in the User Tool V17 must be selected.<br>• **Permitted**. (Default) Use of V34 modem is allowed.<br>• **Prohibited**. Use of V34 modem not allowed. |
| | V17 Modem | A V17 modem cannot operate if use of a V17 modem is prohibited with the setting below. Therefore, if 14.4 is selected for the TX/RX Speed setting in the User Tool V29 must be selected.<br>• **Permitted**. (Default) Use of V34 modem is allowed.<br>• **Prohibited**. Use of V34 modem not allowed. |
| **V34 Settings** | | |

| | | |
|---|---|---|
| | Equalizer | Sets the equalizer training level to be applied if training fails due to poor line connection.<br>• Automatic. (Default)<br>• 4 Points.<br>• 16 Points. |
| | Redialing | Sets up resending if a communication error occurs.<br>• Disabled. (Default)<br>• Not Disabled. |
| | Symbol Rate | Limits the transmission speed range in V.34 mode by masking the rates of selected symbols.<br>• Default: Not Used<br>• Range: 2400 to 3429 Sym/sec. |
| **Report** | | |
| | Service Data List | Prints the Service Data List report. |
| | Error Log List | Prints the Error Log List report. |
| | T.30 Protocol List | Prints the T.30 Protocol List report. |

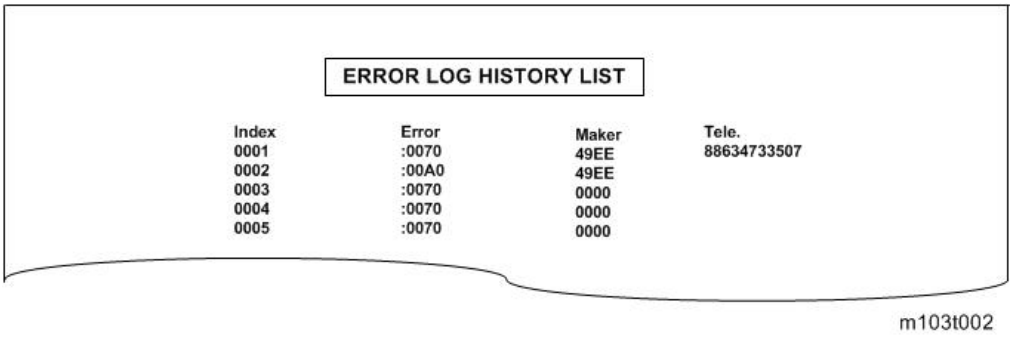


### Service Data List Sample




### Error Log List (Error Log History List) Report

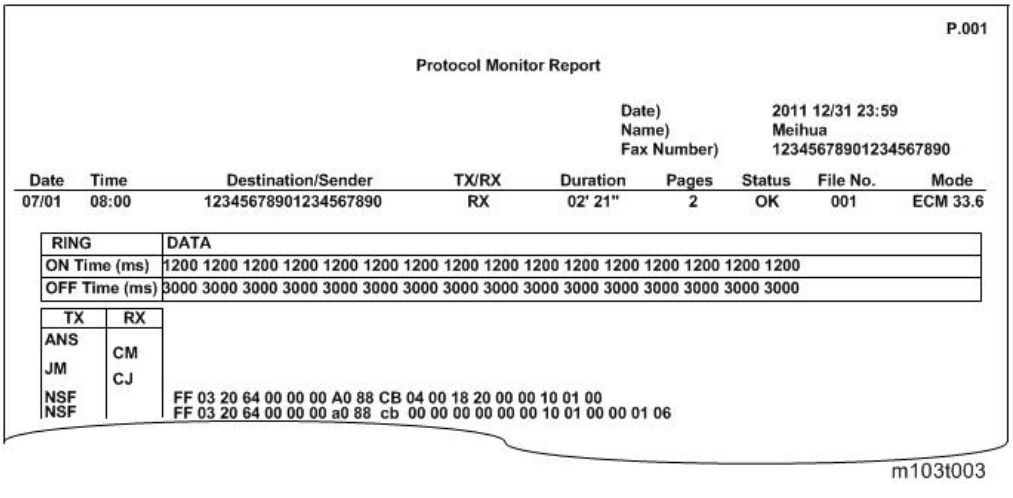
The error log history records the most recent 40 errors only.




| Item | Description |
|---|---|
| Index | Index numbers: 0001 to 9999 |
| Error | Error code number |
| Maker | NSF frame maker code |
| Tele. | Remote side or TX side telephone number for the transaction |



### T.30 Protocol List Report




| Item | Description |
|---|---|
| Date/Time | Transaction date and time |
| Destination/Sender | Destination name and telephone number |
| TX/RX/PC FAX | Transmission or receiving |
| Duration | Time for this transaction |

| Item | Description |
|---|---|
| Pages | Total number of pages in this transaction |
| Status | Transaction result |
| File No. | Job number |
| Mode | Communication speed and ECM mode |
| Ring | Recorded ring on/off time (ms). For RX function and last 16 RX recorded |
| TX | T.30 command sent by local fax |
| RX | T.30 command received from remote fax |
| Data | T.30 frame including address, control, data |



## Fax Test (4in1)

**To start Fax Test**

1. **Switch the machine on.**
2. **With the machine in Ready mode, press [Copy/Fax].**

| | | |
|---|---|---|
| Off-Hook Test | On Hook | On hook test. |
| | Off Hook | Off hook test |
| CED Test | Executes the CED test. | |
| CNG Test | 1100 Hz | Executes the CNG test |
| ANSam | Executes the ANSam test. | |
| DTMF Test | Tone [0] to [9] | Tests DTMF tone 0 to 9. |
| | Tone [*] | Tests DTMF tone *. |
| | Tone [#] | Tests DTMF tone #. |
| | Tone Stop | Tests tone stop. |
| Modem Test | [V34] 33600 bps | Generates [V34] 33600 bps signal. |
| | [V34] 28800 bps | Generates [V34] 28800 bps signal. |

| | | |
|---|---|---|
| | [V17] 14400 bps | Generates [V17] 14400 bps signal. |
| | [V17] 12000 bps | Generates [V17] 12000 bps signal. |
| | [V17] 9600 bps | Generates [V17] 9600 bps signal. |
| | [V17] 7200 bps | Generates [V17] 7200 bps signal. |
| | [V29] 9600 bps | Generates [V29] 9600 bps signal. |
| | [V29] 7200 bps | Generates [V29] 7200 bps signal. |
| | [V27] 4800 bps | Generates [V27] 4800 bps signal. |
| | [V27] 2400 bps | Generates [V27] 2400 bps signal. |
| | [V21] 300 bps | Generates [V21] 300 bps signal. |
| | Signal Stop | Generates Stop signal. |

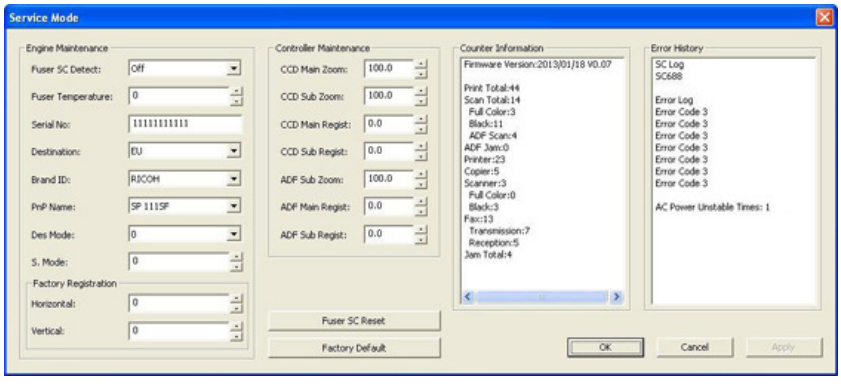
# 6. Troubleshooting

## Service Calls

### Overview

#### General

These machines issue an SC (Service Call) when an error occurs. Error codes can be viewed Error History box of the Service Mode screen in Smart Organizing Monitor.




Pay attention to the following points:

- All SC codes are logged.
- After an error occurs and an SC code is issued, cycle the machine off and on. This usually corrects the problem.
- Before deciding to replace a PCB (main board, PSU, HVPS) always check the harnesses to make sure that the problem was not caused by a loose connection.
- Before deciding to replace a motor or sensor, always check around the motor or sensor feeler to make sure that there is no physical obstruction such as scrap paper or something that has fallen inside the machine (paper clip, pin, etc.)

#### Fusing Related SC Codes

A fatal error is issued when a problem occurs inside the fusing unit. Fusing related errors present a fire hazard so they require special handling.

- Once a fatal error occurs, the machine cannot be used until the problem has been corrected.

- Fatal SC codes, or "A" Level SC codes, alert the operator to a problem that is a potential fire hazard. These fatal SC codes are related to problems that occur in the fusing unit: SC541, SC542, SC543, SC544, SC545, SC559.
- When Fuser SC Detect is switched on, the machine will shut down after the third consecutive fusing jam error. This setting should remain on for safety.
- Also, a fatal error (fusing related SC code) occurs, the machine cannot be serviced until the service technician releases the error by clicking [Fuser SC Reset] on the Service Mode screen.

**Important**

- **After correcting the problem that caused the fatal SC code to be issued, the service technician must execute [Fuser SC Reset] in order to recover full operation of the machine. Otherwise the machine will continue to issue the same SC code even after the problem has been corrected.**

## When an Error Occurs

The machines have different operation panels and components so this affects how each machine alerts the operator when a problem occurs.

- When an error occurs, the alert indicator on the operation panel lights and the machine stops.
- A buzzer will sound an alert on the 4in1. Press any key on the operation panel to turn the buzzer off. (This is the fax speaker that also functions as an error alarm.)
- There is no buzzer alert for the printer or 3in1. The SC number can be displayed on the Service Mode screen of the Smart Organizing Monitor. (☛page 159)

m101t055

- The printer has no panel display. When an error occurs only the alert lamp lights [1].

m102t055

- The 3in1 has a 2-digit 7-segment display [1\. A letter-number code is used to designate an SC code. For example, "C6" designates "SC101". (These 2-digit codes are included in the SC tables below.) The alert lamp [2] also lights when an error occurs.

m103t055

- The 4in1 has a LCD display (1) so the full SC number, "SC101" can be shown on the operation panel display. When an error occurs the alert lamp (2) lights and the fax speaker will sound an alert.

