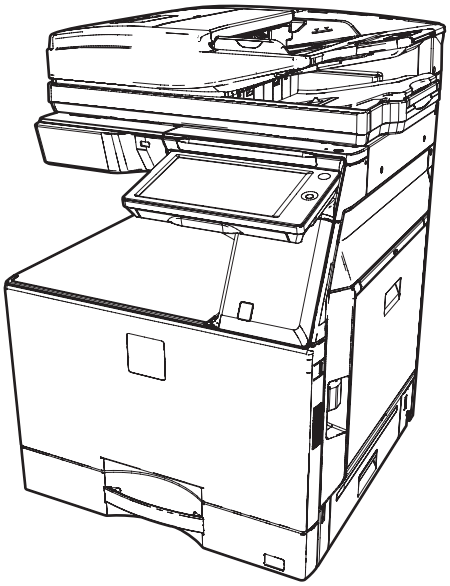
# SHARP SERVICE MANUAL

CODE: 00ZMX4071/S2E



# DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

## MODEL MX-2651/3051/3551/4051 MX-3061/3561/4061 MX-3071/3571/4071

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.


SHARP CORPORATION



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The contents are subject to change without notice.

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# NOTE FOR SERVICE

## 1. Precautions for servicing

- When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc.

  It may cause an injury or an electric shock.
- There is a high temperature area inside the machine. Use extreme care when servicing.

  It may cause a burn.
- There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.

  It may damage eyes by reflection of laser beams.
- When servicing with the machine operating, be careful not to position your hands by the chain, the belt, the gear, and other driving sections.
- Do not leave the machine with the cabinet disassembled.

  Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.

  If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- The machine has sharp edges inside. Be careful not to damage fingers when servicing.
- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.
- When replacing a lithium battery on a PWB, only use the specified replacement battery.

  If a battery of different specification is used, it may cause a machine malfunction or breakdown.
- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.

  It may otherwise cause a machine breakdown or malfunction.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

## 2. Warning for servicing

- Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.

  Avoid complex wiring, which may lead to a fire or an electric shock.

  It may cause a fire or an electric shock.
- If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.

  It may cause a fire or an electric shock.
- Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.

  To protect the machine and the power unit from lightening, grounding must be made.
- When connecting the grounding wire, never connect it to the following points.
  - Gas tube
  - Lightning conductor
  - A water pipe or a water faucet, which is not recognized as a grounding object by the authorities.
  - Grounding wire for telephone line

  It may cause an explosion, a fire or an electric shock.
- Do not damage, break, or stress the power cord.

  Do not put heavy objects on the power cable. Do not stress, forcibly bend, or pull the power cord.

  It may cause a fire or an electric shock.
- Keep the power cable away from a heat source.

  Do not insert the power plug with dust on it into a power outlet.

  It may cause a fire or an electric shock.
- Do not place liquids or foreign metallic objects inside the machine.

  It may cause a fire or an electric shock.
- Do not touch the power cord, insert the phone jack, operate the machine, or perform service on the machine with wet or oily hands.

  It may cause an electric shock.

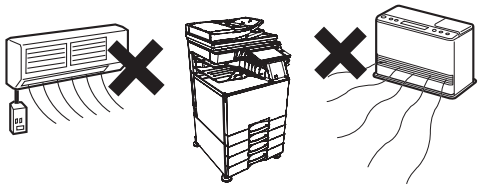
## 3. Note for installing site

Do not install the machine at the following sites.

- **Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.**

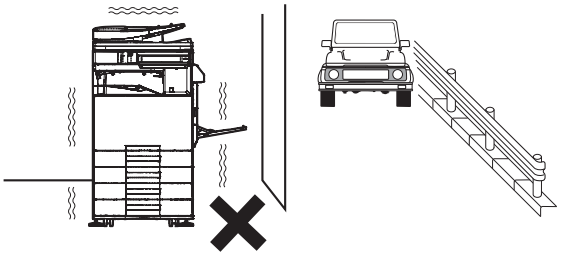
  Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

  For operating and storing conditions, refer to the specifications described later.



- **Place of extreme vibrations**

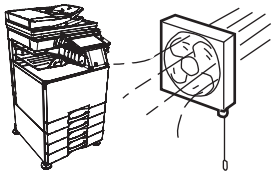
  It may cause a breakdown.



- **Poorly ventilated place**

  An electrostatic type copier will produce ozone.

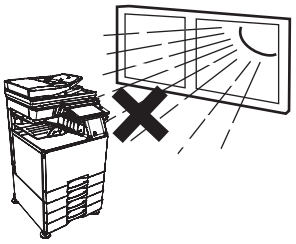
  The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **Place of direct sunlight.**

  Plastic parts and ink may be deformed, discolored, or may undergo qualitative change.

  It may cause a breakdown or output quality problems.



- **Place which is full of organic gases such as ammonium**

  The organic photo-conductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.

  Installation of this machine near a diazo-type copier and blue print machine may result in poor quality output.



- **Place of much dust**

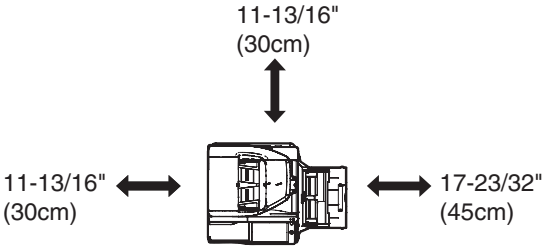
  When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **Place near a wall**

  The machine will require ventilation.

  If ventilation is not proper, poor output or machine failure may result.




- **Unstable or irregular surface**

  If the machine is dropped or tips over, it may cause injury or machine malfunction.

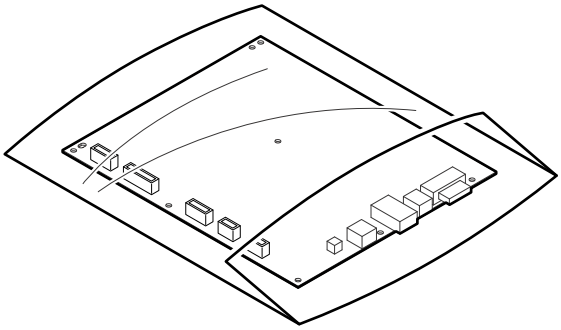
  Use an optional desk or an exclusive-use desk.

  When using the optional desk, be sure to fix the adjuster and lock the casters.

## 4. Note for handling PWB and electronic parts

When handling the PWB and the electronic parts, be sure to observe the following precautions in order to prevent against damage by static electricity.

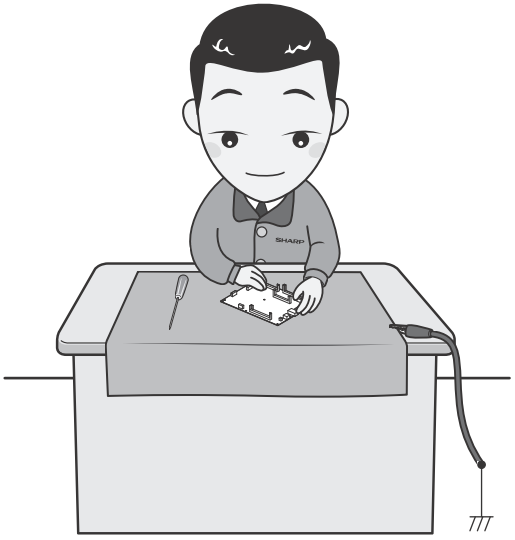
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- When and after removing the parts from an anti-static bag (case), use an earth band as shown below:
  - Put an earth band to your arm, and connect it to the machine.



- When repairing or replacing an electronic part, perform the procedure on an anti-static mat.



## 5. Note for repairing/replacing the LSU

When repairing or replacing, be sure to observe the following items.

- When repairing or replacing the LSU, be sure to disconnect the power plug from the power outlet.
- When repairing or replacing the LSU, follow the procedures described in this Service Manual.
- When checking the operations after repairing the LSU, keep all the parts including the cover installed and perform the operation check.
- Do not modify the LSU.
- When visually checking the inside of the machine for the operation check, be careful not to allow laser beams to enter the eyes.

If the above precaution is neglected or the LSU is modified, ones safety may be at risk.

## 6. Note for handling the drum unit, the transfer unit, the developing unit

When handling the OPC drum unit, the transfer unit, and the developing unit, strictly observe the following items.

If these items are neglected, a trouble may be generated in the copy and print image quality.

**Drum unit**

- Avoid working at a place with strong lights.
- Do not expose the OPC drum to lights including interior lights for a long time.
- When the OPC drum is removed from the machine, cover it with light blocking material. (When using paper, use about 10 sheets of paper to cover it.)
- Be careful not to attach fingerprints, oil, grease, or other foreign material on the OPC drum surface.

**Transfer unit**

- Be careful not to leave fingerprints, oil, grease, or other foreign material on the transfer roller, primary transfer belt, and the secondary transfer roller.

**Developing unit**

- Be careful not to leave fingerprints, oil, grease, or other foreign material on the developing unit.

## 7. Screw tightening torque

The screws used in this machine are largely classified into three types.

These types are classified according to the shape of the screw grooves and use positions.

The table below shows the types of the screws and the tightening torques depending on the use position.

When tightening the screws for repair or maintenance, refer to the table.

However, for the other conditions of tightening screws than specified on this table, or under special circumstances, the details are described on the separate page. Refer to the descriptions on such an exception.

Important

Especially for the screw fixing positions where there is an electrode or a current flows, use enough care to tighten securely to avoid loosening.

**Screw kinds and tightening torques**

Normal screws, set screws (including step screws)

| Screw diameter | Material to be fixed | Tightening torque (N·m) | Tightening torque (kgf·cm) | Tightening torque (lbft) |
|---|---|---|---|---|
| M2.6 | Steel plate | 0.8 - 1.0 | 8 - 10 | 0.6 - 0.7 |
| M3 | Steel plate | 1.0 - 1.2 | 10 - 12 | 0.7 - 0.9 |
| M4 | Steel plate | 1.6 - 1.8 | 16 - 18 | 1.2 - 1.3 |

Tapping screws (for iron)

| Screw diameter | Material to be fixed | Tightening torque (N·m) | Tightening torque (kgf·cm) | Tightening torque (lbft) |
|---|---|---|---|---|
| M3 | Steel plate (Plate thickness 0.8mm or above) | 1.0 - 1.2 | 10 - 12 | 0.7 - 0.9 |
| M4 | Steel plate (Plate thickness 0.8mm or above) | 1.6 - 1.8 | 16 - 18 | 1.2 - 1.3 |
| M3 | Steel plate (Plate thickness less than 0.8mm) | 0.6 - 0.8 | 6 - 8 | 0.4 - 0.6 |
| M4 | Steel plate (Plate thickness less than 0.8mm) | 1.2 - 1.4 | 12 - 14 | 0.9 - 1.0 |

Tapping screw (for plastic)

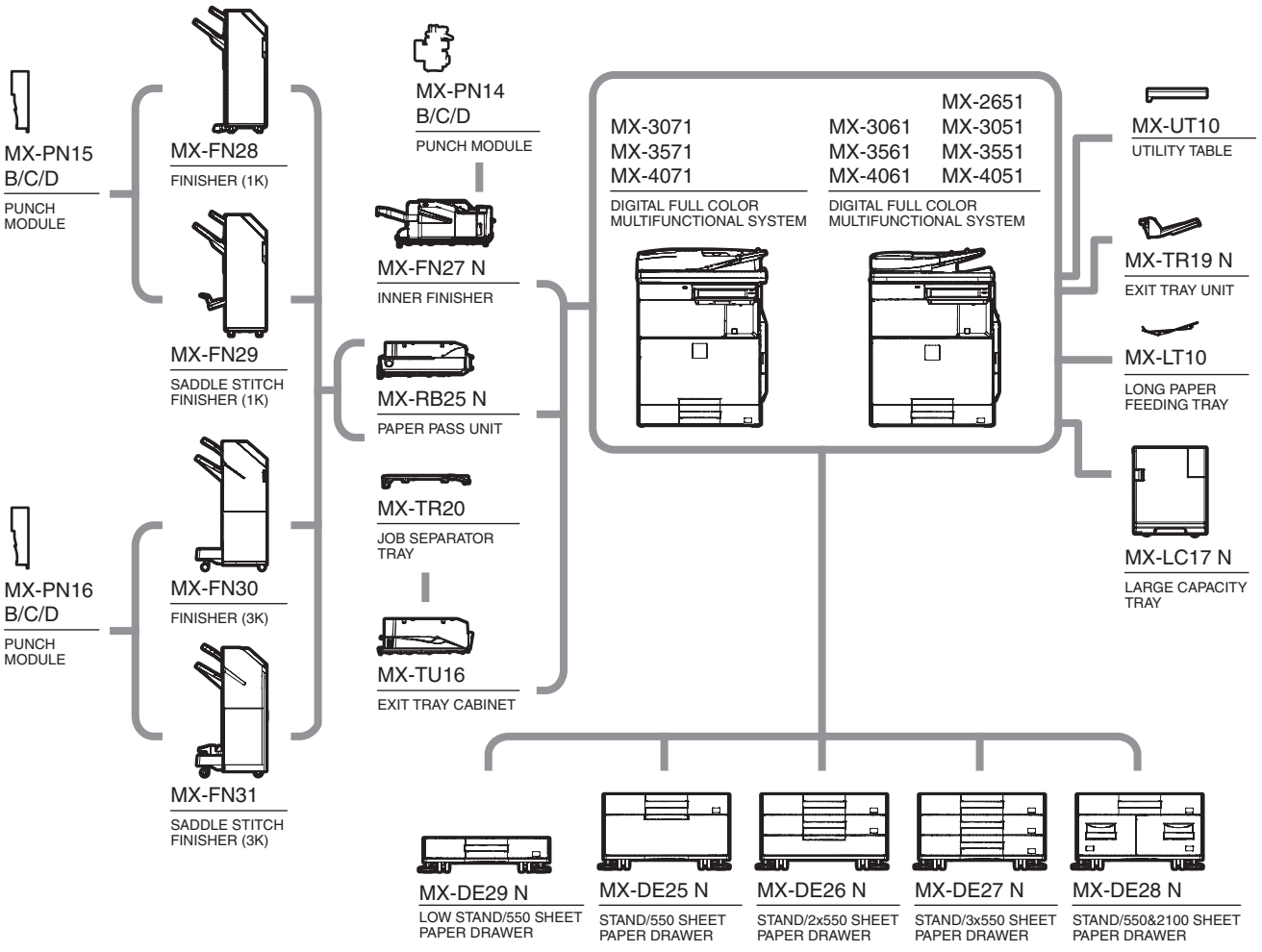
| Screw diameter | Material to be fixed | Tightening torque (N·m) | Tightening torque (kgf·cm) | Tightening torque (lbft) |
|---|---|---|---|---|
| M3 | Plastic resin | 0.6 - 0.8 | 6 - 8 | 0.4 - 0.6 |
| M4 | Plastic resin | 1.0 - 1.2 | 10 - 12 | 0.7 - 0.9 |

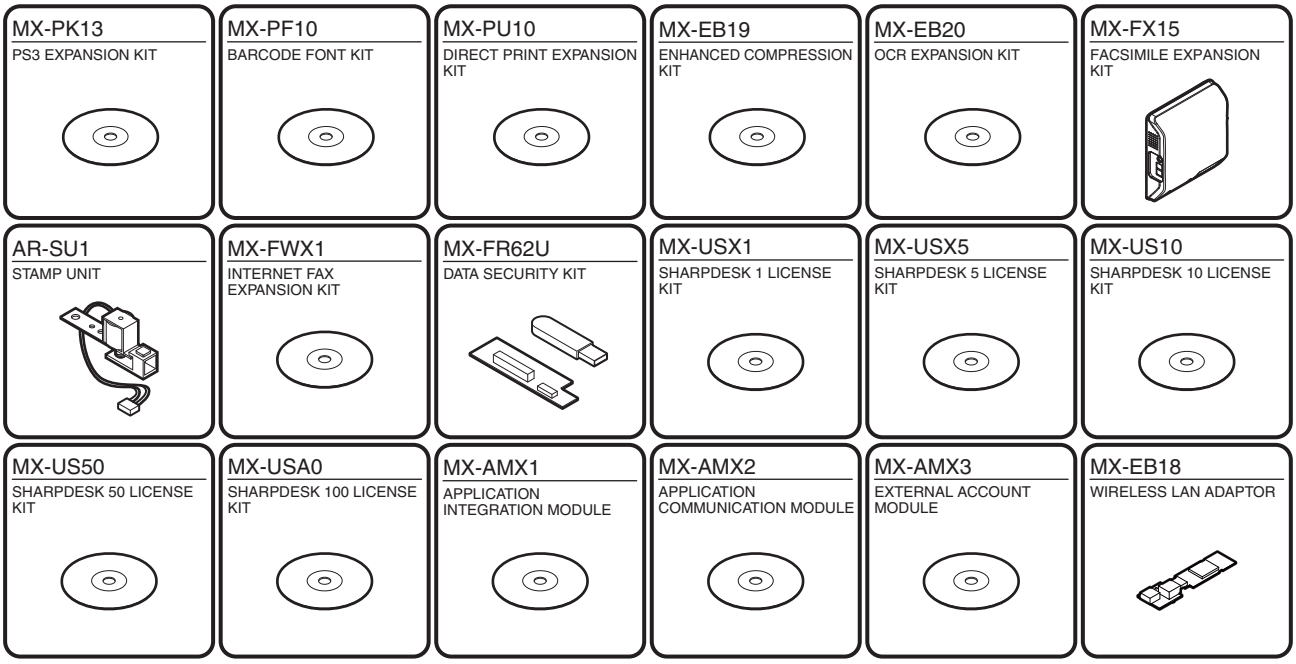
## 8. Relationship between the model name and the designation in description of the document

| Model name | Designation in description |
|---|---|
| MX-2651 | 26ppm machine |
| MX-3051 / MX-3061 / MX-3071 | 30ppm machine |
| MX-3551 / MX-3561 / MX-3571 | 35ppm machine |
| MX-4051 / MX-4061 / MX-4071 | 40ppm machine |

# [1] PRODUCT OUTLINE

## 1. System diagram



## 2. Option list

| | Model name | Description | MX-3071<br>MX-3571<br>MX-4071 | MX-3061<br>MX-3561<br>MX-4061 | MX-2651<br>MX-3051<br>MX-3551<br>MX-4051 | Remarks |
|---|---|---|---|---|---|---|
| Document Feed System | — | REVERSING SINGLE PASS FEEDER | — | STD | STD | |
| | — | DUPREX SINGLE PASS FEEDER | STD | — | — | |
| Paper Feed System | MX-DE25 N | STAND/550 SHEET PAPER DRAWER | OPT | OPT | OPT | |
| | MX-DE26 N | STAND/2x550 SHEET PAPER DRAWER | OPT | OPT | OPT | |
| | MX-DE27 N | STAND/3x550 SHEET PAPER DRAWER | OPT | OPT | OPT | |
| | MX-DE28 N | STAND/2100 SHEET PAPER DRAWER | OPT | OPT | OPT | |
| | MX-DE29 N | LOW STAND/550 SHEET PAPER DRAWER | OPT | OPT | OPT | |
| | MX-LC17 N | LARGE CAPACITY TRAY | OPT | OPT | OPT | |
| | MX-LT10 | LONG PAPER FEEDING TRAY | OPT | OPT | OPT | |
| Paper Exit System | MX-TR19 N | EXIT TRAY UNIT | OPT | OPT | OPT | |
| | MX-TU16 | EXIT TRAY CABINET | STD/OPT | STD/OPT | STD/OPT | *1 |
| | MX-TR20 | JOB SEPARATOR TRAY | OPT | OPT | OPT | |
| | MX-FN27 N | FINISHER | OPT | OPT | OPT | |
| | MX-PN14B | PUNCH MODULE | OPT | OPT | OPT | For MX-FN27 N |
| | MX-PN14C | | OPT | OPT | OPT | |
| | MX-PN14D | | OPT | OPT | OPT | |
| | MX-RB25 N | PAPER PASS UNIT | OPT | OPT | OPT | |
| | MX-FN28 | FINISHER (1K) | OPT | OPT | OPT | |
| | MX-FN29 | SADDLE STITCH FINISHER (1K) | OPT | OPT | OPT | |
| | MX-PN15B | PUNCH MODULE | OPT | OPT | OPT | For MX-FN28/FN29 |
| | MX-PN15C | | OPT | OPT | OPT | |
| | MX-PNX5D | | OPT | OPT | OPT | |
| | MX-FN30 | FINISHER (3K) | OPT | OPT | OPT | |
| | MX-FN31 | SADDLE STITCH FINISHER (3K) | OPT | OPT | OPT | |
| | MX-PN16B | PUNCH MODULE | OPT | OPT | OPT | For MX-FN30/FN31 |
| | MX-PN16C | | OPT | OPT | OPT | |
| | MX-PN16D | | OPT | OPT | OPT | |
| Printer Expansion | MX-PK13 | PS3 EXPANSION KIT | STD | STD | OPT | |
| | MX-PF10 | BARCODE FONT KIT | OPT | OPT | OPT | |
| | MX-PU10 | DIRECT PRINT EXPANSION KIT | STD | STD | OPT | |
| Image Send Expansion | MX-EB19 | ENHANCED COMPRESSION KIT | STD | STD | OPT | |
| | MX-EB20 | OCR EXPANSION KIT | STD | STD | OPT | |
| | MX-FX15 | FACSIMILE EXPANSION KIT | OPT | OPT | OPT | *2 |
| | AR-SU1 | STAMP UNIT | OPT | OPT | OPT | |
| | MX-FWX1 | INTERNET FAX EXPANSION KIT | OPT | OPT | OPT | |
| Authentication / Security | MX-FR62U | DATA SECURITY KIT | OPT | OPT | OPT | |
| Application / Solution | MX-USX1 | SHARPDESK 1 LICENSE KIT | OPT | OPT | OPT | |
| | MX-USX5 | SHARPDESK 5 LICENSE KIT | OPT | OPT | OPT | |
| | MX-US10 | SHARPDESK 10 LICENSE KIT | OPT | OPT | OPT | |
| | MX-US50 | SHARPDESK 50 LICENSE KIT | OPT | OPT | OPT | |
| | MX-USA0 | SHARPDESK 100 LICENSE KIT | OPT | OPT | OPT | |
| | MX-AMX1 | APPLICATION INTEGRATION MODULE | OPT | OPT | OPT | |
| | MX-AMX2 | APPLICATION COMMUNICATION MODULE | STD/OPT | STD/OPT | OPT | *1 |
| | MX-AMX3 | EXTERNAL ACCOUNT MODULE | STD/OPT | STD/OPT | OPT | *1 |
| Other | MX-UT10 | UTILITY TABLE | OPT | OPT | OPT | |
| | MX-EB18 | Wireless LAN adaptor | STD/OPT | STD/OPT | OPT | *2 |
| | — | KEYBOARD | STD | STD | — | *2 |

STD: Standard equipment

OPT: Installable option

*1: Option in some area

*2: No support in some area

# [2] SPECIFICATIONS

## 1. Basic specifications

### A. Engine specification

| | |
|---|---|
| Photo Conductor | OPC (Diameter: Bk: φ30mm, CL (Y/M/C): φ30mm x3) |
| Recording method | Electronic Photo (Laser) |
| Development method | Dry-Type Dual-Component Magnetic Brush Development |
| Charging method | Charged Saw-Tooth Method |
| Transfer method | Middle Transfer Belt |
| Separation method | Natural Separation Method<br>*Sub Separation pawl is equipped. |
| Cleaning method | Counter Blade |
| Fusing method | Belt Method |
| Waste toner disposal | Toner Collecting Container |

### B. Engine speed (ppm)

#### (1) Tray1-4,LCC

| Paper size | 26 ppm machine | | 30 ppm machine | | 35 ppm machine | | 40 ppm machine | |
|---|---|---|---|---|---|---|---|---|
| | Mono | Color | Mono | Color | Mono | Color | Mono | Color |
| A3 | 15 | 15 | 16 | 16 | 18 | 18 | 20 | 20 |
| 8K | 15 | 15 | 16 | 16 | 18 | 18 | 20 | 20 |
| 11x17 | 15 | 15 | 16 | 16 | 18 | 18 | 19 | 19 |
| B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5 | 16 | 16 | 17 | 17 | 20 | 20 | 22 | 22 |
| A4, B5, 8.5x11, 16K, A5 | 26 | 26 | 30 | 30 | 35 | 35 | 40 | 40 |
| A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R | 21 | 21 | 21 | 21 | 23 | 23 | 26 | 26 |
| A5R, 5.5x8.5R | 21 | 21 | 21 | 21 | 27 | 27 | 29 | 29 |
| A3W, 12x18 | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 18 |
| SRA4 | 25 | 25 | 25 | 25 | 28 | 28 | 32 | 32 |
| SRA3 | 15 | 15 | 15 | 15 | 16 | 16 | 18 | 18 |
| Extra ( - 210mm) and the length of horizontal scanning is 257mm and over. | 26 | 26 | 30 | 30 | 35 | 35 | 40 | 40 |
| Extra (210.1 - 215.9mm) and the length of horizontal scanning is 257mm and over. | 26 | 26 | 30 | 30 | 35 | 35 | 40 | 40 |
| Extra (216 - 225mm) and the length of horizontal scanning is 257mm and ove.r | 25 | 25 | 25 | 25 | 28 | 28 | 32 | 32 |
| Extra ( - 225mm) and the length of horizontal scanning is less than 257mm. | 21 | 21 | 21 | 21 | 27 | 27 | 29 | 29 |
| Extra (225.1 - 297mm) | 21 | 21 | 21 | 21 | 23 | 23 | 26 | 26 |
| Extra (297.1mm - ) | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 18 |
| Envelope (Monarch,Com-9) | 17 | 15 | 17 | 15 | 17 | 15 | 17 | 15 |
| Heavy Paper (A3, 11x17, 8K) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Heavy Paper (B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Heavy Paper (A4, B5, 8.5x11, 16K, A5R, 5.5x8.5R, A5) | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Heavy Paper (A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R) | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Heavy Paper (A3W, 12x18) | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Heavy paper (Extra: - 215.9mm) | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Heavy paper (Extra:216 - 225mm) | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Heavy paper (Extra:225.1 - 297mm) | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Heavy paper (Extra:297.1mm - ) | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Heavy paper (SRA3) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Heavy paper (SRA4) | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |

#### (2) Bypass

| Paper size | 26 ppm machine | | 30 ppm machine | | 35 ppm machine | | 40 ppm machine | |
|---|---|---|---|---|---|---|---|---|
| | Mono | Color | Mono | Color | Mono | Color | Mono | Color |
| A3 | 15 | 15 | 15 | 15 | 17 | 17 | 19 | 19 |
| 8K | 15 | 15 | 15 | 15 | 17 | 17 | 19 | 17 |
| 11x17 | 15 | 15 | 15 | 15 | 17 | 17 | 19 | 17 |
| B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5 | 16 | 16 | 17 | 17 | 20 | 19 | 21 | 19 |
| A4, 16K | 26 | 26 | 30 | 28 | 35 | 28 | 39 | 28 |
| 8.5x11 | 26 | 26 | 30 | 27 | 35 | 27 | 39 | 27 |
| B5, A5 | 26 | 26 | 30 | 28 | 35 | 30 | 39 | 30 |
| A4R, 16KR, 8.5x11R | 20 | 20 | 20 | 20 | 23 | 22 | 25 | 22 |
| B5R, 7.25x10.5R | 20 | 20 | 20 | 20 | 23 | 22 | 25 | 22 |
| A5R, 5.5x8.5R | 20 | 20 | 20 | 20 | 27 | 27 | 29 | 27 |
| A3W, 12x18 | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 16 |
| SRA4 | 25 | 25 | 25 | 25 | 26 | 26 | 30 | 27 |
| SRA3 | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 17 |
| OHP (A4,8.5x11) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| OHP (A4R,8.5x11R) | 20 | 17 | 20 | 17 | 20 | 17 | 20 | 17 |
| Extra | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 16 |
| Extra ( - 215.9mm) and the length of horizontal scanning is 257mm and over. | 26 | 26 | 30 | 27 | 35 | 27 | 39 | 27 |
| Extra (216 - 225mm) and the length of horizontal scanning is 257mm and over. | 25 | 25 | 25 | 25 | 26 | 26 | 30 | 27 |
| Extra ( - 225mm) and the length of horizontal scanning is less than 257mm. | 20 | 20 | 20 | 20 | 26 | 26 | 29 | 27 |
| Extra (225.1 - 297mm) | 20 | 20 | 20 | 20 | 23 | 22 | 25 | 22 |
| Extra (297.1mm - ) | 14 | 14 | 14 | 14 | 16 | 16 | 18 | 16 |
| Envelope (Monarch, Com-9, Com-10, DL, C4, C5, C6) | 17 | 15 | 17 | 15 | 17 | 15 | 17 | 15 |
| Heavy Paper (A3, 11x17, 8K) | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 |
| Heavy Paper (B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5) | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 |
| Heavy Paper (A4, 8.5x11, 16K, B5, A5R, 5.5x8.5R, A5) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| Heavy Paper (A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R) | 20 | 17 | 20 | 17 | 20 | 17 | 20 | 17 |
| Heavy Paper (A3W, 12x18) | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 |
| Heavy Paper (Extra) | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 |
| Heavy Paper (Extra: - 215.9mm) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| Heavy Paper (Extra:216 - 225mm) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| Heavy Paper (Extra:225.1 - 297mm) | 20 | 17 | 20 | 17 | 20 | 17 | 20 | 17 |
| Heavy Paper (Extra:297.1mm - ) | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 |
| Heavy Paper (Postcard: HIGH) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| Heavy Paper (Postcard: LOW) | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 |
| Heavy Paper (SRA4) | 25 | 21 | 25 | 21 | 25 | 21 | 25 | 21 |
| Heavy Paper (SRA3) | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 |

### C. Printable area

| | |
|---|---|
| Void area | Top: 4±1mm<br>Rear: 2mm or more, 5mm or less, Total 8mm or less<br>FR total: 4mm±2mm |
| Max printable area | 319mmx1,292mm |

## D. Engine resolution

| | | | | |
|---|---|---|---|---|
| Resolution *1 | Copy | | Writing<br>600x600dpi<br>9,600 (equivalent)x600dpi<br>1,200x1,200dpi (BW only) | |
| | Print | | Writing<br>600x600dpi<br>9,600 (equivalent)x600dpi<br>1,200x1,200dpi | |
| Tone (equivalent to 256 levels *2) | Copy | | Writing | |
| | | | 600x600dpi | 4bit |
| | | | 9,600(equivalent)x600dpi | — |
| | Print | | Writing | |
| | | PCL | 600x600dpi | 1bit, 4bit |
| | | | 9,600(equivalnet)x600dpi | — |
| | | | 1,200x1,200dpi | 1bit |
| | | PS | 600x600dpi | 1bit, 4bit |
| | | | 9,600(equivalnet)x600dpi | — |
| | | | 1,200x1,200dpi | 1bit |

*1: Default resolution is 600dpi

*2: The Dither and Error Diffusion methods using 8bit input will be performed.

*1200x1200dpi N/A for MX-xx51

## E. Scanner section

### (1) Resolution / Gradation

| Scan Resolution for Copying (dpi) | | Monochrome | | Color |
|---|---|---|---|---|
| | | RSPF model | DSPF model | RSPF/DSPF |
| | OC | 600x600 (default)<br>600x400<br>600x300 | 600x600 (default)<br>600x400 | 600x600 |
| | RSPF | 600x600<br>600x400 (default)<br>600x300 | — | 600x600 |
| | DSPF | — | 600x600<br>600x400 (default)<br>600x300 | 600x600 |
| Exposure Lamp | White LED | | | |
| Scan Levels | 10bit | | | |

### (2) Document Glass

| | |
|---|---|
| Type | Fixing Method (Flat bed) |
| Scan Range | 297x432mm |
| Original Cover Standard Location | Left back |
| Detection | Yes |
| Detection size | Auto Detect |
| Heater (Scanner section) | Service parts |

## F. Document feeder

### (1) RSPF

| Type | RSPF (Reversing single pass feeder) | |
|---|---|---|
| Scan Speed | Monochrome (A4/8.5x11) | Color (A4/8.5x11) |
| Copy | Single:<br>80 sheets/minute<br>(600x400dpi)<br>53 sheets/minute<br>(600x600dpi)<br>Duplex:<br>25 pages/minute<br>(600x400dpi)<br>22 pages/minute<br>(600x600dpi) | Single:<br>53 sheets/minute<br>(600x600dpi)<br>Duplex:<br>22 pages/minute<br>(600x600dpi) |
| Thin paper mode | Single<br>39 sheets/minute<br>(600x400dpi)<br>26 sheets/minute<br>(600x600dpi) | 26 sheets/minute<br>(600x600dpi) |
| Fax | Single:<br>80 sheets/minute<br>(200x200dpi, 1bit)<br>Duplex:<br>25 pages/minute<br>(200x200dpi, 1bit) | N/A |
| Internet FAX | Single:<br>80 sheets/minute<br>(200x200dpi, 1bit)<br>Duplex:<br>25 pages/minute<br>(200x200dpi, 1bit) | N/A |
| Scanner | Single:<br>80 sheets/minute<br>(200x200dpi, 1bit)<br>(300x300dpi, 1bit)<br>Duplex:<br>25 pages/minute<br>(200x200dpi, 1bit)<br>(300x300dpi, 1bit) | Single:<br>80 sheets/minute<br>(200x200dpi, 1bit)<br>(300x300dpi, 1bit)<br>Duplex:<br>25 pages/minute<br>(200x200dpi, 1bit)<br>(300x300dpi, 1bit) |
| Document setup Direction | Upward standard (1toN feeding standard) | |
| Document standard position | Center standard (Rear one-side standard for random feeding) | |
| Document transport method | Sheet-through method | |
| Mix feeding (same AB or inch system, same width) | Available (Simplex/Duplex) | |
| Random feeding (different combination of AB/ inch system, different width) | Available (Duplex is not available)<br>(Combination allowed: A3&B4, B4&A4R, A4&B5, B5&A5, 11&8.5-inch.<br>AMS effective. 2-sided scanning is disabled during random feeding.) | |
| Document weight | Single | Thin paper: 35 - 49g/m$^2$, 9 - 13- lb. Bond<br>Plain paper: 50 - 128g/m$^2$, 13 - 32 lb. Bond |
| | Duplex | 50 - 105 g/m$^2$, 13 - 28 lb. Bond |
| Document capacity | Max. 120 sheets (64g/ m$^2$ 17 lb. Bond)<br>Max. 100 sheets (80g/m$^2$, 20 lb. Bond) or max. 13cm, 1/2 inch or less | |
| Types of document that may not be transported | The following documents are NOT allowed;<br>OHP, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cuts and pastes, documents printed by an ink ribbon, and perforated document except 2-punched / 3-punched (Perforated document by punch unit is allowed.) | |
| Paper detection | Yes | |
| Detectable paper size | Auto detection | |
| Paper Feeding Direction | Right hand feeding | |
| Stamp | Option | |
| Power Source | Provided from the main unit | |
| Dimensions | W 580 x D 465 x H 155mm, W 22 53/64 x D 18 20/64 x H 6 7/64inch | |
| Weight | Approx.6.7kg, Approx.14.8lb. | |

### (2) DSPF

| Type | DSPF (Duplex single pass feeder) | |
|---|---|---|
| Scan Speed | Monochrome (A4/8.5x11) | Color (A4/8.5x11) |

| | | | |
|---|---|---|---|
| Copy | Single:<br>110 sheets/minute (600x300dpi)<br>82 sheets/minute (600x400dpi)<br>55 sheets/minute (600x600dpi)<br><br>Duplex:<br>220 pages/minutes (600x300dpi)<br>164 pages/minutes (600x400dpi)<br>110 pages/minutes (600x600dpi) | | Single:<br>55 sheets/minute (600x600dpi)<br><br>Duplex:<br>110 pages/minutes (600x600dpi) |
| Thin mode | 54 sheets/minute (600x300dpi)<br>46 sheets/minute (600x400dpi)<br>36 sheets/minute (600x600dpi) | | 36 sheets/minute (600x600dpi) |
| Fax | Single: 110 sheets/minute (200x200dpi, 1bit)<br>Duplex: 220 pages/ minutes (200x200dpi, 1bit) | | N/A |
| Internet FAX | Single: 110 sheets/minute (200x200dpi, 1bit)<br>Duplex: 220 pages/ minutes (200x200dpi, 1bit) | | N/A |
| Scanner | Single: 110 sheets/minute (200x200dpi, 300×300dpi, 1bit)<br>Duplex: 220 pages/ minutes (200x200dpi, 300×300dpi, 1bit) | | Single: 110 sheets/minute (200x200dpi, 300×300dpi, 8bit)<br>Duplex: 220 pages/ minutes (200x200dpi, 300×300dpi, 8bit) |
| Document setup Direction | Upward standard (1toN feeding standard) | | |
| Document standard position | Center standard | | |
| Document transport method | Sheet-through method | | |
| Mix feeding (same AB or inch system, same width) | Available (Simplex/Duplex) | | |
| Random feeding (different combination of AB / inch system, different width) | Available (Simplex/Duplex)<br>(Combination allowed: A3&B4, B4&A4R, A4&B5, B5&A5, 11&8.5-inch. AMS effective.) | | |
| Document weight | Single | Thin paper: 35 - 49g/m$^2$, 9 - 13- lb. Bond<br>Plain paper: 50 - 157g/m$^2$, 13 - 32 lb. Bond | |
| | Duplex | 50 - 157g/m$^2$, 13 - 32 lb. Bond | |
| Document capacity | Max. 180 sheets (64g/ m$^2$ 17 lb. Bond)<br>Max. 150 sheets (80g/m$^2$, 20 lb. Bond) or max. 19.5mm, 50/64inch or less | | |
| Types of document that may not be transported | The following documents are NOT allowed;<br>OHP, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cuts and pastes, documents printed by an ink ribbon, and perforated document except 2-punched / 3-punched (Perforated document by punch unit is allowed.) | | |
| Paper detection | Yes | | |
| Detectable paper size | Auto detection | | |
| Paper Feeding Direction | Right hand feeding | | |
| Stamp | Option | | |
| Power Source | Provided from the main unit | | |
| Dimensions | H 615 x D 482 x H 159 mm, W 24_1/4 x D 19 x H 2_3/ 8inch | | |
| Weight | Approx.14.8 kg, Approx.32.6 lb. | | |

## G. Paper feed section

### (1) Basic specification

| | | |
|---|---|---|
| Type | Standard | 1 Tray + Multi bypass |
| | Maximum | 4 Trays+ Tandem desk + Multi bypass + LCC |
| Heater | | Service part |

| Tray | | Tray 1 | Multi Bypass |
|---|---|---|---|
| Paper Capacity | Standard paper (80g/m$^2$) | 550 sheets | 100 sheets |
| Paper Size Detection | | Available | Available |
| Paper Type Settings | | Yes | |
| Method to change paper size | | By user | By user |
| Default Paper Size Settings | Inch-system | 8.5x11 | — |
| | AB-system | A4 | — |
| Detection of Remaining Paper | | None and 3 levels (100%, 67%, 33%, None) | Available<br>Detect “None” status only. |
| Display of paper remaining | | No | — |

### (2) Extra Paper Capacity

| Paper type | Feeding Tray | Multi Bypass |
|---|---|---|
| Postcard | Yes | 20 sheets |
| Envelope | 50 sheets | 20 sheets |
| OHP | N/A | 20 sheets |
| Heavy paper | 106 - 220g/m$^2$: 200 sheets,<br>221 - 300g/m$^2$: 100 sheets | 106 - 256g/m$^2$: 40 sheets<br>257 - 300g/m$^2$: 20 sheets |
| Tab paper | N/A | 20 sheets |
| Glossy paper | N/A | 1 sheet |
| Others | N/A | 1 sheet |

### (3) Feedable Paper Type

| Paper feed section | | Tray1 | Multi Bypass |
|---|---|---|---|
| Min.paper weight | | 60g/m$^2$ | 55g/m$^2$ |
| Max.paper weight | | 300g/m$^2$ | 300g/m$^2$ |
| Paper Type | Thin paper 55-59g/m$^2$ 13-16 lb. bond | - | Yes |
| | Plain paper 1<br>60-89g/m$^2$ (16-24 lbs bond) | Yes | Yes |
| | Plain paper 2<br>90-105g/m$^2$ (24-28 lbs bond) | Yes | Yes |
| | Recycled Paper | Yes | Yes |
| | Colored Paper | Yes | Yes |
| | Letter head | Yes | Yes |
| | Pre printed | Yes | Yes |
| | Pre Punched | Yes | Yes |
| | Heavy Paper 106-176g/m$^2$ 28 lbs bond-65 lbs Cover | Yes | Yes |
| | Heavy Paper 177-220g/m$^2$ 65 lbs Cover-80 lbs Cover | Yes | Yes |
| | Heavy Paper 221-256g/m$^2$ 80 lbs Cover-140 lbs Index | Yes | Yes |
| | Heavy Paper 257-300g/m$^2$140 lbs Index-110 lbs Cover | Yes | Yes |
| | Embossed paper | - | Yes |
| | Envelope | Yes | Yes |
| | Transparency | - | Yes |
| | Label | - | Yes |
| | Tab Paper | - | Yes |
| | Glossy Paper | - | Yes |
| | User setting 1-7 | Yes | Yes |

| Paper feed section | | | Tray1 | Multi Bypass |
|---|---|---|---|---|
| Paper Size | SRA3 | 320x450 | Yes | Yes |
| | 12x18 (A3W) | 305x457 | Yes | Yes |
| | SRA4 | 320x225 | Yes | Yes |
| | Ledger (11x17) | 279x432 | Yes | Yes |
| | Legal (8.5x14) | 216x356 | Yes | Yes |
| | Asian Legal (8.5x13.5) | 216x343 | Yes | Yes |
| | Mexican Legal (8.5x13.4) | 216x340 | Yes | Yes |
| | Foolscap (8.5x13) | 216x330 | Yes | Yes |
| | Letter (8.5x11) | 279x216 | Yes | Yes |
| | Letter-R (8.5x11R) | 216x279 | Yes | Yes |
| | Executive-R (7.25x10.5R) | 184x266 | Yes | Yes |
| | Invoice-R(5.5x8.5R) | 140x216 | Yes | Yes |
| | A3 | 297x420 | Yes | Yes |
| | B4 | 257x364 | Yes | Yes |
| | A4 | 297x210 | Yes | Yes |
| | A4R | 210x297 | Yes | Yes |
| | B5 | 257x182 | Yes | Yes |
| | B5R | 182x257 | Yes | Yes |
| | A5 | 210x148 | Yes | Yes |
| | A5R | 148x210 | Yes | Yes |
| | 8K | 270x390 | Yes | Yes |
| | 16K | 270x195 | Yes | Yes |
| | 16KR | 195x270 | Yes | Yes |
| | Postcard | 100x148 | Yes | Yes |
| | Monarch | 98x191 | Yes | Yes |
| | COM9 | 98.4x225.4 | Yes | Yes |
| | COM10 | 105x241 | - | Yes |
| Paper Size | DL | 110x220 | - | Yes |
| | C5 | 229x162 | - | Yes |
| | Custom-Custom Size | | Yes | Yes |
| | Extra | | - | Yes |
| | Custom range | Min X | 182mm / 7_1/4 inch | 140mm/ 5_1/2 inch |
| | | Max X | 457mm / 18 inch | 457mm/ 18 inch |
| | | Min Y | 132mm / 5_1/4 inch | 90mm/ 3_5/8 inch |
| | | Max Y | 320mm / 12_1/2 inch | 320mm/ 12_1/2 inch |
| | Long paper | Width: 90 - 320mm Length: 458 - 1300mm | - | Yes |

## H. Operation panel

| | |
|---|---|
| Size | 10.1 inch |
| Form | Dot matrix LCD, Touch panel |
| Number of Display Dot | 1024 x 600 dot (WSVGA) |
| Color | Yes |
| LCD Drive Display Area (WxD) | 222.72x125.28mm (CMO 10.1 inch) |
| LCD Back Light | LED backlight method |
| LCD Contrast Adjustment | Yes |
| Angle/Position Adjustment | Yes (free stop) |
| Touch Panel Method | Resistive touch display (effective 2-point touch) |

## I. Controller board

| | |
|---|---|
| CPU | ARM11 600MHz<br>ARM9 400MHz (1W energy saving mode 75MHz:) |
| SOC | Cortex A72 Quad 1.4GHz |
| Interface | |
| IEEE1284 Parallel | No |
| Ethernet | 1 port |
| Interface | 10Base-T, 100Base-TX, 1000Base-T |
| Support Protocol | TCP/IP(IPv4, IPv6): Supported<br>IPX/SPX: Not Supported<br>EtherTalk: Not Supported |
| USB 2.0(High speed) (Host) | ARM11: Not used |
| 2 port | SOC: For Wireless LAN module (internal) |
| USB HUB (4 port) | Front port |
| | For IC card reader (internal) |
| | Keyboard (internal) |
| | Rear port |
| | Audio IC |
| USB 2.0 (High speed) (device) | 1port (default off) |

## J. Memory·Hard disk

| Flash memory | eMMC | ICU PWB | | HDD |
|---|---|---|---|---|
| | | REUS | SOC | |
| | | On board | On board | |
| 2MB | 16GB | 1 GB(STD) | 4 GB(STD) | 500GB |

**eMMC**

| | |
|---|---|
| Utilized memory Area | Boot/Program area<br>FAX data storage area: 1GB |

## K. Wireless LAN

| Item | Specification | |
|---|---|---|
| Compliant regulation | IEEE802.11 n/g/b | |
| Transmission method | IEEE802.11n/g | OFDM method |
| | IEEE802.11b | DS-SS method |
| HOST I/F | USB 2.0 Type A - Connect the module to MFP's internal USB I/F | |
| DEVICE I/F | IEEE802.11 n/g/b | |
| Antenna type | Integrated antenna | |
| Access mode | Infrastructure mode, Access point mode | |
| Security | WEP, WPA/WPA2-mixed PSK, WPA/WPA2-mixed EAP*,WPA2 PSA,WPA2 EAP*<br>*Not applicable to access point mode | |

## L. Warm-up time

| | | |
|---|---|---|
| Warm up time | Main power SW on*1 | 33 sec |
| | Sub Power SW on*1 | 20 sec |
| Availability of Preheat mode | | Yes |
| Jam recovery time | | 20 sec |

*1: Result may change depending on the environmental condition.

## M. Power source

| | North America | 200V |
|---|---|---|
| Voltage / Current | 120V 12A | 220-240V 8 A |
| Frequency | 60Hz | 50/60Hz |
| Power source cord | Fixed type (Direct) | Inlet type |
| Power switch | 2 switches<br>Primary switch: in the front cover<br>Secondary switch (momentary SW): on the operation panel | |

### N. Power consumption

| | 100V | 200V |
|---|---|---|
| Max. rated power consumption*1 | 1.5 kW | 1.84 kW |
| Fax waiting power consumption is 1W or less/ *Condition of Standing by Network: Connect with TCP/IP protocol only. | Yes (Except when using Fax/NW simultaneously.) | No |
| Recovery time from Preheat mode | 6 seconds | |

*1: Power ON. Dehumidiator switch: OFF

### O. Security

| | |
|---|---|
| Admin/Service password scheme | YES |

## 2. Copy function

### A. First copy time

| Engine | Mono | Color |
|---|---|---|
| OC | 4.7 | 6.7 |
| RSPF | 7.6 | 9.7 |
| DSPF | 7.3 | 10 |

## 3. Printer function

### A. Printer driver supported OS

| OS | | Custom PCL6 SPDL2-c | Custom PS | PPD | PC-Fax | TWAIN |
|---|---|---|---|---|---|---|
| Windows | Server 2008 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Server 2008 x 64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Windows 7 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Windows 7 x 64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Windows 8.1 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Windows 8.1 x 64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Server 2012 x 64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| Windows | Windows 10 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Windows 10 x64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| | Server 2016 x64 | CD-ROM | CD-ROM | CD-ROM | CD-ROM | CD-ROM |
| Mac | X10.6 | No | CD-ROM | No | No | No |
| | X10.7 | No | CD-ROM | No | No | No |
| | X10.8 | No | CD-ROM | No | No | No |
| | X10.9 | No | CD-ROM | No | No | No |
| | X10.10 | No | CD-ROM | No | No | No |
| | X10.11 | No | CD-ROM | No | No | No |
| | X10.12 | No | CD-ROM | No | No | No |
| | X10.13 | No | CD-ROM | No | No | No |

### B. PDL emulation·Font

| PDL (command) | | Pre-installed font | Optional Font |
|---|---|---|---|
| PCL5c/PCL6 compatible | STD | European outline font =80 styles Line printer font (BMP) =1 style | Barcode font =28 styles |
| Genuine Postscript3 | STD | European outline font =139 styles | — |
| Font for List Print Scalable font | STD | Arfic mobile font | — |
| Unicode font | STD | | |

## 4. Image send function

### A. Mode

| Mode | Sub mode |
|---|---|
| Scanner | E-mail, FTP server, Shared folder (SMB), Desktop, USB memory, HDD |
| Internet Fax/ Direct SMTP | - |
| Fax | - |
| Data input (metadata) | E-mail, FTP server, Shared folder (SMB), Desktop |
| Remote PC scan | - |

### B. Support image

| Mode | Format / Compression method | Item |
|---|---|---|
| Scanner | File format (Mono 2 gradation) | TIFF, PDF, PDF/A-1b, PDF/A-1a, Encrypted PDF, XPS, Searchable PDF, Office file (pptx, xlsx, docx), Text file (TXT) (UTF-8), Rich text file (RTF) |
| | File format (Color/ Grayscale) | Color TIFF, JPEG, PDF, PDF/A-1b, PDF/A-1a, Encrypted PDF, XPS, Searchable PDF, Office file (pptx, xlsx, docx), Text file (TXT) (UTF-8), Rich text file (RTF) |
| | Compression method (Mono 2 gradation) | Non-compression, G3 (1-dimentional)= MH (Modified Huffman), G4= MMR (Modified MR) |
| | Compression method (Color/ Grayscale) | JPEG (High/Middle/Low), Black Letter Emphasis |
| Internet Fax Direct SMTP | File format (Monochrome) | TIFF-FX(TIFF-F / TIFF-S) |
| | Compression method (Monochrome) | G3 (1-dimentional)= MH (Modified Huffman), G4 = MMR (Modified MR) |
| Fax | Compression method (Monochrome) | MH/ MR/ MMR/JBIG |
| File per page (Setting of the number of pages available) | | |

### C. Image processing

#### (1) Color Mode

| | Scanner | Internet Fax/ Direct SMTP | Fax |
|---|---|---|---|
| B&W | Yes | Yes | Yes |
| Grayscale | Yes | N/A | N/A |
| Full color | Yes | N/A | N/A |
| Auto Color Selection (ACS) | Yes | N/A | N/A |

#### (2) Resolution

| Level | Scanner | Internet Fax/ Direct SMTP | Fax |
|---|---|---|---|
| 1 | 100x100dpi | 200x100 dpi (Half Tone: N/A.) | Standard: 203.2x97.8 dpi (Half Tone: N/A.) |
| 2 | 150x150dpi | N/A | N/A |
| 3 | 200x200dpi | 200x200dpi | Fine (203.2x195.6 dpi) |
| 4 | 300x300dpi | 200x400dpi | Super Fine (203.2x391 dpi) |
| 5 | 400x400dpi | 400x400dpi | Ultra Fine (406.4x391 dpi) |
| 6 | 600x600dpi | 600x600dpi | N/A |

#### (3) Exposure / Original Type

| Mode | | Scanner | Internet Fax/ Direct SMTP | Fax |
|---|---|---|---|---|
| Halftone reproduction | | Equivalent to 256 gradations | <- | <- |
| Exposure Adjustment | Auto | Yes | <- | <- |
| | Manual | 5 levels | <- | <- |

| Mode | | Scanner | Internet Fax/ Direct SMTP | Fax |
|---|---|---|---|---|
| Original document type (Selectable in manual mode) | Text | Yes | N/A | N/A |
| | Text / Photo | Yes | N/A | N/A |
| | Text / Printed photo | Yes | N/A | N/A |
| | Photo | Yes | N/A | N/A |
| | Printed photo | Yes | N/A | N/A |
| | Map | Yes | N/A | N/A |
| Area devision + Suppress background | | Yes | N/A | N/A |
| Selection of image quality | | N/A | Halftone (B&W only) ON/OFF | Halftone (B&W only) ON/OFF |

### D. Number of available Fax sending/receiving

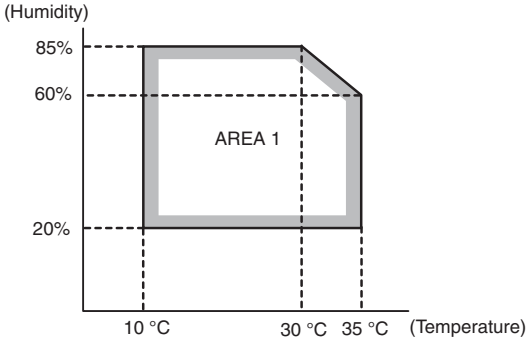
| | |
|---|---|
| Sending | 100 messages (in common use with Image send) or 20000 images (in common use with Copy/Print/Image send) |
| Receiving | 400 messages/2000 images (in common use with Fax and Internet Fax for both messages and images) |

*Use ITU-T No.1 chart

## 5. Dimension and weight

| | |
|---|---|
| Outer dimensions (WxDxH) | DSPF model:<br>616 x 660 x 838 (mm)<br>24.17/64 x 25.63/64 x 33 (inch)<br>RSPF model:<br>608 x 650 x 834 (mm)<br>23.15/16 x 25.19/32 x 32.27/32 (inch) |
| Dimensions occupied by machine | DSPF model: 1009 x 660 x 838 (mm) when extending bypass tray<br>RSPF model: 1003 x 650 x 834 (mm) when extending bypass tray |
| Weight (Not including consumables. Including photoconductor and developer.) | DSPF model: 87.1 kg 191.2 lb<br>RSPF model: 78.9 kg 173.1 lb |

## 6. Environmental conditions



1 : '19/Feb.

# [3] CONSUMABLE PARTS

## 1. Consumable system table

### A. 26 ppm / 30 ppm / 35 ppm machine

#### (1) North America, Central America, South America

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61NT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61NT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61NT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61NT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61NV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61NV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61NV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61NV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61NV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60NR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume 26 ppm:BK:180K CL:150K 30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume 26 ppm:BK:200K CL:170K 30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40NU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

#### (2) Europe, Australia

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61GT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61GT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61GT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61GT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61GV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61GV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61GV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61GV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61GV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60GR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume 26 ppm:BK:180K CL:150K 30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume 26 ppm:BK:200K CL:170K 30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40GU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

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### (3) New Zealand

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61GT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61GT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61GV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61GV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61GV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61GV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61GV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60GR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume<br>26 ppm:BK:180K CL:150K<br>30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume<br>26 ppm:BK:200K CL:170K<br>30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40GU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (4) Asia (Except for Singapore, India), Hong Kong

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61AT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61AT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61AV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61AV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61AV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61AV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61AV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60AR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume<br>26 ppm:BK:180K CL:150K<br>30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume<br>26 ppm:BK:200K CL:170K<br>30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40AU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (5) Singapore, India

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61AT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61AT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61AT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61AT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61AV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61AV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61AV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61AV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61AV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60AR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume<br>26 ppm:BK:180K CL:150K<br>30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume<br>26 ppm:BK:200K CL:170K<br>30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40AU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

1 : '19/Feb.

### (6) Middle East, Africa

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61FT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61FT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61FT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61FT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61FV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61FV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61FV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61FV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61FV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60FR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume 26 ppm:BK:180K CL:150K 30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume 26 ppm:BK:200K CL:170K 30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40FU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (7) Taiwan, Philippines, Israel

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61FT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61FT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61FV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61FV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61FV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61FV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61FV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60FR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume 26 ppm:BK:180K CL:150K 30/35 ppm:BK:200K CL:150K<br><br>Maximum print volume 26 ppm:BK:200K CL:170K 30/35 ppm:BK:230K CL:170K |
| Drum unit | MX-40FU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

1 : '19/Feb.

## B. 40 ppm machine

### (1) North America, Central America, South America

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61NT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61NT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61NT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61NT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61NV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61NV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61NV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61NV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61NV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60NR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40NU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (2) Europe, Australia

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61GT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61GT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61GT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61GT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61GV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61GV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61GV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61GV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61GV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60GR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40GU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (3) New Zealand

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61GT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61GT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61GT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61GT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61GV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61GV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61GV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61GV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61GV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60GR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40GU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

1 : '19/Feb.

### (4) Asia (Except for Singapore, India), Hong Kong

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61AT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61AT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61AV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61AV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61AV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61AV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61AV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60AR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40AU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (5) Singapore, India

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61AT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61AT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61AT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61AT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61AT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61AT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61AV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61AV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61AV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61AV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61AV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60AR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40AU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

1 : '19/Feb.

### (6) Middle East, Africa

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61FT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61FT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Toner cartridge (Black) | MX-61FT-BB | Toner cartridge (Black toner) | 1 | 20K | 10 | |
| Toner cartridge (Cyan) | MX-61FT-CB | Toner cartridge (Cyan toner) | 1 | 12K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MB | Toner cartridge (Magenta toner) | 1 | 12K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YB | Toner cartridge (Yellow toner) | 1 | 12K | 10 | |
| Developer (Black) | MX-61FV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61FV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61FV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61FV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61FV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60FR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40FU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

### (7) Taiwan, Philippines, Israel

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Toner cartridge (Black) | MX-61FT-BA | Toner cartridge (Black toner) | 1 | 40K | 10 | *Life:A4/Letter size at area coverage 5% |
| Toner cartridge (Cyan) | MX-61FT-CA | Toner cartridge (Cyan toner) | 1 | 24K | 10 | |
| Toner cartridge (Magenta) | MX-61FT-MA | Toner cartridge (Magenta toner) | 1 | 24K | 10 | |
| Toner cartridge (Yellow) | MX-61FT-YA | Toner cartridge (Yellow toner) | 1 | 24K | 10 | |
| Developer (Black) | MX-61FV-BA | Developer (Black developer) | 1 | - | 10 | |
| Developer (Cyan/Magenta/Yellow) | MX-61FV-SA | Developer (Cyan/Magenta/Yellow) (3 colors/set) | 1 | - | 10 | |
| 1 Developer (Cyan) | MX-61FV-CA | Developer (Cyan developer) | 1 | - | 10 | |
| Developer (Magenta) | MX-61FV-MA | Developer (Magenta developer) | 1 | - | 10 | |
| Developer (Yellow) | MX-61FV-YA | Developer (Yellow developer) | 1 | - | 10 | |
| Drum | MX-60FR-SA | Drum | 1 | 1350K rotation | 10 | Standard print volume BK:250K CL:200K |
| Drum unit | MX-40FU-SA | Drum unit (Process unit+Drum) | 1 | 1350K rotation | 10 | Maximum print volume BK:285K CL:230K |
| | | Color identification seal (C/M/Y/K) 1 each | 1 | | | |
| | | Charger cleaner | 1 | | | |

# 2. Maintenance parts list

## A. 26 ppm / 30 ppm machine

### (1) North America, Central America, South America

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 250K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 250K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 250K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 250K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 250K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 250K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number BK:200K CL:150K Maximum printable number BK:230K CL:170K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU1 | Fusing unit (120V series) | 1 | | 1 | |

### (2) Europe

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 250K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 250K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 250K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 250K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 250K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 250K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| UFP filter kit | MX-609UF | UFP filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number BK:200K CL:150K Maximum printable number BK:230K CL:170K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU | Fusing unit (200V series) | 1 | | 1 | |

### (3) Australia, New Zealand, Asia, Middle East, Africa, Phirippines, Israel

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 250K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 250K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 250K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 250K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 250K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 250K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number BK:200K CL:150K Maximum printable number BK:230K CL:170K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU | Fusing unit 200V series) | 1 | | 1 | |

## B. 35 ppm / 40 ppm machine

### (1) North America, Central America, South America

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 300K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 300K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 300K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 300K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 300K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 300K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number 35 ppm:BK:200K CL:150K 40 ppm:BK:250K CL:200K Maximum printable number 35 ppm:BK:230K CL:170K 40 ppm:BK:285K CL:230K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU1 | Fusing unit (120V series) | 1 | | 1 | |

### (2) Europe

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 300K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 300K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 300K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 300K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 300K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 300K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| UFP filter kit | MX-609UF | UFP filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number<br>35 ppm:BK:200K CL:150K<br>40 ppm:BK:250K CL:200K<br>Maximum printable number<br>35 ppm:BK:230K CL:170K<br>40 ppm:BK:285K CL:230K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU | Fusing unit (200V series) | 1 | | 1 | |

### (3) Australia, New Zealand, Asia, Middle East, Africa, Phirippines, Israel

| Item | Model name | Content | Qty | Life | Qty in collective package | Remarks |
|---|---|---|---|---|---|---|
| Fusing belt kit | MX-601FB | Fusing belt unit | 1 | 300K | 4 | |
| Pressure roller kit | MX-601LH | Pressure roller | 1 | 300K | 10 | |
| Primary transfer belt kit | MX-601B1 | Primary transfer belt unit | 1 | 300K | 10 | |
| Primary transfer blade kit | MX-601TL | Primary transfer blade | 1 | 300K | 10 | |
| | | Cleaning roller | 1 | | | |
| PTC kit | MX-608CU | PTC unit | 1 | 300K | 10 | |
| Secondary transfer roller kit | MX-607U2 | Secondary transfer roller | 1 | 300K | 10 | |
| Filter kit | MX-607FL | Ozone filter | 1 | 300K | 10 | |
| Toner collection container | MX-601HB | Toner collection container (with LSU cleaner x 2) | 1 | 50K | 10 | |
| Main charger kit | MX-407MK | Main charger unit | 1 | Drum rotation 1350K | 10 | Standard printable number<br>35 ppm:BK:200K CL:150K<br>40 ppm:BK:250K CL:200K<br>Maximum printable number<br>35 ppm:BK:230K CL:170K<br>40 ppm:BK:285K CL:230K |
| | | Cleaning gum AS | 1 | | | |
| | | Cleaning blade | 1 | | | |
| Staple cartridge | MX-SCX1 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | AR-SC2 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC11 | Staple cartridge | 3 | 5000 times x 3 | 20 | |
| Staple cartridge | MX-SC12 | Staple cartridge | 4 | 2000 times x 4 | 32 | |
| Stamp cartridge | AR-SV1 | Stamp cartridge | 2 | | 20 | |
| Primary transfer belt unit | MX-601U1 | Primary transfer belt unit | 1 | | 1 | |
| Fusing unit | MX-409FU | Fusing unit (200V series) | 1 | | 1 | |

## 3. Definition of drum life end

When the drum counter reaches the maximum printable count.

When the drum rpm reaches the specified count.

When either of the above reach the specified count, it is judged as life end.

In an actual case, the ratio of monochrome output and color output may differ greatly.

When data of mixed documents (monochrome and color) are output, monochrome document data may be output in the color mode in order to prevent against fall in the job efficiency. (ACS auto color selection).

In addition, when correction or warm-up operation is performed as well as output operation, the drum rotates.

Therefore, the drum consuming level cannot be determined only by the copy/print quantity. When, therefore, the rpm reaches the specified amount, it is judged as life end.

To check the drum life, use SIM22-13.

However, when the copy/print quantity is large and the drum counter reaches the maximum printable quantity even if the rpm does not reach the specified amount, it is judged as life end.

The table which shows the relation between the standard printable quantity and the maximum printable quantity in the specified rpm amount is as follows.

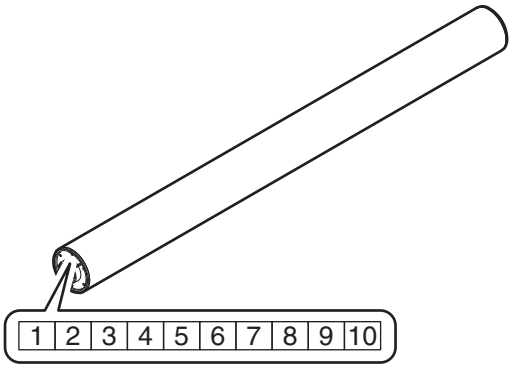
* Standard printable quantity means the printing quantity under the specified drum count by using the specified test data

**Drum**

| | Standard printable number | | Maximum printable number | | Rotation | |
|---|---|---|---|---|---|---|
| | Mono | Color | Mono | Color | Mono | Color |
| 26 ppm machine | 180K | 150K | 200K | 170K | 1350K | 1350K |
| 30 ppm machine | 200K | 150K | 230K | 170K | 1350K | 1350K |
| 35 ppm machine | 200K | 150K | 230K | 170K | 1350K | 1350K |
| 40 ppm machine | 250K | 200K | 285K | 230K | 1350K | 1350K |

## 4. Production number identification

### A. OPC drum

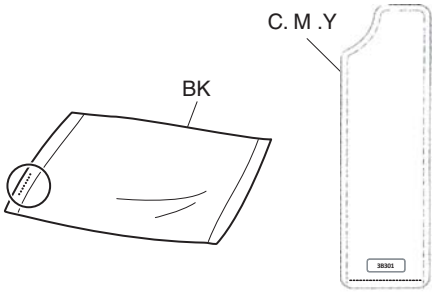



The lot number is comprised of 10 digits. Each digit indicates the content as follows.

The number is printed on the flange on the front side.

| Digit | Character type | Content |
|---|---|---|
| 1 | Number | For this model is 2 |
| 2 | Alphabet | Model conformity code |
| 3 | Number | End digit of the production year |
| 4 | Number or X, Y, Z | Production month<br>X stands for October<br>Y November<br>Z December |
| 5 | Number | Day of the production date |
| 6 | | |
| 7 | Number or X, Y, Z | Day of the month of packing<br>X stands for October<br>Y November<br>Z December |
| 8 | Number | Day of the packing date |
| 9 | | |
| 10 | Alphabet | Production factory |

### B. Developer




The lot number is 8 digits (BK) and 5 digits (CMY) in length. Each digit indicates the content as follows.

The number is printed on the back side of the developer bag.

**[BK]**

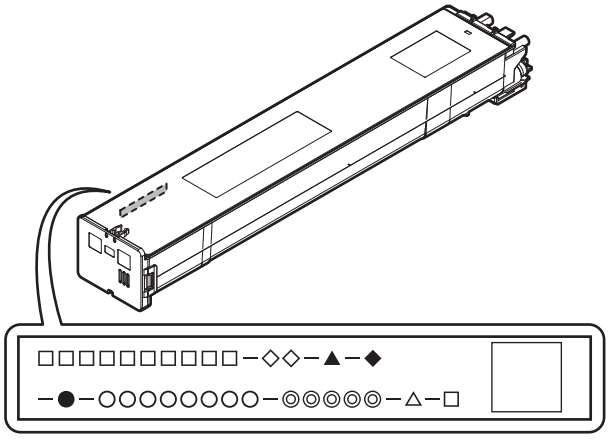
| Digit | Character type | Content |
|---|---|---|
| 1 | Alphabet | Production factory |
| 2 | Number | End digit of the production year |
| 3 | Number | Production month |
| 4 | | |
| 5 | Number | Day of the production date |
| 6 | | |
| 7 | hyphen | |
| 8 | Number | production lot |

**[C,M,Y]**

| Digit | Character type | Content |
|---|---|---|
| 1 | Number | End digit of the production year |
| 2 | Alphabet | Production factory |
| 3 | Number or X, Y | Production month<br>0 stands for October<br>X November<br>Y December |
| 4 | Number | Day of the production date |
| 5 | | |

## C. Toner cartridge

The number is printed on the side of the toner cartridge




□: Unit code/Model name

◇: Color code
(Black: BK/Cyan: CY/Magenta: MA/Yellow: YE)

▲: Destination

◆: Skating

●: Production factory

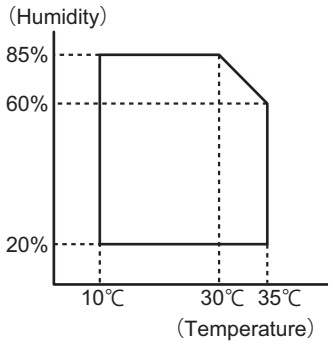
○: Production date (YYYYMMDD)

◎: Serial number

: Version number

□: Line No.

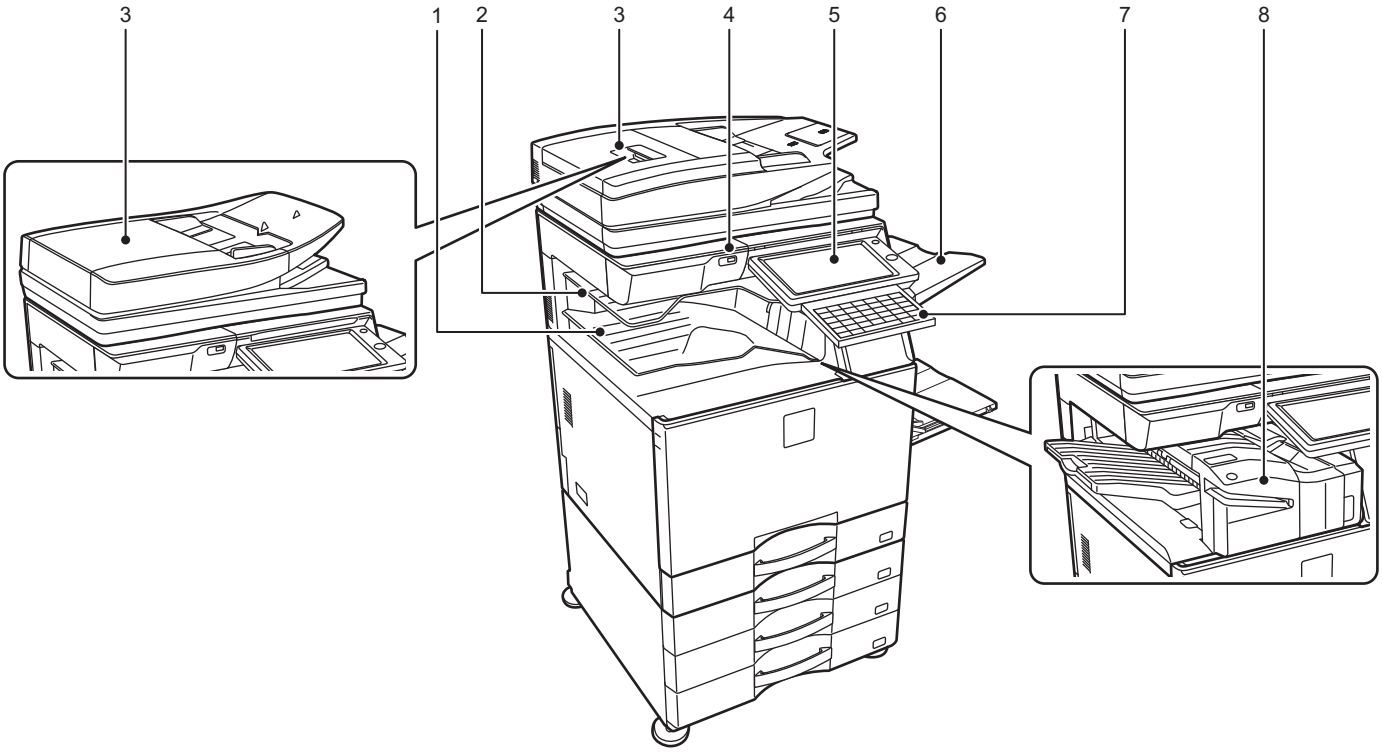
# 5. Environmental conditions




| | | |
|---|---|---|
| Standard environmental conditions | Temperature | 21 – 25°C |
| | Humidity | 50 ± 10%RH |
| Usage environmental conditions | Temperature | 10 – 35°C |
| | Humidity | 20 – 85%RH |
| Storage period | Toner/Developer: 24 months from the manufactured month (Production lot) under unsealed state.<br>Drum:36 months from the manufactured month under unsealed state. | |

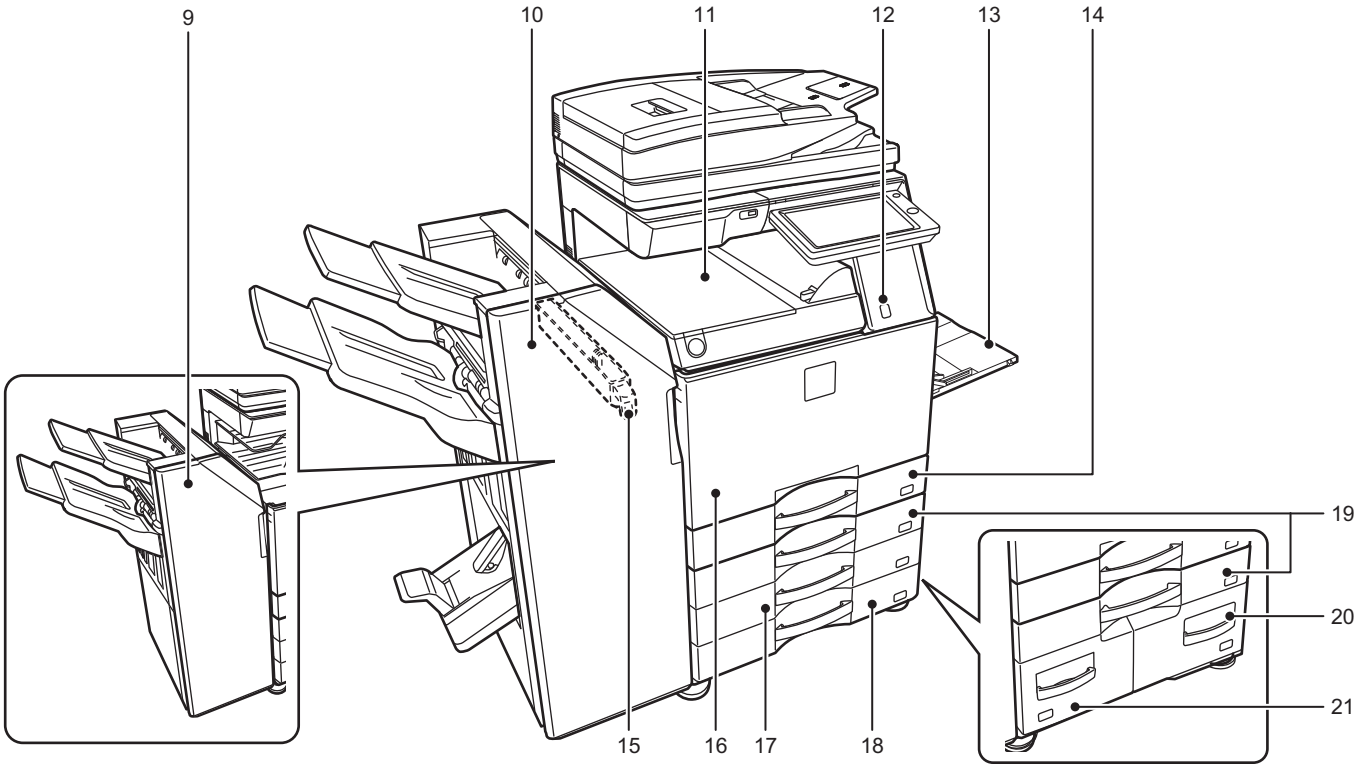
# [4] EXTERNAL VIEW AND INTERNAL STRUCTURE

## 1. External view




| No. | Name | Function/Operation |
|---|---|---|
| 1 | Output tray (exit tray cabinet)* | Output is delivered to this tray. |
| 2 | Job separator tray (upper tray)* | Received faxes and printed papers are delivered to this tray. |
| 3 | Automatic document feeder | RSPF<br>It automatically feeds and scans multiple originals.<br>DSPF<br>Both sides of 2 sided originals can be automatically scanned at one time. |
| 4 | USB port (A type) | This is used to connect a USB device such as a USB memory device to the machine. Supports USB 2.0 (Hi-Speed). |
| 5 | Operation panel | This panel hosts the [Power] button, [Power Save] button/indicator, error indicator, [Home Screen] button, main power button, data notification indicator and touch panel. Use the touch panel to operate each of these functions. |
| 6 | Exit tray unit (right tray)* | Set this tray as the output tray if needed. |
| 7 | Keyboard | Use this as a substitute for the soft keyboard displayed on the touch panel. When not being used, it can be stored under the operation panel. |
| 8 | Inner finisher* | This staples paper. A punch module can also be installed to punch holes in output paper. |

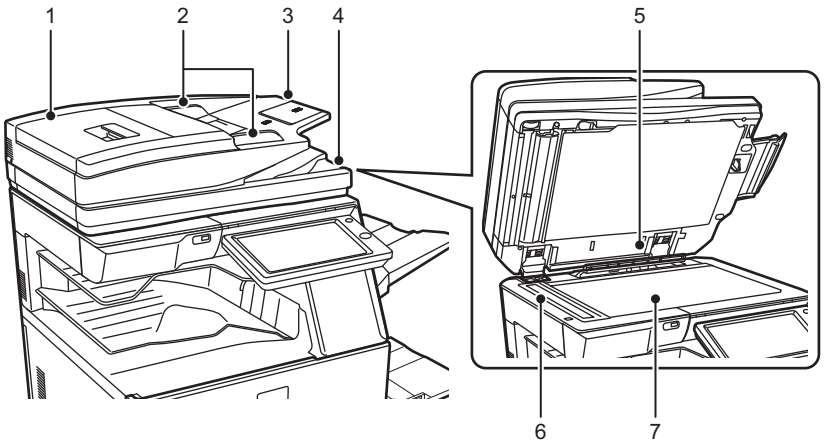
* Optional




| No. | Name | Function/Operation |
|---|---|---|
| 9 | Finisher* | This staples paper. A punch module can also be installed to punch holes in output paper. |
| 10 | Saddle Stitch Finisher* | This staples and folds paper. A punch module can also be installed to punch holes in output paper. |
| 11 | Paper pass unit* | Relay between the machine and the finisher or saddle stitch finisher. |
| 12 | Motion sensor | This sensor detects the presence of a person that approaches the machine, and automatically wakes the machine from sleep mode (Motion Sensor Mode Only). [MX-xx61/xx71] |
| 13 | Bypass tray | Use this tray to feed paper manually. When loading paper larger than 8-1/2" x 11"R or A4R, pull out the extension guide. |
| 14 | Tray 1 | Store paper in this tray. |
| 15 | Punch module* | This is used to punch holes in output. Requires an inner finisher, finisher, or saddle stitch finisher. |
| 16 | Front cover | Open this cover to switch the main power switch to "On" or "Off" to replace a toner cartridge. |
| 17 | Tray 3 (when a stand/2x550/3x550 sheet paper drawer is installed)* | Store paper in this tray. |
| 18 | Tray 4 (when a stand/3x550 sheet paper drawer is installed)* | Store paper in this tray. |
| 19 | Tray 2 (when a stand/550/2x550/3x550/ 550&2100 sheet paper drawer is installed)* | Store paper in this tray. |
| 20 | Tray 4 (when a stand/550&2100 sheet paper drawer is installed)* | Store paper in this tray. |
| 21 | Tray 3 (when a stand/550&2100 sheet paper drawer is installed)* | Store paper in this tray. |

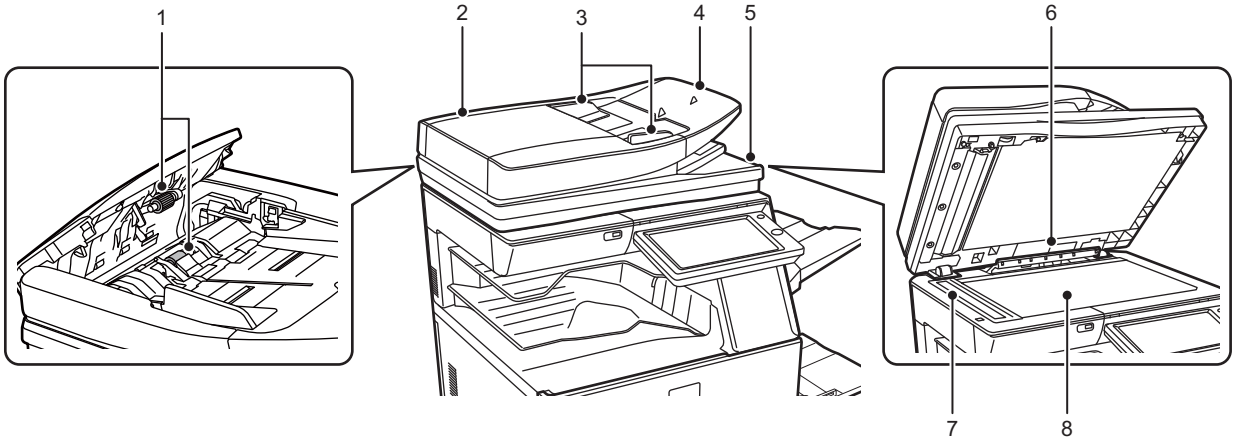
* Optional

## A. DUPLEX SINGLE PASS FEEDER



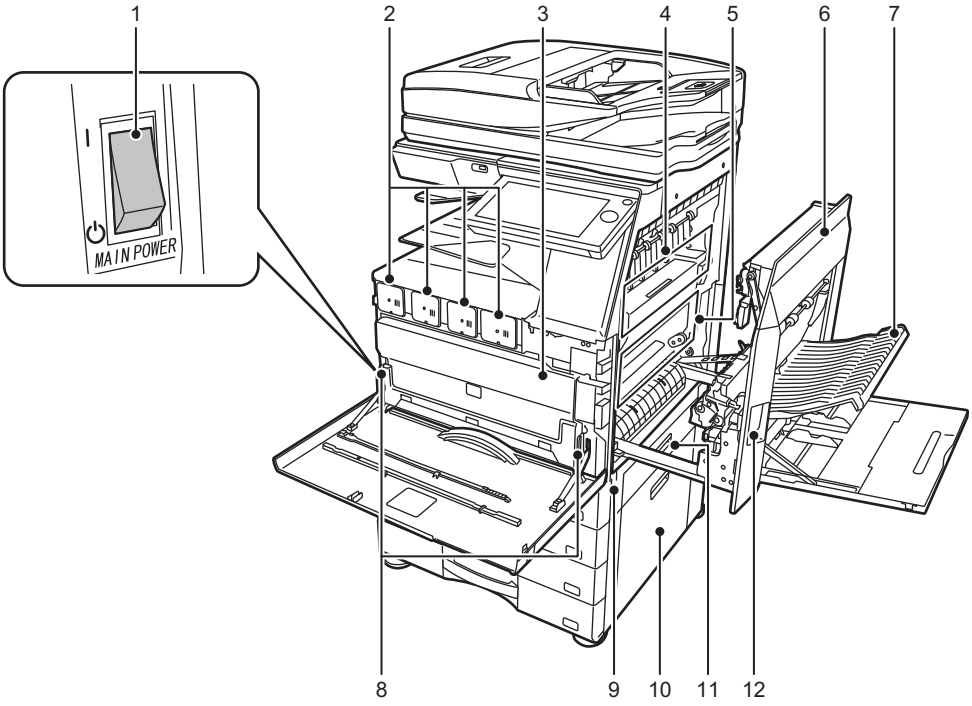

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Document feeding cover | Open this cover to remove an original misfeed. |
| 2 | Original guides | These guides help ensure that the original is scannedcorrectly. Adjust the guides to the width of the original. |
| 3 | Document feeder tray | Place the original. Place the original with the print side facing up. |
| 4 | Original exit tray | The original is discharged to this tray after scanning. |
| 5 | Original size detector | This unit detects the size of an original placed on the document glass. |
| 6 | Scanning area | Originals placed in the automatic document feeder are scanned here. |
| 7 | Document glass | If you want to scan books or other thick originals that cannot be fed through the automatic document feeder, place them on this glass. |

## B. REVERSING SINGLE PASS FEEDER



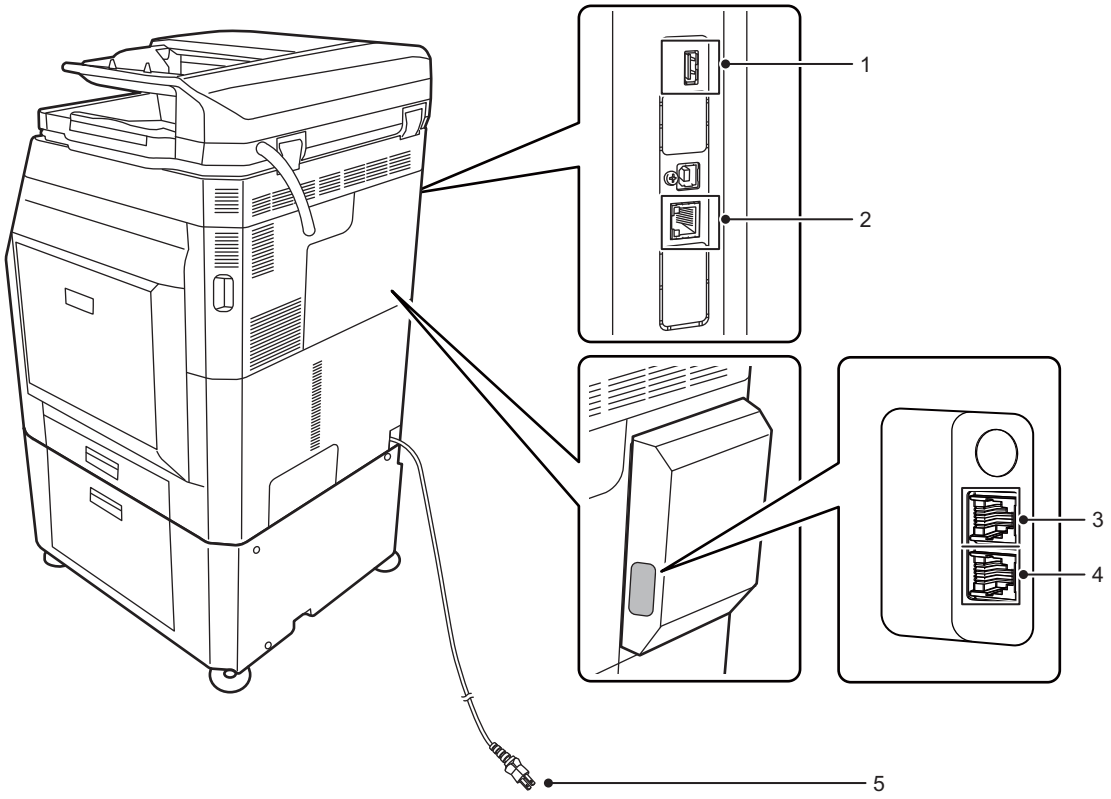

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Document feed roller | Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan. |
| 2 | Document feeding cover | Open this cover to remove an original misfeed. |
| 3 | Original guides | These guides help ensure that the original is scannedcorrectly. Adjust the guides to the width of the original. |
| 4 | Document feeder tray | Place the original. Place the original with the print side facing up. |
| 5 | Original exit tray | The original is discharged to this tray after scanning. |
| 6 | Original size detector | This unit detects the size of an original placed on the document glass. |
| 7 | Scanning area | Originals placed in the automatic document feeder are scanned here. |
| 8 | Document glass | If you want to scan books or other thick originals that cannot be fed through the automatic document feeder, place them on this glass. |

## 2. Internal structure




| No. | Name | Function/Operation | Note |
|---|---|---|---|
| 1 | The main power switch | Use this switch to turn on the power for the machine. When using the fax or Internet fax functions, always keep this switch in the "\|" position. | |
| 2 | Toner cartridge | This cartridge contains toner. When the toner in a cartridge runs out, replace with new one. | |
| 3 | Waste toner box | This container collects excess toner that remains after printing. | Note<br>A service technician collects replaced waste toner box. |
| 4 | Fusing unit | Heat is applied here to fuse the transferred image onto the paper. | Important<br>The fusing unit is hot. Take care not to burn yourself when removing a misfeed. |
| 5 | Transfer belt | During full color printing, the toner images of the four colors on the photoconductive drums are combined<br>together on the transfer belt. During black and white printing, only the black toner image is transferred onto the transfer belt. | Important<br>Do not touch or damage the transfer belt. This may cause a defective image. |
| 6 | Right side cover | Open this cover to remove a paper misfeed. | |
| 7 | Paper reversing section cover | This unit is used for reversing paper when 2-sided printing is performed. Open this cover to remove a paper misfeed. | |
| 8 | Waste toner box release button | Press this button when you need to release the waste toner box lock to replace the waste toner box or clean the laser unit. | |
| 9 | Handle | Pull this out and grasp it when moving the machine. | |
| 10 | A stand/550/2x550/3x550/550&2100 sheet paper drawer right-side cover | Open this to remove a paper misfeed in tray 2, 3 and 4. | |
| 11 | Paper tray right side cover | Open this to remove a paper misfeed in tray 1. | |
| 12 | Right side cover release lever | To remove a paper misfeed, pull and hold this lever up to open the right side cover. | |

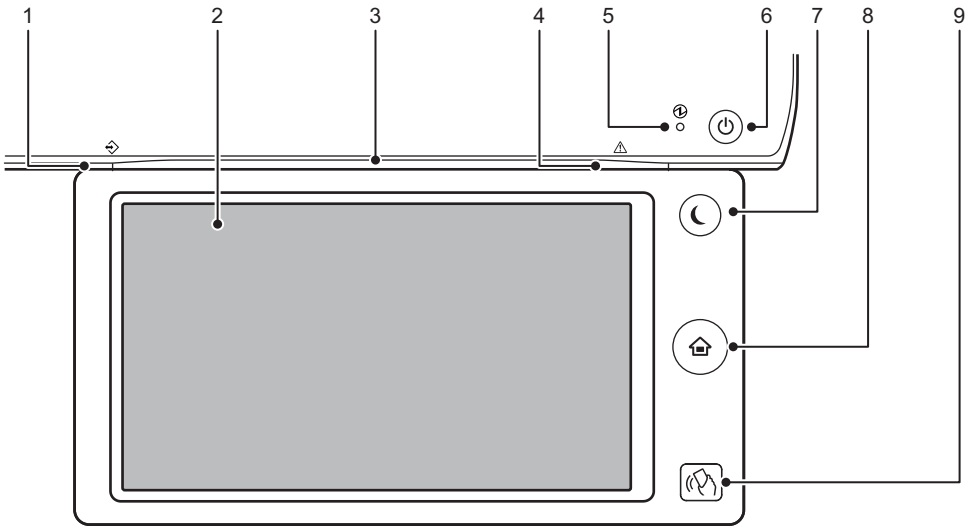
## 3. I/F connectors




| No. | Name | Function/Operation |
|---|---|---|
| 1 | USB port | Connect a USB device to the machine. |
| 2 | LAN connector | Connect the LAN cable to this connector when the machine is used on a network. Use a shielded LAN cable. |
| 3 | Extension phone jack (TEL)* | When the fax function of the machine is used, an extension phone can be connected to this jack. |
| 4 | Telephone line jack (LINE)* | When the fax function of the machine is used, the telephone line is connected to this jack. |
| 5 | Power plug | |

* Optional

# 4. Operation panel




| No. | Name | Function/Operation |
|---|---|---|
| 1 | Data notification indicator | The indicator lights solidly or blinks to indicate the status of a job. When the Job separator or Exit tray unit (right tray) is used for output, this blinks until the output is removed. |
| 2 | Touch panel | Messages and keys appear on the touch panel display. Operate the machine by directly tapping the displayed keys. |
| 3 | Communication indicator | This lamp illuminates when the power to the machine is turned on and when logs in to the machine. |
| 4 | Error indicator | Lights solidly or blinks to indicate the status of the error. |
| 5 | Main power indicator | This lamp lights up when the machine's main power switch is in the " " position. Blinks green during the time that the [Power] button does not operate immediately after the main power switch is switched on. |
| 6 | [Power] button | Use this button to turn the machine's power on and off. |
| 7 | [Power Save] button/indicator | Use this button to set the machine to Sleep mode for energy saving. [Power Save] button blinks when the machine is in Sleep Mode. |
| 8 | [Home Screen] key | Use this button to display the home screen. |
| 9 | NFC touch point area | Connect mobile device to the machine by touching the mobile device. [MX-xx61/xx71] |

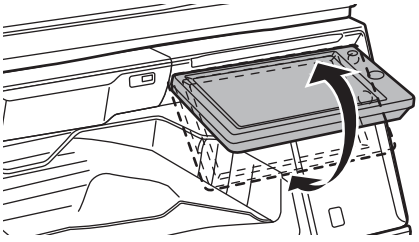
Important

**[Home Screen] key**

Use your finger to touch the [Home Screen] key. If you use a pen or other tool to touch the key, it may not operate properly. Risk of mal-functioning if you use with jewelry or other accessories.

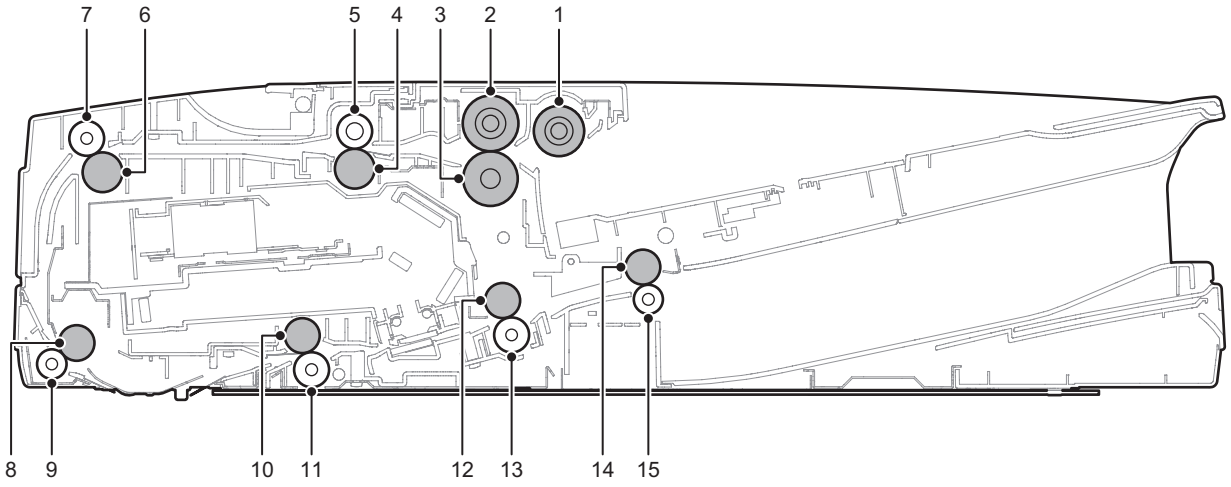
Note

You can change the angle of the touch panel.



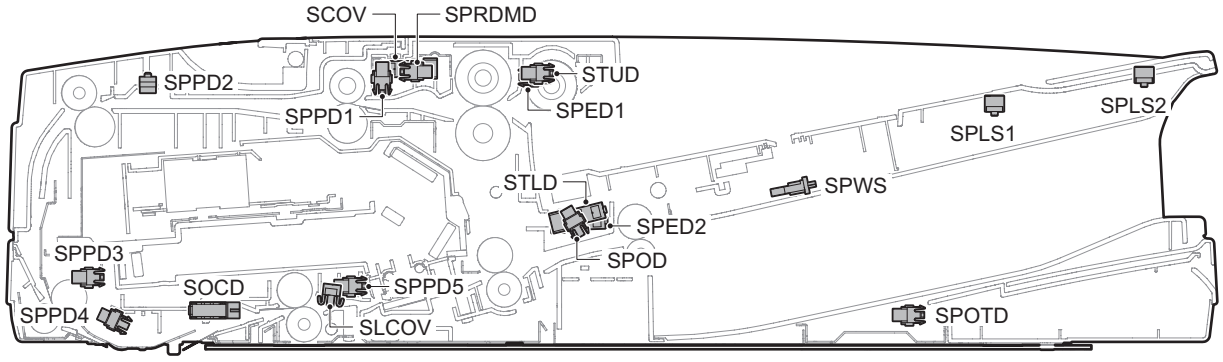
# 5. DSPF

## A. Rollers



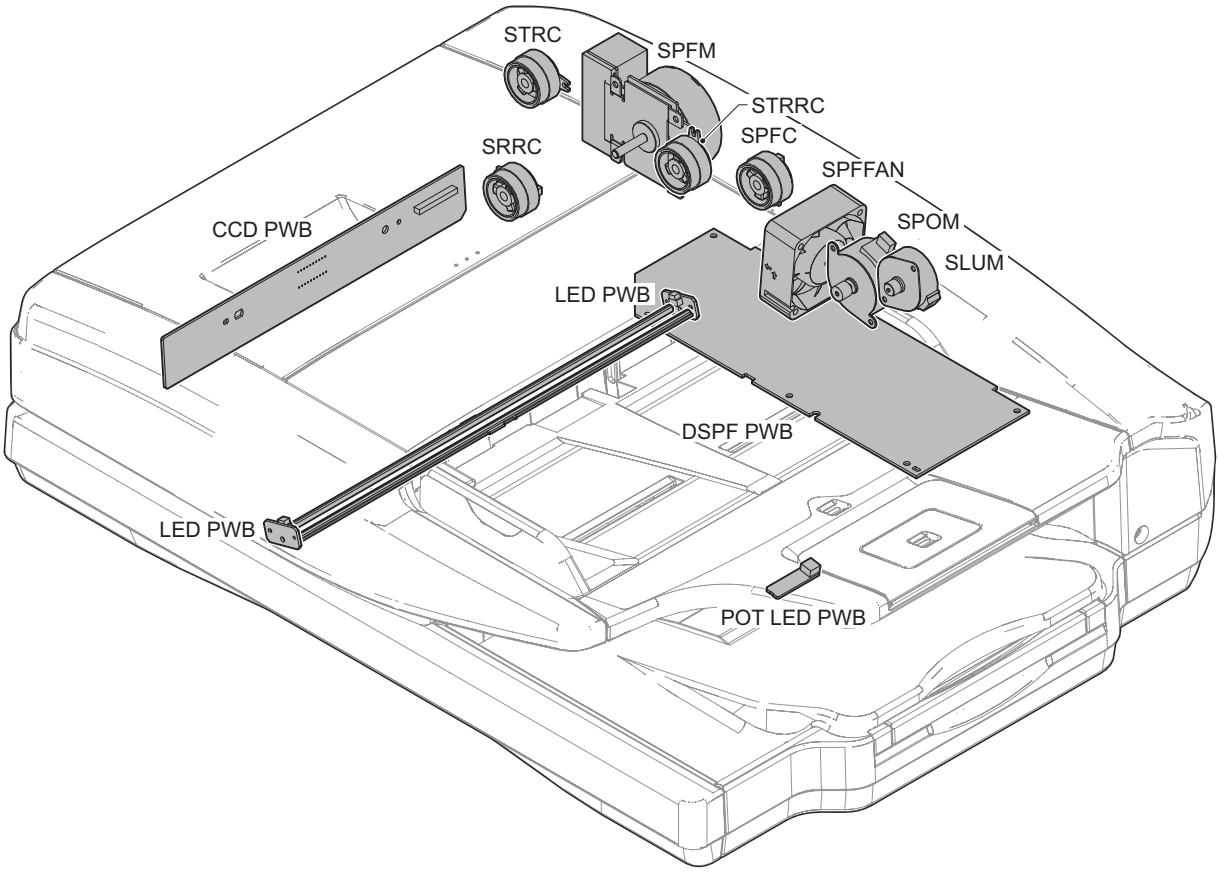

| No. | Name | Function and operation |
|---|---|---|
| 1 | Pickup roller | Picks up document and feed it to the document feed roller |
| 2 | Document feed roller | Perform the document feed operation of documents |
| 3 | Separation roller | Separate a document to prevent against double feed |
| 4 | Transport roller 1 (Drive) | Transports document from paper feed roller to transport roller 2 |
| 5 | Transport roller 1 (Idle) | Applied a pressure to document and the transport roller, and provides transport power of the transport roller to document |
| 6 | Transport roller 2 (Drive) | Transports document from transport roller to registration roller |
| 7 | Transport roller 2 (Idle) | Applied a pressure to document and the transport roller, and provides the transport power of the transport roller to document |
| 8 | Registration roller (Drive) | Performs resist of document transport |
| 9 | Registration roller (Idle) | Applies a pressure to document and the registration roller, and provides transport power of the registration roller to document |
| 10 | Transport roller 3 (Drive) | Transports document from the No.1 scan section to the transport roller 4 |
| 11 | Transport roller 3 (Idle) | Applies a pressure to document and the transport roller and provides transport power of the transport roller to document |
| 12 | Transport roller 4 (Drive) | Transports document from the transport roller 3 to the document exit roller |
| 13 | Transport roller 4 (Idle) | Applies a pressure to document and the transport roller and provides transport power of the transport roller to document |
| 14 | Document exit roller (Drive) | Discharges document |
| 15 | Document exit roller (Idle) | Applies a pressure to document and the document exit roller and provides transport power of the document exit roller to document |

## B. Sensors and switches




| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| SCOV | Upper cover sensor | Transmission type | Detects open/close of the upper cover |
| SLCOV | Lower cover sensor | Micro switch | Detects open/close of the lower cover |
| SOCD | SPF sensor | Transmission type | Detects open/close of the SPF unit |
| SPED1 | Document sensor 1 | Transmission type | Detects document empty of the document feeder tray |
| SPED2 | Document sensor 2 | Transmission type | Detects document empty of the document feeder tray |
| SPLS1 | Document length sensor 1 | Reflection type | Detects document length of the document feeder tray |
| SPLS2 | Document length sensor 2 | Reflection type | Detects document length of the document feeder tray |
| SPOD | Document exit sensor | Transmission type | Detects document exit |
| SPOTD | Document exit tray sensor | Transmission type | Detects document empty of the document exit tray |
| SPPD1 | Document pass sensor 1 | Transmission type | Detects document pass |
| SPPD2 | Document pass sensor 2 | Reflection type | Detects document pass |
| SPPD3 | Document pass sensor 3 | Transmission type | Detects document pass |
| SPPD4 | Document pass sensor 4 | Transmission type | Detects document pass |
| SPPD5 | Document pass sensor 5 | Transmission type | Detects document pass |
| SPRDMD | Document random sensor | Transmission type | Detects document size in random document feed |
| SPWS | Document width sensor | Volume type resistor | Detects document width of the document feeder tray |
| STLD | Tray lower limit sensor | Transmission type | Detects lower limit of the document feeder tray |
| STUD | Tray upper limit sensor | Transmission type | Detects upper limit of the document feeder tray |

## C. Motors/Clutches/PWB/Lamps/Fan

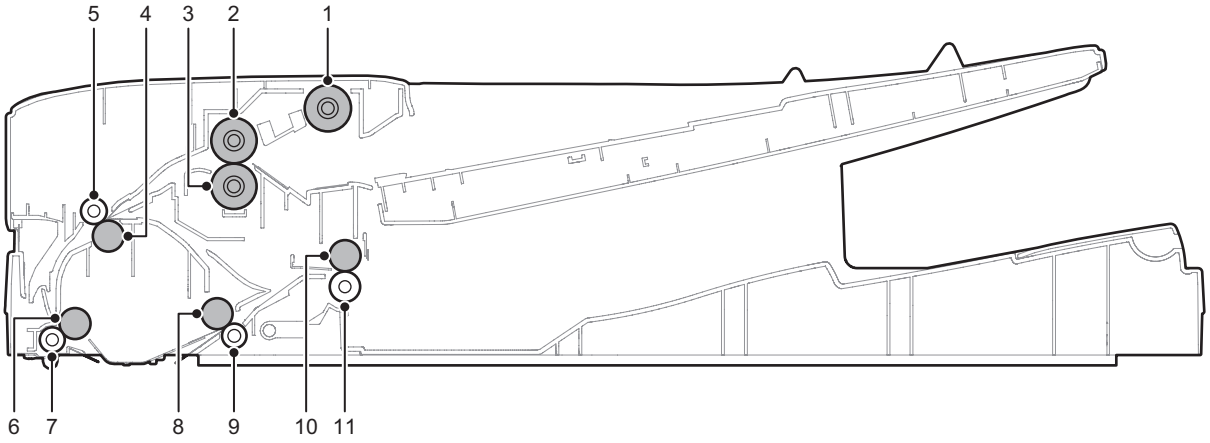



| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| SLUM | Lift motor | PM stepping motor | Lifts up and down the document feeder tray |
| SPFC | Document feed clutch | Electromagnetic clutch | Controls ON/OFF of rollers in the document feed section |
| SPFFAN | SPF fan | DC brushless motor | Cools the motors and the clutches |
| SPFM | Transport motor | DC brushless motor | Drives transport roller |
| SPOM | Document exit motor | PM stepping motor | Drives document exit roller |
| SRRC | Registration roller clutch | Electromagnetic clutch | Controls ON/OFF of registration roller |
| STRC | Transport roller 2 clutch | Electromagnetic clutch | Controls ON/OFF of transport roller 2 |
| STRRC | Transport roller 1 clutch | Electromagnetic clutch | Controls ON/OFF of transport roller 1 |

| Name | Function and operation |
|---|---|
| CCD PWB | Scans document images and perform A/D conversion of scanning signal |
| DSPF PWB | Controls image data process and all the DSPF |
| LED PWB | Radiates light onto document for the CCD to scan document image |
| POT LED PWB | Radiates light onto the document exit tray for notifying that document has been discharged |

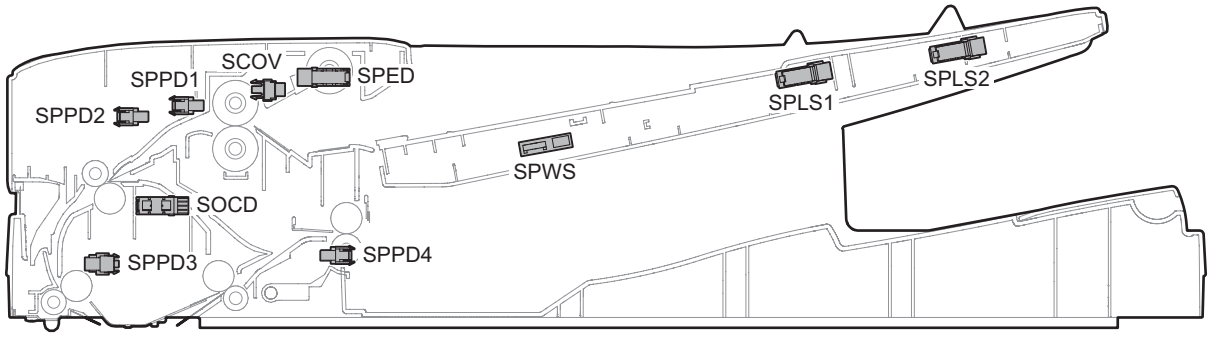
# 6. RSPF

## A. Rollers



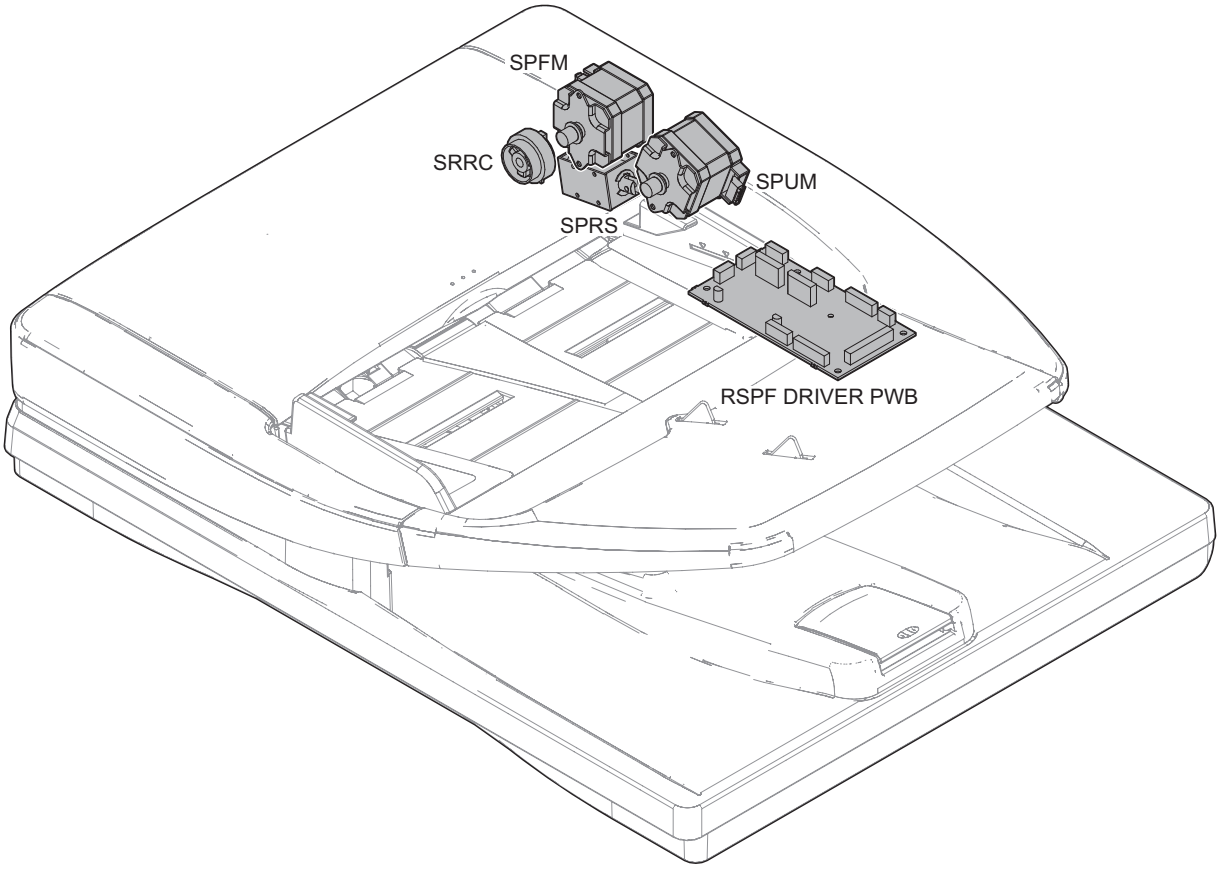

| No. | Name | Function and operation |
|---|---|---|
| 1 | Pickup roller | Picks up document and feed it to the document feed roller |
| 2 | Document feed roller | Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan |
| 3 | Separation roller | Separates a document to prevent double-feeding |
| 4 | Registration roller (Drive) | Transports a document to the transport roller 1 / Controls the transport timing of the document and adjusts the document scanning timing |
| 5 | Registration roller (Idle) | Apply a pressure to a document and the registration roller to provide the transport power of the transport roller to the document |
| 6 | Transport roller 1 (Drive) | Transports a document transported from the registration roller to the document scanning section |
| 7 | Transport roller 1 (Idle) | Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document |
| 8 | Transport roller 2 (Drive) | Transports a document transported from the document scanning section to the paper exit roller |
| 9 | Transport roller 2 (Idle) | Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document |
| 10 | Paper exit roller (Drive) | Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface |
| 11 | Paper exit roller (Idle) | Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document |

## B. Sensors




| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| SCOV | Cover sensor | Transmission type | Detects open/close of the cover |
| SOCD | SPF sensor | Transmission type | Detects open/close of the SPF unit |
| SPED | Document sensor | Transmission type | Detects document empty of the document feeder tray |
| SPLS1 | Document length sensor 1 | Transmission type | Detects document length of the document feeder tray |
| SPLS2 | Document length sensor 2 | Transmission type | Detects document length of the document feeder tray |
| SPPD1 | Document pass sensor 1 | Transmission type | Detects document feed and document size in random paper feed |
| SPPD2 | Document pass sensor 2 | Transmission type | Detects document pass |
| SPPD3 | Document pass sensor 3 | Transmission type | Detects document pass |
| SPPD4 | Document pass sensor 4 | Transmission type | Detects document exit and switchback |
| SPWS | Document width sensor | Volume type resistor | Detects document width of the document feeder tray |

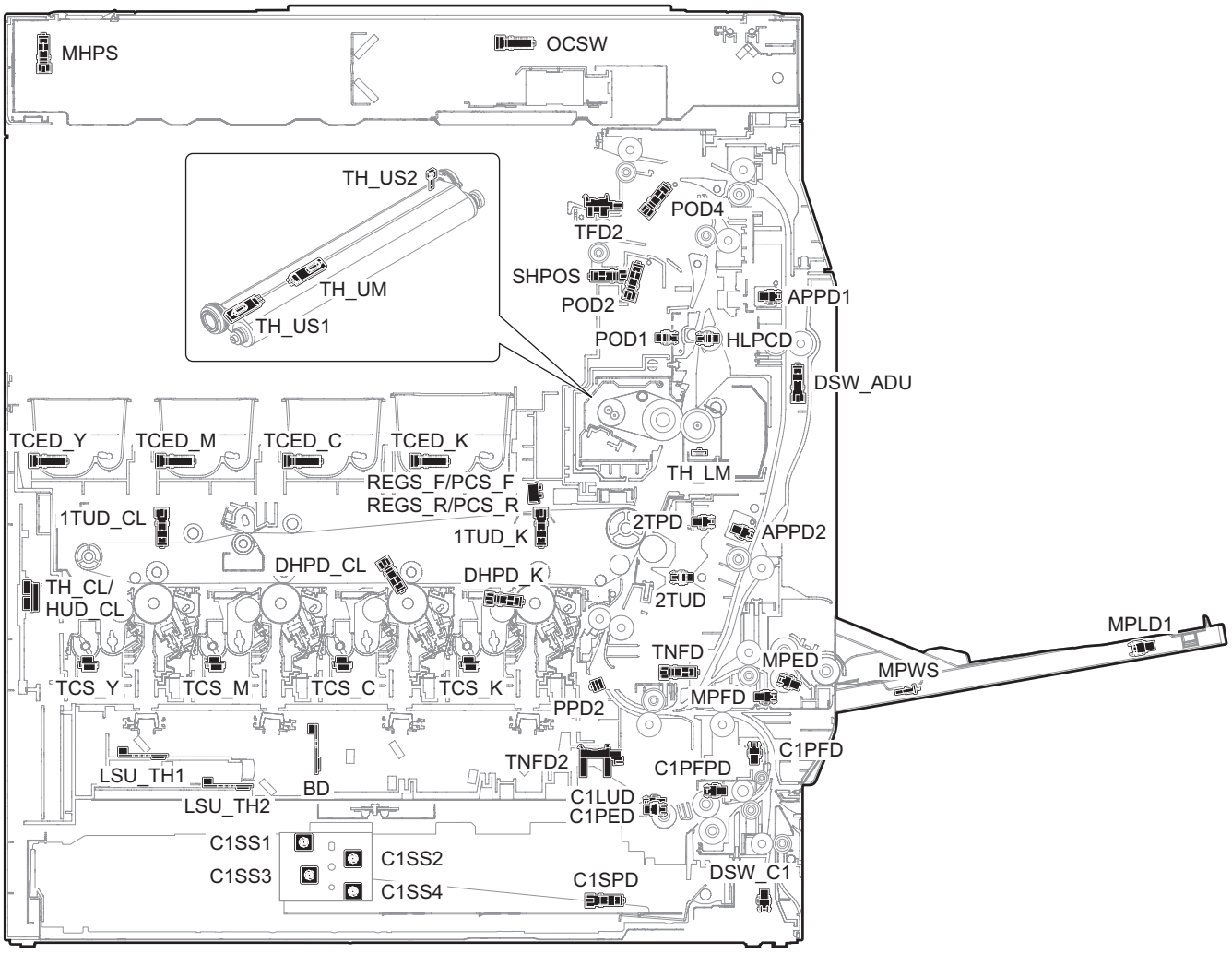
## C. Motors/Clutches/Solenoidos/PWB




| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| SPFM | Transport motor | Stepping motor | Drives transport roller |
| SPRS | Document exit roller solenoid | Electromagnetic solenoid | Controls ON/OFF of document exit roller |
| SPUM | Document feed motor | Stepping motor | Drives document feed roller |
| SRRC | Registration roller clutch | Electromagnetic solenoid | Controls ON/OFF of registration roller |

| Name | Function and operation |
|---|---|
| RSPF DRIVER PWB | Drives the motor, the solenoid and the clutch in the SPF section |

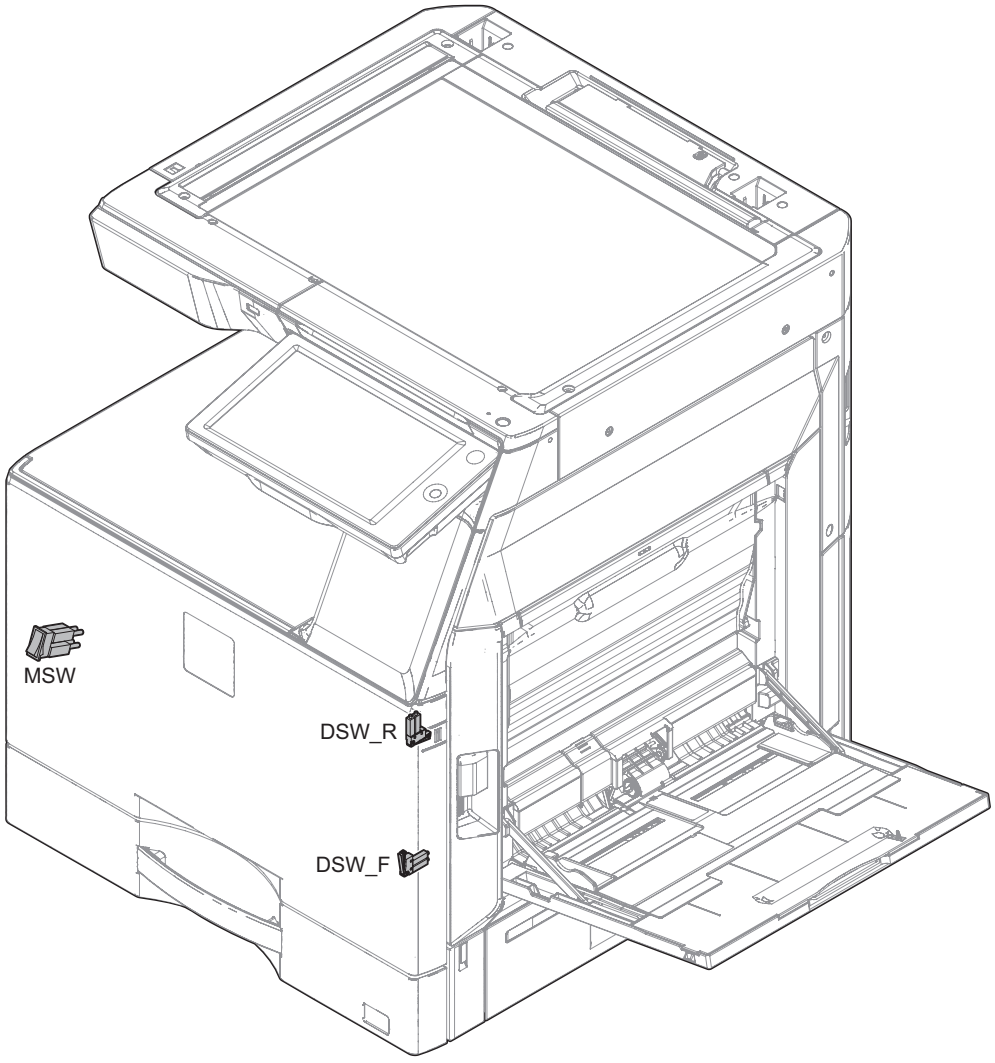
## 7. Sensors




| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| 1TUD_CL | Transfer mode sensor (CL) | Transmission type | Detects separation of the transfer belt and the transfer mode |
| 1TUD_K | Transfer mode sensor (K) | Transmission type | Detects separation of the transfer belt and the transfer mode |
| 2TPD | Secondary transfer paper sensor | Transmission type | Detects paper remained after recovery from paper JAM |
| 2TUD | Secondary transfer position sensor | Transmission type | Detects the position (separation) of the secondary transfer unit |
| APPD1 | ADU paper transport sensor 1 | Transmission type | Detects paper entry and paper pass in the ADU section |
| APPD2 | ADU paper transport sensor 2 | Transmission type | Detects paper pass of the transport roller 9 |
| BD | Laser beam sensor | Bindiode | Detects laser beam scan timing |
| C1LUD | Paper feed tray upper limit sensor | Transmission type | Detects the upper limit of the paper lift up (Paper feed tray 1) |
| C1PED | Paper empty sensor | Transmission type | Detects paper empty (Paper feed tray 1) |
| C1PFD | Paper transport sensor | Transmission type | Detects paper pass in the paper transport section (Paper feed tray 1) |
| C1PFPD | Paper pass sensor | Transmission type | Detects paper pass in the paper transport section (Paper feed tray 1) |
| C1SPD | Paper remaining quantity sensor | Transmission type | Detects the paper remaining quantity (Paper feed tray 1) |
| C1SS1-4 | Paper size sensor | Tact switch | Detects paper size (Paper feed tray 1) |
| DHPD_CL | Drum phase sensor (CL) | Transmission type | Detects rotation and the phase of the OPC drum |
| DHPD_K | Drum phase sensor (K) | Transmission type | Detects rotation and the phase of the OPC drum |
| DSW_ADU | ADU cover sensor | Transmission type | Detects open/close of the ADU cover |
| DSW_C1 | Transport cover sensor | Transmission type | Detects open/close of the transport section cover (Paper feed tray 1) |
| HLPCD | Fusing pressure sensor | Transmission type | Detects the fusing pressure state |
| LSU_TH1 | LSU temperature sensor 1 | Thermistor | Detects LSU temperature |
| LSU_TH2 | LSU temperature sensor 2 | Thermistor | Detects LSU temperature |
| MHPS | Scanner home position sensor | Transmission type | Detects the scanner home position |
| MPED | Paper empty sensor | Transmission type | Detects presence of paper (Manual paper feed tray) |
| MPFD | Paper feed sensor | Transmission type | Detects paper pass (Manual paper feed tray) |
| MPLD1 | Paper length sensor | Transmission type | Detects the paper length (Manual paper feed tray) |
| MPWS | Paper width sensor | Volume type resistor | Detects the paper width (Manual paper feed tray) |
| OCSW | Paper size detection trigger sensor | Transmission type | Detects generation of the paper size detection trigger signal |
| POD1 | Paper exit sensor 1 | Transmission type | Detects paper transport from the fusing section |
| POD2 | Paper exit sensor 2 | Transmission type | Detects paper transport to the center paper exit tray |

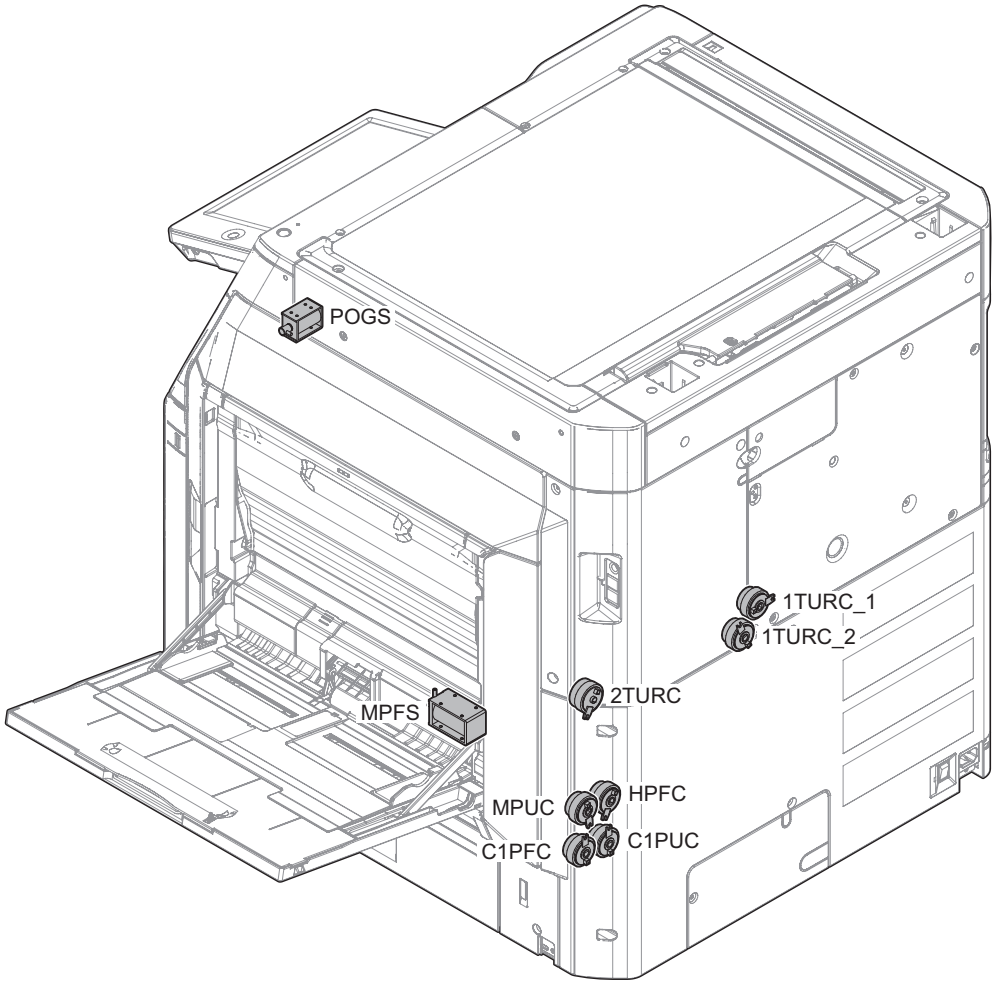
| Signal name | Name | Type | Function and operation |
|---|---|---|---|
| POD4 | Paper exit sensor 4 | Transmission type | Detects paper transport to the upper paper exit tray |
| PPD2 | Paper transport sensor 2 | Reflection type | Detects paper pass in the transport roller 4 and registration roller |
| REGS_F/ PCS_F | Image registration / Density sensor (F) | Reflection type | Detects image color shift and the toner patch density |
| REGS_R/ PCS_R | Image registration / Density sensor (R) | Reflection type | Detects image color shift and the toner patch density |
| SHPOS | Shifter home position sensor | Transmission type | Detects the shifter home position |
| TCED_C | Toner cartridge ejecting sensor (C) | Transmission type | Detects ejecting position of toner cartridge |
| TCED_K | Toner cartridge ejecting sensor (K) | Transmission type | Detects ejecting position of toner cartridge |
| TCED_M | Toner cartridge ejecting sensor (M) | Transmission type | Detects ejecting position of toner cartridge |
| TCED_Y | Toner cartridge ejecting sensor (Y) | Transmission type | Detects ejecting position of toner cartridge |
| TCS_C | Toner sensor (C) | Magnetic sensor | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_K | Toner sensor (K) | Magnetic sensor | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_M | Toner sensor (M) | Magnetic sensor | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_Y | Toner sensor (Y) | Magnetic sensor | Detects toner supply from the toner cartridge<br>Detects toner density |
| TFD2 | Paper exit tray full sensor | Magnetic sensor | Detects paper full in the center paper exit tray |
| TH_CL/ HUD_CL | Temperature / Humidity sensor | Thermistor | Detects the temperature and the humidity |
| TH_LM | Fusing temperature sensor (main) | Thermistor | Detects the surface temperature of the pressure roller |
| TH_UM | Fusing temperature sensor (main) | Thermistor | Detects the surface temperature at the center section of the fusing belt |
| TH_US1 | Fusing temperature sensor (sub1) | Thermistor | Detects the surface temperature at the edge section of the fusing belt |
| TH_US2 | Fusing temperature sensor (sub2) | Thermistor | Detects the surface temperature at the edge section of the fusing belt |
| TNFD | Waste toner sensor | Transmission type | Detects full of waste toner |
| TNFD2 | Waste Developer sensor | Transmission type | Detects full of waste developer |

## 8. Switches



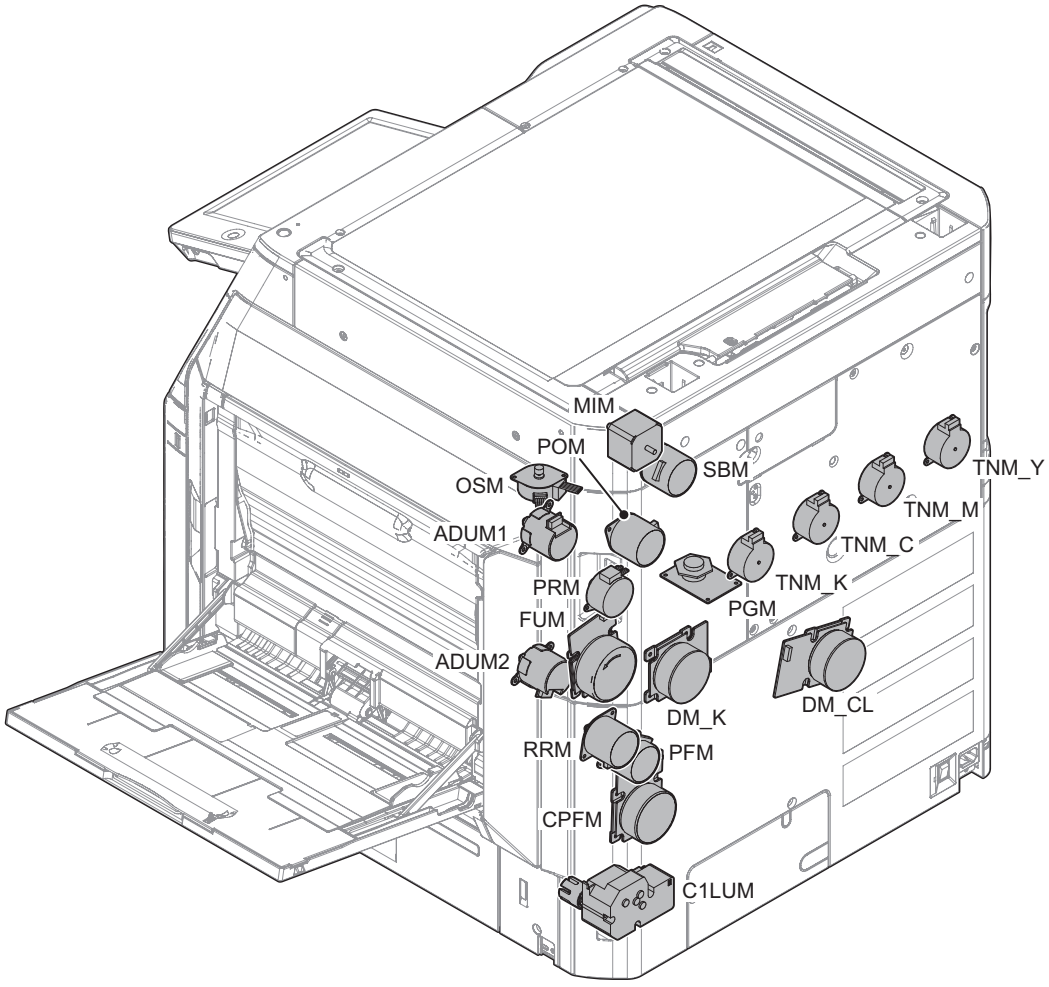

| Signal name | Name | Type | Function and Operation |
|---|---|---|---|
| DSW_F | Front door switch | Micro switch | Detects open/close of the front door. Detects ON/OFF of the power line of the fusing unit, the motors, and the LSU laser. |
| DSW_R | Right transport unit (right door) switch | Micro switch | Detects open/close of the right paper transport section (right door). Detects ON/OFF of the power line of the fusing unit, the motors, and LSU laser. |
| MSW | Main power switch | Seesaw switch | Turns ON/OFF the main power. |

## 9. Clutches and solenoids



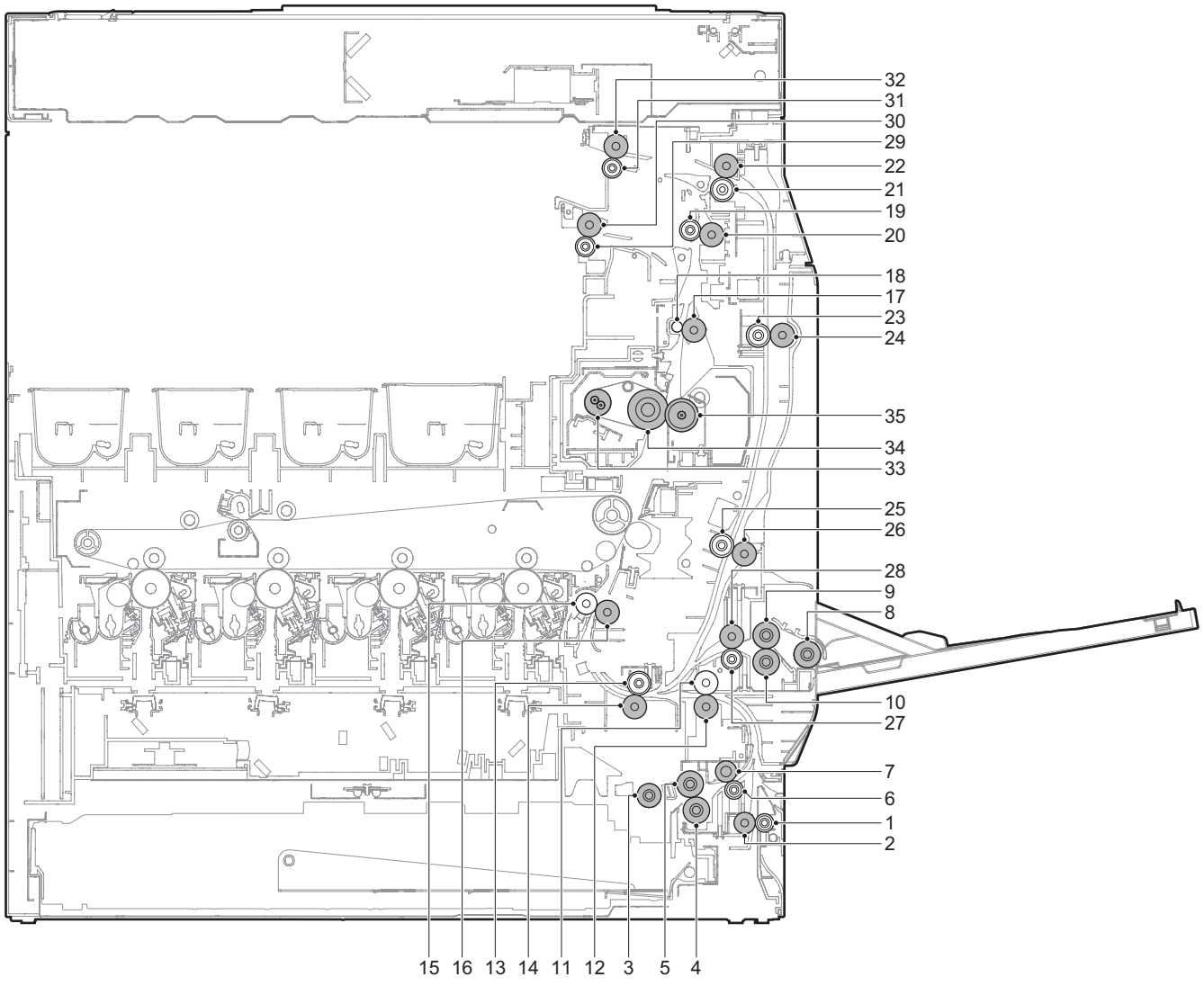

| Signal name | Name | Type | Function and Operation |
|---|---|---|---|
| 1TURC_1 | Primary transfer separation clutch 1 | Magnetic clutch | Controls separation of the primary transfer unit |
| 1TURC_2 | Primary transfer separation clutch 2 | Magnetic clutch | Controls separation of the primary transfer unit |
| 2TURC | Secondary transfer separation clutch | Magnetic clutch | Controls separation of the secondary transfer unit |
| C1PFC | Vertical transport clutch | Magnetic clutch | Controls the transport roller (Paper feed tray1) |
| C1PUC | Paper feed clutch | Magnetic clutch | Controls ON/OFF of the paper feed roller (Paper feed tray1) |
| HPFC | Horizontal transport clutch | Magnetic clutch | Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray) |
| MPFS | Paper feed solenoid | Magnetic solenoid | Controls the paper feed roller (Manual paper feed tray) |
| MPUC | Paper feed clutch | Magnetic clutch | Controls ON/OFF of the paper feed roller (Manual paper feed tray) |
| POGS | Gate solenoid | Magnetic solenoid | Controls ON/OFF of the gate solenoid selecting upper tray and lower tray |

## 10. Drive motors




| Signal name | Name | Type | Function and Operation |
|---|---|---|---|
| ADUM1 | ADU motor 1 | DC brushless motor | Drives the transport roller in the right door and right paper exit section |
| ADUM2 | ADU motor 2 | DC brushless motor | Drives the transport roller in the right door section |
| C1LUM | Paper tray lift motor | DC brush motor | Lifts the lift plate of the paper feed tray (Paper feed tray1) |
| CPFM | Paper feed motor | DC brushless motor | Drives the paper feed section |
| DM_CL | Drum motor (CL) | DC brushless motor | Drives the OPC drum/developing section |
| DM_K | Drum motor (K) | DC brushless motor | Drives the OPC drum, developing and primary transfer section |
| FUM | Fusing motor | DC brushless motor | Drives the fusing section |
| MIM | Scan motor | Stepping motor | Drives the scanner unit (scan, return operations) |
| OSM | Offset motor | Stepping motor | Offsets (shifts) paper |
| PFM | Transport motor | DC brushless motor | Drives the transport roller 4 |
| PGM | Polygon motor | DC brushless motor | Scans laser beams |
| POM | Paper exit motor | DC brushless motor | Drives the roller in the paper exit section |
| PRM | Fusing pressure motor | Stepping motor | Controls ON/OFF of the fusing roller pressure |
| RRM | Registration motor | DC brushless motor | Drives the registration roller<br>(Controls the timing of the transfer image for the paper) |
| SBM | Reverse motor | DC brushless motor | Drives the transport roller in duplex mode |
| TNM_C | Toner motor (C) | Stepping motor | Supplies toner from the toner cartridge to the developing unit |
| TNM_K | Toner motor (K) | Stepping motor | Supplies toner from the toner cartridge to the developing unit |
| TNM_M | Toner motor (M) | Stepping motor | Supplies toner from the toner cartridge to the developing unit |
| TNM_Y | Toner motor (Y) | Stepping motor | Supplies toner from the toner cartridge to the developing unit |

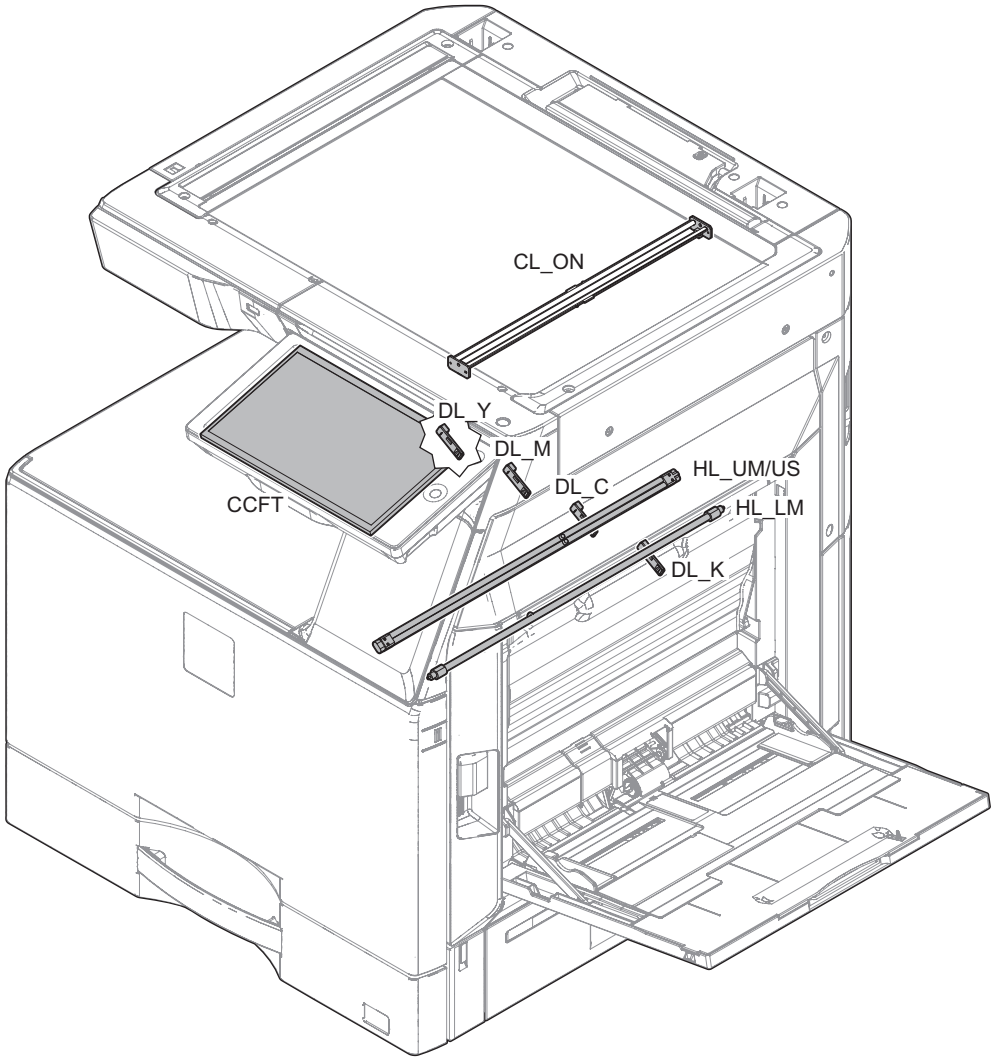
## 11. Rollers




| No. | Name | Function and Operation |
|---|---|---|
| 1 | Transport roller 1 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 2 | Transport roller 1 (Drive) | Transports paper fed from the paper feed tray to the transport roller 3 |
| 3 | Paper pickup roller | Feeds paper to the paper feed roller (Paper feed tray 1) |
| 4 | Separation roller | Separates paper to prevent double feeding (Paper feed tray 1) |
| 5 | Paper feed roller | Feeds paper to the paper transport section (Paper feed tray 1) |
| 6 | Transport roller 2 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 7 | Transport roller 2(Drive) | Transports paper fed from the paper feed tray 1 to the transport roller 3 |
| 8 | Paper pickup roller | Feeds paper to the paper feed roller (Manual paper feed tray) |
| 9 | Paper feed roller | Feeds paper to the paper transport section (Manual paper feed tray) |
| 10 | Separation roller | Separate paper to prevent double feeding (Manual paper feed tray) |
| 11 | Transport roller 3 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 12 | Transport roller 3 (Drive) | Transports paper from the transport roller 1 and 2 to the transport roller 4 |
| 13 | Transport roller 4 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 14 | Transport roller 4 (Drive) | Transports paper to the registration roller. Paper is buckled between the registration roller and this roller to correct the paper skew and the relation between images and paper |
| 15 | Registration roller (Idle) | Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper |
| 16 | Registration roller (Drive) | Transports paper to the transfer section. Controls the transport timing of paper and adjusts relative position between the images and paper |
| 17 | Transport roller 5 (Drive) | Transports paper transported from the fusing section to the paper exit section and the switchback section |
| 18 | Transport roller 5 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 19 | Transport roller 6 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 20 | Transport roller 6 (Drive) | Transports paper to the paper exit section |
| 21 | Transport roller 7 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 22 | Transport roller 7 (Drive) | Transports paper to transport roller 8 |
| 23 | Transport roller 8 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |

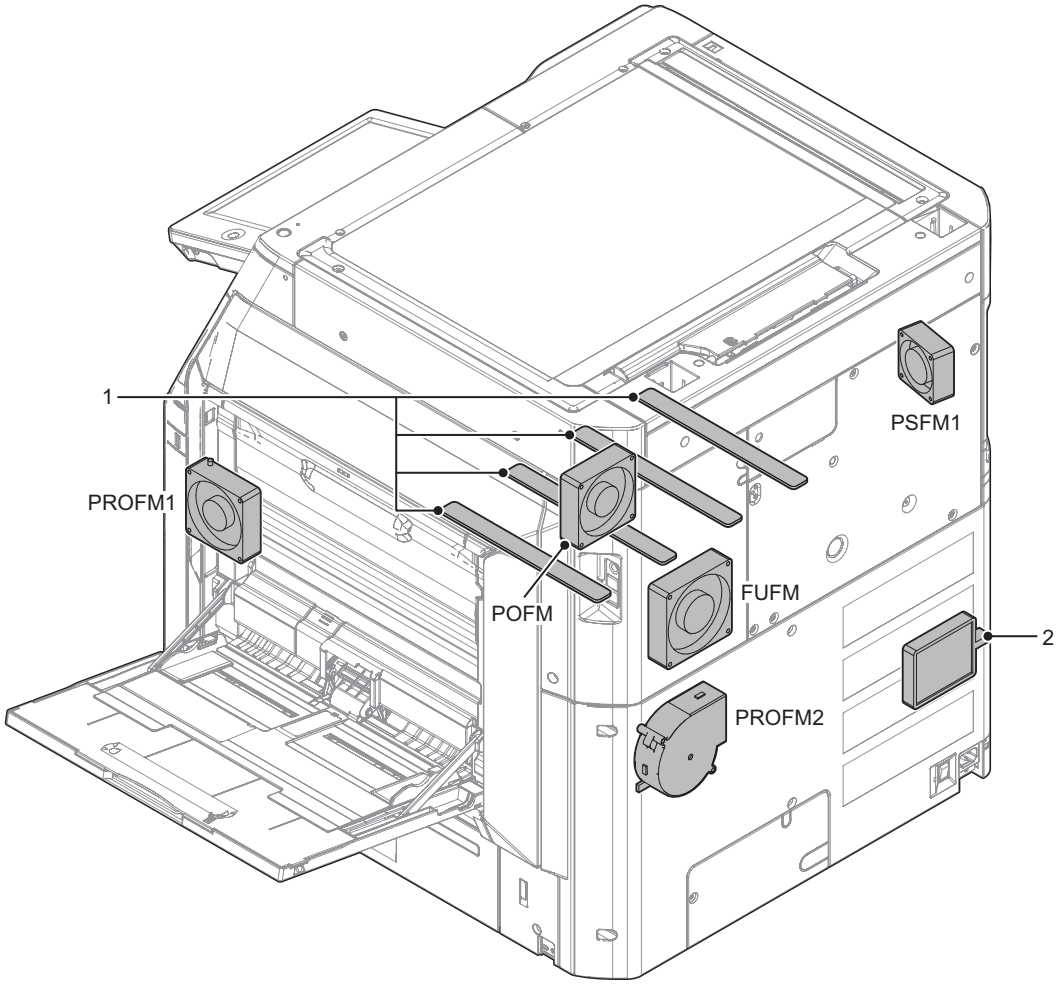
| No. | Name | Function and Operation |
|---|---|---|
| 24 | Transport roller 8 (Drive) | Transports paper transported from switchback section to the transport roller 9 |
| 25 | Transport roller 9 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 26 | Transport roller 9 (Drive) | Transports paper transported from transport roller 8 to the transport roller 4 |
| 27 | Transport roller 10 (Idle) | Apply a pressure to paper and transport roller to provide the transport power of the transport roller to paper |
| 28 | Transport roller 10 (Drive) | Transports paper transported from manual paper tray to the transport roller 4 |
| 29 | Paper exit roller 2 (Idle) | Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper |
| 30 | Paper exit roller 2 (Drive) | Transports paper to the lower paper exit tray |
| 31 | Paper exit roller 1 (Idle) | Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper |
| 32 | Paper exit roller 1 (Drive) | Transports paper to the upper paper exit tray or switchback to the ADU section |
| 33 | Heat roller | Heats the fusing belt |
| 34 | Fusing roller | The sponge layer of the roller forms a wide nip between the fusing belt and fusing roller |
| 35 | Pressure roller | Heats the back surface of paper to fuse toner on the paper |

## 12. Lamps




| Signal name | Name | Type | Function and Operation |
|---|---|---|---|
| CCFT | LCD backlight | LED | LCD backlight |
| CL_ON | Scanner lamp | LED | Radiates light onto a document for the CCD to scan the document image |
| DL_C | Discharge lamp C | LED | Discharges electric charges on the OPC drum |
| DL_K | Discharge lamp K | LED | Discharges electric charges on the OPC drum |
| DL_M | Discharge lamp M | LED | Discharges electric charges on the OPC drum |
| DL_Y | Discharge lamp Y | LED | Discharges electric charges on the OPC drum |
| HL_LM | Heater lamp | Halogen lamp | Heats the fusing roller |
| HL_UM/US | Heater lamp | Halogen lamp | Heats the fusing roller and the fusing belt |

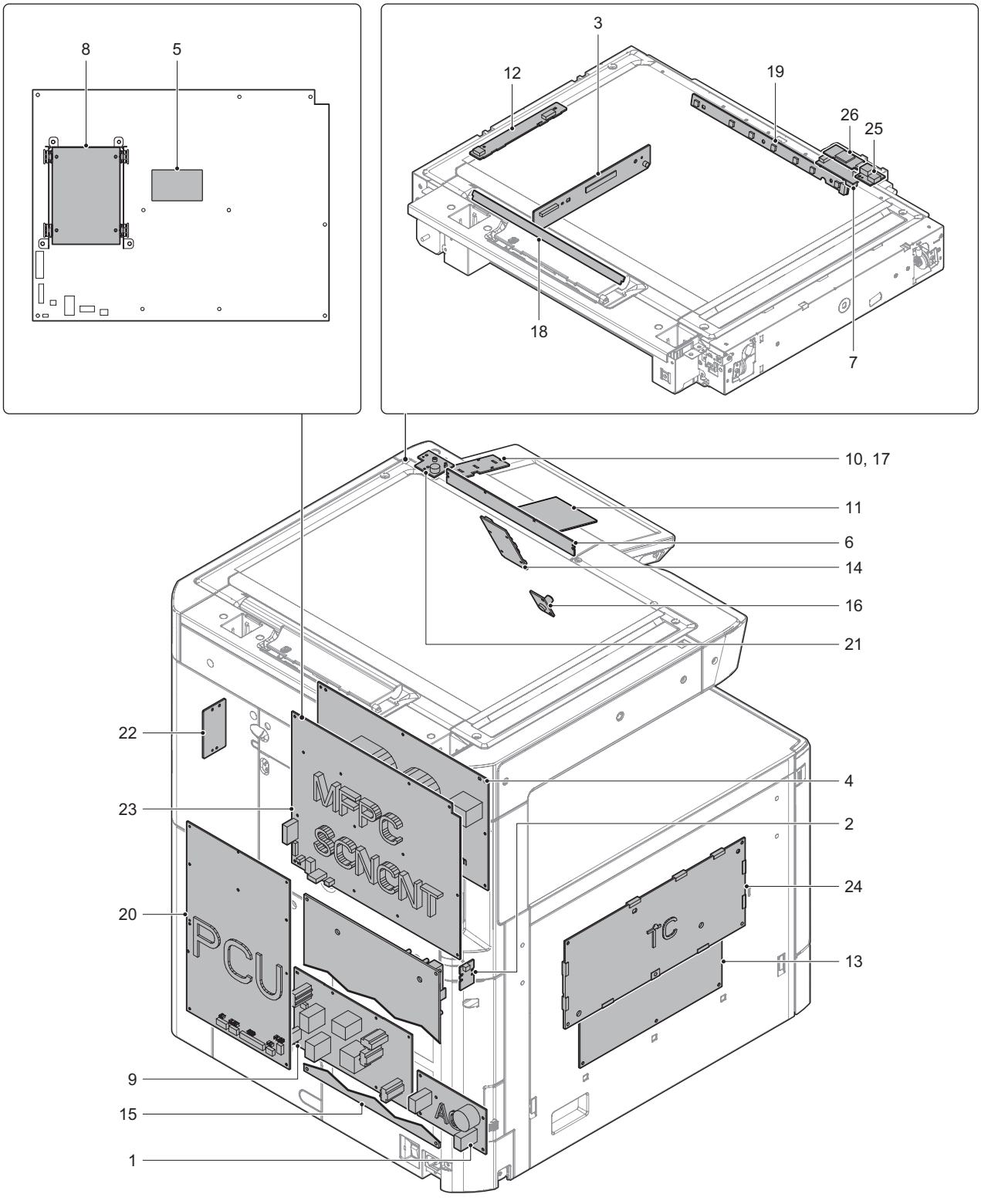
## 13. Fans and filter




| Signal name | Name | Function and Operation |
|---|---|---|
| FUFM | Fusing fan | Cools the fusing section and the paper exit section |
| POFM | Paper exit fan | Cools the fusing section and the paper exit section |
| PROFM1 | Process fan 1 | Discharges air and cools the process section |
| PROFM2 | Process fan 2 | Discharges air and cools the process section |
| PSFM1 | Power supply fan 1 | Cools the power supply unit |

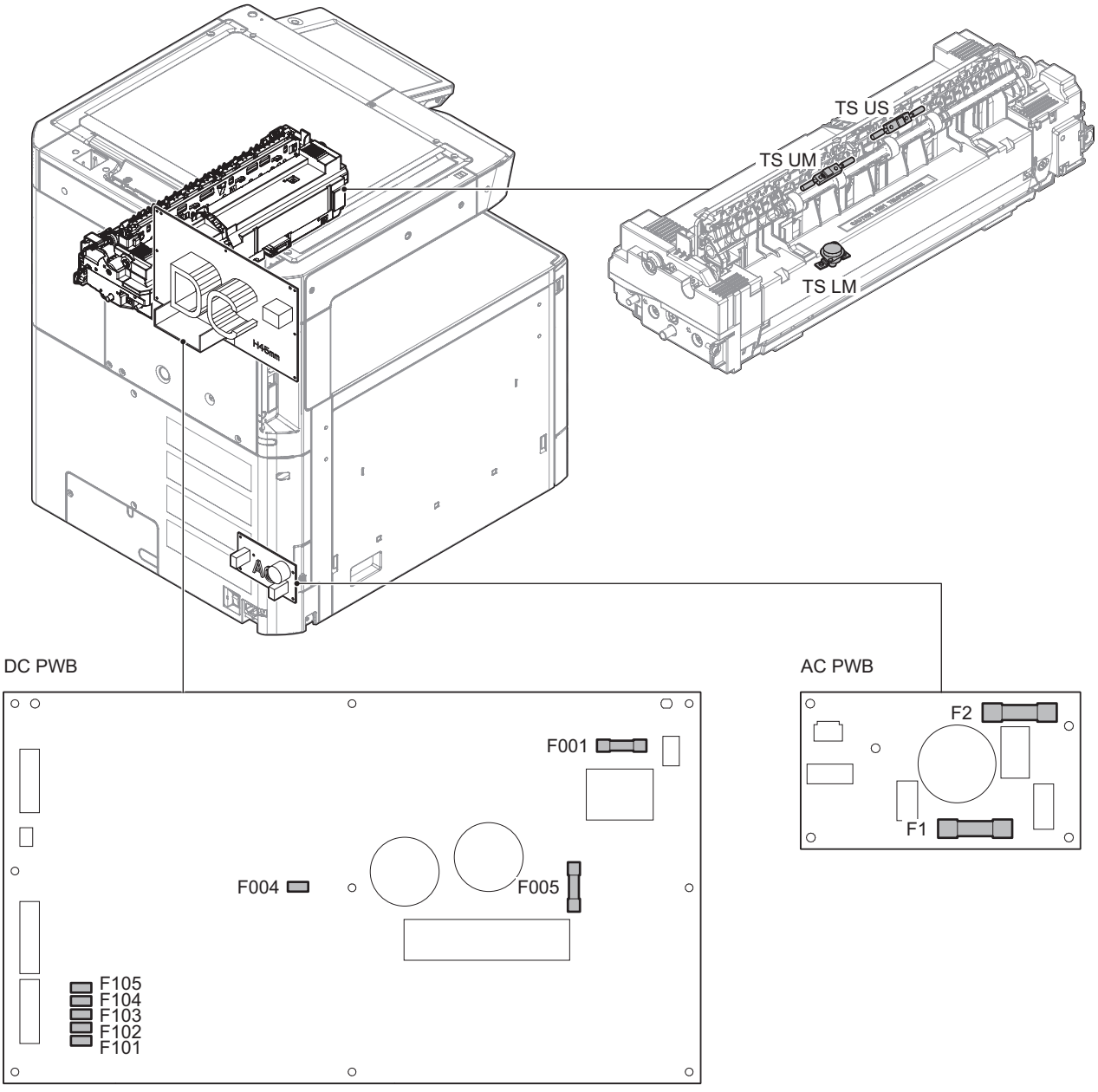
| No. | Name | Function and Operation |
|---|---|---|
| 1 | Toner filter | Prevents toner splash |
| 2 | Ozone filter | Absorbs ozone generated in the image process section |

## 14. PWB/memory device



| No. | Name | Function and Operation |
|---|---|---|
| 1 | AC PWB | Noise filter for AC input power supply |
| 2 | BD PWB | Detects laser and outputs the synchronous signal |
| 3 | CCD PWB | Scan document images and performs A/D conversion of the scanning signal |
| 4 | DC PWB | Generates DC voltage |
| 5 | eMMC PWB | Stores the SOC program data, snapshot, the e-manual data, the watermark data, the log data |
| 6 | FRONT LED PWB | Display indication state of MFP (Blue, Green, Red) |
| 7 | FRONT USB PWB | Relays USB device and SCN MFP PWB |
| 8 | HDD | Stores the filing data, the log data and authentication data also used as a work memory |
| 9 | HL PWB | Drives the heater lamp |
| 10 | HOME KEY PWB | Outputs the key operation signal [For MX-xx51 series] |
| 11 | KEYBOARD CONTROL PWB | Controls the input signal from keyboard SCN MFP PWB [For MX-xx61/xx71 series in some region] |
| 12 | LED DRIVER PWB | Drives the scanner lamp |
| 13 | LSU PWB | Controls the LSU and generates the video data. Controls laser diode and power |
| 14 | LVDS PWB | Converts the display data signal to the LCD display signal from SCN MFP PWB and controls the touch panel |
| 15 | MC PWB | Generates the main charger voltage and DV bias voltage |
| 16 | MOTION SENSOR PWB | Detects the approach of human in energy saving mode and send signal to SCN MFP PWB [For MX-xx61/xx71 series] |
| 17 | NFC HOME KEY PWB | Outputs the key operation signal and built in NFC tag [For MX-xx61/xx71 series] |
| 18 | ORS_LED | Drives the LED for the document size detection |
| 19 | ORS_PD | Outputs the document size detection signal |
| 20 | PCU PWB | Controls engine section |
| 21 | PWR-R PWB | Power switch, Buzzer, Display power ON / OFF status with green LED |
| 22 | RD I/F PWB | Detects each sensor in the right door unit |
| 23 | SCN MFP PWB | Controls image data (compression, decompression and filing) and controls the whole machine.<br>Converts print data into image data. |
| 24 | TC PWB | Generates the transfer voltage |
| 25 | USB CN PWB | Connect WIRELESS LAN PWB and SCN MFP PWB [Nothing in some region] |
| 26 | WIRELESS LAN PWB | Connect the network by the wireless LAN [Nothing in some region] |

## 15. Fuses and thermostats




| Signal name | Name | Type | Section |
|---|---|---|---|
| F1 | Fuse | 20A 250V | AC PWB (For 100V series) |
| F1 | Fuse | 10A 250V | AC PWB (For 200V series) |
| F2 | Fuse | 10A 250V | AC PWB (For 200V series) |
| F001 | Fuse | 10A/250V | DC PWB |
| F004 | Fuse | 0.25A | DC PWB |
| F005 | Fuse | 2A | DC PWB |
| F101 | Fuse | 6.3A/250V | DC PWB |
| F102 | Fuse | 6.3A/250V | DC PWB |
| F103 | Fuse | 6.3A/250V | DC PWB |
| F104 | Fuse | 6.3A/250V | DC PWB |
| F105 | Fuse | 6.3A/250V | DC PWB |

| Signal name | Name | Type | Function and Operation |
|---|---|---|---|
| TS LM | Thermostat | Mechanical thermostat | Shuts down the heater lamp (HL_LM) circuit when the fusing section is overheated |
| TS UM | Thermostat | Mechanical thermostat | Shuts down the heater lamp (HL_UM) circuit when the fusing section is overheated (center section) |
| TS US | Thermostat | Mechanical thermostat | Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated (edge section) |

# [5] ADJUSTMENTS AND SETTINGS

## 1. General

Each adjustment item in the adjustment item list is associated with a specific Job number. Perform the adjustment procedures in the sequence of Job numbers from the smallest to the greatest.

However, there is no need to perform all the adjustment items.

Perform only the necessary adjustments according to the need.

Unnecessary adjustments can be omitted. Even in this case however the sequence from the smallest to the greatest Job number must be observed.

If the above precaution should be neglected, the adjustment would not complete normally or trouble may occur.

## 2. Adjustment item list

| Job No. | Adjustment item list | | | | | Simulation |
|---|---|---|---|---|---|---|
| ADJ 1 | Developing unit adjustment | 1-A | Toner density control reference value setting | | | 25-2 |
| ADJ 2 | High voltage values adjustment | 2-A | Main charger grid voltage adjustment | | | 8-2 |
| | | 2-B | Developing bias voltage adjustment | | | 8-1 |
| | | 2-C | Transfer current and voltage adjustment | | | 8-6 |
| ADJ 3 | Image density sensor adjustment | 3-A | Image density sensor adjustment | | | 44-2 |
| ADJ4 | Print image position, image magnification ratio adjustment (Print engine) (Manual adjustment) | 4-A | Print image magnification ratio adjustment (main scanning direction) (Print engine) (Manual adjustment) | | | 50-10 |
| | | 4-B | Print image position (main scanning direction, sub scanning direction adjustment, (Print engine) (Manual adjustment) | | | 50-10 |
| ADJ5 | Print engine image distortion adjustment, OPC drum phase adjustment, Color registration adjustment (Print engine section) | 5-A | Print engine image distortion adjustment (Manual adjustment), OPC drum phase adjustment (Automatic adjustment), Color registration adjustment (Automatic adjustment) | | | 50-22 |
| | | 5-B | Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally) | | | 50-20 (64-1) |
| | | 5-C | Color registration offset adjustment (No need to adjust normally) | | | 50-20 |
| ADJ6 | Scan image distortion adjustment (Document table mode) | 6-A | Scanner (reading) unit parallelism adjustment (sub scanning direction distortion adjustment) | | | |
| | | 6-B | Scan image (main scanning direction) distortion adjustment | | | |
| ADJ7 | Scanner image skew adjustment (DSPF/RSPF mode) | 7-A | RSPF scan image skew adjustment | | | |
| | | 7-B | DSPF parallelism adjustment | | | |
| | | 7-C | DSPF skew adjustment (front surface mode) | | | |
| | | 7-D | DSPF skew adjustment (back surface mode) | | | |
| ADJ8 | Scan image focus adjustment | 8-A | Image focus adjustment (document table mode, DSPF/RSPF front surface mode) | | | 48-1 |
| | | 8-B | Image focus adjustment (DSPF back surface mode) | | | |
| ADJ9 | Scan image magnification ratio adjustment (Manual adjustment) | 9-A | Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) | | | 48-1 |
| | | 9-B | Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode) | | | 48-1 |
| | | 9-C | Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF/RSPF mode) | | | 48-1 |
| | | 9-D | Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (DSPF/RSPF mode) | | | 48-1 |
| ADJ10 | Scan image off-center adjustment (Manual adjustment) | 10-A | Scan image off-center adjustment (Manual adjustment) (Document table mode) | | | 50-12 |
| | | 10-B | Scan image off-center adjustment (Manual adjustment) (DSPF/RSPF mode) | | | 50-12/50-6 |
| ADJ11 | Copy image position, image loss adjustment (Manual adjustment) | 11-A | Copy image position, image loss (Manual adjustment) (Document table mode) | | | 50-1 |
| | | 11-B | Image scanning position adjustment (Manual adjustment) (DSPF/RSPF mode) | | | 53-8 |
| | | 11-C | Copy image position, image loss (Manual adjustment) (DSPF/RSPF mode) | | | 50-6 |
| ADJ12 | Print lead edge image position adjustment (printer mode) | | | | | 50-5 |
| ADJ13/ SET1 | Color balance and density adjustment | | Note before execution of the image quality adjustment | | | |
| | | | Copy image quality check | | | |
| | | | Printer image quality check | | | |
| | | 13-A | Scanner calibration | 13-A (1) | Scanner calibration (CCD calibration) (document table mode) | 63-3 |
| | | | | 13-A (2) | Shading adjustment (DSPF mode) | 63-2 |
| | | | | 13-A (3) | Scanner calibration (CCD calibration) (DSPF mode) | 63-3 |
| | | SET 1 | Color balance adjustment target setup | 1A | Copy color balance adjustment target setup | 63-7/8/11 |
| | | | | 1B | Printer color balance adjustment target setup | 67-26/27/ 28 |
| | | 13-B | FR density variation correction | 13-B (1) | FR density unevenness automatic correction | 61-11 |
| | | | | 13-B (2) | FR density unevenness visual inspection correction | 61-12 |
| | | 13-C | Copy, printer color balance and density adjustment (Automatic adjustment) (Basic adjustment) | | | 46-74 |

| Job No. | Adjustment item list | | | | | Simulation |
|---|---|---|---|---|---|---|
| ADJ13/ SET1 | Color balance and density adjustment | 13-D | Copy image quality adjustment (Basic adjustment) | 13-D (1) | Copy color balance and density adjustment (Automatic adjustment) | 46-24 |
| | | | | 13-D (2) | Copy color balance and density adjustment (Manual adjustment) | 46-21 |
| | | 13-E | Copy, Image send, FAX image quality adjustment (Individual adjustment) | 13-E (1) | Color copy density adjustment (for each color copy mode) (separately for the low density area and the high density area) (No need to adjust normally) | 46-1 |
| | | | | 13-E (2) | Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low density area and the high density area) (No need to adjust normally) | 46-2 |
| | | | | 13-E (3) | Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally) | 46-10 |
| | | | | 13-E (4) | Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally) | 46-16 |
| | | | | 13-E (5) | Automatic monochrome (Copy/scan/FAX) mode document density scanning operation (exposure operation) conditions setting (No need to set normally) | 46-19 |
| | | | | 13-E (6) | Document low density image density reproduction adjustment in the automatic monochrome (copy/scan/ FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section) | 46-32 |
| | | | | 13-E (7) | Copy, scan low density image density adjustment (for each mode) (No need to adjust normally) | 46-63 |
| | | | | 13-E (8) | Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally) | 46-27 |
| | | | | 13-E (9) | Monochrome (Copy/scan/FAX) mode color document reproduction adjustment (No need to adjust normally) | 46-37 |
| | | | | 13-E (10) | Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally) | 46-38 |
| | | | | 13-E (11) | Color (copy/scan) mode sharpness adjustment (No need to adjust normally) | 46-60 |
| | | | | 13-E (12) | Copy high density image density reproduction setting (Normally unnecessary to the setting change) | 46-23 |
| | | | | 13-E (13) | Copy color balance adjustment (single color copy mode) (No need to adjust normally) | 46-25 |
| | | | | 13-E (14) | DSPF/RSPF mode (copy/scan/FAX) density adjustment (No need to adjust normally) | 46-9 |
| | | | | 13-E (15) | Copy gamma, color balance adjustment for each dither (Automatic adjustment) | 46-54 |
| | | | | 13-E (16) | Dropout color adjustment (Normally not required) | 46-55 |
| | | | | 13-E (17) | Watermark adjustment (Normally not required) | 46-66 |
| | | 13-F | Printer image quality adjustment (Basic adjustment) | 13-F (1) | Printer color balance adjustment (Automatic adjustment) | 67-24 |
| | | | | 13-F (2) | Printer color balance adjustment (Manual adjustment) | 67-25 |
| | | 13-G | Printer image quality adjustment (Individual adjustment) | 13-G (1) | Printer density adjustment (low density section density adjustment) (No need to adjust normally) | 67-36 |
| | | | | 13-G (2) | Printer high density image density reproduction setting (supporting the high density section tone gap) (No need to adjust normally) | 67-34 |
| | | | | 13-G (3) | Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally) | 67-54 |
| | | 13-H | Copy, Printer gray balance and density adjustment (Automatic adjustment) | | | 67-20 |
| ADJ14 | Paper size sensor adjustment | 14-A | Manual paper feed tray paper size (width) sensor adjustment | | | 40-2 |
| | | 14-B | DSPF/RSPF paper feed tray document size (width) sensor adjustment | | | 53-6 |
| ADJ15 | Document size detection adjustment | 15-A | Sensitivity adjustment of the original size sensor | | | 41-2 |
| ADJ16 | Touch panel coordinate setting | | | | | 65-1 |
| ADJ17 | Fusing paper guide position adjustment | | | | | |

# 3. Details of adjustment

## ADJ 1 Developing unit adjustment

### 1-A Toner density control reference value setting

This adjustment must be performed in the following cases.

- When developer is replaced

Important

Be sure to execute this adjustment only when developer is replaced. Never execute it in the other cases.

Important

Perform the toner density reference control level adjustment with the toner cartridges removed.

If adjustment is performed with toner cartridge installed, the EE-EL trouble code or an over toner condition may occur.

1) With the front cover opened, enter Sim25-2
2) Close the front cover
3) Select a developing unit to be adjusted
4) When [EXECUTE] key is pressed, it is highlighted. The DV roller rotates and the toner density sensor detects toner density and the output value is displayed.

   The above operation is executed for 1 minutes and the average value of the toner density sensor detection level is set (saves) as the reference toner density control value.

   When the reference toner density control adjustment operation is completed [EXECUTE] key returns to normal from highlight.

   This makes known about whether the adjustment operation is completed or not.

   The above operation is executed each of the lower speed mode and the middle speed mode and the reference toner density control value is set for each of them.

   Important

   If the operation is interrupted within 1 minutes the adjustment result is not reflected.

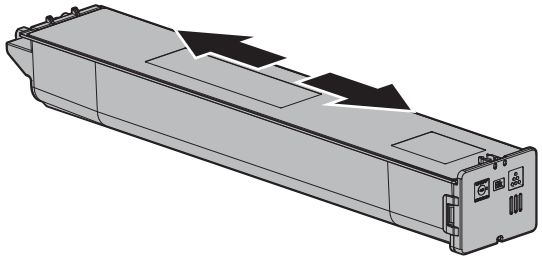
   When [EXECUTE] key is pressed during the operation, the operation is stopped and [EXECUTE] key returns to the normal display.

   If [EE-EU], [EE-EL] or [EE-EC] is displayed, setting of the reference toner density control value is not completed normally.

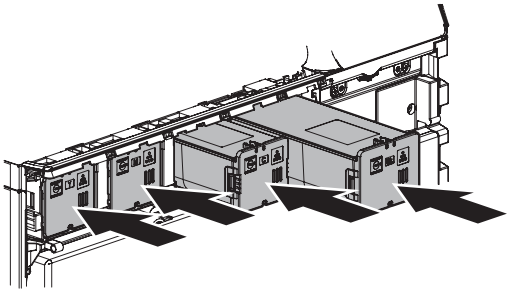
   Troubleshoot the cause, remove the cause and perform setting again.

| Error display | Error name | Details of error |
|---|---|---|
| EE-EL | EL abnormality | Sensor output level less than 77 or control voltage over 207 |
| EE-EU | EU abnormality | Sensor output level over 177 or control voltage less than 52 |
| EE-EC | EC abnormality | Sensor output level other than 128 ± 3 |

5) Cancel Sim 25-2
6) Confirm that "Instal the toner cartridge " is displayed and instal the toner cartridge by the following procedures
7) Shake the toner cartridge horizontally several times



8) Open the front cover and insert each toner cartridge



Important

Be sure to install the color cartridge to their proper positions.

Avoid installation to a different color position.

Important

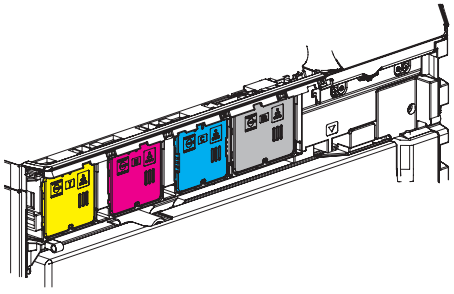
Do not forcibly insert the toner cartridge.

Push it in until the cartridge is securely locked in place.

Important

Developing units removed, be sure to remove the toner cartridges as well to prevent toner clogging.

**Mounting location of the toner cartridge of each color**



9) Close the front cover
10) Confirm that "Toner replacement in progress" is displayed and wait until the display disappears (It takes 30 sec - 6 min)

Note

This procedure is for checking the toner supply operation from the toner cartridge to the DV unit. The operation time differs depending on the toner quantity in the toner cartridge, uneven distribution of toner and the internal state of the toner cartridge.

Important

Do not perform operations which interrupt the above operation such as opening the front cover, entering the Sim mode and turning OFF/ON the power. If this precaution is ignored. Trouble codes F2-40 - 43 or F2-64 - 67 or a over toner condition may occur.

Important

When replacing developer always replace all the three colors of Yellow, Magenta and Cyan.

If only one color is replaced color balance may be adversely affected. Black developer can be replaced individually.

Important

When developer is replaced be sure to perform the color balance adjustment.

Important

When not replacing the developer. do not execute Sim25-2

# ADJ 2 High voltage values adjustment

## 2-A Main charger grid voltage adjustment

This adjustment must be performed in the following cases.

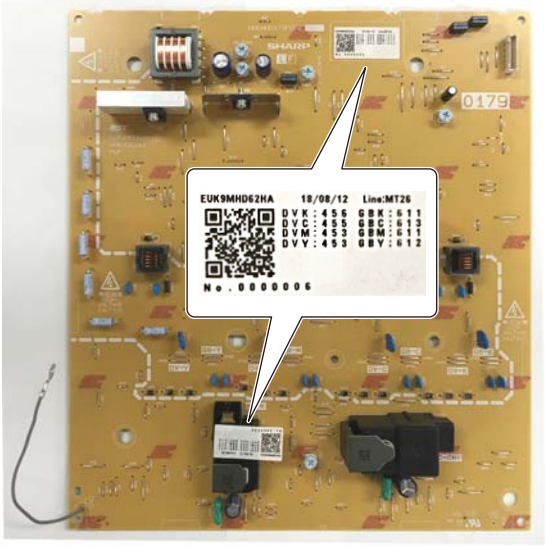
- When the MC PWB has been replaced
- U2 trouble has occurred
- The PCU PWB has been replaced
- The EEPROM of the PCU PWB has been replaced

1) Enter the Sim 8-2 mode
2) Select an output mode and an item to be adjusted

| Item/Display (mode) | | | mode | | adjustment range | actual voltage |
|---|---|---|---|---|---|---|
| MIDDLE | A | MIDDLE SPEED GB_K | Main charger grid voltage (middle speed mode) | K | 50 - 850 | -607V ±5V |
| | B | MIDDLE SPEED GB_C | | C | 50 - 850 | -607V ±5V |
| | C | MIDDLE SPEED GB_M | | M | 50 - 850 | -607V ±5V |
| | D | MIDDLE SPEED GB_Y | | Y | 50 - 850 | -607V ±5V |
| LOW | A | LOW SPEED GB_K | Main charger grid voltage (low speed mode) | K | 50 - 850 | -598V ±5V |
| | B | LOW SPEED GB_C | | C | 50 - 850 | -598V ±5V |
| | C | LOW SPEED GB_M | | M | 50 - 850 | -598V ±5V |
| | D | LOW SPEED GB_Y | | Y | 50 - 850 | -598V ±5V |

3) Enter the adjustment value (specified value) in the middle speed mode and press [OK] key.

Enter the adjustment value of each mode which is specified on the label attached on the MC PWB.




When [EXECUTE] key is pressed the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

Important

Note that the adjustment value may differ depending on the MC-PWB. Since the adjustment value label is attached on the MC PWB, the PWB must be removed in order to check the adjustment value. This is a troublesome procedure. Therefore it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

Important

Since the high voltage output cannot be checked with a digital multi meter in this model, a judgement of the output must be made by checking the print image quality

## 2-B Developing bias voltage adjustment

This adjustment must be performed in the following cases.

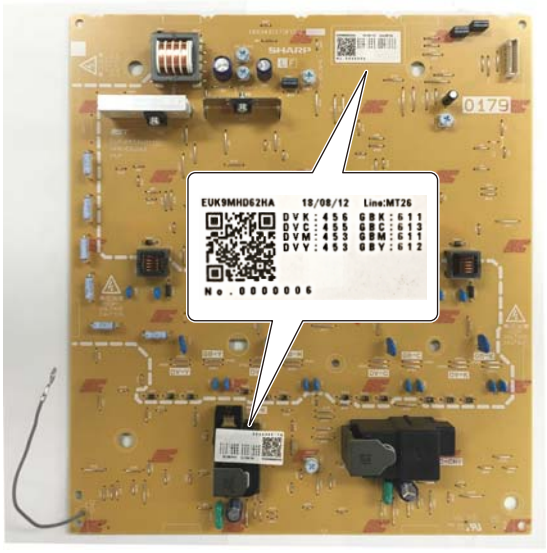
- When the MC PWB has been replaced
- U2 trouble has occurred
- The PCU PWB has been replaced
- The EEPROM of the PCU PWB has been replaced

1) Enter the Sim 8-1 mode
2) Select an output mode and an item to be adjusted.

| Item/Display (mode) | | | Content | | Adjustment range | Actual voltage |
|---|---|---|---|---|---|---|
| MIDDLE | A | MIDDLE SPEED DVB_K | Developing bias voltage (middle speed) | K | 0 - 600 | –450V ±5V |
| | B | MIDDLE SPEED DVB_C | | C | 0 - 600 | –450V ±5V |
| | C | MIDDLE SPEED DVB_M | | M | 0 - 600 | –450V ±5V |
| | D | MIDDLE SPEED DVB_Y | | Y | 0 - 600 | –450V ±5V |

| Item/Display (mode) | | | Content | | Adjustment range | Actual voltage |
|---|---|---|---|---|---|---|
| LOW | A | LOW SPEED DVB_K | Developing bias voltage (low speed) | K | 0 - 600 | –450V ±5V |
| | B | LOW SPEED DVB_C | | C | 0 - 600 | –450V ±5V |
| | C | LOW SPEED DVB_M | | M | 0 - 600 | –450V ±5V |
| | D | LOW SPEED DVB_Y | | Y | 0 - 600 | –450V ±5V |

3) Enter the adjustment value (specified value) in the middle speed mode and press [OK] key.
Enter the adjustment value of each mode which is specified on the label attached on the MC PWB.




When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved. When [EXECUTE] key is pressed again the output is stopped.

Important

Note that the adjustment value may differ depending on the MC PWB . Since the adjustment value label is attached on the MC PWB, the PWB must be removed in order to check the adjustment value. This is a troublesome procedure. Therefore it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

Important

Since the high voltage output cannot be checked with a digital multi meter in this model, a judgement of the output must be made by checking the print image quality.

## 2-C Transfer current and voltage adjustment

This adjustment must be performed in the following cases.

- When the TC PWB has been replaced
- U2 trouble has occurred
- The PCU PWB has been replaced
- The EEPROM of the PCU PWB has been replaced

1) Enter the Sim 8-6 mode
2) Select an item to be adjusted

| Item/Display | | Content | | | | Setting range | Default value | Actual output value |
|---|---|---|---|---|---|---|---|---|
| A | TC1 LOW SPEED CL K | Primary transfer bias adjustment value | color | K | low speed | 0 - 255 | 85 | 10 µA |
| B | TC1 MIDDLE SPEED CL K | | | | middle speed | 0 - 255 | 94 | 12 µA |
| C | TC1 LOW SPEED CL C | | | C | low speed | 0 - 255 | 85 | 10 µA |
| D | TC1 MIDDLE SPEED CL C | | | | middle speed | 0 - 255 | 94 | 12 µA |
| E | TC1 LOW SPEED CL M | | | M | low speed | 0 - 255 | 85 | 10 µA |
| F | TC1 MIDDLE SPEED CL M | | | | middle speed | 0 - 255 | 94 | 12 µA |
| G | TC1 LOW SPEED CL Y | | | Y | low speed | 0 - 255 | 85 | 10 µA |
| H | TC1 MIDDLE SPEED CL Y | | | | middle speed | 0 - 255 | 94 | 12 µA |
| I | TC1 LOW SPEED BW K | | monochrome | K | low speed | 0 - 255 | 85 | 10 µA |
| J | TC1 MIDDLE SPEED BW K | | | | middle speed | 0 - 255 | 94 | 12 µA |

| Item/Display | | Content | | | | Setting range | Default value | Actual output value |
|---|---|---|---|---|---|---|---|---|
| K | TC2 PLAIN CL SPX | Secondary transfer bias adjustment value | color | Plain paper | front surface | 0 - 255 | 103 | -40 µA |
| L | TC2 PLAIN CL DPX | | | | back surface | 0 - 255 | 110 | -45 µA |
| M | TC2 PLAIN BW SPX | | monochrome | | front surface | 0 - 255 | 103 | -40 µA |
| N | TC2 PLAIN BW DPX | | | | back surface | 0 - 255 | 103 | -40 µA |
| O | TC2 PLAIN2 CL SPX | | color | Plain paper 2 | front surface | 0 - 255 | 103 | -40 µA |
| P | TC2 PLAIN2 CL DPX | | | | back surface | 0 - 255 | 110 | -45 µA |
| Q | TC2 PLAIN2 BW SPX | | monochrome | | front surface | 0 - 255 | 103 | -40 µA |
| R | TC2 PLAIN2 BW DPX | | | | back surface | 0 - 255 | 103 | -40 µA |
| S | TC2 HEAVY1 CL SPX | | color | Heavy paper 1 | front surface | 0 - 255 | 90 | -30 µA |
| T | TC2 HEAVY1 CL DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| U | TC2 HEAVY1 BW SPX | | monochrome | | front surface | 0 - 255 | 90 | -30 µA |
| V | TC2 HEAVY1 BW DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| W | TC2 HEAVY2 CL SPX | | color | Heavy paper 2 | front surface | 0 - 255 | 90 | -30 µA |
| X | TC2 HEAVY2 CL DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| Y | TC2 HEAVY2 BW SPX | | monochrome | | front surface | 0 - 255 | 90 | -30 µA |
| Z | TC2 HEAVY2 BW DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| AA | TC2 HEAVY3 CL SPX | | color | Heavy paper 3 | front surface | 0 - 255 | 90 | -30 µA |
| AB | TC2 HEAVY3 CL DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| AC | TC2 HEAVY3 BW SPX | | monochrome | | front surface | 0 - 255 | 90 | -30 µA |
| AD | TC2 HEAVY3 BW DPX | | | | back surface | 0 - 255 | 96 | -35 µA |
| AE | TC2 HEAVY4 CL | | color | Heavy paper 4 | | 0 - 255 | 90 | -30 µA |
| AF | TC2 HEAVY4 BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AG | TC2 OHP CL | | color | OHP | | 0 - 255 | 103 | -40 µA |
| AH | TC2 OHP BW | | monochrome | | | 0 - 255 | 103 | -40 µA |
| AI | TC2 ENVELOPE CL | | color | envelope | | 0 - 255 | 90 | -30 µA |
| AJ | TC2 ENVELOPE BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AK | TC2 THIN CL | | color | thin paper | | 0 - 255 | 90 | -30 µA |
| AL | TC2 THIN BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AM | TC2 GLOSSY PAPER CL | | color | gloss paper | | 0 - 255 | 90 | -30 µA |
| AN | TC2 GLOSSY PAPER BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AO | TC2 EMBOSS CL | | color | emboss paper | | 0 - 255 | 90 | -30 µA |
| AP | TC2 EMBOSS BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AQ | TC2 LABEL CL | | color | label paper | | 0 - 255 | 90 | -30 µA |
| AR | TC2 LABEL BW | | monochrome | | | 0 - 255 | 90 | -30 µA |
| AS | TC2 FRONT EDGE LOW SPX | front edge bias adjustment value | front surface low speed | | | 0 - 255 | 76 | -20 µA |
| AT | TC2 FRONT EDGE LOW DPX | | back surface low speed | | | 0 - 255 | 69 | -15 µA |
| AU | TC2 FRONT EDGE MIDDLE SPX | | front surface middle speed | | | 0 - 255 | 76 | -20 µA |
| AV | TC2 FRONT EDGE MIDDLE DPX | | back surface middle speed | | | 0 - 255 | 69 | -15 µA |
| AW | TC2 BACKEND LOW SPX | rear edge bias adjustment value | front surface low speed | | | 0 - 255 | 76 | -20 µA |
| AX | TC2 BACKEND LOW DPX | | back surface low speed | | | 0 - 255 | 69 | -15 µA |
| AY | TC2 BACKEND MIDDLE SPX | | front surface middle speed | | | 0 - 255 | 0 | -0 µA |
| AZ | TC2 BACKEND MIDDLE DPX | | back surface middle speed | | | 0 - 255 | 0 | -0 µA |
| BA | TC2 INTERVAL LOW SPEED | interval bias adjustment value | low speed(+) | | | 0 - 255 | 66 | 4 µA |
| BB | TC2 INTERVAL MIDDLE SPEED | | middle speed(+) | | | 0 - 255 | 95 | 8 µA |
| BC | TC2 CLEANING MINUS LOW SPEED | cleaning bias adjustment value | low speed(–) | | | 0 - 255 | 54 | -4 µA |
| BD | TC2 CLEANING MINUS MIDDLE SPEED | | middle speed(–) | | | 0 - 255 | 59 | -8 µA |
| BE | TC2 CLEANING PLUS LOW SPEED | | low speed(+) | | | 0 - 255 | 66 | 4 µA |
| BF | TC2 CLEANING PLUS MIDDLE SPEED | | middle speed(+) | | | 0 - 255 | 95 | 8 µA |
| BG | PTC LOW CL SPX | PTC current adjustment value | color | low speed | front surface | 0 - 255 | 109 | -200 µA |
| BH | PTC LOW CL DPX | | | | back surface | 0 - 255 | 109 | -200 µA |
| BI | PTC MIDDLE CL SPX | | | middle speed | front surface | 0 - 255 | 206 | -400 µA |
| BJ | PTC MIDDLE CL DPX | | | | back surface | 0 - 255 | 109 | -200 µA |
| BK | PTC LOW BW SPX | | monochrome | low speed | front surface | 0 - 255 | 109 | -200 µA |
| BL | PTC LOW BW DPX | | | | back surface | 0 - 255 | 109 | -200 µA |
| BM | PTC MIDDLE BW SPX | | | middle speed | front surface | 0 - 255 | 206 | -400 µA |
| BN | PTC MIDDLE BW DPX | | | | back surface | 0 - 255 | 206 | -400 µA |
| BO | CASE VOLT LOW CL SPX | PTC voltage adjustment value | color | low speed | front surface | 0 - 255 | 0 | 0 V |
| BP | CASE VOLT LOW CL DPX | | | | back surface | 0 - 255 | 0 | 0 V |
| BQ | CASE VOLT MIDDLE CL SPX | | | middle speed | front surface | 0 - 255 | 0 | 0 V |
| BR | CASE VOLT MIDDLE CL DPX | | | | back surface | 0 - 255 | 0 | 0 V |
| BS | CASE VOLT LOW BW SPX | | monochrome | low speed | front surface | 0 - 255 | 0 | 0 V |
| BT | CASE VOLT LOW BW DPX | | | | back surface | 0 - 255 | 0 | 0 V |
| BU | CASE VOLT MIDDLE BW SPX | | | middle speed | front surface | 0 - 255 | 0 | 0 V |
| BV | CASE VOLT MIDDLE BW DPX | | | | back surface | 0 - 255 | 0 | 0 V |

| Item/Display | | Content | | | | Setting range | Default value | Actual output value |
|---|---|---|---|---|---|---|---|---|
| BW | DHV LOW SPEED CL SPX | separation bias adjustment value | color | low speed | front surface | 0 - 255 | 77 | -1000 V |
| BX | DHV LOW SPEED CL DPX | | | | back surface | 0 - 255 | 102 | -1500 V |
| BY | DHV LOW SPEED BW SPX | | monochrome | | front surface | 0 - 255 | 77 | -1000 V |
| BZ | DHV LOW SPEED BW DPX | | | | back surface | 0 - 255 | 102 | -1500 V |
| CA | DHV MIDDLE SPEED CL SPX | | color | middle speed | front surface | 0 - 255 | 153 | -2500 V |
| CB | DHV MIDDLE SPEED CL DPX | | | | back surface | 0 - 255 | 179 | -4000 V |
| CC | DHV MIDDLE SPEED BW SPX | | monochrome | | front surface | 0 - 255 | 153 | -2500 V |
| CD | DHV MIDDLE SPEED BW DPX | | | | back surface | 0 - 255 | 179 | -4000 V |

*Plain paper 1: 60-89g/m$^2$ Plain paper 2: 80-105g/m$^2$

*Heavy paper 1:106-176g/m$^2$ Heavy paper 2:177-220g/m$^2$ Heavy paper 3:221-256g/m$^2$ Heavy paper 4:257-300g/m$^2$

3) Enter the adjustment value (specified value) and press [OK] key.

By setting the value (specified value) the specified output is provided.

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved. When [EXECUTE] key is pressed again the output is stopped.

# ADJ 3 Image density sensor adjustment

Before executing this adjustment, check to confirm the following items.

- Check to confirm that the color image density sensor (image registration sensor) is clean
- Check to confirm that the transfer belt is clean and free from scratches.

## 3-A Image density sensor adjustment

The image density sensor and the transfer belt surface are used to make the sensitivity adjustment of the image registration sensor.

This adjustment executes automatically at the outset of registration adjustment operation and process control operation as well as Sim 44-2

Normally therefore it is not required to perform this adjustment. It is performed only when the sensor is replaced or when the adjustment result is checked.

1) Enter Sim 44-2 mode
2) Press [EXECUTE] key.

   The sensitivity adjustment of the color image density sensor (image registration sensor) is automatically performed.

   After completion of the adjustment the adjustment result is displayed and [EXECUTE] key returns to the normal display.

   If the adjustment is not completed normally. "ERROR" is displayed.

When an error occurs, check the following sections for any abnormality.

- Color image density sensor
- The PCU PWB
- Transfer belt (dirt, scratch)
- Transfer belt cleaner

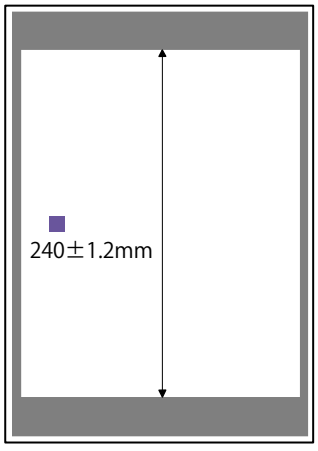
# ADJ 4 Print image position, image magnification ratio adjustment (Print engine) (Manual adjustment)

## 4-A Print image magnification ratio adjustment (main scanning direction) (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases.

- When the LSU (writing) unit is replaced.
- U2 trouble has occurred
- The PCU PWB has been replaced
- The EEPROM of the PCU PWB has been replaced

1) Enter the SIM 50-10 mode.
2) Set A4 (11 x 8.5) paper in the paper feed tray.
3) Select the paper feed tray set in procedure 2) with the scroll key.
4) Touch [EXECUTE] key.
   The check pattern is printed out.
5) Check that the inside dimension of the printed halftone is 240±1.2mm.




If the above requirement is not met, do the following steps.

6) Change the set value of set item A.
When the set value is changed by 1, the dimension is changed by 0.1mm.
When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased , the BK image magnification ration in the main scanning direction is decreased.
Repeat procedure 2) to 6) until a satisfactory result is obtained.

## 4-B Print image position (main scanning direction, sub scanning direction) adjustment (Print engine) (Manual adjustment)

This adjustment must be performed in the following cases.

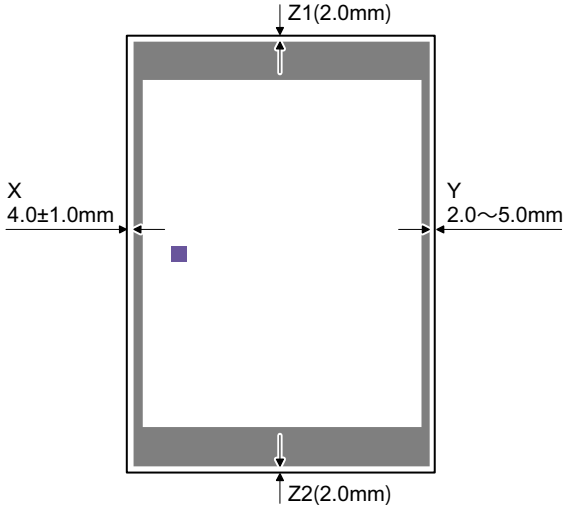
- When LSU unit is replaced or removed.
- When a paper tray is replaced.
- When the paper tray section is disassembled.
- When the manual feed tray is replaced.
- When the manual feed tray is disassembled.
- When the duplex mode paper transport section is disassembled.
- When the registration roller section is disassembled.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

**Note**

Before execution of this adjustment, check to insure the following item

- The print image magnification ratio adjustment ADJ4-A (main scanning direction) (print engine) (manual adjustment) has been properly adjusted.

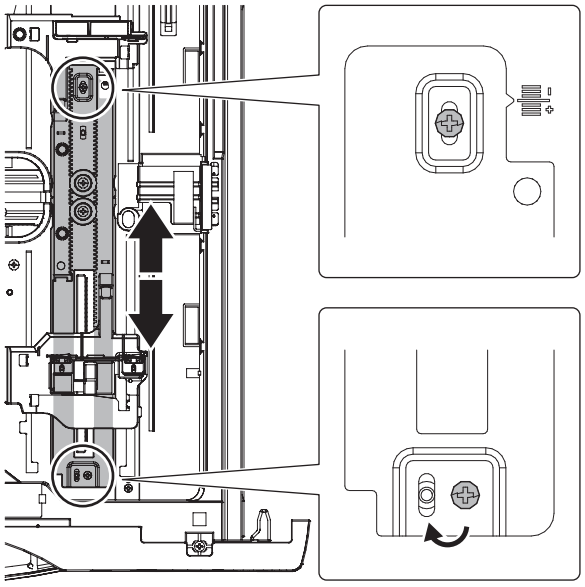
1) Enter SIM 50-10 mode.
2) Select the target paper feed tray with the scroll key.
3) Touch [EXECUTE] key.
The adjustment pattern is printed
4) Check that the adjustment pattern image is printed in the correct position.
Measure the dimension of the void area in the front and the rear frame direction of the adjustment pattern and check that all the following conditions are satisfied.




| | Content | Standard adjustment value |
|---|---|---|
| X | Lead edge void area | 4.0 ± 1.0mm |
| Y | Rear edge void area | 2.0mm - 5.0mmm |
| Z1 / Z2 | FRONT/REAR VOID AREA | Total 4.0 ± 2.0mm |

If the above requirement is not met, do the following steps.

5) Change the adjustment value.
Enter the adjustment value and touch [OK] key or [EXECUTE] key.When touch [EXECUTE] key, the adjustment pattern is printed.
When the adjustment value is increased, the adjustment pattern is shifted to the front frame side.When it is decreased, the adjustment pattern is shifted to the rear frame side.
When the set value is changed by 1 the shift distance is changed by 0.1mm.
Repeat procedures 3) - 6) until the conditions of procedure 5) are satisfied. In case a satisfactory result cannot be obtained by repeating the above procedures, perform the following procedure.
6) loosen the paper feed tray off-center adjustment screws (2 pcs) at the center section of the lift plate of the paper feed tray and change the gear until position in the front/rear frame direction. Repeat the adjustment procedure from 4).



## ADJ 5 Print engine image distortion adjustment, OPC drum phase adjustment, Color registration adjustment (Print engine section)

This adjustment must be performed in the following cases.

- When the color shift occurred.
- When LSU unit is replaced
- When the unit is installed or when the installing place is changed.
- When maintenance work is performed (replacement of the OPC drum, the transfer unit, the transfer belt)
- When ADJ4-A print engine image magnification ratio adjustment (main scanning direction) is performed.
- U2 trouble has occurred.
- When the PCU PWB is replaced.
- When EEPROM on the PCU PWB is replaced.
- When the color phase is not proper even after execution of the color balance adjustment.
- When the OPC drum drive section is disassembled.
- When the primary transfer unit is replaced (when it removed from the machine)
- When the developing unit or the OPC drum unit is removed from the machine.

## 5-A Print engine image distortion adjustment (manual adjustment), OPC drum phase adjustment (auto adjustment), color registration adjustment (auto adjustment)

This adjustment performs the print engine image distortion adjustment, the OPC drum phase adjustment and the color registration adjustment simultaneously.

1) Enter SIM 50-22 mode.
2) Touch [EXECUTE] key.
   [EXECUTE] key is highlighted and the image registration auto adjustment is started. (it takes about 15 sec to complete the adjustment)
3) When the adjustment is completed, [EXECUTE] key returns to the normal display and the value of the adjustment result is displayed. The current skew level for each color is displayed on the SKEW display section.

| Display /Item | Content | | Display | Default value | NOTE |
|---|---|---|---|---|---|
| MAIN F | C | Registration adjustment value main scanning direction F side | 1.0 - 399.0 | 200 | |
| | M | | | | |
| | Y | | | | |
| MAIN R | C | Registration adjustment value main scanning direction R side | 1.0 - 399.0 | 200 | |
| | M | | | | |
| | Y | | | | |
| SUB | C | Registration adjustment value sub scanning direction | 1.0 - 399.0 | 200 | |
| | M | | | | |
| | Y | | | | |
| SKEW | C | Print skew amount calculation result | L99.9 - R99.9 | 0 | If the value is positive “L” is displayed at the head of the value if negative “R” is displayed. |
| | M | | | | |
| | Y | | | | |
| PHASE | OPC drum phase adjustment value | | 1 - 8 | 1 | |

4) Write down the displayed skew level.

   **Meaning of the skew level value and the adjustment procedure**

   * If OK is displayed for all items of SKEW C, M, Y, there is no need to perform the adjustment.
   * When “R” is displayed at the head of the value, turn the LSU skew adjustment screw clockwise.
   * When ”L” is displayed at the head of the value, turn the LSU skew adjustment screw counterclockwise.
   * The turning amount of the adjustment screw corresponds to each adjustment value. C, M and Y indicate numbers of clicks. The display value is rounded at the decimal point.
   * C, M and Y (SKEW) shows the number of adjustment click steps for each adjustment screw of C, M and Y.

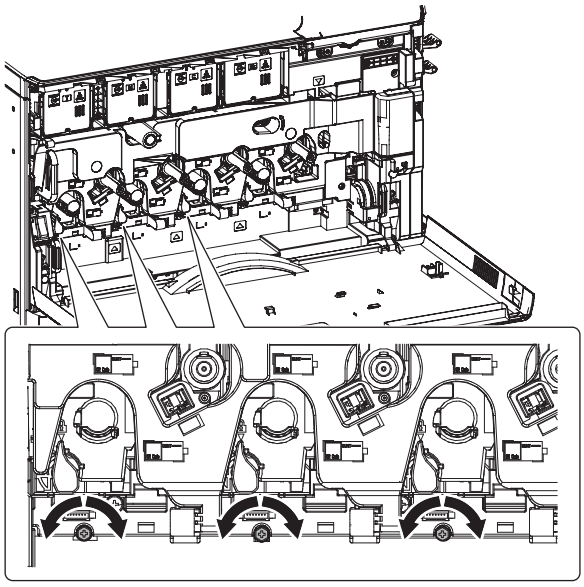
   Contents in ( )
   MAIN, SUB: Difference from the previous adjustment value of image registration.
   Example: 105 for this time and 103 for the previous time, it is displayed as 105.0 (+2.0)
   SKEW: Judgment of LSU skew adjustment result OK or NG.
   PHASE: OPC drum phase adjustment value of the previous time.

5) If the display of C, M and Y (SKEW) is NG. all the LSU skew adjustment screws to adjust and perform the procedures 2) to 4).

   Repeat the procedures 2) to 5) until the display of C, M and Y (SKEW) becomes OK. C, M and Y (SKEW) is OK, go to the procedure 6).

   For the adjustment, remove the front cover and the waste toner box and turn the skew adjustment screw.

6) Repeat the procedures 2) to 4) again and check to confirm that C, M and Y (SKEW) are OK. If any of them is NG turn the LSU skew adjustment screw of the corresponding color to adjust.



When the adjustment is made by turning the LSU skew adjustment screw of K, the states of C, M and Y (SKEW) are changed. Execute SIM50-22 to check to confirm that C, M and Y (SKEW) are OK. When an abnormality occurs ERROR is displayed.

In this case, check each drive section and process section

The adjustment result can be checked by the following manual adjustment mode.

*ADJ5B

Image skew adjustment (manual adjustment) (SIM 50-20)

*ADJ5C

Color registration offset adjustment (SIM 50-20)

**Note**

When the color registration is greatly shifted due to replacement of the LSU etc, if SIM 50-22 is used to perform the color registration automatic adjustment an error may occur.

In this case, the adjustment may be properly executed by setting the adjustment items A - I of SIM 50-20 to 200 and executing the automatic adjustment again. If color shift in an actual print image differs in the center, the front side and the rear side the color shift offset adjustment can improve it. Normally there is a difference in color shift in several dots. Perform the adjustment only when the adjustment is required.

## 5-B Print engine image skew (LSU skew) adjustment (manual adjustment) (No need to adjust normally)

If a more accurate adjustment that the auto adjustment ADJ5A is required, use this method of adjustment.

This adjustment is made by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

1) Enter the SIM 50-20 or 64-1 mode.
2) Select the paper feed tray with A3 (11” x 17”) paper in it and touch [EXECUTE] key.
3) The image skew (image registration) adjustment pattern is printed.

4) Check the printed black image for any skew.

Use the four cross points printed in black to measure the squareness.

There are following two methods of checking the black image for any skew

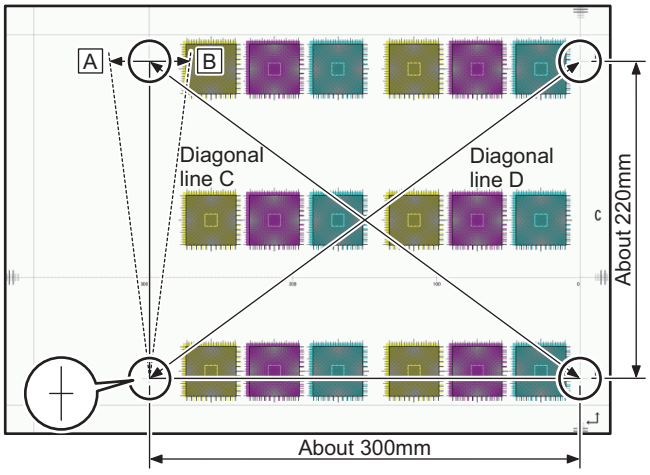
**Method 1**

Measure the distances between opposing corners of the rectangle print pattern and compare the two distances to check the squareness.

**Method 2**

Check the squareness of the vertical and horizontal sides of the rectangle print pattern by using A3 or 11" x 17" paper sides.

In this case, the right angle of paper to be used may not be exact, be sure to check the right angle of paper to be used in advance.




**Method 1**

Measure the length of the diagonal lines of the rectangle print pattern.

Calculate the difference between the measured lengths C and D of the diagonal lines.

Check to insure that the difference between C and D is in the following range.

C – D = ±0.8mm

If the difference between C and D is in the above range, there is no need to adjust.

**Method 2**

Fit the side of A3 or 11" x 17" paper to the long side of the rectangle print pattern.

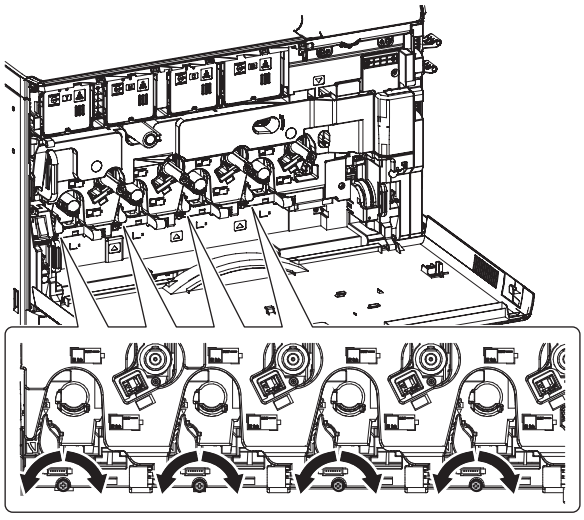
Measure the slant (skew) of the vertical side for the horizontal side of paper as shown in the figure.

If the above distance is 0.5mm or less, there is no need to adjust.

If the above condition is not satisfied, perform the following procedure.

5) Open the front cover, remove the waste toner box and turn the four LSU image skew adjustment screws in the same direction by the same amount.

For the adjustment, remove the front cover and the waste toner box and turn the skew adjustment screw.



**Skew adjustment screw rotation direction**

When C is greater that Din the method 1 or there is some skew in some skew in the direction A in the method 2, turn the screw clockwise.

When C is smaller that D in the method 1 or there is some skew in the direction B in the method 2, turn the screw counterclockwise.

**Reference of the rotation amount of the skew adjustment screw**

In case of the method1, 0.8mm / 1.5 rotations

In case of the method2, 0.5mm / 1.5 rotations

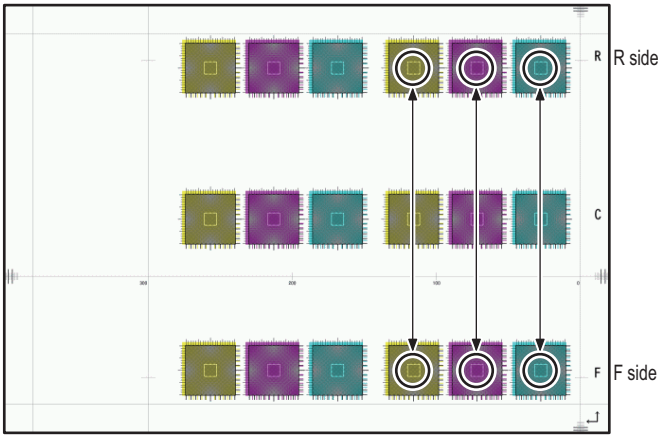
Repeat the procedures 2)to 6).

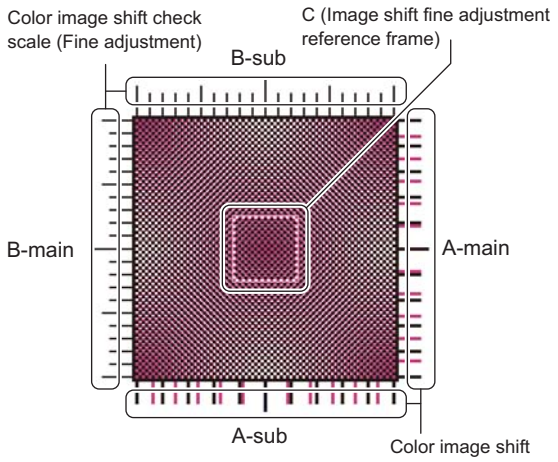
After completion of the black image skew adjustment, go to the procedure 7).

6) Perform the same procedure as 1) and 2).

7) Check the printed color image for any skew.

If the difference between the shift amounts on the F and R sides is within ±1 scale of the fine adjustment check scale. there is no need to perform the adjustment. Measure the skew amount from the print patterns on the front and rear sides of each color.






A-main: Main scan rough adjustment pattern
A-sub: Sub scan rough adjustment pattern
B-main: Main scan fine adjustment scale
B-sub: Sub scan fine adjustment scale
C: Main scan sub scan fine adjustment pattern

In each Y, M and C color print pattern printed separately in the F side and in the R side, note the same print color pattern and check to confirm that the F side and the R side are in the same condition.

**Rough adjustment pattern check:**

Check the sub scan rough adjustment color image shift check section on R side and the F side of each color, use the center position of the black scale as the reference and check the balance in shifts of the color image line positions in the positive and the negative directions. The balance in the R side must be the same as that in the F side

**Fine adjustment pattern check:**

Check the square frames on the R side and the F side of each color (normally five sections of high density can be seen)

Check the sub scanning direction position of the center area of high density (one of the above five section). These must be on the same position on the R side and the F side.

In this case, use the sub scan direction color image shift check scale (five adjustment) as the reference. Visually check the color density and make the darkest section as the center and use it as the read value of the shift amount. Check that the difference in the center position of the dark density section is within ±1 step. The positional relations of the front and the rear frame of the print color patterns of a same color are compared. There is no need that all the colors are in the same state. Compare only the positional relations of color patterns of a same color. If the above condition is not satisfied, perform the following procedure.

8) Turn the LSU skew adjustment screw of the adjustment target color to adjust.

**Skew adjustment screw rotation direction**

When the F side is skewed to the right side for R side:

Turn the screw clockwise.

When the F side is skewed to the left side for the R side:

Turn the screw counterclockwise.

**Reference of the rotation amount of the skew adjustment screw**

Skew of difference by one step between F and R sides (difference by one scale of the fine adjustment check scale) / turn for about 2 clicks.

Repeat the procedure 7) to 8) until satisfactory result is obtained.

## 5-C Color registration offset adjustment (No need to adjust normally)

This adjustment is used to set the offset value for the auto color registration adjustment (ADJ5A).

If there is any difference in color phase at the center and the four corner of an actual print image, this adjustment may improve it. Especially when there is any color shift at the center area, this adjustment may improve it effectively. This adjustment cannot eliminate color shifts in all the areas, but average the overall color shifts. After the auto adjustment, use this color registration offset adjustment to correct color shift partially, performing the adjustment efficiently.