**Important**

- **For all models of this series, the Smart Organizing Monitor can be used to display the most recent SC codes in the Error History box of the Service Mode screen. (page 159)**

## Executing Fuser SC Reset

1. **After correcting the problem, open Smart Organizing Monitor.**
2. **Enter the service mode to display the Service Mode screen.**
3. **On the Service Mode screen, click [Fuser SC Reset]. This releases the fatal fusing error which locks the machine.**
4. **Select "On" for Fuser SC Detect. This setting shuts down the machine if three successive paper jams occur in the fusing unit.**

# SC Tables

## SC Table Key

SC codes are assigned a level of severity (A, B, C, D) based on the table below. These letters appear in the 3rd column of the SC tables below.

| Level | Definition/ Reset Procedure |
|---|---|
| A | The machine is disabled due to a problem in the fusing unit, electrical component, or firmware. The operator cannot operate the machine.<br>• This is a fatal error. The machine requires immediate servicing by a service technician.<br>• After solving the problem Fuser SC Reset must be executed to release the machine for normal operation. |
| 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 in the Error History box of the Service Mode screen.<br>• Cycle the machine off/on with the main power switch". |
| C | These are SC codes are not shown. They are logged internally.<br>• Open the Smart Organizing monitor and open the Service Mode screen to see the SC error log in the Error History box. |
| D | These SC codes are shown on the 3in1/4in1operation panel.<br>• To reset machine, cycle the machine off/on.<br>• The SC codes are re-appear if the error occurs again. |

**Important**

- **If the problem is in a printed circuit board, always disconnect then connect the board connectors again to check for a bad or loose connection before you replace the PCB.**

**Note**

- The 2nd column of each table shows the error code that appears in the 2-digit display of the 3in1.

## SC100: Scanning

| | | | |
|---|---|---|---|
| SC101 | C6 | C | CIS Lamp/Scanner Motor Error |

| | | | |
|---|---|---|---|
| | | | A problem occurred with the CIS or scanner motor in the flatbed scanner:<br>• After CIS power check<br>• After shading<br>• After CIS failed to return to home position |
| | | | • Flatbed scanner motor connector (main board) loose, broken, or defective<br>• CIS flat film connector at main board loose, broken or defective<br>• CIS flat film connector at CIS loose, broken, or defective<br>• Scanner motor defective<br>• CIS defective |

## SC200: Scanning



| | | | |
|---|---|---|---|
| SC202 | C1 | D | Polygon Motor On Timeout Error |
| | | | No lock signal was received within 10 sec. after the polygon motor turned on.<br>• Polygon motor driver I/F harness loose, broken, defective<br>• Polygon motor broken or defective |
| | | | • Cycle the machine off/on<br>• Replace I/F harness<br>• Replace polygon motor<br>• Replace laser unit |

| | | | |
|---|---|---|---|
| SC203 | C2 | D | Polygon Motor Off Timeout Error |

| | | | |
|---|---|---|---|
| | | | The lock signal did not go HIGH (inactive) within 20 sec. after the polygon motor turned off.<br>• Polygon motor I/F harness loose, broken, defective<br>• Motor driver board defective<br>• Motor defective |
| | | | • Cycle the machine off/on<br>• Replace I/F harness<br>• Replace polygon motor<br>• Replace laser unit |

| | | | |
|---|---|---|---|
| SC204 | C3 | D | Polygon Motor Lock Signal Error |
| | | | Four samplings within 200 ms revealed that the polygon motor lock signal remained HIGH beyond the prescribed number of revolutions.<br>• I/F harness between the motor and driver board is loose, broken, defective<br>• Driver board defective<br>• Motor defective |
| | | | • Cycle the machine off/on<br>• Replace I/F harness<br>• Replace polygon motor<br>• Replace laser unit |

| | | | |
|---|---|---|---|
| SC220 | C4 | D | Beam Synchronization Error |

| | | | |
|---|---|---|---|
| | | | Top cover (or maintenance cover) is down and locked, and the polygon motor is locked, but laser synchronization could not be achieved within 40 msec.<br>• The I/F harness of the LDB is loose, broken defective<br>• Polygon motor is locked<br>• The angle of incidence of the laser beam and photo-detector is not correct |
| | | | • Cycle the machine off/on<br>• Replace the I/F harness<br>• Replace polygon motor<br>• Replace laser unit<br>• Replace main board |

## SC400: Around the Drum

| | | | |
|---|---|---|---|
| SC491 | C5 | D | Bias Leak |
| | | | A bias leak has occurred for the drum charge, development charge, or transfer charge. PWM signals are sampled at 20 msec. intervals. This SC is issued if 10 PWM samplings within 200 msec. are abnormal.<br>• HVPS harness loose, broken, defective<br>• HVPS board defective<br>• AIO terminal defective |
| | | | • Cycle the machine off/on<br>• Check all the harness connections of the HVPS<br>• Check spring-loaded AIO terminal installation behind the HVPS.<br>• Replace HVPS |

## SC500: Paper Feed, Transport

| | | | |
|---|---|---|---|
| SC500 | C6 | D | Main Motor Error |

| | | | |
|---|---|---|---|
| | | | One of the following problems occurred:<br>• The machine failed to detect a LOCK signal within two sec. after the main motor was turned on.<br>• The machine failed to detect a LOCK release signal with 2 sec. after the main motor was turned off. |
| | | | • Cycle the machine off/on<br>• Check the areas around motor and main drive train for a physical obstruction (paper scraps, etc.)<br>• Clean the main motor drive train<br>• AIO defective<br>• Main motor defective |

| | | | |
|---|---|---|---|
| SC541 | C7 | A | Fusing Unit Thermistor Error (Fatal Error) |
| | | | No temperature was detected within 5 sec. after the machine was turned on (temperature was less than 0°C). |
| | | | • Fusing unit thermistor disconnected, broken or not set correctly<br>• Fusing lamp disconnected, broken or not set correctly.<br>• Fusing unit defective<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (page 191) |

| | | | |
|---|---|---|---|
| SC542 | C8 | A | Fusing Reload Temperature Error (Fatal Error) |
| | | | After starting up or during operation he machine detected after 5 readings at 1.5 sec. intervals that the hot roller was 5°C below the reload (operating) temperature. |
| | | | • Fusing thermistor deformed or out of position<br>• Fusing lamp harness loose, broken, defective<br>• Fusing unit defective<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (page 191) |

| | | | |
|---|---|---|---|
| SC543 | C9 | A | High Temperature Error - Software (Fatal Error) |
| | | | The temperature inside the fusing unit exceeded 225°C (437°F) for more than 1 sec. |
| | | | • After this error has occurred three times, the machine will shut down and must be released with the Smart Organizing Monitor and serviced by a service technician.<br>• Main board defective<br>• PSU defective (TRIAC short)<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (☛ page 191) |

| | | | |
|---|---|---|---|
| SC544 | c1 | A | High Temperature Error- Hardware (Fatal Error) |
| | | | The machine detected the CPU port LOW twice at 100 ms intervals and issued this SC. This check is always done to check for overheating, even if SC543 does not detect the problem. |
| | | | • Fusing unit defective<br>• Main board defective<br>• PSU defective (TRIAC short)<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (☛ page 191) |

| | | | |
|---|---|---|---|
| SC545 | c2 | A | Fusing Lamp Remains ON Error (Fatal Error) |
| | | | The heating element of the fusing lamp remained at full power longer than 9 sec. after the reload temperature was detected. |
| | | | • Fusing thermistor harness connector loose, broken, defective<br>• Fusing thermistor warped or positioned incorrectly<br>• Fusing lamp harness connector loose, broken, defective<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (☛ page 191) |

| | | | |
|---|---|---|---|
| SC547 | r2 | D | Zerocross Error |
| | | | Power supply frequency is unstable. HVP or PSU failure. |
| | | | • To reset the SC code, turn the power On and Off.<br>• Use more stable power supply.<br>• Replace the HVP or PSU. |

| | | | |
|---|---|---|---|
| SC557 | - | C | Zerocross Frequency Over |
| | | | Power supply frequency is unstable. |
| | | | No error message will be issued on this SC. A log of this SC will be logged in the SOM service mode SC |

| | | | |
|---|---|---|---|
| SC559 | c3 | A | Fusing Unit Third Jam Error (Fatal Error) |
| | | | The exit sensor failed to detect the leading edge of the paper within the prescribed time and triggered a jam alert. |
| | | | • After this error has occurred three times, the machine will shut down automatically and cannot be re-started until the machine has been serviced by a service technician.<br>• Check the paper transport path for any physical obstructions (paper scraps, etc.)<br>• Make sure the fusing unit has been installed correctly<br>• After servicing the machine to solve the problem, the service technician must execute a "Fuser SC Reset". Otherwise, the machine will continue to issue this SC code and cannot be operated. (☛ page 191) |

| | | | |
|---|---|---|---|
| SC587 | C0 | A | Motor Thermistor Error |
| | | | After starting up, inside of the machine temperature would be checked every 100ms, then the machine is detected -30°C for 4 sec. or 105°C for a sec. |
| | | | • Check the connection or replace the thermistor<br>• Replace the I/F harness<br>• Replace main board |

## SC600: Communication

| | | | |
|---|---|---|---|
| SC650 | --- | A | Modem Error (4in1 only) |
| | | | Modem chip defective. |
| | | | • Replace fax board. |

| | | | |
|---|---|---|---|
| SC669 | c5 | D | EEPROM Communication Error |
| | | | A read/write error occurred with the EEPROM on the main board. |
| | | | • EEPROM missing or not set correctly.<br>• Cycle the machine off, check the EEPROM installation, re-start the machine.<br>• EEPROM defective, replace EEPROM or main board. |

| | | | |
|---|---|---|---|
| SC688 | c4 | D | No CTL_PRREQ_N Signal |
| | | | Paper failed to feed after the machine reached the reload temperature because the main board did not issue a PRREQ signal. |
| | | | • Main board harness connector loose, broken, defective<br>• Main board defective |

| | | | |
|---|---|---|---|
| SC670 | c9 | A | Engine Communication Error |
| | | | The engine failed to communicate with the firmware. |
| | | | • Update the firmware<br>• Main board defective |

## SC800: Other

| | | | |
|---|---|---|---|
| SC828 | c8 | A | ROM Checksum or Data Lost Error |
| | | | A firmware type error or checksum error occurred. |
| | | | • Update firmware |

| | | | |
|---|---|---|---|
| SC871 | c7 | A | Flash ROM Write Error |

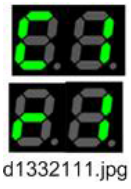
| | | | |
|---|---|---|---|
| | | | The flash memory is defective or there is a problem with the fax board cable. |
| | | | • The fax cable between the fax board and the main control board and fax board is loose, broken, or defective<br>• Main control board defective |

## Error Codes

### Classification

| Classification | | Condition | Release Method |
|---|---|---|---|
| FATAL | | Operation is impossible. | A technician must cancel the error. |
| ERROR | Machine Error | A part of fax operation is impossible. | A user can cancel the error. |
| | | Copying is impossible. | A user can cancel the error. |
| | | Printing is impossible when an error occurred in the engine part. | A user can cancel the error. |
| | Fax Error | Fax operation is possible. | Error is released automatically. |
| | Memory Data Error | ---------- | Error is released automatically. |
| | GDI Receive Error | GDI reception is impossible. | Error is released automatically. |
| | TWAIN Scan Receive Error | TWAIN Scan receive is impossible. | Error is released automatically. |
| ATTENTION | | All operation is possible. | All functions can operate even if the error is not released. |

## FATAL

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | Service Call | A problem that needs repair by a technician. | Service Call: SCXXX |  d1332111.jpg | Alert LED is lit. |

## Error

- Machine Error

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | Paper Jam/ Paper Empty | Misfeed or Out of Paper | Misfeed: Stnd. Tray Out of Paper | E1 | Alert LED is lit. |
| 2 | Inner/Outer Jam | Misfeed: Inner/ Outer | Misfeed: Inner/ Outer | E0 | Alert LED is lit. |
| 3 | ADF Jam | Jam of a document<br>Scan document over "356mm +1.5%+14mm" | Misfeed: ADF<br>Open Cov. Rmv. Paper | - | - |
| 4 | Size Error | Fax Job | Set Correct Size Ppr<br>Press Start to Print | - | - |
| 5 | Cover open | The cover is open | Cover Open | E3 | Alert LED is lit. |
| 6 | Copy Memory Full | Memory full during copying | Memory Overflow<br>Press Start or Stop | - | - |

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 7 | No suit Paper | No suit paper for Fax print job | Cannot Print Fax<br>Change Paper Size | E 5 | - |
| | | No suit paper for Report Printing | Cannot Print Report<br>Change Paper Size | | Alert LED is lit. |
| 8 | Not Set Print Cartridge | Print Cartridge Not Set in machine | Not Set<br>Print<br>Cartridge | E 6 | Alert LED is lit. |
| 9 | Toner Empty<br>Stop<br>OPC End | Toner empty<br>OPC End | Out of Toner<br>Print Cartridge | E 7 | Alert LED is lit. |
| 10 | Toner Low<br>OPC Near End | Toner Low<br>OPC Near End | Toner Almost Empty<br>Print Cartridge | E 8 | Alert LED is lit. |
| 11 | Off-hook Alarm | External telephone is off-hook | On Hook or Stop | - | - |
| 13 | Over heat | Engine is Over Heat<br>Waiting engine cooling-down. | Engine Over Heat<br>Please Wait |  | Alert LED is lit. |

- **Fax Error**

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | Communication | The error by the problem on a communication function | Connection Failed<br>Dial Failed<br>TX Comm. Error<br>RX Comm. Error | - | - |
| 2 | Memory Full (TX) | Memory full error File Full | Memory Overflow<br>1:TX 2: Cancel | - | - |
| 3 | Memory Full (RX) | Memory full error File Full | RX Memory Overflow | - | - |

- **Memory Data Error**

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | Memory Data Error | Data in memory is lost | Memory Data Lost | - | - |

- **GDI Receive Error**

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | GDI Receive Error | A Data Fatal, Memory Full or Unplugged USB error has occurred. | Cancel Printing<br>I/O Timeout | - | - |
| | | | Cannot Print<br>Memory Overflow | - | - |

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 2 | Paper Size Mismatch | Paper size set in the machine is not the same as set with the driver. | Paper Size Mismatch<br>Press Start or Stop | P 1 | Alert LED is lit. |
| 3 | Paper Type Mismatch | Paper type set in the machine is not the same as set with the driver. | Paper Type Mismatch<br>Press Start or Stop | P 2 | Alert LED is lit. |

- TWAIN Scan Receive Error

| No. | Name | Contents | Indicate |
|---|---|---|---|
| 1 | TWAIN Scan Receive Error | The error occurred when machine occurs Error during TWAIN scan | Scan Disconnected |

- PC Fax Error

| No. | Name | Contents | Indicate |
|---|---|---|---|
| 1 | PC Fax Error | Error occurs before a TX file is normally created in the device. | - |

## ATTENTION

| No. | Name | Contents | Indicate | | |
|---|---|---|---|---|---|
| | | | 4in1 | 3in1 | Printer |
| 1 | Operational Error | The error occurs when mistaken operation is carried out. | Fax job Memory Over | - | - |
| | | | No Destination | - | - |
| | | | Numbers Do not Match | - | - |
| | | | Cannot Copy<br>Change Paper Size | E 9 | - |

# Image Problems

## Overview

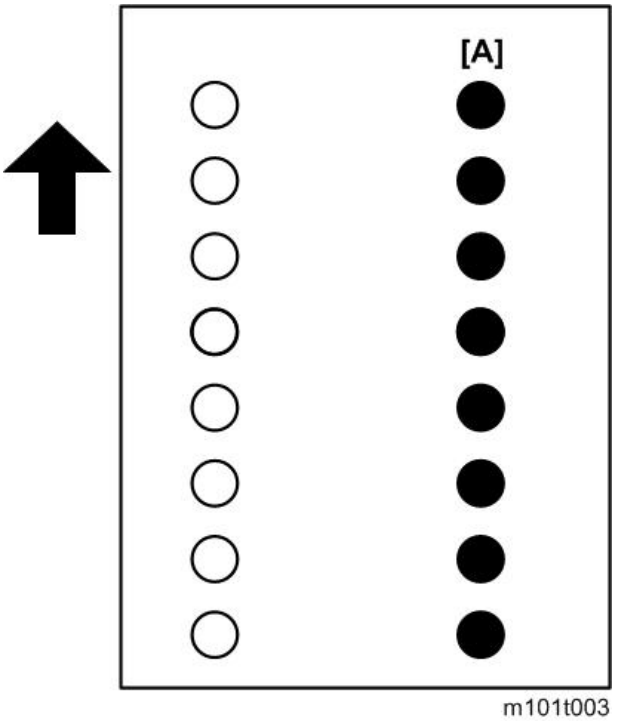



Image problems can occur at regular intervals [A] due to the different circumferences of rollers in the machine and inside the AIO.

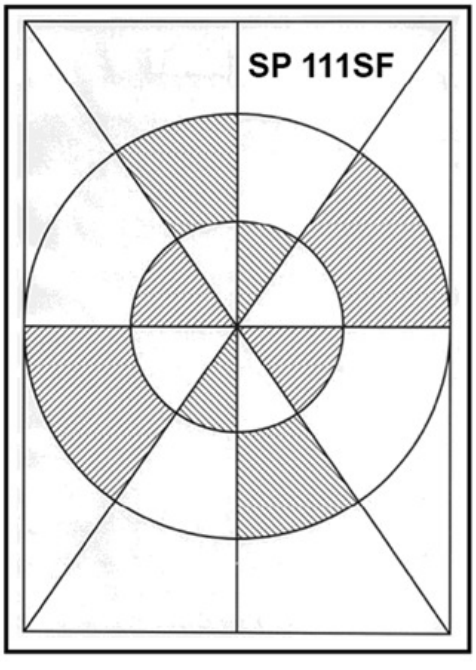
| Diameter (mm) | Interval (mm) | Component |
|---|---|---|
| 9.5 | 29.8 | Charge Roller (AIO) |
| 12 | 37.7 | Development roller (AIO) |
| 12.13 | 38.1 | Relay roller |
| 14.2 | 44.6 | Exit Roller |
| 14.6 | 45.8 | Transfer roller |
| 22 | 69.1 | Pressure roller |
| 23.96 | 75.2 | Drum (AIO) |

| Diameter (mm) | Interval (mm) | Component |
|---|---|---|
| 25.02 | 78.6 | Hot roller |
| 28 | 28 | Paper feed roller |

## Printing the Test Page

Print the Test Page so you can visually check for poor image quality.

1. **Start Smart Organizing Monitor and then click the User Tools tab.**
2. **Select "Test Page" from the "List/Test Print" drop-down list.**
3. **Click [Print] to print the test pattern.**




## Off-line output

You can be off-line output in the following way.

- Printer

  Click the [start].

- 3in1

Click the [Power ON] + [Start].

- 4in1

  Use the User Tool.

## Dark Lines in Halftone Areas

Dark lines in halftone fill areas can appear at 75 mm intervals when the machine is operating in a room where the humidity is very low. (The low humidity causes variation in light sensitivity across the surface of the drum.)

1. **To prevent this problem, open Smart Organizing Monitor.**
2. **Click the User Tool tab, and then click the Printer Configuration button to open the Printer Configuration screen.**
3. **On the System tab, select "ON" for the Low Humidity Mode.**

   When this humidity mode setting is on, the drum is rotated slight every 15 min. to keep the light sensitivity consistent across the entire surface of the drum.

# Common Problems

## All Models

Please remember that print yield will be different based on how the machine is used:

- The rate of toner consumption is much faster with documents that consistently contain photos or charts that require large areas of fill. The AIO will run out of toner much sooner.
- The rate of toner consumption is slower with documents that contain mostly text and an only a moderate number of photos or other images that require large areas of fill.
- The rate of toner consumption will be normal and toner yield will be much closer to the estimate if the documents contain mostly text.