**Note**

Before execution of this adjustment, check to confirm that the following adjustment has been performed.
*ADJ5A or ADJ5B image skew adjustment (LSU unit)

**Kinds of adjustment values**

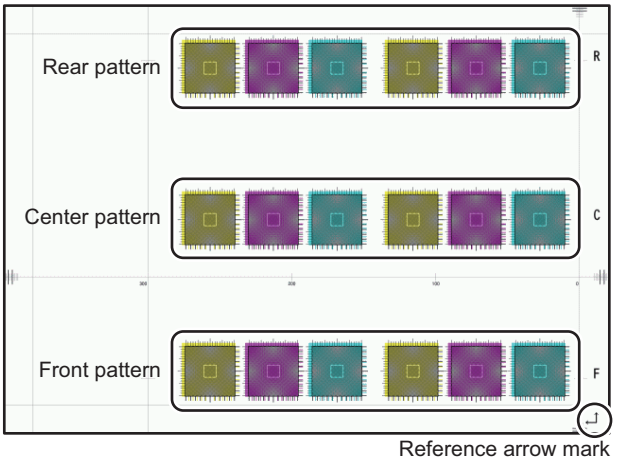
There are following two kinds of registration adjustment values.

- Base registration adjustment value: XXX (FRONT) / XXX (REAR)

  They are manual adjustment values and auto adjustment values and reflected when the auto registration adjustment is executed. If varies for every operation of the auto registration adjustment.
- offset adjustment value: OFFSETXXF / OFFSETXXR

  They are the offset adjustment values added to the above base registration adjustment values and are not changed unless SIM50-20 is executed to change.

1) Enter SIM 50-20 mode.
2) Select the paper feed tray with A3 (11” x 17”) paper in it.
3) Touch [EXECUTE] key.
   The color image registration check pattern is printed.




Reference arrow mark

4) Check the color image registration.

There 6 color image registrations in total, two on each of the F side, the R side and the center. Check all the patterns to confirm that they are within the specified range. Also check to confirm that there is not much shift in each color image registration check pattern.

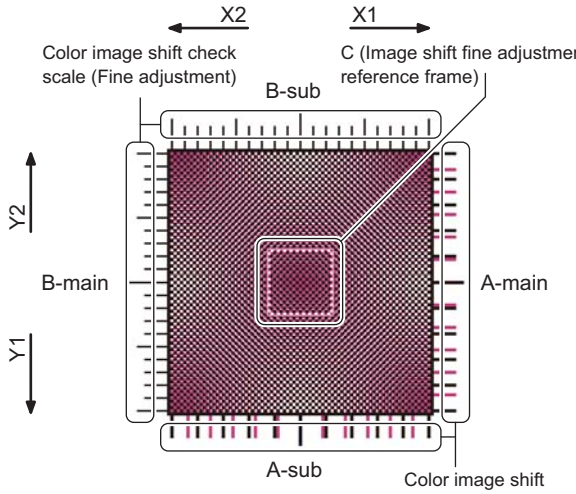
**Note**

There are two kinds of adjustment, one in the main scanning direction and the other in the sub scanning direction. The vertical direction in the above figure is that in the main scanning direction and the horizontal direction is that in the sub scanning direction.

There are also two kinds of adjustments the rough adjustment and the fine adjustment. Perform the rough adjustment then perform the fine adjustment deliberately.

For the main scan direction image registration the offset on the F side the R side and at the center is independently adjusted.

If there is a difference in the sub scanning direction image registration between the F and R sides, perform the skew adjustment AJ5A.




A-main: Main scan rough adjustment pattern
A-sub: Sub scan rough adjustment pattern
B-main: Main scan fine adjustment scale
B-sub: Sub scan fine adjustment scale
C: Main scan sub scan fine adjustment pattern

Check the print patterns of the rough adjustment and the fine adjustment of 18 check patterns.

**How to check the rough adjustment pattern and input of the adjustment value:**

Visually check the color image registration check section, use the center position of the black scale as the reference and check the shift balance in the positive and negative directions at the color image line position.

Use the center position of the black scale as the reference and check that the color image line is symmetrical in the positive side and the negative side.

If shift is in the arrow mark X1 and Y1 increase the adjustment value. if shift is in the arrow mark X2 and Y2 decrease the adjustment value.

The reference arrow on the check pattern faces the positive direction.

**Guideline on adjustment value**

1 scale/20 (Changing the set value by 20 shifts the scale by one.)

**Checking fine adjustment pattern and entering the adjustment value**

Check whether the darkest spot (one of five spots usually seen) is within the center area of reference frame for image registration fine adjustment in the square frame.

At that time, use the color image registration check scale (for fine adjustment) as reference.

Assume the spot where looks the darkest color as center and read out the shift amount.

Check whether the center position of the dark density section is within ± 1 step.

(The adjustment won't be necessary if the print pattern for fine adjustment is placed 0 ± 1 step of reference pattern.)

Increase the adjustment value if the position is shifting toward the arrow X1 or Y1. Decrease the value if shifting toward the arrow X2 or Y2.

**Reference adjustment value**

1 scale / 2 (When the set value is changed by 2, shift is made by 1 scale.)

Perform this adjustment if there is a considerable difference in color shift in the square and at the center area.

Select adjustment item (OFF SET X F / OFF SET X R / OFF SET X S) and change adjustment value.

OFF SET X F:

F side main scanning direction registration offset set value (The color shift on the F side and at the center area is changed.)

OFF SET X R:

R side main scanning direction registration offset set value (The color shift on the R side and at the center area is changed.)

OFF SET X S:

Sub scanning direction registration offset set value (The overall color shift toward sub scanning direction overall.)

**Adjustment conditions and method**

To adjust evenly overall, adjust so that the color shifts on the F side, the R aide and at the center are of the same level.

To adjust with the center area most focused, adjust so that the color shift at the center becomes smaller than that on the F side and the R side.

When the offset adjustment value is 0, if the color registration adjustment (automatic adjustment) is performed, the color shift on the F side and that on the R side are automatically adjusted to be smaller than that on the center area.

| Display/Item | | Content | Adjustment value range | Default value |
|---|---|---|---|---|
| A | CYAN (FRONT) | Image registration adjustment Value (Main scanning direction) (Cyan) (F side) | 1 - 399 | 200 |
| B | CYAN (REAR) | Image registration adjustment value (Main scanning direction) (Cyan) (R side) | 1 - 399 | 200 |
| C | MAGENTA (FRONT) | Image registration adjustment value (Main scanning direction) (Magenta) (F side) | 1 - 399 | 200 |
| D | MAGENTA (REAR) | Image registration adjustment value (Main scanning direction) (Magenta) (R side) | 1 - 399 | 200 |
| E | YELLOW (FRONT) | Image registration adjustment value (Main scanning direction) (Yellow) (F side) | 1 - 399 | 200 |
| F | YELLOW (REAR) | Image registration adjustment value (Main scanning direction) (Yellow) (R side) | 1 - 399 | 200 |
| G | CYAN (SUB) | Image registration adjustment value (Sub scanning direction) (Cyan) | 1 - 399 | 200 |
| H | MAGENTA (SUB) | Image registration adjustment value (Sub scanning direction) (Magenta) | 1 - 399 | 200 |
| I | YELLOW (SUB) | Image registration adjustment value (Sub scanning direction) (Yellow) | 1 - 399 | 200 |

| Display/Item | | Content | Adjustment value range | Default value |
|---|---|---|---|---|
| J | OFFSET_ C_MAIN_F | Image registration offset adjustment value (Main scanning direction) (Cyan) (F side) | 1 - 99 | 50 |
| K | OFFSET_ C_MAIN_R | Image registration offset adjustment value (Main scanning direction) (Cyan) (R side) | 1 - 99 | 50 |
| L | OFFSET_ M_MAIN_F | Image registration offset adjustment value (Main scanning direction) (Magenta) (F side) | 1 - 99 | 50 |
| M | OFFSET_ M_MAIN_R | Image registration offset adjustment value (Main scanning direction) (Magenta) (R side) | 1 - 99 | 50 |
| N | OFFSET_ Y_MAIN_F | Image registration offset adjustment value (Main scanning direction) (Yellow) (F side) | 1 - 99 | 50 |
| O | OFFSET_ Y_MAIN_R | Image registration offset adjustment value (Main scanning direction) (Yellow) (R side) | 1 - 99 | 50 |
| P | OFFSET_ C_SUB | Image registration offset adjustment value (Sub scanning direction) (Cyan) | 1 - 99 | 51 |
| Q | OFFSET_ M_SUB | Image registration offset adjustment value (Sub scanning direction) (Magenta) | 1 - 99 | 51 |
| R | OFFSET_ Y_SUB | Image registration offset adjustment value (Sub scanning direction) (Yellow) | 1 - 99 | 51 |
| S | OFFSET_ C_SUB_HV12 | Image registration offset adjustment value (Sub scanning direction) (Cyan) (Heavy paper 1/2) | 1 - 99 | 50 |
| T | OFFSET_ M_SUB_HV12 | Image registration offset adjustment value (Sub scanning direction) (Magenta) (Heavy paper 1/2) | 1 - 99 | 50 |
| U | OFFSET_ Y_SUB_HV12 | Image registration offset adjustment value (Sub scanning direction) (Yellow) (Heavy paper 1/2) | 1 - 99 | 50 |
| V | OFFSET_ C_SUB_HV34 | Image registration offset adjustment value (Sub scanning direction) (Cyan) (Heavy paper 3/4) | 1 - 99 | 50 |
| W | OFFSET_ M_SUB_HV34 | Image registration offset adjustment value (Sub scanning direction) (Magenta) (Heavy paper 3/4) | 1 - 99 | 50 |
| X | OFFSET_ Y_SUB_HV34 | Image registration offset adjustment value (Sub scanning direction) (Yellow) (Heavy paper 3/4) | 1 - 99 | 50 |

# ADJ 6 Scan image distortion adjustment (Document table mode)

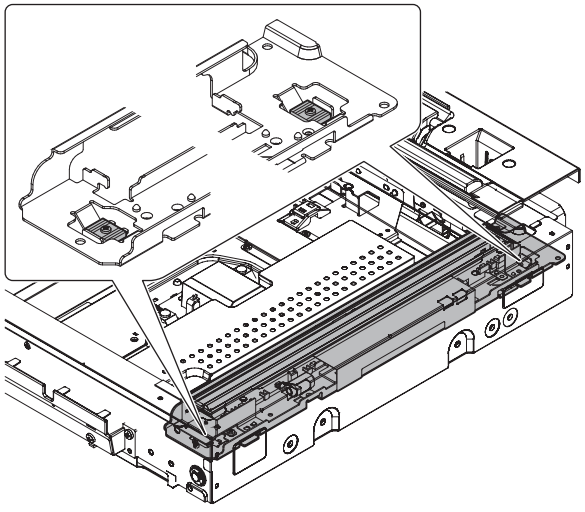
This adjustment must be performed in the following cases:

- When the scanner (reading) section is disassembled.
- When the copy image is distorted.

## 6-A Scanner (reading) unit parallelism adjustment (Sub scanning direction distortion adjustment)

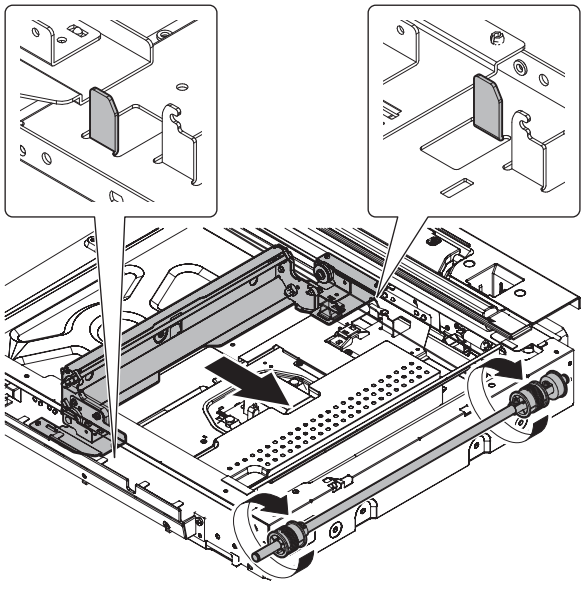
Before execution of this adjustment, remove the document table glass.

1) Remove the lamp unit, and then loosen the screws which are fixing the scanner unit and the drive wire. Release the scanner unit from the drive wire.



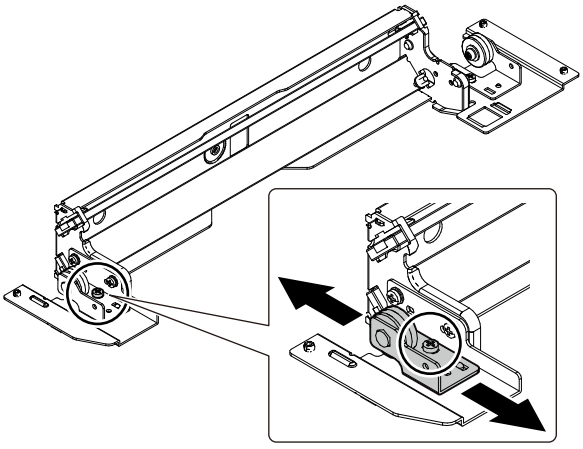
2) Turn the scanner drive pulley manually and shift the 2/3 mirror unit to bring it into contact with the stopper.

   When the 2/3 mirror unit is in contact with the two stoppers on the front and the rear frames simultaneously, the parallelism is proper.

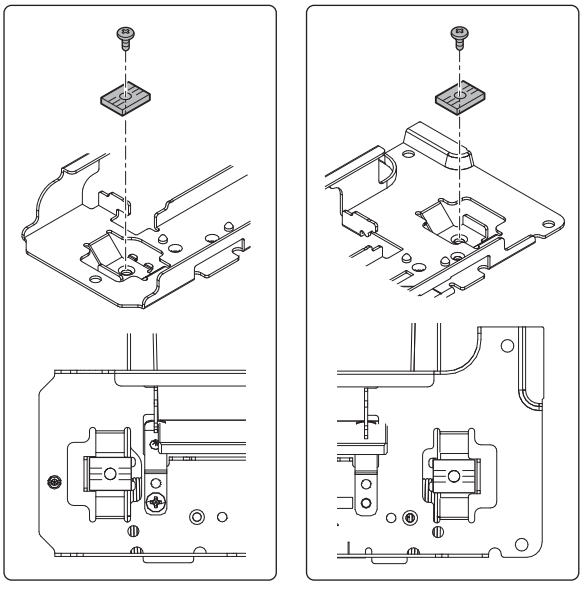


If this requirement is not met, do the following steps.

3) Loosen the fixing screw of the pulley angle on the front frame side of the 2/3 mirror unit.

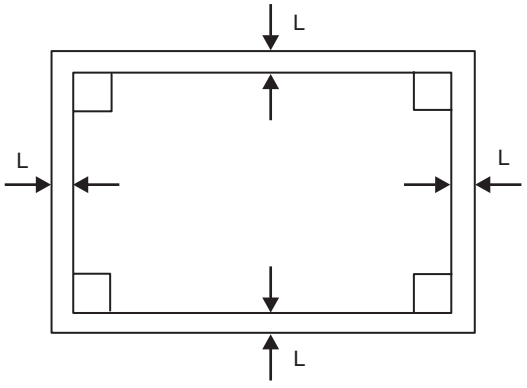


4) Adjust the position of the pulley angle on the front frame side of the 2/3 mirror unit so that it is in contact with two stoppers on the front and the rear frames simultaneously.
5) Screw edge face of scanner unit and right edge face of the frame together on both sides to fix the scanner unit while this unit is in contact with both stoppers.



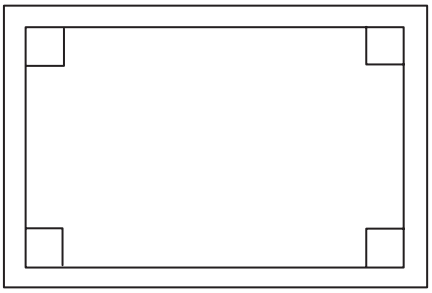
## 6-B Scan image (main scanning direction) distortion adjustment

1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)

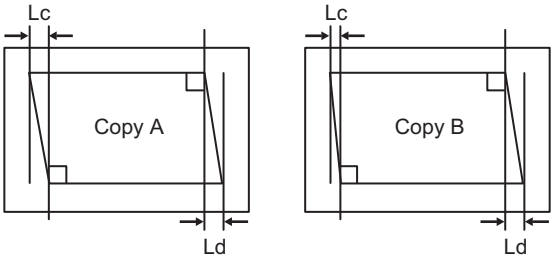



L = 10mm

2) Set the test chart prepared in the procedure 1) on the document table and make a copy on A3 (11" x 17") paper.
3) Check for distortion in the main scanning direction.
   If the four angles of the rectangle of the copy image are right angles, it is judged that there is no distortion. (The work is completed.)



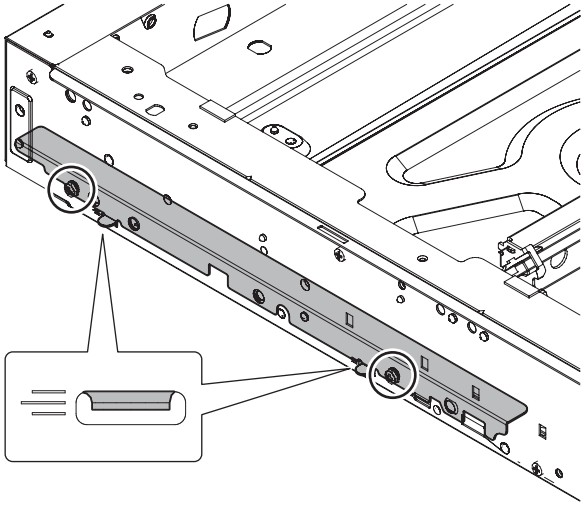
   If there is any distortion in the main scanning direction, perform the following procedure.
4) Check the difference (distortion balance) between left-hand and right-hand side images distortions.




There is no difference between the distortion on the right and that on the left.
Lc = Ld

There are some differences between the distortion on the right and that on the left.
Lc ≠ Ld

   If Lc = Ld, the distortion on the left is equal to that on the right. (The distortions are balanced.)
   If the above condition is satisfied, go to the procedure 6).
   If not, perform the following procedures.
5) Change the height balance of the scanner rail on the front frame side.



   Remove the left cover of the operation panel. Loosen the scanner rail fixing screw to change the balance between the right and the left heights of the scanner rail.

Repeat the procedures 2) - 5) until there is no difference in image distortions (distortion balance) between both sides.

6) Without changing the balance of the scanner rail on the front frame side, change the overall height.

7) Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper. Check that the distortion in the main scanning direction is within the specified range.

   Repeat the procedures 6) and 7) until the distortion in the main scanning direction is in the specified range.

# ADJ 7 Scanner image skew adjustment (DSPF/RSPF mode)

## 7-A RSPF scanner image skew adjustment

This adjustment must be performed in the following cases:

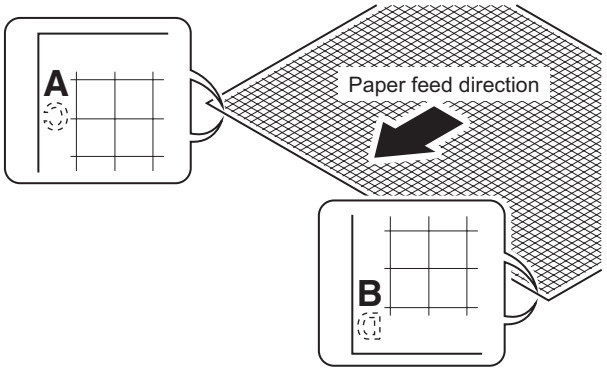
- The RSPF section has been disassembled.
- The RSPF unit has been replaced
- The RSPF unit generates skewed scanned images.

1) Create an adjustment chart by printing the self print pattern (grid pattern) available in Simulation 64-2 in duplex mode.

   SIM 64-2 set values

   A = 1, B = 1, C = 254, D = 255

   Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks 'A' and 'B' to the front and rear side of leading edge on front side of the paper.

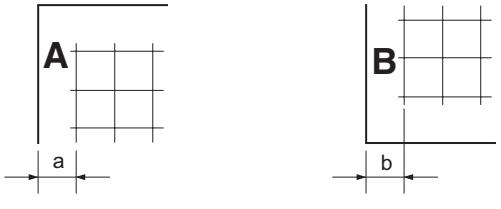



2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in RSPF duplex mode, and then check the image for skews (Set in the RSPF feed tray so that the mark on the adjustment chart is at the edge).

   • Check with one of the following methods.

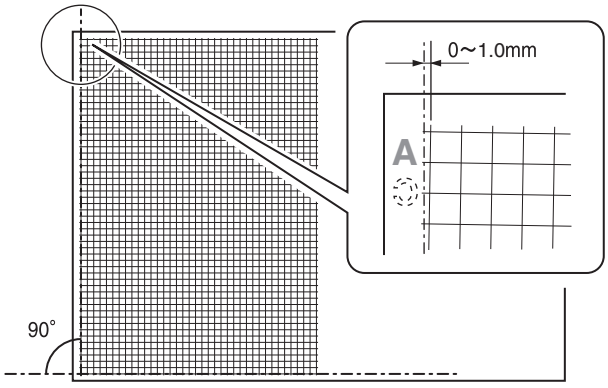
   **Check Method 1**

   (Front side)
   Make sure that the output satisfies the condition:
   |a-b| ≤ ± 1 mm.



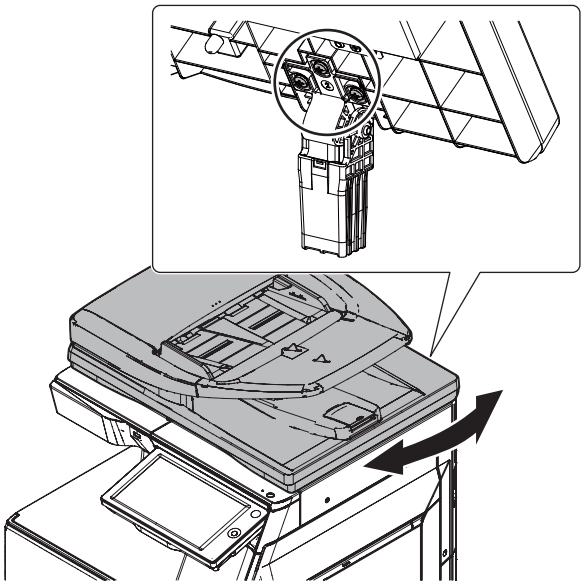

**Check Method 2**

Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0 mm.




If the copy image is not in the above state, perform the procedure 3).

3) Open the RSPF unit, and loosen the fixing screw of the hinge.



4) Slide the RSPF unit in the arrow direction to make the skew adjustment.

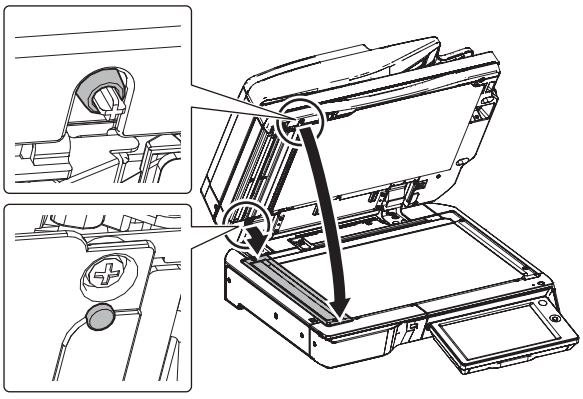
5) Make a copy again and measure a and b on the copied test chart. Repeat procedures 2) to 5) until the condition (a - b = ± 1 mm or less) is satisfied.

## 7-B DSPF parallelism adjustment

This adjustment must be performed in the following cases:

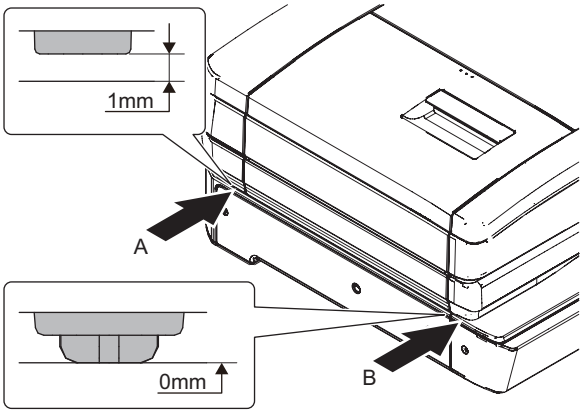
- The DSPF section has been disassembled.
- The DSPF unit has been replaced
- Paper jam occurs at DSPF
- Skew occurs while feeding paper from DSPF
- Skew appears on the image scanned from the DSPF

1) Close the DSPF unit and check the clearance between the projections in the front side and the rear side and the SPF glass holding resin surface.

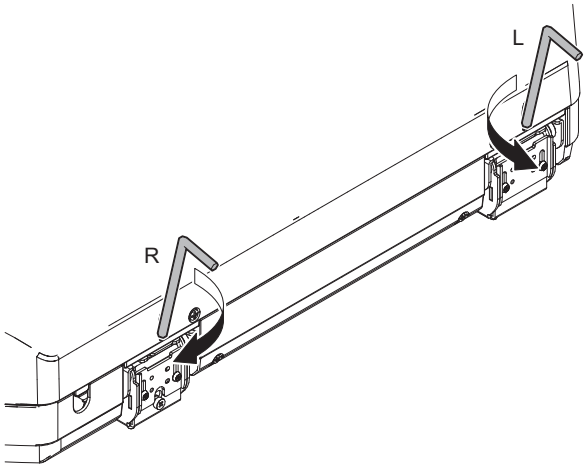


2) Visually check to insure that the clearance A is 1 mm or less and the clearance B is 0 mm (in contact).

   If the above requirement is not met, do step 3).




3) Turn the height adjustment screw to adjust the DSPF front/rear frame horizontal level.




   When the front frame side is higher (There is a clearance of 1 mm or more in B):

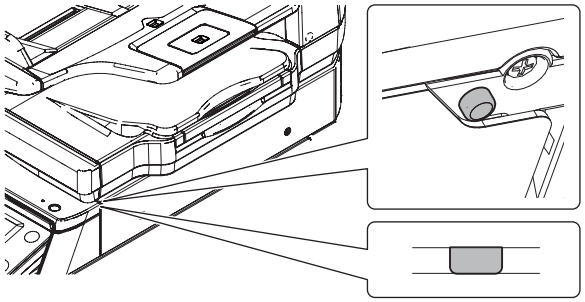
   Turn the height adjustment screw R of the DSPF rear frame clockwise.

   When the rear frame side is higher (There is a clearance of 1 mm or more in A):

   Turn the height adjustment screw L of the DSPF rear frame counterclockwise.

   Repeat steps 2) to 3) until an acceptable result is obtained.

4) After adjustments of A and B, check to insure that the projection on the front right side is in contact with the glass surface of the main unit.



## 7-C DSPF skew adjustment (Front surface mode)

This adjustment must be performed in the following cases:

- The DSPF section has been disassembled.
- When replacing the DSPF unit.
- The DSPF unit generates skewed scanned images.

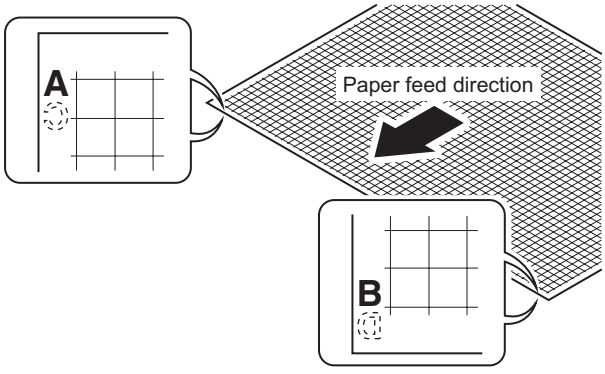
1) Make an adjustment chart.

   Print the self print pattern (grid pattern) of SIM64-2 in the duplex print mode.

   SIM64-2 set value

   A=1, B=1, C=254, D=255

   Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks 'A' and 'B' to the front and rear side of leading edge on front and back side of the paper.

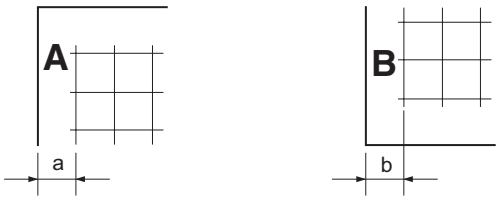



2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

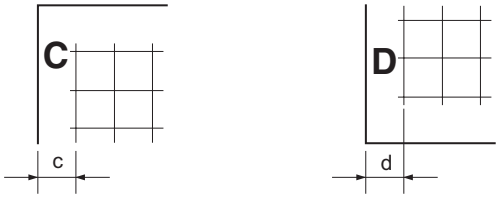
   •Check with one of the following methods.

**[Check Method 1]**

(Front side)
Make sure that the output satisfies the condition:
|a-b|≤ ± 1 mm.

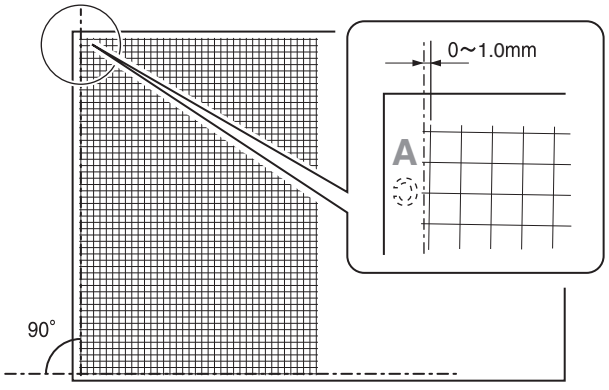



(Back side)
Make sure that the output satisfies the condition:
|c-d|≤ ± 1 mm.




**[Check Method 2]**

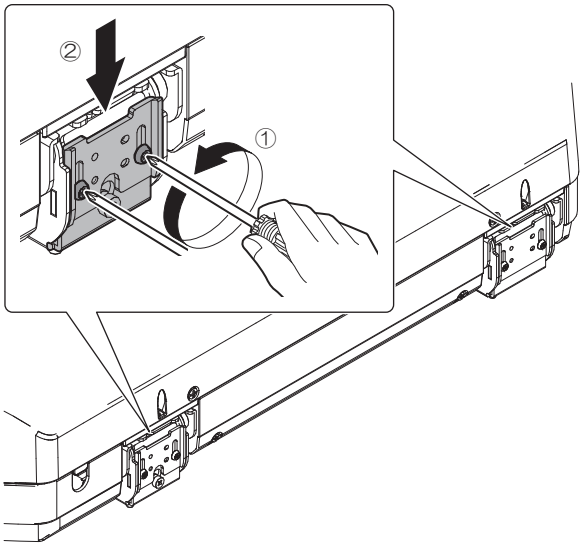
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0 mm.



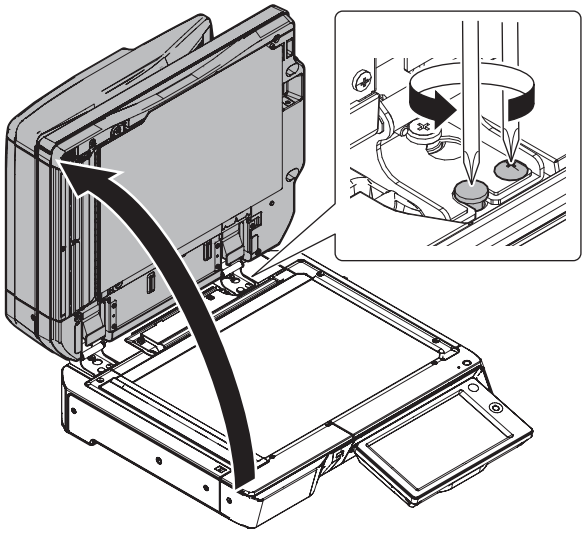

If the front surface copy image is as shown above and the back surface copy is not as shown above, go to the step 3) of "ADJ 7D DSPF skew adjustment (Back surface mode)."

If the above requirement is not met for the paper's front side, then do step 3).

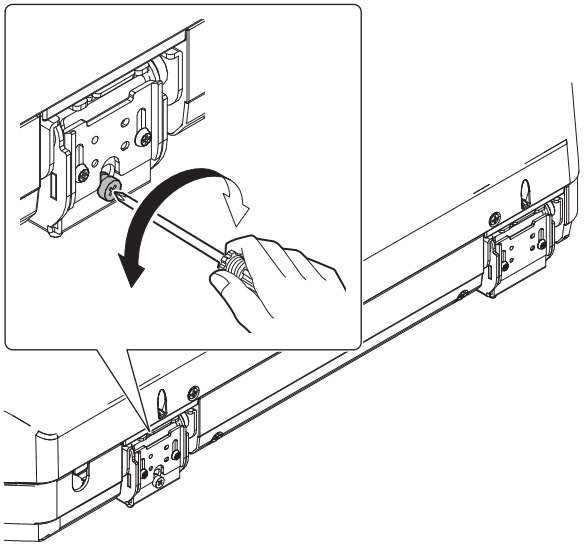
3) Loosen the hinge screws and lower the two attachments.




4) Open the DSPF and loosen the screw.



5) Adjust by turning the DSPF skew adjusting screw on the right side of the DSPF rear frame.



[When the main scanning direction print line is shifted to the left]

If a < b, then turn counterclockwise the DSPF skew adjusting screw.

[When the main scanning direction print line is shifted to the right]

If a > b, then turn clockwise the DSPF skew adjusting screw.

Repeat steps 2) to 5) until an acceptable result is obtained.

## 7-D DSPF skew adjustment (Back surface mode)

This adjustment must be performed in the following cases:

- DSPF section has been disassembled.
- The DSPF unit has been replaced.
- The DSPF unit generates skewed scanned images.

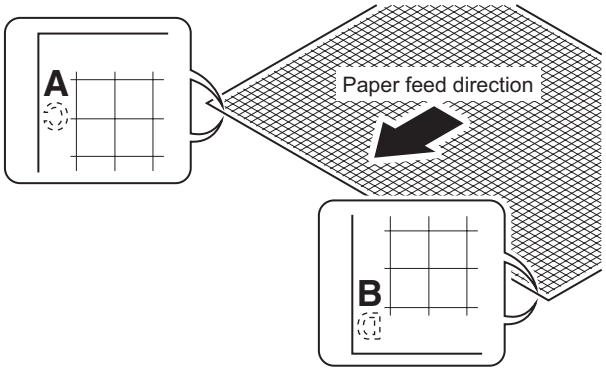
1) Make an adjustment chart.

Print the self print pattern (grid pattern) of SIM64-2 in the duplex print mode.

SIM64-2 set value

A=1, B=1, C=254, D=255

Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks 'A' and 'B' to the front and rear side of leading edge on front and back side of the paper.

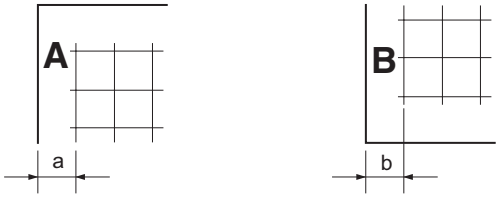



2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

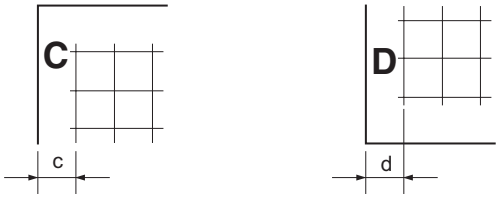
Check with one of the following methods.

**[Check Method 1]**

(Front side)
Make sure that the output satisfies the condition:
|a-b|≤ ± 1 mm.

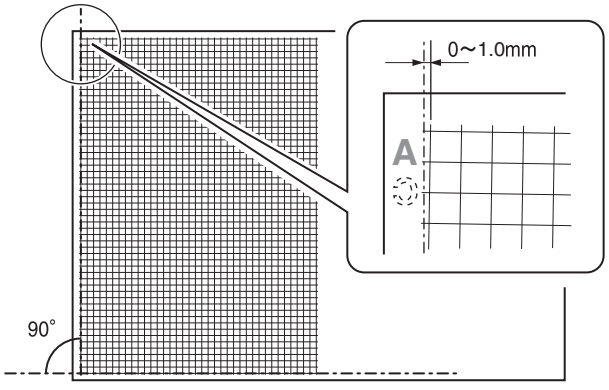



(Back side)
Make sure that the output satisfies the condition:
|c-d|≤ ± 1 mm.




**[Check Method 2]**

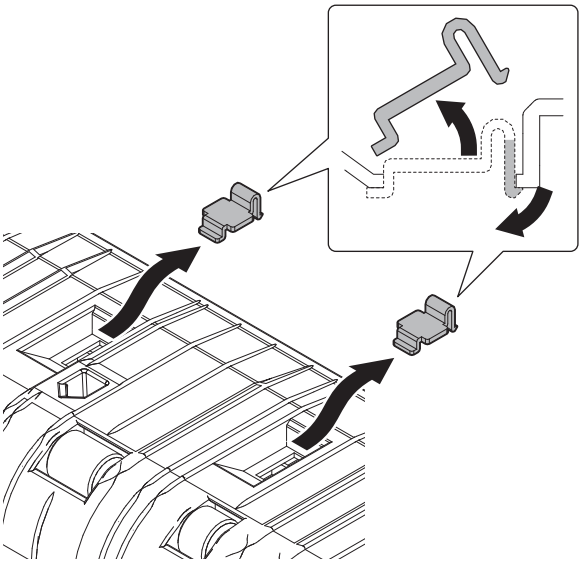
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0 mm.



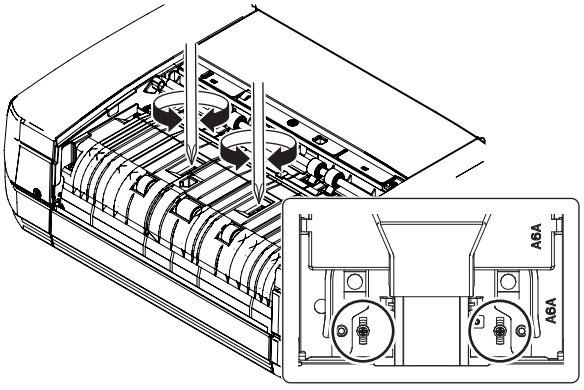

If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step 3) of "ADJ 7C DSPF skew adjustment (Front surface mode)."

If the back surface copy is not as shown above, perform the procedures of step 3).

3) Open the upper door, and remove the adjustment cover.



4) Turn the DSPF skew adjustment screw on the CCD unit to adjust.




[When the main scanning direction print line is shifted to the left]

If c < d, turn the DSPF skew adjustment screw A counterclockwise, or turn the adjustment screw B clockwise.

[When the main scanning direction print line is shifted to the right]

If c > d, turn the DSPF skew adjustment screw A clockwise, or turn the adjustment screw B counterclockwise.

* The adjustment screws A and B must be turned in proper balance. For example, if the trouble is not removed by turning the adjustment screw A 180 degrees clockwise, do not turn the adjustment screw A furthermore, but turn the adjustment screw B 180 degrees counterclockwise.

Repeat steps 2) to 4) until an acceptable result is obtained.

# ADJ 8 Scan image focus adjustment

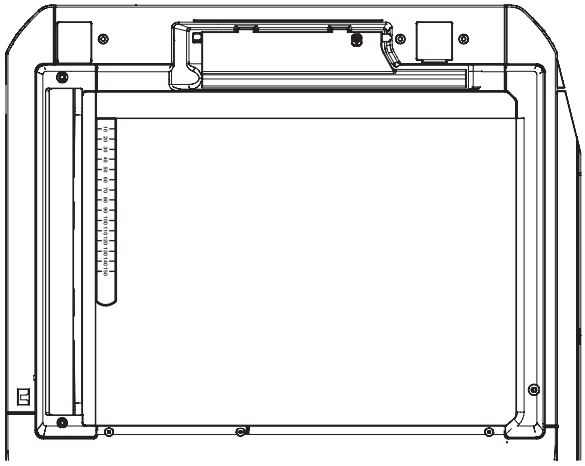
## 8-A Image focus adjustment (Document table mode/DSPF/RSPF front surface mode)

This adjustment must be performed in the following cases:

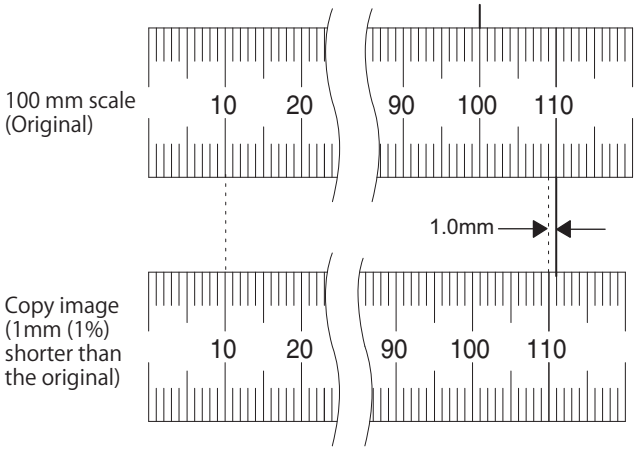
- The CCD unit has been removed from the machine.
- The CCD unit has been replaced.
- When the copy image focus is not properly adjusted.

- When the copy magnification ratio in the copy image main scanning direction is not properly adjusted.
- U2 trouble has occurred.

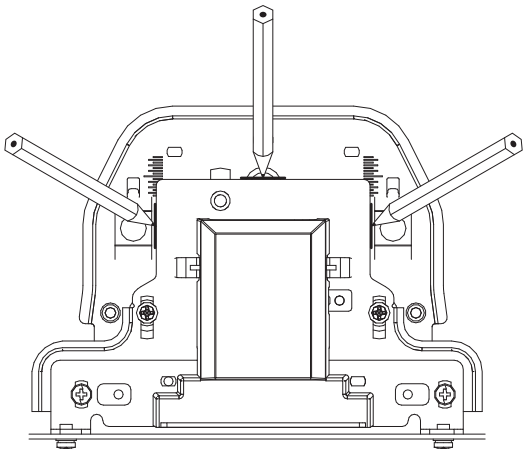
1) Enter the SIM 48-1 mode.
2) Set the adjustment item CCD (MAIN) to 50 (default value).
   Select the adjustment item with the scroll key, and enter the adjustment value with 10-key and press [OK] key.
3) Place a scale on the original table as illustrated below.



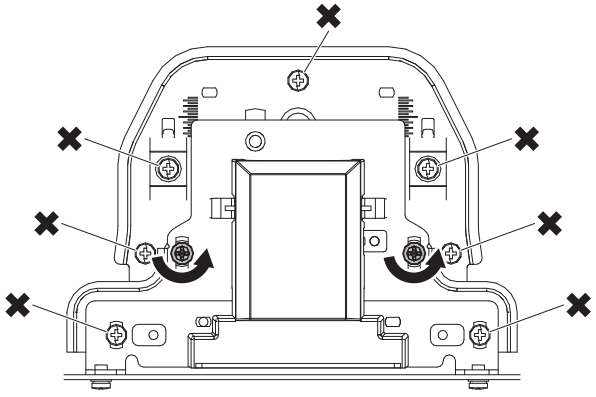
4) Make a normal copy on A4 (11" x 8.5") paper.
5) Compare the copied image of the scale and the actual scale length in terms of length.
6) Obtain the copy magnification ratio correction ratio in the main scanning direction from the following formula.
   Main scanning direction copy magnification ratio correction ratio = (Original size - Copy image size) / Original size x 100%
   (Example)
   Compare the scale of 10 mm with the scale of 10 mm on the copy image.
   Main scanning direction copy magnification ratio correction ratio = (100 - 99) / 100 x 100 = 1




   If the copy magnification ratio is not satisfactory, perform the following procedures.
7) Remove the document table glass.
8) Remove the dark box cover.
9) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below.

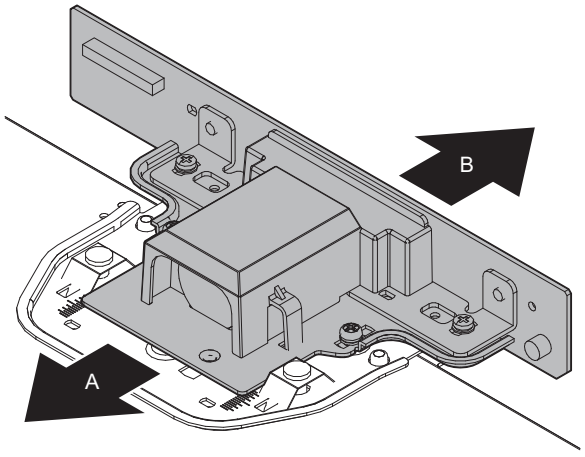


   This procedure must be executed also when the CCD unit is replaced.
10) Loosen the CCD unit fixing screws.



NOTE: Never loosen the screws marked with X.
   If any one of these screws is loosened, the position and the angle of the CCD unit base may be changed to cause a problem, which cannot be adjusted in the market. In that case, the whole scanner unit must be replaced.

11) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.
   When the copy image is longer than the original scale, shift the CCD unit in the direction B. When the copy image is shorter than the original scale, shift the CCD unit in the direction A.
   One scale of mark-off line corresponds to 0.2%.
   At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base.
   * Fix the CCD unit so that it is in parallel with the line marked in procedure 9).



12) Make a copy and check the copy magnification ratio again.

If the copy magnification ratio is not in the range of 100 ± 0.8%, repeat the procedures of 9) - 11) until the condition is satisfied.

NOTE: By changing the CCD unit fixing position with the simulation 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range (100 ± 0.8%) and the specified resolution is obtained based on the optical system structure.

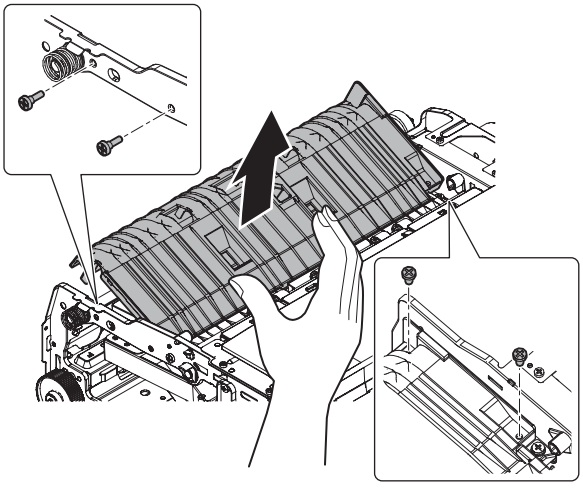
## 8-B Image focus adjustment (DSPF back surface mode)

This adjustment must be performed in the following cases:

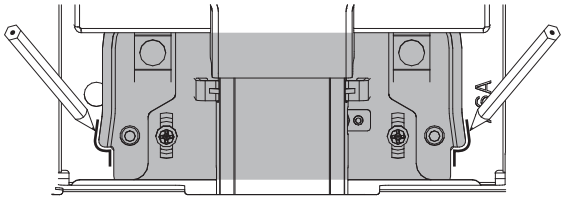
- When the DSPF CCD unit is replaced.
- When the DSPF CCD unit is replaced.
- When the COPY/SCAN/FAX image focus is not properly adjusted.
- When the DSPF unit is removed.
- When the DSPF unit is replaced.

1) Make a duplex copy in DSPF mode.
2) Make sure that the copied image on the back side of the paper is satisfactorily focused.

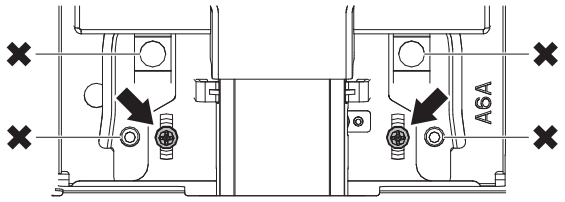
   If the image is not satisfactorily focused, do the following steps.
3) Open the upper door. Remove the screws, and remove the transport PG upper.



4) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below.




5) Loosen the CCD unit fixing screws.




NOTE: Never loosen the screws marked with X.

Loosening these screws could possibly change the CCD unit base optical axis. Once the optical axis has been changed, it cannot be corrected through on-site adjustments. Solving such a problem requires the replacement of the entire scanner unit.

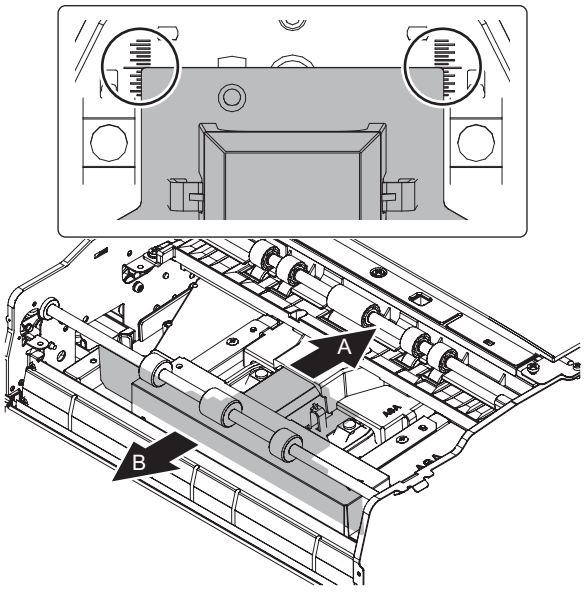
6) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

   When the copy image is longer than the original scale, shift the CCD unit in the direction B. When the copy image is shorter than the original scale, shift the CCD unit in the direction A.

   One scale of mark-off line corresponds to 0.2%.

   At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base.

   * Fix the CCD unit so that it is in parallel with the line marked in procedure 4).




7) Make a copy and check the copy magnification ratio again.

   If the copy magnification ratio is not in the range of 100 ± 0.8%, repeat the procedures of 4) – 6) until the condition is satisfied.

NOTE: By changing the CCD unit fixing position with the simulation 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range (100 ± 0.8%) and the specified resolution is obtained based on the optical system structure.

# ADJ 9 Scan image magnification ratio adjustment (Manual adjustment)

## 9-A Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)

NOTE: If the default adjustment value of the scan image magnification ration adjustment (main scanning direction) of SIM 48-1 is changed, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

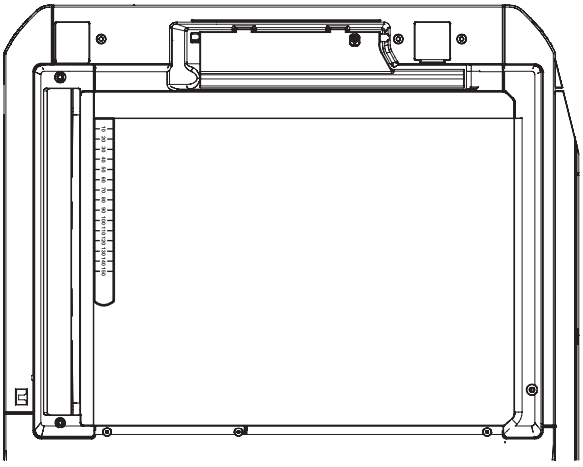
This adjustment must be performed in the following cases:

- When the copy magnification ratio in the copy image main scanning direction is not properly adjusted.
- When the scanner motor is replaced.
- U2 trouble has occurred.

- When the SCN MFP PWB is replaced.
- When the EEPROM of the SCN MFP PWB is replaced.

Before this adjustment, the focus adjustment (CCD unit installing position adjustment) must have been completed.

1) Place a scale on the document table as shown in the figure below.



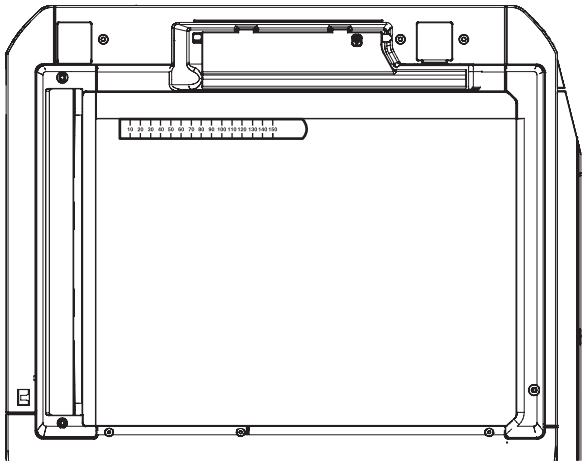
2) Enter the SIM 48-1 mode.
3) Make a normal copy and obtain the copy magnification ratio.
   Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
4) Check that the copy magnification ratio is within the specified range (100 ± 0.8%).
   If the copy magnification ratio is within the specified range (100 ± 0.8%), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
5) Change the CCD (MAIN) adjustment value of Simulation 48-1.
   When the adjustment value is increased, the copy magnification ratio is increased.
   When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.02%.
   Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 ± 0.8%).

## 9-B Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)

This adjustment must be performed in the following cases:

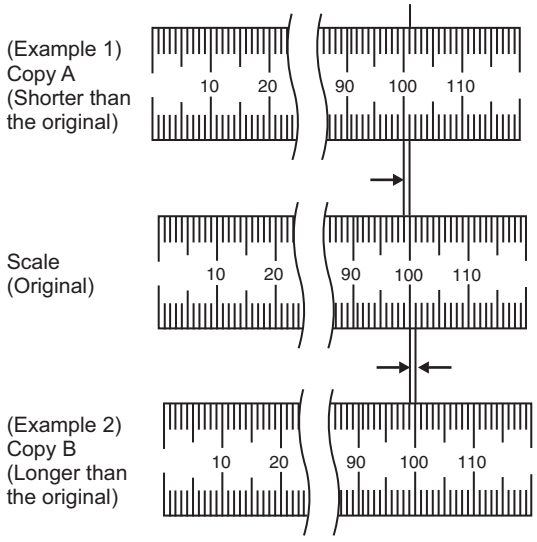
- When the copy magnification ratio in the copy image sub scanning direction is not properly adjusted.
- When the scanner motor is replaced.
- U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM of the SCN MFP PWB is replaced.

1) Place a scale on the document table as shown in the figure below.



2) Enter the SIM 48-1 mode.
3) Make a normal copy and obtain the copy magnification ratio.
   Go to the copy mode, and make a copy.

$$\text{Copy magnification ratio} = \frac{\text{(Original dimension - Copy dimension)}}{\text{Original dimension}} \times 100\%$$




4) Check that the copy magnification ratio is within the specified range (100 ± 0.8%).
   If the copy magnification ratio is within the specified range (100 ± 0.8%), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
5) Change the CCD (SUB) adjustment value of Simulation 48-1.
   When the adjustment value is increased, the copy magnification ratio in the sub scanning direction is increased.
   When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.1%.
   Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 ± 0.8%).

## 9-C Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF/RSPF mode)

This adjustment must be performed in the following cases:

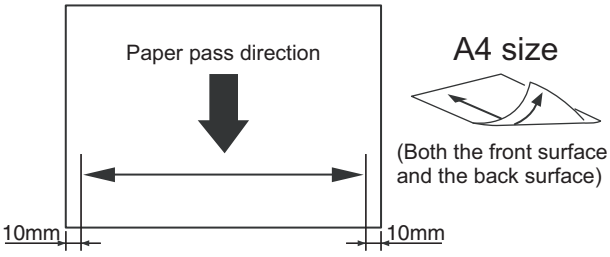
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

- When U2 trouble occurs.
- When the copy magnification ratio of the DSPF/RSPF mode copy image in the main scanning direction is not proper.
- When the DSPF/RSPF is disassembled.

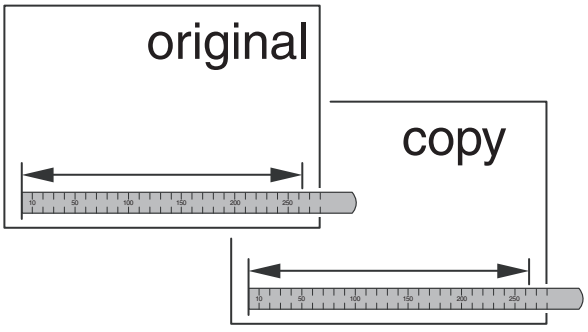
**a. Adjustment procedures**

1) Place the duplex adjustment chart shown below on the document tray of the DSPF/RSPF.

   The adjustment chart is prepared by the following procedures. Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces of the paper at 10mm from each edge.




2) Make a duplex copy at the normal ratio on A4 paper.
3) Measure the images on the copy paper and the original images.




4) Obtain the image magnification ratio according to the following formula:

   Image magnification ratio = Original size / Original size x 100 (%)

   Image magnification ratio = 99 / 100 x 100 = 99 (%)

   If the image magnification ratio is within the specified range (100 ± 0.8%), there is no need to perform the adjustment.

   If it is not within the specified range, perform the following procedures.
5) Enter the SIM 48-1 mode.
6) Select an adjustment item of SPF (MAIN)/SPFB (MAIN) with the scroll key.

| | |
|---|---|
| SPF(MAIN) | Main scanning direction image magnification ratio (Front surface) |
| SPFB(MAIN) | Main scanning direction image magnification ratio (Back surface) |

7) Enter an adjustment value with 10-key, and press [OK] key.

   When the adjustment value is increased, the image magnification ratio is increased. When the adjustment value is changed by 1, the image magnification ratio is changed by 0.02%
8) Make a normal copy and obtain the copy magnification ratio.

   Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

## 9-D Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (DSPF/RSPF mode)

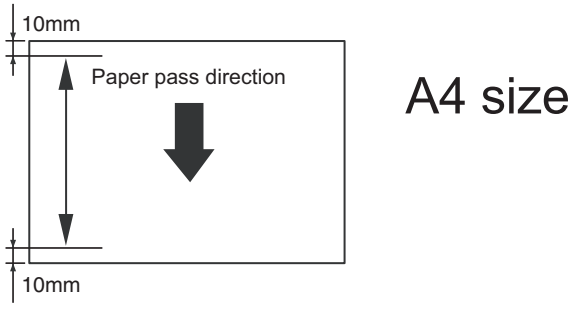
This adjustment must be performed in the following cases:

- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.
- When U2 trouble occurs.
- When the copy magnification ratio of the DSPF/RSPF mode copy image in the sub scanning direction is not proper.
- When the DSPF/RSPF is disassembled.

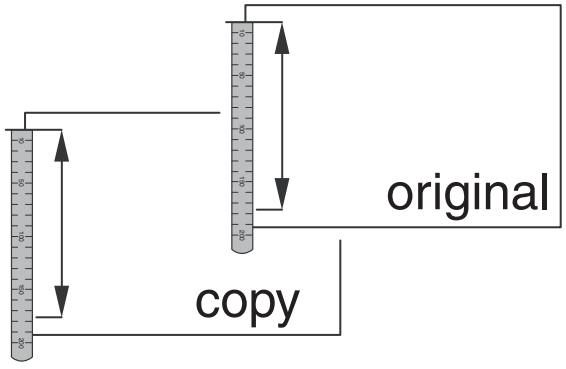
1) Place the duplex adjustment chart shown below on the document tray.

   The adjustment chart is prepared by the following procedures.

   Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces of the paper at 10mm from each edge.




2) Make a duplex copy at the normal ratio on A4 paper.
3) Measure the images on the copy paper and the original images.




4) Obtain the image magnification ratio according to the following formula:

   Image magnification ratio = Original size / Original size x 100 (%)

   Image magnification ratio = 99 / 100 x 100 = 99 (%)

   If the image magnification ratio is within the specified range (100 ± 0.8%), there is no need to perform the adjustment.

   If it is not within the specified range, perform the following procedures.
5) Enter the SIM 48-1 mode.
6) Select an adjustment item with the scroll key.

| | |
|---|---|
| SPF(SUB) | Sub scanning direction image magnification ratio (Front surface) |
| SPFB(SUB) | Sub scanning direction image magnification ratio (Back surface) |

7) Enter an image magnification ratio adjustment value with 10-key, and press [OK] key.

   When the adjustment value is increased, the image magnification ratio is increased. When the adjustment value is changed by 1, the image magnification ratio is changed by 0.1%.

8) Make a normal copy and obtain the copy magnification ratio.
Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

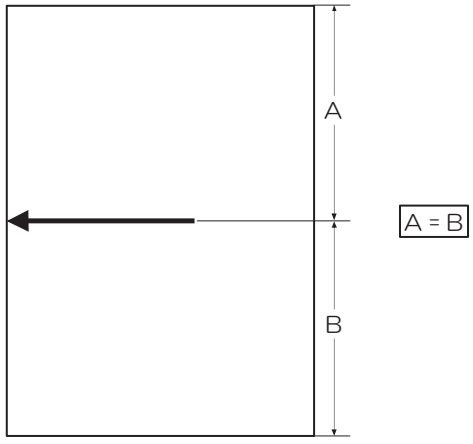
# ADJ 10 Scan image off-center adjustment (Manual adjustment)

## 10-A Scan image off-center adjustment (Manual adjustment) (Document table mode)

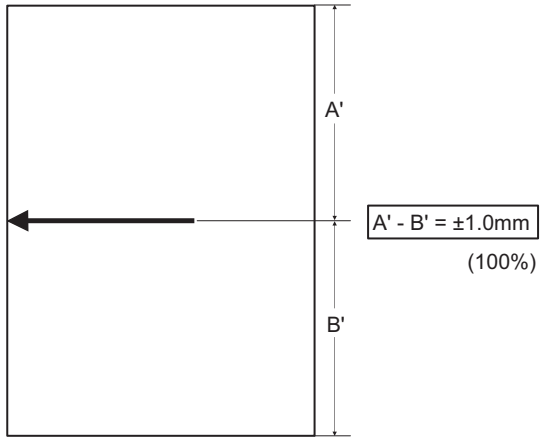
This adjustment must be performed in the following cases:

- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When a U2 trouble occurs.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

1) Make a copy of the adjustment chart (using the document table) in the adjustment mode.




2) Check the copy image center position.
If A - B = ± 1.0mm, the adjustment is not required.




If the above condition is not satisfied, perform the following procedures.

3) Enter the SIM 50-12 mode.
4) Select the adjustment mode OC with the scroll key.
5) Enter the adjustment value with 10-key, and press [OK] key.
The entered value is set.
When the set value is increased, the main scanning print position is shifted to the front side by 0.1mm.
6) Go to the copy mode, and make a copy
Repeat the procedures of 1) - 6) until the above condition is satisfied.

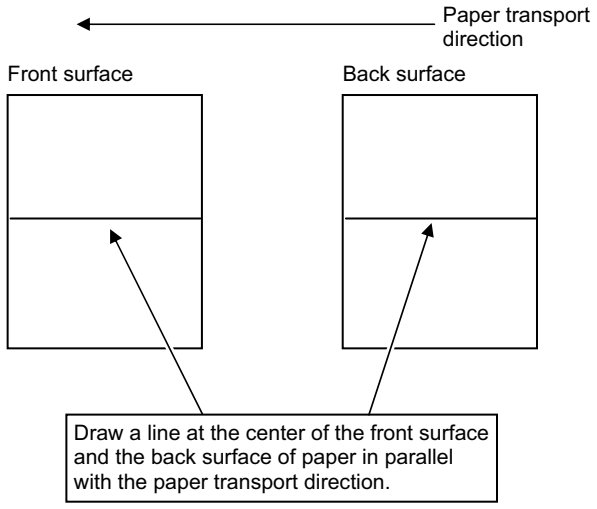
## 10-B Scan image off-center adjustment (Manual adjustment) (DSPF/RSPF mode)

This adjustment must be performed in the following cases:

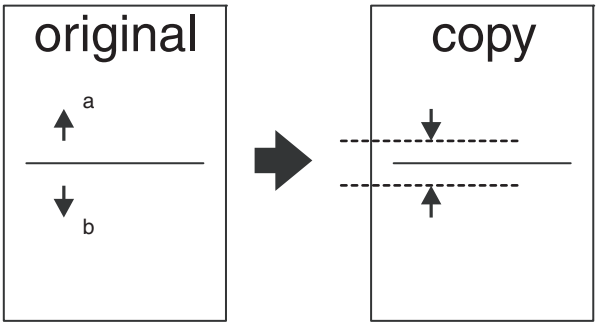
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.
- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When a U2 trouble occurs.
- When the DSPF/RSPF section is disassembled.
- When the DSPF/RSPF unit is replaced.

NOTE: To execute this adjustment, it is required that the ADJ10-A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

1) Prepare the adjustment chart.
Draw a line at the center of the front surface and the back surface of A4 (11" x 8.5") paper in parallel with the paper transport direction.




2) Set the adjustment chart to the DSPF/RSPF.
3) Make a duplex copy in the normal magnification ratio from the manual paper feed tray, and check the image position on the front surface and the back surface of the copy paper.




If the difference is within the range of 0 ± 2.7mmm there is no need to perform the adjustment.
If the adjustment is required, perform the following procedures.

4) Enter the SIM 50-12 or 50-6 mode.
5) Select an adjustment mode with the scroll key.
**(SIM50-12)**

| | |
|---|---|
| SPF(SIDE1) | Front surface mode |
| SPF(SIDE2) | Back surface mode |

**(SIM50-6)**

| | |
|---|---|
| OFFSET SPF1 | Front surface mode |
| OFFSET SPF2 | Back surface mode |

6) Enter an adjustment value with 10-key, and press [OK] key.

Change for change in the adjustment value: 0.1mm/step

When the adjustment value is increased, the print image is shifted to the rear.

Repeat the procedures of 2) - 6) until a satisfactory result is obtained.

# ADJ 11 Copy image position and image loss adjustment (Manual adjustment)

## 11-A Copy image position, image loss, and void area adjustment (Manual adjustment) (Document table mode)

This adjustment must be performed in the following cases:

- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When the LSU is replaced or removed.
- When the registration roller section is disassembled.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.
- The SCN MFP PWB has been replaced.
- The EEPROM on the SCN MFP PWB has been replaced.

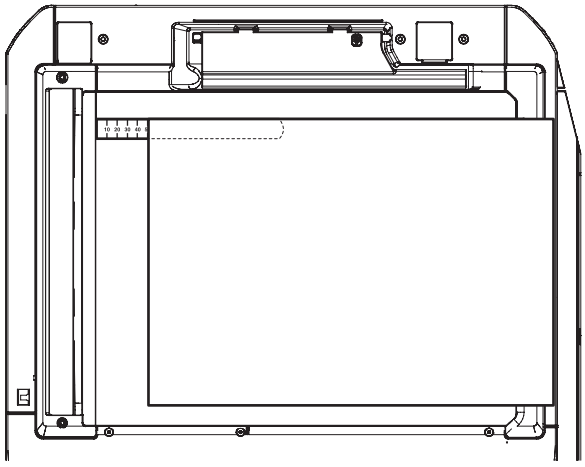
Before executing this adjustment, be sure to confirm that the ADJ 4/ADJ 5 Print engine image skew, image position, image magnification ratio adjustments have been completed normally.

1) Place a scale on the document table as shown in the figure below.

Place a scale on the document table as shown in the figure below.

Place a scale so that it is in parallel with the scanning direction and that its lead edge is in contact with the document guide plate.

Place white paper on the document table so that the scale lead edge can be seen.



2) Enter the SIM 50-1 mode.

3) Set RRCA, LEAD, and SIDE to the default values.

| Item/ Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | RRCA | Document lead edge reference position (OC) | 0 - 99 | 50 |
| G | LEAD | Lead edge image loss area setting | 0 - 99 | 40 |
| H | SIDE | Side image loss area adjustment | 0 - 99 | 20 |

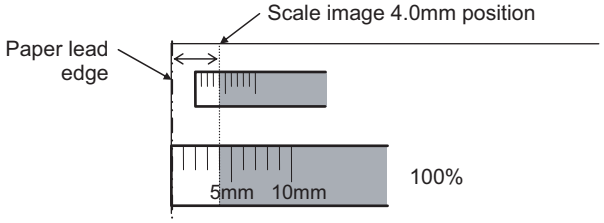
4) Perform the image lead edge reference position adjustment.

Shift to the copy mode, and make a copy at 100% in the document table mode.

When the adjustment value of RRCA is proper, the lead edge image from 4.0 mm is not copied in 100% copy scale.

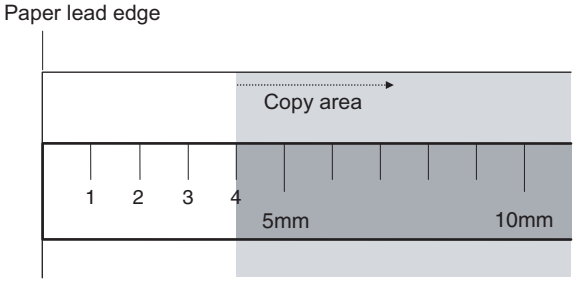
If not, change and adjust the RRCA value.

Repeat the above procedures until a satisfactory result is obtained.




5) Image loss adjustment

When the adjustment item of the image loss below is set to the default value, it is adjusted to the standard state. If it is not in the below standard state, or when it is set to a desired value, change these adjustment items.




Void area: 4.0 mm, Image loss: 4.0 mm

| Item/ Display | Content | | Adjustment range | Default value | Standard adjustment value |
|---|---|---|---|---|---|
| LEAD | Image loss adjustment | Lead edge image loss adjustment | 0 - 99 | 40 | 4±1.0mm |
| SIDE | | Side image loss adjustment | 0 - 99 | 20 | 4±2.0mm |

When the adjustment value is increased, the image loss is increased. When the adjustment value is decreased, the image loss is decreased.

When the adjustment value is changed by 1, the void area is changed by 0.1mm.

## 11-B Image scanning position adjustment (Manual adjustment) (DSPF/RSPF mode)

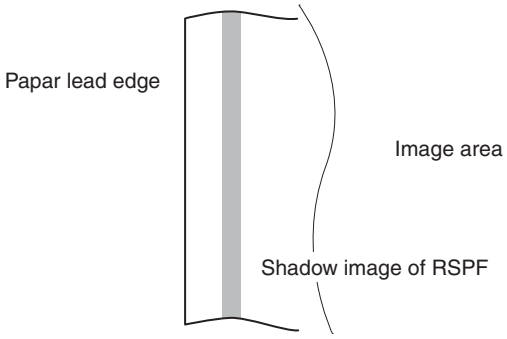
This adjustment must be performed in the following cases:

- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.
- When the scanner (reading) section is disassembled.
- When the scanner (reading) section is replaced.
- When U2 trouble occurs.
- When the DSPF/RSPF section is disassembled.
- When the DSPF/RSPF unit is replaced.

This simulation is to adjust the scanning position when scanning in the DSPF/RSPF mode.

If this adjustment is made improperly, the scanner stop position is shifted from the specified position and a shade of the document table may be reflected on the lead edge section of the scan image in the DSPF/RSPF mode.

1) Make a copy in the DSPF/RSPF mode, and check for any shade on the lead edge section of the copy image.




If there is any shade of the document table on the lead edge section of the copy image, perform the following procedures.

2) Enter the SIM 53-8 mode, and press [MANUAL] key.
3) Enter an adjustment value with 10-key, and press [OK] key.

When the set value is increased, the distance from the home position to the DSPF/RSPF scanning position is increased.

When the set value is changed by 1, the scanning position is changed by 0.1mm.

Perform the procedures of 1) - 3) until a satisfactory result is obtained.

NOTE: After execution of this adjustment, be sure to execute ADJ 11C Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF/RSPF mode).

## 11-C Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF/RSPF mode)

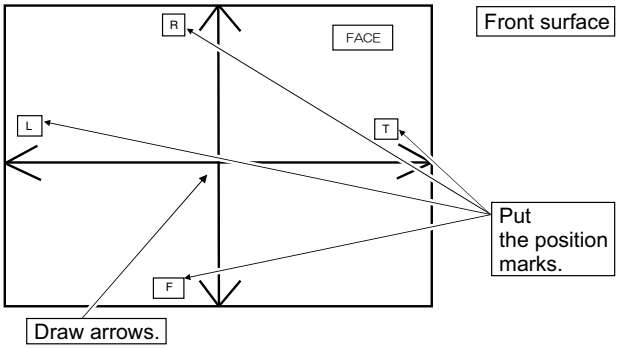
This adjustment must be performed in the following cases:

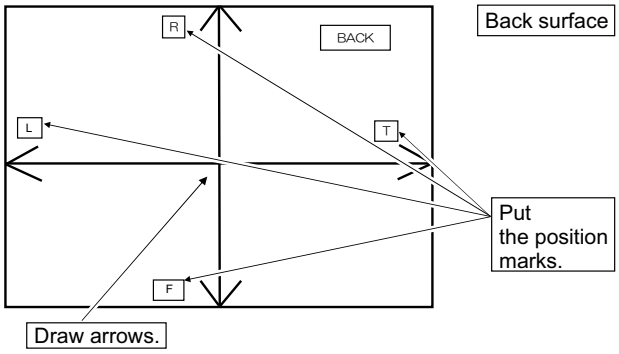
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.
- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- When U2 trouble occurs.
- When the DSPF/RSPF section is disassembled.
- When the DSPF/RSPF unit is replaced.

1) The adjustment chart can be made by the following procedures.

Use A4 (11" x 8.5") paper and draw arrow marks vertically and horizontally on the front and the back surfaces.

At the same time, put marks of the lead edge, the trail edge, the front end, and the rear end as well as the identification marks of the front surface and the back surface.




2) Enter the SIM 50-6 mode.

**DSPF**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | SIDE1 | Front surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| B | SIDE2 | Back surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| C | LEAD_EDGE (SIDE1) | Front surface lead edge image loss amount setting | 0 - 99 | 20 |
| D | FRONT_REAR (SIDE1) | Front surface side image loss amount setting | 0 - 99 | 20 |
| E | TRAIL_EDGE (SIDE1) | Front surface rear edge image loss amount setting | 0 - 99 | 40 |
| F | LEAD_EDGE (SIDE2) | Back surface lead edge image loss amount setting | 0 - 99 | 40 |
| G | FRONT_REAR (SIDE2) | Back surface side image loss amount setting | 0 - 99 | 20 |
| H | TRAIL_EDGE (SIDE2) | Back surface rear edge image loss amount setting | 0 - 99 | 20 |

**RSPF**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | SIDE1 | Front surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| B | SIDE2 | Back surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| C | LEAD_EDGE (SIDE1) | Front surface lead edge image loss amount setting | 0 - 99 | 20 |
| D | FRONT_REAR (SIDE1) | Front surface side image loss amount setting | 0 - 99 | 20 |
| E | TRAIL_EDGE (SIDE1) | Front surface rear edge image loss amount setting | 0 - 99 | 40 |
| F | LEAD_EDGE (SIDE2) | Back surface lead edge image loss amount setting | 0 - 99 | 20 |

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| G | FRONT_REAR (SIDE2) | Back surface side image loss amount setting | 0 - 99 | 20 |
| H | TRAIL_EDGE (SIDE2) | Back surface rear edge image loss amount setting | 0 - 99 | 40 |

*Item A, B: When the adjustment value is increased, the scan timing is delayed.

*Item C – H: When the adjustment value is increased, the image loss is increased.

**Lead edge image loss adjustment**

1) Set the lead edge image loss adjustment values (LEAD EDGE (SIDE1/SIDE2) on the front surface and the back surface to the following values.

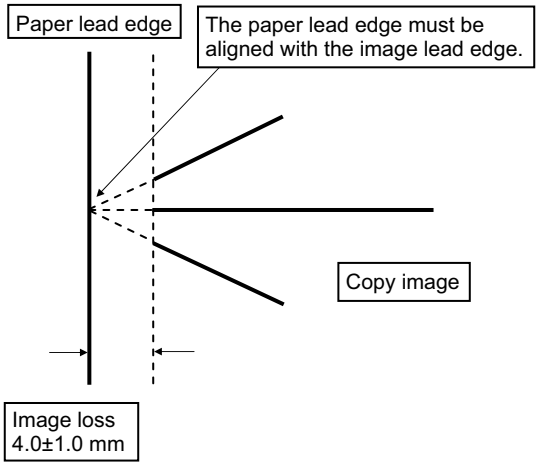
   When the set value is increased, the lead edge image loss is increased.

   (Standard set value)

   LEAD EDGE(SIDE 1): 20 Lead edge image loss set value (Front surface)

   LEAD EDGE(SIDE 2): 20 Lead edge image loss set value (Back surface)

2) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that the lead edge image loss is within 4.0 ± 1.0 mm on the front surface and the back surface. The paper lead edge must be aligned with the presumed image lead edge.




   If the above condition is not satisfied, perform the following procedure.

3) Enter the adjustment value of SIDE1/SIDE2 with 10-key, and press [OK] key.

   Adjust so that the paper lead edge is aligned with the presumed image lead edge.

   SIDE1: Front surface lead edge scan position adjustment

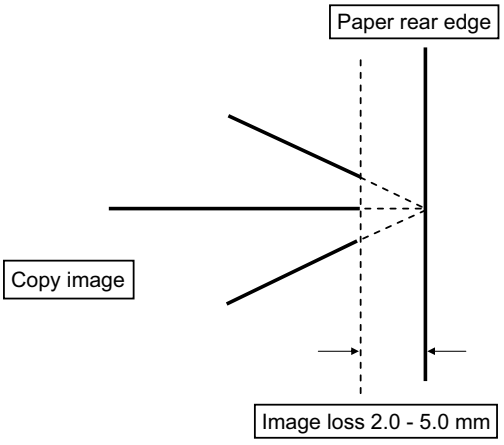
   SIDE2: Back surface lead edge scan position adjustment

   When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.

   Perform the procedures of 2) - 3) until a satisfactory result is obtained.

**Rear edge image loss adjustment**

1) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that the rear edge image loss is 2.0 - 5.0mm on the front surface and the back surface.




   If the above condition is not satisfied, perform the following procedure.

2) Enter the adjustment value of TRAIL EDGE (SIDE1/SIDE2) with 10-key, and press [OK] key.

   TRAIL EDGE(SIDE1): Rear edge image loss adjustment value (Front surface)

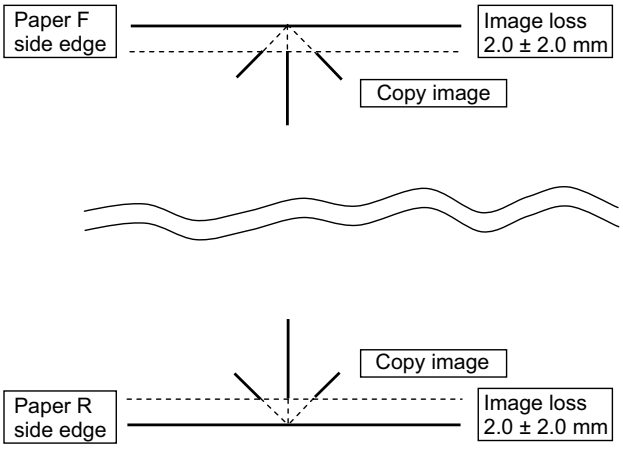
   TRAIL EDGE(SIDE2): Rear edge image loss adjustment value (Back surface)

   When the adjustment value is increased, the rear edge image loss is increased.

   Perform the procedures of 1) - 2) until a satisfactory result is obtained.

**Front/rear frame direction image loss adjustment**

1) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that the image losses on the front frame side and the rear frame side are 2.0 ± 2.0mm on the front surface and the back surface.




   If the above condition is not satisfied, perform the following procedure.

2) Enter the adjustment value of FRONT/REAR (SIDE 1) / FRONT/REAR (SIDE 2), and press [OK] key.

   FRONT/REAR(SIDE 1): Front/Rear image loss adjustment value (Front surface)

   FRONT/REAR(SIDE 2): Front/Rear image loss adjustment value (Back surface)

   When the adjustment value is increased, the front/rear image loss is increased.

Perform the procedures of 1) - 2) until a satisfactory result is obtained.

## ADJ 12 Print lead edge image position adjustment (PRINTER MODE)

This adjustment must be performed in the following cases:

- When the registration roller section is disassembled.
- When the LSU unit is replaced or removed.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

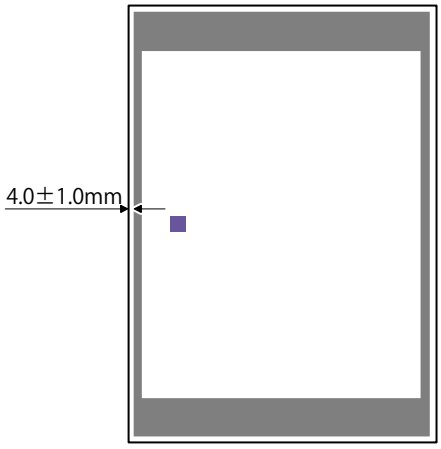
**Note** This adjustment should be performed if the user wishes to increase the lead edge void area for printer mode greater than the standard value (3 mm).

1) Enter the SIM 50-5 mode.
2) Select the set item M with the scroll key, and enter the value corresponding to the paper feed tray with A4 (11" x 8.5") paper in it.

| Display/Item | | | Content | | Setting range | | Default |
|---|---|---|---|---|---|---|---|
| A | DEN-C | | Printer lead edge image position adjustment | | 1 - 99 | | 30 |
| B | DEN-B | | Rear edge void area adjustment | | 1 - 99 | | 30 |
| C | FRONT/ REAR | | FRONT/REAR void area adjustment | | 1 - 99 | | 20 |
| D | DENB-MFT | | Manual feed rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| E | DENB-CS1 | | Tray 1 rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| F | DENB-CS2 | | Tray 2 rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| G | DENB-CS3 | | Tray 3 rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| H | DENB-CS4 | | Tray 4 rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| I | DENB-LCC | | LCC rear edge void area adjustment correction value | | 1 - 99 | | 50 |
| J | DENB-ADU | | ADU rear edge void area adjustment correction value | | 1 - 99 | | 55 |
| K | DENB-HV | | Heavy paper correction value | | 1 - 99 | | 50 |
| L | MULTI COUNT | | Number of print | | 1 - 999 | | 1 |
| M | PAP ER | MFT | Tray selection | Manual paper feed | 1 - 6 | 1 | 2 |
| | | CS1 | | Tray 1 | | 2 | |
| | | CS2 | | Tray 2 | | 3 | |
| | | CS3 | | Tray 3 | | 4 | |
| | | CS4 | | Tray 4 | | 5 | |
| | | LCC | | LCC | | 6 | |
| N | DUP LEX | YES | Duplex print selection | Yes | 0 - 1 | 0 | 1 |
| | | NO | | No | | 1 | |

3) Press [EXECUTE] key.
The check pattern is printed.

4) Measure the distance from the paper lead edge the check pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.
Standard adjustment value: 4.0 ± 1.0mm




If the above requirement is not met, do the following steps.

5) Select the adjustment target of the paper feed mode adjustment item DENC with the scroll key.
6) Change the adjustment value.
Enter the adjustment value and press the [OK] key or the [EXECUTE] key.
When [EXECUTE] key is pressed, the check pattern is printed.
When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance is decreased.
Repeat the procedures 4) - 6) until the condition of 4) is satisfied.

## ADJ 13 Color balance/density adjustment

**(1) Note before execution of the color balance/density adjustment**

* Requisite conditions before execution of the color balance/density adjustment

Before execution of the color balance/density adjustment, check to insure that the adjustments which affect the color balance/density have been completed properly.

The importance levels of them are shown below:

**(Since the following items affect the color balance/density directly, they must be adjusted or set before execution of the image quality adjustments.)**

1) The following item must be adjusted properly.

| Job No. | Adjustment item | Simulation |
|---|---|---|
| ADJ5 | Print engine image distortion adjustment/ OPC phase adjustment/ Color registration adjustment (Print engine section) | 50-22/20 |

**(Though the following items affect the color balance/density, there is no need to adjust them frequently. When, however, a trouble occurs, they must be checked and adjusted.)**

1) The following items must be adjusted properly.

| Job No. | Adjustment item | | | Simulation |
|---|---|---|---|---|
| ADJ1 | Developing unit adjustment | ADJ1A | Toner density control reference value setting | 25-2 |
| ADJ2 | High voltage adjustment | ADJ2A | Adjust the main charger grid voltage | 8-2 |
| | | ADJ2B | Adjust the developing bias voltage | 8-1 |
| | | ADJ2C | Transfer current and voltage adjustment | 8-6 |
| ADJ8 | Scan image focus adjustment | | | 48-1 |

**Note for the color balance/density check and adjustments**

- For the color balance adjustments, be sure to use the paper specified for color (recommended paper).

  Note that, if another kind of paper is used for the color balance adjustment, proper image qualities (color balance, density) may not be obtained.
- When setting the adjustment pattern on the document table in the automatic color balance adjustment procedures, place 5 sheets of white paper on the adjustment pattern in order to prevent back copying and adverse effects of paper wrinkles as far as possible.

**Relationship between the servicing job contents and the color balance/density check and adjustment**

Note that the jobs before and after execution of the color balance/density check and adjustment depend on the machine status and the servicing conditions.

Follow the flowchart of the color balance/density adjustment procedures depending on the actual conditions.

There are following three, major cases.

1) When a periodic maintenance is performed.
2) When a repair, an inspection, or a maintenance is performed. (When a consumable part is replaced.)
3) When an installation, a repair, or inspection is performed. (Without replacement of a consumable part)

**(3) Copy color balance and density check**

Before checking the copy color balance and density, be sure to execute the following jobs.

- Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- Execute the half-tone image correction forcibly. (SIM 44-26)

**Method 1**

Make a copy of the gray test chart (UKOG-0162FCZZ) and a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11), and check that they are proper.

**a. Note for execution of the color balance and density check in the color copy mode**

To check the copy color balance and density, use the gray test chart (UKOG-0162FCZZ) and the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11). Set the copy density level to "3" in the Text/Printed Photo mode (Manual), and make a copy.

At that time, all the color balance adjustments in the user adjustment mode must be set to the default (center).

In addition, be sure to use the specified paper for color.

**b. Note for checking the monochrome copy mode density**

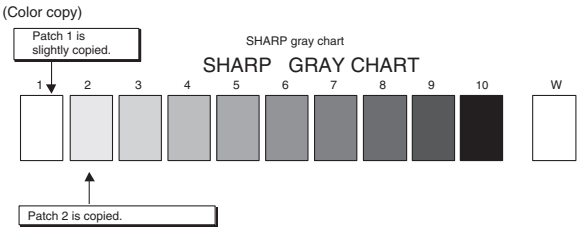
To check the density, use the gray test chart (UKOG-0162FCZZ). Set the copy density level to "Manual 3" in the Text/Printed Photo mode (Manual).

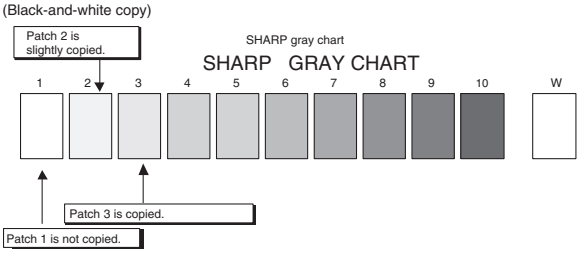
In addition, all the color balance adjustments in the user adjustment mode must be set to the default (center).

**Check with the gray test chart (UKOG-0162FCZZ)**

In the copy density check with the gray test chart, check to insure the following conditions.

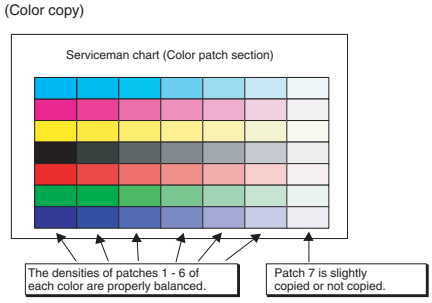
For the color (gray) balance, use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) to check.



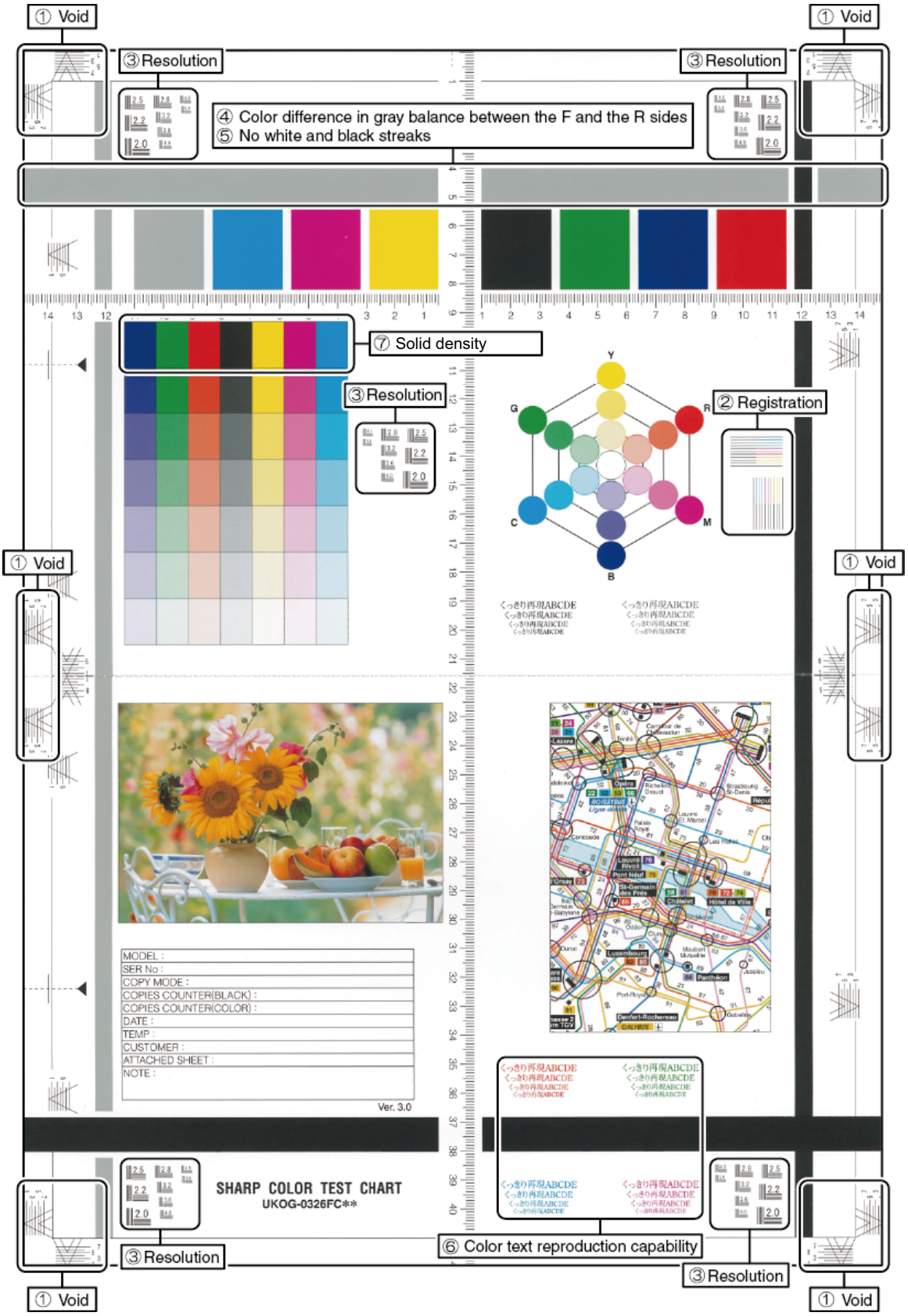

**Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)**

In the copy color balance check with the servicing color test chart, check to insure the following conditions.



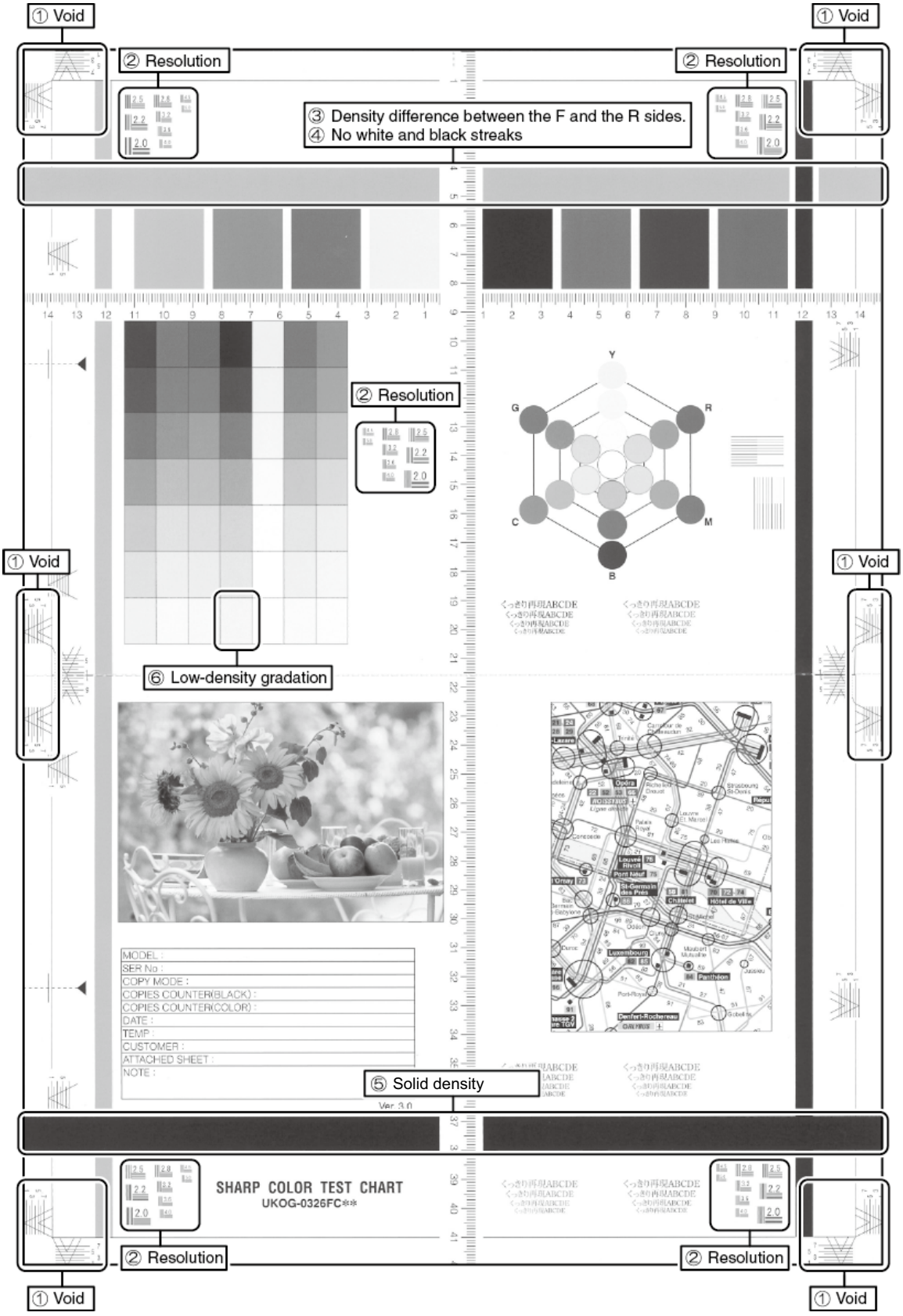
**Color copy check items (Check to confirm the following:)**

1) There are 12 void areas.
2) Registrations (one point for the main scanning, and one point for the sub scanning) are not shifted.
3) The resolution of 5.0 (5 points) can be seen.
4) The color difference in gray balance between the F and the R sides is not so great.
5) There are no white and black streaks.
6) Color texts are clearly reproduced.
7) The solid density is not so light.



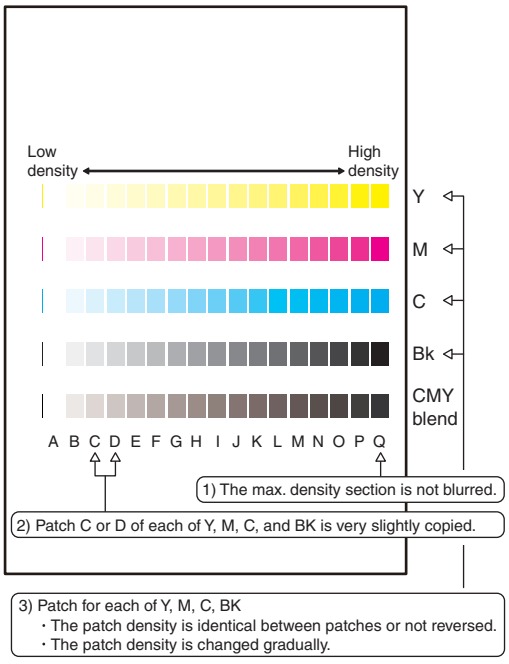
**Monochrome copy check items (Check to confirm the following:)**

1) There are 12 void areas.
2) The resolution of 4.0 (5 points) can be seen.
3) The density difference between the F and the R sides is not so great.
4) There are no white and black streaks.
5) The background solid is not so light.
6) The black low-density gradation is copied slightly.



**(Method 2)**

Use SIM46-21 to print the color balance adjustment sheet, and check each process (CMY) black patch color balance and the black patch in order to confirm that the color balance adjustment is proper or not more precisely.




If the color balance of each patch of the process black (CMY) is slightly shifted to Magenta, it means that the adjustment is proper. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color table in an actual copy mode.

(When the color balance target is DEF 1.)

**(4) Printer color balance/density check**

Before checking the copy color balance and the density, be sure to execute the following procedures in advance.

- Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- The half-tone image correction is forcibly executed. (SIM 44-26)

**(Method 1)**

Execute SIM 64-5 to print the print test pattern.

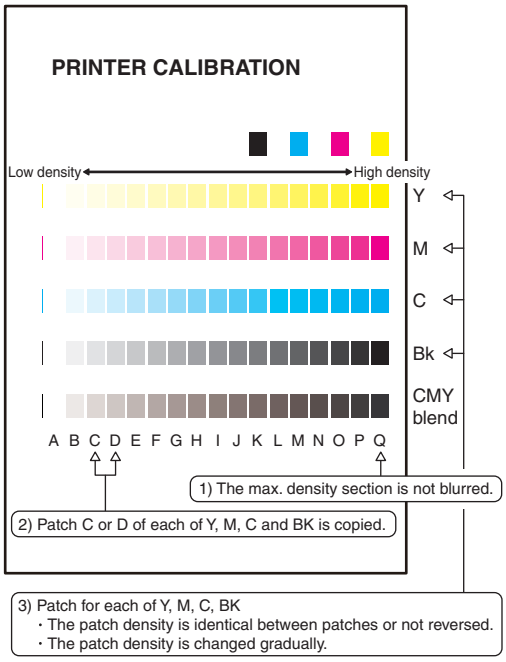
Set each set value to the default and press [EXECUTE] key. The print test pattern is printed.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed. The density level of each color must be almost at the same level.

**(Method 2)**

Use SIM 67-25 to print the color balance adjustment sheet and compare each process (CMY) black patch color balance and the black patch to check the color balance.




The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the natural gray color balance by the color table. (When the color balance target is DEF 1.)

## 13-A Scanner calibration (CCD calibration)

### 13-A (1) Scanner calibration (CCD calibration) (Document Glass Mode)

This adjustment must be performed in the following cases:

- When the CCD unit is replaced.
- When a U2 trouble is occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

**(1) Note before adjustment**

- Check that the table glass, No. 1, 2, 3 mirrors, and the lens surface are free from dirt and dust.

  (If there is some dust and dirt, wipe and clean with alcohol.)
- Check to confirm that the patches in BK1 and BK2 arrays of the scanner adjustment chart (UKOG-0356FCZZ) is free from dirt and scratches.

  If they are dirty, clean them.

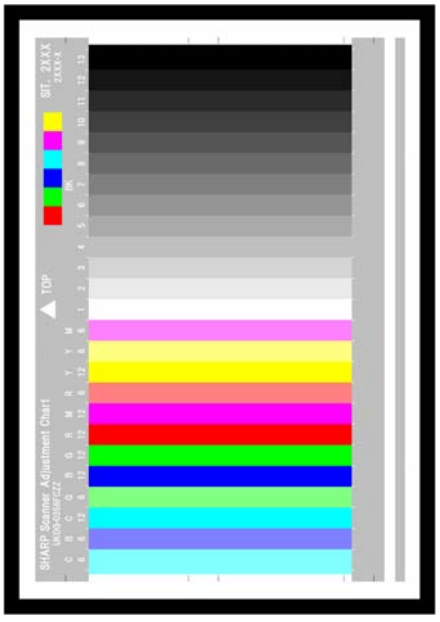
  If they are scratched or streaked, replace with new one.

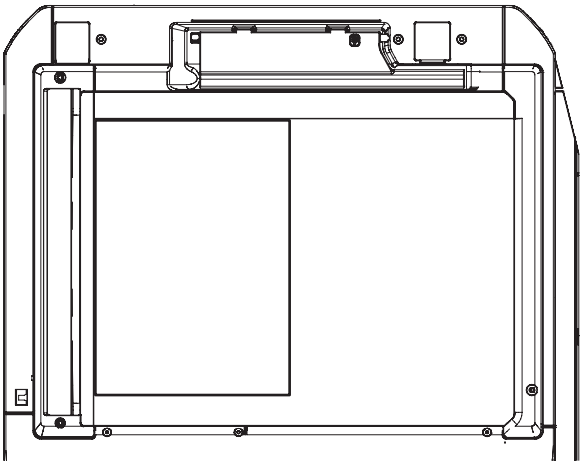
**Note** Since the scanner adjustment chart (UKOG-0356FCZZ) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag.

**Adjustment procedures**

1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the reference position on the left rear frame side of the document table.

   Set the chart in order that the arrow mark is placed on the left side.





   If the scanner adjustment chart is not available, execute SIM 63-5 to set the CCD gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the scanner adjustment chart.

2) Enter the SIM 63-3 mode and press [EXECUTE] key.

   The automatic operation is started. During the adjustment, [EXECUTE] is highlighted. After completion of the adjustment, [EXECUTE] returns to the normal display.

## 13-A (2) Shading adjustment (calibration) (DSPF Mode)

This adjustment must be performed in the following cases:

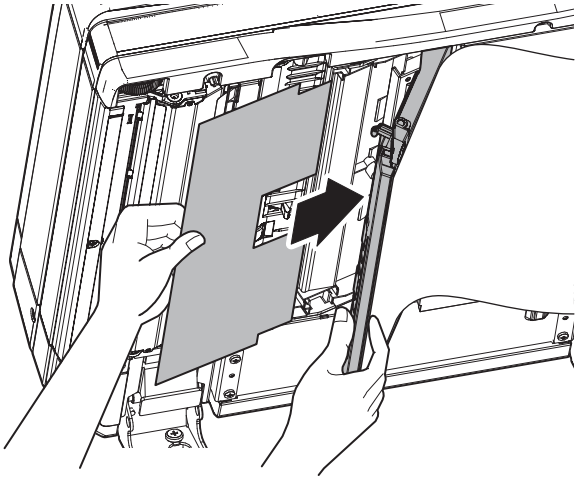
- When the DSPF CCD unit is replaced.
- When a U2 trouble is occurred.
- When DSPF PWB is replaced.

**(1) Note before adjustment**

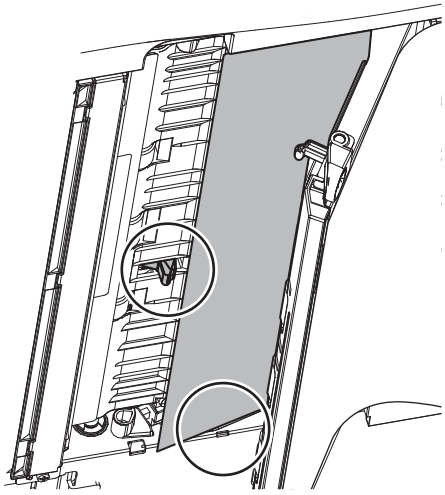
1) Check that DSPF scanner glass, mirrors, and the lens surface are free from dirt and dust.

   (If there is some dust and dirt, wipe and clean with alcohol.)

2) Open DSPF original scanning section. Insert the shading adjustment sheet (UKOG-0333FCZZ), and then close DSPF original scanning section.



   Insert the shading adjustment sheet along the rear edge frame, and set it in order that the rear edge of the shading adjustment sheet is placed to the base of the actuator.



3) Enter the SIM 63-2 mode.

4) Press [DSPF SHADING] [EXECUTE] key.

   Shading adjustment starts.

## 13-A (3) Scanner calibration (CCD calibration) (DSPF Mode)

This adjustment must be performed in the following cases:

- When the DSPF CCD unit is replaced.
- When a U2 trouble is occurred.
- When DSPF PWB is replaced.

**(1) Note before adjustment**

1) Check that DSPF scanner glass, mirrors, and the lens surface are free from dirt and dust.

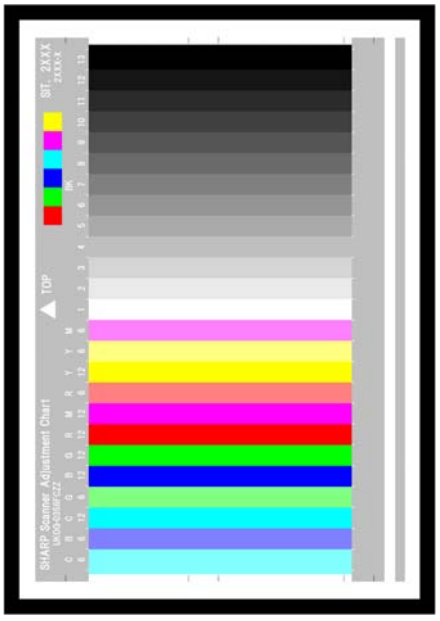
   (If there is some dust and dirt, wipe and clean with alcohol.)

2) Check to confirm that the patches in BK1 and BK2 arrays of the scanner adjustment chart (UKOG-0356FCZZ) is free from dirt and scratches.

   If they are dirty, clean them.

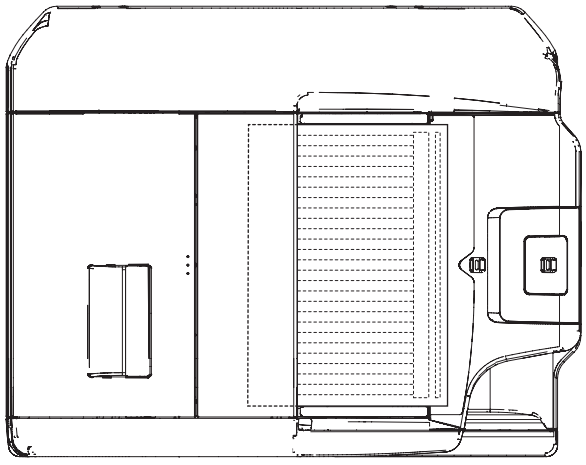
   If they are scratched or streaked, replace with new one.

**Note** Since the scanner adjustment chart (UKOG-0356FCZZ) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag.



**(2) Adjustment procedures**

1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the paper feed tray of DSPF face down.



If the scanner adjustment chart is not available, execute SIM 63-5 to set the CCD gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the scanner adjustment chart.

2) Enter the SIM 63-3 mode and press [EXECUTE] key.

The automatic operation is started. During the adjustment, [EXECUTE] is highlighted. After completion of the adjustment, [EXECUTE] returns to the normal display.

**SET 1 Color balance adjustment target setup**

**a. General**

When the automatic color balance adjustment is executed, a certain color balance (gamma) is used as the target.

There are following three kinds of the target.

- Factory color balance (gamma) target
- Service color balance (gamma) target
- User color balance (gamma) target

In the above three, only the service color balance target can be set to a desired level.

This setting is required in the following cases.

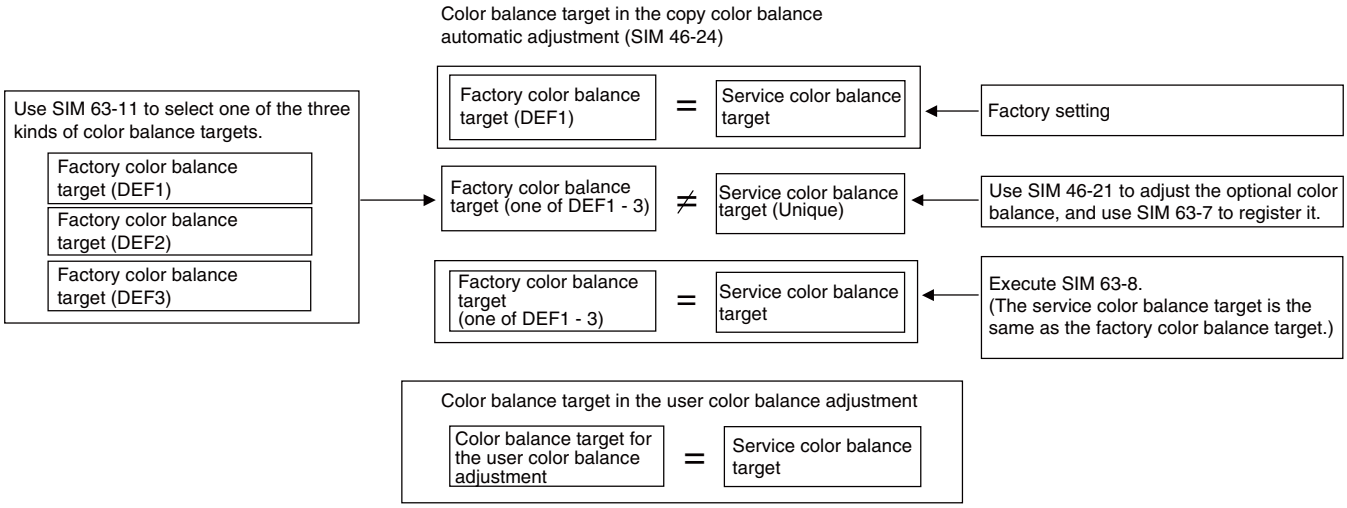
- When the color balance and density adjustments are executed manually (SIM46-21) (SIM67-25)
- U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.
- When the user requests for customizing the color balance.
- When the service color balance target gamma is judged as improper.

**SET 1A Copy color balance adjustment target setup**

- Each color balance target for the copy color balance adjustment

| Type | | Descriptions |
|---|---|---|
| A | Factory color balance (gamma) target | There are three kinds of the color balance target, and each of them is specified according to the machine design. Use SIM 63-11 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction. |
| B | Service color balance (gamma) target | This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 46-21 to adjust the color balance and with SIM 63-7 to register it.<br>This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target is changed, the color balance target of the user's color balance adjustment is also changed. When, however, SIM 63-8 is executed, the color balance is set to the factory color balance target set with SIM 63-11. The default setting (factory setting) of the color balance is same as the factory color balance target. (Emphasized on color reproduction (DEF1))<br>If the user does not request for customizing the color balance, be sure to use SIM 63-8 to set the color balance to the factory color balance target. |
| C | User color balance (gamma) target | Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly. |

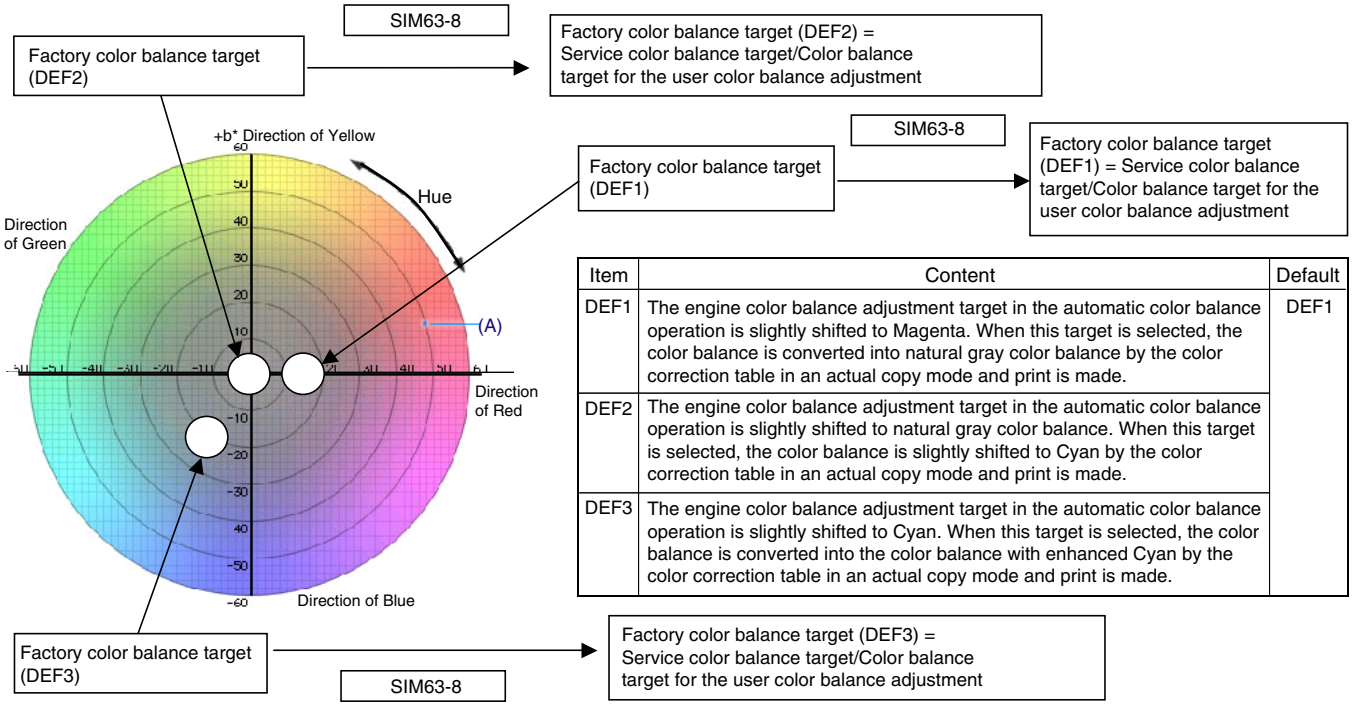
- Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24)




- Factory target in the copy color balance adjustment (SIM 46-74/46-24)

  By use of SIM 63-11, one of the following color balances can be set as the factory color balance target.

  Each of the three color balances cannot be changed. (Fixed)




| Item | Content | Default |
|---|---|---|
| DEF1 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color correction table in an actual copy mode and print is made. | DEF1 |
| DEF2 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color correction table in an actual copy mode and print is made. | |
| DEF3 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color correction table in an actual copy mode and print is made. | |

- Service color balance target in the copy color balance adjustment ((Automatic adjustment) SIM 46-74/46-24).

  For the service color balance target, an optional color balance can be adjusted with SIM 46-21 and registered with SIM 63-7. When, however, SIM 63-8 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 63-11.

- Color balance target in the user color balance adjustment

  This color balance is same as the service color balance target in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24). When, therefore, the service color balance target is changed, this target is also changed accordingly.

(Meaning of the service color balance target gamma data and the purpose of registration)

This procedure must be executed only when the color balance is customized with SIM 46-21.

If the color balance is not customized, this procedure is not required.

After completion of the customized color balance adjustment (Manual) with SIM 46-21 according to the user's request, use SIM 63-7 to register the service color balance target data by using adjustment pattern that was printed in this mode.

**Important**

In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21.

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 46-21. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data.
Do not fold it and keep it under the circumstances which protect it from discoloration and dirt.

The service color balance target data is registered immediately after the color balance adjustment (Manual) with SIM 46-21.

If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 46-21, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The accuracy of the service color balance target data can be judged as follows.

When result of the color balance adjustment (Auto) with selecting the service color balance target in SIM 46-74/46-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 63-7.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 46-21. This procedure may have been executed erroneously

**a. Setting procedure**

**(Setting procedure of an optional color balance (gamma) as the service color balance target)**

1) Use SIM 46-21 (Copy color balance adjustment (manual adjustment) mode) to print color patch image (adjustment pattern).

   In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21.

   If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an adjustment.

2) Enter the SIM 63-7 mode.
3) Press [SETUP] key.
4) Set the color patch image (adjustment pattern) correctly adjusted and printed in the copy color balance adjustment (Manual adjustment) (SIM 46-21) on the document table.

   Set the pattern so that the light density side is on the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern).

   If the color balance could not be adjusted satisfactorily with SIM 46-21 (Color balance adjustment (Manual)), do not execute SIM 63-7 to register the service color balance target data.
5) Press [EXECUTE] key.

   The color patch image (adjustment pattern) is read.
6) The color balance (gamma) target set level of each color (KCMY) can be checked with K/C/M/Y keys.

   Check that the set level is increased in the sequence of B - P (MAX).

   If there is no variation or variation is reversed, it is judged as abnormal.
7) Press [OK] key.

   The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

**(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)**

This procedure must not be executed when the copy color balance was adjusted with SIM 46-21 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 63-7.

When the factory color balance target is changed with SIM 63-11, be sure to execute this procedure.

1) Enter the SIM 63-8 mode.
2) Press [EXECUTE] key and [YES] key.

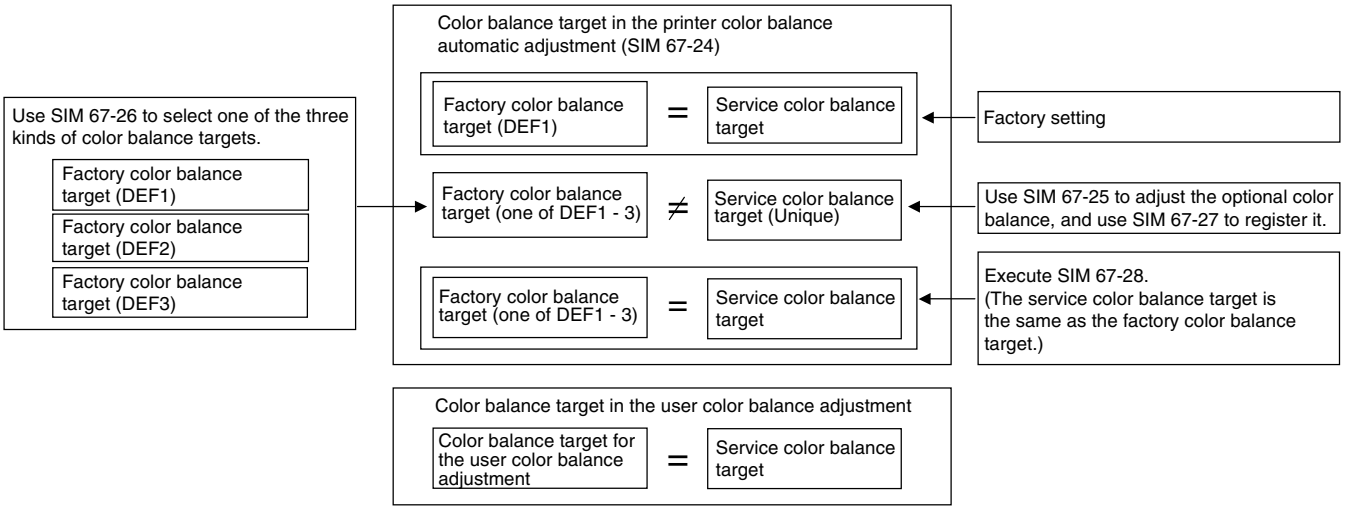
   The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

**SET 1B Printer color balance adjustment target setup**

• Color balance target for the printer color balance adjustment

| Type | | Descriptions |
|---|---|---|
| A | Factory color balance (gamma) target | There are three kinds of the color balance targets, and each of them is specified according to the machine design. Use SIM 67-26 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction. |
| B | Service color balance (gamma) target | This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 67-25 to adjust the color balance and with SIM 67-27 to register it.<br>This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target is changed, the color balance target of the user's color balance adjustment is also changed. When, however, SIM 67-28 is executed, the color balance is set to the factory color balance target set with SIM 67-26. The default setting (factory setting) of the color balance is same as the factory color balance target. (Emphasized on color reproduction (DEF1))<br>If the user does not request for customizing the color balance, be sure to use SIM 67-28 to set the color balance to the factory color balance target. |
| C | User color balance (gamma) target | Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly. |

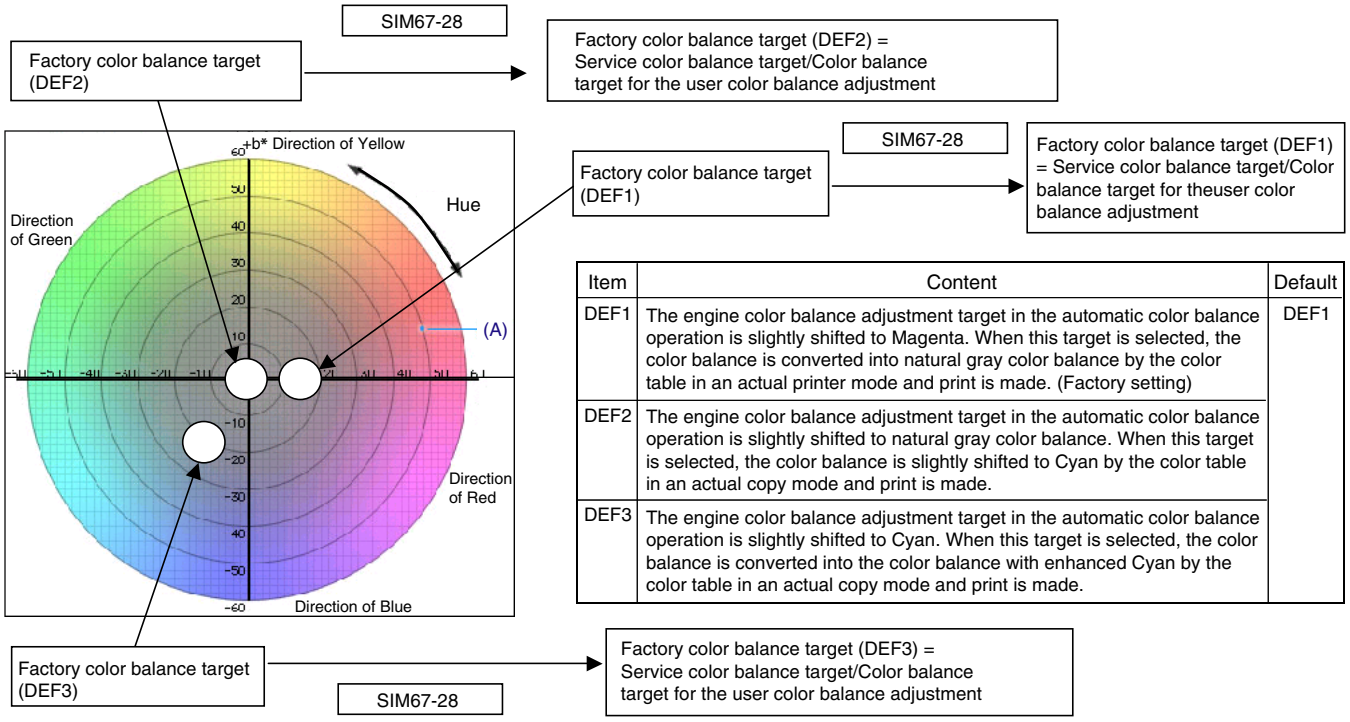
• Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/76-24)




- Factory target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24)

  By use of SIM 67-26, one of the following color balances can be set as the factory color balance target.

  Each of the three color balances cannot be changed. (Fixed)




| Item | Content | Default |
|---|---|---|
| DEF1 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual printer mode and print is made. (Factory setting) | DEF1 |
| DEF2 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual copy mode and print is made. | |
| DEF3 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual copy mode and print is made. | |

- Service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24).

  For the service color balance target, an optional color balance can be adjusted with SIM 67-25 and registered with SIM 67-27. When, however, SIM 67-28 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 67-26.

- Color balance target in the user color balance adjustment

  This color balance is same as the service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24). When, therefore, the service color balance target is changed, this target is also changed accordingly.

(Meaning of the service color balance target gamma data and the purpose of registration)

This procedure must be executed only when the color balance is customized with SIM 67-25.

If the color balance is not customized, this procedure is not required.

After completion of the customized color balance adjustment (Manual) with SIM 67-25 according to the user's request, use SIM 67-27 to register the service color balance target data by use of the printed adjustment pattern.

**Important**

In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 67-25.

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 67-25. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data. Do not fold it and keep it under the circumstances which protect it from discoloration and dirt.

The service color balance target data is basically registered immediately after the color balance adjustment (Manual) with SIM 67-25.

If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 67-25, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The correctness of the service color balance target data can be judged as follows.

When result of the color balance adjustment (Auto) with selecting the service color balance target in SIM 46-74/67-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 67-27.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 67-25. This procedure may have been executed erroneously.

**a. Setting procedure**

**(Setting procedure of an optional color balance (gamma) as the service color balance target)**

1) Use SIM 67-25 (Printer color balance adjustment (manual adjustment) mode) to print color patch image (adjustment pattern).

   In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 67-25.

   If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an adjustment.
2) Enter the SIM 67-27 mode.
3) Press [SETUP] key.
4) Set the color patch image (adjustment pattern) correctly adjusted and printed in the printer color balance adjustment (Manual adjustment) (SIM 67-25) on the document table.

   A color patch image (adjustment pattern) printed by another machine can be used.

   Set the pattern so that the light density side is on the left side.

   Place 5 sheets of white paper on the color patch image (adjustment pattern).

   This procedure must not be executed when the copy color balance (manual) was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.
5) Press [EXECUTE] key.

   The color patch image (adjustment pattern) is read.
6) The color balance (gamma) target set level of each color (K, C, M and Y) can be checked with K/C/M/Y keys.

   Check that the set level is increased in the sequence of B - P (MAX). If there is no variation or variation is reversed, it is judged as abnormal.
7) Press [OK] key.

   The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

**(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)**

This procedure must not be executed when the copy color balance was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

When the factory color balance target is changed with SIM 67-26, be sure to execute this procedure.

1) Enter the SIM 67-28 mode.
2) Press [EXECUTE] key and then [YES] key.

   The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

## 13-B FR density variation correction

Make sure followings are confirmed prior to the adjustment:

- Charge unevenness is not occurring
- A paper tray with A4 (LT) size papers is available.
- The auto correction of FR density unevenness will clear the correction value in “ADJ13B manual correction of FR density unevenness”. Do not execute auto correction if you wish to maintain the manual correction value.
- Execute Sim 61-13 if any one of DV unit, Drum Process unit and LSU unit has been replaced.

## 13-B (1) FR density unevenness automatic correction (32 point adjustment for all colors)

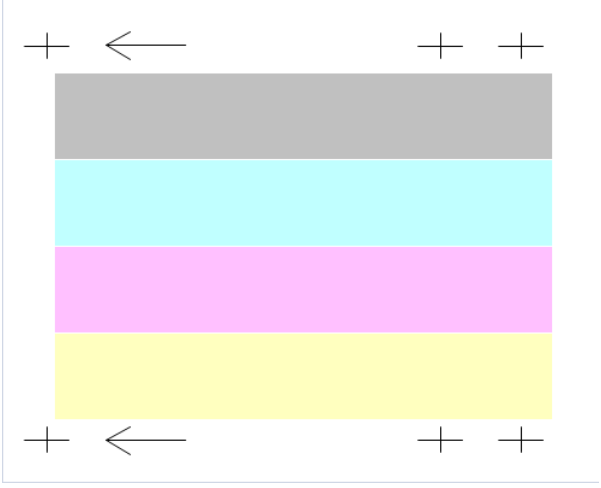
This adjustment must be performed in the following cases.

- Density unevenness toward main scan direction has been observed

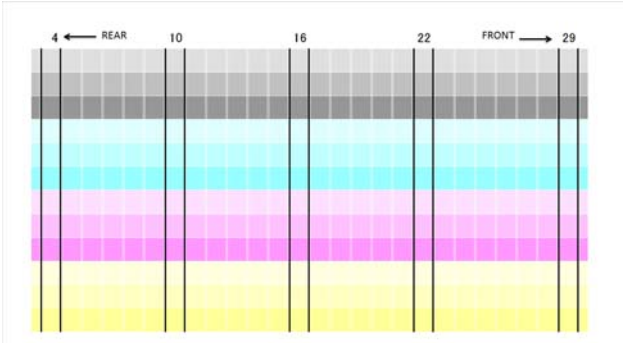
1) Enter Simulation 61-11.
2) Press [AUTO CORRECTION] key.

   Press [DATA] to confirm present auto correction value.
3) Select the density level to adjust and press [EXECUTE] key.

   The adjustment pattern will be output.
4) Place the adjustment pattern in the step 3) and the arrows on the adjustment pattern should be placed on left side (A4R/LTR direction) on the document table. and press [EXECUTE] key. Also put five blank sheets on top of the adjustment pattern.



5) After scanning the adjustment pattern, the data will be updated and the adjustment result pattern will be printed automatically. Check whether density on front and rear side matches.




6) Press [RETRY] and repeat the steps in 3) to 5) until you are satisfied with the result in step 5).

   Execute Sim 61-13 to clear auto/manual correction value to default setting.

7) Execute Simulation 46-74 (Copy/Printer color balance adjustment) after completing all the adjustments.

## 13-B (2) FR density unevenness visual inspection (CMYK 5 point adjustment or CMYK 32 point adjustment)

This adjustment must be performed in the following cases.

- Density unevenness toward main scan direction has been observed:

1) Enter Simulation 61-12.
2) Press [VISUAL INSPECTION] key.

   Press [DATA] to confirm present manual correction value.

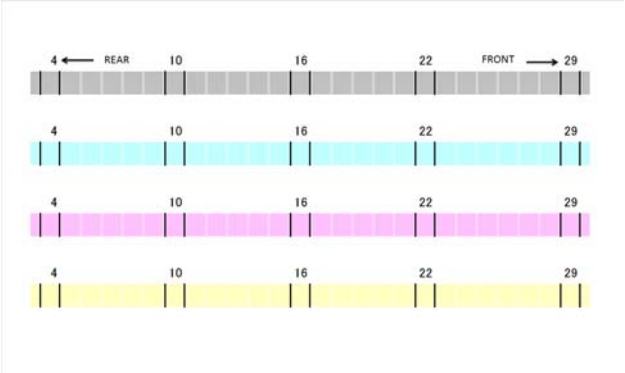
3) Select the density level to adjust and press [EXECUTE] key.

   The adjustment pattern will be output.

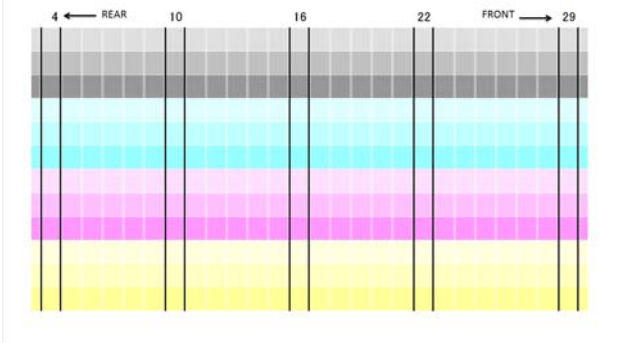
4) Check the adjustment pattern in the step 3).

   Select either [5 POINT CORRECTION] or [32 POINT CORRECTION], enter adjustment value and press [EXECUTE] key.

   Larger the adjustment value, the higher the density and vice versa.




5) The adjustment result pattern will be printed automatically. Check whether density on front and rear side matches.




6) After step 5) if you furthermore require this adjustment, press [RETRY] key and repeat the steps 3) to 5).

Execute Simulation 61-13 to clear auto/manual correction value to resume the factory default setting.

Execute Simulation 46-74 (Copy/Printer color balance adjustment) after completing all the adjustments.

## 13-C Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)

This adjustment must be performed in the following cases:

- When a consumable part (developer, OPC drum, transfer belt) is replaced.
- When the CCD unit is replaced.
- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

**a. General**

SIM46-74 is used to perform the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24) continuously.

Since it is desirable to perform the copy color balance adjustment (automatic adjustment) before the automatic printer color balance and density adjustment, it is advisable to perform the adjustment in this mode.

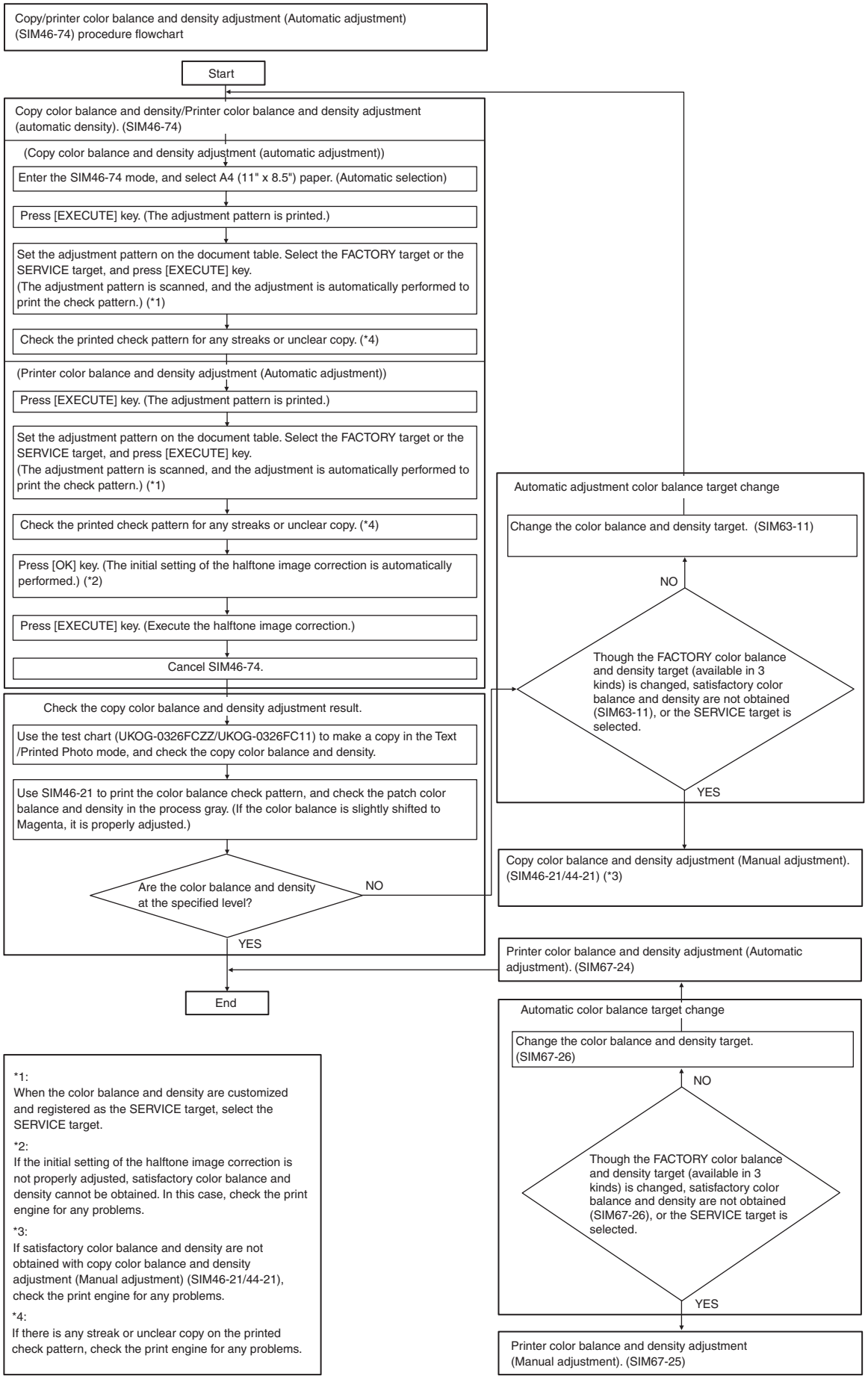
This mode is also advisable to effectively perform both of the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24). It saves considerable time when compared with performing each of the auto copy/printer color balance and the density adjustment individually.

The color balance adjustment (automatic adjustment) is used to adjust the copy density of each of Cyan, Magenta, Yellow, and Black automatically.

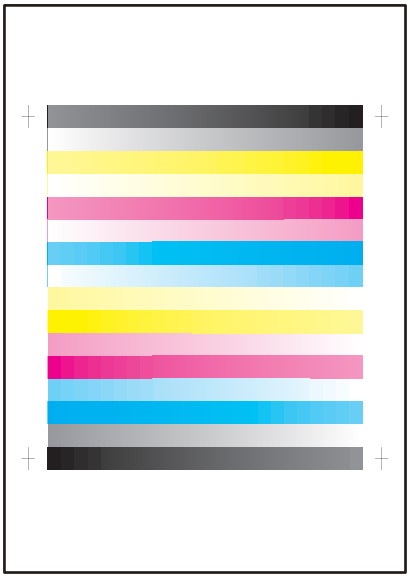
When this adjustment is executed, the color balance adjustments of all the copy/printer modes are revised.

**b. Adjustment procedures**

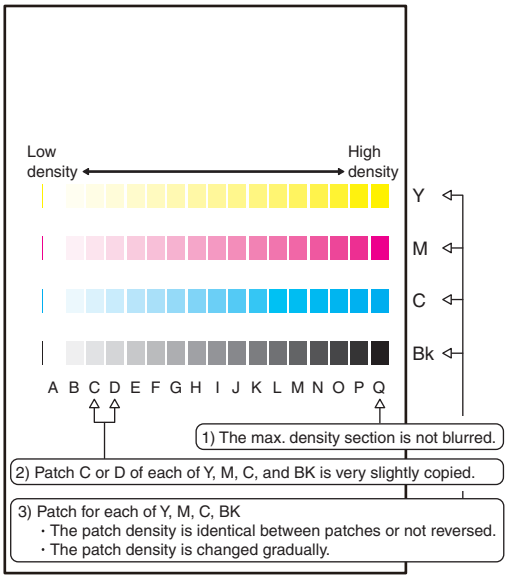
**(Auto color balance adjustment by the serviceman)**



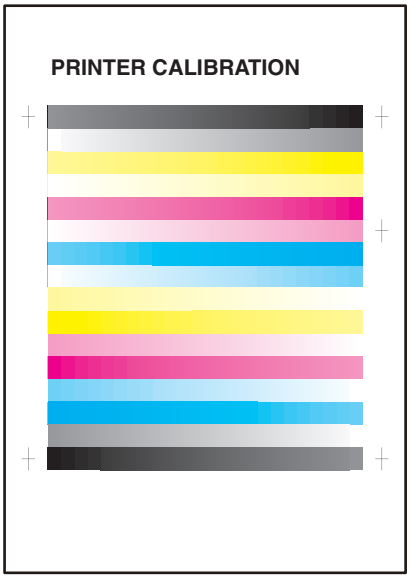
1) Enter the SIM46-74 mode.
2) Press [EXECUTE] key.
   The copy color patch image (adjustment pattern) is printed out.
   A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.
3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
   Set the color patch image (adjustment pattern) printed in the procedure 2) on the document table. Place the color patch image so that the fine lines are on the left side. At that time, place 5 sheets of white paper on the printed color patch image (adjustment pattern).



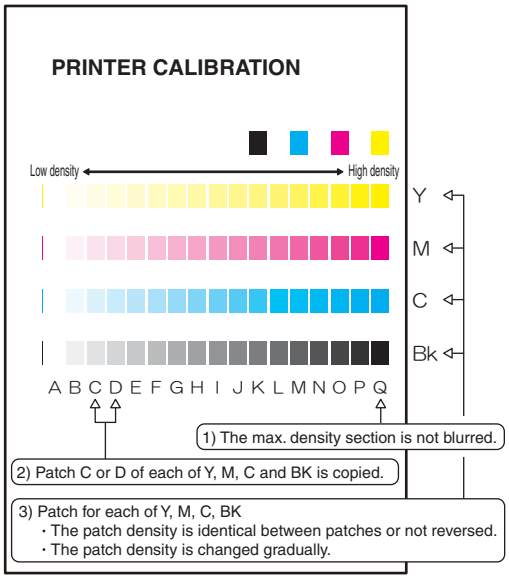
4) Select [FACTORY] target, and press [EXECUTE] key.
   When the color balance is customized by the manual color balance adjustment (SIM 46-21) according to the user's request, and the color balance is registered with SIM63-7 as the service target, if the color balance is required to be adjusted, select the [SERVICE] target.
   The copy color balance adjustment is automatically executed and prints the color balance check patch image.
   If there is any streak or unclear print on the printed check pattern, check the print engine for any problems.




5) Press [EXECUTE] key.
   The printer color patch image (adjustment pattern) is printed out. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
6) Set the color patch image (adjustment pattern) printed in the procedure 5) on the document table.
   Set the color patch image (adjustment pattern) printed in the procedure 2) on the document table. Place the color patch image so that the fine lines are on the left side. At that time, place 5 sheets of white paper on the printed color patch image (adjustment pattern).




7) Select [FACTORY] target, and press [EXECUTE] key.
   When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the [SERVICE] target.
   The printer color balance adjustment (step 1) is automatically performed and the color balance check patch image is printed out. If there is any streak or unclear print on the printed check pattern, check the print engine for any problems.




8) The initial setting menu of the halftone image correction is displayed.
   Press [OK] key. The initial setting of the halftone image correction is performed.

9) Wait until [EXECUTE] key is displayed. When it is displayed, press it.

The halftone image correction is performed.

10) When "COMPLETED THIS PROCEDURE" is displayed, the adjustment operation is completed. Cancel the simulation.

11) Check the copy color balance and density.

(Refer to the item of the copy color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).

If a satisfactory result is not obtained with the above procedure, perform the manual color balance adjustment.

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

12) Check the printer color balance and density.

(Refer to the item of the printer color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 7), change the factory color balance target with SIM 67-26 and repeat the procedures from 1). If a satisfactory result is not obtained with the above procedure, perform the manual color balance adjustment. Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

If the color balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments, there may be another cause.

Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

## 13-D Copy quality adjustment (Basic adjustment)

This adjustment must be performed in the following cases:

- When a consumable part (developer, OPC drum, transfer belt) is replaced.
- The CCD unit has been replaced.
- When the scanner (reading) section is disassembled.
- When the scanner (reading) unit is replaced.
- U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

## 13-D (1) Copy color balance and density adjustment (Automatic adjustment)

**a. General**

The color balance adjustment (automatic adjustment) is used to adjust the copy density of each of Cyan, Magenta, Yellow, and Black automatically. When this adjustment is executed, the color balance adjustments of all the copy modes are revised.

There are following two modes in the auto color balance adjustment.

1) Auto color balance adjustment by the serviceman (SIM 46-24 is used.)

2) Auto color balance adjustment by the user (The user program mode is used.) (The color balance target is the service target.)

The auto color balance adjustment by the user is provided to reduce the number of service calls.

If the copy color balance is lost for some reason, the user can use this color balance adjustment to recover the balance.

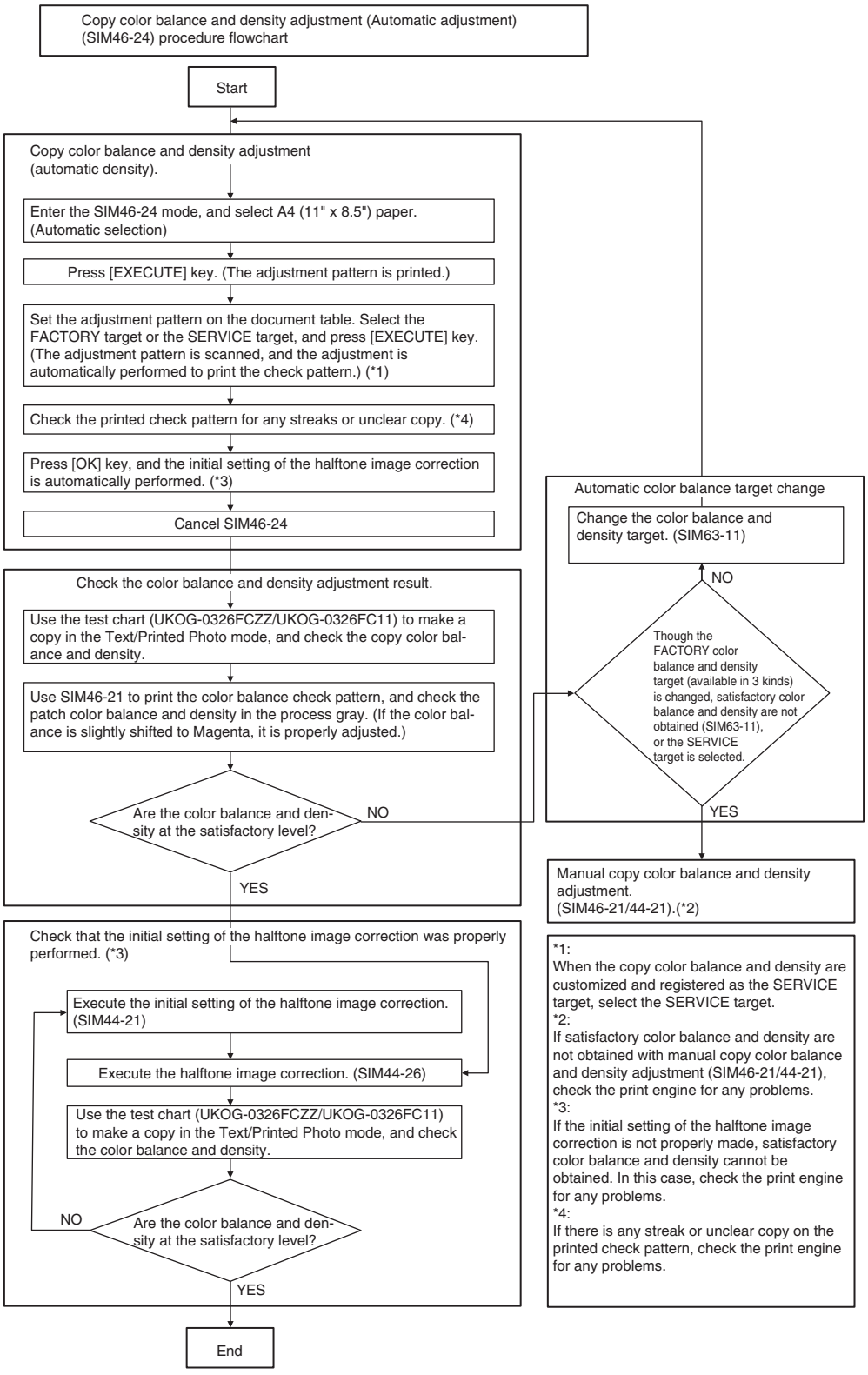
When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

If the machine condition is dramatically changed, a fatal problem occurs, or the normal color targets cannot be obtained, service must recalibrate the machine to specification.

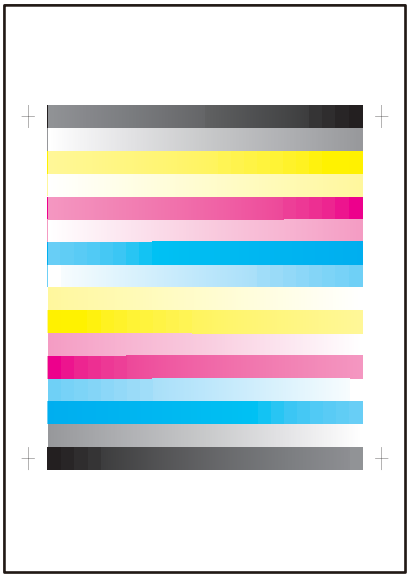
To perform the adjustment, the above difference must be fully understood.

**b. Adjustment procedure**

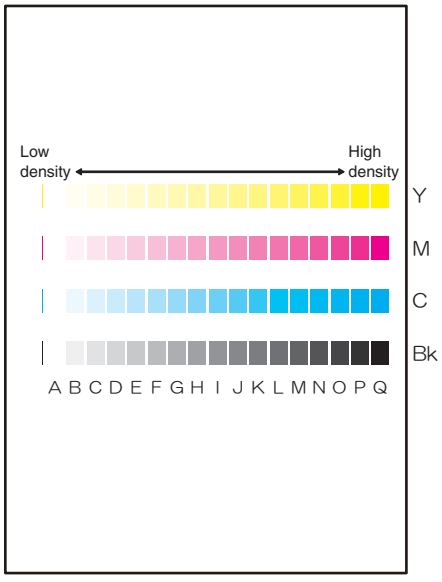
**(Auto color balance adjustment by the serviceman)**



1) Enter the SIM 46-24 mode.
2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
   The color patch image (adjustment pattern) is printed out.
3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
   Place the printed color patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern) paper.



4) Select [FACTORY] target, and press [EXECUTE] key.
   When the color balance is customized with the manual color balance adjustment (SIM 46-21) according to the user's request and the color balance is registered as the service target with SIM 63-7, if the color balance is adjusted to that color balance, select the service target.
   The copy color balance adjustment is automatically executed to print the color balance check patch image. Wait until the operation panel shown in procedure 5) is displayed.




5) Press [OK] key on the operation panel.
   According to data of this adjustment, the initial setting of the halftone image correction is performed.

**b. Adjustment procedure**

After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTERING THE NEW TARGET OF HALFTONE PROCON." is displayed.

After completion of the operation, "PLEASE QUIT THIS MODE" is displayed. Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.

6) Check the color balance and density. (Refer to the item of the copy color balance and density check.)
7) Use SIM44-26 to execute the halftone image correction. (Forcible execution)
   Press [EXECUTE] key.
   After completion of the operation, "COMPLETE" is displayed.
   After completion of the operation, the simulation is canceled.
8) Use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Photo mode (Manual) to check the copy color balance and density. (Refer to the item of the copy color balance and density check.)
   If the copy color balance and density are not satisfactory, perform the following procedures.
9) Execute the initial setting of the halftone image correction.
   (SIM 44-21)
10) Execute the halftone image correction. (Forcible execution)
    (SIM44-26)
11) Use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Printed Photo mode (Manual) to check the copy color balance/density. (Refer to the item of the copy color balance and density check.)
    Though the above procedures 9) - 11) are performed, the copy color balance and density are not in the specified range, there may be another cause.
    Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.
    When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).
    If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 46-21).
    Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.
    If the color balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments, there may be another cause.
    Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

## 13-D (2) Copy color balance and density adjustment (Manual adjustment)

**a. General**

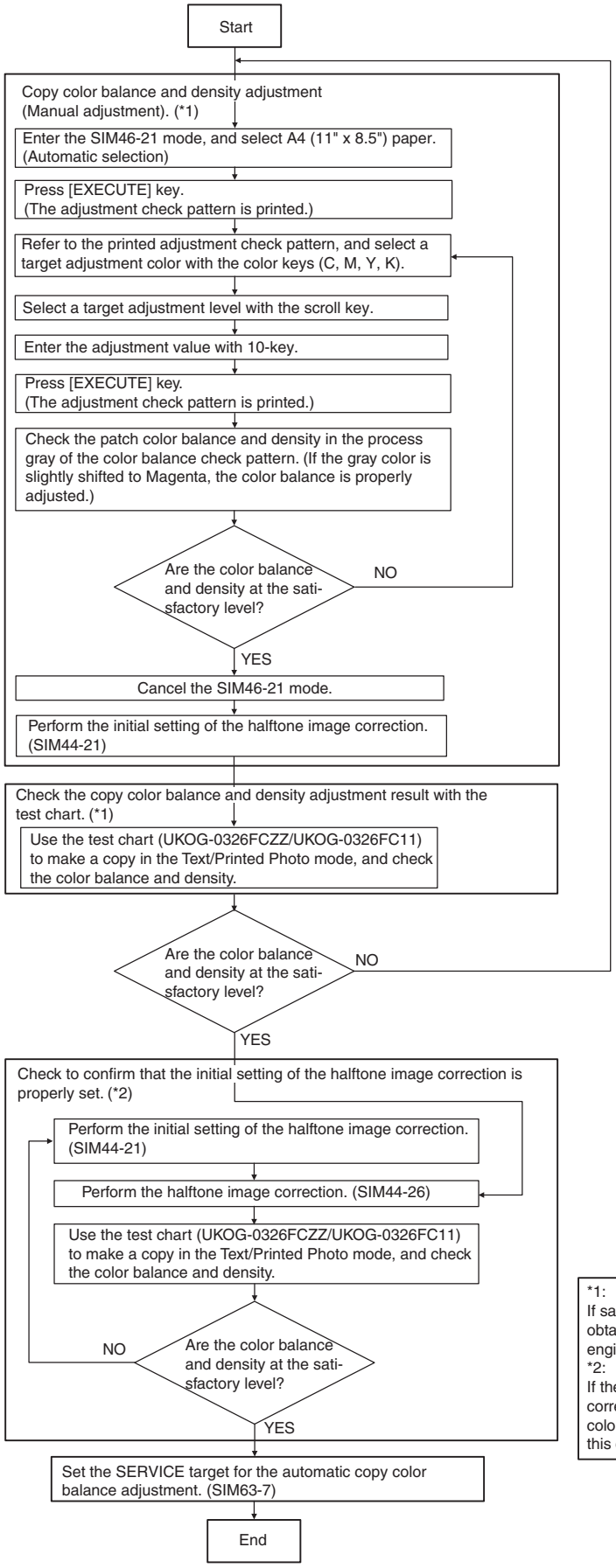
The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation.

When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for changing (customizing) the color balance.

This manual adjustment is executed only for the color patch which could not adjusted properly in the automatic adjustment.

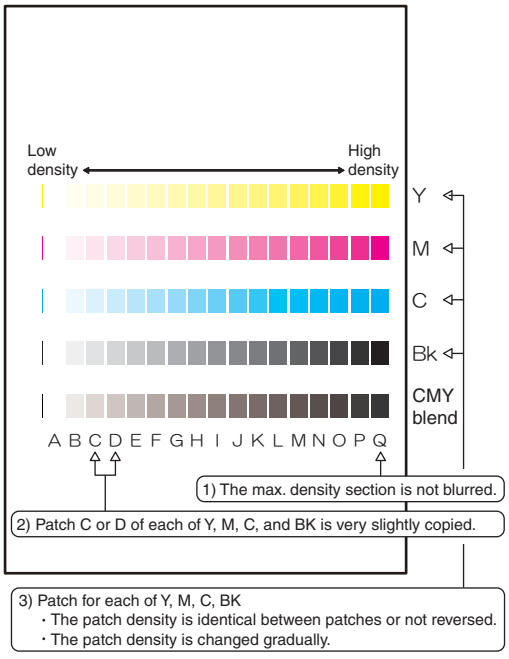
If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

Copy color balance and density adjustment (Manual adjustment) procedure flowchart (SIM46-21)




*1:
If satisfactory color balance and density are not obtained with the adjustment, check the print engine for any problems.
*2:
If the initial setting of the halftone image correction is not properly adjusted, satisfactory color balance and density cannot be obtained. In this case, check the print engine for any problems.

1) Enter the SIM46-21 mode.
2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
   The color balance adjustment pattern is printed.
3) Check that the following specification is satisfied or the color balance is satisfactory.
   If not, execute the following procedures.




   The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.
   The density level of each color must be almost at the same level.
   Patch B may not be copied.
   Patch A must not be copied.
   When, however, the color balance is adjusted according to a request from the user, there is no need to set to the standard color balance stated above.
   If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color correction table in an actual copy mode. (When the color balance target is DEF 1.)
4) Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
5) Enter the adjustment value with 10-key and press [OK] key.
   The adjustment value is set in the range of (1 - 999). When SIM 46-24 is used to adjust the automatic color balance and density, all the set values of this simulation are set to 500.
   To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value. Repeat procedures of 2) - 5) until the condition of 3) is satisfied.
   When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q to a same level collectively.
   Then, adjust each patch density individually. This is an efficient way of adjustment.
6) Make a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) and a user's document according to necessity in the normal copy mode, the text/Printed Photo mode (Manual) to check the adjustment result.
   (Refer to the item of the copy color balance/density check.)
7) Execute SIM 44-21. (Halftone image correction)
   It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.
   After completion of the operation, the simulation is canceled.

   **Note** This procedure is to save the copy color balance adjustment data as the reference data for the halftone correction.
   Immediately after execution of Color balance adjustment (Manual) with SIM 46-21, be sure to execute this procedure.
   When Color balance adjustment (Auto) is executed with SIM 46-24, this procedure is automatically executed.
8) Use SIM 44-26 to execute the halftone image correction. (Forcible execution) Press [EXECUTE] key.
   After completion of the operation, the simulation is canceled.
9) Make a copy of the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) and a user's document according to necessity in the Text/Printed Photo mode (Manual) and check the adjustment result again. (Refer to the item of the copy color balance/density check.)
   If the copy color balance and density are not adjusted to the specified level, there may be another cause.
   Troubleshoot the cause, and repair or perform proper treatments, and try all the procedures of the print image adjustment from the beginning.

   **Note** If the color balance is customized, use SIM 63-7 to register the color balance as the service target.
   If the color balance is not customized, this procedure is not required.
   If the customized color balance is registered as the service target, the automatic color balance adjustment can be made in the next color balance adjustment.

## 13-E Copy / Image send / FAX image quality adjustment (Individual adjustment)

**a. General**

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments

ADJ 14B and ADJ 14C or there is a request from the user. Normally there is no need to execute this adjustment.

In this adjustment, the adjustment result may be applied to the image send mode and the FAX mode as well as the copy mode.

This must be well understood for execution of the adjustment.

| Simulation No. and descriptions of the adjustment | | Copy Mode | | | | Image Scan Mode | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Color | | Monochrome | | Color | | Monochrome | | | |
| | | Auto | Manual | Auto | Manual | Auto | Manual | Auto | Manual | FAX | Printer |
| 46-01 | Color copy density adjustment (for each color copy mode) (separately for the low density area and the high-density area) (No need to adjust normally) | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-02 | Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally) | — | — | — | — | ○ | ○ | — | — | — | — |
| 46-04 | Color image send mode image density adjustment (for each mode) (No need to adjust normally) | — | — | — | — | ○ | ○ | — | — | — | — |
| 46-05 | Monochrome image send mode image density adjustment (for each mode) (No need to adjust normally) | — | — | — | — | — | — | ○ | ○ | — | — |
| 46-08 | Image send mode RGB color balance adjustment (separately for the low-density area and the high-density area) (No need to adjust normally) | — | — | — | — | ○ | ○ | — | — | — | — |
| 46-09 | RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| 46-10 | Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally) | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-16 | Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally) | — | — | ○ | ○ | — | — | — | — | — | — |
| 46-19 | Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set) | — | — | ○ | — | — | — | ○ | — | ○ | — |
| 46-21 | Copy color balance and density adjustment (Manual adjustment) | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| 46-23 | Copy high density image density reproduction setting (Normally unnecessary to the setting change) | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| 46-24 | Copy color balance and density adjustment (Automatic adjustment) | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| 46-25 | Copy color balance adjustment (Single color copy mode) (No need to adjust normally) | — | ○ | — | — | — | — | — | — | — | — |
| 46-26 | Single color copy mode color balance default setting | — | ○ | — | — | — | — | — | — | — | — |
| 46-27 | Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally) | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-30 | Copy mode sub scanning direction resolution setting | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-32 | Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section) | — | — | ○ | — | — | — | ○ | — | ○ | — |
| 46-36 | 2-color (red, black) copy mode fine color adjustment (No need to adjust normally) | — | ○ | — | — | — | — | — | — | — | — |
| 46-37 | Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally) | — | — | ○ | ○ | — | — | ○ | ○ | ○ | ○ |
| 46-38 | Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally) | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-39 | FAX send image sharpness adjustment | — | — | — | — | — | — | — | — | ○ | — |
| 46-40 | FAX send image density adjustment (Collective adjustment of all the modes) | — | — | — | — | — | — | — | — | ○ | — |

| Simulation No. and descriptions of the adjustment | | Copy Mode | | | | Image Scan Mode | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Color | | Monochrome | | Color | | Monochrome | | | |
| | | Auto | Manual | Auto | Manual | Auto | Manual | Auto | Manual | FAX | Printer |
| 46-41 | FAX send image density adjustment (Normal text mode) | — | — | — | — | — | — | — | — | ○ | — |
| 46-42 | FAX send image density adjustment (Fine text mode) | — | — | — | — | — | — | — | — | ○ | — |
| 46-43 | FAX send image density adjustment (Super fine mode) | — | — | — | — | — | — | — | — | ○ | — |
| 46-44 | FAX send image density adjustment (Ultra fine mode) | — | — | — | — | — | — | — | — | ○ | — |
| 46-45 | FAX send image density adjustment (600dpi mode) | — | — | — | — | — | — | — | — | ○ | — |
| 46-46 | FAX send image density adjustment (RGB_RIP) | — | — | — | — | — | — | — | — | ○ | — |
| 46-47 | Copy image, image send image, FAX send image (JPEG) compression ratio setting (Normally unnecessary to the setting change) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 46-48 | Resolution setting for each color copy mode (No need to adjust normally) | — | — | ○ | ○ | — | — | — | — | — | — |
| 46-51 | Gamma manual adjustment for the copy mode heavy paper and the image process mode (dither) (No need to adjust normally) | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| 46-52 | Gamma default setting for the copy mode heavy paper and the image process mode (dither) | ○ | ○ | ○ | ○ | — | — | — | — | — | ○ |
| 46-54 | Copy gamma, color balance adjustment for each dither (Automatic adjustment) (No need to adjust normally) | ○ | ○ | ○ | ○ | — | — | — | — | — | ○ |
| 46-55 | Dropout color setting | — | — | — | — | — | — | — | ○ | — | — |
| 46-58 | Pseudo resolution UP function setting | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| 46-60 | Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | ○ |
| 46-61 | Area separation recognition level adjustment (No need to adjust normally) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| 46-62 | ACS, area separation, background image process, automatic exposure mode operation conditions setting (Normally unnecessary to the setting change) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | — |
| 46-63 | Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally) | ○ | ○ | — | — | ○ | ○ | — | — | — | — |
| 46-65 | Color correction table setting (No need to adjust normally) | ○ | ○ | — | — | — | — | — | — | — | — |
| 46-66 | Watermark adjustment | ○ | ○ | ○ | ○ | — | — | — | — | — | ○ |
| 46-68 | Scan mode auto resolution judgement adjustment | — | — | — | — | ○ | — | ○ | — | — | — |
| 46-74 | Printer/Copy color balance and density adjustment (Automatic adjustment) (Basic adjustment) | ○ | ○ | ○ | ○ | — | — | — | — | — | ○ |
| 46-90 | High-compression PDF image process operation setting (Normally unnecessary to the setting change) | — | — | — | — | ○ | ○ | — | — | — | — |
| 46-91 | Black text emphasis fine adjustment | — | — | — | — | ○ | ○ | — | — | — | — |

## 13-E (1) Color copy density adjustment (for each color copy mode) (separately for the low density area and the high-density area) (No need to adjust normally)

The density is adjusted in each copy mode individually.
This adjustment must be performed in the following cases:

- When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- When there is necessity to change the density gradient of the
- When there is necessity to change all copy density by each the copy mode individually.
- When there is request from the user.

1) Enter the SIM 46-1 mode.
2) Select the copy mode to be adjusted with the scroll key.

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | AUTO | Auto | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| B | TEXT | Text | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| C | TEXT/PRINTED PHOTO | Text/Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| D | TEXT/PHOTO | Text/Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| E | PRINTED PHOTO | Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| F | PHOTOGRAPH | Photograph | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| G | MAP | Map | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| H | LIGHT | Light document | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| I | TEXT (COPY TO COPY) | Text (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| J | TEXT/PRINTED PHOTO (COPY TO COPY) | Text/Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| K | PRINTED PHOTO (COPY TO COPY) | Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| L | TEXT (COLOR TONE ENHANCEMENT) | Text (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| M | TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT) | Text/Printed Photo (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| N | TEXT/PHOTO (COLOR TONE ENHANCEMENT) | Text/Photo (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| O | PRINTED PHOTO (COLOR TONE ENHANCEMENT) | Printed Photo (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| P | PHOTOGRAPH (COLOR TONE ENHANCEMENT) | Photograph (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| Q | MAP (COLOR TONE ENHANCEMENT) | Map (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| R | LIGHT (COLOR TONE ENHANCEMENT) | Light (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| S | SINGLE COLOR | Single color | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| T | SINGLE COLOR (COPY TO COPY) | Single color (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| U | TWO COLOR | Two-color | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| V | TWO COLOR (COPY TO COPY) | Two-color (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |

3) Enter the adjustment value with 10-key and press [OK] key.

   When adjusting the copy density on the low density part, select "LOW" mode and change the adjustment value. When adjusting the copy density on the high density part, select "HIGH" mode and change the adjustment value.

   When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

4) Make a copy and check the adjustment result.

   Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.

   Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

## 13-E (2) Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)

The density is adjusted in each copy mode individually.
This adjustment must be performed in the following cases:

- When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- When there is necessity to change the density gradient of the copy by each the copy mode individually.
- When there is necessity to change all copy density by each the copy mode individually.
- When there is request from the user.

1) Enter the SIM 46-2 mode.
2) Select the copy mode to be adjusted with the scroll key.

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | AUTO1 | Auto 1 | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| B | AUTO2 | Auto 2 | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| C | AUTO3 | Auto 3 | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| D | TEXT | Text | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| E | TEXT/PRINTED PHOTO | Text/Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| F | TEXT/PHOTO | Text/photograph | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| G | PRINTED PHOTO | Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| H | PHOTOGRAPH | Photograph | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| I | MAP | Map | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| J | AUTO1 (COPY TO COPY) | Auto1 (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| K | AUTO2 (COPY TO COPY) | Auto2 (copy to copy) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| L | AUTO3 (COPY TO COPY) | Auto3 (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| M | TEXT (COPY TO COPY) | Text (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| N | TEXT/PRINTED PHOTO (COPY TO COPY) | Text/Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| O | PRINTED PHOTO (COPY TO COPY) | Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| P | LIGHT | Light document | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |

3) Enter the adjustment value with 10-key and press [OK] key.

   When adjusting the copy density on the low density part, select "LOW" mode and change the adjustment value. When adjusting the copy density on the high density part, select "HIGH" mode and change the adjustment value.

   When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

4) Make a copy and check the adjustment result.

   Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.

   Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

## 13-E (3) Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)

This adjustment is used to execute the color balance adjustment for each density level in each color copy mode.
This adjustment must be performed in the following cases:

- When there is necessity to change the color balance and gamma by each the copy mode individually.
- When there is request from the user.

1) Enter the SIM 46-10 mode.
2) Select the copy mode to be adjusted with the mode key.

3) Select a color to change the adjustment value with the color key.
4) Select the density level (point) to be adjusted with the scroll key.

| Item/Display | | Density level (Point) | Adjustment value range | Default |
|---|---|---|---|---|
| A | POINT1 | Point1 | 1 - 999 | 500 |
| B | POINT2 | Point2 | 1 - 999 | 500 |
| C | POINT3 | Point3 | 1 - 999 | 500 |
| D | POINT4 | Point4 | 1 - 999 | 500 |
| E | POINT5 | Point5 | 1 - 999 | 500 |
| F | POINT6 | Point6 | 1 - 999 | 500 |
| G | POINT7 | Point7 | 1 - 999 | 500 |
| H | POINT8 | Point8 | 1 - 999 | 500 |
| I | POINT9 | Point9 | 1 - 999 | 500 |
| J | POINT10 | Point10 | 1 - 999 | 500 |
| K | POINT11 | Point11 | 1 - 999 | 500 |
| L | POINT12 | Point12 | 1 - 999 | 500 |
| M | POINT13 | Point13 | 1 - 999 | 500 |
| N | POINT14 | Point14 | 1 - 999 | 500 |
| O | POINT15 | Point15 | 1 - 999 | 500 |
| P | POINT16 | Point16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

5) Enter the adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, the density is increased. When the adjustment value is decreased, the density is decreased.
When the arrow key is pressed, the color densities selected with the color keys are collectively adjusted.
That is, all the density levels (points) from the low density point to the high density point can be adjusted collectively.
When [EXECUTE] key is pressed, the adjustment pattern is printed out.
This adjustment pattern can be used to check the color balance and the density for each density level (point).
6) Make a copy and check the adjustment result.
Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.
Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

## 13-E (4) Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)

This adjustment is used to execute the density adjustment for each density level in each monochrome copy mode.
This adjustment must be performed in the following cases:

- When it is required to change the gamma in each copy mode.
- When there is request from the user.

1) Enter the SIM 46-16 mode.
2) Select the density level (point) to be adjusted with the scroll key.

| Item/Display | | Density level (Point) | Adjustment Value range | Default |
|---|---|---|---|---|
| A | POINT1 | Point1 | 1 - 999 | 500 |
| B | POINT2 | Point2 | 1 - 999 | 500 |
| C | POINT3 | Point3 | 1 - 999 | 500 |
| D | POINT4 | Point4 | 1 - 999 | 500 |
| E | POINT5 | Point5 | 1 - 999 | 500 |
| F | POINT6 | Point6 | 1 - 999 | 500 |
| G | POINT7 | Point7 | 1 - 999 | 500 |
| H | POINT8 | Point8 | 1 - 999 | 500 |
| I | POINT9 | Point9 | 1 - 999 | 500 |
| J | POINT10 | Pint10 | 1 - 999 | 500 |
| K | POINT11 | Point11 | 1 - 999 | 500 |
| L | POINT12 | Point12 | 1 - 999 | 500 |
| M | POINT13 | Point13 | 1 - 999 | 500 |
| N | POINT14 | Point14 | 1 - 999 | 500 |
| O | POINT15 | Point15 | 1 - 999 | 500 |
| P | POINT16 | Point 16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

3) Enter the adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, the density is increased. When the adjustment value is decreased, the density is decreased.
When the arrow key is pressed, the densities are collectively adjusted.
That is, all the density levels (points) from the low density point to the high density point can be adjusted collectively.
When [EXECUTE] key is pressed, the adjustment pattern is printed out.
The density at each density level (point) can be checked by referring to this printed adjustment pattern. However, it is more practical to make a copy and check it.
4) Make a copy and check the adjustment result.
Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.
Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

## 13-E (5) Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)

Use for setting the condition of read operation (Exposure) for document density in monochrome auto copy mode.
When a copy with correct density is not obtained by type of document, change the setting.
This setting is required in the following cases.

- When a proper density copy is not obtained in the monochrome automatic copy mode.
- When a document with images near its lead edge is copied.
- When a document with colored background is copied.

1) Enter the SIM 46-19 mode.
2) Set REALTIME, STOP or PRE-SCAN to adjustment item AE STOP COPY. For contents of each setting item, refer to below.

| Display/ Item | Content | Set value | Default |
|---|---|---|---|
| AE_MODE | Auto exposure mode | MODE1 | MODE2 |
| | | MODE2 | |
| | | MODE3 | |
| AE_STOP_ COPY | Auto B/W exposure Stop (for copy) | REALTIME | PRESCAN |
| | | STOP | |
| | | PRESCAN | |
| AE_STOP_ FAX | Auto B/W exposure Stop (for FAX) | ON | ON |
| | | OFF | |
| AE_STOP_ SCAN | Auto B/W exposure Stop (for scanner) | REALTIME | STOP |
| | | STOP | |
| | | PRESCAN | |
| AE_FILTER | Auto exposure filter setting | SOFT | NORMAL |
| | | NORMAL | |
| | | SHARP | |
| AE_WIDTH | AE exposure width | FULL | FULL |

Note

MODE1: High gamma (Improves the image contrast)

MODE2: Normal gamma

STOP: Reads the density of 3 - 7 mm area from leading edge of document, decides the output image density according to the density of that part. (The output image density is constant at whole area.)

REALTIME: Reads the density of width of the document one by one, decides the output image density according to the density of each part of the document. (The output image density may be not constant at whole area.)

PRESCAN: Once the densities on the document surface are scanned, the output image density is determined according to the average of the scanned densities. (The output image density is even for all the surface.)

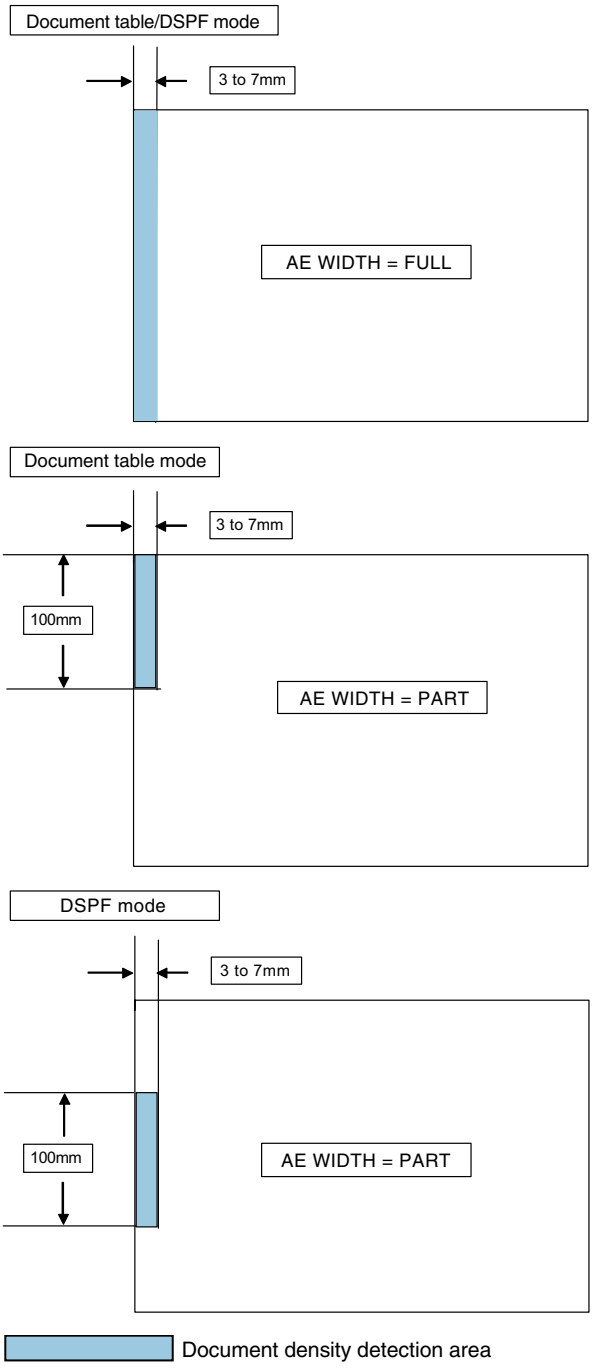
In addition, the original type is automatically determined and the processing is carried out in an optimum original mode.

AE WIDTH FULL: Document density reading area in monochrome auto mode is 3 - 7mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

AE WIDTH PART: Document density reading area in monochrome auto mode is 3 - 7mm (leading edge of document) x 100 mm (width). No relationship to PRESCAN MODE

**Operation in monochrome auto copy mode:**

When the density of the document of the read area is light, output image density is increased by control. When the density of the document of the read area is dark, output image density is decreased by control.




## 13-E (6) Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)

Use for the reproducibility adjustment of document background density in monochrome auto copy mode.
This adjustment is required in the following cases.

- When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
- When there is request from the user.

1) Enter the SIM 46-32 mode.
2) Select the adjustment mode with the scroll key.

3) Enter the adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

**DSPF**

| Display/Item | | Content | Set Value | Default |
|---|---|---|---|---|
| A | COPY: OC | Copy mode (for OC) | 1 - 250 | 196 |
| B | COPY: DSPF (SIDE1) | Copy mode (for DSPF: Side-1) | 1 - 250 | 196 |
| C | COPY: DSPF (SIDE2) | Copy mode (for DSPF: Side-2) | 1 - 250 | 196 |
| D | SCAN: OC | Scanner mode (for OC) | 1 - 250 | 196 |
| E | SCAN: DSPF (SIDE1) | Scanner mode (for DSPF: Side-1) | 1 - 250 | 196 |
| F | SCAN: DSPF (SIDE2) | Scanner mode (for DSPF: Side-2) | 1 - 250 | 196 |
| G | FAX: OC | FAX mode (for OC) | 1 - 250 | 196 |
| H | FAX: DSPF (SIDE1) | FAX mode (for DSPF: Side-1) | 1 - 250 | 196 |
| I | FAX: DSPF (SIDE2) | FAX mode (for DSPF: Side-2) | 1 - 250 | 196 |

**RSPF**

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | COPY: OC | Copy mode (for OC) | 1 - 250 | 196 |
| B | COPY: RSPF | Copy mode (for RSPF) | 1 - 250 | 196 |
| C | SCAN: OC | Scanner mode (for OC) | 1 - 250 | 196 |
| D | SCAN: RSPF | Scanner mode (for RSPF) | 1 - 250 | 196 |
| E | FAX: OC | FAX mode (for OC) | 1 - 250 | 196 |
| F | FAX: RSPF | FAX mode (for RSPF) | 1 - 250 | 196 |

## 13-E (7) Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)

This adjustment is used to adjust the image density in the low density area in the copy/scanner mode.
This adjustment is required in the following cases.

- When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
- When there is request from the user.

1) Enter the SIM 46-63 mode.
2) Select the copy mode to be adjusted with the scroll key.

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | COLOR COPY: TEXT / PRINTED PHOTO | Text print (Color copy) | 1 - 9 | 3 |
| B | COLOR COPY: TEXT | Text (Color copy) | 1 - 9 | 3 |
| C | COLOR COPY: PRINTED PHOTO | Printed Photo (Color copy) | 1 - 9 | 5 |
| D | COLOR COPY: PHOTOGRAPH | Photograph (Color copy) | 1 - 9 | 5 |
| E | COLOR COPY: TEXT/PHOTO | Text/Photograph (Color copy) | 1 - 9 | 3 |
| F | COLOR COPY: MAP | Map (Color copy) | 1 - 9 | 5 |
| G | COLOR COPY: LIGHT | Light document (Color copy) | 1 - 9 | 6 |
| H | COLOR COPY: TEXT/PRINTED PHOTO (COPY TO COPY) | Copy document, Text print (Color copy) | 1 - 9 | 5 |
| I | COLOR COPY: TEXT (COPY TO COPY) | Copy document, Text (Color copy) | 1 - 9 | 5 |
| J | COLOR COPY: PRINTED PHOTO (COPY TO COPY) | Copy document, Printed photo (Color copy) | 1 - 9 | 5 |
| K | COLOR PUSH: TEXT/PRINTED PHOTO | Text print (Color PUSH) | 1 - 9 | 5 |
| L | COLOR PUSH: TEXT | Text (Color PUSH) | 1 - 9 | 5 |
| M | COLOR PUSH: PRINTED PHOTO | Printed photo (Color PUSH) | 1 - 9 | 5 |
| N | COLOR PUSH: PHOTOGRAPH | Photograph (Color PUSH) | 1 - 9 | 5 |
| O | COLOR PUSH: TEXT/PHOTO | Text/Photograph (Color PUSH) | 1 - 9 | 5 |
| P | COLOR PUSH: MAP | Map (Color PUSH) | 1 - 9 | 5 |

3) Enter the adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

## 13-E (8) Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)

**Adjustment 1**

By changing Text/Printed Photo, Text/Photograph, automatic copy mode Text, line image edge section gamma and the density, the reproducibility of text and line profile can be varied optionally.

With this adjustment, the density and the thickness of fine text and lines can be varied.

Check the result of this adjustment by text/printed photo copy mode (manual).

This adjustment is required in the following cases.

- When the reproducibility of text and line copy image is to be changed.
- When there is request from the user.

1) Enter the SIM 46-27 mode.
2) Select the mode to be adjusted with the scroll key.

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | BLACK TEXT (SLOPE) | Black character edge gamma skew adjustment | 1 - 99 | 50 |
| B | BLACK TEXT (INTERCEPT) | Black character edge density adjustment | 1 - 99 | 50 |
| C | COLOR TEXT (SLOPE) | Color character edge gamma skew adjustment | 1 - 99 | 50 |
| D | COLOR TEXT (INTERCEPT) | Color character edge density adjustment | 1 - 99 | 50 |
| E | ED TEXT (SLOPE) | Text/Map mode gamma skew adjustment (Text/Map mode) | 1 - 99 | 50 |
| F | ED TEXT (INTERCEPT) | Text/Map mode density adjustment (Text/Map mode) | 1 - 99 | 50 |

3) Enter the adjustment value with 10-key.

When the adjustment values of items A and C are changed, the gamma at the character edge and the line edge section is changed.

When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of character and line edge is decreased.

When the adjustment value of the item B and D are increased, the image density at the character edge and the line edge section is increased, and vice versa.

4) Press [OK] key.

5) Make a copy in color text/printed photo copy mode (manual), check the copy.

When checking, use a copy of the document with a thin character and line image.

If a satisfactory result is not obtained, return to the SIM 46-27 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

**Adjustment 2**

This adjustment is used to change the gamma and the density in the Text/Map copy mode.

This adjustment is required in the following cases.

- To change the contrast and the density of the Text/Map copy mode images.
- When there is request from the user.

1) Enter the SIM 46-27 mode.

2) Select the mode to be adjusted with the scroll key.

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | BLACK TEXT (SLOPE) | Black character edge gamma skew adjustment | 1 - 99 | 50 |
| B | BLACK TEXT (INTERCEPT) | Black character edge density adjustment | 1 - 99 | 50 |
| C | COLOR TEXT (SLOPE) | Color character edge gamma skew adjustment | 1 - 99 | 50 |
| D | COLOR TEXT (INTERCEPT) | Color character edge density adjustment | 1 - 99 | 50 |
| E | ED TEXT (SLOPE) | Text/Map mode gamma skew adjustment (Text/Map mode) | 1 - 99 | 50 |
| F | ED TEXT (INTERCEPT) | Text/Map mode density adjustment (Text/Map mode) | 1 - 99 | 50 |

3) Enter the adjustment value with 10-key.

When the adjustment value of the adjustment item E is changed, the gamma (contrast) is changed.

When the adjustment value is increased, the contrast is increased, and vice versa.

When the adjustment value of the item F is increased, the image density is increased, and vice versa.

4) Press [OK] key.

5) Make a copy in the color Text/Map copy mode (manual), and check the output print.

If a satisfactory result is not obtained, use SIM46-27 to change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 13-E (9) Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)

Use to adjust the reproducibility for the red image and the yellow image when printing color document that included the red/yellow image in monochrome copy mode.

This adjustment is required in the following cases.

- When there is desire to change reproducibility of yellow/red image in case of making a color copy of the color document in monochrome copy mode.
- When there is request from the user.

1) Enter the SIM 46-37 mode.

2) Select the mode to be adjusted with the scroll key.

**DSPF model**

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | R-Ratio | Gray making setting (R) | 0 - 1000 | 127 |
| B | G-Ratio | Gray making setting (G) | 0 - 1000 | 814 |
| C | R-Ratio RIP | Print gray making setting (R) | 0 - 1000 | 299 |
| D | G-Ratio RIP | Print gray making setting (G) | 0 - 1000 | 587 |

**RSPF model**

| Display/Item | | Content | Set value | Default |
|---|---|---|---|---|
| A | R-Ratio | Gray making setting (R) | 0 - 1000 | 137 |
| B | G-Ratio | Gray making setting (G) | 0 - 1000 | 827 |
| C | R-Ratio RIP | Print gray making setting (R) | 0 - 1000 | 299 |
| D | G-Ratio RIP | Print gray making setting (G) | 0 - 1000 | 587 |

| | |
|---|---|
| B-Ratio | Gray making setting (B)<br>(1000-R-Ratio - G-Ratio) |
| B-Ratio RIP | Print gray making setting (B)<br>(1000-R-Ratio RIP - G-Ratio RIP) |

3) Enter the adjustment value with 10-key.

When the adjustment value of adjustment item A is increased, copy density of red image is decreased. When the adjustment value is decreased, copy density of red image is increased.

When the adjustment value of adjustment item B is increased, copy density of red image is increased. When the adjustment value is decreased, copy density of red image is decreased.

4) Press [OK] key.

5) Make a copy in monochrome text/printed photo copy mode (manual), check the copy.

If a satisfactory result is not obtained, return to the SIM 46-37 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 13-E (10) Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)

Use to adjust the black component amount in the color copy mode.

(except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

This adjustment is required in the following cases.

- When reproduction as solid of black image is required.
- To make the black background and the dark area darker
- When change of gradation of the shade part is required.
- When there is request from the user.

1) Enter the SIM 46-38 mode.

2) Select the AUTO MODE or the MANUAL MODE with the mode key.

3) Select the mode to be adjusted with the scroll key.

| Display/Item (Copy mode) | | Select button | Content | Default |
|---|---|---|---|---|
| MANUAL | TEXT PRT | (-)LUT2 | Text print (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | TEXT | (-)LUT2 | Text (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |

| Display/Item (Copy mode) | | Select button | Content | Default |
|---|---|---|---|---|
| MANUAL | PRINTED PHOTO | (-)LUT2 | Printed photo (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | PHOTO | (-)LUT2 | Photograph (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | TEXT PHOTO | (-)LUT2 | Text/Photograph (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | MAP | (-)LUT2 | Map (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | CPY TO CPY/ TXT PRT | (-)LUT2 | Copy document/Text printed (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | CPY TO CPY/ TEXT | (-)LUT2 | Copy document/Text (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | CPY TO CPY/ PHOTO | (-)LUT2 | Copy document/Printed photo (Manual) | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| | LIGHT ORIGINAL | (-)LUT2 | Pencil | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |
| AUTO | AUTO | (-)LUT2 | Auto mode judgment | NORMAL |
| | | (-)LUT1 | | |
| | | NORMAL | | |
| | | (+)LUT1 | | |
| | | (+)LUT2 | | |

4) Press the black component amount select button.

   When reproduction as solid of black image is required: Selects + button

   When there is desire to darken copy of black image: Selects + button

   When a dark color image is reproduced in the black: Selects - button

5) Make a copy in color copy mode and check the copy.

   If a satisfactory result is not obtained, return to the SIM 46-38 mode and change the adjustment value.

   Repeat the above procedures until a satisfactory result is obtained.

## 13-E (11) Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)

Use for sharpness adjustment in copy/scan mode and smoothness (asperity) adjustment of the dark area in copy/scan mode.

This adjustment is required in the following cases.

- When changing the sharpness of copy/scan image in copy mode.
  (obtain crispy image) (decreases moire)
- When there is desire to improving smoothness in the image shade part (for decrease of asperity)
- To make the black background and the dark area darker.
- To reproduce the gradation change in the dark area.
- When there is request from the user.

1) Enter the SIM 46-60 mode.
2) Select the mode to be adjusted with the scroll key.

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SCREEN FILTER LEVEL | Sharpness (filter) adjustment of dot pattern image in auto copy mode | Strong emphasis | 1 | 3 |
| | | | Soft emphasis | 2 | |
| | | | Auto | 3 | |
| B | RGB FILTER LEVEL | RGB sharpness (filter) adjustment in copy/ push scan /FAX mode | SOFT | 1 | 2 |
| | | | CENTER | 2 | |
| | | | HIGH | 3 | |
| C | CPY PUSH AUTO FILTER LEVEL | Sharpness (filter) adjustment for the auto push scan mode (Text, Text/Printed Photo/ Text, Text/ Printed Photo image) | SOFT | 1 | 2 |
| | | | CENTER | 2 | |
| | | | HIGH | 3 | |
| D | COLOR COPY: CMY | Soft filter applying setting to C, M, Y image in color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| E | COLOR COPY: K | Soft filter applying setting to K image in color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| F | SINGLE COLOR: CMY | Soft filter applying setting to C, M, Y image in single color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| G | 2 COLOR COPY: CMY | Soft filter applying setting to C, M, Y image in 2-color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| H | 2 COLOR COPY: K | Soft filter applying setting to K image in 2-color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| I | B/W COPY | Soft filter applying setting in monochrome copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| J | COLOR PUSH: RGB | Soft filter applying setting to image in push scan color mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| K | B/W PUSH | Soft filter applying setting to image in push scan monochrome mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| L | COLOR PRINT: CMY | Soft filter applying setting to CMY image in color print mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| M | COLOR PRINT: K | Soft filter applying setting to K image in color print mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| N | B/W PRINT | Soft filter applying setting in monochrome print mode | OFF | 0 | 1 |
| | | | ON | 1 | |

3) Input numeric value corresponding to sharpness level (filter process mode).

   • Adjustment item A:

   When selecting AUTO, filter is selected according to dot pattern state automatically and adjusts sharpness.

   Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

• Adjustment item B:

Select HIGH to obtain clear images. Select SOFT to reduce moire.

• Adjustment item C:

When selecting AUTO, Select HIGH to obtain clear images. Select SOFT to reduce moire.

• Adjustment item D- K:

When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)

4) Press [OK] key.

5) Make a copy and check the copy image.

If a satisfactory result is not obtained, return to the SIM 46-60 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 13-E (12) Copy high density image density reproduction setting (Normally unnecessary to the setting change)

If a tone gap occurs on part of high density in copy mode, or if there is necessity to increase the density of the part of high density, change the setting.

This setting is normally not required. When, however, there are case of following, change the setting.

- When a tone gap occurs on part of high density.
- When there is a necessity to increase the density of the part of high density.
- When there is request from the user.

1) Enter the SIM 46-23 mode.

2) Select the item A, B with the scroll key.

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | CMY (0: ENABLE 1: DISABLE) | 0 | CMY engine maximum density correction mode Enable | 0 - 1 | 0 |
| | | 1 | CMY engine maximum density correction mode Disable | | |
| B | K (0: ENABLE 1: DISABLE) | 0 | K engine maximum density correction mode Enable | 0 - 1 | 1 |
| | | 1 | K engine maximum density correction mode Disable | | |
| C | CYAN MAX TARGET | Scanner target value for CYAN maximum density correction | | 0 - 999 | 500 |
| D | MAGENTA MAX TARGET | Scanner target value for MAGENTA maximum density correction | | 0 - 999 | 500 |
| E | YELLOW MAX TARGET | Scanner target value for YELLOW maximum density correction | | 0 - 999 | 500 |
| F | BLACK MAX TARGET | Scanner target value for BLACK maximum density correction | | 0 - 999 | 500 |
| G | RATIO LOW | Mix ratio of high density correction (LOW) (1/100) | | 0-100 | 0 |
| H | RATIO HIGH | Mix ratio of high density correction (HIGH) (1/100) | | 0-100 | 0 |
| I | DITHER THRESHOLD | Dither threshold (LOW) | | 0-255 | 255 |
| J | SLOPE THRESHOLD | Slope threshold (HIGH) (1/100) | | 100-500 | 500 |

- If a tone gap occurs on part of high density, set 0 to item A and B

  The density of high density part decreases. However, the tone gap is better.

- In case of more increase of the density on high density part, set 1 to item A and B.

  The tone gap may occur in high density part.

**Note**

Do not change the setting values of item C, D, E and F. If these values are changed, density of the high density part is changed.

If these values are changed, be sure to execute the copy color balance density adjustment. (Auto adjustment)

## 13-E (13) Copy color balance adjustment (Single color copy mode) (No need to adjust normally)

This adjustment is used to set the color balance and the density in the single color copy mode to the user's request.

The adjustment is made by changing Y, M, C components of each color.

This adjustment is not required normally, but executed when there is a request from the user.

When the default adjustment value is changed, this adjustment is required in the following cases.

- When it is required to change the color balance in the single color copy mode.
- When there is request from the user.

**a. Adjustment procedure**

1) Enter the SIM 46-25 mode.

2) Select the color to be adjusted with the scroll key.

3) Select the color (YMC) to be adjusted with the color key.

4) Enter the adjustment value with 10-key.

| Display/Item | | Adjustment range | Default | | |
|---|---|---|---|---|---|
| | | | C | M | Y |
| A | RED | 0 - 255 | 0 | 255 | 200 |
| B | GREEN | 0 - 255 | 255 | 0 | 255 |
| C | BLUE | 0 - 255 | 255 | 150 | 0 |
| D | CYAN | 0 - 255 | 255 | 0 | 0 |
| E | MAGENTA | 0 - 255 | 0 | 255 | 0 |
| F | YELLOW | 0 - 255 | 0 | 0 | 255 |
| G | ORANGE | 0 - 255 | 0 | 150 | 255 |
| H | NAVY | 0 - 255 | 255 | 200 | 0 |
| I | LIGHT GREEN | 0 - 255 | 150 | 0 | 150 |
| J | LIGHT BLUE | 0 - 255 | 150 | 20 | 0 |
| K | AQUA MARINE | 0 - 255 | 170 | 0 | 50 |
| L | PURPLE | 0 - 255 | 128 | 255 | 0 |
| M | PINK | 0 - 255 | 0 | 150 | 20 |
| N | YELLOW GREEN | 0 - 255 | 128 | 0 | 255 |
| O | BEIGE | 0 - 255 | 0 | 50 | 170 |

5) Press [OK] key.

6) Make a copy in the single color copy mode and check the copy.

If a satisfactory result is not obtained, return to the SIM 46-25 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 13-E (14) DSPF/RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)

This setting is normally not required, however, in the following cases, make changes to the setting:

- When copy in DSPF/RSPF mode differs from copy in document table mode.
- When copy density in DSPF/RSPF mode is low or too high.
- When the DSPF/RSPF unit is replaced.

- When the DSPF/RSPF unit is disassembled.
- The CCD unit has been replaced.
- U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

1) Enter the SIM 46-9 mode.
2) Select the mode to be adjusted with the scroll key.
   When adjusting density on low density part, select "A".
   When adjusting density on high density part, select "D".
   **DSPF**

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| A | OC | COPY SIDEA: LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| B | | SCAN SIDEA: LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| C | | FAX SIDEA: LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| D | | COPY SIDEA: HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 52 |
| E | | SCAN SIDEA: HIGH | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 52 |
| F | | FAX SIDEA: HIGH | FAX mode exposure adjustment (High density side) | 1 - 99 | 52 |
| A | DSPF | COPY SIDEB: LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| B | | SCAN SIDEB: LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| C | | FAX SIDEB: LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| D | | COPY SIDEB: HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 50 |
| E | | SCAN SIDEB: HIGH | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 50 |
| F | | FAX SIDEB: HIGH | FAX mode exposure adjustment (High density side) | 1 - 99 | 50 |
| G | | BALANCE SIDEB: R | Color balance R | 1 - 99 | 50 |
| H | | BALANCE SIDEB: G | Color balance G | 1 - 99 | 50 |
| I | | BALANCE SIDEB: B | Color balance B | 1 - 99 | 50 |

**RSPF**

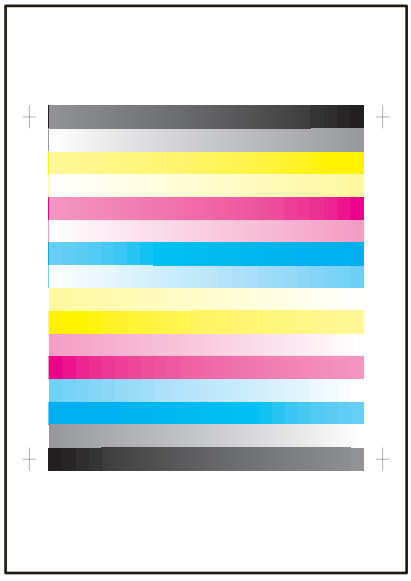
| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | COPY: LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| B | SCAN: LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| C | FAX: LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| D | COPY: HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 53 |
| E | SCAN: HIGH | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 53 |
| F | FAX: HIGH | FAX mode exposure adjustment (High density side) | 1 - 99 | 53 |

3) Enter the adjustment value with 10-key.
   In case of increase of image density, input large numeric value. Or in case of diluting the image density, input small numeric value.
4) Press [OK] key.
5) Make a copy in the DSPF/RSPF mode and check the copy.
   If a satisfactory result is not obtained, return to the SIM 46-9 mode and change the adjustment value.
   Repeat the above procedures until a satisfactory result is obtained.

## 13-E (15) Copy gamma, color balance adjustment for each dither (Automatic adjustment)

This simulation is used to improve the image quality in a certain mode. (Refer to the list in procedure 6.)

1) Enter the SIM46-54 mode.
2) Press [EXECUTE] key.
   A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.
   The color patch image (adjustment pattern) is printed.
3) Set the patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side.
   Place 5 sheets of white paper on the printed patch image (adjustment pattern).



4) Press [EXECUTE] key.
   The color balance and the density are automatically adjusted.
   The adjustment pattern is printed out. Check it for any abnormality.
5) Press [OK] key.
   The list of the adjustment items (for each dither) is displayed.
6) Select an adjustment item (for each dither).

| Select item (Mode/Image) | Content |
|---|---|
| HEAVY PAPER *1 | Adjustment item to improve the color balance in the heavy paper mode |
| BLACK EDGE | Adjustment item (K) to improve the reproduction of lines, text density, and thickness |
| COLOR EDGE | Adjustment item (Color) to improve the reproduction of lines, text density, and thickness |
| COLOR ED | Adjustment item to improve the color balance in the text mode and the map mode. |

| Select item (Mode/Image) | Content |
|---|---|
| B/W ED | Adjustment item to improve the density and gradation in the monochrome auto mode, text mode, map mode and light original mode |
| B/W 1200 | Adjustment item to improve the density and gradation in the monochrome Printed Photo mode and Photo mode. |
| B/W 600 | Adjustment item to improve the density and gradation in the monochrome auto mode Text/ Printed Photo mode and Text/Photo mode. |
| B/W 600 LOW | Adjustment item to improve the density and gradation in the monochrome auto mode (Printed Photo mode and Photo mode). |
| WOVEN1 | Adjustment item when adjusting the watermark density in the watermark mode 1 |
| WOVEN2 | Adjustment item when adjusting the watermark density in the watermark mode 2 |
| WOVEN3 | Adjustment item when adjusting the watermark density in the watermark mode 3 |
| WOVEN4 | Adjustment item when adjusting the watermark density in the watermark mode 4 |

*1: When performing adjustments in the heavy paper mode, load paper in the manual paper feed tray.

## 13-E (16) Dropout color adjustment (Normally not required.)

This adjustment is used to adjust the level of chroma of color images which are reproduced as monochrome images in the image send mode (monochrome manual text mode).

This adjustment must be performed in the following cases:

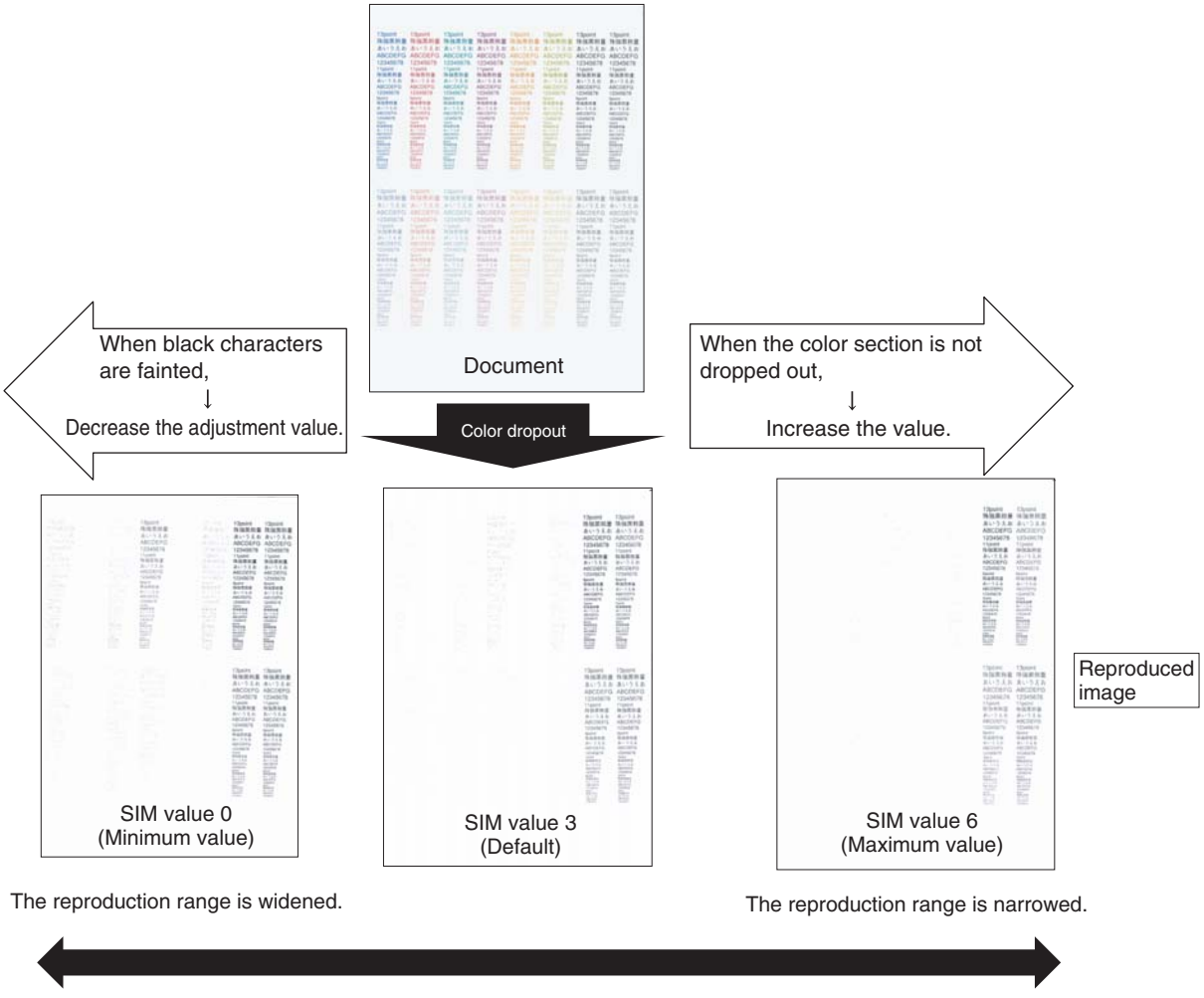
- When there is request from the user.

1) Enter the SIM 46-55 mode.
2) Enter the adjustment value with 10-key and press [OK] key.

   When the adjustment value is increased, colors dropout becomes easy to narrow the reproduction range. When the adjustment value is decreased, color dropout becomes difficult to widen the reproduction range.

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | CHROMA | Dropout color range adjustment | 0 - 6 | 3 |

3) Scan the document in the image send mode (monochrome manual text mode) and check the adjustment result.




**Effect and adverse effect when decreasing the value**

**[Effect]**

When black characters are fainted by color shift, etc, the black area is outputted clearly.

**[Adverse effect]**

Dropout of color sections becomes difficult.

**Effect and adverse effect when increasing the value**

**[Effect]**

Colors (of low chroma) which are difficult to be dropped out can be dropped out.

**[Adverse effect]**

Black characters are fainted or cracked.

## 13-E (17) Watermark adjustment (Normally not required)

This adjustment is used to adjust the reproduction capability of the watermark in the copy/printer mode.

This adjustment is used for watermark documents (primary output).

The result of this adjustment affects the result of watermark print (secondary output).

In the printer mode, the watermark density can be adjusted by the printer driver. That adjustment is based on the result of this adjustment.

1) Enter the SIM 46-66 mode.
2) Select the PATTERN mode, then select an adjustment item in the following list according to the situation.

| Item/Display | | Content | Setting range | Default setting |
|---|---|---|---|---|
| A | WOVEN DEN BK LOW | Watermark density level (Color: Black/Adjustment for light images) | 0 - 255 | 15 |
| B | WOVEN DEN BK MIDDLE | Watermark density level (Color: Black, Density: Standard) | 0 - 255 | 19 |
| C | WOVEN DEN BK HIGH | Watermark density level (Color: Black, Density: Dark) | 0 - 255 | 23 |
| D | WOVEN DEN C LOW | Watermark density level (Color: Cyan / Adjustment for light images) | 0 - 255 | 19 |
| E | WOVEN DEN C MIDDLE | Watermark density level (Color: Cyan, Density: Standard) | 0 - 255 | 23 |
| F | WOVEN DEN C HIGH | Watermark density level (Color: Cyan, Density: Dark) | 0 - 255 | 27 |
| G | WOVEN DEN M LOW | Watermark density level (Color: Magenta / Adjustment for light images) | 0 - 255 | 15 |
| H | WOVEN DEN M MIDDLE | Watermark density level (Color: Magenta, Density: Standard) | 0 - 255 | 18 |
| I | WOVEN DEN M HIGH | Watermark density level (Color: Magenta, Density: Dark) | 0 - 255 | 21 |
| J | CONTR AST | Contrast adjustment | 0 - 255 | 2 |
| K | HT TYPE (POSI) | For half-tone index watermark type positive | 42 - 43 | 42 |
| L | HT TYPE (NEGA) | For half-tone index watermark type negative | 42 - 43 | 42 |

**Description**

**A~I:**

The adjustment value is changed to increase or decrease the density of the watermark of background documents (primary output).

To increase the watermark density, increase the adjustment value.

To decrease the watermark density, decrease the adjustment value.

When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear.

When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear.

**J:**

This is used to adjust the variation in the watermark density when the adjustment value of the watermark print/contrast adjustment in the system setting is changed by 1. When this value is increased, the variation is also increased. When the value is decreased, the variation is also decreased.

When the adjustment value is 0, the result of the contrast adjustment is not reflected. (* The adjustment value must be set to 1 or greater.)

**K:**

To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43.

In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced.

**L:**

To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43.

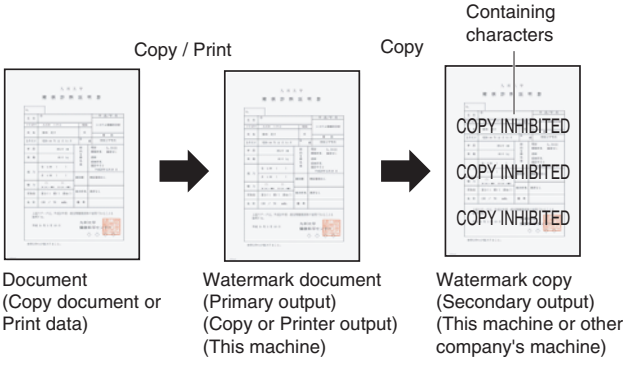
In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced.

**Changing adjustment values of adjustment items A - I and trade off**

| Kinds of watermarks (Mode selected in the watermark copy mode) | Density value | Adjustment values of adjustment items A - I | Effect |
|---|---|---|---|
| Characters appearing. | Decrease. | The adjustment value is decreased. | The watermark images become easy to disappear. The containing characters become lighter. |
| | Increase. | The adjustment value is increased. | The containing characters become darker. The watermark images become difficult to disappear. |
| Background appearing. | Decrease. | The adjustment value is decreased. | The containing characters become easy to disappear. The watermark images become easy to disappear. |
| | Increase. | The adjustment value is increased. | The watermark images become darker. The containing characters become difficult to disappear. |

3) Enter the adjustment value with 10-key and press [OK] key.
4) Make a copy, and check the adjustment result.

**Descriptions on the watermark**




| | |
|---|---|
| Watermark color | The watermark color is available in Cyan, Magenta, and Black. |
| Containing characters | Characters embedded in a watermark, such as "COPY INHIBITED," are called containing characters. |

| | |
|---|---|
| Kinds of watermarks | There are two kinds: "Character appearing" and "Background appearing."<br>When a watermark of "Character appearing" is copied, the background disappears and the containing characters appear.<br>When a watermark of "Background appearing" is copied, the watermark of the character area disappears and the containing characters become outline characters. |
| Principle of watermarks | A watermark is composed of two dots: fine dots and rough dots.<br>Since fine dots disappear when copied, they are called disappearing patterns. Since rough dots remain when copied, they are called remaining patterns.<br>In a watermark of "Character appearing," the background is a disappearing pattern and the containing characters are remaining patterns.<br>In a watermark of "Background appearing," the background is a remaining pattern and the containing characters are disappearing patterns. |
| Note for watermarks | Watermarks have the following characteristics:<br>• A watermark is presumed to be synthesized with text documents. If it is used with photos or images, the containing characters may be seen in the watermark document (primary output) or the containing characters may not appear properly in the watermark copy (secondary output).<br>• When a watermark is synthesized with newspapers or other dark-background documents, the containing characters may not appear in the watermark copy (secondary output).<br>• Containing characters may not appear in the watermark copy (secondary output) depending on the kind of the copier which makes the watermark copy (secondary output) and the copy mode.<br>• Containing characters may not appear clearly in the watermark copy (secondary output) depending on the copy mode in which the watermark document (primary output) is made.<br>• When the print engine status changes, the containing characters may not be concealed properly in the watermark document (primary output). In this case, follow the procedures below to conceal the containing characters.<br>* Use SIM46-24 to execute the color balance adjustment.<br>* Use SIM46-54 to execute the color balance adjustment for each dither.<br>* Adjust the watermark print contrast in the system setting.<br>• Though the watermark of cyan or magenta is selected in the black and white mode, the black watermark is synthesized.<br>• For a document which is judged as monochrome with ACS selected, though the watermark color is specified as cyan or magenta, the black watermark is synthesized.<br>• The preview screen of the watermark only indicates the setting of the watermark color, and does not indicate an actual copy image.<br>• When the document control (printer mode) is used together, it is advisable to use "Characters appearing" setting. If "Background appearing" setting is used together, the detection accuracy of document control may be reduced.<br>• In the printer mode watermark, setting of 1200dpi and a watermark cannot be used together. |

**Watermark adjustment in the system setting**

System setting -> Security setting -> Watermark print -> Contrast tab

| Watermark kind mode selection | Density | Adjustment |
|---|---|---|
| Character appearing | To increase the text density | Decrease the contrast value. (Default: 5) |
| | To decrease the text density | Increase the contrast value. (Default value: 5) |
| Background appearing | To increase the text density | Increase the contrast value. (Default value: 5) |
| | To decrease the text density | Decrease the contrast value. (Default: 5) |

**Note for adjusting the watermark with SIM46-54**

When the color balance automatic adjustment is executed with SIM46-74 or SIM46-24 but the containing characters are reproduced, use SIM46-54 to execute the color balance automatic adjustment for each dither.

However, note the following items.

- When either of item K or L of the PATTERN mode is 42, the adjustment must be executed for the both modes of WOVEN1 and WOVEN2 of SIM46-54.
- When either of item K or L of the PATTERN mode is 43, the adjustment must be executed for the both modes of WOVEN3 and WOVEN4 of SIM46-54.
- WOVEN1 and WOVEN2 must be adjusted in a pair as well as WOVEN3 and WOVEN4.

  If it is ignored, the containing characters remain reproduced.

## 13-F Printer image quality adjustment (Basic adjustment)

**Requisite condition before execution of the printer color balance/density adjustment**

Before execution of the printer color balance/density adjustment, the copy color balance/density adjustment must have been completed properly.

**This adjustment is required in the following cases.**

- Basically same as when the copy color balance/density adjustment is required.
- After the copy color balance/density adjustment.