**Images become pale or scratchy**

| | |
|---|---|
| **Cause 1** | AIO is out of toner |
| Solution | Refill or replace the AIO. |
| Comments | • A refillable AIO can be refilled up to three times. This is the approximate service life of the drum. |
| **Cause 2** | Drum service life has ended |
| Solution | Replace the AIO. |
| Comments | • The AIO should not be refilled because the service life of the drum has expired. |
| **Cause 3** | Drum damaged |
| Solution | Replace the AIO. |
| Comments | • The drum has been damaged and the AIO must be replaced.<br>• The drum cannot be replaced (parts inside the AIO cannot be replaced). |

**Important**

- **The rate of toner consumption can be greatly reduced by selecting "Toner Save" for the "Copy" feature on the Service Mode screen in Smart Organizing Monitor.**

## Refillable Printer, 3in1

**Operators do not know when to change the AIO.**

Make sure the operators understand the following points about AIO replacement:

- For the Refillable Printer, 3in1 the machine does not monitor the level of toner remaining in the AIO. There is no toner near-end or toner-end alert.
- The AIO should be replaced or refilled when images become pale or scratchy.
- The yield of the starter AIO is 500 sheets and the yield of a replacement AIO is 2,000/1,200 sheets.
- A replacement AIO can be refilled up to three times. This is calculated based on the service life of the drum.
- An AIO must be refilled by a trained service technician.

## 4in1 and unrefillable printer, 3in1



**The machine has issued a toner end alert but some toner remains in the AIO.**

| | |
|---|---|
| **Cause 1** | The service life of the drum has expired before the toner supply has run out. |
| Solution 1 | Replace the AIO |
| Solution 2 | Disable the toner end function in order to use up all the toner in the AIO (4in1 only).<br>[User Tools] > System Settings > Toner End Option > Continue Printing |
| Comments | - |
| **Cause 2** | A supply AIO (2,000/1,200 print capacity) was installed at installation (the starter AIO was not installed at installation), |
| Solution | Disable the toner end function in order to use up all the toner in the AIO (4in1 only): [User Tools] > System Settings > Toner End Option > Continue Printing |
| Comments | • The machine toner count is set for installation of the starter AIO (500 print capacity) when the machine is removed from the box.<br>• If a supply AIO (2,000 print capacity) is installed at installation, the machine will signal near end and toner end after only 500 prints.<br>• The starter AIO should always be installed at installation and then used until it is empty. |

| | |
|---|---|
| **Cause 3** | A partially used AIO was taken from another machine and installed. |
| Solution | Disable the toner end function in order to use up all the toner in the AIO (4in1 only): [User Tools] > System Settings > Toner End Option > Continue Printing |
| Comments | • Once an AIO is removed from the machine and replaced with a partially used AIO from another machine, the current toner count will not be accurate. |

**Images started to fade before the machine issued a toner near end alert.**

| | |
|---|---|
| **Cause 1** | The AIO in the machine was replaced with the starter AIO after the count exceeded yield. |
| Solution | Remove the starter AIO and refill the empty AIO, or replace it. |
| Comments | • Install the starter AIO at installation and continue to use until it is out of toner. |
| **Cause 2** | A partially used AIO was taken from another machine and installed. |
| Solution | Disable the toner end function in order to use up all the toner in the AIO (4in1 only): [User Tools] > System Settings > Toner End Option > Continue Printing |
| Comments | • Once an AIO is removed from the machine and replaced with a partially used AIO from another machine, the current toner count will not be accurate. However, you can use up all the toner if the toner end option is disabled. |
| **Cause 3** | The main board was replaced. |
| Solution | After the main board has been replaced, disable the toner end function in order to use up all the toner in the AIO (4in1 only): [User Tools] > System Settings > Toner End Option > Continue Printing |

| | |
|---|---|
| Comments | • The toner count is stored in the NVRAM on the main board.<br>• If the main board needs to be replaced, the NVRAM cannot be removed from the old main board and installed on the new main board.<br>• The toner counter is pre-set for 0.5K (500 sheets for a starter AIO) on a new main board, and this value cannot be changed.<br>• The operator should disable the toner end option until the AIO in the machine runs out of toner, and then reset the counter for the refilled or new AIO. |

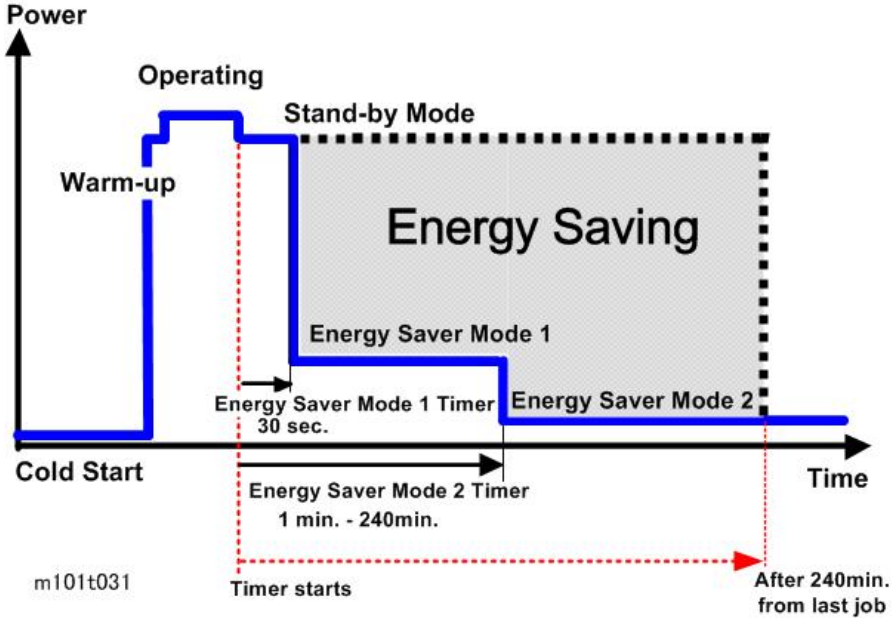
# 7. Energy Saving

## Energy Save

### Energy Save Modes

#### Energy Save Operation

Operators should use the energy saver modes correctly in order to save energy and protect the environment.




The shaded area in the diagram above represents the amount of energy that is saved when the energy save timers are operating.

- The operation panel switches go off after the machine remains idle for 30 sec. and the machine enters the Energy Save 1 mode.
- The machine enters Energy Save Mode 2 and switches off the fusing lamp if the machine remains idle for 60 min. The default setting for the Energy Save Mode 2 timer is 60 min., but this setting can be adjusted in the range 1 to 240 min. (4 hours).

## Timer Settings and Return to Standby Mode

The operator can set the two timers with the Smart Organizing Monitor (Printer Configuration > System tab > Energy Saver Mode 1 or Mode 2).

- **Energy Save Mode 1** (30 sec.) can be only turned off or on. The length of the timer cannot be adjusted. Default: On 30 sec. The machine requires 10 sec. to return to full operation from Energy Save Mode 1.
- **Energy Save Mode 2** (60 min.) can be turned off and on, and the length of the timer can be adjusted. Default: On, adjustable in the range 1 to 240 min. The machine requires 20 sec. to return to full operation from Energy Save Mode 2.

## Recommendations

- If the operator prefers that these settings be changed or switched off altogether, please explain that switching these energy saver features off could increase energy costs and waste energy.
- If the operator changes the settings please advise that setting Energy Save Mode 2 should not be too long. The longer the machine waits to enter Energy Save Mode 2, the more energy will be wasted.
- Setting Energy Save Mode 2 to the maximum value (240 min.) should be avoided. At close of business for the day, the machine will wait 4 hours before entering Energy Saver Mode 2. This is a waste of energy.

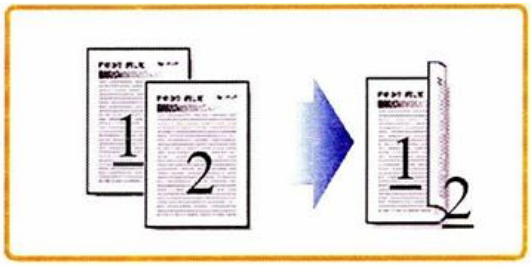
# Paper Save

## Effectiveness of Duplex/Combine Functions

Duplexing and the combine functions reduce the amount of paper used. Far less energy overall is used for paper production and paper disposal.

### 1. Duplex

Printing on both sides of each sheet of paper reduces paper consumption by half.




m101t032



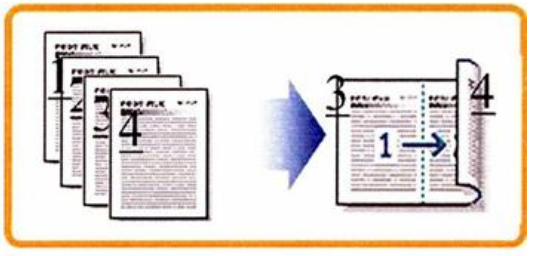
### 2. Combine Mode

Combine more than one page on a sheet reduces paper consumption by half or more.


m101t033

### 3. Duplex + Combine

Printing on both sides of each sheet and printing than one page on each side of the sheet can reduce paper consumption even more.



m101t034

To check paper consumption, look at the total counter and duplex counter.

The total counter counts all pages printed:

- The total counter increments by 2 for each duplex page
- The total counter increments by 3 for two duplex sheets where only three pages are printed (one side is blank).

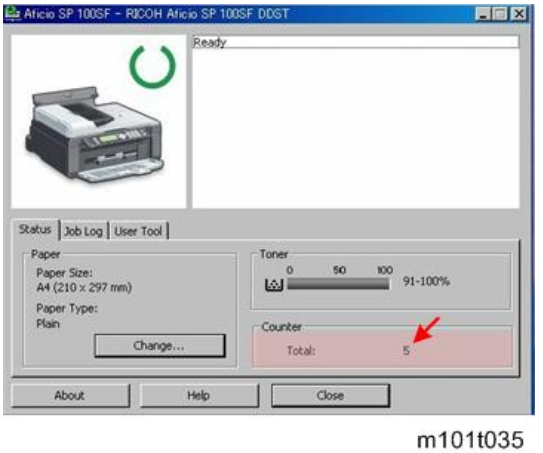
The duplex counter counts sheets of paper that have images on both sides:

- The duplex counter increments by 1 for one duplex page
- The duplex counter increments by 1 for two duplex sheets where only three pages are printed (one side is blank)

7

## Total Counter

The machine total counter counts the number of sides printed (a duplex page is counted as two, not one). You can check the total count on the initial screen of the Smart Organizing Monitor (see below).




m101t035

The table below shows paper savings and how the counters increment for some simple examples of simplex and duplex jobs.

| Original | Simplex Sheets | Duplex Sheets | Paper Saved | Total Counter |
|---|---|---|---|---|
| 1 | 1 | 1 | 0 | 1 |
| 2 | 2 | 1 | 1 | 2 |
| 3 | 3 | 2 | 1 | 3 |
| 4 | 4 | 2 | 2 | 4 |
| 5 | 5 | 3 | 2 | 5 |
| 10 | 10 | 5 | 5 | 10 |
| 20 | 20 | 10 | 10 | 20 |

If the combine mode is used, the total and duplex counters work in the same way as explained above. The following tables show paper savings and how the counters increment for some simple duplex/ combine jobs.

**Combine 2-in-1 Mode**

| Original | Simplex Sheets | Duplex Sheets | Paper Saved | Total Counter |
|---|---|---|---|---|
| 1 | 1 | 1 | 0 | 1 |
| 2 | 2 | 1 | 1 | 1 |
| 3 | 3 | 2 | 1 | 2 |
| 4 | 4 | 2 | 2 | 2 |
| 5 | 5 | 3 | 2 | 3 |
| 10 | 10 | 5 | 5 | 5 |
| 20 | 20 | 10 | 10 | 10 |

**Duplex + Combine 2-in-1 Mode**

| Original | Simplex Sheets | Duplex Sheets | Paper Saved | Total Counter |
|---|---|---|---|---|
| 1 | 1 | 1 | 0 | 1 |
| 2 | 2 | 1 | 1 | 1 |
| 3 | 3 | 1 | 2 | 2 |
| 4 | 4 | 1 | 3 | 2 |

| Original | Simplex Sheets | Duplex Sheets | Paper Saved | Total Counter |
|---|---|---|---|---|
| 5 | 5 | 2 | **3** | 3 |
| 6 | 6 | 2 | **4** | 3 |
| 7 | 7 | 2 | **5** | 4 |
| 8 | 8 | 2 | **6** | 4 |
| 9 | 9 | 3 | **6** | 5 |
| 10 | 10 | 3 | **7** | 5 |
| 11 | 11 | 3 | **8** | 6 |
| 12 | 12 | 3 | **9** | 6 |

MEMO

MEMO

# Model ME-P2/MF2
## Machine Code:
## Printer:M178/M181/M184
## 3 in 1: M179/M182/M185
## 4 in 1: M180/M183/M186
## Appendices

September, 2013

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## 1. Appendix: Specifications

# 1. Appendix: Specifications

## Machine Specifications



### General Specifications

| | | |
|---|---|---|
| **First print** | Less than 6 sec. (A4/LT 600 x 600 dpi) | |
| **Printing resolution** | 600 x 600 dpi or 1200 x 600 dpi (selected with the printer driver) | |
| **Warm-up time (Ready status)** | 25 sec. (power on, energy save recovery)<br>at 23°C (71.6°F) | |
| **Paper Path Driver** | Single brush-less DC motor | |
| **AIO (All In One system*1)** | Replaceable cartridge | |
| Drum | Optical photo-conductor | |
| Development | Dry electro-static method | |
| Charge | Charge roller | |
| Toner supply | Auger agitation, supply | |
| Used toner collection | Used toner collection container | |
| Cleaning | Opposable cleaning blade | |
| Estimated yield | Based on A4 SEF Test Pattern | |
| | Starter AIO | 500 sheets |
| | Replacement AIO | China: 2000 sheets<br>WW :1200/2000 sheets |
| ID chip | No | |
| Storage conditions | Temperature | -30°C to 40°C<br>(-54°F to 104°F |
| | Humidity | 15% to 80% rH |
| | **Note**: Store away from direct sunlight. | |

*1 The AIO cartridge contains the drum, charge unit, development unit, cleaning unit, and toner supply unit. The unit is replaced as a whole; there are no serviceable parts inside.

| | | |
|---|---|---|
| **Fusing** | Hot roller+ Halogen fusing lamp | |
| **Paper** | | |
| Paper type | Plain 65 to 99 g/m$^2$<br>Recycled paper 75 to 90 g/m$^2$<br>Thin paper 52 to 64 g/m$^2$<br>Thick paper 120 to 130 g/m$^2$ | |
| Delivery | Face-up | |
| Capacity | 10 sheets (A4 70 g/m$^2$) | |
| Paper size | | |
| Standard (SEF) | A4 | 210 x 297 mm |
| | B5 | 182 x 257 mm |
| | A5 | 148 x 210 mm |
| | B6 | 128 x 210 mm |
| | A6 | 105 x 148 mm |
| | LT | 216 x 279 mm |
| | HLT | 140 x 216 mm |
| | Executive | 184 x 267 mm |
| | 16K | 197 x 273 mm |
| | 16K | 195 x 270 mm |
| | 16K | 184 x 260 mm |
| | Legal | 8.5" x 14" |
| | F/GL | 8" x 13" |
| | Foolscap | 8.5" x 13" |
| | Folio | 8.25" x 13" |
| Custom | Width | 90 to 216 mm (3.5 x 8.5 in.) |

| | | |
|---|---|---|
| | Length | 148 to 297 mm (5.8 x 11.7 in.) |
| **Paper feed** | | |
| Paper feed capacity | 50 sheets (A4 70 g/m$^2$) | |
| Duplexing | No, but manual duplexing possible by printing 1st side pages, and then 2nd side pages. | |
| Paper out alert | LED flash | |
| Feed Source | Bypass tray only | |
| **Power supply** | | |
| Europe/Asia | 220 to 240 V 50/60 Hz Less than 4 A | |
| NA | 120V 60Hz less than 8A | |
| **Power consumption (average)** | Max. | 700 W<br>800 W |
| | Operation | 300 W |
| | Standby | 60 W |
| | Energy Save 1 | 45 W |
| | Energy Save 2 | 5 W |
| **Dimensions (w x d x h)** | | |
| Printer | 402 x 368.5 x 119 mm (15.8 x 14.5 x 4.7 in.) | |
| 3 in 1 | 402 x 368.5 x 163 (15.8 x 14.5 x 6.4) | |
| 4 in 1 | 402 x 368.5 x 205 mm (15.8 x 14.5 x 8.1 in.) | |
| **Weight** | | |
| Printer | 6.7 kg (14.8 lb.) | |
| 3in1 | 8.5 kg (18.7 lb.) | |
| 4in1 | 9.5 kg (20.5 lb.) | |
| Calendar/Clock | 4in1 only | |
| Interface | USB 2.0 only | |

| | | |
|---|---|---|
| **Operation Panel** | | |
| Printer | 2 LEDs, 2 keys | |
| 3in1 | 7-segment 2-digit LED, 5 keys | |
| 4in1 | Dot-matrix LCD (169 x 64 dot) with LED | |
| **Energy Save Mode 2** | | |
| Shift time | 1 to 240 min. (adjusted in 1 min. steps) | |
| Recovery trigger | Job in, cover opened/closed | |
| Power consumption | 5 W | |
| Recovery time | 25 sec. | |
| **Controller** | | |
| Type | GDI Controller | |
| Printer Language | DDST (GDI) | |
| **Noise** | **Mode** | **Noise Level** |
| | Operation | Less than 61.6 dB(A) |
| | Standby | Less than 40 dB(A) |
| | Energy Save | Less than 40 dB(A) |

## Printer Specifications

| | | |
|---|---|---|
| **Printing Method** | Semi-conductor laser beam with dry electrostatic toner development | |
| **Printing Speed** | 13/16 ppm (A4/LT) | |
| **Memory capacity** | Printer | 16 MB |
| | 3in1 | 16 MB |
| | 4in1 | 32 MB |
| **Printer Language** | GDI (Graphics Device Interface) | |
| **Fonts** | Chinese National Standard (GB 1830) | |

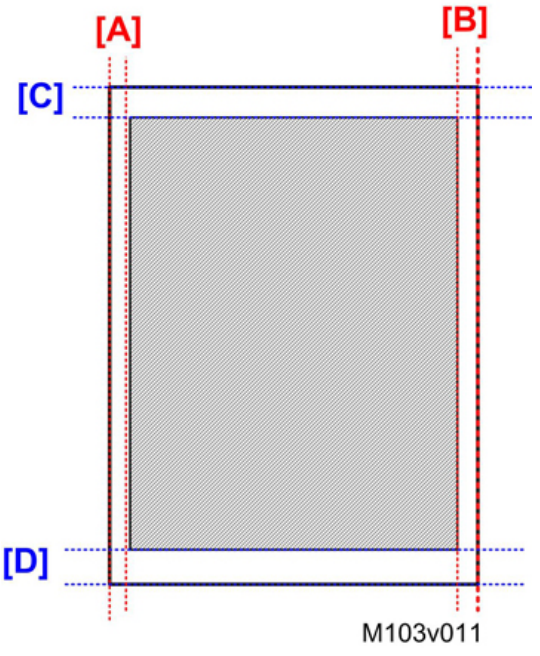
| | |
|---|---|
| **Compatible operating systems** | Windows XP and later |
| **Image Writing System** | Semi-conductor laser system |
| **Estimated Service Life** | 5 years (or 50K prints) |
| **Counter** | Provided (number of prints) |
| **Toner End Detection** | Yes*1 |

*1 When toner management is ON:

- Toner consumption is estimated by a dot-count calculation.
- When the dot-count total reaches the prescribed limit, a toner near-end warning is issued.
- If the count continues, a toner-end alert is issued.
- After the AIO has been replaced or refilled, the counter must be reset.

| | |
|---|---|
| **Zoom** | 25 to 400% (1-step) |
| **Printer Software** | |
| Language | GDI |
| Error Processing | Printer operation panel LED, client PC |
| Smoothing | 600 dpi/2-bit image data smoothed up to 1200 x 600 dpi |
| Grayscale | Halftone |

### Printing Area for Fax, GDI Printer Driver




| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 4.2 |
| [B] | Right | 4.2 |
| [C] | Leading | 4.2 |
| [D] | Trailing | 4.2 |