## 13-F (1) Printer color balance adjustment (Automatic adjustment)

The color balance adjustment (auto adjustment) is used to adjust the print density of each color (Cyan, Magenta, Yellow, Black) automatically with SIM 67-24 or the user program.

When this adjustment is executed, the color balance adjustments of all the print modes are revised.

There are following two modes in the auto color balance adjustment.

1) Auto color balance adjustment by the serviceman (SIM 67-24 is used.)
2) Auto color balance adjustment by the user (The user program mode is used.) (The color balance target is the service target.)

   The auto color balance adjustment by the user is provided to reduce the number of service calls.

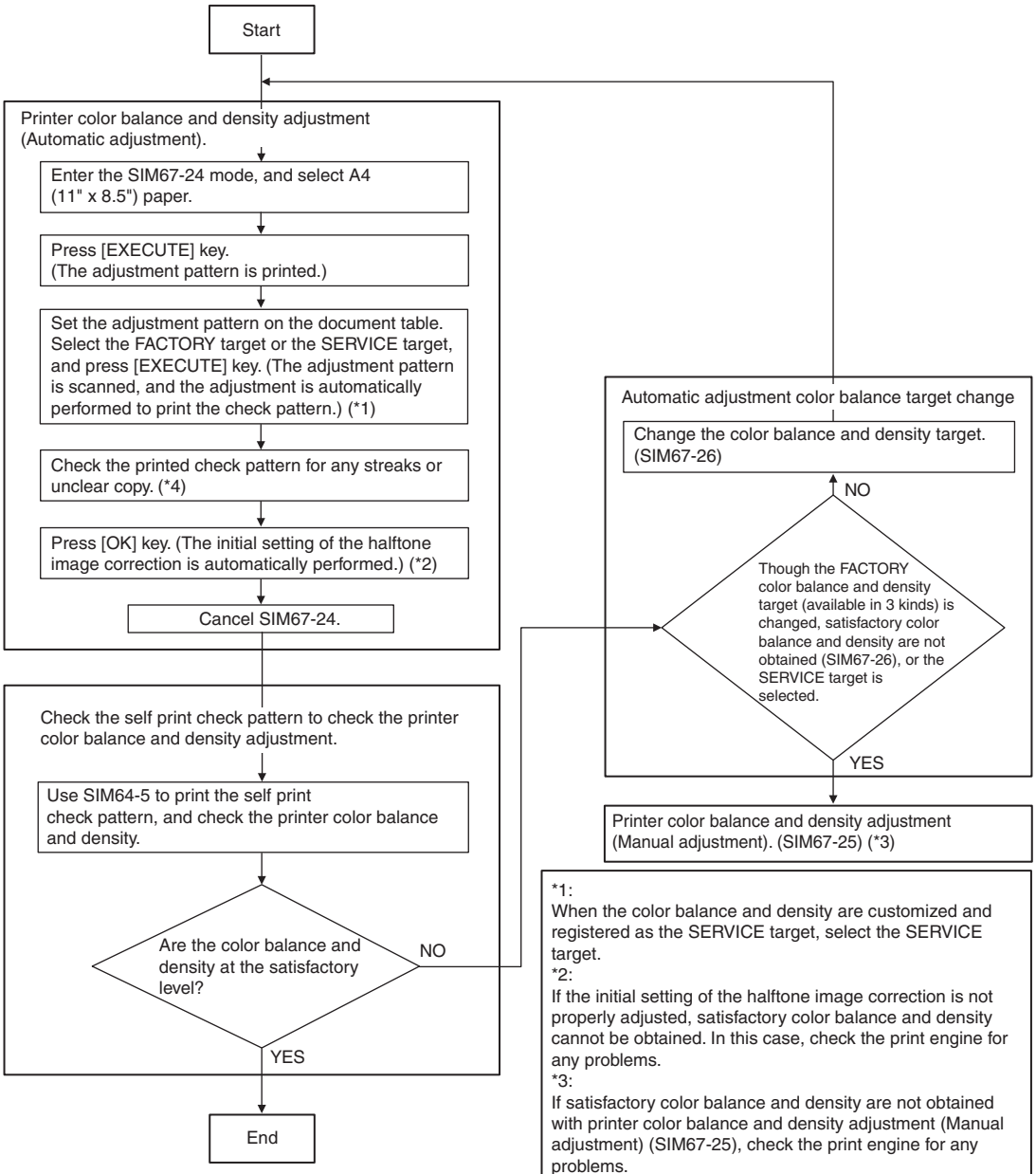
   If the print color balance is lost for some reasons, the user can use this color balance adjustment to recover the balance.

   When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

   On the other hand, the auto color balance adjustment by the serviceman functions to recover the normal color balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal color balance.

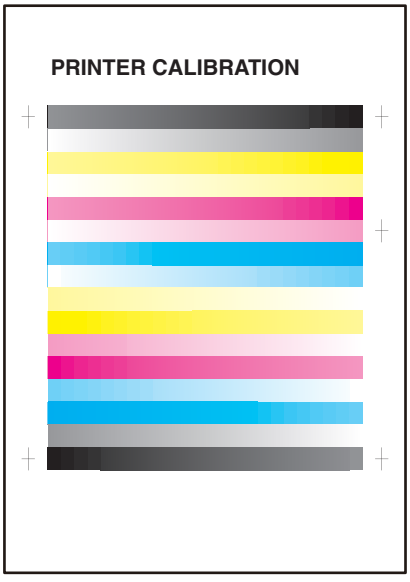
   To perform the adjustment, the above difference must be fully understood.

Printer color balance and density adjustment (Automatic adjustment) procedure flowchart (SIM67-24)

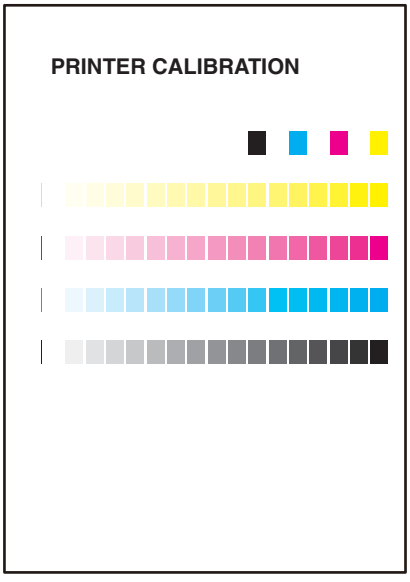



*1:
When the color balance and density are customized and registered as the SERVICE target, select the SERVICE target.
*2:
If the initial setting of the halftone image correction is not properly adjusted, satisfactory color balance and density cannot be obtained. In this case, check the print engine for any problems.
*3:
If satisfactory color balance and density are not obtained with printer color balance and density adjustment (Manual adjustment) (SIM67-25), check the print engine for any problems.
*4:
If there is any streak or unclear copy on the printed check pattern, check the print engine for any problems.

1) Enter the SIM 67-24 mode.
2) Press [EXECUTE] key.
   The color patch image (adjustment pattern) is printed out.
3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
   Place the printed color patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern) paper.




4) Select [FACTORY] key, and press [EXECUTE] key.
   When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the service target.
   The copy color balance adjustment is automatically executed and prints the color balance check patch image. Wait until the operation panel shown in the procedure 5) is displayed.




5) Press [OK] key on the operation panel.

**Note**

After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTERING THE NEW TARGET OF HALFTONE" is displayed.
After completion of the operation, "PLEASE QUIT THIS MODE" is displayed.
Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.
After completion of the operation, the simulation is canceled.

6) Check the color balance and density.
   (Refer to the item of the printer color balance and density check.)
   When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 67-26 and repeat the procedures from 1).
   If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 67-25).
   Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

If the color balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments, there may be another cause.

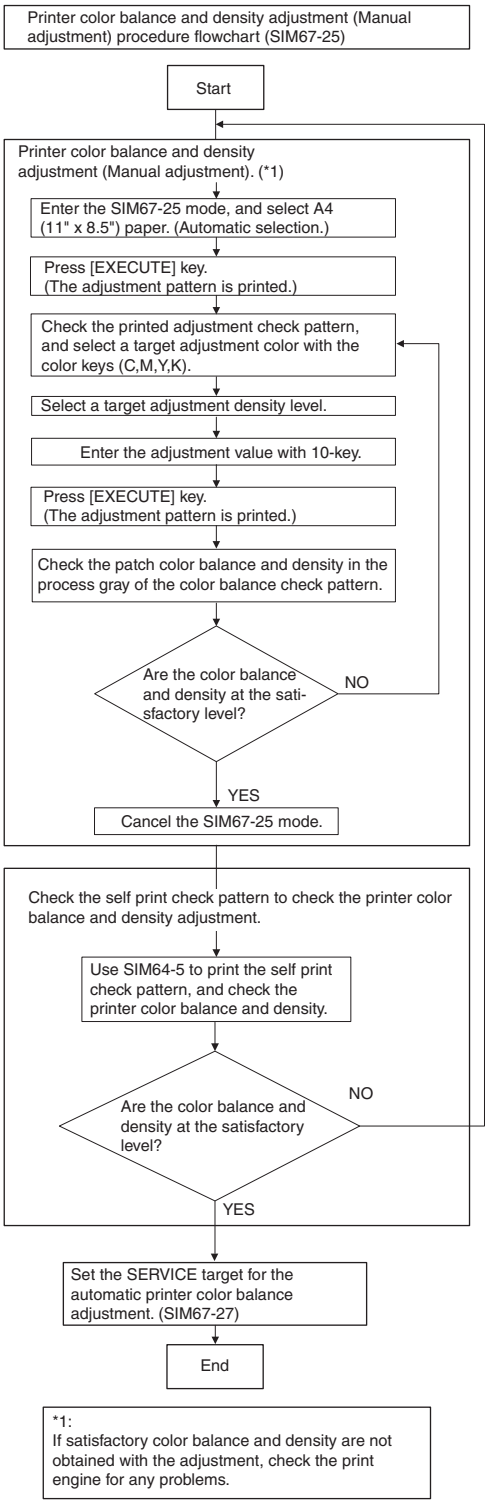
Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

## 13-F (2) Printer color balance adjustment (Manual adjustment)

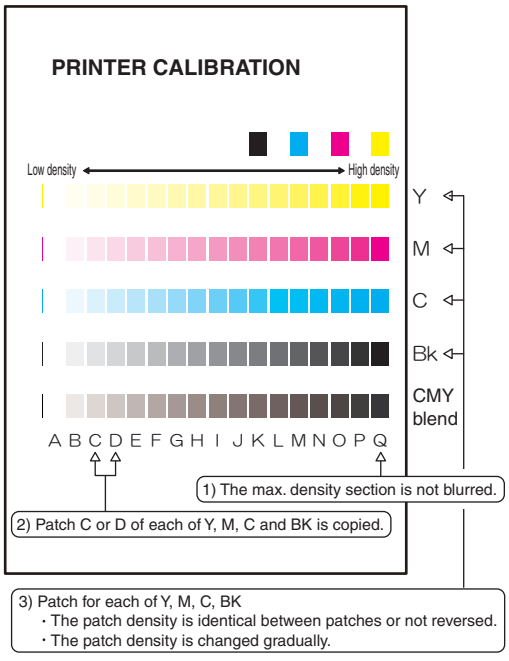
The color balance adjustment (Manual adjustment) is used to adjust the printer density of C, M, Y and K. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for changing (customizing) the color balance.

In this manual adjustment, adjust only the color patch which could not adjusted properly in the automatic adjustment.

If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.




1) Enter the SIM 67-25 mode.
2) Press [EXECUTE] key.
   The color patch image (Adjustment pattern) is printed.
3) Check that the following condition is satisfied or the color balance is satisfactory.
   If not, execute the following procedures.




The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

When, however, the color balance is adjusted according to a request from the user, there is no need to set to the standard color balance stated above.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the natural gray color balance by the color table. (When the color balance target is DEF 1.)

4) Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
5) Enter the adjustment value with 10-key and press [OK] key.
   The adjustment value is set in the range of (1 - 999). When SIM 67-24 is used to adjust the automatic color balance and density, all the set values of this simulation are set to 500.
   To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.
   Repeat procedures of 2) - 5) until the condition of 3) is satisfied.
   When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively.
   Then, adjust each patch density individually. This is an efficient way of adjustment.

6) Check the color balance and density.

(Refer to the item of the printer color balance and density check.)

**Note**

If the color balance is customized, use SIM 67-27 to register the color balance as the service target.

If the color balance is not customized, this procedure is not required.

If the customized color balance is registered as the service target, the automatic color balance adjustment can be made in the next color balance adjustment.

## 13-G Printer image quality adjustment (Individual adjustment)

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ 14E (1) and ADJ 14E (2) or there is a request from the user. Normally there is no need to execute this adjustment.

This must be well understood for execution of the adjustment.

## 13-G (1) Printer density adjustment (Low density section density adjustment) (No need to adjust normally)

This adjustment is used to adjust the image density in the low density area in the printer mode.

Adjust to reproduction setting of the low density image.

This adjustment is required in the following cases.

- When it is required not to reproduce images in the low density section, or to reproduce low-density images.
- When there is request from the user.

1) Enter the SIM 67-36 mode.
2) Enter the adjustment value and press the [OK] key.

   In case of increase of the image density on low density part, increase the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

## 13-G (2) Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)

When a tone gap is generated in the high density section in the printer mode, the setting is changed to lower the density in the high density section.

This setting is normally not required, however, in the following cases, a change of setting must be made.

- When a tone gap occurs on part of high density.
- To lower the density in the high density section.

1) Enter the SIM 67-34 mode.
2) Select the item A, B with the scroll key.

| Display/Item | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | CMY<br>0:ENABLE<br>1:DISABLE | CMY engine maximum density correction mode Enable | 0 | 0 - 1 | 0 |
| | | CMY engine maximum density correction mode Disable | 1 | | |
| B | K<br>0:ENABLE<br>1:DISABLE | K engine maximum density correction mode Enable | 0 | 0 - 1 | 1 |
| | | K engine maximum density correction mode Disable | 1 | | |
| C | CYAN MAX TARGET | Scanner target value for CYAN maximum density correction | | 0 - 999 | 500 |
| D | MAGENTA MAX TARGET | Scanner target value for MAGENTA maximum density correction | | 0 - 999 | 500 |
| E | YELLOW MAX TARGET | Scanner target value for YELLOW maximum density correction | | 0 - 999 | 500 |
| F | BLACK MAX TARGET | Scanner target value for BLACK maximum density correction | | 0 - 999 | 500 |
| G | PRINTER TOTAL TONER LIMIT SETUP | Printer total toner limit set up | | 0 - 3 | 0 |
| H | RATIO LOW | Mix ratio of high density correction LOW | | 0-100 | 33 |
| I | RATIO HIGH | Mix ratio of high density correction HIGH | | 0-100 | 0 |
| J | DITHER THRESHOLD | Dither threshold LOW | | 0-255 | 250 |
| K | SLOPE THRESHOLD | Slope threshold HIGH | | 100-500 | 400 |

- If a tone gap occurs on part of high density, set 0 to item A and B

  The density of high density part decreases. However, the tone gap is better.
- In case of more increase of the density on high density part, set 1 to item A and B.

  The tone gap may occur in high density part.

If the setting values of item C, D, E and F are changed, density of the high density part is changed.

When these values are changed, be sure to perform the printer color balance and density adjustment. (Automatic adjustment)

## 13-G (3) Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)

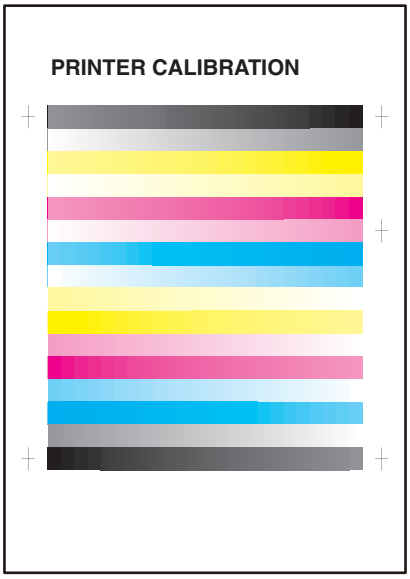
This adjustment is used to adjust the color balance and the density in the monochrome mode, the heavy paper mode, and the gloss paper mode.

This simulation is used to improve image quality in these modes and images.

1) Enter the SIM67-54 mode.
2) Press [EXECUTE] key.

   The color patch image (adjustment pattern) is printed out.

3) Set the color patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).

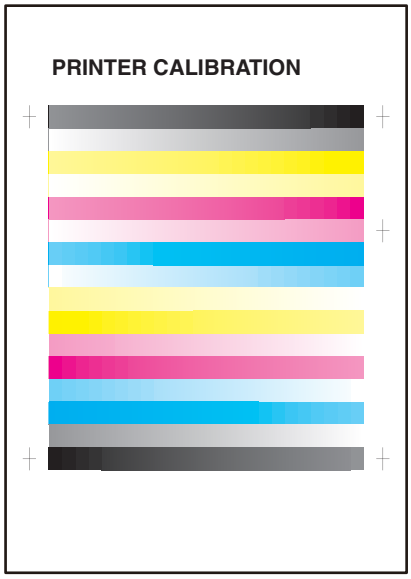



4) Press [EXECUTE] key.
   The color balance adjustment is automatically performed.
   The color patch image (adjustment pattern) is printed out.
   Check it for any abnormality.
5) Press [OK] key.
   The list of the adjustment items (for each dither) is displayed.
6) Select an adjustment item (for each dither).

| Select item (Mode/Image) | Content |
|---|---|
| HEAVY PAPER | Adjustment item to improve the color balance in the heavy paper mode |
| 1200DPI_1BIT | Adjustment item to improve the color balance in 1200dpi mode |
| B/W | Adjustment item to improve the density and gradation in the monochrome mode |
| 4BIT_GRAPHICS | Adjustment item to improve the color balance in the text mode |
| DOT_SCREEN1 | Adjustment item to improve the color balance in Dot (High Line Number). |
| DOT_SCREEN2 | Adjustment item to improve the color balance in Dot (Low Line Number) mode |
| DOT_SCREEN1_BW | Adjustment item to improve the density and gradation in Dot mode of Monochrome High Quality mode |
| DOT_SCREEN2_BW | Adjustment item to improve the density and gradation in Dot mode of Monochrome Ultra Fine mode |
| SHIGH | Adjustment item to improve the color balance in Super Fine Text mode |

7) Press [EXECUTE] key.
   The color patch image (adjustment pattern) is printed out.

8) Set the color patch image (adjustment pattern) printed in the procedure 7) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).




9) Press [EXECUTE] key.
   The color balance adjustment is automatically performed, and the machine goes to the state of procedure 6).
10) When [OK] key is pressed, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is pressed, the adjustment result is registered and the screen is shifted to the other item (Mode/Image) select menu.
    To execute the adjustment of the other item (Mode/Image), press [EXECUTE] key.
    After completion of all the adjustments of the items (Mode/Image), press [OK] key, and the adjustment results are registered.
11) Make a print, and check the print image quality.
    (Refer to the item of the printer color balance and density check.)

## 13-H Copy, Printer gray balance and density adjustment (Automatic adjustment)

Used to adjust CMY mixed color gray patch.

This adjustment must be performed in the following cases.

- When the user requests for the color balance after it has been adjusted.

**General**

SIM 67-20 is a function to automatically adjust the gray balance by selecting an appropriate gray out of CMY mixed color gray patches. If SIM 46-74 does not satisfy the color balance, it may be improved by SIM 67-20.

When this adjustment is executed, SIM46-74 color balance adjustment result and [SERVICE] target registered by SIM63-7 and 67-27 are updated.

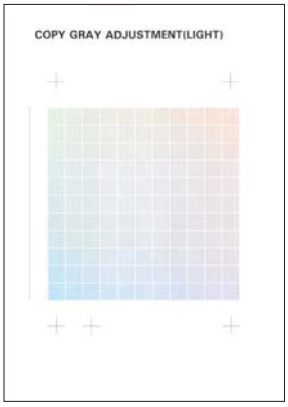
NOTE: Execute SIM46-74 [SERVICE] target immediately before. If it does not, color balance may differ greatly

1) Execute SIM 67-20
2) Select target item [COPY] [PRINTER]
   Patch image (adjustment pattern) is printed

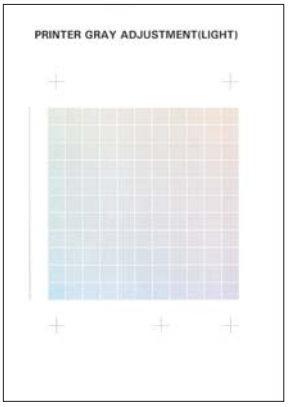
3) Set patch image (adjustment pattern) paper printed in step2) on the document table

Place patch image (adjustment pattern) so that the fine lines are on the left side, at that time place 5 blank paper on the printed patch image (adjustment pattern)

When [COPY] is selected




When [PRINTER] is selected



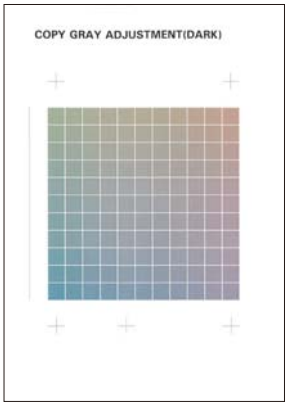

4) Tap [EXCUTE] key

Patch image (adjustment pattern) is printed

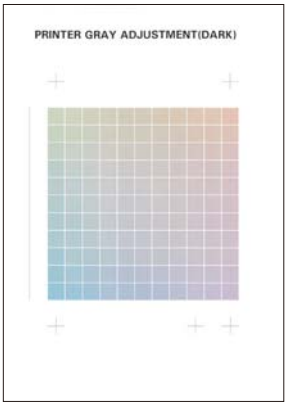
5) Set patch image (adjustment pattern) paper printed in step4) on the document table

Place patch image (adjustment pattern) so that the fine lines are on the left side, at that time place 5 blank paper on the printed patch image (adjustment pattern)

When [COPY] is selected




When [PRINTER] is selected




6) Tap [EXECUTE] key

7) Tap [OK] key

When “Please quit this mode” is displayed the adjustment operation was completed?

Repeat step2) if executing both copy and printer mode

Cancel SIM

8) Execute SIM 46-74 selecting [SERVICE] at this time

9) Check gray balance

# ADJ 14 Paper size sensor adjustment

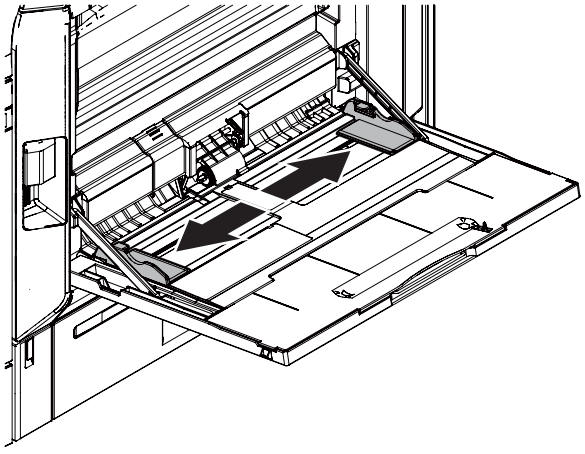
## 14-A Manual paper feed tray paper size (width) sensor adjustment

This adjustment must be performed in the following cases:

- The manual paper feed tray section has been disassembled.
- The manual paper feed tray unit has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

1) Enter the SIM 40-2 mode.

2) Open the manual paper feed guide to the maximum width position.



3) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The maximum width position detection level of the manual paper feed guide is recognized.

4) Set the manual paper feed guide to the A4 size.

5) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The A4 size width position detection level of the manual paper feed guide is recognized.

6) Set the manual paper feed guide to the width for the A4R size.

7) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

Set the manual paper feed guide to the width for the A4R size.

8) Open the manual paper feed guide to the minimum width position.

9) Press [EXECUTE] key.

[EXECUTE] key is highlighted. Then it returns to the normal display.

The minimum width position detection level of the manual paper feed guide is recognized.

If the above operation is not completed normally, "ERROR" is displayed.

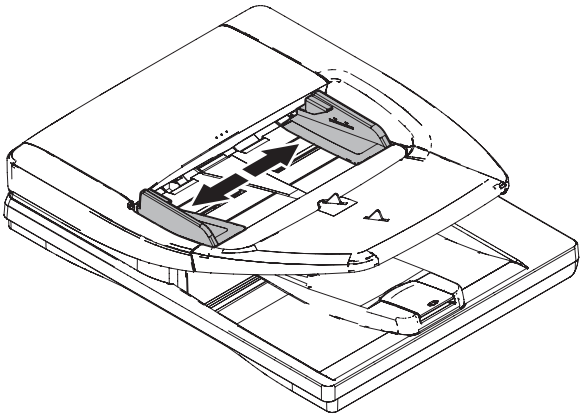
When the operation is completed normally, the above data are saved to the memory and "COMPLETE" is displayed.

### 14-B DSPF/RSPF paper feed tray document size (width) sensor adjustment

This adjustment must be performed in the following cases:

- The DSPF/RSPF paper feed tray section has been disassembled.
- The DSPF/RSPF paper feed tray unit has been replaced.
- When a U2 trouble occurs.
- The scanner PWB has been replaced.
- The EEPROM on the scanner PWB has been replaced.

1) Enter the SIM 53-6 mode.
2) Open the DSPF/RSPF paper feed guide to the maximum width position.



3) Press [EXECUTE] key.
   The maximum width detection level is recognized.
4) Open the DSPF/RSPF paper feed guide to the width for the A4R size.
5) Press [EXECUTE] key.
   The A4R width detection level is recognized.
6) Open the DSPF/RSPF paper feed guide to the width for the A5R size.
7) Press [EXECUTE] key.
   The A5R width detection level is recognized.
8) Open the DSPF/RSPF paper feed guide to the minimum width position.
9) Press [EXECUTE] key.
   The minimum width detection level is recognized.

* When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

## ADJ 15 Document size detection adjustment

This adjustment must be performed in the following cases:

- When the original size sensor section has been disassembled.
- When the original size sensor section has been replaced.
- When U2 trouble has occurred.
- When the SCN MFP PWB is replaced.
- When the EEPROM on the SCN MFP PWB is replaced.

### 15-A Adjust the sensitivity of the original size sensor

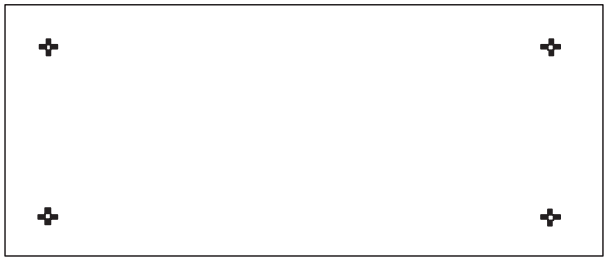
1) Enter the SIM41-2 mode.
2) Execute the sensor adjustment without document.
   With the document cover open, without placing a document on the table glass, press [EXECUTE] key.
3) Place A3 (11" x 17") paper on the document table and press [EXECUTE] key.
   If the adjustment is completed normally, "DOCUMENT SIZE PHOTO SENSOR LEVEL IS ADJUESTED" is displayed.

## ADJ 16 Touch panel coordinate setting

This adjustment must be performed in the following cases:

- The operation panel has been replaced.
- U2 trouble has occurred.
- The SCN MFP PWB has been replaced.
- The EEPROM on the SCN MFP PWB has been replaced.

1) Enter the SIM 65-1 mode.



2) Precisely press the cross mark points (4 positions).
   When the cross mark is pressed precisely, a buzzer sounds and the display is reversed. When all the four points are pressed and the touch panel adjustment is completed, the display returns to the simulation sub number entry screen.
   In case of an error, the display returns to the entry screen again.
   Check to confirm that there is no shift between the display frame and the detection position when the touch panel is pressed.

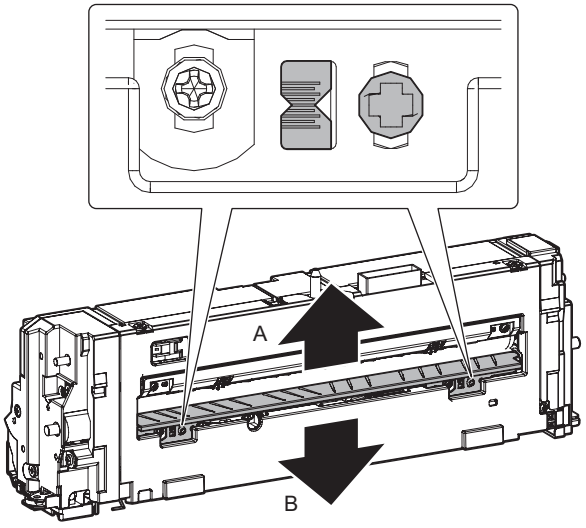
* When pressing the touch panel, never use a sharp tip (such as a needle or a pin).

# ADJ 17 Fusing paper guide position adjustment

Normally there is no need to perform this adjustment. In the following cases, perform this adjustment.

- When a paper jam occurs in the fusing section.
- When wrinkles are made on paper in the fusing section.
- When an image deflection or an image blur is generated in the paper rear edge section.

1) Loosen the fusing paper guide fixing screws on the two positions in the front/rear frame direction.
2) Use the fusing paper guide position scale as the reference to shift the paper guide in the arrow direction A or B.




The standard fixing position is at two scales in direction B from the marking scale center. However, the position may be varied depending on the situation.

* When a wrinkle is made on paper, change the position in the error direction A.
* When an image deflection or unclear image is generated in the lead edge area of paper, change the position in the arrow direction B.

# [6] SIMULATION

## 1. General and purpose

The simulation mode has the following functions, to display the machine operating status, identify the trouble position and causes in an earlier stage and to efficiently setup and adjust the machine for improved serviceability.

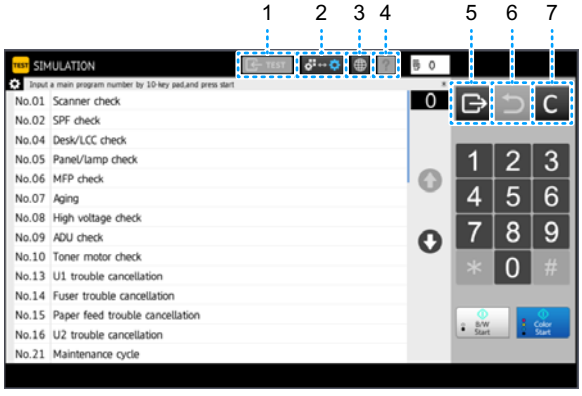
1) Various adjustments
2) Setting of the specifications and functions
3) Canceling troubles
4) Operation check
5) Counters check, setting clear
6) Machine operating conditions (operation hysteresis) data check, clear
7) Various (adjustments, setting, operation, counters, etc) data transport.

The operating procedures and displays depend on the design of the operation panel of the machine.

Simulation mode

| | |
|---|---|
| Easy mode | Displays commonly used simulations for each category, allowing easy access for technicians to change settings, perform maintenance and adjustments. |
| Classic mode | All simulations are listed and can be accessed by entering the main code, then sub code as per previous model series. |

## 2. Function of each key

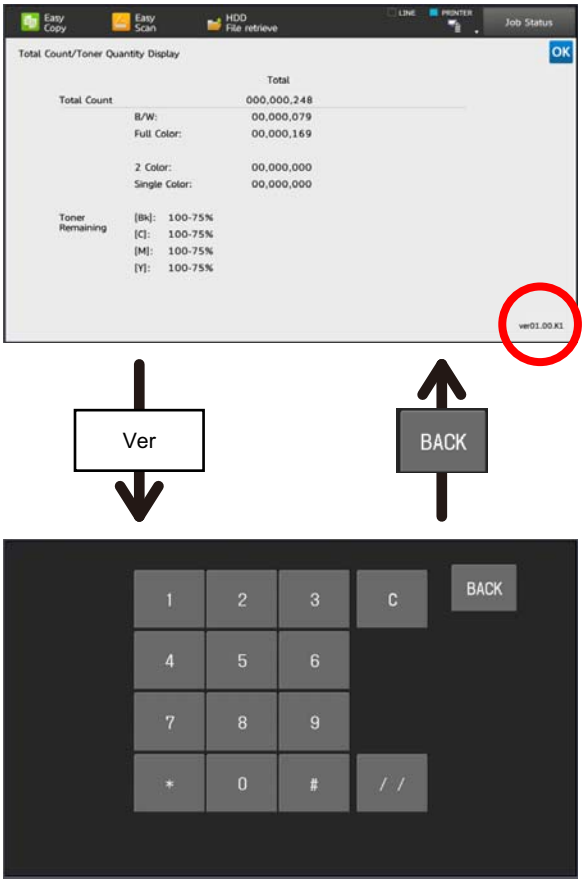



| No. | Name | Function |
|---|---|---|
| 1 | TEST key | Change test mode |
| 2 | Mode setting key | Change Easy mode, Classic mode |
| 3 | Language setting key | Change language in simulation mode |
| 4 | INFO key | Display operation of current display |
| 5 | EXIT key | Exit from simulation mode |
| 6 | BACK key | Back to the previous display |
| 7 | Clear key | Clear input value |

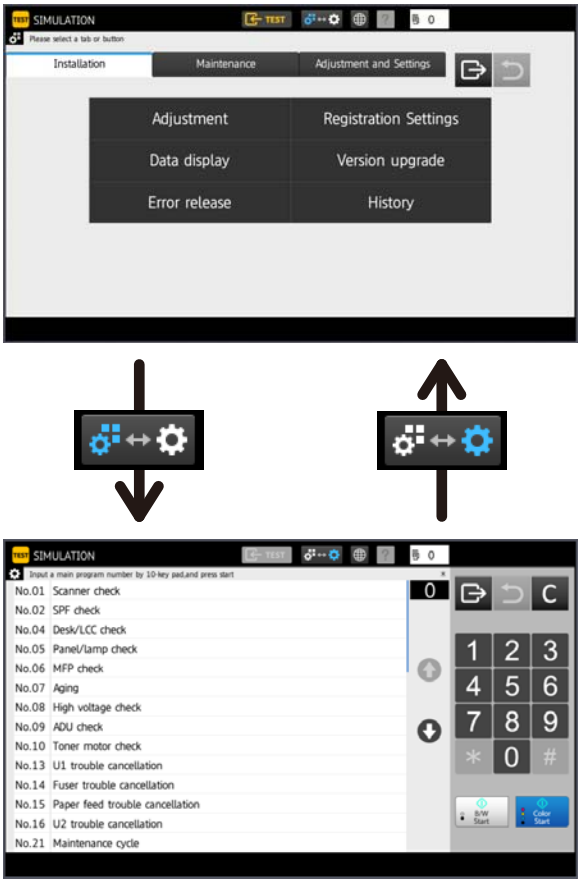
## 3. Starting the simulation

Entering the simulation mode.

1) Double-click the HOME key
2) Touch the Ver display section (10-key mode input mode screen)




3) Touch the (#) key → Asterisk (*) key → Clear key → Asterisk (*) key → Ready for input of main code of simulation.



# 4. List of simulation codes

## A. List of easy mode

### (1) List of menu (Installation)

| Main menu | | Sub menu | SIM | Function |
|---|---|---|---|---|
| 1 | Adjustment | 1 Process | 46-74 | Copy/printer gradation auto adjustment |
| | | | 50-22 | Auto adjustment of registration & drum position |
| | | 2 Positioning | 50-10 | Manual image position adjustment |
| | | 3 Copy | 46-21 | Color copy gradation manual adjustment |
| | | 4 Printer | 67-25 | Printer gradation manual adjustment |
| | | | 64-5 | Printer self print (PCL) |
| | | 5 Image Quality Adjustment | 63-2 | Shading execution |
| | | | 63-3 | Scanner color balance auto adjustment |
| | | | 44-6 | High density / engine halftone process control compulsory execution |
| | | | 44-26 | Half tone density correct execution |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| 2 | Registration Settings | 1 Function/ Option settings | 26-1 | Paper output system setup |
| | | | 26-2 | Size setup |
| | | | 26-3 | Auditor setup |
| | | | 26-33 | Special function setting |
| | | | 26-50 | Function setting |
| | | | 26-65 | Finisher alarm mode setup (staple limit) |
| | | | 26-78 | ROPE password setting |
| | | 2 Counter mode | 26-5 | A3 (11x17) countup |
| | | | 26-8 | Banner size countup |
| | | | 26-52 | A blank paper count mode setup |
| | | 3 FAX/Image send settings | 66-1 | Image send software SW. setting |
| | | 4 Toner setting | 26-18 | Toner save mode setup |
| | | | 26-69 | Toner near end setting |
| | | 5 FSS setting | 27-2 | FSS function setup (input) |
| | | | 27-4 | FSS function setup |
| | | | 27-7 | FSS function setup (function) |
| | | | 27-9 | FSS function adjustment |
| | | | 27-14 | FSS test mode setup |
| | | | 27-15 | FSS connect status |
| | | | 27-16 | FSS alert setting |
| | | | 27-17 | FSS paper order alert setting |
| 3 | Data display | 1 Counter display | 22-1 | Counter display |
| | | | 22-9 | Paper feed counter display |
| | | | 22-13 | Process cartridge display |
| | | 2 System/ Version | 22-5 | ROM version data display |
| | | | 22-10 | Machine system display |
| | | 3 List printing | 22-6 | Data print mode |
| | | | 23-2 | JAM/trouble data print mode |
| | | 4 USB storage | 56-99 | Export all log data |
| 4 | Version upgrade | | 49-1 | Firmware update |
| | | | 49-7 | Pre-install data update |
| 5 | Error release | | 13 | U1 trouble cancellation |
| | | | 14 | Trouble cancellation (other) |
| | | | 15 | Paper feed trouble cancellation |
| | | | 16 | U2 trouble cancellation |
| 6 | Ready for transport | | 10-3 | Toner cartridge eject sensor check |
| | | | 6-90 | Load move for shipment |
| 10 | History | 1 Date list | Use SIM | |

### (2) List of menu (Maintenance)

| Main menu | | Sub menu | SIM | Function |
|---|---|---|---|---|
| 1 | Data display | 1 Counter display | 22-1 | Counter display |
| | | | 22-8 | Org./staple counter display |
| | | | 22-9 | Paper feed counter display |
| | | | 22-13 | Process cartridge display |
| | | 2 JAM history data display | 22-3 | JAM history data display |
| | | | 22-12 | SPF JAM history data display |
| | | 3 System/ Version | 22-5 | ROM version data display |
| | | | 22-10 | Machine system display |
| | | 4 List printing | 22-6 | Data print mode |
| | | | 23-2 | JAM/trouble data print mode |
| | | 5 USB storage | 56-99 | Export all log data |
| 2 | Adjustment | 1 Positioning | 50-10 | Manual image position adjustment |
| | | | 50-22 | Auto adjustment of registration & drum position |
| | | 2 Process | 25-2 | Automatic developer adjustment |
| | | | 44-2 | Process control gain adjustment |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| | | 3 Image Quality Adjustment | 44-2 | Process control gain adjustment |
| | | | 44-6 | High density / engine halftone process control compulsory execution |
| | | | 44-26 | Half tone density correct execution |
| | | | 61-13 | Laser power correction data clear |
| | | | 61-11 | Laser power auto correction |
| | | | 63-3 | Scanner color balance auto adjustment |
| | | | 63-5 | Standard scanner gamma setup |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| | | 4 Cleaning | 6-4 | Charger cleaner check |
| | | | 43-31 | Fuser web cleaning check |
| | | 5 Replacing developer | 10-3 | Toner cartridge eject sensor check |
| | | | 25-2 | Automatic developer adjustment |
| 3 | Counter clear | | 24-1 | JAM/trouble counter data clear |
| | | | 24-2 | Paper feed counter clear |
| | | | 24-3 | Org./output counter data clear |
| | | | 24-4 | Maintenance counter clear |
| 4 | Registration Settings | | 21-1 | Maintenance cycle setup |
| 5 | Version upgrade | | 49-1 | Firmware update |
| | | | 49-7 | Pre-install data update |
| 6 | Error release | | 13 | U1 trouble cancellation |
| | | | 14 | Trouble cancellation (other) |
| | | | 15 | Paper feed trouble cancellation |
| | | | 16 | U2 trouble cancellation |

| Main menu | | Sub menu | SIM | Function |
|---|---|---|---|---|
| 10 | History | 1 Date list | Use SIM | |

### (3) List of menu (Adjustment and Settings)

| Main menu | | Sub menu | SIM | Function |
|---|---|---|---|---|
| 1 | Adjustment | 1 Positioning | 50-1 | Copy edge adjustment |
| | | | 50-5 | Print edge adjustment |
| | | | 50-6 | SPF edge adjustment |
| | | | 50-10 | Manual image position adjustment |
| | | | 50-12 | Original center offset setup |
| | | | 48-1 | Ratio adjustment |
| | | | 48-5 | Motor speed adjustment |
| | | | 50-22 | Auto adjustment of registration & drum position |
| | | 2 Image Quality Automatic Adjustment | 50-22 | Auto adjustment of registration & drum position |
| | | | 50-20 | Registration adjustment |
| | | | 61-11 | Laser power auto correction |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| | | 3 Image Quality Adjustment | 61-14 | Laser power setting collective input |
| | | | 61-11 | Laser power auto correction |
| | | | 61-13 | Laser power correction data clear |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| | | | 46-54 | Copy gradation auto adjustment (at dither) |
| | | | 46-52 | Copy gradation data clear (at dither) |
| | | | 67-54 | Printer gradation auto adjustment (at dither) |
| | | | 67-52 | Printer gradation data clear (at dither) |
| | | | 67-20 | Output auto adjustment |
| 2 | Process | | 10-3 | Toner cartridge eject sensor check |
| | | | 25-2 | Automatic developer adjustment |
| | | | 44-2 | Process control gain adjustment |
| | | | 46-74 | Copy/printer gradation auto adjustment |
| 3 | Scanner/ SPF | | 41-1 | PD sensor check |
| | | | 41-2 | Document size photo-sensor setup |
| | | | 46-9 | Exposure adjustment (SFP) |
| | | | 63-2 | Shading execution |
| | | | 53-6 | SPF tray adjustment |
| | | | 53-8 | SPF scanning position adjustment |
| | | | 63-3 | Scanner color balance auto adjustment |
| | | | 63-5 | Standard scanner gamma setup |
| 4 | Paper feeding, Transport and paper ejection | | 40-2 | Bypass tray adjustment |
| | | | 3-10 | Finisher adjustment |
| 5 | Copy | | 46-21 | Color copy gradation manual adjustment |
| | | | 44-21 | Half tone process control standard value register setup |
| | | | 46-24 | Copy gradation auto adjustment |
| | | | 46-54 | Copy gradation auto adjustment (at dither) |
| | | | 63-7 | Copy gradation auto adjustment target setup: service |
| | | | 63-8 | Copy gradation auto adjustment target clear: service |
| | | | 63-11 | Copy gradation auto adjustment target select |
| 6 | Printer | | 67-24 | Printer gradation auto adjustment |
| | | | 67-25 | Printer gradation manual adjustment |
| | | | 67-26 | Printer gradation auto adjustment target select |
| | | | 67-27 | Printer gradation auto adjustment target setup: service |
| | | | 67-28 | Printer gradation auto adjustment target clear: service |
| 7 | Touch panel | | 65-1 | Touch panel adjustment |
| 8 | Function/ Option settings | | 64-2 | Self print (B/W): service |
| 9 | Data display | 1 Counter display | 22-1 | Counter display |
| | | | 22-9 | Paper feed counter display |
| | | | 22-13 | Process cartridge display |
| | | 2 System/ Version | 22-5 | ROM version data display |
| | | | 22-10 | Machine system display |
| | | 3 List printing | 22-6 | Data print mode |
| | | | 23-2 | JAM/trouble data print mode |
| | | 4 USB storage | 56-99 | Export all log data |
| 10 | History | 1 Date list | Use SIM | |

## B. List of classic mode

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 1-1 | Check the operation of the scanner (reading) unit and the control circuit | | | |
| 1-2 | Check the operation of the sensors in the scanner (reading) section and the control circuit | | | |
| 1-5 | Check the operation of the scanner (reading) unit and the control circuit | | | |
| 2-1 | Check the operation of the document feeder and the control circuit | | | |
| 2-2 | Check the operation of the sensors in the document feeder section and the control circuit | | | |
| 2-3 | Check the operation of the loads in the document feeder and the control circuit | | | |
| 3-2 | Check the operation of the sensors in the finisher and the control circuit | | | |
| 3-3 | Check the operation of the load in the finisher and the control circuit | | | |
| 3-10 | Adjust the finisher | | | 4 |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 4-2 | Check the operation of the sensors in the desk/large capacity tray (LCC) and the control circuit | | | |
| 4-3 | Check the operation of the loads in the desk/ large capacity tray (LCC) and the control circuit | | | |
| 4-5 | Check the operation of the paper transport clutch (DTRC) in the desk and the LCC paper transport clutch (LTRC) | | | |
| 5-1 | Check the operation of the display, LCD in the operation panel and the control circuit | | | |
| 5-2 | Check the operation of the heater lamp and the control circuit | | | |
| 5-3 | Check the operation of the scanner lamp and the control circuit | | | |
| 5-4 | Check the operation of the discharge lamp and the control circuit | | | |
| 6-1 | Check the operation of the load in the paper transport system (clutches and solenoids) and the control circuit | | | |
| 6-2 | Check the operation of each fan motor and the control circuit | | | |
| 6-3 | Check the operation of the transport unit and the control circuit | | | |
| 6-6 | Check the operation of fusing pressure release, applying and the control circuit | | | |
| 6-90 | Reset the machine to the factory setting (The scanner is set to the lock enable position) | 6 | | |
| 7-1 | Set the operating conditions of againg | | | |
| 7-6 | Set the operating intermittent aging cycle | | | |
| 7-8 | Display the warm up time | | | |
| 7-9 | Color setting in the color copy test mode (check the copy operation and the image quality for each color) | | | |
| 7-12 | Set the document reading number of sheets | | | |
| 8-1 | Check and adjust the operation of the developping voltage in each print mode and the control circuit. *When the middle speed is adjusted the low speed is also adjusted simultaneously | | | |
| 8-2 | Check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. *When the middle speed is adjusted the low speed is also adjusted simultaneously | | | |
| 8-6 | Check and adjust the operation of the transport voltage and the control circuit | | | |
| 8-10 | Set main charger current output | | | |
| 9-2 | Check the operation of the sensors in the paper reverse section (duplex section) and the control circuit | | | |
| 9-3 | Check the operation of the load in the paper reverse section (duplex section) and the control circuit | | | |
| 10-1 | Check the operation of the toner supply mechanism (toner motor) and the control circuit | | | |
| 10-3 | Check the operation of the toner cartridge ejecting position sensor and the control circuit | 6 | 2-5 | 2 |
| 13 | Cancel U1 trouble | 5 | 6 | |
| 14 | Cancel H3, H4, H5 troubles | 5 | 6 | |
| 15 | Cancel U6 trouble | 5 | 6 | |
| 16 | Cancel U2 trouble | 5 | 6 | |
| 21-1 | Set the maintenance cycle | | 4 | |
| 22-1 | Check print count in each section and each operation mode | 3-1 | 1-1 | 9-1 |
| 22-2 | Check total count of misfeed and troubles | | | |
| 22-3 | Check misfeed positions and the misfeed count of each position | | 1-2 | |
| 22-4 | Check trouble (self diag) history | | | |
| 22-5 | Check ROM version of each unit | 3-2 | 1-3 | 9-2 |
| 22-6 | Output the setting/adjustment data, the firmware version and the count list | 3-3 | 1-4 | 9-3 |
| 22-8 | Check the operation count of the finisher, the SPF and the scan (reading) unit | | 1-1 | |
| 22-9 | Check paper feed count of each paper feed section | 3-1 | 1-1 | 9-1 |
| 22-10 | Check the system configuration (option, internal hardware) | 3-2 | 1-3 | 9-2 |
| 22-11 | Check FAX count | | | |
| 22-12 | Check SPF misfeed positions and misfeed count at each position | | 1-2 | |
| 22-13 | Check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit) | 3-1 | 1-1 | 9-1 |
| 22-14 | Display toner cartridge usage status count | | | |
| 22-18 | Display user data delete history | | | |
| 22-19 | Check scan and image send count | | | |
| 22-40 | Display trouble code information | | | |
| 22-41 | Check JAM code information | | | |
| 22-42 | Display JAM/trouble data | | | |
| 22-43 | Display JAM data details | | | |
| 22-90 | Output system setting list | | | |
| 23-2 | Output trouble history list of paper jam and misfeed | 3-3 | 1-4 | 9-3 |
| 23-80 | Check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Output operation status list of the sensor and detectors in the paper feed section and the paper transport section | | | |
| 23-81 | Export paper feed time list | | | |
| 24-1 | Clear jam count and trouble count | | 3 | |
| 24-2 | Clear paper feed count of each paper feed section | | 3 | |
| 24-3 | Clear the finisher, SPF and the scan (reading) unit count | | 3 | |
| 24-4 | Clear maintenance count and printer count of the transport unit and the fusing unit | | 3 | |
| 24-5 | Clear developer count | | | |
| 24-35 | Clear toner cartridge usage status count | | | |
| 25-1 | Check the operation of the developing section | | | |
| 25-2 | Make the initial setting of toner density when replacing developer | 1-1 | 2-2<br>2-5 | 2 |
| 25-4 | Display the operation data of the toner supply quantity | | | |
| 25-5 | Display the toner density correction data | | | |
| 26-1 | Set paper output tray | 2-1 | | |
| 26-2 | Set the paper size of the large capacity tray (LCC) | 2-1 | | |
| 26-3 | Set the auditor mode | 2-1 | | |
| 26-5 | Set count mode of the total count and the maintenance count | 2-2 | | |
| 26-6 | Set destination area | | | |
| 26-7 | Set machine ID | | | |
| 26-8 | Set counter mode for long scale | 2-2 | | |
| 26-10 | Set the trial mode of the network scanner | | | |
| 26-18 | Set the toner save mode operation | 2-4 | | |
| 26-30 | Set the CE mark operation mode | | | |
| 26-32 | Set the specification of the fusing cleaning operation | | | |
| 26-33 | Set the special function | 2-1 | | |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 26-35 | Set the display/mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes. Display as one trouble and display as several series of troubles | | | |
| 26-38 | Set continue/stop of print when the maintenance life is reached | | | |
| 26-41 | Set magnification ratio auto select function in the center binding mode | | | |
| 26-49 | Set the print speed of postcard mode | | | |
| 26-50 | Function setting | 2-1 | | |
| 26-52 | Set count up mode for non-printed paper | 2-2 | | |
| 26-65 | Set the finisher alarm mode | 2-1 | | |
| 26-66 | Set password for simulation | | | |
| 26-69 | Set the operating condition for toner near end | 2-4 | | |
| 26-73 | Adjust image loss for enlargement copy, A3 wide copy mode | | | |
| 26-74 | Set the OSA trial mode | | | |
| 26-78 | Set password for the remote operation panel | 2-1 | | |
| 26-79 | Set pop-up display of security | | | |
| 26-85 | Set the function for the simulation mode | | | |
| 27-2 | Set the sender's registration number and the HOST server telephone number | 2-5 | | |
| 27-4 | Set the initial call and toner order auto send | 2-5 | | |
| 27-5 | Set the machine tag No. | | | |
| 27-6 | Set of the manual service call | | | |
| 27-7 | Set of the enable, alert callout | 2-5 | | |
| 27-9 | Set the paper transport time recording Yes/ No threshold value and shading gain adjustment retry number | 2-5 | | |
| 27-10 | Clear the trouble prediction history information | | | |
| 27-11 | Check the serial communication retry number and the scanner gain adjustment retry number history | | | |
| 27-12 | Check the high density, halftone process control and the auto registration adjustment error history | | | |
| 27-13 | Check the history of paper transport time between sensors | | | |
| 27-14 | Set the FSS function connection test mode | 2-5 | | |
| 27-15 | Display the FSS connection status | 2-5 | | |
| 27-16 | Set the FSS alert send | 2-5 | | |
| 27-17 | Set the FSS paper order alert | 2-5 | | |
| 30-1 | Check the operation of the sensors in other than the paper feed section and the control circuit | | | |
| 30-2 | Check the operation of the sensors in the paper feed section and the control circuit | | | |
| 30-30 | Check the operation of the motion sensor | | | |
| 40-2 | Adjust the paper width sensor of the manual paper feed tray | | | 4 |
| 40-7 | Set the adjustment value of the paper width sensor of the manual paper feed tray | | | |
| 41-1 | Check the operation of the document size sensor and the control circuit | | | 3 |
| 41-2 | Adjust the document size sensor detection level | | | 3 |
| 41-3 | Check the operation of the document size sensor and the control circuit | | | |
| 43-1 | Set the fusing temperature in each mode | | | |
| 43-2 | Set the fusing operation and preheating | | | |
| 43-20 | Set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM43-2) in each paper mode | | | |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 43-21 | Set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM43-2) in each paper mode | | | |
| 43-24 | Set fuser operation mode | | | |
| 43-35 | Check fusing nip operation | | | |
| 44-1 | Set each correction operation function in the image forming section | | | |
| 44-2 | Adjust the sensitivity of the image density sensor | | 2-2<br>2-3 | 2 |
| 44-4 | Set the condition of the high density process control operation | | | |
| 44-6 | Execute the high density process control forcibly | 1-5 | 2-3 | |
| 44-9 | Display the result data of the high density process control operation | | | |
| 44-12 | Display the operation data of the high density process control and the image density sensor | | | |
| 44-14 | Display the output level of the temperature and humidity sensor | | | |
| 44-15 | Set the OPC drum idle rotation | | | |
| 44-17 | Set refresh operation for process section | | | |
| 44-21 | Set the halftone process control target | | | 5 |
| 44-22 | Display the toner patch density level in the halftone process control operation | | | |
| 44-24 | Display the correction target and the correction level in the halftone process control operation | | | |
| 44-25 | Set the calculating conditions of the correction value for the halftone process control | | | |
| 44-26 | Execute the halftone process control compulsory | 1-5 | 2-3 | |
| 44-27 | Clear the correction data of the halftone process control | | | |
| 44-28 | Set the process control execution conditions | | | |
| 44-29 | Set the operating conditions of the process control during a job | | | |
| 44-31 | Adjust the OPC drum phase (Manual adjustment) | | | |
| 44-37 | Set the development bias correction level in the continuous printing operation | | | |
| 44-43 | Display the identification information of the developing unit | | | |
| 44-62 | Set the process control execution conditions | | | |
| 46-1 | Adjust the copy density in the color copy mode | | | |
| 46-2 | Adjust the copy density in the monochrome copy mode | | | |
| 46-4 | Adjust the density in the color image send mode | | | |
| 46-5 | Adjust the density in the monochrome image send mode | | | |
| 46-8 | Adjust the RGB color balance in image send mode | | | |
| 46-9 | Adjust the scan image density | | | 3 |
| 46-10 | Adjust the copy color balance and the gamma (for each color copy mode) | | | |
| 46-16 | Adjust the monochrome copy density and the gamma (for each monochrome copy mode) | 1-3 | | 5 |
| 46-19 | Set the operating conditions for the scanning (exposure) density of monochrome auto copy mode documents | | | |
| 46-21 | Adjust the copy color balance (manual adjustment) | 1-3 | | 5 |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 46-23 | Set the density correction of copy high density section (high density tone gap supported) | | | |
| 46-24 | Adjust the copy color balance (Auto adjustment) | | | 5 |
| 46-25 | Adjust the copy color balance (Single color copy mode) | | | |
| 46-26 | Reset the single color mode color balance set value to the default | | | |
| 46-27 | Adjust the gamma/density of copy images, text and line image edges | | | |
| 46-30 | Adjust the resolution in the sub scanning direction in the copy mode | | | |
| 46-32 | Adjust the document background density reproducibility in the monochrome auto copy mode | | | |
| 46-36 | Adjust the colors in the two color copy mode | | | |
| 46-37 | Adjust the reproduction capability of color document in the monochrome mode | | | |
| 46-38 | Adjust the black component amount in the color copy mode | | | |
| 46-39 | Adjust the sharpness of FAX send images | | | |
| 46-40 | Adjust the FAX send image density (Collective adjustment of all the modes) | | | |
| 46-41 | Adjust the FAX send image density (Normal) | | | |
| 46-42 | Adjust the FAX send image density (Fine) | | | |
| 46-43 | Adjust the FAX send image density (Super fine) | | | |
| 46-44 | Adjust the FAX send image density (Ultra fine) | | | |
| 46-45 | Adjust the FAX send image density (600dpi) | | | |
| 46-46 | Adjust the FAX send image density (RGB RIP) | | | |
| 46-47 | Set the compression rate of copy and scan images (JPEG) | | | |
| 46-48 | Set the copy output resolution in the copy mode | | | |
| 46-51 | Adjust the gamma for heavy paper in copy mode and the image process mode | | | |
| 46-52 | Set the gamma default for heavy paper in copy mode and the image process mode | | | 1-3 |
| 46-54 | Adjust the engine halftone auto density (Dither) | | | 1-3<br>5 |
| 46-55 | Adjust the drop out color in the image send mode (Monochrome manual text mode) | | | |
| 46-58 | Set the pseudo resolution (smoothing process) in the copy mode | | | |
| 46-60 | Adjust the sharpness in the color auto copy mode | | | |
| 46-61 | Adjust the area separation recognition level | | | |
| 46-62 | Set the operating condition of the ACS, the area separation, the background image process and the auto exposure mode | | | |
| 46-63 | Adjust the density in the copy low density section | | | |
| 46-65 | Set the color correction table | | | |
| 46-66 | Adjust the reproduction capability of watermarks in the copy/printer mode | | | |
| 46-68 | Adjust the auto resolution judgement | | | |
| 46-74 | Adjust copy color balance (Auto) / printer color balance (Auto) | 1-1<br>1-5 | 2-2<br>2-3 | 1-2<br>1-3<br>2 |
| 46-90 | Set the process operation of high compression PDF images | | | |
| 46-91 | Adjust the reproduction capability of black text | | | |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 48-1 | Adjust the scan image magnification ratio (Main scanning direction and Sub scanning direction) | | | 1-1 |
| 48-5 | Adjust the scan image magnification ratio (Sub scanning direction) | | | 1-1 |
| 48-6 | Adjust the rotation speed of each motor | | | |
| 49-1 | Update the firmware | 4 | 5 | |
| 49-7 | Update the pre-installed firmware | 4 | 5 | |
| 50-1 | Adjust the Copy image position and the image loss | | | 1-1 |
| 50-5 | Adjust the print lead edge image position in the printer mode | | | 1-1 |
| 50-6 | Adjust the copy image position and the image loss (SPF) | | | 1-1 |
| 50-10 | Adjust the black print image magnification ratio and the off center position | 1-2 | 2-1 | 1-1 |
| 50-12 | Adjust the scan image off center position | | | 1-1 |
| 50-20 | Adjust image registration (Manual) | | | 1-2 |
| 50-22 | Adjust the image registration (Main scan direction, sub scan direction) (Auto) / OPC drum phase (Auto) | 1-1 | 2-1 | 1-1<br>1-2 |
| 50-23 | Set the registration correction | | | |
| 50-24 | Display the detailed data of SIM 44-2, 50-20, 21 and 22 | | | |
| 50-27 | Adjust the image loss of scanned images in the FAX and image send mode | | | |
| 51-1 | Adjust the ON/OFF timing of the secondary transfer voltage | | | |
| 51-2 | Adjust the contact pressure (deflection amount) on paper by the main unit and the SPF resist roller | | | |
| 53-6 | Adjust the detection level of the SPF document width | | | 3 |
| 53-7 | Adjust the SPF document size width sensor | | | |
| 53-8 | Adjust the document lead edge reference and the SPF mode document scan position | | | 3 |
| 53-9 | Set scanning position in SPF | | | |
| 53-10 | Execute dirt detection in SPF | | | |
| 55-1 | Set the specification of the engine control operations (SOFT SW) | | | |
| 55-2 | Set the specification of the scanner control operation (SOFT SW) | | | |
| 55-3 | Set the specification of the controller operation (SOFT SW) | | | |
| 55-10 | Set the special stamp text (For Taiwan) | | | |
| 56-1 | Transport data between STORAGE - MFP EEPROM | | | |
| 56-2 | Store the data in the EEPROM, ICU DRIVE and STORAGE to the USB memory | | | |
| 56-3 | Store the document filing data to the USB memory | | | |
| 56-4 | Store the JOB log data to the USB memory | | | |
| 56-5 | Store the SIM22-6 data to the USB memory in the text format | | | |
| 56-6 | Store the SIM23-2 JAM/trouble data to the USB memory in the text format | | | |
| 56-7 | Store the system log data to the USB memory | | | |
| 56-8 | Update ICC profile | | | |
| 56-15 | Restore the data for the MFP EEPROM | | | |
| 56-99 | Store all log data to the USB memory | 3-4 | 1-5 | 9-4 |
| 60-1 | Check the memory operations (read/write) of the SCN MFP PWB | | | |
| 61-1 | Check the LSU polygon motor rotation and laser detection | | | |
| 61-3 | Set the laser power | | | |
| 61-4 | Print out the print image skew adjustment pattern | | | |

| Sim No. | Function | Easy Mode | | |
|---|---|---|---|---|
| | | Installation | Maintenance | Adjustment and Settings |
| 61-11 | Adjust the laser power (Auto) | | 2-3 | 1-2<br>1-3 |
| 61-12 | Adjust the Laser power (Manual) | | | |
| 61-13 | Clear the laser power correction value | | 2-3 | 1-3 |
| 61-14 | Set the laser power correction value | | | 1-3 |
| 62-1 | Format the storage | | | |
| 62-3 | Check read/write of the STORAGE (all areas) | | | |
| 62-4 | Check the format of the STORAGE (Logical) | | | |
| 62-7 | Print the self diagnostics error log of the STORAGE | | | |
| 62-9 | Clear the data in the STORAGE | | | |
| 62-12 | Set auto format in STORAGE error | | | |
| 62-14 | Check/Delete the database file in the STORAGE | | | |
| 62-21 | Display the storage information in the STORAGE | | | |
| 63-1 | Display the shading correction result | | | |
| 63-2 | Execute shading correction | 1-5 | | 3 |
| 63-3 | Adjust scanner (CCD) color balance and gamma | 1-5 | 2-3 | 3 |
| 63-4 | Display the scanner test chart patch density | | | |
| 63-5 | Set the default of the scanner (CCD) color balance and gamma | | 2-3 | 3 |
| 63-7 | Set the service target of the copy mode auto color balance adjustment | | | 5 |
| 63-8 | Set the default of the service target of the copy mode auto color balance adjustment | | | 5 |
| 63-11 | Set the target color balance of the copy mode auto color balance adjustment | | | 5 |
| 64-1 | Print test pattern (self print) (color mode) | | | |
| 64-2 | Print test pattern (self print) (monochrome mode) | | | 8 |
| 64-4 | Print printer test pattern (self print) | | | |
| 64-5 | Print printer test pattern (self print) (PCL) | 1-4 | | |
| 64-6 | Print printer test pattern (self print) (PS) | | | |
| 65-1 | Adjust the touch panel (LCD display section) detection coordinates | | | 7 |
| 65-2 | Display the touch panel (LCD display section) detection coordinates | | | |
| 65-5 | Check the operation panel key input | | | |
| 66-1 | Set the FAX related soft SW (2-150) | 2-3 | | |
| 66-2 | Set a country code and the default for the country code | | | |
| 66-3 | Check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result | | | |
| 66-4 | Check the transmission of the selected signal to the line and the main unit speaker (transmission level: max) | | | |
| 66-5 | Check the transmission of the selected signal to the line and the main unit speaker (transmission level: soft SW setting) | | | |
| 66-6 | Print the confidential registration check table (BOX No, BOX name, passcode) | | | |
| 66-7 | Print the all image data saved in the image memory | | | |
| 66-8 | Check the transmission of the selected sound message to the line and the main unit speaker (transmission level: max) | | | |
| 66-9 | Check the transmission of the selected sound message to the line and the main unit speaker (transmission level: soft SW setting) | | | |
| 66-10 | Clear the FAX and image send image data | | | |
| 66-11 | Check the transmission of the selected signal at 300bps to the line and the main unit speaker (transmission level: max) | | | |
| 66-12 | Check the transmission of the selected signal at 300bps to the line and the main unit speaker (transmission level: soft SW setting) | | | |
| 66-13 | Set dial number for SIM66-14/15/16 dial test | | | |
| 66-14 | Check the dial pulse (10pps) transmission test and to adjust the make time | | | |
| 66-15 | Check the dial pulse (20pps) transmission test and to adjust the make time | | | |
| 66-16 | Check the DTMF signal transmission test and to adjust the transmission level | | | |
| 66-17 | Check the transmission of the DTMF signal to the line and the main unit speaker (transmission level: max) | | | |
| 66-18 | Check the transmission of the DTMF signal to the line and the main unit speaker (transmission level: soft SW setting) | | | |
| 66-21 | Print system error, protocol monitor | | | |
| 66-22 | Set the handset sound volume (Japan model only) | | | |
| 66-29 | Clear the address book data | | | |
| 66-30 | Display the TEL/LIU status change (display is highlighted by status change) | | | |
| 66-31 | Set the output port for TEL/LIU | | | |
| 66-32 | Check the received data and to display the result | | | |
| 66-33 | Check various signals detection result | | | |
| 66-36 | Check send and receive data of MFP controller interface | | | |
| 66-39 | Set the destination for FAX | | | |
| 66-42 | Write the program to power control installed in the FAX | | | |
| 66-43 | Write the adjustment value into the power control installed in the FAX | | | |
| 66-61 | Set the FAX related soft SW (151-250) | | | |
| 66-62 | Store the FAX receive data to the USB memory in PDF format | | | |
| 67-17 | Clear printer controller | | | |
| 67-20 | Adjust the gray balance (Auto adjustment) | | | 1-3 |
| 67-21 | Adjust the gray balance (Manual adjustment) | | | |
| 67-24 | Adjust printer color balance (Auto) | | | 6 |
| 67-25 | Adjust printer color balance (Manual) | 1-4 | | 6 |
| 67-26 | Set the target color balance of the printer mode auto color balance adjustment | | | 6 |
| 67-27 | Set the service target of the printer mode auto color balance adjustment | | | 6 |
| 67-28 | Set the default of the service target of the printer mode auto color adjustment | | | 6 |
| 67-31 | Clear the printer calibration value | | | |
| 67-33 | Set the gamma of the printer screen | | | |
| 67-34 | Set the density correction in the printer high density section | | | |
| 67-36 | Set the density in the low density section | | | |
| 67-41 | Set 2 color print | | | |
| 67-42 | Set 2 color print color density | | | |
| 67-43 | Adjust the color balance in the 2 color mode | | | |
| 67-46 | Adjust the image enhancement | | | |
| 67-52 | Set the default of the printer screen gamma | | | 1-3 |
| 67-54 | Adjust printer color balance | | | 1-3 |

## 5. Details of simulation

# 1

### 1-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the scanner (reading) unit and the control circuit |
| **Section** | Scanner (reading) |

**Operation/Procedure**

1) Select the operation speed.
2) Tap [EXECUTE] key.
   Scanning is once performed at the speed corresponding to the scan resolution (operation speed).

**RSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| OC SCAN | 300DPI | 300DPI (372mm/s) | 300DPI (372mm/s) |
| | 400DPI | 400DPI (372mm/s) | |
| | 600DPI | 600DPI (264mm/s) | |
| | 1200DPI | 1200DPI (132mm/s) | |

**DSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| OC SCAN | 300DPI | 300DPI (372mm/s) | 300DPI (372mm/s) |
| | 400DPI | 400DPI (372mm/s) | |
| | 600DPI | 600DPI (275mm/s) | |
| | 1200DPI | 1200DPI (137.5mm/s) | |

### 1-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in the scanner (reading) section and the control circuit |
| **Section** | Scanner (reading) |

**Operation/Procedure**

The operating status of the sensor is displayed.

When "MHPS" is highlighted, the scanner unit is in the home position.

### 1-5

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the scanner (reading) unit and the control circuit |
| **Section** | Scanner (reading) |

**Operation/Procedure**

1) Select the operation speed.
2) Tap [EXECUTE] key.
   Scanning is repeated at the speed corresponding to the scan resolution (operation speed).
   When [EXECUTE] key is tapped, the operation is terminated.

**RSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| OC SCAN | 300DPI | 300DPI (372mm/s) | 300DPI (372mm/s) |
| | 400DPI | 400DPI (372mm/s) | |
| | 600DPI | 600DPI (264mm/s) | |
| | 1200DPI | 1200DPI (132mm/s) | |

**DSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| OC SCAN | 300DPI | 300DPI (372mm/s) | 300DPI (372mm/s) |
| | 400DPI | 400DPI (372mm/s) | |
| | 600DPI | 600DPI (275mm/s) | |
| | 1200DPI | 1200DPI (137.5mm/s) | |

# 2

### 2-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the document feeder and the control circuit |
| **Section** | SPF |

**Operation/Procedure**

1) Select the operation mode and the speed.
2) Tap [EXECUTE] key.
   The SPF repeats paper feed, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed).
   When [EXECUTE] key is tapped, the operation is terminated.

**RSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| SINGLE | 300DPI | 300DPI (396mm/s) | 300DPI (396mm/s) |
| | 400DPI | 400DPI (396mm/s) | |
| | 600DPI | 600DPI (264mm/s) | |
| DOUBLE | 300DPI | 300DPI (396mm/s) | 300DPI (396mm/s) |
| | 400DPI | 400DPI (396mm/s) | |
| | 600DPI | 600DPI (264mm/s) | |

**DSPF**

| Item/Display | | Operation mode | Default |
|---|---|---|---|
| SINGLE | 300DPI | 300DPI (550mm/s) | 300DPI (550mm/s) |
| | 400DPI | 400DPI (412.5mm/s) | |
| | 600DPI | 600DPI (275mm/s) | |
| DOUBLE | 300DPI | 300DPI (550mm/s) | 300DPI (550mm/s) |
| | 400DPI | 400DPI (412.5mm/s) | |
| | 600DPI | 600DPI (275mm/s) | |

### 2-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in the document feeder section and the control circuit |
| **Section** | Automatic document feeder |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The code names of the sensors which are active are highlighted.

**DSPF**

| Display | Content |
|---|---|
| SCOV | Upper cover sensor |
| SLCOV | Lower cover sensor |
| SOCD | SPF sensor |
| SPED1 | Document sensor 1 |
| SPED2 | Document sensor 2 |
| SPLS1 | Document length sensor 1 |
| SPLS2 | Document length sensor 2 |
| SPOD | Document exit sensor |
| SPOTD | Document exit tray sensor |
| SPPD1 | Document pass sensor 1 |
| SPPD2 | Document pass sensor 2 |
| SPPD3 | Document pass sensor 3 |
| SPPD4 | Document pass sensor 4 |

| Display | Content |
|---|---|
| SPPD5 | Document pass sensor 5 |
| SPRDMD | Document random sensor |
| STLD | Tray lower limit sensor |
| STUD | Tray upper limit sensor |

**RSPF**

| Display | Content |
|---|---|
| SCOV | Cover sensor |
| SOCD | SPF sensor |
| SPED | Document sensor |
| SPLS1 | Document length sensor 1 |
| SPLS2 | Document length sensor 2 |
| SPPD1 | Document pass sensor 1 |
| SPPD2 | Document pass sensor 2 |
| SPPD3 | Document pass sensor 3 |
| SPPD4 | Document pass sensor 4 |

2-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the loads in the document feeder and the control circuit |
| **Section** | SPF |

**Operation/Procedure**

1) Select a target item.
2) Tap [EXECUTE] key.
   The selected load performs the operation.
   When [EXECUTE] key is tapped, the operation is terminated.

**DSPF**

| Display | Content |
|---|---|
| SLUM | Lift motor |
| SPFC | Document feed clutch |
| SPFFAN | SPF fan |
| SPFM | Transport motor |
| SPOM | Document exit motor |
| SPOTLED | Document exit tray LED |
| SRRC | Registration roller clutch |
| STRC | Transport roller 2 clutch |
| STRRC | Transport roller 1 clutch |

**RSPF**

| Display | Content |
|---|---|
| SPFM | Transport motor |
| SPRS | Document exit roller solenoid |
| SPUM | Document feed motor |
| SRRC | Registration roller clutch |

# 3

3-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in the finisher and the control circuit |
| **Section** | Finisher |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The code names of the sensors which are active are highlighted.

**Inner finisher**

| No,/Display item | Content |
|---|---|
| FNECODTC | Staple-less staple connection detection signal |
| FNINTSNS | Punch unit paper rear edge detection signal |
| FNMANSW | Manual staple switch |
| FNMSW1 | Front cover switch |
| FNPS1 | Discharged paper sensor |
| FNPS2 | Paddle home position sensor |
| FNPS3 | Knurling home position sensor |
| FNPS4 | Alignment plate front home position sensor |
| FNPS5 | Alignment plate rear home position sensor |
| FNPS6 | Staple tray paper sensor |
| FNPS7 | Paper exit assist home position sensor |
| FNPS8 | Bundle hold home position sensor |
| FNPS9 | Paper height sensor |
| FNPS10 | Paper exit tray lower limit sensor |
| FNPS11 | Staple shift home position sensor |
| FNPS12 | Manual staple paper detection sensor |
| FNPS14 | Paper exit tray position sensor |
| FNPS16 | Slide position sensor |
| FNPUDTC | Punch unit connection detection signal |
| FNSTPLHP | Staple home position sensor |
| FNSTPLLS | Staple empty detection |
| FNSTPLRE | Staple lead edge sensor |

**Inner finisher punch unit**

| No,/Display item | Content |
|---|---|
| FCFULL_S | Punch dust full sensor |
| FCPI_S | Punch home position sensor |
| FCPUENCS | Punch motor rotation sensor |
| FCRI_S | Punch mode sensor |
| FCYKPTRS | Punch unit paper rear edge sensor |

**Staple-free Staple Unit**

| No,/Display item | Content |
|---|---|
| FNPS13 | Staple-free staple unit position sensor |
| FNPS15 | Staple-free staple unit home position sensor |

**1K finisher**

| No,/Display item | Content |
|---|---|
| BLTHPS | Release position sensor |
| ENT | Inlet sensor |
| EXGPLTHP | Paper exit guide plate open/close home position sensor |
| FDRSW | Door open/close sensor |
| HITHP | Flapper home position sensor |
| JOGHPS | Jogger home position sensor |
| LDWNLMUT | Lift tray lower limit lower sensor |
| LMDLT | Intermediate feeder left sensor |
| PRFEX | Proof paper exit sensor |
| PRFTRYFL | Proof tray full sensor |
| RMDLT | Intermediate feeder right sensor |
| SFTROLHP | Shift home position sensor |
| STMHP | Staple shift home position detection |
| STPDRRHP | Staple driver home position sensor |
| STPNEND | Staple near end sensor |
| STPSPRM | Staple self-priming sensor |
| STPTRPAP | Staple tray paper empty sensor |
| UDWNLMUT | Lift tray lower limit upper sensor |
| UPCVR | Upper cover open/close sensor |
| UPEX | Shift paper exit (Lift tray paper exit) sensor |
| UPLMUTSW | Lift tray upper switch |
| UTNRH | Tray near home detection sensor |
| UTRPH | Lift tray paper surface sensor |

**1K saddle finisher**

| No,/Display item | Content |
|---|---|
| BDLTRS | Bundle transport sensor |
| BLTHPS | Release home position sensor |
| ENDSHP | Rear edge stopper home position sensor |
| ENDSTRS | Rear edge stopper transport sensor |
| ENT | Inlet sensor |
| EXGPLTHP | Paper exit guide plate open/close home position sensor |

| No,/Display item | Content |
|---|---|
| FDRSW | Door open/close sensor |
| FLDCMHP | Folding cam home position sensor |
| FLDEX | Half folding paper exit sensor |
| FLDPLTHP | Folding blade home position sensor |
| HITHP | Flapper home position sensor |
| JOGHPS | Jogger home position sensor |
| LDWNLMUT | Lift tray lower limit lower sensor |
| LMDLT | Intermediate feeder left sensor |
| LPRSRLHP | Bundle transport lower pressure release home position sensor |
| PRFEX | Proof paper exit sensor |
| PRFTRYFL | Proof tray full sensor |
| RMDLT | Intermediate feeder right sensor |
| SDLFLLL | Half folding tray full lower sensor |
| SDLFLLU | Half folding tray full upper sensor |
| SFTROLHP | Shift home position sensor |
| SSSTPCHP | Saddle stitch staple clincher home position sensor |
| STMHP | Staple shift home position detection |
| STPDRRHP | Staple driver home position sensor |
| STPNEND | Staple near end sensor |
| STPSPRM | Staple self-priming sensor |
| STPTRPAP | Staple tray paper empty sensor |
| STTKSH | Staple retracting sensor |
| UDWNLMUT | Lift tray lower limit upper sensor |
| UPCVR | Upper cover open/close sensor |
| UPEX | Shift paper exit (Lift tray paper exit) sensor |
| UPLMUTSW | Lift tray upper limit switch |
| UPRSRLHP | Bundle transport upper pressure release home position sensor |
| UTNRH | Tray near home detection sensor |
| UTRPH | Lift tray paper surface sensor |

**1K finisher punch unit**

| No,/Display item | Content |
|---|---|
| PAPPOS | Horizontal registration detection sensor |
| PAPPOSHP | Horizontal registration detection shift home position sensor |
| PNCHENC | Punch rear position sensor |
| PNCHHP | Punch home position sensor |
| PNCHHPFL | Punch hopper full sensor |
| PNCHMVHP | Punch shift home position sensor |
| PSLTDSW1 | Punch selection DIP SW1 |
| PSLTDSW2 | Punch selection DIP SW2 |

**3K finisher**

| No,/Display item | Content |
|---|---|
| FN1DDS | DIP SW1 detection sensor |
| FN1DO | Paper exit paper surface detection sensor 1 |
| FN1DPS | Push SW1 detection sensor |
| FN2DDS | DIP SW2 detection sensor |
| FN2DO | Paper exit paper surface detection sensor 2 |
| FN2DPS | Push SW2 detection sensor |
| FN3DDS | DIP SW3 detection sensor |
| FN4DDS | DIP SW4 detection sensor |
| FNAMS | Manual staple operation SW |
| FNB | Buffer sensor |
| FNDCP | Punch connection detection signal |
| FNDCS | Saddle connection detection signal |
| FNDES | Staple empty detection sensor |
| FNDFET | Escape tray full detection sensor |
| FNDOCFD | Front door open/close detection sensor |
| FNDOGPN | Alignment unit paddle lift paper surface detection sensor |
| FNDOHS | Staple cuing detection sensor |
| FNDPMS | Manual staple paper detection sensor |
| FNDPOPT | Process tray paper surface sensor |
| FNE | Entry port sensor |
| FNEE | Escape paper exit sensor |
| FNFMTLC | Load tray full (Large coated paper full) sensor |
| FNFMTLS | Load tray middle (Large coated paper full) sensor |
| FNFMTSS | Load tray lower limit (Small coated paper full) sensor |
| FNHPAR | Rear edge assist home position sensor |
| FNHPCSLS | Staple-free stapling clinch home position sensor |
| FNHPDSS | Staple drive home position sensor |
| FNHPFECE | Escape/saddle transport switch flapper home position sensor |
| FNHPFR | Rear edge falling home position sensor |
| FNHPGJFN | Alignment unit front alignment plate lift home position sensor |
| FNHPGJRN | Alignment unit rear alignment plate lift home position sensor |
| FNHPGKS | Take-up knurling lift home position sensor |
| FNHPGPN | Alignment unit paddle lift home position sensor |
| FNHPJF | Front edge alignment plate home position sensor |
| FNHPJFN | Alignment unit front alignment plate home position sensor |
| FNHPJR | Rear edge alignment plate home position sensor |
| FNHPJRN | Alignment unit rear alignment plate home position sensor |
| FNHPMSS | Staple shift home position sensor |
| FNHPMT | Load tray home position sensor |
| FNHPP | Paddle home position sensor |
| FNHPRPN | Alignment unit paddle rotation home position sensor |
| FNHPS | Oscillation home position sensor |
| FNHPTF | Front edge tongue home position sensor |
| FNHPTR | Rear edge tongue home position sensor |
| FNMCSLS | Staple-free stapling motor clock sensor |
| FNOCFD | Front door open/close switch |
| FNSSS | Staple safety switch |
| FNTBP | Preprocessing timing sensor |
| FNULMT | Load tray upper limit sensor |

**3K saddle finisher**

| No,/Display item | Content |
|---|---|
| FN1DDS | DIP SW1 detection sensor |
| FN1DO | Paper exit paper surface detection sensor 1 |
| FN1DPS | Push SW1 detection sensor |
| FN2DDS | DIP SW2 detection sensor |
| FN2DO | Paper exit paper surface detection sensor 2 |
| FN2DPS | Push SW2 detection sensor |
| FN3DDS | DIP SW3 detection sensor |
| FN4DDS | DIP SW4 detection sensor |
| FNAMS | Manual staple operation SW |
| FNB | Buffer sensor |
| FNDCP | Punch connection detection signal |
| FNDCS | Saddle connection detection signal |
| FNDES | Staple empty detection sensor |
| FNDFET | Escape tray full detection sensor |
| FNDOCFD | Front door open/close detection sensor |
| FNDOGPN | Alignment unit paddle lift paper surface detection sensor |
| FNDOHS | Staple cuing detection sensor |
| FNDPMS | Manual staple paper detection sensor |
| FNDPOPT | Process tray paper surface sensor |
| FNE | Entry port sensor |
| FNEE | Escape paper exit sensor |
| FNFMTLC | Load tray full (Large coated paper full) sensor |
| FNFMTLS | Load tray middle (Large coated paper full) sensor |
| FNFMTSS | Load tray lower limit (Small coated paper full) sensor |
| FNHPAR | Rear edge assist home position sensor |
| FNHPCSLS | Staple-free stapling clinch home position sensor |
| FNHPDSS | Staple drive home position sensor |
| FNHPFECE | Escape/saddle transport switch flapper home position sensor |
| FNHPFR | Rear edge falling home position sensor |
| FNHPGJFN | Alignment unit front alignment plate lift home position sensor |
| FNHPGJRN | Alignment unit rear alignment plate lift home position sensor |

| No,/Display item | Content |
|---|---|
| FNHPGKS | Take-up knurling lift home position sensor |
| FNHPGPN | Alignment unit paddle lift home position sensor |
| FNHPJF | Front edge alignment plate home position sensor |
| FNHPJFN | Alignment unit front alignment plate home position sensor |
| FNHPJR | Rear edge alignment plate home position sensor |
| FNHPJRN | Alignment unit rear alignment plate home position sensor |
| FNHPMSS | Staple shift home position sensor |
| FNHPMT | Load tray home position sensor |
| FNHPP | Paddle home position sensor |
| FNHPRPN | Alignment unit paddle rotation home position sensor |
| FNHPS | Oscillation home position sensor |
| FNHPTF | Front edge tongue home position sensor |
| FNHPTR | Rear edge tongue home position sensor |
| FNMCSLS | Staple-free stapling motor clock sensor |
| FNOCFD | Front door open/close switch |
| FNSSS | Staple safety switch |
| FNTBP | Preprocessing timing sensor |
| FNULMT | Load tray upper limit sensor |
| FSDU | Saddle unit detection sensor |
| FSE | Saddle unit entry port sensor |
| FSEB | Saddle unit folding bundle paper exit sensor |
| FSEPB | Saddle unit folding bundle loading paper empty sensor |
| FSESFS | Saddle unit staple front staple empty sensor |
| FSESRS | Saddle unit staple rear staple empty sensor |
| FSHPDSS | Saddle unit staple drive home position sensor |
| FSHPEL | Saddle unit switch lever home position sensor |
| FSHPG | Saddle unit gripper home position sensor |
| FSHPJ | Saddle unit alignment plate home position sensor |
| FSHPP | Saddle unit paddle home position sensor |
| FSHPSR | Saddle unit rear edge stopper home position sensor |
| FSHPT | Saddle unit pushing home position sensor |
| FSMCE | Saddle unit paper exit motor clock sensor |
| FSMCF | Saddle unit folding motor clock sensor |
| FSPV | Saddle unit vertical path sensor |

**3K finisher punch unit**

| No,/Display item | Content |
|---|---|
| FC1DR | Punch horizontal registration detection sensor 1 |
| FC2DR | Punch horizontal registration detection sensor 2 |
| FC3DR | Punch horizontal registration detection sensor 3 |
| FC4DR | Punch horizontal registration detection sensor 4 |
| FC5DR | Punch horizontal registration detection sensor 5 |
| FCDFWP | Punch dust full detection sensor |
| FCEP | Punch hole encoder sensor |
| FCHPP | Punch hole home position sensor |
| FCHPR | Punch horizontal registration home position sensor |

**Paper pass unit**

| No,/Display item | Content |
|---|---|
| PDOS1 | Relay cover open/close detection 1 |
| PDOS2 | Relay cover open/close detection 2 |
| PDPPD1 | Relay transport detection 1 |
| PDPPD2 | Relay transport detection 2 |

3-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the load in the finisher and the control circuit |
| **Section** | Finisher |

**Operation/Procedure**

1) Select the item to be operation checked.
2) Tap [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is tapped, the operation is terminated.

**Inner finisher**

| No,/Display item | Content |
|---|---|
| FNM1 | Transport motor |
| FNM10 | Paddle motor |
| FNM2 | Roller motor |
| FNM3 | Front alignment motor |
| FNM4 | Rear alignment motor |
| FNM5 | Assist motor |
| FNM6 | Tray shift motor |
| FNM7 | Staple shift motor |
| FNM9 | eco staple motor |
| FNSL | Rear edge falling motor |
| FNSTPLIF | Staple motor |

**1K finisher**

| No,/Display item | Content |
|---|---|
| BLT_M | Release motor |
| ENTRS_M | Entry port transport motor |
| EXGPLT_M | Paper exit guide plate open/close motor |
| EXTRS_M | Paper exit transport/Flapping, drawing roller motor |
| JCTG_S | Branch solenoid |
| JOG_M | Jogger motor |
| PSN_M | Flapping motor |
| SFT_M | Shift motor |
| STPMOV_M | Staple motor |
| STPMV_M | Staple shift motor |
| TRYLFT_M | Tray lift motor |
| UPTRS_M | Proof transport motor |

**1K Saddle finisher**

| No,/Display item | Content |
|---|---|
| BLT_M | Release motor |
| ENDS_M | Rear edge stopper motor |
| ENTRS_M | Entry port transport motor |
| EXGPLT_M | Paper exit guide plate open/close motor |
| EXTRS_M | Paper exit transport/Flapping, drawing roller motor |
| FLDPLT_M | Folding blade motor |
| FLTRS_M | Folding transport motor |
| GDLED | Guide LED |
| JCTG_S | Branch solenoid |
| JOG_M | Jogger motor |
| LPRSRL_M | Bundle transport lower pressure release motor |
| PSN_M | Flapping motor |
| SFT_M | Shift motor |
| STPMOV_M | Staple motor |
| STPMV_M | Staple shift motor |
| TRYLFT_M | Tray lift motor |
| UBTRS_M | Bundle transport upper motor |
| UPRSRL_M | Bundle transport upper pressure release/ Reference fence evacuation motor |
| UPTRS_M | Proof transport motor |

**1K Finisher punch unit**

| No,/Display item | Content |
|---|---|
| PNCH_M | Punch motor |
| PNCHMV_M | Punch shift motor |
| STSMOV_M | Punch horizontal registration detection shift motor |

**3K Finisher**

| No,/Display item | Content |
|---|---|
| FNCDP | Paddle drive clutch |
| FNCDRUS | Oscillation lower roller drive clutch |
| FNCEDCE | Escape transport drive switch clutch |
| FNMAR | Rear edge assist motor |
| FNMB | Buffer motor |
| FNMDJFN | Alignment unit front alignment plate drive motor |
| FNMDJRN | Alignment unit rear alignment plate drive motor |
| FNMDT | Tongue drive motor |

| No,/Display item | Content |
|---|---|
| FNME | Discharge motor |
| FNMEC | Entry port transport motor |
| FNMFECES | Escape/Saddle transport switch flapper motor |
| FNMFR | Rear edge falling motor |
| FNMGJFN | Alignment unit front alignment plate lift motor |
| FNMGJRN | Alignment unit rear alignment plate lift motor |
| FNMGMT | Load paper tray lift motor |
| FNMGPN | Alignment unit paddle lift motor |
| FNMGRS | Take-up switch roller lift motor |
| FNMJF | Front alignment motor |
| FNMJR | Rear alignment motor |
| FNMMSS | Staple horizontal shift motor |
| FNMRPN | Alignment unit paddle rotation motor |
| FNMS | Oscillation motor |
| FNMSLS | Staple-free staple motor |
| FNMSS | Staple motor |

**3K Saddle finisher**

| No,/Display item | Content |
|---|---|
| FNCDP | Paddle drive clutch |
| FNCDRUS | Oscillation lower roller drive clutch |
| FNCEDCE | Escape transport drive switch clutch |
| FNMAR | Rear edge assist motor |
| FNMB | Buffer motor |
| FNMDJFN | Alignment unit front alignment plate drive motor |
| FNMDJRN | Alignment unit rear alignment plate drive motor |
| FNMDT | Tongue drive motor |
| FNME | Discharge motor |
| FNMEC | Entry port transport motor |
| FNMFECES | Escape/Saddle transport switch flapper motor |
| FNMFR | Rear edge falling motor |
| FNMGJFN | Alignment unit front alignment plate lift motor |
| FNMGJRN | Alignment unit rear alignment plate lift motor |
| FNMGMT | Load paper tray lift motor |
| FNMGPN | Alignment unit paddle lift motor |
| FNMGRS | Take-up switch roller lift motor |
| FNMJF | Front alignment motor |
| FNMJR | Rear alignment motor |
| FNMMSS | Staple horizontal shift motor |
| FNMRPN | Alignment unit paddle rotation motor |
| FNMS | Oscillation motor |
| FNMSLS | Staple-free staple motor |
| FNMSS | Staple motor |
| FSMC | Saddle transport motor |
| FSMDLE | Saddle switch lever drive motor |
| FSME | Saddle discharge motor |
| FSMF | Saddle folding motor |
| FSMG | Saddle gripper motor |
| FSMJ | Saddle alignment motor |
| FSMS | Saddle staple motor |
| FSMSR | Saddle rear edge stopper motor |

**3K finisher punch unit**

| No,/Display item | Content |
|---|---|
| FCMR | Punch horizontal registration motor |
| FCP | Punch hole motor |

**Paper pass unit**

| No,/Display item | Content |
|---|---|
| PDPTM | Relay unit transport motor |

3-10

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the finisher |
| **Section** | Finisher |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

**Inner finisher**

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | ALIGNMENT | Alignment position adjustment | 50 - 150 | 100 |
| B | ALIGNMENT CENTER | Alignment position center adjustment | 90 - 110 | 100 |
| C | STAPLE FRONT | Stapling position adjustment (one position in front) | 50 - 150 | 100 |
| D | STAPLE REAR | Stapling position adjustment (one position at the rear) | 50 - 150 | 100 |
| E | STAPLE BOTH | Stapling position adjustment (staple pitch of two positions binding) | 50 - 150 | 100 |
| F | MANUAL STAPLE POSITION | Manual stapling position adjustment | 80 - 120 | 100 |
| G | STAPLELESS STAPLE Y | Staple-free stapling position adjustment (Y : Main scanning direction) | 70 - 130 | 100 |
| H | STAPLELESS STAPLE X | Staple-free stapling position adjustment (X : Sub scanning direction) | 85 - 115 | 100 |
| I | STAPLELESS STAPLE PRESSURE | Staple-free stapling welding pressure adjustment (Motor rotation) | 85 - 115 | 100 |
| J | BELT PRESSURE | Return belt pressure adjustment | 90 - 110 | 100 |
| K | MANUAL STAPLE TIME | Manual staple time out setting | 1 - 5 | 2 |
| L | MANUAL STAPLE PULLOUT TIME | Manual staple pull out time out setting | 0 - 10 | 0 |
| M | PUNCH X | Punch hole position adjustment (X : Sub scanning direction) | 80 - 120 | 100 |

**1K Finisher/1K Saddle finisher**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | STAPLE POSITION | Stapling position adjustment | 93 - 107 | 100 |
| B | JOGGER(A3) | Jogger position adjustment A3 | 97 - 103 | 100 |
| C | JOGGER(B4) | Jogger position adjustment B4 | 97 - 103 | 100 |
| D | JOGGER(A4-R) | Jogger position adjustment A4-R | 97 - 103 | 100 |
| E | JOGGER(A4) | Jogger position adjustment A4 | 97 - 103 | 100 |
| F | JOGGER(B5-R) | Jogger position adjustment B5-R | 97 - 103 | 100 |
| G | JOGGER(B5) | Jogger position adjustment B5 | 97 - 103 | 100 |
| H | JOGGER(11 x 17) | Jogger position adjustment 11 x 17 | 97 - 103 | 100 |
| I | JOGGER(8.5 x 14) | Jogger position adjustment 8.5 x 14 | 97 - 103 | 100 |
| J | JOGGER(8.5 x 11R) | Jogger position adjustment 8.5 x 11R | 97 - 103 | 100 |

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| K | JOGGER(8.5 x 11) | Jogger position adjustment 8.5 x 11 | 97 - 103 | 100 |
| L | JOGGER(12 x 18) | Jogger position adjustment 12 x 18 | 97 - 103 | 100 |
| M | JOGGER(8KR) | Jogger position adjustment 8K | 97 - 103 | 100 |
| N | JOGGER(16K-R) | Jogger position adjustment 16K-R | 97 - 103 | 100 |
| O | JOGGER(16K) | Jogger position adjustment 16K | 97 - 103 | 100 |
| P | JOGGER(OTHER) | Jogger position adjustment Other | 97 - 103 | 100 |
| Q | HITTING ROLLER START(A3) | Flapping roller operation start timing adjustment A3 | 90 - 110 | 100 |
| R | HITTING ROLLER START(B4) | Flapping roller operation start timing adjustment B4 | 90 - 110 | 100 |
| S | HITTING ROLLER START(A4-R) | Flapping roller operation start timing adjustment A4-R | 90 - 110 | 100 |
| T | HITTING ROLLER START(A4) | Flapping roller operation start timing adjustment A4 | 90 - 110 | 100 |
| U | HITTING ROLLER START(B5-R) | Flapping roller operation start timing adjustment B5-R | 90 - 110 | 100 |
| V | HITTING ROLLER START(B5) | Flapping roller operation start timing adjustment B5 | 90 - 110 | 100 |
| W | HITTING ROLLER START(11 x 17) | Flapping roller operation start timing adjustment 11 x 17 | 90 - 110 | 100 |
| X | HITTING ROLLER START(8.5 x 14) | Flapping roller operation start timing adjustment 8.5 x 14 | 90 - 110 | 100 |
| Y | HITTING ROLLER START(8.5 x 11R) | Flapping roller operation start timing adjustment 8.5 x 11R | 90 - 110 | 100 |
| Z | HITTING ROLLER START(8.5 x 11) | Flapping roller operation start timing adjustment 8.5 x 11 | 90 - 110 | 100 |
| AA | HITTING ROLLER START(12 x 18) | Flapping roller operation start timing adjustment 12 x 18 | 90 - 110 | 100 |
| AB | HITTING ROLLER START(8K) | Flapping roller operation start timing adjustment 8K | 90 - 110 | 100 |
| AC | HITTING ROLLER START(16K-R) | Flapping roller operation start timing adjustment 16K-R | 90 - 110 | 100 |
| AD | HITTING ROLLER START(16K) | Flapping roller operation start timing adjustment 16K | 90 - 110 | 100 |
| AE | HITTING ROLLER START(OTHER) | Flapping roller operation start timing adjustment Other | 90 - 110 | 100 |
| AF | HITTING ROLLER TIME(A3) | Flapping roller flapping time adjustment A3 | 90 - 110 | 100 |
| AG | HITTING ROLLER TIME(B4) | Flapping roller flapping time adjustment B4 | 90 - 110 | 100 |
| AH | HITTING ROLLER TIME(A4-R) | Flapping roller flapping time adjustment A4-R | 90 - 110 | 100 |
| AI | HITTING ROLLER TIME(A4) | Flapping roller flapping time adjustment A4 | 90 - 110 | 100 |

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| AJ | HITTING ROLLER TIME(B5-R) | Flapping roller flapping time adjustment B5-R | 90 - 110 | 100 |
| AK | HITTING ROLLER TIME(B5) | Flapping roller flapping time adjustment B5 | 90 - 110 | 100 |
| AL | HITTING ROLLER TIME(11 x 17) | Flapping roller flapping time adjustment 11 x 17 | 90 - 110 | 100 |
| AM | HITTING ROLLER TIME(8.5 x 14) | Flapping roller flapping time adjustment 8.5 x 14 | 90 - 110 | 100 |
| AN | HITTING ROLLER TIME(8.5 x 11R) | Flapping roller flapping time adjustment 8.5 x 11R | 90 - 110 | 100 |
| AO | HITTING ROLLER TIME(8.5 x 11) | Flapping roller flapping time adjustment 8.5 x 11 | 90 - 110 | 100 |
| AP | HITTING ROLLER TIME(12 x 18) | Flapping roller flapping time adjustment 12 x 18 | 90 - 110 | 100 |
| AQ | HITTING ROLLER TIME(8K) | Flapping roller flapping time adjustment 8K | 90 - 110 | 100 |
| AR | HITTING ROLLER TIME(16K-R) | Flapping roller flapping time adjustment 16K-R | 90 - 110 | 100 |
| AS | HITTING ROLLER TIME(16K) | Flapping roller flapping time adjustment 16K | 90 - 110 | 100 |
| AT | HITTING ROLLER TIME(OTHER) | Flapping roller flapping time adjustment Other | 90 - 110 | 100 |
| AU | HITTING ROLLER TIME(1-10) | Sheet number type flapping roller flapping time adjustment 1 - 10 sheets | 90 - 110 | 100 |
| AV | HITTING ROLLER TIME(11-20) | Sheet number type flapping roller flapping time adjustment 11 - 20 sheets | 90 - 110 | 100 |
| AW | HITTING ROLLER TIME(21-30) | Sheet number type flapping roller flapping time adjustment 21 - 30 sheets | 90 - 110 | 100 |
| AX | HITTING ROLLER TIME(31-40) | Sheet number type flapping roller flapping time adjustment 31 - 40 sheets | 90 - 110 | 100 |
| AY | HITTING ROLLER TIME(41-50) | Sheet number type flapping roller flapping time adjustment 41 - 50 sheets | 90 - 110 | 100 |
| AZ | SKEW QUANTITY(A3) | Skew correction striking quantity adjustment A3 | 75 - 125 | 100 |
| BA | SKEW QUANTITY(B4) | Skew correction striking quantity adjustment B4 | 75 - 125 | 100 |
| BB | SKEW QUANTITY(A4-R) | Skew correction striking quantity adjustment A4-R | 75 - 125 | 100 |
| BC | SKEW QUANTITY(A4) | Skew correction striking quantity adjustment A4 | 75 - 125 | 100 |
| BD | SKEW QUANTITY(B5-R) | Skew correction striking quantity adjustment B5-R | 75 - 125 | 100 |
| BE | SKEW QUANTITY(B5) | Skew correction striking quantity adjustment B5 | 75 - 125 | 100 |
| BF | SKEW QUANTITY(A5) | Skew correction striking quantity adjustment A5 | 75 - 125 | 100 |
| BG | SKEW QUANTITY(11 x 17) | Skew correction striking quantity adjustment 11 x 17 | 75 - 125 | 100 |
| BH | SKEW QUANTITY(8.5 x 14) | Skew correction striking quantity adjustment 8.5 x 14 | 75 - 125 | 100 |
| BI | SKEW QUANTITY(8.5 x 11R) | Skew correction striking quantity adjustment 8.5 x 11R | 75 - 125 | 100 |

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| BJ | SKEW QUANTITY(8.5 x 11) | Skew correction striking quantity adjustment 8.5 x 11 | 75 - 125 | 100 |
| BK | SKEW QUANTITY(5.5 x 8.5) | Skew correction striking quantity adjustment 5.5 x 8.5 | 75 - 125 | 100 |
| BL | SKEW QUANTITY(12 x 18) | Skew correction striking quantity adjustment 12 x 18 | 75 - 125 | 100 |
| BM | SKEW QUANTITY(8K) | Skew correction striking quantity adjustment 8K | 75 - 125 | 100 |
| BN | SKEW QUANTITY(16 K-R) | Skew correction striking quantity adjustment 16K-R | 75 - 125 | 100 |
| BO | SKEW QUANTITY(16 K) | Skew correction striking quantity adjustment 16K | 75 - 125 | 100 |
| BP | SKEW QUANTITY(OTHER) | Skew correction striking quantity adjustment Other | 75 - 125 | 100 |
| BQ | SKEW MODE(A3) | Skew correction striking control switch A3 | 0 - 1 | 0 |
| BR | SKEW MODE(B4) | Skew correction striking control switch B4 | 0 - 1 | 0 |
| BS | SKEW MODE(A4-R) | Skew correction striking control switch A4-R | 0 - 1 | 0 |
| BT | SKEW MODE(A4) | Skew correction striking control switch A4 | 0 - 1 | 0 |
| BU | SKEW MODE(B5-R) | Skew correction striking control switch B5-R | 0 - 1 | 0 |
| BV | SKEW MODE(B5) | Skew correction striking control switch B5 | 0 - 1 | 0 |
| BW | SKEW MODE(A5) | Skew correction striking control switch A5 | 0 - 1 | 0 |
| BX | SKEW MODE(11 x 17) | Skew correction striking control switch 11 x 17 | 0 - 1 | 0 |
| BY | SKEW MODE(8.5 x 14) | Skew correction striking control switch 8.5 x 14 | 0 - 1 | 0 |
| BZ | SKEW MODE(8.5 x 11R) | Skew correction striking control switch 8.5 x 11R | 0 - 1 | 0 |
| CA | SKEW MODE(8.5 x 11) | Skew correction striking control switch 8.5 x 11 | 0 - 1 | 0 |
| CB | SKEW MODE(5.5 x 8.5) | Skew correction striking control switch 5.5 x 8.5 | 0 - 1 | 0 |
| CC | SKEW MODE(12 x 18) | Skew correction striking control switch 12 x 18 | 0 - 1 | 0 |
| CD | SKEW MODE(8K) | Skew correction striking control switch 8K | 0 - 1 | 0 |
| CE | SKEW MODE(16K-R) | Skew correction striking control switch 16K-R | 0 - 1 | 0 |
| CF | SKEW MODE(16K) | Skew correction striking control switch 16K | 0 - 1 | 0 |
| CG | SKEW MODE(OTHER) | Skew correction striking control switch Other | 0 - 1 | 0 |
| CH | PUNCH Y | Punch hole position adjustment (Y : Main scanning direction) | 95 - 105 | 100 |
| CI | PUNCH X | Punch hole position adjustment (X : Sub scanning direction) | 85 - 115 | 100 |
| CJ | SADDLE STITCHING | Saddle stitch position adjustment | 85 - 115 | 100 |
| CK | SADDLE FOLDING | Folding position adjustment | 85 - 115 | 100 |
| CL | FOLDING TIME * | Folding time adjustment | 0 - 29 | 0 |

* This is displayed only when saddle finisher is connected.

**3K Finisher / 3K Saddle finisher**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | ALIGNMENT | Alignment position adjustment | 50 - 150 | 100 |
| B | FRONT ADJUST | Front alignment position adjustment | 50 - 150 | 100 |
| C | REAR ADJUST | Rear alignment position adjustment | 50 - 150 | 100 |
| D | ALIGNMENT CENTER | Alignment position center adjustment | 90 - 110 | 100 |
| E | STAPLE FRONT | Stapling position adjustment (one position in front) | 50 - 150 | 100 |
| F | STAPLE REAR | Stapling position adjustment (one position at the rear) | 50 - 150 | 100 |
| G | STAPLE BOTH | Stapling position adjustment (staple pitch of two positions binding) | 50 - 150 | 100 |
| H | MANUAL STAPLE POSITION | Manual stapling position adjustment | 80 - 120 | 100 |
| I | STAPLELESS STAPLE POSITION | Staple-free stapling position adjustment | 80 - 115 | 100 |
| J | BUFFER SHIFT(1-2) | Buffer paper shift quantity adjustment (1-2 sheets) | 40 - 160 | 100 |
| K | BUFFER SHIFT(2-3) | Buffer paper shift quantity adjustment (2-3 sheets) | 40 - 160 | 100 |
| L | PUNCH X | Punch hole position adjustment (X : Sub scanning direction) | 80 - 120 | 100 |
| M | PUNCH Y | Punch hole position adjustment (Y : Main scanning direction) | 97 - 115 | 100 |
| N | EJECTING ROLLER | Paper exit roller height adjustment | 70 - 130 | 100 |
| O | KNURLING ROLLER | Take-up knurling height adjustment | 0 - 150 | 100 |
| P | KNURLING ROLLER RETREAT | Take-up knurling evacuation height adjustment | 0 - 200 | 100 |
| Q | STAPLELESS STAPLE PRESSURE | Staple-free stapling welding pressure adjustment (Motor rotation) | 85 - 115 | 100 |
| R | DELIVERY SPEED(NON-SORT) | Paper exit speed adjustment (Non-sort) | 90 - 110 | 100 |
| S | DELIVERY SPEED(ESCAPE) | Paper exit speed adjustment (Escape) | 90 - 110 | 100 |
| T | EJECTING SPEED(SHIFT) | Bundle paper eject speed adjustment (Shift bundle ejection) | 95 - 105 | 100 |
| U | EJECTING SPEED(STAPLE) | Bundle paper eject speed adjustment (Staple bundle ejection) | 95 - 105 | 100 |
| V | MANUAL STAPLE TIME | Manual staple time out setting | 1 - 5 | 2 |
| W | MANUAL STAPLE PULLOUT TIME | Manual staple pull out time out setting | 0 - 10 | 0 |
| X | STITCHING UNIT | Saddle staple position adjustment | 80 - 120 | 100 |
| Y | STITCHING UNIT THIN | Saddle staple position adjustment (Thin paper) | 80 - 120 | 100 |
| Z | FOLDING UNIT | Saddle folding position adjustment | 80 - 120 | 100 |
| AA | FOLDING UNIT THIN | Saddle folding position adjustment (Thin paper) | 80 - 120 | 100 |
| AB | SADDLE ALIGNMENT | Saddle alignment width adjustment | 80 - 120 | 100 |
| AC | STITCHING AND FOLDING | Saddle staple folding position adjustment | 30 - 70 | 50 |

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| AD | SADDLE FOLDING(A4-R/8.5 x 11R) | Saddle folding position adjustment A4-R/8.5 x 11R | 30 - 70 | 50 |
| AE | SADDLE FOLDING(B4/8.5 x 14) | Saddle folding position adjustment B4/8.5 x 14 | 30 - 70 | 50 |
| AF | SADDLE FOLDING(A3/11 x 17) | Saddle folding position adjustment A3/11 x 17 | 30 - 70 | 50 |
| AG | SADDLE FOLDING(12 x 18) | Saddle folding position adjustment 12 x 18 | 30 - 70 | 50 |
| AH | SADDLE FOLDING(CUSTOM) | Saddle folding position adjustment Custom size | 30 - 70 | 50 |

# 4

## 4-2

**Purpose**: Operation test/check

**Function (Purpose)**: Check the operation of the sensors in the desk/large capacity tray (LCC) and the control circuit

**Section**: Desk/Large capacity tray (LCC)

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The code names of the sensors which are active are highlighted.

**Desk**

| Display | Content |
|---|---|
| D1MDC | Desk 3 installation detection connector |
| D1PED | Desk 3 paper empty sensor |
| D1PPD | Desk 3 paper transport sensor |
| D1PQD | Desk 3 remaining paper quantity sensor |
| D1PRED1 | Desk 3 paper rear edge sensor 1 |
| D1PRED2 | Desk 3 paper rear edge sensor 2 |
| D1PRED3 | Desk 3 paper rear edge sensor 3 |
| D1PRED4 | Desk 3 paper rear edge sensor 4 |
| D1ULD | Desk 3 upper limit detector |
| D2MDC | Desk 4 installation detection connector |
| D2PED | Desk 4 paper empty sensor |
| D2PPD | Desk 4 paper transport sensor |
| D2PQD | Desk 4 remaining paper quantity sensor |
| D2PRED1 | Desk 4 paper rear edge sensor 1 |
| D2PRED2 | Desk 4 paper rear edge sensor 2 |
| D2PRED3 | Desk 4 paper rear edge sensor 3 |
| D2PRED4 | Desk 4 paper rear edge sensor 4 |
| D2ULD | Desk 4 upper limit detector |

**Tandem LCC**

| Display | Content |
|---|---|
| D1CDT | Desk 3 insertion detection |
| D1LUD | Desk 3 upper limit sensor |
| D1PED | Desk 3 paper empty sensor |
| D1PFD | Desk 3 paper transport sensor |
| D1PPD1 | Desk 3 paper transport sensor 1 |
| D1PPD2 | Desk 3 paper transport sensor 2 |
| D1PQD | Desk 3 remaining paper quantity sensor |
| D2CDT | Desk 4 insertion detection |
| D2LUD | Desk 4 upper limit sensor |
| D2PED | Desk 4 paper empty sensor |
| D2PQD | Desk 4 remaining paper quantity sensor |
| DHOD | Horizontal transport open/close detection |

**LCC**

| Display | Content |
|---|---|
| 24VM | LCC 24V power monitor |
| LCCD | LCC main unit connection sensor |
| LCLSW | LCC tray open/close switch |
| LDD | LCC tray lower limit sensor |
| LLSW | LCC upper limit switch |
| LPED | LCC tray paper empty sensor |
| LPFD | LCC transport sensor |
| LPFPD | LCC transport sensor 2 |
| LPUD | LCC paper upper surface sensor |
| LRE | LCC lift motor encoder sensor |
| LUD | LCC tray upper limit sensor |
| LWRSW | LCC reverse winding detection switch |

## 4-3

**Purpose**: Operation test/check

**Function (Purpose)**: Check the operation of the loads in the desk/large capacity tray (LCC) and the control circuit

**Section**: Desk/Large capacity tray (LCC)

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected load performs the operation.
   When [EXECUTE] key is tapped, the operation is terminated.

**Desk**

| Display | Content |
|---|---|
| D1LM | Tray 3 lift-up motor |
| D1PFC | Tray 3 paper feed clutch |
| D2LM | Tray 4 lift-up motor |
| D2PFC | Tray 4 paper feed clutch |
| DPFM | Desk transport motor |
| DPTRC | Desk paper transport clutch |

**Tandem LCC**

| Display | Content |
|---|---|
| D1LM | Tray 3 lift-up motor |
| D1PFC | Tray 3 paper feed clutch |
| D2LM | Tray 4 lift-up motor |
| D2PFC | Tray 4 paper feed clutch |
| DPFM | Desk transport motor |
| DPTRC | Desk paper transport clutch |

**LCC**

| Display | Content |
|---|---|
| LLM | LCC lift motor |
| LPFC | LCC paper feed clutch |
| LPFM | LCC paper transport motor |
| LPFS | LCC paper feed solenoid |
| LTRC | LCC transport clutch |

4-5

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the paper transport clutch (DTRC) in the desk and the LCC paper transport clutch (LTRC) |
| **Section** | Desk/Large capacity tray (LCC) |

**Operation/Procedure**

**Check the ON operation**

Tap the button of the code name for checking the ON operation.

Checking is started. When the operation is normal, the button on the display is highlighted. When it is abnormal, the button is not highlighted.

**Check the OFF operation**

Tap the highlighted button which is ON.

When the operation is normal, the highlighted button on the display returns to the normal display. When it is abnormal, the highlighted display is maintained.

| Button | Content |
|---|---|
| DTRC | Desk transport clutch |
| LTRC | A4 LCC transport clutch |

# 5

5-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the display, LCD in the operation panel and the control circuit |
| **Section** | Operation panel |

**Operation/Procedure**

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX → MIN → the current level. During this period, each LED is lighted.

The LCD display contrast change and the LED lighting status are checked.

5-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the heater lamp and the control circuit |
| **Section** | Fusing |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected heater lamp operates ON/OFF.
   When [EXECUTE] key is tapped, the operation is terminated.

Heater lamp operation check method:
Remove the front cabinet upper and the paper exit tray, and the lighting status of each heater lamp can be checked through the clearance between the fusing pressure release drive gear and the frame fusing section.

| | |
|---|---|
| HL_UM | Main heater lamp (Upper main) |
| HL_US | Sub heater lamp (Upper sub) |
| HL_LM | Heater lamp (Lower main) |

5-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the scanner lamp and the control circuit |
| **Section** | Scanner (reading) |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The scanner lamp lights up for 10 sec.
   When [EXECUTE] key is tapped, the operation is terminated.

5-4

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the discharge lamp and the control circuit |
| **Section** | Process |

**Operation/Procedure**

1) Select target item.
   When [ALL] key is tapped, all the items are selected.
2) Tap [EXECUTE] key.
   The selected discharge lamp is lighted for 30 sec.
   When [EXECUTE] key is tapped, the operation is terminated.

| | |
|---|---|
| DL_K | Discharge lamp K |
| DL_C | Discharge lamp C |
| DL_M | Discharge lamp M |
| DL_Y | Discharge lamp Y |

# 6

6-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the load in the paper transport system (clutches and solenoids) and the control circuit |
| **Section** | Paper transport/Paper exit section |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected load performs the operation.
   When [EXECUTE] key is tapped, the operation is terminated.

Load operation check method:
The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

| Display | Content |
|---|---|
| C1LUM | Paper tray lift motor (Paper feed tray 1) |
| C1PFC | Vertical transport clutch |
| C1PUC | Paper feed clutch (Paper feed tray 1) |
| C2LUM | Paper tray lift motor (Paper feed tray 2) |
| C2PFC | Vertical transport clutch |
| C2PUC | Paper feed clutch (Paper feed tray 2) |
| CPFM | Paper feed motor |
| FUM | Fusing motor |
| HPFC | Horizontal transport clutch |
| MPFS | Paper feed solenoid (Manual paper feed tray) |
| MPUC | Paper feed clutch (Manual paper feed tray) |
| OSM | Offset motor |
| PFM | Transport motor |
| POGS | Gate solenoid |

| Display | Content |
|---|---|
| POM | Paper exit motor |
| RRM | Registration motor |
| SBM_F | Reverse motor (Normal rotation) |
| SBM_R | Reverse motor (Reverse rotation) |

6-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of each fan motor and the control circuit |
| **Section** | Others |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected load performs the operation.
   When [EXECUTE] key is tapped, the operation is terminated.
   Tap [ALL] key to select all the fans collectively.

Load operation check method:
The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

| Display | Content |
|---|---|
| FUFM | Fusing fan |
| POFM | Paper exit fan |
| PROFM1 | Process fan 1 |
| PROFM2 | Process fan 2 |
| PSFM | Power supply fan |

6-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the transport unit and the control circuit |
| **Section** | Process (Transport) |

**Operation/Procedure**

1) Select target item.

| Mode select button | Content |
|---|---|
| TC1 | Primary transfer (normal rotation) |
| TC1_R | Primary transfer (reverse rotation) |
| TC2 | Secondary transfer |

2) When [EXECUTE] key is tapped, the operation of the mode selected in 1) is performed.

| Button | Display | Content | NOTE |
|---|---|---|---|
| TC1 | BLACK | Monochrome mode position | Black mode position -> Color mode position -> Drum separation position -> (Black mode position) (Repeated in this sequence.) |
| | COLOR | Color mode position | |
| | FREE | Non-transport position | |
| TC1_R | BLACK | Monochrome mode position | Black mode position -> Drum separation position -> Color mode position -> (Black mode position) (Repeated in this sequence.) |
| | FREE | Non-transport position | |
| | COLOR | Color mode position | |
| TC2 | PRINT | Print position | Print position -> Drum separation position (Repeated in this sequence) |
| | FREE | Non-transport position | |

6-6

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of fusing pressure release, applying and the control circuit |
| **Section** | Fusing |

**Operation/Procedure**

1) Tap [FUSER] key to highlight it.
2) Tap [EXECUTE] key, and fusing pressure applying and fusing pressure release are repeated.

During this period, the status of the fusing roller pressure is displayed.

| | | |
|---|---|---|
| PRINT | Fusing pressure applying | Fusing pressure applying -> Fusing pressure release -> (Fusing pressure applying) The operation is repeated. |
| FREE | Fusing pressure release | |

6-90

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Reset the machine to the factory setting (The scanner is set to the lock enable position) |
| **Section** | Scanner |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   The scanner is shifted to the lock enable position and stopped.

# 7

7-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the operating conditions of againg |
| **Section** | Others |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The machine is rebooted in the aging mode.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

| | |
|---|---|
| AGING | Aging operation setup |
| INTERVAL | Intermittent operation setting |
| MISFEED DISABLE | JAM detection ignoring setting |
| FUSING DISABLE | Fusing unit ignoring setting |
| WARMUP DISABLE | Warming up ignoring setting |
| DV CHECK DISABLE | Developing unit ignoring setting |
| SHADING DISABLE | Shading correction operation omitting setting |
| CCD GAIN FREE | CCD gain adjustment omitting setting |

7-6

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the operating intermittent aging cycle |
| **Section** | |

**Operation/Procedure**

1) Enter the intermittent aging operation cycle (unit: sec).
2) Tap [OK] key.
   The time entered in procedure 1) is set.
   * The interval time that can be set is 1 to 900 (sec).

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

7-8

| | |
|---|---|
| **Purpose** | Operation display |
| **Function (Purpose)** | Display the warm up time |
| **Section** | |

**Operation/Procedure**

Tap [EXECUTE] key.

Counting of the warm-up time is started and the time required for warm-up is displayed

* Interruption of counting by pressing [EXECUTE] key is inhibited.

7-9

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Color setting in the color copy test mode (check the copy operation and the image quality for each color) |
| **Section** | |

**Operation/Procedure**

1) Select the copy color.
   (Two or more colors can be selected.)
   The key of the selected color is highlighted.
2) Tap [EXECUTE] key.
   Copying is performed with the selected color.

When [CLOSE] key is tapped, the display goes into the copy operation menu in the simulation mode.

| | |
|---|---|
| K | Setup/cancel of black |
| C | Setup/cancel of cyan |
| M | Setup/cancel of magenta |
| Y | Setup/cancel of yellow |

7-12

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Set the document reading number of sheets (for aging operation) |
| **Section** | SPF |

**Operation/Procedure**

1) Set document reading quantity.
   (Setting range:0 - 255)
2) Tap [OK] key. The set value is saved.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

# 8

8-1

| | |
|---|---|
| **Purpose** | Operation test/check/adjustment |
| **Function (Purpose)** | Check and adjust the operation of the developping voltage in each print mode and the control circuit.<br>*When the middle speed is adjusted the low speed is also adjusted simultaneously |
| **Section** | Process (Developing) |

**Operation/Procedure**

1) Select a speed with [MIDDLE] and [LOW] keys.
2) Select target item.
3) Enter the setting value. (The value specified on the label of the high voltage PWB must be entered.)
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
4) Tap [OK] key. Tap [OK] key. The set value is saved.

| Item/Display (Mode) | | | Content | Adjustment range | Actual voltage |
|---|---|---|---|---|---|
| MIDDLE | A | MIDDLE SPEED DVB_K | Developing bias voltage K (Middle speed mode) | 0 - 600 | –450V +/- 5V |
| | B | MIDDLE SPEED DVB_C | Developing bias voltage C (Middle speed mode) | 0 - 600 | –450V +/- 5V |
| | C | MIDDLE SPEED DVB_M | Developing bias voltage M (Middle speed mode) | 0 - 600 | –450V +/- 5V |
| | D | MIDDLE SPEED DVB_Y | Developing bias voltage Y (Middle speed mode) | 0 - 600 | –450V +/- 5V |
| LOW | A | LOW SPEED DVB_K | Developing bias voltage K (Low speed mode) | 0 - 600 | –450V +/- 5V |
| | B | LOW SPEED DVB_C | Developing bias voltage C (Low speed mode) | 0 - 600 | -450V ±5V |
| | C | LOW SPEED DVB_M | Developing bias voltage M (Low speed mode) | 0 - 600 | -450V ±5V |
| | D | LOW SPEED DVB_Y | Developing bias voltage Y (Low speed mode) | 0 - 600 | -450V ±5V |

8-2

| | |
|---|---|
| **Purpose** | Operation test/check/adjustment |
| **Function (Purpose)** | Check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit.<br>*When the middle speed is adjusted the low speed is also adjusted simultaneously |
| **Section** | Process (Charging) |

**Operation/Procedure**

1) Select a speed with [MIDDLE] and [LOW] keys.
2) Select target item.
3) Enter the adjustment value. (The value specified on the label of the high voltage PWB must be entered.)
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
4) Tap [OK] key. The set value is saved.

| Item/Display (Mode) | | | Content | Adjustment range | Actual voltage |
|---|---|---|---|---|---|
| MIDDLE | A | MIDDLE SPEED GB_K | Main charger grid voltage K (Middle speed mode) | 50 - 850 | -607V ±5V |
| | B | MIDDLE SPEED GB_C | Main charger grid voltage C (Middle speed mode) | 50 - 850 | -607V ±5V |
| | C | MIDDLE SPEED GB_M | Main charger grid voltage M (Middle speed mode) | 50 - 850 | -607V ±5V |
| | D | MIDDLE SPEED GB_Y | Main charger grid voltage Y (Middle speed mode) | 50 - 850 | -607V ±5V |
| LOW | A | LOW SPEED GB_K | Main charger grid voltage K (Low speed mode) | 50 - 850 | -598V ±5V |
| | B | LOW SPEED GB_C | Main charger grid voltage C (Low speed mode) | 50 - 850 | -598V ±5V |
| | C | LOW SPEED GB_M | Main charger grid voltage M (Low speed mode) | 50 - 850 | -598V ±5V |
| | D | LOW SPEED GB_Y | Main charger grid voltage Y (Low speed mode) | 50 - 850 | -598V ±5V |

8-6

| | |
|---|---|
| **Purpose** | Operation test/check/adjustment |
| **Function (Purpose)** | Check and adjust the operation of the transport voltage and the control circuit |
| **Section** | Process (Transfer) |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   Enter the default specified on the following list.
3) Tap [OK] key. The set value is saved.

| Item/Display | | Content | | | | Setting range | Default |
|---|---|---|---|---|---|---|---|
| A | TC1 LOW CL K | Primary transfer bias adjustment value | Color | K | Low | 0 - 255 | 85 |
| B | TC1 MIDDLE CL K | | | | Middle | | 94 |
| C | TC1 LOW CL C | | | C | Low | | 85 |
| D | TC1 MIDDLE CL C | | | | Middle | | 94 |
| E | TC1 LOW CL M | | | M | Low | | 85 |
| F | TC1 MIDDLE CL M | | | | Middle | | 94 |
| G | TC1 LOW CL Y | | | Y | Low | | 85 |
| H | TC1 MIDDLE CL Y | | | | Middle | | 94 |
| I | TC1 LOW BW K | | Mono | K | Low | | 85 |
| J | TC1 MIDDLE BW K | | | | Middle | | 94 |
| K | TC2 PLAIN CL SPX | Secondary transfer bias adjustment value | Color | Plain paper 1 | Front surface | 0 - 255 | 103 |
| L | TC2 PLAIN CL DPX | | | | Back surface | | 110 |
| M | TC2 PLAIN BW SPX | | Mono | | Front surface | | 103 |
| N | TC2 PLAIN BW DPX | | | | Back surface | | 103 |
| O | TC2 PLAIN2 CL SPX | | Color | Plain paper 2 | Front surface | | 103 |
| P | TC2 PLAIN2 CL DPX | | | | Back surface | | 110 |
| Q | TC2 PLAIN2 BW SPX | | Mono | | Front surface | | 103 |
| R | TC2 PLAIN2 BW DPX | | | | Back surface | | 103 |
| S | TC2 HEAVY1 CL SPX | | Color | Heavy paper 1 | Front surface | | 90 |
| T | TC2 HEAVY1 CL DPX | | | | Back surface | | 96 |
| U | TC2 HEAVY1 BW SPX | | Mono | | Front surface | | 90 |
| V | TC2 HEAVY1 BW DPX | | | | Back surface | | 96 |
| W | TC2 HEAVY2 CL SPX | | Color | Heavy paper 2 | Front surface | | 90 |
| X | TC2 HEAVY2 CL DPX | | | | Back surface | | 96 |
| Y | TC2 HEAVY2 BW SPX | | Mono | | Front surface | | 90 |
| Z | TC2 HEAVY2 BW DPX | | | | Back surface | | 96 |
| AA | TC2 HEAVY3 CL SPX | | Color | Heavy paper 3 | Front surface | | 90 |
| AB | TC2 HEAVY3 CL DPX | | | | Back surface | | 96 |
| AC | TC2 HEAVY3 BW SPX | | Mono | | Front surface | | 90 |
| AD | TC2 HEAVY3 BW DPX | | | | Back surface | | 96 |

| Item/Display | | Content | | | | Setting range | Default |
|---|---|---|---|---|---|---|---|
| AE | TC2 HEAVY4 CL | Secondary transfer bias adjustment value | Color | Heavy paper 4 | | 0 - 255 | 90 |
| AF | TC2 HEAVY4 BW | | Mono | | | | 90 |
| AG | TC2 OHP CL | | Color | OHP | | | 103 |
| AH | TC2 OHP BW | | Mono | | | | 103 |
| AI | TC2 ENVELOPE CL | | Color | Envelope | | | 90 |
| AJ | TC2 ENVELOPE BW | | Mono | | | | 90 |
| AK | TC2 THIN CL | | Color | Thin paper | | | 90 |
| AL | TC2 THIN BW | | Mono | | | | 90 |
| AM | TC2 GLOSSY PAPER CL | | Color | Gross paper | | | 90 |
| AN | TC2 GLOSSY PAPER BW | | Mono | | | | 90 |
| AO | TC2 EMBOSS CL | | Color | Embossed paper | | | 90 |
| AP | TC2 EMBOSS BW | | Mono | | | | 90 |
| AQ | TC2 LABEL CL | | Color | Label | | | 90 |
| AR | TC2 LABEL BW | | Mono | | | | 90 |
| AS | TC2 FRONT EDGE LOW SPX | Secondary transfer front edge bias adjustment value | | Low | Front surface | 0 - 255 | 76 |
| AT | TC2 FRONT EDGE LOW DPX | | | | Back surface | | 69 |
| AU | TC2 FRONT EDGE MIDDLE SPX | | | Middle | Front surface | | 76 |
| AV | TC2 FRONT EDGE MIDDLE DPX | | | | Back surface | | 69 |
| AW | TC2 BACKEND LOW SPX | Secondary transfer rear edge bias adjustment value | | Low | Front surface | 0 - 255 | 76 |
| AX | TC2 BACKEND LOW DPX | | | | Back surface | | 69 |
| AY | TC2 BACKEND MIDDLE SPX | | | Middle | Front surface | | 0 |
| AZ | TC2 BACKEND MIDDLE DPX | | | | Back surface | | 0 |
| BA | TC INTERVAL LOW | Secondary transfer bias adjustment value between paper | | Low | (+ pole) | 0 - 255 | 66 |
| BB | TC2 INTERVAL MIDDLE | | | Middle | (+ pole) | | 95 |
| BC | TC2 CLEANING MINUS LOW | Secondary transfer cleaning negative bias adjustment value | | Low | (- pole) | | 54 |
| BD | TC2 CLEANING MINUS MIDDLE | | | Middle | (- pole) | | 59 |
| BE | TC2 CLEANING PLUS LOW | Secondary transfer cleaning positive bias adjustment value | | Low | (+ pole) | | 66 |
| BF | TC2 CLEANING PLUS MIDDLE | | | Middle | (+ pole) | | 95 |
| BG | PTC LOW CL SPX | PTC current adjustment value | Color | Low | Front surface | 0 - 255 | 109 |
| BH | PTC LOW CL DPX | | | | Back surface | | 109 |
| BI | PTC MIDDLE CL SPX | | | Middle | Front surface | | 206 |
| BJ | PTC MIDDLE CL DPX | | | | Back surface | | 109 |
| BK | PTC LOW BW SPX | | Mono | Low | Front surface | | 109 |
| BL | PTC LOW BW DPX | | | | Back surface | | 109 |
| BM | PTC MIDDLE BW SPX | | | Middle | Front surface | | 206 |
| BN | PTC MIDDLE BW DPX | | | | Back surface | | 206 |
| BO | CASE VOLT LOW CL SPX | PTC voltage adjustment value | Color | Low | Front surface | 0 - 255 | 0 |
| BP | CASE VOLT LOW CL DPX | | | | Back surface | | 0 |
| BQ | CASE VOLT MIDDLE CL SPX | | | Middle | Front surface | | 0 |
| BR | CASE VOLT MIDDLE CL DPX | | | | Back surface | | 0 |
| BS | CASE VOLT LOW BW SPX | | Mono | Low | Front surface | | 0 |
| BT | CASE VOLT LOW BW DPX | | | | Back surface | | 0 |
| BU | CASE VOLT MIDDLE BW SPX | | | Middle | Front surface | | 0 |
| BV | CASE VOLT MIDDLE BW DPX | | | | Back surface | | 0 |
| BW | DHV LOW CL SPX | Separation bias adjustment value | Color | Low | Front surface | 0 - 255 | 77 |
| BX | DHV LOW CL DPX | | | | Back surface | | 102 |
| BY | DHV LOW BW SPX | | Mono | | Front surface | | 77 |
| BZ | DHV LOW BW DPX | | | | Back surface | | 102 |
| CA | DHV MIDDLE CL SPX | | Color | Middle | Front surface | | 153 |
| CB | DHV MIDDLE CL DPX | | | | Back surface | | 179 |
| CC | DHV MIDDLE BW SPX | | Mono | | Front surface | | 153 |
| CD | DHV MIDDLE BW DPX | | | | Back surface | | 179 |

* Plain paper 1: 60-89g/m$^2$
  Plain paper 2: 80-105g/m$^2$
* Heavy paper 1: 106-176g/m$^2$
  Heavy paper 2: 177-220g/m$^2$
  Heavy paper 3: 221-256g/m$^2$
  Heavy paper 4: 257-300g/m$^2$

8-10

| | |
|---|---|
| **Purpose** | Operation test/check/adjustment |
| **Function (Purpose)** | Set main charger current output |
| **Section** | Process (Charging) |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

| Item/Display | | | Contents | Setting range | Default | Changeable range |
|---|---|---|---|---|---|---|
| MIDDLE | A | MIDDLE SPEED MC_K | Main charger total current (Middle speed mode) K | 50 to 100 | 83 | -500 to -800 micro A |
| LOW | A | LOW1 SPEED MC_K | Main charger total voltage (Middle speed 1 mode) K | 50 to 100 | 83 | -500 to -800 micro A |

# 9

9-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in the paper reverse section (duplex section) and the control circuit |
| **Section** | Duplex |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The code names of the sensors which are active are highlighted.

| Display | Content |
|---|---|
| APPD1 | ADU paper transport sensor 1 |
| APPD2 | ADU paper transport sensor 2 |
| DSW_ADU | ADU cover sensor |

9-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the load in the paper reverse section (duplex section) and the control circuit |
| **Section** | Duplex |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected load performs the operation.
   When [EXECUTE] key is tapped, the operation is terminated.

| Display | Content |
|---|---|
| ADUM1 | ADU motor 1 |
| ADUM2 | ADU motor 2 |
| ADUGS | ADU gate solenoid |

# 10

10-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the toner supply mechanism (toner motor) and the control circuit |
| **Section** | Process (Developing) |

**Operation/Procedure**

1) Select target item.
   When [ALL] key is tapped, all the items are selected.
2) Tap [EXECUTE] key.
   The selected load operation is performed for 10 sec.
   When [EXECUTE] key is tapped, the operation is terminated.

**Important**

This simulation must be executed without installing the toner cartridges.

If this simulation is executed with the toner cartridges installed, toner will be forcibly supplied to the developing unit, resulting in overtoner.

If this simulation is erroneously executed with the toner cartridges installed, overtoner state may be deleted by making a few black background copy in the single color copy mode of the target color.

| | |
|---|---|
| TNM_K | Toner motor K |
| TNM_C | Toner motor C |
| TNM_M | Toner motor M |
| TNM_Y | Toner motor Y |

10-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the toner cartridge ejecting position sensor and the control circuit |
| **Section** | Process (Developing) |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

| Display | Content |
|---|---|
| TCED_C | Toner cartridge ejecting sensor C |
| TCED_K | Toner cartridge ejecting sensor K |
| TCED_M | Toner cartridge ejecting sensor M |
| TCED_Y | Toner cartridge ejecting sensor Y |

# 13

13--

| | |
|---|---|
| **Purpose** | Cancel (Trouble etc.) |
| **Function (Purpose)** | Cancel U1 trouble |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key to execute cancellation of the trouble.

## 14

14--

| | |
|---|---|
| **Purpose** | Cancel (Trouble etc.) |
| **Function (Purpose)** | Cancel H3, H4, H5 troubles |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key to execute cancellation of the trouble.

## 15

15--

| | |
|---|---|
| **Purpose** | Clear/Cancel (Trouble etc.) |
| **Function (Purpose)** | Cancel U6 trouble |
| **Section** | LCC |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key to execute cancellation of the trouble.

## 16

16--

| | |
|---|---|
| **Purpose** | Clear/Cancel (Trouble etc.) |
| **Function (Purpose)** | Cancel U2 trouble |
| **Section** | SCN MFP PWB / PCU PWB |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key to execute cancellation of the trouble.

## 21

21-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the maintenance cycle |
| **Section** | |

**Operation/Procedure**

* Do not change the default setting value of the maintenance counter on SIM21-1. The replacement timing of the fusing cleaning roller, the filter and PS paper dust removal cleaner may not clarify.

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

| Item/Display | | Content | Setting range | Default | |
|---|---|---|---|---|---|
| | | | | 26 ppm/ 30 ppm machine | 35 ppm/ 40 ppm machine |
| A | MAINTE-NANCE COUNTER (TOTAL) | Maintenance counter (Total) | 0: Default 1 - 300: 1K - 300K 999:Free | 250K | 300K |
| B | MAINTE-NANCE COUNTER (COLOR) | Maintenance counter (Color) | 0: Default 1 - 300: 1K- 300K 999:Free | 250K | 300K |

## 22

22-1

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data output/ Check |
| **Function (Purpose)** | Check print count in each section and each operation mode |
| **Section** | |

**Operation/Procedure**

Counter value in each mode is displayed.

| Item | Display | Content | |
|---|---|---|---|
| Total output quantity | TOTAL OUT (BW) | Total output quantity of black and white | All prints including jams |
| | TOTAL OUT (COL) | Total output quantity of color | All prints including jams |
| Total use quantity | TOTAL (BW) | Total use quantity of black and white | Effective paper (including self print, excluding jams) |
| | TOTAL (COL) | Total use quantity of full color | Effective paper (including self print, excluding jams) |
| | TOTAL (2COL) | Total use quantity of 2-color | Effective paper (including self print, excluding jams) |
| | TOTAL (3COL) | Total use quantity of 3-color | Effective paper (including self print, excluding jams) |
| | TOTAL (SGL_COL) | Total use quantity of single color | Effective paper (including self print, excluding jams) |
| Copy | COPY (BW) | Black and white copy counter | Billing target (excluding self print) |
| | COPY (COL) | Full color copy counter | Billing target (excluding self print) |
| | COPY (2COL) | 2-color copy counter | Billing target (excluding self print) |
| | COPY (SGL_COL) | Single color copy counter | Billing target (excluding self print) |
| Print | PRINT (BW) | Black and white print counter | Billing target (excluding self print) |
| | PRINT (COL) | Full color print counter | Billing target (excluding self print) |
| | PRINT (2COL) | 2-color print counter | Billing target (excluding self print) |
| | PRINT (3COL) | 3-color print counter | Billing target (excluding self print) |
| | PRINT (SGL_COL) | Single color print counter | Billing target (excluding self print) |
| Document filing | DOC FIL (BW) | Black and white document filing print counter | |
| | DOC FIL (COL) | Color document filing print counter | |
| | DOC FIL (2COL) | 2-color document filing print counter | |
| | DOC FIL(SGL COL) | Single color document filing print counter | |

| Item | Display | Content | |
|---|---|---|---|
| Other | OTHER (BW) | Black and white other counter | Self print quantity |
| | OTHER (COL) | Color other counter | Self print quantity |

22-2

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check total count of misfeed and troubles |
| **Section** | |

**Operation/Procedure**

The paper jam, trouble counter value is displayed.

| | |
|---|---|
| MACHINE JAM | Machine JAM counter |
| SPF JAM | SPF JAM counter |
| TROUBLE | Trouble counter |

22-3

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check misfeed positions and the misfeed count of each position |
| **Section** | |

**Operation/Procedure**

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-4

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check trouble (self diag) history |
| **Section** | |

**Operation/Procedure**

The trouble history is displayed from the latest one up to 30 items. (The old ones are deleted sequentially.)

22-5

| | |
|---|---|
| **Purpose** | Others |
| **Function (Purpose)** | Check ROM version of each unit |
| **Section** | Firmware |

**Operation/Procedure**

The ROM version of the installed unit in each section is displayed. When there is any trouble in the software, use this simulation to check the ROM version, and upgrade the version if necessary.

| Display | Content |
|---|---|
| S/N | Serial No. (The codes for November and December are "X" and "Y" respectively.) |
| BUNDLE | Bundle version |
| ICU-MAIN | ICUM (MAIN section) |
| ICU-BIOS | ICUM (BIOS section) |
| ASIC-MAIN | ASIC (MAIN section) |
| ASIC-SUB | ASIC (SUB section) |
| IMAGE DATA | Image process program |
| LANGUAGE | Language support data version |
| LANGUAGE (LIST) | Language data for list printing |
| EOSA | ESCP font ROM |
| UNICONTENTS | Contents data for display |
| SIM-TEXT | Language data for simulation |
| PCL (PROFILE) | Color profile data |
| POWER-CON | Power controller program |
| FONT BARCODE | Font data for bar code |
| FONT PS | PS font data |
| FONT PCL | PCL font data |
| FONT SPDL | Simple PDL font data |
| FONT OFFICE | Office Direct font data |
| WATER MARK | Water mark data |
| E-MANUAL | Users manual data |
| OCR-DIC | OCR dictionary data |
| SOUND DATA | Sound program |
| SCU | SCU |
| DSPF | DSPF |
| PCU | PCU |
| DESK/DESK (TANDEM) | Desk unit |
| LCC | LCC |
| FINISHER/FINISHER (1KFIN)/ FINISHER (3KFIN)/ FINISHER (INNER) | Finisher |
| FIN-SUB | 3K finisher sub |
| SADDLE | Saddle |
| PUNCH/PUNCH(3K)/ PUNCH(IN) | Punch unit |
| FAX OPT1 | FAX 1-Line (Option section) |
| FONT UNICODE | Front unicode font |

22-6

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Output the setting/adjustment data, the firmware version and the count list |
| **Section** | |

**Operation/Procedure**

* When installing or servicing, this simulation is executed to print the adjustment data and set data for use in the next servicing. (Memory trouble, PWB replacement, etc.)

1) Select the print list mode.

| Display | Print list mode | Print content |
|---|---|---|
| DATA PATTERN | NO.1 | Firmware version, counter data, etc. |
| | NO.2 | SIM50-24 data |
| | NO.3 | Data related to the process control |
| 2SIDED PRINT | 1-SIDED | One sided printing (Default) |
| | 2-SIDED | Double sided printing |

2) Tap [EXECUTE] key to start printing the list selected in step 1).

22-8

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check the operation count of the finisher, the SPF and the scan (reading) unit |
| **Section** | |

**Operation/Procedure**

The counter values of the finisher, the SPF, and the scanner related counters are displayed.

| Display | Content |
|---|---|
| SPF | Document feed quantity |
| SCAN | Number of times of scan |
| STAPLER | Staple counter |
| PUNCHER | Puncher counter |
| STAMP | Stamp counter |
| SADDLE STAPLER | Saddle staple counter |
| SADDLE V FOLD | Saddle finisher V fold counter |
| COVER | Document cover open/close counter |
| HP_ON | Number of scanner HP detection |
| OC LAMP TIME | Total lighting time of the scanner lamp |
| DSPF LAMP TIME | Total lighting time of DSPF lamp (* hour * minutes) |

| Display | Content |
|---|---|
| FIN OUTPUT | Finisher output counter |
| STAPLELESS STAPLE | Stapleless staple counter |
| MANUAL STAPLE | Manual staple counter |

22-9

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check paper feed count of each paper feed section |
| **Section** | Paper feed, ADU |

**Operation/Procedure**

The counter values related to paper feed are displayed.

| Display | Content |
|---|---|
| TRAY1 | Paper feed counter (Paper feed tray 1) |
| TRAY2 | Paper feed counter (Paper feed tray 2) |
| TRAY3 | Paper feed counter (Paper feed tray 3) |
| TRAY4 | Paper feed counter (Paper feed tray 4) |
| MFT | Manual paper feed counter |
| LCC | LCC paper feed counter |
| ADU | ADU paper transport counter |
| TRAY1_TTL | Accumulated tray 1 paper feed counter |
| TRAY2_TTL | Accumulated tray 2 paper feed counter |
| TRAY3_TTL | Accumulated tray 3 paper feed counter |
| TRAY4_TTL | Accumulated tray 4 paper feed counter |
| MFT_TTL | Accumulated manual paper feed counter |
| LCC_TTL | Accumulated side LCC paper feed counter |
| ADU_TTL | Accumulated ADU paper feed counter |
| TRAY1_RETRY | Paper feed retry counter (Paper feed tray 1) |
| TRAY2_RETRY | Paper feed retry counter (Paper feed tray 2) |
| TRAY3_RETRY | Paper feed retry counter (Paper feed tray 3) |
| TRAY4_RETRY | Paper feed retry counter (Paper feed tray 4) |
| MFT_RETRY | Manual paper feed retry counter |
| LCC_RETRY | LCC paper feed retry counter |

22-10

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check the system configuration (option, internal hardware) |
| **Section** | |

**Operation/Procedure**

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

| | | |
|---|---|---|
| MACHINE | MX-3071 | Main unit |
| | MX-3571 | |
| | MX-4071 | |
| | MX-3061 | |
| | MX-3561 | |
| | MX-4061 | |
| | MX-2651 | |
| | MX-3051 | |
| | MX-3551 | |
| | MX-4051 | |
| SPF | STANDARD | Duplex single pass feeder |
| STAMP | AR-SU1 | Finish stamp |
| DESK | MX-DE25 N | STAND/550 SHEET PAPER DRAWER |
| | MX-DE26 N | STAND/2X550 SHEET PAPER DRAWER |
| | MX-DE27 N | STAND/3X550 SHEET PAPER DRAWER |
| | MX-DE28 N | STAND/550&2100 SHEET PAPER DRAWER |
| | MX-DE29 N | LOW STAND/550 SHEET PAPER DRAWER |
| LCC | MX-LC17 N | A4 Large capacity tray |
| PUNCHER | MX-PN14A | Punch unit |
| | MX-PN14B | |
| | MX-PN14C | |
| | MX-PN14D | |
| | MX-PN15A | |
| | MX-PN15B | |
| | MX-PN15C | |
| | MX-PN15D | |
| | MX-PN16A | |
| | MX-PN16B | |
| | MX-PN16C | |
| | MX-PN16D | |
| FINISHER | MX-FN27 N | Inner finisher |
| | MX-FN28 | Finisher 1K |
| | MX-FN29 | Saddle stitch finisher 1K |
| | MX-FN30 | Finisher 3K |
| | MX-FN31 | Saddle stitch finisher 3K |
| SEPARATOR | MX-TR20 | Job separator tray |
| FAX1 | MX-FX15 | Facsimile expansion kit |
| PS | STANDARD/ MX-PK13 | PS expansion kit |
| SECURITY | MX-FR62U | Data security kit |
| ICU_PWB (REUS) | *****MB | ICU REUS capacity |
| ICU_PWB (SOC) | *****MB | ICU SOC capacity |
| STORAGE | *****GB | Storage capacity |
| ICU DRIVE | *****MB | eMMC capacity |
| BARCODE | MX-PF10 | Barcode font kit |
| INTERNET-FAX | MX-FWX1 | Internet Fax expansion kit |
| AIM | MX-AMX1 | Application integration module |
| ACM | STANDARD/ MX-AMX2 | Application communication module |
| EAM | STANDARD/ MX-AMX3 | External account module |
| OFFICE DRT | STANDARD/ MX-PU10 | Direct print expansion kit |
| SHC-PDF | STANDARD/ MX-EB19 | Enhanced compression kit |
| OCR | STANDARD/ MX-EB20 | OCR expansion kit |

22-11

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check FAX count |
| **Section** | FAX |

**Operation/Procedure**

The values of the FAX send counter and the FAX receive counter are displayed.

| | |
|---|---|
| FAX OUTPUT | FAX print quantity counter |
| FAX SEND | FAX send counter |
| FAX RECEIVED | FAX receive counter |
| SEND IMAGES | FAX send quantity counter |
| SEND TIME | FAX send time |
| RECEIVED TIME | FAX receive time |

22-12

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check SPF misfeed positions and misfeed count at each position |
| **Section** | SPF |

**Operation/Procedure**

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-13

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit) |
| **Section** | Process |

**Operation/Procedure**

The number of prints and the number of rotations in the process section are displayed.

| Item/Display | Content |
|---|---|
| MAINTENANCE ALL | Maintenance counter (Total) (Counter) |
| MAINTENANCE COL | Maintenance counter (Color) |
| FUSING BELT | Fusing belt |
| FUSING ROLLER | Fusing roller |
| PRESSURE ROLLER | Fusing pressure roller |
| SEPARATE PAWL | Fusing separation pawl |
| SEPARATE PLATE | Fusing separation plate |
| FUSING LOAD | Fusing pressure release roller |
| TC1 BELT | Primary transfer belt |
| TRANSFER BLADE | Transfer cleaning blade |
| TC CL ROLLER | Transfer cleaning roller |
| TC2 ROLLER | Secondary transfer roller |
| PTC | PTC counter |
| PS PAPER | Paper dust cleaner |
| OZONE FILTER | Ozone filter |
| DEVE CTRG (K) | DV unit (K) |
| DEVE CTRG (C) | DV unit (C) |
| DEVE CTRG (M) | DV unit (M) |
| DEVE CTRG (Y) | DV unit (Y) |
| DRUM UNIT (K) | OPC drum unit (K) |
| DRUM UNIT (C) | OPC drum unit (C) |
| DRUM UNIT (M) | OPC drum unit (M) |
| DRUM UNIT (Y) | OPC drum unit (Y) |
| MAIN CHARGER (K) | Main charger (K) |
| MAIN CHARGER (C) | Main charger (C) |
| MAIN CHARGER (M) | Main charger (M) |
| MAIN CHARGER (Y) | Main charger (Y) |
| MC CLEAN (K) | MC cleaner K |
| MC CLEAN (C) | MC cleaner C |
| MC CLEAN (M) | MX cleaner M |
| MC CLEAN (Y) | MC cleaner Y |
| DRUM BLADE (K) | OPC drum cleaning blade K |
| DRUM BLADE (C) | OPC drum cleaning blade C |
| DRUM BLADE (M) | OPC drum cleaning blade M |
| DRUM BLADE (Y) | OPC drum cleaning blade Y |
| TONER CTRG (K) | Toner cartridge (K) |
| TONER CTRG (C) | Toner cartridge (C) |
| TONER CTRG (M) | Toner cartridge (M) |
| TONER CTRG (Y) | Toner cartridge (Y) |

22-14

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display toner cartridge usage status count |
| **Section** | Process |

**Operation/Procedure**

The status of the toner cartridge is displayed.

| Display item | Content | Accumulated No. of installed cartridges (Unit) | Accumulated No. of near near end (Unit) | Accumulated No. of end (Unit) |
|---|---|---|---|---|
| | | INSTALL | NN END | END |
| TONER(K) | Toner cartridge use counter (K) | 0 - 510 | 0 - 510 | 0 - 510 |
| TONER(C) | Toner cartridge use counter (C) | 0 - 510 | 0 - 510 | 0 - 510 |
| TONER(M) | Toner cartridge use counter (M) | 0 - 510 | 0 - 510 | 0 - 510 |
| TONER(Y) | Toner cartridge use counter (Y) | 0 - 510 | 0 - 510 | 0 - 510 |

22-18

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display user data delete history |
| **Section** | |

**Operation/Procedure**

The date and time of the user data delete are displayed.

| Display item | | Content |
|---|---|---|
| Item name | Date | |
| START | Year/month/day/hour/min. | Delete history (Date and time of operation start) |
| END | Year/month/day/hour/min. | Delete history (Date and time of operation end) |

22-19

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Check scan and image send count |
| **Section** | |

**Operation/Procedure**

Used to display the counter value related to the network scanner

Change the display with scroll key.

| Item/Display | | Content |
|---|---|---|
| Network scanner | NET SCN ORG_B/W | Network scanner document read quantity counter (B/W scan job) |
| | NET SCN ORG_CL | Network scanner document read quantity counter (Color scan job) |
| | NET SCN ORG_2CL | Network scanner document read quantity counter (2-Color scan job) |
| | NET SCN ORG_SGL | Network scanner document read quantity counter (Single-color scan job) |
| Internet FAX | INTERNET FAX OUTPUT | Number of internet FAX output |
| | INTERNET FAX SEND OUTPUT | Number of internet FAX sending page |
| | INTERNET FAX RECEIVE | Number of internet FAX receive |
| | INTERNET FAX SEND | Number of internet FAX send |
| E-Mail | MAIL COUNTER | Number of times of E-MAIL send |
| FTP | FTP COUNTER | Number of FTP send |

| Item/Display | | Content |
|---|---|---|
| Other | SMB SEND | Number of SMB send |
| | USB CNT | Number of times of USB storage |
| | TRIAL MODE_B&C | Trial mode counter (B/W & COLOR scan job) |
| | SCAN TO HDD_B/W | SCAN TO HDD record quantity (B/W) |
| | SCAN TO HDD_CL | SCAN TO HDD record quantity (COLOR) |
| | SCAN TO HDD_2CL | SCAN TO HDD record quantity (2-COLOR) |
| | SCAN TO HDD_SGL | SCAN TO HDD record quantity (SINGLE color) |

22-40

| | |
|---|---|
| **Purpose** | Error contents display |
| **Function (Purpose)** | Display trouble code information |
| **Section** | |

**Operation/Procedure**

1) Select the main error code.

The sub error code and the contents are displayed.

22-41

| | |
|---|---|
| **Purpose** | JAM code contents display |
| **Function (Purpose)** | Check JAM code information |
| **Section** | |

**Operation/Procedure**

1) Select the JAM code.

Display can be changed by [ENGINE] and [SPF] keys.

22-42

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display JAM/trouble data |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Printable with [COLOR] and [MONO] keys.

| Display data | Counter | | Content | | | |
|---|---|---|---|---|---|---|
| | Display | Content | JAM CODE/ TROUBLE CODE | DATE/ TIME | TOTAL COUNT (BW) | TOTAL COUNT(CL) |
| PAPER JAM | PAPER JAM COUNT | Number of machine JAM troubles | Generated JAM code (Machine) | Generated date/ time (YY/ MM/ DD HH:MM:SS) | Total output quantity of black and white | Total output quantity of color |
| SPF JAM | SPF JAM COUNT | Number of SPF JAM troubles | Generated JAM code (SPF) | | | |
| TROUBLE | TROUBLE COUNT | Number of troubles | Generated trouble code | | | |

22-43

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display JAM data details |
| **Section** | |

**Operation/Procedure**

1) Select target item.

   When [COUNTER] key is tapped, the JAM counter, the paper feed counter, and the paper feed retry counter are displayed.

   When [HISTORY1] key is tapped, the JAM history is displayed.

   When [HISTORY2] key is tapped, the temperature and humidity data are displayed.
2) Printable with [COLOR] and [MONO] keys.

**Display data and contents (COUNTER)**

| Item | Content |
|---|---|
| PAPER JAM COUNT | Number of machine JAM troubles |
| PAPER FEED COUNTER | Paper feed counter (Similar with SIM22-09 display content) |
| PAPER FEED RETRY COUNTER | Paper feed retry counter (Similar with SIM27-18 display content) |

**Display data and contents (HISTORY1)**

| Item | Content | Description |
|---|---|---|
| NO | No | History number |
| JAM CODE | JAM Code | Jam code main |
| DATE/TIME | Date/Time | Occurrence date |
| TOTAL_BW | Total Count (BW) | Total counter (B/W) |
| TOTAL_CL | Total Count (CL) | Total counter (color) |
| P_S (*1) | Paper Size | Paper size |
| P_T (*1) | Paper Type | Paper type |
| JOB (*1) | Job Mode | Job mode |
| JN | Job No | First after JOB start or not |
| OF | Offset | Paper exit: Offset |
| EP | Exit Position | Paper exit: Exit position |
| PC | Punch | Paper exit: Punch |
| SP | Staple | Paper exit: Staple |

*1: Refer to the detail display content of HISTORY1.

**Display data and contents (HISTORY2)**

| Item | Content |
|---|---|
| NO. | History number |
| DATE/TIME | Occurrence date |
| TH_CL | External air temperature sensor temperature/AD value |
| HUD_CL | External air humidity sensor humidity/AD value |
| TH1_LSU | LSU thermistor temperature/AD value |
| TH2_LSU | LSU thermistor temperature /AD value |
| TH_UM | Fusing upper main thermistor temperature/AD value |
| TH_UM_CS | Fusing upper main thermistor (compensation) temperature/AD value |
| TH_UM_D | Fusing upper main thermistor (differential) temperature/ AD value |
| TH_SUB2 | Fusing upper sub thermistor 2 temperature/AD value |
| TH_SUB2_CS | Fusing upper sub thermistor 2 (compensation) temperature/AD value |
| TH_SUB2_D | Fusing upper sub thermistor 2 (differential) temperature/AD value |
| TH_LM | Fusing lower sub thermistor 2 temperature/AD value |
| TH_US | Fusing upper sub thermistor temperature/AD value |

**Detail display content of HISTORY1**

| Display | Content | |
|---|---|---|
| NON | Inch series fixed form | No paper size |
| WLG | | Double Legal |
| WLR | | Double Legal-R |
| LD | | Ledger |
| LDR | | Ledger-R (Double Letter) |
| LG | | Legal |
| LGR | | Legal-R |
| FC | | Foolscap |
| FCR | | Foolscap-R |
| LT | | Letter |
| LTR | | Letter-R |
| IV | | Invoice (Mini) |
| IVR | | Invoice-R (Mini) |
| EC | | Executive |
| ECR | | Executive-R |
| A3W | | A3W (12x18 in) |
| AWR | | A3W (12x18 in)-R |
| 12 | | 22x17 |
| 13 | | 22x17R |
| 14 | | 22x34 |
| 15 | | 22x34R |
| 16 | | 34x44 |
| 17 | | 34x44R |
| 18 | | 44x68 |
| 19 | | 44x68R |
| 01A | | 9x12 |
| 01B | | 9x12R |
| 01C | | 13x19 |
| 01D | | 13x19R |
| MLG | | Mexican-Legal |
| MLR | | Mexican-Legal-R |
| ALG | | Asian-Legal |
| ALR | | Asian -Legal-R |
| EXT | Other | Extra (Special) |
| A1 | AB series fixed form | A1 |
| A1R | | A1R |
| A2 | | A2 |
| A2R | | A2R |
| A3 | | A3 |
| A3R | | A3R |
| A4 | | A4 |
| A4R | | A4R |
| A5 | | A5 |
| A5R | | A5R |
| A6 | | A6 |
| A6R | | A6R |
| B3 | | B3 |
| B3R | | B3R |
| B4 | | B4 |
| B4R | | B4R |
| B5 | | B5 |
| B5R | | B5R |
| B6 | | B6 |
| B6R | | B6R |
| 54 | | A0x2 |
| 55 | | A0x2 R |
| A0 | | A0 |
| A0R | | A0R |
| B0 | | B0 |
| B0R | | B0R |
| B1 | | B1 |
| B1R | | B1R |
| B2R | | B2 |
| B2R | | B2R |
| K8 | | K8 |
| K8R | | K8R |
| K16 | | K16 |
| 16R | | K16R |
| K32 | | K32 |
| 32R | | K32R |

| Display | Content | |
|---|---|---|
| 66 | AB series fixed form | SRA3 |
| 67 | | SRA3R |
| 68 | | SRA4 |
| 69 | | SRA4R |
| 06A | | 318 x 469 mm |
| 06B | | 469 x 318 mm |
| 06C | | 234 x 318 mm |
| 06D | | 318 x 234 mm |
| 06E | | 312 x 440 mm |
| 06F | | 440 x 312 mm |
| 70 | | 220 x 312 mm |
| 71 | | 312 x 220 mm |
| 82 | Domestic special (Envelope) | DBL Postcard |
| 83 | | DBL Postcard-R |
| 84 | | Postcard |
| 85 | | Postcard-R |
| 87 | | 119 x 277 mm |
| 89 | | 120 x 235 mm |
| 08B | | 90 x 205 mm |
| 08D | | 90 x 185 mm |
| 08F | | 240 x 332 mm |
| 91 | | 216 x 277 mm |
| 93 | | 197 x 267 mm |
| 95 | | 190 x 240 mm |
| 97 | | 162 x 229 mm |
| 99 | | 142 x 205 mm |
| 09B | | 119 x 197 mm |
| 09D | | 120 x 176 mm |
| 09F | | 114 x 162 mm |
| 0A1 | | 98 x 148 mm |
| 0A3 | | 105 x 235 mm |
| 0A5 | | 95 x 217 mm |
| 0A7 | | 98 x 190 mm |
| 0A9 | | 92 x 165 mm |
| 0AA | | AB series E-version |
| 0AB | | AB series L-version |
| 0AC | | AB series panorama size |
| 0AD | | AB series name card size |
| 0AE | | AB series identification photo |
| 0AF | | AB series name card small |
| 0B0 | Other | A3 width |
| 0B1 | | B4 width |
| 0B2 | | A4 width |
| 0B3 | | A3 width (Long size) |
| 0B4 | | B4 width (Long size) |
| 0B5 | | A4 width (Long size) |
| 0BC | | Custom (Large size) |
| 0BD | | Custom (Small size) |
| 0BF | | Custom |
| 0C2 | Oversea special (Envelope) | Monarch |
| 0C3 | | Monarch-R |
| 0C4 | | DL |
| 0C5 | | DL-R |
| 0C6 | | C4 |
| 0C7 | | C4-R |
| 0C8 | | C5 |
| 0C9 | | C5-R |
| 0CA | | C6 |
| 0CB | | C6-R |
| 0CC | | C65 |
| 0CD | | C65-R |
| 0CE | | ISOB5 |
| 0CF | | ISOB5-R |
| 0D0 | | Size6-1/2 |
| 0D1 | | Size6-1/2-R |
| 0D2 | | Size9 |
| 0D3 | | Size9-R |
| 0D8 | | Com-10 |
| 0D9 | | Com-10-R |
| 0DA | | Inch series E-version |
| 0DB | | Inch series L-version |

| Display | Content | |
|---|---|---|
| 0DC | Oversea special (Envelope) | Inch series panorama size |
| 0DD | | Inch series name card large |
| 0DE | | Inch series identification photo |
| 0DF | | Inch series name card small |
| 0EC | Other | Extra (Special large size) |
| 0ED | | Extra (Special small size) |
| 0EF | | Extra (Special/Not fixed) |
| 0F0 | | Long size |
| 0FF | | JAM (Used for canceling temporary charging in a coin vendor.) |

**Display content detail: Paper type (P_T)**

| Display | Content |
|---|---|
| UST | User type |
| LHP | Letter head paper |
| PNP | Perforated sheet |
| RCL | Recycled paper |
| COL | Color paper |
| PLN | Standard paper |
| PRP | Pre printed |
| OHP | OHP Transparency |
| HV | Heavy paper |
| LBL | Label sheet |
| ENV | Envelope |
| HG | Postcard |
| TAB | Tab sheet |
| THN | Thin paper |
| US1 | User type 1 |
| US2 | User type 2 |
| US3 | User type 3 |
| US4 | User type 4 |
| US5 | User type 5 |
| US6 | User type 6 |
| US7 | User type 7 |
| HV2 | Heavy paper 2 |
| PL2 | Plain paper 2 (not used) |
| HV3 | Heavy paper 3 |
| HV4 | Heavy paper 4 |
| GLS | Glossy paper |

**Display content detail: Job mode (JOB)**

| Display | Content |
|---|---|
| SHD | Shading. |
| PCL | Process control |
| SIM | Test mode (Sim) |
| ICP | Interruption copy |
| CP | Copy |
| FXS | FAX send scan |
| AXS | AXIS |
| FXP | FAX reception print |
| PR | Printer |
| FXC | FAX communication report print |
| 00A | Zaurus print |
| SLF | Self/Test print |
| 00C | Document counter |
| RMT | Remote maintenance |
| 00E | SIM 52-01 |
| 00F | Tandem (Cordless handset) |
| CFP | Confidential print |
| NET | Network scanner |
| PRF | Proof print |

22-90

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Output system setting list |
| **Section** | |

**Operation/Procedure**

1) Change the display.
2) Select target item.
3) Tap [EXECUTE] key to start self print of the list.

| Category | Item | Content |
|---|---|---|
| Machine status list | MACHINE STATUS LIST | Machine status list |
| Printer test page | PCL SYMBOL SET LIST | SPDL symbol set list |
| | PCL INTERNAL FONT LIST | SPDL internal font list |
| | PCL EXTENDED FONT LIST | SPDL extended font list |
| | PS FONT LIST | PS internal font list |
| | KANJI FONT LIST | PS KANJI font list |
| | PS EXTENDED FONT LIST | PS extended font list |
| | NIC PAGE | NIC page |
| Address registration list | INDIVIDUAL LIST | Address registration list |
| | GROUP LIST | Group list |
| | MEMORY BOX LIST | Memory box list |
| Document filing list | DOCUMENT FILING FOLDER LIST | Document filing folder list |
| Common | PAPER SETTING LIST | Paper setting list |
| | MACHINE IDENTIFICATION SETTINGS LIST | Machine identification settings list |
| | OPERATION SETTINGS LIST | Operation settings list |
| | KEYBOARD SETTINGS LIST | Keyboard settings list |
| | DEVICE CONTROL LIST | Device control list |
| Home screen | HOME SCREEN LIST | Home screen list |
| Copy setting | COPY SETTINGS LIST | Copy settings list |
| Printer setting | PRINTER SETTINGS LIST | Printer settings list |
| FAX/Image send | METADATA SET LIST | Meta data set list |
| | SCAN SETTINGS LIST | Scan settings list |
| | FAX SETTINGS LIST | Fax settings list |
| | I-FAX SETTINGS LIST | Internet fax settings list |
| Document filing list | DOCUMENT FILING SETTINGS LIST | Document filing settings list |
| SHARP OSA setting | SHARP OSA SETTINGS LIST | SHARP OSA settings list |
| Network setting | NETWORK SETTINGS LIST | Network settings list |
| Security setting | SECURITY SETTINGS LIST | Security settings list |
| Energy save setting | ENERGY SAVE LIST | Energy save settings list |
| Image quality adjustment | IMAGE QUALITY ADJUSTMENT LIST | Image quality adjustment list |
| Image sending activity report | IMAGE SENDING ACTIVITY REPORT (FAX) | Image sending activity report (FAX) |
| | IMAGE SENDING ACTIVITY REPORT (SCAN) | Image sending activity report (scanner) |
| | IMAGE SENDING ACTIVITY REPORT (INTERNET FAX) | Image sending activity report (Internet FAX) |
| Transfer table list | ANTI JUNK FAX NUMBER LIST | Receive rejection number table |
| | ALLOW/REJECT MAIL <FmSdata>[amp ] DOMAIN NAME LIST | Receive rejection/allow address |
| | INBOUND ROUTING LIST | Transfer table list |
| | DOCUMENT ADMIN LIST | To administrator transfer list |

* When the data list print of system setting is inhibition in DSK model, this setting is invalid.

# 23

## 23-2

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Output trouble history list of paper jam and misfeed |
| **Section** | |

**Operation/Procedure**

Tap [EXECUTE] key to execute print.

The trouble history of paper jams and misfeed is printed.

## 23-80

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Output operation status list of the sensor and detectors in the paper feed section and the paper transport section |
| **Section** | Paper feed, Paper transport |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key. When [EXECUTE] key is tapped, the timing list of paper feed and paper transport is outputted.

**Print item list**

| Item | Content |
|---|---|
| JAM CODE | JAM code |
| DATE/TIME | JAM occurrence date |
| MODE | Printing mode when JAM is occurred. |
| SIZE | Paper size |
| TYPE | Paper type |
| PIC TRAY | Paper feed tray |
| OUT TRAY | Paper exit tray |
| INF1(ILLEGAL) | Illegal detection |
| INF2(SENSOR) | Sensor information |

## 23-81

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Export paper feed time list |
| **Section** | Paper feed, Paper transport |

**Operation/Procedure**

1) Connect the USB flash drive to the main unit.
2) Tap [EXECUTE] key.
3) Tap [YES] key to execute cancellation of the trouble.

# 24

## 24-1

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear jam count and trouble count |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   The target counter is cleared.

| | |
|---|---|
| MACHINE | Machine JAM counter |
| SPF | SPF JAM counter |
| TROUBLE | Trouble counter |

## 24-2

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear paper feed count of each paper feed section |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   The target counter is cleared.

| | |
|---|---|
| TRAY1 | Tray 1 paper feed counter |
| TRAY2 | Tray 2 paper feed counter |
| TRAY3 | Tray 3 paper feed counter |
| TRAY4 | Tray 4 paper feed counter |
| MFT | Manual paper feed counter (Total) |
| LCC | LCC paper feed counter (LCC) |
| ADU | ADU paper feed counter |

## 24-3

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the finisher, SPF and the scan (reading) unit count |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   The target counter is cleared.

| | |
|---|---|
| SPF | SPF document feed counter<br>(No. of discharged sheets) |
| SCAN | Scan counter |
| STAPLER | Staple counter |
| PUNCHER | Puncher counter |
| STAMP | Stamp counter |
| SADDLE STAPLER | Saddle staple counter |
| SADDLE V FOLD | Saddle finisher V fold counter |
| COVER | Document cover open/close counter |
| HP_ON | Number of scanner HP detection |
| OC LAMP TIME | Total lighting time of the scanner lamp |
| DSPF LAMP TIME(*) | DSPF section lamp total lighting time |
| FIN OUTPUT | Finisher output counter |
| STAPLELESS STAPLE | Stapleless staple counter |
| MANUAL STAPLE | Manual staple counter |

24-4

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear maintenance count and printer count of the transport unit and the fusing unit |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   The target counter is cleared.

| Item/Display | | Content |
|---|---|---|
| Maintenance | MAINTENANCE ALL | Maintenance counter (Total) (Counter) |
| | | Maintenance counter (Total) (Number of use days) |
| | MAINTENANCE COL | Maintenance counter (Color) (Counter) |
| | | Maintenance counter (Color) (Number of use days) |
| Fusing | FUSING BELT | Fusing belt (Counter) |
| | | Fusing belt (Number of use days) |
| | | Fusing belt (Accumulated number of travel distance) |
| | FUSING ROLLER | Fusing roller (Counter) |
| | | Fusing roller (Number of use days) |
| | | Fusing roller (Accumulated number of travel distance) |
| | PRESS ROLLER | Pressure roller (Counter) |
| | | Pressure roller (Number of use days) |
| | | Pressure roller (Accumulated number of travel distance) |
| | FUSING LOAD | Fusing Pressure release roller (Accumulated number of travel distance) |
| Separation | SEPARATE PAWL | Separation pawl (Counter) |
| | | Separation pawl (Number of use days) |
| | | Separation pawl (Accumulated number of travel distance) |
| | SEPARATE PLATE | Separation plate (Counter) |
| | | Separation plate (Number of use days) |
| | | Separation plate (Accumulated number of travel distance) |
| Transfer | TC1 BELT | Primary transfer belt (Counter) |
| | | Primary transfer belt (Number of use days) |
| | | Primary transfer belt (Accumulated number of travel distance) |
| | TRANS BLADE | Transfer blade (Counter) |
| | | Transfer blade (Number of use days) |
| | | Transfer blade (Accumulated number of travel distance) |
| | TC CL ROLLER | Transfer cleaning roller (Counter) |
| | | Transfer blade (Number of use days) |
| | | Transfer cleaning roller (Accumulated number of travel distance) |
| | TC2 ROLLER | Secondary transfer roller (Counter) |
| | | Secondary transfer roller (Number of use days) |
| | | Secondary transfer roller (Accumulated number of travel distance) |
| | PTC | PTC counter (Counter) |
| | | PTC counter (Number of use days) |
| | | PTC counter (Accumulated number of travel distance) |
| Drum | DRUM UNIT K | Drum unit (K) (Counter) |
| | | Drum unit (K) (Number of use days) |
| | | Drum unit (K) (Accumulated number of travel distance) |
| | DRUM UNIT C | Drum unit (C) (Counter) |
| | | Drum unit (C) (Number of use days) |
| | | Drum unit (C) (Accumulated number of travel distance) |
| | DRUM UNIT M | Drum unit (M) (Counter) |
| | | Drum unit (M) (Number of use days) |
| | | Drum cartridge (M) (Accumulated number of travel distance) |
| | DRUM UNIT Y | Drum unit (Y) (Counter) |
| | | Drum unit (Y) (Number of use days) |
| | | Drum unit (Y) (Accumulated number of travel distance) |
| Main charger | MAIN CHARGER K | Main charger (K) (Counter) |
| | | Main charger (K) (Number of use days) |
| | | Main charger (K) (Accumulated number of travel distance) |
| | MAIN CHARGER C | Main charger (C) (Counter) |
| | | Main charger (C) (Number of use days) |
| | | Main charger (C) (Accumulated number of travel distance) |
| | MAIN CHARGER M | Main charger (M) (Counter) |
| | | Main charger (M) (Number of use days) |
| | | Main charger (M) (Accumulated number of travel distance) |
| | MAIN CHARGER Y | Main charger (Y) (Counter) |
| | | Main charger (Y) (Number of use days) |
| | | Main charger (Y) (Accumulated number of travel distance) |
| | MC CLEAN K | MC Cleaner K (Number of travel distance) |
| | MC CLEAN C | MC Cleaner C (Number of travel distance) |
| | MC CLEAN M | MC Cleaner M (Number of travel distance) |
| | MC CLEAN Y | MC Cleaner Y (Number of travel distance) |
| Drum blade | DRUM BLADE K | Drum blade K (Counter) |
| | | Drum blade K (Number of use days) |
| | | Drum blade K (Accumulated number of travel distance) |
| | DRUM BLADE C | Drum blade C (Counter) |
| | | Drum blade C (Number of use days) |
| | | Drum blade C (Accumulated number of travel distance) |
| | DRUM BLADE M | Drum blade M (Counter) |
| | | Drum blade M (Number of use days) |
| | | Drum blade M (Accumulated number of travel distance) |
| | DRUM BLADE Y | Drum blade Y (Counter) |
| | | Drum blade Y (Number of use days) |
| | | Drum blade Y (Accumulated number of travel distance) |
| Other | PS PAPER | PS paper dust cleaner (Counter) |
| | | PS paper dust cleaner (Number of use days) |
| | OZONE FILTER | Ozone filter (Counter) |
| | | Ozone filter (Number of use days) |

24-5

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear developer count |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   The target counter is cleared.

**Note**

When SIM25-2 is executed, this counter is also cleared automatically.

| Button display | Content |
|---|---|
| DV_K | Developer cartridge print counter (K) |
| | Developer cartridge accumulated travel distance (cm) (K) |
| | Number of day that used developer (day) (K) |
| DV_C | Developer cartridge print counter (C) |
| | Developer cartridge accumulated travel distance (cm) (C) |
| | Number of day that used developer (day) (C) |
| DV_M | Developer cartridge print counter (M) |
| | Developer cartridge accumulated travel distance (cm) (M) |
| | Number of day that used developer (day) (M) |
| DV_Y | Developer cartridge print counter (Y) |
| | Developer cartridge accumulated travel distance (cm) (Y) |
| | Number of day that used developer (day) (Y) |

24-35

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear toner cartridge usage status count |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.

The toner cartridge use status data (SIM22-14) are cleared.

# 25

25-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the developing section |
| **Section** | Process (Developing section) |

**Operation/Procedure**

1) Select the process speed with [MIDDLE], [LOW] keys.
2) Tap [EXECUTE] key.
   The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

| | |
|---|---|
| TCS_K | Toner sensor output value (K) |
| TCS_C | Toner sensor output value (C) |
| TCS_M | Toner sensor output value (M) |
| TCS_Y | Toner sensor output value (Y) |
| TSG_K | Toner density sensor control voltage level (K) |
| TSG_C | Toner density sensor control voltage level (C) |
| TSG_M | Toner density sensor control voltage level (M) |
| TSG_Y | Toner density sensor control voltage level (Y) |
| LOW | Process speed: Low speed |
| MIDDLE | Process speed: Medium speed |

**Important**

The toner cartridge must be removed before executing this simulation.

If this simulation is executed with the toner cartridge installed, toner will be forcibly supplied to the developing unit, resulting in over toner and a trouble.

25-2

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Make the initial setting of toner density when replacing developer |
| **Section** | Image process (Photo conductor/Developing/Transfer/Cleaning) |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

The developing motor rotates for 1 min, and the toner density sensor makes sampling of the toner density. The detected level is displayed.

After stopping the developing motor, the average value of the toner density sampling results is set as the reference toner density control level.

**Important**

When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EC, EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

Do not execute this simulation except when new developer is supplied. If it is executed in other cases, undertoner or overtone may occur, causing a trouble.

| Division | Item/Display | Display range | Default |
|---|---|---|---|
| Toner density control adjustment value in the low speed | AT DEVE ADJ_L_K | 1 - 255 | 128 |
| | AT DEVE ADJ_L_C | 1 - 255 | 128 |
| | AT DEVE ADJ_L_M | 1 - 255 | 128 |
| | AT DEVE ADJ_L_Y | 1 - 255 | 128 |
| Toner density control adjustment value in the medium speed | AT DEVE ADJ_M_K | 1 - 255 | 128 |
| | AT DEVE ADJ_M_C | 1 - 255 | 128 |
| | AT DEVE ADJ_M_M | 1 - 255 | 128 |
| | AT DEVE ADJ_M_Y | 1 - 255 | 128 |
| Toner density sensor control voltage level in the low speed | AT DEVE VO_L_K | 1 - 255 | 128 |
| | AT DEVE VO_L_C | 1 - 255 | 128 |
| | AT DEVE VO_L_M | 1 - 255 | 128 |
| | AT DEVE VO_L_Y | 1 - 255 | 128 |
| Toner density sensor control voltage level in the medium speed | AT DEVE VO_M_K | 1 - 255 | 128 |
| | AT DEVE VO_M_C | 1 - 255 | 128 |
| | AT DEVE VO_M_M | 1 - 255 | 128 |
| | AT DEVE VO_M_Y | 1 - 255 | 128 |

**Display during execution of the simulation**

| Item/Display | Content |
|---|---|
| TCS_K | Toner sensor output value (K) |
| TCS_C | Toner sensor output value (C) |
| TCS_M | Toner sensor output value (M) |
| TCS_Y | Toner sensor output value (Y) |
| TSG_K | Toner density sensor control voltage level (K) |
| TSG_C | Toner density sensor control voltage level (C) |
| TSG_M | Toner density sensor control voltage level (M) |
| TSG_Y | Toner density sensor control voltage level (Y) |

**Error content**

| Display | Error name | Error content |
|---|---|---|
| EE-EL | EL abnormality | The sensor output level is less than 77, or the control voltage exceeds 207. |
| EE-EU | EU abnormality | The sensor output level exceeds 177, or the control voltage is less than 52. |
| EE-EC | EC abnormality | The sensor output level is outside of 128 +/- 3. |

25-4

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display the operation data of the toner supply quantity (Not used in the market.) |
| **Section** | Process |

**Operation/Procedure**

The operation data of the toner supply quantity are displayed.

25-5

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display the toner density correction data (Not used in the market.) |
| **Section** | Process |

**Operation/Procedure**

The toner density correction data are displayed.

# 26

26-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set paper output tray |
| **Section** | Paper exit |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key. (The set value is saved.)

This setting is required to use the paper exit tray unit.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | RIGHT PAPER EXIT TRAY | 0 | Right paper exit tray YES | 1 |
| | | 1 | Right paper exit tray NO | |
| B | JOB SEPARATOR | 0 | Job separator YES | 1 |
| | | 1 | Job separator NO | |

26-2

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the paper size of the large capacity tray (LCC) |
| **Section** | Paper feed |

**Operation/Procedure**

Select a paper size and a weight system to be changed.

| Item | Setting value | Content |
|---|---|---|
| Tray4 (Tandem) | 0 | 8.5x11 |
| | 1 | A4 |
| | 2 | B5 |
| LCC | 0 | 8.5x11 |
| | 1 | A4 |
| | 2 | B5 |
| G/LBS Set | 0 | Gram |
| | 1 | LBS |

| Destination | Setting | | |
|---|---|---|---|
| | TRAY4 (TANDEM) | LCC | G/LBS SET |
| U.S.A | 8.5×11 | 8.5×11 | LBS |
| CANADA | 8.5×11 | 8.5×11 | LBS |
| INCH | 8.5×11 | 8.5×11 | LBS |
| TAIWAN | A4 | A4 | GRAM |
| EUROPE | A4 | A4 | GRAM |
| U.K. | A4 | A4 | GRAM |
| AUS. | A4 | A4 | GRAM |
| AB | A4 | A4 | GRAM |

26-3

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the auditor mode |
| **Section** | Auditor |

**Operation/Procedure**

Select target item.

| Item/Display | | Content | Default |
|---|---|---|---|
| BUILT-IN AUDITOR | P10 | Built-in auditor mode (standard mode) operation. | P10 |
| OUTSIDE AUDITOR | NONE | No external connection vendor is used. | NONE |
| | P VENDOR1 | Coin vendor mode (Only the copy mode can be controlled.) | |
| | P VENDOR3 | Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F. | |
| | P OTHER | Mode for an external auditor connected to the SCU. | |
| | VENDOR-EX (*1) | Vendor I/F for EQUITRAC | |
| | VENDOR-EX (MULTI) (*1) | VENDOR-EX + Multi job cueing Enable mode | |
| | S_VENDOR | Serial vendor mode | |
| DOC ADJ | ON | Support for the auditor in document filing print | OFF |
| | OFF | No support for the auditor in document filing print | |
| PF ADJ | ON | Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces. | OFF |
| | OFF | Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface. | |
| VENDOR MODE (*2) | MODE1 | Vendor mode 1 | MODE 3 |
| | MODE2 | Vendor mode 2 | |
| | MODE3 | Vendor mode 3 | |

| Item/Display | | Content | Default |
|---|---|---|---|
| COUNTUP TIMING | FUSER_IN | Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing. | EXIT_OUT |
| | FUSER_OUT | Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing. | |
| | EXIT_OUT | Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing. | |
| IMS CONTROL | ON | Image send mode is limited. | OFF |
| | OFF | Image send mode is not limited. | |
| PRINTER CONTROL | MODE1 | All the items in OUTSIDE AUDITOR and VENDOR MODE are allowed to select. | MODE 3 |
| | MODE2 | OUTSIDE AUDITOR is always set to P VENDOR1 and VENDOR MODE is always set to MODE3. | |
| | MODE3 | OUTSIDE AUDITOR is always set to P OTHER and VENDOR MODE is always set to MODE3. | |

(*1) Displayed only when EQUITRAC.

(*2) Refer to the details of the vendor mode.

**Details of the vendor mode**

| | Completion of the specified quantity. (Money remaining) | Insufficient money during copy job | | Completion of the specified quantity. (No money remaining) |
|---|---|---|---|---|
| | | BW/Color (no money remaining) | Color (Money remaining) | |
| | Condition 1 | Condition 2 | Condition 3 | Condition 4 |
| MODE1 | Operation 1 | Operation 2 | Operation 2 | Operation 1 |
| MODE2 | Operation 1 | Operation 1 | Operation 2 | Operation 1 |
| MODE3 | Operation 1 | Operation 3 | Operation 2 | Operation 3 |

Operation 1:
Standby during setting time of auto clear. Default is 60 seconds, which can be changed in the system setting.

Operation 2:
Auto clear is not made.

Operation 3:
The display is shifted to the initial screen.

**Details of the printer control**

| | |
|---|---|
| MODE1 | I) Selectable all VENDOR MODE |
| MODE2 | I) Printing of the copy job (not including the reprint in copy mode) and print job (including the reprint in printer mode/self-print in printer mode) are exclusively controlled using READY signal from the vender.<br><br>II) If READY signal from the vender gets ready during printing, the print job in progress will be completed and other print jobs will be held on the job queue, and then the copy job becomes executable.<br><br>III) If READY signal becomes NotReady, the copy job in progress will be canceled after the print stops, and then the print of the printer job will resume. |
| MODE3 | I) If READY signal from the auditor becomes NotReady during printing the copy job/print job (including Self-print)/all kinds of reprint jobs, all of copy/print/any kinds of reprint jobs on the job queue will be canceled right after the print of the job in progress stops. |

26-5

**Purpose** Setting

**Function (Purpose)** Set count mode of the total count and the maintenance count

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the setting value.
   1 = Count up by 1, 2 = Count up by 2
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | Content | Default |
|---|---|---|---|
| A | TOTAL (B/W) | Total counter (B/W) | 2 |
| B | TOTAL (COL) | Total counter (Color) | |
| C | MAINTNANCE (B/W) | Maintenance counter (B/W) | 2 |
| D | MAINTNANCE (COL) | Maintenance counter (Color) | |
| E | DEV (B/W) | Developer counter (B/W) | |
| F | DEV (COL) | Developer counter (Color) | |

26-6

**Purpose** Setting

**Function (Purpose)** Set destination area

**Section**

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
   The selected set content is saved.

| | |
|---|---|
| U.S.A. | United States of America |
| CANADA | Canada |
| INCH | Inch series, other destinations |
| JAPAN | Japan |
| TAIWAN | Taiwan |
| EUROPE | Europe |
| U.K. | United Kingdom |
| AUS. | Australia |
| AB | AB series, other destinations |

26-7

**Purpose** Setting

**Function (Purpose)** Set machine ID

**Section**

**Operation/Procedure**

1) Enter the machine ID.
   Max. 30 digits of numerals and alphabetical characters can be inputted.
   To select a desired character, tap the 10-key repeatedly.
   Refer to the following list and enter characters.
   Touch the "CONFIRM" section every time a character is inputted.
   To modify an inputted character, delete it with "CLEAR" key and enter the correct character.

2) Tap [SET] key to set the contents entered in procedure 1).

**Note**

The machine ID can be set also by the Web Page service mode function.

Conventionally, the machine ID has been set by the Web Page function. In this mode, this function is made available in the simulation mode.

| 10-key | Number of times of key input | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 1 | - | - | - | - | - | - | - | - | - |
| 2 | A | B | C | a | b | c | 2 | - | - | - |
| 3 | D | E | F | d | e | f | 3 | - | - | - |
| 4 | G | H | I | g | h | i | 4 | - | - | - |
| 5 | J | K | L | j | k | l | 5 | - | - | - |
| 6 | M | N | O | m | n | o | 6 | - | - | - |
| 7 | P | Q | R | S | p | q | r | s | 7 | - |
| 8 | T | U | V | t | u | v | 8 | - | - | - |
| 9 | W | X | Y | Z | w | x | y | z | 9 | - |
| 0 | 0 | - | - | - | - | - | - | - | - | - |

26-8

**Purpose** Setting

**Function (Purpose)** Set counter mode for long scale

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   1 = 1 count up, 2 = 2 count up
3) Tap [OK] key.

| Item/Display | | Content | Setting range | Default | Default (Taiwan) |
|---|---|---|---|---|---|
| A | TOTAL(B/W) LONG SIZE(S) | Long scale (Small) Total counter (B/W) | 1 - 10 | 3 | 2 |
| B | TOTAL (COL) LONG SIZE(S) | Long scale (Small) Total counter (Color) | 1 - 10 | 3 | 2 |
| C | MAINTE (B/W) LONG SIZE(S) | Long scale (Small) Maintenance counter (B/W) | 1 - 10 | 3 | 2 |
| D | MAINTE (COL) LONG SIZE(S) | Long scale (Small) Maintenance counter (Color) | 1 - 10 | 3 | 2 |
| E | DEV(B/W) LONG SIZE(S) | Long scale (Small) Developer counter (B/W) | 1 - 10 | 3 | 2 |
| F | DEV(COL) LONG SIZE(S) | Long scale (Small) Developer counter (color) | 1 - 10 | 3 | 2 |
| G | TOTAL(B/W) LONG SIZE(L) | Long scale (Large) Total counter (B/W) | 1 - 10 | 5 | 2 |
| H | TOTAL (COL) LONG SIZE(L) | Long scale (Large) Total counter (Color) | 1 - 10 | 5 | 2 |
| I | MAINTE (B/W) LONG SIZE(L) | Long scale (Large) Maintenance counter (B/W) | 1 - 10 | 5 | 2 |
| J | MAINTE (COL) LONG SIZE(L) | Long scale (Large) Maintenance counter (Color) | 1 - 10 | 5 | 2 |
| K | DEV(B/W) LONG SIZE(L) | Long scale (Large) Developer counter (B/W) | 1 - 10 | 5 | 2 |
| L | DEV(COL) LONG SIZE(L) | Long scale (Large) Developer counter (color) | 1 - 10 | 5 | 2 |

Long Scale (Small): 631 - 1050mm
Long Scale (Large): 1051 - 1300mm

26-10

**Purpose** Setting

**Function (Purpose)** Set the trial mode of the network scanner

**Section**

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.
   The set value in step 1) is saved.

| | | |
|---|---|---|
| TRIAL MODE | 0 | Trial mode setting |
| | 1 | Trial mode cancel (Default) |

26-18

**Purpose** Setting

**Function (Purpose)** Set the toner save mode operation

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | COPY(0:OFF 1:SV1 2:SV2 :SV3) | 0 | Copy toner save mode is inhibited | 0 |
| | | 1 | Copy toner save mode 1 | |
| | | 2 | Copy toner save mode 2 | |
| | | 3 | Copy toner save mode 3 | |
| B | PRINTER(0: OFF 1:SV1 :SV2 3:SV3) | 0 | Printer toner save mode is inhibited | 0 |
| | | 1 | Printer toner save mode 1 | |
| | | 2 | Printer toner save mode 2 | |
| | | 3 | Printer toner save mode 3 | |
| C | COPY TS DISPLAY(0:YES :NO) | 0 | Copy toner save setting is displayed. | 0: Other destination 1: UK |
| | | 1 | Copy toner save setting is not displayed. | |
| D | PRINTER TS DISPLAY(0:YES 1:NO) | 0 | Printer toner save setting is displayed. | 0: Other destination 1: UK |
| | | 1 | Printer toner save setting is not displayed. | |

26-30

**Purpose** Setting

**Function (Purpose)** Set the CE mark operation mode. (For slow start to drive the fusing heater lamp)

**Section**

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | Control allowed |
| 1 | Control inhibited |

2) Tap [OK] key.
   The set value in step 1) is saved.
   * Even in Enable state, the control may not be executed due to the power frequency, etc.

## 26-32

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the specification of the fusing cleaning operation |
| **Section** | Fusing |

**Operation/Procedure**

1) Enter the set value.
   Enable/Disable of the user fusing cleaning function is set.
2) Tap [OK] key.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | CLEANING PRINT SET | Cleaning mode self-printing execution screen ON | 0 | 0 |
| | | Cleaning mode self-printing execution screen OFF | 1 | |

## 26-33

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the special function |
| **Section** | |

**Operation/Procedure**

1) Tap setting button
   Set value is saved

| Item | Function | Default |
|---|---|---|
| Function1 | Application Portal | OFF |
| Function2 | Extended LAN | OFF |

## 26-35

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the display/mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes. Display as one trouble and display as several series of troubles |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | Only once display. (Default) |
| 1 | Any time display. |

2) Tap [OK] key.
   The set value in step 1) is saved.

## 26-38

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set continue/stop of print when the maintenance life is reached |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.
   The set value in step 1) is saved.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | MAINTENANCE LIFE OVER | 0 | Setting of Print Continue/ Stop when the maintenance life is over (Print Continue) | 0 |
| | | 1 | Setting of Print Continue/ Stop when the maintenance life is over (Print Stop) | |
| B | FUSER WEB END | 0 | Continue/Stop setting of print when the fusing web is end (Print Continue) | 1 |
| | | 1 | Continue/Stop setting of print when the fusing web is end (Print Stop) | |

## 26-41

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set magnification ratio auto select function in the center binding mode |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | AMS Disable |
| 1 | AMS Enable |

2) Tap [OK] key.
   The set value in step 1) is saved.

## 26-49

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the print speed of postcard mode |
| **Section** | |

**Operation/Procedure**

Select target item.

| Item/Setting value | Content | Default |
|---|---|---|
| LOW | Postcard copy speed LOW | LOW |
| HIGH | Postcard copy speed HIGH | |

## 26-50

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Function setting |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | BW REVERSE | 0 | BW reverse copy Disable | Refer to *2 |
| | | 1 | BW reverse copy Enable | |
| B | COLOR MODE | 2-color/Single color copy mode Enable/Disable setting | | 0 *1 |
| C | FINISHER FUNCTION | 0 | Finisher special paper The number of paper exit is limited. | 0 *3 |
| | | 1 | Finisher special paper The number of paper exit is not limited. | |
| D | COLOR MODE (PRINTER) | 0 | All colors and monochrome counters are displayed. | 2 |
| | | 1 | All are displayed except for the 3-color print counter. | |
| | | 2 | Monochrome and full color print counters are displayed. | |

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| E | FEED TRAY COLOR | 0 | Paper feed tray color display ON during paper feed | 0 |
| | | 1 | Paper feed tray color display OFF during paper feed | |
| F | BANNER SIZE PRINT | 0 | Banner size print disable | 0 |
| | | 1 | Banner size print enable | |
| G | WIRELESS SET | 0 | Disables wireless LAN setting. | 0 |
| | | 1 | Enables wireless LAN setting. | |
| H | POWER SHUT-OFF SET | 0 | Automatic power shut off is displayed. | *2 |
| | | 1 | Automatic power shut off is not displayed. | |
| I | USB DEVICE | 0 | USB device setting is disabled | 0 |
| | | 1 | USB device is enabled | |
| J | PUNCH UNIT DESTINATION | 0 | No destination set | 0 |
| | | 1 | 2 holes | |
| | | 2 | 2, 3 holes | |
| | | 3 | 2, 4 holes | |
| | | 4 | 4 holes (4 holes wide) | |

(*1) Default for each destination of item B

| Set value | Mode | | 2-Color/Single Counter |
|---|---|---|---|
| | Single | 2-color | |
| 0 | OFF | OFF | OFF |
| 1 | OFF | ON | OFF |
| 2 | ON | OFF | OFF |
| 3 | ON | ON | OFF |
| 4 | OFF | OFF | ON |
| 5 | OFF | ON | ON |
| 6 | ON | OFF | ON |
| 7 | ON | ON | ON |

(*2)

**<Default of each destination>**

| Destination | Item A | Item H |
|---|---|---|
| U S A | 1 | 1 |
| CANADA | 1 | 1 |
| INCH | 1 | 1 |
| TAIWAN | 1 | 1 |
| EUROPE | 1 | 0 |
| U K | 0 | 0 |
| AUS | 1 | 1 |
| BRAZIL | 1 | 1 |

(*3)

| | Target paper | Target paper setting | |
|---|---|---|---|
| | | 0 | 1 |
| Inner finisher | Postcard, envelope | The operation is stopped when 10 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 10 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection. | If it is set to "1," the operation is stopped when the paper exit tray is full or when 250 sheets (35.5mm thick) are discharged. |
| | Label sheet, tab sheet, OHP | The operation is stopped when 100 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 100 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection. | |
| Saddle Stitch Finisher | Postcard, envelope | The operation is stopped when 30 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 30 or less sheets of a kind are sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection. | If it is set to "1," the operation is stopped when the paper exit tray is full or when 500 sheets (67mm thick) are discharged. |
| Saddle Stitch Finisher | Label sheet, tab sheet, OHP | The operation is stopped when 100 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 100 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection. | If it is set to "1," the operation is stopped when the paper exit tray is full or when 500 sheets (67mm thick) are discharged. |

26-52

**Purpose** Setting

**Function (Purpose)** Set count up mode for non-printed paper

**Section**

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | Count up |
| 1 | No count up |

2) Tap [OK] key.
The set value in step 1) is saved.

26-65

**Purpose** Setting

**Function (Purpose)** Set the finisher alarm mode

**Section**

**Operation/Procedure**

Use the touch key to set.

| Item | Set value | Content | Default |
|---|---|---|---|
| LIMIT COPIES | ON | Number of stapling sets: Maximum staple setting is set value. | ON |
| | OFF | Number of stapling sets. Not Limited | |

26-66

**Purpose** Setting

**Function (Purpose)** Set password for simulation. (For screen transition to classic mode from easy mode)

**Section**

**Operation/Procedure**

1) The current password is displayed.
2) Enter the set value.
3) Tap [SET] key.

26-69

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the operating condition for toner near end |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2 is saved.

| Item/Display | | | Content | | Default |
|---|---|---|---|---|---|
| A | TONER PREPARATION | | 0 | The toner preparation message is displayed. | 0 |
| | | | 1 | The toner preparation message is not displayed. | |
| B | REMAINING TONER LEVEL | 5% | 0 | Toner preparation at remaining toner level of 5% | 1 |
| | | 10% | 1 | Toner preparation at remaining toner level of 10% | |
| | | 15% | 2 | Toner preparation at remaining toner level of 15% | |
| | | 20% | 3 | Toner preparation at remaining toner level of 20% | |
| | | 25% | 4 | Toner preparation at remaining toner level of 25% | |
| | | 30% | 5 | Toner preparation at remaining toner level of 30% | |
| | | 35% | 6 | Toner preparation at remaining toner level of 35% | |
| | | 40% | 7 | Toner preparation at remaining toner level of 40% | |
| | | 45% | 8 | Toner preparation at remaining toner level of 45% | |
| | | 50% | 9 | Toner preparation at remaining toner level of 50% | |
| C | TONER NEAR END | | 0 | The toner near end message is displayed. | 0 |
| | | | 1 | The toner near end message is not displayed. | |
| D | TONER END | | 1 | Operation setup 1 | 2 |
| | | | 2 | Operation setup 2 | |
| | | | 3 | Operation setup 3 | |
| E | TONER END COUNT | | 1 | Toner end detection number is A4/5% 0 sheet | 1 |
| | | | 2 | Toner end detection number is A4/5% 25 sheets | |
| | | | 3 | Toner end detection number is A4/5% 50 sheets | |
| F | TONER E-MAIL ALERT | | 0 | Low status send of E-mail alert (When the toner preparation message is displayed) (in near near toner end) | 0 |
| | | | 1 | Low status send of E-mail alert (near toner end) | |
| G | TONER MIB UNIT | | 0 | Receive the remaining toner level MIB in 1% increment. | 0 |
| | | | 1 | Receive the remaining toner level MIB in 5% increment. | |
| | | | 2 | Receive the remaining toner level MIB in 25% increment. | |
| H | MIB TONER LOW INDICATION | | 0 | Receive toner remaining quantity from toner MIB when toner low detects. | 0 |
| | | | 1 | Receive toner low from toner MIB when toner low detects. | |
| I | E-RIC LIST PRINT | | 0 | Attach list print data to status mail of E-RIC | 0 |
| | | | 1 | Unattached list print data to status mail of E-RIC | |

(Contents of set items)

A: Enable/Disable setting of the toner preparation message display.

B: The toner remaining quantity at which the toner preparation message is displayed.

C: Enable/Disable setting of the toner preparation message display when the toner near end status is reached.

D: Machine operation at toner end

E: Number of allowable copy/print/FAX when the toner near end message is displayed. (Range: 0 - 50 sheets)

The number of output print allowed in item D is based on the assumption that the sheets are of A4 size with print ratio of 5%. (The number of outputs allowed differs depending on the paper size and the print ratio.)

Important

When item A is set to "0" and item E is properly set, printing can be made after toner near end. However, improper phenomena such as insufficient density, thin spots, or improper color balance may result depending on the using conditions. When item E is set to "1" printing is disabled after toner near end. In this case, toner end display is made in the toner near end status, and copy/print/FAX outputs are disabled.

26-73

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Adjust image loss for enlargement copy, A3 wide copy mode |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   When the adjustment value is increased, the image loss (shade delete quantity) is increased.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | DELETING SHADOW ADJ (M) | Rear frame side image loss quantity (shade delete quantity) adjustment | 0 - 50 | 0 (Adjustment amount: 0.1mm/step) |
| B | DELETING SHADOW ADJ (S) | Lead edge image loss quantity (shade delete quantity) adjustment | 0 - 50 | 0 (Adjustment amount: 0.1mm/step) |

26-74

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the OSA trial mode |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | OSA TRIAL MODE | 0 | OSA trial mode setting. | 1 |
| | | 1 | OSA trial mode cancel. | |

26-78

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set password for the remote operation panel |
| **Section** | |

**Operation/Procedure**

1) Enter a password. (5 - 8 digits)
   The entered password is displayed on the column of "NEW".
   In order to correct the entered password, tap the [clear] key to delete the entered value one digit by one digit.
2) Tap [SET] key.

26-79

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set pop-up display of security |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | DISP SET | Delete result supported the security pop-up display ON | 1 | 0 |
| | | Delete result supported the security display OFF | 0 | |
| B | SIM PASSWORD DISP | Simulation start password input display ON | 1 | 0 |
| | | Simulation start password input display OFF | 0 | |

26-85

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the function for the simulation mode |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | SIM MODE PASS SET | Password input display for transferring between each simulation ON | 1 | 0 |
| | | Password input display for transferring between each simulation OFF | 0 | |
| B | SIM MODE SETTING | Simulation mode EASY | 1 | 0 |
| | | Simulation mode CLASSIC | 0 | 1 AUS |

# 27

27-2

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the sender's registration number and the HOST server telephone number |
| **Section** | |

**Operation/Procedure**

1) Select target item.
   [USER FAX NO] [SERVA TEL NO]
2) Enter the set value.
3) Tap [SET] key.
   The set value in step 2) is saved.

| | |
|---|---|
| USER FAX_NO. | Sender registration number (Max. 16 digits) |
| SERVA TEL_NO. | Host server telephone number (Max. 16 digits)<br>* If the connection process is not completed normally when registering the FSS, calling to the HOST may be continuously made every time when the power is turned ON (from OFF) or rebooted.<br>In this case, enter "********" to inhibit calling to the HOST. |

27-4

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the initial call and toner order auto send |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | | Content | | Setting range | | Default | Remarks |
|---|---|---|---|---|---|---|---|---|
| A | FSS MODE | NEB1 | Set the FSS MODE | Exclusive for send in NE-B mode | 0 - 3 | 0 | 1 | |
| | | NEB2 | | Send/Receive in NE-B mode | | 1 | | |
| | | NFB1 | | Exclusive for send in NE-F mode | | 2 | | |
| | | NFB2 | | Send/Receive in NE-F mode | | 3 | | |
| B | RETRY_BUSY | | Resend number setting when busy | | 0 - 15 | | 2 | 0: No retry |
| C | TIMER(MINUTE)_BUSY | | Resend timer setting (minute) when busy | | 1 - 15 | | 3 | |
| D | RETRY_ERROR | | Resend number setting when error | | 0 - 15 | | 1 | 0: No retry |
| E | TIMER(MINUTE)_ERROR | | Resend timer setting (minute) when error | | 1 - 15 | | 1 | |
| F | FAX RETRY | | Resend number setting when FAX initial connection | | 0 - 15 | | 2 | Unit: Number of times |
| G | TONER ORDER TIMING(K) | EMPTY | Toner order auto send timing setting (K) | Empty | 0 - 11 | 0 | 3 | |
| | | NEAR_END | | Near end | | 1 | | |
| | | 5% | | 5% | | 2 | | |
| | | 10% | | 10% | | 3 | | |
| | | 15% | | 15% | | 4 | | |
| | | 20% | | 20% | | 5 | | |
| | | 25% | | 25% | | 6 | | |
| | | 30% | | 30% | | 7 | | |
| | | 35% | | 35% | | 8 | | |
| | | 40% | | 40% | | 9 | | |
| | | 45% | | 45% | | 10 | | |
| | | 50% | | 50% | | 11 | | |
| H | TONER ORDER TIMING(C) | EMPTY | Toner order auto send timing setting (C) | Empty | 0 - 11 | 0 | 3 | |
| | | NEAR_END | | Near end | | 1 | | |
| | | 5% | | 5% | | 2 | | |
| | | 10% | | 10% | | 3 | | |
| | | 15% | | 15% | | 4 | | |
| | | 20% | | 20% | | 5 | | |
| | | 25% | | 25% | | 6 | | |
| | | 30% | | 30% | | 7 | | |
| | | 35% | | 35% | | 8 | | |
| | | 40% | | 40% | | 9 | | |
| | | 45% | | 45% | | 10 | | |
| | | 50% | | 50% | | 11 | | |
| I | TONER ORDER TIMING(M) | EMPTY | Toner order auto send timing setting (M) | Empty | 0 - 11 | 0 | 3 | |
| | | NEAR_END | | Near end | | 1 | | |
| | | 5% | | 5% | | 2 | | |
| | | 10% | | 10% | | 3 | | |
| | | 15% | | 15% | | 4 | | |
| | | 20% | | 20% | | 5 | | |
| | | 25% | | 25% | | 6 | | |
| | | 30% | | 30% | | 7 | | |
| | | 35% | | 35% | | 8 | | |
| | | 40% | | 40% | | 9 | | |
| | | 45% | | 45% | | 10 | | |
| | | 50% | | 50% | | 11 | | |
| J | TONER ORDER TIMING(Y) | EMPTY | Toner order auto send timing setting (Y) | Empty | 0 - 11 | 0 | 3 | |
| | | NEAR_END | | Near end | | 1 | | |
| | | 5% | | 5% | | 2 | | |
| | | 10% | | 10% | | 3 | | |
| | | 15% | | 15% | | 4 | | |
| | | 20% | | 20% | | 5 | | |
| | | 25% | | 25% | | 6 | | |
| | | 30% | | 30% | | 7 | | |
| | | 35% | | 35% | | 8 | | |
| | | 40% | | 40% | | 9 | | |
| | | 45% | | 45% | | 10 | | |
| | | 50% | | 50% | | 11 | | |

| Item/Display | | Content | | Setting range | | Default | Remarks |
|---|---|---|---|---|---|---|---|
| K | TEMP HISTORY CYCLE | Frequency of acquiring the temperature and humidity history | | 1 - 1440 | | 60 | Unit: min. |
| L | LOG OUTPUT CAPACITY(PCU) | Log output capacity | | 0 - 50 | | 30 | Unit: [KB] |
| M | TONER ORDER TIMING CONTROL | Toner order timing control | Toner order alert call at fixed toner remaining amount | 0 - 1 | 0 | 1 | |
| | LOG OUTPUT CAPACITY(PCU) | | Toner order alert call at predicted toner consumption amount | | 1 | | |
| N | TONER ORDER DELIVERY SETTING | Toner order delivery setting | | 0 - 1 | 0 | 0 | |
| | | | | | 1 | | |
| O | TONER ORDER DELIVERY INTERVAL | Toner order delivery interval setting | | 1 - 15 | | 3 | Unit: Date |
| P | REMOTE FIRMWARE UPDATE (PULL) | Pull type firmware update is inhibited or not allowed. | | 0 - 1 | 0 | 1 | 0 : Allowed<br>1 : Inhibited |
| | | | | | 1 | | |
| Q | FIRMWARE VER. SEARCH INTERVAL | Firmware search interval setting | | 1 - 90 | | 7 | Unit: Date |

27-5

**Purpose** Setting

**Function (Purpose)** Set the machine tag No.

**Section** Communication (RIC/MODEM)

**Operation/Procedure**

1) Enter the password (max. 8 digits).
   The entered password is displayed on the column of "NEW".
   In order to correct the entered password, tap the [clear] key to delete the entered value one digit by one digit.
2) Tap [SET] key.

27-6

**Purpose** Setting

**Function (Purpose)** Set of the manual service call

**Section**

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | Allow (Default) |
| 1 | Inhibit |

2) Tap [OK] key.
   The set value in step 1) is saved.

27-7

**Purpose** Setting

**Function (Purpose)** Set of the enable, alert callout

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | FUNCTION | FSS function enable | 0 | 1 |
| | | FSS function disable | 1 | |
| B | ALERT | Alert call enable (*1) | 0 | 0 |
| | | Alert call disable | 1 | |
| C | CONNECTION | FAX connection enable | 0 | 0 |
| | | Not used. | 1 | |
| | | HTTP connection enable | 2 | |

*1 Alert send timing

| | |
|---|---|
| No alert cause | Initial state / Trouble / Continuous JAM alert |
| Maintenance | When the maintenance timing is reached. |
| Service call | When pressing Service call. |
| Toner send request | When the toner order automatic send setting is reached. |
| Toner collection request | Revision of the toner installation date (only for a new product) |
| Alert resend | |

27-9

**Purpose** Setting

**Function (Purpose)** Set the paper transport time recording Yes/ No threshold value and shading gain adjustment retry number

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | FEED TIME2 | Threshold value of paper transport time between sensors (SPF) | 0 - 100 | 50(%) |
| B | GAIN ADJUSTMENT RETRY | Threshold value of the gain adjustment retry number | 0 - 20 | 11 (TIMES) |
| C | JAM ALERT | Continuous JAM alert judgment threshold value (Alert judgment threshold value for continuous JAM's) (Setting of the number of JAM's continuously made at which it is judged as an alert.) | 1 - 100 | 10 (TIMES) |
| D | JAM ALERT PERIOD | Continuous JAM alert interval value | 0 - 99 | 30 (DAYS) |

* Items A: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.
* Item B: Because of a trouble in shading operation, the number of retry is actually not registered.

27-10

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the trouble prediction history information |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
   The history information of trouble prediction is cleared.

| | |
|---|---|
| Target history | Serial communication retry history |
| | High density process control error history |
| | Halftone process control error history |
| | Automatic registration adjustment error history |
| | Scanner gain adjustment retry history |
| | DSPF gain adjustment retry history |
| | Paper transport time between sensors |

27-11

| | |
|---|---|
| **Purpose** | Others |
| **Function (Purpose)** | Check the serial communication retry number and the scanner gain adjustment retry number history |
| **Section** | |

**Operation/Procedure**

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

| Display Item | | | Content |
|---|---|---|---|
| **Item name** | **Occurrence date (Display)** | **Retry number** | |
| LSU1 | 99/99/99 99:99:99 | 8 digits | Serial communication retry number history display |
| LSU2 | 99/99/99 99:99:99 | 8 digits | |
| DESK1 | 99/99/99 99:99:99 | 8 digits | |
| DESK2 | 99/99/99 99:99:99 | 8 digits | |
| FINISHER1 | 99/99/99 99:99:99 | 8 digits | |
| FINISHER2 | 99/99/99 99:99:99 | 8 digits | |
| LCC1 | 99/99/99 99:99:99 | 8 digits | |
| LCC2 | 99/99/99 99:99:99 | 8 digits | |
| DSPF1 | 99/99/99 99:99:99 | 8 digits | |
| DSPF2 | 99/99/99 99:99:99 | 8 digits | |
| SCAN GAIN ADJ1 | 99/99/99 99:99:99 | 8 digits | Scanner gain adjustment retry history |
| SCAN GAIN ADJ2 | 99/99/99 99:99:99 | 8 digits | |
| SCAN GAIN ADJ3 | 99/99/99 99:99:99 | 8 digits | |
| SCAN GAIN ADJ4 | 99/99/99 99:99:99 | 8 digits | |
| SCAN GAIN ADJ5 | 99/99/99 99:99:99 | 8 digits | Scanner gain adjustment retry history |
| DSPF GAIN ADJ1 | 99/99/99 99:99:99 | 8 digits | DSPF gain adjustment retry history display * This is only for DSPF supported machines. |
| DSPF GAIN ADJ2 | 99/99/99 99:99:99 | 8 digits | |
| DSPF GAIN ADJ3 | 99/99/99 99:99:99 | 8 digits | |
| DSPF GAIN ADJ4 | 99/99/99 99:99:99 | 8 digits | |
| DSPF GAIN ADJ5 | 99/99/99 99:99:99 | 8 digits | |
| TONER ORDER(K) | 99/99/99 99:99:99 | 8 digits | Black toner order alert call date/time |
| TONER ORDER(C) | 99/99/99 99:99:99 | 8 digits | Cyan toner order alert call date/time |
| TONER ORDER(M) | 99/99/99 99:99:99 | 8 digits | magenta toner order alert call date/time |
| TONER ORDER(Y) | 99/99/99 99:99:99 | 8 digits | Yellow toner order alert call date/time |

27-12

| | |
|---|---|
| **Purpose** | Others |
| **Function (Purpose)** | Check the high density, halftone process control and the auto registration adjustment error history |
| **Section** | |

**Operation/Procedure**

The high density, halftone process control and the automatic registration adjustment error history is displayed.

| | |
|---|---|
| HV_ERR1 | High density process control error history 1 |
| HV_ERR2 | High density process control error history 2 |
| HV_ERR3 | High density process control error history 3 |
| HV_ERR4 | High density process control error history 4 |
| HV_ERR5 | High density process control error history 5 |
| H_TONE ERR1 | Halftone process control error history 1 |
| H_TONE ERR2 | Halftone process control error history 2 |
| H_TONE ERR3 | Halftone process control error history 3 |
| H_TONE ERR4 | Halftone process control error history 4 |
| H_TONE ERR5 | Halftone process control error history 5 |
| AUTO REG ADJ1 | Automatic registration adjustment error history 1 |
| AUTO REG ADJ2 | Automatic registration adjustment error history 2 |
| AUTO REG ADJ3 | Automatic registration adjustment error history 3 |
| AUTO REG ADJ4 | Automatic registration adjustment error history 4 |
| AUTO REG ADJ5 | Automatic registration adjustment error history 5 |

27-13

| | |
|---|---|
| **Purpose** | Others |
| **Function (Purpose)** | Check the history of paper transport time between sensors |
| **Section** | |

**Operation/Procedure**

Change the display.

| Item/Display | Content |
|---|---|
| FEED TIME1 | History of paper transport time between sensors 1 |
| FEED TIME2 | History of paper transport time between sensors 2 |
| FEED TIME3 | History of paper transport time between sensors 3 |
| FEED TIME4 | History of paper transport time between sensors 4 |
| FEED TIME5 | History of paper transport time between sensors 5 |
| FEED TIME6 | History of paper transport time between sensors 6 |
| FEED TIME7 | History of paper transport time between sensors 7 |
| FEED TIME8 | History of paper transport time between sensors 8 |
| FEED TIME9 | History of paper transport time between sensors 9 |
| FEED TIME10 | History of paper transport time between sensors 10 |

27-14

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the FSS function connection test mode |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.

| | |
|---|---|
| 0 | Disable (Default) |
| 1 | Enable |

2) Tap [OK] key.
   The set value in step 1) is saved.

27-15

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Display the FSS connection status |
| **Section** | |

**Operation/Procedure**

The FSS operating status is displayed.

| Item/Display | Content | Setting range | | Default |
|---|---|---|---|---|
| FSS CONNECTION | Used to display the FSS connection status. | 0 | Not operated | 0 |
| | | 1 | Operated | |

27-16

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the FSS alert send |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
   The value for the FSS alert operation specification is set.
2) Tap [OK] key.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | MAINTENANCE ALERT | Maintenance alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |
| B | TONER ORDER ALERT | Toner order alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |
| C | TONER CTRG ALERT | Toner cartridge replacement alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |
| D | JAM ALERT | Continuous JAM alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |
| E | TROUBLE ALERT | Trouble alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |
| F | PAPER ORDER ALERT | Paper order alert send Enable setting | Alert send Enable | 0 | 0 |
| | | | Alert send Disable | 1 | |

27-17

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the FSS paper order alert |
| **Section** | |

**Operation/Procedure**

1) Select an item to be set.
2) Enter the set value.
   The value for the FSS paper order alert operation specification is set.
3) Tap [SET] key.

| Item/ Display | Content | Setting range | Default | NOTE |
|---|---|---|---|---|
| PAPER TYPE SET | Setting of paper kind for paper order alert | 0 - 2 | 0 | 0: Standard paper and recycled paper |
| | | | | 1: Standard paper only |
| | | | | 2: Recycled paper only |
| A3 | Paper order number setting [Number of sheets] (A3) | 500 - 5000 | 1250 | Unit: No. of sheets for a box |
| A4 | Paper order number setting [Number of sheets] (A4) | 500 - 5000 | 2500 | Unit: No. of sheets for a box |
| B4 | Paper order number setting [Number of sheets] (B4) | 500 - 5000 | 2500 | Unit: No. of sheets for a box |
| B5 | Paper order number setting [Number of sheets] (B5) | 500 - 5000 | 2500 | Unit: No. of sheets for a box |
| A3: FIRST | Paper order alert number setting (A3) (Number of used sheets) | 500 - 10000 | 1000 | Unit: No. of alert sheets for the first time |
| A4: FIRST | Paper order alert number setting (A4) (Number of used sheets) | 500 - 10000 | 1000 | Unit: No. of alert sheets for the first time |
| B4: FIRST | Paper order alert number setting (B4) (Number of used sheets) | 500 - 10000 | 1000 | Unit: No. of alert sheets for the first time |
| B5: FIRST | Paper order alert number setting (B5) (Number of used sheets) | 500 - 10000 | 1000 | Unit: No. of alert sheets for the first time |

# 30

30-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in other than the paper feed section and the control circuit |
| **Section** | |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The sensors which are turned ON are highlighted.

| Display | Content |
|---|---|
| 1TUD_CL | Transfer mode sensor CL |
| 1TUD_K | Transfer mode sensor K |
| 2TPD | Secondary transfer paper sensor |
| 2TUD | Secondary transfer position sensor |
| CCHPD_C | Charger cleaner home position sensor C * |
| CCHPD_K | Charger cleaner home position sensor K * |
| CCHPD_M | Charger cleaner home position sensor M * |
| CCHPD_Y | Charger cleaner home position sensor Y * |
| CCMD_C | Charger cleaner shift sensor C * |
| CCMD_K | Charger cleaner shift sensor K * |
| CCMD_M | Charger cleaner shift sensor M * |
| CCMD_Y | Charger cleaner shift sensor Y * |
| DHPD_C | Drum phase sensor C * |
| DHPD_CL | Drum phase sensor CL |
| DHPD_K | Drum phase sensor K |
| DHPD_M | Drum phase sensor M * |
| DHPD_Y | Drum phase sensor Y * |
| DSW_C1 | Transfer cover sensor |

| Display | Content |
|---|---|
| DSW_C2 | Tray 2 transport cover sensor |
| DSW_F | Front door switch |
| DSW_FU | Front cover sensor |
| DSW_R | Right transport unit (right door) switch |
| HLPCD | Fusing pressure sensor |
| POD1 | Paper exit sensor 1 |
| POD2 | Paper exit sensor 2 |
| POD3 | Paper exit sensor 3 |
| POD4 | Paper exit sensor 4 |
| PPD2 | Paper transport sensor 2 |
| PRTPD | Paper exit paper sensor |
| SHPOS | Shifter home position sensor |
| TCED_C | Toner cartridge ejecting sensor C |
| TCED_K | Toner cartridge ejecting sensor K |
| TCED_M | Toner cartridge ejecting sensor M |
| TCED_Y | Toner cartridge ejecting sensor Y |
| TED4 | Upper paper empty sensor |
| TFD2 | Paper exit tray full sensor |
| TFD3 | Paper exit tray full sensor (Right paper exit tray) |
| TNFD | Waste toner sensor |
| TNFD2 | Waste developer sensor |

* Not used

30-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the sensors in the paper feed section and the control circuit |
| **Section** | |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The sensors which are turned ON are highlighted.

| Display | Content |
|---|---|
| C1LUD | Paper feed tray upper limit sensor |
| C1PED | Paper empty sensor |
| C1PFD | Paper transport sensor |
| C1PFPD | Paper pass sensor |
| C1SPD | Paper remaining quantity sensor |
| C1SS | Tray sensor |
| C1SS1 | Paper size sensor |
| C1SS2 | |
| C1SS3 | |
| C1SS4 | |
| C2LUD | Paper feed tray upper limit sensor |
| C2PED | Paper empty sensor |
| C2PFD | Paper transport sensor |
| C2SPD | Paper remaining quantity sensor |
| C2SS1 | Paper size sensor |
| C2SS2 | |
| C2SS2ETM | Tray 2 module sensor |
| C2SS3 | Paper size sensor |
| C2SS4 | |
| C2SSSETD | Tray 2 desk sensor |
| MPED | Paper empty sensor |
| MPFD | Paper feed sensor |
| MPLD1 | Paper length sensor |

30-30

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the motion sensor |
| **Section** | |

**Operation/Procedure**

When you enter this simulation, the current status of the sensor is displayed.

*1: Displayed, but not installed in some models.

# 40

40-2

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the paper width sensor of the manual paper feed tray |
| **Section** | Paper feed |

**Operation/Procedure**

1) Open the manual paper feed guide to the max. width (MAX).
2) Tap [EXECUTE] key.
   The max. width (MAX) detection level is recognized.
3) Open the manual paper feed guide to P1 width (A4).
4) Tap [EXECUTE] key.
   The P1 width (A4) detection level is recognized.
5) Open the manual paper feed guide to P2 width (A4R).
6) Tap [EXECUTE] key.
   The P2 width (A4R) detection level is recognized.
7) Open the manual paper feed guide to the min. width (MIN).
8) Tap [EXECUTE] key.
   The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

| | |
|---|---|
| MAX POSITION | Manual feed max. width |
| P1(A4)POSITION | Manual feed P1 position width (A4) |
| P2(A4R)POSITION | Manual feed P2 position width (A4R) |
| MIN POSITION | Manual feed min. width |

40-7

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the adjustment value of the paper width sensor of the manual paper feed tray |
| **Section** | Paper feed |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

| Item/Display | | Content | Default |
|---|---|---|---|
| A | MAX POSITION | Manual feed max. width | 241 |
| B | P1 (A4) POSITION | Manual feed P1 position width (A4) | 231 |
| C | P2 (A4R) POSITION | Manual feed P2 position width (A4R) | 140 |
| D | MIN POSITION | Manual feed min. width | 19 |

# 41

41-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the document size sensor and the control circuit |
| **Section** | |

**Operation/Procedure**

The operating conditions of the sensors are displayed.

The sensors which are turned ON are highlighted.

| | | |
|---|---|---|
| OCSW | Document cover status | Open: Normal display<br>Close: Highlighted |
| PD1 - 7 | Document detection sensor status | No document: Normal display<br>Document present: Highlighted |

41-2

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the document size sensor detection level |
| **Section** | |

**Operation/Procedure**

1) Open the document cover, and tap [EXECUTE] key without place a document on the document table.

   The sensor level without document is recognized.

2) Set A3 (11" x 17") paper on the document table, and tap [EXECUTE] key.

   The sensor level when detecting the document is displayed.

41-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the operation of the document size sensor and the control circuit |
| **Section** | |

**Operation/Procedure**

The detection output level (A/D value) of OCSW and the document sensor (PD1 - PD7) is displayed in real time.

The light receiving range of PD1 - PD7 is 1 - 255. (Default: 128)

| Item/Display | Content | Detection level range |
|---|---|---|
| OCSW | Original cover SW | 0-1 ("1" to Close) |
| PD1 | Document detection 1 | 0 - 255 |
| PD2 | Document detection 2 | 0 - 255 |
| PD3 | Document detection 3 | 0 - 255 |
| PD4 | Document detection 4 | 0 - 255 |
| PD5 | Document detection 5 | 0 - 255 |
| PD6 | Document detection 6 | 0 - 255 |
| PD7 | Document detection 7 | 0 - 255 |

# 43

43-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the fusing temperature in each mode |
| **Section** | |

**Operation/Procedure**

1) Select the SW-A or the SW-B.
2) Select target item.
3) Select the set value.

   The set value in step 3) is saved.

| Display | Content | Setting range | Default |
|---|---|---|---|
| PLAIN PAP&WUP&RDY GR | Used to change the fusing temperature setting of plain paper, WUP, and Ready series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| PLAIN PAPER 2 | Used to change the fusing temperature setting of plain paper 2 series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| HEAVY PAPER GR | Used to change the fusing temperature setting of heavy paper series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| THIN PAPER GR | Used to change the fusing temperature setting of thin paper series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| RECYCLED PAPER GR | Used to change the fusing temperature setting of recycled paper series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| GLOSSY PAPER GR | Used to change the fusing temperature setting of gloss paper series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |
| ENV PAPER GR | Used to change the fusing temperature setting of envelope series | -20<br>-15<br>-10<br>-5<br>0<br>+5<br>+10<br>+15<br>+20 | 0 |

| Display | Content | Setting range | Default |
|---|---|---|---|
| EMBOSS PAPER GR | Used to change the fusing temperature setting of embossed paper | -20 | 0 |
| | | -15 | |
| | | -10 | |
| | | -5 | |
| | | 0 | |
| | | +5 | |
| | | +10 | |
| | | +15 | |
| | | +20 | |
| OHP PAPER | Used to change the fusing temperature setting of OHP paper | -20 | 0 |
| | | -15 | |
| | | -10 | |
| | | -5 | |
| | | 0 | |
| | | +5 | |
| | | +10 | |
| | | +15 | |
| | | +20 | |
| FUSING CONDITION ADJ | Fusing condition adjustment setting | 0 | 0 |
| | | 1 | |
| | | 2 | |
| | | 3 | |
| | | 4 | |
| | | 5 | |
| ENV PAPER PRESS PATTERN | Envelop paper pressure adjustment | 0 | 0 |
| | | 1 | |
| | | 2 | |
| | | 3 | |
| | | 4 | |
| WUP&RDY GR ADJ LL | WUP/Ready LL environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| PLAIN PAP ADJ LL | Normal paper LL environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| HEAVY PAPER GR ADJ LL | Heavy paper LL environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| SPECIAL PAPER ADJ LL | Special paper LL environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |

| Display | Content | Setting range | Default |
|---|---|---|---|
| WUP&RDY GR ADJ HH | WUP/Ready HH environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| PLAIN PAP ADJ HH | Normal paper HH environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| HEAVY PAPER GR ADJ HH | Heavy paper HH environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |
| SPECIAL PAPER ADJ HH | Special paper HH environment fine adjustment | -10 | 0 |
| | | -7 | |
| | | -5 | |
| | | -3 | |
| | | 0 | |
| | | +3 | |
| | | +5 | |
| | | +7 | |
| | | +10 | |

43-2

**Purpose** Setting

**Function (Purpose)** Set the fusing operation and preheating

**Section**

**Operation/Procedure**

1) Select the SW-A or SW-B.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key.
   The set value in step 3) is saved.

| Item / Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | WARMUP FUMON TH_UM T | Fusing motor previous rotation start TH_UM set value | 0 - 200 | List of Default and set values for each destination |
| B | WARMUP FUMOFF | Fusing motor previous rotation complete time | 0 - 255 | |
| C | WARMUP END TIME | Warm-up complete time | 0 - 255 | |
| D | HI WU FM ON TMP | FM preliminary rotation start TH_UM when warming up at alpha degree C or above | 0 - 200 | |
| E | HI WU END TIME | Warm-up completion time when warm-up at alpha degree C or above | 0 - 255 | |
| F | LO WARMUP TIME | Setting value applying time in warm-up of 120 degrees C or below (Timer from Ready completion) | 0 - 255 | |

| Item / Display | | Content | Setting range | Default |
|---|---|---|---|---|
| G | HI WARMUP TIME | Setting value applying time in warm-up of 120 degree C or above (Time from Ready completion) | 0 - 255 | List of Default and set values for each destination |
| H | HI WARMUP BORDER | Threshold value alpha to apply the setting value in warm-up of alpha degree C or above | 1 - 119 | |
| I | JOBEND FUMON TIME | After-rotation time after completion of a job | 0 - 255 | |
| J | TH_UM E-STAR | TH_UM set value when preheating | 30 - 200 | |
| K | TH_LM E-STAR | TH_LM set value when preheating | 30 - 200 | |
| L | TH_US E-STAR | TH_US set value when preheating | 30 - 200 | |
| M | TH_UM PRE-JOB | TH_UM set value from recovering the preheating | 30 - 200 | |

**List of destination groups**

| Group | Destination | | | | |
|---|---|---|---|---|---|
| Group B | U. S. A | CANADA | INCH | – | – |
| Group C | EUROPE | U. K | AUS. | TAIWAN | AB |

**List of Default and set values for each destination**

| Item | Default | | | |
|---|---|---|---|---|
| | SW_A | | SW_B | |
| | Group B | Group C | Group B | Group C |
| A | 0 | 0 | 0 | 0 |
| B | 20 | 20 | 20 | 20 |
| C | 7 | 7 | 30 | 30 |
| D | 0 | 0 | 0 | 0 |
| E | 7 | 7 | 30 | 30 |
| F | 0 | 0 | 0 | 0 |
| G | 0 | 0 | 0 | 0 |
| H | 60 | 60 | 60 | 60 |
| I | 8 | 8 | 8 | 8 |
| J | 135 | 135 | 135 | 135 |
| K | 100 | 100 | 100 | 100 |
| L | 135 | 135 | 135 | 135 |
| M | 150 | 150 | 155 | 155 |

**Code descriptions**

| | |
|---|---|
| TH_UM | Fusing thermistor main (Front surface of paper) |
| TH_LM | Fusing thermistor main (Back surface of paper) |
| TH_US | Fusing thermistor sub (Front surface of paper) |

43-20

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM43-2) in each paper mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2) is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

| Correction value | -49 | -25 | -5 | 0 | 5 | 25 | 49 |
|---|---|---|---|---|---|---|---|
| Input value | 1 | 25 | 45 | 50 | 55 | 75 | 99 |

| Item / Display | | Content | Setting range | Default value | |
|---|---|---|---|---|---|
| | | | | 26/30 ppm | 35/40 ppm |
| A | WARMUP FUMON TH_UM TLL | Correction value for fusing motor pre-rotation start TH_UM set value under LL environment | 1 - 99 | 50 | 50 |
| B | WARMUP FUMOFF LL | Fusing motor prior rotation completion time under LL environment | 1 - 99 | 60 | 60 |
| C | WARMUP END TIME LL | Correction value for warm-up completion time under LL environment | 1 - 99 | 75 | 75 |
| D | HI_WU_FM_ON_TMP_LL | Correction value for FM prior rotation start TH_UM in warm-up at alpha degree C or above under LL environment | 1 - 99 | 50 | 50 |
| E | HI_WU_END_TIME_LL | Correction value for warm-up completion time in warm-up at alpha degree C or above under LL environment | 1 - 99 | 65 | 65 |
| F | LO_WARMUP_TIME_LL | Correction value of the setting value applying time in warm-up of 120degree C or below under LL environment (Time from Ready completion) | 1 - 99 | 65 | 65 |
| G | HI_WARMUP_TIME_LL | Correction value of the setting value applying time in warm-up of 120degree C or above under LL environment (Time from Ready completion) | 1 - 99 | 65 | 65 |
| H | HI_WARMUP_BORDER_LL | Correction value of the threshold value alpha to apply the setting value in warm-up of alpha degree C or above under LL environment | 1 - 99 | 50 | 50 |
| I | JOBEND_FUMON_TIME LL | Correction value for the after rotation time when completing a job under LL environment | 1 - 99 | 50 | 50 |
| J | TH_UM E-STAR LL | Correction value for preheating TH_UM set value under LL environment | 1 - 99 | 55 | 55 |
| K | TH_LM E-STAR LL | Correction value for preheating TH_LM set value under LL environment | 1 - 99 | 55 | 55 |
| L | TH_US E-STAR LL | Correction value for preheating TH_US set value under LL environment | 1 - 99 | 55 | 55 |
| M | TH_UM PRE-JOB LL | Correction value for the set value of TH_UM when restoring from preheating under LL environment | 1 - 99 | 55 | 55 |

* Item WARMUP END TIME LL: 1 Count = 1s Change

Correction value for the other items: 1 count for 1degrees C change

**Code descriptions**

| | |
|---|---|
| TH_UM | Fusing thermistor main (Front surface of paper) |
| TH_LM | Fusing thermistor main (Back surface of paper) |
| TH_US | Fusing thermistor sub (Front surface of paper) |

43-21

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM43-2) in each paper mode |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2 is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

| Correction value | -49 | -25 | -5 | 0 | 5 | 25 | 49 |
|---|---|---|---|---|---|---|---|
| Input value | 1 | 25 | 45 | 50 | 55 | 75 | 99 |

| Item / Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | WARMUP FUMON TH_UM T HH | Fusing motor previous rotation start TH_UM set value | 1 - 99 | List of Default and set values for each destination |
| B | WARMUP FUMOFF HH | Fusing motor previous rotation completion time | 1 - 99 | |
| C | WARMUP END TIME HH | Warm-up completion time | 1 - 99 | |
| D | HI_WU_FM_ON_TMP HH | FM preliminary rotation start TH_UM when warming up at alpha degree C or above | 1 - 99 | |
| E | HI_WU_END_TIME HH | Warm-up completion time when warm-up at alpha degree C or above | 1 - 99 | |
| F | LO_WARMUP_TIME_HH | Correction value for AF - AH application time (Time from Ready complete) | 1 - 99 | |
| G | HI_WARMUP_TIME HH | Correction value for AJ - AL application time (Time from Ready complete) | 1 - 99 | |
| H | HI_WARMUP_BORDER_HH | Threshold value alpha to which AN - AP is applied | 1 - 99 | |
| I | JOBEND_FUMON_TIME HH | After-rotation time after completion of a job | 1 - 99 | |
| J | TH_UM E-STAR HH | TH_UM set value when preheating | 1 - 99 | |
| K | TH_LM E-STAR HH | TH_LM set value when preheating | 1 - 99 | |
| L | TH_US E-STAR HH | TH_US set value when preheating | 1 - 99 | |
| M | TH_UM PRE-JOB HH | Resetting from preheating TH_UM set value | 1 - 99 | |

* Item WARMUP END TIME HH: 1 Count = 1s Change
Correction value for the other items: 1 count for 1 degrees C change

**Code descriptions**

| | |
|---|---|
| TH_UM | Fusing thermistor main (Front surface of paper) |
| TH_LM | Fusing thermistor main (Back surface of paper) |
| TH_US | Fusing thermistor sub (Front surface of paper) |

**List of destination groups**

| Group | Destination | | | | |
|---|---|---|---|---|---|
| Group B | U. S. A | CANADA | INCH | – | – |
| Group C | EUROPE | U. K | AUS. | TAIWAN | AB |

**List of Default and set values for each destination**

| Item | Default (26/30 ppm) | | Default (35/40 ppm) | |
|---|---|---|---|---|
| | Group B | Group C | Group B | Group C |
| A | 50 | 50 | 50 | 50 |
| B | 50 | 50 | 50 | 50 |
| C | 50 | 50 | 50 | 50 |
| D | 50 | 50 | 50 | 50 |
| E | 50 | 50 | 50 | 50 |
| F | 50 | 50 | 50 | 50 |
| G | 50 | 50 | 50 | 50 |
| H | 50 | 50 | 50 | 50 |
| I | 50 | 50 | 50 | 50 |
| J | 50 | 50 | 50 | 50 |
| K | 50 | 50 | 50 | 50 |
| L | 50 | 50 | 50 | 50 |
| M | 50 | 50 | 50 | 50 |

43-24

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set fuser operation mode |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value in step 2 is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

| Correction value | -49 | -25 | -5 | 0 | 5 | 25 | 49 |
|---|---|---|---|---|---|---|---|
| Input value | 1 | 25 | 45 | 50 | 55 | 75 | 99 |

| Item / Display | | Content | Setting Value | Default value |
|---|---|---|---|---|
| A | COOL_DOWN_HEAVY | Cool down time (Heavy paper) | 1-60 | List of Default and set values for each destination |
| B | COOL_DOWN_OHP | Cool down time (OHP) | 1-60 | |
| C | COOL_DOWN_ENVELOPE | Cool down time (Envelope) | 1-60 | |
| D | FUS_MOTOR | Fusing web motor operating interval | 1-20 | |
| E | POWER SET | Power supply voltage 1:100V, 2 :110 - 120V, 3 : 220 - 240V | 1-3 | |

* Each cool down time: 1 count = 1sec change

**List of destination groups**

| Group | Destination | | | |
|---|---|---|---|---|
| Group B | U. S. A | CANADA | INCH | TAIWAN |
| Group C | EUROPE | U. K | AUS. | AB |

**List of Default and set values for each destination**

| Item | Default | |
|---|---|---|
| | Group B | Group C |
| A | 8 | 8 |
| B | 8 | 8 |
| C | 8 | 8 |
| D | 10 | 10 |
| E | 2 | 3 |

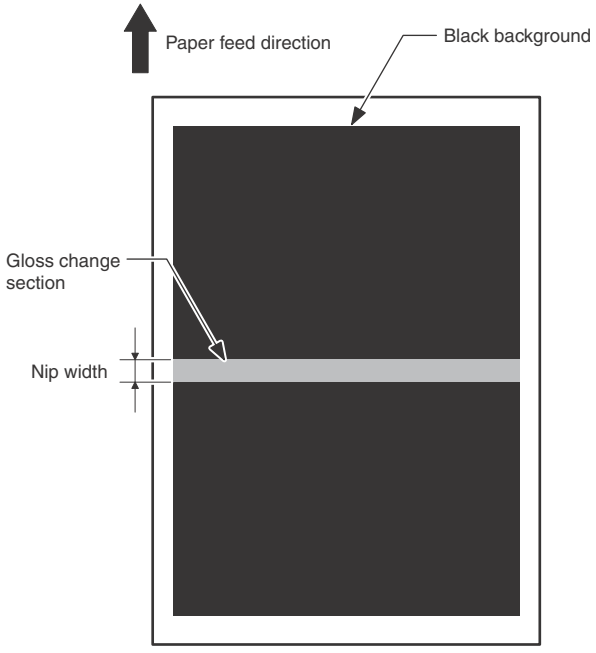
43-35

| | |
|---|---|
| **Purpose** | Adjustment and setting |
| **Function (Purpose)** | Check fusing nip operation |
| **Section** | Fusing |

**Operation/Procedure**

1) Prepare a black-background image, and put it on the tray with the black background facing upward.
2) Enter the set value. (The tray is specified.)
3) Tap [EXECUTE] key.
4) [EXECUTE] key is highlighted and printing is started.
   When printing is executed, a jam is always generated. (As shown in the photo below.)
5) Leave the jam paper for about 30sec, then remove the jam paper.
6) Measure the width of the gloss change section (nip) of the jam paper, and check to confirm that it is in the range of about 10.5mm - 12mm.
   * If the difference between F and R is considerably great, the fusing pressure may be insufficient.

| Item/Display item | | | Content | Setting range | | Default |
|---|---|---|---|---|---|---|
| A | PAPER | MFT | Tray selection | 1 - 5 | 1 | 2 |
| | | CS1 | | | 2 | |
| | | CS2 | | | 3 | |
| | | CS3 | | | 4 | |
| | | CS4 | | | 5 | |




# 44

44-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set each correction operation function in the image forming section |
| **Section** | Image process (Photo conductor/Developing/Transfer/Cleaning) |

**Operation/Procedure**

1) Select target item.
   (The selected item is highlighted.)
2) Tap [EXECUTE] key. (The set value is saved.)

**Important**

Set the items to the default unless a change is specially required.

| Item/ Display | Content | Setting range | Default |
|---|---|---|---|
| HV | Normal operation high density process control Enable/Disable setting | Black text on white background (Inhibit: 0=NO) white text on black background (Allow: 1=YES) | Allow |
| HT | Normal operation halftone process control Enable/Disable setting | | Allow |
| TN_PIX_SUP | Setting of Enable/Disable of toner supply control for the yield count | | Allow |
| TN_FB | Enable/Disable setting of FEEDBACK toner supply control | | Allow |
| TN_INT | Enable/Disable setting of the interval toner supply control | | Allow |
| TN_RECV | Enable/Disable setting of developer recovery | | Allow |
| TN_ADJ | Enable/Disable setting of the sensor output adjustment | | Allow |
| TN_EMP | Setting of Enable/Disable of the toner falling distance detection control | | Allow |
| TN_EMP_INT | Setting of Enable/Disable of the toner falling distance detection control of job interruption | | Allow |
| TN_EMP_NEW | Enable/Disable setting of fall amount detection control of a new cartridge | | Allow |
| TN_PIX_TBL | Enable/Disable setting of toner supply control by the yield count | | Allow |
| PRT_HT | Enable/Disable setting of printer correction feedback of half-tone process control | | Allow |
| MD VG | Enable/Disable setting of the membrane decrease grid voltage correction | | Allow |
| MD EV | Enable/Disable setting of the membrane decrease environment grid voltage correction | | Allow |
| MD VG MC | Enable/Disable setting of the grid correction by the MC total current correction | | Allow |
| MD VG DV | Enable/Disable setting of the VG grid correction by the developer bias absolute value | | Allow |
| MD LD | Enable/Disable setting of the membrane decrease laser power voltage correction | | Allow |
| MD LD EV | Enable/Disable setting of environmental area and the membrane decrease count laser power voltage correction | | Allow |
| MD LD HV | Enable/Disable process control laser power voltage correction | | Allow |
| MD DL | Enable/Disable setting of the membrane decrease discharge light quantity correction | | Allow |
| MD DL EV | Enable/Disable setting of the membrane decrease environment discharge quantity correction | | Disable |
| MD MC | Enable/Disable setting of the MC total current correction by an increase in the resistance | | Allow |
| MD MC EV | Enable/Disable setting of the MC total current correction by environmental change | | Allow |
| AR_AUTO | Auto registration adjustment Enable/Disable setting | | Allow |
| AR_ERROR | Auto registration adjustment execution error check Enable/Disable setting | | Allow |
| AR_PHASE | Enable/Disable setting of drum phase fitting calculation feedback Enable/Disable setting | | Allow |
| DM_PHASE | Drum phase fitting Enable/Disable setting | | Allow |

| Item/ Display | Content | Setting range | Default |
|---|---|---|---|
| TC | Enable/Disable setting of transfer output correction | Black text on white background (Inhibit: 0=NO) white text on black background (Allow: 1=YES) | Allow |
| PTC_ENV | PTC environment correction Enable/ Disable setting | | Allow |

44-2

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the sensitivity of the image density sensor |
| **Section** | Process |

**Operation/Procedure**

When [EXECUTE] key is tapped, the adjustment is executed automatically.

After completion of the adjustment, the adjustment result is displayed.

If the adjustment is not executed normally, "ERROR" is displayed.

| Classification | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| PROCON/ REGIST | A | REGS_F LED | Light emitting quantity adjustment value | 1 - 255 | 21 |
| | B | REGS_R LED | | 1 - 255 | 21 |
| | C | REGS_F | Transfer belt substrate detection level value (F side) when the light emitting quantity adjustment is completed. | 0 - 255 | 0 |
| | D | REGS_R | Transfer belt substrate detection level value (R side) when the light emitting quantity adjustment is completed. | 0 - 255 | 0 |
| | E | REGS_F DARK | Specular reflection dark voltage (F side) | 0 - 255 | 0 |
| | F | REGS_R DARK | Specular reflection dark voltage (R side) | 0 - 255 | 0 |

| Classification | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| PROCON | G | PCS_F_DARK | Diffuse reflection dark voltage (F side) | 0 - 255 | 0 |
| | H | PCS_R_DARK | Diffuse reflection dark voltage (R side) | 0 - 255 | 0 |
| | I | PCS_F_V1 | Linearity correction coefficients (F side) | 0 - 255 | 20 |
| | J | PCS_F_V2 | | 0 - 255 | 41 |
| | K | PCS_F_V3 | | 0 - 255 | 82 |
| | L | PCS_F_V4 | | 0 - 255 | 122 |
| | M | PCS_F_V5 | | 0 - 255 | 163 |
| | N | PCS_R_V1 | Linearity correction coefficients (R side) | 0 - 255 | 20 |
| | O | PCS_R_V2 | | 0 - 255 | 41 |
| | P | PCS_R_V3 | | 0 - 255 | 82 |
| | Q | PCS_R_V4 | | 0 - 255 | 122 |
| | R | PCS_R_V5 | | 0 - 255 | 163 |
| | S | PCS_F_CL_ka | Diffuse reflection normalization coefficients | 100 - 2000 | 500 |
| | T | PCS_R_CL_ka | | 100 - 2000 | 500 |
| | U | BELT_PCS_FMAX | Belt substrate F side monitor max. value (Process control) | 0 - 255 | 0 |
| | V | BELT_PCS_FMIN | Belt substrate F side monitor min. value (Process control) | 0 - 255 | 0 |
| | W | BELT_PCS_FDIF | Belt substrate F side monitor difference (BELT_PCS_F MAX-MIN) | 0 - 255 | 0 |
| | X | BELT_PCS_RMAX | Belt substrate R side monitor max. value (Process control) | 0 - 255 | 0 |
| | Y | BELT_PCS_RMIN | Belt substrate R side monitor min. value (Process control) | 0 - 255 | 0 |
| | Z | BELT_PCS_RDIF | Belt substrate R side monitor difference (BELT_PCS_F MAX-MIN) | 0 - 255 | 0 |

| Classification | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| REGIST | AA | BELT_REGS_F_MAX | Belt substrate F side monitor max. value (Registration) | 0 - 255 | 0 |
| | AB | BELT_REGS_F_MIN | Belt substrate F side monitor min. value (Registration) | 0 - 255 | 0 |
| | AC | BELT_REGS_F_DIF | Belt substrate F side monitor difference (BELT_REGS_F MAX-MIN) | 0 - 255 | 0 |
| | AD | BELT_REGS_R_MAX | Belt substrate R side monitor max. value (Registration) | 0 - 255 | 0 |
| | AE | BELT_REGS_R_MIN | Belt substrate R side monitor min. value (Registration) | 0 - 255 | 0 |
| | AF | BELT_REGS_R_DIF | Belt substrate R side monitor difference (BELT_REGS_R MAX-MIN) | 0 - 255 | 0 |
| | AG | PATCH_REGS_F_K | Toner patch detection level F (K) | 0 - 255 | 0 |
| | AH | PATCH_REGS_F_C | Toner patch detection level F (C) | 0 - 255 | 0 |
| | AI | PATCH_REGS_F_M | Toner patch detection level F (M) | 0 - 255 | 0 |
| | AJ | PATCH_REGS_F_Y | Toner patch detection level F (Y) | 0 - 255 | 0 |
| | AK | PATCH_REGS_R_K | Toner patch detection level R (K) | 0 - 255 | 0 |
| | AL | PATCH_REGS_R_C | Toner patch detection level R (C) | 0 - 255 | 0 |
| | AM | PATCH_REGS_R_M | Toner patch detection level R (M) | 0 - 255 | 0 |
| | AN | PATCH_REGS_R_Y | Toner patch detection level R (M) | 0 - 255 | 0 |

| Error name | Error content |
|---|---|
| F sensor adjustment abnormality | REGS_F LED error<br>The target is not reached by 3 times of adjustments. |
| R sensor adjustment abnormality | REGS_R LED error<br>The target is not reached by 3 times of adjustments. |
| F Color sensor adjustment abnormality | PCS_F_CL_ka calculation error<br>The target is not reached |
| Process control F sensor adjustment abnormality | BELT_PCS_F DIF error<br>The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn |
| R Color sensor adjustment abnormality | PCS_R_CL_ka calculation error<br>The target is not reached |
| Process control R sensor adjustment abnormality | BELT_PCS_R DIF error<br>The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn |
| Registration substrate F scan abnormality | BELT_REGS_F_ DIF error<br>The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn |
| Registration substrate R scan abnormality | BELT_REGS_R_ DIF error<br>The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn |

44-4

**Purpose** Setting

**Function (Purpose)** Set the condition of the high density process control operation

**Section** Process

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

Important

Set the items to the default unless a change is specially required.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | PCS_CL TARGET | Color image sensor adjustment target value | 1 - 255 | 204 |
| B | PCS_K TARGET | Black image sensor adjustment target value | 1 - 255 | 204 |
| C | LED_CL OUTPUT | Color image sensor light emitting start level | 1 - 255 | 21 |
| D | LED_K OUTPUT | Black image sensor light emitting start level | 1 - 255 | 21 |
| E | PCS ADJSTMENT LIMIT | Color image sensor adjustment error allowance level | 1 - 255 | 8 |
| F | BELT GROUND DIF | Transfer belt one-turn substrate detection level difference allowance level | 1 - 255 | 1 |
| G | BIAS_CL STANDARD DIF | Developing bias (for color) reference correction voltage | 0 - 255 | 60 |
| H | BIAS_BK STANDARD DIF | Developing bias (for black) reference correction voltage | 0 - 255 | 0 |
| I | BIAS PATCH INTERVAL | Toner patch making developing bias interval | 1 - 255 | 60 |
| J | Y_PAT TARGET ID | Process control target density level (yellow) | 1 - 255 | 42 |
| K | M_PAT TARGET ID | Process control target density level (magenta) | 1 - 255 | 45 |
| L | C_PAT TARGET ID | Process control target density level (cyan) | 1 - 255 | 45 |
| M | K_PAT TARGET ID | Process control target density level (black) | 1 - 255 | 50 |
| N | HV BK_GROUND LIMIT | Black image sensor adjustment error allowance level | 1 - 255 | 60 |

## 44-6

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Execute the high density process control forcibly |
| **Section** | Process |

**Operation/Procedure**

Tap [EXECUTE] key.

In case of a normal completion, the result is saved.

In case of an abnormal completion, "ERROR" is displayed. (Refer to the table below.)

In case of an ERROR, the previous correction data are saved.

| Result display | Content description |
|---|---|
| COMPLETE | Normal complete |
| ERROR | Abnormal end |
| INTERRUPTION | Forcible interruption |

| Details of error display | Content description |
|---|---|
| CL_SEN_ADJ_ERR | Color image sensor adjustment abnormality |
| BK_SEN_ADJ_ERR | Black image sensor adjustment abnormality |
| K_HV_ERR | K high density process control abnormality |
| C_HV_ERR | C high density process control abnormality |
| M_HV_ERR | M high density process control abnormality |
| Y_HV _ERR | Y high density process control abnormality |
| TIMEOUT_ERR | Time out |

| Details of error display | Content description |
|---|---|
| CL_SEN_ADJ_ERR | Color image sensor adjustment abnormality |
| BK_SEN_ADJ_ERR | Black image sensor adjustment abnormality |
| K_EHT_ERR | K process control abnormality |
| C_EHT_ERR | C process control abnormality |
| M_EHT_ERR | M process control abnormality |
| Y_EHT_ERR | Y process control abnormality |
| TIMEOUT_ERR | Time out |

## 44-9

| | |
|---|---|
| **Purpose** | Operation data display |
| **Function (Purpose)** | Display the result data of the high density process control operation |
| **Section** | Image process (Photo conductor/Developing/Transfer/Cleaning) |

**Operation/Procedure**

Select a target display mode with [CPY/PRN], [OTHER] keys.

## 44-12

| | |
|---|---|
| **Purpose** | Operation data display |
| **Function (Purpose)** | Display the operation data of the high density process control and the image density sensor |
| **Section** | Image process (Photo conductor/Developing) |

**Operation/Procedure**

Select a display mode with [TARGET] [PATCH] keys.

## 44-14

| | |
|---|---|
| **Purpose** | Operation data display |
| **Function (Purpose)** | Display the output level of the temperature and humidity sensor |
| **Section** | Process (OPC drum, development)/Fusing/LSU |

**Operation/Procedure**

The output levels of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor are displayed.

| Item/Display | Content |
|---|---|
| TH_CL | External air temperature sensor temperature<br>External air temperature sensor AD value |
| HUD_CL | External air humidity sensor humidity<br>External air sensor AD value |
| TH1_LSU | LSU thermistor 1 temperature<br>LSU thermistor 1 A/D value |
| TH2_LSU | LSU thermistor 2 temperature<br>LSU thermistor 2 A/D value |
| TH_UM | Fusing upper main thermistor temperature<br>Fusing upper main thermistor (AD value) |
| TH_UM_CS | Fusing upper main thermistor (compensation) temperature<br>Fusing upper main thermistor (compensation) AD value |
| TH_UM_D | Fusing upper main thermistor (differential) AD value |
| TH_SUB2 | Fusing upper sub thermistor 2 temperature<br>Fusing upper sub thermistor 2 (AD value) |
| TH_SUB2_CS | Fusing upper sub thermistor 2 (compensation) temperature<br>Fusing upper sub thermistor 2 (compensation) AD value |
| TH_SUB2_D | Fusing upper sub thermistor 2 (differential) AD value |
| TH_LM | Fusing lower main thermistor temperature<br>Fusing lower main thermistor (AD value) |
| TH_US | Fusing upper sub thermistor temperature<br>Fusing upper sub thermistor (AD value) |

## 44-15

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the OPC drum idle rotation |
| **Section** | Process |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

The initial value must be set unless any special change is required.

| Item/ Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | TIME | Idle rotation interval (time interval between the previous OPC drum idle rotation and the next one) setting (h) | 0 - 255 | 6 |
| B | AREA1 | Environmental area difference judgment threshold value setting (difference between the previous OPC drum idle rotation and the current one) | 0 - 5 | 2 |
| C | AREA2 | Environmental area conditions (AND condition of the previous OPC drum idle rotation and the current one) | 1 - 15 | 1 |
| D | CYCLE | Previous rotation time setting (sec) in the process control when recovered from power ON, preheating/sleep mode. | 0 - 255 | 0 |
| E | FLAG | OPC drum idle rotation is allowed or disabled. | 0 - 1 (0 : Allow 1 : Disable) | 0 |

## 44-17

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set refresh operation for process section |
| **Section** | Process |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) The refresh operation is executed.

NOTE: Do not execute this simulation unless specially required.

**Display items and descriptions of contents**

| Display | Content |
|---|---|
| BLADE REFRESH | Blade development refresh |
| DEVE REFRESH | Development refresh<br>* DEVE REFLESH execution consume W-Letter A3 100% worth of toner. |

## 44-21

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the halftone process control target |
| **Section** | Process |

**Operation/Procedure**

Tap [EXECUTE] key.

The halftone process control target is set and the operation data are displayed.

| Display | Content |
|---|---|
| COMPLETE | Normal complete |
| ERROR COLOR SENSOR ADJUSTMENT | Color image density sensor sensitivity adjustment error |
| ERROR BLACK SENSOR ADJUSTMENT | Black image density sensor sensitivity adjustment error |
| [YMCK] | High density process control error [YMCK] |
| OTHER | Other errors |

## 44-22

| | |
|---|---|
| **Purpose** | Operation data display |
| **Function (Purpose)** | Display the toner patch density level in the halftone process control operation |
| **Section** | Process |

**Operation/Procedure**

1) The toner patch density level made in the halftone process control operation is displayed.

| Item/Display | Content |
|---|---|
| ID_n | Patch data display (n= 1 to 16) |
| BASE1 | Belt substrate data (START) |
| BASE5 | Belt substrate data (LAST) |

## 44-24

| | |
|---|---|
| **Purpose** | Operation data display |
| **Function (Purpose)** | Display the correction target and the correction level in the halftone process control operation |
| **Section** | Process |

**Operation/Procedure**

1) Select the display category with [NEXT] key.
2) Select a target adjustment color with [K] [C] [M] [Y] key.

| Category | Item/Display | Content |
|---|---|---|
| Coefficient | [DITHER_RAW_VALUE] | Halftone process control correction value (before correction) |
| Reference value | [SENSOR_TARGET] | Halftone process control reference value |
| Correction value | [S_VALUE] | Halftone process control correction value |
| For printer | [PRINTER_S_VALUE] | Printer halftone process control correction value |
| | [PRINTER_BASE_DITHER_VALUE] | Printer halftone process control reference dither value |
| | [PRINTER_AUTO_HT_VALUE] | Printer auto density adjustment correction value |
| Previous correction value | [BEFORE S_VALUE] | Previous halftone process control value |
| | [BEFORE PRINTER_S_VALUE] | Previous printer halftone process control value |

## 44-25

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the calculating conditions of the correction value for the halftone process control |
| **Section** | Process |

**Operation/Procedure**

1) Select a adjustment target color with [K] [C] [M] [Y] key.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key.

Important

Set the items to the default unless a change is specially required.

| Item/Display | | Content | Setting range | Default | |
|---|---|---|---|---|---|
| | | | | K | CMY |
| A | HIGHTLIGHT VALUE LIMIT | Highlight correction amount limit value | 0 - 128 | 20 | 20 |
| B | MAX VALUE LIMIT | Maximum density value correction limit value | 0 - 128 | 20 | 20 |

## 44-26

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Execute the halftone process control compulsory |
| **Section** | Process |

**Operation/Procedure**

Tap [EXECUTE] key.

The halftone process control is performed and the operation data are displayed.

| | |
|---|---|
| COMPLETE | Normal complete |
| ERROR COLOR SENSOR ADJUSTMENT | Color image density sensor sensitivity adjustment error |
| ERROR BLACK SENSOR ADJUSTMENT | Black image density sensor sensitivity adjustment error |
| [YMCK] | High density process control error [YMCK] error |
| OTHER | Other errors |

44-27

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the correction data of the halftone process control |
| **Section** | Process |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
   The correction data of the halftone process control are cleared.

44-28

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the process control execution conditions |
| **Section** | Process |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

Important

Set the items to the default unless a change is specially required.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | INITIAL | YES | When warm-up after clearing the counter of the OPC drum and the developer unit | Enable | 0 | 0 |
| | | NO | | Disable | 1 | |
| B | SW ON | | When supplying the power (when canceling power shut-off) | Color process control Enable | 0 | 3 |
| | | | | Process control Disable | 1 | |
| | | | | BK process control Enable | 2 | |
| | | | | Pixel count judgment | 3 | |
| C | TIME | | After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME) | Color process control Enable | 0 | 3 |
| | | | | Process control Disable | 1 | |
| | | | | BK process control Enable | 2 | |
| | | | | Pixel count judgment | 3 | |
| D | HUM_LIMIT | | HUM judgment is made when turning ON the power and after passing INTERVAL TIME. | Color process control Enable | 0 | 0 |
| | | | | Process control Disable | 1 | |
| | | | | BK process control Enable | 2 | |
| E | HUM | | The temperature and humidity inside the machine are monitored only during a job at the interval set by the item of HUM HOUR. When the changes in the temperature and the humidity are greater than the specified level (the set value of item HUM DIF) in comparison with the previous process control. | Color process control Enable | 0 | 0 |
| | | | | Process control Disable | 1 | |
| | | | | BK process control Enable | 2 | |
| F | REV1 | YES | When the accumulated traveling distance of K or M OPC drum unit reaches the specified level after turning ON the power. | Enable | 0 | 1 |
| | | NO | | Inhibit | 1 | |
| G | REV2_BK | YES | When the accumulated traveling distance of K OPC drum unit reaches the specified level from execution of the previous density correction. | Enable | 0 | 1 |
| | | NO | | Inhibit | 1 | |
| H | REV2_CL | YES | When the accumulated traveling distance of M OPC drum unit reaches the specified level from execution of the previous density correction. | Enable | 0 | 1 |
| | | NO | | Inhibit | 1 | |
| I | REFRESH MODE | YES | Select of YES/NO of the manual process control key with key operation | Key operation display | 0 | 1 |
| | | NO | | Key operation NO display | 1 | |
| J | DAY | | When there is no color job from when the previous color process control was performed to when the number of days set by this item setting, perform the process control when executing the next warming up. | 0: Disable of the specified days judgment | 0 | 1 |
| | | | | 1 - 999: 1 - 999 days passing | 999 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| K | HI-COV | Setting of the execution conditions of the process control for the print ratio | The process control is performed by considering the average print ratio of every 10 pages as the judgment criteria. | 0 | 1 |
| | | | Print ratio judgment inhibit (The process control for the target of print ratio is not performed.) | 1 | |
| | | | The process control is performed by considering the average print ratio of 30 pages as the judgment criteria in a continuous print job of 30 or more pages. | 2 | |
| L | LO-COV | Setting of the execution judgment of the process control in continuous printing of low print ratio images | Enable | 0 | 1 |
| | | | Inhibit | 1 | |
| M | TonerCA-END | Setting of the process control interval reduction when the toner cartridge remaining quantity is 25% or less (If this is set to Enable, item M RATIO is changed.) | Enable | 0 | 1 |
| | | | Inhibit | 1 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| N | JOB | Simplified process control judgement (During Job) | High density process control : Allow Engine half-tone process control : Allow | 0 | 0 |
| | | | High density process control : Inhibit Engine half-tone process control : Inhibit | 1 | |
| | | | High density process control : Allow Engine half-tone process control : Inhibit | 2 | |
| | | | High density process control :Inhibit Engine half-tone process control : Allow | 3 | |
| O | JOB_END | Simplified process control judgement (After Job) | High density process control : Allow Engine half-tone process control : Allow | 0 | 0 |
| | | | High density process control : Allow Engine half-tone process control : Inhibit | 1 | |
| P | AVERAGE-PAGE | Setting of the number of pages of item | 1: 10 pages - 5: 50 pages 1 step corresponds to 10 pages. | 1 | 3 |
| | | | | 5 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| Q | LIMIT PAGE | Setting of the number of connected jobs of the process control and of the limit number of the process control | 1: 10 pages - 99: 990 pages 1 step corresponds to 10 pages. | 1 | 10 |
| | | A number of reservation jobs are connected. When the number of jobs exceeds the specified number of pages (the set value of this setting), the process control is performed. / The process control is performed by AND conditions of item REV condition and the specified number of pages (the set value of this setting). | | 99 | |
| R | PIX_RATIO_BK | Magnification ratio setting (%) of the BK toner count specified value<br>The set value of 100 corresponds to K print of A4 at the print ratio of 5%. | | 1 - 999 | 10 |
| S | PIX_RATIO_CL | Magnification ratio setting (%) of the color (CMY) toner count specified value<br>The set value of 100 corresponds to K print of A4 at the print ratio of 5%. | | 1 - 999 | 10 |
| T | INTERVAL TIME | Setting of the leaving time when turning ON the power (including the sleep recovery time) (h: hour) | | 1 - 255 | 3 |
| U | HUM HOUR | Interval setting of the temperature and humidity monitoring time of "HUM" (unit: 10 minutes) | | 1 - 24 | 2 |
| V | HUM_DIF | The specified value of the area difference in humidity between the level at execution of the previous control and the current humidity (Applied to item HUM) | | 1 - 9 | 2 |
| W | BK_RATIO | Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV2_BK" | | 1 - 999 (Entry of 20 corresponds to 100,000mm.) | 15 |
| X | M_RATIO | Magnification ratio setting (%) of the M OPC drum traveling distance of "REV2_CL" | | 1 - 999 (Entry of 20 corresponds to 100,000mm.) | 15 |
| Y | REV1_RATIO | Magnification ratio setting (%) of the REV1 OPC drum traveling distance of "REV1" | | 1 - 255 | 20 |
| Z | SHV_PAGE | Simple process control execution interval number | | 0 - 999 | 100 |
| AA | SHV_RATIO | Simple process control execution interval traveling number | | 0 - 999 | 20 |
| AB | SHV_DIF | Normal process control execution setting by simplified process control result | | 1 - 255 | 60 |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| AC | SHT_DIF | | Half tone engine execution setting by simplified process control result | | 1 - 255 | 5 |
| AD | COLOR BORDER | | Judgment criteria whether the BK high density process control is individually performed or not (Setting of the ratio of the M OPC drum rotation distance for the K OPC drum rotation distance (%)) | 0: The BK process control is executed regardless of the M OPC drum traveling distance. | 0 - 999 | 20 |
| | | | | 1 - 999: 1 - 999(%) | | |
| AE | BK ONLY | | Setting of the frequency of execution of the 4-color high density process control when only monochrome output is continued (The result of this setting is applied only when the M OPC drum rotation distance is smaller than the set value of COLOR BORDER.) | Frequency of once for 5 times | 0 | 5 |
| | | | | Frequency of once for 1 - 5 times | 1 - 5 | |
| | | | | The 4-color high density process control is always performed. | 6 | |
| AF | HT_DIF | | HT process control execution judgment developing bias variation value | | 1 - 255 | 40 |
| AG | RG_ON_SYNC | CL | Setting of execution of the registration adjustment when executing the process control when turning ON the power | When the color process control is executed. | 0 | 0 |
| | | ALL | | Executed regardless of the process control. | 1 | |
| | | CL/BK | | When the color process control and the K process control are executed. | 2 | |
| AH | RG_TEMP_TIMER | | Time interval from registration adjustment after turning ON the power to the next execution. | | 0 - 240 (MINUTE) | 0 |
| AI | RG_PERM_TIMER | | Setting of inhibit time of execution of the registration adjustment | | 0 - 15 (HOUR) | 0 |
| AJ | RG_HOUR_TIMER | | Setting of the interval time of execution of the registration adjustment | | 0 - 15 (Above)+(HOUR) | 6 |
| AK | RG_BW_SYNC | | Setting of Enable/ Disable of the registration adjustment after a monochrome job | Enable | 0 | 1 |
| | | | | Inhibit | 1 | |
| AL | RG_STATUS_SW | | Setting of registration adjustment sequence | Inhibit | 0 | 0 |
| | | | | Enable | 1 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| AM | 2TRAN_CLEAN_TIME1 | Secondary transfer cleaning process time judgment threshold value 1 (The total number of sheets for cleaning execution conditions) (Cleaning time: Short) | | 5 - 999 | 200 |
| AN | 2TRAN_CLEAN_TIME2 | Secondary transfer cleaning process time judgment threshold value 2 (The total number of sheets for cleaning execution conditions) (Cleaning time: Medium) | | 5 - 999 | 300 |
| AO | 2TRAN_CLEAN_TIME3 | Secondary transfer cleaning process time judgment threshold value 3 (The total number of sheets for cleaning execution conditions) (Cleaning time: Long) | | 5 - 999 | 500 |
| AP | BLADE_CLEAN_TIME | Blade refresh interval setting | Enable | 0 | 10 |
| | | | Inhibit | 1 - 99 | |
| AQ | MC CLEAN DISP | MC cleaning display setting | Disable | 0 | 0 |
| | | | Enable | 1 | |
| AR | MC CLEAN DISP TIME | MC cleaning display interval setting | | 1 - 99 | 20 |

44-29

**Purpose** Setting

**Function (Purpose)** Set the operating conditions of the process control during a job

**Section** Process

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | COPY | During copy job | 0: No execution<br>1: HV only<br>2: HV -> HT | 2 |
| B | PRINTER | During print job | | 2 |
| C | FAX | During FAX print job | | 2 |
| D | SELF PRINT | During self print | | 2 |
| E | CPY TO PRT TABLE | Halftone process control copier - printer conversion table select | 0:CALCULATED<br>1:DEFAULT | 0 |
| F | HT RETRY | Halftone process control retry setting | | 20 |
| G | HT TARGET RETRY | Halftone process control standard value registration retry | | 3 |

HV: High density process control

HT: Halftone process control

44-31

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the OPC drum phase (Manual adjustment)

**Section** Process

**Operation/Procedure**

Important

For the OPC drum phase adjustment, do not use this simulation, but use SIM50-22 (auto adjustment).

44-37

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the development bias correction level in the continuous printing operation

**Section**

**Operation/Procedure**

1) Select a set target color.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. (The set value is saved.)

Note

When the print density is varied in the continuous printing operation, this simulation is used.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | MUL_MC_ADJ | Multi-grid bias correction enable/ disable setting | Enable | 0 | 1 |
| | | | Disable | 1 | |
| B | MUL_DV_ADJ | Multi-fusing bias correction enable/ disable setting | Enable | 0 | 0 |
| | | | Disable | 1 | |

44-43

**Purpose** Data display

**Function (Purpose)** Display the identification information of the developing unit

**Section** Developing system

**Operation/Procedure**

The identification number and the identification signal level of the developing unit are displayed.

44-62

**Purpose** Setup/Adjustment

**Function (Purpose)** Set the process control execution conditions

**Section** Process

**Operation/Procedure**

This simulation allows collective change in the set contents of SIM44-4 and SIM44-28.

A suitable one is selected among a number of options depending on the condition.

1) Select an item to be set.

   To change the image density in the high density area, select PROCON TARGET.

   To change the frequency of the process control operations, select PROCON MODE.

| Display/Item | | Content |
|---|---|---|
| PROCON TARGET | CL ID DOWN | The densities of C, M, and Y decrease. (The C/M/Y high density process control target values decrease.) |
| | CL ID UP | The densities of C, M, and Y increase. (The C/M/Y high density process control target values increase.) |
| | BK ID DOWN | The density of K decreases. (The high density process control target value decreases.) |
| | BK ID UP | The density of K increases. (The high density process control target value increases.) |
| | ALL ID DOWN | The densities of C, M, Y and K decrease. (The C/M/Y/K high density process control target values decrease.) |
| | ALL ID UP | The densities of C, M, Y and K increase. (The C/M/Y/K high density process control target values increase.) |
| | NORMAL | The standard density of C, M, Y and K. (The C/M/Y/K high density process control target values are the standard values.) |
| PROCON MODE | HIGH QUALITY1 | The execution frequency of the process control is high. (It is set when the color image quality is given priority.) |
| | HIGH QUALITY2 | The execution frequency of the process control is highest. (It is set when the color image quality is given priority.) |
| | PRINT PERFORMANCE | The execution frequency of the process control is low. (It is set when the job speed is given priority.) |
| | BW MODE | The process control is executed in the normal frequency. (It is set when there are little color jobs and many monochrome jobs.) |
| | NORMAL | The process control is executed in the normal frequency. |

(When PROCON TARGET is selected.)

2A) Select the density level.

(When PROCON MODE is selected.)

2B) Select the execution frequency of the process control.

3) Tap [EXECUTE] key.

4) Tap [YES] key.

**Note**

This simulation may not function with some firmware versions.

In such a case, the firmware must be upgraded to the latest version.

# 46

## 46-1

**Purpose** Adjustment (Color copy mode)

**Function (Purpose)** Adjust the copy density in the color copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | AUTO | Auto | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| B | TEXT | Text | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| C | TEXT/PRINTED PHOTO | Text/Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| D | TEXT/PHOTO | Text/Photograph | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| E | PRINTED PHOTO | Printed Photo | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| F | PHOTOGRAPH | Photograph | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| G | MAP | Map | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| H | LIGHT | Light document | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| I | TEXT(COPY TO COPY) | Text (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| J | TEXT/PRINTED PHOTO (COPY TO COPY) | Text/Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| K | PRINTED PHOTO (COPY TO COPY) | Printed Photo (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| L | TEXT (COLOR TONE ENHANCEMENT) | Text (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| M | TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT) | Text/Printed Photo (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| N | TEXT/PHOTO (COLOR TONE ENHANCEMENT) | Text/Photograph (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| O | PRINTED PHOTO (COLOR TONE ENHANCEMENT) | Printed Photo (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| P | PHOTOGRAPH (COLOR TONE ENHANCEMENT) | Photograph (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| Q | MAP (COLOR TONE ENHANCEMENT) | Map (Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| R | LIGHT(COLOR TONE ENHANCEMENT) | LIGHT DOCUMENT(Color tone enhancement) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| S | SINGLE COLOR | Single color | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| T | SINGLE COLOR (COPY TO COPY) | Single color (Copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| U | TWO COLOR | 2-color (red/ black) copy | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |
| V | TWO COLOR (COPY TO COPY) | 2-color (red/ black) copy (copy document) | LOW | 1 - 99 | 50 |
| | | | HIGH | 1 - 99 | 50 |

## 46-2

**Purpose** Adjustment (Monochrome copy mode)

**Function (Purpose)** Adjust the copy density in the monochrome copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.

3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| A | LOW | AUTO1 | Auto 1 | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| B | LOW | AUTO2 | Auto 2 | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| C | LOW | AUTO3 | Auto 3 | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| D | LOW | TEXT | Text | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| E | LOW | TEXT/PRINTED PHOTO | Text/Printed | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| F | LOW | TEXT/PHOTO | Text/ Photograph | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| G | LOW | PRINTED PHOTO | Printed Photo | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| H | LOW | PHOTOGRAPH | Photograph | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| I | LOW | MAP | MAP | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| J | LOW | AUTO1(COPY TO COPY) | Auto 1 (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| K | LOW | AUTO2(COPY TO COPY) | Auto 2 (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| L | LOW | AUTO3(COPY TO COPY) | Auto 3 (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| M | LOW | TEXT(COPY TO COPY) | Text (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| N | LOW | TEXT/PRINTED PHOTO(COPY TO COPY) | Text/Printed Photo (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| O | LOW | PRINTED PHOTO(COPY TO COPY) | Printed Photo (Copy document) | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |
| P | LOW | LIGHT | Light document | 1 - 99 | 50 |
| | HIGH | | | 1 - 99 | 50 |

46-4

**Purpose** Adjustment (Color scanner mode)

**Function (Purpose)** Adjust the density in the color image send mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

| Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| LOW | A | AUTO | Auto | 1 - 99 | 50 |
| | B | TEXT | Text | 1 - 99 | 50 |
| | C | TEXT/PRINTED PHOTO | Text/Printed Photo | 1 - 99 | 50 |
| | D | TEXT/PHOTO | Text/Photograph | 1 - 99 | 50 |
| | E | PRINTED PHOTO | Printed Photo | 1 - 99 | 50 |
| | F | PHOTOGRAPH | Photograph | 1 - 99 | 50 |
| | G | MAP | Map | 1 - 99 | 50 |
| | H | RIP | – | 1 - 99 | 50 |
| HIGH | A | AUTO | Auto | 1 - 99 | 50 |
| | B | TEXT | Text | 1 - 99 | 50 |
| | C | TEXT/PRINTED PHOTO | Text/Printed Photo | 1 - 99 | 50 |
| | D | TEXT/PHOTO | Text/Photograph | 1 - 99 | 50 |
| | E | PRINTED PHOTO | Printed Photo | 1 - 99 | 50 |
| | F | PHOTOGRAPH | Photograph | 1 - 99 | 50 |
| | G | MAP | Map | 1 - 99 | 50 |
| | H | RIP | – | 1 - 99 | 50 |

46-5

**Purpose** Adjustment (Monochrome scanner mode)

**Function (Purpose)** Adjust the density in the monochrome image send mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

| Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| LOW | A | AUTO | Auto | 1 - 99 | 50 |
| | B | TEXT | Text | 1 - 99 | 50 |
| | C | TEXT/PRINTED PHOTO | Text/Printed Photo | 1 - 99 | 50 |
| | D | TEXT/PHOTO | Text/Photograph | 1 - 99 | 50 |
| | E | PRINTED PHOTO | Printed Photo | 1 - 99 | 50 |
| | F | PHOTOGRAPH | Photograph | 1 - 99 | 50 |
| | G | MAP | Map | 1 - 99 | 50 |
| | H | RIP | – | 1 - 99 | 50 |
| HIGH | A | AUTO | Auto | 1 - 99 | 50 |
| | B | TEXT | Text | 1 - 99 | 50 |
| | C | TEXT/PRINTED PHOTO | Text/Printed Photo | 1 - 99 | 50 |
| | D | TEXT/PHOTO | Text/Photograph | 1 - 99 | 50 |
| | E | PRINTED PHOTO | Printed Photo | 1 - 99 | 50 |
| | F | PHOTOGRAPH | Photograph | 1 - 99 | 50 |
| | G | MAP | Map | 1 - 99 | 50 |
| | H | RIP | – | 1 - 99 | 50 |

46-8

**Purpose** Adjustment (Color scanner mode)

**Function (Purpose)** Adjust the RGB color balance in image send mode

**Section**

**Operation/Procedure**

1) Select an adjustment target with [R] [G] [B] keys.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. (The set value is saved.)

The color balance can be adjusted separately for the low density area and the high density area.

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

| Item/Display | | Content | Default |
|---|---|---|---|
| A | LOW DENSITY POINT | Low density correction amount | 50 |
| B | HIGH DENSITY POINT | High density correction amount | 50 |

46-9

| | |
|---|---|
| **Purpose** | Adjustment (DSPF/RSPF mode) |
| **Function (Purpose)** | Adjust the scan image density |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
3) Tap [OK] key. (The set value is saved.)

This adjustment result affects the image send mode, the copy mode, and the fax mode.

When the adjustment value is increased, the image density is increased, and vice versa.

**[RSPF]**

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | COPY : LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| B | SCAN : LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| C | FAX : LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 48 |
| D | COPY : HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 53 |
| E | SCAN : HIGH | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 53 |
| F | FAX : HIGH | FAX mode exposure adjustment (high density) | 1 - 99 | 53 |

**[DSPF]**

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| OC | A | COPY SIDEA: LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | B | SCAN SIDEA: LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | C | FAX SIDEA: LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | D | COPY SIDEA: HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 52 |
| | E | SCAN SIDEA: HIGH | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 52 |
| | F | FAX SIDEA: HIGH | FAX mode exposure adjustment (high density) | 1 - 99 | 52 |
| DSPF | A | COPY SIDEB: LOW | Copy mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | B | SCAN SIDEB: LOW | Scanner mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | C | FAX SIDEB : LOW | FAX mode exposure adjustment (Low density side) | 1 - 99 | 47 |
| | D | COPY SIDEB: HIGH | Copy mode exposure adjustment (High density side) | 1 - 99 | 50 |
| | E | SCAN SIDEB: HIGH | Scanner mode exposure adjustment (High density side) | 1 - 99 | 50 |
| | F | FAX SIDEB : HIGH | FAX mode exposure adjustment (high density) | 1 - 99 | 50 |
| | G | BALANCE SIDEB: R | Color balance R | 1 - 99 | 50 |
| | H | BALANCE SIDEB: G | Color balance G | 1 - 99 | 50 |
| | I | BALANCE SIDEB: B | Color balance B | 1 - 99 | 50 |

46-10

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the copy color balance and the gamma (for each color copy mode) |
| **Section** | |

**Operation/Procedure**

1) Select an adjustment target mode.
2) Select an adjustment target color with [K][C][M][Y] keys.
3) Select target item.
4) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
5) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

| | |
|---|---|
| TEXT | Text |
| TEXT/PRT PHOTO | Text/Printed Photo |
| PRINTED PHOTO | Printed Photo |
| PHOTO + TEXT/PHOTO | Photograph + Text/Printed Photo |
| MAP | Map |
| LIGHT | Light document |
| COPY ORG | Copy document |

| Item/Display | | Density level (Point) | Setting range | Default |
|---|---|---|---|---|
| A | POINT1 | Point 1 | 1 - 999 | 500 |
| B | POINT2 | Point 2 | 1 - 999 | 500 |
| C | POINT3 | Point 3 | 1 - 999 | 500 |
| D | POINT4 | Point 4 | 1 - 999 | 500 |
| E | POINT5 | Point 5 | 1 - 999 | 500 |
| F | POINT6 | Point 6 | 1 - 999 | 500 |
| G | POINT7 | Point 7 | 1 - 999 | 500 |
| H | POINT8 | Point 8 | 1 - 999 | 500 |
| I | POINT9 | Point 9 | 1 - 999 | 500 |
| J | POINT10 | Point 10 | 1 - 999 | 500 |
| K | POINT11 | Point 11 | 1 - 999 | 500 |
| L | POINT12 | Point 12 | 1 - 999 | 500 |
| M | POINT13 | Point 13 | 1 - 999 | 500 |
| N | POINT14 | Point 14 | 1 - 999 | 500 |
| O | POINT15 | Point 15 | 1 - 999 | 500 |
| P | POINT16 | Point 16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

46-16

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the monochrome copy density and the gamma (for each monochrome copy mode) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

| Item/Display | | Density level (Point) | Setting range | Default |
|---|---|---|---|---|
| A | POINT1 | Point 1 | 1 - 999 | 500 |
| B | POINT2 | Point 2 | 1 - 999 | 500 |
| C | POINT3 | Point 3 | 1 - 999 | 500 |
| D | POINT4 | Point 4 | 1 - 999 | 500 |
| E | POINT5 | Point 5 | 1 - 999 | 500 |
| F | POINT6 | Point 6 | 1 - 999 | 500 |
| G | POINT7 | Point 7 | 1 - 999 | 500 |
| H | POINT8 | Point 8 | 1 - 999 | 500 |
| I | POINT9 | Point 9 | 1 - 999 | 500 |
| J | POINT10 | Point 10 | 1 - 999 | 500 |
| K | POINT11 | Point 11 | 1 - 999 | 500 |
| L | POINT12 | Point 12 | 1 - 999 | 500 |
| M | POINT13 | Point 13 | 1 - 999 | 500 |
| N | POINT14 | Point 14 | 1 - 999 | 500 |
| O | POINT15 | Point 15 | 1 - 999 | 500 |
| P | POINT16 | Point 16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

46-19

**Purpose** Setting

**Function (Purpose)** Set the operating conditions for the scanning (exposure) density of monochrome auto copy mode documents

**Section**

**Operation/Procedure**

1) Select target item.
When an item is selected, it is highlighted and the setting change is saved.

| Item/Display | Content | Set value | Default |
|---|---|---|---|
| AE_MODE | Auto exposure mode | MODE1<br>MODE2<br>MODE3 | MODE2 |
| AE_STOP_COPY | Auto B/W exposure Stop (for copy) | REALTIME<br>STOP<br>PRESCAN | PRESCAN |
| AE_STOP_FAX | Auto B/W exposure Stop (for FAX) | ON/OFF | ON |
| AE_STOP_SCAN | Auto B/W exposure Stop (for scanner) | REALTIME<br>STOP<br>PRESCAN | STOP |
| AE_FILTER | Auto exposure filter setting | SOFT<br>NORMAL<br>SHARP | NORMAL |
| AE_WIDTH | AE exposure width | FULL<br>PART | FULL |

46-21

**Purpose** Adjustment

**Function (Purpose)** Adjust the copy color balance (manual adjustment)

**Section**

**Operation/Procedure**

1) Select an adjustment target color with [K][C][M][Y] keys.
2) Select target item.
3) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
4) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

When [EXECUTE] key is tapped, the check pattern in printed in the color balance and density corresponding to the adjustment value.

| Item/Display | | Density level (Point) | Setting range | Default |
|---|---|---|---|---|
| A | POINT1 | Point 1 | 1 - 999 | 500 |
| B | POINT2 | Point 2 | 1 - 999 | 500 |
| C | POINT3 | Point 3 | 1 - 999 | 500 |
| D | POINT4 | Point 4 | 1 - 999 | 500 |
| E | POINT5 | Point 5 | 1 - 999 | 500 |
| F | POINT6 | Point 6 | 1 - 999 | 500 |
| G | POINT7 | Point 7 | 1 - 999 | 500 |
| H | POINT8 | Point 8 | 1 - 999 | 500 |
| I | POINT9 | Point 9 | 1 - 999 | 500 |
| J | POINT10 | Point 10 | 1 - 999 | 500 |
| K | POINT11 | Point 11 | 1 - 999 | 500 |
| L | POINT12 | Point 12 | 1 - 999 | 500 |
| M | POINT13 | Point 13 | 1 - 999 | 500 |
| N | POINT14 | Point 14 | 1 - 999 | 500 |
| O | POINT15 | Point 15 | 1 - 999 | 500 |
| P | POINT16 | Point 16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

46-23

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the density correction of copy high density section (high density tone gap supported)

**Section**

**Operation/Procedure**

1) Enter the set value

| | |
|---|---|
| 0 | Enable |
| 1 | Inhibit |

2) Tap [OK] key. (The set value is saved.)

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | CMY (0: ENABLE 1: DISABLE) | 0 | Engine highest density correction mode: Enable | 0 - 1 | 0 |
| | | 1 | Engine highest density correction mode: Disable | | |
| B | K (0: ENABLE 1: DISABLE) | 0 | Engine highest density correction mode: Enable | 0 - 1 | 1 |
| | | 1 | Engine highest density correction mode: Disable | | |
| C | CYAN MAX TARGET | Scanner target value for CYAN maximum density correction | | 0 - 999 | 500 |
| D | MAGENTA MAX TARGET | Scanner target value for MAGENTA maximum density correction | | 0 - 999 | 500 |
| E | YELLOW MAX TARGET | Scanner target value for YELLOW maximum density correction | | 0 - 999 | 500 |
| F | BLACK MAX TARGET | Scanner target value for BLACK maximum density correction | | 0 - 999 | 500 |
| G | RATIO LOW | Mix ratio of high density correction (LOW) (1/100) | | 0-100 | 0 |
| H | RATIO HIGH | Mix ratio of high density correction (HIGH) (1/100) | | 0-100 | 0 |
| I | DITHER THRESHOLD | Dither threshold (LOW) | | 0-255 | 255 |
| J | SLOPE THRESHOLD | Slope threshold (HIGH) (1/100) | | 100-500 | 500 |

* When tone gap is generated in the high density area, set items A and B to "0".

  The density of high density part decreases. However, the tone gap is better.

* To increase the density in the high density area further, set items A and B to "1".

  The tone gap may occur in high density part.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

## 46-24

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the copy color balance (Auto adjustment) |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.

   The color patch image (adjustment pattern) is printed out.

2) Plate the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.

3) Tap [EXECUTE] key.

   The copy color balance automatic adjustment is performed, then the adjustment result pattern is printed.

4) Tap [OK] key.

   The halftone correction target registration is processed.

## 46-25

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the copy color balance (Single color copy mode) |
| **Section** | |

**Operation/Procedure**

1) Select an adjustment target color with [C][M][Y] keys.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

| Item/Display | | Setting range | Default | | |
|---|---|---|---|---|---|
| | | | C | M | Y |
| A | RED | 0 - 255 | 0 | 255 | 200 |
| B | GREEN | 0 - 255 | 255 | 0 | 255 |
| C | BLUE | 0 - 255 | 255 | 150 | 0 |
| D | CYAN | 0 - 255 | 255 | 0 | 0 |
| E | MAGENTA | 0 - 255 | 0 | 255 | 0 |
| F | YELLOW | 0 - 255 | 0 | 0 | 255 |
| G | ORANGE | 0 - 255 | 0 | 150 | 255 |
| H | NAVY | 0 - 255 | 255 | 200 | 0 |
| I | LIGHT GREEN | 0 - 255 | 150 | 0 | 150 |
| J | LIGHT BLUE | 0 - 255 | 150 | 20 | 0 |
| K | AQUA MARINE | 0 - 255 | 170 | 0 | 50 |
| L | PURPLE | 0 - 255 | 128 | 255 | 0 |
| M | PINK | 0 - 255 | 0 | 150 | 20 |
| N | YELLOW GREEN | 0 - 255 | 128 | 0 | 255 |
| O | BEIGE | 0 - 255 | 0 | 50 | 170 |

## 46-26

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Reset the single color mode color balance set value to the default |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.

   The color balance value of the single color mode is reset to the default.

## 46-27

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the gamma/density of copy images, text and line image edges |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

| Item/Display (Copy mode) | | Content | Setting range | Default |
|---|---|---|---|---|
| A | BLACK TEXT (SLOPE) | Black character edge gamma skew adjustment | 1 - 99 | 50 |
| B | BLACK TEXT (INTERCEPT) | Black character edge density adjustment | 1 - 99 | 50 |
| C | COLOR TEXT (SLOPE) | Color character edge gamma skew adjustment | 1 - 99 | 50 |
| D | COLOR TEXT (INTERCEPT) | Color character edge density adjustment | 1 - 99 | 50 |
| E | ED TEXT (SLOPE) | Text/Map mode gamma skew adjustment (Text/Map mode) | 1 - 99 | 50 |
| F | ED TEXT (INTERCEPT) | Text/Map mode density adjustment (Text/Map mode) | 1 - 99 | 50 |

When the adjustment values of items A and C are changed, the gamma of character edge and line edge image density section is changed.

When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of text and line edge is decreased.

When the adjustment values of items B and D are increased, the image density of character edge and line edge section is decreased, and vice versa.

## 46-30

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the resolution in the sub scanning direction in the copy mode |
| **Section** | |

**Operation/Procedure**

1) Refer to the following table, and enter the set value corresponding to the resolution mode.
2) Tap [OK] key. (The set value is saved.)

| Item/Display | | Content | | Setting range | | Default |
|---|---|---|---|---|---|---|
| A | SCAN RESOLUTION SW | Scan resolution selection | Mode1 | 0 - 1 | 0 | 0 |
| | | | Mode2 | | 1 | |

**RSPF**

| Mode | Scan mode | Resolution in the sub scanning direction (DPI) | | |
|---|---|---|---|---|
| | | 25-99% [Magnification ratio] | 100-200% [Magnification ratio] | 201-400% [Magnification ratio] |
| Mode1 | OC | 600 | 600 | 600 |
| | RSPF | 600 | 600 | - |
| Mode2 | OC | 300 | 600 | 600 |
| | RSPF | 300 | 600 | - |

**DSPF**

| Mode | Scan mode | Resolution in the sub scanning direction (DPI) | | |
|---|---|---|---|---|
| | | 25-99% [Magnification ratio] | 100-200% [Magnification ratio] | 201-400% [Magnification ratio] |
| Mode1 | OC | 600 | 600 | 600 |
| | DSPF | 600 | 600 | - |
| Mode2 | OC | 400 | 600 | 600 |
| | DSPF | 300 | 600 | - |

46-32

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the document background density reproducibility in the monochrome auto copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

**RSPF**

| Item / Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | COPY:OC | Copy mode (OC) | 1 - 250 | 196 |
| B | COPY:RSPF | Copy mode (RSPF) | 1 - 250 | 196 |
| C | SCAN:OC | Scanner mode (OC) | 1 - 250 | 196 |
| D | SCAN:RSPF | Scanner mode (RSPF) | 1 - 250 | 196 |
| E | FAX:OC | FAX mode (OC) | 1 - 250 | 196 |
| F | FAX:RSPF | FAX mode (RSPF) | 1 - 250 | 196 |

**DSPF**

| Item / Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | COPY:OC | Copy mode (OC) | 1 - 250 | 196 |
| B | COPY DSPF SIDE1) | Copy mode (DSPF top side) | 1 - 250 | 196 |
| C | COPY DSPF SIDE2) | Copy mode (DSPF back side) | 1 - 250 | 196 |
| D | SCAN:OC | Scanner mode (OC) | 1 - 250 | 196 |
| E | SCAN DSPF SIDE1) | Scanner mode (DSPF top side) | 1 - 250 | 196 |
| F | SCAN DSPF SIDE2) | Scanner mode (DSPF back side) | 1 - 250 | 196 |
| G | FAX:OC | FAX mode (OC) | 1 - 250 | 196 |
| H | FAX DSPF SIDE1) | FAX mode (DSPF top side) | 1 - 250 | 196 |
| I | FAX DSPF SIDE2) | FAX mode (DSPF back side) | 1 - 250 | 196 |

46-36

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the colors in the two color copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

By changing the density level of each color, the color adjustment in the 2-color copy mode can be performed.

| Item/Display | | | Content | Default | | | Default |
|---|---|---|---|---|---|---|---|
| | | | | C | M | Y | |
| OUTCOLOR | A | RED | R output color | 0 | 255 | 200 | - |
| | B | GREEN | G output color | 255 | 0 | 255 | - |
| | C | BLUE | B output color | 255 | 150 | 0 | - |
| | D | CYAN | C output color | 255 | 0 | 0 | - |
| | E | MAGENTA | M output color | 0 | 255 | 0 | - |
| | F | YELLOW | Y output color | 0 | 0 | 255 | - |
| | G | ORANGE | O output color | 0 | 150 | 255 | - |
| | H | NAVY | N output color | 255 | 200 | 0 | - |
| | I | LIGHT GREEN | LG output color | 150 | 0 | 150 | - |
| | J | LIGHT BLUE | LB output color | 150 | 20 | 0 | - |
| | K | AQUA MARINE | AM output color | 170 | 0 | 50 | - |
| | L | PURPLE | PU output color | 128 | 255 | 0 | - |
| | M | PINK | P output color | 0 | 150 | 20 | - |
| | N | YELLOW GREEN | YG output color | 128 | 0 | 255 | - |
| | O | BEIGE | BE output color | 0 | 50 | 170 | - |
| CHROMA | A | RED / BLACK | Red extraction mode (The red recognition area is adjusted.) | - | - | - | 3 |
| | B | KS:CHROMATIC | Chromatic color extraction mode (The chromatic color recognition area is adjusted.) | - | - | - | 3 |

46-37

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the reproduction capability of color document in the monochrome mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [EXECUTE] key.
4) Tap [YES] key.

This is to adjust the reproduction capability of red and yellow images when copying color documents with red and yellow images in the monochrome mode.

| Item/Display | | Content | Default |
|---|---|---|---|
| A | R-Ratio Default | Gray creation setting R | 135 |
| B | G-Ratio Default | Gray creation setting G | 805 |
| C | R-Ratio Fluorescence | Gray creation setting R Fluorescence | 243 |
| D | G-Ratio Fluorescence | Gray creation setting G Fluorescence | 354 |
| E | R-Ratio RIP | Print gray creation setting R | 299 |
| F | G-Ratio RIP | Print gray creation setting G | 587 |

46-38

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the black component amount in the color copy mode |
| **Section** | |

**Operation/Procedure**

1) Select the AUTO MODE or the MANUAL MODE.
2) Select target item.
3) Tap the black component amount select key.

This adjusts black component amount in the color copy mode. (except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

| Item/Display (Copy mode) | | Select button | Content | Default |
|---|---|---|---|---|
| MANUAL | TEXT PRT | (-) LUT2 | Text print (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | TEXT | (-) LUT2 | Text (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | PRINTED PHOTO | (-) LUT2 | Printed photo (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | PHOTO | (-) LUT2 | Photograph/Text photograph (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | TEXT PHOTO | (-) LUT2 | Text/Photograph (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | MAP | (-) LUT2 | Map (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | CPY TO CPY/TXT PRT | (-) LUT2 | Copy document/ Text printed (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | CPY TO CPY/TEXT | (-) LUT2 | Copy document/ Text (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| | CPY TO CPY/ PHOTO | (-) LUT2 | Copy document/ Printed photo (Manual) | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| MANUAL | LIGHT ORIGINAL | (-) LUT2 | Pencil | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |
| AUTO | AUTO | (-) LUT2 | Auto mode judgment | NORMAL |
| | | (-) LUT1 | | |
| | | NORMAL | | |
| | | (+) LUT1 | | |
| | | (+) LUT2 | | |

46-39

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the sharpness of FAX send images |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | 200 x 100 [DPI] OFF | 200 x 100 [DPI] halftone OFF | 0 - 2 | 1 |
| B | 200 x 200 [DPI] OFF | 200 x 200 [DPI] halftone OFF | 0 - 2 | 1 |
| C | 200 x 200 [DPI] ON | 200 x 200 [DPI] halftone ON | 0 - 2 | 1 |
| D | 200 x 400 [DPI] OFF | 200 x 400 [DPI] halftone OFF | 0 - 2 | 1 |
| E | 200 x 400 [DPI] ON | 200 x 400 [DPI] halftone ON | 0 - 2 | 1 |
| F | 400 x 400 [DPI] OFF | 400 x 400[DPI] halftone OFF | 0 - 2 | 1 |
| G | 400 x 400 [DPI] ON | 400 x 400[DPI] halftone ON | 0 - 2 | 1 |
| H | 600 x 600 [DPI] OFF | 600 x 600[DPI] halftone OFF | 0 - 2 | 1 |
| I | 600 x 600 [DPI] ON | 600 x 600[DPI] halftone ON | 0 - 2 | 1 |

46-40

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the FAX send image density (Collective adjustment of all the modes) |
| **Section** | |

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key

   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | EXPOSURE LEVEL(ALL) | Used to adjust the FAX send image density. (Collective adjustment of all the modes) | 1 - 99 | 50 |

46-41

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the FAX send image density (Normal) |
| **Section** | |

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key
   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | AUTO | | Auto | | 1 - 99 | 50 |
| B | EXPOSURE1 | | Exposure 1 | | 1 - 99 | 50 |
| C | EXPOSURE2 | | Exposure 2 | | 1 - 99 | 50 |
| D | EXPOSURE3 | | Exposure 3 | | 1 - 99 | 50 |
| E | EXPOSURE4 | | Exposure 4 | | 1 - 99 | 50 |
| F | EXPOSURE5 | | Exposure 5 | | 1 - 99 | 50 |
| G | EXECUTE MODE | AUTO | Print mode | Auto | 1 | 1 |
| | | EXP1 | | Exposure 1 | 2 | |
| | | EXP2 | | Exposure 2 | 3 | |
| | | EXP3 | | Exposure 3 | 4 | |
| | | EXP4 | | Exposure 4 | 5 | |
| | | EXP5 | | Exposure 5 | 6 | |

46-42

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the FAX send image density (Fine) |
| **Section** | |

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key
   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | AUTO | Fine/Automatic | 1 - 99 | 50 |
| B | EXPOSURE1 | Fine/Exposure 1 | 1 - 99 | 50 |
| C | EXPOSURE2 | Fine/Exposure 2 | 1 - 99 | 50 |
| D | EXPOSURE3 | Fine/Exposure 3 | 1 - 99 | 50 |
| E | EXPOSURE4 | Fine/Exposure 4 | 1 - 99 | 50 |
| F | EXPOSURE5 | Fine/Exposure 5 | 1 - 99 | 50 |
| G | AUTO H_TONE | Fine/Automatic/ Halftone | 1 - 99 | 50 |
| H | EXPOSURE1 H_TONE | Fine/Exposure 1/ Halftone | 1 - 99 | 50 |
| I | EXPOSURE2 H_TONE | Fine/Exposure 2/ Halftone | 1 - 99 | 50 |
| J | EXPOSURE3 H_TONE | Fine/Exposure 3/ Halftone | 1 - 99 | 50 |
| K | EXPOSURE4 H_TONE | Fine/Exposure 4/ Halftone | 1 - 99 | 50 |
| L | EXPOSURE5 H_TONE | Fine/Exposure 5/ Halftone | 1 - 99 | 50 |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| M | EXECUTE MODE | AUTO | Print mode | Fine/Auto | 1 | 1 |
| | | EXP1 | | Fine/ Exposure 1 | 2 | |
| | | EXP2 | | Fine/ Exposure 2 | 3 | |
| | | EXP3 | | Fine/ Exposure 3 | 4 | |
| | | EXP4 | | Fine/ Exposure 4 | 5 | |
| | | EXP5 | | Fine/ Exposure 5 | 6 | |
| | | AUTO H_TONE | | Fine/ Automatic/ halftone | 7 | |
| | | EXP1 H_TONE | | Fine/ Exposure 1/ Halftone | 8 | |
| | | EXP2 H_TONE | | Fine/ Exposure 2/ Halftone | 9 | |
| | | EXP3 H_TONE | | Fine/ Exposure 3/ Halftone | 10 | |
| | | EXP4 H_ONE | | Fine/ Exposure 4/ Halftone | 11 | |
| | | EXP5 H_TONE | | Fine/ Exposure 5/ Halftone | 12 | |

46-43

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the FAX send image density (Super fine) |
| **Section** | |

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key
   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | AUTO | Super Fine/Auto | 1 - 99 | 50 |
| B | EXPOSURE1 | Super Fine/ Exposure 1 | 1 - 99 | 50 |
| C | EXPOSURE2 | Super Fine/ Exposure 2 | 1 - 99 | 50 |
| D | EXPOSURE3 | Super Fine/ Exposure 3 | 1 - 99 | 50 |
| E | EXPOSURE4 | Super Fine/ Exposure 4 | 1 - 99 | 50 |
| F | EXPOSURE5 | Super Fine/ Exposure 5 | 1 - 99 | 50 |
| G | AUTO H_TONE | Super Fine/ Auto/Halftone | 1 - 99 | 50 |
| H | EXPOSURE1 H_TONE | Super Fine/ Exposure 1/Halftone | 1 - 99 | 50 |
| I | EXPOSURE2 H_TONE | Super Fine/ Exposure 2/Halftone | 1 - 99 | 50 |
| J | EXPOSURE3 H_TONE | Super Fine/ Exposure 3/Halftone | 1 - 99 | 50 |
| K | EXPOSURE4 H_TONE | Super Fine/ Exposure 4/Halftone | 1 - 99 | 50 |
| L | EXPOSURE5 H_TONE | Super Fine/ Exposure 5/Halftone | 1 - 99 | 50 |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| M | EXECUTE MODE | AUTO | Print mode | Super Fine/ Auto | 1 | 1 |
| | | EXP1 | | Super Fine/ Exposure 1 | 2 | |
| | | EXP2 | | Super Fine/ Exposure 2 | 3 | |
| | | EXP3 | | Super Fine/ Exposure 3 | 4 | |
| | | EXP4 | | Super Fine/ Exposure 4 | 5 | |
| | | EXP5 | | Super Fine/ Exposure 5 | 6 | |
| | | AUTO H_TONE | | Super Fine/ Auto/ Halftone | 7 | |
| | | EXP1 H_TONE | | Super Fine/ Exposure 1/ Halftone | 8 | |
| | | EXP2 H_TONE | | Super Fine/ Exposure 2/ Halftone | 9 | |
| | | EXP3 H_TONE | | Super Fine/ Exposure 3/ Halftone | 10 | |
| | | EXP4 H_TONE | | Super Fine/ Exposure 4/ Halftone | 11 | |
| | | EXP5 H_TONE | | Super Fine/ Exposure 5/ Halftone | 12 | |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| M | EXECUTE MODE | AUTO | Print mode | Ultra Fine/ Auto | 1 | 1 |
| | | EXP1 | | Ultra Fine/ Exposure 1 | 2 | |
| | | EXP2 | | Ultra Fine/ Exposure 2 | 3 | |
| | | EXP3 | | Ultra Fine/ Exposure 3 | 4 | |
| | | EXP4 | | Ultra Fine/ Exposure 4 | 5 | |
| | | EXP5 | | Ultra Fine/ Exposure 5 | 6 | |
| | | AUTO H_TONE | | Ultra Fine/ Auto/ Halftone | 7 | |
| | | EXP1 H_TONE | | Ultra Fine/ Exposure 1/ Halftone | 8 | |
| | | EXP2 H_TONE | | Ultra Fine/ Exposure 2/ Halftone | 9 | |
| | | EXP3 H_TONE | | Ultra Fine/ Exposure 3/ Halftone | 10 | |
| | | EXP4 H_TONE | | Ultra Fine/ Exposure 4/ Halftone | 11 | |
| | | EXP5 H_TONE | | Ultra Fine/ Exposure 5/ Halftone | 12 | |

46-44

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the FAX send image density (Ultra fine)

**Section**

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key

   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | AUTO | Ultra Fine/Auto | 1 - 99 | 50 |
| B | EXPOSURE1 | Ultra Fine/Exposure 1 | 1 - 99 | 50 |
| C | EXPOSURE2 | Ultra Fine/Exposure 2 | 1 - 99 | 50 |
| D | EXPOSURE3 | Ultra Fine/Exposure 3 | 1 - 99 | 50 |
| E | EXPOSURE4 | Ultra Fine/Exposure 4 | 1 - 99 | 50 |
| F | EXPOSURE5 | Ultra Fine/Exposure 5 | 1 - 99 | 50 |
| G | AUTO H_TONE | Ultra Fine/Auto/ Halftone | 1 - 99 | 50 |
| H | EXPOSURE1 H_TONE | Ultra Fine/ Exposure 1/Halftone | 1 - 99 | 50 |
| I | EXPOSURE2 H_TONE | Ultra Fine/ Exposure 2/Halftone | 1 - 99 | 50 |
| J | EXPOSURE3 H_TONE | Ultra Fine/ Exposure 3/Halftone | 1 - 99 | 50 |
| K | EXPOSURE4 H_TONE | Ultra Fine/ Exposure 4/Halftone | 1 - 99 | 50 |
| L | EXPOSURE5 H_TONE | Ultra Fine/ Exposure 5/Halftone | 1 - 99 | 50 |

46-45

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the FAX send image density (600dpi)

**Section**

**Operation/Procedure**

1) Set the document on the document table.
2) Enter the set value.
3) Tap [EXECUTE] key, or [OK] key

   When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | AUTO | 600dpi/Auto 1 | 1 - 99 | 50 |
| B | EXPOSURE1 | 600dpi/Exposure 1 | 1 - 99 | 50 |
| C | EXPOSURE2 | 600dpi/Exposure 2 | 1 - 99 | 50 |
| D | EXPOSURE3 | 600dpi/Exposure 3 | 1 - 99 | 50 |
| E | EXPOSURE4 | 600dpi/Exposure 4 | 1 - 99 | 50 |
| F | EXPOSURE5 | 600dpi/Exposure 5 | 1 - 99 | 50 |
| G | AUTO H_TONE | 600dpi/Auto/ Halftone 1 | 1 - 99 | 50 |
| H | EXPOSURE1 H_TONE | 600dpi/Exposure 1/ Halftone | 1 - 99 | 50 |
| I | EXPOSURE2 H_TONE | 600dpi/Exposure 2/ Halftone | 1 - 99 | 50 |
| J | EXPOSURE3 H_TONE | 600dpi/Exposure 3/ Halftone | 1 - 99 | 50 |
| K | EXPOSURE4 H_TONE | 600dpi/Exposure 4/ Halftone | 1 - 99 | 50 |
| L | EXPOSURE5 H_TONE | 600dpi/Exposure 5/ Halftone | 1 - 99 | 50 |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| M | EXECUTE MODE | AUTO | Print mode | 600dpi/ Auto | 1 | 1 |
| | | EXP1 | | 600dpi/ Exposure 1 | 2 | |
| | | EXP2 | | 600dpi/ Exposure 2 | 3 | |
| | | EXP3 | | 600dpi/ Exposure 3 | 4 | |
| | | EXP4 | | 600dpi/ Exposure 4 | 5 | |
| | | EXP5 | | 600dpi/ Exposure 5 | 6 | |
| | | AUTO H_TONE | | 600dpi/ Auto/ Halftone | 7 | |
| | | EXP1 H_TONE | | 600dpi/ Exposure 1/Halftone | 8 | |
| | | EXP2 H_TONE | | 600dpi/ Exposure 2/Halftone | 9 | |
| | | EXP3 H_TONE | | 600dpi/ Exposure 3/Halftone | 10 | |
| | | EXP4 H_TONE | | 600dpi/ Exposure 4/Halftone | 11 | |
| | | EXP5 H_TONE | | 600dpi/ Exposure 5/Halftone | 12 | |

46-46

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the FAX send image density (RGB RIP)

**Section**

**Operation/Procedure**

1) Select target item.
2) Set the document on the document table.
3) Enter the set value.
4) Tap [OK] key.

When the set value is increased, the density becomes higher. When the set value is decreased, the density becomes lower.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | STANDARD RIP | For Normal/Halftone OFF mode | 1 - 99 | 50 |
| B | FINE RIP | For Fine/Halftone OFF mode | 1 - 99 | 50 |
| C | FINE RIP H_TONE | For Fine/Halftone ON mode | 1 - 99 | 50 |
| D | SUPER FINE RIP | For Super Fine/ Halftone OFF mode | 1 - 99 | 50 |
| E | SUPER FINE RIP H_TONE | For Super Fine/ Halftone ON mode | 1 - 99 | 50 |
| F | ULTRA FINE RIP | For Ultra fine/ Halftone OFF mode | 1 - 99 | 50 |
| G | ULTRA FINE RIP H_TONE | For Ultra fine/ Halftone ON mode | 1 - 99 | 50 |
| H | 600DPI RIP | For 600dpi/Halftone OFF mode | 1 - 99 | 50 |
| I | 600DPI RIP H_TONE | For 600dpi/Halftone ON mode | 1 - 99 | 50 |

46-47

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the compression rate of copy and scan images (JPEG)

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.
   The set value is saved.

| Category | Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| FILLING (COLOR) | A | FILLING (C) | LOW | Low compression (Color) | 0 | 0 |
| | | | MIDDLE | Medium compression (Color) | 1 | |
| | | | HIGH | High compression (Color) | 2 | |
| FILLING (GRAY) | B | FILLING (G) | LOW | Low compression (Gray) | 0 | 0 |
| | | | MIDDLE | Medium compression (Gray) | 1 | |
| | | | HIGH | High compression (Gray) | 2 | |
| PRINT HOLD (COLOR) | C | PRINT (C) | LOW | Low compression (Color) | 0 | 0 |
| | | | MIDDLE | Medium compression (Color) | 1 | |
| | | | HIGH | High compression (Color) | 2 | |
| PRINT HOLD (GRAY) | D | PRINT (G) | LOW | Low compression (Gray) | 0 | 0 |
| | | | MIDDLE | Medium compression (Gray) | 1 | |
| | | | HIGH | High compression (Gray) | 2 | |
| PUSH SCAN (COLOR) (Scanner Color) | E | SCAN (C) | MIDDLE 1 | Medium compression mode 1 | 0 | 1 |
| | | | MIDDLE 2 | Medium compression mode 2 | 1 | |
| | | | MIDDLE 3 | Medium compression mode 3 | 2 | |
| PUSH SCAN (GRAY) (Scanner Gray) | F | SCAN (G) | MIDDLE 1 | Medium compression mode 1 | 0 | 1 |
| | | | MIDDLE 2 | Medium compression mode 2 | 1 | |
| | | | MIDDLE 3 | Medium compression mode 3 | 2 | |

## 46-48

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the copy output resolution in the copy mode

**Section**

**Operation/Procedure**

1) Select target item

| Item | Button display | Content | Default |
|---|---|---|---|
| AUTO | 600DPI ED | AUTO | 600DPI DT |
| | 600DPI DT | | |
| TEXT/PRT PHOTO | 600DPI ED | Text/Printed Photo | 600DPI DT |
| | 600DPI DT | | |
| | 1200DPI DT | | |
| TEXT/PHOTO | 600DPI DT | Text/ Photograph | 600DPI DT |
| | 1200DPI DT | | |
| PRINTED PHOTO | 600DPI DT | Printed photo | 1200DPI DT |
| | 1200DPI DT | | |
| PHOTO | 600DPI DT | Photograph | 1200DPI DT |
| | 1200DPI DT | | |

## 46-51

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the gamma for heavy paper in copy mode and the image process mode

**Section**

**Operation/Procedure**

1) Select a target adjustment mode with [PAPER/DITHER].
2) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
3) Select target item.
4) Enter the set value.
5) Tap [EXECUTE] key, or [OK] key.

   When [EXECUTE] key is tapped, the self print image is outputted.

When the image density is insufficient or a background copy is made in heavy paper copy, change this adjustment value to adjust the image density.

| Item/Display | Content | Color |
|---|---|---|
| HEAVY | Copier heavy paper gamma | KCMY |
| DITH1 | Black edge | K |
| DITH2 | Color edge | KCMY |
| DITH3 | Color error diffusion | KCMY |
| DITH4 | Monochrome error diffusion | K |
| DITH7 | Monochrome dither (1200dpi) | K |
| DITH8 | Monochrome dither (600dpi) | K |
| DITH9 | Monochrome dither (600dpi low) | K |

| Item/Display | | Density level (Point) | Setting range | Default |
|---|---|---|---|---|
| A | POINT1 | Point 1 | 1 - 999 | 500 |
| B | POINT2 | Point 2 | 1 - 999 | 500 |
| C | POINT3 | Point 3 | 1 - 999 | 500 |
| D | POINT4 | Point 4 | 1 - 999 | 500 |
| E | POINT5 | Point 5 | 1 - 999 | 500 |
| F | POINT6 | Point 6 | 1 - 999 | 500 |
| G | POINT7 | Point 7 | 1 - 999 | 500 |
| H | POINT8 | Point 8 | 1 - 999 | 500 |
| I | POINT9 | Point 9 | 1 - 999 | 500 |
| J | POINT10 | Point 10 | 1 - 999 | 500 |
| K | POINT11 | Point 11 | 1 - 999 | 500 |
| L | POINT12 | Point 12 | 1 - 999 | 500 |
| M | POINT13 | Point 13 | 1 - 999 | 500 |
| N | POINT14 | Point 14 | 1 - 999 | 500 |
| O | POINT15 | Point 15 | 1 - 999 | 500 |
| P | POINT16 | Point 16 | 1 - 999 | 500 |
| Q | POINT17 | Point 17 | 1 - 999 | 500 |

## 46-52

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the gamma default for heavy paper in copy mode and the image process mode

**Section**

**Operation/Procedure**

1) Select target item.

   To reset the adjustment values of all the items, select [ALL].
2) Tap [EXECUTE] key.
3) Tap [YES] key.

| Display | | Content |
|---|---|---|
| Dither | HEAVYPAPER | Copier/Heavy paper gamma |
| | BLACK EDGE | Black edge |
| | COLOR EDGE | Color edge |
| | B/W ED | Monochrome error diffusion |
| | B/W 1200 | Monochrome dither 1200dpi |
| | B/W 600 | Monochrome dither 600dpi |
| | B/W 600 LOW | Monochrome dither 600dpi Low |
| | WOVEN1 | Watermark 1 |
| | WOVEN2 | Watermark 2 |
| | WOVEN3 | Watermark 3 |
| | WOVEN4 | Watermark 4 |

## 46-54

**Purpose** Adjustment

**Function (Purpose)** Adjust the engine halftone auto density (Dither)

**Section**

**Operation/Procedure**

1) Tap [EXECUTE] key.

   The high density process control is started to make 48 patch self print. (A4 (11" x 8.5") or A3 (11" x 17") paper in the paper feed tray is used.)
2) Place the 48 patch self print on the document table, and tap [EXECUTE] key.

   Scanning the 48 patch self print is started.

   After scanning the 48 patch self print, the 17 patch self print is automatically printed.
3) Tap [OK] key.

   After completion of the correction amount registration, the screen shifts to the dither selection menu.
4) Select an item (dither) to be adjusted.

| | |
|---|---|
| HEAVYPAPER | Copier/Heavy paper gamma |
| BLACK EDGE | Black edge |
| COLOR EDGE | Color edge |
| B/W ED | Monochrome error diffusion |
| B/W 1200 | Monochrome dither 1200dpi |
| B/W 600 | Monochrome dither 600dpi |
| B/W 600 LOW | Monochrome dither 600dpi Low |
| WOVEN1 | Watermark 1 |
| WOVEN2 | Watermark 2 |
| WOVEN3 | Watermark 3 |
| WOVEN4 | Watermark 4 |

5) Tap [EXECUTE] key.

   The 48 patch self print is printed.

6) Place the 48 patch self print on the document table, and tap [EXECUTE] key.

Scanning the 48 patch self print is started.

After scanning the patch, the screen automatically shifts to the dither selection menu.

7) After completion of the adjustment of all the density adjustment items (dither), tap [OK] key.

46-55

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the drop out color in the image send mode (Monochrome manual text mode)

**Section**

**Operation/Procedure**

In the image send mode (monochrome manual text mode), the range where color images are reproduced as monochrome images is adjusted.

1) Enter the adjustment value and tap [OK] key.

When the adjustment value is increased, colors dropout becomes easy to narrow the reproduction range. When the adjustment value is decreased, color dropout becomes difficult to widen the reproduction range.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | CHROMA | Dropout color range adjustment | 0 - 6 | 3 |

2) Scan the document in the image send mode (monochrome manual text mode), and check the adjustment result.

46-58

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the pseudo resolution (smoothing process) in the copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

1(ON): 9600 (equivalent) x 600 dpi

0 (OFF): 600 x 600 dpi

The setting is reflected only the image edge area.

| Mode | Item/Display | | Content (copy mode) | Setting range | | Default |
|---|---|---|---|---|---|---|
| COLOR | A | AUTO | Auto | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | B | TEXT | Text | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | C | TEXT PRT | Text print | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | D | PRINTED PHOTO | Printed Photo | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | E | TEXT PHOTO | Text photograph | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | F | PHOTO | Photograph | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | G | MAP | Map | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | H | LIGHT | Light document | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | I | CPY TO CPY/ TEXT | Text (copy document) | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | J | CPY TO CPY/ TXT PRT | Text print (copy document) | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | K | CPY TO CPY/ PHOTO | Printed Photo (copy document) | OFF | 0 | 0 |
| | | | | ON | 1 | |
| MONO | A | AUTO | Auto | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | B | TEXT | Text | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | C | TEXT PRT | Text print | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | D | PRINTED PHOTO | Printed Photo | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | E | TEXT PHOTO | Text photograph | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | F | PHOTO | Photograph | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | G | MAP | Map | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | H | LIGHT | Light document | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | I | CPY TO CPY/ AUTO | Auto (copy document) | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | J | CPY TO CPY/ TEXT | Text (copy document) | OFF | 0 | 1 |
| | | | | ON | 1 | |
| | K | CPY TO CPY/ TXT PRT | Text print (copy document) | OFF | 0 | 0 |
| | | | | ON | 1 | |
| | L | CPY TO CPY/ PHOTO | Printed Photo (copy document) | OFF | 0 | 0 |
| | | | | ON | 1 | |

46-60

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the sharpness in the color auto copy mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Input numeric value corresponding to sharpness level (filter process mode).
3) Tap [OK] key.

This is used to adjust the sharpness in the color auto copy mode and the smoothness (roughness) in the dark area.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SCREEN FILTER LEVEL | Sharpness setting of dot pattern image in auto copy mode | Strong emphasis | 1 | 3 |
| | | | Soft emphasis | 2 | |
| | | | Auto | 3 | |
| B | RGB FILTER LEVEL | Sharpness setting of RGB image in copy/ push/fax mode | SOFT | 1 | 2 |
| | | | CENTER | 2 | |
| | | | HIGH | 3 | |
| C | CPY PUSH AUTO FILTER LEVEL | Sharpness setting for the auto push scan mode | SOFT | 1 | 2 |
| | | | CENTER | 2 | |
| | | | HIGH | 3 | |
| D | COLOR COPY: CMY | Soft filter applying setting to CMY image in color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| E | COLOR COPY:K | Soft filter applying setting to K image in color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| F | SINGLE COLOR: CMY | Soft filter applying setting to CMY image in single color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| G | 2 COLOR COPY: CMY | Soft filter applying setting to CMY images in 2 color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| H | 2 COLOR COPY: K | Soft filter applying setting to K images in 2 color copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| I | B/W COPY | Soft filter applying setting to images in monochrome copy mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| J | COLOR PUSH: RGB | Soft filter applying setting to images in push scan color mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| K | B/W PUSH | Soft filter applying setting to images in push scan monochrome mode | OFF | 0 | 1 |
| | | | ON | 1 | |
| L | COLOR PRINT: CMY | Soft filter applying setting to color print CMY images | OFF | 0 | 1 |
| | | | ON | 1 | |
| M | COLOR PRINT: K | Soft filter applying setting to color print K images | OFF | 0 | 1 |
| | | | ON | 1 | |
| N | B/W PRINT | Soft filter applying setting to monochrome print images | OFF | 0 | 1 |
| | | | ON | 1 | |

46-61

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the area separation recognition level

**Section**

**Operation/Procedure**

1) Select an adjustment mode.
2) Select target item.
3) Enter the adjustment value.
4) Tap [OK] key.

Important

This Sim is overwritten by changing Image “Quality Adjustment” -> “Copy Image Quality” -> “Image Quality Priority”.

(It is overwritten just by pressing the “Store” on screen without changing the setting.)

Make sure to set corresponding item Z to “1” after changing the value.

Then the adjustment of “Image Quality Priority” in System Settings will be invalidated. (The adjustment itself is allowed from UI point of view however, the image quality won’t change because the setting won’t be reflected to the Sim.)

- When “AUTO” in “COLOR” or “MONO” has been adjusted:

Go to COLOR -> AUTO -> and set Z to 1…. Image Quality Priority “Auto” will be invalidated.

- When “TPP” or “COPY (AUTO&TPP)” in “COLOR” or ”MONO” has been adjusted:

Go to COLOR -> TPP -> and set Z to 1…. Image Quality Priority “Text/Prtd.Photo” will be invalidated.

(The item Z is not available in “MONO” and “COPY (AUTO&TPP)”)

The adjustment of “MONO” -> “TPP” will affect FAX.

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default, image quality trouble may occur for some documents.

| Item/Display | | Content |
|---|---|---|
| COLOR | AUTO | [Color] Auto |
| | TPP | [Color] Manual (Text print) |
| | COPY(TPP and AUTO) | [Color] Copy document (Text print and auto) |
| MONO | AUTO | [Gray/Monochrome] Auto |
| | TPP | [Gray/Monochrome] Manual (Text print) |
| | COPY(TPP and AUTO) | [Gray/Monochrome] Copy document (Text print and auto) |

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | SEGMENT: SWITCH [TXT ON SCR] | Detection ON/OFF: Text on dot | 0 - 1 | 0 |
| B | SEGMENT: SWITCH [LINE SCR] | Detection ON/OFF: line screen | 0 - 1 | 0 |
| C | SEGMENT: SWITCH [SMALL SCR] | Detection ON/OFF: Dot in a small area | 0 - 1 | 0 |
| D | SEGMENT: SWITCH [HIGH LPI] | Detection ON/OFF: High line number judgment select | 0 - 1 | 0 |
| E | SEGMENT: SWITCH [TXT ON SCR IMAGE SEND] | Detection ON/OFF: Text on image send dots | 0 - 1 | 0 |
| F | SEGMENT: ADJUST [BK TXT 1] | Detection level adjustment: Black text 1 | 1 - 99 | 50 |
| G | SEGMENT: ADJUST [CL TXT 1] | Detection level adjustment: Color text 1 | 1 - 99 | 50 |
| H | SEGMENT: ADJUST [BK TXT 2, CL TXT 2] | Detection level adjustment: Black text 2, Color text 2 | 1 - 49 | 25 |
| I | SEGMENT: ADJUST [THIN LINE] | Detection level adjustment: Thine line | 1 - 99 | 50 |
| J | SEGMENT: ADJUST [TXT ON SCR 1] | Detection level adjustment: Text 1 on dots | 1 - 99 | 50 |
| K | SEGMENT: ADJUST [TXT ON SCR 2] | Detection level adjustment: Text 2 on dots | 1 - 99 | 50 |
| L | SEGMENT: ADJUST [TXT ON SCR AREA 1] | Detection level adjustment: Detection area 1 of text on dots | 1 - 15 | 8 |
| M | SEGMENT: ADJUST [TXT ON SCR AREA 2] | Detection level adjustment: Detection area 2 of text on dots | 1 - 99 | 50 |
| N | SEGMENT: ADJUST [HIGH LPI] | Detection level adjustment: High line number judgment | 1 - 49 | 25 |
| O | SEGMENT: ADJUST [BK] | Detection level adjustment: No chrome judgment | 1 - 99 | 50 |
| P | SEGMENT: ADJUST [CL] | Detection level adjustment: Chrome judgment | 1 - 99 | 50 |
| Q | SEGMENT: ADJUST [TXT ON BG] | Detection level adjustment: Text on background | 1 - 99 | 50 |
| R | SEGMENT: ADJUST [SCR 1 HIGH] | Detection level adjustment: High density dots 1 | 1 - 49 | 25 |
| S | SEGMENT: ADJUST [SCR 1 MIDDLE] | Detection level adjustment: Medium density dots 1 | 1 - 49 | 25 |
| T | SEGMENT: ADJUST [SCR 1 LOW] | Detection level adjustment: Low density dots 1 | 1 - 49 | 25 |
| U | SEGMENT: ADJUST [SCR 2] | Detection level adjustment: Dot 2 | 1 - 15 | 8 |
| V | SEGMENT: ADJUST [SCR 3] | Detection level adjustment: Dot 3 | 1 - 15 | 8 |

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| W | SEGMENT: ADJUST [LINE HALFTONE] | Detection level adjustment: line screen | 1 - 49 | 25 |
| X | SEGMENT: ADJUST [SMALL SCR 1] | Detection level adjustment: Small Dot Area 1 | 1 - 49 | 25 |
| Y | SEGMENT: ADJUST [SMALL SCR 2] | Detection level adjustment: Small Dot Area 2 | 1 - 99 | 50 |
| Z | SEGMENT: SWITCH [LOCK] | Image Quality Priority ON/OFF : Image Quality Priority lock | 0 - 1 | 0 |

46-62

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the operating condition of the ACS, the area separation, the background image process and the auto exposure mode

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the adjustment value.
3) Tap [OK] key.

Important

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default, image quality trouble may occur for some documents.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SW_ACS | ACS judgment reference area select | | 0 - 1 | 1 |
| B | TEXT_IMAGE | Text/Image judgment priority level adjustment | | 0 - 6 | 3 |
| C | TEXT_BLANK | Text/Blank judgment priority level adjustment | | 0 - 6 | 4 |
| D | HT_LV | Dot area judgment threshold value adjustment | | 0 - 6 | 1 |
| E | AE_AREA_LV | Color AE judgment target area adjustment | | 0 - 6 | 3 |
| F | AE_LV_CC | AE background detection division result adjustment: For color copy | | 0 - 8 | 4 |
| G | AE_LV_MC | AE background detection division result adjustment: For monochrome copy | | 0 - 8 | 4 |
| H | AE_LV_CS | AE background detection division result adjustment: For color scan | | 0 - 8 | 4 |
| I | AE_LV_MS | AE background detection division result adjustment: For monochrome scan | | 0 - 8 | 4 |
| J | AE_JUDGE _LV_L_U | Color AE background density threshold value adjustment (lower limit) | | 0 - 4 | 0 |
| K | AE_JUDGE LV_L_O | Color AE background density threshold value adjustment (upper limit) | | 0 - 10 | 0 |
| L | AE_JUDGE_ LV_C | Color AE background detection level adjustment (chroma) | | 0 - 10 | 5 |
| M | AE _ONOFF_CC | AE mode ON/OFF switch: For color copy | ON | 0 | 0 |
| | | | OFF | 1 | |
| N | AE _ONOFF_MC | AE mode ON/OFF switch: For mono-chrome copy | ON | 0 | 0 |
| | | | OFF | 1 | |
| O | AE _ONOFF_CS | AE mode ON/OFF switch : For color scan | ON | 0 | 0 |
| | | | OFF | 1 | |
| P | AE _ONOFF_MS | AE mode ON/OFF switch : For mono-chrome copy | ON | 0 | 0 |
| | | | OFF | 1 | |
| Q | BLANK_JUDGE _LV_L | Blank judgment level adjustment (value) | | 0 - 10 | 0 |
| R | BLANK_JUDGE _LV_C | Blank judgment level adjustment (chroma) | | 0 - 10 | 0 |
| S | MODE0_UNDER | Mode 0 developing paper mode select | | 0 - 6 | 0 |
| T | MODE1_UNDER | Mode 1 developing paper mode select | | 0 - 6 | 0 |
| U | MODE5_UNDER | Mode 5 developing paper mode select | | 0 - 6 | 0 |
| V | MODE6_UNDER | Mode 6 developing paper mode select | | 0 - 6 | 0 |
| W | SW_CHANGE_ MODE0 | Mode 0: Mode judgment select | | 0 - 6 | 0 |
| X | SW_CHANGE_ MODE1 | Mode 1: Mode judgment select | | 0 - 6 | 1 |
| Y | SW_CHANGE_ MODE2 | Mode 2: Mode judgment select | | 0 - 6 | 2 |
| Z | SW_CHANGE_ MODE3 | Mode 3: Mode judgment select | | 0 - 6 | 3 |
| AA | SW_CHANGE_ MODE4 | Mode 4: Mode judgment select | | 0 - 6 | 4 |
| AB | SW_CHANGE_ MODE5 | Mode 5: Mode judgment select | | 0 - 6 | 5 |
| AC | SW_CHANGE_ MODE6 | Mode 6: Mode judgment select | | 0 - 6 | 6 |

46-63

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the density in the copy low density section

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the adjustment value.
3) Tap [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | COLOR COPY : TEXT/PRINTED PHOTO | Text print (color copy) | 1 - 9 | 3 |
| B | COLOR COPY : TEXT | Text (color copy) | 1 - 9 | 3 |
| C | COLOR COPY : PRINTED PHOTO | Printed photo (color copy) | 1 - 9 | 5 |
| D | COLOR COPY : PHOTOGRAPH | Photograph (color copy) | 1 - 9 | 5 |
| E | COLOR COPY : TEXT/PHOTO | Text/Photograph (color copy) | 1 - 9 | 3 |
| F | COLOR COPY : MAP | Map (color copy) | 1 - 9 | 5 |
| G | COLOR COPY : LIGHT | Light document (color density) | 1 - 9 | 6 |
| H | COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY) | Copy document, Character print (color copy) | 1 - 9 | 5 |

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| I | COLOR COPY : TEXT (COPY TO COPY) | Copy document, Character (color copy) | 1 - 9 | 5 |
| J | COLOR COPY : PRINTED PHOTO (COPY TO COPY) | Copy document, Printed photo (color copy) | 1 - 9 | 5 |
| K | COLOR PUSH : TEXT/PRINTED PHOTO | Text print (color PUSH) | 1 - 9 | 5 |
| L | COLOR PUSH : TEXT | Text (color PUSH) | 1 - 9 | 5 |
| M | COLOR PUSH : PRINTED PHOTO | Printed photo (color PUSH) | 1 - 9 | 5 |
| N | COLOR PUSH : PHOTOGRAPH | Photograph (color PUSH) | 1 - 9 | 5 |
| O | COLOR PUSH : TEXT/PHOTO | Text/Photograph (color PUSH) | 1 - 9 | 5 |
| P | COLOR PUSH : MAP | Map (color PUSH) | 1 - 9 | 5 |

46-65

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the color correction table

**Section**

**Operation/Procedure**

1) Select an adjustment mode.
2) Select target item.
3) Enter the adjustment value.
4) Tap [OK] key.

When the setting is changed, the color tone is changed. This function is used to make copies of different color tone for each copy mode.

The initial value must be set unless any special change is required.

| Category | Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| OC | COPY | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 0 |
| | | B | TEXT | Text | 0 - 12 | 3 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 0 |
| | | D | PHOTO | Photograph | 0 - 12 | 1 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 1 |
| | | F | MAP | Map | 0 - 12 | 3 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 0 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 2 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 3 |
| | | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 2 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 0 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 0 |
| | | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 1 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 1 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 0 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 0 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 0 |
| | PREVIEW | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 0 |
| | | B | TEXT | Text | 0 - 12 | 3 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 0 |
| | | D | PHOTO | Photograph | 0 - 12 | 1 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 1 |
| | | F | MAP | Map | 0 - 12 | 3 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 0 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 2 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 3 |
| | | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 2 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 0 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 0 |
| | | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 1 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 1 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 0 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 0 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 0 |
| SPF1 (Document feeder (RSPF)/ (DSPF)Top) | COPY | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 4 |
| | | B | TEXT | Text | 0 - 12 | 7 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 4 |
| | | D | PHOTO | Photograph | 0 - 12 | 5 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 5 |
| | | F | MAP | Map | 0 - 12 | 7 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 4 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 6 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 7 |

| Category | Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| SPF1 (Document feeder (RSPF)/ (DSPF)Top) | COPY | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 6 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 4 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 4 |
| | | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 5 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 5 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 4 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 4 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 4 |
| | PREVIEW | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 4 |
| | | B | TEXT | Text | 0 - 12 | 7 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 4 |
| | | D | PHOTO | Photograph | 0 - 12 | 5 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 5 |
| | | F | MAP | Map | 0 - 12 | 7 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 4 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 6 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 7 |
| | | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 6 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 4 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 4 |
| | | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 5 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 5 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 4 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 4 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 4 |

| Category | Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| SPF2(Document feeder (DSPF) Back) | COPY | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 8 |
| | | B | TEXT | Text | 0 - 12 | 11 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 8 |
| | | D | PHOTO | Photograph | 0 - 12 | 9 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 9 |
| | | F | MAP | Map | 0 - 12 | 11 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 8 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 10 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 11 |
| | | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 10 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 8 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 8 |
| | | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 9 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 9 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 8 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 8 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 8 |
| SPF2(Document feeder (DSPF) Back) | PREVIEW | A | TEXT PRINTED PHOTO | Text print | 0 - 12 | 8 |
| | | B | TEXT | Text | 0 - 12 | 11 |
| | | C | PRINTED PHOTO | Printed Photo | 0 - 12 | 8 |
| | | D | PHOTO | Photograph | 0 - 12 | 9 |
| | | E | TEXT PHOTO | Text photograph | 0 - 12 | 9 |
| | | F | MAP | Map | 0 - 12 | 11 |
| | | G | LIGHT ORIGINAL | Pencil | 0 - 12 | 8 |
| | | H | COPY TO COPY/ TEXT PRINTED PHOTO | Copy document/ Text print | 0 - 12 | 10 |
| | | I | COPY TO COPY/ TEXT | Copy document/ Text | 0 - 12 | 11 |
| | | J | COPY TO COPY/ PHOTO | Copy document/ Printed Photo | 0 - 12 | 10 |
| | | K | AUTO0 | Automatic mode judgment 0 | 0 - 12 | 8 |
| | | L | AUTO1 | Automatic mode judgment 1 | 0 - 12 | 8 |

| Category | Mode | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| SPF2(Document feeder (DSPF) Back) | PREVIEW | M | AUTO2 | Automatic mode judgment 2 | 0 - 12 | 9 |
| | | N | AUTO3 | Automatic mode judgment 3 | 0 - 12 | 9 |
| | | O | AUTO4 | Automatic mode judgment 4 | 0 - 12 | 8 |
| | | P | AUTO5 | Automatic mode judgment 5 | 0 - 12 | 8 |
| | | Q | AUTO6 | Automatic mode judgment 6 | 0 - 12 | 8 |

46-66

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the reproduction capability of watermarks in the copy/printer mode

**Section**

**Operation/Procedure**

This is to adjust the reproduction capability of watermarks in the copy/printer mode.

1) Select the adjustment mode.
2) Select target item.
3) Enter the adjustment value and tap [OK] key.
4) Make a copy, and check the adjustment result.

| Category | Item/Display | | Content | Setting range | Default | NOTE |
|---|---|---|---|---|---|---|
| PATTERN | A | WOVEN DEN BK LOW | Watermark density level (Black LOW) | 0 - 255 | 15 | The adjustment value is changed to increase or decrease the density of the watermark of background documents (primary output).<br>To increase the watermark density, increase the adjustment value.<br>To decrease the watermark density, decrease the adjustment value.<br>NOTE:<br>When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear.<br>When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear. |
| | B | WOVEN DEN BK MIDDLE | Watermark density level (Black MIDDLE) | 0 - 255 | 19 | |
| | C | WOVEN DEN BK HIGH | Watermark density level (Black HIGH) | 0 - 255 | 23 | |
| | D | WOVEN DEN C LOW | Watermark density level (Cyan LOW) | 0 - 255 | 19 | |
| | E | WOVEN DEN C MIDDLE | Watermark density level (Cyan MIDDLE) | 0 - 255 | 23 | |
| | F | WOVEN DEN C HIGH | Watermark density level (Cyan HIGH) | 0 - 255 | 27 | |
| | G | WOVEN DEN M LOW | Watermark density level (Magenta LOW) | 0 - 255 | 15 | |
| | H | WOVEN DEN M MIDDLE | Watermark density level (Magenta MIDDLE) | 0 - 255 | 18 | |
| | I | WOVEN DEN M HIGH | Watermark density level (Magenta HIGH) | 0 - 255 | 21 | |
| | J | CONTRAST | Contrast adjustment | 0 - 255 | 2 | This is used to adjust the variation in the watermark density when the adjustment value of the watermark print/contrast adjustment in the system setting is changed by 1.<br>When this value is increased, the variation is also increased. When the value is decreased, the variation is also decreased.<br>When the adjustment value is 0, the result of the contrast adjustment is not reflected. (* The adjustment value must be set to 1 or greater.) |
| | K | HT TYPE (POSI) | For halftone index watermark type positive | 42 - 43 | 42 | To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43.<br>In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced. |
| | L | HT TYPE (NEGA) | For halftone index watermark type negative | 42 - 43 | 42 | |

| Category | | Item/Display | Content | | Setting range | Default | NOTE |
|---|---|---|---|---|---|---|---|
| COPY MODE | A | TEXT/PRINTED PHOTO | Text/Printed Photo mode select Enable/Disable | OFF | 0 | 1 | Normally set to the default.<br>No need to change in the market. |
| | | | | ON | 1 | | |
| | B | TEXT | Text mode select Enable/ Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | C | PRINTED PHOTO | Printed Photo mode select Enable/Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | D | PHOTOGRAPH | Photograph mode select Enable/Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | E | TEXT/PHOTO | Text/Photograph mode select Enable/Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | F | MAP | Map mode select Enable/ Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | G | LIGHT | Light density document mode select Enable/ Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | H | TEXT/PRINTED PHOTO (CPY TO CPY) | Copy document: Enable/ Disable of selection of the text print mode | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | I | TEXT (CPY TO CPY) | Copy document: Enable/ Disable of selection of the text mode | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | J | PRINTED PHOTO (CPY TO CPY) | Copy document: Enable/ Disable of selection of the printed photo mode | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | K | AUTO | Automatic mode select Enable/Disable | OFF | 0 | 1 | |
| | | | | ON | 1 | | |
| | L | DEFAULT MODE | When the default exposure mode background is ON, the exposure mode to be set is specified. | TEXT/ PRINTED PHOTO | 0 | 0 | |
| | | | | TEXT | 1 | | |
| | | | | PRINTED PHOTO | 2 | | |
| | | | | PHOTOGRAPH | 3 | | |
| | | | | TEXT/PHOTO | 4 | | |
| | | | | MAP | 5 | | |
| POSITION | A | LINE SPACE 1 | Line space in the watermark print box (24P - 36P) | | 0 - 200 | 50 | |
| | B | LINE SPACE 2 | Line space in the watermark print box (37P - 48P) | | 0 - 200 | 60 | |
| | C | LINE SPACE 3 | Line space in the watermark print box (49P - 64P) | | 0 - 200 | 70 | |
| | D | LINE SPACE 4 | Line space in the watermark print box (65P - 80P) | | 0 - 200 | 80 | |
| | E | BLANK H/B 1 | Upper margin/Lower margin in the watermark print box (24P - 36P) | | 0 - 200 | 25 | |
| | F | BLANK H/B 2 | Upper margin/Lower margin in the watermark print box (37P - 48P) | | 0 - 200 | 30 | |
| | G | BLANK H/B 3 | Upper margin/Lower margin in the watermark print box (49P - 64P) | | 0 - 200 | 35 | |
| | H | BLANK H/B 4 | Upper margin/Lower margin in the watermark print box (65P - 80P) | | 0 - 200 | 40 | |
| | I | BLANK L/R 1 | Left margin/Right margin in the watermark print box (24P - 36P) | | 0 - 200 | 60 | |
| | J | BLANK L/R 2 | Left margin/Right margin in the watermark print box (37P - 48P) | | 0 - 200 | 90 | |
| | K | BLANK L/R 3 | Left margin/Right margin in the watermark print box (49P - 64P) | | 0 - 200 | 120 | |
| | L | BLANK L/R 4 | Left margin/Right margin in the watermark print box (65P - 80P) | | 0 - 200 | 150 | |

46-68

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust the auto resolution judgement |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the adjustment value.
3) Tap [OK] key.

| Mode | | Item/Display | Content | Setting range | Default |
|---|---|---|---|---|---|
| AUTO RESOLUTION | A | RESULT HIGH RESOLUTION | High resolution | 0 - 3 | 3 |
| | B | RESULT MID RESOLUTION1 | Slight high resolution | 0 - 3 | 2 |
| | C | RESULT MID RESOLUTION2 | Slight low resolution | 0 - 3 | 1 |
| | D | RESULT LOW RESOLUTION1 | Low resolution | 0 - 3 | 1 |
| | E | RESOLUT UNKNOWN RESOLUTION | Non judgemental | 0 - 3 | 1 |
| | F | LANGUAGE SEL | Language setting | 0 - 1 | 0 |
| | G | AUTO RESOLUTION MODE | Auto resolution judgement mode | 0 - 2 | 1 |
| SKEW DETECTION | A | MAX DEGREE | Maximum skew detection | 20 - 4500 | 300 |
| | B | MIN DEGREE | Minimum skew detection | 20 - 4500 | 20 |
| | C | VOID AREA | Void area skew detection | 0 - 100 | 10 |

46-74

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust copy color balance (Auto) / printer color balance (Auto) |
| **Section** | |

**Operation/Procedure**

This simulation is used to perform SIM46-24 and SIM67-24 continuously.

To perform both the copy color balance adjustment (Automatic adjustment) and the printer color balance adjustment (Automatic adjustment), use this simulation for efficient adjustment operations.

1) Tap [EXECUTE] key, and the high density process control is performed. Then, the copy color balance adjustment pattern is printed.
2) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
3) Tap [EXECUTE] key, and the copy color balance adjustment is performed and the adjustment result pattern is printed.
4) Tap [EXECUTE] key, and the printer color balance adjustment pattern is printed.
5) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
6) Tap [EXECUTE] key, and the printer color balance adjustment (automatic adjustment) is performed and the adjustment result pattern is printed.
7) Tap [OK] key, and the halftone correction target is registered.
8) When [EXECUTE] key is displayed, tap it.

When "COMPLETED THIS PROCEDURE" is displayed, the adjustment is completed.

Important

The adjustment result becomes effective only when the adjustment procedure for both copy and print mode have completed successfully. For example, when the copy color balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is not effective.

46-90

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Set the process operation of high compression PDF images |
| **Section** | |

**Operation/Procedure**

1) Select a target adjustment mode.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. The set value is saved.

| Mode | | Item/Display | Content | Setting range | Default |
|---|---|---|---|---|---|
| COLOR | A | LUMINANCE ADJUSTMENT | Luminance setting | 0 - 4 | 2 |
| | B | CHROMA INTENT | Chroma setting | 0 - 2 | 1 |
| BG LAYER | A | BG LAYER INTENT 1 | Speed priority setting | 0 - 2 | 1 |
| | B | BG LAYER INTENT 2 | Image quality priority setting | 0 - 2 | 1 |
| SOFT CIC | A | SKEW CORRECTION | Skew correction setting | 0 - 1 | 0 |
| | B | FILTER | Filter setting | 0 - 1 | 0 |
| | C | CIC MODE | Compression mode setting | 0 - 1 | 0 |
| | D | OUTPUT RESOLUTION | Resolution setting | 0 - 1 | 0 |

46-91

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the reproduction capability of black text |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. The adjustment value is set.

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SEGMENT PARAM | Area separation setting | COPY/PUSH common | 0 | 0 |
| | | | Compression | 1 | |
| B | BG:JPEG QUALITY LV [COL:COMPACT] | JPEG recompression level setting Color High compression mode | Low | 0 | 1 |
| | | | Middle | 1 | |
| | | | High | 2 | |
| C | BG:JPEG QUALITY LV [COL:ULTRA FINE] | JPEG recompression level setting Color Ultra fine mode | Low | 0 | 1 |
| | | | Middle | 1 | |
| | | | High | 2 | |

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| D | BG:JPEG QUALITY LV [GRY:COMPACT] | JPEG recompression level setting Gray High compression mode | Low | 0 | 1 |
| | | | Middle | 1 | |
| | | | High | 2 | |
| E | BG:JPEG QUALITY LV [GRY:ULTRA FINE] | JPEG recompression level setting Gray Ultra fine mode | Low | 0 | 1 |
| | | | Middle | 1 | |
| | | | High | 2 | |
| F | FG:TARGET AREA | Front ground extraction area setting | Type0 | 0 | 0 |
| | | | Type1 | 1 | |
| | | | Type2 | 2 | |
| G | FG:TEXT DENSITY [COL] | Front ground black text density setting Color | Dark | 0 | 5 |
| | | | Light | 10 | |
| H | FG:TEXT DENSITY [GRY] | Front ground black text density setting Gray | Dark | 0 | 5 |
| | | | Light | 10 | |
| I | ULTRA FINE MODE | Mode setting | High compression | 0 | 0 |
| | | | Ultra fine | 1 | |

NOTE: This must be set to the default unless any change is specially required.

When the adjustment value is changed greatly from the initial value, an image quality trouble may occur.

# 48

48-1

**Purpose** Adjustment

**Function (Purpose)** Adjust the scan image magnification ratio (Main scanning direction and Sub scanning direction)

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

The set value is saved.

When the adjustment value is increased, the image magnification ratio is increased.

A change of "1" in the adjustment value of item A, C, or E corresponds to a change of about 0.02% in the copy magnification ratio.

A change of "1" in the adjustment value of item B, D, or F corresponds to a change of about 0.1% in the copy magnification ratio.

**[RSPF]**

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | CCD (MAIN) | SCAN main scanning magnification ratio adjustment (CCD) | 1 - 99 | 50 |
| B | CCD (SUB) | SCAN sub scanning magnification ratio adjustment (CCD) | 1 - 99 | 50 |
| C | SPF (MAIN) | RSPF document front surface magnification ratio adjustment (Main scan) | 1 - 99 | 50 |
| D | SPF (SUB) | RSPF document front surface magnification ratio adjustment (Sub scan) | 1 - 99 | 50 |
| E | SPFB (MAIN) | RSPF document back surface magnification ratio adjustment (Main scan) | 1 - 99 | 50 |
| F | SPFB (SUB) | RSPF document back surface magnification ratio adjustment (Sub scan) | 1 - 99 | 50 |
| G | COPY CORRECTION (SUB) | Copy magnification ratio correction (Sub scan) | 1 - 7 | 4 |

**[DSPF]**

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | CCD (MAIN) | SCAN main scanning magnification ratio adjustment (CCD) | 1 - 99 | 50 |
| B | CCD (SUB) | SCAN sub scanning magnification ratio adjustment (CCD) | 1 - 99 | 50 |
| C | SPF (MAIN) | RSPF document front surface magnification ratio adjustment (Main scan) | 1 - 99 | 50 |
| D | SPF (SUB) | RSPF document front surface magnification ratio adjustment (Sub scan) | 1 - 99 | 50 |
| E | SPFB (MAIN) | RSPF document back surface magnification ratio adjustment (Main scan) | 1 - 99 | 50 |
| F | COPY CORRECTION (SUB) | Copy magnification ratio correction (Sub scan) | 1 - 7 | 4 |

48-5

**Purpose** Adjustment

**Function (Purpose)** Adjust the scan image magnification ratio (Sub scanning direction)

**Section** Scanner section

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

The set value is saved.

When the image magnification ratio in the sub scanning direction is adjusted with SIM48-1, and a different magnification ratio is specified, and the image magnification ratio is not satisfactory, perform this adjustment.

When there is an error in the image magnification ratio in reduction, change the adjustment value in the high speed mode. When there is an error in the image magnification ratio in enlargement, change the adjustment value in the low speed mode.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | MR (HI) | Scanner motor (High speed) | 1 - 99 | 50 |
| B | MR(MID) | Scanner motor (Reference speed) | 1 - 99 | 50 |
| C | MR(LO) | Scanner motor (Low speed) | 1 - 99 | 50 |
| D | SPF(HI) | Document feed (SPF) motor (High speed) | 1 - 99 | 50 |
| E | SPF(MID) | Document feed (SPF) motor (Reference speed) | 1 - 99 | 50 |

48-6

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the rotation speed of each motor |
| **Section** | |

**Operation/Procedure**

1) Select an adjustment target mode with [MID] [LOW A] [LOW B] LOW C] keys.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key.

   The set value is saved.

When the adjustment value is increased, the speed is increased, and vice versa. A change of 1 in the adjustment value corresponds to a change of about 0.1% in the speed.

**MID**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | RRM (COLOR) | Registration motor correction value (Color mode) | 1 - 99 | 53 |
| B | RRM (MONO) | Registration motor correction value (Monochrome mode) | 1 - 99 | 53 |
| C | BTM | Transfer belt motor correction value | 1 - 99 | 47 |
| D | DM-K | Drum motor K correction value | 1 - 99 | 45 |
| E | DM-CL | Drum motor CL correction value | 1 - 99 | 45 |
| F | FUM | Fusing motor correction value | 1 - 99 | 37 |
| G | CPFM | Paper feed motor correction value | 1 - 99 | 50 |
| H | PFM | Transport motor correction value | 1 - 99 | 50 |
| I | POM | Paper exit motor correction value | 1 - 99 | 50 |
| J | SBM | Reverse motor correction value | 1 - 99 | 50 |
| K | POM (OUT) | Paper exit motor correction value (From tray exit) | 1 - 99 | 50 |
| L | SBM (OUT) | Reverse motor correction value (From tray exit) | 1 - 99 | 50 |
| M | ADUM1 (OUT) | ADU motor 1 correction value (From right tray exit) | 1 - 99 | 50 |
| N | COR-IM | Image process motors all correction value | 1 - 99 | 50 |
| O | COR-PP | Paper transport motors all correction value | 1 - 99 | 50 |

**LOW A HEAVY PAPER 1,2**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | RRM (COLOR/ MONO) | Registration motor correction value | 1 - 99 | 46 |
| B | FUM | Fusing motor correction value | 1 - 99 | 39 |
| C | CPFM | Paper feed motor correction value | 1 - 99 | 50 |
| D | PFM | Transport motor correction value | 1 - 99 | 50 |
| E | POM | Paper exit motor correction value | 1 - 99 | 50 |
| F | SBM | Reverse motor correction value | 1 - 99 | 50 |
| G | POM (OUT) | Paper exit motor correction value (From tray exit) | 1 - 99 | 50 |
| H | SBM (OUT) | Reverse motor correction value (From tray exit) | 1 - 99 | 50 |
| I | ADUM1 (OUT) | ADU motor 1 correction value (From right tray exit) | 1 - 99 | 50 |
| J | FUSER-SETTING | Fusing speed switch timing value | 1 - 99 | 50 |
| K | FS-OFFSET | FUM acceleration ratio | 1 - 99 | 70 |
| L | RRM-START | RRM acceleration start timing | 0 - 255 | 150 |
| M | RRM-END | RRM acceleration end timing | 0 - 255 | 200 |
| N | RRM-OFFSET | RRM acceleration ratio | 1 - 99 | 50 |
| O | COR-PP | Paper transport motors all correction value | 1 - 99 | 50 |

**LOW B HEAVY PAPER 3**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | RRM (COLOR/ MONO) | Registration motor correction value | 1 - 99 | 46 |
| B | FUM | Fusing motor correction value | 1 - 99 | 39 |
| C | CPFM | Paper feed motor correction value | 1 - 99 | 50 |
| D | PFM | Transport motor correction value | 1 - 99 | 50 |
| E | POM | Paper exit motor correction value | 1 - 99 | 50 |
| F | SBM | Reverse motor correction value | 1 - 99 | 50 |
| G | POM (OUT) | Paper exit motor correction value (From tray exit) | 1 - 99 | 50 |
| H | SBM (OUT) | Reverse motor correction value (From tray exit) | 1 - 99 | 50 |
| I | ADUM1 (OUT) | ADU motor 1 correction value (From right tray exit) | 1 - 99 | 50 |
| J | FUSER-SETTING | Fusing speed switch timing value | 1 - 99 | 50 |
| K | FS-OFFSET | FUM acceleration ratio | 1 - 99 | 70 |
| L | RRM-START | RRM acceleration start timing | 0 - 255 | 150 |
| M | RRM-END | RRM acceleration end timing | 0 - 255 | 200 |
| N | RRM-OFFSET | RRM acceleration ratio | 1 - 99 | 50 |
| O | COR-PP | Paper transport motors all correction value | 1 - 99 | 50 |

**LOW C HEAVY PAPER 4**

| Item/Display | | Content | Setting range | Default value |
|---|---|---|---|---|
| A | RRM (COLOR/ MONO) | Registration motor correction value | 1 - 99 | 46 |
| B | FUM | Fusing motor correction value | 1 - 99 | 39 |
| C | CPFM | Paper feed motor correction value | 1 - 99 | 50 |
| D | PFM | Transport motor correction value | 1 - 99 | 50 |
| E | POM | Paper exit motor correction value | 1 - 99 | 50 |
| F | SBM | Reverse motor correction value | 1 - 99 | 50 |
| G | POM (OUT) | Paper exit motor correction value (From tray exit) | 1 - 99 | 50 |
| H | SBM (OUT) | Reverse motor correction value (From tray exit) | 1 - 99 | 50 |
| I | ADUM1 (OUT) | ADU motor 1 correction value (From right tray exit) | 1 - 99 | 50 |
| J | FUSER-SETTING | Fusing speed switch timing value | 1 - 99 | 50 |
| K | FS-OFFSET | FUM acceleration ratio | 1 - 99 | 70 |
| L | RRM-START | RRM acceleration start timing | 0 - 255 | 150 |
| M | RRM-END | RRM acceleration end timing | 0 - 255 | 200 |
| N | RRM-OFFSET | RRM acceleration ratio | 1 - 99 | 50 |
| O | COR-PP | Paper transport motors all correction value | 1 - 99 | 50 |

The greater the correction value is, the higher the speed is, and vice versa. Change by +/-1 corresponds to 0.1%.

# 49

49-1

**Purpose**

**Function (Purpose)** Update the firmware

**Section**

**Operation/Procedure**

1) Save the firmware to the USB memory.
2) Insert the USB memory into the main unit. (Use USB I/F of the operation panel section.)
3) Select a target firmware file for update.
4) Select a target firmware.
   Tap [ALL] key to select all the Firmware collectively.
5) Tap [EXECUTE] key.
6) Tap [YES] key.
   The selected firmware is updated. When the operation is normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

| Item/Display | Content | Error display |
|---|---|---|
| UPSIDE BUNDLE | Bundle version (Upper) | UPBDL |
| BOTTOM BUNDLE | Bundle version (Lower) | BTMBDL |
| ICU-MAIN | ICUM main program | ICUM |
| ICU-BIOS | ICUM sub program | ICUB |
| ICU-LOGO | ICU logo data | DtLogo |
| ASIC-MAIN | ASIC main program | ASICM |
| ASIC-SUB | ASIC sub program | ASICS |
| IMAGE DATA | Image process data | IMG |
| LANGUAGE | Language support data program | LANG |
| LANGUAGE(LIST) | List print language data | LANGL |
| EOSA | Embedded OSA program | EOSA |
| UICONTENTS | UI display program | UICON |
| SIM-TEXT | Simulation language data | SIMT |
| PCL (PROFILE) | PCL color profile | PCLP |
| SCU | SCU program | SCU |
| DSPF | DSPF program | DSPF |
| PCU | PCU program | PCU |
| DESK | Desk unit program | DESK |
| DESK(TANDEM) | Tandem desk unit program | DESKT |
| LCC | LCC program | LCC |
| FINISHER(1KFIN) | 1K Finisher program | FIN1 |
| FINISHER(3KFIN) | 3K Finisher program | FIN3M |
| FINISHER(INNER) | Inner finisher program | INFIN |
| FIN-SUB | 3K Finisher sub program | FINS |
| SADDLE | Saddle program | SDL |
| PUNCH(3K) | 3K Punch unit program | 3PUN |
| PUNCH(IN) | Inner punch unit program | INPUN |
| FAX | Standard FAX program | FAX |
| FAX OPT1 | Optional FAX 1st line program | FXOT1 |

49-7

**Purpose**

**Function (Purpose)** Update the pre-installed firmware

**Section**

**Operation/Procedure**

1) Insert USB drive into main unit.
2) Select target folder for update.
   Current version and new version are displayed.
3) Tap [EXECUTE] key.
4) Tap [YES] key.
   Update is processed.

| |
|---|
| E-manual |
| Watermark |
| OCR |
| Voice |

# 50

50-1

**Purpose** Adjustment

**Function (Purpose)** Adjust the Copy image position and the image loss

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
   Set the items other than RRCA, LEAD, and SIDE to the default.
   RRCA: Image lead edge reference position adjustment
   LEAD: Lead edge image loss adjustment
   SIDE: Side image loss adjustment
3) Tap [OK] key. (The set value is saved.)

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| A | Lead edge adjustment value | RRCA | Document lead edge reference position (OC) | 0 - 99 | 50 |
| B | Image loss area setting value | LEAD | Lead edge image loss area setting | 0 - 99 | 40 |
| C | | SIDE | Side image loss area adjustment | 0 - 99 | 20 |
| D | Void area adjustment | DENA | Lead edge void area adjustment | 1 - 99 | 40 |
| E | | DENB | Rear edge void area adjustment | 1 - 99 | 30 |
| F | | FRONT/REAR | FRONT/REAR void area adjustment | 1 - 99 | 23 |
| G | Off-center adjustment | OFFSET_OC | OC document off-center adjustment | 1 - 99 | 50 |
| H | Magnification ratio correction | SCAN_SPEED_OC | SCAN sub scanning magnification ratio adjustment (CCD) | 1 - 99 | 50 |
| I | Sub scanning direction print area correction value | DENB-MFT | Manual feed correction value | 1 - 99 | 50 |
| J | | DENB-CS1 | Tray 1 correction value | 1 - 99 | 50 |
| K | | DENB-CS2 | Tray 2 correction value | 1 - 99 | 50 |
| L | | DENB-CS3 | Tray 3 correction value | 1 - 99 | 50 |
| M | | DENB-CS4 | Tray 4 correction value | 1 - 99 | 50 |
| N | | DENB-LCC | LCC correction value | 1 - 99 | 50 |
| O | | DENB-ADU | ADU correction value | 1 - 99 | 50 |
| P | | DENB-HV | Heavy paper correction value | 1 - 99 | 50 |

A. (RRC-A) Timing from starting document scanning to specifying the image lead edge reference is adjusted. (01.mm/step)
   * When the value is decreased, the timing is advanced. When the value is increased, the timing is delayed.

B. (LEAD) The lead edge image loss amount is adjusted. (0.1mm/step)
   * When the value is increased, the image loss is increased.

C. (SIDE) The side image loss amount is adjusted.

* When the value is increased, the image loss is increased. (0.1mm/step)

D. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

E. (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

F. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the print lead edge image position in the printer mode |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the adjustment value.
3) Tap [EXECUTE] key.

   The set value is saved, and the adjustment check pattern is printed.
4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.

   Standard reference value: 4.0 +/- 2.0mm

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distanced is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | DEN-C | | Used to adjust the print lead edge image position. (PRINTER MODE) | | 1 - 99 | 30 |
| B | DEN-B | | Rear edge void area adjustment | | 1 - 99 | 30 |
| C | FRONT/REAR | | FRONT/REAR void area adjustment | | 1 - 99 | 23 |
| D | DENB-MFT | | Manual feed rear edge void area adjustment correction value | | 1 - 99 | 50 |
| E | DENB-CS1 | | Tray 1 rear edge void area adjustment correction value | | 1 - 99 | 50 |
| F | DENB-CS2 | | Tray 2 rear edge void area adjustment correction value | | 1 - 99 | 50 |
| G | DENB-CS3 | | Tray 3 rear edge void area adjustment correction value | | 1 - 99 | 50 |
| H | DENB-CS4 | | Tray 4 rear edge void area adjustment correction value | | 1 - 99 | 50 |
| I | DENB-LCC | | LCC rear edge void aria adjustment correction value | | 1 - 99 | 50 |
| J | DENB-ADU | | ADU rear edge void aria adjustment correction value | | 1 - 99 | 50 |
| K | DENB-HV | | Heavy paper correction value | | 1 - 99 | 50 |
| L | MULTI COUNT | | Number of print | | 1 - 999 | 1 |
| M | PAPER | MFT | Tray selection | Manual paper feed | 1 | 2 |
| | | CS1 | | Tray 1 | 2 | |
| | | CS2 | | Tray 2 | 3 | |
| | | CS3 | | Tray 3 | 4 | |
| | | CS4 | | Tray 4 | 5 | |
| | | LCC | | LCC | 6 | |
| N | DUPLEX | YES | Duplex print selection | Yes | 0 | 1 |
| | | NO | | No | 1 | |

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance from the paper lead edge to the image lead edge is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

50-6

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the copy image position and the image loss (SPF) |
| **Section** | SPF |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

**[RSPF]**

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| A | SIDE1 | | Front surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| B | SIDE2 | | Back surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| C | Image loss amount setting SIDE1 | LEAD_EDGE (SIDE1) | Front surface lead edge image loss amount setting | 0 - 99 | 20 |
| D | Image loss amount setting SIDE1 | FRONT_REAR (SIDE1) | Front surface side image loss amount setting | 0 - 99 | 20 |
| E | | TRAIL_EDGE (SIDE1) | Front surface rear edge image loss amount setting | 0 - 99 | 40 |
| F | Image loss amount setting SIDE2 | LEAD_EDGE (SIDE2) | Back surface lead edge image loss amount setting | 0 - 99 | 20 |
| G | | FRONT_REAR (SIDE2) | Back surface side image loss amount setting | 0 - 99 | 20 |
| H | | TRAIL_EDGE (SIDE2) | Back surface rear edge image loss amount setting | 0 - 99 | 40 |
| I | OFSET_SPF1 | | RSPF front surface document off-center adjustment | 1 - 99 | 50 |
| J | OFSET_SPF2 | | RSPF back surface document off-center adjustment | 1 - 99 | 50 |
| K | SCAN_SPEED_SPF1 | | RSPF document front surface magnification ratio (Sub scan) | 1 - 99 | 50 |
| L | SCAN_SPEED_SPF2 | | RSPF document back surface magnification ratio (Sub scan) | 1 - 99 | 50 |

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

**[DSPF]**

| Item/Display | | | Content | Setting range | Default |
|---|---|---|---|---|---|
| A | SIDE1 | | Front surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| B | SIDE2 | | Back surface document scan position adjustment (CCD) | 1 - 99 | 50 |
| C | Image loss amount setting SIDE1 | LEAD_EDGE (SIDE1) | Front surface lead edge image loss amount setting | 0 - 99 | 20 |
| D | Image loss amount setting SIDE1 | FRONT_REAR (SIDE1) | Front surface side image loss amount setting | 0 - 99 | 20 |
| E | | TRAIL_EDGE (SIDE1) | Front surface rear edge image loss amount setting | 0 - 99 | 40 |
| F | Image loss amount setting SIDE2 | LEAD_EDGE (SIDE2) | Back surface lead edge image loss amount setting | 0 - 99 | 40 |
| G | | FRONT_REAR (SIDE2) | Back surface side image loss amount setting | 0 - 99 | 20 |
| H | | TRAIL_EDGE (SIDE2) | Back surface rear edge image loss amount setting | 0 - 99 | 20 |
| I | OFSET_SPF1 | | DSPF front surface document off-center adjustment | 1 - 99 | 50 |
| J | OFSET_SPF2 | | DSPF back surface document off-center adjustment | 1 - 99 | 50 |
| K | SCAN_SPEED_SPF1 | | DSPF document front surface magnification ratio (Sub scan) | 1 - 99 | 50 |

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

50-10

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the black print image magnification ratio and the off center position |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [EXECUTE] key. (The set value is saved.)

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | BK-MAG | Main scan print magnification ratio | | 80 - 120 | 102 |
| B | MAIN-STD | Collective correction | Standard | 1 - 99 | 50 |
| C | SUB-STD | | Standard | 1 - 99 | 60 |
| D | MAIN-MFT | Printer off center | Manual tray | 1 - 99 | 50 |
| E | MAIN-CS1 | | Tray1 | 1 - 99 | 50 |
| F | MAIN-CS2 | | Tray2 | 1 - 99 | 50 |
| G | MAIN-CS3 | | Tray3 | 1 - 99 | 50 |
| H | MAIN-CS4 | | Tray4 | 1 - 99 | 50 |
| I | MAIN-LC | | LCC | 1 - 99 | 50 |
| J | MAIN-ADU | | ADU | 1 - 99 | 50 |
| K | SUB-MFT | Registration motor timing | Manual tray | 1 - 99 | 50 |
| L | SUB-CS1 | | Tray1 | 1 - 99 | 50 |
| M | SUB-CS2 | | Tray2 | 1 - 99 | 50 |
| N | SUB-CS3 | | Tray3 | 1 - 99 | 50 |
| O | SUB-CS4 | | Tray4 | 1 - 99 | 50 |
| P | SUB-LC | | LCC | 1 - 99 | 50 |
| Q | SUB-ADU | | ADU | 1 - 99 | 50 |
| R | SUB-HV-A | Shift amount | Heavy paper1,2 | 1 - 99 | 50 |
| S | SUB-HV-B | | Heavy paper3,4 | 1 - 99 | 50 |
| T | SUB-GLOSSY PAPER | | Glossy paper | 1 - 99 | 50 |
| U | SUB-EMBOSS | | Emboss | 1 - 99 | 50 |
| V | SUB-OHP | | OHP | 1 - 99 | 50 |
| W | SUB-ENV | | Envelope | 1 - 99 | 50 |
| X | MULTI COUNT | Number of print | | 1 - 999 | 1 |
| Y | PAPER | Tray selection | Manual tray | 1 | 2 |
| | | | Tray1 | 2 | |
| | | | Tray2 | 3 | |
| | | | Tray3 | 4 | |
| | | | Tray4 | 5 | |
| | | | LCC | 6 | |
| Z | DUPLEX | Duplex print | YES | 0 | 1 |
| | | | NO | 1 | |
| AA | ALT FEED | Other tray | Normal | 0 | 0 |
| | | | All trays except PAPER | 1 | |

50-12

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the scan image off center position |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image position is shifted to the rear frame side. When the adjustment value is decreased, it is shifted to the front frame side.

1step = 0.1mm

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | OC | Document table image off-center adjustment | 1 - 99 | 50 |
| B | SPF (SIDE1) | SPF front surface image off-center adjustment | 1 - 99 | 50 |
| C | SPF (SIDE2) | SPF back surface image off-center adjustment | 1 - 99 | 50 |

50-20

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust image registration (Manual) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [EXECUTE] key. (The set value is saved.)

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | CYAN(FRONT) | Registration adjustment value main scanning direction CYAN F side | 1 - 399 | 200 |
| B | CYAN(REAR) | Registration adjustment value main scanning direction CYAN R side | 1 - 399 | 200 |
| C | MAGENTA(FRONT) | Registration adjustment value main scanning direction MAGENTA F side | 1 - 399 | 200 |
| D | MAGENTA(REAR) | Registration adjustment value main scanning direction MAGENTA R side | 1 - 399 | 200 |
| E | YELLOW(FRONT) | Registration adjustment value main scanning direction YELLOW F side | 1 - 399 | 200 |
| F | YELLOW(REAR) | Registration adjustment value main scanning direction YELLOW R side | 1 - 399 | 200 |
| G | CYAN(SUB) | Registration adjustment value sub scanning direction CYAN | 1 - 399 | 200 |
| H | MAGENTA(SUB) | Registration adjustment value sub scanning direction MAGENTA | 1 - 399 | 200 |
| I | YELLOW(SUB) | Registration adjustment value sub scanning direction YELLOW | 1 - 399 | 200 |
| J | OFFSET_C_MAIN_F | Registration adjustment value main scanning direction offset value CYAN (FRONT) | 1 - 99 | 50 |
| K | OFFSET_C_MAIN_R | Registration adjustment value main scanning direction offset value CYAN (REAR) | 1 - 99 | 50 |
| L | OFFSET_M_MAIN_F | Registration adjustment value main scanning direction offset value MAGENTA (FRONT) | 1 - 99 | 50 |
| M | OFFSET_M_MAIN_R | Registration adjustment value main scanning direction offset value MAGENTA (REAR) | 1 - 99 | 50 |
| N | OFFSET_Y_MAIN_F | Registration adjustment value main scanning direction offset value YELLOW (FRONT) | 1 - 99 | 50 |
| O | OFFSET_Y_MAIN_R | Registration adjustment value main scanning direction offset value YELLOW (REAR) | 1 - 99 | 50 |
| P | OFFSET_C_SUB | Registration adjustment value sub scanning direction offset value CYAN | 1 - 99 | 51 |
| Q | OFFSET_M_SUB | Registration adjustment value sub scanning direction offset value MAGENTA | 1 - 99 | 51 |
| R | OFFSET_Y_SUB | Registration adjustment value sub scanning direction offset value YELLOW | 1 - 99 | 51 |
| S | OFFSET_C_SUB_HV12 | Registration adjustment value sub scanning direction offset value CYAN (HEAVY 1/2) | 1 - 99 | 50 |
| T | OFFSET_M_SUB_HV12 | Registration adjustment value sub scanning direction offset value MAGENTA (HEAVY 1/2) | 1 - 99 | 50 |
| U | OFFSET_Y_SUB_HV12 | Registration adjustment value sub scanning direction offset value YELLOW (HEAVY 1/2) | 1 - 99 | 50 |
| V | OFFSET_C_SUB_HV34 | Registration adjustment value sub scanning direction offset value CYAN (HEAVY 3/4) | 1 - 99 | 50 |
| W | OFFSET_M_SUB_HV34 | Registration adjustment value sub scanning direction offset value MAGENTA (HEAVY 3/4) | 1 - 99 | 50 |
| X | OFFSET_Y_SUB_HV34 | Registration adjustment value sub scanning direction offset value YELLOW (HEAVY 3/4) | 1 - 99 | 50 |
| Y | MULTICOUNT | Number of print | 1 - 999 | 1 |
| Z | PAPER | Tray selection: Manual paper feed | 1 | 2 |
| | | Tray 1 | 2 | |
| | | Tray 2 | 3 | |
| | | Tray 3 | 4 | |
| | | Tray 4 | 5 | |
| | | LCC | 6 | |
| AA | DUPLEX | Duplex print selection: Yes | 0 | 1 |
| | | No | 1 | |

50-22

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the image registration (Main scan direction, sub scan direction) (Auto) / OPC drum phase (Auto) |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   The adjustment is automatically performed, and the adjustment data are displayed.

**Note**

The contents of the following list are mainly used by the technical division, and are not necessary for the market.

| Item/Display | | | Content | Setting range (unit) | Color/ History | Default | NOTE |
|---|---|---|---|---|---|---|---|
| MAIN F | - | REG_M_F (VALUE) | Registration adjustment correction amount main scanning direction F | 1.0 - 399.0 (+/-0.1) | CMY/- | 200 | |
| | ( ) | REG_M_F (DIF) | Registration value correction amount from the previous one, main scanning F | -399.0 - 399.0 (+/-0.1) | CMY/- | 0 | |
| MAIN R | - | REG_M_R (VALUE) | Registration adjustment correction value, main scanning direction R | 1.0 - 399.0 (+/-0.1) | CMY/- | 200 | |
| | ( ) | REG_M_R (DIF) | Registration value correction amount from the previous one, main scanning R | -399.0 - 399.0 (+/-0.1) | CMY/- | 0 | |
| SUB | - | REG_SUB (VALUE) | Registration adjustment correction value, sub scanning direction | 1.0 - 399.0 (+/-0.1) | CMY/- | 200 | |
| | ( ) | REG_SUB (DIF) | Registration value correction amount from the previous one, sub scanning | -399.0 - 399.0 (+/-0.1) | CMY/- | 0 | |
| SKEW | CMY | SKEW_CLC | SKEW adjustment rotating direction and the number of clicks (CMY) | L99.9 - R99.9 (+/-0.1) | KCMY/- | 0 | If the value is plus, L is displayed to left side of numerical value. If the value is minus, R is displayed to left side of numerical value. |
| | ALL_ ROTATE | | SKEW adjustment rotating direction and the number of clicks (K) | | | | If the value is plus, L is displayed to left side of numerical value. If the value is minus, R is displayed to left side of numerical value. |
| PHASE | | PHASE_ADJ | Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0° (1) -> 45° (2) -> 90° (3) -> 135° (4) -> 180° (5) -> 225° (6) -> 270° (7) -> 315° (8) | 1 - 8 (+/-1) | More than 50cpm : CMY/2 Less than 50 cpm : -/2 | 1 | - |

**Error displays in case of abnormal end**

| | Error code | Error display | Error contents | Description |
|---|---|---|---|---|
| Forcible end error | - | SUSPENDED | Door open end | Door open during operation |
| | - | SUSPENDED | CA end | CA button pressed during operation |
| | - | - | OFF end | Unconfirmed operation during operation (Power OFF) |
| Basic error | 1 | TONER EMPTY | Toner empty | BK or ALL color EMPTY detection |
| | 2 | BEFORE BEHAVIOR | Other condition | Other condition |
| | 4 | SENSOR CALIBLATION F | Calibration error F | The target is not reached by 3 times of retry of F or R |
| | 5 | SENSOR CALIBLATION R | Calibration error R | |
| | 6 | SENSOR CALIBRATION FR | Calibration error FR | |
| | 7 | TIME OVER | Time error | No data are obtained for 90sec from data acquisition |
| | 8 | PROCESS CONTROL | Process control error | Process control error detection |
| Sub scanning adjustment error | 10 - 49 | DATA SUB X X XXX XX | | |
| Main scanning adjustment error | 50 - 89 | DATA MAIN X X XXX XX | | |
| Adjustment range error | 90 - 107 | RANGE XXX X XX | | |

50-23

| | |
|---|---|
| **Purpose** | (This simulation is normally not used in the market.) |
| **Function (Purpose)** | Set the registration correction |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [EXECUTE] key. (The set value is saved.)

| Item/Display | | | Contents | Setting range | Default |
|---|---|---|---|---|---|
| CT_N | A | CT_NORM_MAIN_F_C | Normal correction temperature correction coefficient (Cyan main scanning F side) | 1 - 199 | 104 |
| | B | CT_NORM_MAIN_R_C | Normal correction temperature correction coefficient (Cyan main scanning R side) | 1 - 199 | 104 |
| | C | CT_NORM_SUB_C | Normal correction temperature correction coefficient (Cyan sub scanning) | 1 - 199 | 103 |
| | D | CT_NORM_MAIN_F_M | Normal correction temperature correction coefficient (Magenta main scanning F side) | 1 - 199 | 107 |
| | E | CT_NORM_MAIN_R_M | Normal correction temperature correction coefficient (Magenta main scanning R side) | 1 - 199 | 107 |
| | F | CT_NORM_SUB_M | Normal correction temperature correction coefficient (Magenta sub scanning) | 1 - 199 | 97 |
| | G | CT_NORM_MAIN_F_Y | Normal correction temperature correction coefficient (Yellow main scanning F side) | 1 - 199 | 107 |
| | H | CT_NORM_MAIN_R_Y | Normal correction temperature correction coefficient (Yellow main scanning R side) | 1 - 199 | 107 |
| | I | CT_NORM_SUB_Y | Normal correction temperature correction coefficient (Yellow sub scanning) | 1 - 199 | 97 |
| CP_N | A | CP_NORM_MAIN_F_C | Normal correction operation rate correction coefficient (Cyan main scanning F side) | 1 - 199 | 100 |
| | B | CP_NORM_MAIN_R_C | Normal correction operation rate correction coefficient (Cyan main scanning R side) | 1 - 199 | 100 |
| | C | CP_NORM_SUB_C | Normal correction operation rate correction coefficient (Cyan sub scanning) | 1 - 199 | 100 |
| | D | CP_NORM_MAIN_F_M | Normal correction operation rate correction coefficient (Magenta main scanning F side) | 1 - 199 | 100 |
| | E | CP_NORM_MAIN_R_M | Normal correction operation rate correction coefficient (Magenta main scanning R side) | 1 - 199 | 100 |
| | F | CP_NORM_SUB_M | Normal correction operation rate correction coefficient (Magenta sub scanning) | 1 - 199 | 100 |
| | G | CP_NORM_MAIN_F_Y | Normal correction operation rate correction coefficient (Yellow main scanning F side) | 1 - 199 | 100 |
| | H | CP_NORM_MAIN_R_Y | Normal correction operation rate correction coefficient (Yellow main scanning R side) | 1 - 199 | 100 |
| | I | CP_NORM_SUB_Y | Normal correction operation rate correction coefficient (Yellow sub scanning) | 1 - 199 | 100 |
| CT_J | A | CT_JOB_MAIN_C | Correction during job temperature correction coefficient (Cyan main scanning) | 1 - 199 | 104 |
| | B | CT_JOB_SUB_C | Correction during job temperature correction coefficient (Cyan sub scanning) | 1 - 199 | 103 |
| | C | CT_JOB_MAIN_M | Correction during job temperature correction coefficient (Magenta main scanning) | 1 - 199 | 107 |
| | D | CT_JOB_SUB_M | Correction during job temperature correction coefficient (Magenta sub scanning) | 1 - 199 | 97 |
| | E | CT_JOB_MAIN_Y | Correction during job temperature correction coefficient (Yellow main scanning) | 1 - 199 | 107 |
| | F | CT_JOB_SUB_Y | Correction during job temperature correction coefficient (Yellow sub scanning) | 1 - 199 | 97 |
| CP_J | A | CP_JOB_MAIN_C | Correction during job operation rate correction coefficient (Cyan main scanning) | 1 - 199 | 100 |
| | B | CP_JOB_SUB_C | Correction during job operation rate correction coefficient (Cyan sub scanning) | 1 - 199 | 100 |
| | C | CP_JOB_MAIN_M | Correction during job operation rate correction coefficient (Magenta main scanning) | 1 - 199 | 120 |
| | D | CP_JOB_SUB_M | Correction during job operation rate correction coefficient (Magenta sub scanning) | 1 - 199 | 100 |
| | E | CP_JOB_MAIN_Y | Correction during job operation rate correction coefficient (Yellow main scanning) | 1 - 199 | 120 |
| | F | CP_JOB_SUB_Y | Correction during job operation rate correction coefficient (Yellow sub scanning) | 1 - 199 | 100 |

50-24

| | |
|---|---|
| **Purpose** | (This simulation is normally not used in the market.) |
| **Function (Purpose)** | Display the detailed data of SIM 44-2, 50-20, 21 and 22 |
| **Section** | |

**Operation/Procedure**

50-27

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the image loss of scanned images in the FAX and image send mode |
| **Section** | |

**Operation/Procedure**

1) Select a target adjustment mode with [FAX] or [SCANNER] key.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. (The set value is saved.)

**[RSPF]**

| Item/Display | | | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| FAX send | A | Image loss amount setting OC | LEAD_EDGE (OC) | OC lead edge image loss amount setting | 0 - 100 | 30 (3mm) |
| | B | | FRONT_REAR (OC) | OC side image loss amount setting | 0 - 100 | 20 (2mm) |
| | C | | TRAIL_EDGE (OC) | OC rear edge image loss amount setting | 0 - 100 | 20 (2mm) |
| | D | Image loss amount setting SPF SIDE1 | LEAD_EDGE (SPF_SIDE1) | Front surface lead edge image loss amount setting | 0 - 100 | 20 (2mm) |
| | E | | FRONT_REAR (SPF_SIDE1) | Front surface side image loss amount setting | 0 - 100 | 20 (2mm) |
| | F | | TRAIL_EDGE (SPF_SIDE1) | Front surface rear edge image loss amount setting | 0 - 100 | 30 (3mm) |
| | G | Image loss amount setting SPF SIDE2 | LEAD_EDGE (SPF_SIDE2) | Back surface lead edge image loss amount setting | 0 - 100 | 20 (2mm) |
| | H | | FRONT_REAR (SPF_SIDE2) | Back surface side image loss amount setting | 0 - 100 | 20 (2mm) |
| | I | | TRAIL_EDGE (SPF_SIDE2) | Back surface rear edge image loss amount setting | 0 - 100 | 30 (3mm) |
| Image send mode | A | Image loss amount setting OC | LEAD_EDGE (OC) | OC lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | B | | FRONT_REAR(OC) | OC side image loss amount setting | 0 - 100 | 0 (0mm) |
| | C | | TRAIL_EDGE(OC) | OC rear edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | D | Image loss amount setting SPF SIDE1 | LEAD_EDGE (SPF_SIDE1) | Front surface lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | E | | FRONT_REAR (SPF_SIDE1) | Front surface side image loss amount setting | 0 - 100 | 0 (0mm) |
| | F | | TRAIL_EDGE(SPF_SIDE1) | Front surface rear edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | G | Image loss amount setting SPF SIDE2 | LEAD_EDGE (SPF_SIDE2) | Back surface lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | H | | FRONT_REAR (SPF_SIDE2) | Back surface side image loss amount setting | 0 - 100 | 0 (0mm) |
| | I | | TRAIL_EDGE(SPF_SIDE2) | Back surface rear edge image loss amount setting | 0 - 100 | 0 (0mm) |

**[DSPF]**

| Item/Display | | | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| FAX send | A | Image loss amount setting OC | LEAD_EDGE (OC) | OC lead edge image loss amount setting | 0 - 100 | 30 (3mm) |
| | B | | FRONT_REAR (OC) | OC side image loss amount setting | 0 - 100 | 20 (2mm) |
| | C | | TRAIL_EDGE (OC) | OC rear edge image loss amount setting | 0 - 100 | 20 (2mm) |
| | D | Image loss amount setting SPF SIDE1 | LEAD_EDGE (SPF_SIDE1) | Front surface lead edge image loss amount setting | 0 - 100 | 20 (2mm) |
| | E | | FRONT_REAR (SPF_SIDE1) | Front surface side image loss amount setting | 0 - 100 | 20 (2mm) |
| | F | | TRAIL_EDGE (SPF_SIDE1) | Front surface rear edge image loss amount setting | 0 - 100 | 30 (3mm) |

| Item/Display | | | | Content | Setting range | Default |
|---|---|---|---|---|---|---|
| FAX send | G | Image loss amount setting SPF SIDE2 | LEAD_EDGE (SPF_SIDE2) | Back surface lead edge image loss amount setting | 0 - 100 | 30 (2mm) |
| | H | | FRONT_REAR (SPF_SIDE2) | Back surface side image loss amount setting | 0 - 100 | 20 (2mm) |
| | I | | TRAIL_EDGE (SPF_SIDE2) | Back surface rear edge image loss amount setting | 0 - 100 | 20 (3mm) |
| Image send mode | A | Image loss amount setting OC | LEAD_EDGE (OC) | OC lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | B | | FRONT_REAR(OC) | OC side image loss amount setting | 0 - 100 | 0 (0mm) |
| | C | | TRAIL_EDGE(OC) | OC rear edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | D | Image loss amount setting SPF SIDE1 | LEAD_EDGE (SPF_SIDE1) | Front surface lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | E | | FRONT_REAR (SPF_SIDE1) | Front surface side image loss amount setting | 0 - 100 | 0 (0mm) |
| | F | | TRAIL_EDGE(SPF_SIDE1) | Front surface rear edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | G | Image loss amount setting SPF SIDE2 | LEAD_EDGE (SPF_SIDE2) | Back surface lead edge image loss amount setting | 0 - 100 | 0 (0mm) |
| | H | | FRONT_REAR (SPF_SIDE2) | Back surface side image loss amount setting | 0 - 100 | 0 (0mm) |
| | I | | TRAIL_EDGE(SPF_SIDE2) | Back surface rear edge image loss amount setting | 0 - 100 | 0 (0mm) |

# 51

## 51-1

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the ON/OFF timing of the secondary transfer voltage

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

When the adjustment value is decreased, the transfer ON/OFF timing for the paper is advanced. When the adjustment value is increased, the timing is delayed.

When the adjustment value is changed by 1, the timing is changed by about 10ms. The setting range is -490 - +490ms.

| Item/Display | | Content | Default |
|---|---|---|---|
| A | TC2 ON TIMING | Secondary transfer voltage ON timing setting | 55 |
| B | TC2 OFF TIMING | Secondary transfer voltage OFF timing setting | 47 |
| C | FRONT EDGE ON TIMING | Front edge bias ON timing setting | 30 |
| D | BACKEND OFF TIMING | Rear edge bias OFF timing setting | 60 |
| E | DHV ON TIMING | Separation output ON timing setting | 30 |
| F | DHV OFF TIMING | Separation output OFF timing setting | 50 |

## 51-2

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the contact pressure (deflection amount) on paper by the main unit and the SPF resist roller

**Section**

**Operation/Procedure**

1) Select a target adjustment mode with [SIDE1] or [SIDE2] or [ENGINE] keys.
2) Select target item.
3) Enter the set value.
4) Tap [OK] key. (The set value is saved.)

**[RSPF]**

| Mode | Display/Item | | Content | Default |
|---|---|---|---|---|
| SIDE1 | A | NORMAL_PLAIN_HIGH | RSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH) | 50 |
| | B | NORMAL_PLAIN_LOW | RSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW) | 50 |
| | C | NORMAL_THIN _HIGH | RSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH) | 50 |
| | D | NORMAL_THIN _LOW | RSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW) | 50 |
| | E | RANDOM_PLAIN_HIGH | RSPF front surface document deflection amount adjustment value (Random/Plain paper/HIGH) | 50 |
| | F | RANDOM_PLAIN _LOW | RSPF front surface document deflection amount adjustment value (Random/Plain paper/LOW) | 50 |
| | G | RANDOM_THIN_HIGH | RSPF front surface document deflection amount adjustment value (Random/Thin paper/HIGH) | 50 |
| | H | RANDOM_THIN_LOW | RSPF front surface document deflection amount adjustment value (Random/Thin paper/LOW) | 50 |

| Mode | Display/Item | | Content | Default |
|---|---|---|---|---|
| SIDE2 | A | NORMAL_PLAIN_HIGH_1 | RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/HIGH) | 50 |
| | B | NORMAL_PLAIN_LOW_1 | RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/LOW) | 50 |
| ENGINE | A | TRAY1 PLAIN PAPER (S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size) | 40 |
| | B | TRAY1 PLAIN PAPER (L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size) | 40 |
| | C | TRAY1 HEAVY A PAPER(S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | D | TRAY1 HEAVY A PAPER(L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | E | TRAY1 HEAVY B PAPER(S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | F | TRAY1 HEAVY B PAPER(L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | G | TRAY2 PLAIN PAPER (S) | Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size) | 40 |
| | H | TRAY2 PLAIN PAPER (L) | Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size) | 40 |
| | I | TRAY2 HEAVY A PAPER(S) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | J | TRAY2 HEAVY A PAPER(L) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | K | TRAY2 HEAVY B PAPER(S) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | L | TRAY2 HEAVY B PAPER(L) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | M | MANUAL PLAIN PAPER (S) | Manual feed tray/deflection adjustment value (Plain paper/Small size) | 40 |
| | N | MANUAL PLAIN PAPER (L) | Manual feed tray/deflection adjustment value (Plain paper/Large size) | 40 |
| | O | MANUAL HEAVY A PAPER(S) | Manual feed tray/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | P | MANUAL HEAVY A PAPER(L) | Manual feed tray/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | Q | MANUAL HEAVY B PAPER(S) | Manual feed tray/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | R | MANUAL HEAVY B PAPER (L) | Manual feed tray/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | S | MANUAL OHP | Manual feed tray/deflection adjustment value (OHP) | 40 |
| ENGINE | T | MANUAL ENV | Manual feed tray/deflection adjustment value (Envelop) | 40 |
| | U | MANUAL LABEL | Manual feed tray/deflection adjustment value (Label) | 30 |
| | V | ADU PLAIN PAPER (S) | ADU/deflection adjustment value (Plain paper/Small size) | 30 |
| | W | ADU PLAIN PAPER (L) | ADU/deflection adjustment value (Plain paper/Large size) | 30 |
| | X | ADU HEAVY A PAPER (S) | ADU/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | Y | ADU HEAVY A PAPER (L) | ADU/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | Z | ADU HEAVY B PAPER (S) | ADU/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | AA | ADU HEAVY B PAPER (L) | ADU/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | AB | DESK (S) | DESK/deflection adjustment value (Plain paper/Small size) | 40 |
| | AC | DESK HEAVY A PAPER(S) | DESK/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | AD | DESK HEAVY B PAPER(S) | DESK/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | AE | DESK (L) | DESK/deflection adjustment value (Plain paper/Large size) | 40 |
| | AF | DESK HEAVY PAPER (L) | DESK/deflection adjustment value (Heavy paper A/Largel size) | 40 |
| | AG | DESK HEAVY PAPER (L) | DESK/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | AH | LCC(S) | LCC/deflection adjustment value (Plain paper/Small size) | 40 |
| | AI | LCC HEAVY A PAPER(S) | LCC/deflection adjustment value (Heavy paper /Small size) | 40 |

**[DSPF]**

| Mode | Display/Item | | Content | Default |
|---|---|---|---|---|
| REGI1 | A | NORMAL_PLAIN_HIGH | DSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH) | 50 |
| | B | NORMAL_PLAIN_LOW | DSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW) | 50 |
| | C | NORMAL_THIN_HIGH | DSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH) | 50 |
| | D | NORMAL_THIN_LOW | DSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW) | 50 |
| | E | RANDOM_PLAIN_HIGH | DSPF front surface document deflection amount adjustment value (Random/Plain paper/HIGH) | 50 |
| | F | RANDOM_PLAIN_LOW | DSPF front surface document deflection amount adjustment value (Random/Plain paper/LOW) | 50 |
| | G | RANDOM_THIN_HIGH | DSPF front surface document deflection amount adjustment value (Random/Thin paper/HIGH) | 50 |
| | H | RANDOM_THIN_LOW | DSPF front surface document deflection amount adjustment value (Random/Thin paper/LOW) | 50 |

| Mode | Display/Item | | Content | Default |
|---|---|---|---|---|
| REGI2 | A | NORMAL_PLAIN_HIGH | DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/HIGH) | 70 |
| | B | NORMAL_PLAIN_LOW | DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/LOW) | 50 |
| | C | NORMAL_THIN_HIGH | DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/HIGH) | 70 |
| | D | NORMAL_THIN_LOW | DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/LOW) | 50 |
| SIDE2 | E | RANDOM_PLAIN_HIGH | DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/HIGH) | 70 |
| | F | RANDOM_PLAIN_LOW | DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/LOW) | 50 |
| | G | RANDOM_THIN_HIGH | DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/HIGH) | 70 |
| | H | RANDOM_THIN_LOW | DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/LOW) | 50 |
| ENGINE | A | TRAY1 PLAIN PAPER (S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size) | 40 |
| | B | TRAY1 PLAIN PAPER (L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size) | 40 |
| | C | TRAY1 HEAVY A PAPER(S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | D | TRAY1 HEAVY A PAPER(L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | E | TRAY1 HEAVY B PAPER(S) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | F | TRAY1 HEAVY B PAPER(L) | Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | G | TRAY2 PLAIN PAPER (S) | Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size) | 40 |
| | H | TRAY2 PLAIN PAPER (L) | Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size) | 40 |
| | I | TRAY2 HEAVY A PAPER(S) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | J | TRAY2 HEAVY A PAPER(L) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | K | TRAY2 HEAVY B PAPER(S) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size) | 40 |
| ENGINE | L | TRAY2 HEAVY B PAPER(L) | Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | M | MANUAL PLAIN PAPER (S) | Manual feed tray/deflection adjustment value (Plain paper/Small size) | 40 |
| | N | MANUAL PLAIN PAPER (L) | Manual feed tray/deflection adjustment value (Plain paper/Large size) | 40 |
| | O | MANUAL HEAVY A PAPER(S) | Manual feed tray/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | P | MANUAL HEAVY A PAPER(L) | Manual feed tray/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | Q | MANUAL HEAVY B PAPER(S) | Manual feed tray/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | R | MANUAL HEAVY B PAPER (L) | Manual feed tray/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | S | MANUAL OHP | Manual feed tray/deflection adjustment value (OHP) | 40 |
| | T | MANUAL ENV | Manual feed tray/deflection adjustment value (Envelop) | 40 |
| | U | MANUAL LABEL | Manual feed tray/deflection adjustment value (Label) | 30 |
| | V | ADU PLAIN PAPER (S) | ADU/deflection adjustment value (Plain paper/Small size) | 30 |
| | W | ADU PLAIN PAPER (L) | ADU/deflection adjustment value (Plain paper/Large size) | 30 |
| | X | ADU HEAVY A PAPER (S) | ADU/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | Y | ADU HEAVY A PAPER (L) | ADU/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | Z | ADU HEAVY B PAPER (S) | ADU/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | AA | ADU HEAVY B PAPER (L) | ADU/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | AB | DESK (S) | DESK/deflection adjustment value (Plain paper/Small size) | 40 |
| | AC | DESK HEAVY A PAPER(S) | DESK/deflection adjustment value (Heavy paper A/Small size) | 40 |
| | AD | DESK HEAVY B PAPER(S) | DESK/deflection adjustment value (Heavy paper B/Small size) | 40 |
| | AE | DESK (L) | DESK/deflection adjustment value (Plain paper/Large size) | 40 |
| | AF | DESK HEAVY PAPER (L) | DESK/deflection adjustment value (Heavy paper A/Large size) | 40 |
| | AG | DESK HEAVY PAPER (L) | DESK/deflection adjustment value (Heavy paper B/Large size) | 40 |
| | AH | LCC(S) | LCC/deflection adjustment value (Plain paper/Small size) | 40 |

| Mode | Display/Item | | Content | Default |
|---|---|---|---|---|
| ENGINE | AI | LCC HEAVY A PAPER(S) | LCC/deflection adjustment value (Heavy paper /Small size) | 40 |

**Note on "Large size" and "Small size"**

Small size: The paper length in the transport direction is shorter than the LT size (216mm).

Large size: The paper length in the transport direction is longer than the LT size (216mm).

**Adjustment value**

When the adjustment value is increased, the warp amount is increased. When the adjustment value is decreased, the warp amount is decreased.

(When the adjustment value is changed by 1, the stop timing is changed by 0.1mm.)

# 53

## 53-6

**Purpose** Adjustment

**Function (Purpose)** Adjust the detection level of the SPF document width

**Section**

**Operation/Procedure**

1) Open the SPF paper feed guide to the maximum width.
2) Tap [EXECUTE] key.
   The maximum width detection level is recognized.
3) Open the SPF paper feed guide to the A4R width.
4) Tap [EXECUTE] key.
   The A4R width detection level is recognized.
5) Open the SPF paper feed guide to the A5R width.
6) Tap [EXECUTE] key.
   The A5R width detection level is recognized.
7) Open the SPF paper feed guide to the minimum width.
8) Tap [EXECUTE] key.
   The minimum width detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed and. When the above operation is completed normally, "COMPLETE" is displayed.

| | | |
|---|---|---|
| 1 | TRAYVOLMAX | Tray size volume maximum value |
| 2 | TRAYVOLA4R | Tray volume A4R size adjustment value |
| 3 | TRAYVOLA5R | Tray volume A5R size adjustment value |
| 4 | TRAYVOLMIN | Tray size volume minimum value |

## 53-7

**Purpose** Adjustment/Setup

**Function (Purpose)** Adjust the SPF document size width sensor

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

**[RSPF]**

| Item/Display | | | Setting range | Default |
|---|---|---|---|---|
| A | AD_MAX | Max. width position | 0 - 1023 | 84 |
| B | AD_P1 | A4R width position | 0 - 1023 | 509 |
| C | AD_P2 | A5R width position | 0 - 1023 | 808 |
| D | AD_MIN | Min. width position | 0 - 1023 | 961 |

**[DSPF]**

| Item/Display | | | Setting range | Default |
|---|---|---|---|---|
| A | AD_MAX | Max. width position | 0 - 1023 | 66 |
| B | AD_P1 | A4R width position | 0 - 1023 | 438 |
| C | AD_P2 | A5R width position | 0 - 1023 | 699 |
| D | AD_MIN | Min. width position | 0 - 1023 | 893 |

## 53-8

**Purpose** Adjustment

**Function (Purpose)** Adjust the document lead edge reference and the SPF mode document scan position

**Section**

**Operation/Procedure**

Select an adjustment item with [AUTO] [MANUAL] key.

<AUTO: Document lead edge reference (RRCA) adjustment>(Auto adjustment)

1) Set a sheet of black paper of A4 or 11"x 8.5" on the document table.
2) Tap [EXECUTE] key. (The adjustment is performed and the adjustment value is saved.)

| Item/Display | Content | Setting range | Default |
|---|---|---|---|
| MEASUREMENT DISTANCE | Document lead edge measurement distance | 0-255 (0.1mm unit) | - |
| RRCA | Document lead edge reference position | 0 - 99 | 50 |

<MANUAL: SPF mode document scan position adjustment>

1) Enter the set value.
2) Tap [OK] key. (The set value is saved.)

| Item/Display | | Content | Setting range | Default (RSPF) | Default (DSPF) |
|---|---|---|---|---|---|
| A | ADJUST VALUE | SPF mode document scan position adjustment (Scanner stop position adjustment) | 1 - 99 | 5 | 10 |

* When the adjustment value is increased, the scanner stop position in the RSPF mode is shifted to the right.

* When the adjustment value is changed by 1, the position is shifted by 0.1mm.

## 53-9

**Purpose** Adjustment

**Function (Purpose)** Set scanning position in SPF

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key. (The set value is saved.)

**[RSPF]**

| Item/Display | | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SIDEA_SCAN_POSITION_SET_START | SPF front surface optimum scan position detection setting (When starting) | OFF | 0 | 0 |
| | | | ON | 1 | |

| | Item/Display | Content | | Setting range | Default |
|---|---|---|---|---|---|
| B | SIDEA_SCAN_POSITION_SET_JOB | SPF front surface optimum scan position detection setting (After a job) | OFF | 0 | 1 |
| | | | ON | 1 | |
| C | SIDEA_SCAN_POSITION_LV | SPF front surface optimum scan position detection level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| D | OC_DIRT_LV | OC dirt level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| E | SIDEA_DIRT_ALARM_LV | SPF front surface dirt alarm level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| F | SIDEA_DIRT_SHADING_SET | SPF front surface streak delete shading setting | OFF | 0 | 1 |
| | | | ON | 1 | |

**[DSPF]**

| | Item/Display | Content | | Setting range | Default |
|---|---|---|---|---|---|
| A | SIDEA_SCAN_POSITION_SET_START | SPF front surface optimum scan position detection setting (When starting) | OFF | 0 | 0 |
| | | | ON | 1 | |
| B | SIDEA_SCAN_POSITION_SET_JOB | SPF front surface optimum scan position detection setting (After a job) | OFF | 0 | 1 |
| | | | ON | 1 | |
| C | SIDEA_SCAN_POSITION_LV | SPF front surface optimum scan position detection level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| D | OC_DIRT_LV | OC dirt level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| E | SIDEA_DIRT_ALARM_LV | SPF front surface dirt alarm level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| F | SIDEB_DIRT_ALARM_LV | SPF back surface dirt alarm level setting | Low | 0 | 1 |
| | | | Medium | 1 | |
| | | | High | 2 | |
| G | SIDEA_DIRT_SHADING_SET | SPF front surface streak delete shading setting | OFF | 0 | 1 |
| | | | ON | 1 | |
| H | SIDEB_DIRT_SHADING_SET | SPF back surface streak delete shading setting | OFF | 0 | 1 |
| | | | ON | 1 | |
| I | SIDEB_EXT_SHADING_SET | SPF back side expansion shading setting | Default | 0 | 0 |
| | | | Both OFF | 1 | |
| | | | Both ON | 2 | |
| | | | Power on ON/OFF after JOB | 3 | |
| | | | Power on OFF/ON after JOB | 4 | |

53-10

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Execute dirt detection in SPF |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.

**[RSPF]**

| Item | Content |
|---|---|
| SPF SIDEA | SPF front surface dirt detection position (main scan position 1 to 8)<br>"-": No dirt, A"*": Dirt |
| OC | OC surface dirt detection position (main scan position 1 to 8)<br>"-": No dirt, "*": Dirt |

**[DSPF]**

| Item | Content |
|---|---|
| SPF SIDEA | SPF front surface dirt detection position (main scan position 1 to 8)<br>"-": No dirt, A"*": Dirt |
| SPF SIDEB | DSPF back surface dirt detection position (main scan position 1 to 8)<br>"-": No dirt, A"*": Dirt |
| OC | OC surface dirt detection position (main scan position 1 to 8)<br>"-": No dirt, "*": Dirt |

# 55

55-1

**Purpose** (Do not use this function unless specially required.)

**Function (Purpose)** Set the specification of the engine control operations (SOFT SW)

**Section**

**Operation/Procedure**

55-2

**Purpose** (Do not use this function unless specially required.)

**Function (Purpose)** Set the specification of the scanner control operation (SOFT SW)

**Section**

**Operation/Procedure**

55-3

**Purpose** (Do not use this function unless specially required.)

**Function (Purpose)** Set the specification of the controller operation (SOFT SW)

**Section**

**Operation/Procedure**

55-10

**Purpose** Adjustment/Setting

**Function (Purpose)** Set the special stamp text (For Taiwan)

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the value corresponding to the setting item.
3) Tap [OK] key.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | 1ST DIGIT | | First digit (left edge) | | 1 - 90<br>32 [blank: 20H]<br>65 - 90 [Alphabet: 41H("A") - 5AH("Z")]<br>48 - 57 [Numeral: 30H("0") - 39H("9")] | 1 |
| B | 2ND DIGIT | | Second digit | | | |
| C | 3RD DIGIT | | Third digit | | | |
| D | 4TH DIGIT | | Fourth digit | | | |
| E | 5TH DIGIT | | Fifth digit | | | |
| F | 6TH DIGIT | | Sixth digit (right edge) | | | |
| G | COLOR | K | Color specification input | | 0 | 0 |
| | | C | | | 1 | |
| | | M | | | 2 | |
| | | Y | | | 3 | |
| | | R | | | 4 | |
| | | G | | | 5 | |
| | | B | | | 6 | |
| H | TYPE | | Print composing method | Edging type | 0 | 1 |
| | | | | OR process type | 1 | |
| | | | | No-delete-composition type | 2 | |
| I | DENSITY | | Stamp density setting | | 1 - 9 | 3 |
| J | SPECIAL WATERMARK | | Stamp setting | Disable | 0 | 0 |
| | | | | Enable | 1 | |

**Input value**

| Print | Blank | A | B | C | E | F | G |
|---|---|---|---|---|---|---|---|
| Input value | 32 | 65 | 66 | 67 | 69 | 70 | 71 |

| Print | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|
| Input value | 72 | 73 | 74 | 75 | 76 | 77 | 78 |

| Print | O | P | Q | R | T | U | V |
|---|---|---|---|---|---|---|---|
| Input value | 79 | 80 | 81 | 82 | 84 | 85 | 86 |

| Print | W | X | Y | Z | 0 | 1 | 2 |
|---|---|---|---|---|---|---|---|
| Input value | 87 | 88 | 89 | 90 | 48 | 49 | 50 |

| Print | 3 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|
| Input value | 51 | 53 | 54 | 55 | 56 | 57 |

# 56

56-1

**Purpose** Backup

**Function (Purpose)** Transport data between STORAGE - MFP EEPROM

**Section**

**Operation/Procedure**

1) Select a target content of data transfer.
2) Tap [EXECUTE] key and tap [YES] key.
   Data transfer of the item selected in procedure 1) is executed.
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

| | |
|---|---|
| EEPROM -> STORAGE | Transfer from EEPROM to STORAGE |
| STORAGE -> EEPROM | Transfer from STORAGE to EEPROM |

56-2

**Purpose** Data backup

**Function (Purpose)** Store the data in the EEPROM, ICU DRIVE and STORAGE to the USB memory

**Section**

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select target item.
3) Tap [EXECUTE] key, and tap [YES] key.
   Data transfer selected in the procedure 2) is performed
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

(Machine with the DSK installed)

1) Insert the USB flash drive into the main unit.
2) Select target item.
3) Enter the password.
4) Tap [SET] key.
5) Tap [EXECUTE] key, and tap [YES] key.
   Data transfer selected in the procedure 2) is performed.
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-3

| | |
|---|---|
| **Purpose** | Data backup |
| **Function (Purpose)** | Store the document filing data to the USB memory |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select target item.
3) Tap [EXECUTE] key, and tap [YES] key.
   Data transfer selected in the procedure 2) is performed.
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4

| | |
|---|---|
| **Purpose** | Data backup |
| **Function (Purpose)** | Store the JOB log data to the USB memory |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Tap [JOB LOG EXPORT] key.
3) Tap [EXECUTE] key, and tap [YES] key.
   Data transfer selected in the procedure 2) is performed.
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Store the SIM22-6 data to the USB memory in the text format |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select a kind of data to be imported.
3) Tap [EXECUTE] key, and tap [YES] key.
   Procedure 2) The selected data are imported.
   When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-6

| | |
|---|---|
| **Purpose** | Operation data check |
| **Function (Purpose)** | Store the SIM23-2 JAM/trouble data to the USB memory in the text format |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select a kind of data to be imported.
3) Tap [EXECUTE] key, and tap [YES] key.

56-7

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Store the system log data to the USB memory |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select SYSLOG EXPORT to be imported.
3) Tap [EXECUTE] key, and tap [YES] key.

56-8

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Update ICC profile |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select the ICC profile data to be imported.
3) Tap [EXECUTE] key, and tap [YES] key.

56-15

| | |
|---|---|
| **Purpose** | Backup |
| **Function (Purpose)** | Restore the data for the MFP EEPROM |
| **Section** | |

**Operation/Procedure**

1) Confirm that new EEPROM attached on the PWB
2) Tap [EXECUTE] key, and, tap [YES] key.
   When the operation is completed normally, "COMPLETE" is displayed. in case of an abnormal end "ERROR" is displayed.

56-99

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Store all log data to the USB memory |
| **Section** | |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select the log item data to be imported.
3) Tap [EXECUTE] key, and tap [YES] key.

| Item | Contents |
|---|---|
| SIM56-5 | Import SIM56-5 data. |
| SIM56-6 | Import SIM56-6 data. |
| SIM00-11 | Import SIM00-11 data. |
| SIM56-4 | Import SIM56-4 job log data. |
| SIM56-7 | Import SIM56-7 system log data. |
| SIM56-2 | Perform simplified output of SIM56-2. |

# 60

60-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the memory operations (read/write) of the SCN MFP PWB |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   Start the test.

| Result display | Description |
|---|---|
| OK | Success |
| NG | Fail |
| NONE | DIMM trouble |
| INVALID | Execution disable |

# 61

## 61-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the LSU polygon motor rotation and laser detection |
| **Section** | LSU |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   When the operation is completed normally, [OK] is displayed. In case of an abnormal end, [NG] is displayed.

| Display | Content |
|---|---|
| LSU test NG:PG | Polygon mirror rotation abnormality |
| LSU test NG:K | Laser light emitting abnormality (K) |
| LSU test NG:CL | Laser light emitting abnormality (C,M,Y) |

## 61-3

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the laser power |
| **Section** | |

**Operation/Procedure**

1) Select a target mode for adjustment with [COPY600], [COPY1200], [PR600/FAX], [PR1200].
2) Select target item.
3) Enter the adjustment value.
4) Tap [OK] key. (The set value is saved.)
   When the laser power are increased, the print density is increased and the line width of line images are increased.

**MX-xx61/xx71**

| Mode | | Item / Display | Content | Default |
|---|---|---|---|---|
| COPY 600 | A | LASER POWER MIDDLE(K) | Laser power setting middle speed/K | 149 |
| | B | LASER POWER MIDDLE(C) | Laser power setting middle speed/C | 149 |
| | C | LASER POWER MIDDLE(M) | Laser power setting middle speed/M | 149 |
| | D | LASER POWER MIDDLE(Y) | Laser power setting middle speed/Y | 149 |
| | E | LASER POWER LOW(K) | Laser power setting low speed/K | 117 |
| | F | LASER POWER LOW(C) | Laser power setting low speed/C | 117 |
| | G | LASER POWER LOW(M) | Laser power setting low speed/M | 117 |
| | H | LASER POWER LOW(Y) | Laser power setting low speed/Y | 117 |
| | I | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 149 |
| | J | LASER POWER LOW(BW) | Laser power setting low speed/BW | 117 |
| | K | LASER DUTY MIDDLE(K) | Laser duty select middle speed/K | 0 |
| | L | LASER DUTY MIDDLE(C) | Laser duty select middle speed/C | 0 |
| | M | LASER DUTY MIDDLE(M) | Laser duty select middle speed/M | 0 |
| | N | LASER DUTY MIDDLE(Y) | Laser duty select middle speed/Y | 0 |
| | O | LASER DUTY LOW(K) | Laser duty select low speed/K | 0 |
| | P | LASER DUTY LOW(C) | Laser duty select low speed/C | 0 |
| | Q | LASER DUTY LOW(M) | Laser duty select low speed/M | 0 |
| | R | LASER DUTY LOW(Y) | Laser duty select low speed/Y | 0 |
| | S | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | T | LASER DUTY LOW(BW) | Laser duty select low speed/BW | 0 |
| | U | LASER POWER K1 | Laser power setting K1 | 100 |
| | V | LASER POWER K2 | Laser power setting K2 | 100 |
| | W | LASER POWER C1 | Laser power setting C1 | 100 |
| | X | LASER POWER C2 | Laser power setting C2 | 100 |
| | Y | LASER POWER M1 | Laser power setting M1 | 100 |
| | Z | LASER POWER M2 | Laser power setting M2 | 100 |
| | AA | LASER POWER Y1 | Laser power setting Y1 | 100 |
| | AB | LASER POWER Y2 | Laser power setting Y2 | 100 |
| COPY 1200 | A | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 149 |
| | B | LASER POWER LOW(BW) | Laser power setting low speed/BW | 117 |
| | C | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | D | LASER DUTY LOW(BW) | Laser duty select low speed/BW | 0 |
| PR600/ FAX | A | LASER POWER MIDDLE(K) | Laser power setting middle speed/K | 149 |
| | B | LASER POWER MIDDLE(C) | Laser power setting middle speed/C | 149 |
| | C | LASER POWER MIDDLE(M) | Laser power setting middle speed/M | 149 |
| | D | LASER POWER MIDDLE(Y) | Laser power setting middle speed/Y | 149 |
| | E | LASER POWER LOW(K) | Laser power setting low speed/K | 117 |
| | F | LASER POWER LOW(C) | Laser power setting low speed/C | 117 |
| | G | LASER POWER LOW(M) | Laser power setting low speed/M | 117 |
| | H | LASER POWER LOW(Y) | Laser power setting low speed/Y | 117 |
| | I | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 149 |
| | J | LASER POWER LOW(BW) | Laser power setting low speed/BW | 117 |
| | K | LASER DUTY MIDDLE(K) | Laser duty select middle speed/K | 0 |
| | L | LASER DUTY MIDDLE(C) | Laser duty select middle speed/C | 0 |
| | M | LASER DUTY MIDDLE(M) | Laser duty select middle speed/M | 0 |
| | N | LASER DUTY MIDDLE(Y) | Laser duty select middle speed/Y | 0 |
| | O | LASER DUTY LOW(K) | Laser duty select low speed/K | 0 |
| | P | LASER DUTY LOW(C) | Laser duty select low speed/C | 0 |
| | Q | LASER DUTY LOW(M) | Laser duty select low speed/M | 0 |
| | R | LASER DUTY LOW(Y) | Laser duty select low speed/Y | 0 |
| | S | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | T | LASER DUTY LOW(BW) | Laser duty select low speed/BW | 0 |
| | U | LASER DUTY MIDDLE(K 1BIT) | Laser duty select middle speed (1BIT)/K | 0 |
| | V | LASER DUTY MIDDLE(C 1BIT) | Laser duty select middle speed (1BIT)/C | 0 |
| | W | LASER DUTY MIDDLE(M 1BIT) | Laser duty select middle speed (1BIT)/M | 0 |
| | X | LASER DUTY MIDDLE(Y 1BIT) | Laser duty select middle speed (1BIT)/Y | 0 |

| Mode | | Item / Display | Content | Default |
|---|---|---|---|---|
| PR600/ FAX | Y | LASER DUTY LOW(K 1BIT) | Laser duty select low speed (1BIT)/K | 0 |
| | Z | LASER DUTY LOW(C 1BIT) | Laser duty select low speed (1BIT)/C | 0 |
| | AA | LASER DUTY LOW(M 1BIT) | Laser duty select low speed (1BIT)/M | 0 |
| | AB | LASER DUTY LOW(Y 1BIT) | Laser duty select low speed (1BIT)/Y | 0 |
| | AC | LASER DUTY MIDDLE(BW 1BIT) | Laser duty select middle speed (1BIT)/ BW | 0 |
| | AD | LASER DUTY LOW(BW 1BIT)) | Laser duty select low speed (1BIT)/BW | 0 |
| PR 1200 | A | LASER POWER MIDDLE(K) | Laser power setting middle speed/K | 149 |
| | B | LASER POWER MIDDLE(C) | Laser power setting middle speed/C | 149 |
| | C | LASER POWER MIDDLE(M) | Laser power setting middle speed/M | 149 |
| | D | LASER POWER MIDDLE(Y) | Laser power setting middle speed/Y | 149 |
| | E | LASER POWER LOW(K) | Laser power setting low speed/K | 117 |
| | F | LASER POWER LOW(C) | Laser power setting low speed/C | 117 |
| | G | LASER POWER LOW(M) | Laser power setting low speed/M | 117 |
| | H | LASER POWER LOW(Y) | Laser power setting low speed/Y | 117 |
| | I | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 149 |
| | J | LASER POWER LOW(BW) | Laser power setting low speed/BW | 117 |
| | K | LASER DUTY MIDDLE(K) | Laser duty select middle speed/K | 0 |
| | L | LASER DUTY MIDDLE(C) | Laser duty select middle speed/C | 0 |
| | M | LASER DUTY MIDDLE(M) | Laser duty select middle speed/M | 0 |
| | N | LASER DUTY MIDDLE(Y) | Laser duty select middle speed/Y | 0 |
| | O | LASER DUTY LOW(K) | Laser duty select low speed/K | 0 |
| | P | LASER DUTY LOW(C) | Laser duty select low speed/C | 0 |
| | Q | LASER DUTY LOW(M) | Laser duty select low speed/M | 0 |
| | R | LASER DUTY LOW(Y) | Laser duty select low speed/Y | 0 |
| | S | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | T | LASER DUTY LOW(BW) | Laser duty select low speed/BW | 0 |

**MX-xx51**

| Mode | | Item / Display | Content | Default |
|---|---|---|---|---|
| COPY 600 | A | LASER POWER MIDDLE(K) | Laser power setting middle speed/K | 100 |
| | B | LASER POWER MIDDLE(C) | Laser power setting middle speed/C | 100 |
| | C | LASER POWER MIDDLE(M) | Laser power setting middle speed/M | 100 |
| | D | LASER POWER MIDDLE(Y) | Laser power setting middle speed/Y | 100 |
| | E | LASER POWER LOW(K) | Laser power setting low speed/K | 79 |
| | F | LASER POWER LOW(C) | Laser power setting low speed/C | 79 |
| | G | LASER POWER LOW(M) | Laser power setting low speed/M | 79 |
| | H | LASER POWER LOW(Y) | Laser power setting low speed/Y | 79 |
| | I | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 100 |
| | J | LASER POWER LOW(BW) | Laser power setting low speed/BW | 79 |
| | K | LASER DUTY MIDDLE(K) | Laser duty select middle speed/K | 0 |
| | L | LASER DUTY MIDDLE(C) | Laser duty select middle speed/C | 0 |
| | M | LASER DUTY MIDDLE(M) | Laser duty select middle speed/M | 0 |
| | N | LASER DUTY MIDDLE(Y) | Laser duty select middle speed/Y | 0 |
| | O | LASER DUTY LOW(K) | Laser duty select low speed/K | 0 |
| | P | LASER DUTY LOW(C) | Laser duty select low speed/C | 0 |
| | Q | LASER DUTY LOW(M) | Laser duty select low speed/M | 0 |
| | R | LASER DUTY LOW(Y) | Laser duty select low speed/Y | 0 |
| | S | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | T | LASER DUTY LOW(BW) | Laser duty select low speed/BW | 0 |
| PR600/ FAX | A | LASER POWER MIDDLE(K) | Laser power setting middle speed/K | 100 |
| | B | LASER POWER MIDDLE(C) | Laser power setting middle speed/C | 100 |
| | C | LASER POWER MIDDLE(M) | Laser power setting middle speed/M | 100 |
| | D | LASER POWER MIDDLE(Y) | Laser power setting middle speed/Y | 100 |
| | E | LASER POWER LOW(K) | Laser power setting low speed/K | 79 |
| | F | LASER POWER LOW(C) | Laser power setting low speed/C | 79 |
| | G | LASER POWER LOW(M) | Laser power setting low speed/M | 79 |
| | H | LASER POWER LOW(Y) | Laser power setting low speed/Y | 79 |
| | I | LASER POWER MIDDLE(BW) | Laser power setting middle speed/BW | 100 |
| | J | LASER POWER LOW(BW) | Laser power setting low speed/BW | 79 |
| | K | LASER DUTY MIDDLE(K) | Laser duty select middle speed/K | 0 |
| | L | LASER DUTY MIDDLE(C) | Laser duty select middle speed/C | 0 |
| | M | LASER DUTY MIDDLE(M) | Laser duty select middle speed/M | 0 |
| | N | LASER DUTY MIDDLE(Y) | Laser duty select middle speed/Y | 0 |
| | O | LASER DUTY LOW(K) | Laser duty select low speed/K | 0 |
| | P | LASER DUTY LOW(C) | Laser duty select low speed/C | 0 |
| | Q | LASER DUTY LOW(M) | Laser duty select low speed/M | 0 |

| Mode | | Item / Display | Content | Default |
|---|---|---|---|---|
| PR600/ FAX | R | LASER DUTY LOW(Y) | Laser duty select low speed/ Y | 0 |
| | S | LASER DUTY MIDDLE(BW) | Laser duty select middle speed/BW | 0 |
| | T | LASER DUTY LOW(BW) | Laser duty select low speed/ BW | 0 |
| | U | LASER DUTY MIDDLE(K 1BIT) | Laser duty select middle speed (1BIT)/K | 0 |
| | V | LASER DUTY MIDDLE(C 1BIT) | Laser duty select middle speed (1BIT)/C | 0 |
| | W | LASER DUTY MIDDLE(M 1BIT) | Laser duty select middle speed (1BIT)/M | 0 |
| | X | LASER DUTY MIDDLE(Y 1BIT) | Laser duty select middle speed (1BIT)/Y | 0 |
| | Y | LASER DUTY LOW(K 1BIT) | Laser duty select low speed (1BIT)/K | 0 |
| | Z | LASER DUTY LOW(C 1BIT) | Laser duty select low speed (1BIT)/C | 0 |
| | AA | LASER DUTY LOW(M 1BIT) | Laser duty select low speed (1BIT)/M | 0 |
| | AB | LASER DUTY LOW(Y 1BIT) | Laser duty select low speed (1BIT)/Y | 0 |
| | AC | LASER DUTY MIDDLE(BW 1BIT) | Laser duty select middle speed (1BIT)/BW | 0 |
| | AD | LASER DUTY LOW(BW 1BIT)) | Laser duty select low speed (1BIT)/BW | 0 |

## 61-4

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Print out the print image skew adjustment pattern |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Enter the print conditions setting value.
3) Tap [EXECUTE] key.
   The print image skew adjustment pattern is printed.

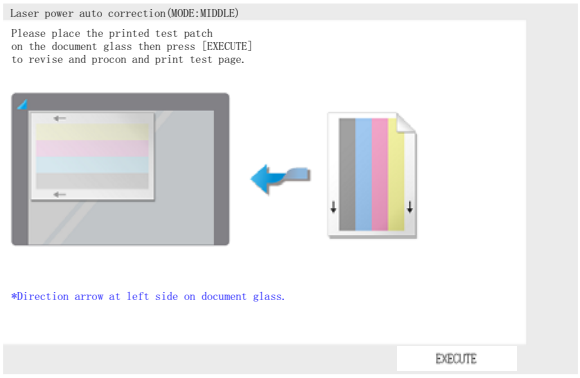
| Item/Display | | | Content | | | Default |
|---|---|---|---|---|---|---|
| A | MULTICOUNT | | Print quantity (1-999) | | | 1 |
| B | PAPER | MFT | Tray selection | 1 | Manual tray | 2 (CS 1) |
| | | CS1 | | 2 | Tray 1 | |
| | | CS2 | | 3 | Tray 2 | |
| | | CS3 | | 4 | Tray 3 | |
| | | CS4 | | 5 | Tray 4 | |
| | | LCC | | 6 | LCC | |

## 61-11

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the laser power (Auto) |
| **Section** | |

**Operation/Procedure**

1) Tap [AUTO CORRECTION] key.
2) Select a density to be corrected.
3) Tap [EXECUTE] key.
4) Check pattern is printed.
5) Place the printed pattern for scanning on the OC in the A4R(LTR) direction.




6) Tap [EXECUTE] key.
7) Tap [RETRY] key if correction is still required.

## 61-12

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the Laser power (Manual) |
| **Section** | LSU |

**Operation/Procedure**

Select VISUAL INSPECTION.

| Item / Display | Content | Outline |
|---|---|---|
| MEASURING INSTRUMENT | Density meter adjustment | Adjustment with density meter |
| VISUAL INSPETION | Visual check adjustment | Adjustment by visual check |
| DATA | Data display screen | Data display during execution of the manual correction |

**[VISUAL INSPECTION]**

1) Select the adjustment density pattern.
2) Tap [EXECUTE] key.
   The adjustment pattern is printed out.
3) Tap [5POINT CORRECTION] or [32POINT CORRECTION].
4) Enter an adjustment value of 5 points.
5) Tap [EXECUTE] key.
   Execute the manual correction of the laser power. Then the adjustment result pattern is outputted and the data are displayed.
6) Tap [RETRY] key if adjustment is still required.
7) Tap [DATA] key, display manual adjustment result.

## 61-13

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Clear the laser power correction value |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
3) Laser power auto correction value (K-Y) 32 points and laser power manual correction value (K-Y) 32 points are return back to the default.

61-14

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Set the laser power correction value |
| **Section** | |

**Operation/Procedure**

This Sim mode allows change of laser power settings easily, and all at once. However, this change will not change the initial value of SIM 61-3 (Laser power settings).

The laser power set in this Sim mode will be:

Initial value of Sim 61-3 x Initial value of Sim 61-14 (%)

1) Tap a target item.

| Item | Setting range | | Default |
|---|---|---|---|
| K/BW | -2 | Fine (80%) | 0 |
| | -1 | Slight fine (90%) | |
| | 0 | Normal (100%) | |
| | 1 | Slight thick (110%) | |
| | 2 | Thick (120%) | |
| C | -2 | Fine (80%) | 0 |
| | -1 | Slight fine (90%) | |
| | 0 | Normal (100%) | |
| | 1 | Slight thick (110%) | |
| | 2 | Thick (120%) | |
| M | -2 | Fine (80%) | 0 |
| | -1 | Slight fine (90%) | |
| | 0 | Normal (100%) | |
| | 1 | Slight thick (110%) | |
| | 2 | Thick (120%) | |
| Y | -2 | Fine (80%) | 0 |
| | -1 | Slight fine (90%) | |
| | 0 | Normal (100%) | |
| | 1 | Slight thick (110%) | |
| | 2 | Thick (120%) | |

# 62

62-1

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Format the storage |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   Used to execute the HDD format.

When the operation is completed, [EXECUTE] key returns to the normal display.

| Item | Content |
|---|---|
| ALL AREA | Storage format |
| EXCEPT SYSTEM AREA | Storage format (Except system area) |
| PREINSTALL DATA | Storage format (Preinstalled data area) |

62-3

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check read/write of the STORAGE (all areas) |
| **Section** | |

**Operation/Procedure**

1) Select target item
2) Tap [EXECUTE] key.
3) Tap [YES] key.
   Read/write operations are performed.

| Item | Content |
|---|---|
| ALL | Storage read/write check (All area) |
| PART | Storage read/write check (Partial area) |
| SMART (SHORT) | Storage self-diagnostic (Partial area) |
| SMART (EXTENDED) | Storage self-diagnostic (All area) |

62-4

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Check the format of the STORAGE (Logical) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.

| Item | Content |
|---|---|
| FORMAT | Format of specified partition |
| CHECK | Specified partition check |

62-7

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print the self diagnostics error log of the STORAGE |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-9

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the data in the STORAGE |
| **Section** | |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.

62-12

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set auto format in STORAGE error |
| **Section** | |

**Operation/Procedure**

1) Enter the set value.
2) Tap [OK] key.
   The set value is saved.