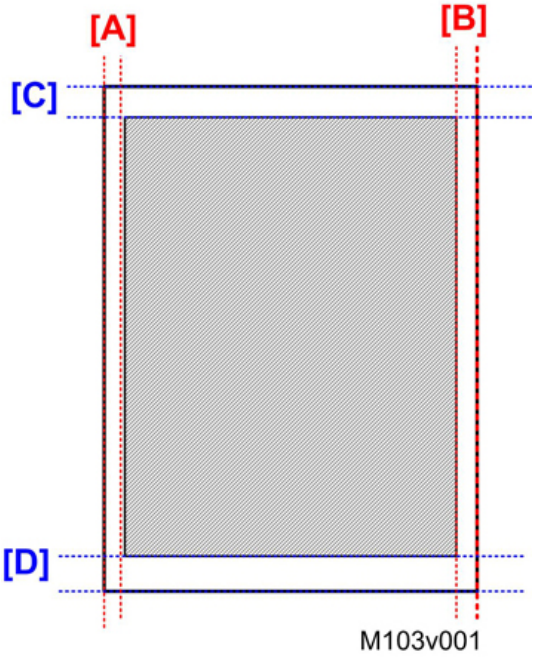
## Copier Specifications

| | |
|---|---|
| **Copy Speed** | 13/16 ppm (A4 SEF)<br>Germany: 14/13<br>Belgium: 9/9<br>Austria: 9/9 |
| **Copy Delivery** | Face-up, reverse order |
| **First copy** | Less than 25 sec. |
| **Resolution** | |

| | |
|---|---|
| Book mode | 600 x 600 dpi, 600 x 300 dpi |
| ADF book mode | 600 x 600 dpi, 600 x 300 dpi |
| **Color** | Black & white only |
| **Copy Modes** | Text, Photo, Text/Photo |
| **Gradation** | |
| Copying | Read 10-bit, store 8-bit |
| Printing | Process 2-bit, print 1-bit |
| Halftones | More than 7 steps |
| **Zoom Copy** | |
| Zoom Ratio: Fixed | |
| North America (%) | 50, 65, 78, 93, 100, 129, 155, 200 |
| Other Areas (%) | 50, 71, 82, 93, 100, 122, 141, 200 |
| Zoom Ratio: Custom | 25% to 400% (adjusted in 1% steps) |
| **Copy Quantity** | 99 |
| **Original size** | |
| Platen book mode | |
| Standard | A6 to A4/LT SEF |
| Custom (W x L) | 216 to 297 mm (8.5 x 11.7 in.) |
| ADF book mode | |
| Standard | A6 to A4/LT SEF |
| Custom | Width: 105 to 216 mm (4.1 x 8.5 in.)<br>Length: 127 to 355 mm (5 x 11.7 in.) |
| Maximum size (w x l) | 216 x 297 mm (8.5 x 11.7 in.) |
| Auto original size detect | None |
| **Original feed size** | |
| Standard | A6 to A4/LT SEF |

| | |
|---|---|
| Custom | Width: 90 to 216 mm (3.5 x 8.5 in.)<br>Length: 127 to 297 mm (5 x 11.7 in.) |
| **Original capacity** | |
| Platen | 1 sheet |
| ADF | 15 sheets |
| **Start reference point (origin)** | Book mode: Left upper corner |

**Copy Area**




| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 3 |
| [B] | Right | 3 |
| [C] | Leading | 4 |
| [D] | Trailing | 4 |

| | |
|---|---|
| **SADF** | None. Scanning begins as soon as platen or ADF is lowered. |

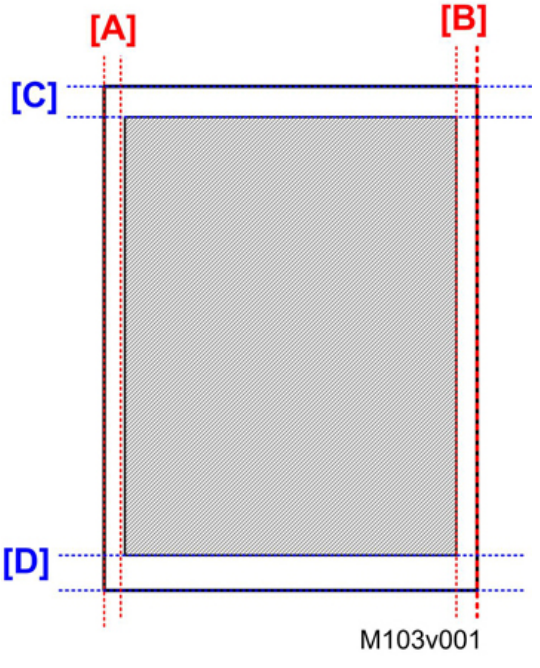
| | | |
|---|---|---|
| **APS** | None | |
| **Paper Size Selection** | 3in1 | From utility |
| | 4in1 | From operation panel |
| **Copy Density Adjustment** | 3in1 | 3 steps |
| | 4in1 | 4 steps |
| **Manual Density Adjustment** | 5 notches | |

## Scanner Specifications

| | | |
|---|---|---|
| **Type** | Scanner/Printer | |
| **Scanning Device** | CIS module, driven by belt/gear | |
| **Scanning Speed** | | |
| Monochrome | 3.9 sec. or less | |
| Color | 7.9 sec. or less (A4 compressed) | |
| ADF Throughput | Monochrome | 75.3 mm/sec. |
| | Color | 37.6 mm/sec. |
| **ADF Capacity** | 15 originals 80 g/m$^2$ | |
| **Original Size** | | |
| Book Mode | 216 x 297 mm (8.5 x 11.7 in.) | |
| ADF | 216 x 355 mm (8.5 x 15.9 in.) | |
| **Gradation** | More than 7 steps | |
| **Zoom Range** | Scanning | 25 to 400% (custom<br>50 to 200% (fixed) |
| | Copying | 25 to 400% (custom<br>50 to 200% (fixed) |
| **Scanning Resolution** | | |
| ADF | 600 x 300 dpi | |

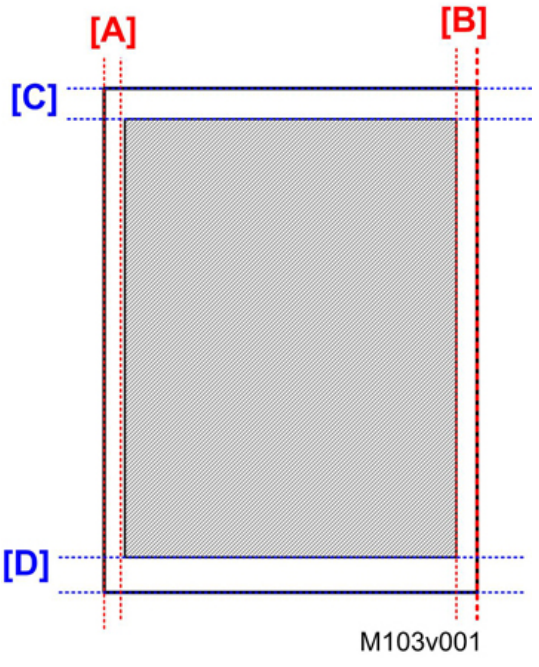
| | |
|---|---|
| Book mode | 600 x 600 dpi |
| TWAIN application | 4800 x 4800 dpi |
| WIA application | 600 x 600 dpi |
| **Digitized Output** | 8-bit |
| **Max. Scanning Area** | 220 x 300 mm (8 x 12 in.) |
| Exposure Glass | 216 x 297 mm (8.5 x 11.7 in.) |
| ADF | 216 x 355 mm (8.5 x 15.8 in.) |

**Scan Area**



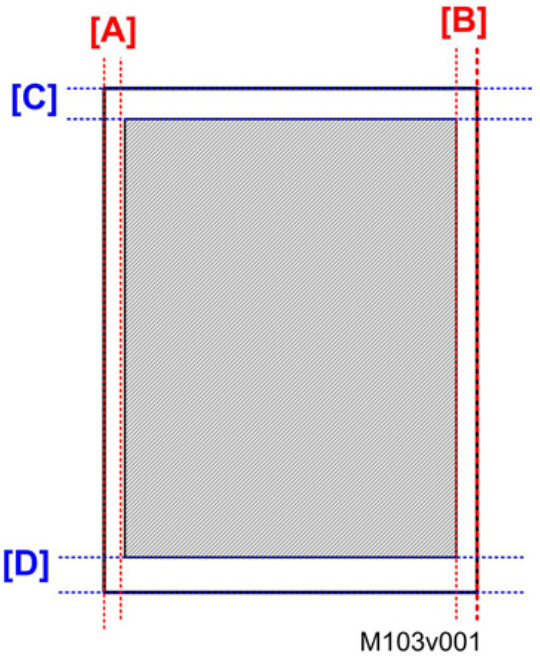

| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 3.0 |
| [B] | Right | 3.0 |
| [C] | Leading | 4.1 |
| [D] | Trailing | 4.3 |

### Scan Area: TWAIN Driver Flatbed




| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 0 |
| [B] | Right | 0 |
| [C] | Leading | 0 |
| [D] | Trailing | 0 |

### Scan Area: TWAIN Driver ADF




| | Margin | Width (mm) |
|---|---|---|
| [A] | Left | 0 |
| [B] | Right | 0 |
| [C] | Leading | 0 |
| [D] | Trailing | 2 |

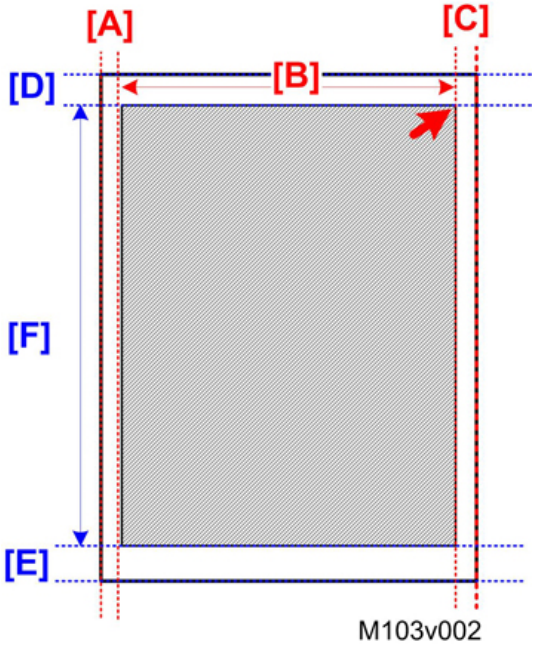
| | |
|---|---|
| **Main Scan Density** | 300 dpi, 600 dpi |
| **Grayscale** | Supported |
| **PC Interface** | USB |
| **Scanner Drivers** | WIA, TWAIN |
| **Operating Systems** | Windows XP and later |