When it is set to Enable, if a read error of HDD occurs in the system data storage area (FAX/device cloning data, etc.), only the system data storage area is cleared.

| | | |
|---|---|---|
| A | 0 | Enable |
| | 1 | Disable (Default) |

62-14

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Check/Delete the database file in the STORAGE |
| **Section** | HDD |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.

| Item | Content |
|---|---|
| ALL CLEAR | All data base file clear |
| PART CLEAR | Partial data base file clear |
| CHECK | All data base file check |

62-21

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Display the storage information in the STORAGE |
| **Section** | Mirroring hard disk |

**Operation/Procedure**

Storage information is displayed.

# 63

63-1

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display the shading correction result |
| **Section** | Scanner |

**Operation/Procedure**

1) Select a target color to display with [R] [G] [B].

**[RSPF]**

| Display item | Description | Remarks |
|---|---|---|
| ANALOG GAIN ODD | Analog gain adjustment value (odd number) | |
| ANALOG GAIN EVEN | Analog gain adjustment value (even number) | |
| DIGITAL GAIN ODD | Digital gain adjustment value (odd number) | |
| DIGITAL GAIN EVEN | Digital gain adjustment value (even number) | |
| SMP AVE ODD | Reference plate sampling average value (ODD) | |
| SMP AVE EVEN | Reference plate sampling average value (EVEN) | |
| TARGET | Target value | |
| BLACK LEVEL | Black output level | |
| ERROR CODE | Error code (0, 1 - 14) | 0: No error |
| | | 1: STAGE1, Loop number over |
| | | 2: STAGE2, The target value is under the specified value |
| | | 3: STAGE3, The gain set value is negative. |
| | | 4: END is not asserted. (Gain adjustment) |
| | | 5: STAGE2, Retry maximum |
| | | 6: STAGE2, Underflow |
| | | 7: Black shading error |
| | | 8: Other error |
| | | 9: END is not asserted. (White shading) |
| | | 10 : END is not asserted. (Black shading) |
| | | 11 : END is not asserted. (Light quantity correction) |
| | | 12 : END is not asserted. |
| | | 13 : Register check error (White booting/Before gain) |
| | | 14 : Register check error (Before light quantity correction) |
| RSPF BACK WHITE LEVEL 1ST | First scan RSPF back surface white reference level | |
| RSPF BACK WHITE LEVEL 2ND | Second scan RSPF back surface white reference level | |

**[DSPF]**

| Display item | | Description | Remarks |
|---|---|---|---|
| OC | ANALOG GAIN ODD | Analog gain adjustment value (odd number) | |
| | ANALOG GAIN EVEN | Analog gain adjustment value (even number) | |
| | DIGITAL GAIN ODD | Digital gain adjustment value (odd number) | |
| | DIGITAL GAIN EVEN | Digital gain adjustment value (even number) | |
| | SMP AVE ODD | Reference plate sampling average value (ODD) | |
| | SMP AVE EVEN | Reference plate sampling average value (EVEN) | |
| | TARGET | Target value | |
| | BLACK LEVEL | Black output level | |
| | ERROR CODE | Error code (0, 1 - 14) | 0: No error |
| | | | 1: STAGE1, Loop number over |
| | | | 2: STAGE2, The target value is under the specified value |
| | | | 3: STAGE3, The gain set value is negative. |
| | | | 4: END is not asserted. (Gain adjustment) |
| | | | 5: STAGE2, Retry maximum |
| | | | 6: STAGE2, Underflow |
| | | | 7: Black shading error |
| | | | 8: Other error |
| | | | 9: END is not asserted. (White shading) |
| | | | 10 : END is not asserted. (Black shading) |

| Display item | | Description | Remarks |
|---|---|---|---|
| OC | ERROR CODE | Error code (0, 1 - 14) | 11 : END is not asserted. (Light quantity correction) |
| | | | 12 : END is not asserted. |
| | | | 13 : Register check error (White booting/Before gain) |
| | | | 14 : Register check error (Before light quantity correction) |
| | DSPF BACK WHITE LEVEL 1ST | First scan DSPF back surface white reference level | |
| | DSPF BACK WHITE LEVEL 2ND | Second scan DSPF back surface white reference level | |
| DSPF | ANALOG GAIN ODD | Analog gain adjustment value (odd number) | |
| | ANALOG GAIN EVEN | Analog gain adjustment value (even number) | |
| | DIGITAL GAIN ODD | Digital gain adjustment value (odd number) | |
| | DIGITAL GAIN EVEN | Digital gain adjustment value (even number) | |
| | ERROR CODE | Error code (0, 1 - 14) | 0: No error |
| | | | 1: STAGE1, Loop number over |
| | | | 2: STAGE2, The target value is under the specified value |
| | | | 3: STAGE3, The gain set value is negative. |
| | | | 4: END is not asserted. (Gain adjustment) |
| | | | 5: STAGE2, Retry maximum |
| | | | 6: STAGE2, Underflow |
| | | | 7: Black shading error |
| | | | 8: Other error |
| | | | 9: END is not asserted. (White shading) |
| | | | 10 : END is not asserted. (Black shading) |
| | | | 11 : END is not asserted. (Light quantity correction) |
| | | | 12 : END is not asserted. |
| | | | 13 : Register check error (White booting/Before gain) |
| | | | 14 : Register check error (Before light quantity correction) |
| | DSPF BACK WHITE LEVEL 1ST | First scan DSPF back surface white reference level | |
| | DSPF BACK WHITE LEVEL 2ND | Second scan DSPF back surface white reference level | |

63-2

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Execute shading correction |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.

   Used to perform shading.

When the operation is completed, [EXECUTE] key returns to the normal display.

When the DSPF is connected, the following items are displayed.

| Display | Contents |
|---|---|
| OC SHADING | OC analog correction level correction or shading correction data creation (OC mode) |
| DSPF SHADING | DSPF analog correction level correction or shading correction data creation (SPF mode) |

63-3

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust scanner (CCD) color balance and gamma |
| **Section** | Scanner |

**Operation/Procedure**

**For OC mode**

1) Place the scanner adjustment chart (UKOG-0356FCZZ) on the reference position of the left rear frame side of the document table.
2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.

   The scanner (CCD) color balance automatic adjustment is performed.

When the operation is completed, [EXECUTE] key returns to the normal display.

**For DSPF mode**

1) Place the scanner adjustment chart (UKOG-0356FCZZ) on the DSPF paper tray
2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.

   The scanner (CCD) color balance automatic adjustment is performed.

63-4

| | |
|---|---|
| **Purpose** | Adjustment/Setting/Operation data check |
| **Function (Purpose)** | Display the scanner test chart patch density |
| **Section** | |

**Operation/Procedure**

1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the reference position on the left rear frame side of the document table.
2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.

   The patch of the SIT chart is scanned.

   When the operation is completed, [EXECUTE] key returns to the normal display.
3) Select a data display mode.

| | |
|---|---|
| GAMMATHROUGH | SIT chart scan data |
| COPY GAMMA | Copy mode gamma process data of the SIT chart scan data |
| SCANNER GAMMA | Image send mode gamma process data of the SIT chart scan data |
| SIT CHECK | SIT chart scan data/Check result |

Select an target display color with [R] [G] [B] keys.

63-5

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the default of the scanner (CCD) color balance and gamma |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key, and tap [YES] key
2) The scanner (CCD) color balance and gamma are set to the default.

**[RSPF]**

| | Item/Display | Contents |
|---|---|---|
| 1 | SIDE A(OC) | Copy gamma correction 1 and color correction coefficient |
| 2 | | TWAIN gamma correction 1 and color correction coefficient |
| 3 | | Auto adjustment gamma correction 1 and color correction coefficient |

**[DSPF]**

| | Item/Display | Contents |
|---|---|---|
| 1 | SIDE A(OC) | Copy gamma correction 1 and color correction coefficient |
| 2 | | TWAIN gamma correction 1 and color correction coefficient |
| 3 | | Auto adjustment gamma correction 1 and color correction coefficient |
| 1 | SIDE B(DSPF) | Copy gamma correction 1 and color correction coefficient |
| 2 | | TWAIN gamma correction 1 and color correction coefficient |

63-7

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the service target of the copy mode auto color balance adjustment |
| **Section** | |

**Operation/Procedure**

1) Tap [SETUP] key.
2) Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
3) Tap [EXECUTE] key.
   The patch image of the adjustment pattern sheet is scanned.
4) Tap [OK] key.
   The service target of the copy mode automatic color balance adjustment is registered according to the patch image of the scanned adjustment pattern sheet.
   The registered color balance and the density are displayed.
   Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the copy color balance is manually adjusted.

| | |
|---|---|
| B | Point B target value |
| C | Point C target value |
| D | Point D target value |
| E | Point E target value |
| F | Point F target value |
| G | Point G target value |
| H | Point H target value |
| I | Point I target value |
| J | Point J target value |
| K | Point K target value |
| L | Point L target value |
| M | Point M target value |
| N | Point N target value |
| O | Point O target value |
| P | Point P target value |
| BASE | Background sampling value |

63-8

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the default of the service target of the copy mode auto color balance adjustment |
| **Section** | |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
   The service target of the copy mode automatic color balance adjustment is set to the default.
   The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

63-11

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the target color balance of the copy mode auto color balance adjustment |
| **Section** | |

**Operation/Procedure**

1) Select the target color balance.

| Item/Display | | Content | Default |
|---|---|---|---|
| TARGET TBL | DEF1 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual copy mode and print is made. | DEF 1 |
| | DEF2 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual copy mode and print is made. | |
| | DEF3 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual copy mode and print is made. | |

# 64

64-1

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print test pattern (self print) (color mode) |
| **Section** | |

**Operation/Procedure**

1) Set the print conditions.
   Select target item.
   Set the print conditions.
   Select a target print color with [K] [C] [M] [Y] key.
2) Tap [EXECUTE] key.
   The test print (self print) is performed.

| Item/Display | | | Content | | Setting range | | Default |
|---|---|---|---|---|---|---|---|
| A | PRINT PATTERN<br>(1, 2, 9 - 11, 17 - 19, 21, 22, 29) | | Specification of the print pattern<br>(* For details, refer to the description below.) | | 1 - 58 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 29) | | 1 |
| B | DOT1 (DOT1>=2 IF A: 2,11) | | Setting of print dot number (M parameter)<br>(Self print pattern: m by n) | | 1-255<br>(Pattern 2, 11: 2-255 except above: 1-255) | | 1 |
| C | DOT2 (DOT2>=2 IF A: 2,11) | | Setting of blank dot number (N parameter)<br>(Self print pattern: m by n) | | 0-255<br>(Pattern2, 11: 2-255 except above: 0-255) | | 236 |
| D | DENSITY (FIXED "255" IF A: 9) | | Used to specify the print gradation. | | 1-255<br>(Pattern 9: 255 Fixed except above:1-255) | | 255 |
| E | MULTI COUNT | | Number of print | | 1 - 999 | | 1 |
| F | EXPOSURE<br>(2 - 8 IF A: 17 - 19) | NONE | Exposure mode specification | No process (through) | 1-8<br>(Pattern 17-19: 2-8 except above:1-8) | 1 | 8 |
| | | TEXT/PRINTED PHOTO | | Text/Printed Photo | | 2 | |
| | | TEXT/PHOTO | | Text/ Photograph | | 3 | |
| | | TEXT | | Text | | 4 | |
| | | PHOTO | | Photograph | | 5 | |
| | | PRINTED PHOTO | | Printed Photo | | 6 | |
| | | MAP | | Map | | 7 | |
| | | STANDARD DITHER | | Dither without correction | | 8 | |
| G | PAPER | MFT | Tray selection | Manual tray | 1 - 6 | 1 | 2 |
| | | CS1 | | Tray 1 | | 2 | |
| | | CS2 | | Tray 2 | | 3 | |
| | | CS3 | | Tray 3 | | 4 | |
| | | CS4 | | Tray 4 | | 5 | |
| | | LCC | | LCC | | 6 | |
| H | DUPLEX | YES | Duplex print selection | Yes | 0 - 1 | 0 | 1 |
| | | NO | | No | | 1 | |
| I | PAPER TYPE | PLAIN1 | Paper type | Plain paper 1 | 1 - 9 | 1 | 1 |
| | | PLAIN2 | | Plain paper 2 | | 2 | |
| | | HEAVY | | Heavy paper | | 3 | |
| | | OHP | | OHP | | 4 | |
| | | ENVELOPE | | Envelope | | 5 | |
| | | HEAVY2 | | Heavy paper 2 | | 6 | |
| | | GLOSSY | | Glossy paper | | 7 | |
| | | HEAVY3 | | Heavy paper 3 | | 8 | |
| | | HEAVY4 | | Heavy paper 4 | | 9 | |

**Print pattern of Item A**

| Pattern No. | Content | Pattern generating section | NOTE |
|---|---|---|---|
| 1 | Grid pattern | LSU-ASIC | * When the print width is 100 or more and all colors are selected, print is made in the three colors (CMY).<br>* Print is started at 4mm from the paper lead edge.<br>* Writing regardless of pound. The first one is fixed to LD1. |
| 2 | Dot print | | - |
| 9 | Each color 10% area (A4/ A4R) density print | | * Each interval is 41.86mm (989dot).<br>* If m is not in the range of 1 - 13%, it is rounded.<br>* K print is started at 17mm from the paper lead edge. |
| 10 | 8-color belt print | | |
| 11 | 4-color dot print (sub scan) | | * For every 1/4 of the sub scanning direction paper size, print is made for each color.<br>* When N=0, print of all the background is made in 4 colors. |
| 17 | All background (halftone) | Halftone (IMG-ASIC rear process) | * When all colors are selected, print is made in CMY. |
| 18 | 256 gradations pattern (Other dither) | | * When all colors are selected, print is made in CMY.<br>* 16 gradations are printed in the main scanning direction, and feedback is made, and the next 16 gradations are printed. (16 x 16 patch print)<br>* Print is started at 5mm from the paper lead edge.<br>* Print is made from 255 gradations, and 0-254 gradations are printed. |
| 19 | 256 gradations pattern (For text dither) | | * Print is made from 255 gradations, and 0-254 gradations are printed. |
| 21 | 4-point dot print (main scan) | LSU-ASIC | * For every 1/4 of the main scanning direction paper size, print is made for each color.<br>* When N=0, print of all the background is made in 4 colors. |
| 22 | Slant line | LSU-ASIC | |
| 29 | Dot print 1200dpi | LSU-ASIC | * M=1(Fixed), N=1or3 |

64-2

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print test pattern (self print) (monochrome mode) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
   Set the print conditions.
2) Tap [EXECUTE] key.
   The test print (self print) is performed.

| | Item/Display | | Content | | Setting range | | Default |
|---|---|---|---|---|---|---|---|
| A | PRINT PATTERN<br>(1, 2, 9 - 11, 17 - 19, 21, 22, 29) | | Print pattern specification<br>(* For details, refer to the description below.) | | 1 - 58<br>(Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 29) | | 1 |
| B | DOT1 (DOT1>=2 IF A: 2,11) | | Setting of print dot number (M parameter)<br>(Self print pattern: m by n) | | 1-255<br>(Pattern 2, 11: 2-255 except above: 1-255) | | 1 |
| C | DOT2 (DOT2>=2 IF A: 2,11) | | Setting of blank dot number<br>(N parameter) (Self print pattern: m by n) | | 0-255<br>(Pattern2, 11: 2-255 except above: 0-255) | | 236 |
| D | DENSITY (FIXED "255" IF A: 9) | | Used to specify the print gradation. | | 1-255<br>(Pattern 9: 255 Fixed except above:1-255) | | 255 |
| E | MULTI COUNT | | Number of print | | 1 - 999 | | 1 |
| F | EXPOSURE<br>(2 - 8 IF A: 17 - 19) | NONE | Exposure mode specification | No process (through) | 1-8<br>(Pattern 17-19: 2-8 except above: 1-8) | 1 | 8 |
| | | TEXT/PRINTED PHOTO | | Text/Printed Photo | | 2 | |
| | | TEXT/PHOTO | | Text/ Photograph | | 3 | |
| | | TEXT | | Text | | 4 | |
| | | PHOTO | | Photograph | | 5 | |
| | | PRINTED PHOTO | | Printed Photo | | 6 | |
| | | MAP | | Map | | 7 | |
| | | STANDARD DITHER | | Dither without correction | | 8 | |
| G | PAPER | MFT | Tray selection | Manual tray | 1 - 6 | 1 | 2 |
| | | CS1 | | Tray 1 | | 2 | |
| | | CS2 | | Tray 2 | | 3 | |
| | | CS3 | | Tray 3 | | 4 | |
| | | CS4 | | Tray 4 | | 5 | |
| | | LCC | | LCC | | 6 | |
| H | DUPLEX | YES | Duplex print selection | Yes | 0 - 1 | 0 | 1 |
| | | NO | | No | | 1 | |
| I | PAPER TYPE | PLAIN | Paper type | Plain paper | 1 - 6 | 1 | 1 |
| | | HEAVY | | Heavy paper | | 2 | |
| | | OHP | | OHP | | 3 | |
| | | ENVELOPE | | Envelope | | 4 | |
| | | HEAVY2 | | Heavy paper 2 | | 5 | |
| | | GLOSSY | | Glossy paper | | 6 | |
| | | HEAVY3 | | Heavy paper 3 | | 7 | |
| | | HEAVY4 | | Heavy paper 4 | | 8 | |

**Print pattern of Item A**

| Pattern No. | Content | Pattern generating section | NOTE |
|---|---|---|---|
| 1 | Grid pattern | LSU-ASIC | * When the print width is 100 or more and all colors are selected, print is made in the three colors (CMY).<br>* Print is started at 4mm from the paper lead edge.<br>* Writing regardless of pound. The first one is fixed to LD1. |
| 2 | Dot print | | – |
| 9 | Each color 10% area (A4/A4R) density print | | * Each interval is 41.86mm (989dot).<br>* If m is not in the range of 1 - 13%, it is rounded.<br>* K print is started at 17mm from the paper lead edge. |
| 10 | 8-color belt print | | |
| 11 | 4-color dot print (sub scan) | | * For every 1/4 of the sub scanning direction paper size, print is made for each color.<br>* When N=0, print of all the background is made in 4 colors. |
| 17 | All background (halftone) | Halftone (IMG-ASIC rear process) | – |
| 18 | 256 gradations pattern (Other dither) | | – |
| 19 | 256 gradations pattern (For text dither) | | – |
| 21 | 4-point dot print (main scan) | LSU-ASIC | * For every 1/4 of the main scanning direction paper size, print is made for each color.<br>* When N=0, print of all the background is made in 4 colors. |
| 22 | Slant line | LSU-ASIC | |
| 29 | Dot print 1200dpi | LSU-ASIC | * M=1(Fixed), N=1or3 |

64-4

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print printer test pattern (self print) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
   Set the print conditions.
   Select a target print color with [K] [C] [M] [Y] key.
2) Tap [EXECUTE] key.
3) The test print (self print) is performed.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | PRINT PATTERN | | Specification of the print pattern (* For details, refer to the description below.) | | 1 - 6 | 6 |
| B | DENSITY | | Used to specify the print gradation. | | 1 - 255 | 128 |
| C | MULTI COUNT | | Number of print | | 1 - 999 | 1 |
| D | PAPER | MFT | Paper feed tray selection | Manual tray | 1 | 2 |
| | | CS1 | | Tray 1 | 2 | |
| | | CS2 | | Tray 2 | 3 | |
| | | CS3 | | Tray 3 | 4 | |
| | | CS4 | | Tray 4 | 5 | |
| | | LCC | | LCC | 6 | |
| E | HALFTONE | LOW | Halftone | Low line number | 0 | 0 |
| | | HIGH | | High line number | 1 | |
| F | QUALITY | STANDARD | Image quality setting | 600dpi | 0 | 1 |
| | | HIGHQUALITY | | 600dpi (High Quality) | 1 | |
| | | FINE | | 1200dpi | 2 | |
| G | DITHER | STRAIGHT | Specification of dither correction | Straight | 0 | 1 |
| | | CALIB | | Calibration | 1 | |
| H | PAPER TYPE | PLAIN | Paper type | Plain paper | 0 | 0 |
| | | PLAIN2 | | Plain paper 2 | 1 | |
| | | HEAVY | | Heavy paper | 2 | |
| | | HEAVY2 | | Heavy paper 2 | 3 | |
| | | GLOSSY | | Glossy paper | 4 | |
| | | HEAVY3 | | Heavy paper 3 | 5 | |
| | | HEAVY4 | | Heavy paper 4 | 6 | |

**Print pattern of Item A**

| Pattern No. | Content |
|---|---|
| 1 | 256 gradations pattern (COLOR) |
| 2 | 256 gradations pattern (B/W) |
| 3 | 256 gradations pattern (COLOR) (Y-M-C-K continuous) |
| 4 | Halftone pattern (COLOR) |
| 5 | Halftone pattern (B/W) |
| 6 | Background dot print |

64-5

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print printer test pattern (self print) (PCL) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
   Set the print conditions.
   Select a target print color with [K] [C] [M] [Y] key.
2) Tap [EXECUTE] key.
   The test print (self print) is performed.

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | PRINT PATTERN | | Print pattern specification | | 1 - 5 | 3 |
| B | DENSITY | | Print gradation specification | | 1 - 255 | 255 |
| C | MULTI COUNT | | Number of print | | 1 - 999 | 1 |
| D | PAPER | MFT | Paper feed tray selection | Manual tray | 1 | 2 |
| | | CS1 | | Tray 1 | 2 | |
| | | CS2 | | Tray 2 | 3 | |
| | | CS3 | | Tray 3 | 4 | |
| | | CS4 | | Tray 4 | 5 | |
| | | LCC | | LCC | 6 | |
| E | HALFTONE | LOW(IMAGE) | Halftone | For Photo | 0 | 2 |
| | | HIGH(TEXT) | | For text | 1 | |
| | | AUTO | | Auto (for photo/text) | 2 | |
| F | QUALITY | STANDARD | Image quality setting | 600dpi | 0 | 1 |
| | | HIGHQUALITY | | 600dpi (High Quality) | 1 | |
| | | FINE | | 1200dpi | 2 | |
| G | DITHER | STRAIGHT | Specification of dither correction | Straight | 0 | 1 |
| | | CALIB | | Calibration | 1 | |
| H | PAPER TYPE | PLAIN1 | Paper type | Plain paper 1 | 0 | 0 |
| | | PLAIN2 | | Plain paper 2 | 1 | |
| | | HEAVY | | Heavy paper | 2 | |
| | | HEAVY2 | | Heavy paper 2 | 3 | |
| | | GLOSSY | | Glossy paper | 4 | |
| | | HEAVY3 | | Heavy paper 3 | 5 | |
| | | HEAVY4 | | Heavy paper 4 | 6 | |
| I | INTENT | PERCEPTUAL | Rendering indent | Perceptual | 0 | 0 |
| | | COLORIMETRIC | | Color metric | 1 | |
| | | SATURATION | | Saturation | 2 | |
| J | OUTPUT PROFILE | SHARP | Output profile | Standard | 0 | 0 |
| | | STANDARD | | Photo image | 1 | |
| | | GRAPHICS | | Graphics | 2 | |
| K | RGB SOURCE PROFILE | SRGB | RGB source profile | SRGB | 0 | 0 |
| | | GAMMA1.6 | | Gamma 1.6 | 1 | |
| | | GAMMA1.8 | | Gamma 1.8 | 2 | |
| | | GAMMA2.0 | | Gamma 2.0 | 3 | |
| | | GAMMA2.6 | | Gamma 2.6 | 4 | |
| | | GAMMA3.0 | | Gamma 3.0 | 5 | |
| | | TONER SAVE | | TONER SAVE | 6 | |
| L | GRAY COMPENSATION | K | Gray print method | K only | 0 | 0 |
| | | KCMY | | KCMY | 1 | |
| M | PURE BLACK PRINT | ON | Black monochrome print | set. | 0 | 0 |
| | | OFF | | not set. | 1 | |
| N | TONER SAVE MODE | OFF | Monochrome toner save | not set. | 0 | 0 |
| | | ON | | set. | 1 | |

**Print pattern of Item A**

| Pattern No. | Content |
|---|---|
| 1 | COLOR |
| 2 | B/W |
| 3 | Continuous COLOR,B/W |
| 4 | Service chart (COLOR) |
| 5 | Service chart (B/W) |

64-6

| | |
|---|---|
| **Purpose** | Operation test/check |
| **Function (Purpose)** | Print printer test pattern (self print) (PS) |
| **Section** | |

**Operation/Procedure**

1) Select target item.
   Set the print conditions.
   Select a print color with [K] [C] [M] [Y] key.
2) Tap [EXECUTE] key.
   The test print (self print) is performed.

**MX-xx61/xx71**

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | PRINT PATTERN | | Print pattern specification | | 1 - 2 | 1 |
| B | DENSITY | | Print gradation specification | | 1 - 255 | 255 |
| C | MULTI COUNT | | Number of print | | 1 - 999 | 1 |
| D | PAPER | MFT | Paper feed tray selection | Manual tray | 1 | 2 |
| | | CS1 | | Tray 1 | 2 | |
| | | CS2 | | Tray 2 | 3 | |
| | | CS3 | | Tray 3 | 4 | |
| | | CS4 | | Tray 4 | 5 | |
| | | LCC | | LCC | 6 | |
| E | HALFTONE | LOW(IMAGE) | Halftone | For Photo | 0 | 2 |
| | | HIGH(TEXT) | | For text | 1 | |
| | | AUTO | | Auto (for photo/text) | 2 | |
| F | QUALITY | STANDARD | Image quality setting | 600dpi | 0 | 1 |
| | | HIGHQUALITY | | 600dpi (High Quality) | 1 | |
| | | FINE | | 1200dpi | 2 | |
| G | DITHER | STRAIGHT | Specification of dither correction | Straight | 0 | 1 |
| | | CALIB | | Calibration | 1 | |
| H | PAPER TYPE | PLAIN1 | Paper type | Plain paper 1 | 0 | 0 |
| | | PLAIN2 | | Plain paper 2 | 1 | |
| | | HEAVY | | Heavy paper | 2 | |
| | | HEAVY2 | | Heavy paper 2 | 3 | |
| | | GLOSSY | | Glossy paper | 4 | |
| | | HEAVY3 | | Heavy paper 3 | 5 | |
| | | HEAVY4 | | Heavy paper 4 | 6 | |
| I | INTENT | PERCEPTUAL | Rendering indent | Perceptual | 0 | 0 |
| | | COLORIMETRIC | | Color metric | 1 | |
| | | SATURATION | | Saturation | 2 | |
| J | OUTPUT PROFILE | SHARP | Output profile | Standard | 0 | 0 |
| | | STANDARD | | Photo image | 1 | |
| | | GRAPHICS | | Graphics | 2 | |
| K | RGB SOURCE PROFILE | SRGB | RGB source profile | SRGB | 0 | 0 |
| | | GAMMA1.6 | | Gamma 1.6 | 1 | |
| | | GAMMA1.8 | | Gamma 1.8 | 2 | |
| | | GAMMA2.0 | | Gamma 2.0 | 3 | |
| | | GAMMA2.6 | | Gamma 2.6 | 4 | |
| | | GAMMA3.0 | | Gamma 3.0 | 5 | |
| | | TONER SAVE | | TONER SAVE | 6 | |
| L | GRAY COMPENSATION | K | Gray print method | K only | 0 | 0 |
| | | KCMY | | KCMY | 1 | |
| M | PURE BLACK PRINT | ON | Black monochrome print | set. | 0 | 1 |
| | | OFF | | not set. | 1 | |
| N | TONER SAVE MODE | OFF | Monochrome toner save | not set. | 0 | 0 |
| | | ON | | set. | 1 | |
| O | CMY SIMULATION | OFF | CMYK simulation | OFF | 0 | 0 |
| | | SWOP | | SWOP | 1 | |
| | | EURO | | EURO | 2 | |
| | | JAPAN COLOR | | JAPAN COLOR | 3 | |
| | | TONER SAVE | | TONER SAVE | 4 | |

| Item/Display | | | Content | | Setting range | Default |
|---|---|---|---|---|---|---|
| A | PRINT PATTERN | | Print pattern specification | | 1 - 2 | 1 |
| B | DENSITY | | Print gradation specification | | 1 - 255 | 255 |
| C | MULTI COUNT | | Number of print | | 1 - 999 | 1 |
| D | PAPER | MFT | Paper feed tray selection | Manual tray | 1 | 2 |
| | | CS1 | | Tray 1 | 2 | |
| | | CS2 | | Tray 2 | 3 | |
| | | CS3 | | Tray 3 | 4 | |
| | | CS4 | | Tray 4 | 5 | |
| | | LCC | | LCC | 6 | |
| E | HALFTONE | LOW(IMAGE) | Halftone | For Photo | 0 | 2 |
| | | HIGH(TEXT) | | For text | 1 | |
| | | AUTO | | Auto (for photo/text) | 2 | |
| F | QUALITY | STANDARD | Image quality setting | 600dpi | 0 | 1 |
| | | HIGHQUALITY | | 600dpi (High Quality) | 1 | |
| G | DITHER | STRAIGHT | Specification of dither correction | Straight | 0 | 1 |
| | | CALIB | | Calibration | 1 | |
| H | PAPER TYPE | PLAIN1 | Paper type | Plain paper 1 | 0 | 0 |
| | | PLAIN2 | | Plain paper 2 | 1 | |
| | | HEAVY | | Heavy paper | 2 | |
| | | HEAVY2 | | Heavy paper 2 | 3 | |
| | | GLOSSY | | Glossy paper | 4 | |
| | | HEAVY3 | | Heavy paper 3 | 5 | |
| | | HEAVY4 | | Heavy paper 4 | 6 | |
| I | INTENT | PERCEPTUAL | Rendering indent | Perceptual | 0 | 0 |
| | | COLORIMETRIC | | Color metric | 1 | |
| | | SATURATION | | Saturation | 2 | |
| J | OUTPUT PROFILE | SHARP | Output profile | Standard | 0 | 0 |
| | | STANDARD | | Photo image | 1 | |
| | | GRAPHICS | | Graphics | 2 | |
| K | RGB SOURCE PROFILE | SRGB | RGB source profile | SRGB | 0 | 0 |
| | | GAMMA1.6 | | Gamma 1.6 | 1 | |
| | | GAMMA1.8 | | Gamma 1.8 | 2 | |
| | | GAMMA2.0 | | Gamma 2.0 | 3 | |
| | | GAMMA2.6 | | Gamma 2.6 | 4 | |
| | | GAMMA3.0 | | Gamma 3.0 | 5 | |
| | | TONER SAVE | | TONER SAVE | 6 | |
| L | GRAY COMPENSATION | K | Gray print method | K only | 0 | 0 |
| | | KCMY | | KCMY | 1 | |
| M | PURE BLACK PRINT | ON | Black monochrome print | set. | 0 | 1 |
| | | OFF | | not set. | 1 | |
| N | TONER SAVE MODE | OFF | Monochrome toner save | not set. | 0 | 0 |
| | | ON | | set. | 1 | |
| O | CMY SIMULATION | OFF | CMYK simulation | OFF | 0 | 0 |
| | | SWOP | | SWOP | 1 | |
| | | EURO | | EURO | 2 | |
| | | JAPAN COLOR | | JAPAN COLOR | 3 | |
| | | TONER SAVE | | TONER SAVE | 4 | |

**Print pattern of Item A**

| Pattern No. | Content |
|---|---|
| 1 | COLOR |
| 2 | B/W |

# 65

65-1

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the touch panel (LCD display section) detection coordinates |
| **Section** | Operation panel section |

**Operation/Procedure**

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.



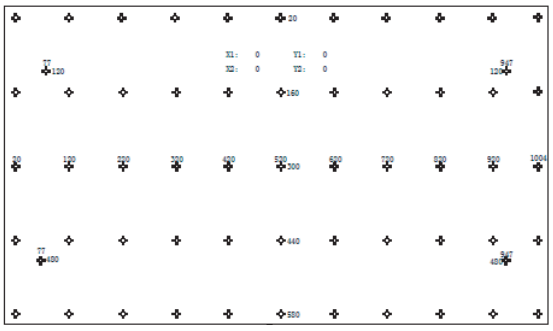
65-2

| | |
|---|---|
| **Purpose** | Operation check/test |
| **Function (Purpose)** | Display the touch panel (LCD display section) detection coordinates |
| **Section** | |

**Operation/Procedure**

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.



65-5

| | |
|---|---|
| **Purpose** | Operation check/test |
| **Function (Purpose)** | Check the operation panel key input |
| **Section** | |

**Operation/Procedure**

Tap [HOME] key.

If the key entry is effective, the guidance for pressing the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

**<Check target key>**

| 10 Inch LCD model |
|---|
| HOME |

# 66

66-1

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the FAX related soft SW (2-150) |
| **Section** | FAX |

**Operation/Procedure**

1) Enter the set value to [SW NO].
   * When [C] key is tapped, the entered value of [SW NO] is cleared.
2) Tap [DATA] key.
   The soft SW data entered in procedure 1) is displayed.
   * When [SW NO] button is tapped, the display returns to the initial screen.
3) Enter the number to the bit to be changed.
   * [1] -> [0]
     [0] -> [1]
4) When [EXECUTE] key is tapped, it is highlighted and the setting is saved.

66-2

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set a country code and the default for the country code |
| **Section** | FAX |

**Operation/Procedure**

1) [DEST CODE] key is tapped, country code list is displayed.
2) Enter the country code (8 digit).
   * When [CLEAR] key is tapped, the column of “NEW:” is cleared.
3) Tap [SET] key.
4) Tap [EXECUTE] key.
5) Tap [YES] key.

**<Country code list>**

| | |
|---|---|
| JAPAN | 00000000 |
| U.S.A. | 10110101 |
| AUSTRALIA | 00001001 |
| U.K. | 10110100 |
| FRANCE | 00111101 |
| GERMANY | 00000100 |
| SWEDEN | 10100101 |
| NEWZEALAND | 01111110 |
| CHINA | 00100110 |
| SINGAPORE | 10011100 |
| TW | 11111110 |
| MIDDLEANDNEAREAST | 11111101 |
| SLOVAKIA | 11111100 |
| OTHER3 | 11111011 |
| FINLAND | 00111100 |
| NORWAY | 10000010 |
| DENMARK | 00110001 |
| NETHERLANDS | 01111011 |
| ITALY | 01011001 |
| SWITZERLAND | 10100110 |
| AUSTRIA | 00001010 |
| INDONESIA | 01010100 |
| THAILAND | 10101001 |
| MALAYSIA | 01101100 |
| INDIA | 01010011 |
| PHILIPPINES | 10001001 |
| HONGKONG | 01010000 |
| RUSSIA | 10111000 |
| SOUTHAFRICA | 10011111 |
| SPAIN | 10100000 |
| PORTUGUESE | 10001011 |
| LUXEMBURG | 01101001 |
| BELGIUM | 00001111 |
| CZECH | 00101110 |
| HUNGARY | 01010001 |
| GREECE | 01000110 |
| POLAND | 10001010 |
| BRAZIL | 00010110 |
| KOREA | 01100001 |
| VIETNAM | 10111100 |

66-3

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**Memory check status**

| | | |
|---|---|---|
| NO CHECK | No check | |
| CHECKING | During checking | |
| OK | Check complete OK | |
| NG A## | Check complete NG | Error occurring address or data line is displayed for each item. |

66-4

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected signal to the line and the main unit speaker (transmission level: max) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<Signal send table>**

| | | | |
|---|---|---|---|
| NOSIGNAL | 33.6 V34 | 31.2 V34 | 28.8 V34 |
| 26.4 V34 | 24.0 V34 | 21.6 V34 | 19.2 V34 |
| 16.8 V34 | 14.4 V34 | 12.0 V34 | 9.6 V34 |
| 7.2 V34 | 4.8 V34 | 2.4 V34 | 14.4 V33 |
| 12.0 V33 | 14.4 V17 | 12.0 V17 | 9.6 V17 |
| 7.2 V17 | 9.6 V29 | 7.2 V29 | 4.8 V27t |
| 2.4 V27t | 0.3 FLG | CED 2100 | CNG 1100 |
| 0.3 V21 | ANSam | RINGER | No RBT |

| | | | |
|---|---|---|---|
| DP MAKE | DP BRK | NO MSG | Volt/mA |

66-5

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected signal to the line and the main unit speaker (transmission level: soft SW setting) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-6

| | |
|---|---|
| **Purpose** | Data output/Check |
| **Function (Purpose)** | Print the confidential registration check table (BOX No, BOX name, passcode) |
| **Section** | FAX |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   Confidential check table is printed.

66-7

| | |
|---|---|
| **Purpose** | Data output/Check |
| **Function (Purpose)** | Print the all image data saved in the image memory |
| **Section** | FAX |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   Image data saved in the image memory are printed.

66-8

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected sound message to the line and the main unit speaker (transmission level: max) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<Sound message table>**

| | | | |
|---|---|---|---|
| NONE (Mute) | PAUSE (Pause melody) | MESSAGE1 (Message 1) | MESSAGE2 (Message 2) |
| MESSAGE3 (Message 3) | MESSAGE4 (Message 4) | MESSAGE5 (Massage 5) | MESSAGE6 (Message 6) |
| ALARM (Alarm) | RINGER (Ringing sound (Speaker)) | EXT.TEL.RINGER (External telephone call) | |

66-9

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected sound message to the line and the main unit speaker (transmission level: soft SW setting) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-10

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the FAX and image send image data |
| **Section** | FAX |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.

66-11

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected signal at 300bps to the line and the main unit speaker (transmission level: max) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<300bps send signal table>**

| | | | |
|---|---|---|---|
| NO SIGNAL | 11111 | 11110 | 00000 |
| 010101 | 00001 | | |

66-12

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the selected signal at 300bps to the line and the main unit speaker (transmission level: soft SW setting) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-13

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set dial number for SIM66-14/15/16 dial test |
| **Section** | FAX |

**Operation/Procedure**

1) Enter number.
2) Tap [SET] key.

66-14

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Check the dial pulse (10pps) transmission test and to adjust the make time |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-15

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Check the dial pulse (20pps) transmission test and to adjust the make time |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-16

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Check the DTMF signal transmission test and to adjust the transmission level |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-17

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the DTMF signal to the line and the main unit speaker (transmission level: max) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-18

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the transmission of the DTMF signal to the line and the main unit speaker (transmission level: soft SW setting) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-21

| | |
|---|---|
| **Purpose** | Check |
| **Function (Purpose)** | Print system error, protocol monitor |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<FAX information print content table>**

| | |
|---|---|
| PROTOCOL LINE 1 | SYSTEM ERROR LINE 1 |
| PROTOCOL LINE 2 | SYSTEM ERROR LINE 2 |
| PROTOCOL LINE 3 | SYSTEM ERROR LINE 3 |

66-22

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the handset sound volume (Japan model only) |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-29

| | |
|---|---|
| **Purpose** | Clear |
| **Function (Purpose)** | Clear the address book data |
| **Section** | FAX |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
   The telephone book data area cleared.

66-30

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Display the TEL/LIU status change (display is highlighted by status change) |
| **Section** | FAX |

**Operation/Procedure**

1) RGDT, RHS, EXHS and SiDAA are highlighted when the signal is detected, and displayed normally when the signal is not detected.

**<TEL/LIU status change item description>**

| | |
|---|---|
| RGDT | Telephone line voltage |
| RHS | Handset hook SW |
| EXHS | External telephone hook SW |
| SiDAA | Polarity inversion signal |

66-31

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the output port for TEL/LIU |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<Port which outputs to TEL/LIU>**

| | | |
|---|---|---|
| CION | S. | 150Von |

66-32

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check the received data and to display the result |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

66-33

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check various signals detection result |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
   When a signal is detected, "FNET" and "BUSY TONE CNG CED DTMF" are highlighted. When a signal is not detected, they are normally displayed.

**<Signal used for signal detection check>**

**(When "FNET" is selected)**

| |
|---|
| FNET |

**(When "BT/CNG/CED/DTMF" is selected)**

| | | | |
|---|---|---|---|
| BUSY TONE | CNG | CED | DTMF |

66-36

| | |
|---|---|
| **Purpose** | Operation test/Check |
| **Function (Purpose)** | Check send and receive data of MFP controller interface |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.

**<MFP controller I/F check item table>**

| | |
|---|---|
| MFP <- MDMC (DATA once)<br>Data line Once | MFP -> MDMC (DATA once)<br>Data line Once |
| MFP <- MDMC (DATA repeat)<br>Data line Repeat | MFP -> MDMC (DATA repeat)<br>Data line Repeat |
| MFP <- MDMC (CMD once)<br>Command line Once | MFP -> MDMC (CMD once)<br>Command line Once |
| MFP <- MDMC (CMD repeat)<br>Command line Repeat | MFP -> MDMC (CMD repeat)<br>Command line Repeat |

66-39

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the destination for FAX |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.

**<Destination setting table>**

| | | | |
|---|---|---|---|
| JAPAN | U.S.A/CANADA | EUROPE | AUSTRALIA |
| CHINA | ASIA&OTHERS | | |

66-42

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Write the program to power control installed in the FAX |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Tap [EXECUTE] key.
3) Tap [YES] key.

66-43

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Write the adjustment value into the power control installed in the FAX |
| **Section** | FAX |

**Operation/Procedure**

1) Select target item.
2) Enter set value and tap [OK] key.
3) Tap [EXECUTE] key.

**<Set range and default of each set value>**

| | Item | Set range | Default |
|---|---|---|---|
| A | CI_LEVEL_JUDGE | 2 to 15 | 6 |
| B | CI_CYCLE_MIN | 1 to 254 | 10 |
| C | CI_CYCLE_MAX | 2 to 255 | 142 |
| D | CI_COUNT | 2 to 15 | 3 |
| E | RES_3.3V_LEVEL_JUDGE | 2 to 15 | 15 |
| F | EXHS_LEVEL_JUDGE | 2 to 225 | 240 |
| G | RHS_LEVEL_JUDGE | 2 to 15 | 2 |
| H | SON_TIMEOUT | 1 to 127 | 20 |

66-61

| | |
|---|---|
| **Purpose** | Setting |
| **Function (Purpose)** | Set the FAX related soft SW (151-250) |
| **Section** | FAX |

**Operation/Procedure**

1) Enter the set value to [SW NO].
2) Tap [DATA] key.
   The soft SW data entered in procedure 1) is displayed.
3) Enter the number to the bit to be changed.
   * [1] -> [0]
     [0] -> [1]

66-62

| | |
|---|---|
| **Purpose** | Backup |
| **Function (Purpose)** | Store the FAX receive data to the USB memory in PDF format |
| **Section** | FAX |

**Operation/Procedure**

1) Insert the USB flash drive into the main unit.
2) Select target item.
3) Tap [EXECUTE] key.
   Execute import of data selected in procedure 2).

| Error display | Content |
|---|---|
| ERROR: NO USB MEMORY DEVICE | No USB flash drive installed |
| ERROR: NO IMAGE DATA | No image data |
| ERROR | Other errors |

# 67

67-17

| | |
|---|---|
| **Purpose** | Reset |
| **Function (Purpose)** | Clear printer controller |
| **Section** | Printer |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.
   The set data related to the printer controller are initialized.

When the operation is completed, [EXECUTE] key returns to the normal display.

67-20

| | |
|---|---|
| **Purpose** | Adjustment |
| **Function (Purpose)** | Adjust the gray balance (Auto adjustment) |
| **Section** | |

**Operation/Procedure**

1) Select target item mode.
   Patch image (adjustment pattern) is printed out.
2) Place the printed adjustment pattern on the document table.
3) Tap [EXECUTE] key.
4) Place the printed adjustment pattern on the document table.
5) Tap [EXECUTE] key.
6) Tap [OK] key.
   The halftone correction target registration is processed.

67-21

| | |
|---|---|
| **Purpose** | |
| **Function (Purpose)** | Adjust the gray balance (Manual adjustment) |
| **Section** | |

**Operation/Procedure**

1) Select adjustment item.
2) Tap [EXECUTE] key.
   Patch image (adjustment pattern) is printed out.
3) Input mesurement result based on patch image (adjustment pattern) printed.
4) Tap [EXECUTE] key.

| Button | Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|---|
| COPY (GRAY) | A | LIGHT_X | Copy density range LIGHT X axis | 1-11 | 6 |
| | B | LIGHT_Y | Copy density range LIGHT Y axis | 1-11 | 6 |
| | C | DARK_X | Copy density range DARK X axis | 1-11 | 6 |
| | D | DARK_Y | Copy density range DARK Y axis | 1-11 | 6 |
| PRINTER (GRAY) | A | LIGHT_X | Printer density range LIGHT X axis | 1-11 | 6 |
| | B | LIGHT_Y | Printer density range LIGHT Y axis | 1-11 | 6 |
| | C | DARK_X | Printer density range DARK X axis | 1-11 | 6 |
| | D | DARK_Y | Printer density range DARK Y axis | 1-11 | 6 |

67-24

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust printer color balance (Auto) |
| **Section** | Printer |

**Operation/Procedure**

1) Tap [EXECUTE] key.
   The 48 color patch image (adjustment pattern) is printed out.
2) Plate the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
3) Tap [EXECUTE] key.
   The printer color balance auto adjustment is performed, and the adjustment result is printed.
4) Tap [OK] key.
   The halftone correction target registration is processed.

67-25

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Adjust printer color balance (Manual) |
| **Section** | Printer |

**Operation/Procedure**

1) Select an adjustment target color with [K][C][M][Y] keys.
2) Select target item.
3) Enter the set value.
   * When the △▽ key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
4) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

When [EXECUTE] key is tapped, the check pattern in printed in the color balance and density corresponding to the adjustment value.

| | Item/Display | Setting range | Default |
|---|---|---|---|
| A | POINT1 | 1 - 999 | 500 |
| B | POINT2 | 1 - 999 | 500 |
| C | POINT3 | 1 - 999 | 500 |
| D | POINT4 | 1 - 999 | 500 |
| E | POINT5 | 1 - 999 | 500 |
| F | POINT6 | 1 - 999 | 500 |
| G | POINT7 | 1 - 999 | 500 |
| H | POINT8 | 1 - 999 | 500 |
| I | POINT9 | 1 - 999 | 500 |
| J | POINT10 | 1 - 999 | 500 |
| K | POINT11 | 1 - 999 | 500 |
| L | POINT12 | 1 - 999 | 500 |
| M | POINT13 | 1 - 999 | 500 |
| N | POINT14 | 1 - 999 | 500 |

| Item/Display | | Setting range | Default |
|---|---|---|---|
| O | POINT15 | 1 - 999 | 500 |
| P | POINT16 | 1 - 999 | 500 |
| Q | POINT17 | 1 - 999 | 500 |

67-26

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the target color balance of the printer mode auto color balance adjustment |
| **Section** | Printer |

**Operation/Procedure**

1) Select the target color balance.

| Item/Display | | Content | Default |
|---|---|---|---|
| Target value table select | DEF1 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual printer mode and print is made. | DEF 1 |
| | DEF2 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual printer mode and print is made. | |
| | DEF3 | The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual printer mode and print is made. | |

67-27

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the service target of the printer mode auto color balance adjustment |
| **Section** | Printer |

**Operation/Procedure**

1) Tap [SETUP] key.
2) Place the printed adjustment pattern printed in SIM 67-25 on the document table.
3) Tap [EXECUTE] key.

   The patch image of the adjustment pattern sheet is scanned.
4) Tap [OK] key.

   The service target of the printer mode auto color balance adjustment is set according to the scanned adjustment pattern sheet patch images.

   The registered color balance and the density are displayed.

Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the printer color balance is manually adjusted.

| | |
|---|---|
| B | Point B target value |
| C | Point C target value |
| D | Point D target value |
| E | Point E target value |
| F | Point F target value |
| G | Point G target value |
| H | Point H target value |
| I | Point I target value |
| J | Point J target value |
| K | Point K target value |
| L | Point L target value |
| M | Point M target value |
| N | Point N target value |
| O | Point O target value |
| P | Point P target value |
| BASE | Background sampling value |

67-28

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the default of the service target of the printer mode auto color adjustment |
| **Section** | Printer |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.

   The service target of the printer mode auto color balance adjustment is set to the default.

   The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

67-31

| | |
|---|---|
| **Purpose** | Data clear |
| **Function (Purpose)** | Clear the printer calibration value |
| **Section** | Printer |

**Operation/Procedure**

1) Tap [EXECUTE] key.
2) Tap [YES] key.

   The printer calibration data (Halftone correction data) are cleared.
   (The printer color balance correction is canceled.)

67-33

| | |
|---|---|
| **Purpose** | Adjustment/Setup |
| **Function (Purpose)** | Set the gamma of the printer screen |
| **Section** | Printer |

**Operation/Procedure**

1) Select a target change color with [K] [C] [M] [Y] key.
2) Select a target screen with [SCREEN] key.
3) Select target item.
4) Enter the set value.
5) Tap [OK] key. (The set value is saved.)

When [EXECUTE] key is tapped, the check pattern in printed in the color balance and density corresponding to the adjustment value.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | POINT1 | Point 1 | 0 - 255 | 128 |
| B | POINT2 | Point 2 | 0 - 255 | 128 |
| C | POINT3 | Point 3 | 0 - 255 | 128 |
| D | POINT4 | Point 4 | 0 - 255 | 128 |
| E | POINT5 | Point 5 | 0 - 255 | 128 |
| F | POINT6 | Point 6 | 0 - 255 | 128 |
| G | POINT7 | Point 7 | 0 - 255 | 128 |
| H | POINT8 | Point 8 | 0 - 255 | 128 |
| I | POINT9 | Point 9 | 0 - 255 | 128 |
| J | POINT10 | Point 10 | 0 - 255 | 128 |
| K | POINT11 | Point 11 | 0 - 255 | 128 |
| L | POINT12 | Point 12 | 0 - 255 | 128 |
| M | POINT13 | Point 13 | 0 - 255 | 128 |

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| N | POINT14 | Point 14 | 0 - 255 | 128 |
| O | POINT15 | Point 15 | 0 - 255 | 128 |
| P | POINT16 | Point 16 | 0 - 255 | 128 |
| Q | POINT17 | Point 17 | 0 - 255 | 128 |

**MX-xx61/xx71**

| Display | Content | Button |
|---|---|---|
| HEAVY PAPER | Heavy paper | CMYK |
| SCREEN1 | 600dpi 1bit Photo | |
| SCREEN2 | 600dpi 1 bit Graphics | |
| SCREEN3 | 600dpi 4 bit Photo | |
| SCREEN4 | 600dpi 4 bit Graphics | |
| SCREEN5 | 1200dpi 1bit Photo | |
| SCREEN6 | 1200dpi 1bit Graphics | |
| SCREEN7 | B/W 600dpi 1bit Photo | K |
| SCREEN8 | B/W 600dpi 4bit Photo | |
| SCREEN9 | B/W 1200dpi 1bit Photo | |
| SCREEN11 | B/W 600dpi 1bit Graphics | |
| SCREEN12 | B/W 600dpi 4bit Graphics | |
| SCREEN13 | B/W 1200dpi 1bit Graphics | |
| SCREEN14 | DotScreen1 | CMYK |
| SCREEN15 | DotScreen2 | |
| SCREEN16 | DotScreen1_BW | K |
| SCREEN17 | DotScreen2_BW | |
| SCREEN18 | SHIGH | CMYK |
| SCREEN19 | 1200dpi SHIGH | |
| SCREEN20 | 600dpi Super low | |
| SCREEN21 | 1200dpi Super low | |
| SCREEN22 | Extrahigh | |

**MX-xx51**

| Display | Content | Button |
|---|---|---|
| HEAVY PAPER | Heavy paper | CMYK |
| SCREEN1 | 600dpi 1bit Photo | |
| SCREEN2 | 600dpi 1 bit Graphics | |
| SCREEN3 | 600dpi 4 bit Photo | |
| SCREEN4 | 600dpi 4 bit Graphics | |
| SCREEN7 | B/W 600dpi 1bit Photo | K |
| SCREEN8 | B/W 600dpi 4bit Photo | |
| SCREEN11 | B/W 600dpi 1bit Graphics | |
| SCREEN12 | B/W 600dpi 4bit Graphics | |
| SCREEN14 | DotScreen1 | CMYK |
| SCREEN15 | DotScreen2 | |
| SCREEN16 | DotScreen1_BW | K |
| SCREEN18 | SHIGH | CMYK |
| SCREEN20 | 600dpi Super low | |
| SCREEN22 | Extrahigh | |

## 67-34

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the density correction in the printer high density section

**Section** Printer

**Operation/Procedure**

1) Select target item
2) Enter the set value.
3) Tap [OK] key.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | CMY | CMY engine maximum density correction mode ENABLE | 0 | 0 |
| | | CMY engine maximum density correction DISABLE | 1 | |
| B | K | K engine maximum density correction ENABLE | 0 | 1 |
| | | K engine maximum density correction DISABLE | 1 | |
| C | CYAN MAX TARGET | C maximum density correction target | | 500 |
| D | MAGENTA MAX TARGET | M maximum density correction target | | 500 |
| E | YELLOW MAX TARGET | Y maximum density correction target | | 500 |
| F | BLACK MAX TARGET | B maximum density correction target | | 500 |
| G | PRINTER TOTAL TONER LIMIT SETUP | Printer total toner limitation | | 0 |
| H | RATIO LOW | Mix ratio of high density correction LOW | | 33 |
| I | RATIO HIGH | Mix ratio of high density correction HIGH | | 0 |
| J | DITHER THRESHOLD | Dither threshold LOW | | 250 |
| K | SLOPE THRESHOLD | Slope threshold HIGH | | 400 |

* When tone gap is generated in the high density section, set items A and B to "0."
  The density in the high density section is decreased, but tone gap is reduced.
* To increase the density in the high density section further, set items A and B to "1.
  The tone gap may occur in high density part.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

## 67-36

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the density in the low density section

**Section** Printer

**Operation/Procedure**

1) Select target item.
2) Enter the adjustment value.
3) Tap [OK] key.

When the adjustment value is increased, the low density images are strongly reduced. When the adjustment value is decreased, the low density are images are weakly reproduced.

When tone gap is generated in the low density section (highlight section), changing this adjustment value may improve the trouble.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | A PATCH INPUT C | A patch input value C | 0 - 13 | 1 |
| B | A PATCH INPUT M | A patch input value M | | |
| C | A PATCH INPUT Y | A patch input value Y | | |
| D | A PATCH INPUT K | A patch input value K | | |

## 67-41

**Purpose** Adjustment/Setup

**Function (Purpose)** Set 2 color print

**Section** Printer

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

| Item/Display | | Content | Setting range | Default |
|---|---|---|---|---|
| A | C1 | Threshold of Saturation | 0 - 255 | 5 |
| B | V1 | Threshold of Brightness | 0 - 255 | 0 |

67-42

**Purpose** Adjustment

**Function (Purpose)** Set 2 color print color density

**Section** Printer

**Operation/Procedure**

1) Select target item.

| Item/Display | | Content | Default |
|---|---|---|---|
| Black (Achromatic color) | F1 | Black : Light | F2 |
| | F2 | Black : Normal | |
| | F3 | Black : Dark | |
| COLOR (Selected color) | G1 | Selected color : Light | G2 |
| | G2 | Selected color : Normal | |
| | G3 | Selected color : Dark | |

67-43

**Purpose** Adjustment

**Function (Purpose)** Adjust the color balance in the 2 color mode

**Section** Printer

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

| Item/Display | | Content | Color | Setting range | Default | | |
|---|---|---|---|---|---|---|---|
| | | | | | C | M | Y |
| A | RED | R output color | CMY | 0 - 255 | 0 | 235 | 224 |
| B | GREEN | G output color | CMY | 0 - 255 | 180 | 0 | 241 |
| C | BLUE | B output color | CMY | 0 - 255 | 235 | 159 | 0 |
| D | CYAN | C output color | CMY | 0 - 255 | 182 | 0 | 25 |
| E | MAGENTA | M output color | CMY | 0 - 255 | 0 | 271 | 0 |
| F | YELLOW | Y output color | CMY | 0 - 255 | 0 | 0 | 234 |

67-46

**Purpose** Adjustment

**Function (Purpose)** Adjust the image enhancement

**Section**

**Operation/Procedure**

1) Select target item.
2) Enter the set value.
3) Tap [OK] key.

| Item/Display | | Content | | Default |
|---|---|---|---|---|
| A | PROCESS | Edge judgement range CMYK | 0 | 0 |
| | | Edge judgement range K | 1 | |
| B | CANCEL 600dpi | Edge cancel 600dpi | | 64 |
| C | CANCEL 1200dpi | Edge cancel 1200dpi | | 64 |

67-52

**Purpose** Adjustment/Setup

**Function (Purpose)** Set the default of the printer screen gamma

**Section** Printer

**Operation/Procedure**

1) Select a target default setting mode.
   Tap [ALL] key to select all the modes.
2) Tap [EXECUTE] key and tap [YES] key.

When the printer screen gamma was changed by SIM 67-33, SIM67-54, it is reset to the default.

**MX-xx61/xx71**

| Item/Display | Content |
|---|---|
| HEAVYPAPER | Heavy paper screen |
| | Printer heavy paper automatic density correction amount |
| 1200DPI_1BIT | SCREEN5 (1200dpi 1bit Photo)<br>SCREEN6 (1200dpi 1bit Graphics)<br>SCREEN21 (1200dpi SuperLow) |
| 600DPI_1BIT | SCREEN1 (600dpi 1bit Photo) |
| | SCREEN2 (600dpi 1bit Graphics) |
| B/W | SCREEN7 (600dpi 1bit Graphics) |
| | SCREEN8 (600dpi 4bit Graphics) |
| | SCREEN9 (1200dpi 1bit Graphics) |
| | SCREEN11(600dpi 1bit Graphics) |
| | SCREEN12 (600dpi 4bit Graphics) |
| | SCREEN13 (1200dpi 1bit Graphics) |
| | Printer B/W toner save automatic density correction amount |
| 4BIT_GRAPHICS | SCREEN4 (600dpi 4bit Graphics) |
| DOT_SCREEN1 | SCREEN14(Dot Screen1) |
| DOT_SCREEN2 | SCREEN15(Dot Screen2) |
| DOT_SCREEN1_BW | SCREEN16(Dot Screen1 BW) |
| DOT_SCREEN2_BW | SCREEN17(Dot Screen2 BW) |
| SHIGH | SCREEN18(SHIGH) |

**MX-xx51**

| Item/Display | | Content |
|---|---|---|
| Screen | HEAVYPAPER | Heavy paper screen |
| | | Printer heavy paper automatic density correction amount |
| | 600DPI_1BIT | SCREEN1 (600dpi 1bit Photo) |
| | | SCREEN2 (600dpi 1bit Graphics) |
| | B/W | SCREEN7 (600dpi 1bit Graphics) |
| | | SCREEN8 (600dpi 4bit Graphics) |
| | | SCREEN11(600dpi 1bit Graphics) |
| | | SCREEN12 (600dpi 4bit Graphics) |
| | | Printer B/W toner save automatic density correction amount |
| | 4BIT_GRAPHICS | SCREEN4 (600dpi 4bit Graphics) |
| | DOT_SCREEN1 | SCREEN14(Dot Screen1) |
| | DOT_SCREEN2 | SCREEN15(Dot Screen2) |
| | DOT_SCREEN1_BW | SCREEN16(Dot Screen1 BW) |
| | SHIGH | SCREEN18(SHIGH) |

67-54

**Purpose** Adjustment

**Function (Purpose)** Adjust printer color balance

**Section** Printer

**Operation/Procedure**

This simulation is used to adjust the color balance, the density, and the gradation in the monochrome mode, the heavy paper mode, the 1200dpi mode.

This simulation is used to improve image quality in these modes and images.

1) Tap [EXECUTE] key. (A4 or A3 paper is automatically selected.)

   The color patch image (adjustment pattern) is printed out.

2) Set the color patch image (adjustment pattern) printed in the procedure 1) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).

3) Tap [EXECUTE] key.

   The color balance adjustment is automatically performed.

   The adjustment pattern is printed out. Check it for any abnormality.

4) Tap [OK] key.

   The list of the adjustment items (for each dither) is displayed.

5) Select an adjustment item (for each dither).

**MX-xx61/xx71**

| Select item (Mode) | Content |
|---|---|
| Heavy Paper | Adjustment item to improve the color balance in the heavy paper mode |
| 1200dpi 1bit | SCREEN5 (1200dpi 1bit Photo)<br>SCREEN6 (1200dpi 1bit Graphics) |
| B/W | SCREEN7 (600dpi 1bit)<br>SCREEN8 (600dpi 4bit)<br>SCREEN9 (1200dpi 1bit)<br>Printer B/W toner save automatic density correction amount<br>SCREEN11(PCL B/W 600dpi 1bit Graphics)<br>SCREEN12(PCL B/W 600dpi 4bit Graphics)<br>SCREEN13(PCL B/W 1200dpi 1bit Graphics) |
| 4BIT_GRAPHICS | SCREEN4 (600dpi 4bit Graphics) |
| DOT_SCREEN1 | SCREEN14(Dot(HIGH)) |
| DOT_SCREEN2 | SCREEN14(Dot(LOW)) |
| DOT_SCREEN1_BW | SCREEN16(BW 600dpi DOT) |
| DOT_SCREEN2_BW | SCREEN17(BW 1200dpi DOT) |
| SHIGH | SCREEN18(SHIGH) |

**MX-xx51**

| Select item (Mode) | Content |
|---|---|
| Heavy Paper | Adjustment item to improve the color balance in the heavy paper mode |
| B/W | SCREEN7 (600dpi 1bit)<br>SCREEN8 (600dpi 4bit)<br>Printer B/W toner save automatic density correction amount<br>SCREEN11(PCL B/W 600dpi 1bit Graphics)<br>SCREEN12(PCL B/W 600dpi 4bit Graphics) |
| 4BIT_GRAPHICS | SCREEN4 (600dpi 4bit Graphics) |
| DOT_SCREEN1 | SCREEN14(Dot(HIGH)) |
| DOT_SCREEN2 | SCREEN14(Dot(LOW)) |
| DOT_SCREEN1_BW | SCREEN16(BW 600dpi DOT) |
| SHIGH | SCREEN18(SHIGH) |

6) Tap [EXECUTE] key. (A4 or A3 paper is automatically selected.)

   The color patch image (adjustment pattern) is printed out.

7) Set the color patch image (adjustment pattern) printed in the procedure 6) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side.

8) Tap [EXECUTE] key.

   The color balance adjustment is automatically performed, and the color balance check patch image is printed out.

9) When [OK] key is tapped, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is tapped, the adjustment result is registered and the screen is shifted to the other item (Mode/Image) select menu.

   To execute the adjustment of the other item (Mode/Image), tap [EXECUTE] key.

   After completion of all the adjustments of the items (Mode/Image), tap [OK] key, and the adjustment results are registered.

10) Make a print, and check the print image quality.

**Note**

Use SIM67-52 to reset the adjustment values to the default.

# [7] SELF DIAG AND TROUBLE CODE

## 1. Trouble code and troubleshooting

### A. General

When a trouble occurs in the machine or when the life of a consumable part is nearly expired or when the life is expired, the machine detects and displays it on the display section. This allows the user and the serviceman to take the suitable action. In case of a trouble, this feature notifies the occurrence of a trouble and stops the machine to minimize the damage.

### B. Function and purpose

1) Securing safety. (The machine is stopped on detection of a trouble.)
2) The damage to the machine is minimized. (The machine is stopped on detection of a trouble.)
3) By displaying the trouble content, the trouble position can be quickly identified. (This allows to perform an accurate repair, improving the repair efficiency.)
4) Preliminary warning of running out of consumable parts allows to arrange for new parts in advance of running out. (This avoids stopping of the machine due to running out the a consumable part.)

### C. Self diag message kinds

The self diag messages are classified as shown in the table below.

| | | |
|---|---|---|
| Class 1 | User | Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.) |
| | Service | Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.) |
| | Others | - |
| Class 2 | Warning | Warning to the user, not a machine trouble (Preliminary warning of life expiration of a consumable part, etc.) |
| | Trouble | Warning of a machine trouble. The machine is stopped. |
| | Others | - |

### D. Self diag operation

The machine always monitors its own state.

When the machine recognizes a trouble, it stops the operation and displays the trouble message.

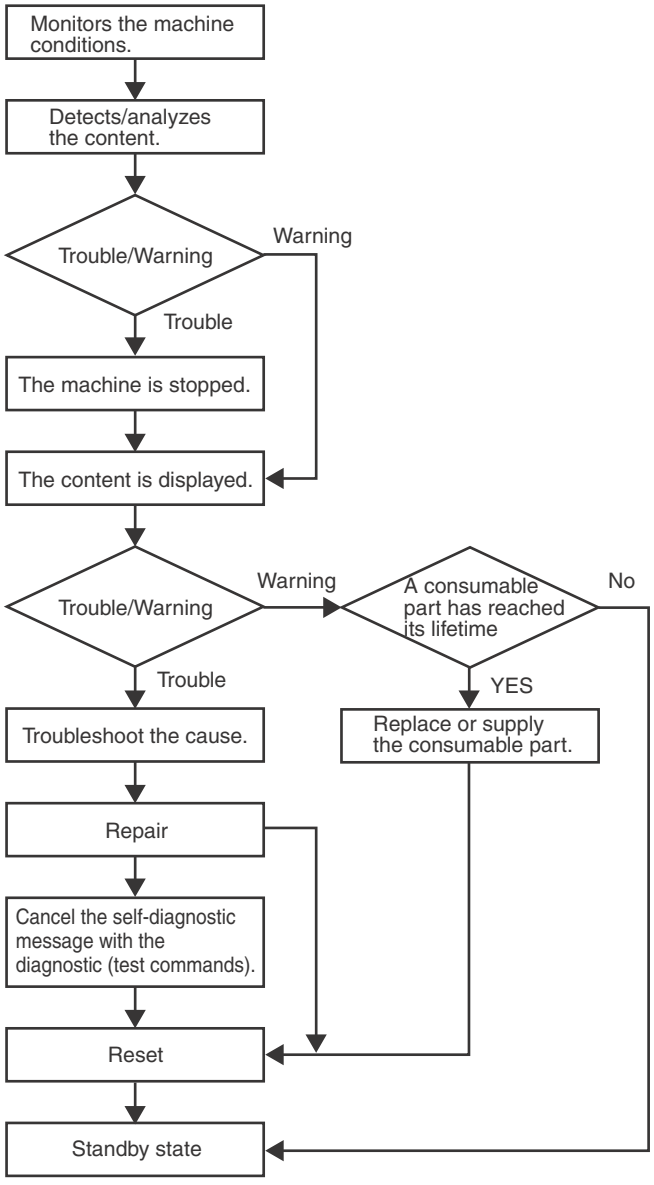
A warning message is displayed when a consumable part life is nearly expired or is expired.

When a warning message is displayed, the machine may be or may not be stopped.

The trouble messages and the warning messages are displayed by the LCD and lamp.

Some trouble messages are automatically cleared when the trouble is repaired. Some other troubles must be cleared by a simulation.

Some warning messages of consumable parts are automatically cleared when the trouble is repaired. Some other warning messages must be cleared by a simulation.



## E. Breakdown sequence

### (1) Trouble code and operatable mode

| Trouble content | | Judgement block | Trouble code | Operable mode | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Copy scan | Scan (Push) | Scan (Pull) | Scan ToHDD | Print | List print | FAX send | FAX print |
| Security abnormality trouble | Security module abnormality | SCN MFP | E7(C0, C1) | × | × | × | × | × | × | × | × |
| | Firmware abnormality | | E7(C2, C3) | × | × | × | × | × | × | × | × |
| FAX trouble | FAX board breakdown | | F6(00, 01, 02, 04, 21, 30, 97, 98) | ○ | ○ | ○ | ○ | ○ | ○ | △1 | △1 |
| HDD trouble | eMMC breakdown | | E7(A8) | × | × | × | × | × | × | × | × |
| | HDD breakdown | | E7(03) | × | × | × | × | × | × | × | × |
| | HDD-ASIC breakdown | | E7(04) | × | × | × | × | × | × | × | × |
| Operation communication trouble | OPU communication trouble | | U9(01) | × | × | × | × | ○ | ○ | × | ○ |
| Scanner communication trouble | SCN communication trouble | | A0(02)<br>E7(80) | × | × | × | × | ○ | ○ | × | ○ |
| Engine communication trouble | PCU communication trouble | | A0(01)<br>E7(90) | × | × | × | × | × | × | × | × |
| Backup battery voltage fall trouble | Backup battery low voltage | | U1(01) | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 |
| Operation disable trouble 2_save | Memory error | | U2(00, 11, 41, 42) | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 |
| | Serial number data error | | U2(30) | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 |
| | HDD registration data check sum error | | U2(50) | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 | × *20 |
| Operation disable trouble 2 | External serial I/F communication error | | U7(50, 51) | × | × | × | × | × | × | × | × |
| | Memory error | | U2(40, 42) | × | × | × | × | × | × | × | × |
| | Connection trouble (ICU detection) | | A0(06, 07, 08, 10, 15, 17, 18, 19, 20)<br>E7(60, 61) | × | × | × | × | × | × | × | × |
| Operation disable trouble 3 | Image memory trouble, decode error | | E7(01, 49, 91, 92, 93, 94) | × | × | × | × | × | × | × | × |
| Operation disable trouble 4 | Personal counter not-installed trouble | | PC(00) | × | × | × | × | × | × | × | × |
| Power controller trouble | Power controller trouble | | L8(20) | × | × | × | × | × | × | × | × |
| Special function trouble | Special function error | | U2(60, 70, 71, 72, 73, 74) | ○ *16 | ○ *16 | ○ *16 | ○ *16 | ○ *16 | ○ *16 | ○ *16 | ○ *16 |

| Trouble content | | Judgement block | Trouble code | Operable mode | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Copy scan | Scan (Push) | Scan (Pull) | Scan ToHDD | Print | List print | FAX send | FAX print |
| Laser trouble | Laser breakdown | PCU | E7(20, 24, 28, 29, A0)<br>L6(10) | × | × | × | × | × | ×<br>*10 | × | × |
| Engine trouble 1 | Connection trouble (PCU detection) | | A0(21)<br>E7(50, 55)<br>F1(50) | × | × | × | × | × | × | × | × |
| Engine trouble 2_save | PCU trouble (motor, fuser etc) | | H3(00, 01, 02)<br>H4(00, 01, 02, 30, 32)<br>H5(01)<br>U2(90, 91) | ×<br>*20 | ×<br>*20 | ×<br>*20 | ×<br>*20 | ×<br>*20 | ×<br>*10<br>*20 | ×<br>*20 | ×<br>*20 |
| Engine trouble 2 | PCU trouble (motor, fuser,etc) | | C1(01, 10, 14, 15, 16, 40, 41)<br>C4(00, 05, 20, 25, 30, 31, 35, 40)<br>F2(22, 40, 64, 70, 74)<br>H2(00, 01, 02, 03, 05, 06)<br>H7(10, 12)<br>L4(02, 03, 06, 07, 09, 11, 12, 16, 17, 18, 19, 20, 32, 35, 39, 43, 44, 50, 51, 75, 76, 77, 78, 79)<br>L8(01, 02, 03) | × | × | × | × | × | ×<br>*10 | × | × |
| Color trouble | PCU color trouble | | C1(03, 05, 07)<br>E7(21, 22, 23, 25, 26, 27, A1, A2, A3)<br>F2(23, 24, 25, 41, 42, 43, 65, 66, 67, 71, 72, 73, 75, 76, 77, 95, 96, 97, 98) | ×<br>*19 | ×<br>*19 | ×<br>*19 | ×<br>*19 | ×<br>*19 | ×<br>*10<br>*19 | ×<br>*19 | ×<br>*19 |
| Paper feed tray 1 trouble | Paper feed tray 1 breakdown | | F3(12) | △3 | ○ | ○ | ○ | △3 | △3<br>*10 | ○ | △3 |
| Paper feed tray 2 trouble | Paper feed tray 2 breakdown | | F3(22) | △3 | ○ | ○ | ○ | △3 | △3<br>*10 | ○ | △3 |
| Paper feed tray 3 trouble_save | Paper feed tray 3 breakdown | | U6(01) | △3<br>*20 | ○<br>*20 | ○<br>*20 | ○<br>*20 | △3<br>*20 | △3<br>*10<br>*20 | ○<br>*20 | △3<br>*20 |
| Paper feed tray 4 trouble_save | Paper feed tray 4 breakdown | | U6(02) | △3<br>*20 | ○<br>*20 | ○<br>*20 | ○<br>*20 | △3<br>*20 | △3<br>*10<br>*20 | ○<br>*20 | △3<br>*20 |
| Paper feed tray 5 trouble_save | Paper feed tray 5 breakdown | | U6(09) | △3<br>*20 | ○<br>*20 | ○<br>*20 | ○<br>*20 | △3<br>*20 | △3<br>*10<br>*20 | ○<br>*20 | △3<br>*20 |
| Paper feed tray 5 trouble | Paper feed tray 5 breakdown | | U6(20, 21, 22, 23, 51) | △3 | ○ | ○ | ○ | △3 | △3<br>*10 | ○ | △3 |
| Paper feed tray other trouble | Paper feed tray other breakdown | | U6(00, 10, 50, 52, 54, 55) | △11 | ○ | ○ | ○ | △11 | △11<br>*10 | ○ | △11 |
| Finisher trouble | Finisher breakdown | | F1(00, 01, 02, 03, 04, 05, 06, 08, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 28, 29, 30, 31, 32, 33, 34, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53, 54, 55, 78, 83, 89) | △4 | △4 | △4 | △4 | △4 | △4<br>*10 | △4 | △4 |
| Other trouble | Other trouble | | EE(EC, EL, EU) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Process control trouble | Process control breakdown (PCU detection) | | F2(39, 49, 50, 51, 52, 53, 58, 78) | ○<br>*12 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| Trouble content | | Judgement block | Trouble code | Operable mode | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Copy scan | Scan (Push) | Scan (Pull) | Scan ToHDD | Print | List print | FAX send | FAX print |
| Operation disable trouble | Connection trouble (SCN detection) | SCU | A0(22) | × | × | × | × | × | × | × | × |
| Color system trouble (SCU detection) | SCN color trouble (SCN detection) | | UC(02) | △9 | △9 | △9 | △9 | ○ | ○ | △9 | ○ |
| Color system trouble (DSPF detection) | SCN color trouble (DSPF detection) | | UC(12) | △8 | △8 | △8 | △8 | ○ | ○ | △8 | ○ |
| Anticopying trouble | Anticopying | | UC(20) | × | × | × | × | ○ | ○ | × | ○ |
| Anticopying trouble (DSPF detection) | Anticopying (DSPF detection) | | UC(30) | △7 | △7 | △7 | △7 | ○ | ○ | △7 | ○ |
| Scanner trouble 1_save | EEPROM error | | U2(80, 81) | × *20 | × *20 | × *20 | × *20 | ○ *20 | ○ *20 | × *20 | ○ *20 |
| Scanner trouble 2 | Scanner section breakdown | | L1(00) L3(00) | × | × | × | × | ○ | ○ | × | ○ |
| CCD trouble | CCD breakdown | | E7(10, 11, 14) | × | × | × | × | ○ | ○ | × | ○ |
| SPF/DF trouble | RSPF/DF breakdown | | U5(00, 16, 20, 30, 31) | △6 | △6 | △6 | △6 | ○ | ○ | △6 | ○ |
| SPF back surface trouble | General trouble in the SPF back surface scanning section | | E6(10, 11, 14) | △7 | △7 | △7 | △7 | ○ | ○ | △7 | ○ |

**Trouble only history data are saved**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| History data is saved (PCU detection) | PCU | F2(45) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| History data is saved (MFP detection) | ICU | U2(05) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

○: Operation enabled ×: Operation disabled

△1: The operation is enabled in a line other than the trouble line

△3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray

△4: When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section

△6: When detected during other than a job, the operation is enabled in the OC mode

△7: When detected during other a job, the operation is enabled in the OC mode or one side scan mode

△8: When detected in other than a job, the operation is enabled in other than the duplex color scan mode

△9: When detected during other than a job, the operation is enabled in the monochrome mode

*10: Since communication is enabled, reception can be transferred

△11: When detected during other than a job, the operation is enabled in other than the DESK

*12: A trouble message is displayed (EX: Ready to copy F2 trouble)

△15: When in U2-22 trouble notification cannot be made. If there is no abnormality in the FAX software

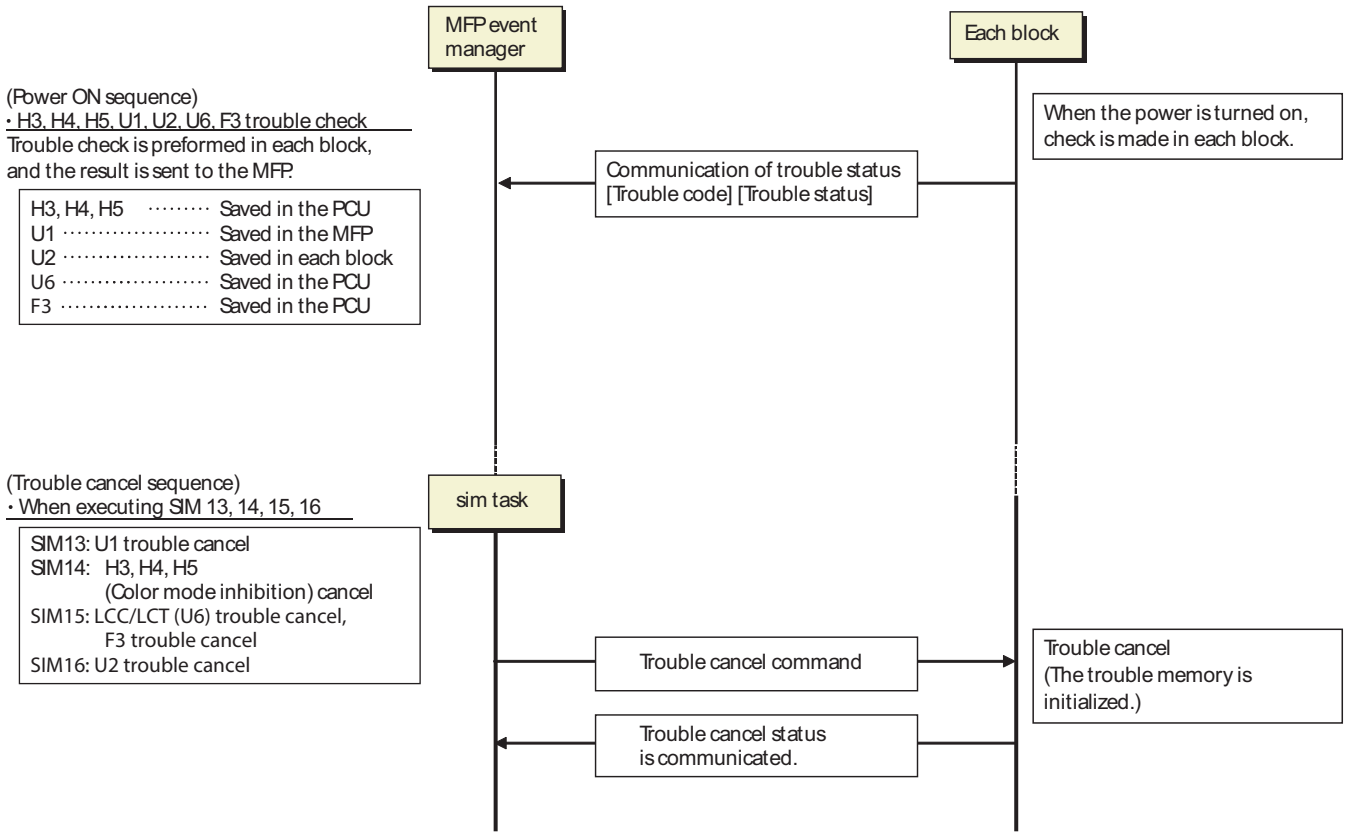
*16: Print is enable displays with OK key "Call for service. CODE **-**"

△17: Job execution enable only in a format other high compression PDF.

*19: When the color mode is set to disable in the "Color mode disable setting" of the system setting, the operation is enabled in the monochrome mode

*20: Displays "Call for service ERROR **-**"

### (2) Trouble detection sequence and trouble cancel sequence when turning on the power




**The process has priority when the power is turned ON with the MFP.**

When booting, two or more troubles in the list below may be detected. In this case, the trouble code of higher priority is displayed.

| Process sequence | Error code | | Content |
|---|---|---|---|
| First (Low priority) ↑ ↓ Last (High priority) | U2 | 50 | HDD user authentication data check sum error |
| | | 30 | MFPC PWB and PCU PWB manufacturing No. data inconsistency |
| | A0 | 15 | Incompatible DSK BOOT and program firmware |
| | | 20 | Conflict firmware and EEPROM data version (MFP) |
| | U2 | 11 | MFPC PWB EEPROM counter check sum error |
| | | 00 | MFP EEPROM read/write error |
| | E7 | 48 | Scanner expansion PWB ASIC memory error |
| | | 47 | Inconsistency between the MFP and the ACRE firmware |
| | | 42 | Image data trouble (Scanner expansion PWB (ACRE) ASIC) |
| | A0 | 04 | Scanner expansion PWB (ACU) ROM error |
| | U1 | 01 | Battery trouble |
| | E7 | 60 | Combination error between PWB and firmware (MFPC PWB detection) |

## F. Trouble code list

| Trouble code | | Trouble description | Trouble detection | Mechanism | Option | Electricity | FAX | Supply |
|---|---|---|---|---|---|---|---|---|
| Main code | Sub code | | | | | | | |
| A0 | 01 | PCU ROM error | PCU | | | ○ | | |
| | 02 | SCN ROM error | SCN | | | ○ | | |
| | 06 | FAX ROM error | MFP | | | ○ | | |
| | 10 | Color profile error | MFP | | | ○ | | |
| | 15 | Stored DSK data conflict | MFP | | | ○ | | |
| | 17 | UI data error | MFP | | | ○ | | |
| | 18 | ASIC MAIN firmware inconsistent error | MFP | | | ○ | | |
| | 19 | MFP boot error | MFP | | | ○ | | |
| | 20 | MFP firmware and EEPROM data inconsistent error | MFP | | | ○ | | |
| | 21 | PCU firmware and EEPROM data inconsistent error | PCU | | | ○ | | |
| | 22 | SCN firmware and EEPROM data inconsistent error | SCN | | | ○ | | |
| C1 | 10 | Main charger error K | PCU | | | ○ | | |
| | 14 | Main charger error CL | PCU | | | ○ | | |
| | 15 | MC circuit error K | PCU | | | ○ | | |
| | 16 | MC circuit error CL | PCU | | | ○ | | |
| | 40 | MC PWB trouble | PCU | | | ○ | | |
| | 41 | MC / TC PWB trouble | PCU | | | ○ | | |
| C4 | 00 | PTC output error | PCU | | | ○ | | |
| | 05 | PTC circuit error | PCU | | | ○ | | |
| | 20 | 1TC output error | PCU | | | ○ | | |
| | 25 | 1TC circuit error | PCU | | | ○ | | |
| | 30 | 2TC output open error | PCU | | | ○ | | |
| | 31 | 2TC output short error | PCU | | | ○ | | |
| | 35 | 2TC circuit error | PCU | | | ○ | | |
| | 40 | TC PWB trouble | PCU | | | ○ | | |
| E6 | 10 | Shading black correction error (SPF) | SCN | | | ○ | | |
| | 11 | Shading white correction error (SPF) | SCN | | | ○ | | |
| | 14 | CCD ASIC error (SPF) | SCN | | | ○ | | |
| E7 | 01 | Image data error | MFP | | | ○ | | |
| | 03 | HDD error | MFP | | | ○ | | |
| | 04 | HDD-ASIC error (DSK) | MFP | | | ○ | | |
| | 10 | Shading black correction error (OC) | SCN | | | ○ | | |
| | 11 | Shading white correction error (OC) | SCN | | | ○ | | |
| | 14 | CCD-ASIC error (OC) | SCN | | | ○ | | |
| | 20 | LSU BD detection / LD deterioration error K | PCU | | | ○ | | |
| | 21 | LSU LD deterioration error C | PCU | | | ○ | | |
| | 22 | LSU LD deterioration error M | PCU | | | ○ | | |
| | 23 | LSU LD deterioration error Y | PCU | | | ○ | | |
| | 24 | LSU LD driver error K | PCU | | | ○ | | |
| | 25 | LSU LD driver error C | PCU | | | ○ | | |
| | 26 | LSU LD driver error M | PCU | | | ○ | | |
| | 27 | LSU LD driver error Y | PCU | | | ○ | | |
| | 28 | LSU ASIC - PCU access error | PCU | | | ○ | | |
| | 29 | LSU ASIC frequency error | PCU | | | ○ | | |
| | 49 | Watermark data error | MFP | | | ○ | | |
| | 50 | PCU PWB and firmware inconsistent error | PCU | | | ○ | | |
| | 55 | PCU PWB information sum error | PCU | | | ○ | | |
| | 60 | SCN MFP PWB and firmware inconsistent error | MFP | | | ○ | | |
| | 61 | SCN MFP PWB and PCU PWB combination error | MFP | | | ○ | | |
| | 80 | SCN MFP PWB scanner communication error | MFP | | | ○ | | |
| | 90 | SCN MFP PWB PCU PWB communication error | MFP | | | ○ | | |
| | 91 | FAX received image data error | MFP | | | ○ | | |
| | 92 | Copy image data error | MFP | | | ○ | | |
| | 93 | Copy, image send, FAX, filing, print image data process error | MFP | | | ○ | | |
| | 94 | Image data process error | MFP | | | ○ | | |
| | 99 | LSU LD driver connection trouble | PCU | | | ○ | | |
| | A0 | LSU EEPROM / LD driver read/write error K | PCU | | | ○ | | |
| | A1 | LSU EEPROM / LD driver read/write error C | PCU | | | ○ | | |
| | A2 | LSU EEPROM / LD driver read/write error M | PCU | | | ○ | | |
| | A3 | LSU EEPROM / LD driver read/write error Y | PCU | | | ○ | | |
| | A8 | eMMC PWB error | MFP | | | ○ | | |
| | C0 | TPM PWB (DSK) access error | MFP | | | ○ | | |
| | C1 | Security check error | MFP | | | ○ | | |
| | C2 | Firmware check sum error | MFP | | | ○ | | |
| | C3 | Firmware error | MFP | | | ○ | | |
| EE | EC | Automatic toner density adjustment error | PCU | | | ○ | | |
| | EL | Automatic toner density adjustment error (over toner) | PCU | | | ○ | | |

| Trouble code | | Trouble description | Trouble detection | Mechanism | Option | Electricity | FAX | Supply |
|---|---|---|---|---|---|---|---|---|
| Main code | Sub code | | | | | | | |
| EE | EU | Automatic toner density adjustment error (under toner) | PCU | | | ○ | | |
| F1 | 00 | Finisher communication error | PCU | | ○ | | | |
| | 01 | Finisher jogger operation trouble (1K) | PCU | | ○ | | | |
| | 02 | Finisher entry port transport operation trouble (1K) | PCU | | ○ | | | |
| | 03 | Finisher oscillation operation trouble (3K) | PCU | | ○ | | | |
| | 04 | Finisher paddle trouble (Inner) | PCU | | ○ | | | |
| | 04 | Finisher paddle trouble (3K) | PCU | | ○ | | | |
| | 05 | Finisher return operation trouble (Inner) | PCU | | ○ | | | |
| | 06 | Finisher paper exit transport operation trouble (1K) | PCU | | ○ | | | |
| | 08 | Finisher stapler shift operation trouble (Inner) | PCU | | ○ | | | |
| | 08 | Finisher stapler shift operation trouble (1K) | PCU | | ○ | | | |
| | 08 | Finisher stapler shift operation trouble (3K) | PCU | | ○ | | | |
| | 10 | Finisher staple operation trouble (Inner) | PCU | | ○ | | | |
| | 10 | Finisher staple operation trouble (1K) | PCU | | ○ | | | |
| | 10 | Finisher staple operation trouble (3K) | PCU | | ○ | | | |
| | 11 | Finisher paper exit operation trouble (1K) | PCU | | ○ | | | |
| | 12 | Finisher proof transport operation trouble (1K) | PCU | | ○ | | | |
| | 13 | Finisher paper exit guide plate operation trouble (1K) | PCU | | ○ | | | |
| | 14 | Finisher rear paper edge flap operation trouble (3K) | PCU | | ○ | | | |
| | 15 | Finisher tray lift operation trouble (Inner) | PCU | | ○ | | | |
| | 15 | Finisher tray lift operation trouble (1K) | PCU | | ○ | | | |
| | 15 | Finisher tray lift operation trouble (3K) | PCU | | ○ | | | |
| | 16 | Finisher escape/saddle transport switching operation trouble (3K) | PCU | | ○ | | | |
| | 18 | Finisher paper bundle hold operation trouble (Inner) | PCU | | ○ | | | |
| | 19 | Finisher front paper alignment operation trouble (Inner) | PCU | | ○ | | | |
| | 19 | Finisher front paper alignment operation trouble (3K) | PCU | | ○ | | | |
| | 20 | Finisher rear paper alignment operation trouble (Inner) | PCU | | ○ | | | |
| | 20 | Finisher rear paper alignment operation trouble (3K) | PCU | | ○ | | | |
| | 22 | Finisher paper bundle exit operation trouble (Inner) | PCU | | ○ | | | |
| | 22 | Finisher paper bundle exit operation trouble (3K) | PCU | | ○ | | | |
| | 23 | Safety switch trouble (3K) | PCU | | ○ | | | |
| | 28 | Finisher stacking operation trouble (1K) | PCU | | ○ | | | |
| | 28 | Finisher stacking operation trouble (3K) | PCU | | ○ | | | |
| | 29 | Fuse blown trouble (1K) | PCU | | ○ | | | |
| | 30 | Finisher saddle communication error (3K) | PCU | | ○ | | | |
| | 31 | Finisher saddle folding operation trouble (1K) | PCU | | ○ | | | |
| | 31 | Finisher paper exit operation trouble (3K) | PCU | | ○ | | | |
| | 32 | Finisher Punch unit communication error (Inner) | PCU | | ○ | | | |
| | 32 | Finisher Punch unit communication error (3K) | PCU | | ○ | | | |
| | 33 | Finisher punch shifting operation trouble (1K) | PCU | | ○ | | | |
| | 33 | Finisher punch shifting operation trouble (3K) | PCU | | ○ | | | |
| | 34 | Finisher punch operation trouble (Inner) | PCU | | ○ | | | |
| | 34 | Finisher punch operation trouble (1K) | PCU | | ○ | | | |
| | 34 | Finisher punch operation trouble (3K) | PCU | | ○ | | | |
| | 35 | Finisher punch registration operation trouble (1K) | PCU | | ○ | | | |
| | 37 | Finisher Backup memory error (Inner) | PCU | | ○ | | | |
| | 37 | Finisher Backup memory error (3K) | PCU | | ○ | | | |
| | 38 | Finisher Punch backup memory error (Inner) | PCU | | ○ | | | |
| | 38 | Finisher Punch backup memory error (3K) | PCU | | ○ | | | |
| | 43 | Finisher saddle alignment operation trouble (3K) | PCU | | ○ | | | |
| | 44 | Finisher saddle gripper operation trouble (3K) | PCU | | ○ | | | |
| | 45 | Finisher saddle staple operation trouble (3K) | PCU | | ○ | | | |
| | 46 | Finisher saddle folding operation trouble (1K) | PCU | | ○ | | | |
| | 46 | Finisher saddle folding operation trouble (3K) | PCU | | ○ | | | |
| | 47 | Finisher saddle paper transport operation trouble (3K) | PCU | | ○ | | | |
| | 48 | Finisher bundle transport upper pressure release / reference fence escape motor trouble (1K) | PCU | | ○ | | | |
| | 49 | Finisher bundle transport lower pressure release motor trouble (1K) | PCU | | ○ | | | |
| | 50 | Finisher - Main machine incompatible error | PCU | | ○ | | | |
| | 51 | Finisher communication error (3K) | PCU | | ○ | | | |
| | 53 | Finisher - Main machine inconsistent error | PCU | | ○ | | | |
| | 54 | Finisher punch unit destination inconsistent error (Inner)(3K) | PCU | | ○ | | | |
| | 55 | Finisher firmware inconsistent error | PCU | | ○ | | | |
| | 78 | Finisher eco staple operation trouble (Inner) | PCU | | ○ | | | |
| | 78 | Finisher staple free stapler operation trouble (3K) | PCU | | ○ | | | |
| | 83 | Finisher guide operation trouble (3K) | PCU | | ○ | | | |
| | 89 | Finisher shift operation trouble (1K) | PCU | | ○ | | | |
| F2 | 22 | Discharge lamp trouble K | PCU | | | | | ○ |
| | 23 | Discharge lamp trouble C | PCU | | | | | ○ |

| Trouble code | | Trouble description | Trouble detection | Mechanism | Option | Electricity | FAX | Supply |
|---|---|---|---|---|---|---|---|---|
| Main code | Sub code | | | | | | | |
| F2 | 24 | Discharge lamp trouble M | PCU | | | | | ○ |
| | 25 | Discharge lamp trouble Y | PCU | | | | | ○ |
| | 39 | Temperature sensor error | PCU | | | | | ○ |
| | 40 | Toner density error K | PCU | | | | | ○ |
| | 41 | Toner density error C | PCU | | | | | ○ |
| | 42 | Toner density error M | PCU | | | | | ○ |
| | 43 | Toner density error Y | PCU | | | | | ○ |
| | 45 | Color image density sensor error | PCU | | | | | ○ |
| | 49 | LSU thermistor error | PCU | | | | | ○ |
| | 50 | Drum phase error K | PCU | | | | | ○ |
| | 51 | Drum phase error CL | PCU | | | | | ○ |
| | 58 | Humidity sensor error | PCU | | | | | ○ |
| | 64 | Toner supply trouble K | PCU | | | | | ○ |
| | 65 | Toner supply trouble C | PCU | | | | | ○ |
| | 66 | Toner supply trouble M | PCU | | | | | ○ |
| | 67 | Toner supply trouble Y | PCU | | | | | ○ |
| | 70 | Improper toner cartridge error K | PCU | | | | | ○ |
| | 71 | Improper toner cartridge error C | PCU | | | | | ○ |
| | 72 | Improper toner cartridge error M | PCU | | | | | ○ |
| | 73 | Improper toner cartridge error Y | PCU | | | | | ○ |
| | 74 | Toner cartridge error K | PCU | | | | | ○ |
| | 75 | Toner cartridge error C | PCU | | | | | ○ |
| | 76 | Toner cartridge error M | PCU | | | | | ○ |
| | 77 | Toner cartridge error Y | PCU | | | | | ○ |
| | 78 | Image density sensor error | PCU | | | | | ○ |
| | 95 | Toner cartridge ejecting trouble K | PCU | | | | | ○ |
| | 96 | Toner cartridge ejecting trouble C | PCU | | | | | ○ |
| | 97 | Toner cartridge ejecting trouble M | PCU | | | | | ○ |
| | 98 | Toner cartridge ejecting trouble Y | PCU | | | | | ○ |
| F3 | 12 | Paper feed tray1 lift operation trouble | PCU | ○ | | | | |
| | 22 | Desk paper feed tray1 lift operation trouble | PCU | ○ | | | | |
| F6 | 00 | SCN MFP PWB - FAX communication error | MFP | | | | ○ | |
| | 01 | FAX EEPROM read/write error | FAX | | | | ○ | |
| | 02 | FAX power supply trouble | FAX | | | | ○ | |
| | 04 | FAX modem operation trouble | FAX | | | | ○ | |
| | 21 | Improper combination of FAX PWB and FAX soft switch inconsistent error | FAX | | | | ○ | |
| | 30 | FAX power controller access error | FAX | | | | ○ | |
| | 97 | FAX and main machine inconsistent error | MFP | | | | ○ | |
| | 98 | FAX and main machine destination inconsistent error | MFP | | | | ○ | |
| H2 | 00 | Thermistor open trouble (TH_UM_AD2) | PCU | ○ | | | | |
| | 01 | Thermistor open trouble (TH_LM) | PCU | ○ | | | | |
| | 02 | Thermistor open trouble (TH_US1) | PCU | ○ | | | | |
| | 03 | Thermistor open trouble (TH_UM_AD1) | PCU | ○ | | | | |
| | 05 | Thermistor open trouble (TH_US1) | PCU | ○ | | | | |
| | 06 | Thermistor open trouble (TH_US2) | PCU | ○ | | | | |
| H3 | 00 | Fuser high temperature error (TH_UM) | PCU | ○ | | | | |
| | 01 | Fuser high temperature error (TH_LM) | PCU | ○ | | | | |
| | 02 | Fuser high temperature error (TH_US1) | PCU | ○ | | | | |
| H4 | 00 | Fuser low temperature error (TH_UM) | PCU | ○ | | | | |
| | 01 | Fuser low temperature error (TH_LM) | PCU | ○ | | | | |
| | 02 | Fuser low temperature error (TH_US1) | PCU | ○ | | | | |
| | 30 | Thermistor input error (TH_UM) | PCU | ○ | | | | |
| | 32 | Thermistor input error (TH_US1) | PCU | ○ | | | | |
| H5 | 01 | 5 times continuous POD1 not reached jam detection | PCU | ○ | | | | |
| H7 | 10 | Fuser low temperature recovery error (TH_UM) | PCU | ○ | | | | |
| | 12 | Fuser low temperature recovery error (TH_US) | PCU | ○ | | | | |
| L1 | 00 | Scanner feed trouble | SCN | ○ | | | | |
| L3 | 00 | Scanner return trouble | SCN | ○ | | | | |
| L4 | 02 | Paper feed motor trouble | PCU | | | ○ | | |
| | 03 | Fusing motor trouble | PCU | | | ○ | | |
| | 06 | Transfer unit lift trouble | PCU | | | ○ | | |
| | 07 | Transfer belt motor trouble | PCU | | | ○ | | |
| | 09 | Registration motor trouble | PCU | | | ○ | | |
| | 11 | Offset motor trouble | PCU | | | ○ | | |
| | 12 | Secondary transfer separation trouble | PCU | | | ○ | | |
| | 16 | Fusing pressure release trouble | PCU | | | ○ | | |
| | 17 | Drum motor trouble K | PCU | | | ○ | | |
| | 18 | Drum motor trouble C | PCU | | | ○ | | |
| | 32 | Power supply fan 1 trouble | PCU | | | ○ | | |

| Trouble code | | Trouble description | Trouble detection | Mechanism | Option | Electricity | FAX | Supply |
|---|---|---|---|---|---|---|---|---|
| Main code | Sub code | | | | | | | |
| L4 | 35 | Fusing fan trouble | PCU | | | ○ | | |
| | 43 | Paper exit fan trouble | PCU | | | ○ | | |
| | 50 | Process fan 1 trouble | PCU | | | ○ | | |
| | 51 | Process fan 2 trouble | PCU | | | ○ | | |
| | 75 | Paper exit motor trouble | PCU | | | ○ | | |
| | 76 | Reverse motor trouble | PCU | | | ○ | | |
| | 77 | ADU motor 1 trouble | PCU | | | ○ | | |
| | 78 | ADU motor 2 trouble | PCU | | | ○ | | |
| | 79 | Transport motor trouble | PCU | | | ○ | | |
| L6 | 10 | Polygon motor trouble | PCU | | | ○ | | |
| L8 | 01 | Full wave signal detection error | PCU | | | ○ | | |
| | 02 | Full wave signal error | PCU | | | ○ | | |
| | 20 | Power controller communication error | MFP | | | ○ | | |
| U1 | 01 | Battery trouble | MFP | | | ○ | | |
| U2 | 00 | MFP EEPROM read/write error | MFP | | | ○ | | |
| | 05 | Account data error | MFP | | | ○ | | |
| | 11 | MFP EEPROM counter check sum error | MFP | | | ○ | | |
| | 30 | SCN MFP PWB and PCU PWB data inconsistency | MFP | | | ○ | | |
| | 40 | eMMC PWB system storage data error | MFP | | | ○ | | |
| | 41 | HDD storage data area error | MFP | | | ○ | | |
| | 42 | Machine adjustment data error | MFP | | | ○ | | |
| | 50 | HDD user authentication data check sum error | MFP | | | ○ | | |
| | 60 | Watermark check error | MFP | | | ○ | | |
| | 70 | OCR dictionary check error | MFP | | | ○ | | |
| | 71 | Voice IC error | MFP | | | ○ | | |
| | 72 | Voice data check error | MFP | | | ○ | | |
| | 73 | NFC tag error | MFP | | | ○ | | |
| | 74 | Recovery data error | MFP | | | ○ | | |
| | 80 | SCN EEPROM read/write error | SCN | | | ○ | | |
| | 81 | SCN EEPROM check sum error | SCN | | | ○ | | |
| | 90 | PCU EEPROM read/write error | PCU | | | ○ | | |
| | 91 | PCU EEPROM check sum error | PCU | | | ○ | | |
| U5 | 00 | SPF communication error | SCN | | | ○ | | |
| | 16 | SPF fan trouble | SCN | | | ○ | | |
| | 20 | SPF transport trouble | SCN | | | ○ | | |
| | 30 | SPF document feed tray lift up trouble | SCN | | | ○ | | |
| | 31 | SPF document feed tray lift down trouble | SCN | | | ○ | | |
| U6 | 00 | PCU PWB - Paper feed desk communication error | PCU | | ○ | | | |
| | 01 | Desk paper feed tray2 lift trouble | PCU | | ○ | | | |
| | 02 | Desk paper feed tray3 lift trouble | PCU | | ○ | | | |
| | 09 | LCC lift trouble | PCU | | ○ | | | |
| | 10 | Desk paper transport trouble | PCU | | ○ | | | |
| | 20 | LCC PWB - PCU PWB communication error | PCU | | ○ | | | |
| | 21 | LCC paper transport trouble | PCU | | ○ | | | |
| | 22 | LCC 24V power trouble | PCU | | ○ | | | |
| | 23 | LCC tray descending trouble | PCU | | ○ | | | |
| | 50 | Desk - Main machine combination trouble | PCU | | ○ | | | |
| | 51 | LCC - Main machine combination trouble | PCU | | ○ | | | |
| | 52 | Desk communication error | PCU | | ○ | | | |
| | 54 | LCC firmware inconsistent error | PCU | | ○ | | | |
| | 55 | Desk firmware inconsistent error | PCU | | ○ | | | |
| U7 | 50 | Vendor machine communication error | MFP | | | ○ | | |
| | 51 | Vendor machine operation trouble | MFP | | | ○ | | |
| U9 | 01 | Touch panel trouble | MFP | | | ○ | | |
| UC | 02 | ASIC CPT error | SCN | | | ○ | | |
| | 12 | ASIC CPT error (DSPF) | SCN | | | ○ | | |
| | 20 | ASIC DOCC error | SCN | | | ○ | | |
| | 30 | ASIC DOCC error (DSPF) | SCN | | | ○ | | |

## G. Details of trouble codes and countermeasures

### A0-01 PCU ROM error

| | |
|---|---|
| Trouble detection | PCU |
| Cause | The firmware update is not completed properly by interruption of the power during the update operation<br>PCU PWB trouble |
| Check & Remedy | SIM49-1 to execute the firmware update<br>Replace PCU PWB |

### A0-02 SCN ROM error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | The firmware update is not completed properly by interruption of the power during the update operation.<br>SCN MFP PWB trouble |
| Check & Remedy | SIM49-1 to execute the firmware update<br>Replace SCN MFP PWB |

### A0-06 FAX ROM error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | The content of FAX ROM error<br>The firmware update is not completed properly by interruption of the power during the update operation.<br>FAX PWB trouble |
| Check & Remedy | SIM49-1 to execute the firmware update<br>Replace FAX PWB |

### A0-10 Color profile error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | The content of the color profile error<br>Combination inconsistency between MFP firmware and color profile |
| Check & Remedy | SIM49-1 to execute the firmware update<br>Replace SCN MFP PWB |

### A0-15 Stored DSK data conflict

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Inconsistency of ASIC MAIN firmware version<br>DSK management state error |
| Check & Remedy | Check ASIC MAIN firmware version<br>Check installation state of TPM PWB |

### A0-17 UI data error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Inconsistency between UI contents and UI firmware version |
| Check & Remedy | SIM49-1 to execute the firmware update |

### A0-18 ASIC MAIN firmware inconsistent error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Inconsistency of ASIC firmware version in MFP |
| Check & Remedy | SIM49-1 to execute the firmware update |

### A0-19 MFP boot error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | ASIC trouble<br>Memory trouble |
| Check & Remedy | Extract and insert eMMC PWB<br>Replace eMMC PWB<br>Replace SCN MFP PWB |

### A0-20 MFP firmware and EEPROM data inconsistent error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Inconsistency between MFP firmware version and EEPROM data version |
| Check & Remedy | SIM49-1 to execute the firmware update |

### A0-21 PCU firmware and EEPROM data inconsistent error

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Inconsistency between PCU firmware version and EEPROM data version |
| Check & Remedy | SIM49-1 to execute the firmware update |

### A0-22 SCN firmware and EEPROM data inconsistent error

| | |
|---|---|
| Trouble detection | SCN |
| Cause | Inconsistency between SCN firmware version and EEPROM data version |
| Check & Remedy | SIM49-1 to execute the firmware update |

### C1-10 Main charger error K

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Open or short circuit of the main charger output |
| 1) Check & Remedy | SIM8-2 to execute<br>>When there is leakage noise or flickering on the operation panel<br>Check insertion of main charger<br>Check MC PWB spring contact point<br>Replace main charger<br>Replace MC PWB harness<br>Replace developing unit (KCMY) |
| 2) Check & Remedy | SIM8-2 to execute<br>>When there is no leakage noise<br>Check insertion of main charger<br>Check connection state of MC PWB harness (T101) or replace<br>Replace MC PWB<br>Replace PCU PWB |

### C1-14 Main charger error CL

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Open or short circuit of the main charger output |
| 1) Check & Remedy | SIM8-2 to execute<br>> When there is leakage noise or flickering on the operation panel<br>Check insertion of main charger<br>Check MC PWB spring contact point<br>Replace main charger<br>Check connection state of MC PWB harness (T201) or replace |
| 2) Check & Remedy | SIM8-2 to execute<br>> When there is no leakage noise<br>Check insertion of main charger<br>Check connection state of MC PWB harness (T201) or replace<br>Replace MC PWB<br>Replace PCU PWB |

## C1-15 MC circuit error K

| Trouble detection | PCU |
|---|---|
| Cause | MC PWB connector, harness connection trouble<br>MC PWB error circuit trouble |
| Check & Remedy | Check connection state of MC PWB connector, harness (CN1-10pin) or replace<br>Replace MC PWB |

## C1-16 MC circuit error CL

| Trouble detection | PCU |
|---|---|
| Cause | MC PWB connector, harness connection trouble<br>MC PWB error circuit trouble |
| Check & Remedy | Check connection state of MC PWB connector, harness (CN1-11pin) or replace<br>Replace MC PWB |

## C1-40 MC PWB trouble

| Trouble detection | PCU |
|---|---|
| Cause | MC PWB connector connection trouble<br>MC PWB harness connection trouble<br>24V fuse meltdown and error circuit trouble in MC PWB |
| Check & Remedy | Check connection state of MC PWB connector (CN1)<br>Check connection state of MC PWB harness (CN1-10pin, 11pin) or replace<br>Replace MC PWB |

## C1-41 MC / TC PWB trouble

| Trouble detection | PCU |
|---|---|
| Cause | PCU PWB connector connection trouble<br>MC PWB, TC PWB connector connection trouble<br>24V fuses meltdown in MC PWB and TC PWB |
| Check & Remedy | Check connection state of PCU PWB connector (CN10)<br>Check connection state of MC PWB and TC PWB connector (CN1)<br>Replace MC PWB and TC PWB |

## C4-00 PTC output error

| Trouble detection | PCU |
|---|---|
| Cause | PTC connector connection trouble<br>PTC unit trouble<br>TC PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of PTC connector (T201)<br>Replace PTC PWB<br>Replace TC PWB<br>Replace PCU PWB |

## C4-05 PTC circuit error

| Trouble detection | PCU |
|---|---|
| Cause | TC PWB harness connection trouble<br>TC PWB error circuit trouble |
| Check & Remedy | Check connection state of TC PWB harness (CN1-4pin) or replace<br>Replace TC PWB |

## C4-20 1TC output error

| Trouble detection | PCU |
|---|---|
| Cause | Open circuit of 1TC output |
| 1) Check & Remedy | SIM8-6 to execute<br>> When there is leakage noise or flickering on the operation panel<br>Check insertion of primary transfer unit<br>Replace primary transfer unit<br>Check TC PWB spring contact point<br>Replace TC PWB<br>Replace PCU PWB |
| 2) Check & Remedy | Check clutch (1TURC_1/1TURC_2) operation<br>If clutch or gear do not move smoothly or have noise<br>Check/Replace harness and clutch (1TURC_1/1TURC_2)<br>Check/Replace primary transfer unit |
| 3) Check & Remedy | Check OPC drum operation and then is not normal movement<br>Replace motor (DM_K/DM_CL)<br>Replace OPC drum |

## C4-25 1TC circuit error

| Trouble detection | PCU |
|---|---|
| Cause | TC PWB harness connection trouble<br>TC PWB error circuit trouble |
| Check & Remedy | Check connection state of TC PWB harness (CN1-2pin) or replace<br>Replace TC PWB |

## C4-30 2TC output open error

| Trouble detection | PCU |
|---|---|
| Cause | Open circuit of 2TC output |
| 1) Check & Remedy | SIM8-6 to execute<br>> When there is leakage noise or flickering on the operation panel<br>Check insertion of primary transfer unit<br>Replace primary transfer unit<br>Check secondary transfer unit<br>Replace secondary transfer unit<br>Check connection state of TC PWB harness (T101) or replace<br>Replace TC PWB<br>Replace PCU PWB |
| 2) Check & Remedy | Check clutch (2TURC) operation<br>If clutch or gear do not move smoothly or have noise<br>Check/Replace harness and clutch (2TURC)<br>Check/Replace secondary transfer unit |

## C4-31 2TC output short error

| Trouble detection | PCU |
|---|---|
| Cause | Incomplete insertion of secondary transfer unit<br>Secondary transfer unit trouble<br>TC PWB trouble |
| Check & Remedy | SIM8-6 to execute<br>Check insertion of secondary transfer unit<br>Check/Replace secondary transfer unit<br>Replace TC PWB |

## C4-35 2TC circuit error

| Trouble detection | PCU |
|---|---|
| Cause | TC PWB harness connection trouble<br>TC PWB error circuit trouble |
| Check & Remedy | Check connection state of TC PWB harness (CN1-3pin) or replace<br>Replace TC PWB |

## C4-40 TC PWB trouble

| Trouble detection | PCU |
|---|---|
| Cause | TC PWB connector connection trouble<br>TC PWB harness pin disconnection<br>24V fuse meltdown, error circuit breakage in the TC PWB |
| Check & Remedy | Check connection state of TC PWB connector (CN1)<br>Check connection state of TC PWB harness (CN1-2pin, 3pin, 4pin)<br>Replace TC PWB |

## E6-10 Shading black correction error (SPF)

| Trouble detection | SCN |
|---|---|
| Cause | CCD unit connector, harness connection trouble<br>CCD unit trouble<br>DSPF PWB trouble |
| Check & Remedy | Check connection state of CCD unit connector, harness<br>Replace CCD unit<br>Replace DSPF PWB |

## E6-11 Shading white correction error (SPF)

| Trouble detection | SCN |
|---|---|
| Cause | CCD unit connector, harness connection trouble<br>Scanner lamp lighting trouble<br>Dirt on mirror, reference white plate<br>CCD unit trouble<br>DSPF PWB trouble |
| Check & Remedy | Check connection state of CCD unit connector, harness<br>Check connection state of scanner lamp connector, harness<br>Clean the reference white plate<br>Replace CCD unit<br>Replace DSPF PWB<br>SIM63-2 to execute |

## E6-14 CCD-ASIC error (SPF)

| Trouble detection | SCN |
|---|---|
| Cause | DSPF PWB trouble |
| Check & Remedy | Replace DSPF PWB |

## E7-01 Image data error

| Trouble detection | MFP |
|---|---|
| Cause | Image data transmission error in SCN MFP PWB<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of SCN MFP PWB connector, harness<br>Replace SCN MFP PWB |

## E7-03 HDD error

| Trouble detection | MFP |
|---|---|
| Cause | SCN MFP PWB and HDD connector, harness connection trouble<br>HDD trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of SCN MFP PWB and HDD connector, harness<br>SIM62-3 to execute<br>SIM62-4 to execute<br>Replace HDD<br>Replace SCN MFP PWB |

## E7-04 HDD-ASIC error (DSK)

| Trouble detection | MFP |
|---|---|
| Cause | HDD-ASIC trouble |
| Check & Remedy | Replace SCN MFP PWB |

## E7-10 Shading black correction error (OC)

| Trouble detection | SCN |
|---|---|
| Cause | Abnormality in the CCD black scan level when scanner lamp is turned OFF<br>CCD unit connector, harness connection trouble<br>CCD unit trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of CCD unit connector, harness<br>Replace CCD unit<br>Replace SCN MFP PWB |

## E7-11 Shading white correction error (OC)

| Trouble detection | SCN |
|---|---|
| Cause | Abnormality in the CCD white reference plate scan level when scanner lamp is turned ON<br>CCD unit connector, harness connection trouble<br>Dirt on mirror, lens and white reference plate<br>Scanner lamp lighting trouble<br>CCD unit trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of CCD unit connector, harness<br>Check connection state of scanner lamp unit connector, harness<br>Clean mirror, lens and white reference plate<br>Replace CCD unit<br>Replace SCN MFP PWB |

## E7-14 CCD-ASIC error (OC)

| Trouble detection | SCN |
|---|---|
| Cause | SCN MFP PWB trouble |
| Check & Remedy | Replace SCN MFP PWB |

## E7-20 LSU BD detection / LD deterioration error K

| Trouble detection | PCU |
|---|---|
| Cause | Reduced laser power, lighting error, laser diode trouble<br>LSU connector, harness connection trouble<br>BD PWB trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-21 LSU LD deterioration error C

| Trouble detection | PCU |
|---|---|
| Cause | Reduced laser power, lighting error, laser diode trouble<br>LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-22 LSU LD deterioration error M

| Trouble detection | PCU |
|---|---|
| Cause | Reduced laser power, lighting error, laser diode trouble<br>LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-23 LSU LD deterioration error Y

| Trouble detection | PCU |
|---|---|
| Cause | Reduced laser power, lighting error, laser diode trouble<br>LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-24 LSU LD driver error K

| Trouble detection | PCU |
|---|---|
| Cause | LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-25 LSU LD driver error C

| Trouble detection | PCU |
|---|---|
| Cause | LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-26 LSU LD driver error M

| Trouble detection | PCU |
|---|---|
| Cause | LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-27 LSU LD driver error Y

| Trouble detection | PCU |
|---|---|
| Cause | LSU connector, harness connection trouble<br>LSU PWB trouble |
| Check & Remedy | SIM61-1 to execute<br>Check connection state of LSU connector, harness<br>Replace LSU unit |

## E7-28 LSU ASIC - PCU access error

| Trouble detection | PCU |
|---|---|
| Cause | Communication error between LSU ASIC and PCU PWB<br>Connector, harness connection trouble<br>PCU PWB trouble<br>LSU PWB trouble<br>LSU unit trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace PCU PWB<br>Replace LSU unit |

## E7-29 LSU ASIC frequency error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>LSU ASIC oscillator trouble<br>LSU ASIC trouble<br>LSU ASIC frequency error |
| Check & Remedy | Check connection state of connector, harness<br>Replace LSU unit |

## E7-49 Watermark data error

| Trouble detection | MFP |
|---|---|
| Cause | Watermark data error<br>eMMC PWB trouble |
| Check & Remedy | SIM49-7 to execute<br>Replace eMMC PWB |

## E7-50 PCU PWB and firmware inconsistent error

| Trouble detection | PCU |
|---|---|
| Cause | Machine incompatible PWB and firmware<br>PCU PWB trouble<br>LSU unit trouble |
| Check & Remedy | Check firmware version<br>Replace PCU PWB<br>Replace LSU unit |

## E7-55 PCU PWB information sum error

| Trouble detection | PCU |
|---|---|
| Cause | Machine incompatible PWB and firmware<br>PCU PWB trouble |
| Check & Remedy | Check firmware version<br>Replace PCU PWB |

## E7-60 SCN MFP PWB and firmware inconsistent error

| Trouble detection | MFP |
|---|---|
| Cause | Machine incompatible PWB and firmware<br>SCN MFP PWB trouble |
| Check & Remedy | Check firmware version<br>Replace SCN MFP PWB |

## E7-61 SCN MFP PWB and PCU PWB combination error

| Trouble detection | MFP |
|---|---|
| Cause | Combination error of SCN MFP PWB and PCU PWB<br>SCN MFP PWB trouble |
| Check & Remedy | Check combination of SCN MFP PWB and PCU PWB<br>Replace SCN MFP PWB |

## E7-80 SCN MFP PWB, scanner communication error

| Trouble detection | MFP |
|---|---|
| Cause | SCN MFP PWB connector, harness connection trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of SCN MFP PWB connector, harness<br>Replace SCN MFP PWB |

## E7-90 SCN MFP PWB, PCU PWB communication error

| Trouble detection | MFP |
|---|---|
| Cause | SCN MFP PWB, PCU PWB connector, harness connection trouble<br>SCN MFP PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of SCN MFP PWB, PCU PWB connector, harness<br>Replace SCN MFP PWB<br>Replace PCU PWB |

## E7-91 FAX received image data error

| Trouble detection | MFP |
|---|---|
| Cause | Image compression data corruption<br>HDD trouble<br>eMMC PWB trouble<br>SCN MFP PWB trouble<br>FAX PWB trouble |
| Check & Remedy | SIM60-1 to execute<br>Replace HDD<br>Replace eMMC PWB<br>Replace SCN MFP PWB<br>Replace FAX PWB |

## E7-92 Copy image data error

| Trouble detection | MFP |
|---|---|
| Cause | Image compression data corruption<br>SCN MFP PWB trouble |
| Check & Remedy | SIM60-1 to execute<br>Replace HDD<br>Replace SCN MFP PWB |

## E7-93 Copy, image send, FAX, filing, print image data process error

| Trouble detection | MFP |
|---|---|
| Cause | Image compression data corruption<br>HDD trouble<br>SCN MFP PWB trouble |
| Check & Remedy | SIM60-1 to execute<br>Replace HDD<br>Replace SCN MFP PWB |

## E7-94 Image data process error

| Trouble detection | MFP |
|---|---|
| Cause | Image compression data corruption<br>HDD trouble<br>SCN MFP PWB trouble |
| Check & Remedy | SIM60-1 to execute<br>Replace HDD<br>Replace SCN MFP PWB |

## E7-99 LSU LD driver connection trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>LSU PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace LSU unit<br>Replace PCU PWB |

## E7-A0 LSU EEPROM / LD driver read/write error K

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM/LD Driver trouble<br>EEPROM/LD Driver access error |
| Check & Remedy | Check connection state of LSU PWB connector, harness<br>Replace PCU PWB<br>Replace LSU unit |

## E7-A1 LSU EEPROM / LD driver read/write error C

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM/LD Driver trouble<br>EEPROM/LD Driver access error |
| Check & Remedy | Check connection state of LSU PWB connector, harness<br>Replace PCU PWB<br>Replace LSU unit |

## E7-A2 LSU EEPROM / LD driver read/write error M

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM/LD Driver trouble<br>EEPROM/LD Driver access error |
| Check & Remedy | Check connection state of LSU PWB connector, harness<br>Replace PCU PWB<br>Replace LSU unit |

## E7-A3 LSU EEPROM / LD driver read/write error Y

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM/LD Driver trouble<br>EEPROM/LD Driver access error |
| Check & Remedy | Check connection state of LSU PWB connector, harness<br>Replace PCU PWB<br>Replace LSU unit |

## E7-A8 eMMC PWB error

| Trouble detection | MFP |
|---|---|
| Cause | eMMC PWB contact trouble<br>eMMC PWB trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check contact state of eMMC PWB<br>SIM62-4 to execute<br>Replace eMMC PWB<br>Replace SCN MFP PWB |

## E7-C0 TPM PWB (DSK) access error

| Trouble detection | MFP |
|---|---|
| Cause | TPM PWB connection trouble<br>TPM PWB used in other MFP was attached |
| Check & Remedy | Power OFF/ON to cancel<br>Check connection state of TPM PWB connector, harness |

## E7-C1 Security check error

| Trouble detection | MFP |
|---|---|
| Cause | Program error<br>TPM PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Check connection state of TPM PWB connector, harness |

## E7-C2 Firmware check sum error

| Trouble detection | MFP |
|---|---|
| Cause | Program corruption due to storage error<br>Program error |
| Check & Remedy | Power OFF/ON to cancel |

## E7-C3 Firmware error

| Trouble detection | MFP |
|---|---|
| Cause | Program corruption due to storage error<br>Program error |
| Check & Remedy | > When " This system can boot up in CN mode, Please turn the dip-switch ON " is displayed<br>Execute firmware update in CN update function<br>> When " This system cannot boot up in any mode " is displayed<br>Replace eMMC PWB |

## EE-EC Automatic toner density adjustment error

| Trouble detection | PCU |
|---|---|
| Cause | Sensor (TCS) trouble<br>Developping unit trouble<br>PCU PWB trouble |
| Check & Remedy | Replace sensor (TCS)<br>Replace developping unit<br>Replace PCU PWB |

## EE-EL Automatic toner density adjustment error (over toner)

| Trouble detection | PCU |
|---|---|
| Cause | Sensor (TCS) trouble<br>Developping unit trouble<br>PCU PWB trouble |
| Check & Remedy | Replace sensor (TCS)<br>Replace developping unit<br>Replace PCU PWB |

## EE-EU Automatic toner density adjustment error (under toner)

| Trouble detection | PCU |
|---|---|
| Cause | Sensor (TCS) trouble<br>Developping unit trouble<br>PCU PWB trouble |
| Check & Remedy | Replace sensor (TCS)<br>Replace developping unit<br>Replace PCU PWB |

## F1-00 Finisher communication error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Finisher PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace finisher PWB<br>Replace PCU PWB |

## F1-01 Finisher jogger operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (JOGHPS) trouble<br>Motor (JOG_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (JOGHPS)<br>Replace motor (JOG_M)<br>Replace finisher PWB |

## F1-02 Finisher entry port transport operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (ENTRS_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (ENTRS_M)<br>Replace finisher PWB |

## F1-03 Finisher oscillation operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPS) trouble<br>Motor (FNMS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPS)<br>Replace motor (FNMS)<br>Replace finisher PWB |

## F1-04 Finisher paddle trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS2) trouble<br>Motor (FNM10) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS2)<br>Replace motor (FNM10)<br>Replace finisher PWB |

## F1-04 Finisher paddle trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Clutch (FNCDP) trouble<br>Sensor (FNHPP) trouble<br>Motor (FNME) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace clutch (FNCDP)<br>Replace sensor (FNHPP)<br>Replace motor (FNME)<br>Replace finisher PWB |

## F1-05 Finisher return operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS3) trouble<br>Motor (FNM2) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS3)<br>Replace motor (FNM2)<br>Replace finisher PWB |

## F1-06 Finisher paper exit transport operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (EXTRS_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (EXTRS_M)<br>Replace finisher PWB |

## F1-08 Finisher stapler shift operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS11) trouble<br>Motor (FNM7) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS11)<br>Replace motor (FNM7)<br>Replace finisher PWB |

## F1-08 Finisher stapler shift operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (STMHP) trouble<br>Motor (STPMV_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (STMHP)<br>Replace motor (STPMV_M)<br>Replace finisher PWB |

## F1-08 Finisher stapler shift operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPMSS) trouble<br>Motor (FNMMSS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPMSS)<br>Replace motor (FNMMSS)<br>Replace finisher PWB |

## F1-10 Finisher staple operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNSTPLHP) trouble<br>Motor (FNSTPLIF) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNSTRLHP)<br>Replace motor (FNSTPLIF)<br>Replace finisher PWB |

## F1-10 Finisher staple operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (STPMOV_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (STPMOV_M)<br>Replace finisher PWB |

## F1-10 Finisher staple operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPDSS) trouble<br>Motor (FNMSS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPDSS)<br>Replace motor (FNMSS)<br>Replace finisher PWB |

## F1-11 Finisher paper exit operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (BLTHPS) trouble<br>Motor (BLT_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (BLTHPS)<br>Replace motor (BLT_M)<br>Replace finisher PWB |

## F1-12 Finisher proof transport operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PRFEX) trouble<br>Motor (UPTRS_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (PRFEX)<br>Replace motor (UPTRS_M)<br>Replace finisher PWB |

## F1-13 Finisher paper exit guide plate operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (EXGPLTHP) trouble<br>Motor (EXGPLT_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (EXGPLTHP)<br>Replace motor (EXGPLT_M)<br>Replace finisher PWB |

## F1-14 Finisher paper rear edge flap operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPFR) trouble<br>Motor (FNMFR) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPFR)<br>Replace motor (FNMFR)<br>Replace finisher PWB |

## F1-15 Finisher tray lift operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS9/FNPS10) trouble<br>Motor (FNM6) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS9/FNPS10)<br>Replace motor (FNM6)<br>Replace finisher PWB |

## F1-15 Finisher tray lift operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (UTRPH) trouble<br>Motor (TRYLFT_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (UTRPH)<br>Replace motor (TRYLFT_M)<br>Replace finisher PWB |

## F1-15 Finisher tray lift operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPMT/FNULMT) trouble<br>Motor (FNMGMT) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPMT/FNULMT)<br>Replace motor (FNMGMT)<br>Replace finisher PWB |

## F1-16 Finisher escape/saddle transport switching operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPFECE) trouble<br>Motor (FNMFECES) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPFECE)<br>Replace motor (FNMFECES)<br>Replace finisher PWB |

## F1-18 Finisher paper bundle hold operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS8) trouble<br>Motor (FNM10) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS8)<br>Replace motor (FNM10)<br>Replace finisher PWB |

## F1-19 Finisher front paper alignment operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS4) trouble<br>Motor (FNM3) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS4)<br>Replace motor (FNM3)<br>Replace finisher PWB |

## F1-19 Finisher front paper alignment operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPJF) trouble<br>Motor (FNMJF) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPJF)<br>Replace motor (FNMJF)<br>Replace finisher PWB |

## F1-20 Finisher rear paper alignment operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS5) trouble<br>Motor (FNM4) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS5)<br>Replace motor (FNM4)<br>Replace finisher PWB |

## F1-20 Finisher rear paper alignment operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPJR) trouble<br>Motor (FNMJR) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPJR)<br>Replace motor (FNMJR)<br>Replace finisher PWB |

## F1-22 Finisher paper bundle exit operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS7) trouble<br>Motor (FNM5) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS7)<br>Replace motor (FNM5)<br>Replace finisher PWB |

## F1-22 Finisher paper bundle exit operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPAR) trouble<br>Motor (FNMAR) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPAR)<br>Replace motor (FNMAR)<br>Replace finisher PWB |

## F1-23 Safety switch trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNDOCFD) trouble<br>Switch (FNOCFD/FNSSS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNDOCFD)<br>Replace switch (FNOCFD/FNSSS)<br>Replace finisher PWB |

## F1-28 Finisher stacking operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (HITHP) trouble<br>Motor (PSN_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (HITHP)<br>Replace motor (PSN_M)<br>Replace finisher PWB |

## F1-28 Finisher stacking operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNHPGKS) trouble<br>Motor (FNMGRS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNHPGKS)<br>Replace motor (FNMGRS)<br>Replace finisher PWB |

## F1-29 Fuse blown trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Over current |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace defective solenoid<br>Replace defective motor<br>Replace finisher PWB |

## F1-30 Finisher saddle communication error (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Firmware is not latest version<br>Connector, harness connection trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM49-1 to execute<br>Check connection state of connector, harness<br>Replace finisher PWB |

## F1-31 Finisher saddle folding operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (FLTRS_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (FLTRS_M)<br>Replace finisher PWB |

## F1-31 Finisher paper exit operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (FNME) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (FNME)<br>Replace finisher PWB |

## F1-32 Finisher punch unit communication error (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Punch PWB trouble<br>Finisher PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace punch PWB<br>Replace finisher PWB |

## F1-32 Finisher punch unit communication error (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Firmware is not latest version<br>Connector, harness connection trouble<br>Punch PWB trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM49-1 to execute<br>Check connection state of connector, harness<br>Replace punch PWB<br>Replace finisher PWB |

## F1-33 Finisher punch shifting operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PNCHMVHP) trouble<br>Motor (PNCHMV_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (PNCHMVHP)<br>Replace motor (PNCHMV_M)<br>Replace finisher PWB |

## F1-33 Finisher punch shifting operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FCHPR) trouble<br>Motor (FCMR) trouble<br>Punch PWB trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FCHPR)<br>Replace motor (FCMR)<br>Replace punch PWB<br>Replace finisher PWB |

## F1-34 Finisher punch operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FCPI_S) trouble<br>Motor (FCMOT) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FCPI_S)<br>Replace motor (FCMOT)<br>Replace finisher PWB |

## F1-34 Finisher punch operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PNCHHP/PNCHMVHP) trouble<br>Motor (PNCH_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (PNCHHP/PNCHMVHP)<br>Replace motor (PNCH_M)<br>Replace finisher PWB |

## F1-34 Finisher punch operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FCHPP) trouble<br>Motor (FCP) trouble<br>Punch PWB trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FCHPP)<br>Replace motor (FCP)<br>Replace punch PWB<br>Replace finisher PWB |

## F1-35 Finisher punch registration operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PAPPOS/PAPPOSHP) trouble<br>Motor (STSMOV_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (PAPPOS/PAPPOSHP)<br>Replace motor (STSMOV_M)<br>Replace finisher PWB |

## F1-37 Finisher backup memory error (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Malfunction due to noises<br>Finisher PWB trouble |
| Check & Remedy | Replace finisher PWB |

## F1-37 Finisher backup memory error (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Finisher PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Replace finisher PWB |

## F1-38 Finisher punch backup memory error (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Malfunction due to noises<br>Punch PWB trouble |
| Check & Remedy | Set punch specification<br>Replace punch PWB |

## F1-38 Finisher punch backup memory error (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Punch PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Replace punch PWB |

## F1-41 Finisher saddle paper positioning operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (ENDSHP) trouble<br>Motor (ENDS_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (ENDSHP)<br>Replace motor (ENDS_M)<br>Replace finisher PWB |

## F1-41 Finisher saddle paper positioning operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPSR) trouble<br>Motor (FSMSR) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPSR)<br>Replace motor (FSMSR)<br>Replace finisher PWB |

## F1-42 Finisher saddle switching operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPEL) trouble<br>Motor (FSMDLE) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPEL)<br>Replace motor (FSMDLE)<br>Replace finisher PWB |

## F1-43 Finisher saddle alignment operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPJ) trouble<br>Motor (FSMJ) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPJ)<br>Replace motor (FSMJ)<br>Replace finisher PWB |

## F1-44 Finisher saddle gripper operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPG) trouble<br>Motor (FSMG) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPG)<br>Replace motor (FSMG)<br>Replace finisher PWB |

## F1-45 Finisher saddle staple operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPDSS) trouble<br>Motor (FSMS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPDSS)<br>Replace motor (FSMS)<br>Replace finisher PWB |

## F1-46 Finisher saddle folding operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FLDPLTHP) trouble<br>Motor (FLDPLT_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FLDPLTHP)<br>Replace motor (FLDPLT_M)<br>Replace finisher PWB |

## F1-46 Finisher saddle folding operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSMCF) trouble<br>Motor (FSMF) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSMCF)<br>Replace motor (FSMF)<br>Replace finisher PWB |

## F1-47 Finisher saddle paper transport operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FSHPP) trouble<br>Motor (FSMC) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FSHPP)<br>Replace motor (FSMC)<br>Replace finisher PWB |

## F1-48 Finisher bundle transport upper pressure release / reference fence escape motor trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (UPRSRLHP) trouble<br>Motor (UPRSRL_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (UPRSRLHP)<br>Replace motor (UPRSRL_M)<br>Replace finisher PWB |

## F1-49 Finisher bundle transport lower pressure release motor trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (LPRSRLHP) trouble<br>Motor (LPRSRL_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (LPRSRLHP)<br>Replace motor (LPRSRL_M)<br>Replace finisher PWB |

## F1-50 Finisher - Main machine incompatible error

| Trouble detection | PCU |
|---|---|
| Cause | Improper combination between main machine and finisher<br>Finisher PWB trouble |
| Check & Remedy | Install finisher which is proper for main machine<br>Replace finisher PWB |

## F1-51 Finisher communication error (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Firmware is not latest version<br>Finisher PWB trouble |
| Check & Remedy | SIM49-1 to execute<br>Replace finisher PWB |

## F1-53 Finisher - Main machine inconsistent error

| Trouble detection | PCU |
|---|---|
| Cause | Firmware is not latest version<br>Finisher PWB trouble |
| Check & Remedy | SIM49-1 to execute<br>Replace finisher PWB |

## F1-54 Finisher punch unit destination inconsistent error (Inner)(3K)

| Trouble detection | PCU |
|---|---|
| Cause | Improper destination setting of punch unit |
| Check & Remedy | Set proper destination of punch unit |

## F1-55 Finisher firmware inconsistent error

| Trouble detection | PCU |
|---|---|
| Cause | Finisher firmware inconsistency |
| Check & Remedy | SIM49-1 to execute |

## F1-78 Finisher eco staple operation trouble (Inner)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNPS15) trouble<br>Motor (FNM9) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNPS15)<br>Replace motor (FNM9)<br>Replace finisher PWB |

## F1-78 Finisher staple free stapler operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (FNMCSLS) trouble<br>Motor (FNMSLS) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (FNMCSLS)<br>Replace motor (FNMSLS)<br>Replace finisher PWB |

## F1-83 Finisher guide operation trouble (3K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (FNMDT) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace motor (FNMDT)<br>Replace finisher PWB |

## F1-89 Finisher shift operation trouble (1K)

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (SFTROLHP) trouble<br>Motor (SFT_M) trouble<br>Finisher PWB trouble |
| Check & Remedy | SIM3-2 to execute<br>SIM3-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (SFTROLHP)<br>Replace motor (SFT_M)<br>Replace finisher PWB |

## F2-22 Discharge lamp trouble K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Discharge lamp trouble<br>PCU PWB trouble |
| Check & Remedy | SIM5-4 to execute<br>Check connection state of connector, harness<br>Replace discharge lamp<br>Replace PCU PWB |

## F2-23 Discharge lamp trouble C

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Discharge lamp trouble<br>PCU PWB trouble |
| Check & Remedy | SIM5-4 to execute<br>Check connection state of connector, harness<br>Replace discharge lamp<br>Replace PCU PWB |

## F2-24 Discharge lamp trouble M

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Discharge lamp trouble<br>PCU PWB trouble |
| Check & Remedy | SIM5-4 to execute<br>Check connection state of connector, harness<br>Replace discharge lamp<br>Replace PCU PWB |

## F2-25 Discharge lamp trouble Y

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Discharge lamp trouble<br>PCU PWB trouble |
| Check & Remedy | SIM5-4 to execute<br>Check connection state of connector, harness<br>Replace discharge lamp<br>Replace PCU PWB |

## F2-39 Temperature sensor error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TH_CL/HUD_CL) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TH_CL/HUD_CL)<br>Replace PCU PWB |

## F2-40 Toner density error K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCS_K) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TCS_K)<br>Replace DV unit<br>Replace PCU PWB |

## F2-41 Toner density error C

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCS_C) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TCS_C)<br>Replace DV unit<br>Replace PCU PWB |

## F2-42 Toner density error M

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCS_M) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TCS_M)<br>Replace DV unit<br>Replace PCU PWB |

## F2-43 Toner density error Y

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCS_Y) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TCS_Y)<br>Replace DV unit<br>Replace PCU PWB |

## F2-45 Color image density sensor error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PCS) dirt or trouble<br>Transfer unit lift operation trouble<br>PCU PWB trouble |
| Check & Remedy | SIM44-2 to execute<br>Check connection state of connector, harness<br>Clean/Replace sensor (PCS)<br>Repair transfer unit lift mechanism<br>Replace PCU PWB |

## F2-49 LSU thermistor error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Thermistor (LSU_TH) trouble<br>LSU PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace PCU PWB |

## F2-50 Drum phase error K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (DHPD_K) trouble<br>Drum drive section trouble<br>PCU PWB trouble |
| Check & Remedy | SIM30-1 to execute<br>Check connection state of connector, harness<br>Replace sensor (DHPD_K)<br>Repair drum drive section<br>Replace PCU PWB |

## F2-51 Drum phase error CL

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (DHPD_CL) trouble<br>Drum drive section trouble<br>PCU PWB trouble |
| Check & Remedy | SIM30-1 to execute<br>Check connection state of connector, harness<br>Replace sensor (DHPD_CL)<br>Repair drum drive section<br>Replace PCU PWB |

## F2-58 Humidity sensor error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TH_CL/HUD_CL) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (TH_CL/HUD_CL)<br>Replace PCU PWB |

## F2-64 Toner supply trouble K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>Toner transport pipe section trouble<br>Sensor (TCS_K) trouble<br>Motor (TNM_K) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Check transport pipe section<br>Replace sensor (TCS_K)<br>Replace motor (TNM_K)<br>Replace DV unit<br>Replace PCU PWB |

## F2-65 Toner supply trouble C

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>Toner transport pipe section trouble<br>Sensor (TCS_C) trouble<br>Motor (TNM_C) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Check transport pipe section<br>Replace sensor (TCS_C)<br>Replace motor (TNM_C)<br>Replace DV unit<br>Replace PCU PWB |

## F2-66 Toner supply trouble M

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>Toner transport pipe section trouble<br>Sensor (TCS_M) trouble<br>Motor (TNM_M) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Check transport pipe section<br>Replace sensor (TCS_M)<br>Replace motor (TNM_M)<br>Replace DV unit<br>Replace PCU PWB |

## F2-67 Toner supply trouble Y

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>Toner transport pipe section trouble<br>Sensor (TCS_Y) trouble<br>Motor (TNM_Y) trouble<br>DV unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Check transport pipe section<br>Replace sensor (TCS_Y)<br>Replace motor (TNM_Y)<br>Replace DV unit<br>Replace PCU PWB |

## F2-70 Improper toner cartridge error K

| Trouble detection | PCU |
|---|---|
| Cause | Improper toner cartridge was inserted<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Replace toner cartridge<br>Replace PCU PWB |

## F2-71 Improper toner cartridge error C

| Trouble detection | PCU |
|---|---|
| Cause | Improper toner cartridge was inserted<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Replace toner cartridge<br>Replace PCU PWB |

## F2-72 Improper toner cartridge error M

| Trouble detection | PCU |
|---|---|
| Cause | Improper toner cartridge was inserted<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Replace toner cartridge<br>Replace PCU PWB |

## F2-73 Improper toner cartridge error Y

| Trouble detection | PCU |
|---|---|
| Cause | Improper toner cartridge was inserted<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Replace toner cartridge<br>Replace PCU PWB |

## F2-74 Toner cartridge error K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Replace PCU PWB |

## F2-75 Toner cartridge error C

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Replace PCU PWB |

## F2-76 Toner cartridge error M

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Replace PCU PWB |

## F2-77 Toner cartridge error Y

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Toner cartridge trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace toner cartridge<br>Replace PCU PWB |

## F2-78 Image density sensor error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (PCS) dirt or trouble<br>Transfer belt dirt, scratch<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Clean/Replace sensor (PCS)<br>Clean/Replace transfer belt<br>Replace PCU PWB |

## F2-95 Toner cartridge ejecting trouble K

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCED_K) trouble<br>Motor (TNM_K) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM10-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (TCED_K)<br>Replace motor (TNM_K)<br>Replace PCU PWB |

## F2-96 Toner cartridge ejecting trouble C

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCED_C) trouble<br>Motor (TNM_C) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM10-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (TCED_C)<br>Replace motor (TNM_C)<br>Replace PCU PWB |

## F2-97 Toner cartridge ejecting trouble M

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCED_M) trouble<br>Motor (TNM_M) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM10-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (TCED_M)<br>Replace motor (TNM_M)<br>Replace PCU PWB |

## F2-98 Toner cartridge ejecting trouble Y

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (TCED_Y) trouble<br>Motor (TNM_Y) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM10-3 to execute<br>Check connection state of connector, harness<br>Replace sensor (TCED_Y)<br>Replace motor (TNM_Y) |

## F3-12 Paper feed tray 1 lift operation trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Lift unit trouble<br>Sensor (C1LUD) trouble<br>Motor (C1LUM) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace lift unit<br>Replace sensor (C1LUD)<br>Replace motor (C1LUM)<br>Replace PCU PWB |

## F3-22 Desk paper feed tray 1 lift operation trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Lift unit trouble<br>Sensor (C2LUD) trouble<br>Motor (C2LUM) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace lift unit<br>Replace sensor (C2LUD)<br>Replace motor (C2LUM)<br>Replace PCU PWB |

## F6-00 SCN MFP PWB - FAX communication error

| Trouble detection | MFP |
|---|---|
| Cause | Connector, harness connection trouble<br>FAX PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace FAX PWB |

## F6-01 FAX EEPROM read/write error

| Trouble detection | FAX |
|---|---|
| Cause | FAX EEPROM trouble<br>FAX EEPROM access trouble |
| Check & Remedy | SIM66-3 to execute<br>Replace FAX EEPROM<br>Replace FAX PWB |

## F6-02 FAX power supply trouble

| Trouble detection | FAX |
|---|---|
| Cause | Connector, harness connection trouble<br>DC PWB trouble<br>SCN MFP PWB trouble<br>FAX PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace DC PWB<br>Replace SCN MFP PWB<br>Replace FAX PWB |

## F6-04 FAX modem operation trouble

| Trouble detection | FAX |
|---|---|
| Cause | FAX modem chip operation trouble |
| Check & Remedy | Replace FAX PWB |

## F6-21 Improper combination of FAX PWB and FAX soft switch inconsistent error

| Trouble detection | FAX |
|---|---|
| Cause | Improper destination of FAX PWB<br>FAX PWB trouble |
| Check & Remedy | Check proper destination of FAX PWB<br>Replace FAX PWB |

## F6-30 FAX power controller access error

| Trouble detection | FAX |
|---|---|
| Cause | FAX power controller access trouble<br>FAX power controller circuit trouble |
| Check & Remedy | SIM66-42 to execute<br>Replace FAX PWB |

## F6-97 FAX and main machine inconsistent error

| Trouble detection | MFP |
|---|---|
| Cause | Improper FAX PWB<br>FAX PWB trouble |
| Check & Remedy | Replace FAX PWB |

## F6-98 FAX and main machine destination inconsistent error

| Trouble detection | MFP |
|---|---|
| Cause | Main machine and FAX destination inconsistency |
| Check & Remedy | SIM26-6 to execute<br>Check FAX destination |

## H2-00 Thermistor open trouble (TH_UM_AD2)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB trouble<br>Check fusing unit installed |

## H2-01 Thermistor open trouble (TH_LM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB trouble<br>Check fusing unit installed |

## H2-02 Thermistor open trouble (TH_US1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB trouble<br>Check fusing unit installed |

## H2-03 Thermistor open trouble (TH_UM_AD1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB<br>Check fusing unit installed |

## H2-05 Thermistor open trouble (TH_US1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB<br>Check fusing unit installed |

## H2-06 Thermistor open trouble (TH_US2)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble<br>Fusing unit not installed |
| Check & Remedy | SIM44-14 to execute<br>Check connection state of thermistor connector, harness<br>Check connection state of fusing section connector<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB trouble<br>Check fusing unit installed |

## H3-00 Fuser high temperature error (TH_UM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H3-01 Fuser high temperature error (TH_LM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H3-02 Fuser high temperature error (TH_US1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Fusing section connector connection trouble<br>Thermistor trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H4-00 Fuser low temperature error (TH_UM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H4-01 Fuser low temperature error (TH_LM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H4-02 Fuser low temperature error (TH_US1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H4-30 Thermistor input error (TH_UM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H4-32 Thermistor input error (TH_US1)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM44-14 to execute<br>SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB<br>SIM14 to cancel |

## H5-01 5 times continuous POD1 not reached jam detection

| Trouble detection | PCU |
|---|---|
| Cause | Fusing jam was not canceles completely (jam paper remains)<br>Fusing unit installation trouble<br>Fusing unit, drive section trouble<br>Sensor (POD1) connector, harness connection trouble<br>Sensor (POD1) trouble<br>PCU PWB trouble |
| Check & Remedy | Check fusing unit installed<br>Check fusing drive section<br>Check connection state of sensor (POD1) connector, harness<br>Replace sensor (POD1)<br>Replace PCU PWB<br>Replace fusing unit<br>SIM14 to cancel |

## H7-10 Fuser low temperature recovery error (TH_UM)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB |

## H7-12 Fuser low temperature recovery error (TH_US)

| Trouble detection | PCU |
|---|---|
| Cause | Thermistor connector, harness connection trouble<br>Thermistor trouble<br>Thermostat trouble<br>Heater lamp trouble<br>Interlock switch trouble<br>PCU PWB trouble<br>AC PWB trouble |
| Check & Remedy | SIM5-2 to execute<br>Check connection state of thermistor connector, harness<br>Replace thermistor<br>Replace thermostat<br>Replace heater lamp<br>Replace interlock switch<br>Replace PCU PWB<br>Replace AC PWB |

## L1-00 Scanner feed trouble

| Trouble detection | SCN |
|---|---|
| Cause | Connector, harness connection trouble<br>Scanner unit trouble<br>Sensor (MHPS) trouble<br>Motor (MIM) trouble<br>SCN MFP PWB trouble |
| Check & Remedy | SIM1-1 to execute<br>Check connection state of connector, harness<br>Replace scanner unit<br>Replace sensor (MHPS)<br>Replace motor (MIM)<br>Replace SCN MFP PWB |

## L3-00 Scanner return trouble

| Trouble detection | SCN |
|---|---|
| Cause | Connector, harness connection trouble<br>Scanner unit trouble<br>Sensor (MHPS) trouble<br>Motor (MIM) trouble<br>SCN MFP PWB trouble |
| Check & Remedy | SIM1-1 to execute<br>Check connection state of connector, harness<br>Replace scanner unit<br>Replace sensor (MHPS)<br>Replace motor (MIM)<br>Replace SCN MFP PWB |

## L4-02 Paper feed motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Clutch (C1PUC) trouble<br>Motor (CPFM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing jammed paper<br>Check connection state of motor and drive shaft<br>Check connection state of PCU PWB and motor<br>Replace clutch (C1PUC)<br>Replace motor (CPFM)<br>Replace PCU PWB |

## L4-03 Fusing motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (FUM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing jammed paper<br>Check connection state of motor and drive shaft<br>Check connection state of PCU PWB and motor<br>Replace motor (FUM)<br>Replace PCU PWB |

## L4-06 Transfer unit lift trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (1TUD) dirt or trouble<br>Clutch (1TURC) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-3 to execute<br>Check connection state of connector, harness<br>Clean/Replace sensor (1TUD)<br>Replace clutch (1TURC)<br>Replace PCU PWB |

## L4-07 Transfer belt motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Transfer belt unit load trouble<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (DM_K) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after checking transfer belt unit rotational load<br>Check connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (DM_K)<br>Replace PCU PWB |

## L4-09 Registration motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (RRM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing jammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (RRM)<br>Replace PCU PWB |

## L4-11 Offset motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (OSM) trouble<br>Sensor (SHPOS) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute<br>SIM30-1 to execute<br>Check connection state of connector, harness<br>Replace motor (OSM)<br>Replace sensor (SHPOS)<br>Replace PCU PWB |

## L4-12 Secondary transfer separation trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Secondary transfer separation mechanism trouble<br>Sensor (2TUD) trouble<br>Clutch (2TURC) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Check/Repair secondary transfer separation mechanism<br>Replace sensor (2TUD)<br>Replace clutch (2TURC)<br>Replace PCU PWB |

## L4-16 Fusing pressure release trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Pressure release drive gear and idle gear trouble<br>Sensor (HLPCD) trouble<br>Motor (PRM) trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace pressure release drive gear and idle gear<br>Replace sensor (HLPCD)<br>Replace motor (PRM)<br>Replace PCU PWB |

## L4-17 Drum motor trouble K

| Trouble detection | PCU |
|---|---|
| Cause | Process, Developer and Transfer belt unit load trouble<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (DM_K) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM25-1 to execute after checking installation condition of process, developer and transfer belt unit<br>Check connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (DM_K)<br>Replace PCU PWB |

## L4-18 Drum motor trouble CL

| Trouble detection | PCU |
|---|---|
| Cause | Process, Developer and Transfer belt unit load trouble<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (DM_CL) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM25-1 to execute after checking installation condition of process, developer and transfer belt unit<br>Check connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (DM_CL)<br>Replace PCU PWB |

## L4-32 Power supply fan 1 trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Fan (PSFM1) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-2 to execute<br>Check connection state of connector, harness<br>Replace fan (PSFM1)<br>Replace PCU PWB |

## L4-35 Fusing fan trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Fan (FUFM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-2 to execute<br>Check connection state of connector, harness<br>Replace fan (FUFM)<br>Replace PCU PWB |

## L4-43 Paper exit fan trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Fan (POFM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-2 to execute<br>Check connection state of connector, harness<br>Replace fan (POFM)<br>Replace PCU PWB |

## L4-50 Process fan 1 trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Fan (PROFM1) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-2 to execute<br>Check connection state of connector, harness<br>Replace fan (PROFM1)<br>Replace PCU PWB |

## L4-51 Process fan 2 trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Fan (PROFM2) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-2 to execute<br>Check connection state of connector, harness<br>Replace fan (PROFM2)<br>Replace PCU PWB |

## L4-75 Paper exit motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (POM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing jammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (POM)<br>Replace PCU PWB |

## L4-76 Reverse motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (SBM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing jammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (SBM)<br>Replace PCU PWB |

## L4-77 ADU motor 1 trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (ADUM1) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM9-3 to execute after removing jammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (ADUM1)<br>Replace PCU PWB |

## L4-78 ADU motor 2 trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (ADUM2) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM9-3 to execute after removing jammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (ADUM2)<br>Replace PCU PWB |

## L4-79 Transport motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper jam<br>Motor mounting trouble<br>Connection trouble between PCU PWB and motor<br>Motor (PFM) trouble<br>PCU PWB trouble |
| Check & Remedy | SIM6-1 to execute after removing pammed paper<br>Check belt connection state of motor and drive unit<br>Check connection state of PCU PWB and motor<br>Replace motor (PFM)<br>Replace PCU PWB |

## L6-10 Polygon motor trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (PGM) trouble<br>LSU PWB trouble |
| Check & Remedy | SIM6-1 to execute<br>Check connection state of connector, harness<br>Replace motor (PGM)<br>Replace LSU unit |

## L8-01 Full wave signal detection error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Power supply unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace power supply unit<br>Replace PCU PWB |

## L8-02 Full wave signal error

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Power supply unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Check voltage at AC outlet<br>Replace power supply unit<br>Replace PCU PWB |

## L8-20 Power controller communication error

| Trouble detection | MFP |
|---|---|
| Cause | SCN MFP PWB trouble |
| Check & Remedy | Replace SCN MFP PWB |

## U1-01 Battery trouble

| Trouble detection | MFP |
|---|---|
| Cause | Battery life<br>Battery circuit trouble |
| Check & Remedy | Check battery voltage is 2.5V or above<br>Replace battery |

## U2-00 MFP EEPROM read/write error

| Trouble detection | MFP |
|---|---|
| Cause | EEPROM trouble<br>EEPROM socket contact trouble<br>Strong external noises |
| Check & Remedy | Check power environment<br>Replace EEPROM<br>Replace SCN MFP PWB |

## U2-05 Account data error

| Trouble detection | MFP |
|---|---|
| Cause | Authentication table error<br>If frequent occurrence of this error is found, the following devices may possibly be damaged<br>HDD/mSATA SSD/eMMC PWB trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Replace HDD/mSATA SSD/eMMC PWB<br>Replace SCN MFP PWB |

## U2-11 MFP EEPROM counter check sum error

| Trouble detection | MFP |
|---|---|
| Cause | EEPROM trouble<br>EEPROM socket contact trouble<br>Strong external noises |
| Check & Remedy | Check contact of EEPROM socket<br>Replace SCN MFP PWB<br>SIM16 to cancel |

## U2-30 SCN MFP PWB and PCU PWB data inconsistency

| Trouble detection | MFP |
|---|---|
| Cause | When replacing SCN MFP PWB or PCU PWB, EEPROM which was mounted on PWB before replacement is not mounted on new PWB<br>Replace SCN MFP PWB<br>Replace PCU PWB |
| Check & Remedy | Check EEPROM is properly set<br>Replace SCN MFP PWB<br>Replace PCU PWB |

## U2-40 eMMC PWB system storage data error

| Trouble detection | MFP |
|---|---|
| Cause | eMMC PWB system storage data area error |
| Check & Remedy | Power OFF/ON and backup data is written into eMMC PWB and machine is automatically recovered |

## U2-41 HDD storage data area error

| Trouble detection | MFP |
|---|---|
| Cause | File error occurs saved data area, disabling backup of saved file of machine adjustment value in eMMC PWB |
| Check & Remedy | Power OFF/ON to cancel<br>Perform backup of HDD/eMMC PWB<br>SIM62 to execute HDD format<br>Replace HDD/eMMC PWB<br>SIM16 to cancel |

## U2-42 Machine adjustment data error

| Trouble detection | MFP |
|---|---|
| Cause | Saved file of machine adjustment value in eMMC PWB and system saved data in HDD error |
| Check & Remedy | Perform backup of HDD and eMMC PWB<br>SIM62 to execute HDD format<br>Replace HDD/eMMC PWB<br>SIM16 to cancel<br>Adjust machine again and set adjustment values |

## U2-50 HDD user authentication data check sum error

| Trouble detection | MFP |
|---|---|
| Cause | Strong external noises<br>HDD trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check data related to check sum error (address book, image send system registration data) and register again<br>SIM16 to cancel<br>Replace HDD<br>Replace SCN MFP PWB |

## U2-60 Watermark check error

| Trouble detection | MFP |
|---|---|
| Cause | Watermark data trouble<br>eMMC PWB trouble |
| Check & Remedy | SIM49-7 to execute<br>Replace eMMC PWB |

## U2-70 OCR dictionary check error

| Trouble detection | MFP |
|---|---|
| Cause | OCR dictionary data trouble |
| Check & Remedy | SIM49-7 to execute |

## U2-71 Voice IC error

| Trouble detection | MFP |
|---|---|
| Cause | Voice IC trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Replace SCN MFP PWB |

## U2-72 Voice data check error

| Trouble detection | MFP |
|---|---|
| Cause | Voice data trouble |
| Check & Remedy | SIM49-7 to execute |

## U2-73 NFC tag error

| Trouble detection | MFP |
|---|---|
| Cause | Connector, harness connection trouble<br>NFC HOME KEY PWB trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace NFC HOME KEY PWB<br>Replace SCN MFP PWB |

## U2-74 Recovery data error

| Trouble detection | MFP |
|---|---|
| Cause | Data corruption due to storage error<br>Data abnormality |
| Check & Remedy | SIM49-1 to execute |

## U2-80 SCN EEPROM read/write error

| Trouble detection | SCN |
|---|---|
| Cause | EEPROM socket contact trouble<br>EEPROM trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check contact of EEPROM socket<br>Replace EEPROM<br>Replace SCN MFP PWB<br>SIM16 to cancel |

## U2-81 SCN EEPROM check sum error

| Trouble detection | SCN |
|---|---|
| Cause | EEPROM socket contact trouble<br>EEPROM trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check contact of EEPROM socket<br>Replace EEPROM<br>Replace SCN MFP PWB<br>SIM16 to cancel |

## U2-90 PCU EEPROM read/write error

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM socket contact trouble<br>EEPROM trouble<br>PCU PWB trouble |
| Check & Remedy | Check contact of EEPROM socket<br>Check SIM adjustment values of engine and adjust again if they are improper<br>Replace EEPROM<br>Replace PCU PWB<br>SIM16 to cancel |

## U2-91 PCU EEPROM check sum error

| Trouble detection | PCU |
|---|---|
| Cause | EEPROM socket contact trouble<br>Replace EEPROM<br>Replace PCU PWB |
| Check & Remedy | Check contact of EEPROM socket<br>Replace EEPROM<br>Replace PCU PWB<br>SIM16 to cancel |

## U5-00 SPF communication error

| Trouble detection | SCN |
|---|---|
| Cause | Malfunction due to noises<br>Connector, harness connection trouble<br>DSPF PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Check connection state of connector, harness<br>Replace DSPF PWB |

## U5-16 SPF fan trouble

| Trouble detection | SCN |
|---|---|
| Cause | Connector, harness connection trouble |
| Check & Remedy | SIM2-3 to execute<br>Check connection state of connector, harness<br>Replace fan (SPFFAN) |

## U5-20 SPF transport trouble

| Trouble detection | SCN |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (SPFM) trouble |
| Check & Remedy | SIM2-3 to execute<br>Check connection state of connector, harness<br>Replace motor (SPFM) |

## U5-30 SPF tray lift up trouble

| Trouble detection | SCN |
|---|---|
| Cause | Lift up trouble is detected 5 times continuously<br>Connector, harness connection trouble<br>Sensor (STLD/STUD) trouble<br>DSPF PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (STLD/STUD)<br>Replace DSPF PWB |

## U5-31 SPF tray lift down trouble

| Trouble detection | SCN |
|---|---|
| Cause | Lift down trouble is not detected within specified time<br>Connector, harness connection trouble<br>Sensor (STLD/STUD) trouble<br>DSPF PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (STLD/STUD)<br>Replace DSPF PWB |

## U6-00 PCU PWB - Paper feed desk communication error

| Trouble detection | PCU |
|---|---|
| Cause | Malfunction due to noises<br>Connector, harness connection trouble<br>Desk control PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Check connection state of connector, harness<br>Replace desk control PWB<br>Replace PCU PWB |

## U6-01 Desk paper feed tray 2 lift trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (D1LUD) trouble<br>Desk control PWB trouble<br>Lift unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (D1LUD)<br>Replace desk control PWB<br>Replace lift unit<br>Replace PCU PWB |

## U6-02 Desk paper feed tray 3 lift trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Sensor (D2LUD) trouble<br>Desk control PWB trouble<br>Lift unit trouble<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace sensor (D2LUD)<br>Replace desk control PWB<br>Replace lift unit<br>Replace PCU PWB |

## U6-09 LCC lift trouble

| Trouble detection | PCU |
|---|---|
| Cause | Lift mechanism trouble<br>Sensor (LRE) trouble<br>Motor (LLM) trouble<br>LCC main PWB trouble |
| Check & Remedy | SIM4-2, 4-3 to execute<br>Check lift unit<br>Replace sensor (LRE)<br>Replace motor (LLM)<br>Replace LCC main PWB |

## U6-10 Desk paper transport trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Motor (DPFM) trouble<br>Desk control PWB trouble |
| Check & Remedy | SIM4-3 to execute<br>Check connection state of connector, harness<br>Replace motor (DPFM)<br>Replace desk control PWB |

## U6-20 LCC PWB - PCU PWB communication error

| Trouble detection | PCU |
|---|---|
| Cause | Malfunction due to noises<br>Connector, harness connection trouble<br>LCC main PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Check connection state of connector, harness<br>Replace LCC main PWB<br>Replace PCU PWB |

## U6-21 LCC paper transport trouble

| Trouble detection | PCU |
|---|---|
| Cause | Paper transport mechanism trouble<br>Motor (LPFM) trouble<br>LCC main PWB trouble |
| Check & Remedy | SIM4-3 to execute<br>Check paper transport mechanism<br>Replace motor (LPFM)<br>Replace LCC main PWB |

## U6-22 LCC 24V power trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>LCC main PWB trouble<br>Main machine power PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace LCC main PWB<br>Replace main machine power PWB |

## U6-23 LCC tray descending trouble

| Trouble detection | PCU |
|---|---|
| Cause | Connector, harness connection trouble<br>Switch (LWRSW) trouble<br>LCC main PWB trouble |
| Check & Remedy | SIM4-3 to execute<br>Check connection state of connector, harness<br>Replace switch (LWRSW)<br>Replace LCC main PWB |

## U6-50 Desk - Main machine combination trouble

| Trouble detection | PCU |
|---|---|
| Cause | Improper combination between main machine and desk<br>Desk control PWB trouble |
| Check & Remedy | Install desk which is proper for main machine<br>Replace desk control PWB |

## U6-51 LCC - Main machine combination trouble

| Trouble detection | PCU |
|---|---|
| Cause | Improper combination between main machine and LCC<br>LCC main PWB trouble<br>PCU PWB trouble |
| Check & Remedy | Install LCC which is proper for main machine<br>Replace LCC main PWB<br>Replace PCU PWB |

## U6-52 Desk communication error

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Connector, harness connection trouble between main machine and paper feed tray 2<br>PCU PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace PCU PWB |

## U6-54 LCC firmware inconsistent error

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Firmware version is inconsistency |
| Check & Remedy | SIM49-1 to execute |

## U6-55 Desk firmware inconsistent error

| | |
|---|---|
| Trouble detection | PCU |
| Cause | Firmware version is inconsistency |
| Check & Remedy | SIM49-1 to execute |

## U7-50 Vendor machine communication error

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Strong external noises<br>Improper setting of vendor machine specifications<br>Vendor machine trouble<br>Connector, harness connection trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Power OFF/ON to cancel<br>Change specification of vendor machine<br>Check connection state of connector, harness<br>Replace SCN MFP PWB |

## U7-51 Vendor machine operation trouble

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Vendor machine trouble<br>Connector, harness connection trouble |
| Check & Remedy | Repair vendor machine referring to detailed error code<br>Check connection state of connector, harness |

## U9-01 Touch panel trouble

| | |
|---|---|
| Trouble detection | MFP |
| Cause | Connector, harness connection trouble<br>Touch panel trouble<br>SCN MFP PWB trouble |
| Check & Remedy | Check connection state of connector, harness<br>Replace touch panel<br>Replace SCN MFP PWB |

## UC-02 ASIC CPT error

| | |
|---|---|
| Trouble detection | SCN |
| Cause | SCN MFP PWB trouble |
| Check & Remedy | Replace SCN MFP PWB |

## UC-12 ASIC CPT error (DSPF)

| | |
|---|---|
| Trouble detection | SCN |
| Cause | DSPF PWB trouble |
| Check & Remedy | Replace DSPF PWB |

## UC-20 ASIC DOCC error

| | |
|---|---|
| Trouble detection | SCN |
| Cause | SCN MFP PWB trouble |
| Check & Remedy | Replace SCN MFP PWB |

## UC-30 ASIC DOCC error (DSPF)

| | |
|---|---|
| Trouble detection | SCN |
| Cause | DSPF PWB trouble |
| Check & Remedy | Replace DSPF PWB |

## H. LED status and errors of SCN MFP PWB

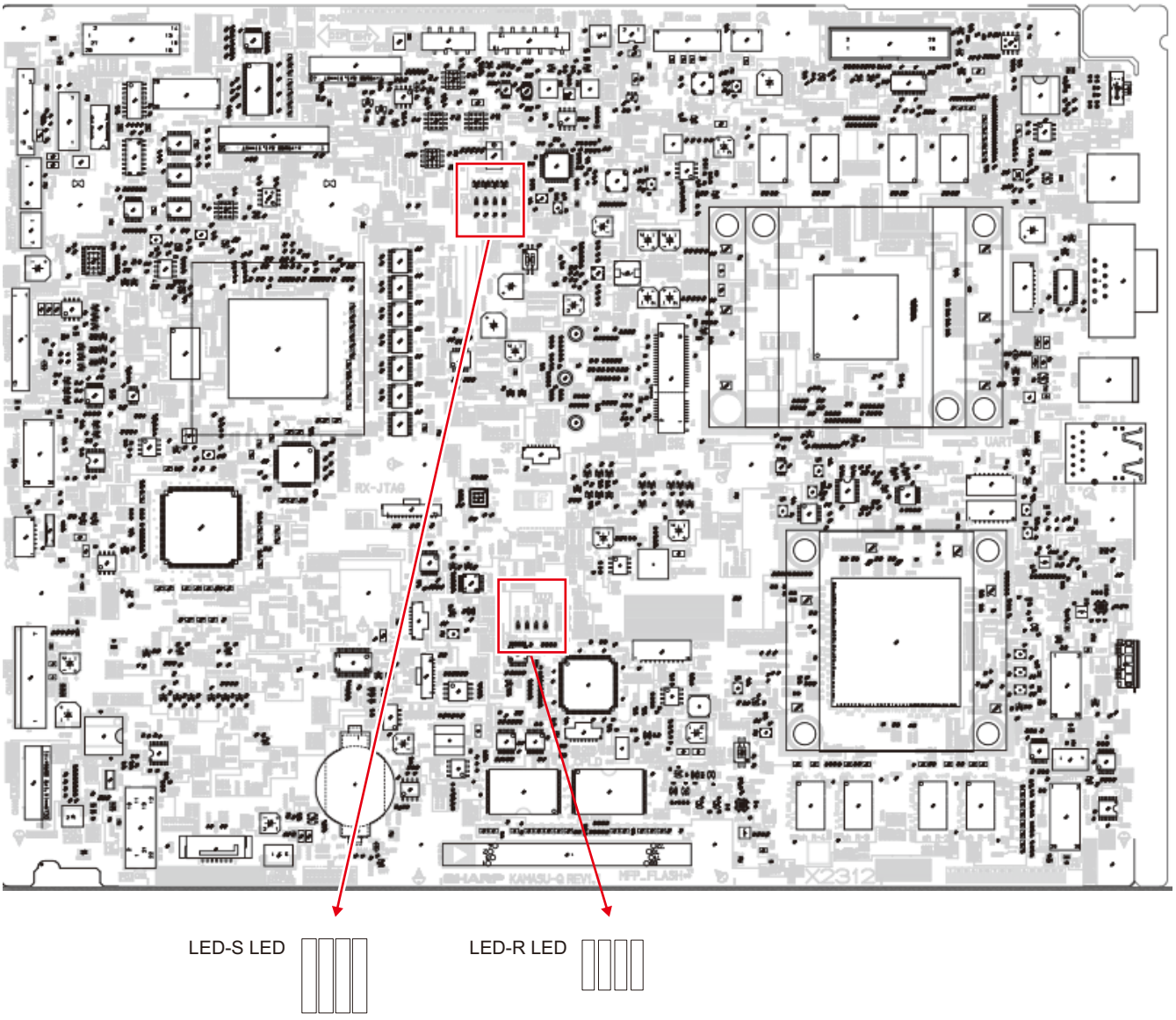
Check LED status of SCN MFP PWB to presume error content when machine cannot booted.

Process content and LED display.

**Lighting up status of LED-S and LED-R.**

| LED status | Condition | Countermeasure at error |
|---|---|---|
| All eight LED lighting | Normal | - |
| Other status (blinking or lighting) | Error | Replace eMMC PWB → If the same condition remained, replace SCN MFP PWB |

**SCN MFPC PWB**



# 2. JAM

## A. JAM code list

### (1) Main machine, DESK

| JAM code | JAM content |
|---|---|
| 2TPD_N1 | 2TPD not-reached JAM (Tray 1 paper feed) |
| 2TPD_N2 | 2TPD not-reached JAM (Tray 2 paper feed) |
| 2TPD_N3 | 2TPD not-reached JAM (Tray 3 paper feed) |
| 2TPD_N4 | 2TPD not-reached JAM (Tray 4 paper feed) |
| 2TPD_NA | 2TPD not-reached JAM (ADU) |
| 2TPD_NL | 2TPD not-reached JAM (LCC paper feed) |
| 2TPD_NM | 2TPD not-reached JAM (Manual paper feed) |
| 2TPD_NT1 | 2TPD not-reached JAM (Tandem left paper feed) |
| 2TPD_NT2 | 2TPD not-reached JAM (Tandem right paper feed) |
| 2TPD_S1 | 2TPD remaining JAM (Tray 1 paper feed) |
| 2TPD_S2 | 2TPD remaining JAM (Tray 2 paper feed) |
| 2TPD_S3 | 2TPD remaining JAM (Tray 3 paper feed) |
| 2TPD_S4 | 2TPD remaining JAM (Tray 4 paper feed) |
| 2TPD_SA | 2TPD remaining JAM (ADU) |
| 2TPD_SL | 2TPD remaining JAM (LCC paper feed) |
| 2TPD_SM | 2TPD remaining JAM (Manual paper feed) |
| 2TPD_ST1 | 2TPD remaining JAM (Tandem left paper feed) |
| 2TPD_ST2 | 2TPD remaining JAM (Tandem right paper feed) |
| APPD1_N | APPD1 not-reached JAM |
| APPD1_S | APPD1 remaining JAM |
| APPD2_N | APPD2 not-reached JAM |
| APPD2_S | APPD2 remaining JAM |
| C1PFD_N1 | C1PFD not-reached JAM (Tray 1 paper feed) |
| C1PFD_N2 | C1PFD not-reached JAM (Tray 2 paper feed) |
| C1PFD_N3 | C1PFD not-reached JAM (Tray 3 paper feed) |
| C1PFD_N4 | C1PFD not-reached JAM (Tray 4 paper feed) |
| C1PFD_NL | C1PFD not-reached JAM (LCC paper feed) |
| C1PFD_NT1 | C1PFD not-reached JAM (Tandem left paper feed) |
| C1PFD_NT2 | C1PFD not-reached JAM (Tandem right paper feed) |
| C1PFD_S1 | C1PFD remaining JAM (Tray 1 paper feed) |
| C1PFD_S2 | C1PFD remaining JAM (Tray 2 paper feed) |
| C1PFD_S3 | C1PFD remaining JAM (Tray 3 paper feed) |
| C1PFD_S4 | C1PFD remaining JAM (Tray 4 paper feed) |
| C1PFD_SL | C1PFD remaining JAM (LCC paper feed) |
| C1PFD_ST1 | C1PFD remaining JAM (Tandem left paper feed) |
| C1PFD_ST2 | C1PFD remaining JAM (Tandem right paper feed) |
| C1PFPD_S1 | C1PFPD remaining JAM (Tray 1 paper feed) |
| C2PFD_N3 | C2PFD not-reached JAM (Tray 3 paper feed) |
| C2PFD_N4 | C2PFD not-reached JAM (Tray 4 paper feed) |
| C2PFD_NT1 | C2PFD not-reached JAM (Tandem left paper feed) |
| C2PFD_NT2 | C2PFD not-reached JAM (Tandem right paper feed) |
| C2PFD_S2 | C2PFD remaining JAM (Tray 2 paper feed) |
| C2PFD_S3 | C2PFD remaining JAM (Tray 3 paper feed) |
| C2PFD_S4 | C2PFD remaining JAM (Tray 4 paper feed) |
| C2PFD_ST1 | C2PFD remaining JAM (Tandem left paper feed) |
| C2PFD_ST2 | C2PFD remaining JAM (Tandem right paper feed) |
| D1PPD_N04 | D1PPD not-reached JAM (Tray 4 paper feed) |
| D1PPD_S03 | D1PPD remaining JAM (Tray 3 paper feed) |
| D1PPD_S04 | D1PPD remaining JAM (Tray 4 paper feed) |
| D1PPD1_ST1 | D1PPD1 remaining JAM (Tandem left paper feed) |
| D1PPD2_NT1 | D1PPD2 not-reached JAM (Tandem left paper feed) |
| D1PPD2_ST1 | D1PPD2 remaining JAM (Tandem left paper feed) |
| D2PPD_S04 | D2PPD remaining JAM (Tray 4 paper feed) |
| DESK_ERR | Desk communication error detection |
| DOP | Door open JAM |
| DPFD1_NT1 | DPFD1 not-reached JAM (Tandem left paper feed) |
| DPFD1_ST1 | DPFD1 remaining JAM (Tandem left paper feed) |
| DPFD1_ST2 | DPFD1 remaining JAM (Tandem right paper feed) |
| DRUM | Drum JAM |
| FUSER | Fuser JAM |
| MFT | Manual feed tray paper feed JAM (MPFD not-reached) |
| MFT_1ST | Manual feed tray paper feed JAM (Check paper loading state) |
| MFT_LE | Manual feed tray paper feed JAM (Paper feed roller needs to be replaced) |
| MFT_RT | Manual feed tray paper feed JAM (Check paper state) |
| MPFD_S | MPFD remaining JAM |
| MTR_ILG | Motor driver trouble JAM |
| NO_MATCH | Parameter error |
| P_ON | Jam detection at power ON |
| POD1_N | POD1 not-reached JAM |
| POD1_NA | POD1 not-reached JAM (Jam at second surface) |
| POD1_S | POD1 remaining JAM |
| POD1_SA | POD1 remaining JAM (Jam at second surface) |
| POD2_N | POD2 not-reached JAM |
| POD2_S | POD2 remaining JAM |
| POD3_N | POD3 not-remaining JAM |
| POD3_S | POD3 remaining JAM |
| POD4_NB | POD4 not-reached JAM (Before switchback) |
| POD4_SA | POD4 remaining JAM (After switchback) |
| POD4_SB | POD4 remaining JAM (Before switchback) |
| PPD2_N1 | PPD2 not-reached JAM (Tray 1 paper feed) |
| PPD2_N1_D | PPD2 not-reached JAM (Tray 1 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_N2 | PPD2 not-reached JAM (Tray 2 paper feed) |
| PPD2_N2_D | PPD2 not reached JAM (Tray 2 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_N3 | PPD2 not-reached JAM (Tray 3 paper feed) |
| PPD2_N3_D | PPD2 not-reached JAM (Tray 3 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_N4 | PPD2 not-reached JAM (Tray 4 paper feed) |
| PPD2_N4_D | PPD2 not-reached JAM (Tray 4 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_NA | PPD2 not-reached JAM (ADU) |
| PPD2_NA_D | PPD2 not-reached JAM (ADU) (Delay from PS of previous paper of JAM) |
| PPD2_NL | PPD2 not-reached JAM (LCC paper feed) |
| PPD2_NL_D | PPD2 not-reached JAM (LCC paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_NM | PPD2 not-reached JAM (Manual paper feed) |
| PPD2_NM_D | PPD2 not-reached JAM (Manual paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_NT1 | PPD2 not-reached JAM (Tandem left paper feed) |
| PPD2_NT1_D | PPD2 not-reached JAM (Tandem left paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_NT2 | PPD2 not-reached JAM (Tandem right paper feed) |
| PPD2_NT2_D | PPD2 not-reached JAM (Tandem right paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_S1 | PPD2 remaining JAM (Tray 1 paper feed) |
| PPD2_S1_D | PPD2 remaining JAM (Tray 1 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_S2 | PPD2 remaining JAM (Tray 2 paper feed) |
| PPD2_S2_D | PPD2 remaining JAM (Tray 2 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_S3 | PPD2 remaining JAM (Tray 3 paper feed) |
| PPD2_S3_D | PPD2 remaining JAM (Tray 3 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_S4 | PPD2 remaining JAM (Tray 4 paper feed) |
| PPD2_S4_D | PPD2 remaining JAM (Tray 4 paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_SA | PPD2 remaining JAM (ADU) |
| PPD2_SA_D | PPD2 remaining JAM (ADU) (Delay from PS of previous paper of JAM) |
| PPD2_SL | PPD2 remaining JAM (LCC paper feed) |
| PPD2_SL_D | PPD2 remaining JAM (LCC paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_SM | PPD2 remaining JAM (Manual paper feed) |
| PPD2_SM_D | PPD2 remaining JAM (Manual paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_ST1 | PPD2 remaining JAM (Tandem left paper feed) |
| PPD2_ST1_D | PPD2 remaining JAM (Tandem left paper feed) (Delay from PS of previous paper of JAM) |
| PPD2_ST2 | PPD2 remaining JAM (Tandem right paper feed) |
| PPD2_ST2_D | PPD2 remaining JAM (Tandem right paper feed) (Delay from PS of previous paper of JAM) |
| PRI_JAM | Time out for image ready |
| SIZE_ILG | Size illegal JAM |
| STOP_JAM | Stop request JAM |
| TRAY1 | Tray 1 paper feed JAM (C1PFPD not-reached) |

| JAM code | JAM content |
|---|---|
| TRAY1_1ST | Tray 1 paper feed JAM (Check paper loading state) |
| TRAY1_LE | Tray 1 paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY1_RT | Tray 1 paper feed JAM (Check paper state) |
| TRAY2 | Tray 2 paper feed JAM (C2PFD not-reached) |
| TRAY2_1ST | Tray 2 paper feed JAM (Check paper loading state) |
| TRAY2_LE | Tray 2 paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY2_RT | Tray 2 paper feed JAM (Check paper state) |
| TRAY3 | Tray 3 paper feed JAM (D1PPD not-reached) |
| TRAY3 | Tray 3 (Tandem left) paper feed JAM |
| TRAY3_1ST | Tray 3 paper feed JAM (Check paper loading state) |
| TRAY3_1ST | Tray 3 (Tandem left) paper feed JAM (Check paper loading state) |
| TRAY3_LE | Tray 3 paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY3_LE | Tray 3 (Tandem left) paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY3_RT | Tray 3 paper feed JAM (Check paper state) |
| TRAY3_RT | Tray 3 (Tandem left) paper feed JAM (Check paper state) |
| TRAY4 | Tray 4 paper feed JAM (D2PPD not-reached) |
| TRAY4 | Tray 4 (Tandem right) paper feed JAM |
| TRAY4_1ST | Tray 4 paper feed JAM (Check paper loading state) |
| TRAY4_1ST | Tray 4 (Tandem right) paper feed JAM (Check paper loading state) |
| TRAY4_LE | Tray 4 paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY4_LE | Tray 4 (Tandem right) paper feed JAM (Paper feed roller needs to be replaced) |
| TRAY4_RT | Tray 4 paper feed JAM (Check paper state) |
| TRAY4_RT | Tray 4 (Tandem right) paper feed JAM (Check paper state) |

### (2) DSPF/RSPF

| JAM code | JAM content |
|---|---|
| ICU_REQ | ICU stop JAM |
| P_SHORT | Short size JAM |
| SDFS_S | Double feed JAM |
| SPOD_N | SPOD not-reached JAM |
| SPOD_S | SPOD remaining JAM |
| SPPD1_N | SPPD1 not-reached JAM |
| SPPD1_S | SPPD1 remaining JAM |
| SPPD2_N | SPPD2 not-reached JAM |
| SPPD2_ND | SPPD2 not-reached JAM (double feed) |
| SPPD2_NP | SPPD2 not-reached JAM (paper feed) |
| SPPD2_NR | SPPD2 reverse not-reached JAM |
| SPPD2_S | SPPD2 remaining JAM |
| SPPD2_SR | SPPD2 reverse remaining JAM |
| SPPD3_N | SPPD3 not-reached JAM |
| SPPD3_S | SPPD3 remaining JAM |
| SPPD4_N | SPPD4 not-reached JAM |
| SPPD4_S | SPPD4 remaining JAM |
| SPPD5_N | SPPD5 not-reached JAM |
| SPPD5_S | SPPD5 remaining JAM |
| SPSD_SCN | Exposure start notification timer end |
| STOP_JAM | Stop request JAM |

### (3) LCC

| JAM code | JAM content |
|---|---|
| LCC | LCC paper feed JAM (LPFPD not-reached) |
| LCC_1ST | LCC paper feed JAM (Check paper loading state) |
| LCC_ERR | LCC communication error detection |
| LCC_LE | LCC paper feed JAM (Paper feed roller needs to be replaced) |
| LCC_RT | LCC paper feed JAM (Check paper state) |
| LPFD_NL | LPFD not-reached JAM (LCC paper feed) |
| LPFD_SL | LPFD remaining JAM (LCC paper feed) |

### (4) Inner finisher

| JAM code | JAM content |
|---|---|
| FCMOT | Punch motor JAM |
| FNENTER | Idling JAM |
| FNM2 | Return belt motor JAM |
| FNM3 | Front alignment motor JAM |
| FNM4 | Rear alignment motor JAM |
| FNM5 | Assist motor JAM |
| FNM6 | Tray lift motor JAM |
| FNM7 | Stapler shift motor JAM |
| FNM9 | Eco staple motor JAM |
| FNM10 | Paddle motor JAM |
| FNPS1_N | FNPS1 not-reached JAM |
| FNPS1_S | FNPS1 remaining JAM |
| FNPS8 | Bundle motor JAM |
| FNPS12 | Manual bundle insert JAM |
| FNSTPLIF | Staple JAM |
| FNTIME | Paper early reaching JAM |

### (5) Paper pass unit

| JAM code | JAM content |
|---|---|
| PDPPD1_N | PDPPD1 not reached JAM |
| PDPPD1_S | PDPPD1 remaining JAM |
| PDPPD2_N | PDPPD2 not-reached JAM |
| PDPPD2_S | PDPPD2 remaining JAM |

### (6) 1K finisher / 1K saddle finisher

| JAM code | JAM content |
|---|---|
| FCPNCH_M | Punch motor JAM |
| FCPNCHMV_M | Punch shift motor JAM |
| FCSTSMOV_M | Punch horizontal registration shift motor JAM |
| FIN_ERR | Finisher communication error detection |
| FNBDLTRS_N | Bundle transport not-reached JAM |
| FNBLT_M | Release motor JAM |
| FNENDSTRS_N | Rear edge stopper transport sensor not-reached JAM |
| FNENDSTRS_S | Rear edge stopper transport sensor remaining JAM |
| FNENT_N | Entrance not-reached JAM |
| FNENT_S | Entrance remaining JAM |
| FNENTRS_M | Entrance transport motor JAM |
| FNEXGPLT_M | Paper exit guide plate open/close motor JAM |
| FNEXTRS_M | Paper exit transport motor JAM |
| FNFLDEX_N | Folding paper exit not-reached JAM |
| FNFLDEX_S | Folding paper exit remaining JAM |
| FNJOG_M | Jogger motor JAM |
| FNLMDLT_N | Intermediate transport left not-reached JAM |
| FNLMDLT_S | Intermediate transport left remaining JAM |
| FNPRFEX_N | Proof paper exit not-reached JAM |
| FNPRFEX_S | Proof paper exit remaining JAM |
| FNPSN_M | Flapping motor JAM |
| FNRMDLT_N | Intermediate transport right not-reached JAM |
| FNSFT_M | Shift motor JAM |
| FNSTPMOV_M | Stapler motor JAM |
| FNSTPMV_M | Stapler shift motor JAM |
| FNTRYLFT_M | Tray lift motor JAM |
| FNUPEX_N | Shift paper exit not-reached JAM |
| FNUPEX_S | Shift paper exit remaining JAM |
| FNUPTRS_M | Proof transport motor JAM |
| FSENDS_M | Rear edge stopper motor JAM |
| FSFLDPLT_M | Folding blade motor JAM |
| FSLPRSRL_M | Bundle transport lower pressure release motor JAM |
| FSUPRSRL_M | Bundle transport upper pressure release/Standard fence evacuation motor JAM |

### (7) 3K finisher / 3K saddle finisher

| JAM code | JAM content |
|---|---|
| FCMR | Punch shift motor JAM |
| FCP | Punch motor JAM |
| FCP2 | Punched hole JAM |
| FIN_TIME | Paper early reaching JAM |
| FNB_N | Buffer sensor time-out JAM |
| FNB_S | Buffer sensor remaining JAM |
| FNCDP | Paddle JAM |
| FNDPMS | Manual bundle insert JAM |
| FNE_N | Entry port sensor time-out JAM |
| FNE_S | Entry port sensor remaining JAM |
| FNEE_N | Escape paper exit sensor time-out JAM |
| FNEE_S | Escape paper exit sensor remaining JAM |
| FNMAR | Rear edge assist motor JAM |
| FNMDT | Tray auxiliary guide motor JAM |
| FNMFECES | Escape/Saddle motor JAM |
| FNMFR | Paper rear edge falling motor JAM |
| FNMGMT | Tray lift motor JAM |
| FNMGRS | Return roller lift motor JAM |
| FNMJF | Front alignment motor JAM |
| FNMJR | Rear alignment motor JAM |
| FNMMSS | Stapler shift motor JAM |
| FNMOTERR | Motor trouble JAM |
| FNMS | Oscillation motor JAM |
| FNMSLS | Staple free staple motor JAM |
| FNMSS | Staple JAM |
| FNSSS | Safety switch actuation JAM |
| FNTBP_N | Preprocessing timing sensor time-out JAM |
| FNTBP_S | Preprocessing timing sensor remaining JAM |
| FSE_N | Saddle entry port sensor time-out JAM |
| FSE_S | Saddle entry port sensor remaining JAM |
| FSEB_N | Saddle folding bundle paper exit sensor time-out JAM |
| FSEB_S | Saddle folding bundle paper exit sensor remaining JAM |
| FSMDLE | Saddle switching lever motor JAM |
| FSME | Saddle discharge motor JAM |
| FSME2 | Saddle paddle JAM |
| FSMF | Saddle folding motor JAM |
| FSMG | Saddle gripper motor JAM |
| FSMJ | Saddle alignment motor JAM |
| FSMS | Saddle staple JAM |
| FSMSR | Saddle rear edge stopper motor JAM |

# 3. Image send communication report code

## A. Outline and communication report code system descriptions

After completion of communication, the communication report table, the communication management table, and the protocol are described on the communication report column.

The communication report code is composed as follows:

Communication report: XX (XXXX)

The upper 2 digits of the communication report code:
Communication report code of 00 – 99 (Refer to communication report main code.)

The lower 4 digits of the communication report code:
Used by the serviceman.

The upper 2 digits: Communication report sub code 1 (Refer to communication report sub code 1.)

The lower 2 digits: Communication report sub code 2 (Refer to communication report sub code 2.)

Important

The communication report sub code 1 and sub code 2 are in hexadecimal notation. (The others are in decimal notation.)

Important

The communication report sub code 1 is not used in the these models.

## B. Details

### (1) Communication report main code

| Report code | Final receive signal (Send side) | Final receive signal (Receive side) |
|---|---|---|
| 0 | Abnormal signal | Abnormal signal |
| 1 | NSF, DIS | (SID), (SUB), NSS, DCS |
| 2 | CFR | (PWD), (SEP), NSC, DTC |
| 3 | FTT | EOP |
| 4 | MCF | EOM |
| 5 | PIP, PIN | MPS |
| 6 | RTN, RTP | PRI-Q |
| 7 | No signal, DCN | DCN |
| 8 | PPR | PPS-EOP |
| 9 | | PPS-EOM |
| 10 | | PPS-MPS, PPS-NULL |
| 11 | RNR | RR |
| 12 | CTR | CTC |
| 13 | ERR | EOR-Q |
| 14 | | PPS-PRI-Q |
| 16 | Abnormal signal | Abnormal signal |
| 17 | NSF, DIS | SID, SUB, NSS, DCS |
| 18 | CFR | PWD, SEP, NSC, DTC |
| 19 | FTT | PPS-EOP |
| 20 | MCF | PPS-EOM |
| 21 | PIP, PIN | PPS-MPS, PPS-NULL |
| 22 | RTN, RTP | PRI-Q |
| 23 | No signal, DCN | DCN |
| 24 | PPR | |
| 25 | RNR | RR |
| 26 | CTR | CTC |
| 27 | ERR | EOR-Q |
| 28 | | PPS-PRI-Q |
| 29 | V.8 Phase-1 | V.8 Phase-1 |
| 30 | V.8 Phase-2 | V.8 Phase-2 |
| 31 | V.8 Phase-3 | V.8 Phase-3 |

Important

For report codes 16 – 31, V.34 MODE COMMUNICATION.

| Report code (Communication result) | Display in the column of result | Content of communication interruption |
|---|---|---|
| 0 – 31 | Refer to “previous table”. | Depends on the point of communication interruption. For 16 or later, V.34 mode communication. |
| 33 | BUSY | The calling side cannot establish connection with the remote party. |
| 34 | CANCEL | A communication interruption command is made during sending/receiving. The interruption key is pressed for interruption of input. <Send/Receive/Polling/Bulletin board> |
| 35 | NG35 XXXX | Power is failed during sending/receiving. <Send/Receive/Polling/Bulletin board> |
| 36 | (No record paper) | |
| 37 | (Record paper jam) | |
| 38 | MEM. FULL | Memory over during reception. <Receive/Polling><br>Print is not made during reception in acting reception inhibit. <Receive/Polling> |
| 39 | (Number of paper unmatched) | |
| 40 | (Relay not received) | |
| 41 | LENGTH OVER | The send data length of one page exceeds the limit (2m) in sending. <Send/Bulletin board> |
| 42 | LENGTH OVER | The receive data length of one page exceeds the limit. <Receive/Polling> |
| 43 | (Communication) (OK) | Speaking before data transmission |
| 44 | ORIGINAL ERROR | A document jam occurs in direct sending. <Send> |
| 45 | (Picture quality error) | |
| 46 | NO RESPONSE | The FAX signal from the remote party is not detected within T1 time. <Send/Polling><br>(When in recall, however, the recall setting in case of a communication error is valid.) |
| 47 | TX DECODE ERROR | A decode error occurs in the FAX board. <Send/Bulletin board> |
| 48 | OK | Normal end of communication |
| | OK REPLY RECEIVE | OK in Internet FAX send with reception confirmation. |
| 49 | NO RX POLL | The called side does not have polling function in polling reception. <Polling><br>The called side has no data to send. <Polling> |
| 50 | RX POLL FAIL | In polling reception, DCN is received for DTC. <Polling><br>In polling sending, there is no send data. <Bulletin board> |
| 51 | PASS # NG | In poling sending, the allow number is not matched. <Bulletin board><br>In polling sending, the system number is not matched. <Bulletin board> |
| 52 | (No confidential function in remote party) | In confidential sending, the remote party does not have confidential function. <Send><br>(Including other company's machines)<br>1) The NSF signal has not "Confidential function" bit.<br>2) The NSF is not a Sharp machine. |
| 53 | (Confidential not received) | 1) In confidential sending, DCN is received for NSS. <Send> |
| 54 | (Confidential BOX NO NG) | 1) In confidential reception, a confidential box number which is not registered is specified. |
| 55 | (No relay function in remote party) | In relay command sending, the remote machine has no relay function. <Send><br>(Including other company's machine)<br>1) The NSF signal has not "Confidential function" bit.<br>2) The NSF is not a Sharp machine. |
| 56 | NO REL RX | 1) In relay command sending, DCN is received for NSS. <Send><br>2) In relay command reception, a remote station number which is not registered is specified. <Receive><br>3) In F code relay broadcasting, an F code relay command is received.<Receive> |
| 57 | (Relay ID unmatched) | 1) In relay command reception, the relay ID does not match. <Receive> |
| 58 | REJECTED | In reception, data are sent from a remote machine of receive inhibit number. <Receive><br>(Not rejected in the bulletin board send or the F code bulletin board send.) |
| 59 | RX NO F-CODE POLL | In F code polling (calling), the remote machine has no DIS bit 47 (polling function). <Polling><br>In F code polling (calling), the called side has no send data. (DIS bit 9 is 0.)<Polling> |
| 60 | NO F-CODE POLL | In F code polling (calling), DCN is received for SEP. <Polling><br>In bulletin board, there is no send data for SEP. <Bulletin board> |
| 61 | RX POLL # NG | In bulletin board, the sub address (bulletin board number (SEP)) is not matched. <Bulletin board> |
| 62 | F POLL PASS # NG | In bulleting board, the pass code (PWD) is not matched. <Bulletin board> |
| 63 | NO F FUNC | In F code sending, the remote machine has no DIS bit 49 (sub address function). <Send><br>(Check that the remote machine conforms to F code.) |
| 64 | NO F-CODE | In F code sending : <Send><br>1) DCN is received for SUB. --- Check the box number.<br>2) DCN is received for SID. --- Check the box number and pass code.<br><br>In F code receiving : <Receive><br>"F code relay broadcasting" or "F code confidential reception" is "Inhibited with soft SW." |
| 65 | NG65 XXXX | If the reservation of the job cannot be completed when reserving the job from PC-FAXorPC-IFAX;<br>*If an error occurs when storing the job ticket (including fmSyncFile error);<br>*If an error occurs when creating the thumbnail;<br>*If an error occurs when creating the map;<br>*If an error occurs during the storage of the control table; |
| 67 | F PASS # NG | In F code receiving, the pass code (SID) is not matched. <Receive> |
| 68 | BOX NO. NG | In F code reception, a box number which is not registered is specified. (SUB is not matched.) <Receive> |
| 69 | MEMORY OVER | Memory over in quick online sending <Send> |
| 70 | (JOB MEMORY OVER) | In PC-FAX reservation, the number of remote parties is exceeded. <Send> |
| 71 | NG71 XXXX *1 | In PC-FAX reservation, data sent from PC includes some errors. <Send> |
| 72 | (NG72 XXXX) *1 | In department management setting on the machine side:<br>• In reservation from PC-FAX or PC-Internet FAX, a department number which is not registered on the machine side is specified. <Send><br>• In reservation from PC-FAX or PC-Internet FAX, the department number is not specified. <Send> |

| Report code (Communication result) | Display in the column of result | Content of communication interruption |
|---|---|---|
| 73 | NG73 XXXX *1 | In reservation from PC-FAX or PC-Internet FAX, the use quantity limit is exceeded. <Send> |
| 74 | NG74 XXXX *1 | When reserving specified filing in document filing in PC-FAX or PC-Internet FAX;<br>• The pass-code for the folder is set on the machine side and the pass-code from PC-XXX does not match with it. <Send><br>• The pass-code for the folder is set on the machine side and no pass-code is specified by PC-XXX. <Send> |
| 75 | NG75 XXXX *1 | • Reservation cannot be made due to machine busy. (Reservation of PC-FAX cannot be accepted.)<br>• When "PC-FAX or PC-internet FAX send inhibit" is set on the machine side. |
| 76 | NG76 XXXX *1 | Reserved with receive confirmation request in PC-Internet FAX, but the Internet FAX sender is not registered on the machine side. <Send> |
| 77 | NG77 XXXX *1 | In reserving specified filing in PC-FAX or PC-Internet FAX, the machine has no filing function. |
| 78 | NG78 XXXX *1 | The filing function is inhibited on the machine side when filing specification is reserved by PC-FAX or PC-Internet FAX. |
| 79 | NG79 XXXX *1 | An authentication error occurs when PC-FAX or PC-Internet FAX is reserved. |
| 80 | NG80 XXXX *1 | NIC connect failure (network abnormality)<br>• Check for disconnection of cables.<br>• A network trouble (CE-XX) occurs.<br>• The port is set to DISABLE.<br>• Authentication of the POP server is failed when POP before SMTP is enabled.<br>• When an error other than the communication result code 93 or 94 in D-SMTP send (including error response of 5XX) |
| 81 | NG REPORT | In Internet FAX send, reply of receive confirmation of the remote machine is not normal. (Including PC-Internet FAX).<br>• Error of the disposition-modifier.<br>• The disposition modifier is not in an error, and the disposition type is other than displayed, dispatched, or processed. |
| 82 | NO REPORT | In Internet FAX send, time-out occurs in waiting for receive confirmation from the remote machine. (Including PC-Internet FAX).<br>• In a case where send confirmation wait time-out time is other than 0, when send confirmation reply from an Internet FAX destination is not received.<br>• Recalls of the set number of recalls are performed, but send confirmation reply from an internet AFX destination is not received. |
| 83 | NG LIMIT | In E-mail/FTP, Internet FAX send, the send data size exceeds the upper limit of send data. |
| 84 | REJECTED | In e-mail receive, a sender is registered in receive reject address/domain. <Receive> |
| 85 | NG85 XXXX *1 | In e-mail receive, an error occurs in communication with POP3 server.<br>• Header acquisition error.<br>• Time-out during mail receive |
| 86 | RECEIVED | In e-mail receive, an unsupported attached file is received.<br>Only the TIFF-F type is supported for attached files.<br>• The TIFF-F type of the attached file cannot be recognized.<br>• There is no attached file. |
| 87 | NG87 XXXX *1 | In e-mail receive, an attached file cannot be stored in memory.<br>• Memory over |
| 88 | NG88 XXXX *1 | In SMTP e-mail receive, an attached file cannot be stored in memory.<br>• Cannot be stored in memory.<br>• The number of items of acting receive data is the maximum, and an additional data cannot be stored. |
| 89 | NG89 XXXX *1 | In SMTP e-mail receive, an error occurs in communication with the mail server.<br>• Time-out occurs during e-mail receive. |
| 90 | NG90 XXXX *1 | After reservation by re-operation of document filing, conversion for image send cannot be made.<br>• conversion for image sending cannot be made. |
| 91 | NG91 XXXX *1 *2 | Data cannot be written to the memory device when Scan To USB is executed.<br>• The memory device is disconnected during writing to the memory device.<br>• An error occurs due to a memory device trouble. |
| 92 | NG92 XXXX *1 *2 | The USB device memory overflows during writing data into the memory device when "Scan to USB" is executed. |
| 93 | NG93 XXXX *1 | When error in D-SMTP send (with recall)<br>• An error response of 4XX occurs during communication with the SMTP server.<br>• Time out occurs after establishment of connection with the SMTP server. |
| 94 | NG94 XXXX *1 | When busy in D-SMTP send<br>Time out occurs during establishment of connection with the SMTP server. |
| 95 | NG95 XXXX *1 | When the path is too long in execution of Scan To USB. |
| 96 | NG96 XXXX *1 | When the normal process is not executed in the secure mail sending. |
| 98 | NG98 XXXX *1 | The copy inhibit pattern is detected when scanning a document. |
| 99 | NG99 XXXX *1 | A document which is inhibited to be copied such as a banknote is scanned. |

*1: For a job status result in "Display in the column of result," "NG △△ XXXX" is displayed. "△△" is the code number.
For a communication result, "Communication error △△ (XXXX)" is displayed.

*2: The error code of Scan To USB is specified only in the job log.

- When the communication result is OK, the communication sub code 1 and the communication sub code 2 are "0000."
- Errors in ( ) are not used.

### (2) Communication report sub code 1

The communication report sub code 1 (upper 2 digits) are always indicated as "00."

### (3) Communication report sub code 2

| Report code 2 | Content of communication interruption | Send/Receive |
|---|---|---|
| 00 | When the conditions after 01 do not apply. | Send/Receive |
| 01 | Send length over | Send |
| 02 | EOL time up | Receive |
| 03 | Carrier detection time up | Receive |
| 04 | Time up of the communication start command from the machine side | Receive |
| 05 | Time up in phase C (8 min) | Send |
| 06 | Memory image decode error | Receive |
| 07 | Memory image decode error | Send |
| 08 | Time up between frames in phase C (Report code is 0 or 16.) | Send/Receive |
| 09 | Not used | — |
| 10 | Not used | — |
| 11 | Polarity reversion detection | Receive |
| 12 | Invalid command reception | Receive |
| 13 | Time up (1-minute timer/6-second time) | Receive |
| 14 | PUT error | Receive |
| 15 | In V.34 mode, time up is generated when shifting from Primary to Control. | Receive |
| 16 | In V.34 mode, time up is generated when shifting from Control to Primary. | Receive |
| 17 | Command receive time-up from MFP controller | Receive |
| 18 | Not used | — |
| 19 | Not used | — |
| 20 | Polarity reversion detection | Send |
| 21 | Invalid command reception | Send |
| 22 | Fallback retry number over | Send |
| 23 | Command retry number resend over | Send |
| 24 | Time up (T5 timer) | Send |
| 25 | Time up (T5 timer) in V.34 mode | Send |
| 26 | In V.34 mode, time up is generated when shifting from Primary to Control. | Send |
| 27 | In V.34 mode, time up is generated when shifting from Control to Primary. | Send |
| 28 | When sending the FSK signal, no response of send completion is sent back from the MODEM chip within a certain time. (V.34, other than V.34) | Send |
| 29 | Not used | — |
| 30 | A communication error is generated between MFP controller and Modem controller. (Report code is 0 or 16.) | — |
| 31 | DC current not detected (busy)<br>Line disconnected. | Send |
| 32 | Dial tone not detected (busy) | Send |
| 33 | Busy tone detection (busy) | Send |
| 34 | T0 time up (Remote machine not responding) | Send |
| 35 | T1 time up (Remote machine not responding) | Send |
| 36 | In dialing, polarity reversion detection (Remote machine not responding) | Send |
| 37 | Calling is not made (busy)<Collision detected (including CNG detection)> | Send |
| 38 | Not used | — |
| 60 | In resend of document filed data, an error occurs in decoding or coding. | Resend |
| 61 | In resend of document filed data, setting to inhibit resolution conversion is made. (The resolution after resend is set to be Enlarged.) | Resend |
| 62 | In resend of document filed data, rotation setting is made for data which cannot be rotated. | Resend |
| 63 | In resend of document filed data, data cannot be stored in HD after conversion of resolution for resend. | Resend |
| 64 | In resending data of document file, during conversion for resending, the number of IMS management pages exceeds the upper limit (999). (IT occurs in OSA Scan to FTP also, resulting in memory over.) | Resend<br>OSAScanToFTP |
| 70 | E-mail header acquisition error | E-mail receive |
| 71 | Time out occurs during e-mail receive. | E-mail receive |
| 72 | Receive reject occurs during e-mail receive. | E-mail receive |
| 73 | Network communication cannot be made due to port disable. | Network send |
| 74 | An authentication of the POP server is failed when POP before SMTP is enabled. | Network send |
| 75 | In the setting of SSL communication, when SSL communication is tried but the server side does not support SSL. | Network send |
| 76 | There is no image in network communication (transfer). | Network send |
| 80 | There is no attached file in received e-mail. | E-mail receive |
| 81 | The attached file of received e-mail is not of TIFF type which is supported. | E-mail receive |
| 82 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>ID error | E-mail receive |
| 83 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Endian error | E-mail receive |
| 84 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Version error | E-mail receive |
| 85 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Tag data error | E-mail receive |
| 86 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Tag parameter error | E-mail receive |

| Report code 2 | Content of communication interruption | Send/Receive |
|---|---|---|
| 87 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Header size error | E-mail receive |
| 88 | The TIFF type of the attached file in received e-mail cannot be recognized.<br>Data error | E-mail receive |
| 90 | In e-mail receive, an attached file cannot be stored in memory.<br>Memory over.<br>Cannot be stored in memory. | E-mail receive |
| 91 | In e-mail receive, an attached file cannot be stored in memory.<br>The file size is too great to be stored in memory. | E-mail receive |
| 92 | In SMTP e-mail receive, an attached file cannot be stored in memory.<br>Cannot be stored in memory. | E-mail receive |
| 93 | There is character that cannot be processed.<br>OCR processing error. | — |

When the sub code 2 is "08" or "30" and the communication report is "OK," the report code is "00" or "16."

# [8] FIRMWARE UPDATE

## 1. Outline

### A. Cases where update is required

ROM update is required in the following cases:

1) When there is a necessity to upgrade the performance.
2) When installing a new spare part ROM for repair to the machine.
3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
4) When there is a trouble in the ROM program and it must be repaired.

### B. Notes for update

#### (1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

### C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

1) Update method using SIM 49-1
2) Update method using FTP
3) Update method using the Web page
4) Update method using the CN update function (There are three methods.)

   Normally, one of 1) - 3) is used to update the firmware.

   When any one of 1) - 3) is interrupted by an error such as power-off during updating, etc., and when retries of these methods are failed, the method 4) is employed.

**Firmware types**

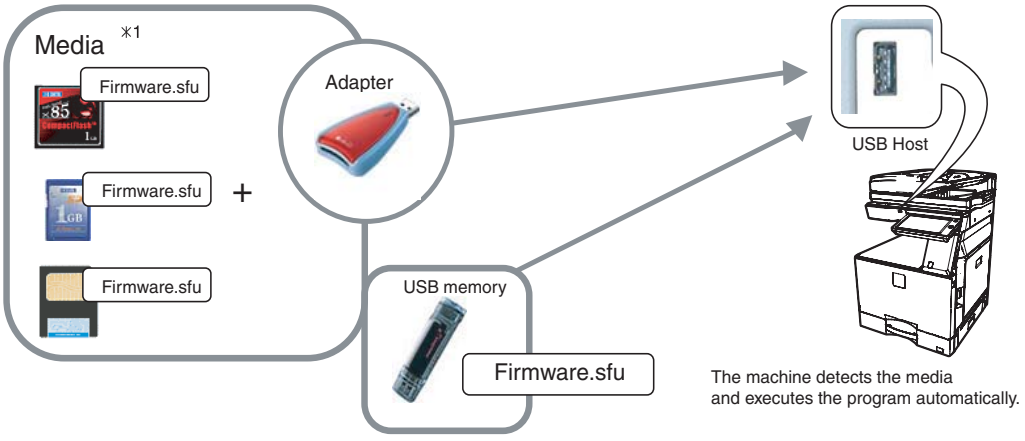
The firmware type can be displayed by SIM22-5.

Use SIM22-5 to check the firmware type.

## 2. Update procedure

### A. Update method using SIM 49-1

For the update, connect the media or USB memory to the USB port that exists in the main body, and select the firmware data in the media or USB memory by simulation screen in the main unit.




*1:

- Store the firmware data (xxx .sfu) to the media or USB memory beforehand.
- The media used for the update must have an enouch capacity for storing the firmware data.
- The USB memory equipped with the security (secure) function cannot be used.

Execution of the firmware by SIM49-1

1) Insert the media or USB memory which stores the firmware into the main unit. (Be sure to use the USB I/F on the operation panel.)
2) Enter the SIM49-1.

   Press the key of the file to be updated. The screen transfers to the update screen.

   * The number of key changes according to the number of the sfu file in the media or USB memory inserted.
   * If the media or USB memory was not inserted when entry to the SIM49-1 screen, "INSERT A USB MEMORY DEVICE CONTAINING MFP FIRMWARE [OK]" is displayed on the screen. Insert the media or USB memory and push the [OK] key to open the file. If the media have not been inserted and [OK] key is pushed, the next screen does not appear and the screen waits the entry. Conversely, if the media or USB memory is pulled out on the file list screen, the error is detected by the [FILE] key pressing, and the first screen appears.
3) Current version number and the version number to be updated will be shown for each firmware respectively.
4) Press [ALL] key.

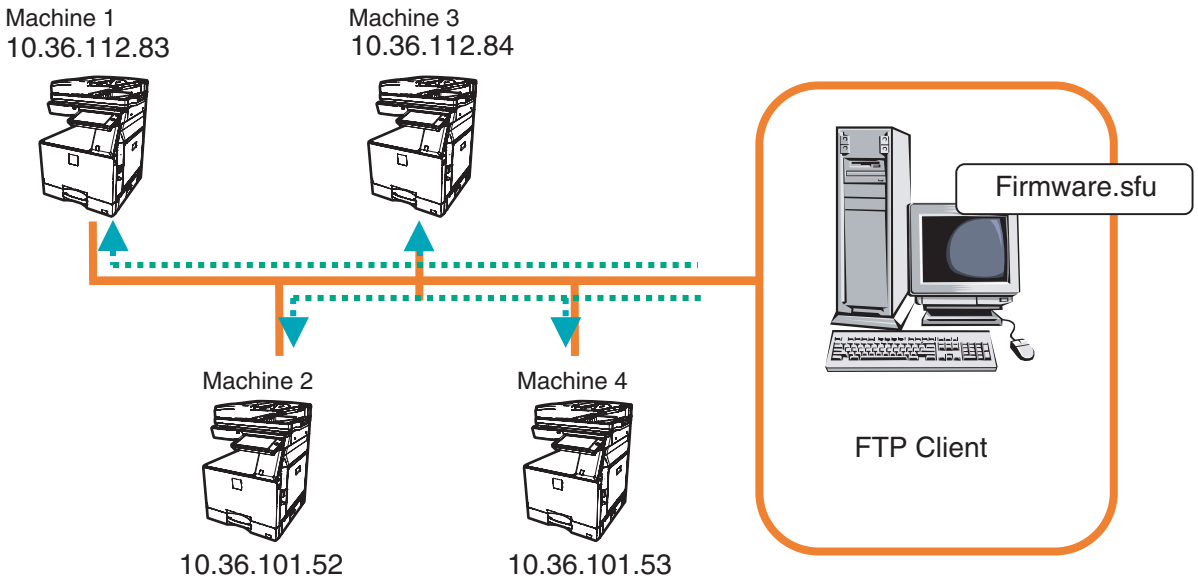
   All the firmware programs are selected.

   * Normally select all the firmwares and execute updating.
   * In this case, firmwares which do not exist on the machine side are ignored.

     To update a certain firmware only, select the firmware with the firmware display key.
   * If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.
5) Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firemware.
6) If the update is normal completion, Display "Complete"
7) If the update is not normal completion, Display "Error" and its firmware name or dose not reboot, in this case power OFF and ON if still same machine condition, go to the CN update

## B. Firmware update using FTP

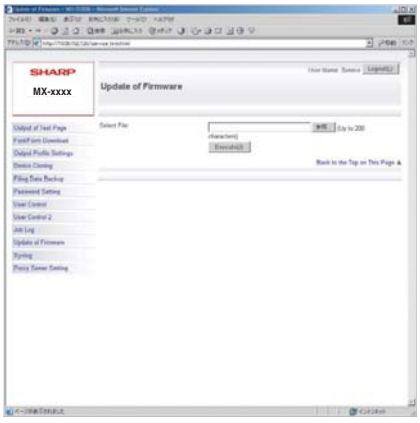
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.




## C. Firmware update using the Web page

An Web browser (service technician's Web page) is used to update the firmware.

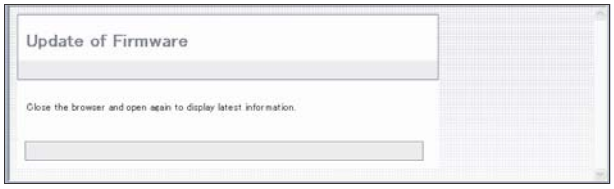
1) Start the Web browser on a PC and enter the specified URL (http: //xxx.xxx.xxx.xxx/service_login.html) and enter the servicing page menu. Default password : "service". A special firmware upgrade page appears.
2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.