## Fax Specifications

| | | | |
|---|---|---|---|
| **Transmission Speed** | | | |
| G3 | 33.6K 2400 bps auto shift down method | | |
| V.27ter | 4800/2400 bps | | |
| V.29 | 9600/2400 bps | | |
| V.17 | 14400/12000/9600/7200 bps | | |
| V.34 | 33600/31200/28800/26400/24000/21600<br>19200/16800/14400/12000/9600/7200/4800 bps | | |
| **Transmission Time** | 3 sec. (8 dots/mm x 3.85 line/mm<br>33.6 kbps, MMR, ITU-T Chart 1 | | |
| **Data Compression Method** | MH, MR, MMR | | |
| **Resolution (main scan)** | 600 x 600 dpi | | |
| **Fine resolution** | **CD Direction** | **FD Direction** | |
| Standard | 8 dot/mm | 3.85 dot/mm | |
| Fine | 8 dot/mm | 7.7 dot/mm | |
| Photo | 8 dot/mm | 7.7 dot/mm | |
| **Scan width** | A4: 201.6 mm (8 in.)<br>LT: 207.6 mm (8.2 in.( | | |
| **Connection** | G3 telephone line PSTN/PBX (one connector) | | |
| **Main Scan Line Density** | | **CD Dir.** | **FD Dir.** |
| | Std | 8 dot/mm | 3.85 dot/mm |
| | Fine | 8 dot/mm | 7.7 dot/mm |
| | Photo | 8 dot/mm | 7.7 dot/mm |
| **Transmission Line Density** | Each scan line width | 1729 pixels | |
| | Max. width | 400 mm | |
| **Scanning Selection** | Std (Standard), Fine, Photo | | |

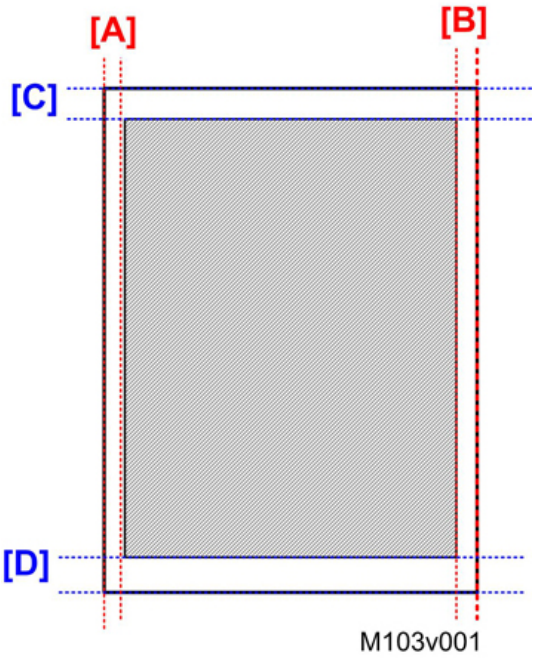
| | |
|---|---|
| **Max. Scan Width** | ADF/FB: 210 mm (LT paper) |
| **Max. Scan Length** | ADF: 391.6 mm (400 mm) |
| | Flatbed: 288.9 mm (A4 paper) |

**Scan Area: Fax from Flatbet**




| Scanning Method | | Area | A4 (mm) | LT (mm) |
|---|---|---|---|---|
| Flatbed Scanning | [A] | Left margin | 3.0 | 3 |
| | [B] | Scanning width | 204 | 210 |
| | [C] | Right margin | 3.0 | 3 |
| | [D] | Top margin | 4.1 | 4.1 |
| | [E] | Bottom margin | 4.0 | 4.0 |
| | [F] | From top margin | 288.9 | 270.9 |

**Scan Area: Fax from ADF**




| Scanning Method | | Area | All Sizes (mm) |
|---|---|---|---|
| ADF Scanning | [A] | Left margin | 3 |
| | [B] | Right margin | 3 |
| | [C] | Top margin | 4.1 |
| | [D] | Bottom margin | 4.1 |

| | | | |
|---|---|---|---|
| **Scan Image Density** | 5 levels selectable | | |
| **Scanning Speed** | ADF | 20 sec. | |
| | Flatbed | 10 sec. | |
| **Coding System** | MH, MR, MMR | | |
| **Memory Capacity** | TX | Up to 5 jobs (10 pp./job) | |
| | RX | Up to 5 jobs (100 pp. total) | |
| **SAF Memory** | 500 pages (ITU Chart 1) | | |
| **PC Fax** | Not supported | | |

| | | |
|---|---|---|
| **Address Book** | Speed dial 100 destinations | |
| **Fax Operation Features** | Manual mode, Fax dedicated mode | |
| Fax/Telephone Select | Manual mode, Fax dedicated mode | |
| Halftone/Error Diffusion | Supported for sending | |
| Memory Display | Memory remaining display | |
| Smoothing | Implemented | |
| Dialing | One-touch key | No |
| | Coded key | Yes (Up to 100 numbers) |
| Line Monitoring | Yes | |
| Off-hook Dialing | Yes | |
| Tone Sending | Yes | |
| Pause Entry | Yes | |
| Busy Signal Sound Output | Yes | |
| Direct Sending | yes | |
| Memory Sending | Yes | |
| Turnaround Polling | Yes | |
| Sequential Sending | Yes | |
| Page Re-sending | Yes | |
| TTI | Yes | |
| Destination Registration | Yes | |
| TTI | Yes | |
| TX Reserve | Yes | |
| ECM | Yes | |
| Auto RX | Yes | |
| Memory RX | Yes | |
| Night RX | Yes | |

| | |
|---|---|
| Sound Level Adjustment | Yes |
| Print at RX | Yes |

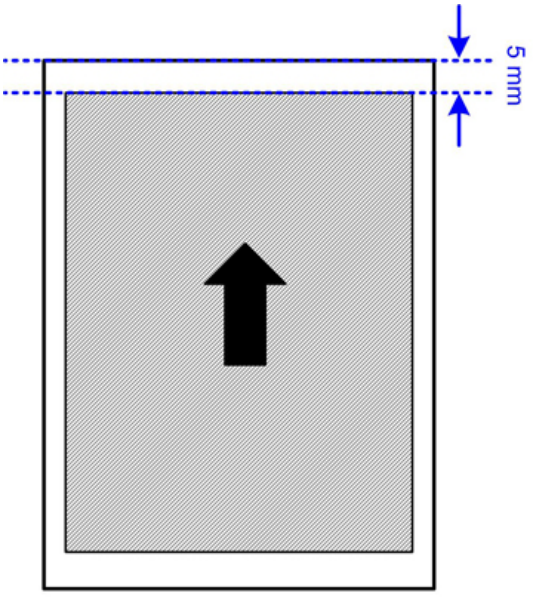


## Reports

There are seven reports that can be printed to provide information about the status of the machine. The table below lists the reports and shows which reports are printed automatically or manually.

| No. | Report Name | Auto | Manual |
|---|---|---|---|
| 1 | Configuration Page | No | Yes |
| 2 | Test Page | No | Yes |
| 3 | Fax Journal | Yes | Yes |
| 4 | TX Status Report | Yes | Yes |
| 5 | TX Standby File List | No | Yes |
| 6 | Fax Speed Dial List | No | Yes |
| 7 | Power Failure Report | Yes | No |

## Basic Format




M103v003

Every report is the same size. There is a 5 mm margin at the top. The width is the same as A4-size paper and the length is the same as LT-size paper.

## Configuration Page

The Configuration Page lists the current settings of the machine:

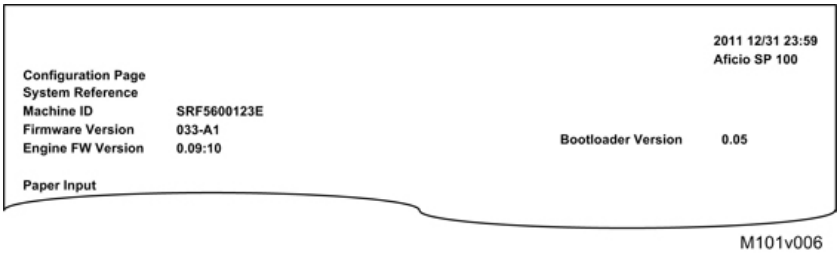
- System reference
- Paper input
- Counter list
- System settings
- Printer features

**Note**

- For the 3in1 copier features are listed.
- For the 4in1copier and fax features are also listed.