3) After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.




4) When the firmware update is finished, "Firmware Update completed. Please reboot the MFP." appears. Pressing the [Reboot] key, the machine will restart to complete the update. The browser will shift to the following screen.




"Close the browser and open again to display latest information." will be displayed.

5) Check the firmware version of machine again.

## D. Firmware update using the CN update function (There are three methods.)

### (1) Outline

The update method using the DIP SW of the SCN MFP PWB is called the CN update.

#### a. Function

There are the following three functions in the CN update mode.

1) Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the SCN MFP PWB, the PCU PWB, the FAX PWB by means of a USB memory or USB cable.

This is basically the same as SIM49-1, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the eMMC PWB must be replaced with a new one having the normal boot program.

If the boot animation is not displayed, there is an abnormality in the boot program.

If the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program.

2) Firmware version check function

(The method to check the firmware version by using SIM22-5 is easier than this method. Therefore, it is not described in this manual.)

3) ROM making function

(This function is not used in the market, and not described in this manual.)

**b. Purpose**

This function is used in the following cases:

1) When an error occurs during firmware update operation other than the CN update.

When the power is shut down or an error occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

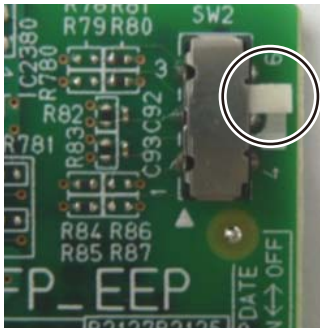
If, however, an abnormality occurs in the boot program, the eMMC PWB must be replaced with a new one having the normal boot program.

If an error occurs in the boot program, this method cannot be used. In such a case, the eMMC PWB must be replaced with a new one having the normal boot program.

**c. DIP-SW used in the CN update mode**

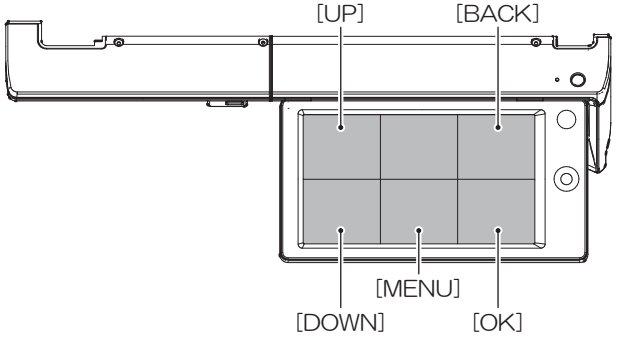
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP PWB and boot the machine.

When terminating the CN update mode, reset UPDATE DIP-SW to OFF (normal mode).




**d. Keys used in the CN update mode**

The following five keys are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.




| Key name | Functions in the CN update mode |
|---|---|
| [OK] key | Executes the selected function or item. |
| [MENU] key | Selects a menu. |
| [BACK] key | Selects a menu.<br>(Serves as a cancel key in the execution check screen.) |
| [UP] key | Selects an item. |
| [DOWN] key | Selects an item. |

## (2) Operating procedures

**a. Necessary items**

1) eMMC PWB mounted on the SCN MFP PWB of the machine.
2) USB memory with the firmware file (SFU) saved in it.

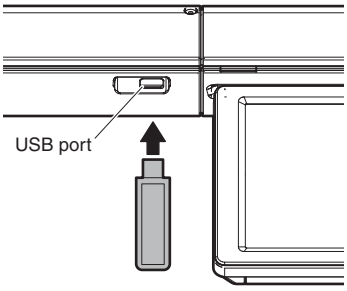
**Note**

Save the firmware file in the main directory or in a one-level lower directory.

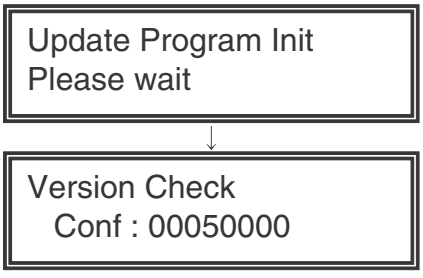
**b. Procedures**

1) Turn OFF the power, and remove the cabinet and the MFP cover.
2) Turn ON the DIP SW of the SCN MFP PWB UP DATE. (Tilt it to the PWB side.)
3) Install the USB memory into the USB port.

**USB memory installing position**



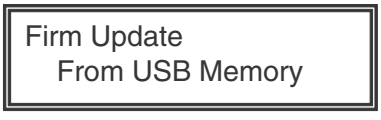

4) Turn ON the power.
5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)




Display when booting is completed

6) Select the firmware update mode.

Select the update mode with [MENU] key and [BACK] key.




Display of the firmware update mode

7) Press [OK] key.

The firmware file saved in the USB memory is retrieved, and the file selection menu is displayed.




Display of file selection

8) Select the firmware file (SFU).

Select the target firmware file (SFU) with [UP] key and [DOWN] key.

When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.

When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.

9) Press [OK] key.

The selected firmware file (SFU) is read. It takes about one minute.




Display of file reading

10) After completion of reading, the firmware update process is continued.




Display of the firmware update process

* The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
* During the update process, the display may flash instantaneously. It is a normal operation.

11) Check the update result.

Use [UP] key and [DOWN] key to display the results of all the firmware programs.




Display of the firmware update result

OK: Update is completed successfully.

NG: Update is failed.

Not Update: Update is not executed.

12) Turn OFF the power.
13) Turn OFF the DIP SW of the SCN MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
14) Turn ON the power, and check to confirm that the machine boots up normally.

Check to confirm that the boot animation is displayed.

Check to confirm that "Copying is enabled" is displayed on the copier basic menu.

15) Check to confirm the version of each firmware with SIM22-5.
16) Attach the SCN MFP PWB cover and the cabinet.

# [9] MAINTENANCE

## 1. Works necessary when executing the maintenance

### A. Counter check

Before execution of the maintenance, execute SIM22 to check the counter values of the following counters to confirm consuming states of each section.

1) Each consumable part counter
2) Each unit counter
3) Trouble counter, JAM counter

### B. Counter reset

When a part or consumable part is replaced with new one in the maintenance. Execute SIM24 reset the following counters.

1) Maintenance counter
2) Each consumable part counter
3) Each unit counter
4) Trouble counter, JAM counter

### C. Firmware version check and update

Execute SIM22-5 to check the firmware version and update it as needed.

## 2. Display of maintenance execution timing

The message of maintenance execution timing is displayed when each counter reaches the set value. The relations between the message and the counters are shown below.

### A. Maintenance counter

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: TA | 0 (Print continue) | Maintenance counter (Total) | When SIM21-1 set value is reached | Enable |
| | 1 (Print stop) | | When 90% of SIM21-1 set value is reached | |
| □Maintenance required: TA | 1 (Print stop) | | When SIM21-1 set value is reached | Disable |
| Maintenance required: CA | 0 (Print continue) | Maintenance counter (Color) | When SIM21-1 set value is reached | Enable |
| | 1 (Print stop) | | When 90% of SIM21-1 set value is reached | |
| □Maintenance required: CA | 1 (Print stop) | | When SIM21-1 set value is reached | Disable |
| Maintenance required: AA | 0 (Print continue) | Both of Total and Color | When SIM21-1 set value is reached | Enable |
| | 1 (Print stop) | | When 90% of SIM21-1 set value is reached | |
| □Maintenance required: AA | 1 (Print stop) | | When SIM21-1 set value is reached | Disable |

* After execution of maintenance, be sure to execute SIM24-4 to clear the maintenance counter (Total) and the maintenance counter (Color).

### B. Primary transfer unit

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: TK1 | 0 (Print continue) | Primary transfer unit print counter | 26/30 ppm machine: When 250K is reached<br>35/40 ppm machine: When 300K is reached | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear the primary transfer unit print counter, the accumulated number of rotations counter and the use day counter.

### C. Secondary transfer unit

| Display content | Display content | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: TK2 | 0 (Print continue) | Secondary transfer unit print counter | 26/30 ppm machine: When 250K is reached<br>35/40 ppm machine: When 300K is reached | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear the secondary transfer print counter, the accumulated number of rotations counter and the use day counter.

## D. PTC unit

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: TK3 | 0 (Print continue) | PTC unit print counter | 26/30 ppm machine:<br>When 250K is reached<br>35/40 ppm machine:<br>When 300K is reached | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear the PTC unit print counter, accumulated number of rotations counter and the use day counter.

## E. Fusing unit

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: FK1 | 0 (Print continue) | Fusing belt print counter | 26/30 ppm machine:<br>When 250K is reached<br>35/40 ppm machine:<br>When 300K is reached | Enable |
| | 1 (Print stop) | | | |
| Maintenance required: FK2 | 0 (Print continue) | Pressure roller print counter | | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear the fusing roller counter, fusing belt counter, the accumulated rotation number counter and the use day counter.

## F. OPC drum

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: DK | 0 (Print continue) | OPC drum print counter (K)<br>OPC drum accumulated rotation number counter (K) | 26 ppm machine:<br>When 200K is reached or When 1350K rotation is reached<br>30/35 ppm machine:<br>When 230K is reached or When 1350K rotation is reached<br>40 ppm machine:<br>When 285K is reached or When 1350K rotation is reached | Enable |
| | 1 (Print stop) | | | |
| Maintenance required: D (C/M/Y) | 0 (Print continue) | OPC drum print counter (C/M/Y)<br>OPC drum accumulated rotation number counter (C/M/Y) | 26/30/35 ppm machine:<br>When 170K is reached or When 1350 rotation is reached<br>40 ppm machine:<br>When 230K is reached or When 1350K rotation is reached | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear OPC drum print counter, the accumulated number of rotations counter and the use day counter.

## G. Main charger

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| Maintenance required: MCK | 0 (Print continue) | Main charger (K) counter<br>Main charger (K) accumulated rotation counter | 26 ppm machine:<br>When 200K is reached or When 1350K rotation is reached<br>30/35 ppm machine:<br>When 230K is reached or When 1350K rotation is reached<br>40 ppm machine:<br>When 285K is reached or When 1350K rotation is reached | Enable |
| | 1 (Print stop) | | | |
| Maintenance required: MC (C/M/Y) | 0 (Print continue) | Main charger (C/M/Y) counter<br>Main charger (C/M/Y) accumulated rotation counter | 26/30/35 ppm machine:<br>When 170K is reached or When 1350 rotation is reached<br>40 ppm machine:<br>When 230K is reached or When 1350K rotation is reached | Enable |
| | 1 (Print stop) | | | |

* After execution of the maintenance, execute SIM24-4 to clear main charger count/accumulated rotation/use days counters.

## H. Waste toner box

| Display content | Display condition | | Print JOB Enable/Disable |
|---|---|---|---|
| | Counter name | Counter value | |
| Check the waste toner box | After detection of near end | | Near end: Enable<br>End: Disable |

* When the waste toner box is replaced with an empty one, the message disappears

## I. Toner

| Display content | Display condition | | | Print JOB Enable/ Disable |
|---|---|---|---|---|
| | Sim26-38-A set value | Counter name | Counter value | |
| K/C/M/Y Toner Low<br>(Do not replace cartridge until requested)<br>(Close to Near end) | No relation | Toner motor rotation time | Specified time of rotations | Enable |
| Change the toner cartridge<br>(Near end) | No relation | Toner supply amount is decreasing | ATC sensor output variation | Enable |
| Change the toner cartridge K<br>(End) | 0 (Print continue)<br>1 (Print stop) | The pixel count from near end reaches the specified value | Specified pixel count | Disable |
| Change the toner cartridge C/M/Y<br>(End) | 0 (Print continue)<br>1 (Print stop) | The pixel count from near end reaches the specified value | Specified pixel count | Enable for monochrome<br>Disable for color |

# 3. Maintenance list

**26 ppm machine**

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|---|---|---|
| 3 | Developing section | Developing unit (Monochrome) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| | | Developing unit (Color) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| 4 | OPC drum section | OPC drum unit (Monochrome) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |
| | | OPC drum unit (Color) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Document feed section | RSPF unit | 1 | Paper pickup roller | ○ | ○ | | ○ | | ○ | | ○ | Replace at 100K of SPF paper feed counter or 1 year use<br>Apply grease (UKOG-0013QSZZ) to the paper feed shaft when replacing the paper feed roller |
| | | | 2 | Paper feed roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter SPF | x | x | | x | | x | | x | Replace at 400K of SPF paper feed counter or 2 year use |
| | | | 5 | Torque limiter pickup | x | x | | x | | x | | x | |
| | | | 6 | Discharge brush | x | x | | x | | x | | x | |
| | | | 7 | Registration roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Transport roller 1 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Transport roller 2 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | Paper exit roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 11 | Sensors | x | x | | x | | x | | x | |
| | | | 12 | Scan plate | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 13 | Gears | x | x | | x | | x | | x | |
| | | | 14 | Belts | x | x | | x | | x | | x | |
| | | | 15 | OC mat | ○ | ○ | | ○ | | ○ | | ○ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Scanner section | Scanner unit | 1 | Drive belt | x | x | | x | | x | | x | |
| | | | 2 | Drive wire | x | x | | x | | x | | x | |
| | | | 3 | Sensors | x | x | | x | | x | | x | |
| | | | 4 | Rails | ☆ | ☆ | | ☆ | | ☆ | | ☆ | Apply grease (UKOG-0158FCZZ) to the specified position |
| | | | 5 | Mirror | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Lamp | ○ | ○ | | ○ | | ○ | | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| | | | 7 | Lens | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | CCD | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Table glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | SPF glass | ○ | ○ | | ○ | | ○ | | ○ | |
| 5 | Transfer section | Primary transfer unit | 1 | Separation pawl | - | x | | x | | x | | x | Replace as needed |
| | | | 2 | Primary transfer belt | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 3 | Primary transfer drive gear | - | x | | x | | x | | x | Replace as needed |
| | | | 4 | Primary transfer drive roller | - | ○ | | ○ | | ○ | | ○ | Clean with ethanol alcohol |
| | | | 5 | Primary transfer tension roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Primary transfer blade backup roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | BK auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Y auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Pre-transfer roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | Primary transfer roller | - | x | | x | | x | | x | Replace as needed |
| | | | 11 | Resist backup stay cushion | - | x | | x | | x | | x | |
| | | | 12 | Primary transfer blade backup roller sheet | - | x | | x | | x | | x | |
| | | | 13 | Primary transfer toner reception sheet F/R | - | x | | x | | x | | x | |
| | | | 14 | Cleaning roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 15 | Primary transfer cleaner sub blade | - | x | | x | | x | | x | Replace as needed |
| | | | 16 | Primary transfer cleaner seals F/R | - | x | | x | | x | | x | |
| | | | 17 | Primary transfer cleaner blade | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | Secondary transfer unit | 1 | Secondary transfer roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 2 | Secondary transfer separation plate | - | x | | x | | x | | x | Replace as needed |
| | | | 3 | Paper guide | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Sensors | - | x | | x | | x | | x | |
| | | Other | 1 | PTC unit | - | ▲ | | ▲ | | ▲ | | ▲ | |
| | | | 2 | PTC outer holder | x | ○ | | ○ | | ○ | | ○ | Clean with ethanol alcohol |
| | | | 3 | Image density and image registration sensor | x | ○ | | ○ | | ○ | | ○ | |
| 6 | LSU section | LSU | 1 | Dust-proof glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | Other | 2 | Cleaning base | x | ▲ | | ▲ | | ▲ | | ▲ | |
| 7 | Manual paper feed section | Manual paper feed unit | 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 100K of manual paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter | x | x | | x | | x | | x | |
| | | | 5 | Transport roller 10 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Sensors | x | x | | x | | x | | x | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Tray paper feed section | Tray paper feed unit | 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 200K of paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter | x | x | | x | | x | | x | |
| | | | 5 | Transport roller 3 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Transport roller 1 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | Transport roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Sensors | x | x | | x | | x | | x | |
| 9 | Paper registration section/Paper exit section/ ADU section | PS unit | 1 | Registration roller (idle) | x | ○ | | ○ | | ○ | | ○ | |
| | | | 2 | Registration roller (drive) | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Transport roller 4 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Sensors | x | x | | x | | x | | x | |
| | | Right door unit | 5 | Transport roller 8 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Transport roller 9 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | Transport roller 7 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Sensors | x | x | | x | | x | | x | |
| | | Fusing rear unit | 9 | Transport roller 6 | x | ○ | | ○ | | ○ | | ○ | |
| | | Paper exit unit | 10 | Paper exit roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 11 | Discharge brush | x | x | | x | | x | | x | |
| | | | 12 | Sensors | x | x | | x | | x | | x | |
| | | Other | 13 | Paper dust removing unit | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | - | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |
| 10 | Drive section | Main drive unit | 1 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 2 | Shafts | - | x | | x | | x | | x | |
| | | | 3 | Shaft earth section | - | x | | x | | x | | x | Apply grease (UKOG-0012QSZZ) to the specified position when checking |
| | | | 4 | Belts | - | x | | x | | x | | x | |
| | | | 5 | Sensors | - | x | | x | | x | | x | |
| | | Transport drive unit | 6 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 7 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 8 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 9 | Belts | - | x | | x | | x | | x | Do not attach grease |
| | | | 10 | Connection arm | - | x | | x | | x | | x | |
| | | Fusing drive unit | 11 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 12 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 13 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 14 | Belts | - | x | | x | | x | | x | Do not attach grease |
| | | Paper exit drive unit | 15 | Belts | - | x | | x | | x | | x | Do not attach grease |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Fusing section | Fusing unit | 1 | Lower fusing transport roller | x | x | | x | | x | | x | |
| | | | 2 | Gears | x | x | | x | | x | | x | |
| | | | 3 | Upper fusing transport roller | x | x | | x | | x | | x | |
| | | | 4 | Pressure bearing | x | x | | x | | x | | x | |
| | | | 5 | Separation plate | x | x | | x | | x | | x | Clean foreign matter adhesion |
| | | | 6 | Pressure roller gear | x | x | | x | | x | | x | Replace as needed |
| | | | 7 | Pressure roller bearing | x | x | | x | | x | | x | Replace as needed |
| | | | 8 | Pressure roller | x | ▲ | | ▲ | | ▲ | | ▲ | Apply grease (UKOG-0235FCZZ) to the shaft when replacing and after completion of replacement, Clean new pressure roller surface with alcohol |
| | | | 9 | Upper thermistor | x | x | | x | | x | | x | Replace as needed |
| | | | 10 | Fusing belt unit | x | ▲ | | ▲ | | ▲ | | ▲ | |
| | | | 11 | Lower thermistor | x | x | | x | | x | | x | Replace as needed |
| | | | 12 | Main thermistor | x | x | | x | | x | | x | |
| | | | 13 | Sub thermistor | x | x | | x | | x | | x | |
| | | | 14 | Sensors | x | x | | x | | x | | x | |
| | | | 15 | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |
| 12 | Other | Other | | Ozone filter | x | | ▲ | | ▲ | | ▲ | | |
| | | | | UFP filter | x | ▲ | | ▲ | | ▲ | | ▲ | For Europe |
| | | | | Right cover filter | x | ○ | | ○ | | ○ | | ○ | |
| | | | | Front cover cushion | x | x | | x | | x | | x | Be careful not to damage the cushion when cleaning the front cover |
| | | | | Toner cartridge | User replacement for every toner empty | | | | | | | | |
| | | | | Waste toner box | User replacement for every toner full | | | | | | | | Replace at 50K |

**Note**

Alcohol for cleaning.

Be sure to use ethanol for cleaning.

**30 ppm machine**

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|---|---|---|
| 3 | Developing section | Developing unit (Monochrome) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| | | Developing unit (Color) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| 4 | OPC drum section | OPC drum unit (Monochrome) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |
| | | OPC drum unit (Color) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Document feed section | DSPF unit | 1 | Paper pickup roller | ○ | ○ | | ○ | | ○ | | ○ | Replace at 100K of SPF paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter | x | x | | x | | x | | x | Replace at 800K of SPF paper feed counter |
| | | | 5 | Transport roller 1 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Transport roller 2 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | Registration roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Transport roller 3 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Transport roller 4 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | Paper exit roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 11 | Discharge brush | x | x | | x | | x | | x | |
| | | | 12 | Sensors | x | x | | x | | x | | x | |
| | | | 13 | No.1 scanning plate | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 14 | No.2 scanning section, scanning glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 15 | No.2 scanning section, white reference glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 16 | Mirror | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 17 | Lens, CCD | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 18 | Lamp | ○ | ○ | | ○ | | ○ | | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| | | | 19 | OC mat | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 20 | Gears | x | x | | x | | x | | x | |
| | | | 21 | Belts | x | x | | x | | x | | x | |
| | | | 22 | Sheet | ○ | ○ | | ○ | | ○ | | ○ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Document feed section | RSPF unit | 1 | Paper pickup roller | ○ | ○ | | ○ | | ○ | | ○ | Replace at 100K of SPF paper feed counter or 1 year use<br>Apply grease (UKOG-0013QSZZ) to the paper feed shaft when replacing the paper feed roller |
| | | | 2 | Paper feed roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter SPF | x | x | | x | | x | | x | Replace at 400K of SPF paper feed counter or 2 year use |
| | | | 5 | Torque limiter pickup | x | x | | x | | x | | x | |
| | | | 6 | Discharge brush | x | x | | x | | x | | x | |
| | | | 7 | Registration roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Transport roller 1 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Transport roller 2 | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | Paper exit roller | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 11 | Sensors | x | x | | x | | x | | x | |
| | | | 12 | Scan plate | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 13 | Gears | x | x | | x | | x | | x | |
| | | | 14 | Belts | x | x | | x | | x | | x | |
| | | | 15 | OC mat | ○ | ○ | | ○ | | ○ | | ○ | |
| 2 | Scanner section | Scanner unit | 1 | Drive belt | x | x | | x | | x | | x | |
| | | | 2 | Drive wire | x | x | | x | | x | | x | |
| | | | 3 | Sensors | x | x | | x | | x | | x | |
| | | | 4 | Rails | ☆ | ☆ | | ☆ | | ☆ | | ☆ | Apply grease (UKOG-0158FCZZ) to the specified position |
| | | | 5 | Mirror | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Lamp | ○ | ○ | | ○ | | ○ | | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| | | | 7 | Lens | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | CCD | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Table glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | SPF glass | ○ | ○ | | ○ | | ○ | | ○ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Transfer section | Primary transfer unit | 1 | Separation pawl | - | x | | x | | x | | x | Replace as needed |
| | | | 2 | Primary transfer belt | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 3 | Primary transfer drive gear | - | x | | x | | x | | x | Replace as needed |
| | | | 4 | Primary transfer drive roller | - | ○ | | ○ | | ○ | | ○ | Clean with ethanol alcohol |
| | | | 5 | Primary transfer tension roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Primary transfer blade backup roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | BK auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Y auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 9 | Pre-transfer roller | - | ○ | | ○ | | ○ | | ○ | |
| | | | 10 | Primary transfer roller | - | x | | x | | x | | x | Replace as needed |
| | | | 11 | Resist backup stay cushion | - | x | | x | | x | | x | |
| | | | 12 | Primary transfer blade backup roller sheet | - | x | | x | | x | | x | |
| | | | 13 | Primary transfer toner reception sheet F/R | - | x | | x | | x | | x | |
| | | | 14 | Cleaning roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 15 | Primary transfer cleaner sub blade | - | x | | x | | x | | x | Replace as needed |
| | | | 16 | Primary transfer cleaner seals F/R | - | x | | x | | x | | x | |
| | | | 17 | Primary transfer cleaner blade | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | Secondary transfer unit | 1 | Secondary transfer roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| | | | 2 | Secondary transfer separation plate | - | x | | x | | x | | x | Replace as needed |
| | | | 3 | Paper guide | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Sensors | - | x | | x | | x | | x | |
| | | Other | 1 | PTC unit | - | ▲ | | ▲ | | ▲ | | ▲ | |
| | | | 2 | PTC outer holder | x | ○ | | ○ | | ○ | | ○ | Clean with ethanol alcohol |
| | | | 3 | Image density and image registration sensor | x | ○ | | ○ | | ○ | | ○ | |
| 6 | LSU section | LSU | 1 | Dust-proof glass | ○ | ○ | | ○ | | ○ | | ○ | |
| | | Other | 2 | Cleaning base | x | ▲ | | ▲ | | ▲ | | ▲ | |
| 7 | Manual paper feed section | Manual paper feed unit | 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 100K of manual paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter | x | x | | x | | x | | x | |
| | | | 5 | Transport roller 10 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Sensors | x | x | | x | | x | | x | |
| 8 | Tray paper feed section | Tray paper feed unit | 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 200K of paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Torque limiter | x | x | | x | | x | | x | |
| | | | 5 | Transport roller 3 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Transport roller 1 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | Transport roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Sensors | x | x | | x | | x | | x | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | Paper registration section/Paper exit section/ ADU section | PS unit | 1 | Registration roller (idle) | x | ○ | | ○ | | ○ | | ○ | |
| | | | 2 | Registration roller (drive) | x | ○ | | ○ | | ○ | | ○ | |
| | | | 3 | Transport roller 4 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 4 | Sensors | x | x | | x | | x | | x | |
| | | Right door unit | 5 | Transport roller 8 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 6 | Transport roller 9 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 7 | Transport roller 7 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 8 | Sensors | x | x | | x | | x | | x | |
| | | Fusing rear unit | 9 | Transport roller 6 | x | ○ | | ○ | | ○ | | ○ | |
| | | Paper exit unit | 10 | Paper exit roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| | | | 11 | Discharge brush | x | x | | x | | x | | x | |
| | | | 12 | Sensors | x | x | | x | | x | | x | |
| | | Other | 13 | Paper dust removing unit | ○ | ○ | | ○ | | ○ | | ○ | |
| | | | - | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |
| 10 | Drive section | Main drive unit | 1 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 2 | Shafts | - | x | | x | | x | | x | |
| | | | 3 | Shaft earth section | - | x | | x | | x | | x | Apply grease (UKOG-0012QSZZ) to the specified position when checking |
| | | | 4 | Belts | - | x | | x | | x | | x | |
| | | | 5 | Sensors | - | x | | x | | x | | x | |
| | | Transport drive unit | 6 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 7 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 8 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 9 | Belts | - | x | | x | | x | | x | Do not attach grease |
| | | | 10 | Connection arm | - | x | | x | | x | | x | |
| | | Fusing drive unit | 11 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 12 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 13 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 14 | Belts | - | x | | x | | x | | x | Do not attach grease |
| | | Paper exit drive unit | 15 | Belts | - | x | | x | | x | | x | Do not attach grease |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Fusing section | Fusing unit | 1 | Lower fusing transport roller | x | x | | x | | x | | x | |
| | | | 2 | Gears | x | x | | x | | x | | x | |
| | | | 3 | Upper fusing transport roller | x | x | | x | | x | | x | |
| | | | 4 | Pressure bearing | x | x | | x | | x | | x | |
| | | | 5 | Separation plate | x | x | | x | | x | | x | Clean foreign matter adhesion |
| | | | 6 | Pressure roller gear | x | x | | x | | x | | x | Replace as needed |
| | | | 7 | Pressure roller bearing | x | x | | x | | x | | x | Replace as needed |
| | | | 8 | Pressure roller | x | ▲ | | ▲ | | ▲ | | ▲ | Apply grease (UKOG-0235FCZZ) to the shaft when replacing and after completion of replacement, Clean new pressure roller surface with alcohol |
| | | | 9 | Upper thermistor | x | x | | x | | x | | x | Replace as needed |
| | | | 10 | Fusing belt unit | x | ▲ | | ▲ | | ▲ | | ▲ | |
| | | | 11 | Lower thermistor | x | x | | x | | x | | x | Replace as needed |
| | | | 12 | Main thermistor | x | x | | x | | x | | x | |
| | | | 13 | Sub thermistor | x | x | | x | | x | | x | |
| | | | 14 | Sensors | x | x | | x | | x | | x | |
| | | | 15 | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |
| 12 | Other | Other | | Ozone filter | x | | ▲ | | ▲ | | ▲ | | |
| | | | | UFP filter | x | ▲ | | ▲ | | ▲ | | ▲ | For Europe |
| | | | | Right cover filter | x | ○ | | ○ | | ○ | | ○ | |
| | | | | Front cover cushion | x | x | | x | | x | | x | Be careful not to damage the cushion when cleaning the front cover |
| | | | | Toner cartridge | User replacement for every toner empty | | | | | | | | |
| | | | | Waste toner box | User replacement for every toner full | | | | | | | | Replace at 50K |

**Note**

Alcohol for cleaning.

Be sure to use ethanol for cleaning.

**35/40 ppm machine**

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|---|---|---|
| 3 | Developing section | Developing unit (Monochrome) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| | | Developing unit (Color) | 1 | Developer | x | x | |
| | | | 2 | DV blade | x | x | Replace as needed |
| | | | 3 | DV side seal F/R | x | x | |
| | | | 4 | Toner filter | x | x | |
| | | | 5 | DV upper blade | x | x | |
| | | | 6 | Bias pin | x | x | |
| 4 | OPC drum section | OPC drum unit (Monochrome) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |
| | | OPC drum unit (Color) | 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| | | | 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| | | | 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| | | | 4 | Toner reception sheet | x | x | Replace as needed |
| | | | 5 | Side seal F/R | x | x | |
| | | | 6 | Charger cleaner | x | ▲ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Document feed section | DSPF unit | 1 | Paper pickup roller | ○ | ○ | ○ | ○ | ○ | ○ | Replace at 100K of SPF paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 3 | Separation roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Torque limiter | x | x | x | x | x | x | Replace at 800K of SPF paper feed counter |
| | | | 5 | Transport roller 1 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Transport roller 2 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 7 | Registration roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | Transport roller 3 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 9 | Transport roller 4 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 10 | Paper exit roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 11 | Discharge brush | x | x | x | x | x | x | |
| | | | 12 | Sensors | x | x | x | x | x | x | |
| | | | 13 | No.1 scanning plate | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 14 | No.2 scanning section, scanning glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 15 | No.2 scanning section, white reference glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 16 | Mirror | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 17 | Lens, CCD | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 18 | Lamp | ○ | ○ | ○ | ○ | ○ | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| | | | 19 | OC mat | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 20 | Gears | x | x | x | x | x | x | |
| | | | 21 | Belts | x | x | x | x | x | x | |
| | | | 22 | Sheet | ○ | ○ | ○ | ○ | ○ | ○ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Document feed section | RSPF unit | 1 | Paper pickup roller | ○ | ○ | ○ | ○ | ○ | ○ | Replace at 100K of SPF paper feed counter or 1 year use<br>Apply grease (UKOG-0013QSZZ) to the paper feed shaft when replacing the paper feed roller |
| | | | 2 | Paper feed roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 3 | Separation roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Torque limiter SPF | x | x | x | x | x | x | Replace at 400K of SPF paper feed counter or 2 year use |
| | | | 5 | Torque limiter pickup | x | x | x | x | x | x | |
| | | | 6 | Discharge brush | x | x | x | x | x | x | |
| | | | 7 | Registration roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | Transport roller 1 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 9 | Transport roller 2 | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 10 | Paper exit roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 11 | Sensors | x | x | x | x | x | x | |
| | | | 12 | Scan plate | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 13 | Gears | x | x | x | x | x | x | |
| | | | 14 | Belts | x | x | x | x | x | x | |
| | | | 15 | OC mat | ○ | ○ | ○ | ○ | ○ | ○ | |
| 2 | Scanner section | Scanner unit | 1 | Drive belt | x | x | x | x | x | x | |
| | | | 2 | Drive wire | x | x | x | x | x | x | |
| | | | 3 | Sensors | x | x | x | x | x | x | |
| | | | 4 | Rails | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | Apply grease (UKOG-0158FCZZ) to the specified position |
| | | | 5 | Mirror | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Lamp | ○ | ○ | ○ | ○ | ○ | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| | | | 7 | Lens | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | CCD | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 9 | Table glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 10 | SPF glass | ○ | ○ | ○ | ○ | ○ | ○ | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Transfer section | Primary transfer unit | 1 | Separation pawl | - | x | x | x | x | x | Replace as needed |
| | | | 2 | Primary transfer belt | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| | | | 3 | Primary transfer drive gear | - | x | x | x | x | x | Replace as needed |
| | | | 4 | Primary transfer drive roller | - | ○ | ○ | ○ | ○ | ○ | Clean with ethanol alcohol |
| | | | 5 | Primary transfer tension roller | - | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Primary transfer blade backup roller | - | ○ | ○ | ○ | ○ | ○ | |
| | | | 7 | BK auxiliary roller | - | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | Y auxiliary roller | - | ○ | ○ | ○ | ○ | ○ | |
| | | | 9 | Pre-transfer roller | - | ○ | ○ | ○ | ○ | ○ | |
| | | | 10 | Primary transfer roller | - | x | x | x | x | x | Replace as needed |
| | | | 11 | Resist backup stay cushion | - | x | x | x | x | x | |
| | | | 12 | Primary transfer blade backup roller sheet | - | x | x | x | x | x | |
| | | | 13 | Primary transfer toner reception sheet F/R | - | x | x | x | x | x | |
| | | | 14 | Cleaning roller | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| | | | 15 | Primary transfer cleaner sub blade | - | x | x | x | x | x | Replace as needed |
| | | | 16 | Primary transfer cleaner seals F/R | - | x | x | x | x | x | |
| | | | 17 | Primary transfer cleaner blade | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| | | Secondary transfer unit | 1 | Secondary transfer roller | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| | | | 2 | Secondary transfer separation plate | - | x | x | x | x | x | Replace as needed |
| | | | 3 | Paper guide | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Sensors | - | x | x | x | x | x | |
| | | Other | 1 | PTC unit | - | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | | | 2 | PTC outer holder | x | ○ | ○ | ○ | ○ | ○ | Clean with ethanol alcohol |
| | | | 3 | Image density and image registration sensor | x | ○ | ○ | ○ | ○ | ○ | |
| 6 | LSU section | LSU | 1 | Dust-proof glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | Other | 2 | Cleaning base | x | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 7 | Manual paper feed section | Manual paper feed unit | 1 | Paper pickup roller | x | ○ | ○ | ○ | ○ | ○ | Replace at 100K of manual paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 3 | Separation roller | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Torque limiter | x | x | x | x | x | x | |
| | | | 5 | Transport roller 10 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Sensors | x | x | x | x | x | x | |
| 8 | Tray paper feed section | Tray paper feed unit | 1 | Paper pickup roller | x | ○ | ○ | ○ | ○ | ○ | Replace at 200K of paper feed counter or 1 year use |
| | | | 2 | Paper feed roller | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 3 | Separation roller | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Torque limiter | x | x | x | x | x | x | |
| | | | 5 | Transport roller 3 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Transport roller 1 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 7 | Transport roller 2 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | Sensors | x | x | x | x | x | x | |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | Paper registration section/Paper exit section/ ADU section | PS unit | 1 | Registration roller (idle) | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 2 | Registration roller (drive) | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 3 | Transport roller 4 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 4 | Sensors | x | x | x | x | x | x | |
| | | Right door unit | 5 | Transport roller 8 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 6 | Transport roller 9 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 7 | Transport roller 7 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 8 | Sensors | x | x | x | x | x | x | |
| | | Fusing rear unit | 9 | Transport roller 6 | x | ○ | ○ | ○ | ○ | ○ | |
| | | Paper exit unit | 10 | Paper exit roller 2 | x | ○ | ○ | ○ | ○ | ○ | |
| | | | 11 | Discharge brush | x | x | x | x | x | x | |
| | | | 12 | Sensors | x | x | x | x | x | x | |
| | | Other | 13 | Paper dust removing unit | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | | - | Paper guides | ○ | ○ | ○ | ○ | ○ | ○ | |
| 10 | Drive section | Main drive unit | 1 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 2 | Shafts | - | x | x | x | x | x | |
| | | | 3 | Shaft earth section | - | x | x | x | x | x | Apply grease (UKOG-0012QSZZ) to the specified position when checking |
| | | | 4 | Belts | - | x | x | x | x | x | |
| | | | 5 | Sensors | - | x | x | x | x | x | |
| | | Transport drive unit | 6 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 7 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 8 | Shafts | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 9 | Belts | - | x | x | x | x | x | Do not attach grease |
| | | | 10 | Connection arm | - | x | x | x | x | x | |
| | | Fusing drive unit | 11 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | | | 12 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 13 | Shafts | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | | | 14 | Belts | - | x | x | x | x | x | Do not attach grease |
| | | Paper exit drive unit | 15 | Belts | - | x | x | x | x | x | Do not attach grease |

| Section/ Unit work sequence | Name | Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Fusing section | Fusing unit | 1 | Lower fusing transport roller | x | x | x | x | x | x | |
| | | | 2 | Gears | x | x | x | x | x | x | |
| | | | 3 | Upper fusing transport roller | x | x | x | x | x | x | |
| | | | 4 | Pressure bearing | x | x | x | x | x | x | |
| | | | 5 | Separation plate | x | x | x | x | x | x | Clean foreign matter adhesion |
| | | | 6 | Pressure roller gear | x | x | x | x | x | x | Replace as needed |
| | | | 7 | Pressure roller bearing | x | x | x | x | x | x | Replace as needed |
| | | | 8 | Pressure roller | x | ▲ | ▲ | ▲ | ▲ | ▲ | Apply grease (UKOG-0235FCZZ) to the shaft when replacing and after completion of replacement, Clean new pressure roller surface with alcohol |
| | | | 9 | Upper thermistor | x | x | x | x | x | x | Replace as needed |
| | | | 10 | Fusing belt unit | x | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | | | 11 | Lower thermistor | x | x | x | x | x | x | Replace as needed |
| | | | 12 | Main thermistor | x | x | x | x | x | x | |
| | | | 13 | Sub thermistor | x | x | x | x | x | x | |
| | | | 14 | Sensors | x | x | x | x | x | x | |
| | | | 15 | Paper guides | ○ | ○ | ○ | ○ | ○ | ○ | |
| 12 | Other | Other | | Ozone filter | x | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | | | | UFP filter | x | ▲ | ▲ | ▲ | ▲ | ▲ | For Europe |
| | | | | Right cover filter | x | ○ | ○ | ○ | ○ | ○ | |
| | | | | Front cover cushion | x | x | x | x | x | x | Be careful not to damage the cushion when cleaning the front cover |
| | | | | Toner cartridge | User replacement for every toner empty | | | | | | |
| | | | | Waste toner box | User replacement for every toner full | | | | | | Replace at 50K |

**Note**

Alcohol for cleaning.

Be sure to use ethanol for cleaning.

## A. Document feed section

### (1) DSPF

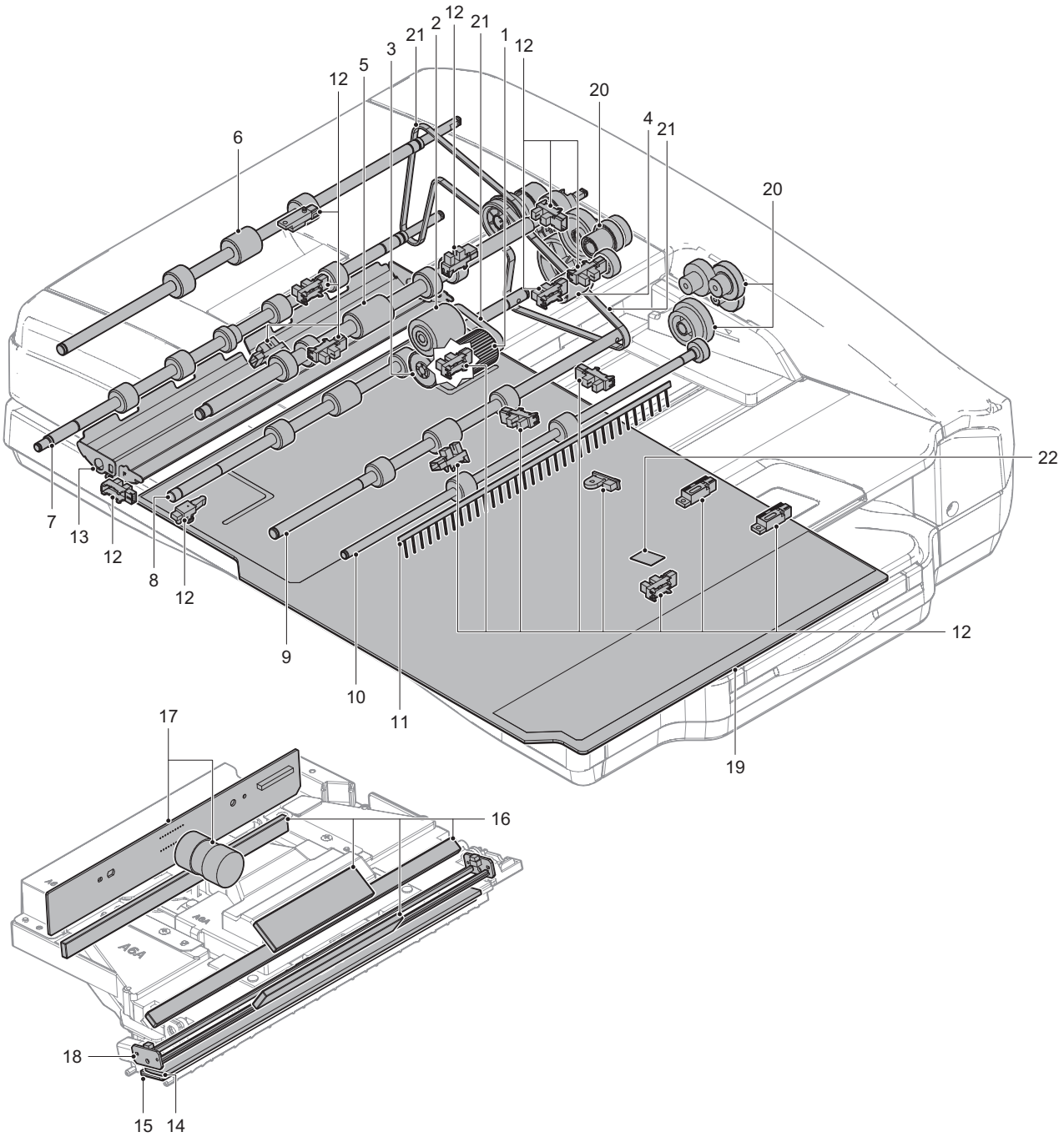
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | ○ | ○ | | ○ | | ○ | | ○ | Replace at 100K of SPF paper feed counter or 1 year use |
| 2 | Paper feed roller | ○ | ○ | | ○ | | ○ | | ○ | |
| 3 | Separation roller | ○ | ○ | | ○ | | ○ | | ○ | |
| 4 | Torque limiter | x | x | | x | | x | | x | Replace at 800K of SPF paper feed counter |
| 5 | Transport roller 1 | ○ | ○ | | ○ | | ○ | | ○ | |
| 6 | Transport roller 2 | ○ | ○ | | ○ | | ○ | | ○ | |
| 7 | Registration roller | ○ | ○ | | ○ | | ○ | | ○ | |
| 8 | Transport roller 3 | ○ | ○ | | ○ | | ○ | | ○ | |
| 9 | Transport roller 4 | ○ | ○ | | ○ | | ○ | | ○ | |
| 10 | Paper exit roller | ○ | ○ | | ○ | | ○ | | ○ | |
| 11 | Discharge brush | x | x | | x | | x | | x | |
| 12 | Sensors | x | x | | x | | x | | x | |
| 13 | No.1 scanning plate | ○ | ○ | | ○ | | ○ | | ○ | |
| 14 | No.2 scanning section, scanning glass | ○ | ○ | | ○ | | ○ | | ○ | |
| 15 | No.2 scanning section, white reference glass | ○ | ○ | | ○ | | ○ | | ○ | |
| 16 | Mirror | ○ | ○ | | ○ | | ○ | | ○ | |
| 17 | Lens, CCD | ○ | ○ | | ○ | | ○ | | ○ | |
| 18 | Lamp | ○ | ○ | | ○ | | ○ | | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| 19 | OC mat | ○ | ○ | | ○ | | ○ | | ○ | |
| 20 | Gears | x | x | | x | | x | | x | |
| 21 | Belts | x | x | | x | | x | | x | |
| 22 | Sheet | ○ | ○ | | ○ | | ○ | | ○ | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | ○ | ○ | ○ | ○ | ○ | ○ | Replace at 100K of SPF paper feed counter or 1 year use |
| 2 | Paper feed roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| 3 | Separation roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| 4 | Torque limiter | x | x | x | x | x | x | Replace at 800K of SPF paper feed counter |
| 5 | Transport roller 1 | ○ | ○ | ○ | ○ | ○ | ○ | |
| 6 | Transport roller 2 | ○ | ○ | ○ | ○ | ○ | ○ | |
| 7 | Registration roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| 8 | Transport roller 3 | ○ | ○ | ○ | ○ | ○ | ○ | |
| 9 | Transport roller 4 | ○ | ○ | ○ | ○ | ○ | ○ | |
| 10 | Paper exit roller | ○ | ○ | ○ | ○ | ○ | ○ | |
| 11 | Discharge brush | x | x | x | x | x | x | |
| 12 | Sensors | x | x | x | x | x | x | |
| 13 | No.1 scanning plate | ○ | ○ | ○ | ○ | ○ | ○ | |
| 14 | No.2 scanning section, scanning glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| 15 | No.2 scanning section, white reference glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| 16 | Mirror | ○ | ○ | ○ | ○ | ○ | ○ | |
| 17 | Lens, CCD | ○ | ○ | ○ | ○ | ○ | ○ | |
| 18 | Lamp | ○ | ○ | ○ | ○ | ○ | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| 19 | OC mat | ○ | ○ | ○ | ○ | ○ | ○ | |
| 20 | Gears | x | x | x | x | x | x | |
| 21 | Belts | x | x | x | x | x | x | |
| 22 | Sheet | ○ | ○ | ○ | ○ | ○ | ○ | |


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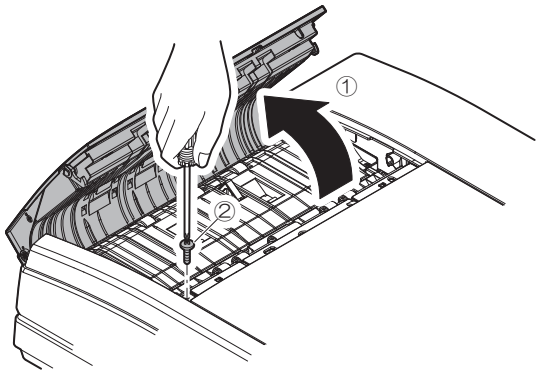

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**a. Disassembly and assembly of maintenance parts**

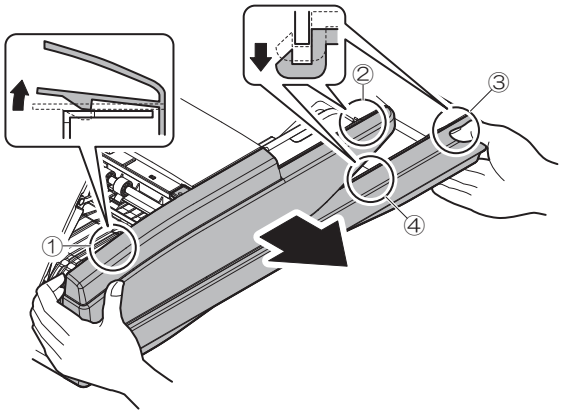
**a-1. Paper pickup roller**

**a-2. Paper feed roller**

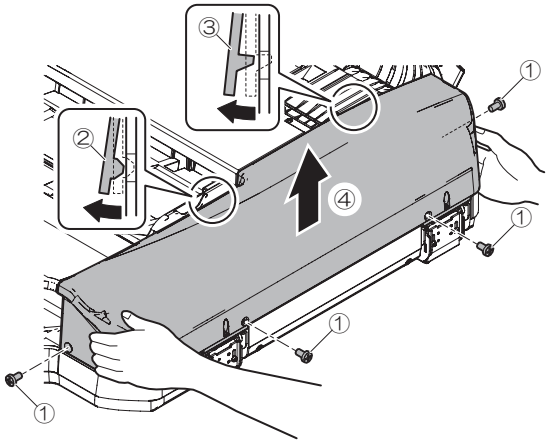
1) Open the upper door, and remove the screw.



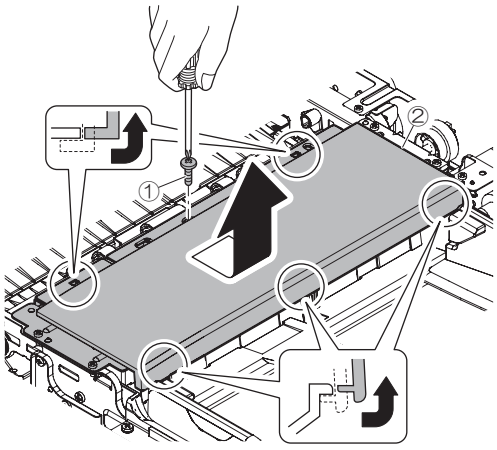

2) Remove the front cabinet.



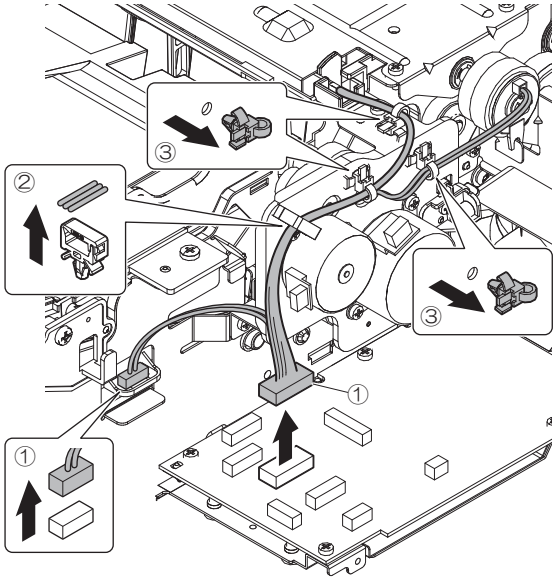

3) Remove the screw, and remove the rear cabinet.



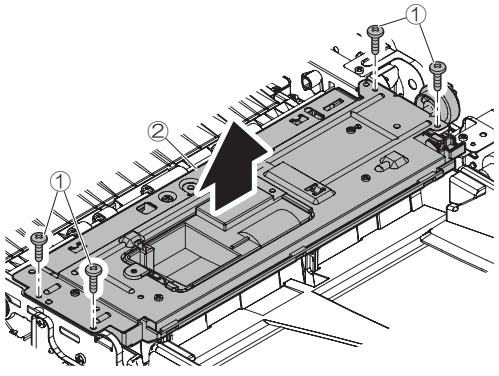

4) Remove the screw. Remove the paper feed cover.



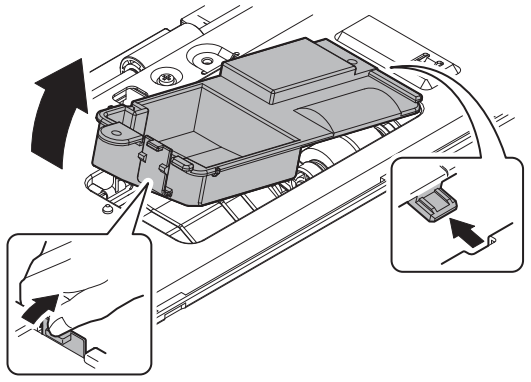

5) Disconnect the connector. Open the wire saddle. Remove the snap band.



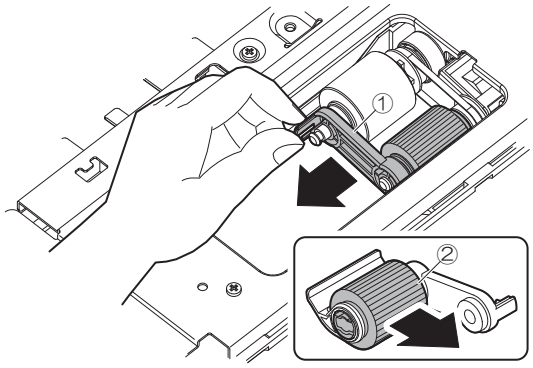

6) Remove the screw, and remove the document feed unit.



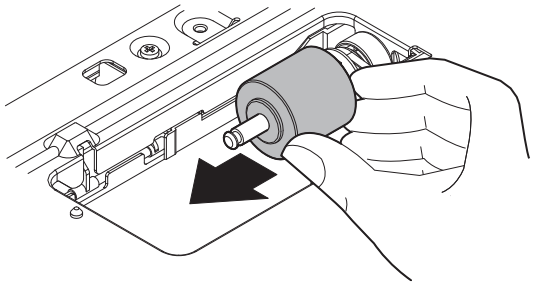
7) Remove the paper feed PG upper cover.



8) Remove the pickup roller holder. Remove the paper pickup roller from the pickup roller holder.

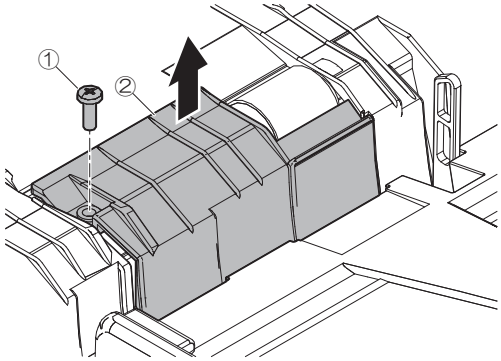



9) Remove the paper feed roller.

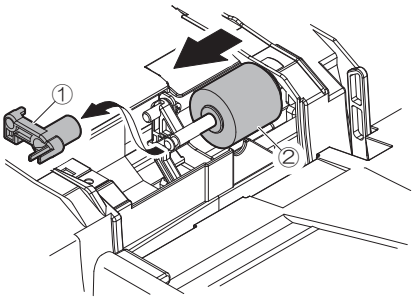


**a-3. Separation roller**

1) Remove the screw, and remove the paper feed PG lower cover.

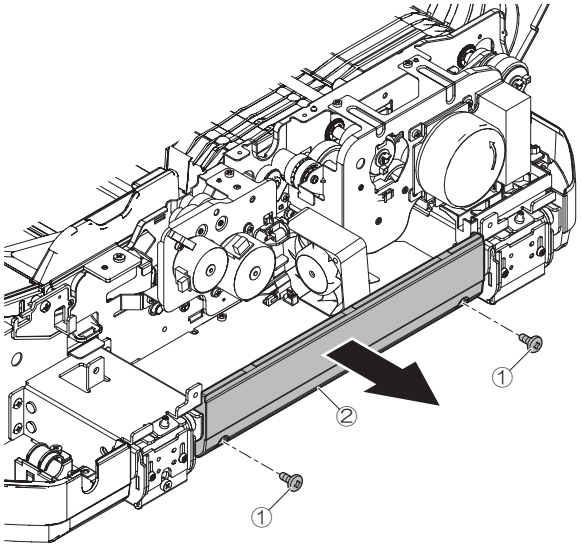



2) Remove the revere pressure release lever, and remove the separation roller.

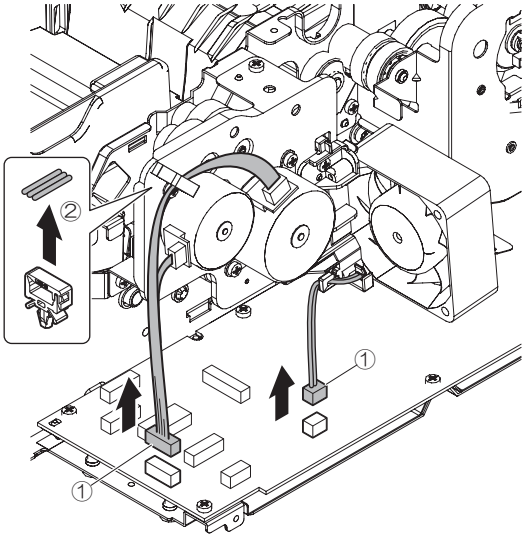



**a-4. Torque limiter**

1) Remove the rear cabinet lower.



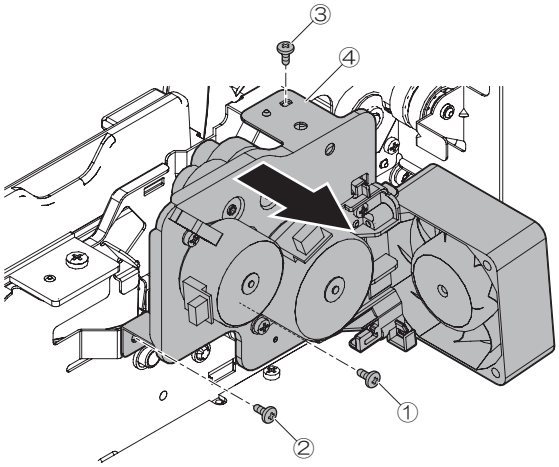

2) Disconnect the connector and open the edge saddle.



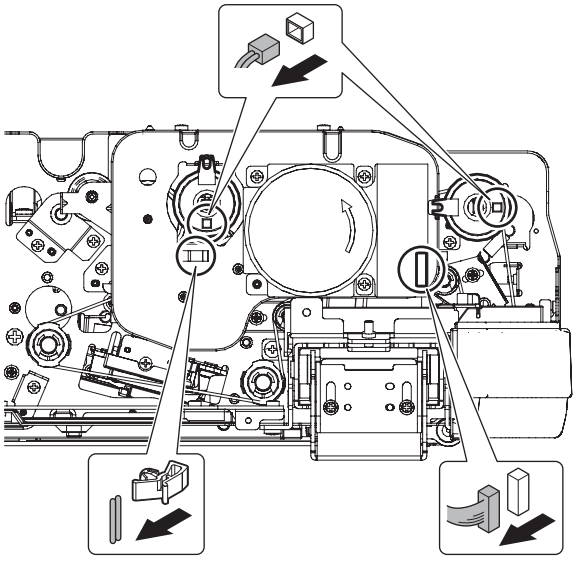
3) Remove the screws and the paper exit drive unit.

Important

When attaching the paper exit drive unit, tighten the screw in the order of (1) - (3).

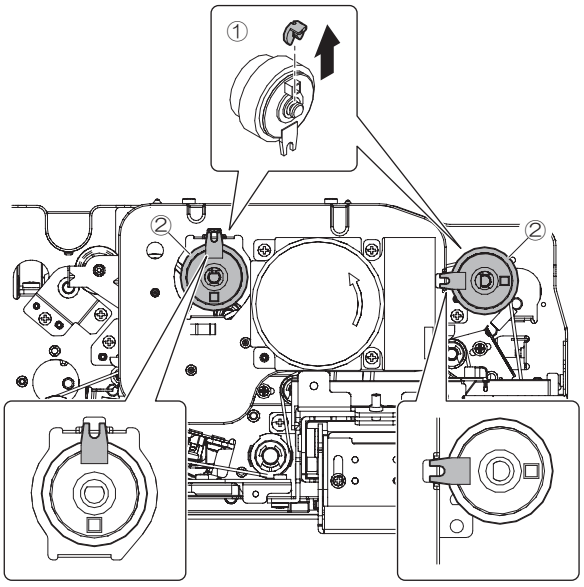



4) Disconnect the connectors. Remove the harness from the wire saddle.

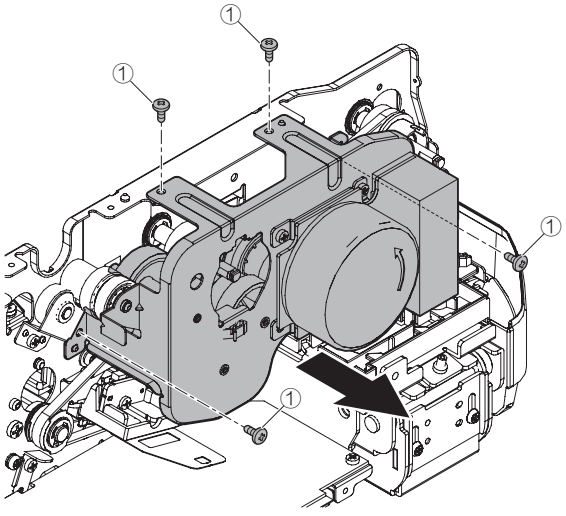


5) Remove E-ring, separation clutch and transport clutch.

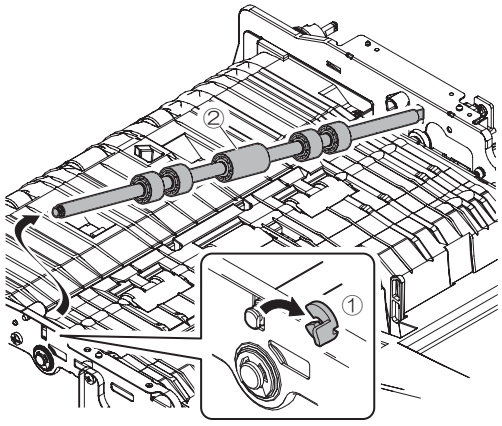
**NOTE:** make sure that stopping section in the clutch is fit into the plate during the assembly.



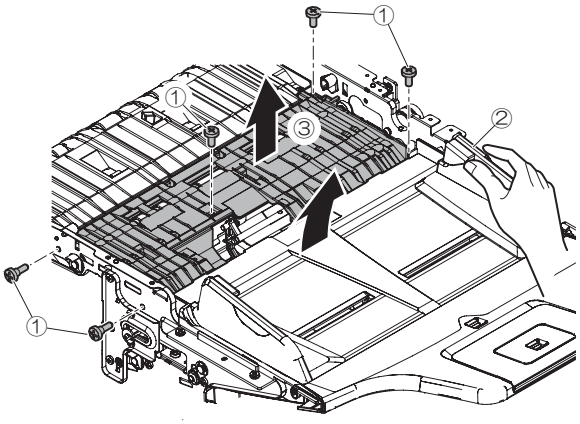

6) Remove the screws and the paper feed drive unit.



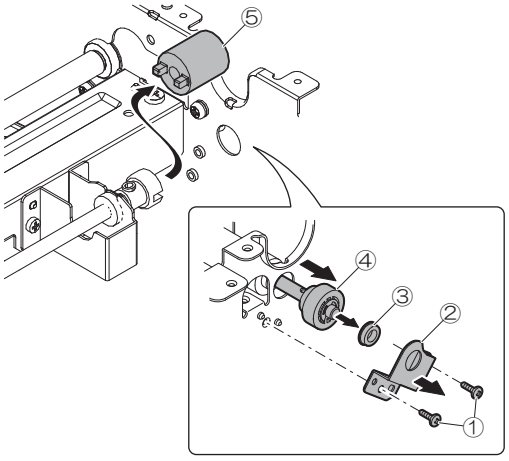

7) Remove the E-ring, and remove the Transport roller 1 (Idle).



8) Remove the screw. Lift the document paper feed tray and remove the paper guide.



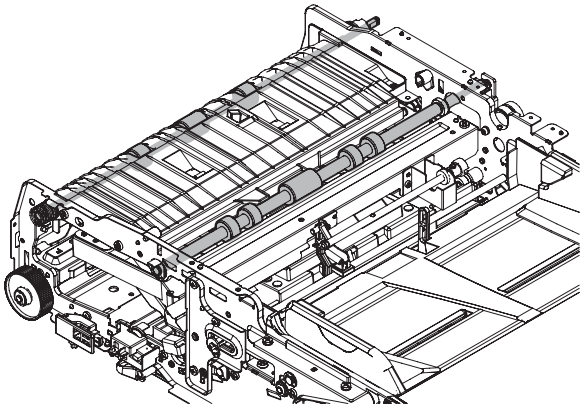

9) Remove the screw, and remove the support plate and the bearing. Remove the roller shaft, and remove the torque limiter.




**a-5. Transport roller 1**

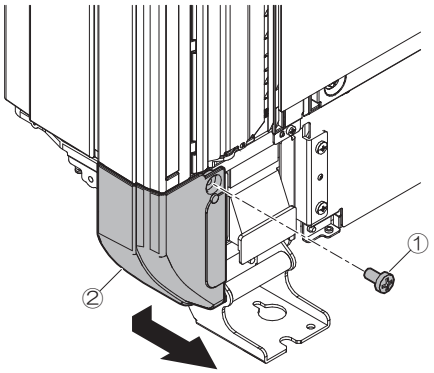
**a-6. Transport roller 2**

1) Clean the transport roller 1 and the transport roller 2.

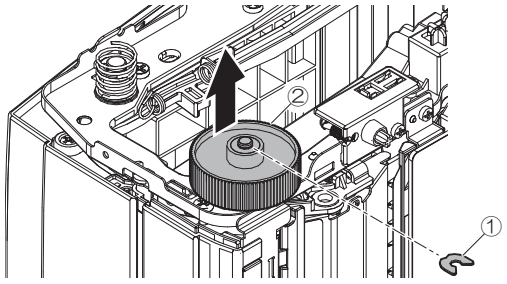


**a-7. Registration roller**

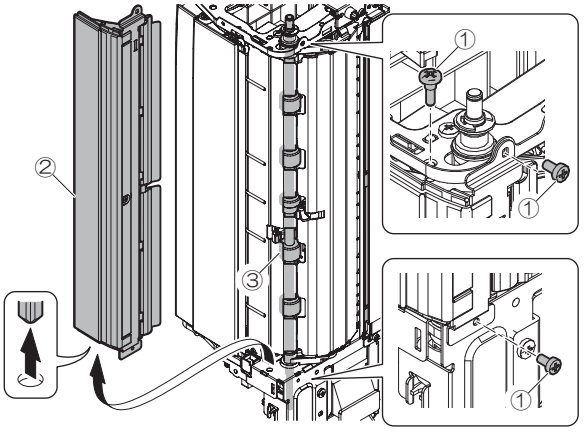
1) Remove the screw, and remove the left rear lower cabinet.




2) Remove the E-ring, and remove the PS knob.



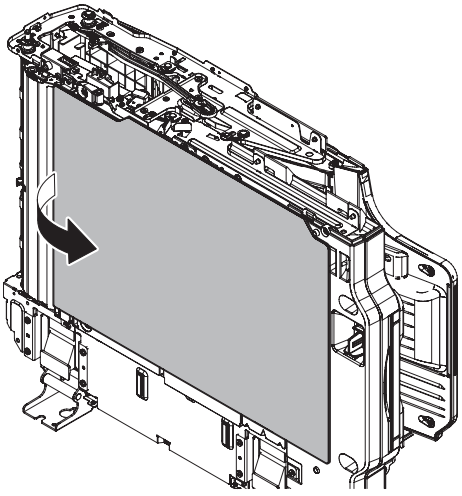

3) Remove the screw, and remove the paper guide. Clean the registration roller.



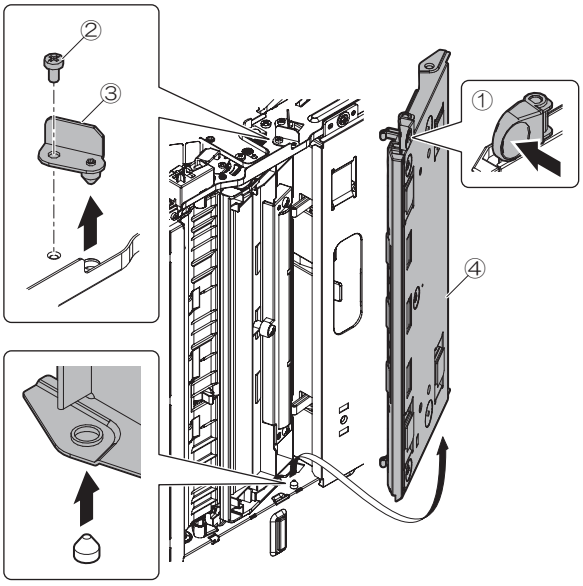
**a-8. Transport roller 3**

**a-9. Transport roller 4**

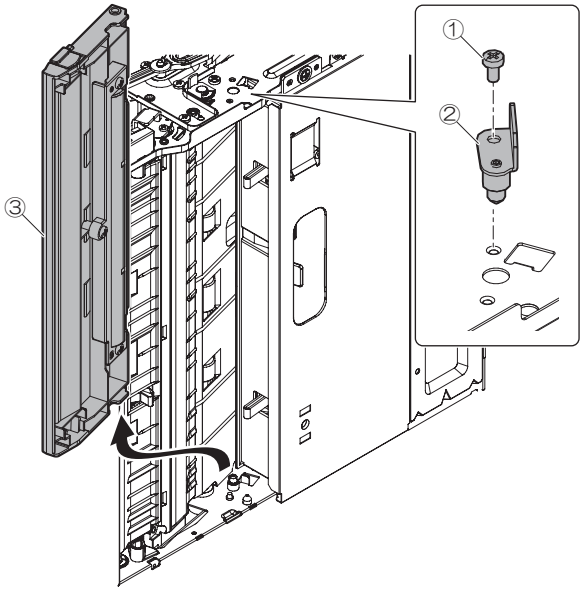
1) Open the OC mat.



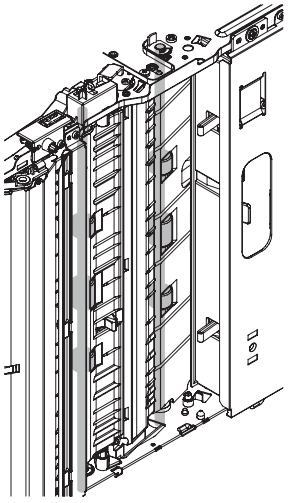
2) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.




3) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.

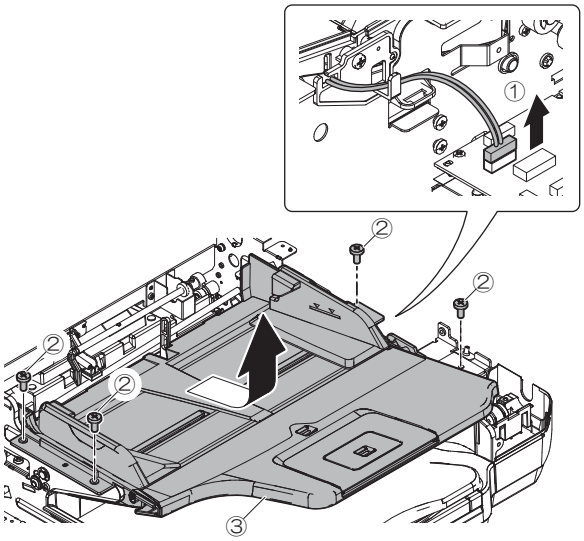



4) Clean the transport roller 3 and transport roller 4.

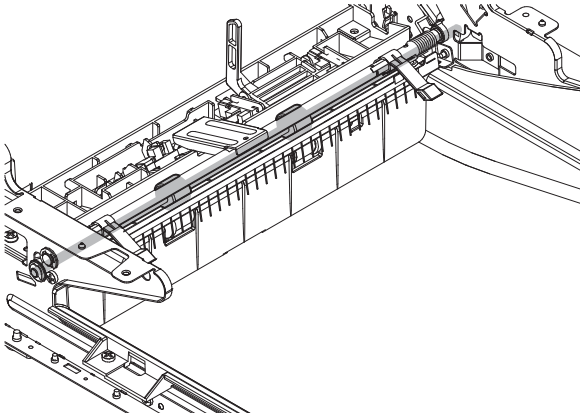


**a-10. Paper exit roller**

1) Disconnect the connector. Remove the screw, and remove the document feed tray.



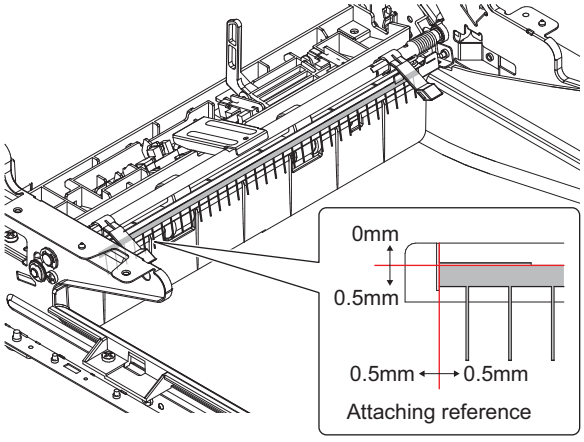

2) Clean the paper exit roller.



**a-11. Discharge brush**

1) Check the discharge brush.

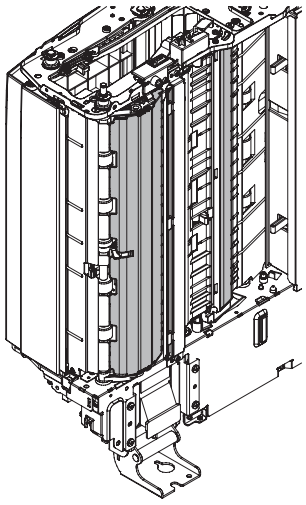
**NOTE:** when replacing the discharge brush, attach to the attachment reference.




**a-12. No.1 scanning plate**

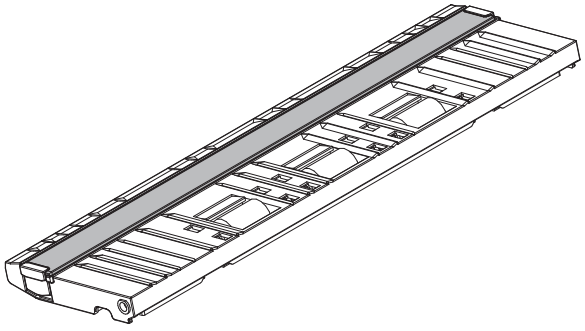
**a-13. No.2 scanning section, scanning glass**

1) Clean the no.1 scanning plate and the no.2 scanning section, scanning glass.



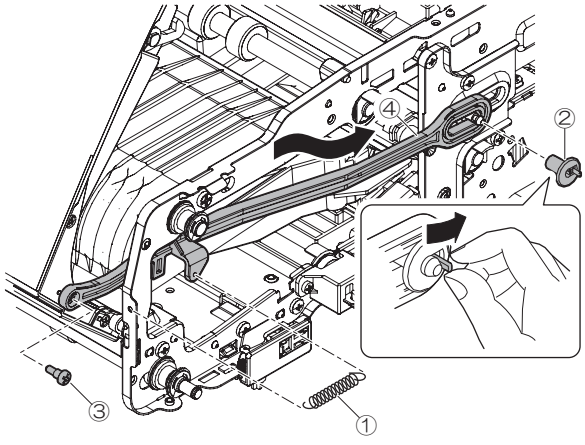
**a-14. No.2 scanning section, white reference glass**

1) Use cleaner to clean the no.2 scanning section, white reference glass.

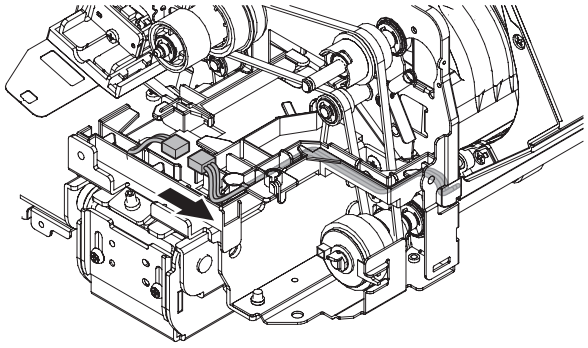


**a-15. Mirror**

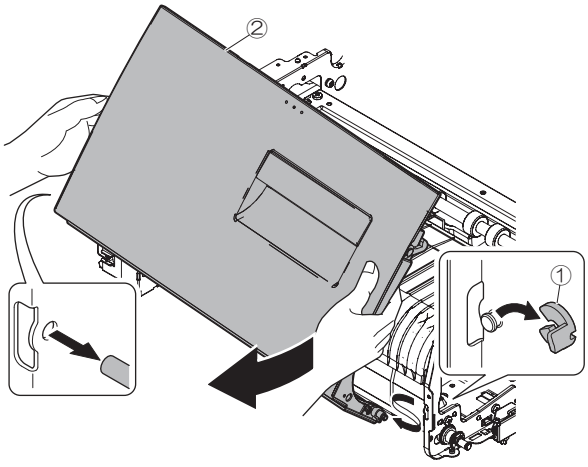
1) Remove the spring, pressure release axis holder, screw and pressure release link lever.



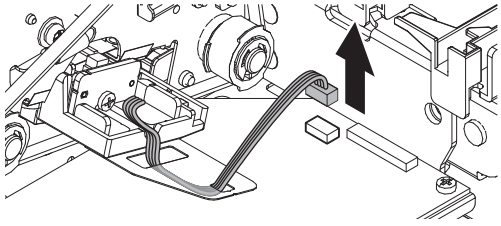
2) Disconnect the connector.



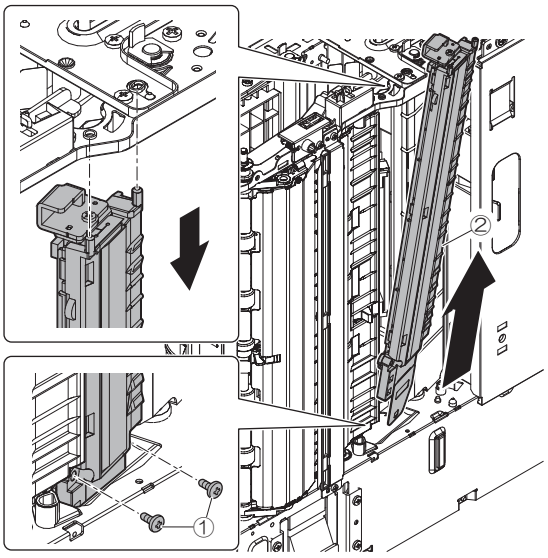
3) Remove the E-ring, and remove the upper door unit.



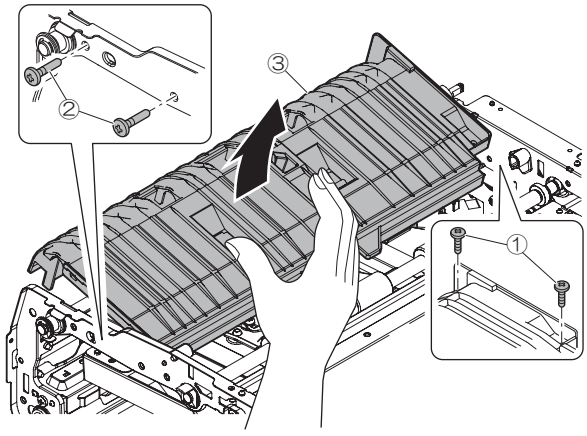

4) Disconnect the connector for lamp unit from the control PWB.



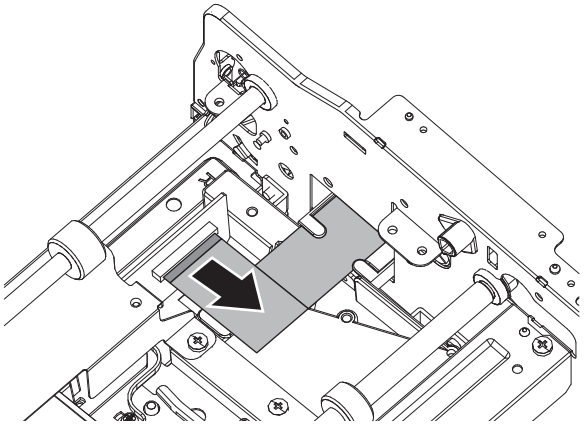
5) Remove the screw and lamp unit.



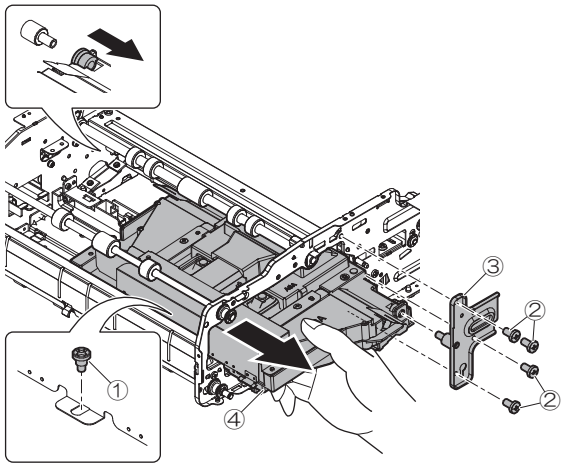

6) Remove the screws and paper guide.



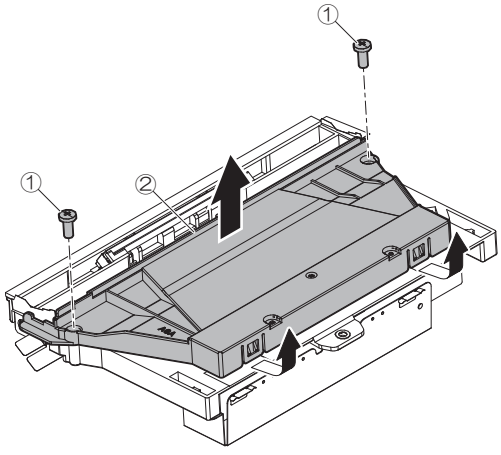

7) Remove the CCD FFC from the CCD PWB.



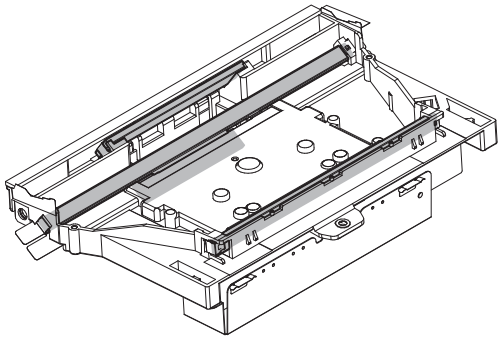
8) Remove the screw and cushion. Remove optics fixing plate and optical unit.




9) Remove the screw, and remove the mirror base cover.

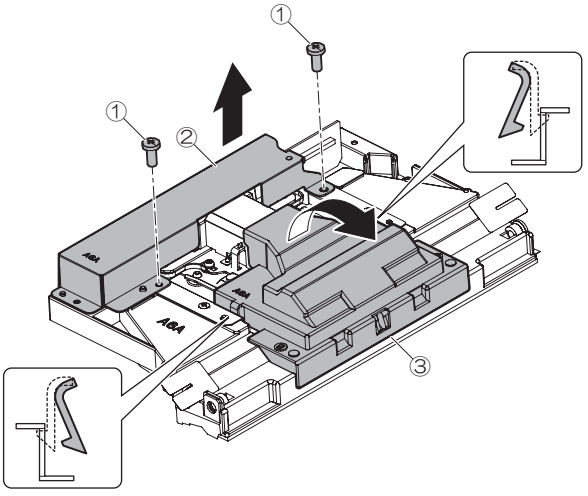



10) Clean the mirror.

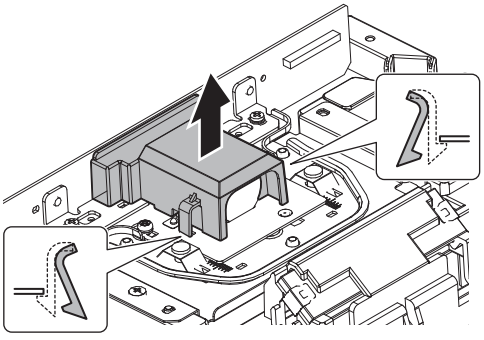


**a-16. Lens, CCD**

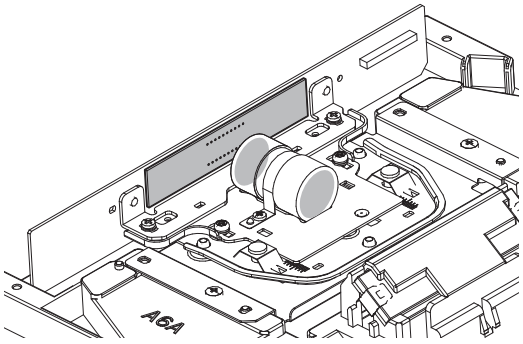
1) Remove the screw, and remove the dark box. Remove the dust-proof cover.




2) Remove the lens cover.

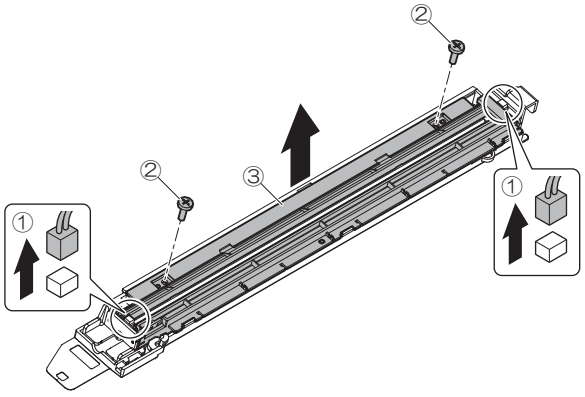


3) Clean the lens and the CCD.

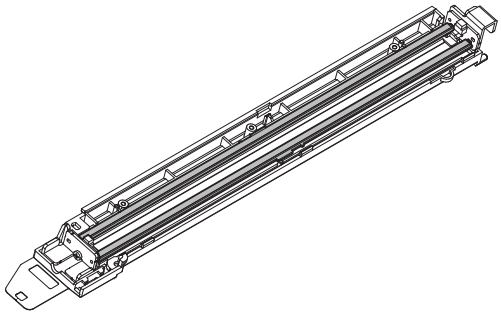


**a-17. Lamp**

1) Remove the screw, and remove the LED PWB guide.

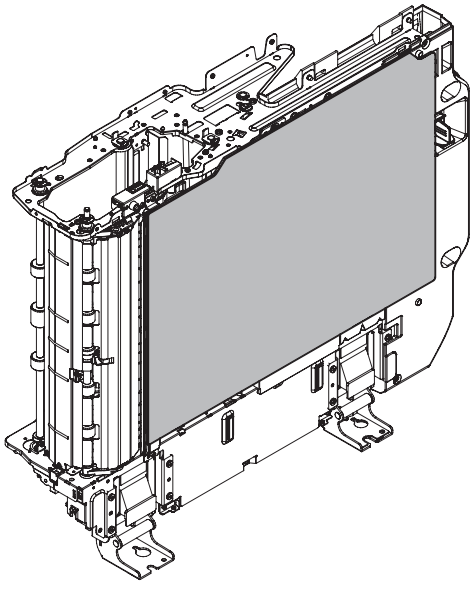



2) Clean the lamp.



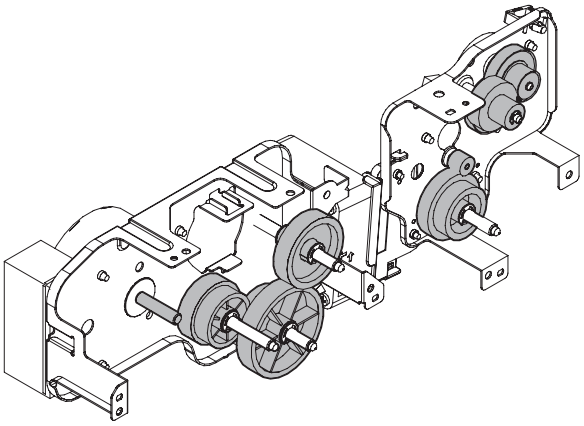
**a-18. OC mat**

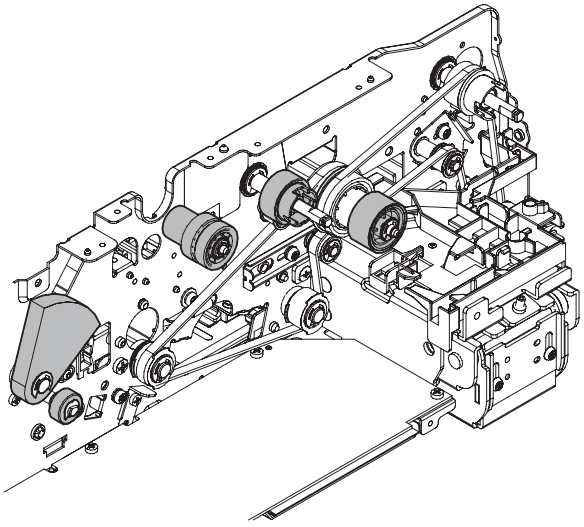
1) Clean the OC mat.



**a-19. Gears**

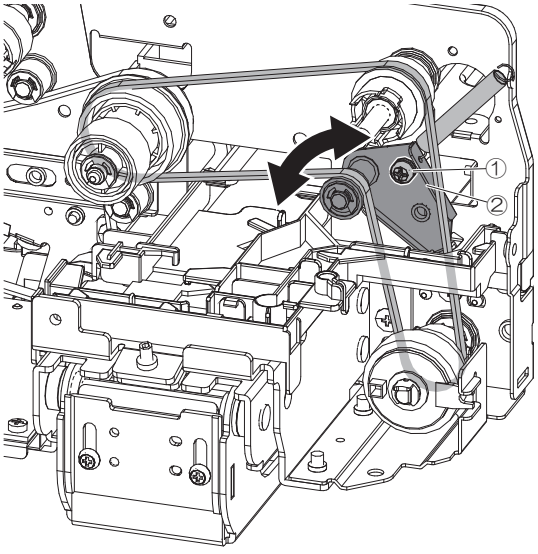
1) Clean the Gears.



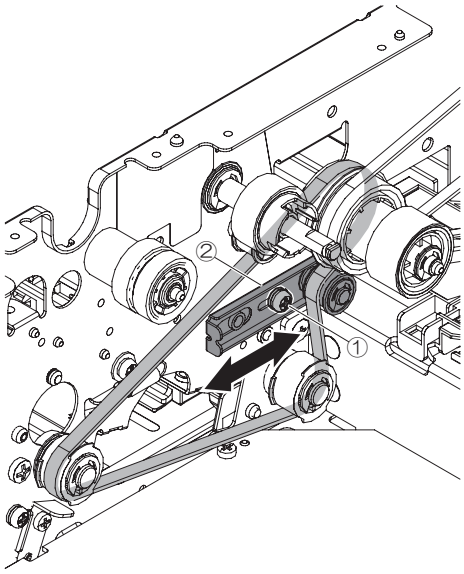


**a-20. Belts**

1) When attaching the belt, loosen the screw. Then, tighten the screw while applying tension.



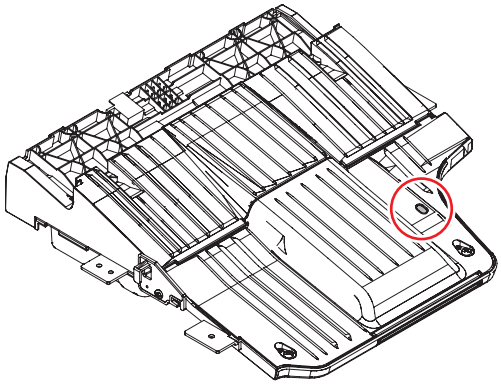
2) When attaching the belt, loosen the screw. Then, tighten the screw again after reapplying tension in the direction of the arrow.



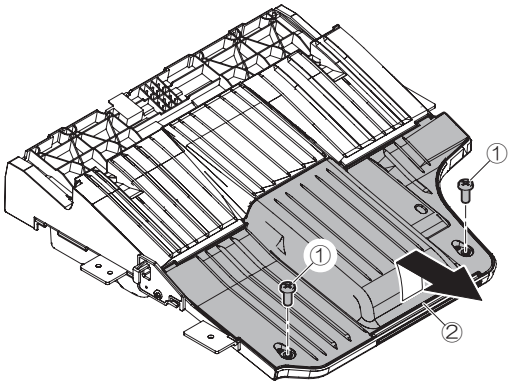

**a-21. Sensors**

**a-22. Sheet**

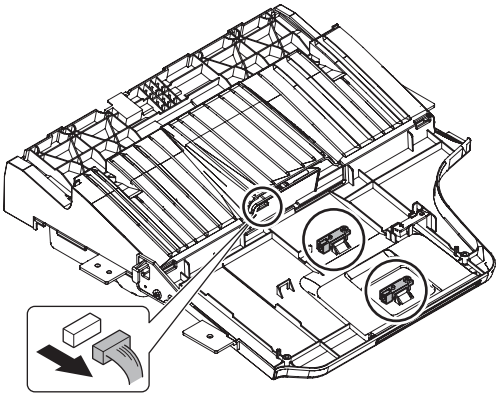
1) Clean the transparent sheet for the lighting lamp.



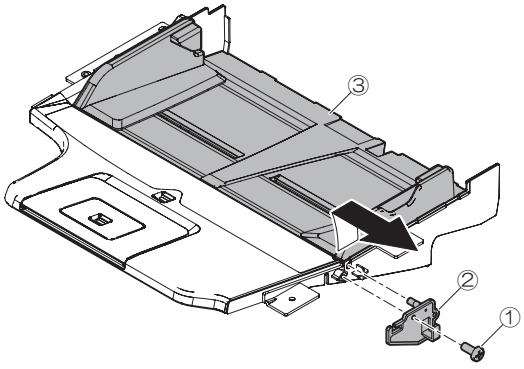
2) Remove the screw and the document feed tray lower.



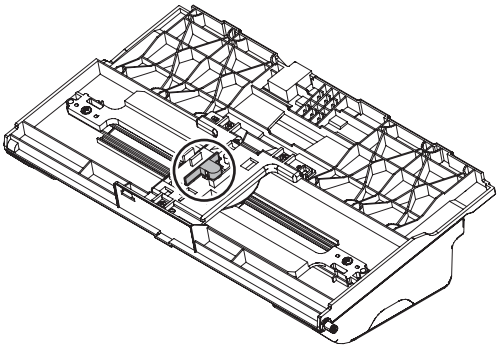

3) Disconnect the connector.
Clean the sensor.



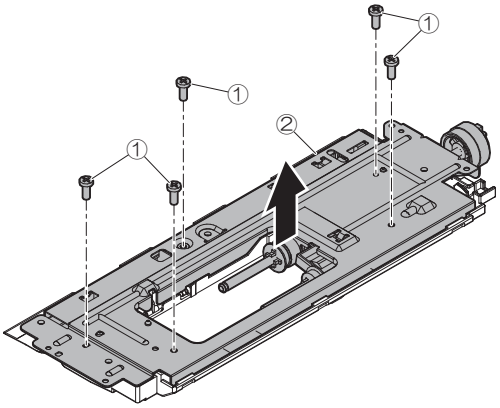
4) Remove the screw and the rotation tray shaft. Then, remove the document feed tray upper.



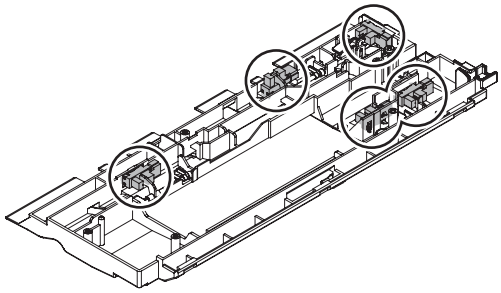

5) Clean the sensor.



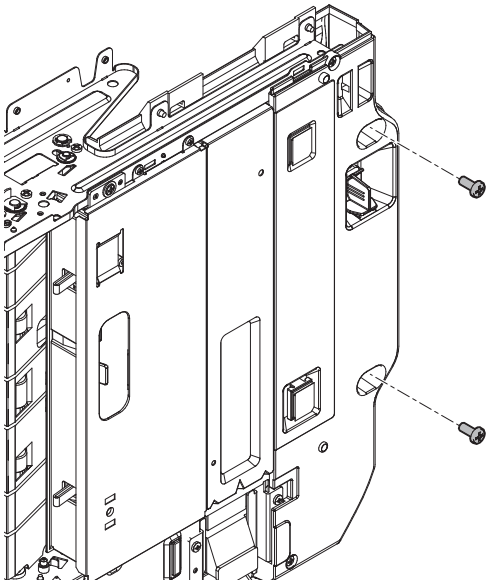
6) Remove the screw and the paper feed paper guide upper reinforcing plate.



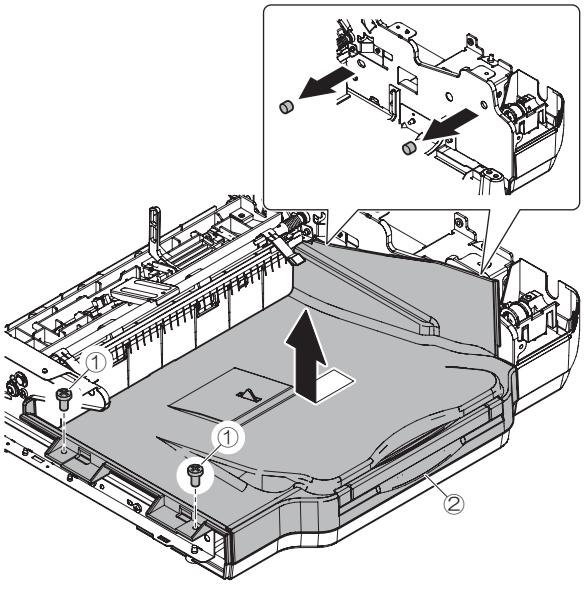
7) Clean the sensor.



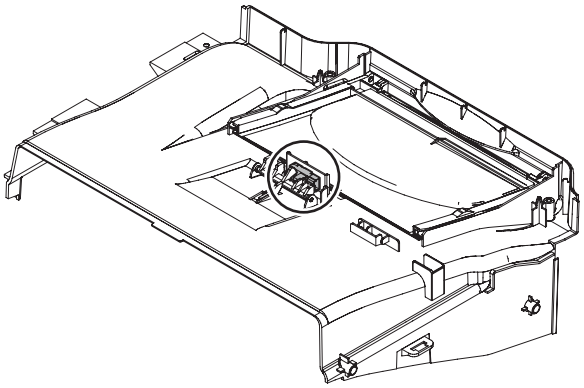
8) Remove the screw.



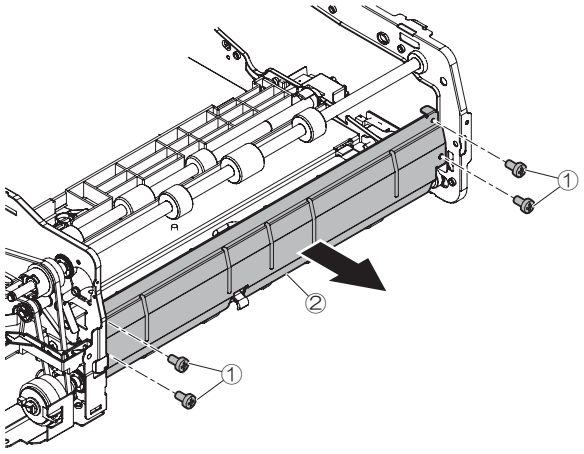
9) Remove the screw and paper exit tray.



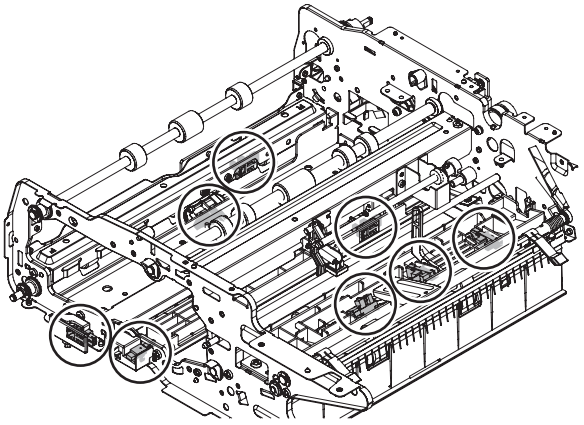

10) Clean the sensor.



11) Remove the screw and the PS upper paper guide.




12) Clean the sensor.



### (2) RSPF

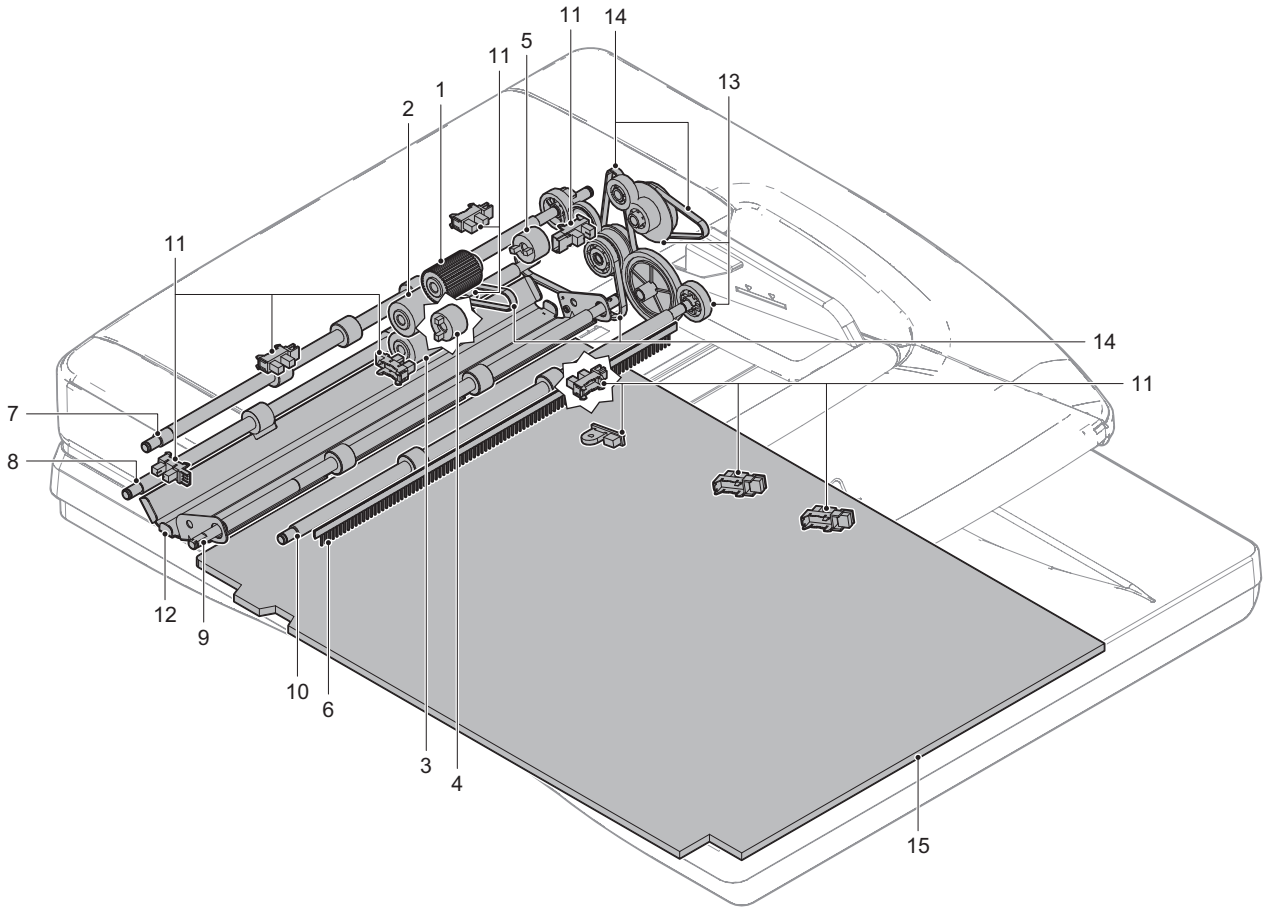
x: Check (Clean, replace, or adjust according to necessity) O: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | O | O | | O | | O | | O | Replace at 100K of SPF paper feed counter or 1 year use<br>Apply grease (UKOG-0013QSZZ) to the paper feed shaft when replacing the paper feed roller |
| 2 | Paper feed roller | O | O | | O | | O | | O | |
| 3 | Separation roller | O | O | | O | | O | | O | |
| 4 | Torque limiter SPF | x | x | | x | | x | | x | Replace at 400K of SPF paper feed counter or 2 year use |
| 5 | Torque limiter pickup | x | x | | x | | x | | x | |
| 6 | Discharge brush | x | x | | x | | x | | x | |
| 7 | Registration roller | O | O | | O | | O | | O | |
| 8 | Transport roller 1 | O | O | | O | | O | | O | |
| 9 | Transport roller 2 | O | O | | O | | O | | O | |
| 10 | Paper exit roller | O | O | | O | | O | | O | |
| 11 | Sensors | x | x | | x | | x | | x | |
| 12 | Scan plate | O | O | | O | | O | | O | |
| 13 | Gears | x | x | | x | | x | | x | |
| 14 | Belts | x | x | | x | | x | | x | |
| 15 | OC mat | O | O | | O | | O | | O | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | O | O | O | O | O | O | Replace at 100K of SPF paper feed counter or 1 year use<br>Apply grease (UKOG-0013QSZZ) to the paper feed shaft when replacing the paper feed roller |
| 2 | Paper feed roller | O | O | O | O | O | O | |
| 3 | Separation roller | O | O | O | O | O | O | |
| 4 | Torque limiter SPF | x | x | x | x | x | x | Replace at 400K of SPF paper feed counter or 2 year use |
| 5 | Torque limiter pickup | x | x | x | x | x | x | |
| 6 | Discharge brush | x | x | x | x | x | x | |
| 7 | Registration roller | O | O | O | O | O | O | |
| 8 | Transport roller 1 | O | O | O | O | O | O | |
| 9 | Transport roller 2 | O | O | O | O | O | O | |
| 10 | Paper exit roller | O | O | O | O | O | O | |
| 11 | Sensors | x | x | x | x | x | x | |
| 12 | Scan plate | O | O | O | O | O | O | |
| 13 | Gears | x | x | x | x | x | x | |
| 14 | Belts | x | x | x | x | x | x | |
| 15 | OC mat | O | O | O | O | O | O | |

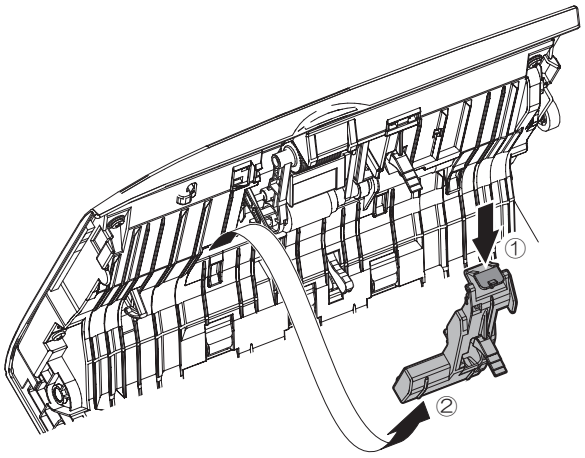

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**a. Disassembly and assembly of maintenance parts**

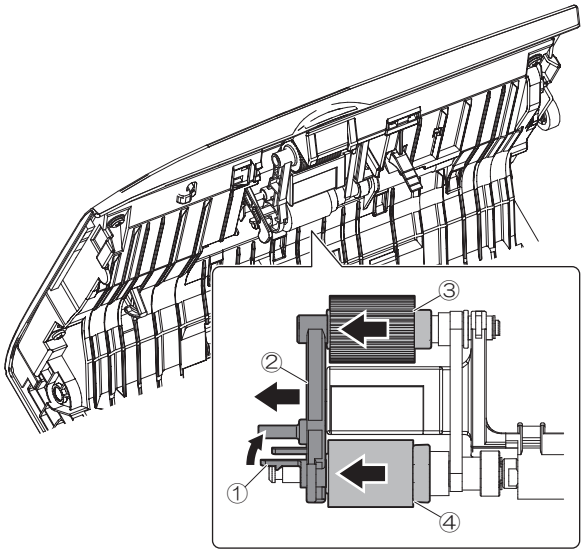
**a-1. Paper pickup roller**

**a-2. Paper feed roller**

1) Open the paper feed unit and remove the cover.



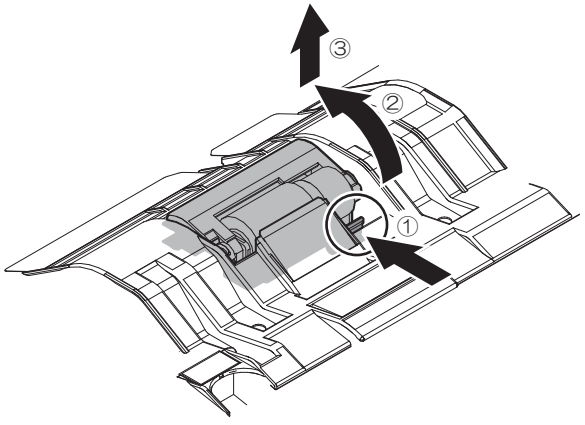

2) Remove the holder, the paper pickup roller and the paper feed roller.



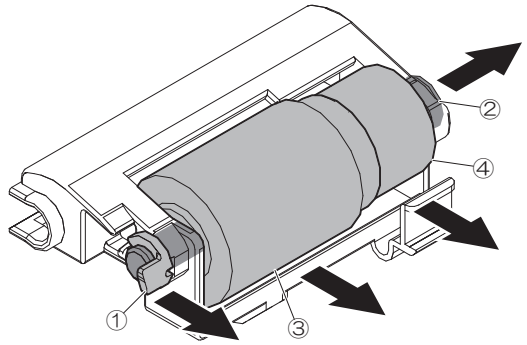

**a-3. Separation roller**

**a-4. Torque limiter**

1) Open the paper feed unit and remove the cover.

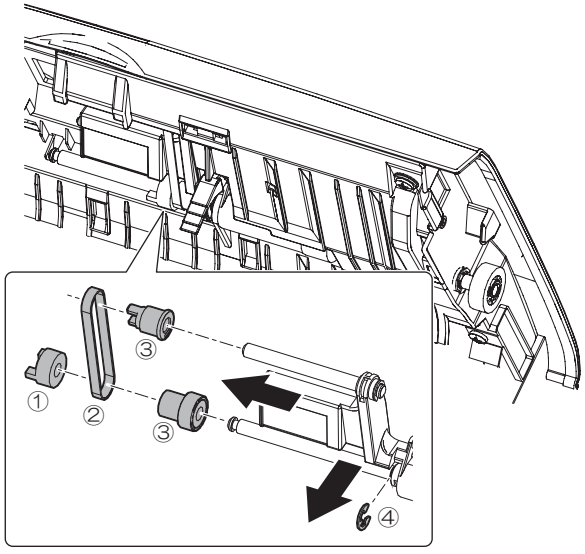



2) Remove the E-ring, the shaft, the separation roller and the torque limiter.

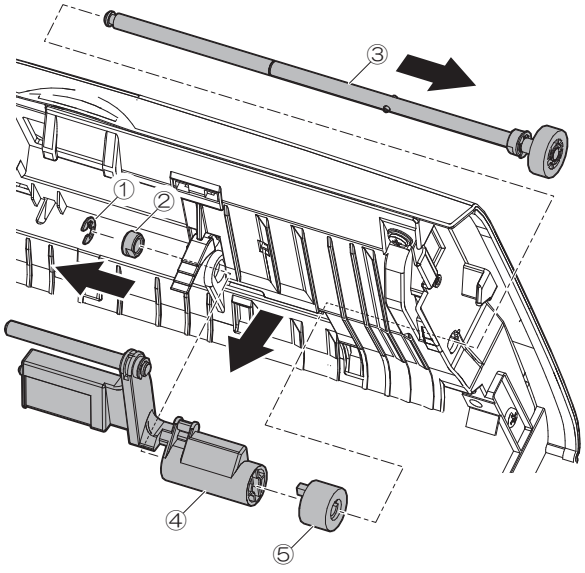



**a-5. Torque limiter pickup**

1) Remove the one-way coupling, the belt, the pulley and the E-ring.

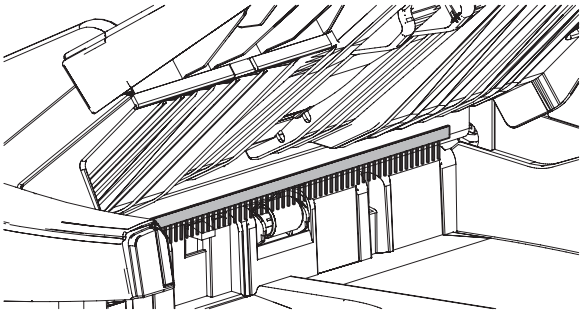


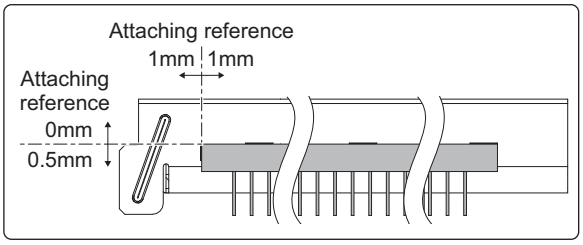

2) Remove the E-ring, and the bearing, then pull out the shaft, remove the holder and the torque limiter pickup.



**a-6. Discharge brush**

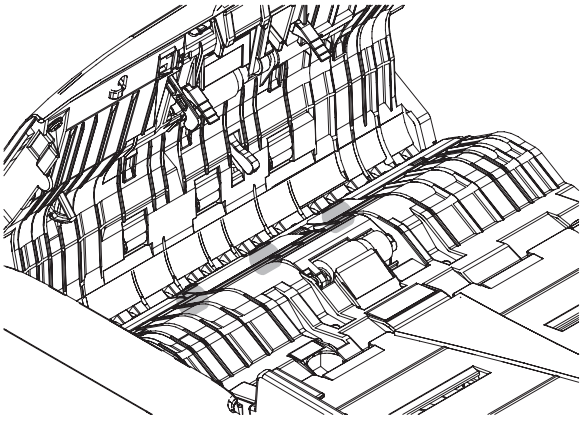
1) Open the document tray and remove the discharge brush.






**a-7. Registration roller**

1) Open the paper feed unit and clean the registration roller.



**a-8. Transport roller 1**

**a-9. Transport roller 2**

**a-10. Paper exit roller**

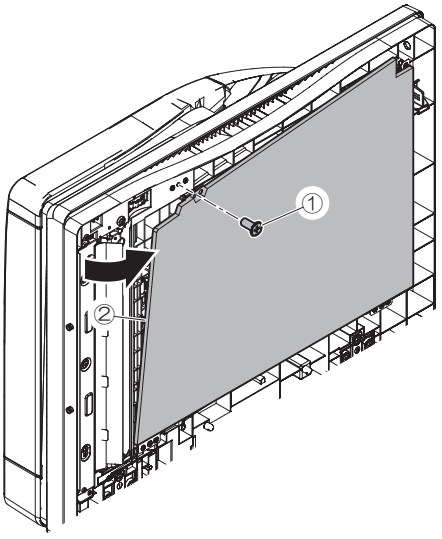
**a-11. Sensors**

**a-12. Scan plate**

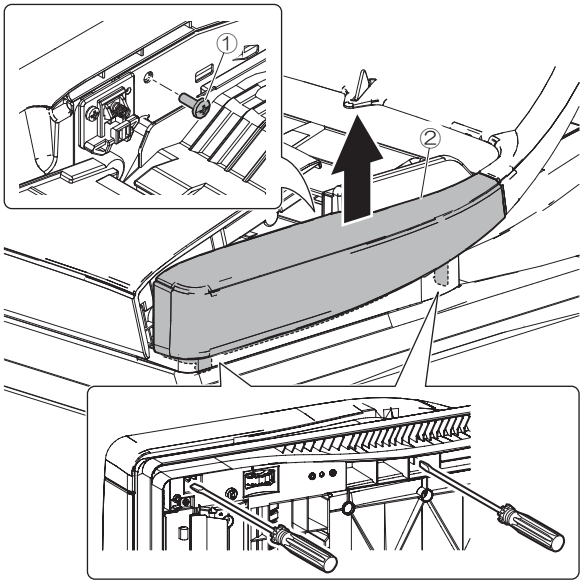
**a-13. Gears**

**a-14. Belts**

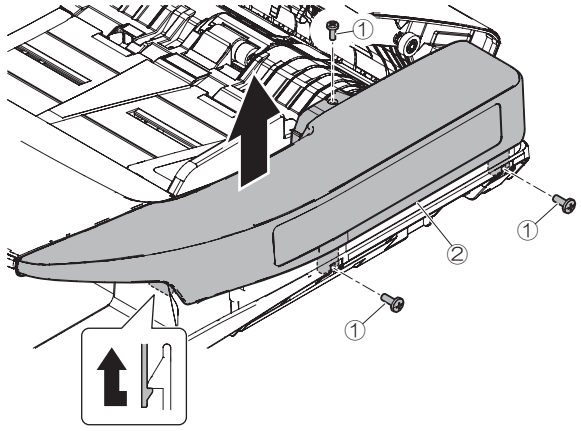
1) Turn over the left upper corner of the OC mat.



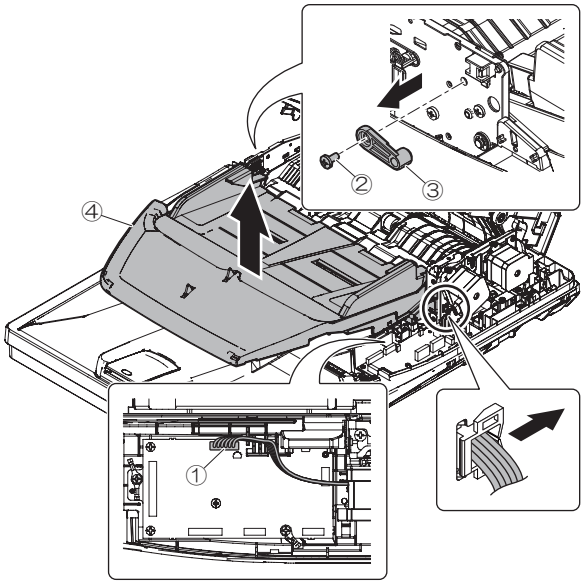

2) Remove the front cabinet.



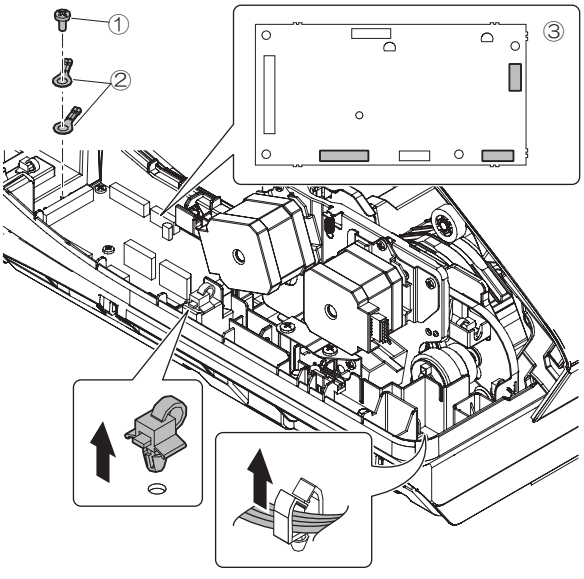
3) Remove the rear cabinet.



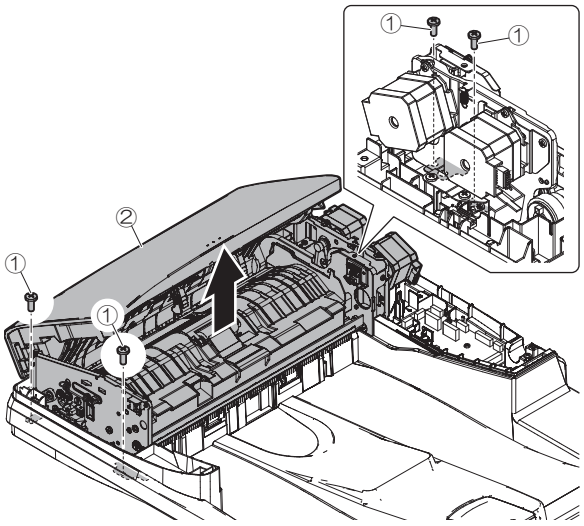

4) Disconnect the connector from the RSPF driver PWB. Remove the holder, and remove the RSPF paper feed tray unit.



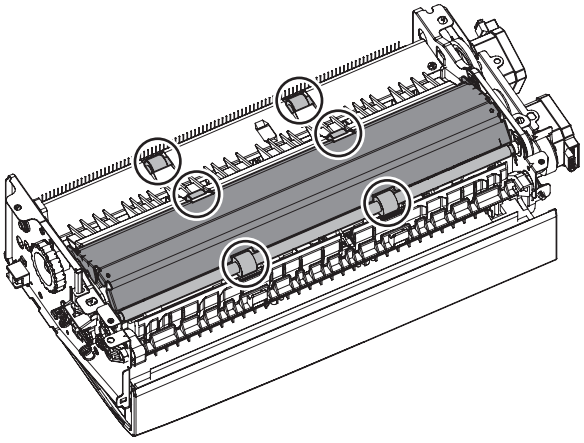

5) Remove the earth wire. Disconnect the connector from the RSPF driver PWB.



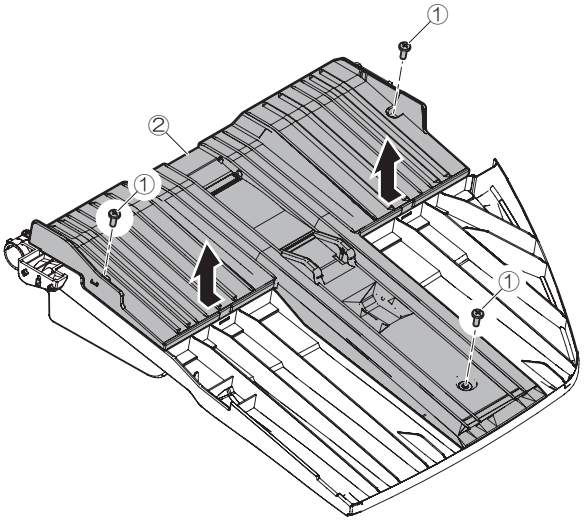

6) Remove the RSPF paper transport unit.



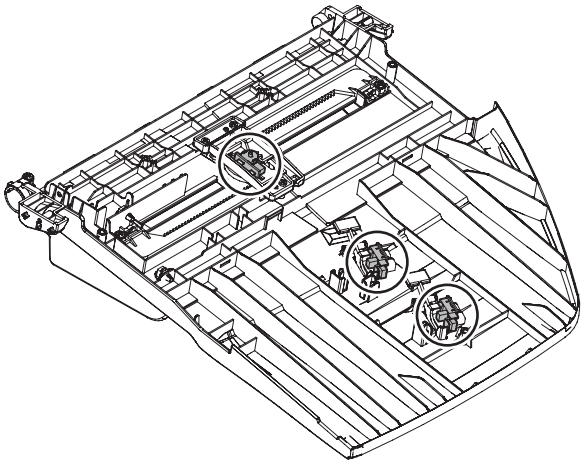

7) Clean the transport roller 1, the transport roller 2, the paper exit roller and the scan plate.



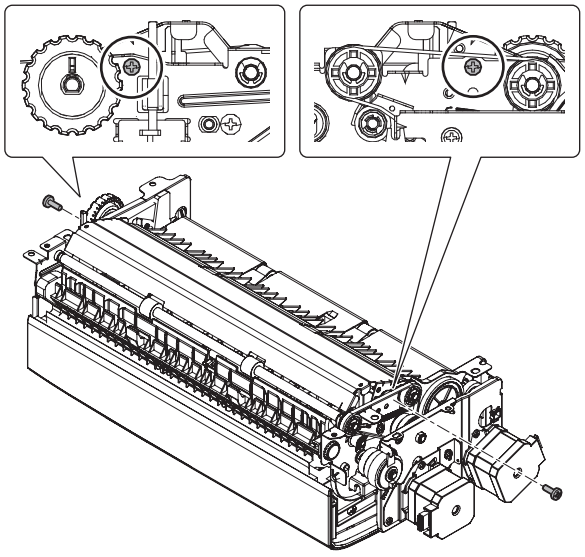
8) Remove the screw and the document tray lower.



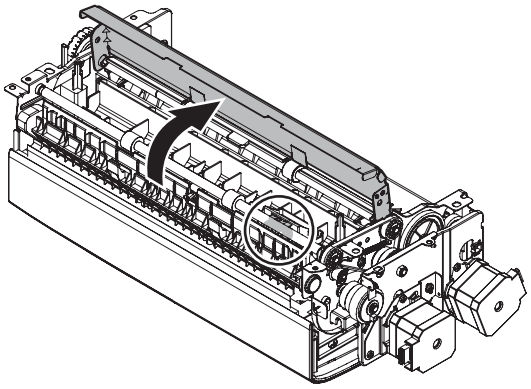
9) Clean the sensor.



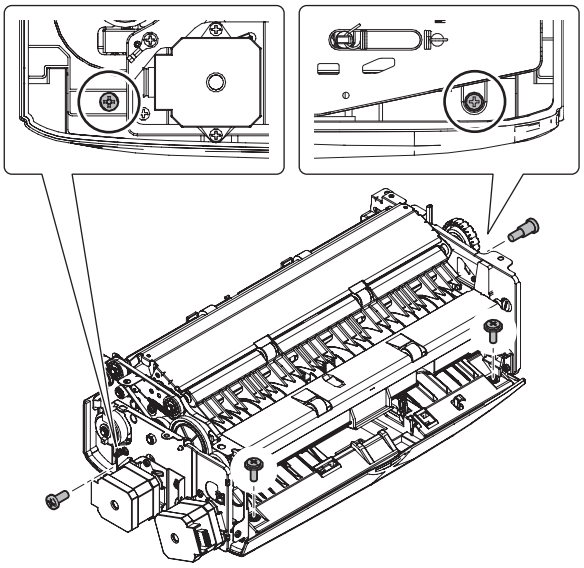
10) Remove the screw.



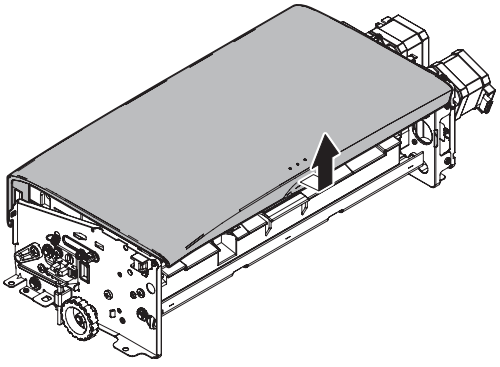
11) Open the scan plate and clean the sensor.



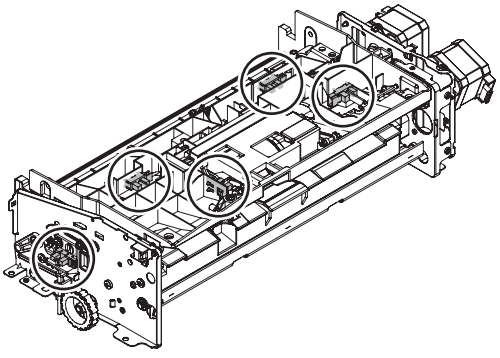
12) Remove the screw.



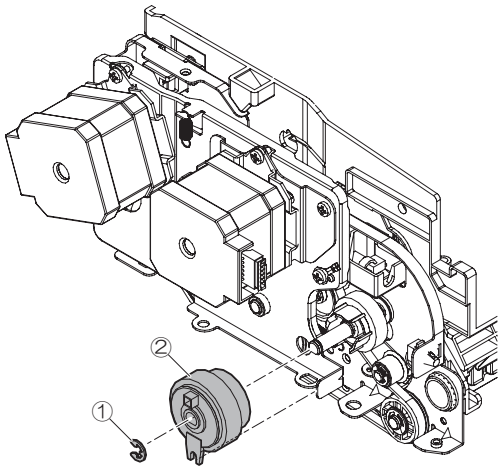
13) Remove the upper cover.



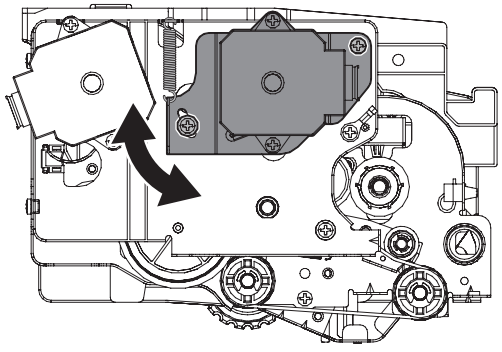
14) Clean the sensor.



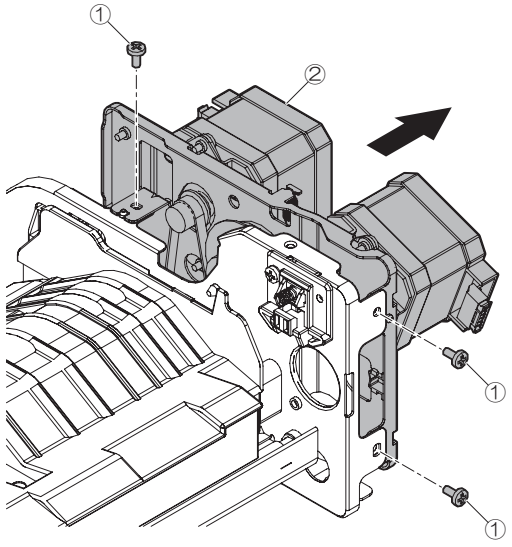
15) Remove the E-ring and the clutch.



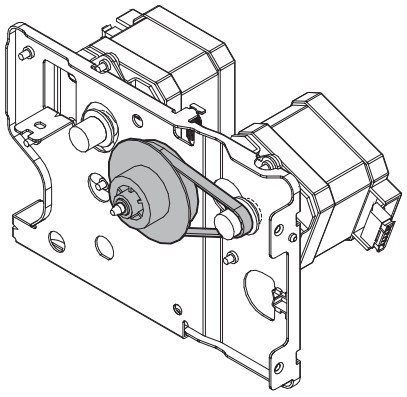

16) When removing the drive unit, loosen the screw and belt tension.
When attaching the drive unit, loosen the screw. Then, tighten the screw while applying tension.



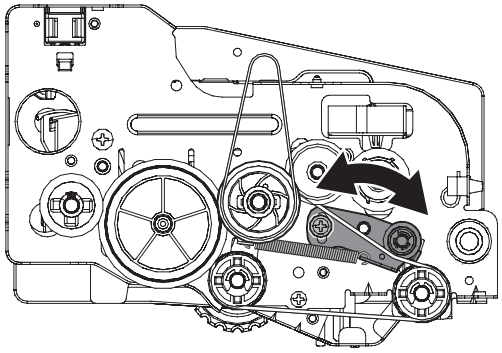
17) Remove the screw and the drive unit.



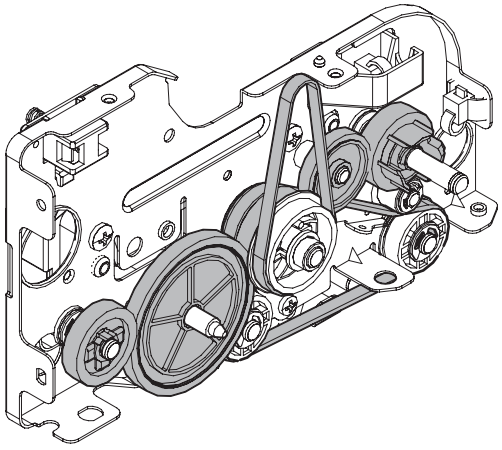

18) Clean the gear and the belt.



19) When removing the drive unit, loosen the screw and belt tension.
When attaching the drive unit, loosen the screw. Then, tighten the screw while applying tension.

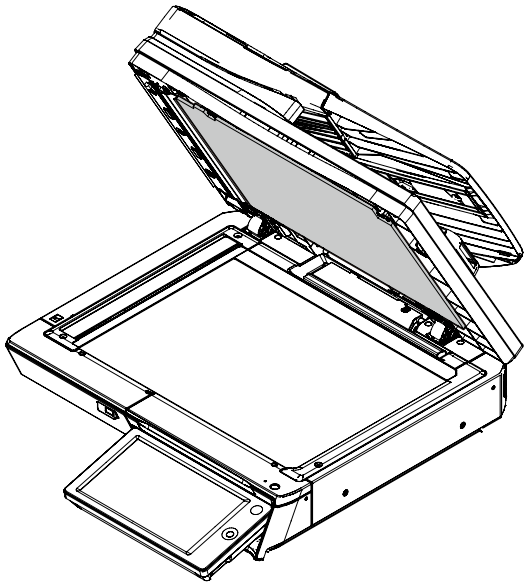


20) Clean the gear and the belt.



**a-15. OC mat**

1) Open the RSPF unit and clean the OC mat.



## B. Scanner section

### (1) Scanner unit

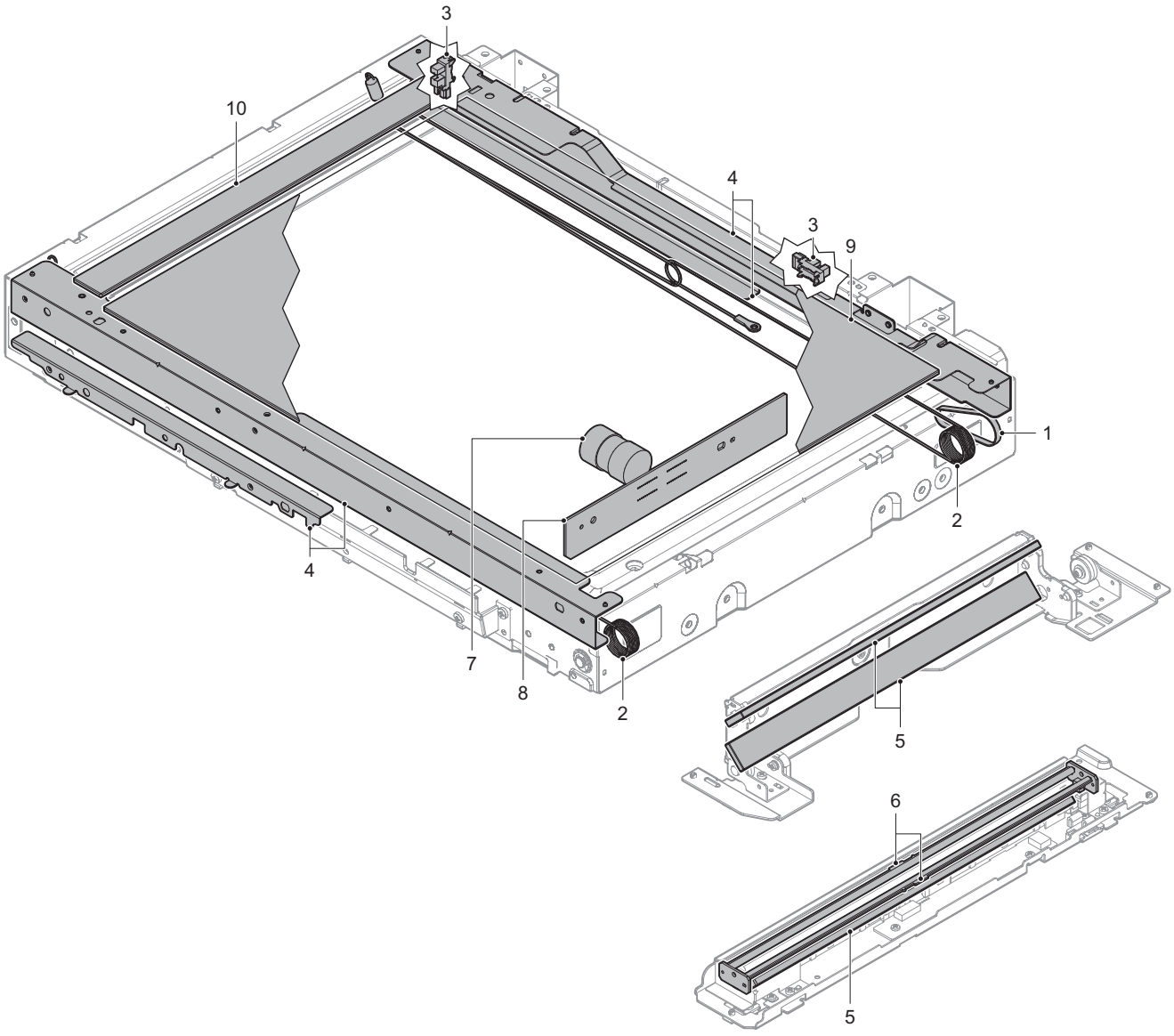
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drive belt | x | x | | x | | x | | x | |
| 2 | Drive wire | x | x | | x | | x | | x | |
| 3 | Sensors | x | x | | x | | x | | x | |
| 4 | Rails | ☆ | ☆ | | ☆ | | ☆ | | ☆ | Apply grease (UKOG-0158FCZZ) to the specified position |
| 5 | Mirror | ○ | ○ | | ○ | | ○ | | ○ | |
| 6 | Lamp | ○ | ○ | | ○ | | ○ | | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| 7 | Lens | ○ | ○ | | ○ | | ○ | | ○ | |
| 8 | CCD | ○ | ○ | | ○ | | ○ | | ○ | |
| 9 | Table glass | ○ | ○ | | ○ | | ○ | | ○ | |
| 10 | SPF glass | ○ | ○ | | ○ | | ○ | | ○ | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Drive belt | x | x | x | x | x | x | |
| 2 | Drive wire | x | x | x | x | x | x | |
| 3 | Sensors | x | x | x | x | x | x | |
| 4 | Rails | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | Apply grease (UKOG-0158FCZZ) to the specified position |
| 5 | Mirror | ○ | ○ | ○ | ○ | ○ | ○ | |
| 6 | Lamp | ○ | ○ | ○ | ○ | ○ | ○ | LED: Blow air for cleaning (do not use alcohol)<br>Optical bar: Blow air for cleaning, Clean with ethanol alcohol if dirt cannot be eliminated |
| 7 | Lens | ○ | ○ | ○ | ○ | ○ | ○ | |
| 8 | CCD | ○ | ○ | ○ | ○ | ○ | ○ | |
| 9 | Table glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| 10 | SPF glass | ○ | ○ | ○ | ○ | ○ | ○ | |

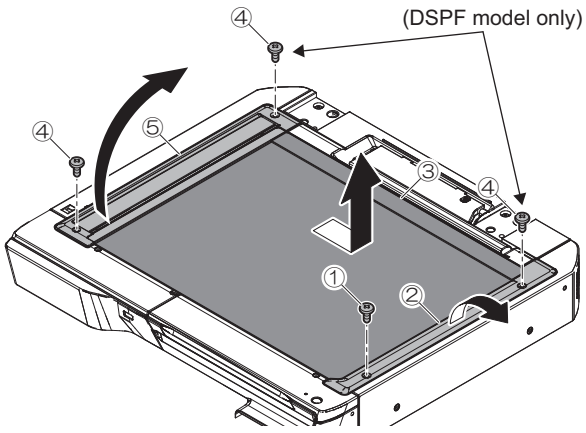

3
10
4
3
9
1
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8
2
5
6
5

**a. Disassembly and assembly of maintenance parts**

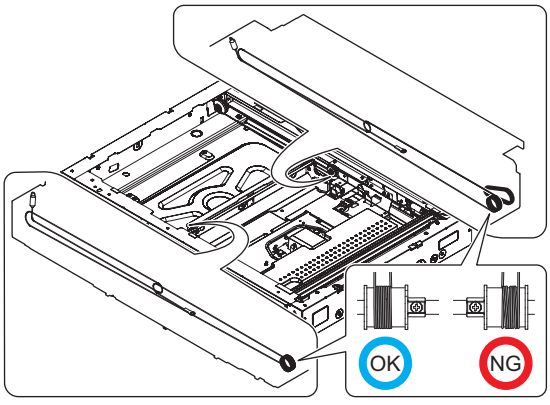
**a-1. Drive belt**

**a-2. Drive wire**

1) Remove the table glass and SPF glass.



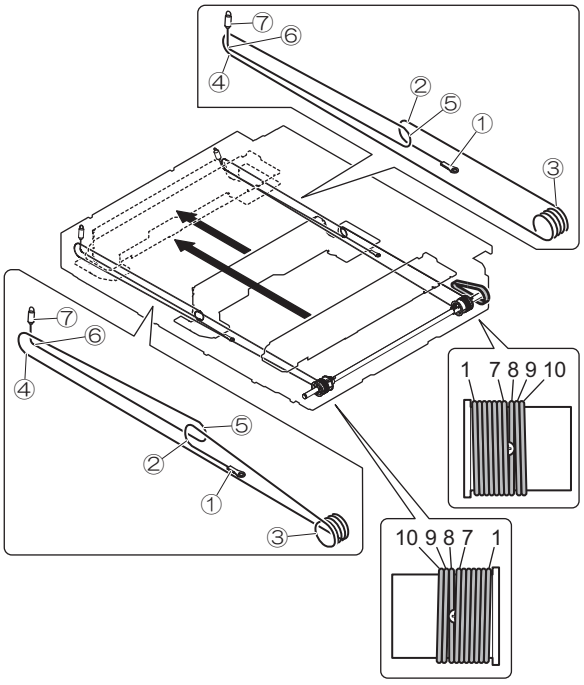

2) Check the tension of the drive belt and the drive wire. Check to confirm that the drive wire in the winding pulley is wound without clearance.




Important

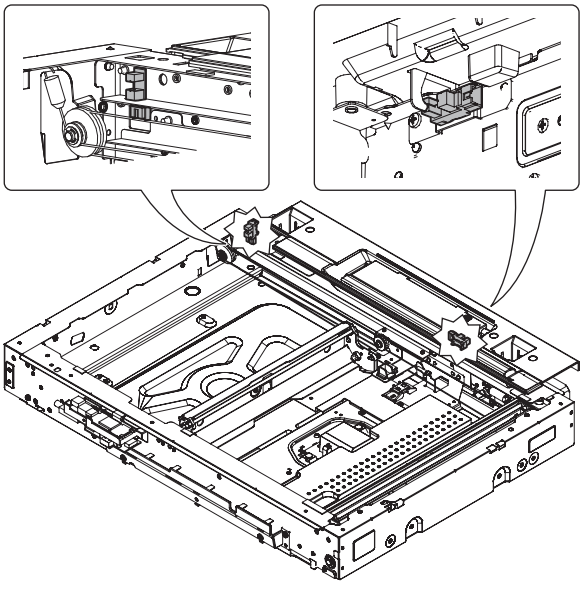
Wind the drive wire in the sequence of 1 to 7 as shown in the figure below and fix it.

When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position, and wind 7 turns as shown in the figure, and fix the 8th turn with a screw. Then wind two turns furthermore around the pulley.




**a-3. Sensors**

1) Clean the each sensor.

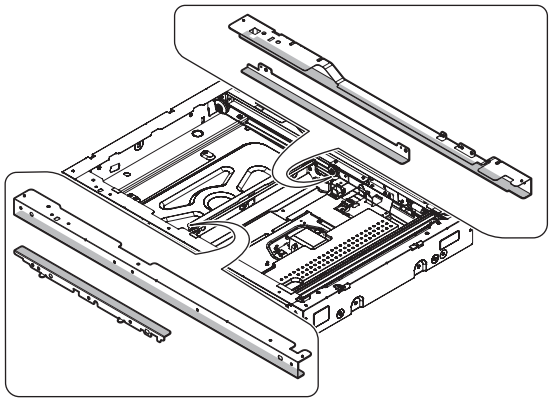


**a-4. Rails**

1) Remove the table glass.
2) Grease each rail.

Important

Be careful not to allow grease to come in contact with drive wires.
If grease contacts drive wires, clean wires thoroughly.

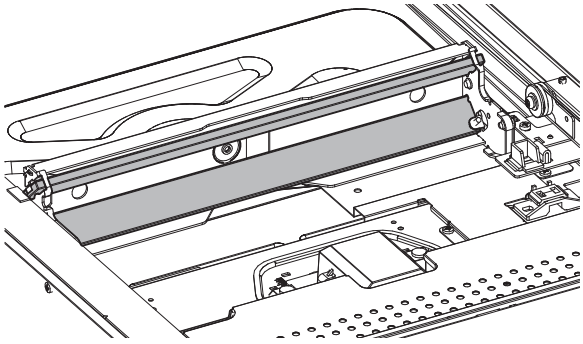


**a-5. Mirror**

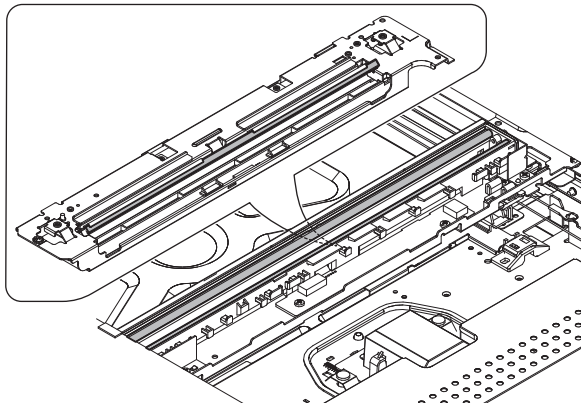
**a-6. Reflector**

**a-7. Lamp**

1) Remove the table glass.
2) Clean the No. 2 mirror, and the No. 3 mirror.



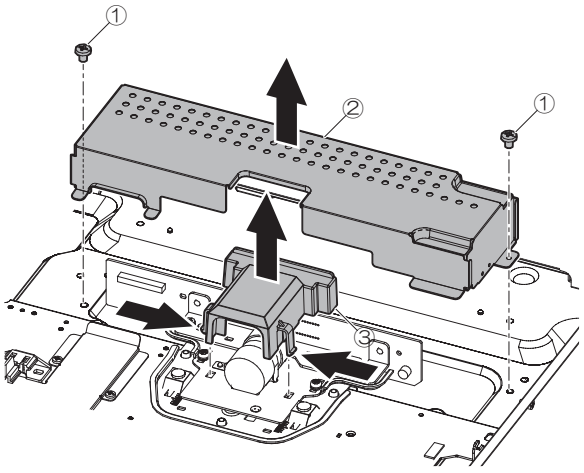
3) Clean the lamp, and the No. 1 mirror.



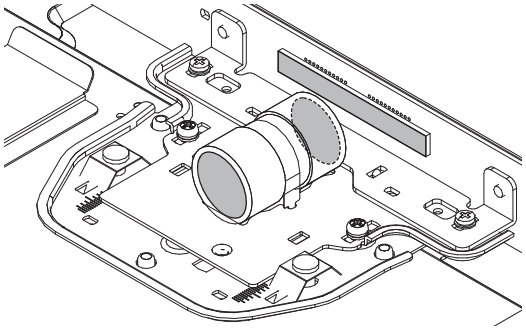
**a-8. Lens**

**a-9. CCD**

1) Remove the table glass.
2) Remove the dark box, and the cover.



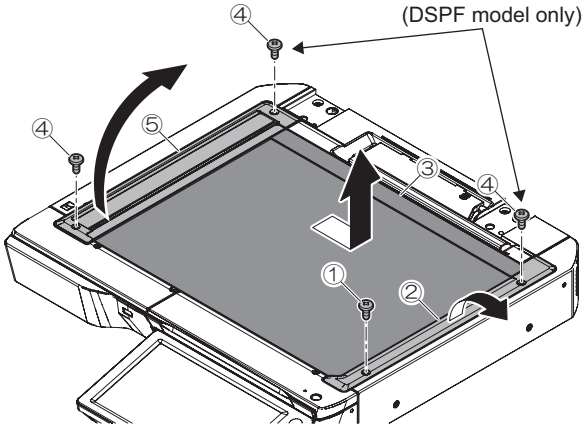

3) Clean the lens, and the CCD.



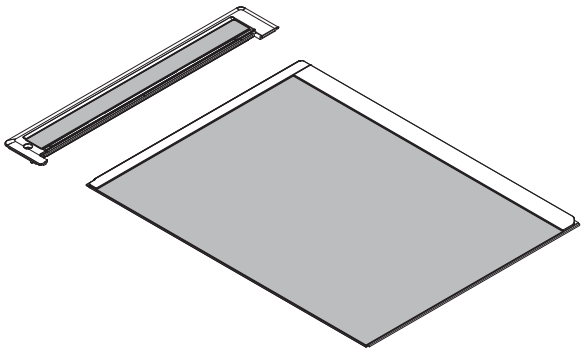
**a-10. Table glass**

**a-11. SPF glass**

1) Remove the glass holder, the table glass, and the SPF glass.



2) Clean the both surfaces of the table glass, and the SPF glass.



## C. Developer section

### (1) Developer unit

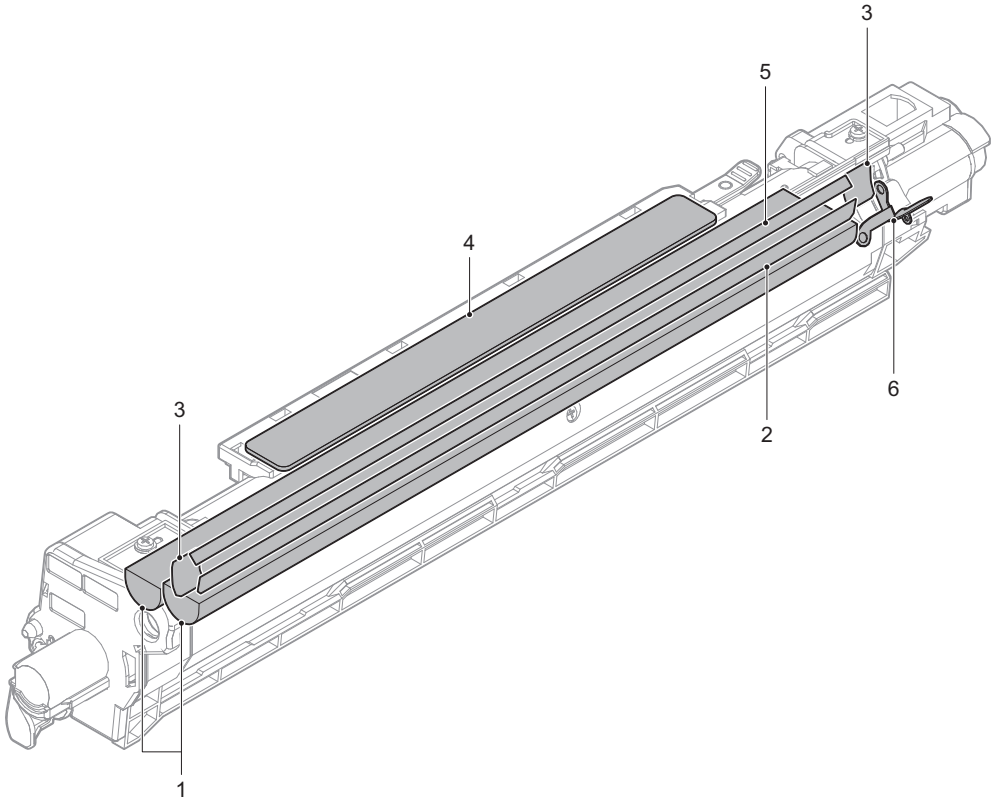
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**Monochrome**

| Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|
| 1 | Developer | x | x | |
| 2 | DV blade | x | x | Replace as needed |
| 3 | DV side seal F/R | x | x | |
| 4 | Toner filter | x | x | |
| 5 | DV upper blade | x | x | |
| 6 | Bias pin | x | x | |

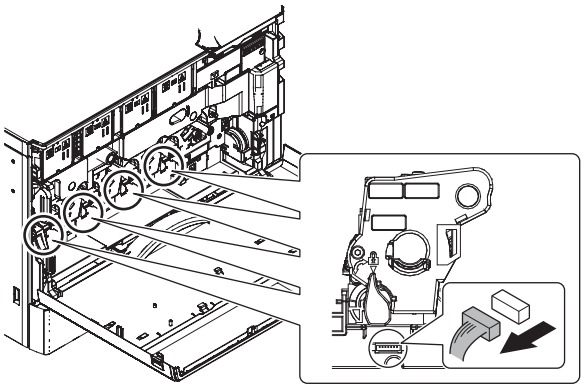
**Color**

| Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|
| 1 | Developer | x | x | |
| 2 | DV blade | x | x | Replace as needed |
| 3 | DV side seal F/R | x | x | |
| 4 | Toner filter | x | x | |
| 5 | DV upper blade | x | x | |
| 6 | Bias pin | x | x | |

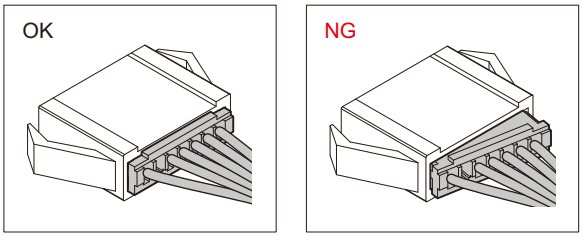


**a. Disassembly of Units**

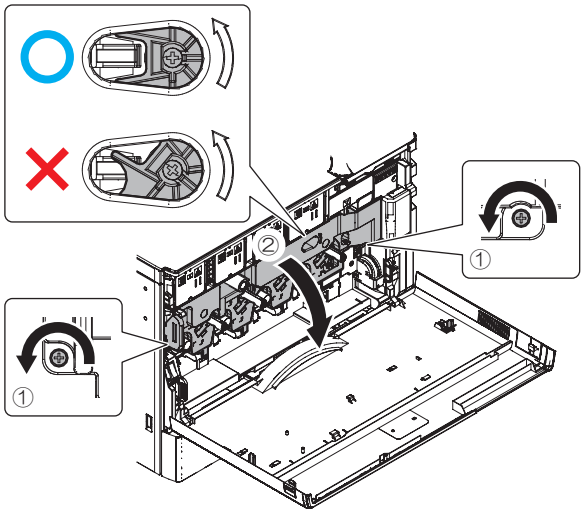
1) Remove the waste toner box.
2) Disconnect the connector of the developing unit before opening the drum positioning plate.



make sure connector correctly inserted when connecting




3) Check that the cam lock plate is aligned with the "O" mark position.
4) Turn the lock to release, and open the drum positioning plate.



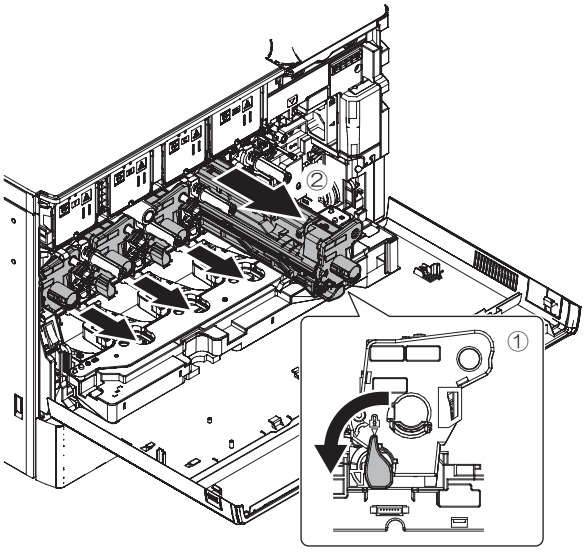

5) While pulling down the lever, pull out the developing unit to remove.

Important

When pulling out and pushing in the developing unit, put your hand beneath the unit and slide it horizontally along the guide.

At the time, be careful not to touch the developing roller surface.

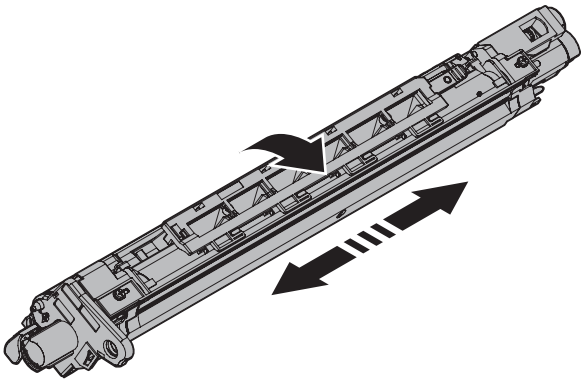
Put it in the horizontal place.



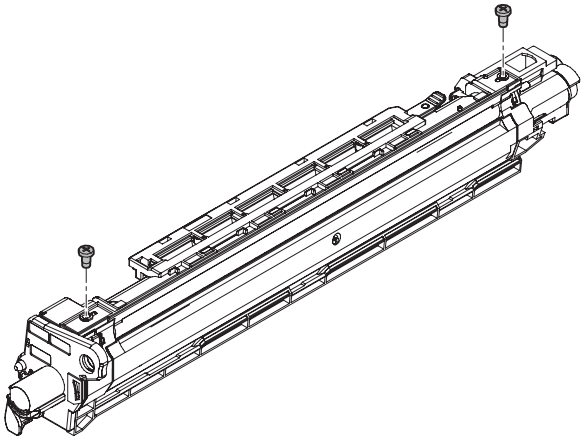
**b. Disassembly and assembly of maintenance parts**

**b-1. Developer**

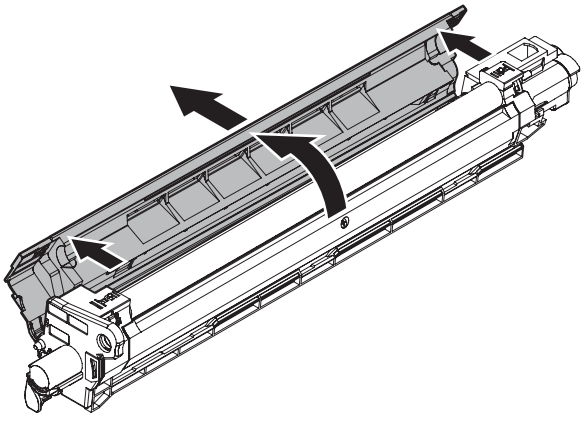
1) Tilt the developing unit slightly toward the direction of arrow and gently shake up a little.
*To prevent the developer spilling out of developing unit



2) Remove the screw

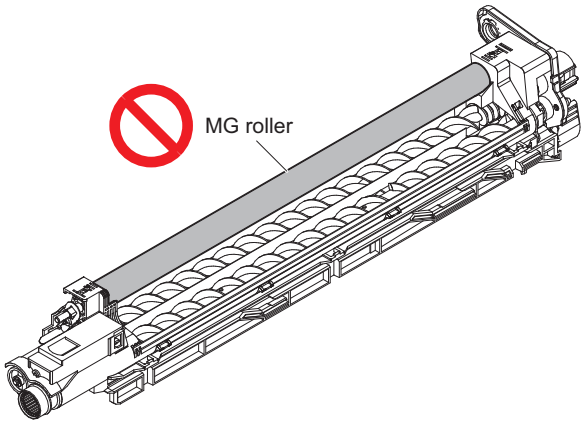


3) Press both edges of the cover and remove it while rotating.

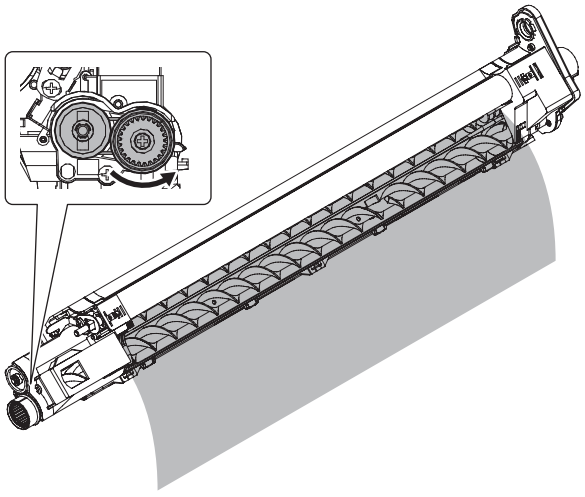


Important

Do not touch the MG roller.




4) While rotating the gear, dispose of developer



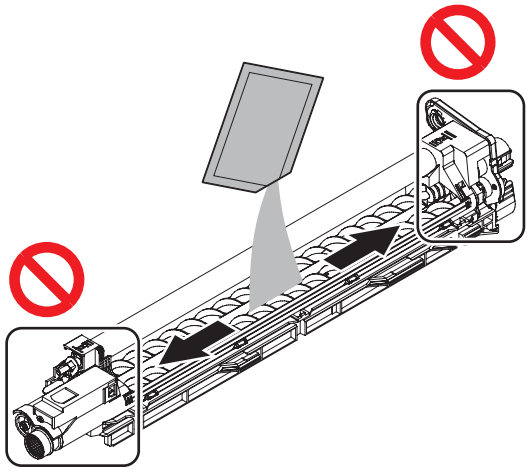
5) Loading developer to the developing unit

Important

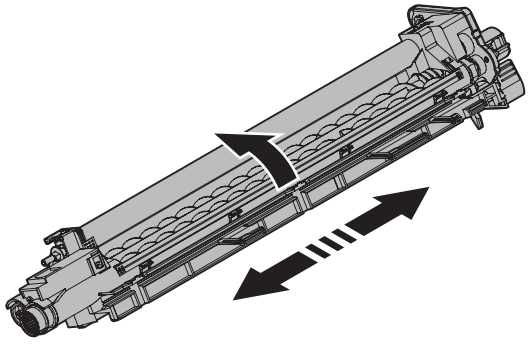
Be sure to shake the bag of developer thoroughly before pouring into the developing unit

Important

When pouring the developer into the unit, use care not to get developer into the drive section



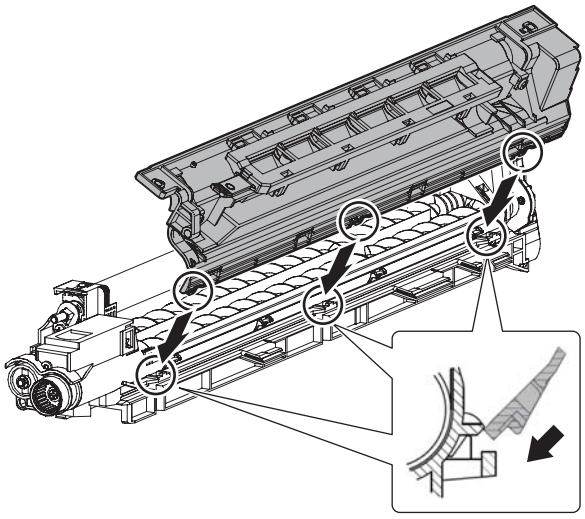
6) Slightly tilt the developing unit. Load developer on lower side of MG roller evenly on left and right.



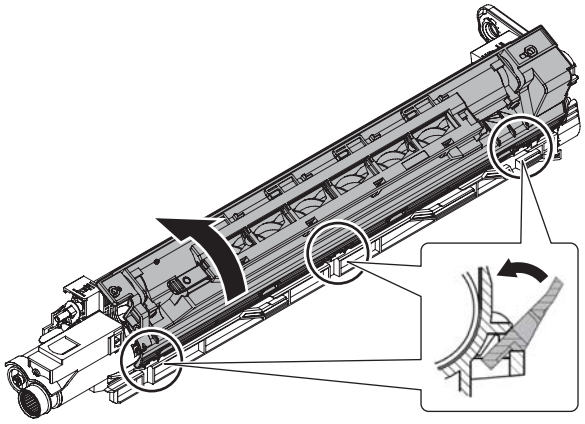
Important

Do not tilt the developing unit after loading the developer.

7) Insert the pawls on the cover into the holes on DV-BOX at an angle of 45 degrees.



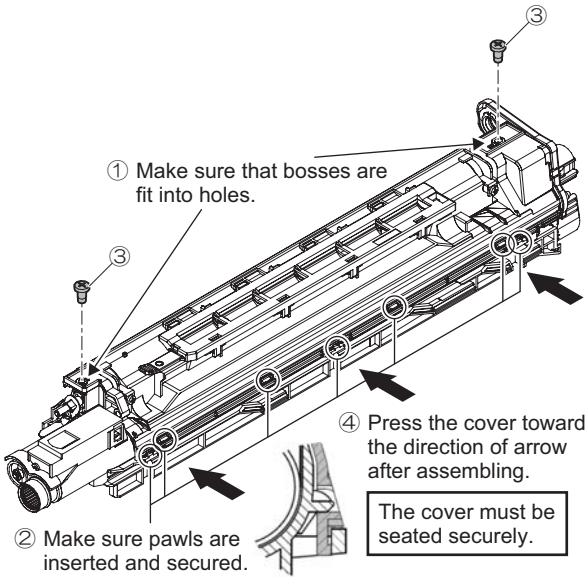
8) Rotate and insert the cover.



9) Check the mounting condition of the cover and tighten screws.

Important

Since shoulder screws are used, do not tighten too firmly.
Tightening torque of the screw 0.5 - 0.6Nm

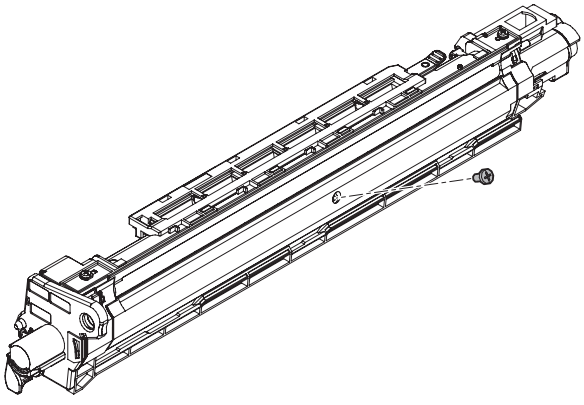



Note

Execute developer adjustment after replacement of the developer.
(Sim25-2)

**b-2. DV blade**

1) Remove the screw



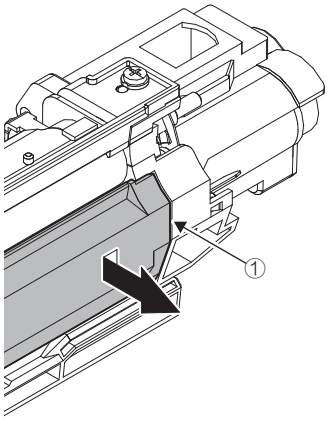
2) Pull the center section and remove the boss. Insert a flat-blade screwdriver into the space (1) in the illustration below. Slide the cover toward the front and remove the rear-side boss.

Important

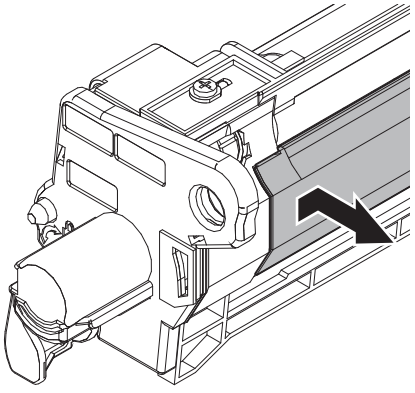
When removing the rear-side boss, press the cover gently to prevent toner dispersion.

Important

The front-side boss and rear-side boss must be handled with care to prevent fracturing.




3) Release the front-side boss while sliding the cover toward rear side and remove the cover.



4) Remove the DV blade

Important

When replacing the DV blade, affix the DV blade based on the reference position.

Important

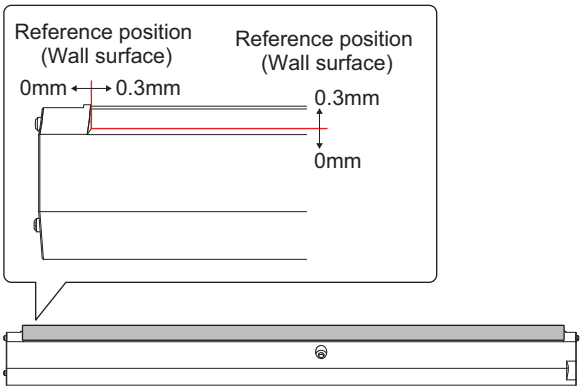
Before affixing new DV blade, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

Important

Steady the DV blade after affixing the blade. (Make sure that the sheet is seated securely.)

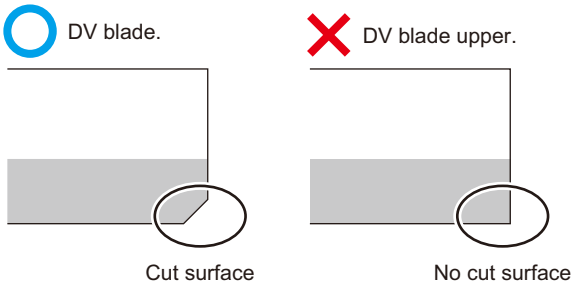
Important

Make sure there are no crinkles on lead edge of the DV blade after affixing the DV blade.




Important

Do not mistake for DV blade upper.




**b-3. DV side seal F·R**

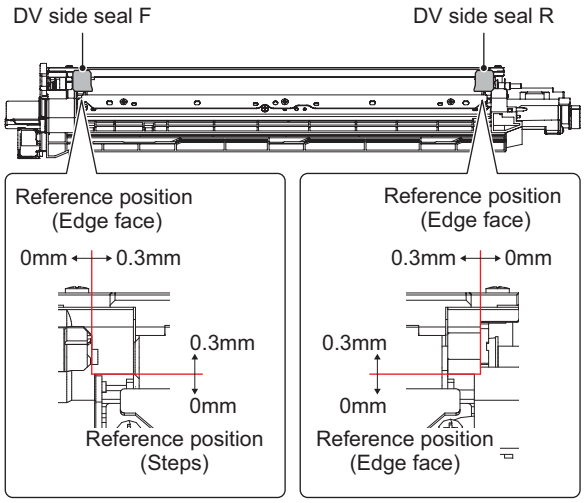
1) Remove the DV side seal F·R

Important

When replacing the DV side seal F·R, affix the seals based on the reference position.

Important

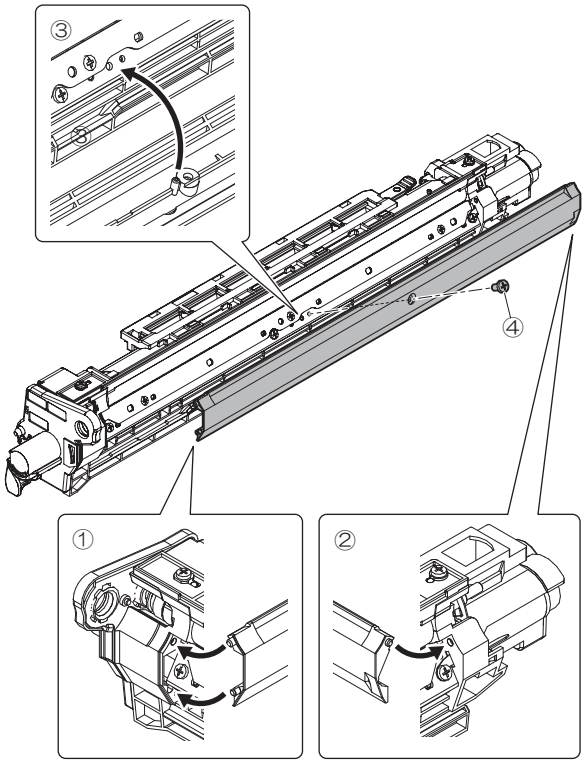
Before affixing new DV side seal F·R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




2) Insert two front-side bosses into the holes on DV-BOX.

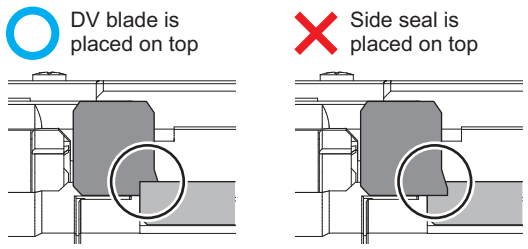
Insert one rear-side boss into the holes on DV-BOX while slightly bending the cover.

Insert the boss on back side of the cover securely and tighten screw.



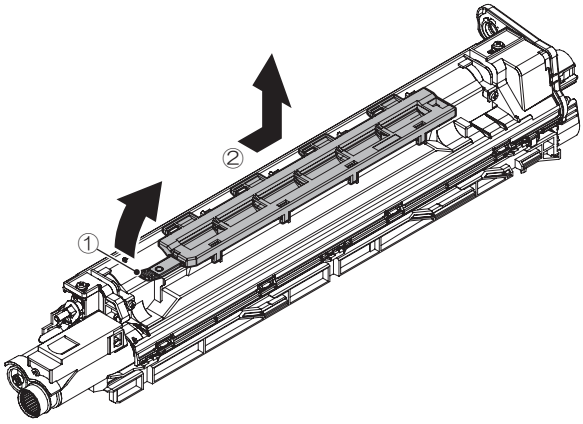
Important

Make sure a part of DV blade is placed on top of DV side seal F·R.



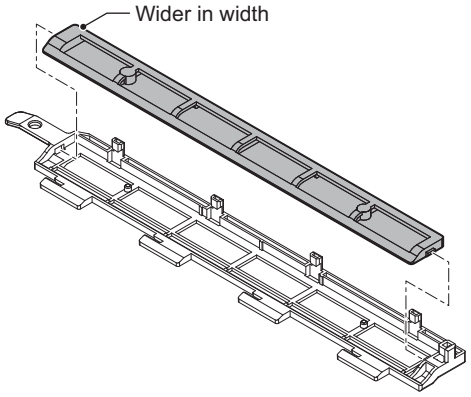

**b-4. Toner filter**

1) Uplift a knob on the filter cover (1), slide toward the direction of (2) and remove the cover.

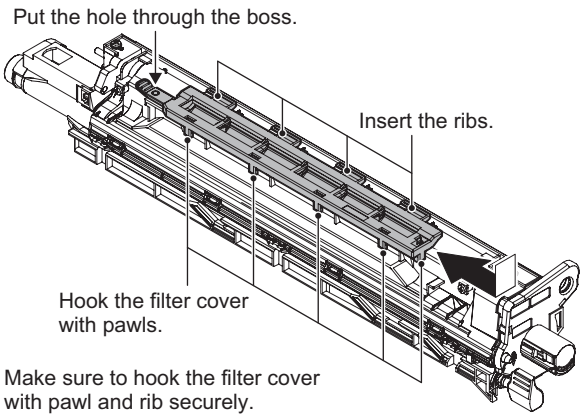



2) Remove the toner filter from the filter cover

Make sure to attach the filter in proper mounting direction for replacement.




3) Attach the filter cover.




Make sure to hook the filter cover with pawl and rib securely.

**b-5. DV blade upper**

1) Remove the DV cover
2) Remove the DV blade upper

Important

When replacing the DV blade upper, affix it based on the reference position.

Important

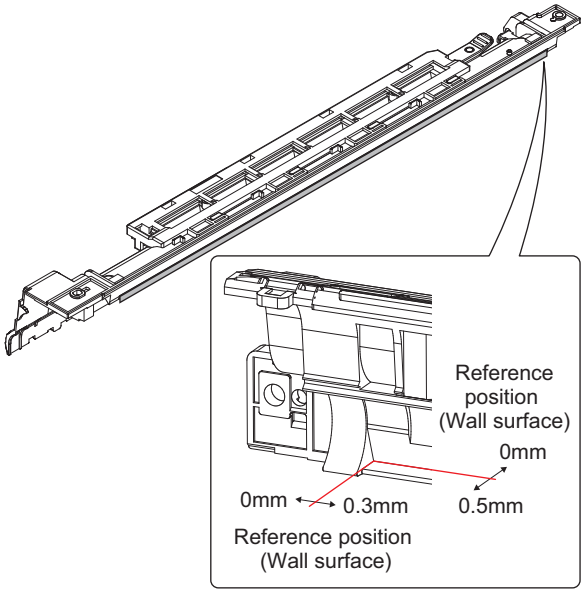
Before affixing new DV blade upper, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

Important

Steady the DV blade upper after affixing the blade. (Make sure that the sheet is seated securely.)

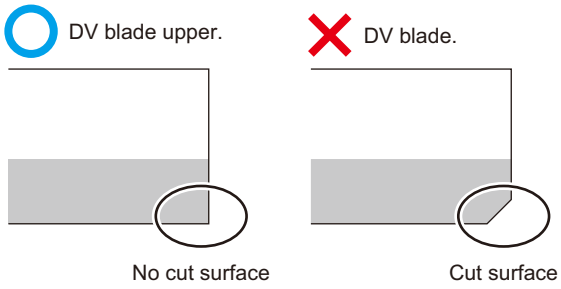
Important

Make sure there are no crinkles on lead edge of the DV blade upper after affixing the DV blade.



Important

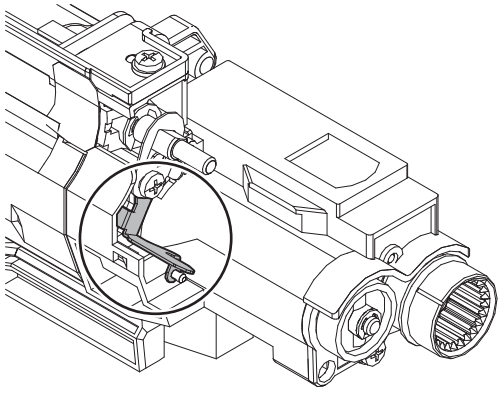
Do not mistake for DV blade.




3) Attach the cover.

**b-6. Bias pin**

1) Check the bias pin.



## D. OPC drum section

### (1) OPC drum unit

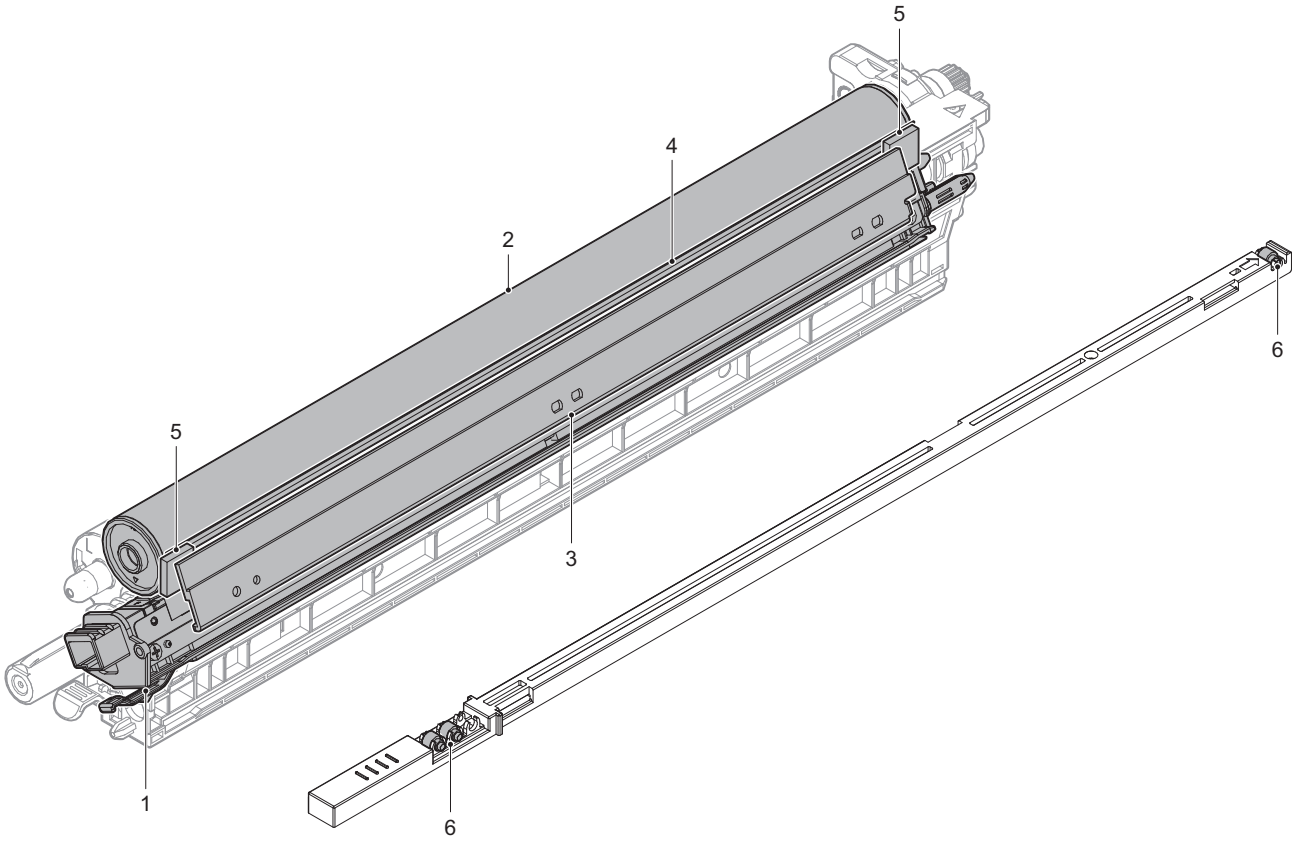
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**Monochrome**

| Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|
| 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| 4 | Toner reception sheet | x | x | Replace as needed |
| 5 | Side seal F/R | x | x | |
| 6 | Charger cleaner | x | ▲ | |

**Color**

| Work sequence | Part name | When calling | every 1350K rotation | Remarks |
|---|---|---|---|---|
| 1 | Charger unit | x | ▲ | Replace at specified rotation number or printable number |
| 2 | Drum | x | ▲ | Replace at specified rotation number or printable number |
| 3 | Cleaning blade | x | ▲ | Replace at specified rotation number or printable number or 2 year use |
| 4 | Toner reception sheet | x | x | Replace as needed |
| 5 | Side seal F/R | x | x | |
| 6 | Charger cleaner | x | ▲ | |



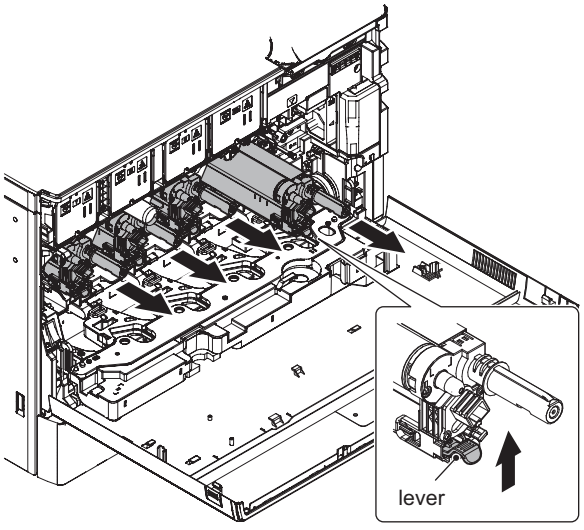
**a. Disassembly of Units**

1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Remove the developing unit.
4) While pulling up the lever, pull out the OPC drum to remove.

Important

When pulling out and pushing in the OPC drum unit, put your hand beneath the unit and slide it horizontally along the guide on the right side.

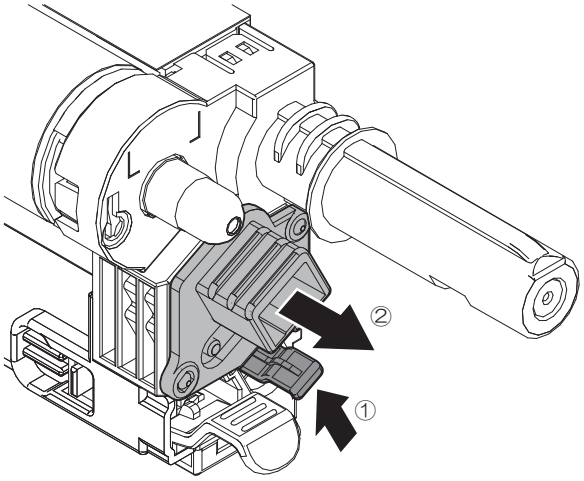
At the time, be careful not to touch the OPC drum surface.




**b. Disassembly and assembly of maintenance parts**

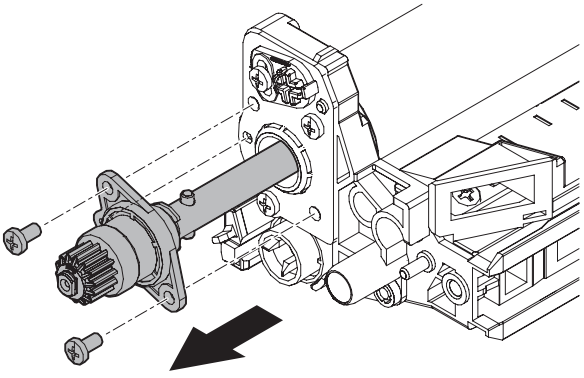
**b-1. Charger unit**

1) Uplift the lock lever and pull out the charger unit.

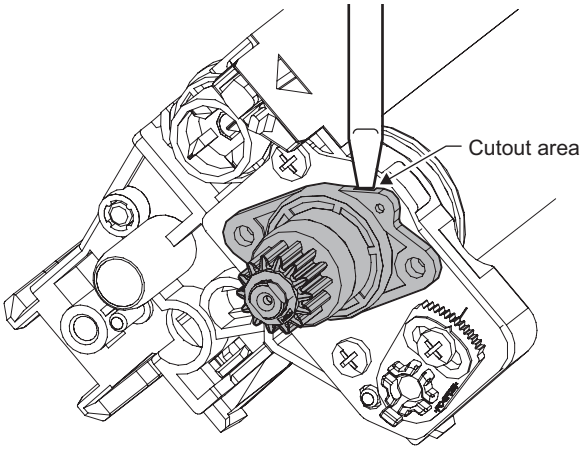



**b-2. Drum**

1) Remove the screw and pull out the shaft from the drum

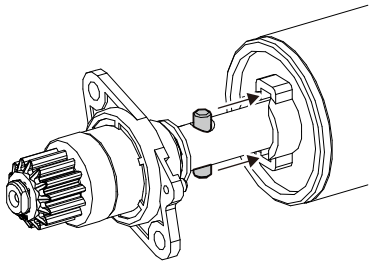


*If the drum shaft is hard to remove, insert a flat-blade screwdriver between process frame and cutout on bearing to remove (as shown in the illustration below).

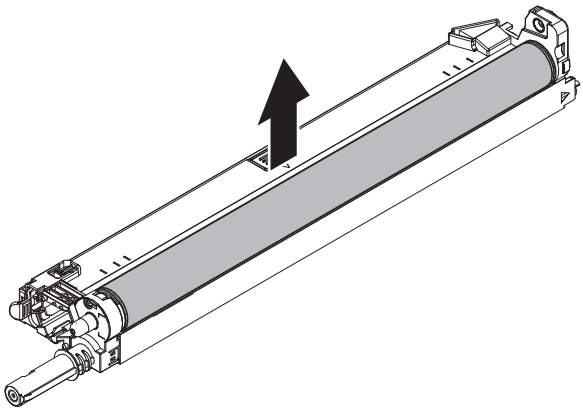


Important

When inserting the drum shaft, make sure to insert the pin all the way toward the direction of arrow (in the illustration below).

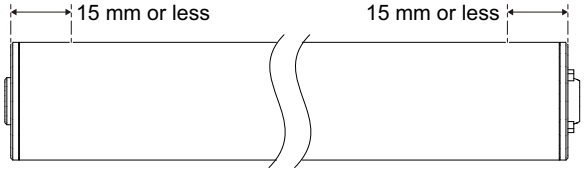


2) Remove the drum



Important

When handling the drum, make sure to hold within 15 mm of both edges or less.




Important

**Note for servicing the drums**

**(1) Prevent contamination**

**Note**

- Be careful not to leave fingerprints or oil dirt on the drum surface (keep the unit always oils and dust)
- When replacing the drum, cover the drum with the protection sheet and hold the protection sheet. If it is required to hold the drum directly, use enough care not to touch the cleaning blade area. 15mm inside from both edges of the drum. (If a fingerprint or oily dirt is attached to the cleaning blade area of the OPC drum, the cleaning blade may flip)

**Countermeasures**

If a fingerprint is attached to the drum surface erroneously, perform the following countermeasures

1) Use dry cloth to clean and remove the dirt

**Check method**

Check to confirm that the drum is free from fingerprints or oily dirt and that the cleaning blade is completely cleaned by the following method

- Make a print of a half tone image on all the surface of A4 (11 x 8.5) paper and check the printed paper for any abnormality in the image

**(2) Prior exposure prevention**

**Note**

- Avoid servicing in a place where there is strong light
- Do not expose the unit to light for a long time
- Cover the drum with light-blocking material (when using paper, use about 10 sheets of paper to block light)

**Countermeasures**

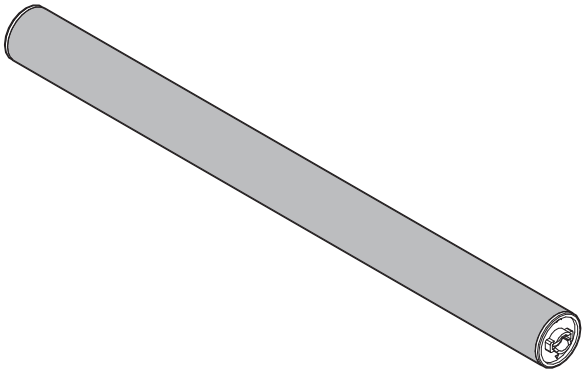
If the drum is erroneously exposed to light too much (prior exposure) perform the following countermeasures

1) Print half tone image on the whole surface of A4 (11 x 8.5) paper and check to confirm that there is no irregular density area in the previously exposed section
2) If the drum is subject to stress by being exposed to strong light. It may be recovered by leaving it in a dark and cool place. If it may not be recovered replace it with a new one

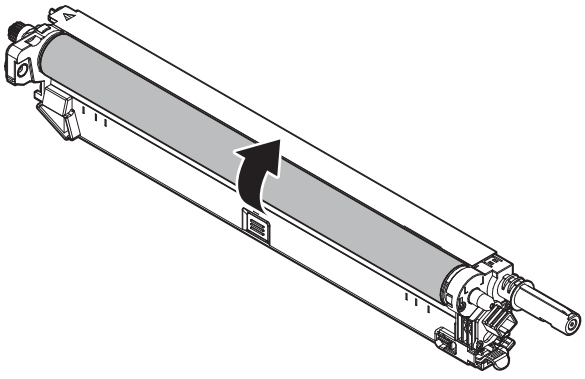
Important

When the drum is removed perform the following procedures

1) After removing the drum, apply stearic acid powder (UKOG-0312FCZZ) to the whole surface of the drum



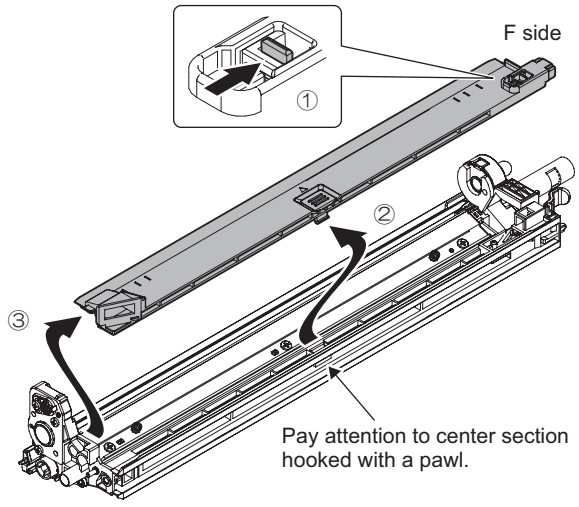
2) After mounting the drum on drum frame, hold both edges of drum within 15 mm or less. Rotate the drum manually in the forward direction twice (toward the direction of arrow as shown in the illustration below) and remove the stearic acid powder (UKOG-0312FCZZ) from drum surface.



- Do not touch the drum surface except for the both ends (15 mm) of the drum
- Any section of the drum may be touched from above the black protect sheet, but do not touch too strongly

### b-3. Cleaning blade

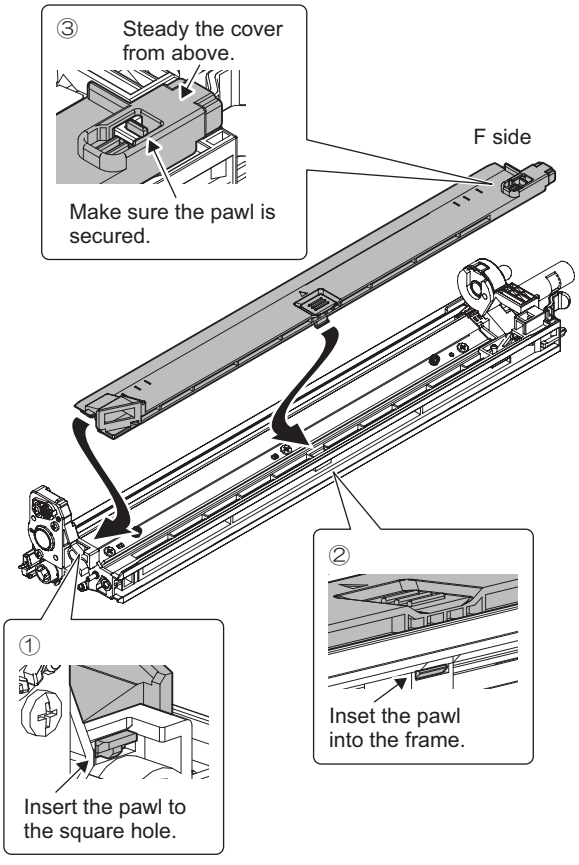
1) Remove the pawls and the MC cover.




Important

Followings must be observed while attaching the cover:

- (1) Insert the pawl on MC unit to the square hole on process frame.
- (2) Insert the pawl into the hole securely until it clicks.
- (3) Insert the pawl on front side securely.



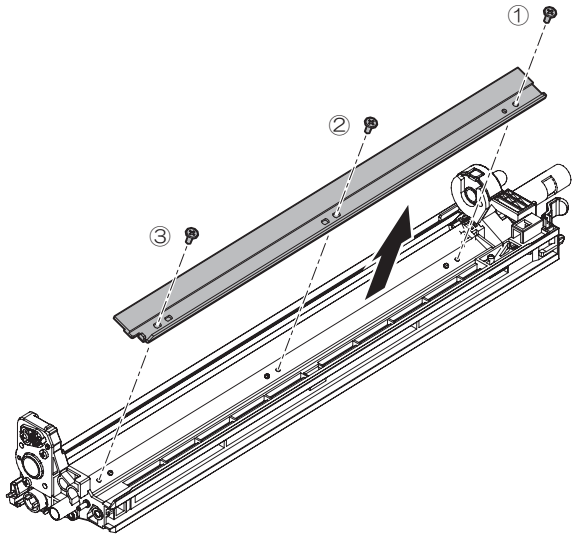

2) Remove the screw and the cleaning blade

Important

Do not touch the lead edge of the cleaning blade.

Important

When attaching the cleaning blade, tighten the screw in the order of (1) - (3).

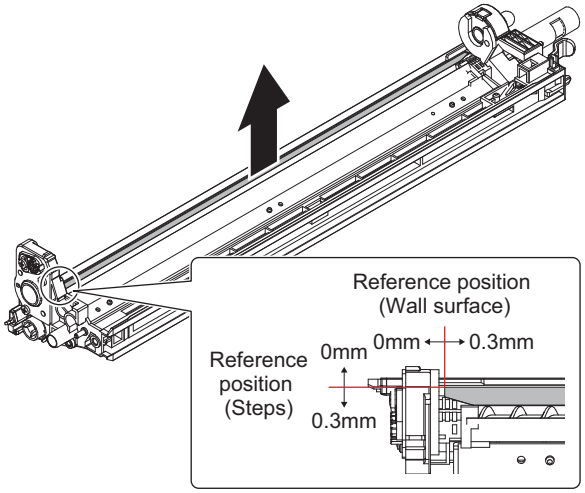



### b-4. Toner reception sheet

1) Remove the toner reception sheet

Important

When replacing the toner reception sheet, affix the sheet based on the reference position. Clean the affixing surface with alcohol.



### b-5. Side seal F·R

1) Remove the side seal F·R

Important

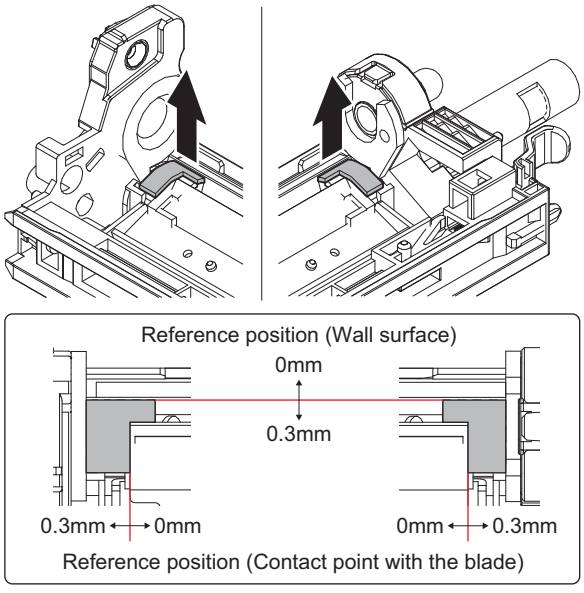
When replacing the side seal F·R, attach the cleaning blade first. Then move the side seals toward front side and attach based on the reference position. Clean the affixing surface with alcohol.

Important

Before affixing new seal, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

*The blade should not be put on top of the side seals while holding down the blade.

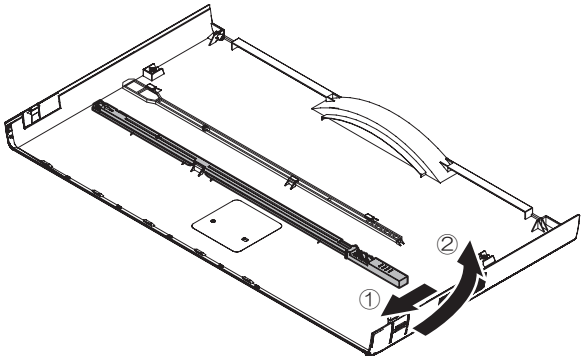
*The width of the clearance should be 0.3 mm or less.




### b-6. Charger cleaner

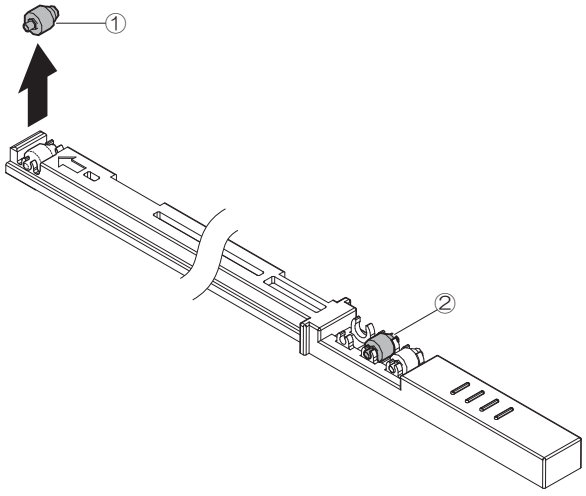
1) Open the cover and remove the MC cleaning bar.

Detach the cleaning bar by firstly detaching the bar from right-side pawl, move the right-side bar over the pawl. It will make left side of the bar slightly tilt upward; rotate the bar just a little and detach left side of the bar. Finally remove the bar from the center pawl.




2) (1) Remove the charger cleaner attached in front end of the MC cleaning bar and attach new charger cleaner.

(2) If you have any spare charger cleaner, attach it near handle and keep it for next replacement.



## E. Transfer section

### (1) Primary transfer unit

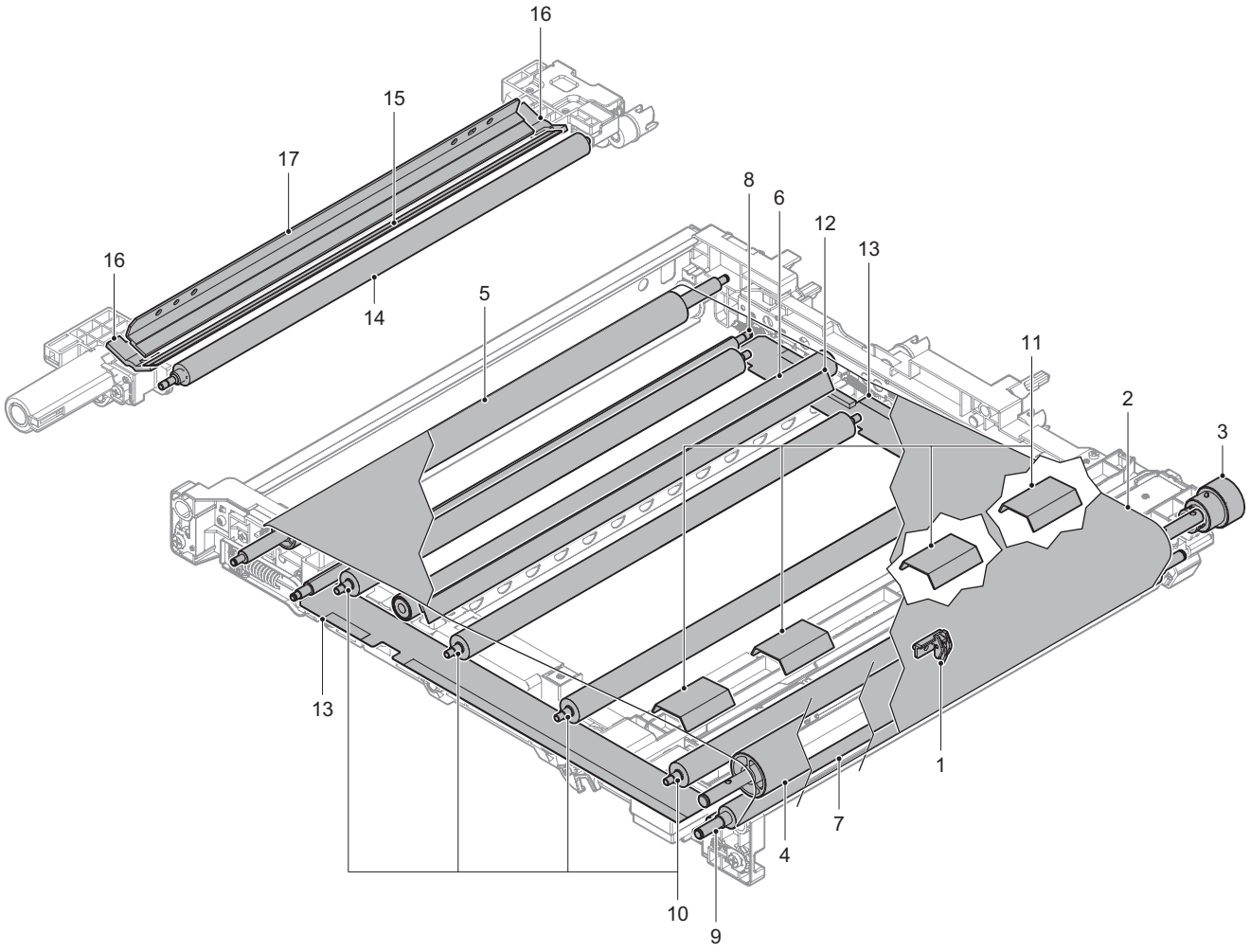
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Separation pawl | - | x | | x | | x | | x | Replace as needed |
| 2 | Primary transfer belt | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| 3 | Primary transfer drive gear | - | x | | x | | x | | x | Replace as needed |
| 4 | Primary transfer drive roller | - | ○ | | ○ | | ○ | | ○ | Clean with ethanol alcohol |
| 5 | Primary transfer tension roller | - | ○ | | ○ | | ○ | | ○ | |
| 6 | Primary transfer blade backup roller | - | ○ | | ○ | | ○ | | ○ | |
| 7 | BK auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| 8 | Y auxiliary roller | - | ○ | | ○ | | ○ | | ○ | |
| 9 | Pre-transfer roller | - | ○ | | ○ | | ○ | | ○ | |
| 10 | Primary transfer roller | - | x | | x | | x | | x | Replace as needed |
| 11 | Resist backup stay cushion | - | x | | x | | x | | x | |
| 12 | Primary transfer blade backup roller sheet | - | x | | x | | x | | x | |
| 13 | Primary transfer toner reception sheet F/R | - | x | | x | | x | | x | |
| 14 | Cleaning roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| 15 | Primary transfer cleaner sub blade | - | x | | x | | x | | x | Replace as needed |
| 16 | Primary transfer cleaner seals F/R | - | x | | x | | x | | x | |
| 17 | Primary transfer cleaner blade | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Separation pawl | - | x | x | x | x | x | Replace as needed |
| 2 | Primary transfer belt | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| 3 | Primary transfer drive gear | - | x | x | x | x | x | Replace as needed |
| 4 | Primary transfer drive roller | - | ○ | ○ | ○ | ○ | ○ | Clean with ethanol alcohol |
| 5 | Primary transfer tension roller | - | ○ | ○ | ○ | ○ | ○ | |
| 6 | Primary transfer blade backup roller | - | ○ | ○ | ○ | ○ | ○ | |
| 7 | BK auxiliary roller | - | ○ | ○ | ○ | ○ | ○ | |
| 8 | Y auxiliary roller | - | ○ | ○ | ○ | ○ | ○ | |
| 9 | Pre-transfer roller | - | ○ | ○ | ○ | ○ | ○ | |
| 10 | Primary transfer roller | - | x | x | x | x | x | Replace as needed |
| 11 | Resist backup stay cushion | - | x | x | x | x | x | |
| 12 | Primary transfer blade backup roller sheet | - | x | x | x | x | x | |
| 13 | Primary transfer toner reception sheet F/R | - | x | x | x | x | x | |
| 14 | Cleaning roller | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| 15 | Primary transfer cleaner sub blade | - | x | x | x | x | x | Replace as needed |
| 16 | Primary transfer cleaner seals F/R | - | x | x | x | x | x | |
| 17 | Primary transfer cleaner blade | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |


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**a. Disassembly of Units**

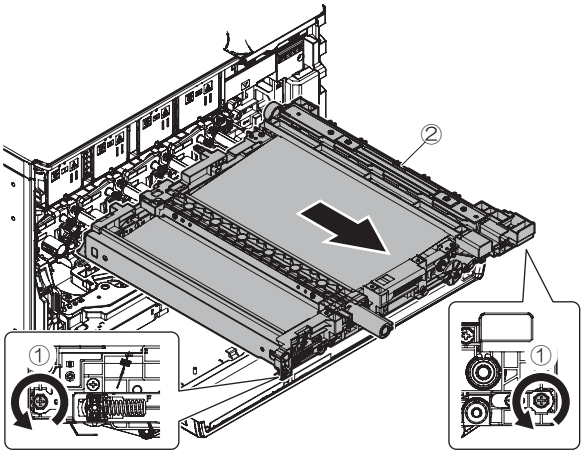
1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Open the right door.
4) Loosen the screw and pill out the primary transfer unit to the position slowly where it stops.
5) Hold the handle (Green) on the right side of the primary transfer unit and guide rail (plate) on the left side of the primary transfer unit, and pull out the primary transfer unit slowly while lifting it upward.

Important

When removing the primary transfer unit, be sure to open the right door in advance.

Important

Be careful not to put foreign materials and touch on the primary transfer belt.




**b. Disassembly and assembly of maintenance parts**

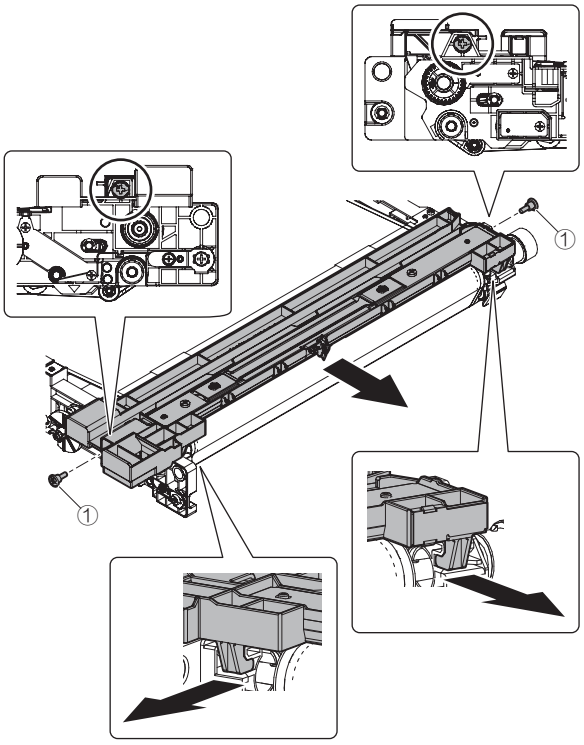
**b-1. Separation pawl**

1) Remove the screw and paper guide

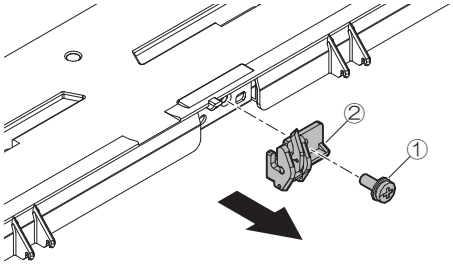
Important

After removing the paper guide, place it with the separation pawl upward to prevent damage on the tip of the pawl.

When attaching the paper guide, handle it carefully not to scratch transfer belt with separation pawl.




2) Place the paper guide with the separation pawl upward. Remove a screw and detach the separation pawl from the paper guide.

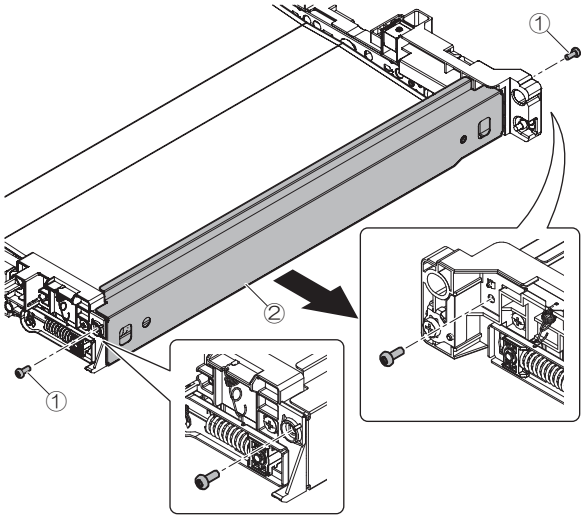


**b-2. Primary transfer belt**

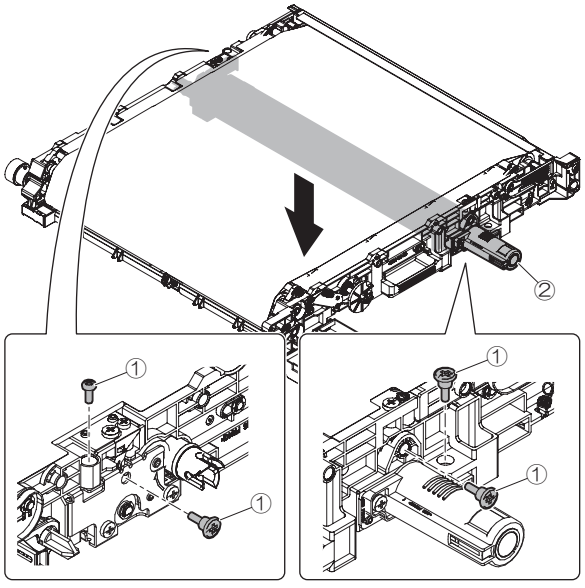
1) Remove the screw while Primary transfer cleaner unit in on top and remove the rail.

Important

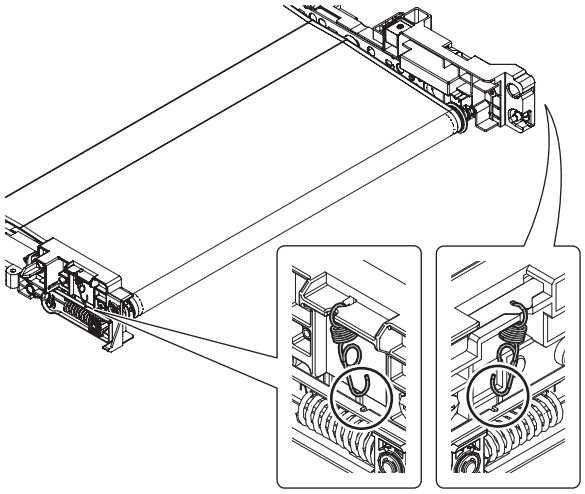
Do not touch the belt.




2) Flip the unit upside down and remove screws.
3) Remove primary transfer cleaner unit



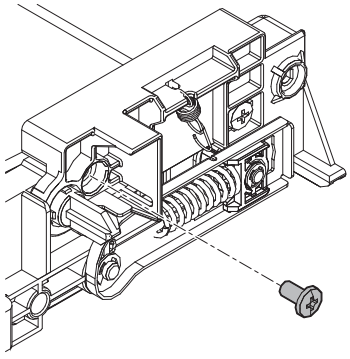

4) Remove the spring



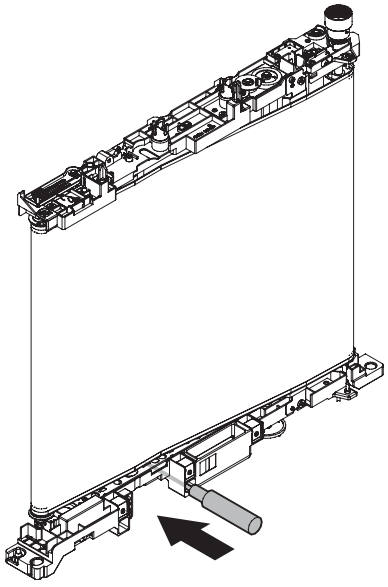
Important

Handle the belt carefully to avoid contact with floor.

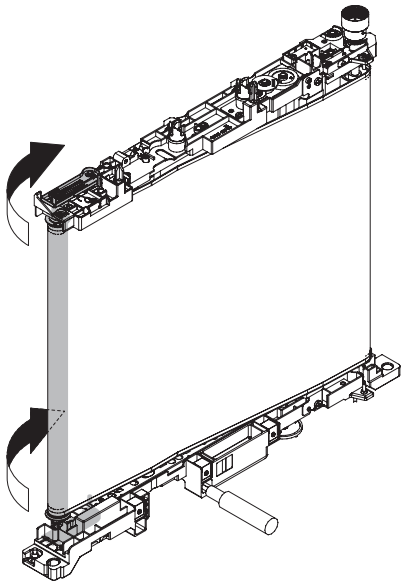
5) Remove the screw



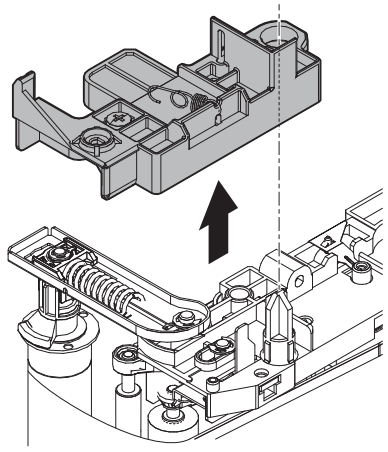
6) Insert a driver into the hole on the frame and set the unit upright.



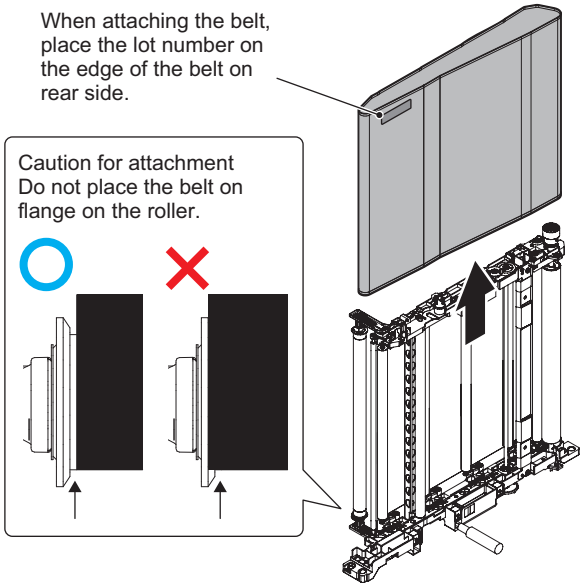
7) Fold the primary transfer belt followed roller.



8) Remove the sub frame



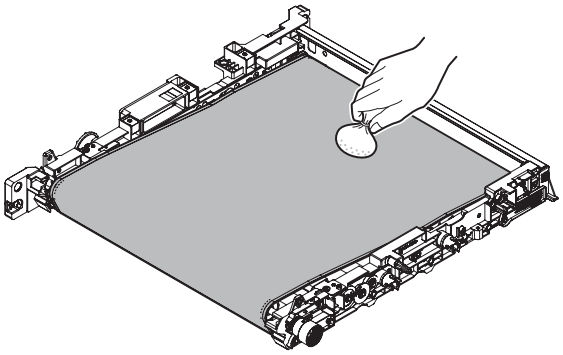
9) Pull out the primary transfer belt slowly.




**NOTE:** Caution for attachment

Follow the steps below after replacing the primary transfer belt.

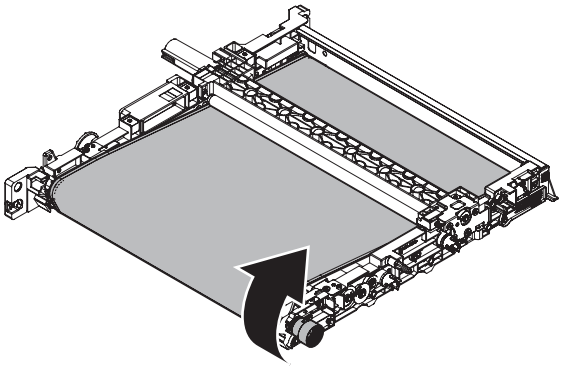
1) Apply Y powder (CKOG-0345DS51) on entire surface of the primary transfer belt with primary transfer cleaner unit being removed.



2) Attach the primary transfer cleaner unit.
3) Manually rotate the primary transfer belt drive gear and remove the powder applied on the primary transfer belt.

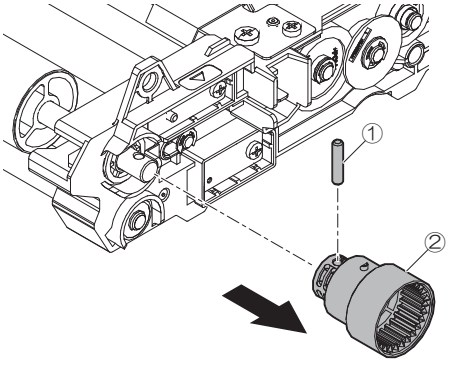
Important

Confirm proper rotation direction. Never rotate in inverse direction.



**b-3. Primary transfer drive gear**

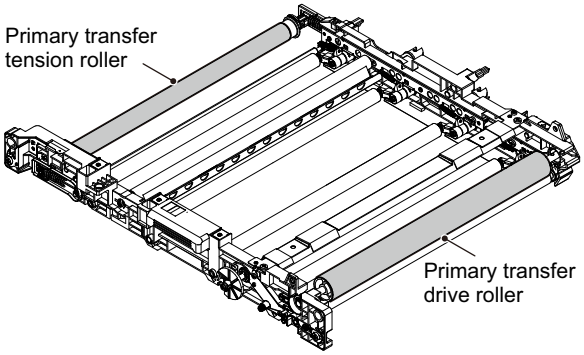
1) Pull out the pin and remove the primary transfer drive gear



**b-4. Primary transfer drive roller**

**b-5. Primary transfer tension roller**

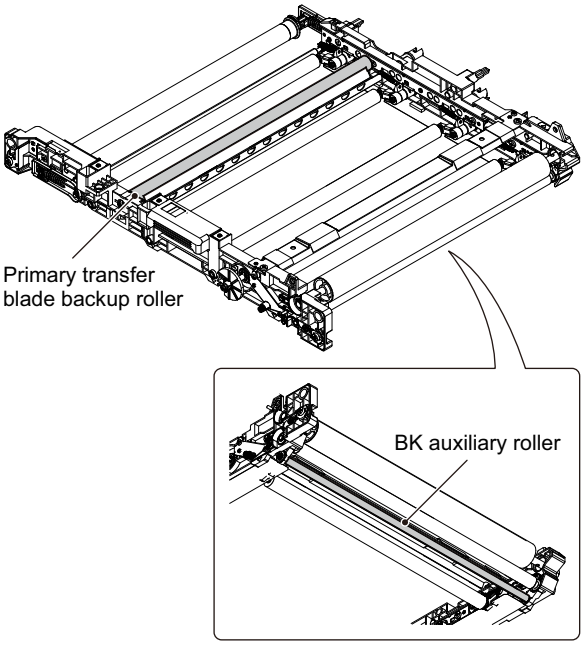
1) Clean the primary transfer drive roller and primary transfer tension roller with alcohol.




**b-6. Primary transfer blade backup roller**

**b-7. BK auxiliary roller**

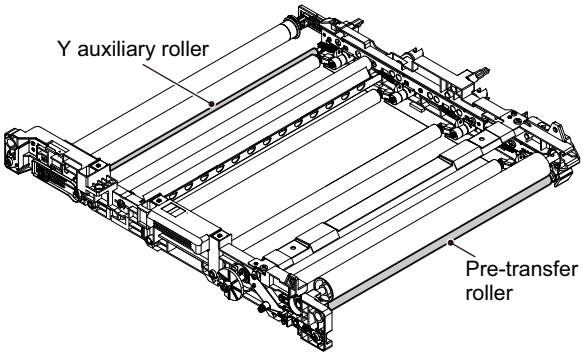
1) Clean the Primary transfer blade backup roller and BK auxiliary roller with alcohol.




**b-8. Y auxiliary roller**

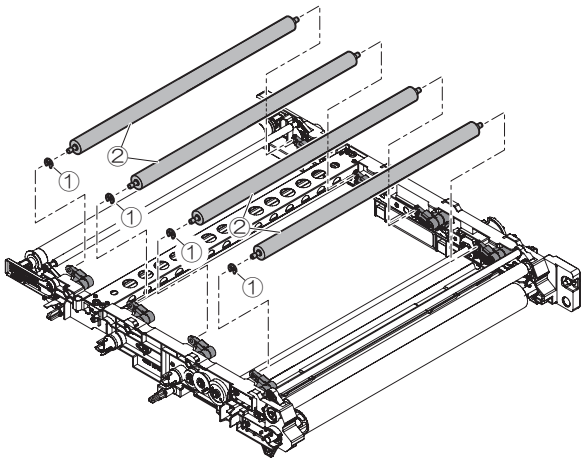
**b-9. Pre-transfer roller**

1) Clean the Y auxiliary roller and Pre-transfer roller with alcohol.




**b-10. Primary transfer roller**

1) Remove the E-ring and primary transfer roller



**b-11. Resist backup stay cushion**

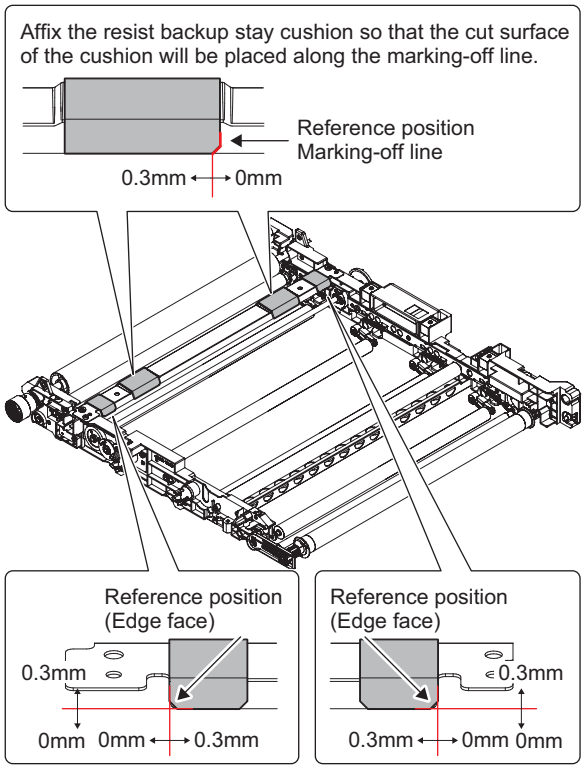
1) Remove the resist backup stay cushion

Important

When replacing the resist backup stay cushion, attach the cushion based on the reference position.

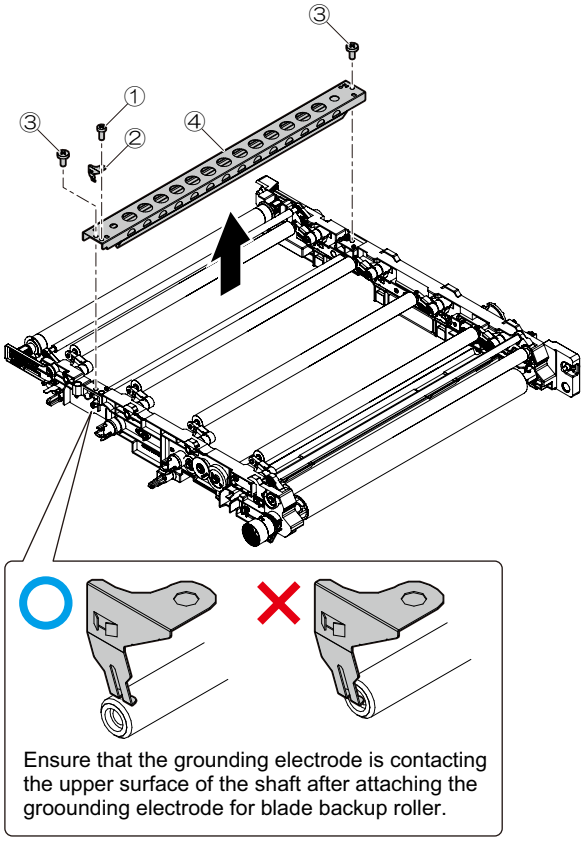
Important

Before affixing new resist backup stay cushion, make sure to remove any foreign material and remaining adhesive from affixing surface completely.



### b-12. Primary transfer blade backup roller sheet

1) Remove the parts in the order of a screws, the grounding electrode for blade backup roller, and the frame.



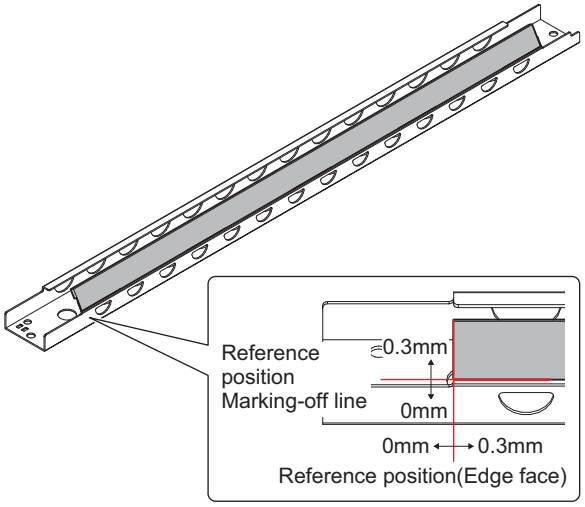

2) Remove the primary transfer blade backup roller sheet

Important

When replacing the primary transfer blade backup roller sheet, affix the sheet based on the reference position.

Important

Before affixing new primary transfer blade backup roller sheet, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




### b-13. Primary transfer toner reception sheet F·R

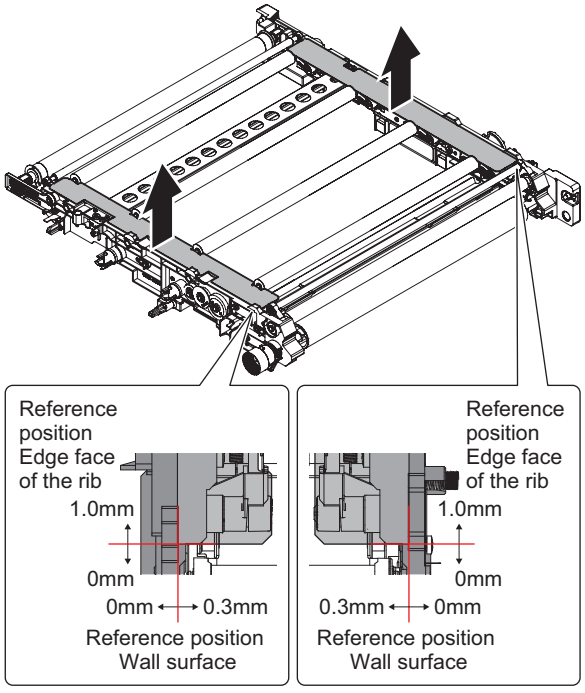
1) Remove the primary transfer toner reception sheet F·R

Important

When replacing the primary transfer toner reception sheet F·R, affix the sheets based on the reference position.

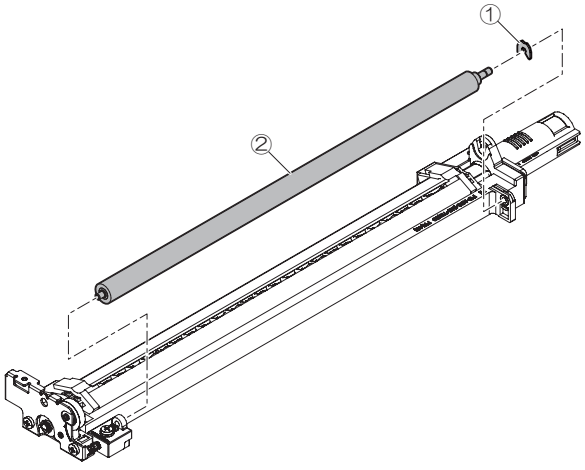
Important

Before affixing new primary transfer toner reception sheet F·R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




### b-14. Cleaning roller

1) Remove the E-ring and cleaning roller



**b-15. Primary transfer cleaner sub blade**

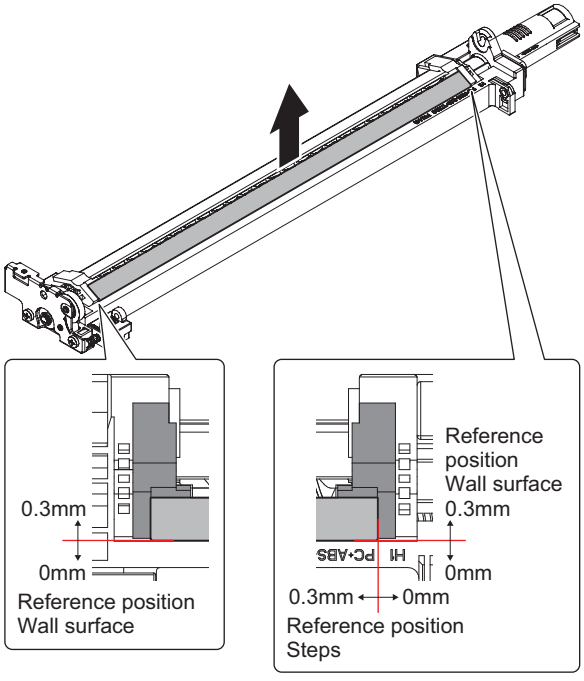
1) Remove the primary transfer cleaner sub blade

Important

Before replacing the primary transfer cleaner sub blade, affix the blade based on the reference position.

Important

Before affixing new primary transfer cleaner sub blade, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




**b-16. Primary transfer cleaner seals F/R**

1) Remove the primary transfer cleaner seals F/R

Important

When replacing the primary transfer cleaner seals F/R, affix the seals based on the reference position.

Important

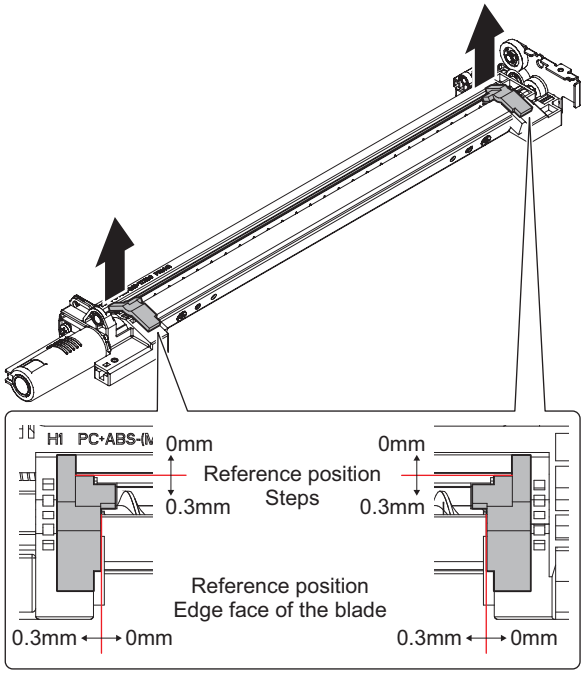
Do no place any part of the seals on top of the blade.

Important

The seals should not get stuck at rubber section on the cleaner blade.

Important

Before affixing new primary transfer cleaner seals F/R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




**b-17. Primary transfer cleaner blade**

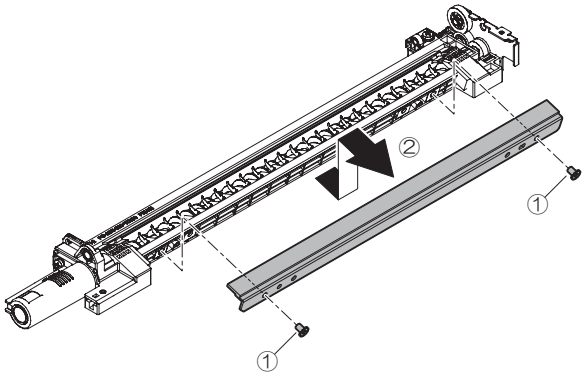
1) Remove the screw and primary transfer cleaner blade

Important

Do not touch the edge of the blade.

Important

Do not deform the toner agitation sheet when attaching the blade.



### (2) Secondary transfer unit

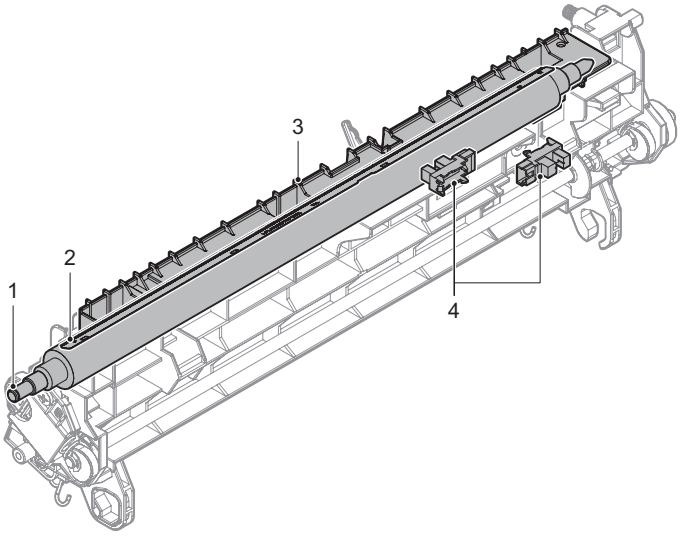
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Secondary transfer roller | - | ▲ | | ▲ | | ▲ | | ▲ | Replace at specified printing number or 2 year use |
| 2 | Secondary transfer separation plate | - | x | | x | | x | | x | Replace as needed |
| 3 | Paper guide | ○ | ○ | | ○ | | ○ | | ○ | |
| 4 | Sensors | - | x | | x | | x | | x | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Secondary transfer roller | - | ▲ | ▲ | ▲ | ▲ | ▲ | Replace at specified printing number or 2 year use |
| 2 | Secondary transfer separation plate | - | x | x | x | x | x | Replace as needed |
| 3 | Paper guide | ○ | ○ | ○ | ○ | ○ | ○ | |
| 4 | Sensors | - | x | x | x | x | x | |

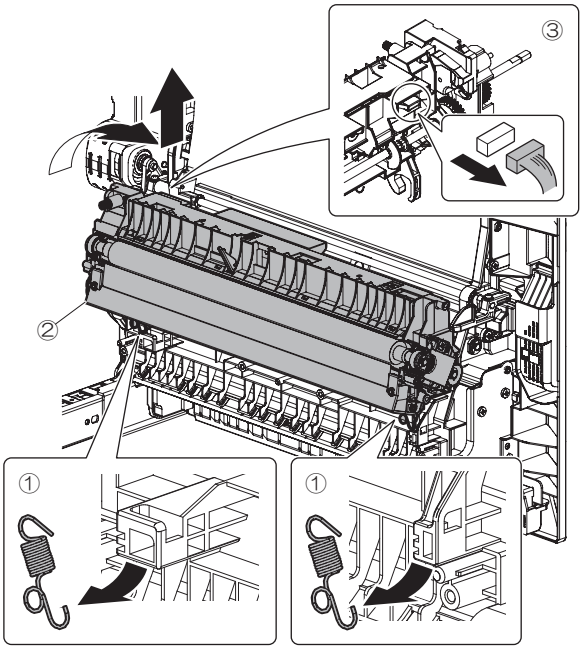


**a. Disassembly of Units**

1) Open the right door.
2) Remove the spring from the right door unit and remove the secondary transfer unit while lifting it upward from the rear side.
   Disconnect the connector from the Secondary transfer unit.

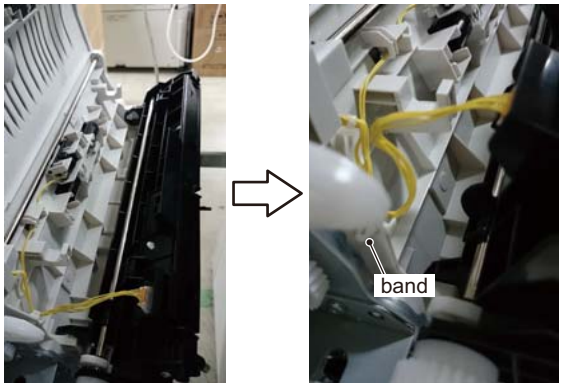
Important

Be careful not to put foreign materials on the secondary transfer roller.




* Spring is removed from the right dorr, however, the spring is not removed from the secondary transfer unit.

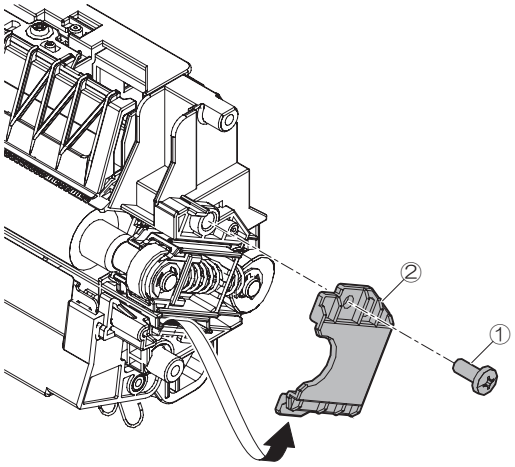
Fix the cable position by band after installing secondary transfer unit to the original position.



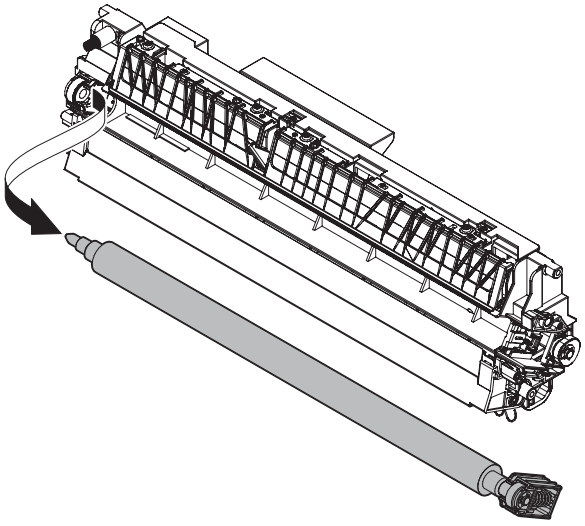

**b. Disassembly and assembly of maintenance parts**

**b-1. Secondary transfer roller**

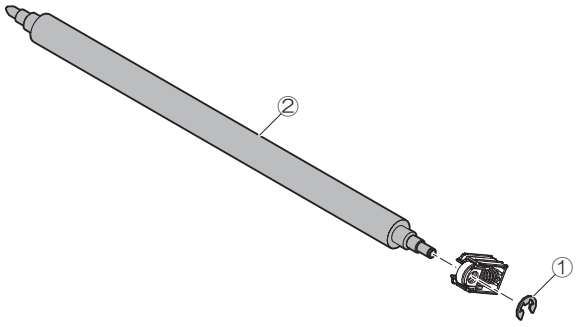
1) Remove the screw and the cover




2) Remove the secondary transfer roller sub unit



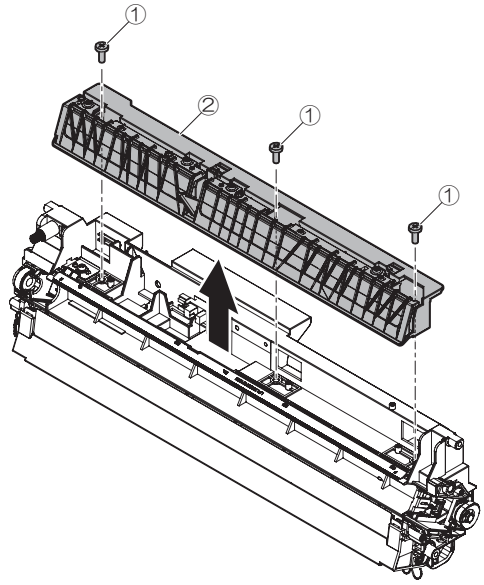
3) Remove the E-ring and the secondary transfer roller



**b-2. Secondary transfer separation plate**

**b-3. Paper guide**

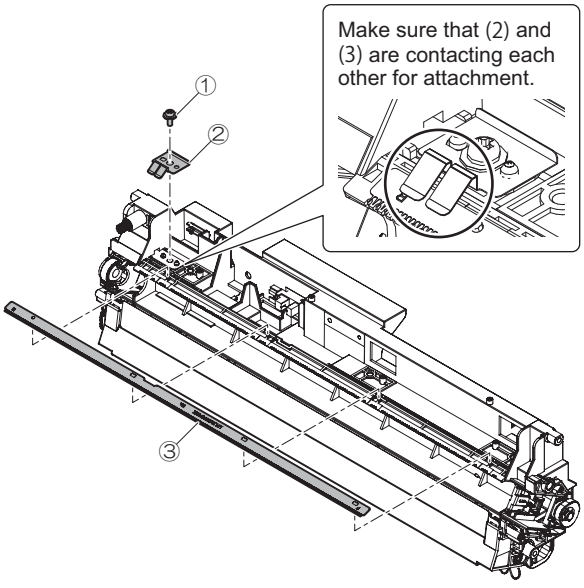
1) Remove the screw and the cover




2) Remove the screw, the separating electrode connecting plate and the secondary transfer separation plate.

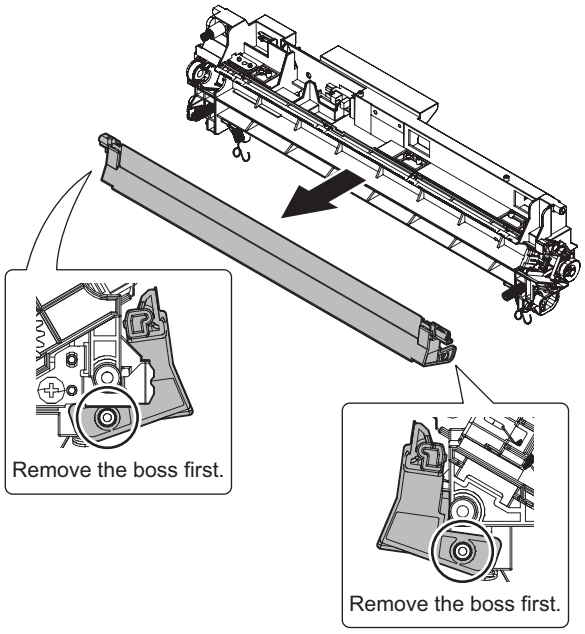
Important

Do not put any oil content etc. by directly touching the separating electrode connecting plate and the secondary transfer separation plate with your hand.




**b-4. Paper guide**

1) Remove the plate



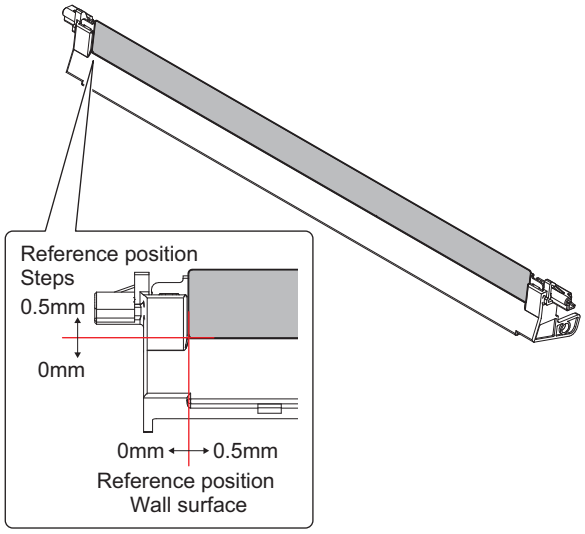

2) Remove the sheet

Important

When replacing the sheet, affix the sheet based on the reference position.

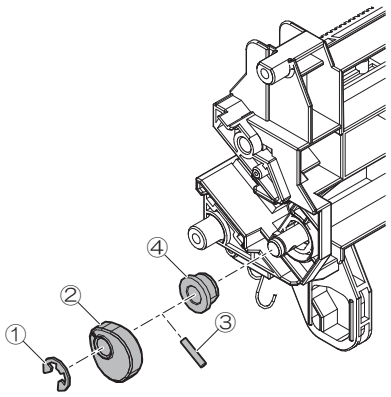
Important

Before affixing new sheet, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

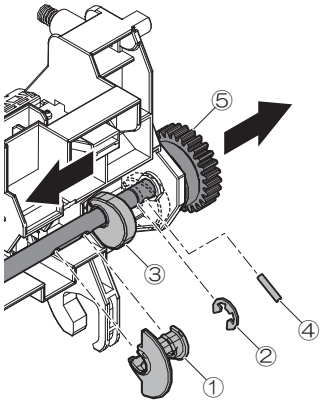


**b-5. Sensors**

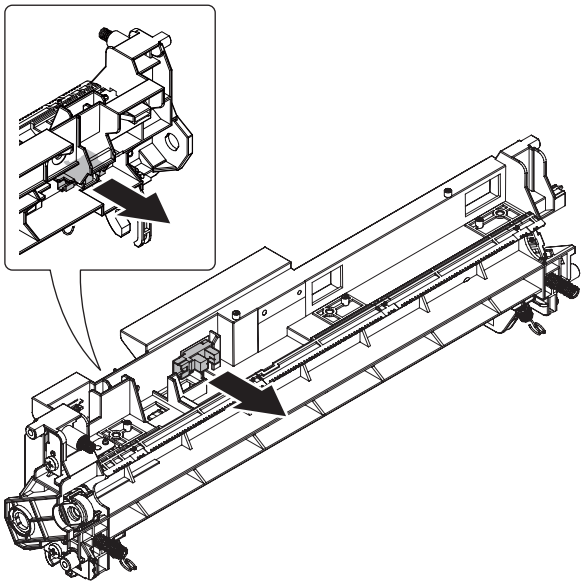
1) Remove the E-ring, secondary transfer separation sensor cam, pin, and bearing.




2) Remove the secondary transfer separation sensor cam and then E-ring. Slide secondary transfer separation cam. Remove the parallel pin and then remove the secondary transfer separation cam shaft sub assembly.




3) Remove the sensor



### (3) Other

x: Check (Clean, replace, or adjust according to necessity) O: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

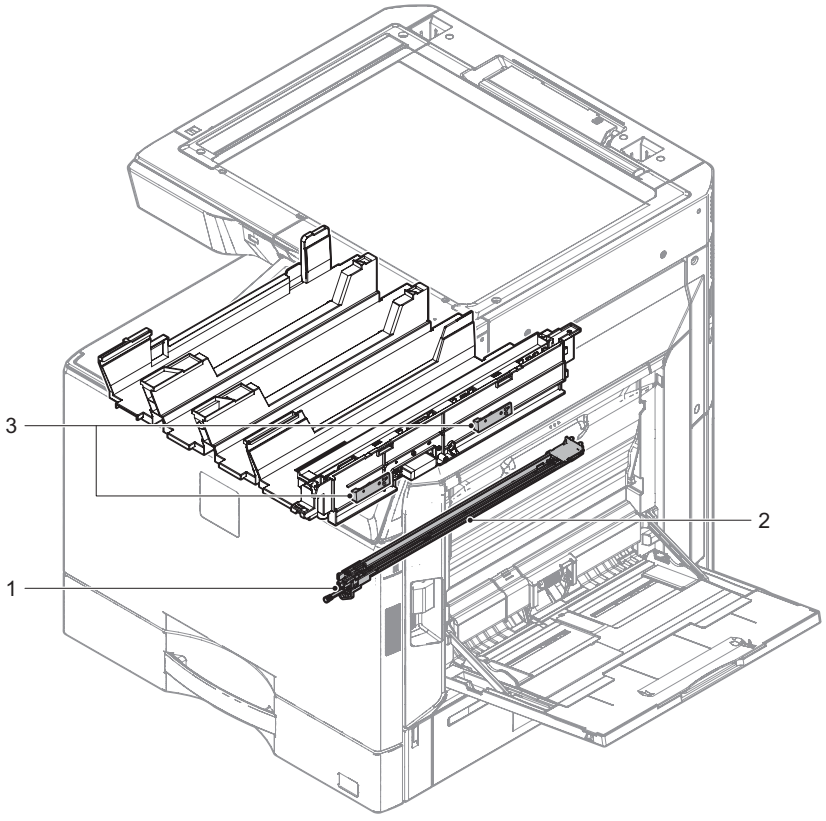
| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PTC unit | - | ▲ | | ▲ | | ▲ | | ▲ | |
| 2 | PTC outer holder | x | O | | O | | O | | O | Clean with ethanol alcohol |
| 3 | Image density and image registration sensor | x | O | | O | | O | | O | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | PTC unit | - | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 2 | PTC outer holder | x | O | O | O | O | O | Clean with ethanol alcohol |
| 3 | Image density and image registration sensor | x | O | O | O | O | O | |

Note for cleaning the Image registration sensor, the Density sensor.

When in maintenance or in case of a service call, clean the image registration sensor and the density sensor with dry cloth and perform Sim44-2 and 46-74.



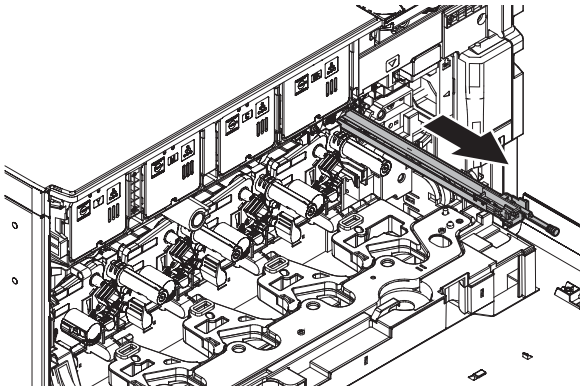
## a. Disassembly of Units

### a-1. PTC unit

1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Remove the PTC unit.

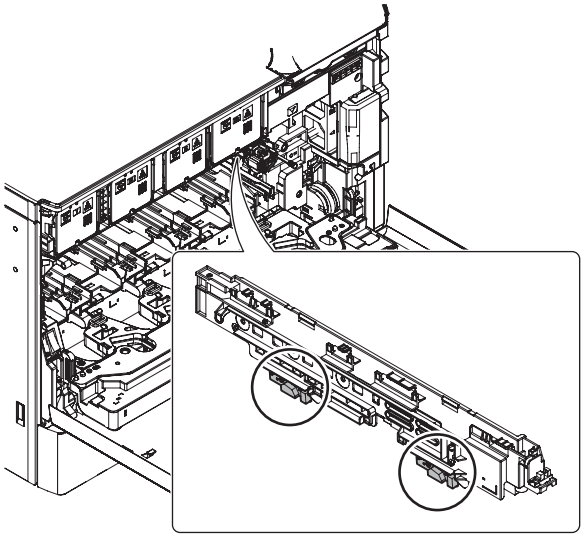
Important

Be careful not to put foreign materials on the wire and the plate.



### a-2. Resist sensor unit

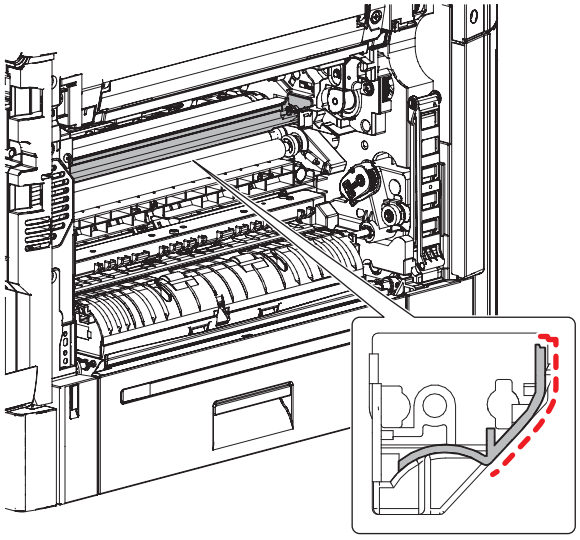
1) Remove the toner cartridge.
2) Remove the upper frame cover.
3) Remove the waste toner box.
4) Remove the developing unit.
5) Remove the OPC drum unit.
6) Open the right door.
7) Remove the primary transfer unit.
8) Clean the resist sensor unit.



## b. Disassembly and assembly of maintenance parts

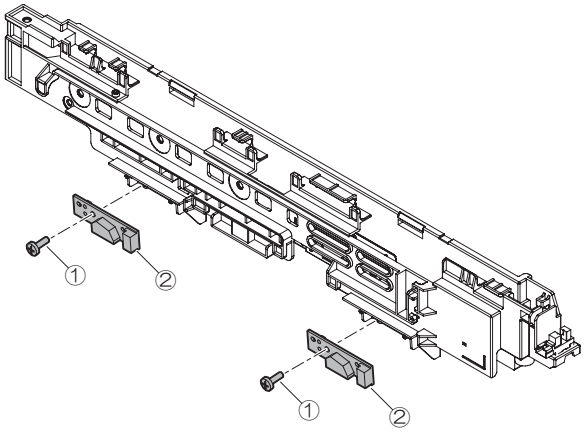
### b-1. PTC outer holder

1) Remove the primary transfer unit.
2) Remove the PTC unit.
3) Clean PTC outer holder with alcohol.



### b-2. Registration sensor unit

1) Remove the Image density and image registration sensor.



## F. LSU section

### (1) LSU / Other

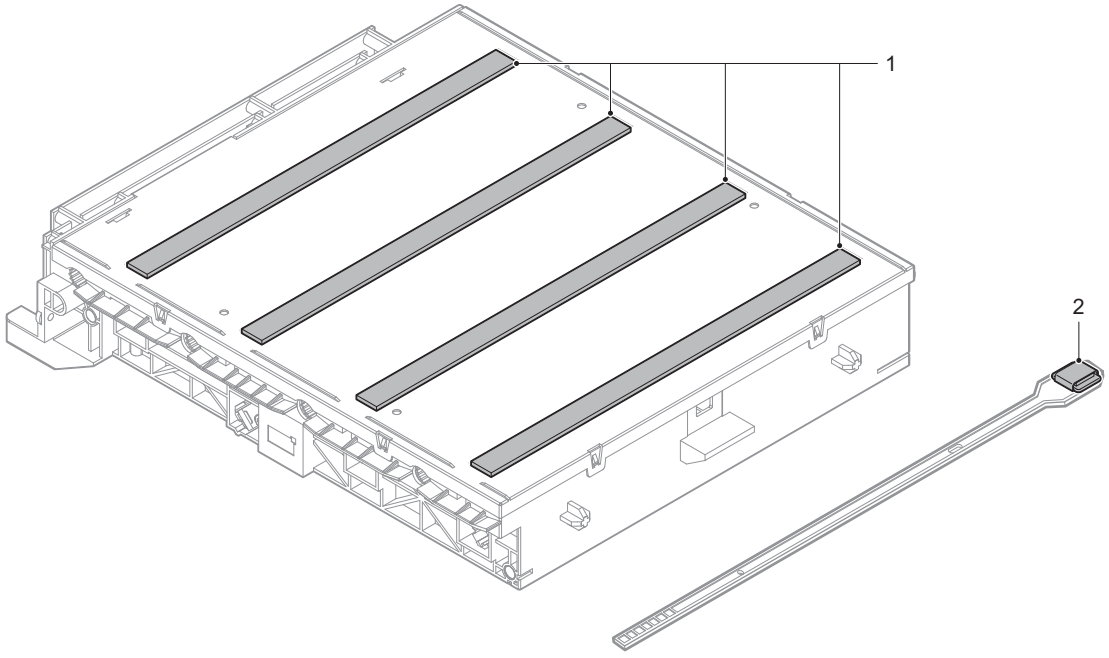
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Dust-proof glass | ○ | ○ | | ○ | | ○ | | ○ | |
| 2 | Cleaning base | x | ▲ | | ▲ | | ▲ | | ▲ | |

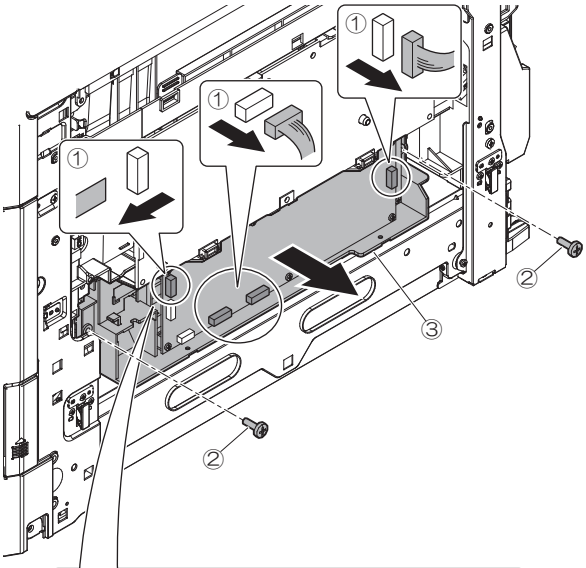
**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Dust-proof glass | ○ | ○ | ○ | ○ | ○ | ○ | |
| 2 | Cleaning base | x | ▲ | ▲ | ▲ | ▲ | ▲ | |

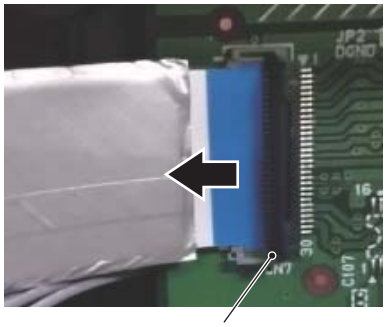


**a. Disassembly of Units**

1) Remove the left cover.
2) Disconnect the FFC and the connector. Then, remove the screw, and remove the LSU unit.

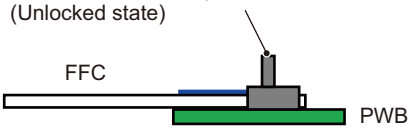



Unlocked (when removing FFC)

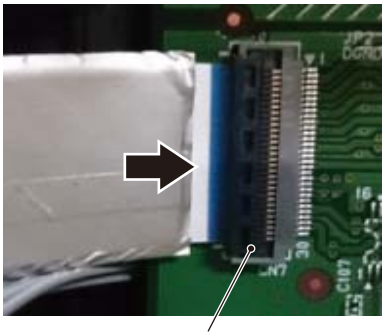


FFC can be removed by releasing the lever.

Connector lock lever position
(Unlocked state)

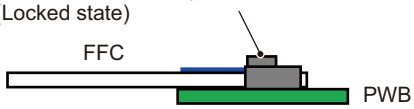



Locked (when connectiong FFC)

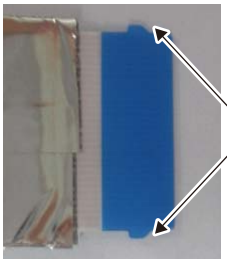


FFC is locked by lowering the lever after inserting FFC.

Connector lock lever position
(Locked state)




* Insert the FFC and the connector straight until they stop.
* Insert the FFC alignment tab to the connector alignment guide.



FFC alignment tab

OK



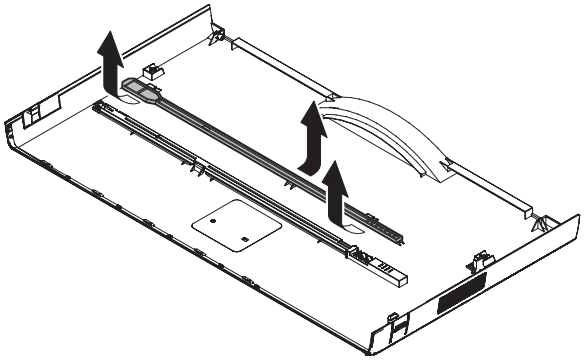
NG: The FFC is not connected straight.



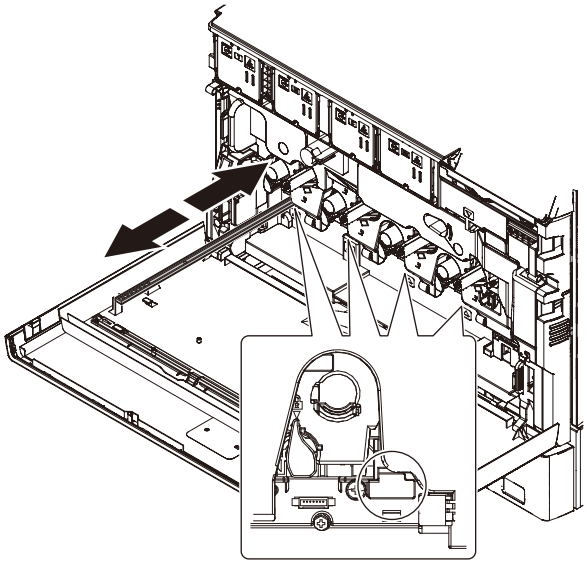
**b. Disassembly and assembly of maintenance parts**

**b-1. Dust proof glass**

1) Open the cover and remove the LSU cleaning bar.

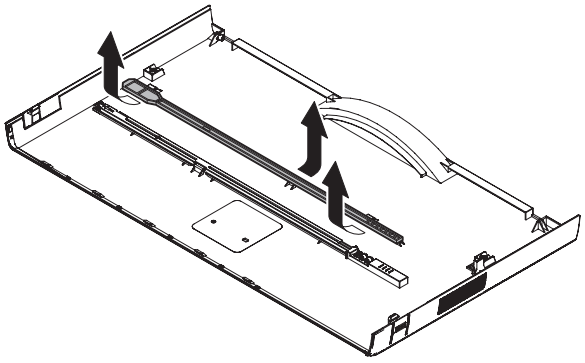


2) Remove the waste toner box
3) Insert the LSU cleaning bar with a felt facing downward. Move the bar a few times back and forth to clean the dust proof glass on LSU.

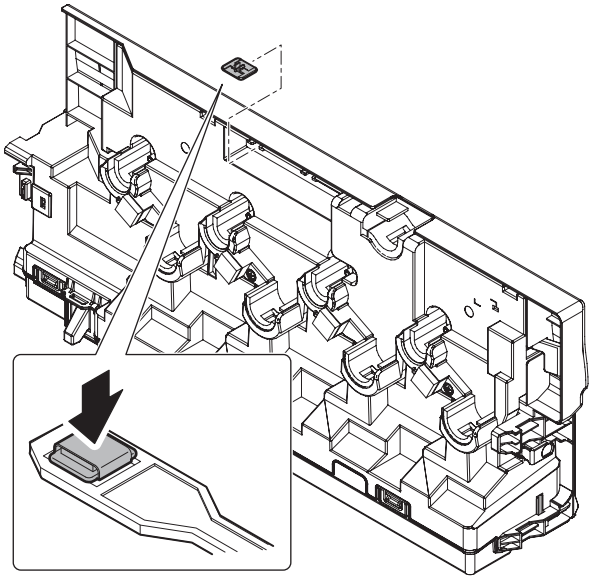


**b-2. Cleaning base**

1) Open the cover and remove the LSU cleaning bar.



2) Remove the waste toner box
3) Remove the cleaning base from the waste toner box and attach it to the LSU cleaning bar.



## G. Manual paper feed section

### (1) Manual paper feed unit

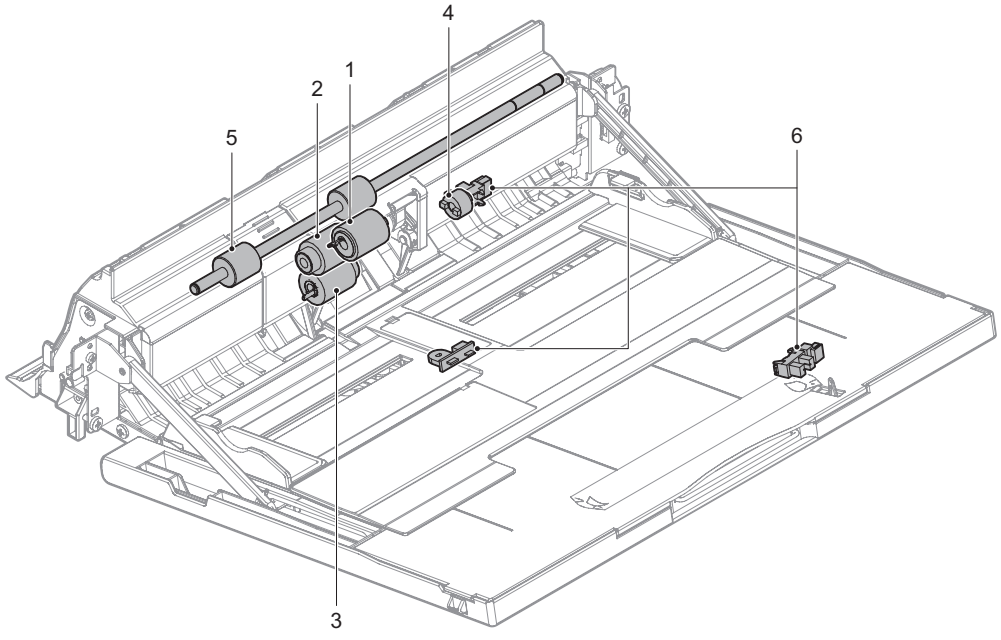
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 100K of manual paper feed counter or 1 year use |
| 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| 4 | Torque limiter | x | x | | x | | x | | x | |
| 5 | Transport roller 10 | x | ○ | | ○ | | ○ | | ○ | |
| 6 | Sensors | x | x | | x | | x | | x | |

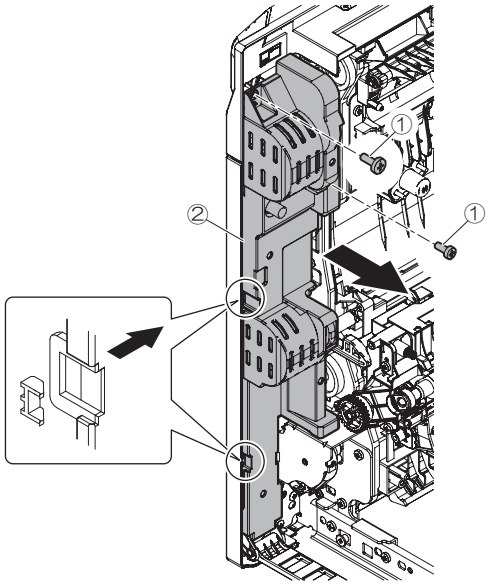
**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | x | ○ | ○ | ○ | ○ | ○ | Replace at 100K of manual paper feed counter or 1 year use |
| 2 | Paper feed roller | x | ○ | ○ | ○ | ○ | ○ | |
| 3 | Separation roller | x | ○ | ○ | ○ | ○ | ○ | |
| 4 | Torque limiter | x | x | x | x | x | x | |
| 5 | Transport roller 10 | x | ○ | ○ | ○ | ○ | ○ | |
| 6 | Sensors | x | x | x | x | x | x | |

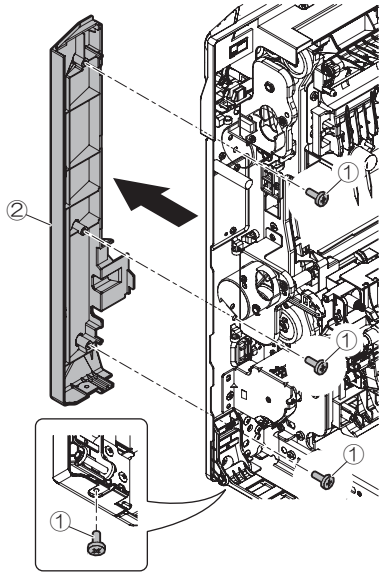


**a. Disassembly of Units**

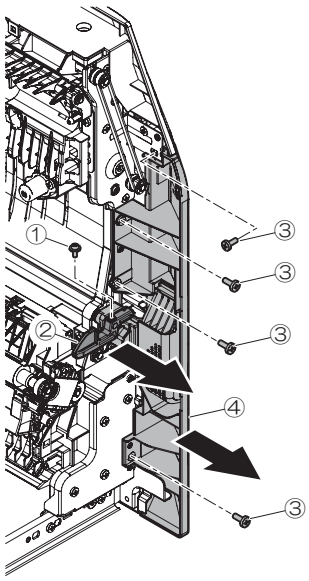
1) Remove the inner cover R upper.



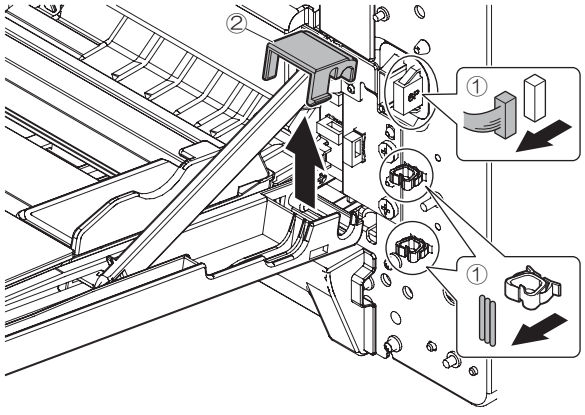

2) Remove the ADU cabinet R upper.



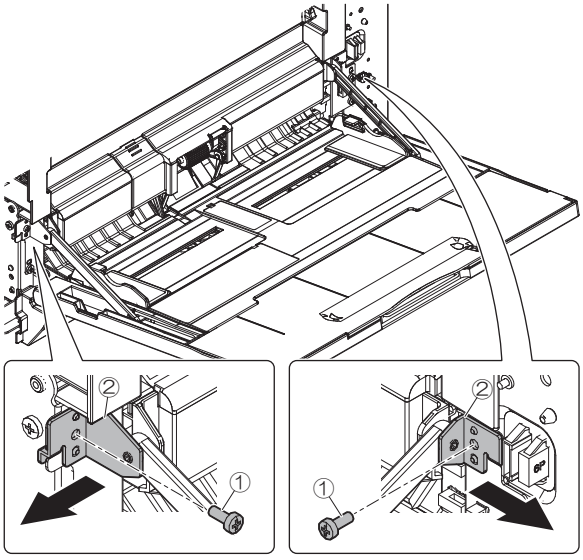

3) Remove the right door lock pawl, and remove the ADU cabinet F.



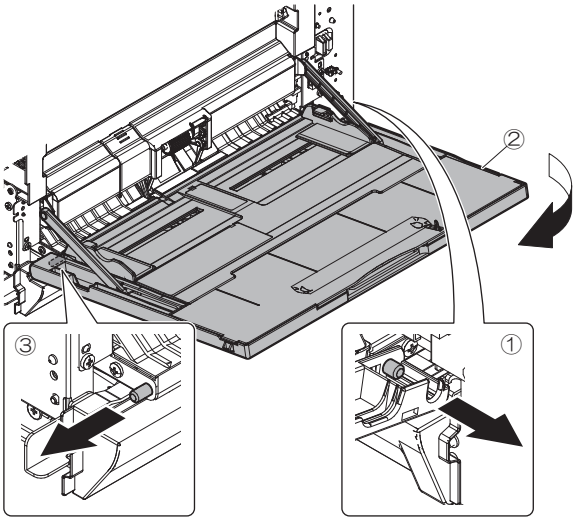

4) Remove the connector, and remove the multi-tray supporting point cover.



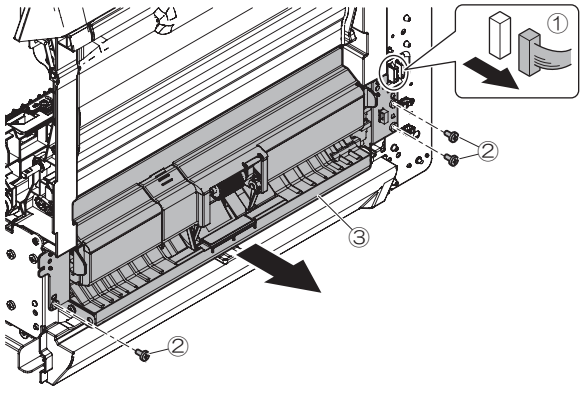

5) Remove the multi-tray angle.



6) Remove the manual paper tray fulcrum shaft, and remove the manual paper tray.




7) Disconnect the connector, and remove the manual paper feed unit.

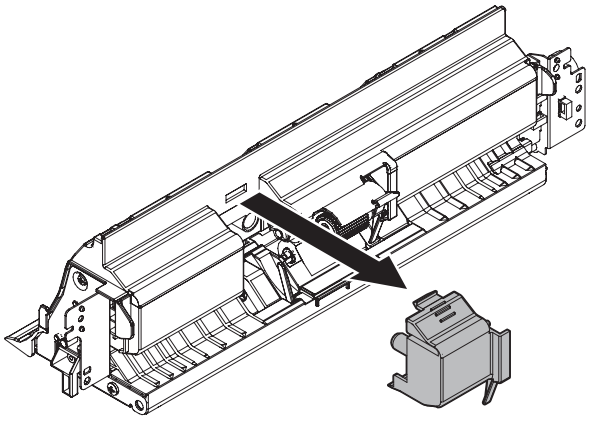



**b. Disassembly and assembly of maintenance parts**

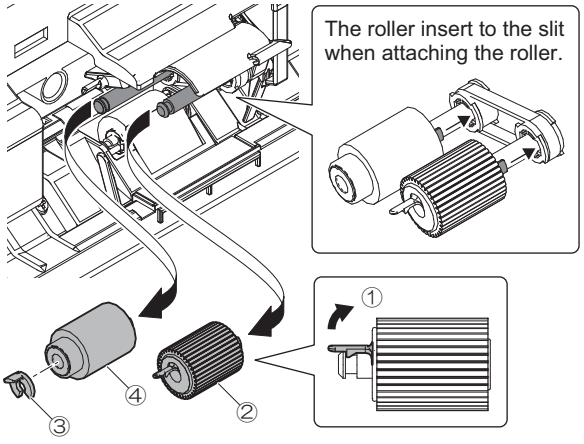
**b-1. Paper pickup roller**

**b-2. Paper feed roller**

1) Remove the cover

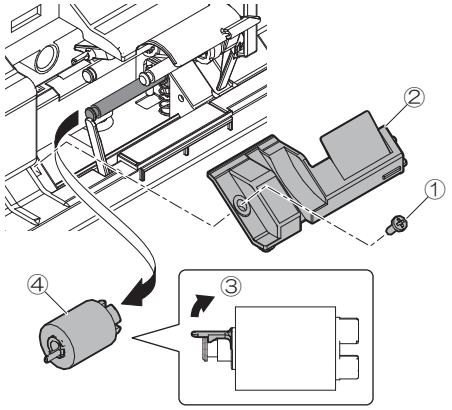


2) Uplift the pawl and detach the pickup roller. Remove the E-ring and detach the paper feed roller.




**b-3. Separation roller**

1) Remove a screw and then detach the paper guide. Uplift the pawl and then detach the separation roller.

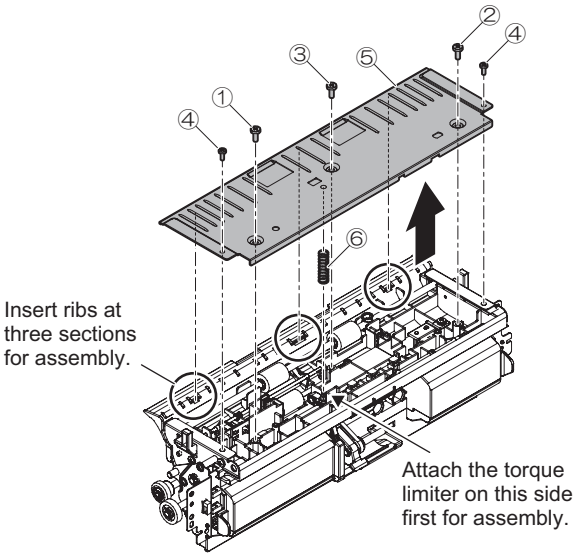


### b-4. Torque limiter

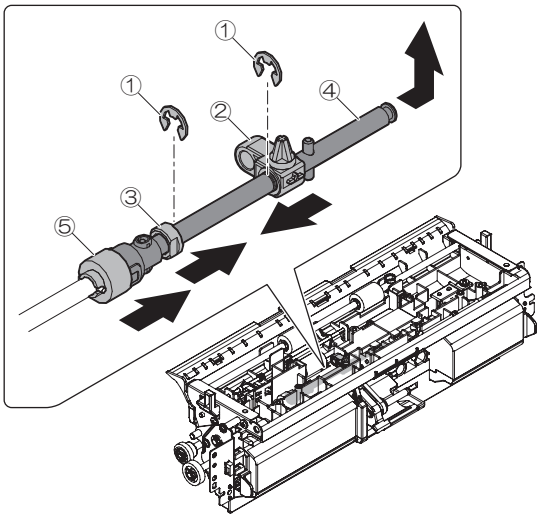
1) Remove the screw and the frame

Important

Fasten screws in the order of (1) and (2) for assembly.




2) Remove the E-ring and slide the holder and the bearing toward the direction of arrow in the illustration below. Remove the shaft and then remove the torque limiter.

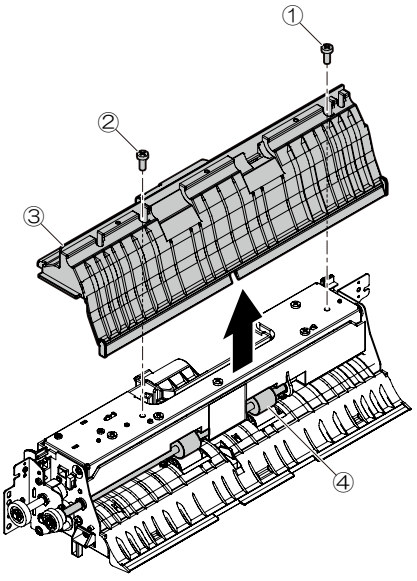


### b-5. Transport roller 10

1) Remove the screw and the paper guide

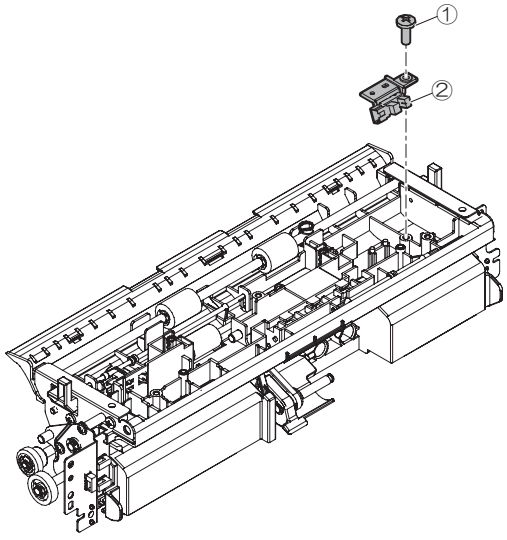
Important

Fasten screws in the order of (1) and (2) for assembly. Clean the transport roller 10.

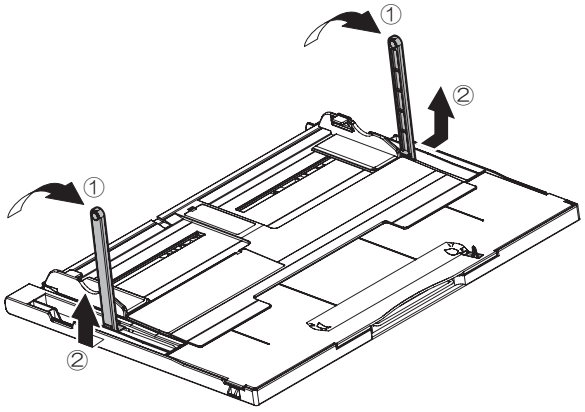


### b-6. Sensors

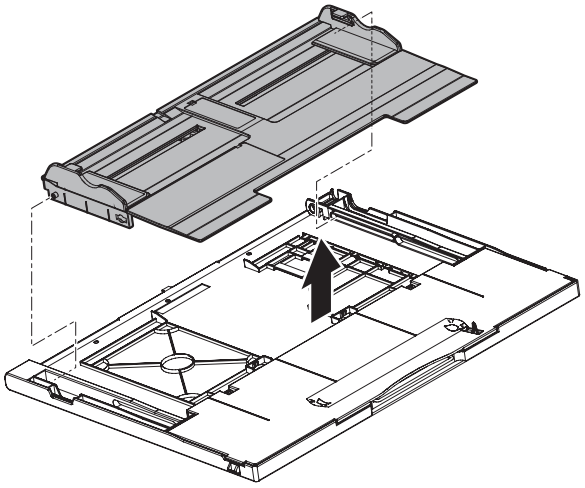
1) Remove the screw and the sensor



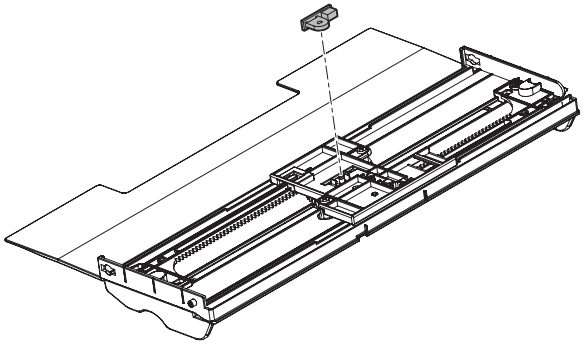
2) Remove the arm



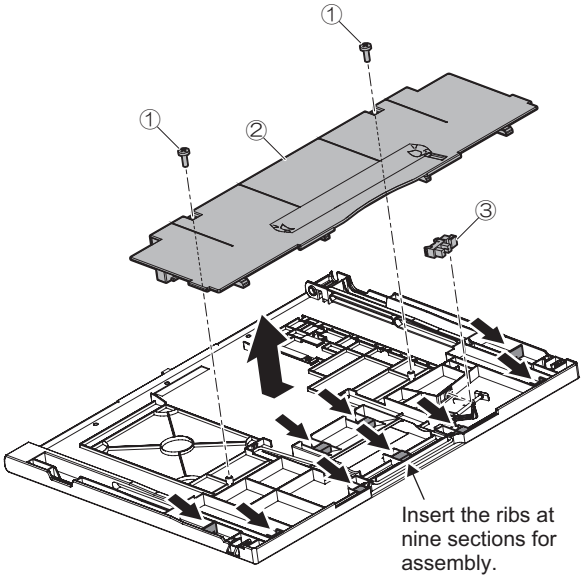

3) Remove the tray



4) Remove the sensor



5) Remove the screw, the tray and the sensor



## H. Tray paper feed section

### (1) Tray paper feed unit

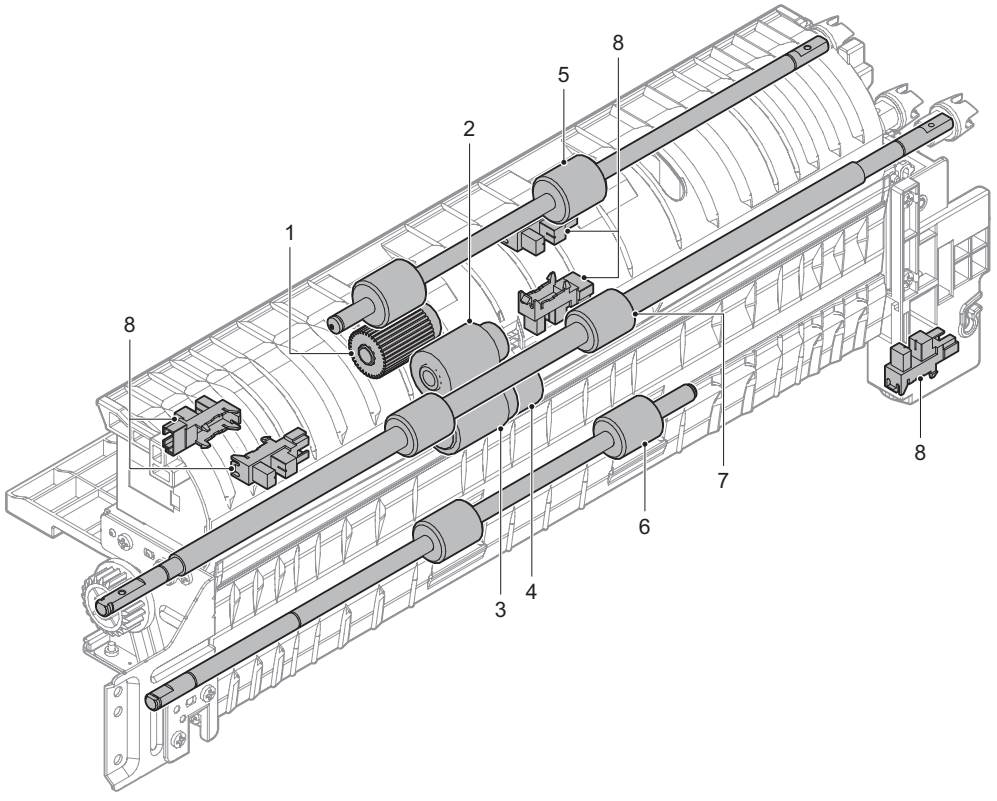
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | x | ○ | | ○ | | ○ | | ○ | Replace at 200K of paper feed counter or 1 year use |
| 2 | Paper feed roller | x | ○ | | ○ | | ○ | | ○ | |
| 3 | Separation roller | x | ○ | | ○ | | ○ | | ○ | |
| 4 | Torque limiter | x | x | | x | | x | | x | |
| 5 | Transport roller 3 | x | ○ | | ○ | | ○ | | ○ | |
| 6 | Transport roller 1 | x | ○ | | ○ | | ○ | | ○ | |
| 7 | Transport roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| 8 | Sensors | x | x | | x | | x | | x | |

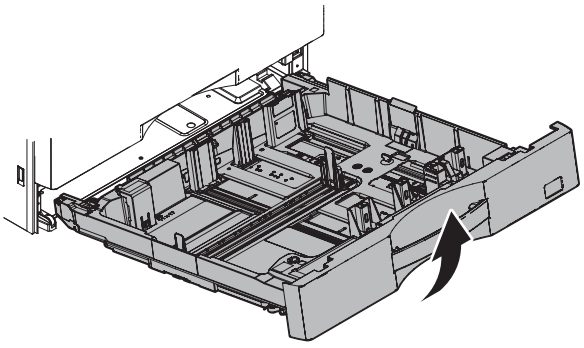
**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Paper pickup roller | x | ○ | ○ | ○ | ○ | ○ | Replace at 200K of paper feed counter or 1 year use |
| 2 | Paper feed roller | x | ○ | ○ | ○ | ○ | ○ | |
| 3 | Separation roller | x | ○ | ○ | ○ | ○ | ○ | |
| 4 | Torque limiter | x | x | x | x | x | x | |
| 5 | Transport roller 3 | x | ○ | ○ | ○ | ○ | ○ | |
| 6 | Transport roller 1 | x | ○ | ○ | ○ | ○ | ○ | |
| 7 | Transport roller 2 | x | ○ | ○ | ○ | ○ | ○ | |
| 8 | Sensors | x | x | x | x | x | x | |

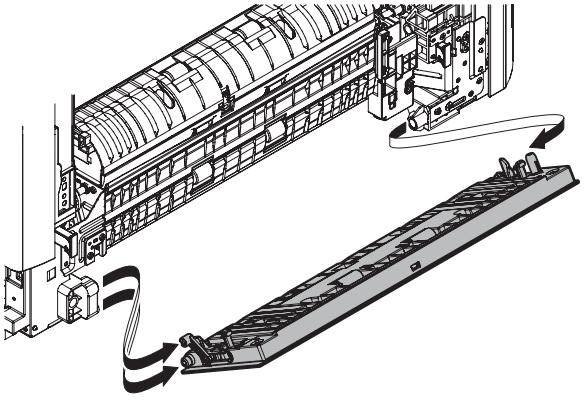


**a. Disassembly of Units**

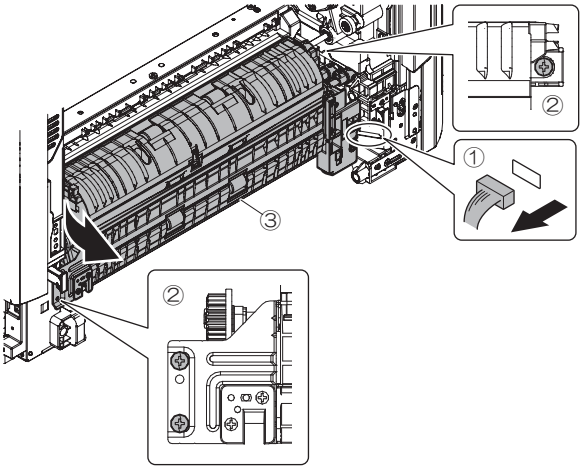
1) Pull out the paper feed tray, and lift and remove it.



2) Remove the right cover rear lower.
3) Remove the right cover front lower.
4) Remove the right door unit.



5) Disconnect the connector, and remove the tray paper feed unit.

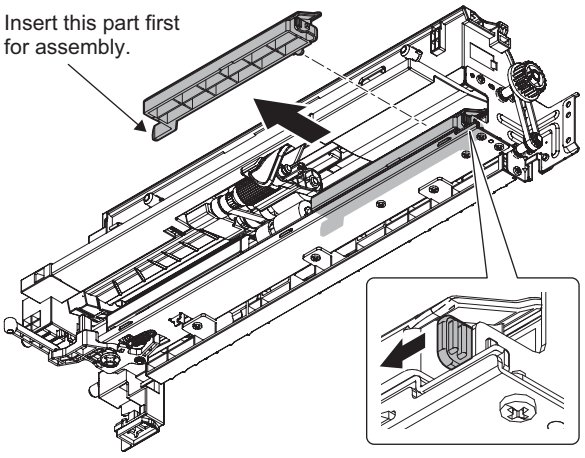



**b. Disassembly and assembly of maintenance parts**

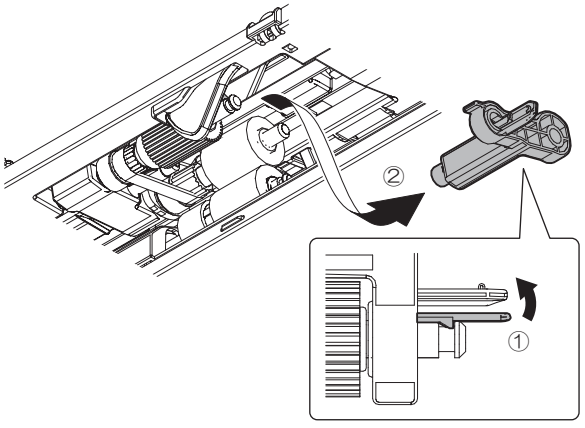
**b-1. Paper pickup roller**

**b-2. Paper feed roller**

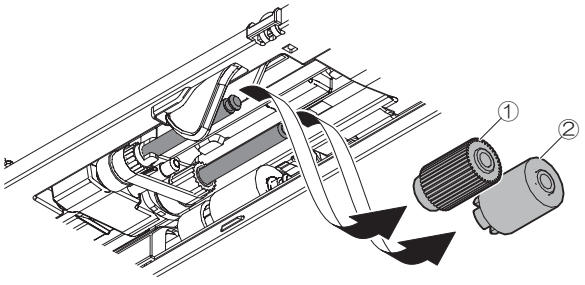
1) Remove the paper guide




2) Remove the pawl and then remove the holder.



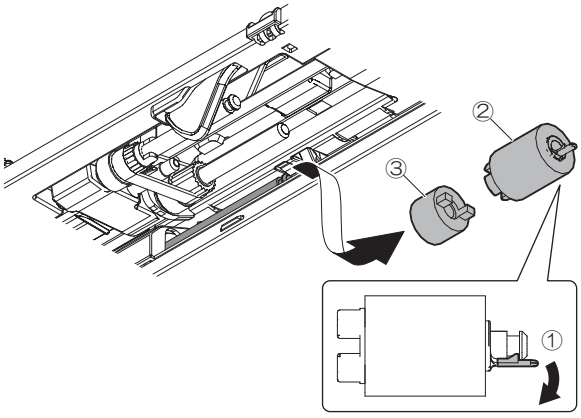

3) Remove the paper pickup roller and the paper feed roller



**b-3. Separation roller**

**b-4. Torque limiter**

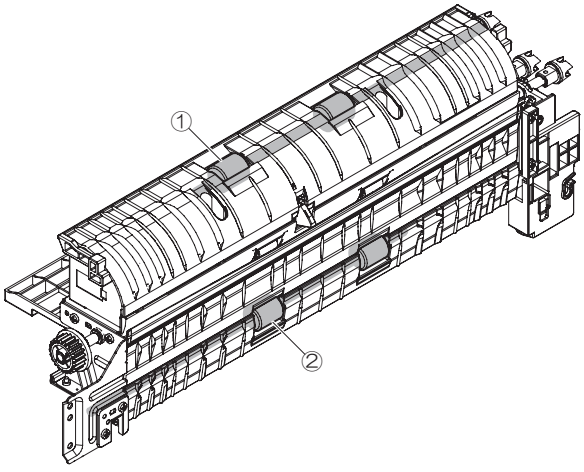
1) Remove the pawl, separation roller and then torque limiter.




**b-5. Transport roller 3**

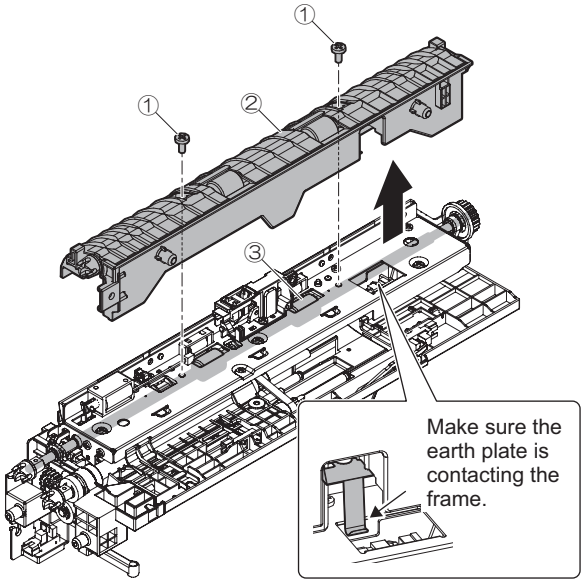
**b-6. Transport roller 1**

1) Clean the transport roller 3 and transport roller 1



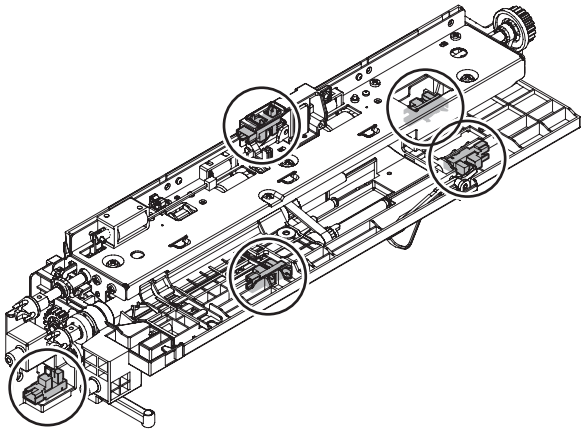

**b-7. Transport roller 2**

1) Remove the screws and the paper guide. Clean transport roller 2.




**b-8. Sensors**

1) Clean the each sensor.



## I. Paper transport section/paper exit section/ADU section

### (1) PS unit / Right door unit / Fusing rear unit / Paper exit unit / Other

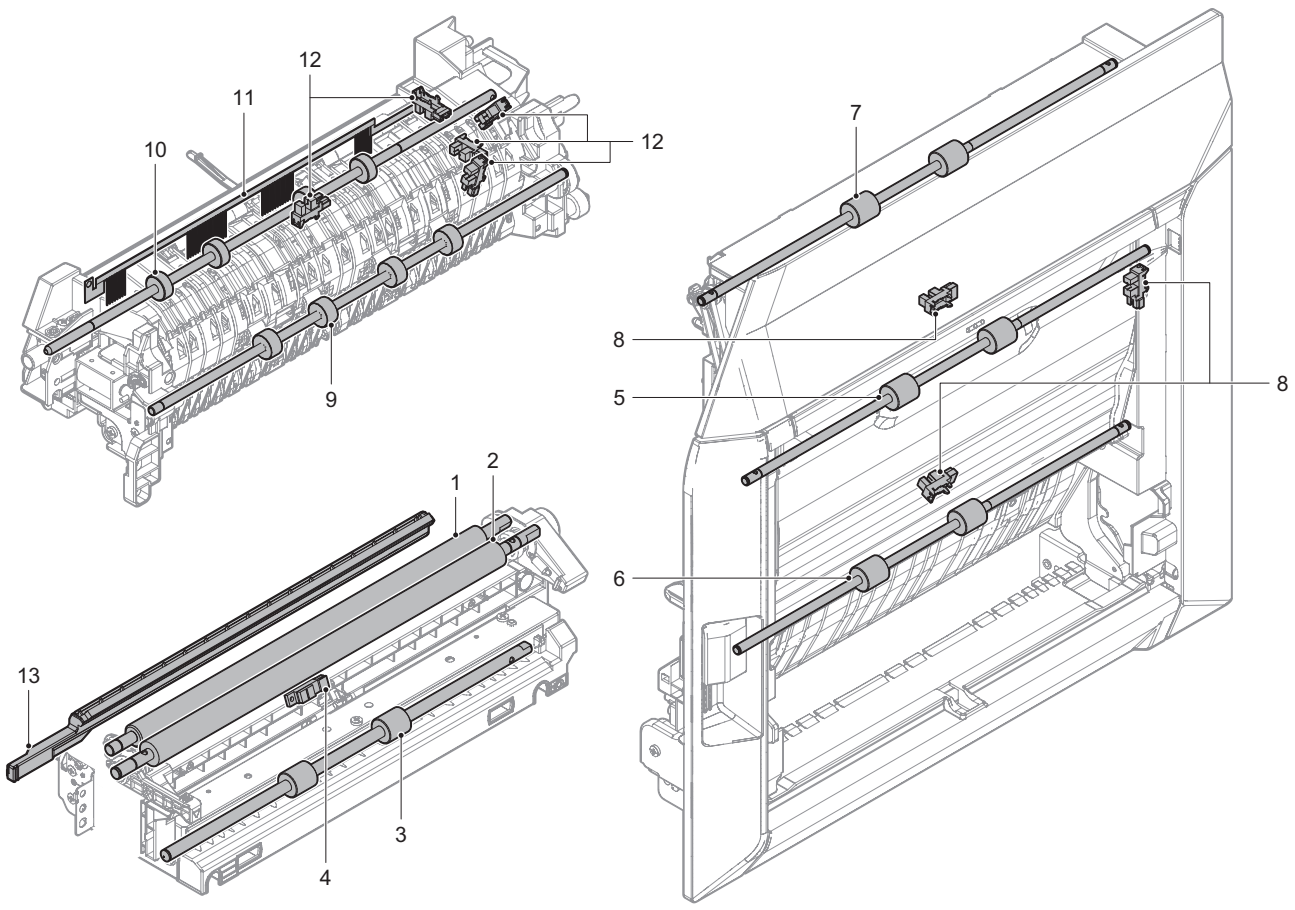
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PS unit | 1 | Registration roller (idle) | x | ○ | | ○ | | ○ | | ○ | |
| | 2 | Registration roller (drive) | x | ○ | | ○ | | ○ | | ○ | |
| | 3 | Transport roller 4 | x | ○ | | ○ | | ○ | | ○ | |
| | 4 | Sensors | x | x | | x | | x | | x | |
| Right door unit | 5 | Transport roller 8 | x | ○ | | ○ | | ○ | | ○ | |
| | 6 | Transport roller 9 | x | ○ | | ○ | | ○ | | ○ | |
| | 7 | Transport roller 7 | x | ○ | | ○ | | ○ | | ○ | |
| | 8 | Sensors | x | x | | x | | x | | x | |
| Fusing rear unit | 9 | Transport roller 6 | x | ○ | | ○ | | ○ | | ○ | |
| Paper exit unit | 10 | Paper exit roller 2 | x | ○ | | ○ | | ○ | | ○ | |
| | 11 | Discharge brush | x | x | | x | | x | | x | |
| | 12 | Sensors | x | x | | x | | x | | x | |
| Other | 13 | Paper dust removing unit | ○ | ○ | | ○ | | ○ | | ○ | |
| | - | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |

**35/40 ppm machine**

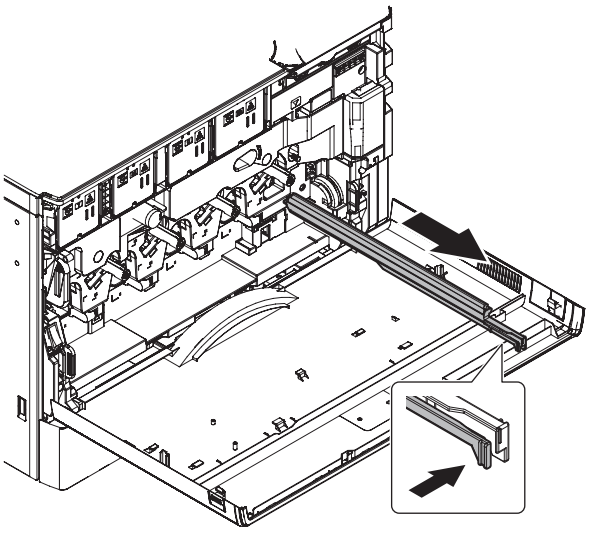
| Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| PS unit | 1 | Registration roller (idle) | x | ○ | ○ | ○ | ○ | ○ | |
| | 2 | Registration roller (drive) | x | ○ | ○ | ○ | ○ | ○ | |
| | 3 | Transport roller 4 | x | ○ | ○ | ○ | ○ | ○ | |
| | 4 | Sensors | x | x | x | x | x | x | |
| Right door unit | 5 | Transport roller 8 | x | ○ | ○ | ○ | ○ | ○ | |
| | 6 | Transport roller 9 | x | ○ | ○ | ○ | ○ | ○ | |
| | 7 | Transport roller 7 | x | ○ | ○ | ○ | ○ | ○ | |
| | 8 | Sensors | x | x | x | x | x | x | |
| Fusing rear unit | 9 | Transport roller 6 | x | ○ | ○ | ○ | ○ | ○ | |
| Paper exit unit | 10 | Paper exit roller 2 | x | ○ | ○ | ○ | ○ | ○ | |
| | 11 | Discharge brush | x | x | x | x | x | x | |
| | 12 | Sensors | x | x | x | x | x | x | |
| Other | 13 | Paper dust removing unit | ○ | ○ | ○ | ○ | ○ | ○ | |
| | - | Paper guides | ○ | ○ | ○ | ○ | ○ | ○ | |


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**a. Disassembly of Units**

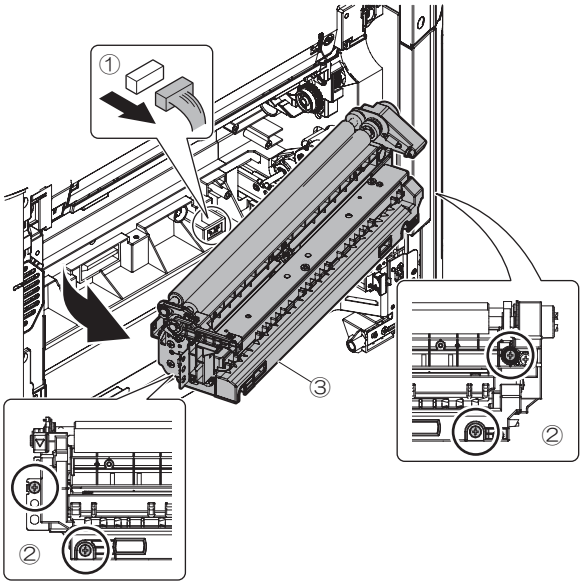
**a-1. Paper dust removing unit**

1) Remove the waste toner box.
2) Remove the paper dust cleaner unit.



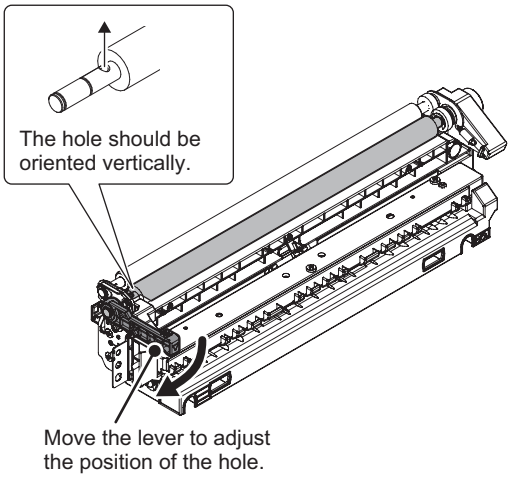
**a-2. PS unit**

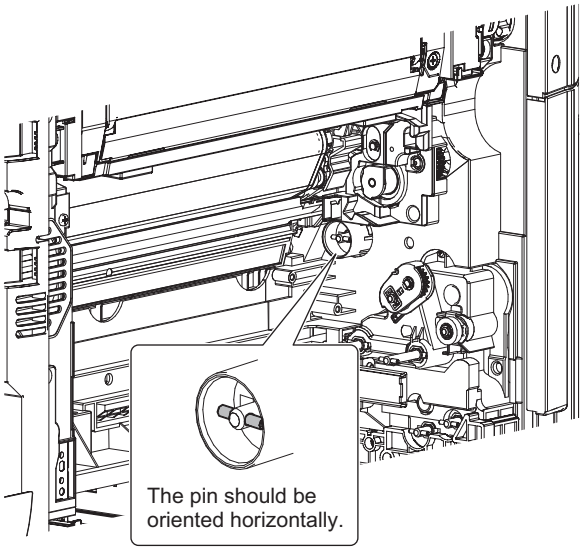
1) Paper dust removing unit
2) Remove the waste toner box.
3) Remove the paper feed tray.
4) Remove the tray paper feed unit.
5) Disconnect the connector, and remove the PS unit.




Important

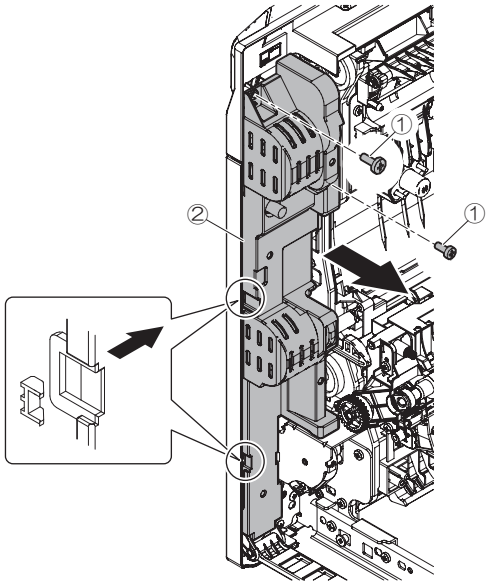
When installing the PS unit, confirm the contents shown in the following figure.



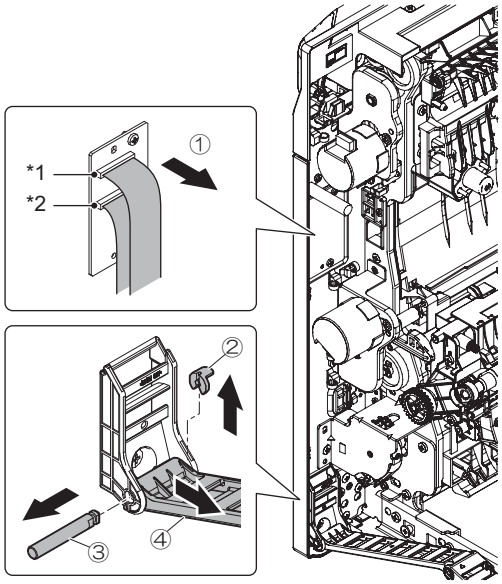



**a-3. Right door unit**

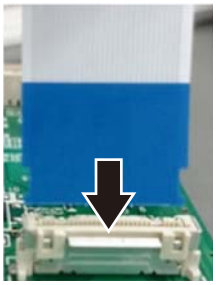
1) Remove the inner cover R upper.



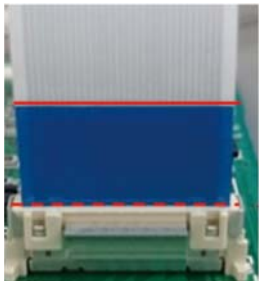

2) Remove the FFC, and remove the right door open/close harness holder.



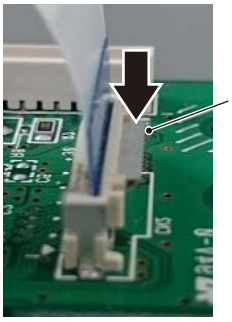

*1



Insert the FFC straight until it stops.

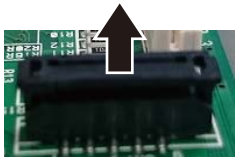


CAUTION :
Check that the FFC reinforce plate is parallel to the connector.



The lock is released by pressing the tab of the FFC connector with the direction described by the arrow.

*2

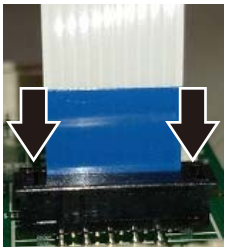


* When the lock lever is lifted up, be care ful not to damage the connector.

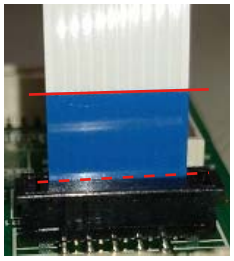
Lift up the lock lever before inserting the FFC.



Insert the FFC straight until it stops.

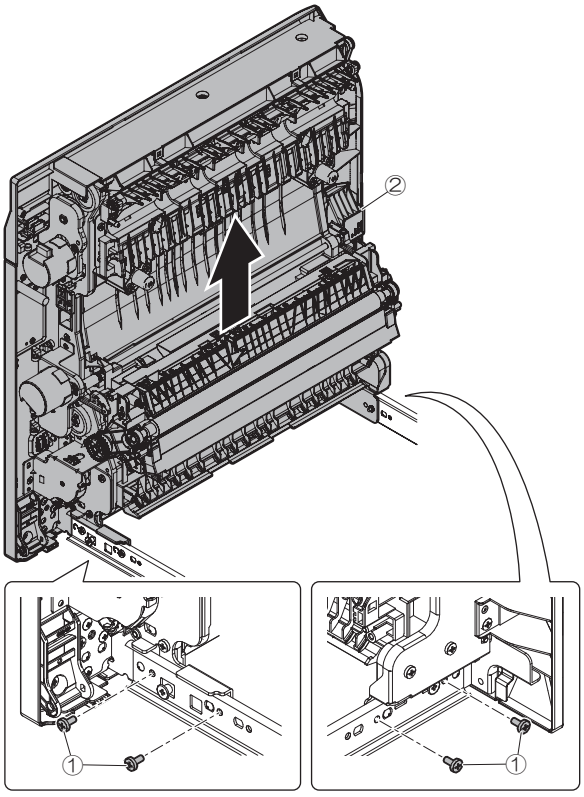


Pull down the lock lever and lock the part.



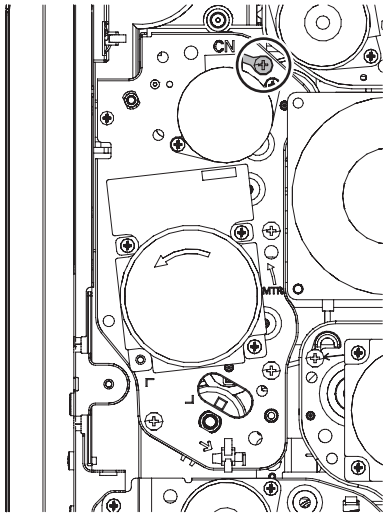
CAUTION :
Check that the FFC reinforce plate is parallel to the connector.

3) Remove the right door.

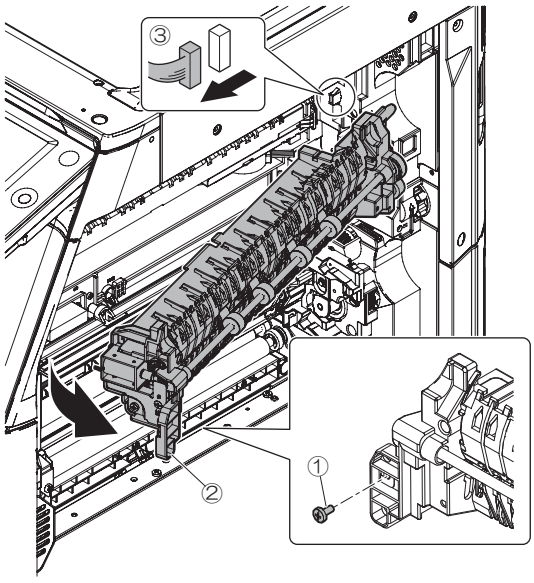



**a-4. Fusing rear unit**

1) Remove the right cover rear upper
2) Remove the ground wire from the fusing drive unit.




3) Remove the fusing unit.
4) Remove the fusing rear unit.Then disconnect the connector.

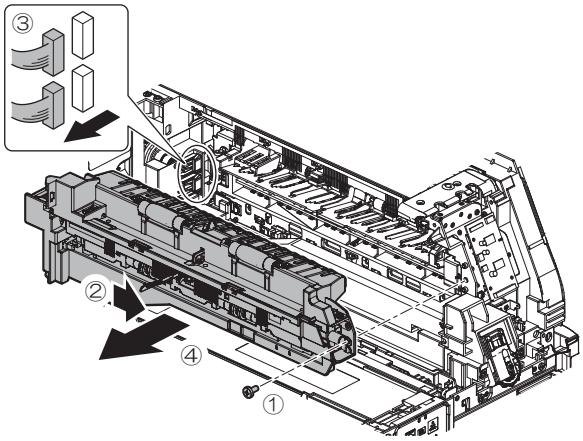



**a-5. Paper exit unit**

1) Remove the front cover upper right.
2) Remove the paper exit unit.

Important

When the connector is attached, check that the connector is attached firmly. (Check that the connector is attached straight.)



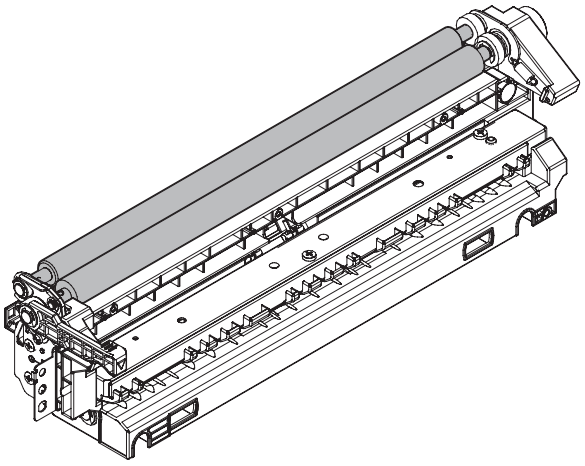
**b. Disassembly and assembly of maintenance parts**

**PS unit**

**b-1. Registration roller (idle)**

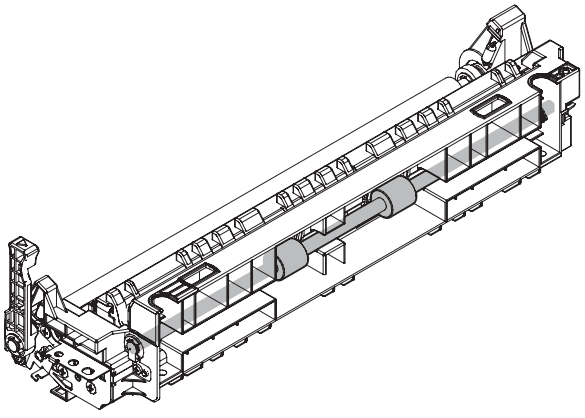
**b-2. Registration roller (drive)**

1) Clean the registration roller (idle) and the registration roller (drive).



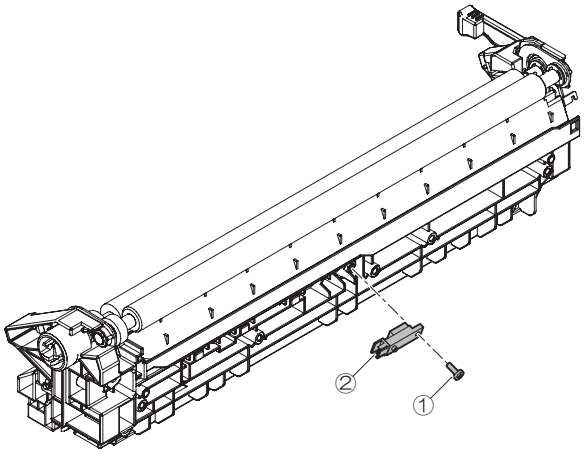
**b-3. Transport roller 4**

1) Clean the transport roller 4.



**b-4. Sensor**

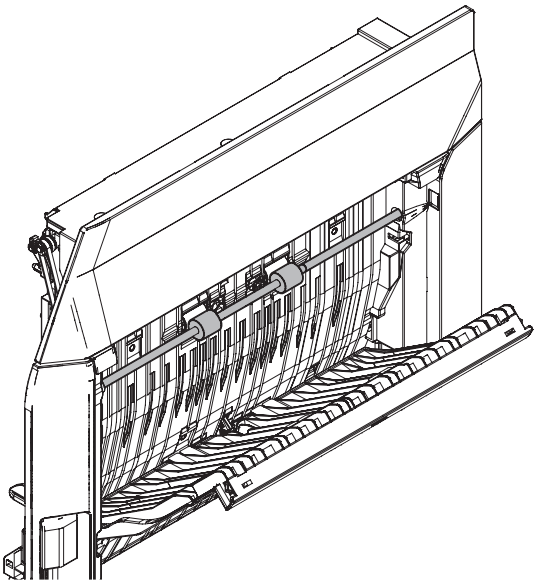
1) Remove the screw and the sensor.




**Right door unit**

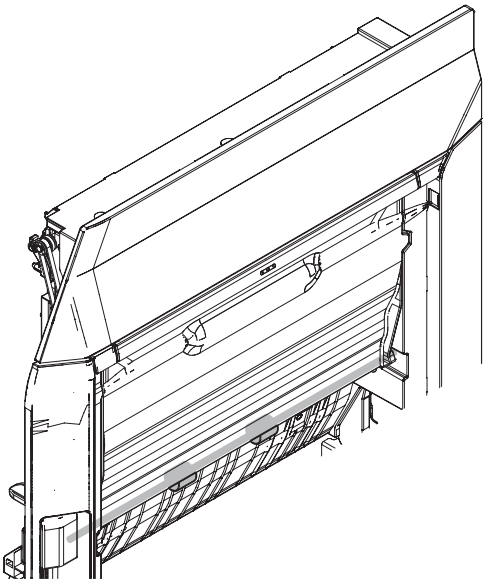
**b-5. Transport roller 8**

1) Open the door and clean the transport roller 8.



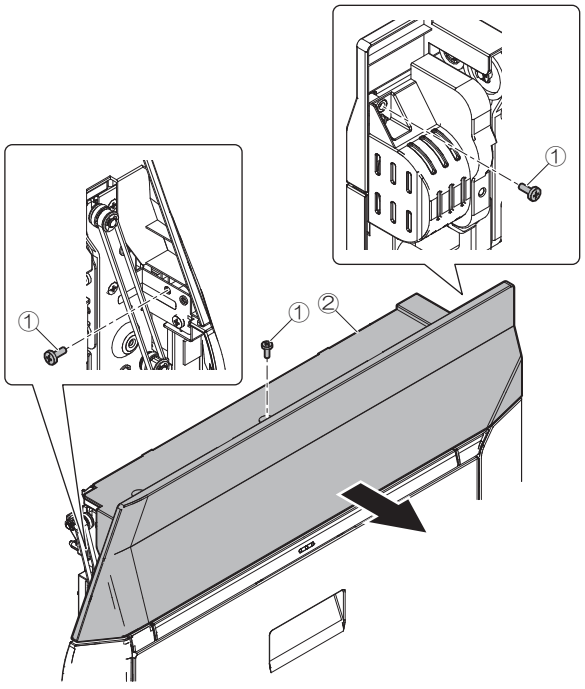
**b-6. Transport roller 9**

1) Remove the manual paper feed unit and clean the transport roller 9.

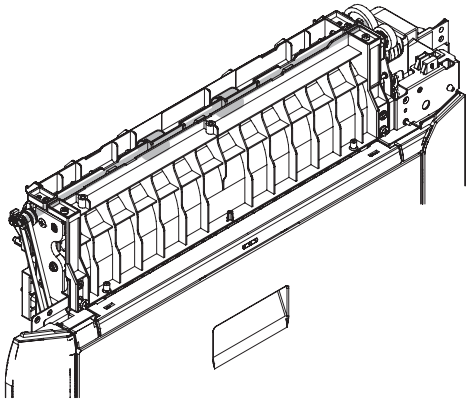


**b-7. Transport roller 7**

1) Remove the screw and cover.

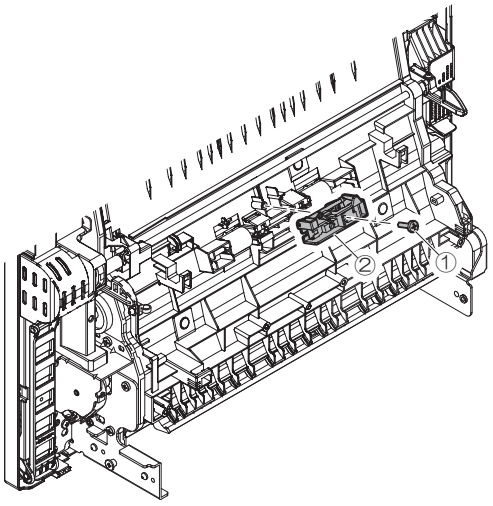



2) Clean the transport roller 7.

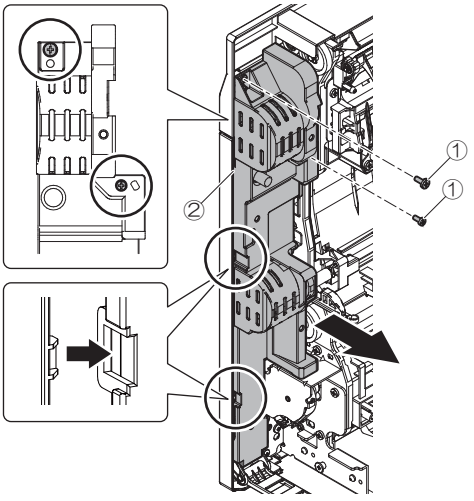


**b-8. Sensor**

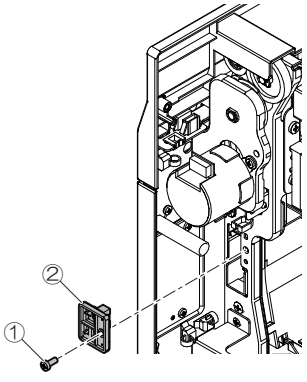
1) Remove the secondary transfer unit.
2) Remove the screw and sensor.



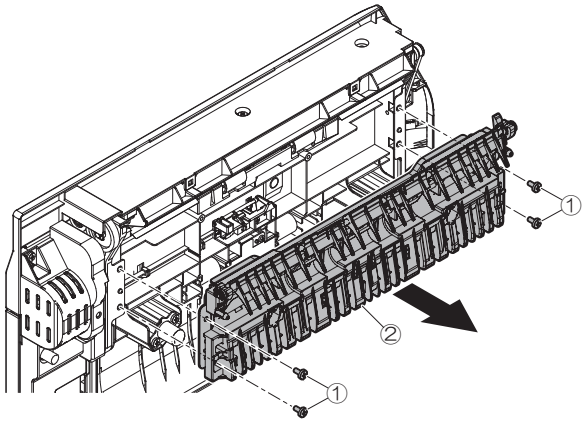

3) Remove the screw and cover.



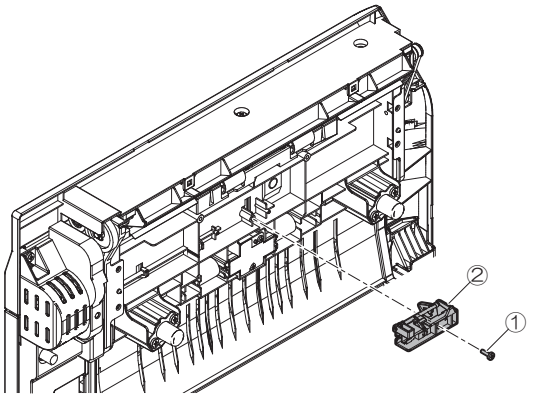

4) Remove the screw and the sensor.



5) Remove the screw and the paper guide.



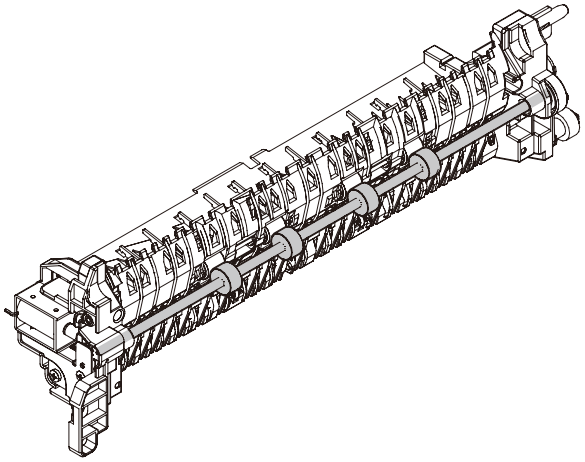

6) Remove the screw and sensor.




**Fusing rear unit**

**b-9. Transport roller 6**

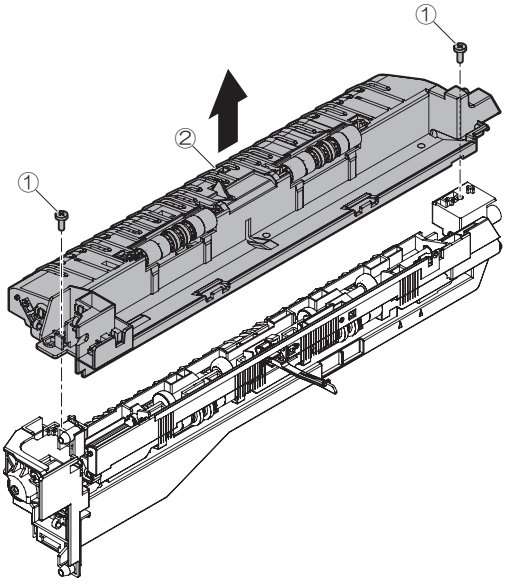
1) Clean the transport roller 6.



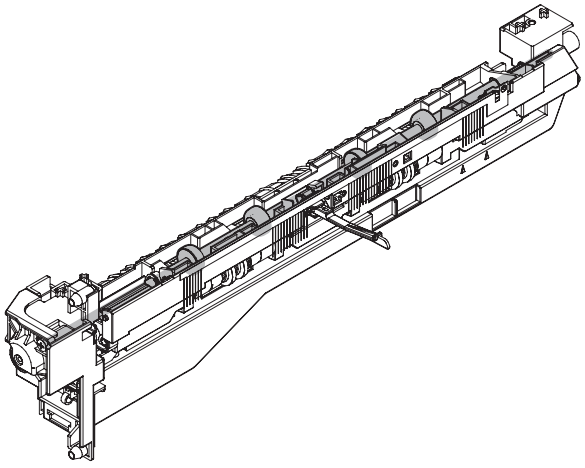
**Paper exit unit**

**b-10. Paper exit roller 2**

1) Remove the screw and the paper guide.

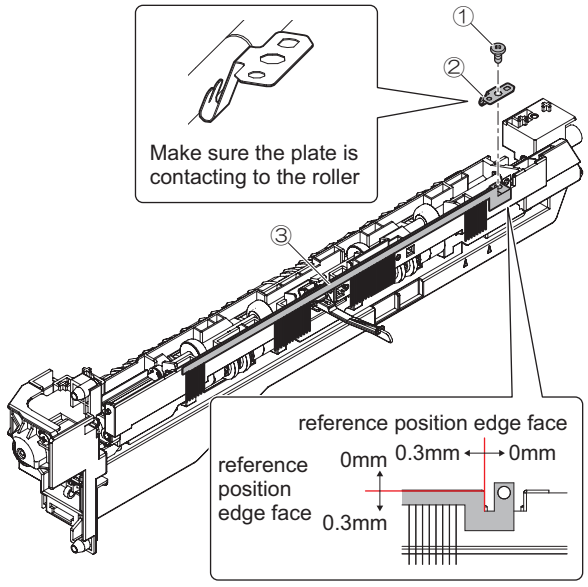



2) Clean the paper exit roller 2.



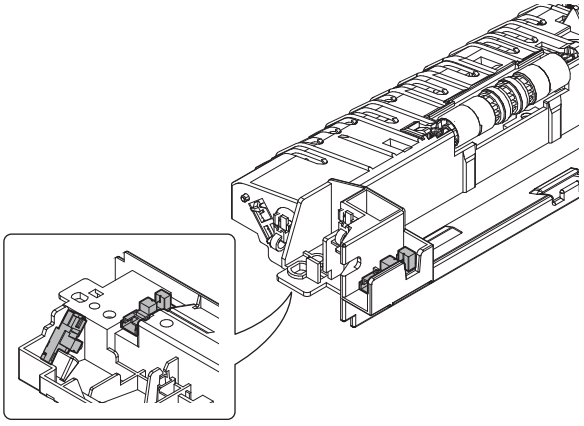
**b-11. Discharge brush**

1) Remove the screw, the earth plate and the discharge brush.

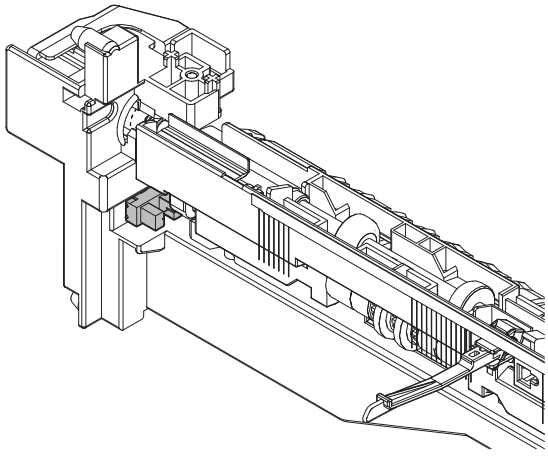



**b-12. Sensors**

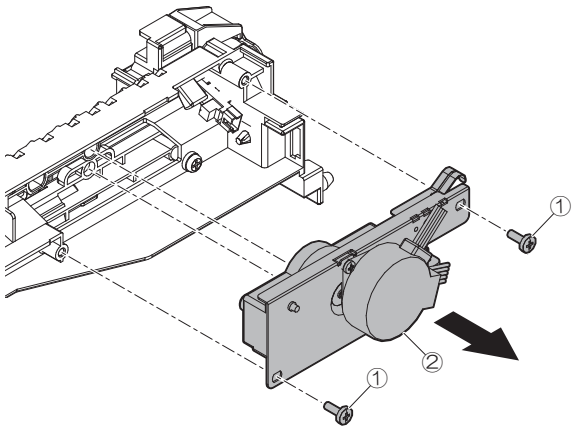
1) Remove sensors (x3) from the paper guide.



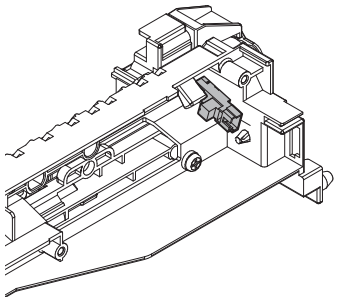
2) Remove the sensor from the paper guide.



3) Remove the screw and shifter drive.



4) Remove the sensor from the paper guide.



## J. Drive section

### (1) Main drive unit

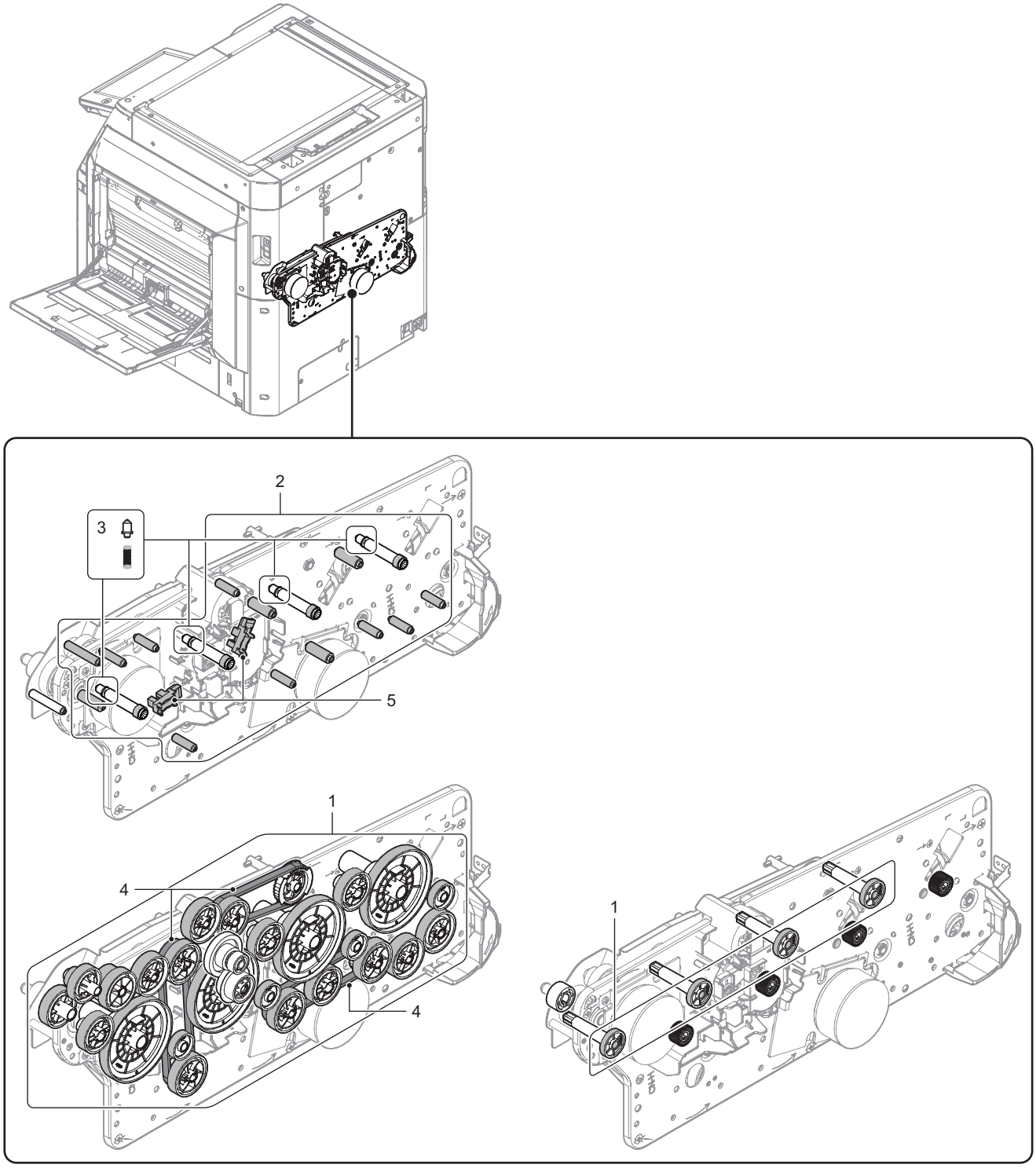
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| 2 | Shafts | - | x | | x | | x | | x | |
| 3 | Shaft earth section | - | x | | x | | x | | x | Apply grease (UKOG-0012QSZZ) to the specified position when checking |
| 4 | Belts | - | x | | x | | x | | x | |
| 5 | Sensors | - | x | | x | | x | | x | |

**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| 2 | Shafts | - | x | x | x | x | x | |
| 3 | Shaft earth section | - | x | x | x | x | x | Apply grease (UKOG-0012QSZZ) to the specified position when checking |
| 4 | Belts | - | x | x | x | x | x | |
| 5 | Sensors | - | x | x | x | x | x | |


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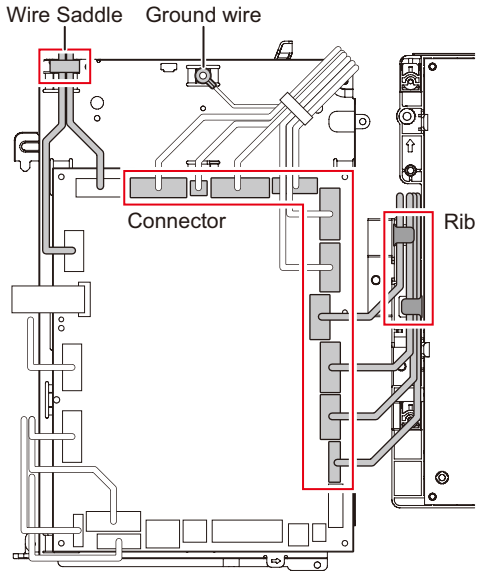
**a. Disassembly of Units**

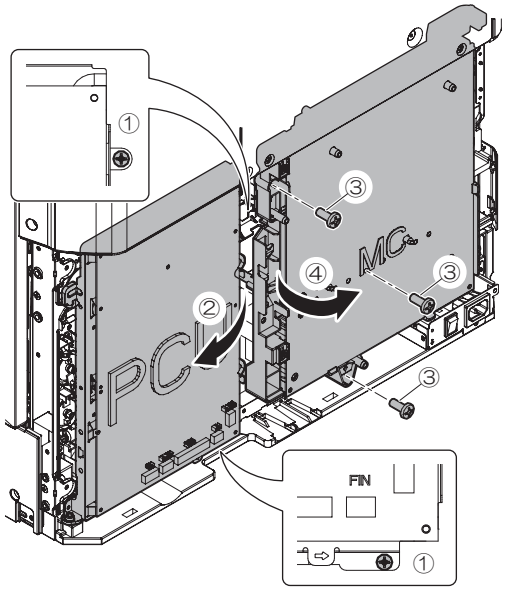
**a-1. Main drive unit**

1) Remove the waste toner box.
2) Remove the developing unit.
3) Remove the OPC drum unit.
4) Remove the primary transfer unit.
5) Remove the rear cover.
6) Remove the harness from the wire saddle.

   Remove the harness from the rib.

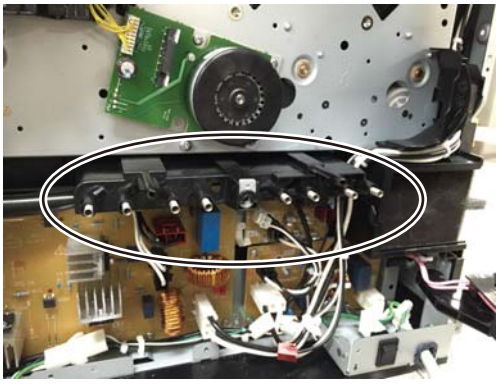
   Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit and the MC fixing plate unit.



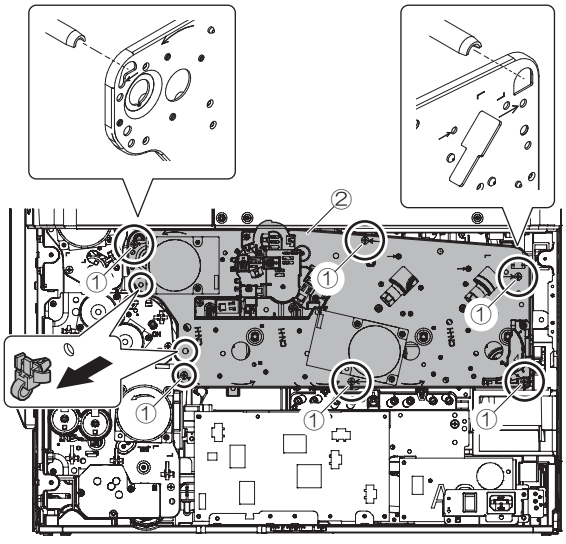




**NOTE:** Be careful with the following points when the MC PWB is attached.

- Check that each spring electrode is attached correctly.
- Check that each spring electrode is not bent or deformed.



7) Remove the main drive unit.



### (2) Transport drive unit / Fusing drive unit / Paper exit drive unit

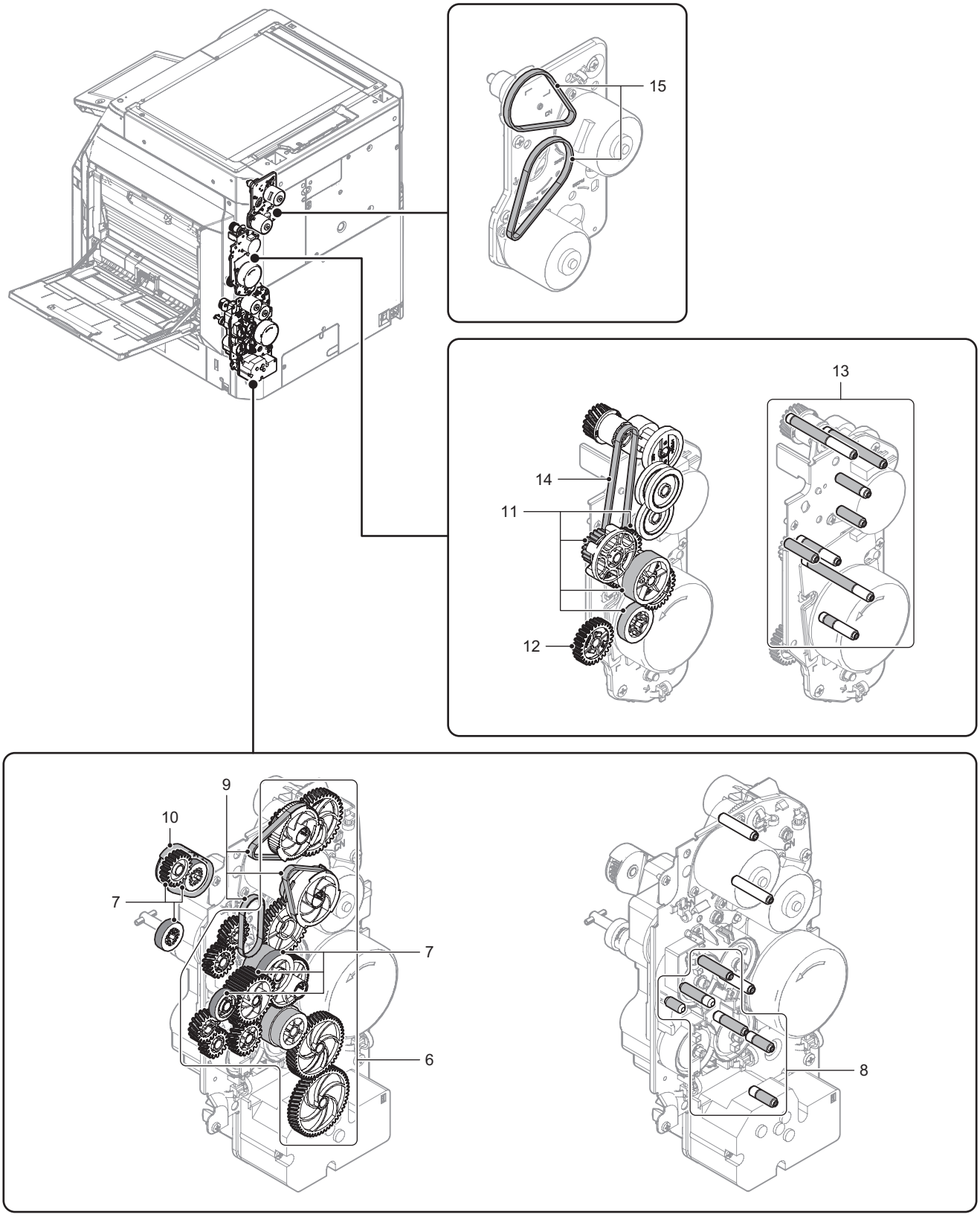
x: Check (Clean, replace, or adjust according to necessity) O: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Unit name | Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Transport drive unit | 6 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 7 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | 8 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 9 | Belts | - | x | | x | | x | | x | Do not attach grease |
| | 10 | Connection arm | - | x | | x | | x | | x | |
| Fusing drive unit | 11 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | 12 | Gears | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 13 | Shafts | - | x | | x | | x | | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 14 | Belts | - | x | | x | | x | | x | Do not attach grease |
| Paper exit drive unit | 15 | Belts | - | x | | x | | x | | x | Do not attach grease |

**35/40 ppm machine**

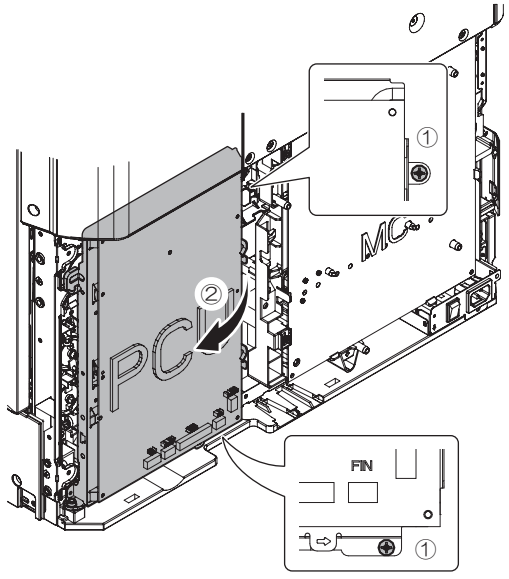
| Unit name | Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| Transport drive unit | 6 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 7 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | 8 | Shafts | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 9 | Belts | - | x | x | x | x | x | Do not attach grease |
| | 10 | Connection arm | - | x | x | x | x | x | |
| Fusing drive unit | 11 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0299FCZZ) to the specified position when checking |
| | 12 | Gears | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 13 | Shafts | - | x | x | x | x | x | Apply grease (UKOG-0307FCZZ) to the specified position when checking |
| | 14 | Belts | - | x | x | x | x | x | Do not attach grease |
| Paper exit drive unit | 15 | Belts | - | x | x | x | x | x | Do not attach grease |


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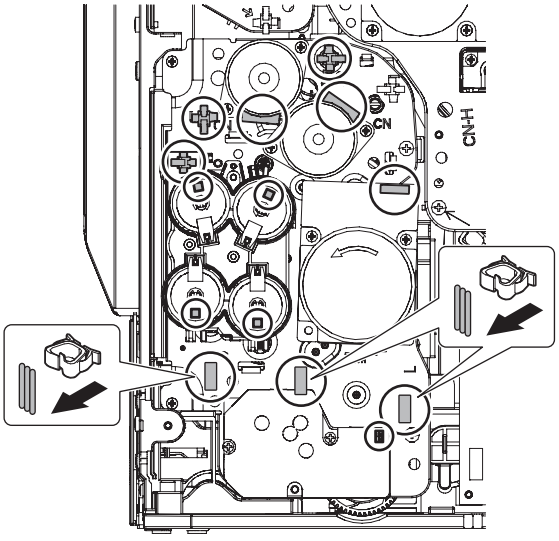
**a. Disassembly of Units**

**a-1. Transport drive unit**

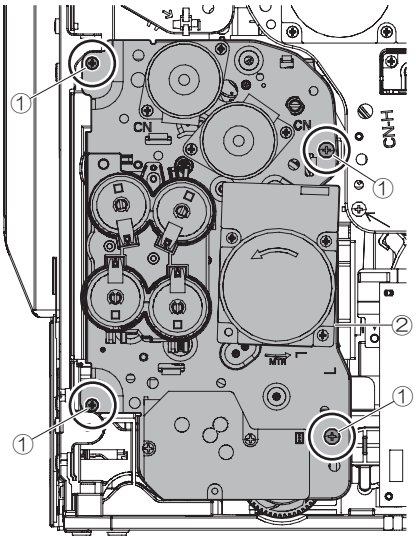
1) Remove the rear cover.
2) Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit.




3) Remove the connector, the reuse band and the harness from the transport drive unit.

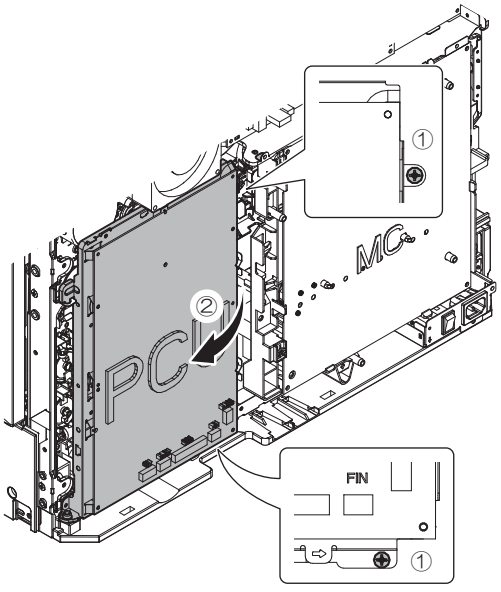



4) Remove the transport drive unit.

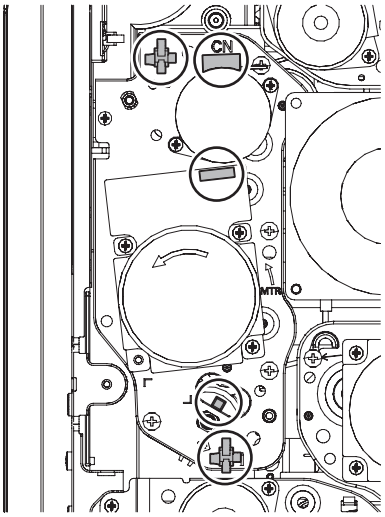



**a-2. Fusing drive unit**

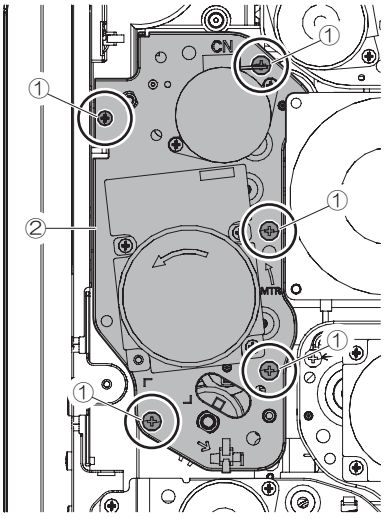
1) Remove the rear cover.
2) Remove the right cover rear upper.
3) Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit.



4) Remove the connector and the reuse band from the fusing drive unit.

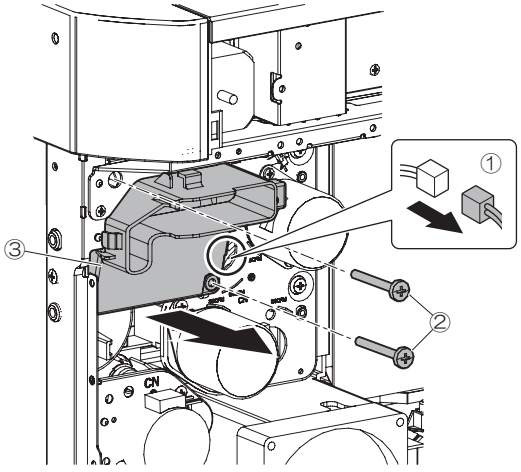



5) Remove the fusing drive unit

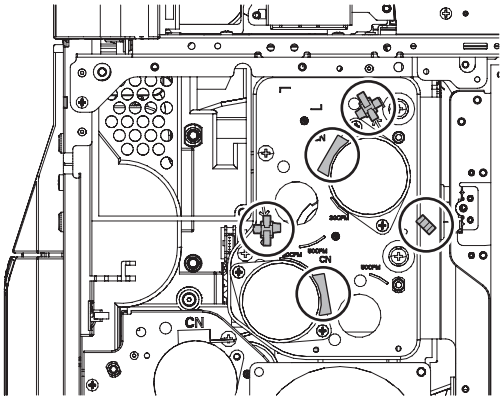



**a-3. Paper exit drive unit**

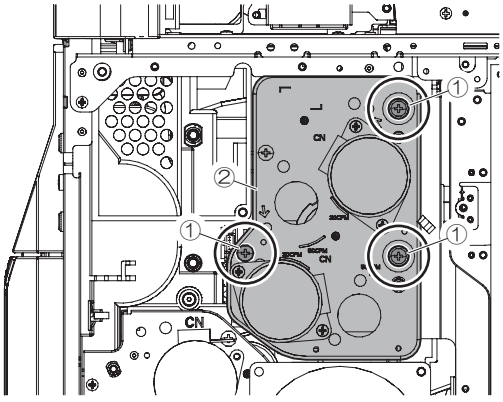
1) Remove the rear cover.
2) Remove the right cover rear upper.
3) Remove the delivery fan cover.




4) Remove the connector, the reuse band and the harness from the paper exit drive unit.




5) Remove the paper exit drive unit.



## K. Fusing section

### (1) Fusing unit

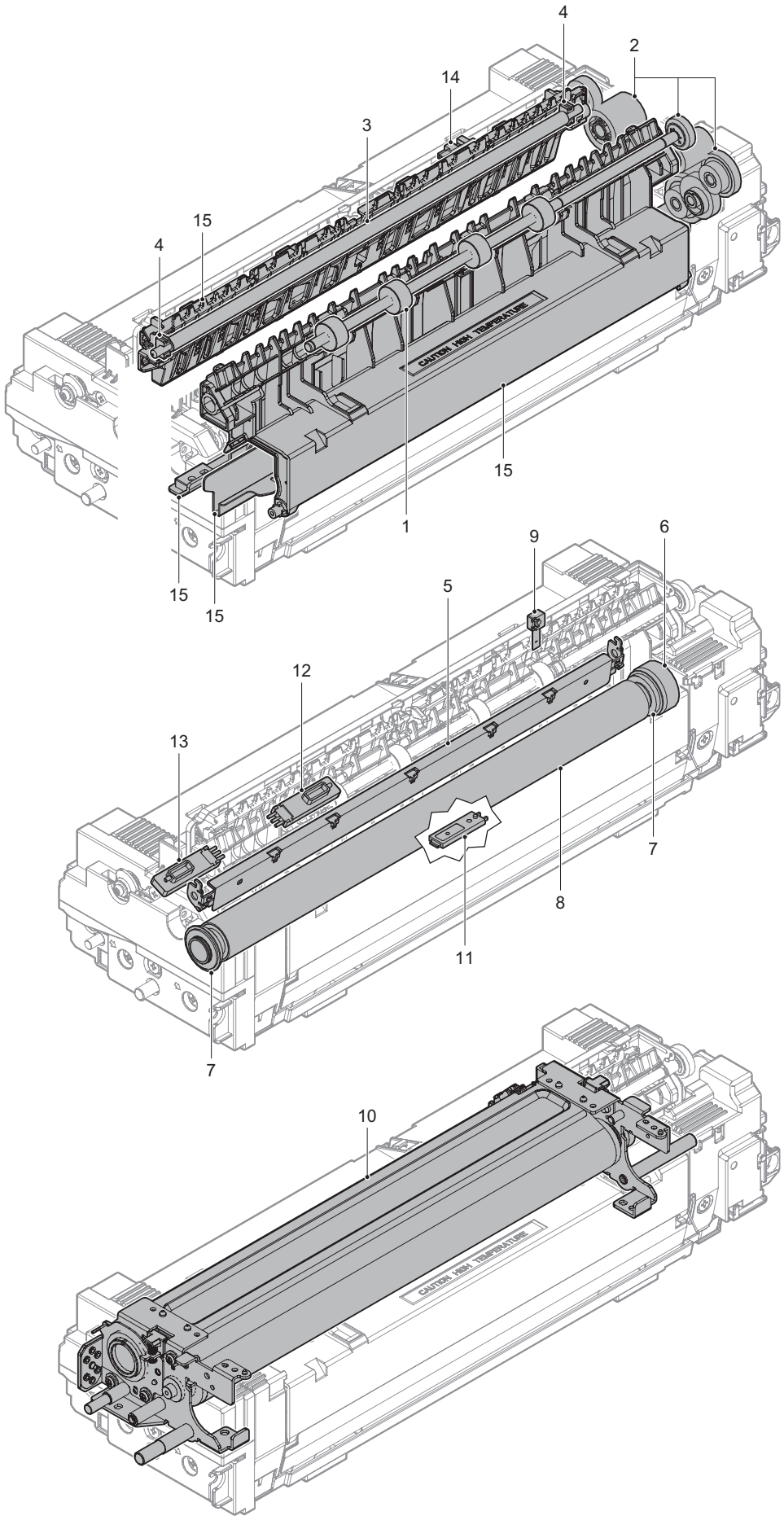
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lower fusing transport roller | x | x | | x | | x | | x | |
| 2 | Gears | x | x | | x | | x | | x | |
| 3 | Upper fusing transport roller | x | x | | x | | x | | x | |
| 4 | Pressure bearing | x | x | | x | | x | | x | |
| 5 | Separation plate | x | x | | x | | x | | x | Clean foreign matter adhesion |
| 6 | Pressure roller gear | x | x | | x | | x | | x | Replace as needed |
| 7 | Pressure roller bearing | x | x | | x | | x | | x | Replace as needed |
| 8 | Pressure roller | x | ▲ | | ▲ | | ▲ | | ▲ | Apply grease (UKOG-0235FCZZ) to the shaft when replacing and after completion of replacement, Clean new pressure roller surface with alcohol |
| 9 | Upper thermistor | x | x | | x | | x | | x | Replace as needed |
| 10 | Fusing belt unit | x | ▲ | | ▲ | | ▲ | | ▲ | |
| 11 | Lower thermistor | x | x | | x | | x | | x | Replace as needed |
| 12 | Main thermistor | x | x | | x | | x | | x | |
| 13 | Sub thermistor | x | x | | x | | x | | x | |
| 14 | Sensors | x | x | | x | | x | | x | |
| 15 | Paper guides | ○ | ○ | | ○ | | ○ | | ○ | |

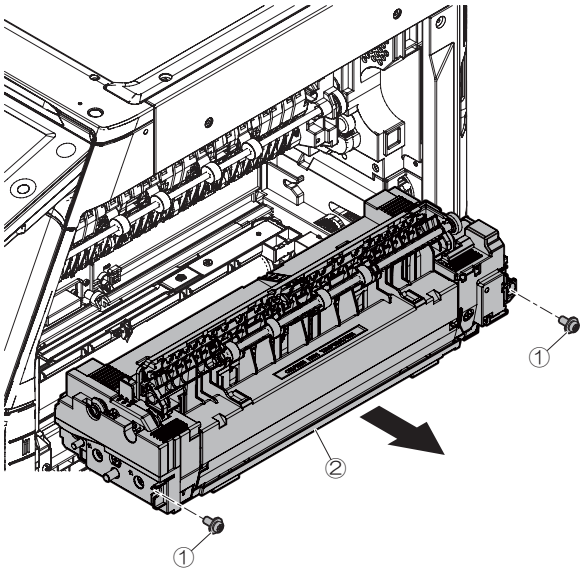
**35/40 ppm machine**

| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Lower fusing transport roller | x | x | x | x | x | x | |
| 2 | Gears | x | x | x | x | x | x | |
| 3 | Upper fusing transport roller | x | x | x | x | x | x | |
| 4 | Pressure bearing | x | x | x | x | x | x | |
| 5 | Separation plate | x | x | x | x | x | x | Clean foreign matter adhesion |
| 6 | Pressure roller gear | x | x | x | x | x | x | Replace as needed |
| 7 | Pressure roller bearing | x | x | x | x | x | x | Replace as needed |
| 8 | Pressure roller | x | ▲ | ▲ | ▲ | ▲ | ▲ | Apply grease (UKOG-0235FCZZ) to the shaft when replacing and after completion of replacement, Clean new pressure roller surface with alcohol |
| 9 | Upper thermistor | x | x | x | x | x | x | Replace as needed |
| 10 | Fusing belt unit | x | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 11 | Lower thermistor | x | x | x | x | x | x | Replace as needed |
| 12 | Main thermistor | x | x | x | x | x | x | |
| 13 | Sub thermistor | x | x | x | x | x | x | |
| 14 | Sensors | x | x | x | x | x | x | |
| 15 | Paper guides | ○ | ○ | ○ | ○ | ○ | ○ | |


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CAUTION HIGH TEMPERATURE
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CAUTION HIGH TEMPERATURE

**a. Disassembly of Units**

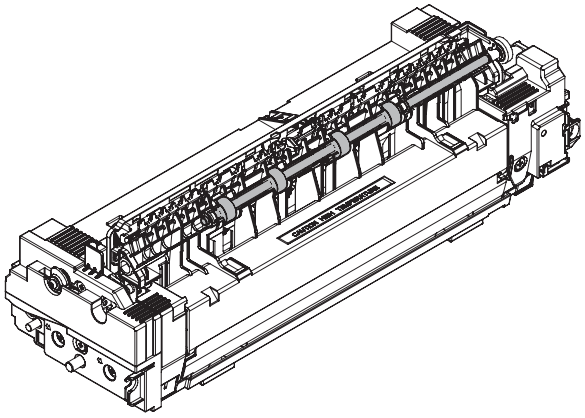
1) Open the right door, and remove the fusing unit.



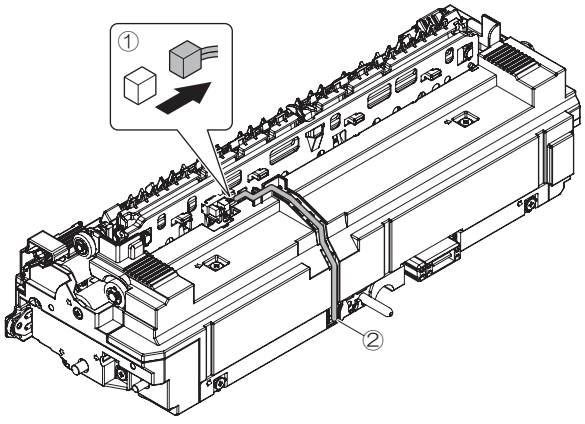

**b. Disassembly and assembly of maintenance parts**

**b-1. Lower fusing transport roller**

1) Clean the lower fusing transport roller

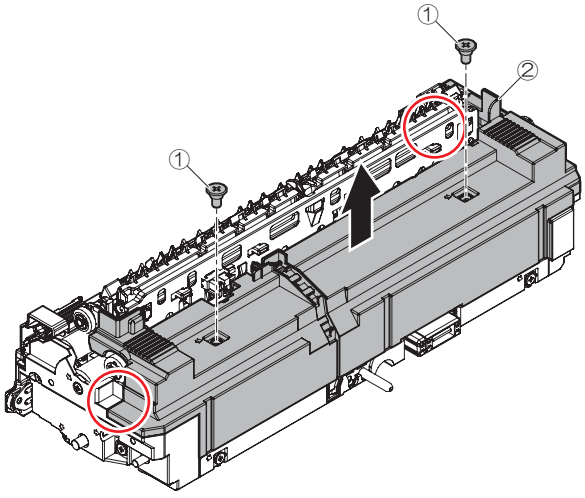


2) Remove the connector and detach the harness from the rib.

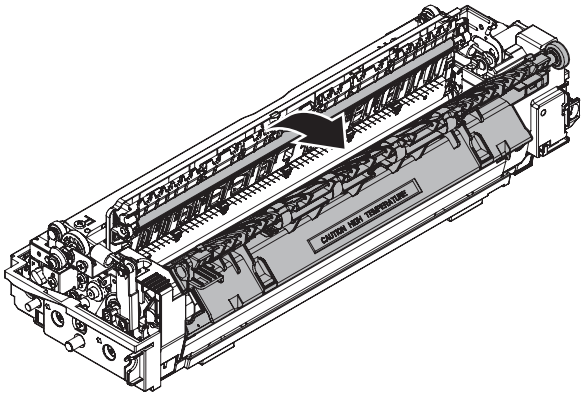



3) Remove the spring and the cover

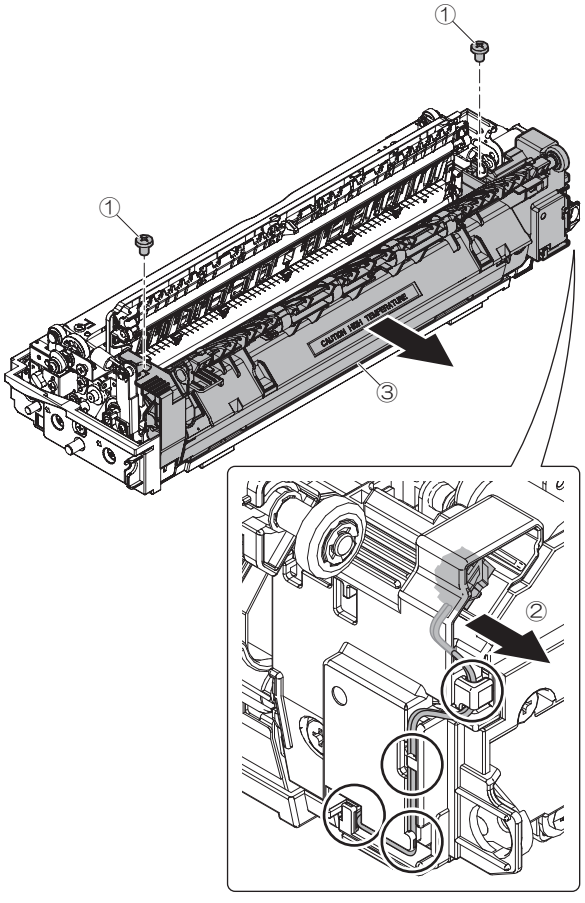
**NOTE:** Do not break the pawls while removing (as shown in the red circles.).



4) Open the lower paper guide and clean the upper paper guide, lower paper guide and upper fusing transport roller.

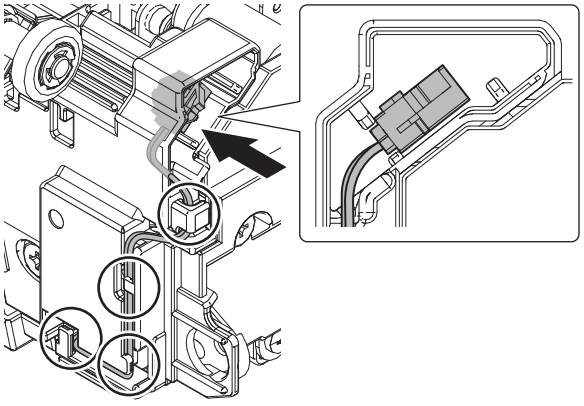



5) Remove the screws, harnesses, and then remove the paper guide.

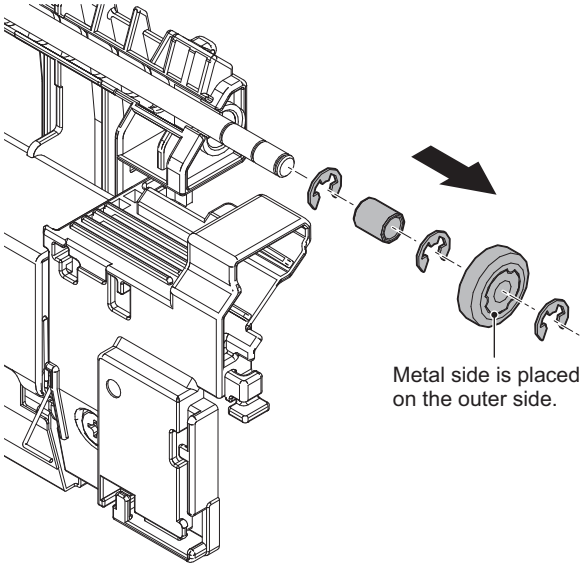



**NOTE:** When mounting the harnesses, make sure to wire the connectors so that the connector won't protrude.

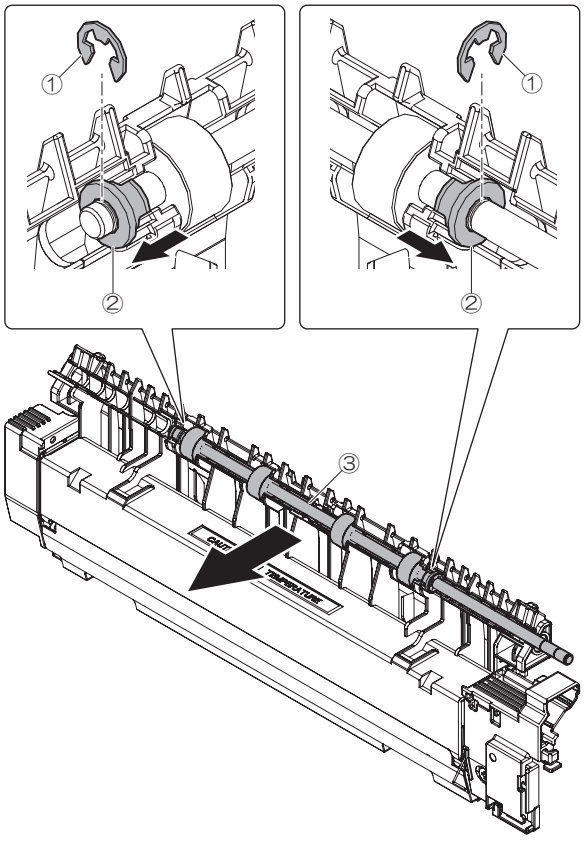
- Attach the connector in the direction shown in the illustration below. Hook the connector rib to the holder rib to fix.
- Slide extra harness into the areas in the red circle.



6) Remove the E ring, gear and bearing.

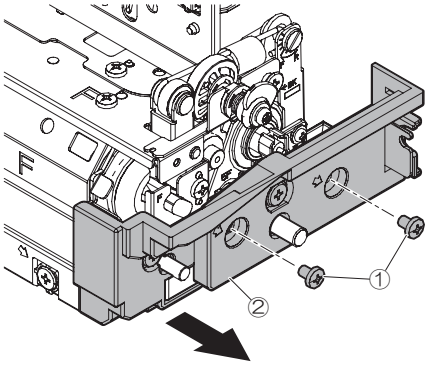


7) Remove the E ring. shift the bearing and remove the lower fusing transport roller.

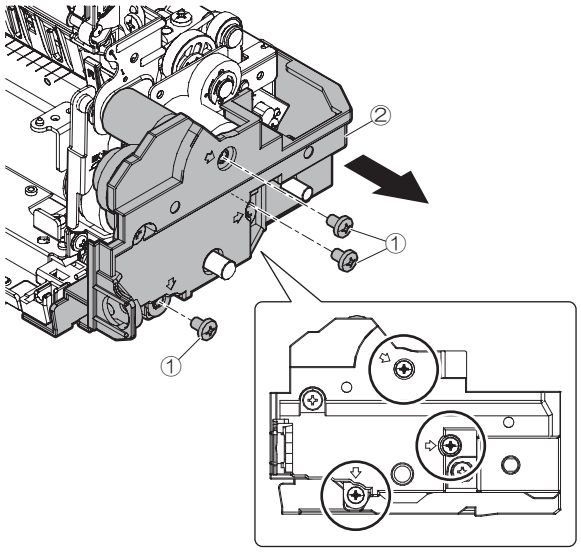



**b-2. Gears**

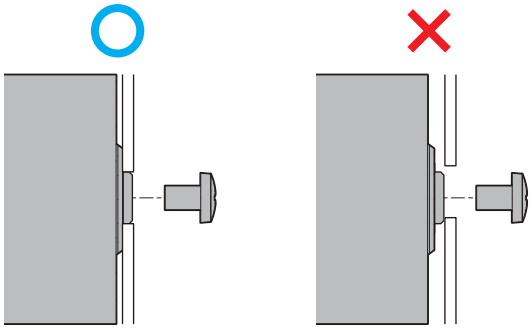
1) Remove the screw and the cover.



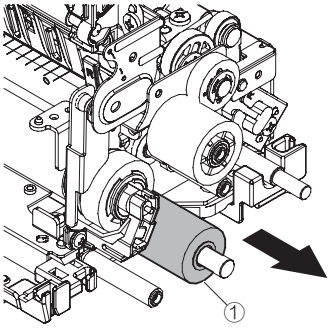

2) Remove the screw and the cover.




**NOTE:** Be sure to confirm that bearing should be fixed by the hole of cover when the cover is installed.



3) Remove the gear.

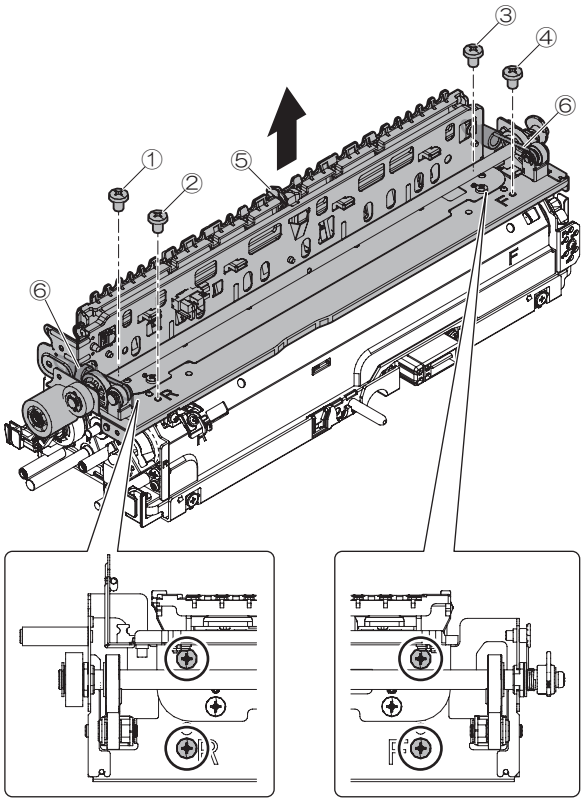


**b-3. Upper fusing transport roller**

1) Remove the screws, paper guide, and then remove the springs.

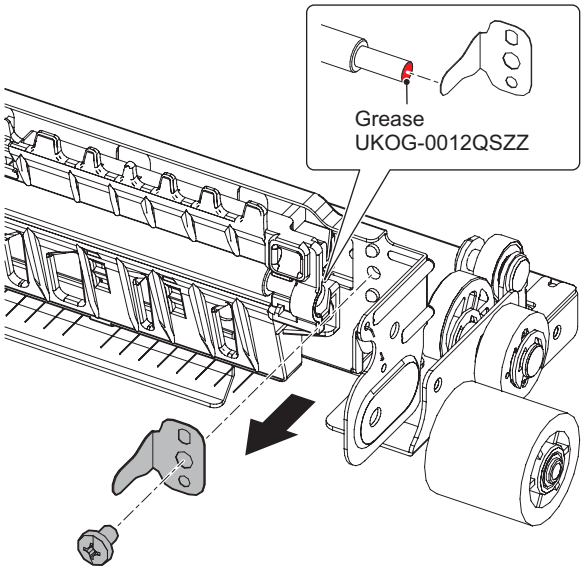
**NOTE:** Make sure the paper guide does not contact with the separation plate.

When attaching the paper guide, fasten screws in the order of (1)-(4) shown in the illustration below.

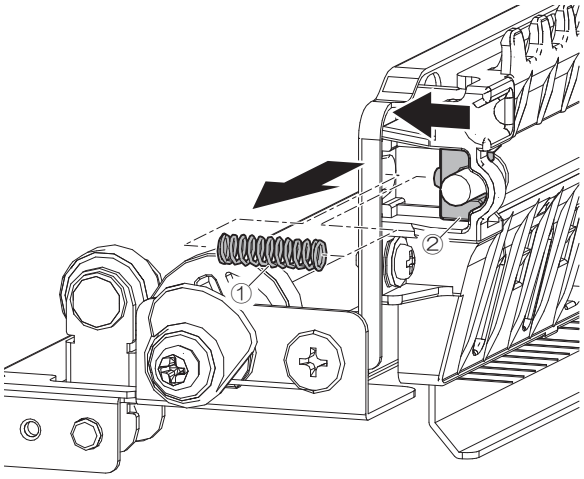



2) Remove the screw and earth plate.

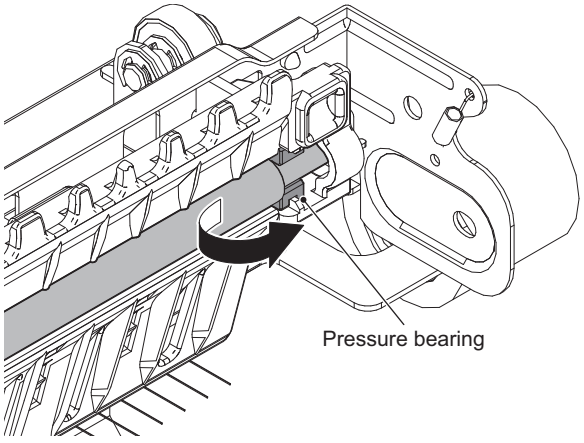
**NOTE:** Be sure to confirm that the edge of the upper fusing transport roller and earth plate are contacted when assembled.




3) Remove the spring and shift the pressure bearing.

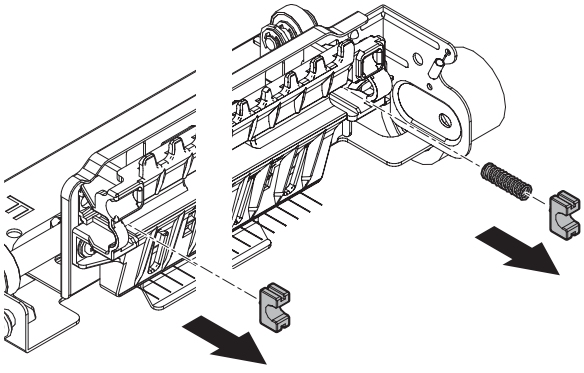



4) Hold the pressure bearing and remove the upper fusing transport roller.



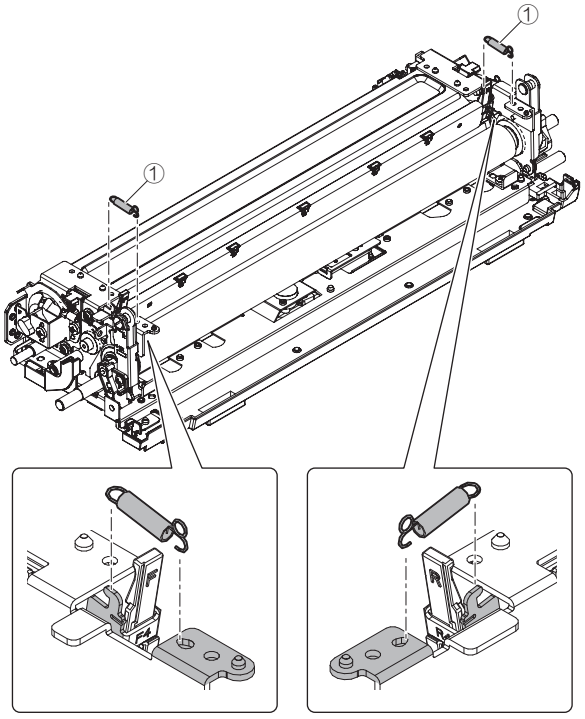

**b-4. Pressure bearing**

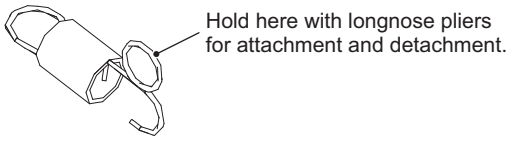
1) Remove the pressure bearing and the spring.



**b-5. Separation plate**

1) Remove the spring

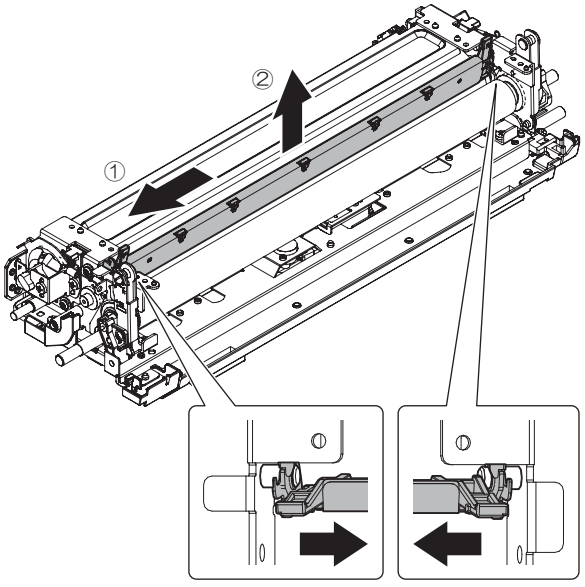



2) Slide the holder to the right and left and remove from the boss.

Important

Do not scratch, contaminate or deform the surface of separation plate.




**b-6. Pressure roller gear**

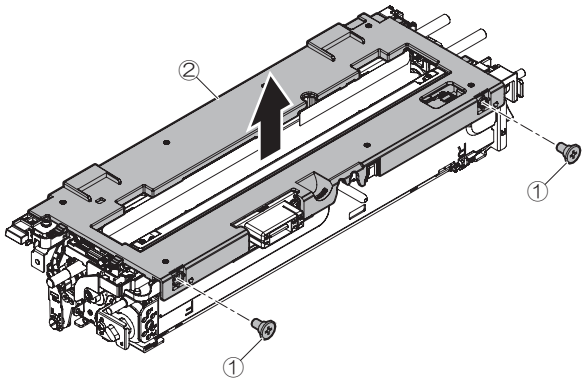
**b-7. Pressure roller bearing**

**b-8. Pressure roller**

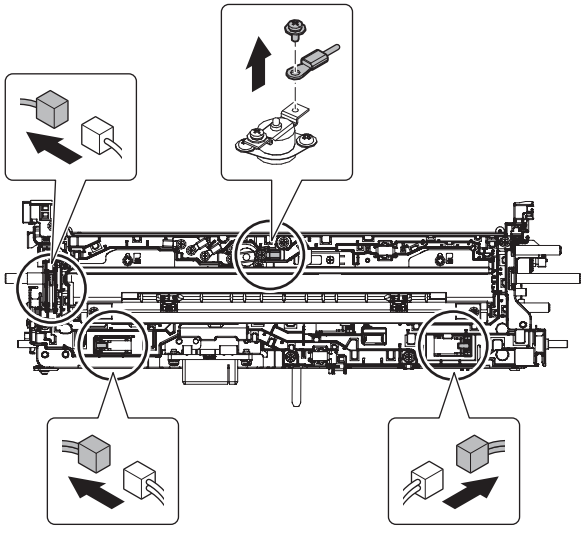
1) Turn the fusing unit upside down. Remove the screws and then remove the cover.

Important

Make sure the holder has been removed.

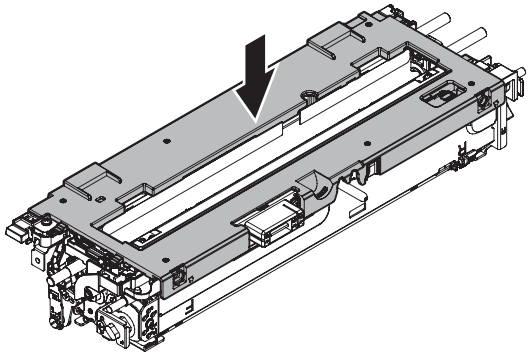



2) Disconnect the connectors and detach the harness from the rib.

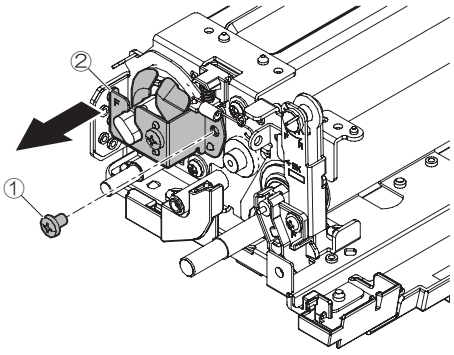


3) Attach the cover (without fastening screw).

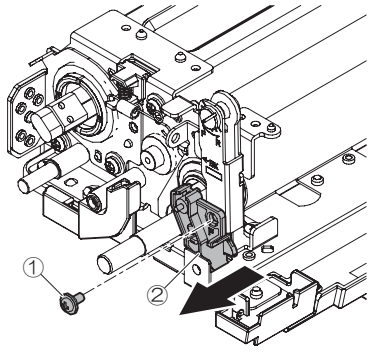
**NOTE:** To protect the mylar sheet, make sure to keep attaching the cover when not flipping the unit upside down.



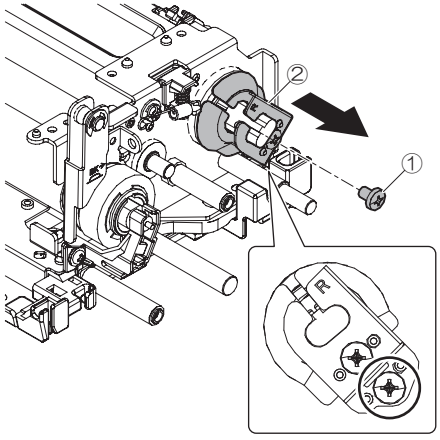
4) Remove the screw and the holder



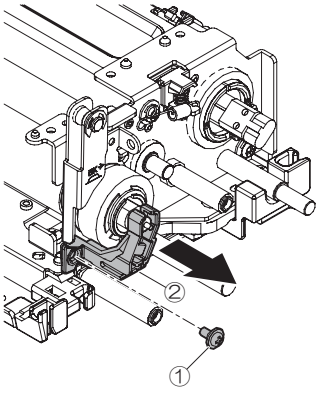

5) Remove the screw and the holder



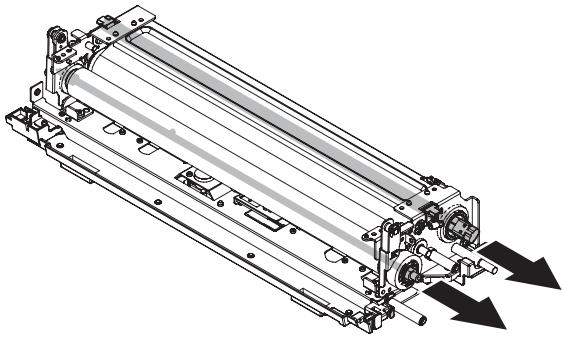

6) Remove the screw and the holder



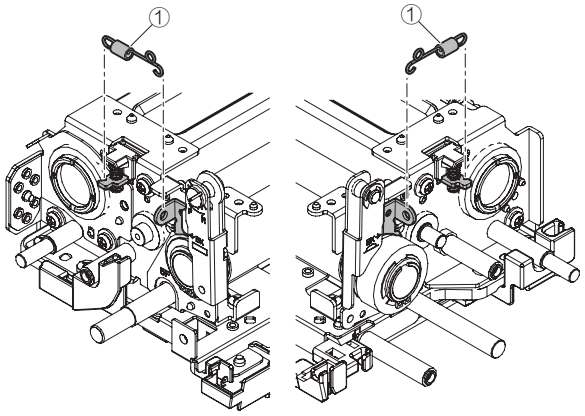

7) Remove the screw and the holder




8) Remove the upper heater lamp and low heater lamp

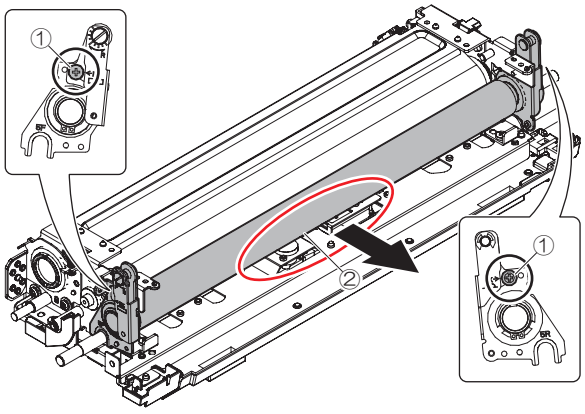


9) Remove the spring

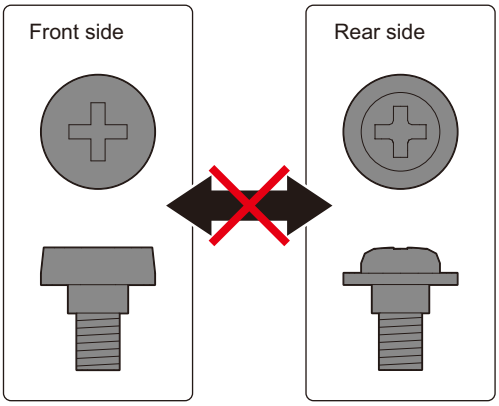



10) Remove the screw and the pressure roller unit

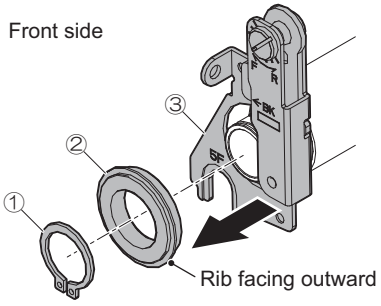
**NOTE:** Do not touch the thermostat and thermistor shown in the red circle in the illustration below.



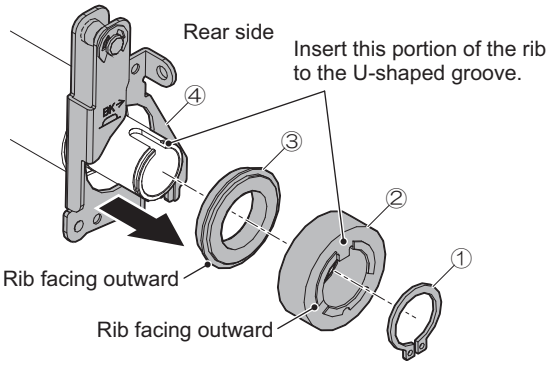
**NOTE:** Different screw is used for front and rear side. Make sure to fasten proper screw on each side.




11) Remove the ring, the bearing and the lever



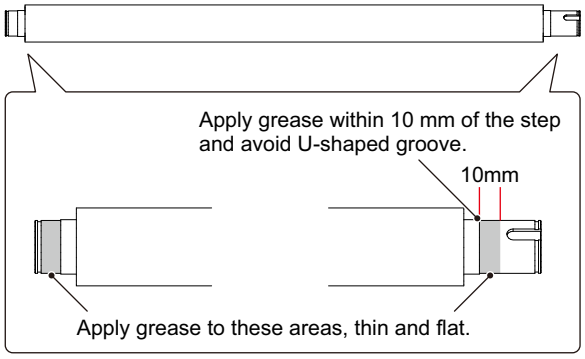

12) Remove the ring, gear, bearing and the lever




Important

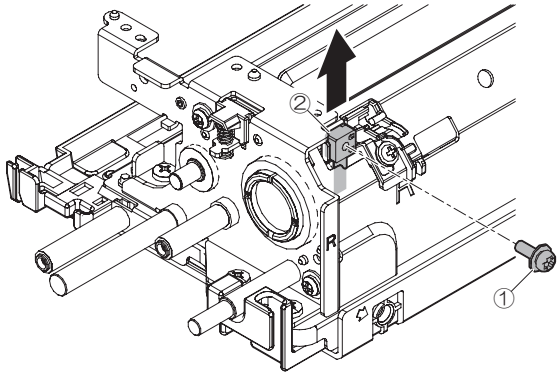
Attach the pressure roller without removing the protector sheet. Remove the sheet after completing the assembly.

Apply grease (UKOG-0235FCZZ) when replacing the pressure roller.




**b-9. Upper thermistor**

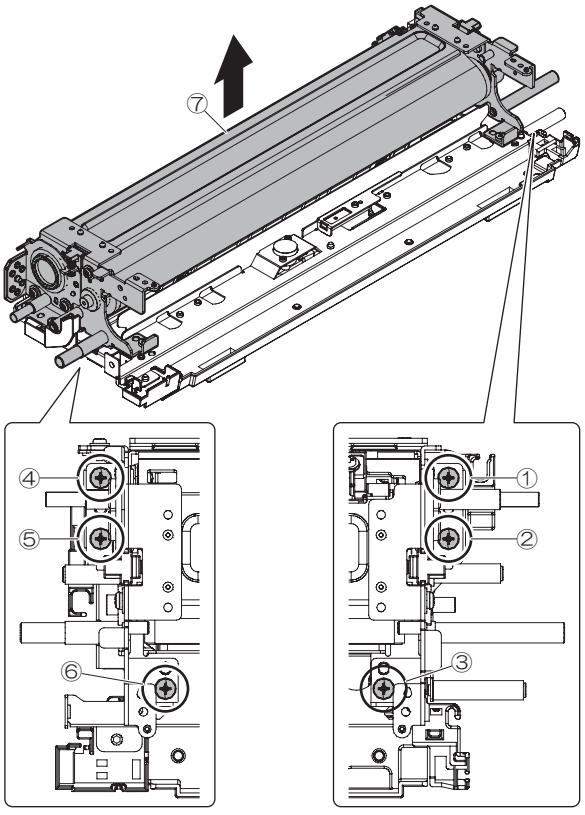
1) Remove the screw and the thermistor



**b-10. Fusing belt unit**

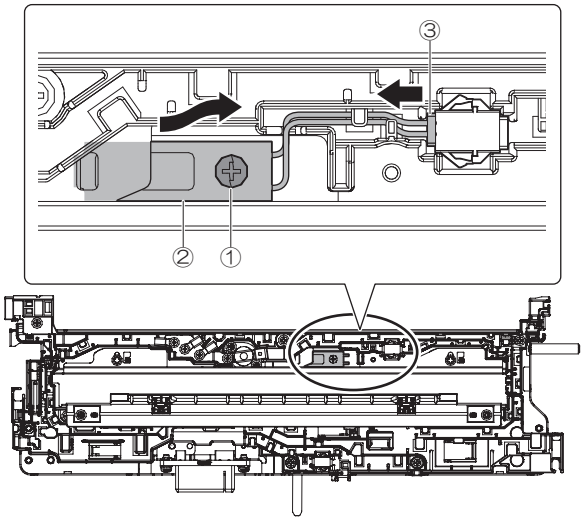
1) Remove the screw and the fusing belt unit

When attaching fusing belt unit, fasten screws in the order of (1)-(6) shown in the illustration below.




**b-11. Lower thermistor**

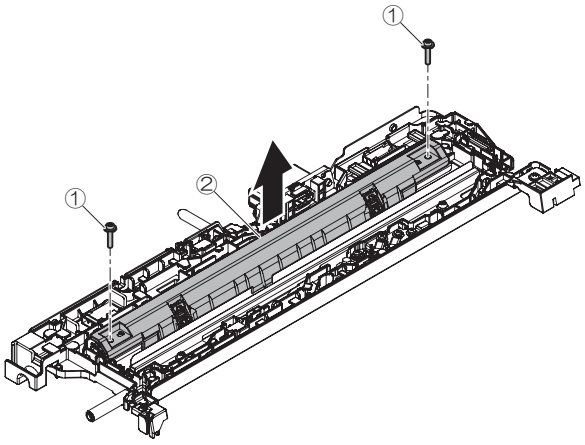
1) Remove the screw and the lower thermistor



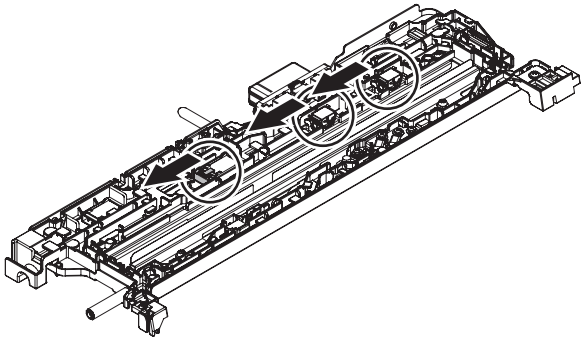

**b-12. Main thermistor**

**b-13. Sub thermistor**

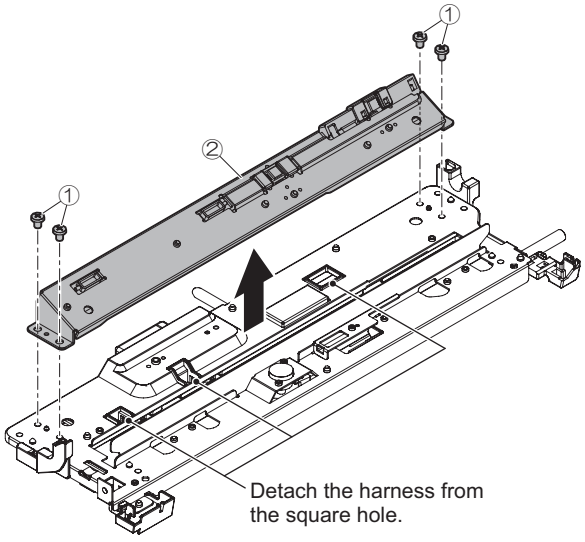
1) Remove the screws. Then remove the paper guide and clean it.



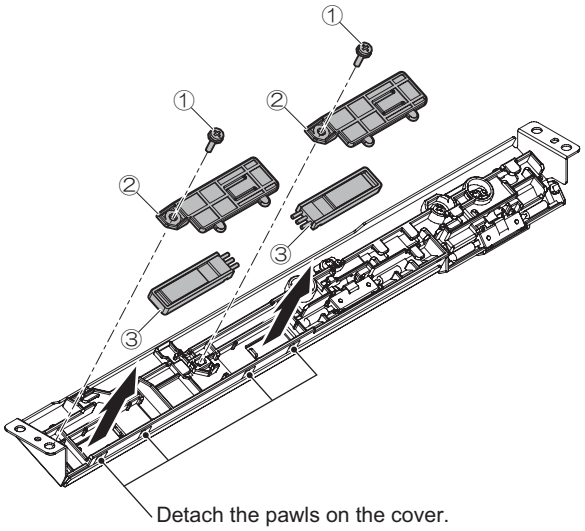

2) Disconnect the connectors and detach the harness from the rib.



3) Remove the screw and the plate

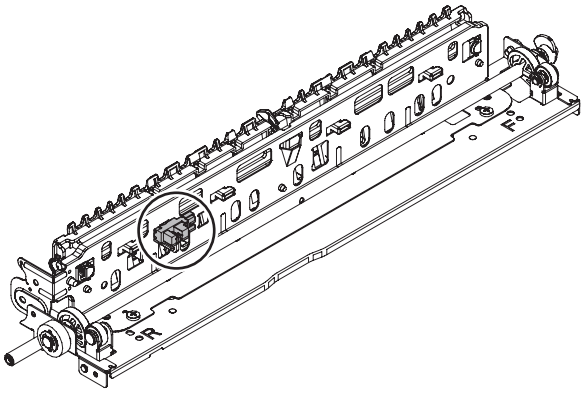


4) Remove the screw, the cover, the main thermistor and the sub thermistor




**b-14. Sensors**

1) Remove the sensor

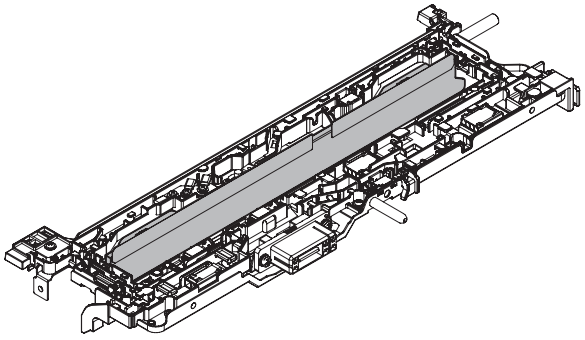


**b-15. Paper guides**

1) Clean the paper guide

Important

Do not deform the paper guide.



## L. Other

### (1) Filter / Cushion / Toner cartridge / Waste toner box

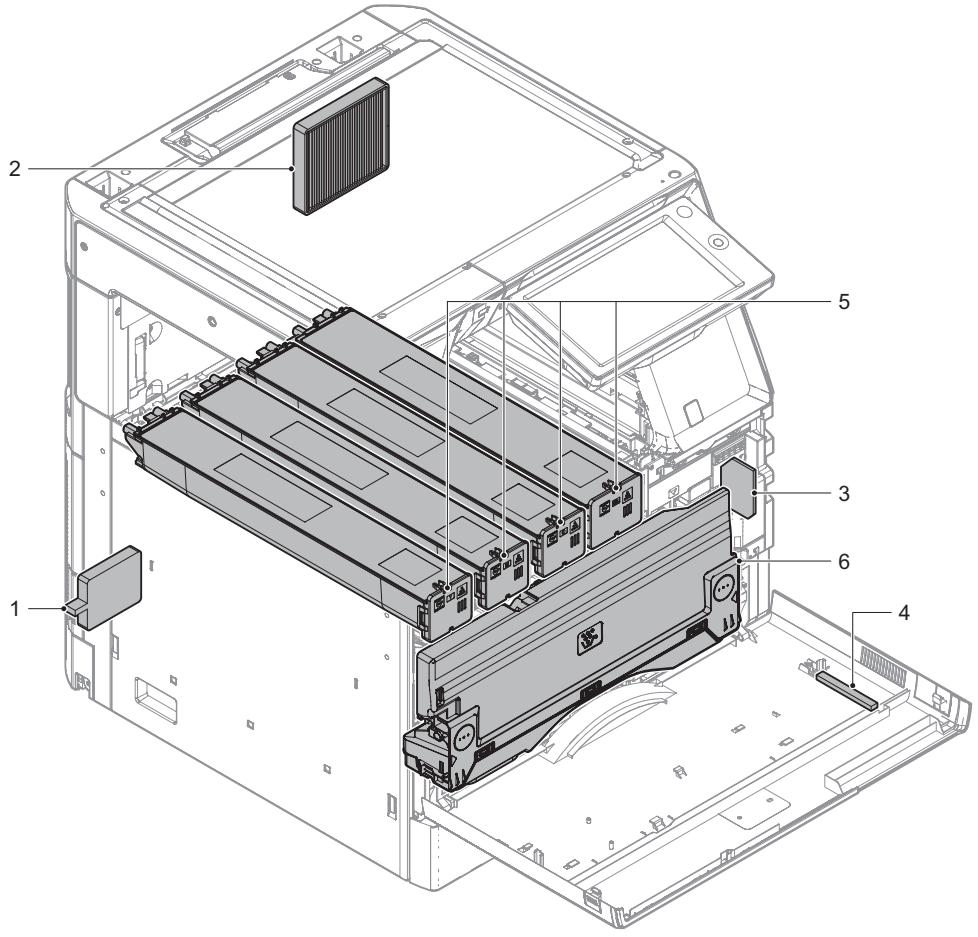
x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

**26/30 ppm machine**

| Work sequence | Part name | When calling | 250K | 300K | 500K | 600K | 750K | 900K | 1000 K | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ozone filter | x | | ▲ | | ▲ | | ▲ | | |
| 2 | UFP filter | x | ▲ | | ▲ | | ▲ | | ▲ | For Europe |
| 3 | Right cover filter | x | ○ | | ○ | | ○ | | ○ | |
| 4 | Front cover cushion | x | x | | x | | x | | x | Be careful not to damage the cushion when cleaning the front cover |
| 5 | Toner cartridge | User replacement for every toner empty | | | | | | | | |
| 6 | Waste toner box | User replacement for every toner full | | | | | | | | Replace at 50K |

**35/40 ppm machine**

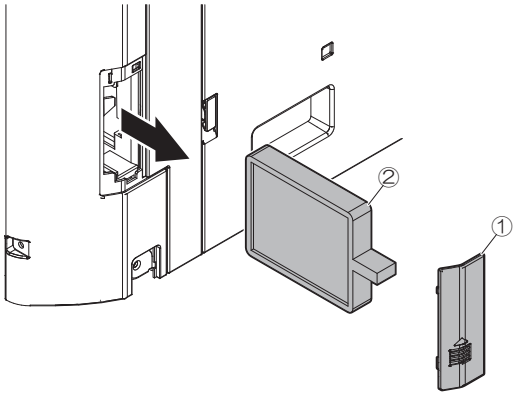
| Work sequence | Part name | When calling | 300K | 600K | 900K | 1200K | 1500K | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Ozone filter | x | ▲ | ▲ | ▲ | ▲ | ▲ | |
| 2 | UFP filter | x | ▲ | ▲ | ▲ | ▲ | ▲ | For Europe |
| 3 | Right cover filter | x | ○ | ○ | ○ | ○ | ○ | |
| 4 | Front cover cushion | x | x | x | x | x | x | Be careful not to damage the cushion when cleaning the front cover |
| 5 | Toner cartridge | User replacement for every toner empty | | | | | | |
| 6 | Waste toner box | User replacement for every toner full | | | | | | Replace at 50K |



## a. Disassembly of Units

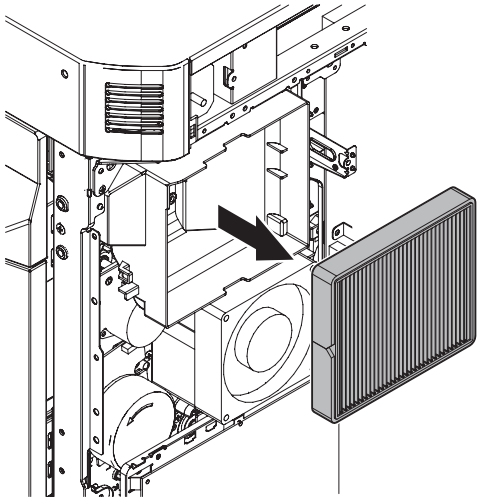
### a-1. Ozone filter

1) Remove the ozone filter cover, and remove the ozone filter.



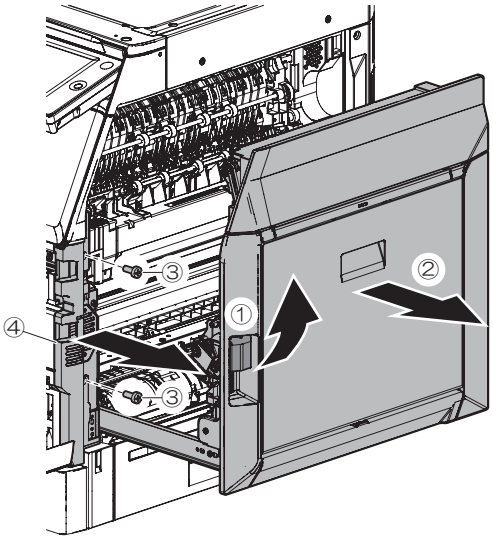

### a-2. UFP filter

1) Remove the MFPc cover.
2) Remove the rear cover upper.
3) Remove the rear cover.
4) Remove the right cover rear upper.
5) Remove the UFP filter.

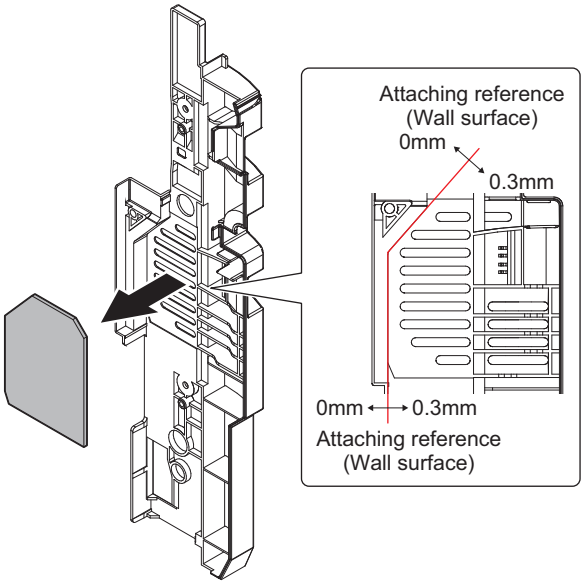


### a-3. Right cover filter

1) Open the right door.Remove the right front cover.

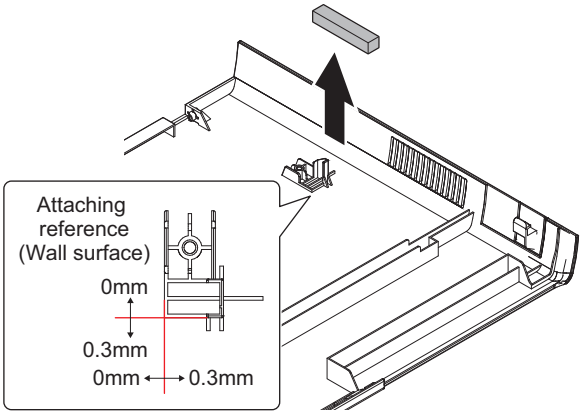



2) Clean the right cover filter.



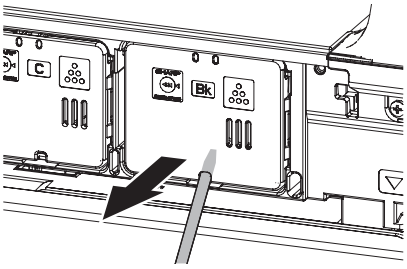
### a-4. Front cover cushion

1) Open the front cover.
2) Check the front cover cushion.



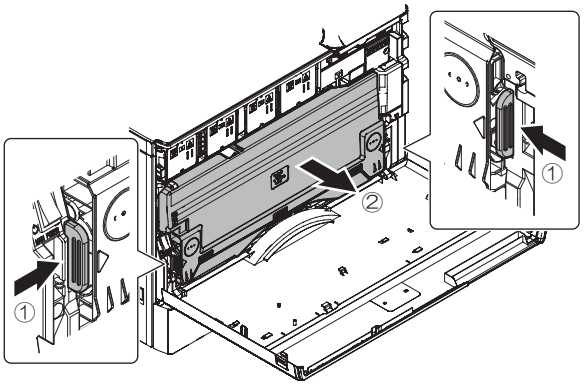

### a-5. Toner cartridge

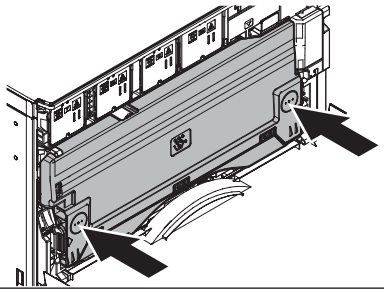
1) There are the following methods for removing the toner cartridge.
   - system setting
   - Image quality adjustment bar -> Removing the toner cartridge
   - Sim10-3
   - Manual




### a-6. Waste toner box

1) Open the front cover. Push the Waste toner lock lever to the inside, and remove the waste toner box.



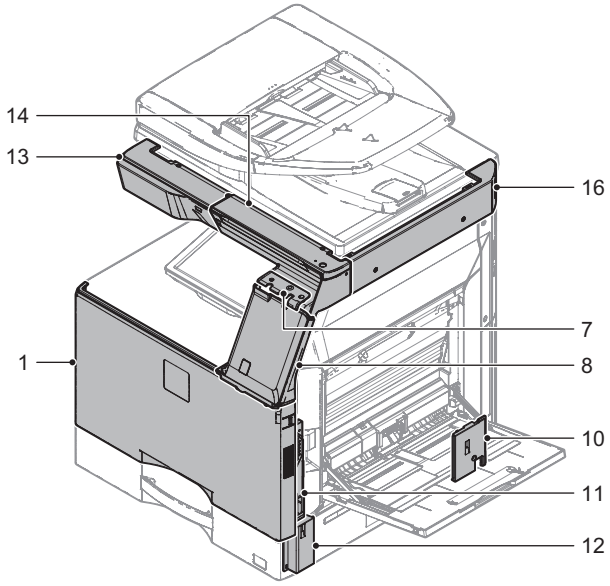
When installing, push both sides of the waste toner box. Confirm that it is locked.

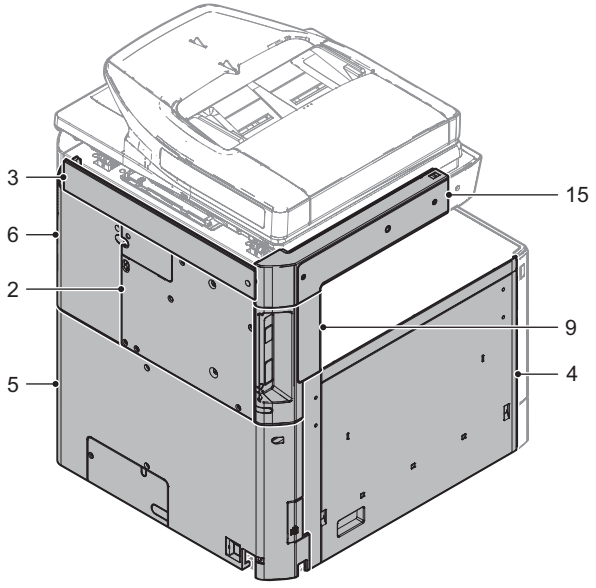
# [10] DISASSEMBLY AND ASSEMBLY

## 1. Disassembly of Units

### A. External view

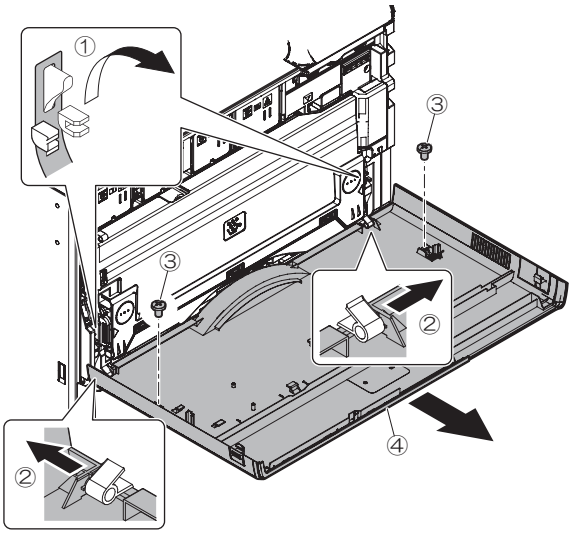
| No. | Name |
|---|---|
| 1 | Front cover upper |
| 2 | MFPc cover |
| 3 | Rear cover upper |
| 4 | Left cover |
| 5 | Rear cover |
| 6 | Right cover rear upper |
| 7 | Panel hinge section cover |
| 8 | Front cover upper right |
| 9 | Left cover upper rear |
| 10 | Right cover rear lower |
| 11 | Right front cover |
| 12 | Right cover front lower |
| 13 | Upper cover front left |
| 14 | Upper cover front right |
| 15 | Upper cover left lower |
| 16 | Upper cover right |



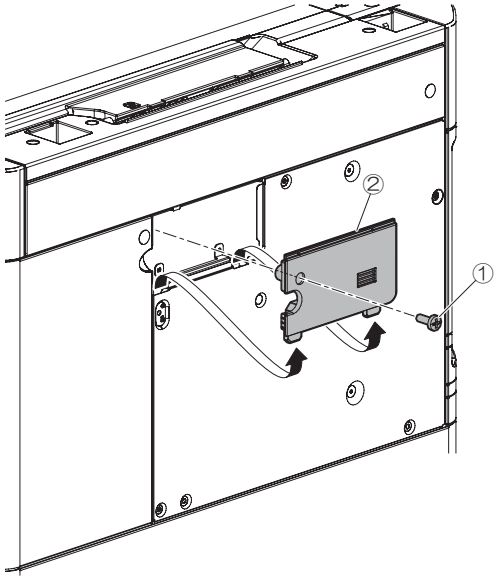

#### (1) Front cover upper

1) Remove the front cover upper.

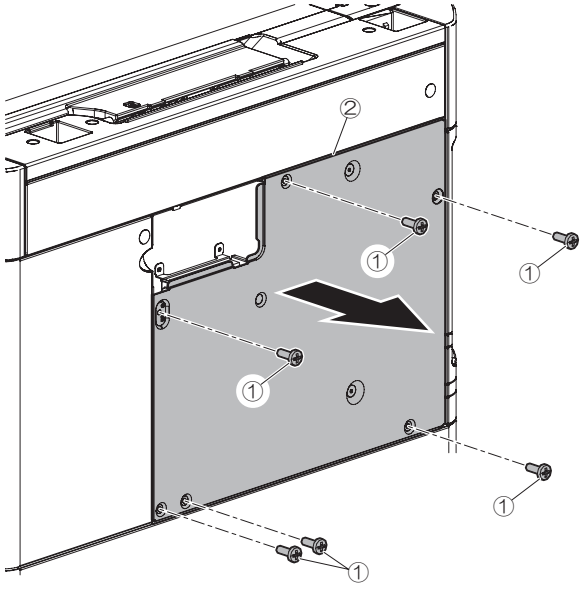



#### (2) MFPc cover

1) Remove the rear cabinet cover.

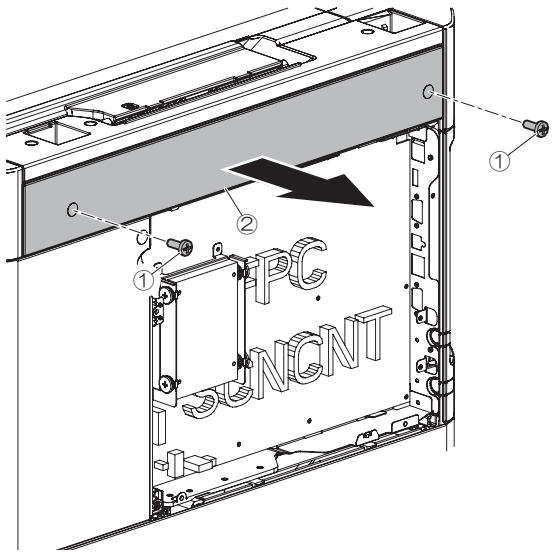



2) Remove the MFPc cover.



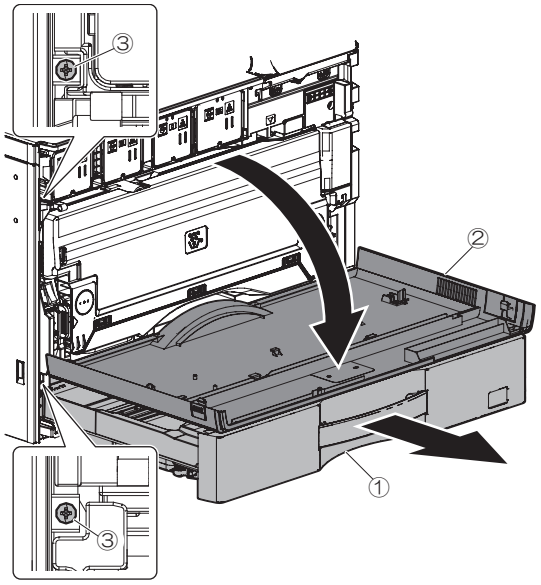
### (3) Rear cover upper

1) Remove the MFPc cover.
2) Remove the rear cover upper.

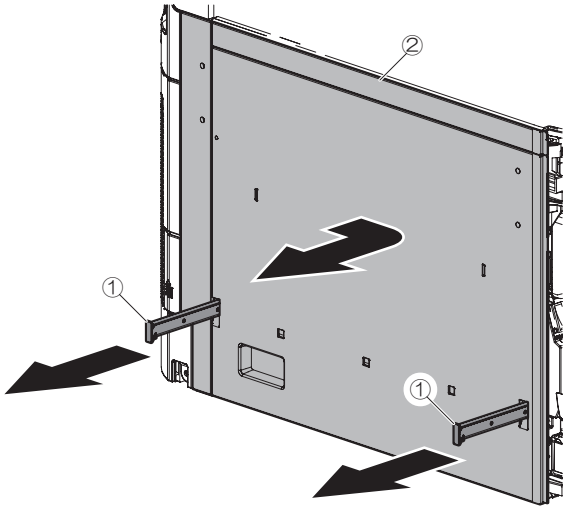


### (4) Left cover

1) Pull out the tray, and open the front cover. Then, remove the screw.