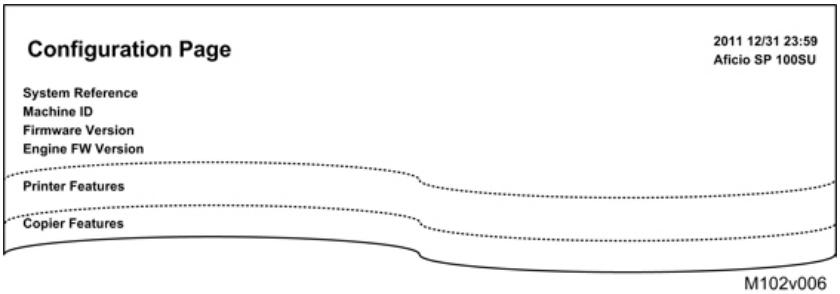
**To print the Configuration Page:** Start SOM > User Tools > select "Configuration Page" from the List/Test list > click [Print]

### Printer Configuration Page



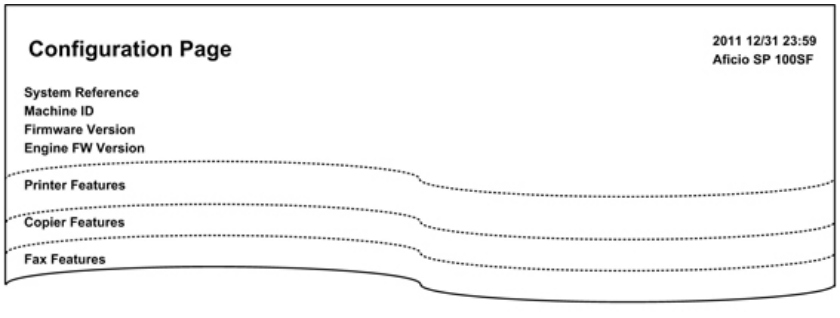

M101v006

### 3in1 Configuration Page




M102v006

### 4in1 Configuration Page

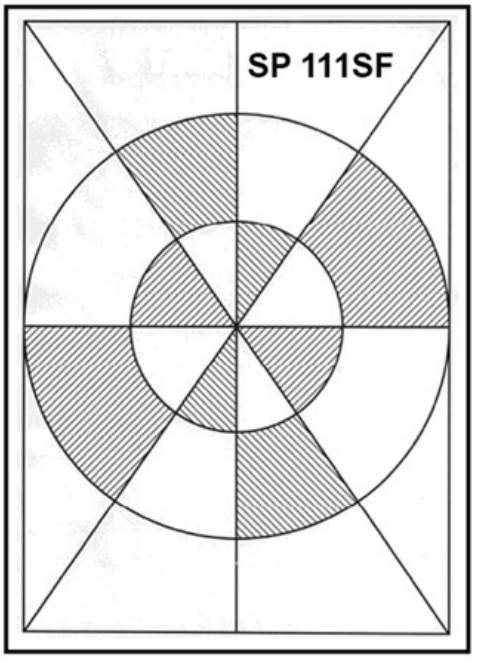



M103v006

## Test Page

The Test Page is used to check the results of print position adjustments.

**To print the Test Page**: Start SOM > User Tools > select "Test Page" from the List/Test list > click [Print]

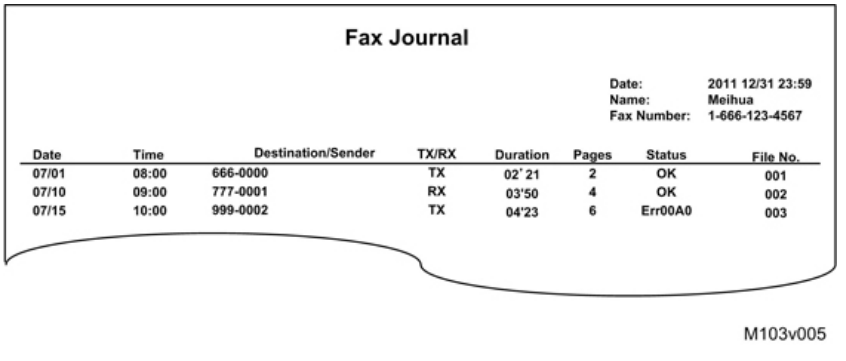



## Fax Journal

The Fax Journal records all TX/RX transactions with the fax feature.

**To Print a Fax Journal**: Start SOM > User Tools > select "Fax Journal" from the List/Test list > click [Print]

### Fax Journal



Fax Journal

Date: 2011 12/31 23:59
Name: Meihua
Fax Number: 1-666-123-4567

| Date | Time | Destination/Sender | TX/RX | Duration | Pages | Status | File No. |
|---|---|---|---|---|---|---|---|
| 07/01 | 08:00 | 666-0000 | TX | 02' 21 | 2 | OK | 001 |
| 07/10 | 09:00 | 777-0001 | RX | 03'50 | 4 | OK | 002 |
| 07/15 | 10:00 | 999-0002 | TX | 04'23 | 6 | Err00A0 | 003 |

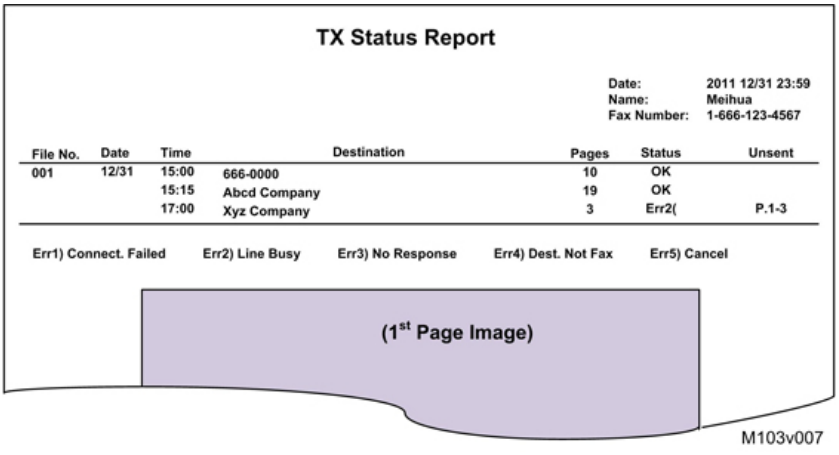
M103v005

## TX Status Report

The TX Status Report prints and reports the status of each fax transaction. The last record in the list is the most recent.

**To Print a TX Status Report**: [User Tools] > "Report Print Set" > "TX Status Report"

**TX Status Report**



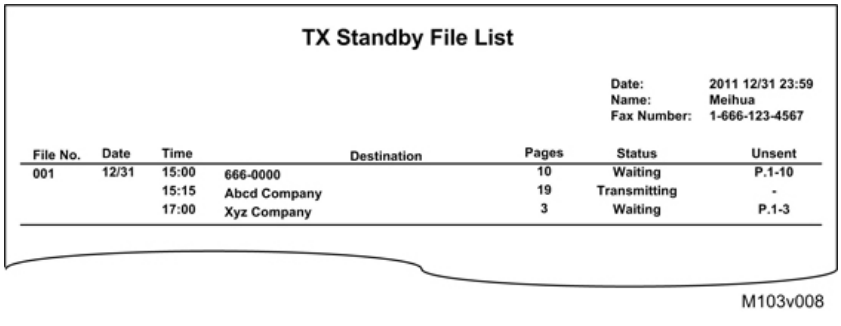

| Error Display | | |
|---|---|---|
| Err1) Connect. Failed | | |
| Err2) Line Busy | | |
| Err3) No Response | | |
| Err4) Dest. Not Fax | | |
| Err5) Cancel | | |

## TX Standby File List

The TX Standby File List lists all the scanned documents queued in memory for transmission.

**To Print a Standby File List**: [User Tools] > "Report Print Set" > "TX Standby File List"

**TX Standby File List**

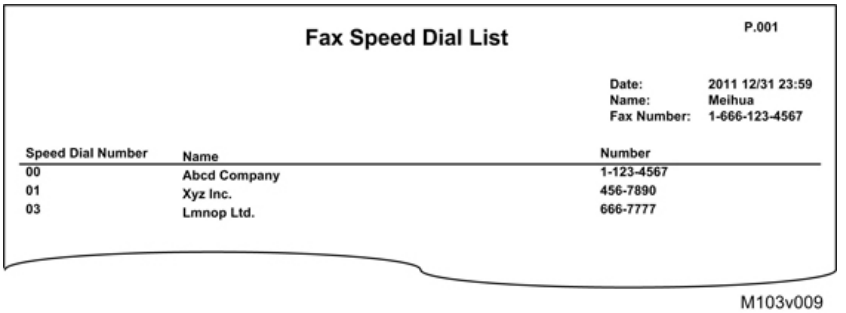


## Fax Speed Dial List

Lists all the numbers registered by the operator for speed dialing.

**To Print a Fax Speed Dial List**: [User Tools] > "Report Print Set" > "Fax Speed Dial List"

### Fax Speed Dial List



Fax Speed Dial List

P.001

Date: 2011 12/31 23:59
Name: Meihua
Fax Number: 1-666-123-4567

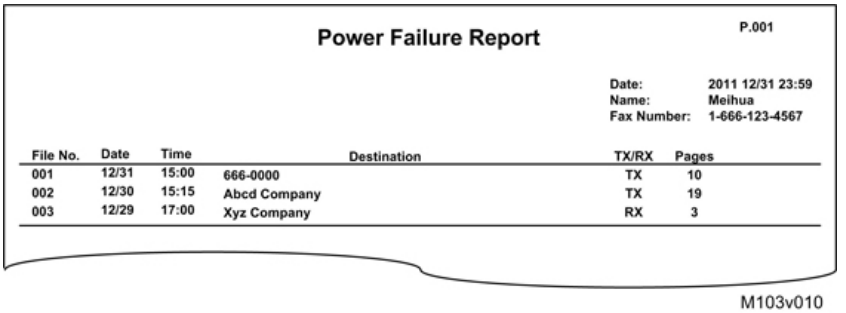
| Speed Dial Number | Name | Number |
|---|---|---|
| 00 | Abcd Company | 1-123-4567 |
| 01 | Xyz Inc. | 456-7890 |
| 03 | Lmnop Ltd. | 666-7777 |

M103v009

## Power Failure Report

Fax documents stored in the main memory of the machine for sending, or fax documents that have been received but not printed, will be deleted if the machine is powered off, or if a power failure occurs. This report prints automatically after power is restored to inform the operator about which fax documents were lost before they were sent or printed.

### Power Failure Report



Power Failure Report

P.001

Date: 2011 12/31 23:59
Name: Meihua
Fax Number: 1-666-123-4567

| File No. | Date | Time | Destination | TX/RX | Pages |
|---|---|---|---|---|---|
| 001 | 12/31 | 15:00 | 666-0000 | TX | 10 |
| 002 | 12/30 | 15:15 | Abcd Company | TX | 19 |
| 003 | 12/29 | 17:00 | Xyz Company | RX | 3 |

M103v010

# Software Specifications

| | |
|---|---|
| Smart Organizing Monitor | |
| Required OS | Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7 |
| PC Requirements | |

| | | |
|---|---|---|
| Minimum | | 1 GHz 32-bit or 64-bit processor<br>1 GB of RAM (32-bit) or 2 GB of system memory (64-bit) |
| Recommended | | 1 GHz or faster, 32-bit or 64-bit processor<br>2 GB of RAM (32-bit) or 4 GB of system memory (64-bit) |
| | Interface | USB 2.0 |

MEMO

MEMO

MEMO