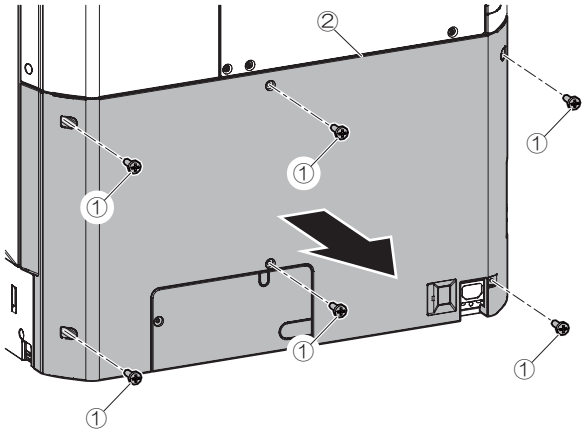


2) Pull out the handle and remove the left cover.



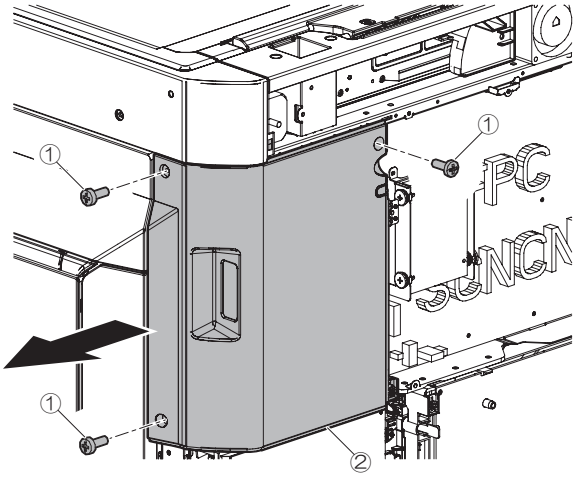
### (5) Rear cover

1) Remove the rear cover.



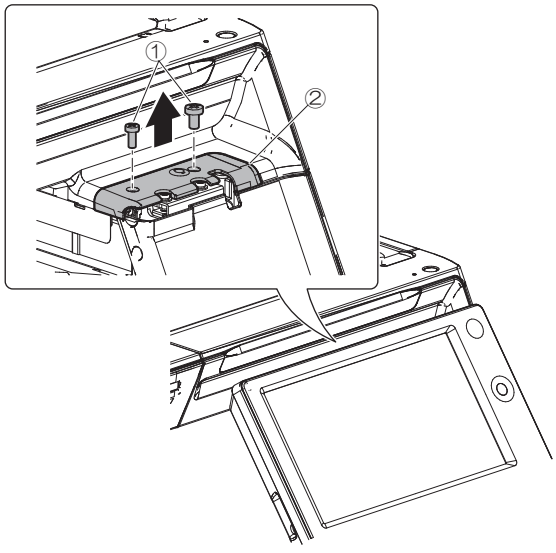
### (6) Right cover rear upper

1) Remove the MFPc cover.
2) Remove the rear cover upper.
3) Remove the rear cover.
4) Remove the right cover rear upper.



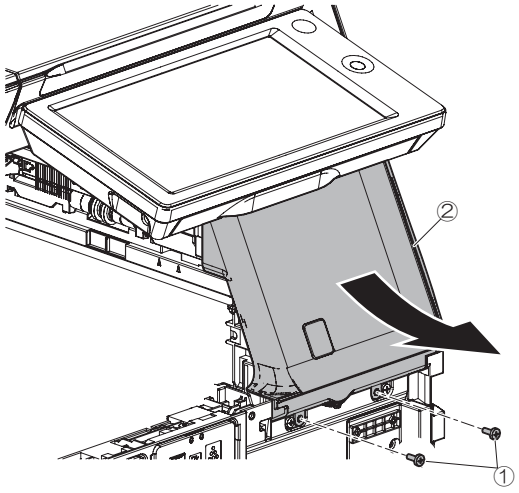
### (7) Panel hinge section cover

1) Remove the panel hinge section cover.



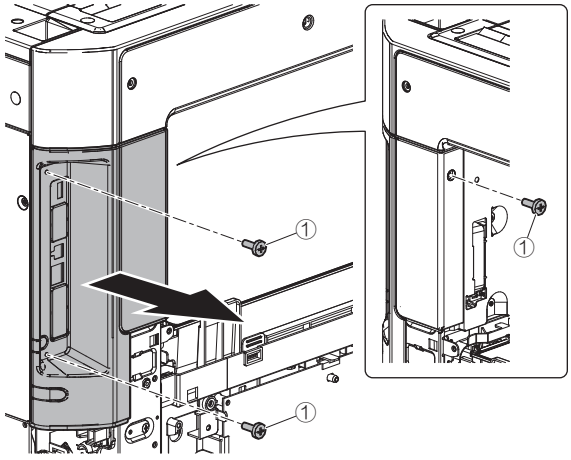
### (8) Front cover upper right

1) Open the front cover. Remove the front cover upper right.



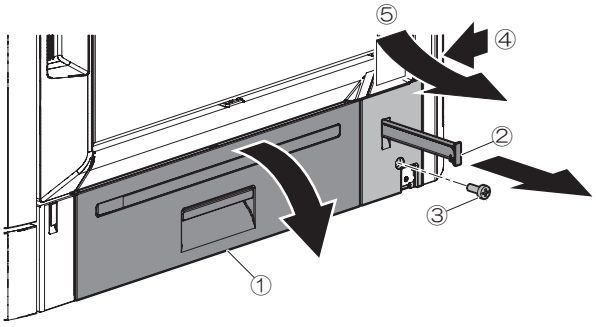

### (9) Left cover upper rear

1) Remove the left cover.
2) Remove the rear cover.
3) Remove the left cover upper rear.



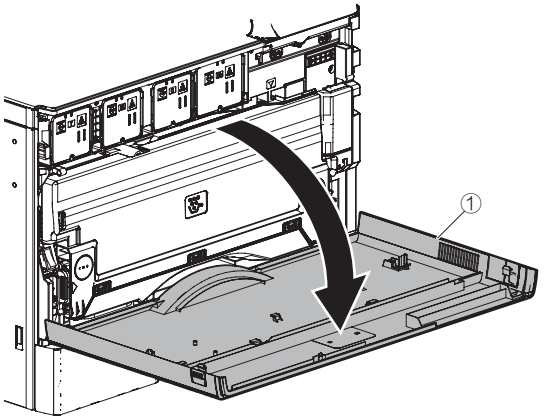

### (10) Right cover rear lower

1) Open the right door and pull out the handle. Then, remove the right cover rear bottom.

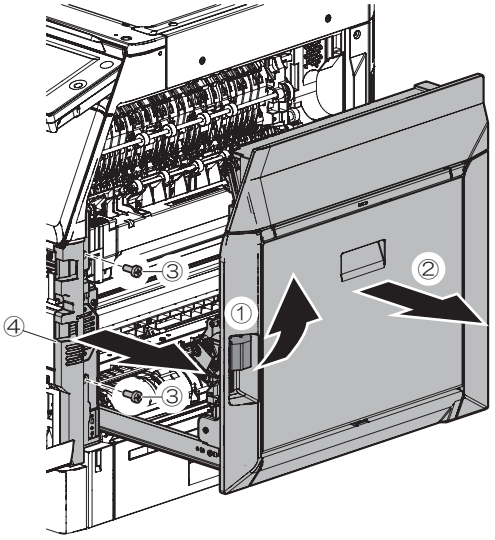



### (11) Right front cover

1) Open the front cover.

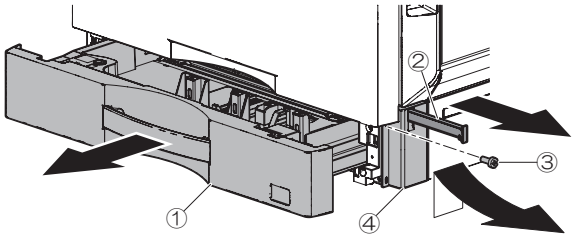



2) Open the right door.Remove the right front cover.



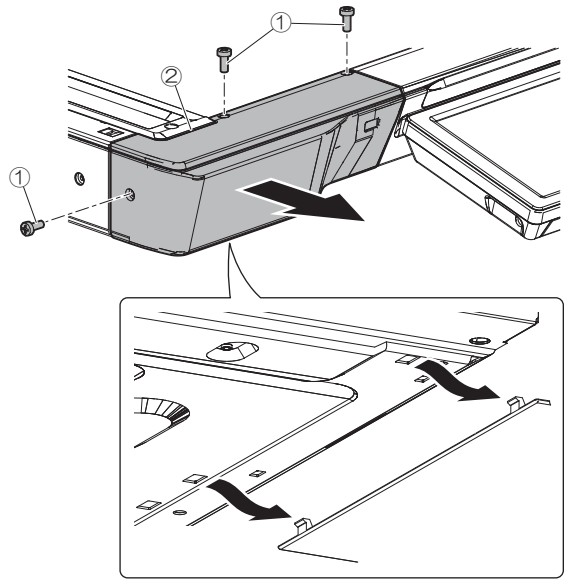

### (12) Right cover front lower

1) Pull out the tray, and pull out the handle. Then, remove the right cover front bottom.



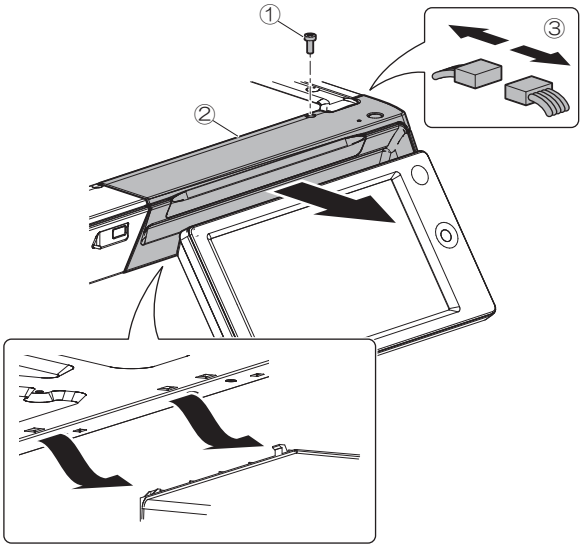
### (13) Upper cover front left

1) Remove the upper cover front left.



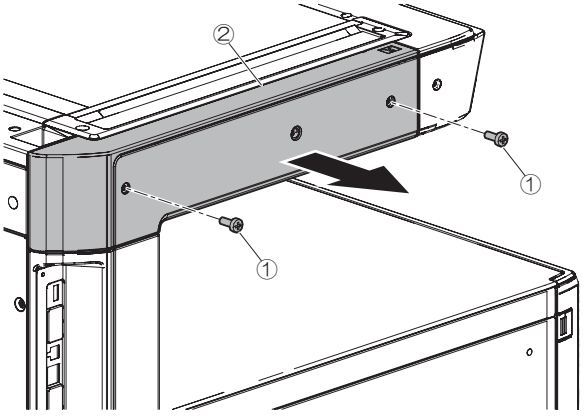

### (14) Upper cover front right

1) Remove the panel hinge section cover.
2) Remove the upper cover front right.



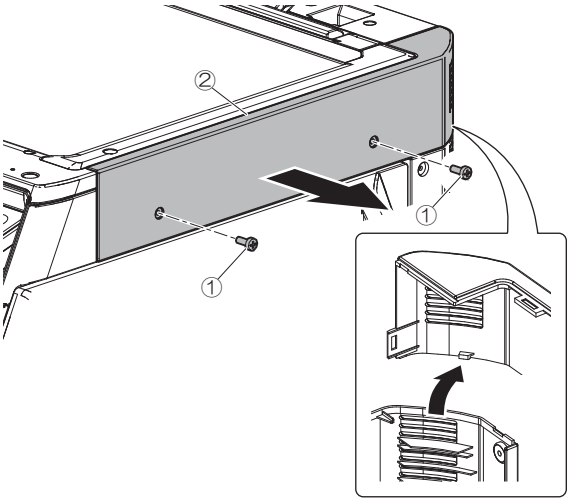

### (15) Upper cover left lower

1) Remove the upper cover left lower.



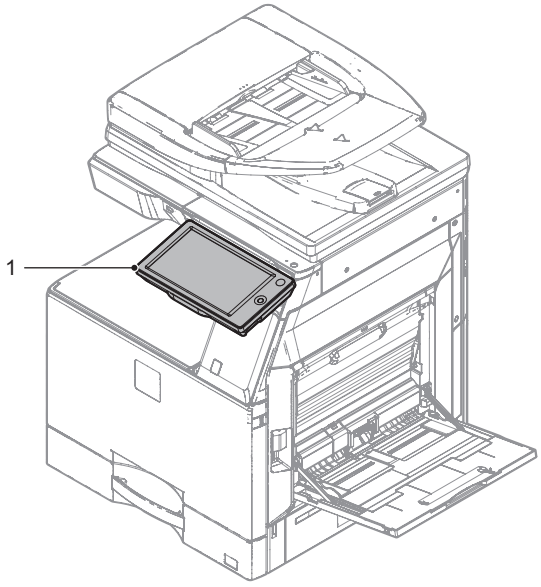

### (16) Upper cover right

1) Remove the upper cover right



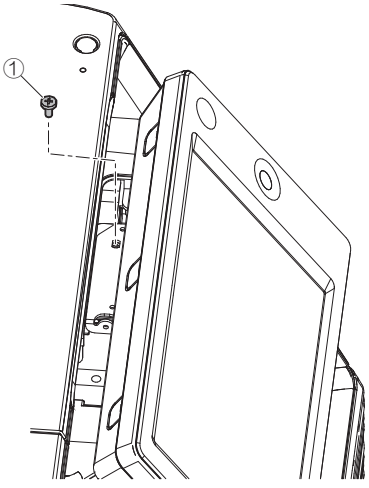

## B. Operation panel section

| No. | Name |
|---|---|
| 1 | Operation panel unit |

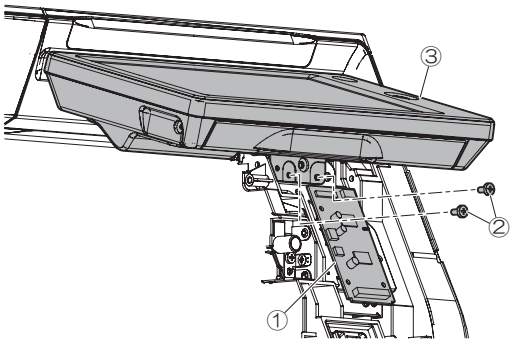



### (1) Operation panel unit

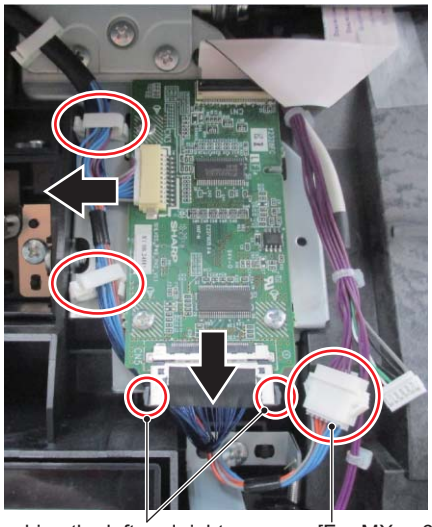
1) Remove the panel hinge section cover.
2) Remove the screw.



3) Remove the front cover upper right.
4) Remove the two screws and disconnect the connector. Then, remove the operation panel unit.



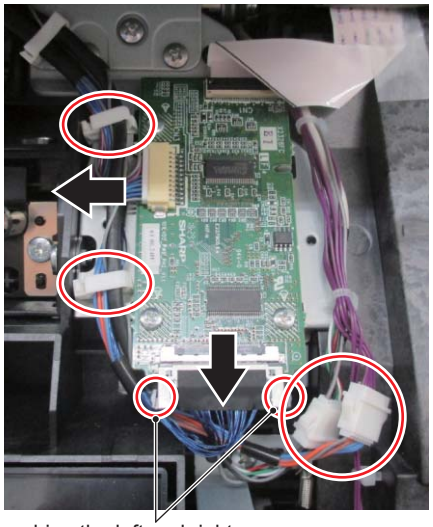

**Non keyboard model**
**MX-xx51 [All destinations]**
**MX-xx61/xx71 [Destinations other than Europe]**



While pushing the left and right black locks inwards pull it downward

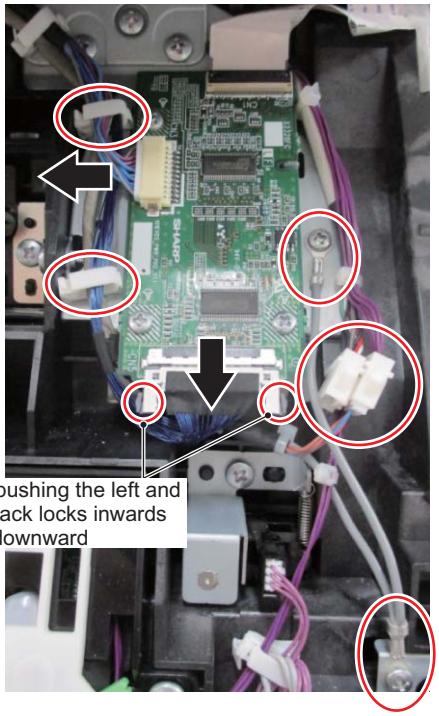
[For MX-xx61/xx71 series]

**Keyboard standard model**
**MX-xx61/xx71 [Destinations other than Europe]**



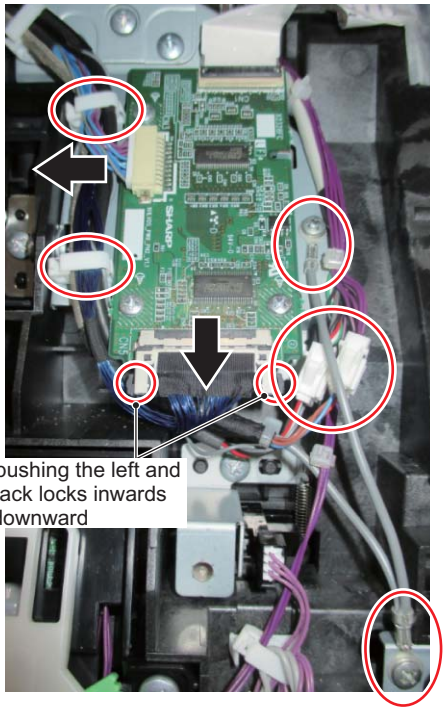
While pushing the left and right black locks inwards pull it downward

**Non keyboard model**
**MX-xx61/xx71 [For Europe]**



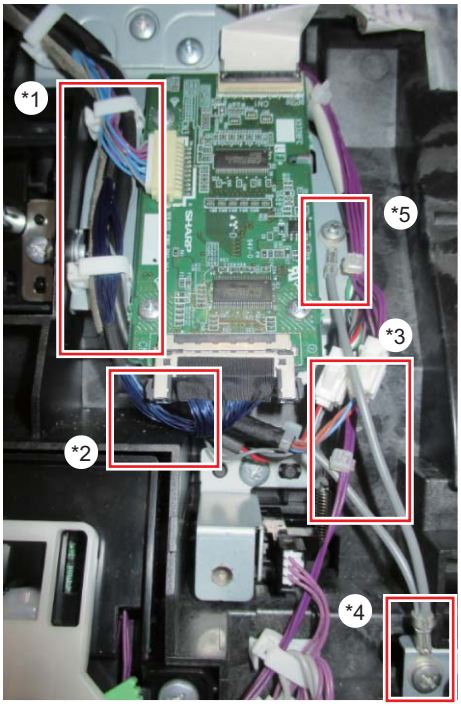
While pushing the left and right black locks inwards pull it downward

**Keyboard standard model**
**MX-xx61/xx71 [For Europe]**

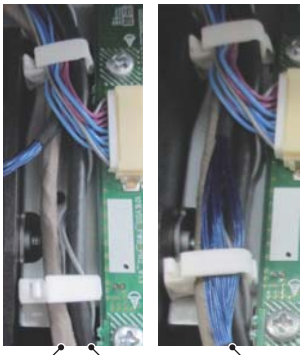


While pushing the left and right black locks inwards pull it downward

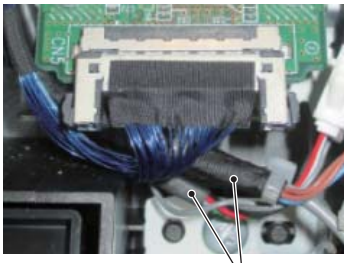
**Notes of harness processing**



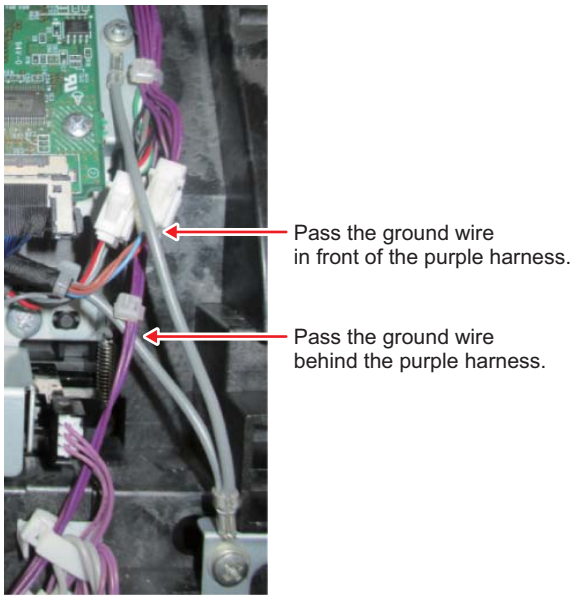

Caution: *1 Harness position



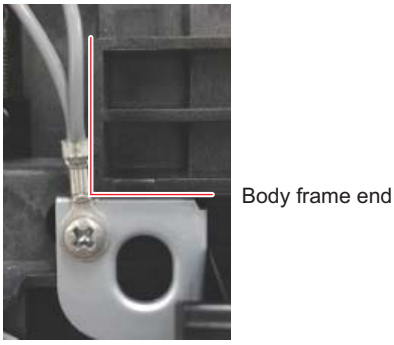

Caution: *2 Harness position



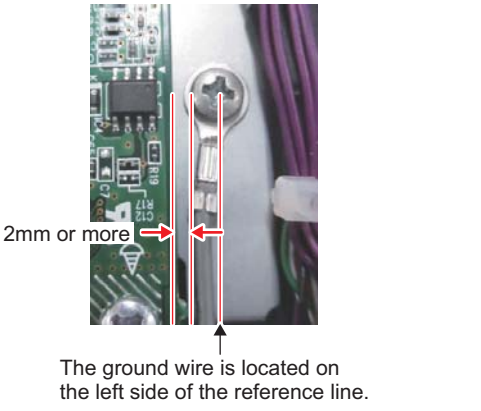

Caution: *3 Harness position




Caution: *4 Reference position of the ground wire

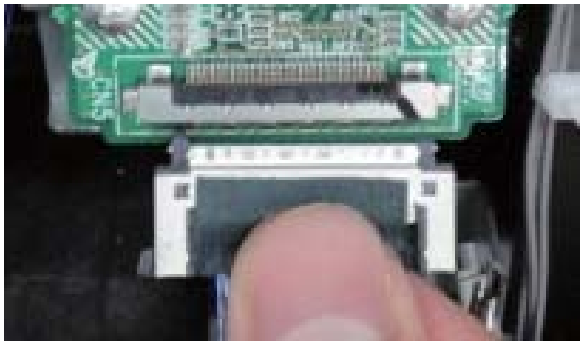



Caution: *5 Reference position of the ground wire



Connecting procedure of the connector.

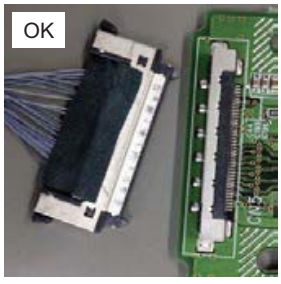
Pinch the center position of the harness when insert.



Caution: Be sure not to have the harness as shown by figure below.




Caution: connector direction

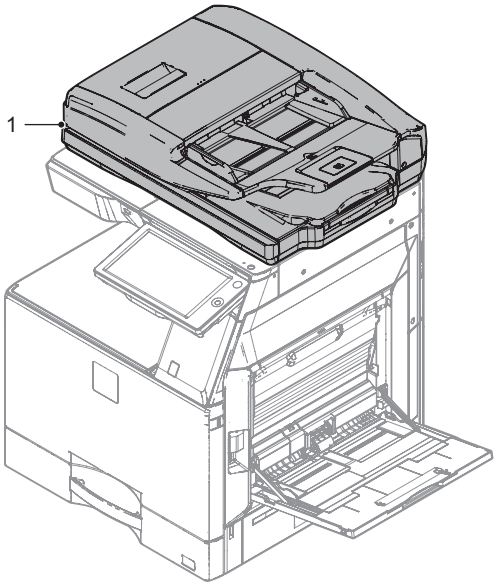


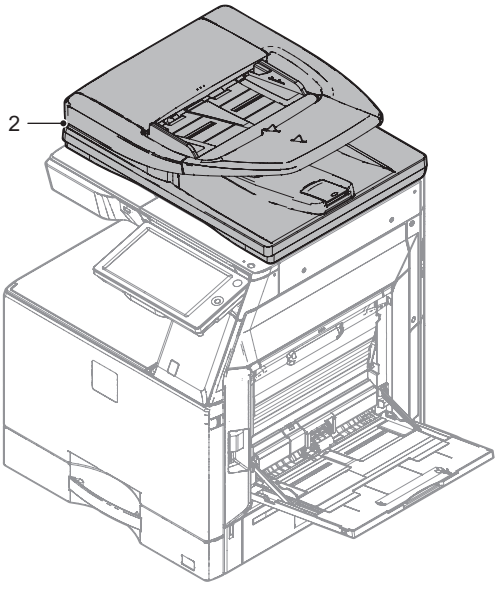




## C. Auto document feeder section (RSPF and DSPF)

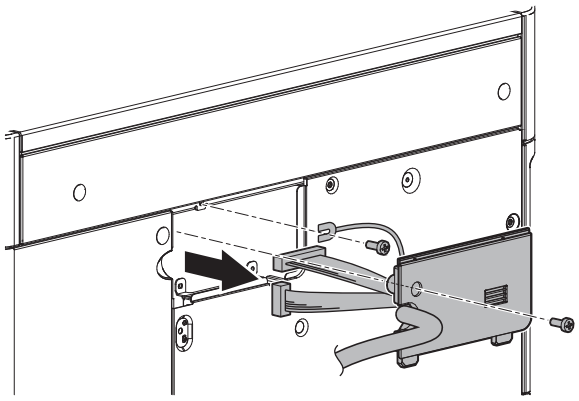
| No. | Name |
|---|---|
| 1 | DSPF unit |
| 2 | RSPF unit |



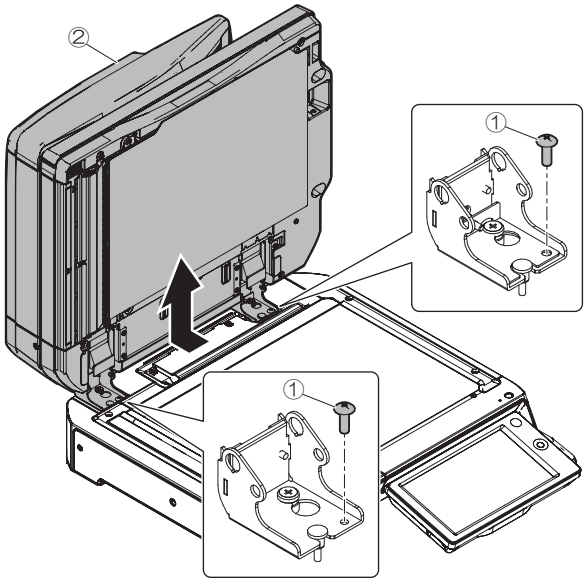



### (1) DSPF unit

1) Remove the rear cabinet cover.
2) Loosen the screw fixing the earth cable and remove the earth cable. Then, disconnect the connector.

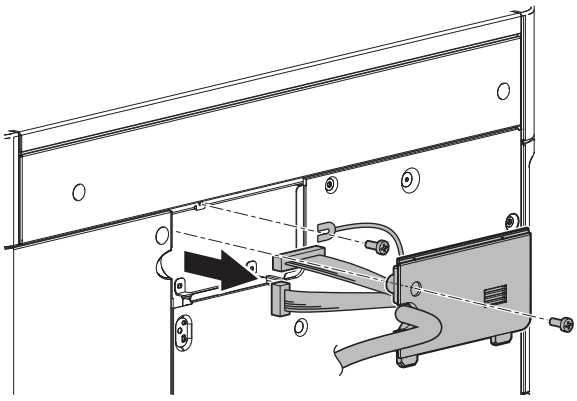


3) Remove the screws, and remove the DSPF unit from the machine.

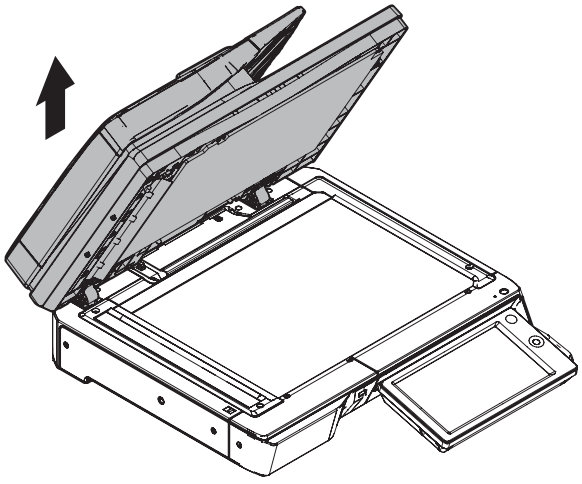



### (2) RSPF unit

1) Remove the rear cabinet cover.
2) Loosen the screw fixing the earth cable and remove the earth cable. Then, disconnect the connector.

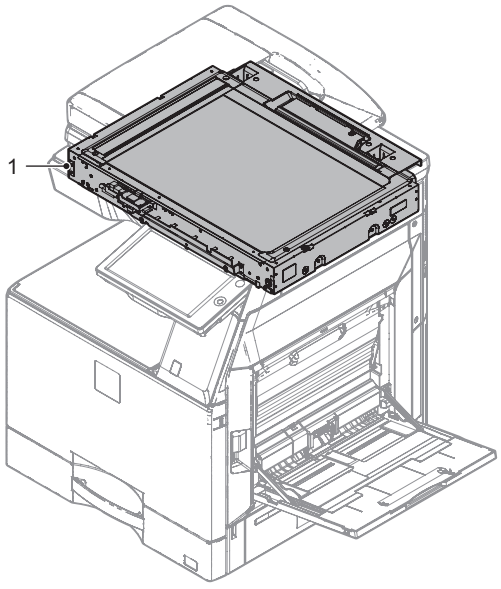


3) Remove the RSPF unit from the machine.



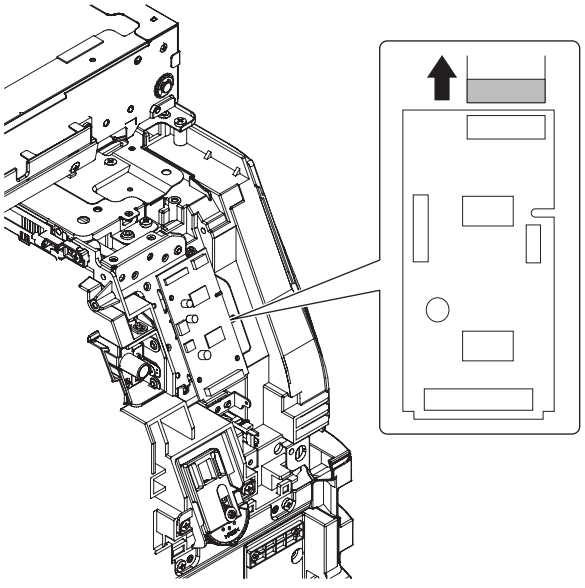
## D. Scanner section

| No. | Name |
|---|---|
| 1 | Scanner unit |

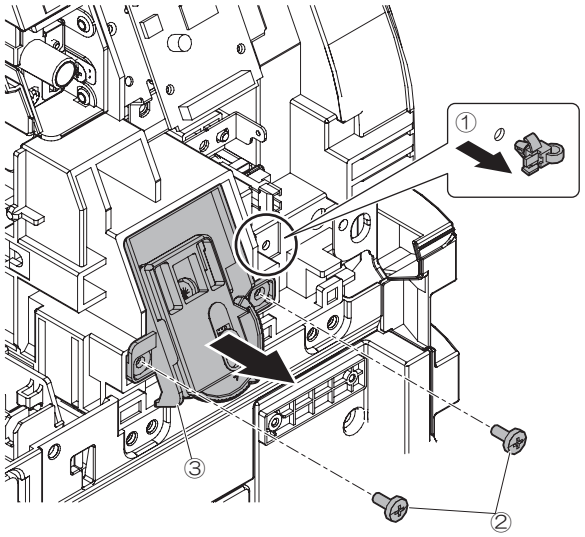



### (1) Scanner unit

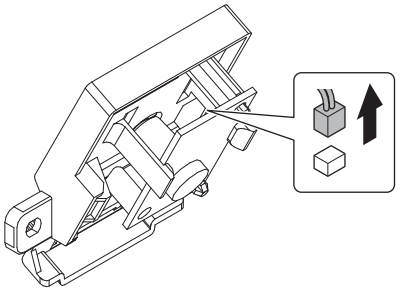
1) Remove the DSPF/RSPF unit.
2) Remove the operation panel unit.
3) Remove the table glass and the SPF glass.
4) Remove the upper cover front left, upper cover front right, upper cover right, rear cover upper and MFPC cover.
5) Disconnect the FFC.



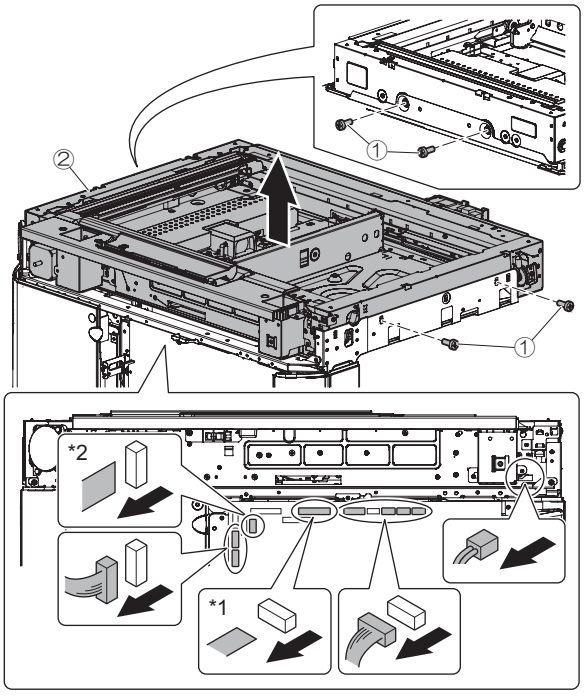
6) Remove the motion sensor PWB.




7) Disconnect the connector.

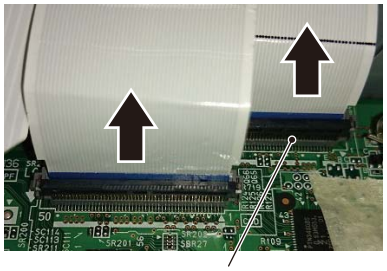


8) Remove the scanner unit.

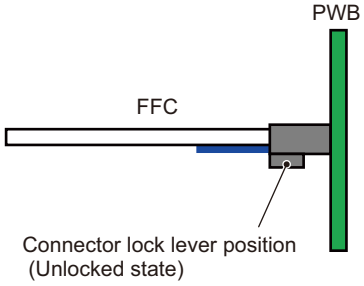


*1

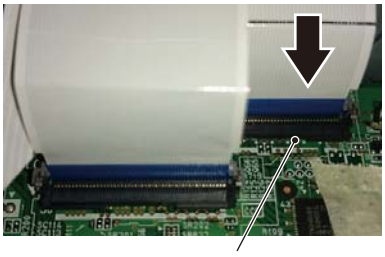
Unlocked (when removing FFC)



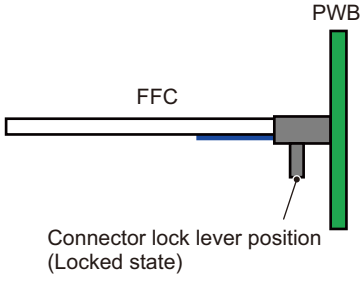
FFC can be removed by releasing the lever.




Locked (when connectiong FFC)
make sure FFC vertically inserted



FFC is locked by raising the lever
after inserting FFC.

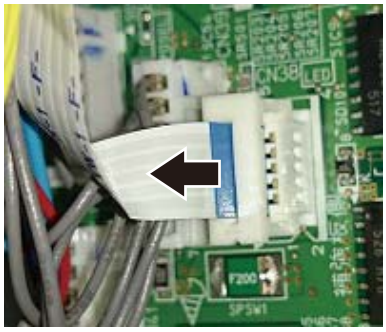



*2

Unlocked (when removing FFC)

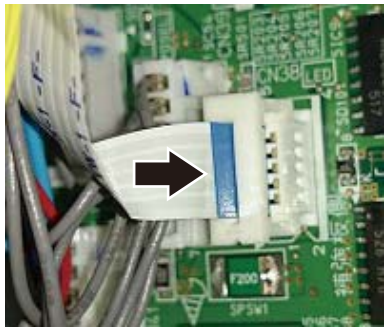


Slide the connector in the direction of
the arrow to unlock.



Pull out FFC in the direction of the arrow.

Locked (when connectiong FFC)



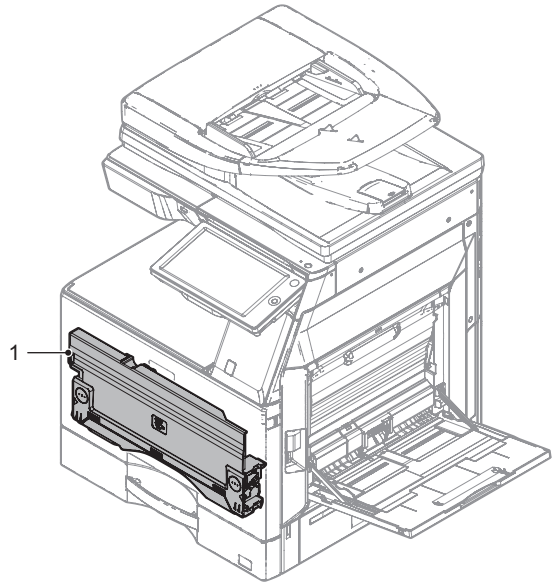
Insert FFC in the direction of the arrow,
with the reinforcing plate (Blue) being
placed at the right side.
make sure FFC vertically inserted



Slide the connector in the direction of
the arrow to lock.

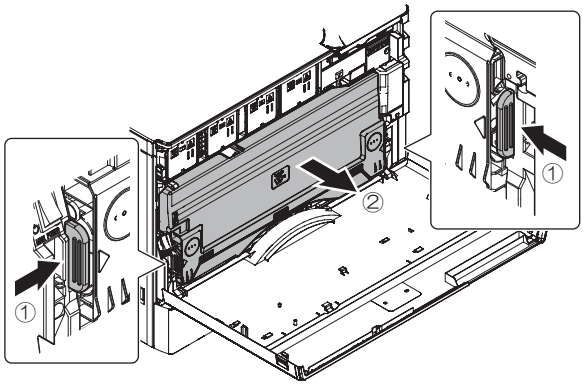
## E. Waste toner collection section

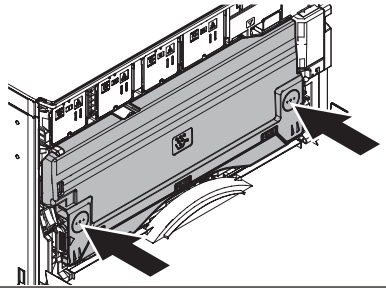
| No. | Name |
|---|---|
| 1 | Waste toner box |




### (1) Waste toner box

1) Open the front cover. Push the Waste toner lock lever to the inside, and remove the waste toner box.

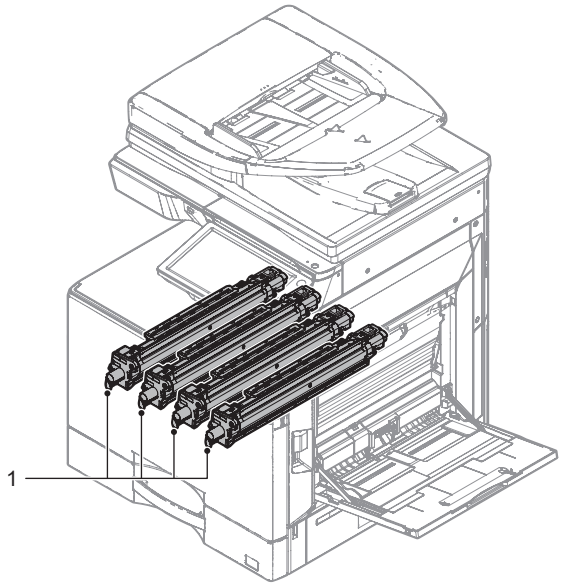


When installing, push both sides of the waste toner box. Confirm that it is locked.

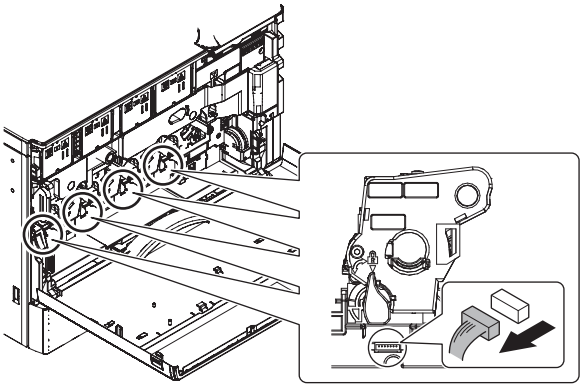
## F. Developing section

| No. | Name |
|---|---|
| 1 | Developing unit |

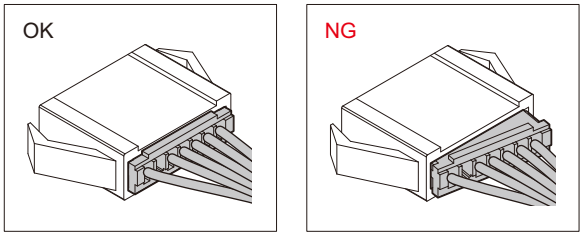



### (1) Developing unit

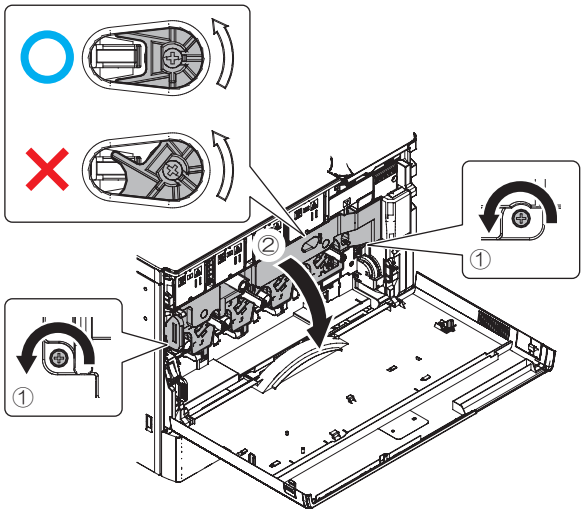
1) Remove the waste toner box.
2) Disconnect the connector of the developing unit before opening the drum positioning plate.



make sure connector correctly inserted when connecting



3) Check that the cam lock plate is aligned with the "O" mark position.
4) Turn the lock to release, and open the drum positioning plate.



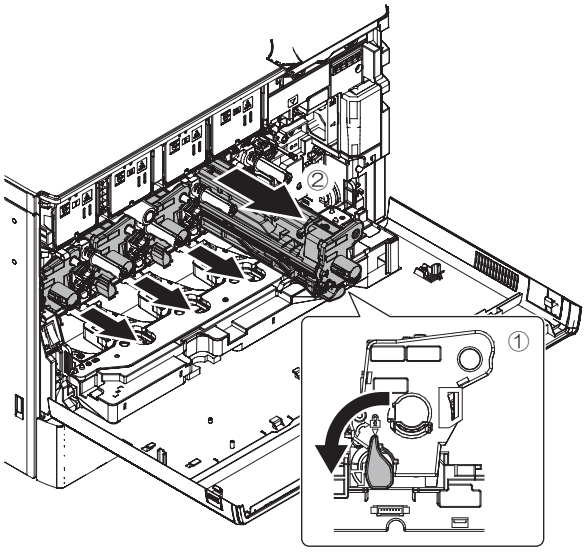

5) While pulling down the lever, pull out the developing unit to remove.

Important

When pulling out and pushing in the developing unit, put your hand beneath the unit and slide it horizontally along the guide.

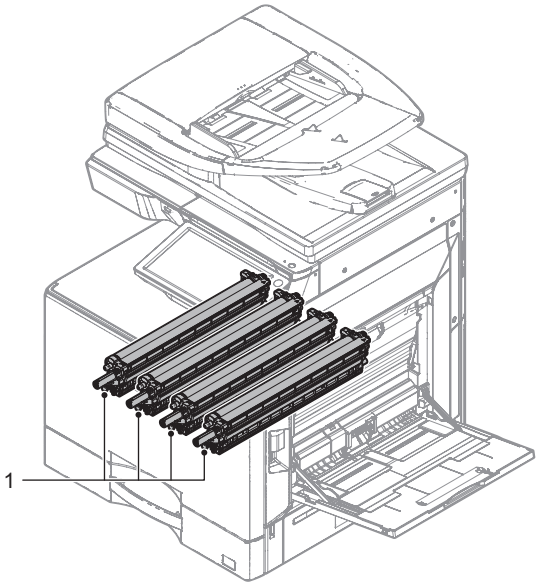
At the time, be careful not to touch the developing roller surface.

Put it in the horizontal place.




## G. OPC drum section

| No. | Name |
|---|---|
| 1 | OPC drum unit |



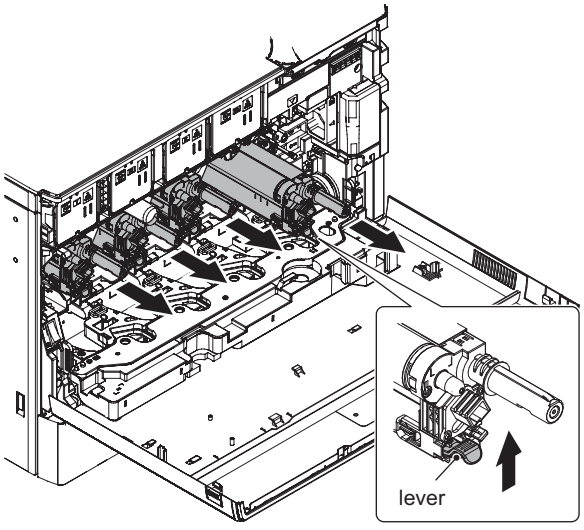

### (1) OPC drum unit

1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Remove the developing unit.
4) While pulling up the lever, pull out the OPC drum to remove.

Important

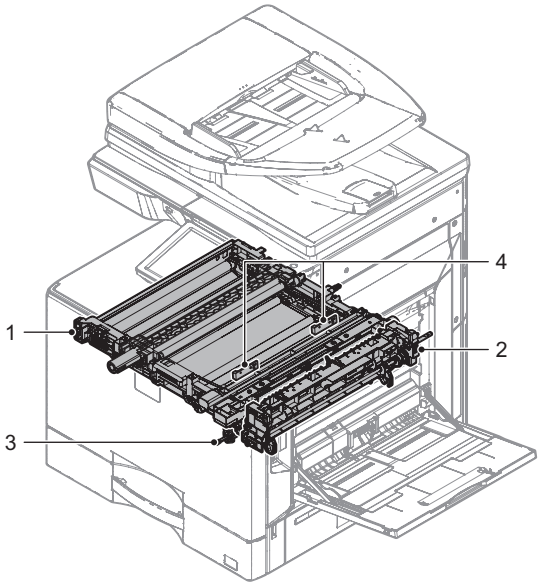
When pulling out and pushing in the OPC drum unit, put your hand beneath the unit and slide it horizontally along the guide on the right side.

At the time, be careful not to touch the OPC drum surface.



## H. Transfer section

| No. | Name |
|---|---|
| 1 | Primary transfer unit |
| 2 | Secondary transfer unit |
| 3 | PTC unit |
| 4 | Registration sensor unit |




### (1) Primary transfer unit

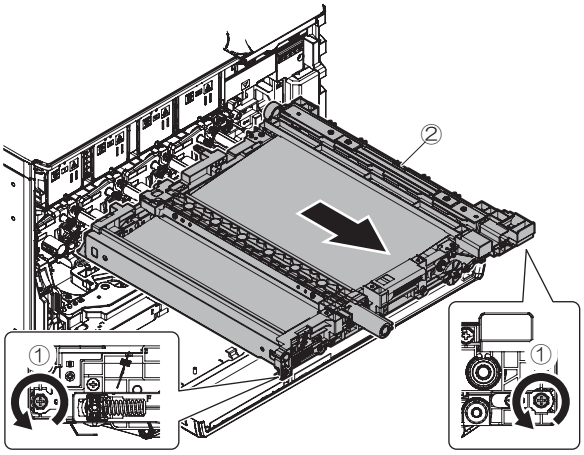
1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Open the right door.
4) Loosen the screw and pill out the primary transfer unit to the position slowly where it stops.
5) Hold the handle (Green) on the right side of the primary transfer unit and guide rail (plate) on the left side of the primary transfer unit, and pull out the primary transfer unit slowly while lifting it upward.

Important

When removing the primary transfer unit, be sure to open the right door in advance.

Important

Be careful not to put foreign materials and touch on the primary transfer belt.

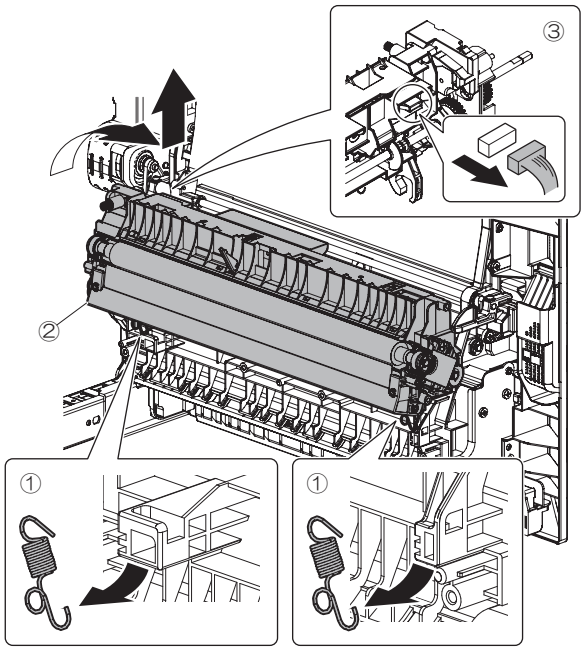



### (2) Secondary transfer unit

1) Open the right door.
2) Remove the spring from the right door unit and remove the secondary transfer unit while lifting it upward from the rear side.
   Disconnect the connector from the Secondary transfer unit.

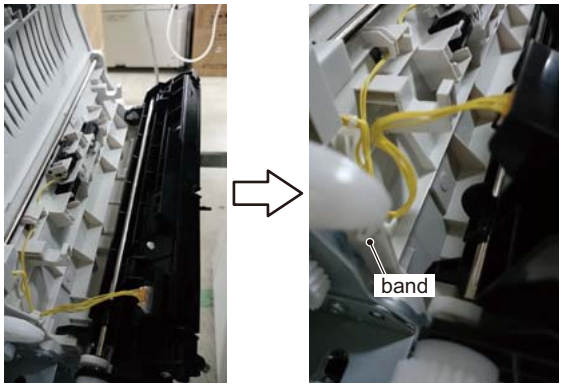
Important

Be careful not to put foreign materials on the secondary transfer roller.




* Spring is removed from the right dorr, however, the spring is not removed from the secondary transfer unit.

Fix the cable position by band after installing secondary transfer unit to the original position.

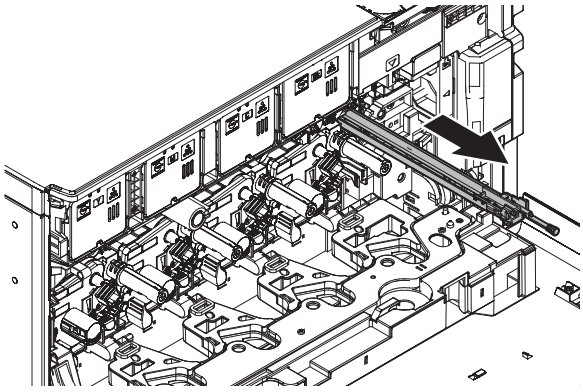


### (3) PTC unit

1) Remove the waste toner box.
2) Open the drum positioning plate.
3) Remove the PTC unit.

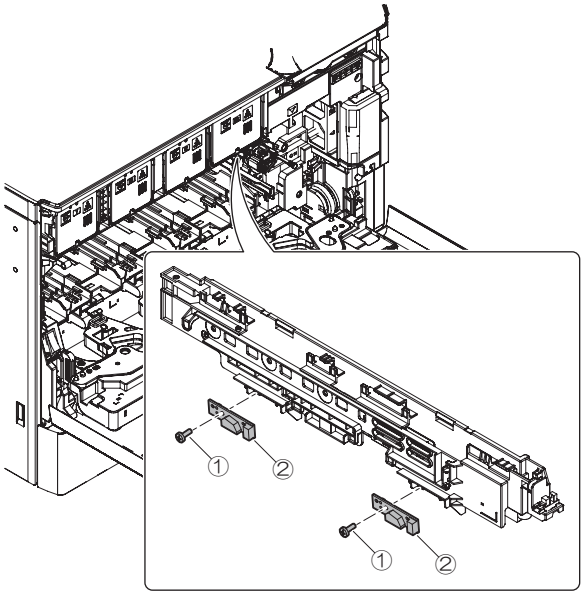
Important

Be careful not to put foreign materials on the wire and the plate.



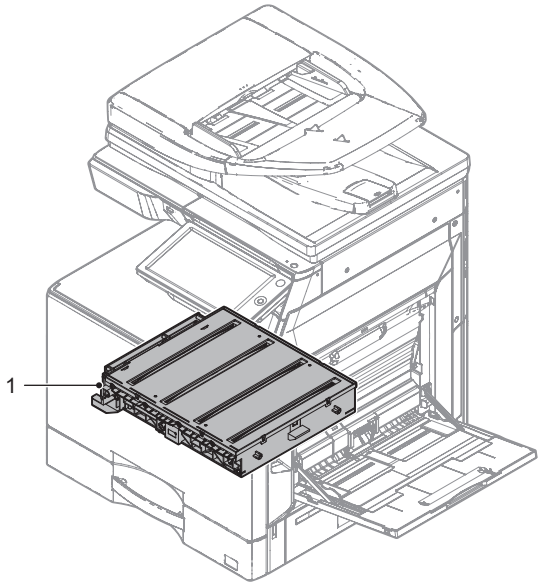
### (4) Resist sensor unit

1) Remove the toner cartridge.
2) Remove the upper frame cover.
3) Remove the waste toner box.
4) Remove the developing unit.
5) Remove the OPC drum unit.
6) Open the right door.
7) Remove the primary transfer unit.
8) Remove the Image density and image registration sensor.



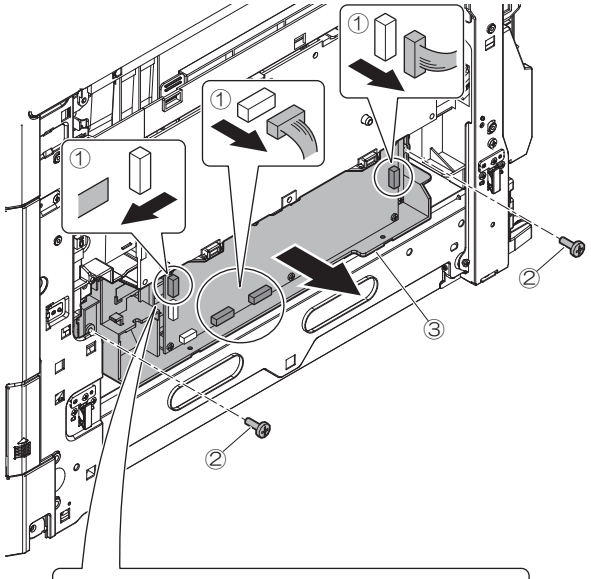

## I. LSU section

| No. | Name |
|---|---|
| 1 | LSU unit |

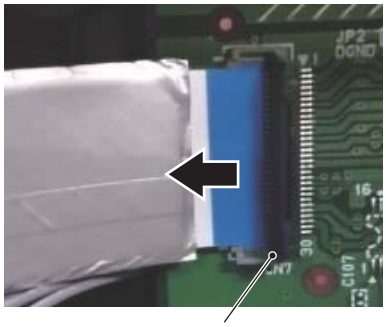



### (1) LSU unit

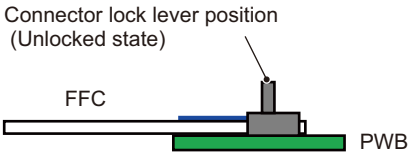
1) Remove the left cover.
2) Disconnect the FFC and the connector. Then, remove the screw, and remove the LSU unit.



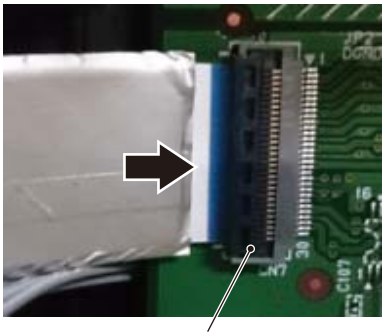

Unlocked (when removing FFC)



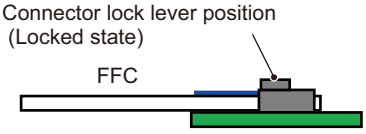
FFC can be removed by releasing the lever.



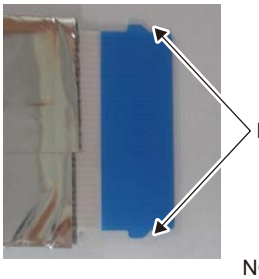

Locked (when connectiong FFC)



FFC is locked by lowering the lever after inserting FFC.




* Insert the FFC and the connector straight until they stop.
* Insert the FFC alignment tab to the connector alignment guide.




OK

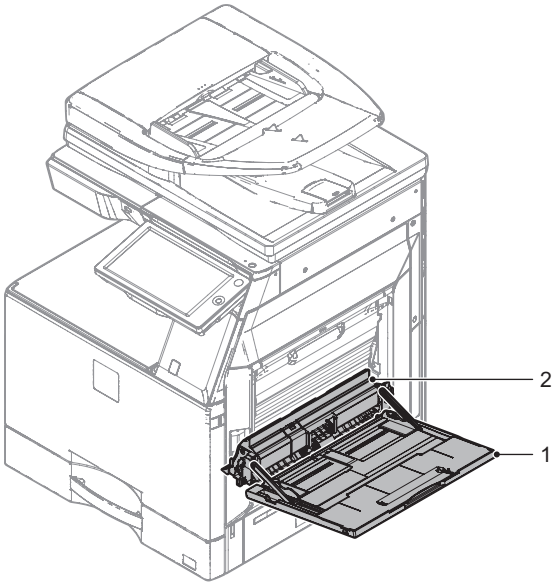


NG: The FFC is not connected straight.



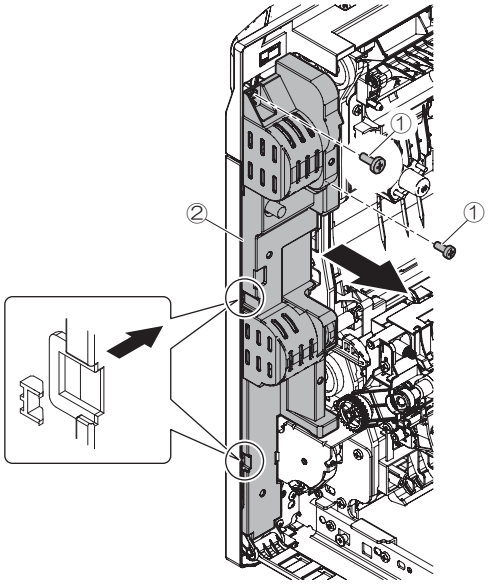
## J. Manual paper feed section

| No. | Name |
|---|---|
| 1 | Manual paper feed tray |
| 2 | Manual paper feed unit |

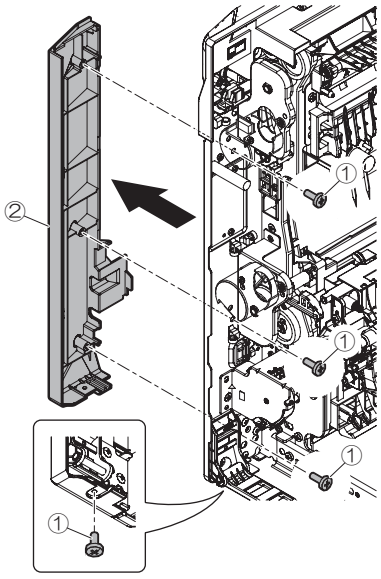



### (1) Manual paper feed tray

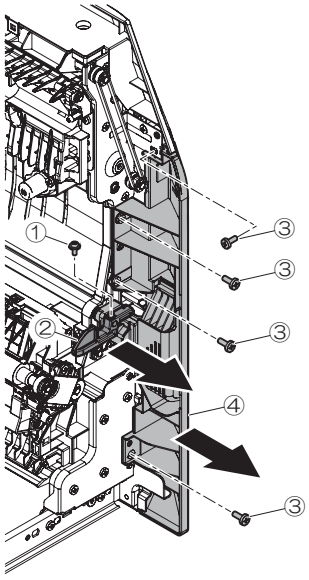
1) Remove the inner cover R upper.



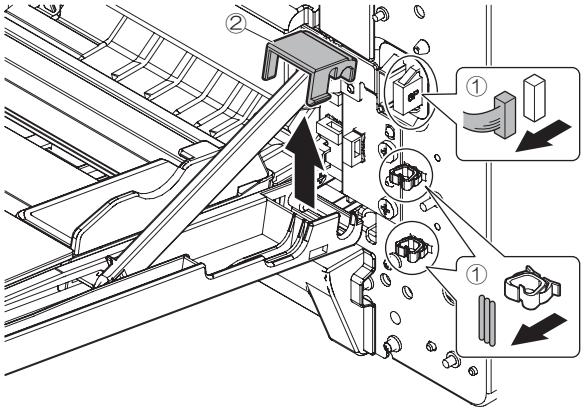
2) Remove the ADU cabinet R upper.



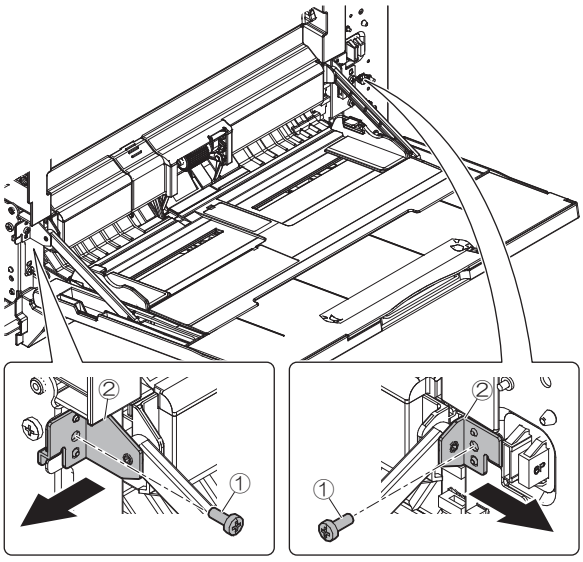
3) Remove the right door lock pawl, and remove the ADU cabinet F.



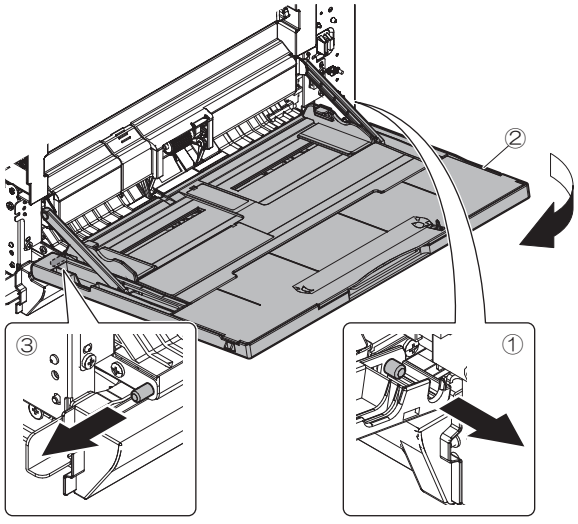
4) Remove the connector, and remove the multi-tray supporting point cover.



5) Remove the multi-tray angle.

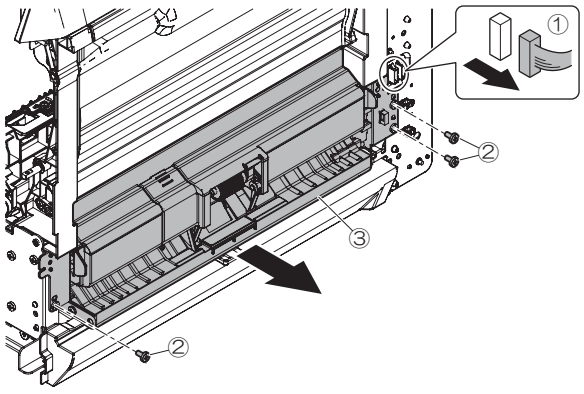


6) Remove the manual paper tray fulcrum shaft, and remove the manual paper tray.



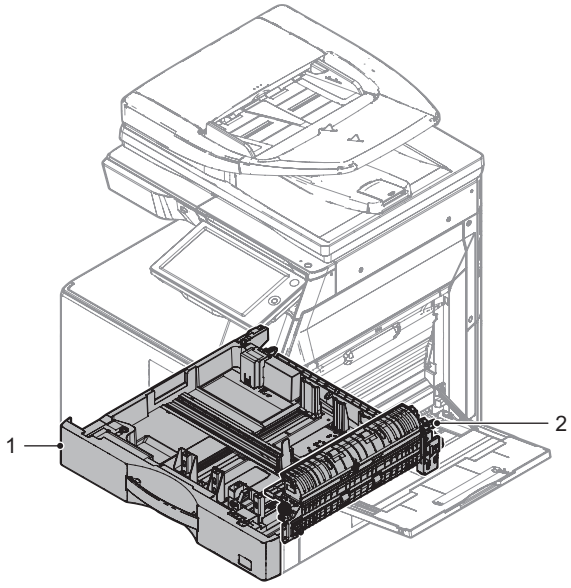
### (2) Manual paper feed unit

1) Remove the manual paper feed tray.
2) Disconnect the connector, and remove the manual paper feed unit.



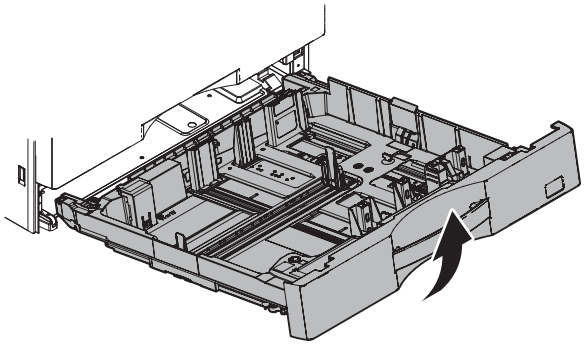
## K. Tray paper feed section

| No. | Name |
|---|---|
| 1 | Paper feed tray |
| 2 | Tray paper feed unit |



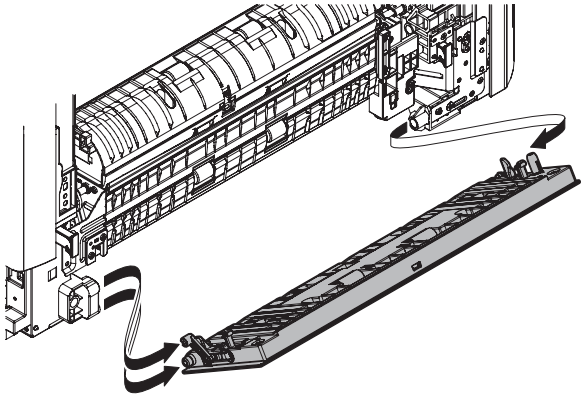

### (1) Paper feed tray

1) Pull out the paper feed tray, and lift and remove it.

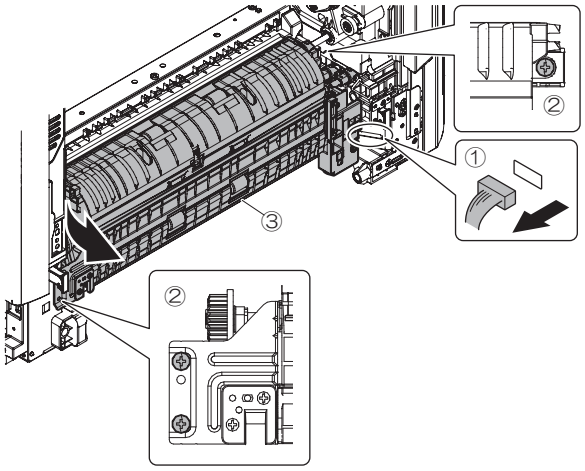


### (2) Tray paper feed unit

1) Remove the paper feed tray.
2) Remove the right cover rear lower.
3) Remove the right cover front lower.
4) Remove the right door unit.

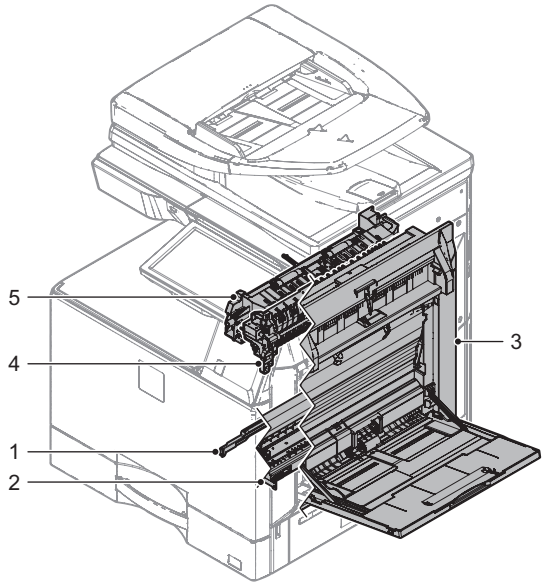


5) Disconnect the connector, and remove the tray paper feed unit.



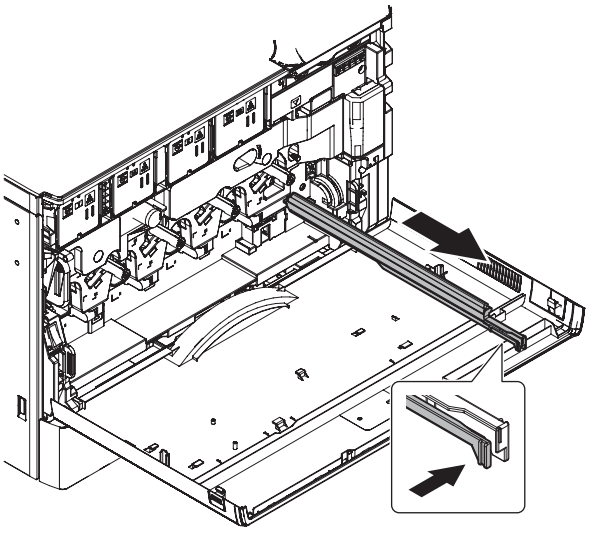

## L. Paper transport/Paper exit/ADU section

| No. | Name |
|---|---|
| 1 | Paper dust removing unit |
| 2 | PS unit |
| 3 | Right door unit |
| 4 | Fusing rear unit |
| 5 | Paper exit unit |



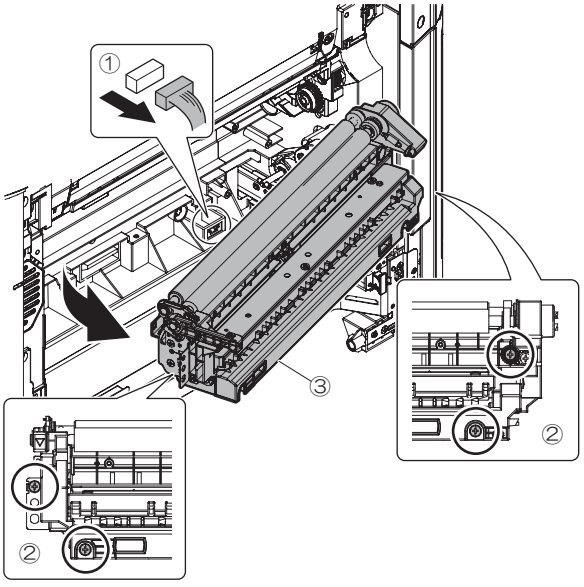
### (1) Paper dust removing unit

1) Remove the waste toner box.
2) Remove the paper dust cleaner unit.



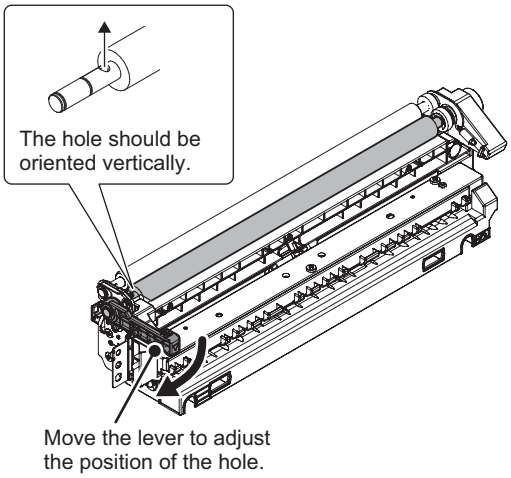
### (2) PS unit

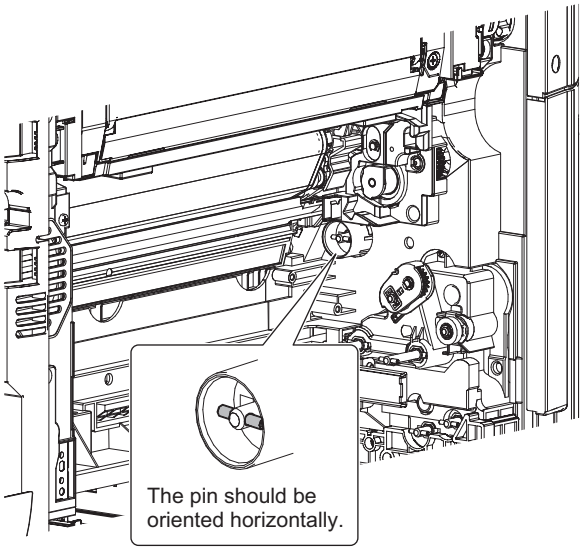
1) Paper dust removing unit
2) Remove the waste toner box.
3) Remove the paper feed tray.
4) Remove the tray paper feed unit.
5) Disconnect the connector, and remove the PS unit.




Important

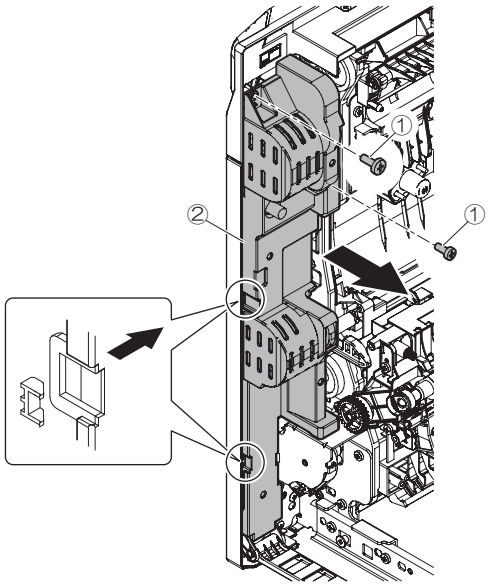
When installing the PS unit, confirm the contents shown in the following figure.



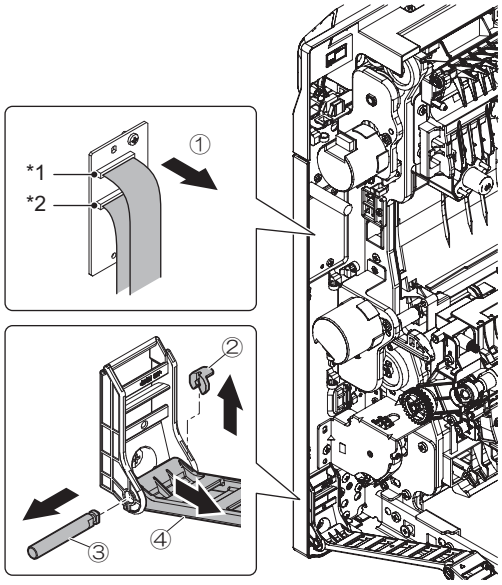



### (3) Right door unit

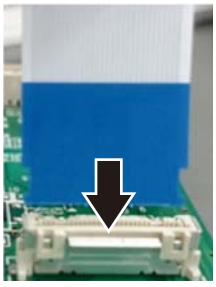
1) Remove the inner cover R upper.



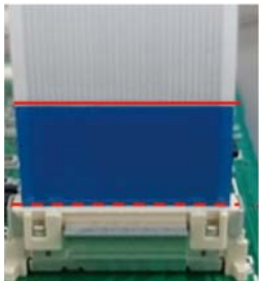

2) Remove the FFC, and remove the right door open/close harness holder.



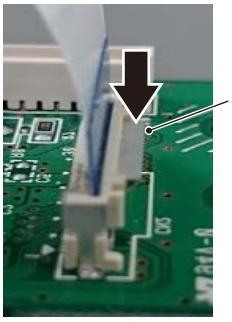

*1



Insert the FFC straight until it stops.

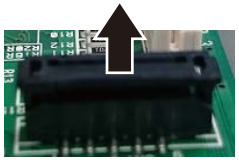


CAUTION :
Check that the FFC reinforce plate is parallel to the connector.



The lock is released by pressing the tab of the FFC connector with the direction described by the arrow.

*2

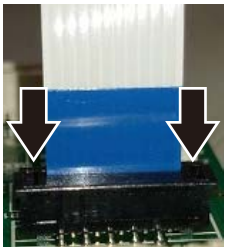


* When the lock lever is lifted up, be care ful not to damage the connector.

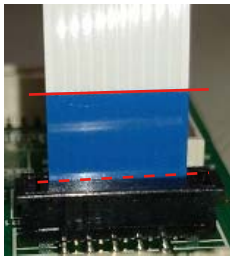
Lift up the lock lever before inserting the FFC.



Insert the FFC straight until it stops.

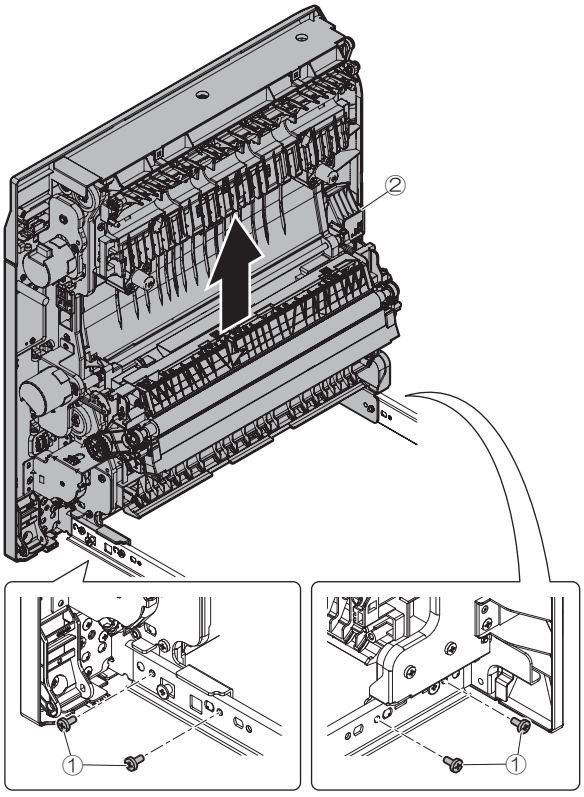


Pull down the lock lever and lock the part.



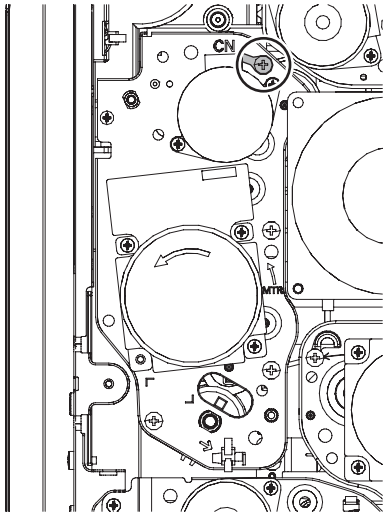
CAUTION :
Check that the FFC reinforce plate is parallel to the connector.

3) Remove the right door.

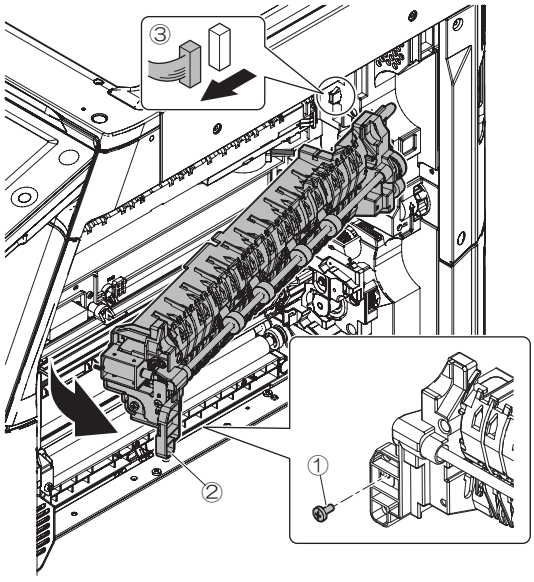



### (4) Fusing rear unit

1) Remove the right cover rear upper
2) Remove the ground wire from the fusing drive unit.




3) Remove the fusing unit.
4) Remove the fusing rear unit.Then disconnect the connector.

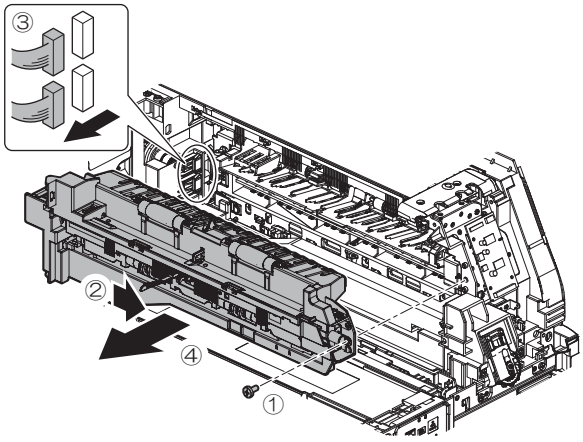



### (5) Paper exit unit

1) Remove the front cover upper right.
2) Remove the paper exit unit.

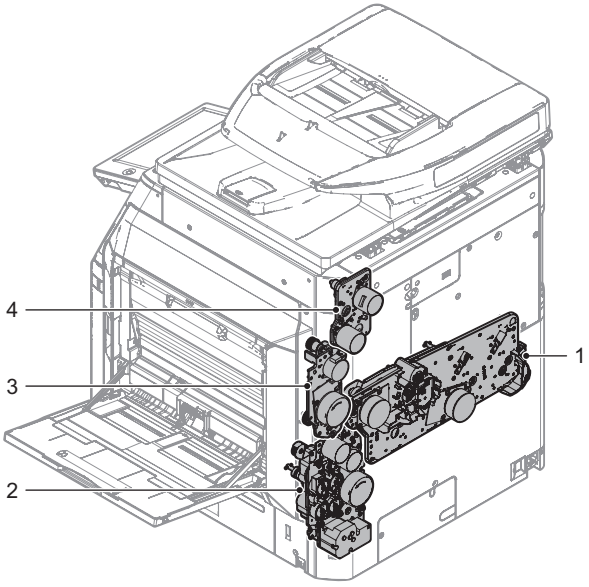
Important

When the connector is attached, check that the connector is attached firmly. (Check that the connector is attached straight.)



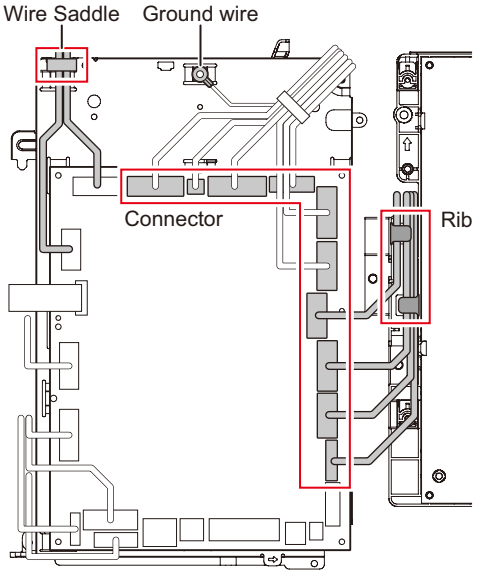
## M. Drive section

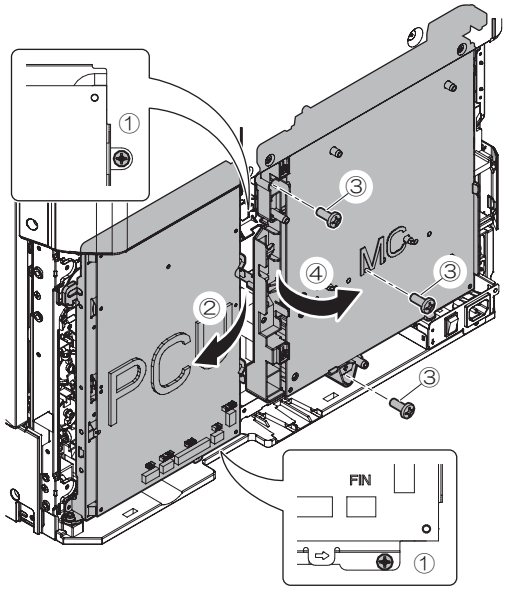
| No. | Name |
|---|---|
| 1 | Main drive unit |
| 2 | Transport drive unit |
| 3 | Fusing drive unit |
| 4 | Paper exit drive unit |




### (1) Main drive unit

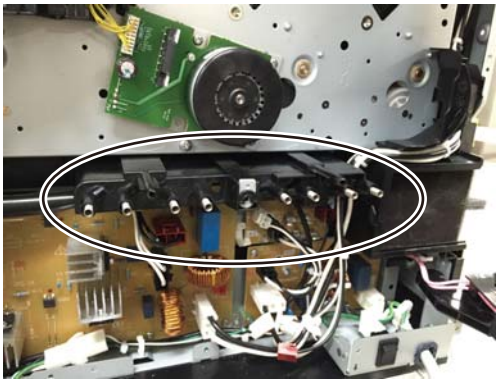
1) Remove the waste toner box.
2) Remove the developing unit.
3) Remove the OPC drum unit.
4) Remove the primary transfer unit.
5) Remove the rear cover.
6) Remove the harness from the wire saddle.
   Remove the harness from the rib.
   Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit and the MC fixing plate unit.



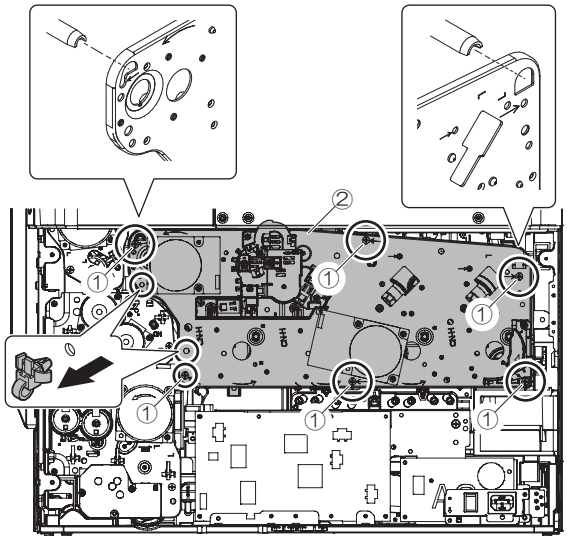




**NOTE:** Be careful with the following points when the MC PWB is attached.

- Check that each spring electrode is attached correctly.
- Check that each spring electrode is not bent or deformed.

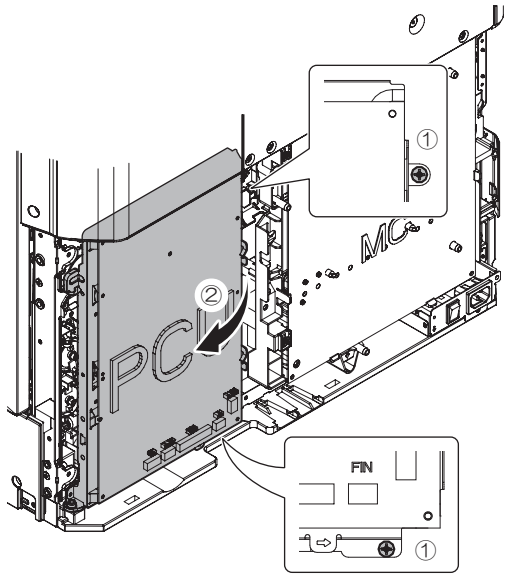


7) Remove the main drive unit.

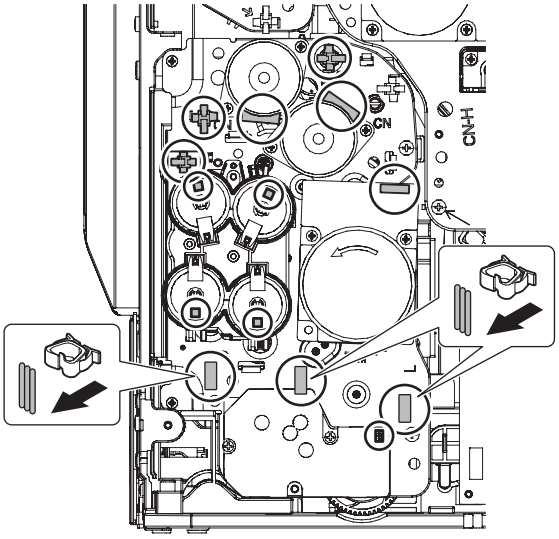


### (2) Transport drive unit

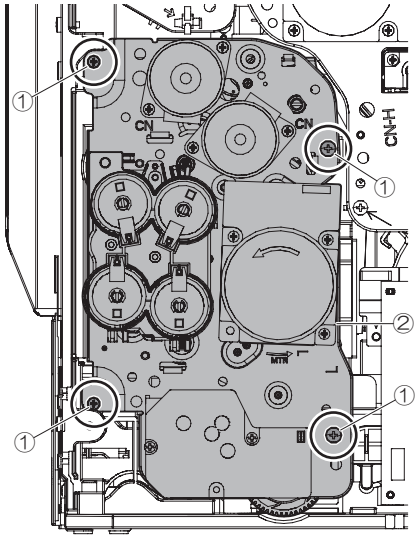
1) Remove the rear cover.
2) Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit.




3) Remove the connector, the reuse band and the harness from the transport drive unit.

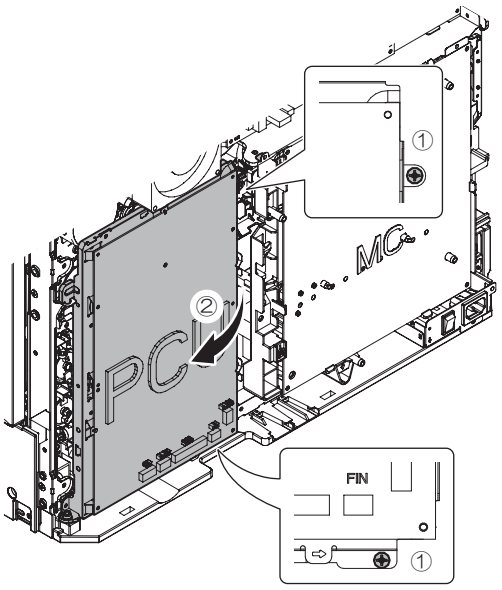



4) Remove the transport drive unit.

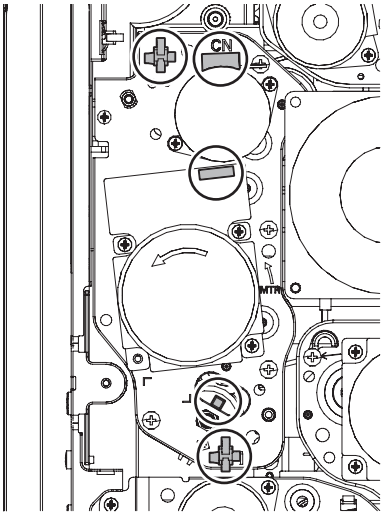



### (3) Fusing drive unit

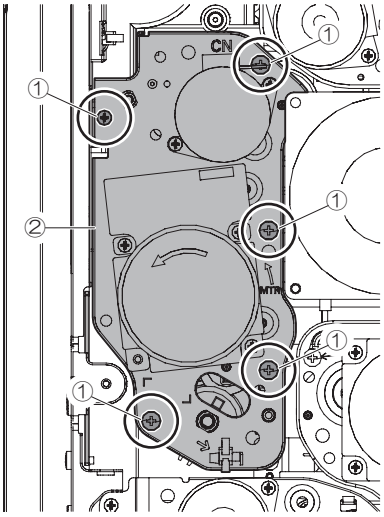
1) Remove the rear cover.
2) Remove the right cover rear upper.
3) Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit.




4) Remove the connector and the reuse band from the fusing drive unit.

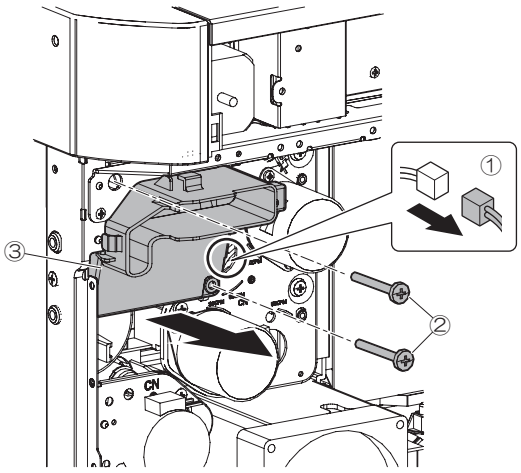



5) Remove the fusing drive unit

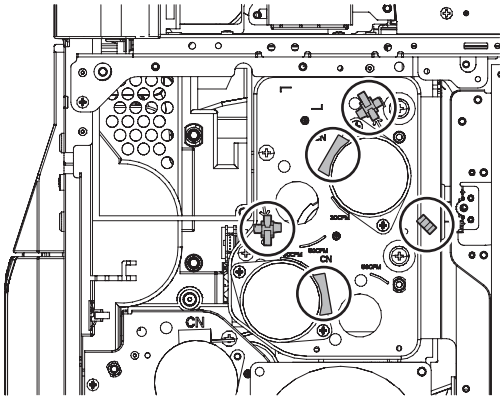


### (4) Paper exit drive unit

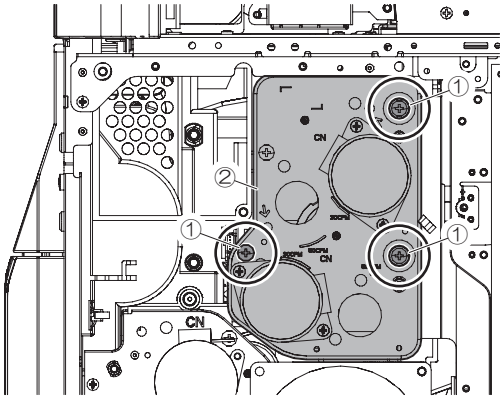
1) Remove the rear cover.
2) Remove the right cover rear upper.
3) Remove the delivery fan cover.




4) Remove the connector, the reuse band and the harness from the paper exit drive unit.

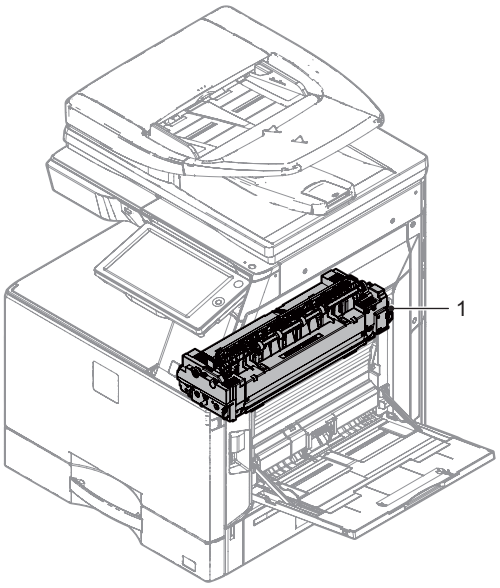


5) Remove the paper exit drive unit.



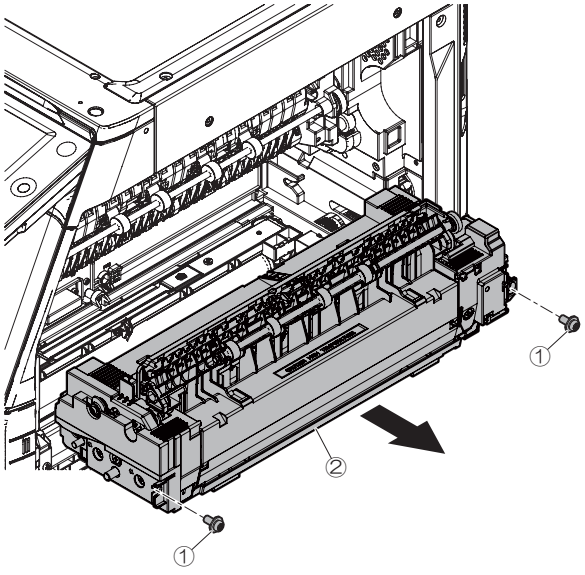

## N. Fusing section

| No. | Name |
|---|---|
| 1 | Fusing unit |



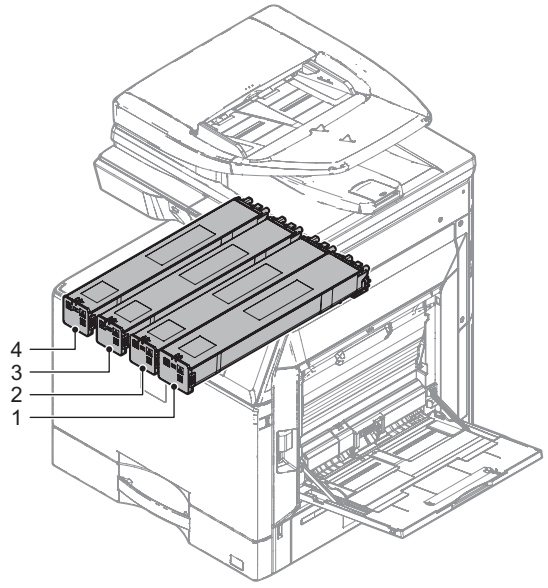

### (1) Fusing unit

1) Open the right door, and remove the fusing unit.



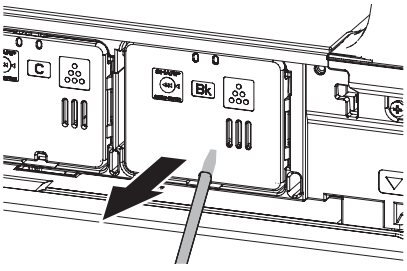
## O. Toner supply section

| No. | Name |
|---|---|
| 1 | Toner cartridge (Bk) |
| 2 | Toner cartridge (C) |
| 3 | Toner cartridge (M) |
| 4 | Toner cartridge (Y) |



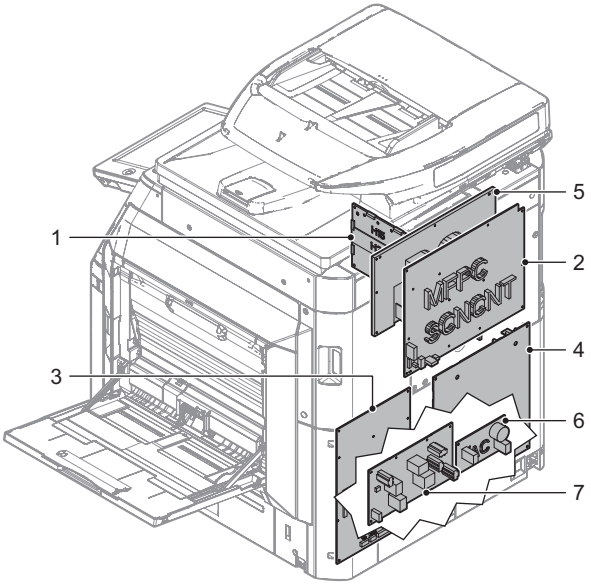

There are the following methods for removing the toner cartridge.

- system setting
- Image quality adjustment bar -> Removing the toner cartridge
- Sim10-3
- Manual



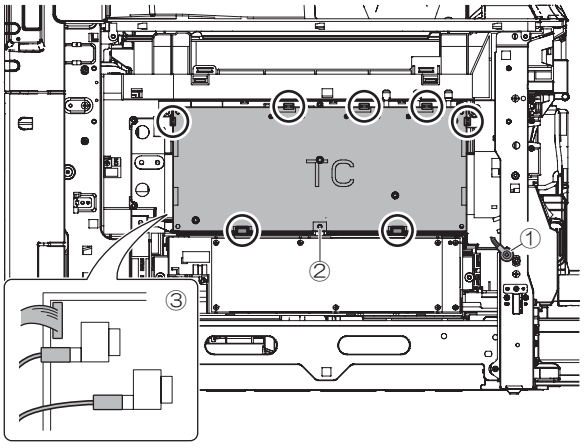

## P. PWB section

| No. | Name |
|---|---|
| 1 | TC PWB |
| 2 | SCN MFP PWB |
| 3 | PCU PWB |
| 4 | MC PWB |
| 5 | DC POWER PWB |
| 6 | AC PWB |
| 7 | HL PWB |



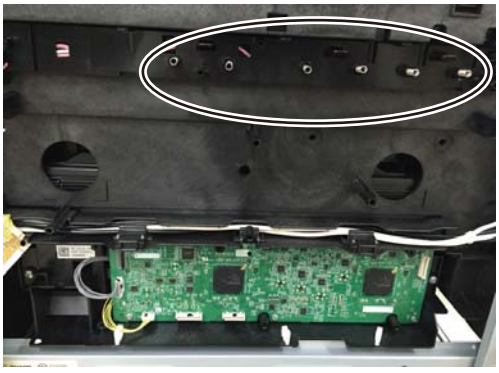

### (1) TC PWB

1) Remove the left cover.
2) Remove the TC PWB, and disconnect the connector.

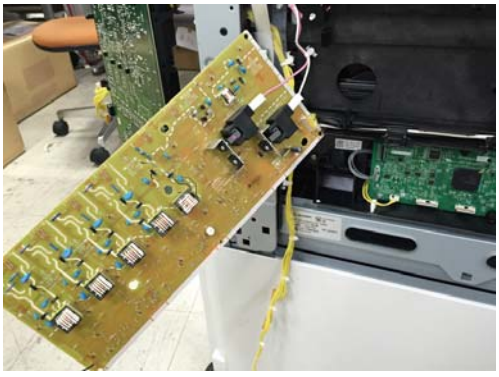


**Caution with replacing the high voltage TC PWB**

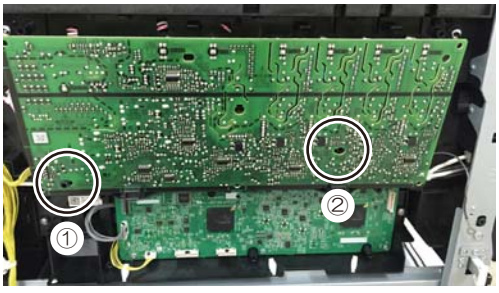
1) When the part is attached
   Check the spring electrode on the main unit.
   - Check that each spring electrode is attached correctly.
   - Check that each spring electrode is not bent or deformed.



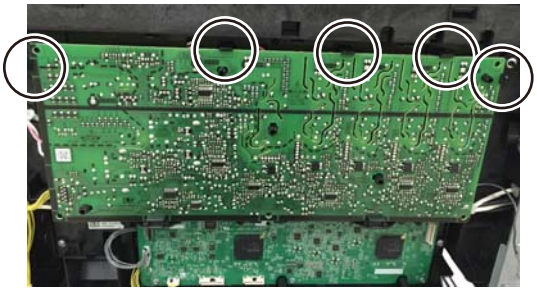
2) The order for fixing to the main unit



Attach the PWB in order of 1 to 2. With this order, the remaining resin boss is attached easily.




3) Check the resin pawl on the main unit.
   Fix the TC PWB with the pawls (5 places) correctly.

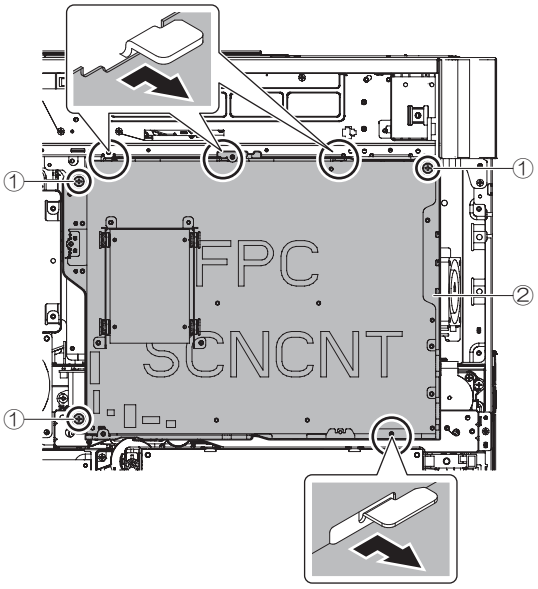


**(2) SCN MFP PWB**

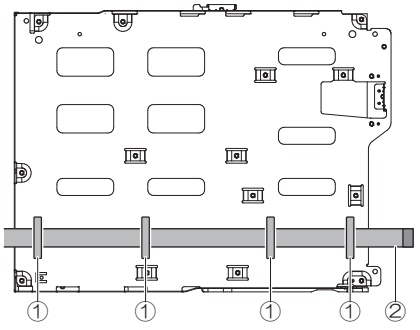
1) Remove the MFPC cover.
2) Remove the rear cover upper.
3) Remove the rear cover.
4) Remove the right cover rear upper.
5) Remove the left cover.
6) Remove the left cover upper rear.
7) Remove the connector and the FFC, and remove the MFPC PWB fixing plate unit.

Important

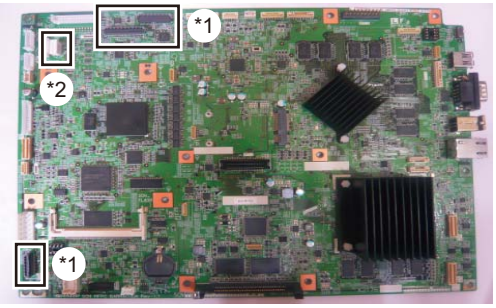
Be careful with the FFC which is attached on the rear side of the MFPC PWB fixing plate unit.




8) Remove the FFC cable.

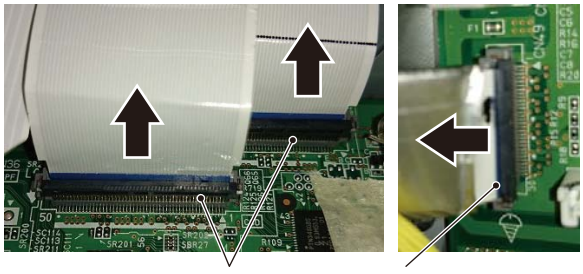


How to attach/remove the SCN MFP PWB FFC

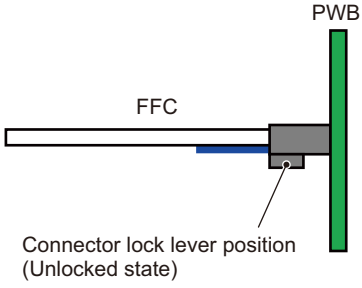



*1

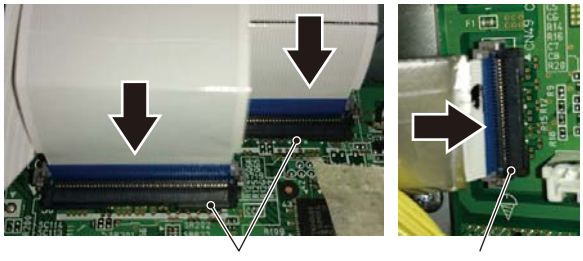
Unlocked (when removing FFC)



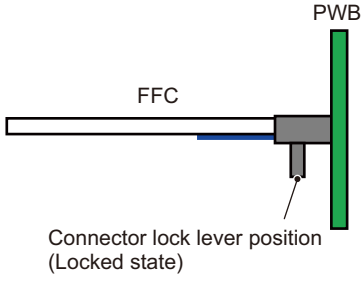
FFC can be removed by releasing the lever.




Locked (when connectiong FFC)
make sure FFC vertically inserted



FFC is locked by raising the lever after inserting FFC.

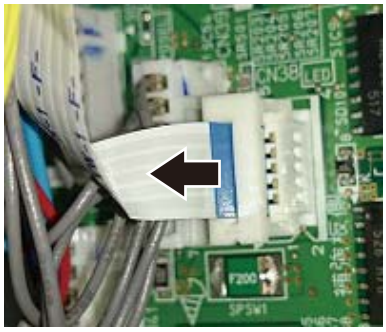



*2

Unlocked (when removing FFC)

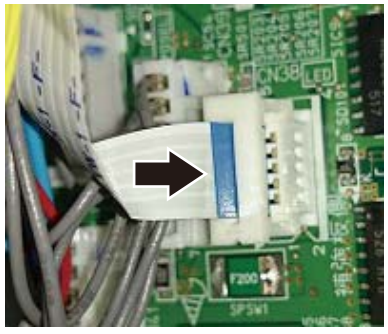


Slide the connector in the direction of the arrow to unlock.



Pull out FFC in the direction of the arrow.

Locked (when connectiong FFC)



Insert FFC in the direction of the arrow, with the reinforcing plate (Blue) being placed at the right side.

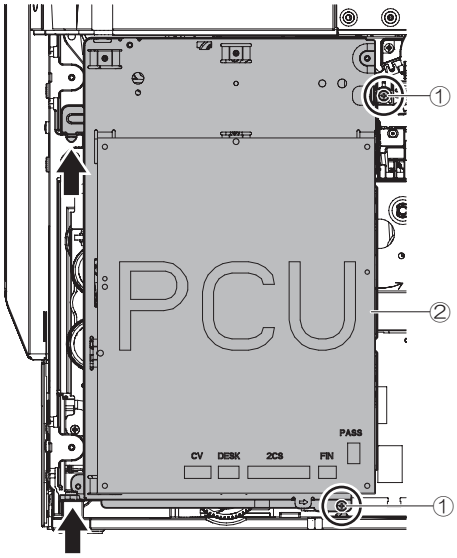


Slide the connector in the direction of the arrow to lock.

9) Take out 2 eeprom from the PWB and mount them onto the new PWB.

### (3) PCU PWB

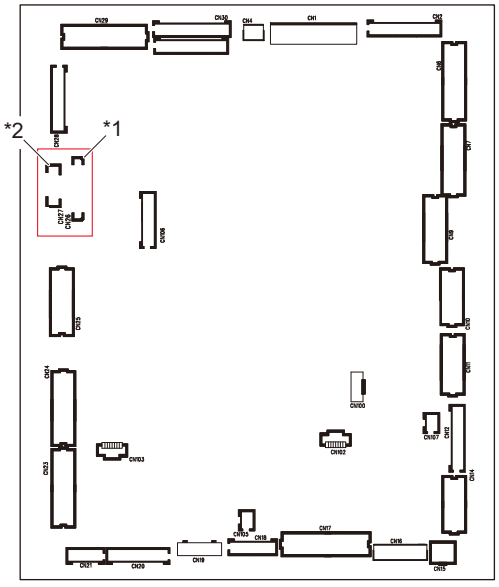
1) Remove the rear cover.
2) Remove the connector and the FFC, and remove the PCU PWB fixing plate unit.




Perform the following operations after replacing the PCU PWB.

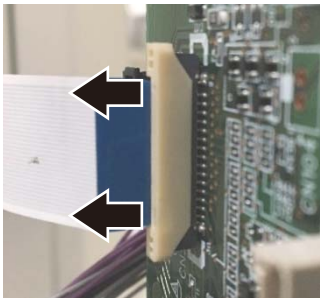
- Remove the fusing unit and turn ON the main power. Then, leave the main unit for 10 seconds.
- Turn OFF the main power.
- Attach the fusing unit.

How to attach/remove the PCU PWB FFC

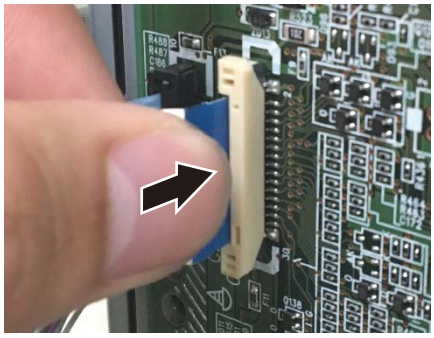



*1

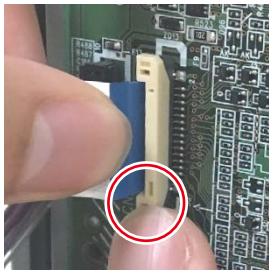
Removal method
Hold both ends of connector and lift it.

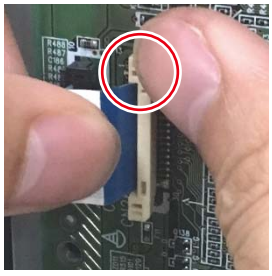


Insertion method
Insert FFC into connector.

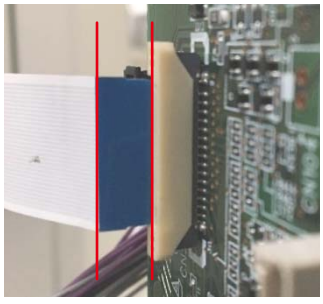


Press the FFC and alternately press the end of the connector "down" → "up" → "down" → "up" to lock the FFC.

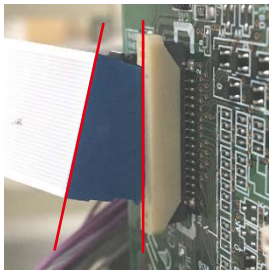




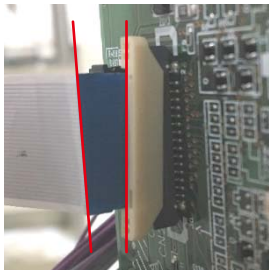
CAUTION :
Check that the FFC reinforce plate is parallel to the connector.



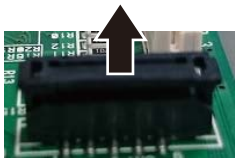
NG
FFC oblique insertion.



NG
Connector lock incomplete.



*2

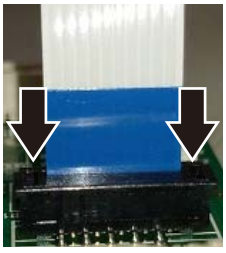


* When the lock lever is lifted up, be care ful not to damage the connector.

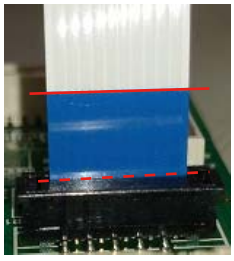
Lift up the lock lever before inserting the FFC.



Insert the FFC straight until it stops.



Pull down the lock lever and lock the part.

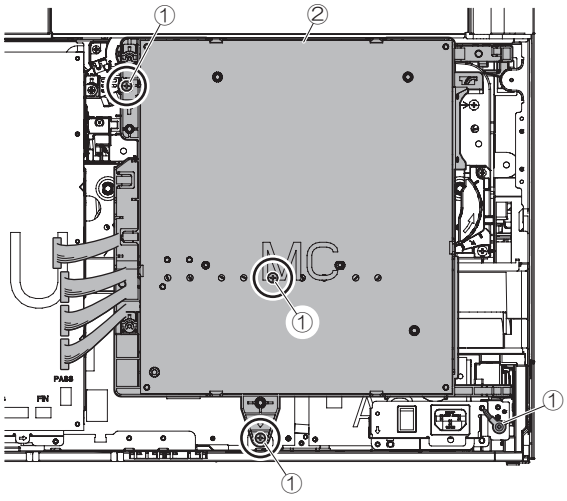


CAUTION :
Check that the FFC reinforce plate is parallel to the connector.

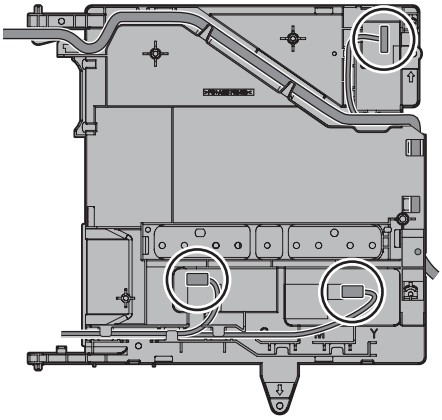
3) Take out the eeprom from the PWB and mount it onto the new PWB.

### (4) MC PWB

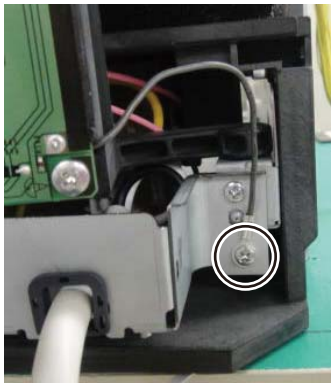
1) Remove the MFPC cover.
2) Remove the rear cover.
3) Disconnect the connector from the PCU PWB and open the MC fixing plate unit.



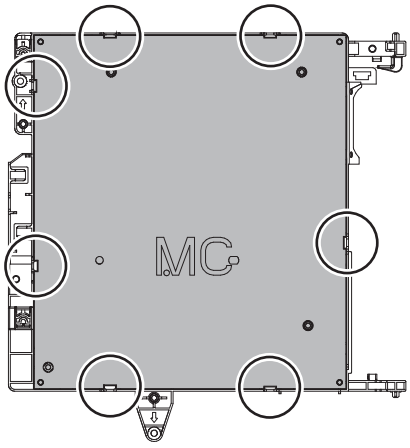

4) Disconnect the 3 harnesses on the MC PWB.



5) Disconnect the ground wire on the MC PWB.

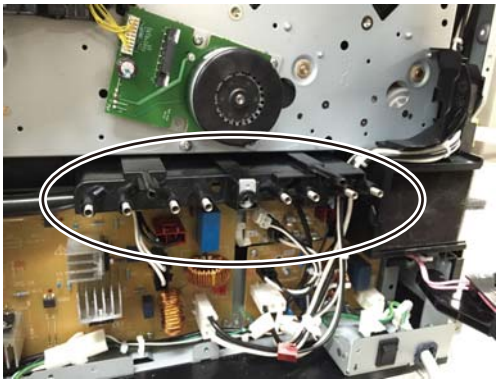


6) Remove the 7 pawls, and remove the MC PWB.



**Caution with replacing the high voltage MC PWB**

1) When the part is attached
   Check the spring electrode on the main unit.
   - Check that each spring electrode is attached correctly.
   - Check that each spring electrode is not bent or deformed.



2) Check the connection to the main unit
   Fix the MC PWB with the pawls (7 places) correctly.

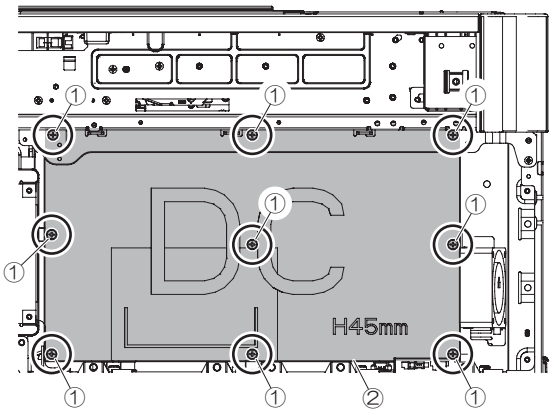




· The resin boss is gotten out correctly.
· The center screw of the MC PWB is fixed correctly.

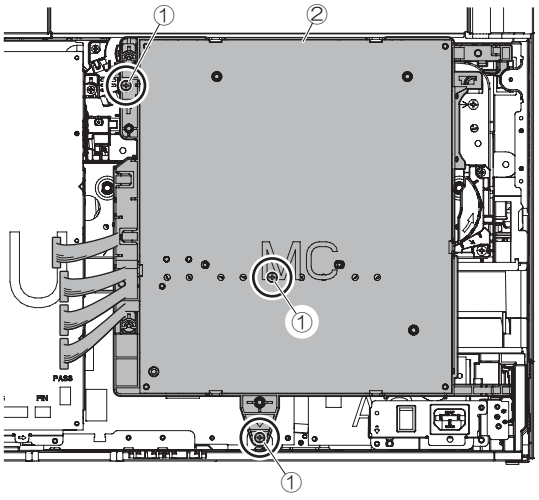
**(5) DC POWER PWB**

1) Remove the MFPC PWB fixing plate unit.
2) Remove the connector, and remove the low voltage power unit.

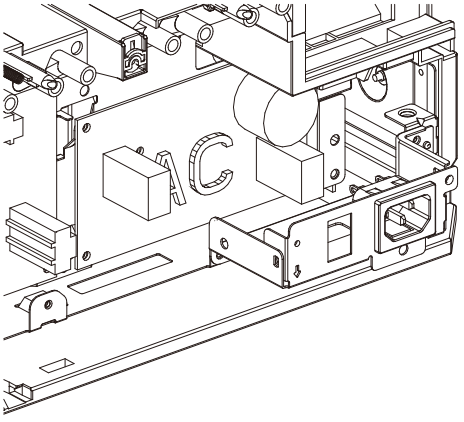



**(6) AC PWB**

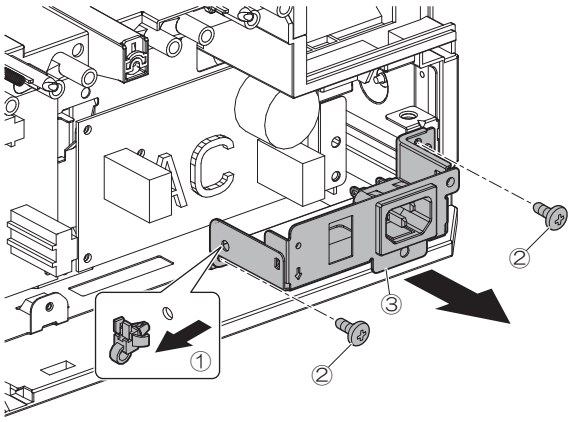
1) Remove the MFPC cover.
2) Remove the rear cover.
3) Disconnect the connector from the PCU PWB and open the MC fixing plate unit.



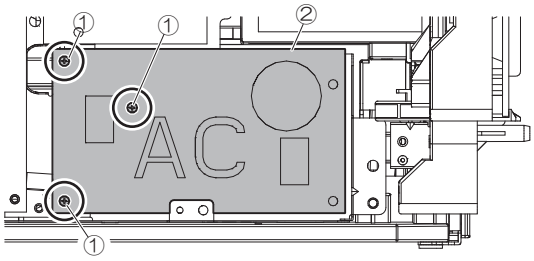

4) Disconnect the all connectors from the AC PWB.



5) Remove the reuse band.
Remove the AC cord fixing plate unit.

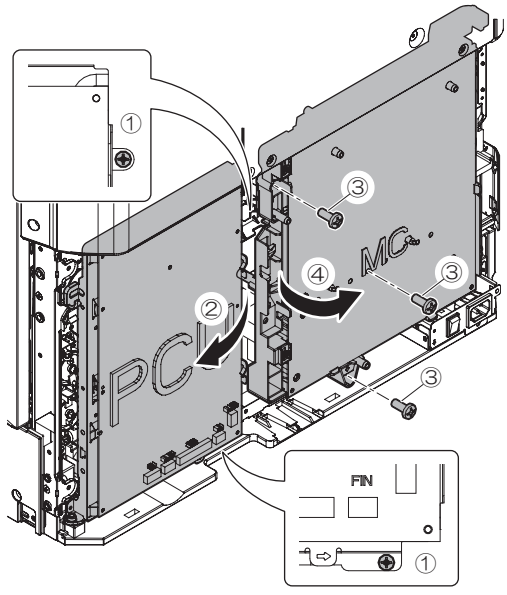



6) Remove the AC PWB.

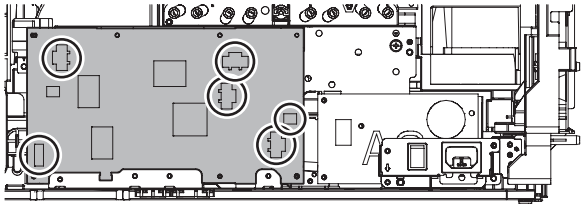



### (7) HL PWB

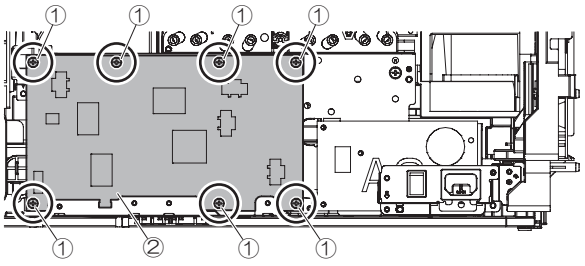
1) Remove the rear cover.
2) Remove the connector and the ground wire from the PCU PWB. Then, open the PCU PWB fixing plate unit and the MC fixing plate unit.



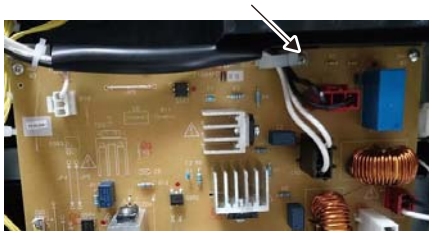

3) Disconnect the connector from the HL PWB.



4) Remove the screws, and remove the HL PWB.

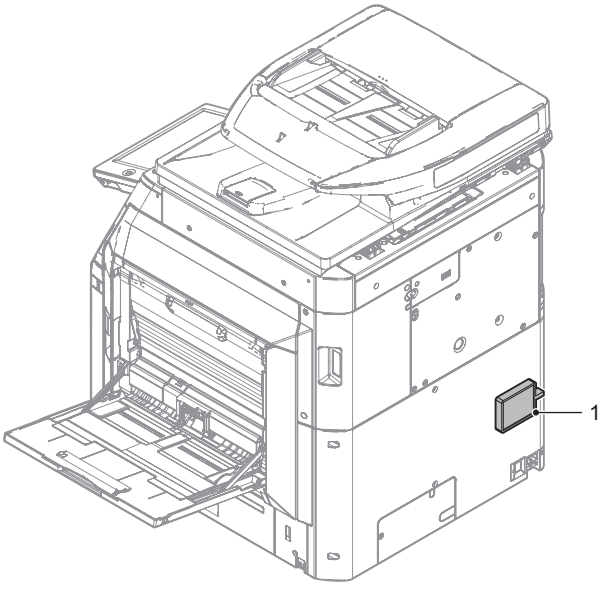



Saddle for fixing the screw
· Fix by the screw with the HL PWB.



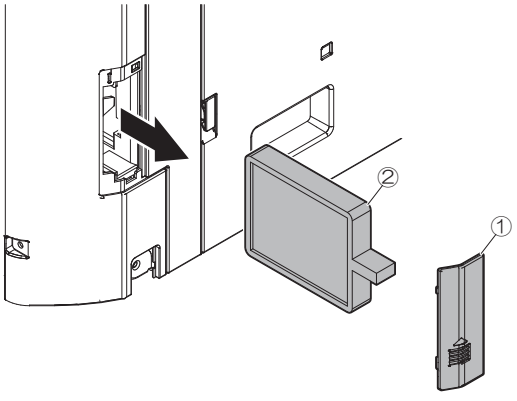
## Q. Filter section

| No. | Name |
|---|---|
| 1 | Ozone filter |




### (1) Ozone filter

1) Remove the ozone filter cover, and remove the ozone filter.

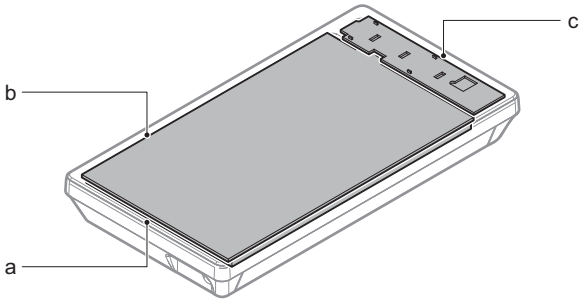


# 2. Disassembly and assembly of each unit

## A. Operation panel section

### (1) Operation panel unit (Non keyboard model)

| Part No. | Part name | |
|---|---|---|
| a | LCD | |
| b | Touch panel | |
| c | HOME KEY PWB | [For MX-xx51 series] |
| | NFC HOME KEY PWB | [For MX-xx61/xx71 series] |

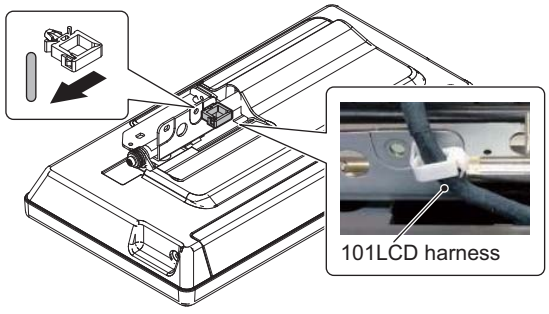



**a. LCD**

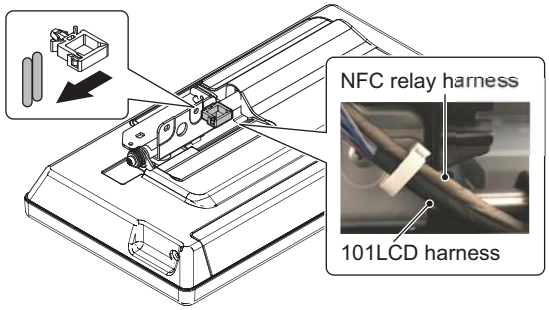
1) Remove the harness from the clamp.

**MX-xx51 [All destinations]**

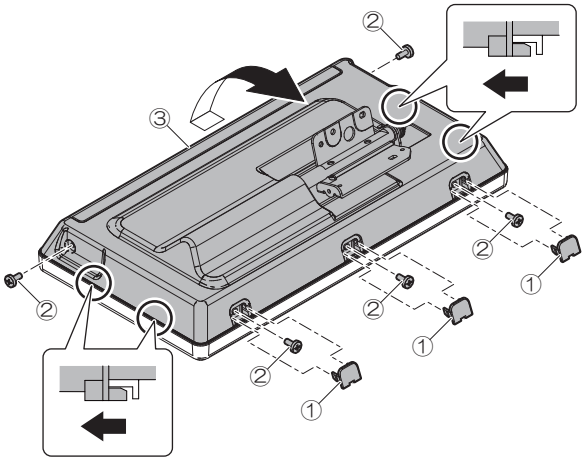
**MX-xx61/xx71 [Destinations other than Europe]**




**MX-xx61/xx71 [For Europe]**



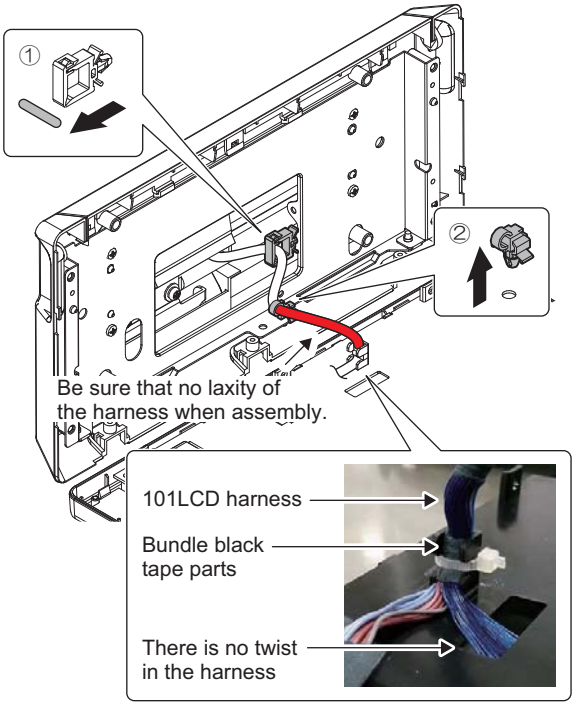

2) Remove the cover and the screw then open the cover.

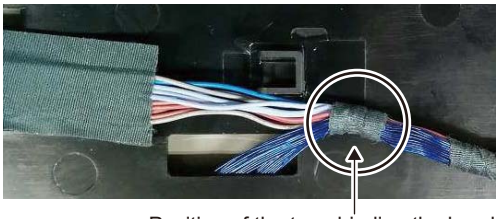


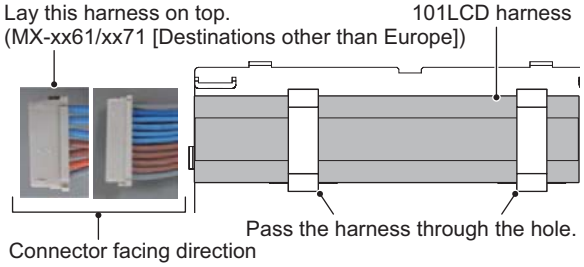

3) Remove the harness from the clamp and band.

**MX-xx51 [All destinations]**

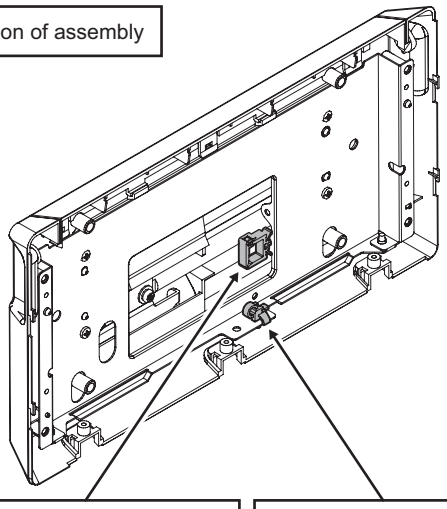
**MX-xx61/xx71 [Destinations other than Europe]**



Caution of assembly



Be sure to attach
the lock lever as shown by
figure below.

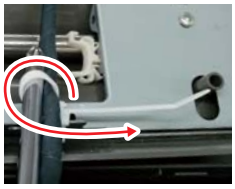


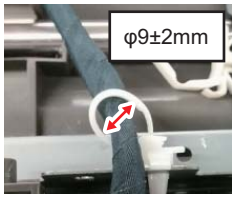




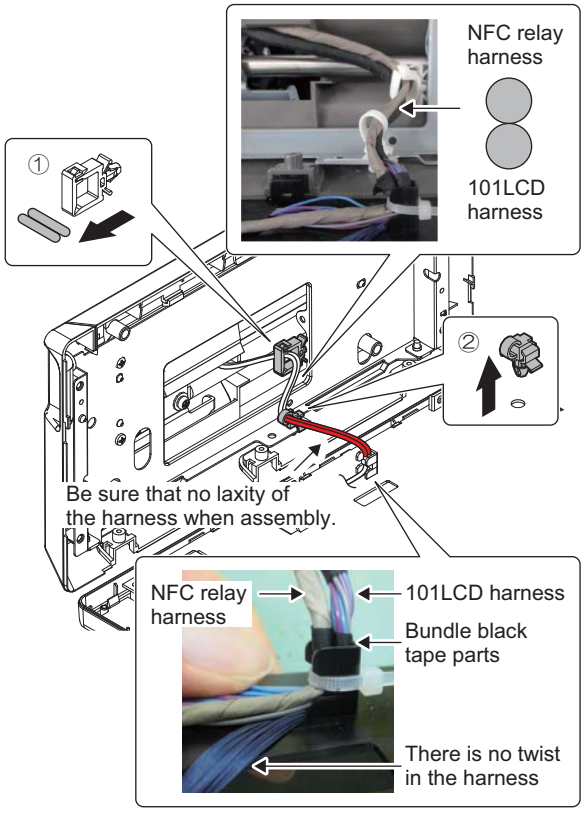


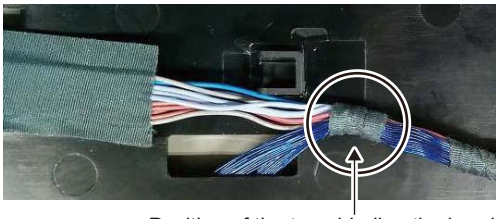
Banding band direction.



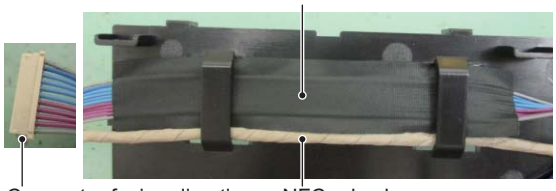



**MX-xx61/xx71 [For Europe]**



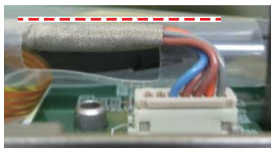
Position of the tape binding the band




Be sure that no laxity of
the harness when assembly.

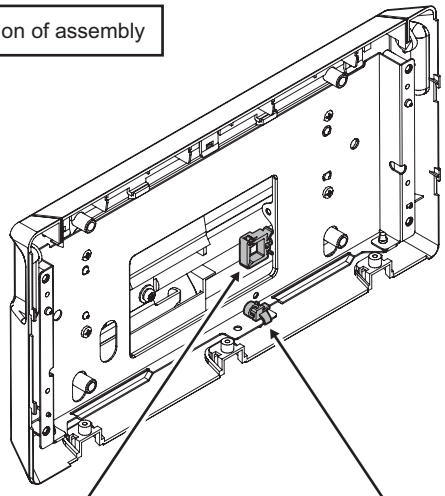


When there is slack in the harness, put it on Mylar side

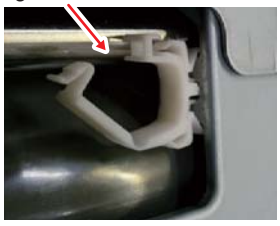


The harness does not go on Mylar at the connector insertion part

Caution of assembly



Be sure to attach the lock lever as shown by figure below.



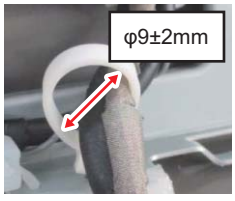




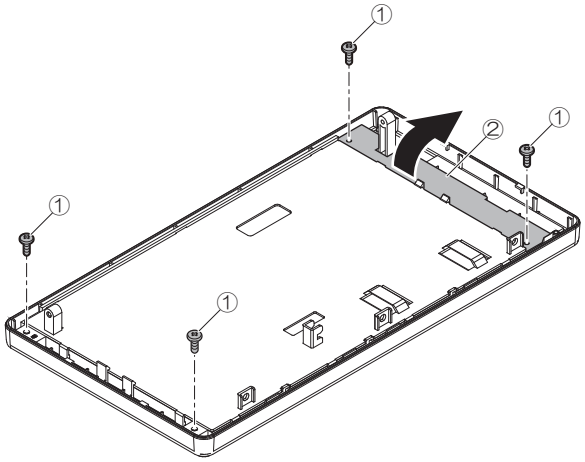


Banding band direction.



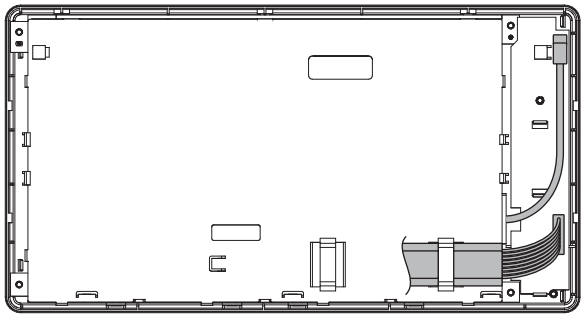



4) Remove the screw and open the mylar.

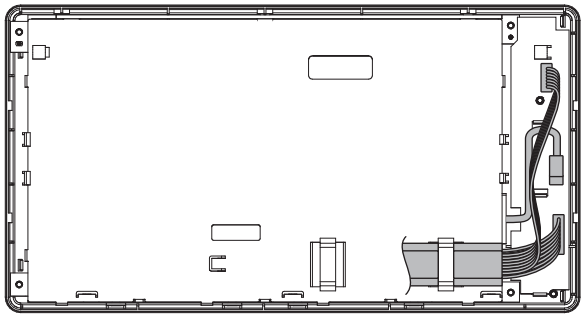



5) Remove the connector and the FFC.

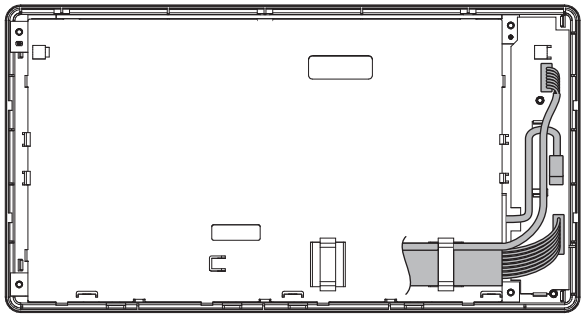
**MX-xx51 [All destinations]**



**MX-xx61/xx71 [Destinations other than Europe]**

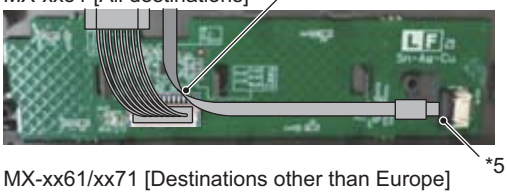


**MX-xx61/xx71 [For Europe]**

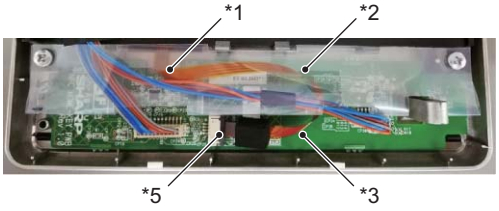


How to handle harness.

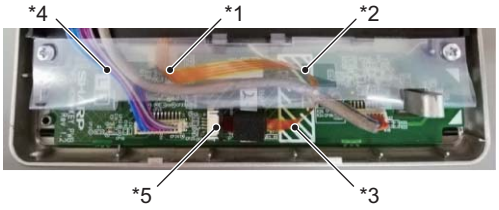
MX-xx51 [All destinations]




MX-xx61/xx71 [Destinations other than Europe]

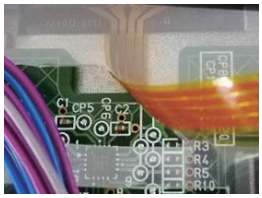



MX-xx61/xx71 [For Europe]




Process the twist direction of the FPC as shown below.

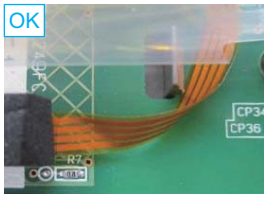
*1

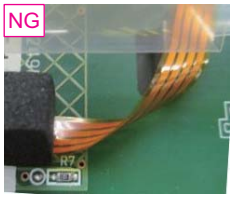


*2



*3




*4 The harness does not intersect

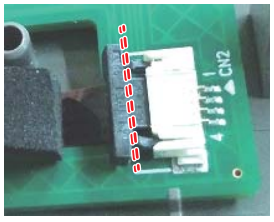






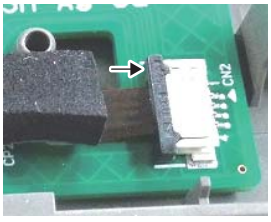
*5 How to lock the connector.

Unlocked condition



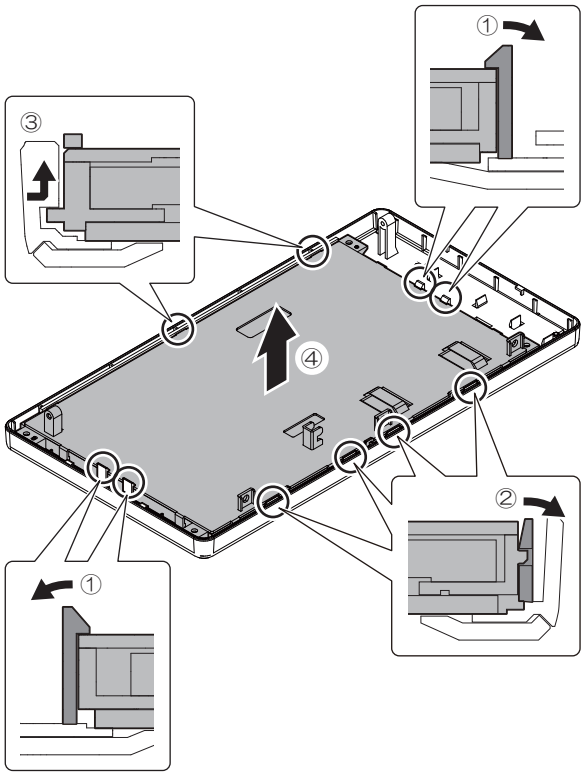

Insert the connector with unlocked condition.

Locked condition

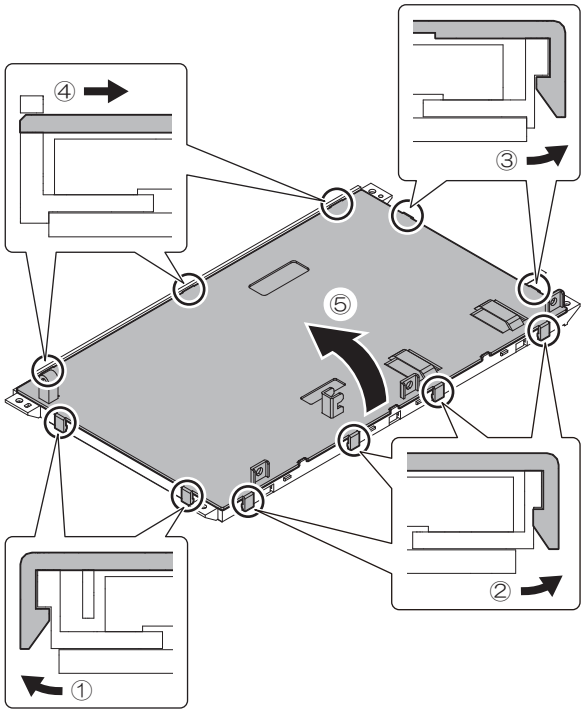



Be sure to lock.

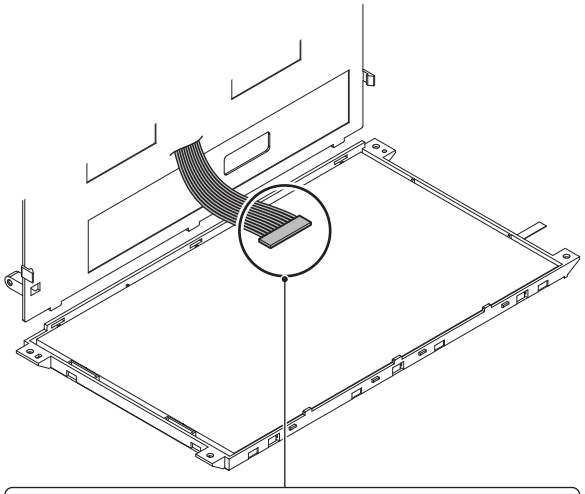
6) Remove the pawl and LCD holder unit.



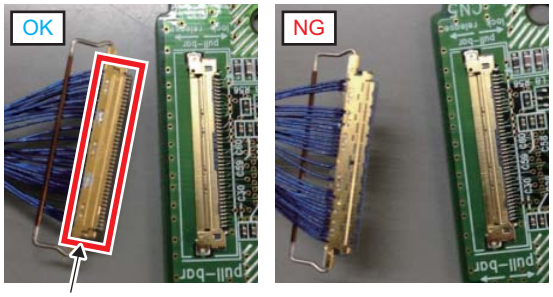

7) Remove the pawl and open the LCD holder.



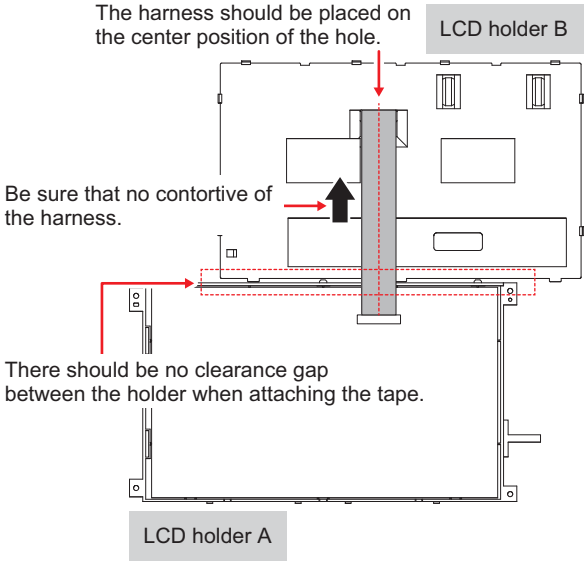
8) Remove the connector.



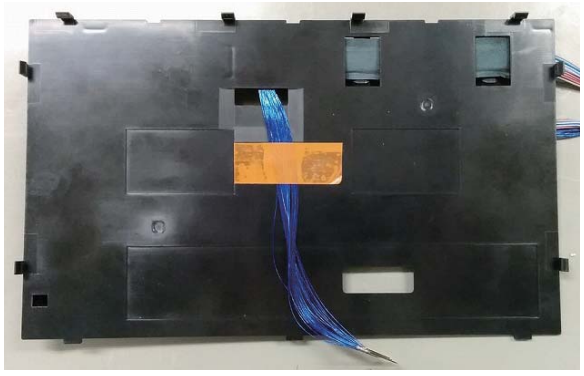


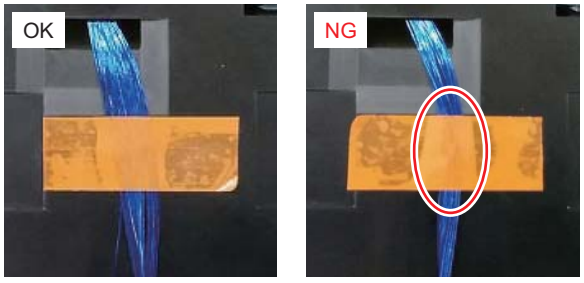

Caution of assembly



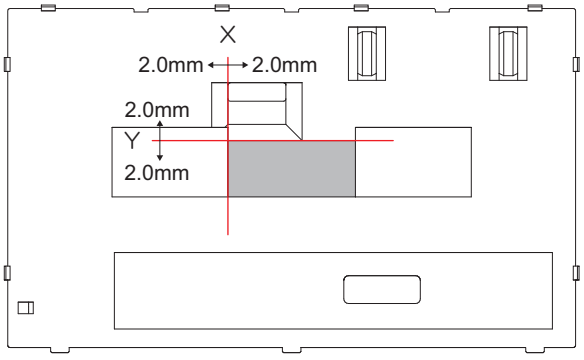

Harness fix by the tape with flat condition of the harness.



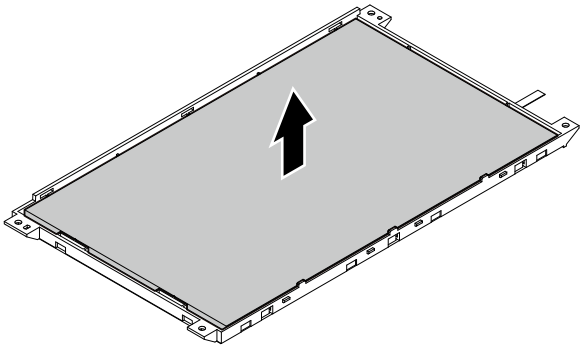
Harness do not place on the harness.




Attaching reference

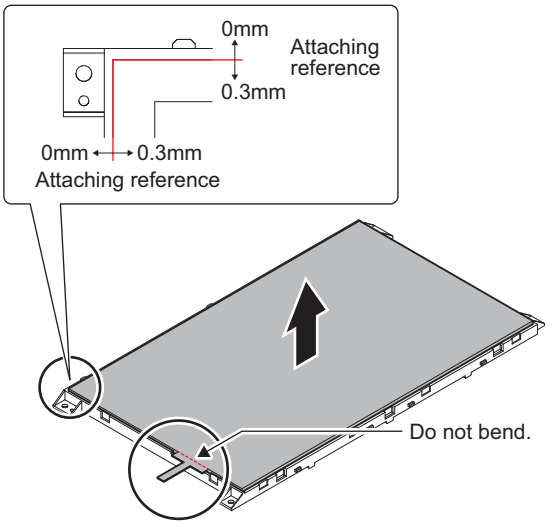



9) Remove the LCD.

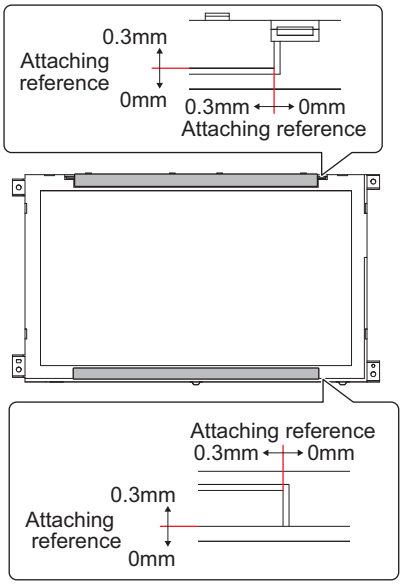


**b. Touch panel**

1) Remove the touch panel.



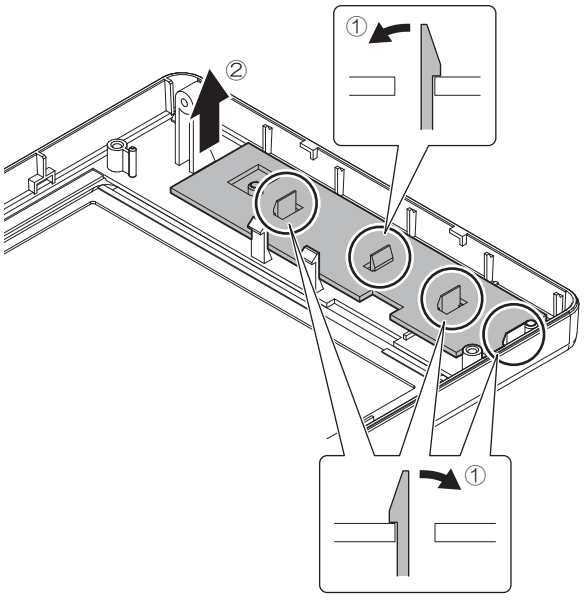

2) Remove the sheet.




**c.**

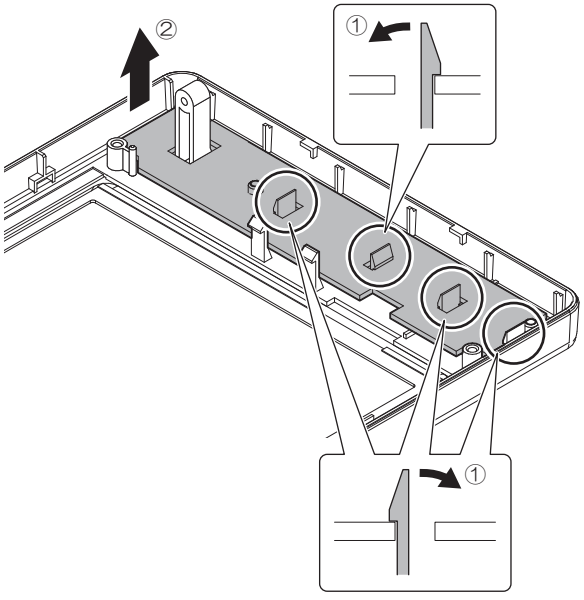
**c-1. HOME KEY PWB [For MX-xx51 series]**

1) Remove the pawl and HOME KEY PWB.

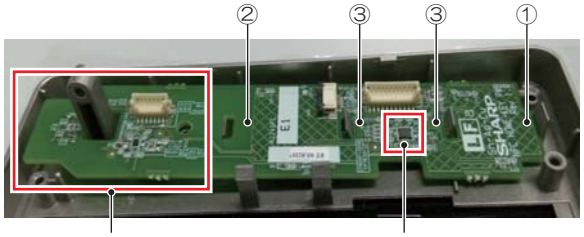



**c-2. NFC HOME KEY PWB [For MX-xx61/xx71 series]**

1) Remove the pawl and NFC HOME KEY PWB.

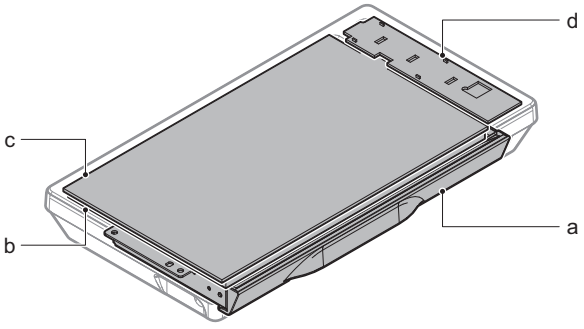



When assembling, holding the board in the order shown below, fix it to the nail.



## (2) Operation panel unit (Keyboard standard model)

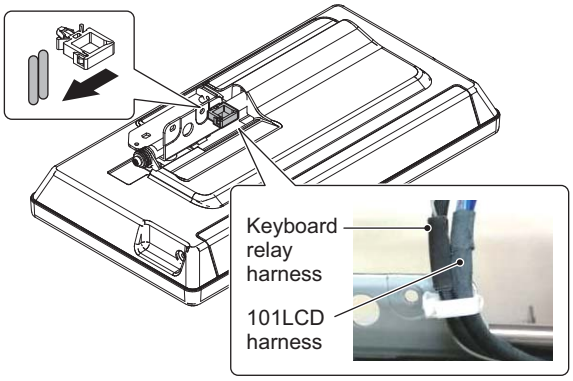
| Part No. | Part name |
|---|---|
| a | Keyboard |
| b | LCD |
| c | Touch panel |
| d | NFC HOME KEY PWB |



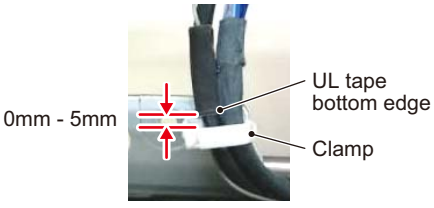

### a. Keyboard

1) Remove the harness from the clamp.

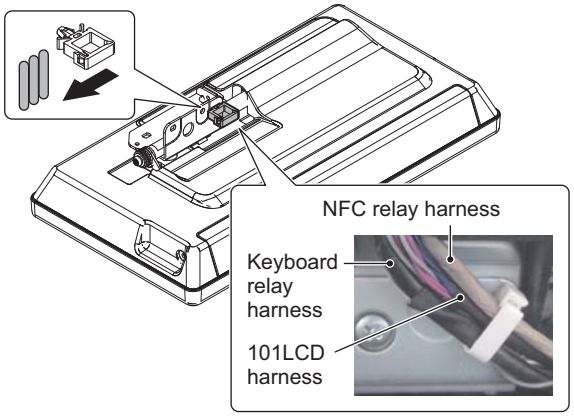
**MX-xx61/xx71 [Destinations other than Europe]**



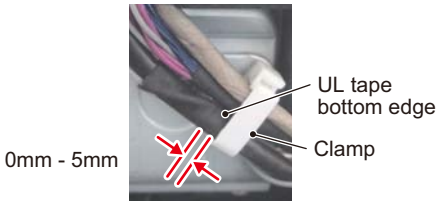

Pull out reference position of Keyboard relay harness.



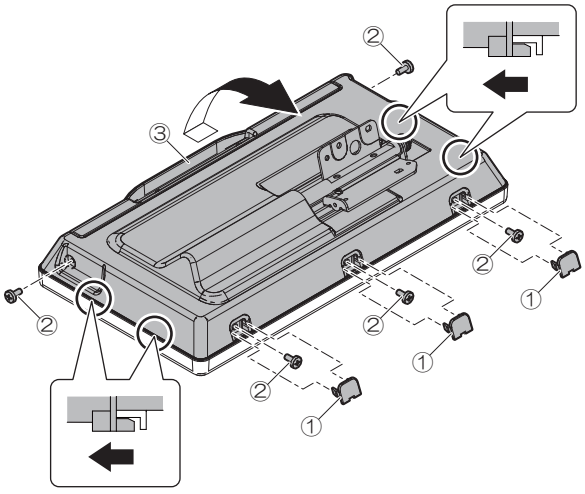

**MX-xx61/xx71 [For Europe]**




Pull out reference position of Keyboard relay harness.

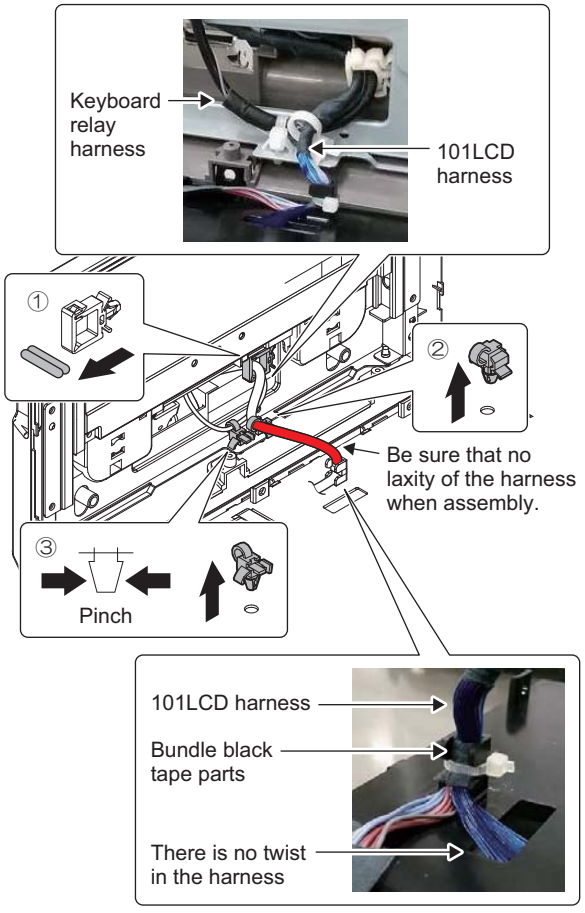


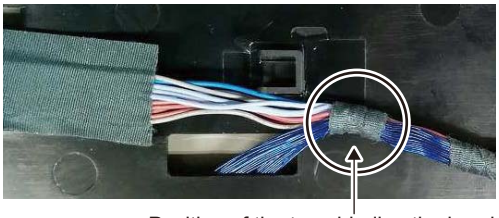

2) Remove the cover and the screw then open the cover.



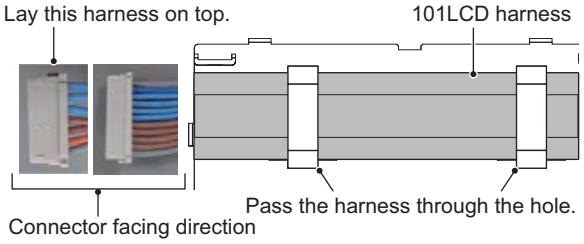
3) Remove the harness from the clamp and band.

**MX-xx61/xx71 [Destinations other than Europe]**

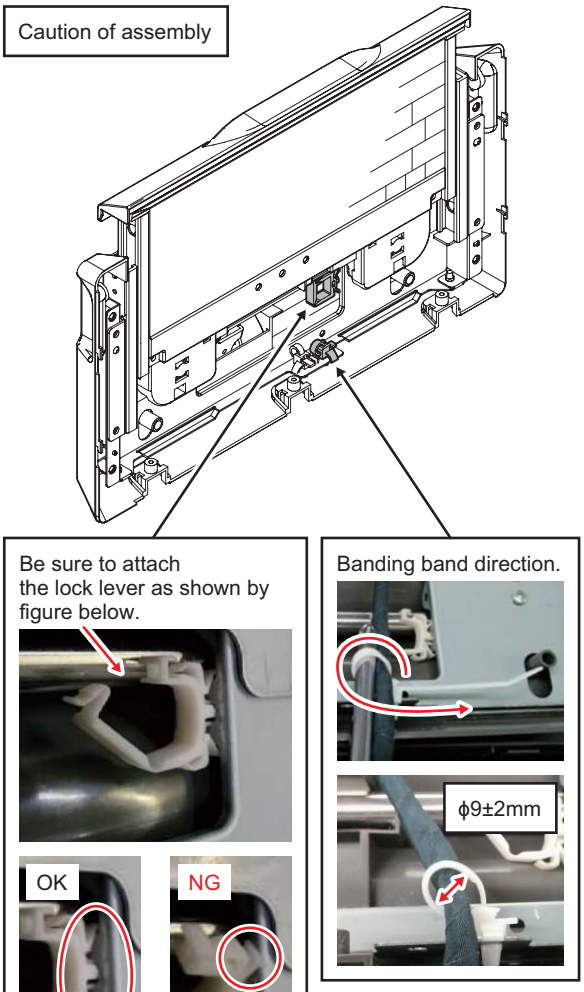


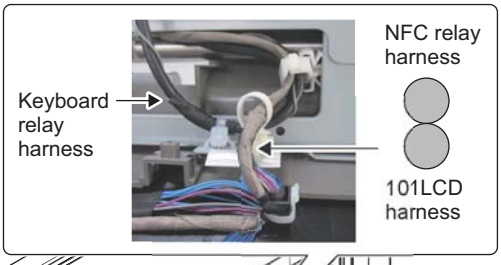



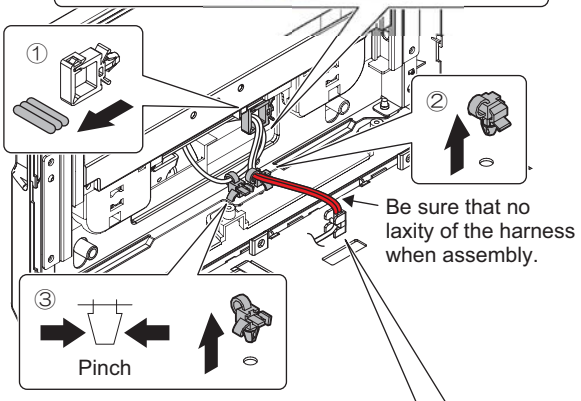
Position of the tape binding the band

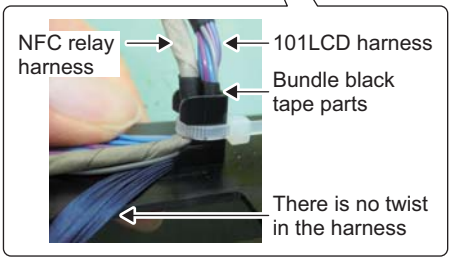


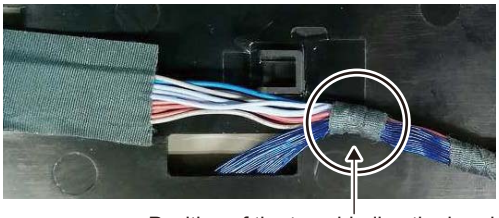

Caution of assembly



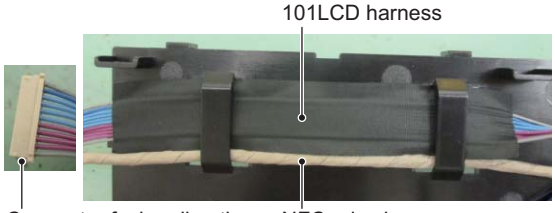


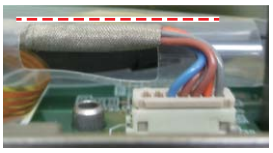
Position of the tape binding the band




Be sure that no laxity of the harness when assembly.

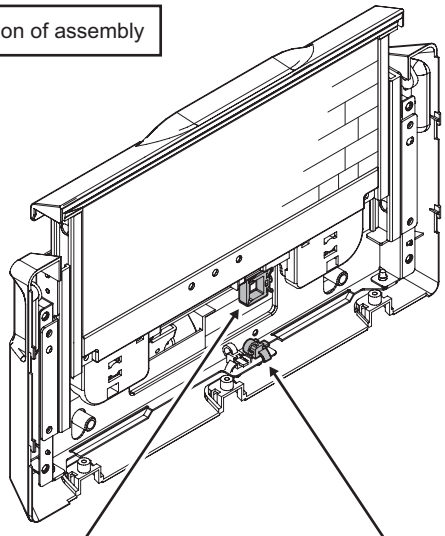


When there is slack in the harness, put it on Mylar side

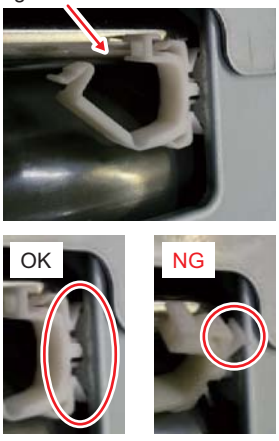


The harness does not go on Mylar at the connector insertion part

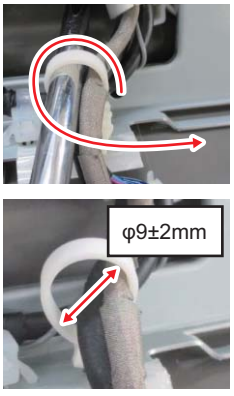
Caution of assembly



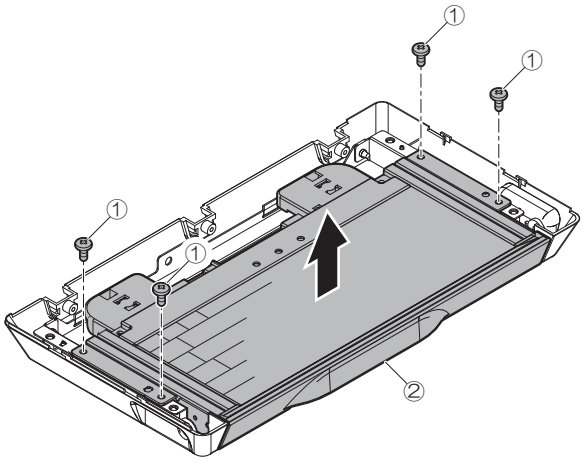
Be sure to attach the lock lever as shown by figure below.




Banding band direction.

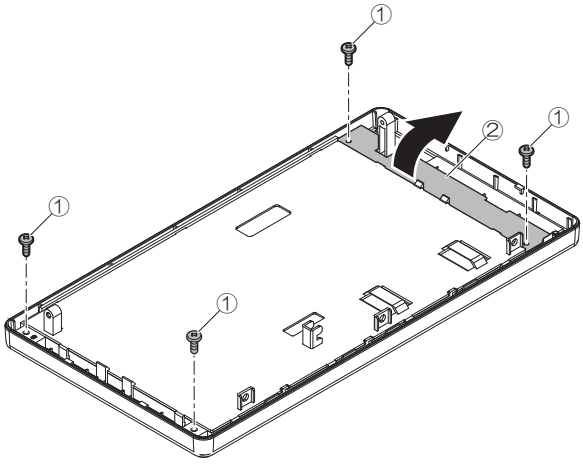


4) Remove the screw and the keyboard.



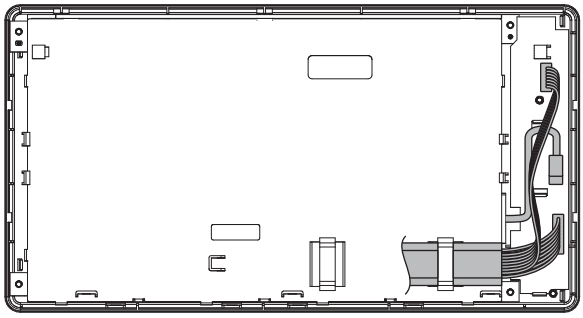

**b. LCD**

1) Remove the screw and open the mylar.

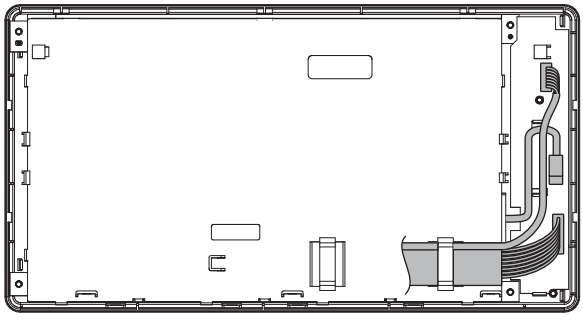



2) Remove the connector and the FFC.

**MX-xx61/xx71 [Destinations other than Europe]**

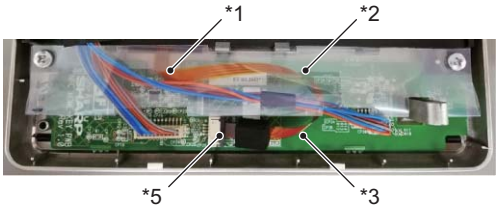


**MX-xx61/xx71 [For Europe]**

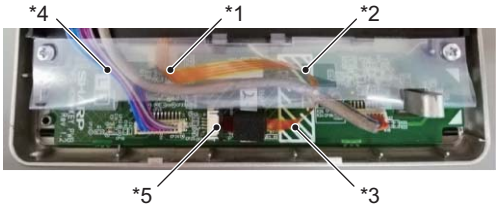


How to handle harness.

MX-xx61/xx71 [Destinations other than Europe]

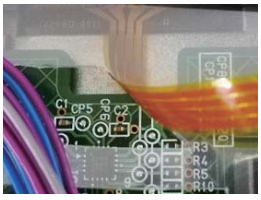



MX-xx61/xx71 [For Europe]




Process the twist direction of the FPC as shown below.

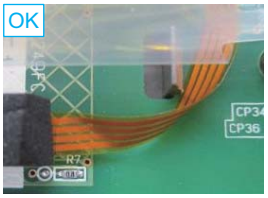
*1

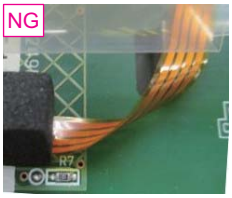


*2



*3




*4 The harness does not intersect

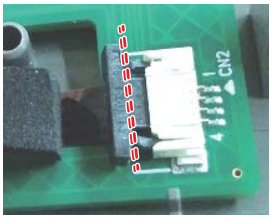






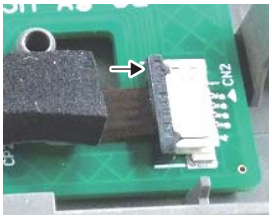
*5 How to lock the connector.

Unlocked condition



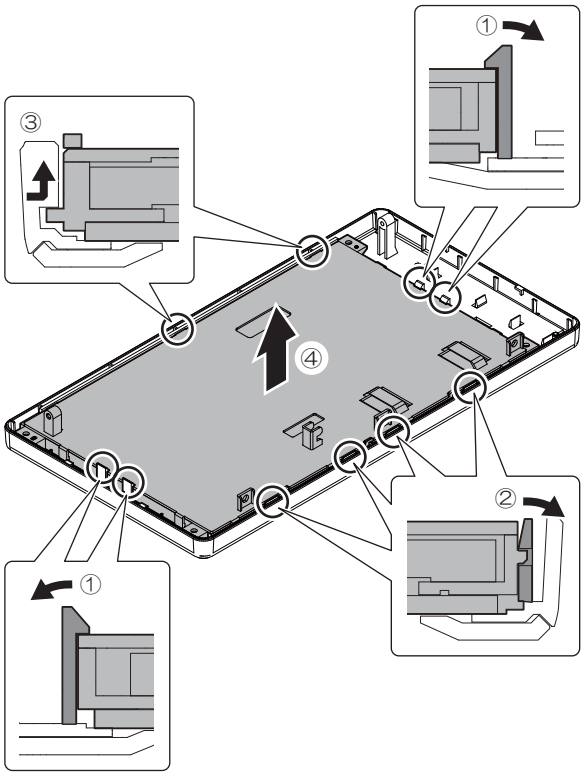
Insert the connector with unlocked condition.

Locked condition

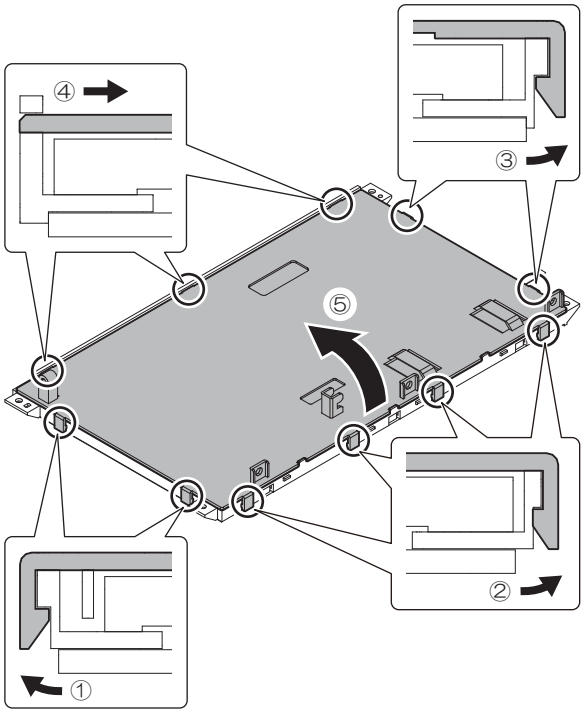


Be sure to lock.

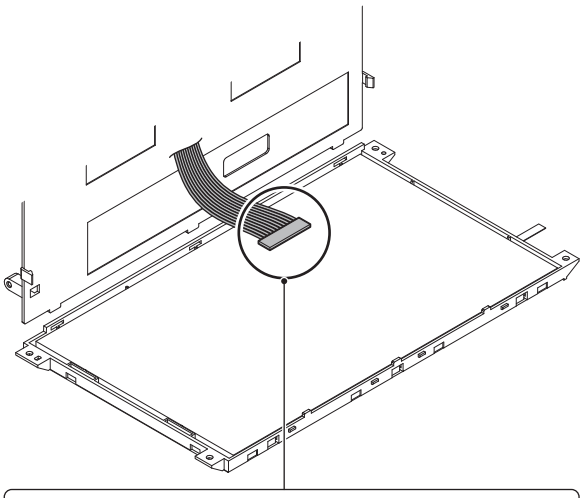
3) Remove the pawl and LCD holder unit.




4) Remove the pawl and open the LCD holder.



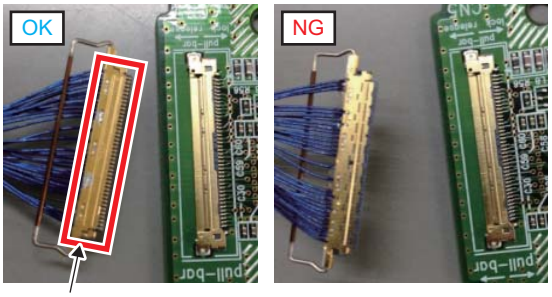

5) Remove the connector.





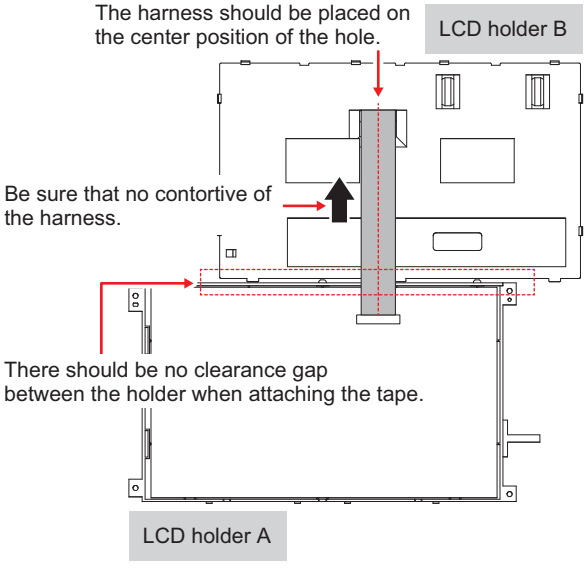
Be sure to insert the connector.

Lay low the bar.

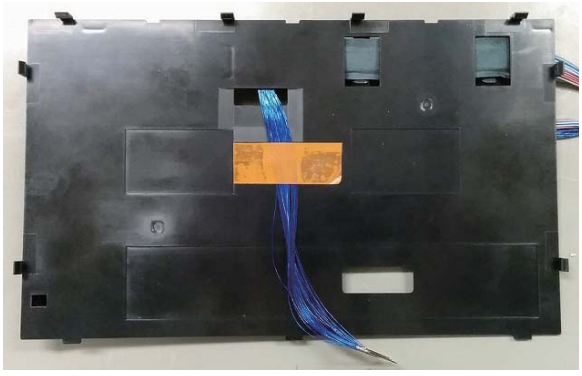



Insert the terminal side is top.

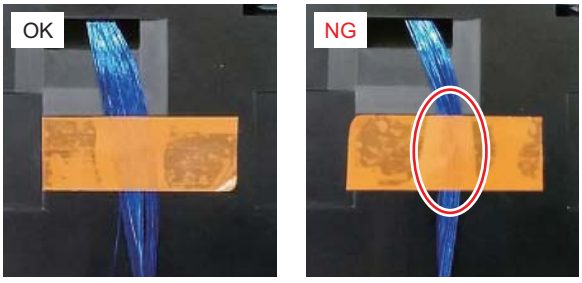
Caution of assembly



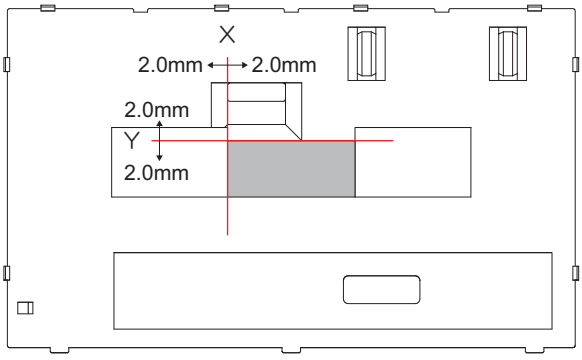
Harness fix by the tape with flat condition of the harness.



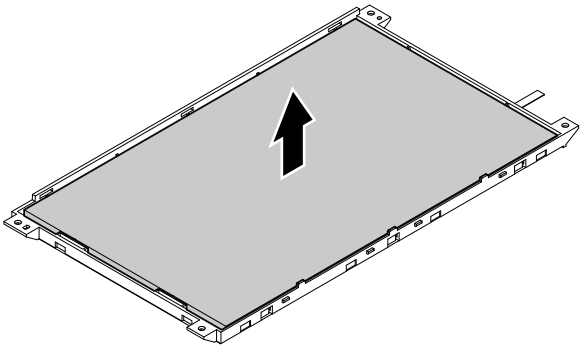
Harness do not place on the harness.




Attaching reference

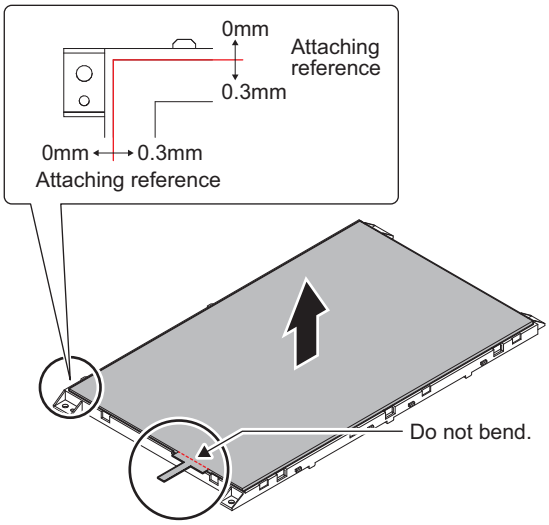



6) Remove the LCD.

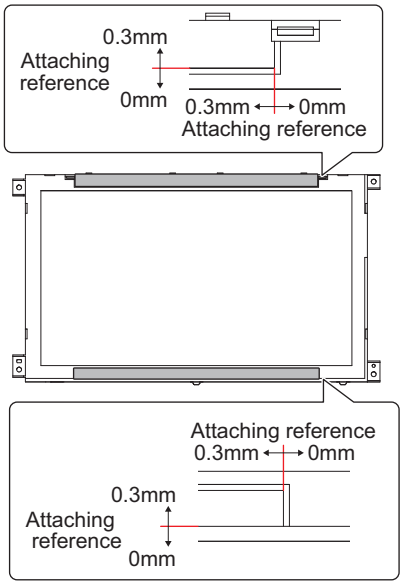


**c. Touch panel**

1) Remove the touch panel.

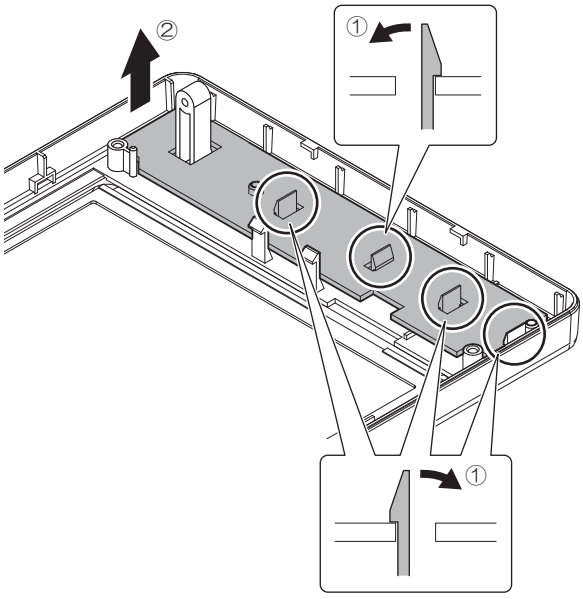



2) Remove the sheet.

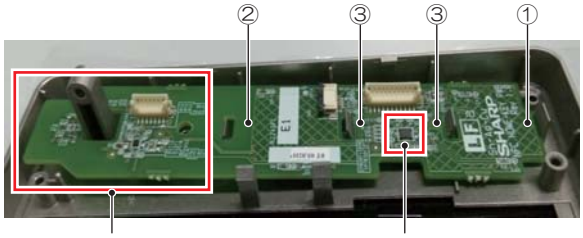


**d. NFC HOME KEY PWB**

1) Remove the pawl and NFC HOME KEY PWB.




When assembling, holding the board in the order shown below, fix it to the nail.



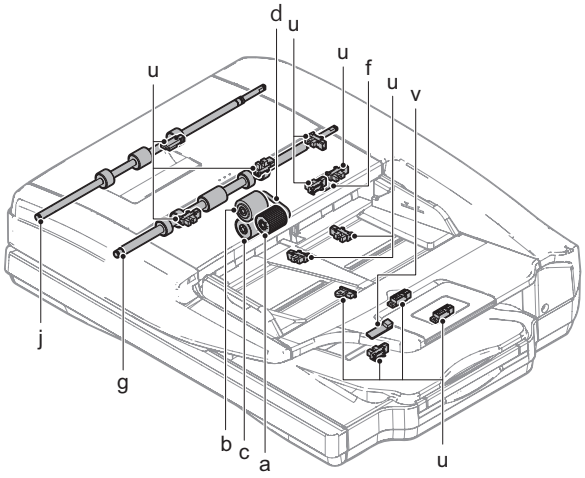

Do not hold down the left side of the board.

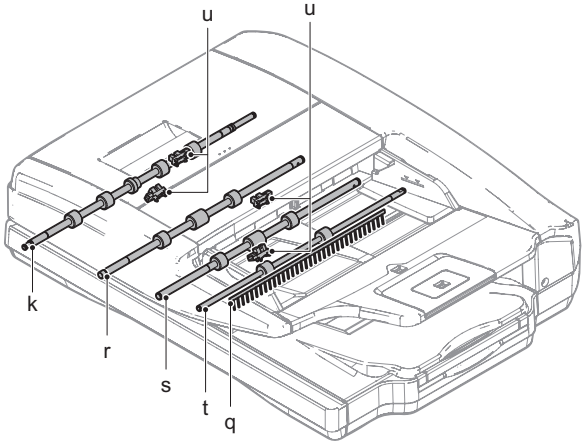
Do not touch IC parts.

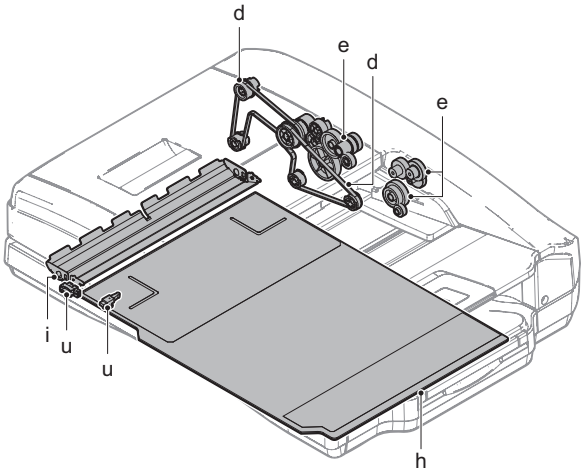
## B. Document feed section

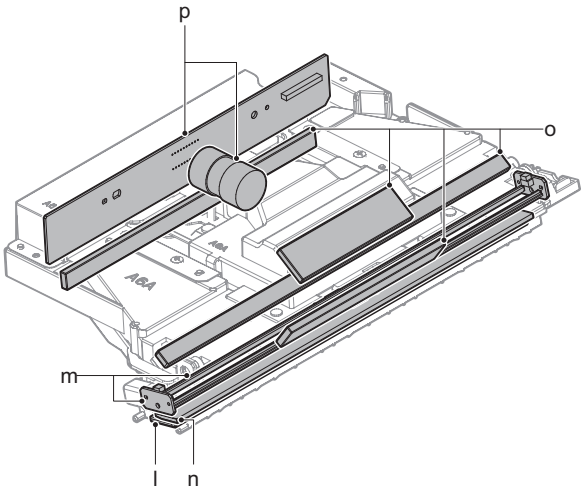
### (1) DSPF unit

| Part No. | Part name |
|---|---|
| a | Paper pickup roller |
| b | Paper feed roller |
| c | Separation roller |
| d | Belts |
| e | Gears |
| f | Torque limiter |
| g | Transport roller 1 |
| h | OC mat |
| i | No.1 scanning plate |
| j | Transport roller 2 |
| k | Registration roller |
| l | No.2 scanning section, white reference glass |
| m | Lamp |
| n | No.2 scanning section, scanning glass |
| o | Mirror |
| p | Lens, CCD |
| q | Discharge brush |
| r | Transport roller 3 |
| s | Transport roller 4 |
| t | Paper exit roller |
| u | Sensors |
| v | Irradiation lamp |



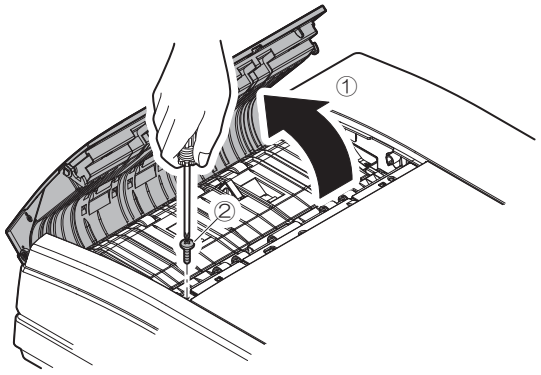


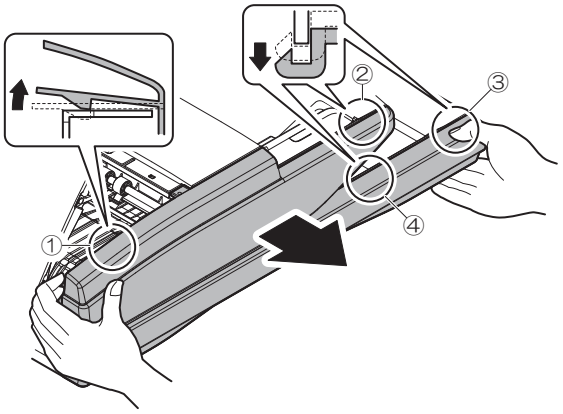

**a. Paper pickup roller**

**b. Paper feed roller**

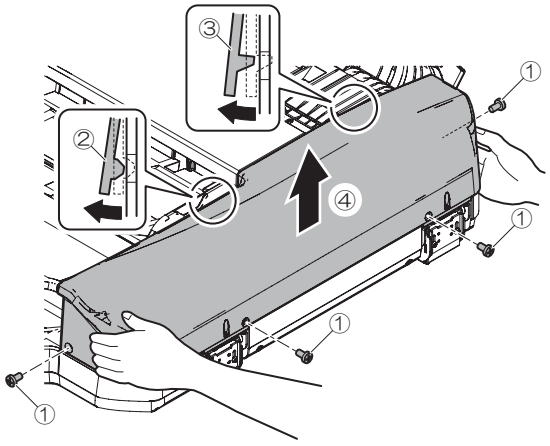
1) Open the upper door, and remove the screw.



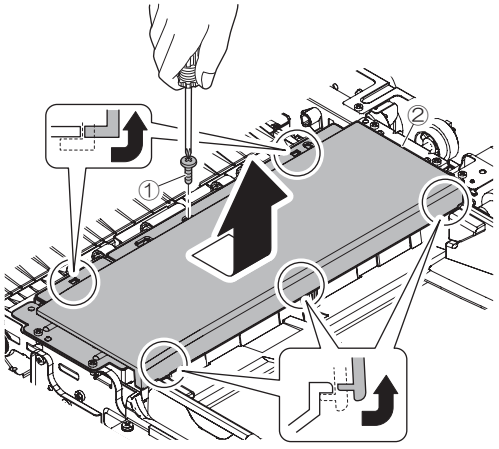

2) Remove the front cabinet.



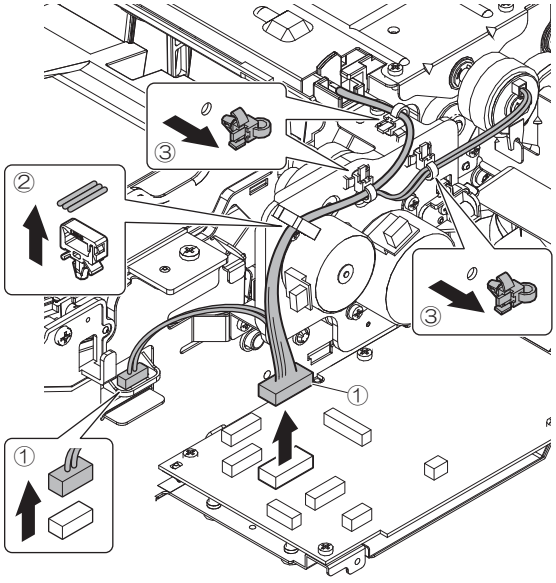

3) Remove the screw, and remove the rear cabinet.



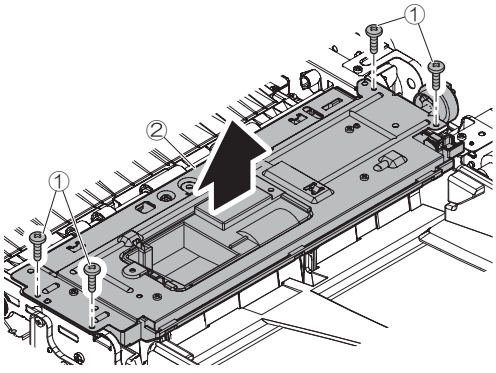

4) Remove the screw. Remove the paper feed cover.



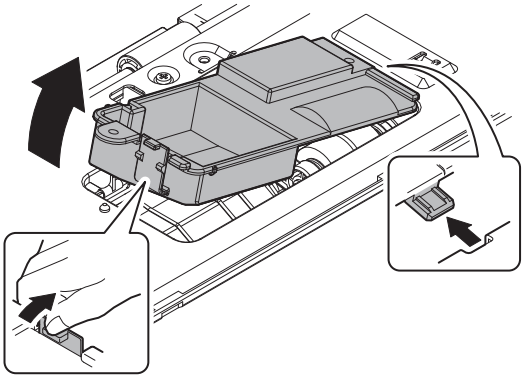
5) Disconnect the connector. Open the wire saddle. Remove the snap band.



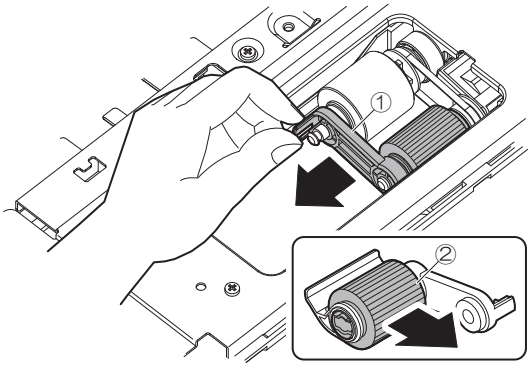

6) Remove the screw, and remove the document feed unit.



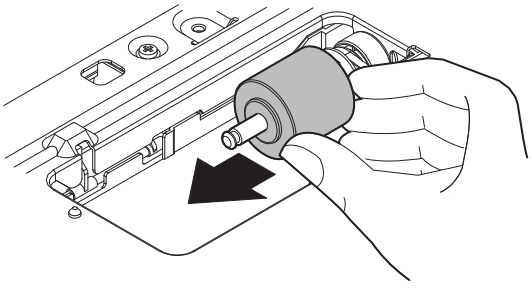

7) Remove the paper feed paper guide upper cover.



8) Remove the pickup roller holder. Remove the paper pickup roller from the pickup roller holder.

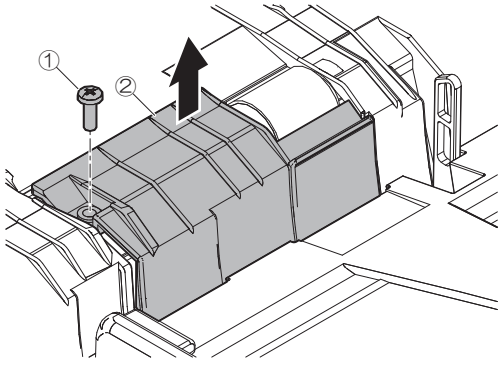



9) Remove the paper feed roller.

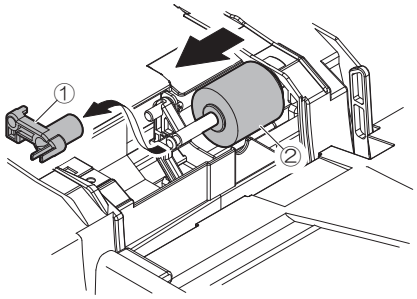


**c. Separation roller**

1) Remove the screw, and remove the paper feed paper guide lower cover.

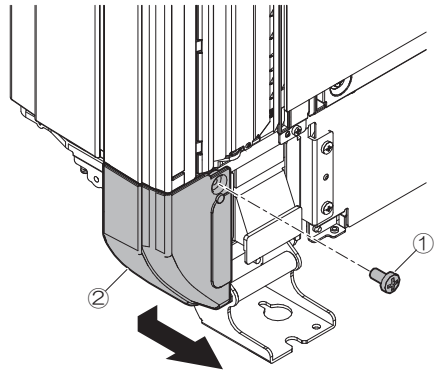



2) Remove the revere pressure release lever, and remove the separation roller.

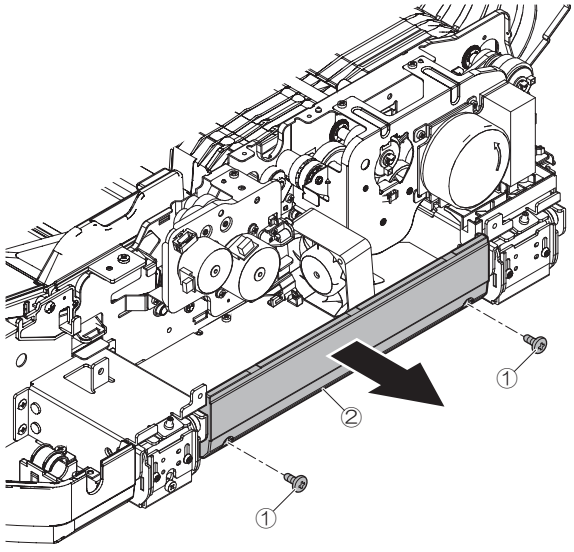


**d. Belts**

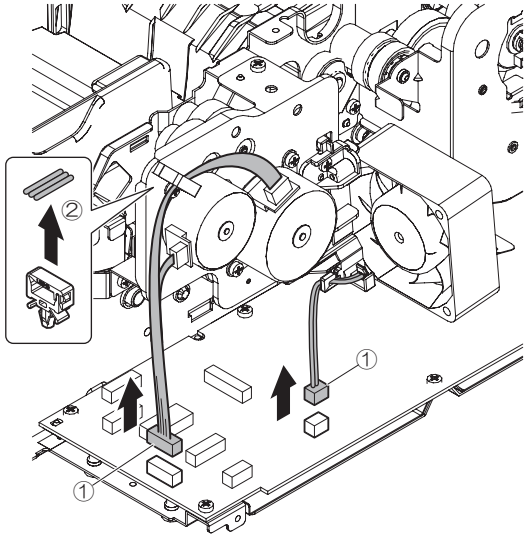
1) Remove the screw, and remove the left rear lower cabinet.




2) Remove the rear cabinet lower.



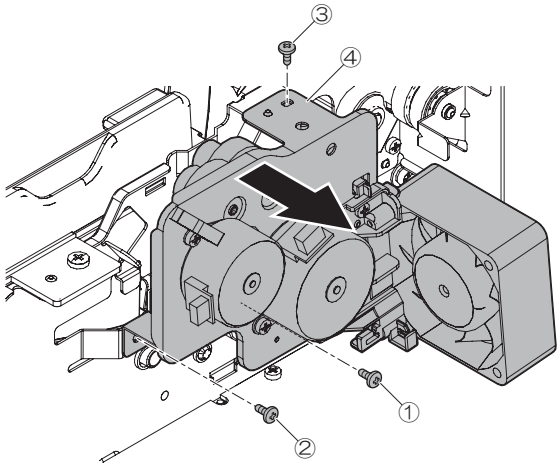

3) Disconnect the connector and open the edge saddle.



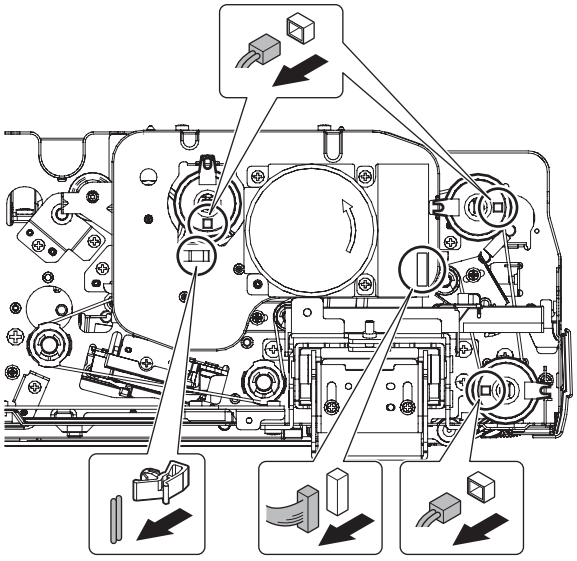

4) Remove the screws and the paper exit drive unit.

Important

When attaching the paper exit drive unit, tighten the screw in the order of (1) - (3).

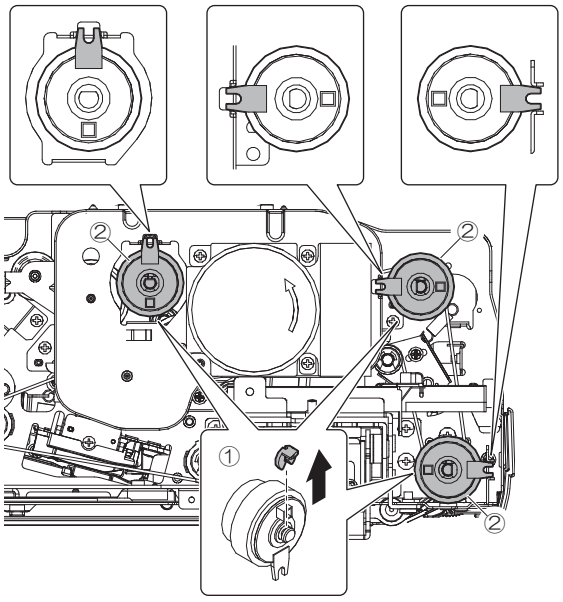



5) Disconnect the connectors. Remove the harness from the wire saddle.

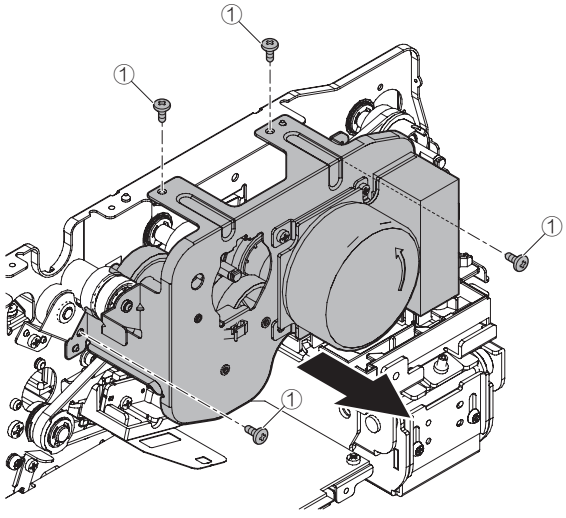


6) Remove the E-ring and the clutch.

**NOTE:** Make sure that stopping section in the clutch is fit into the plate during the assembly.

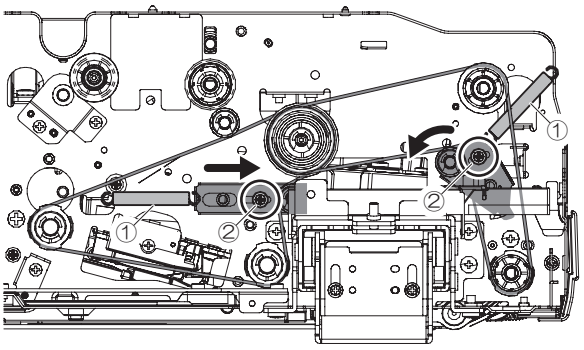



7) Remove the screws and the paper feed drive unit.

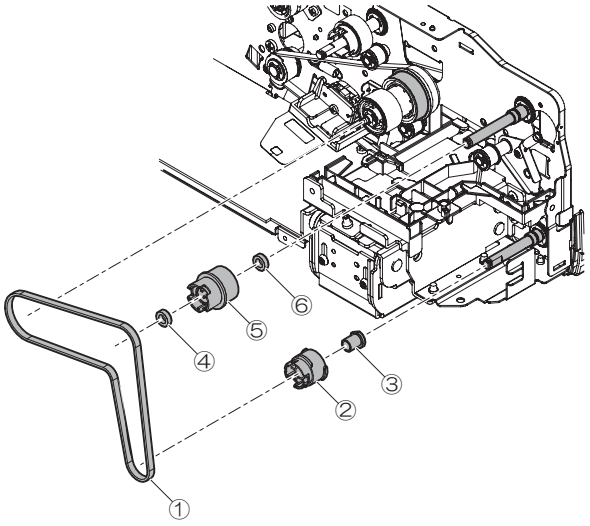



8) Remove the spring. Loosen the screw and loosen the tension of the belt.

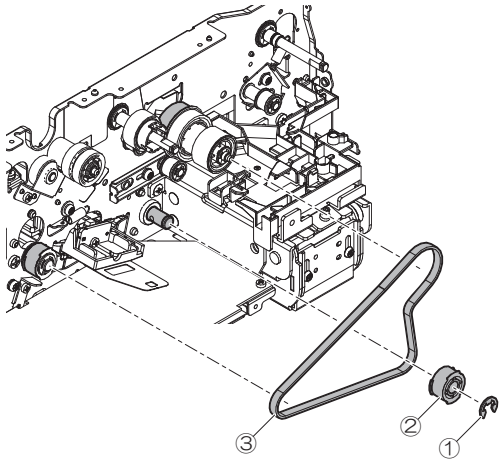
When attaching the belt, loosen the screw. Then, tighten the screw while applying tension.




9) Remove the belt, the pulley and the bearing.

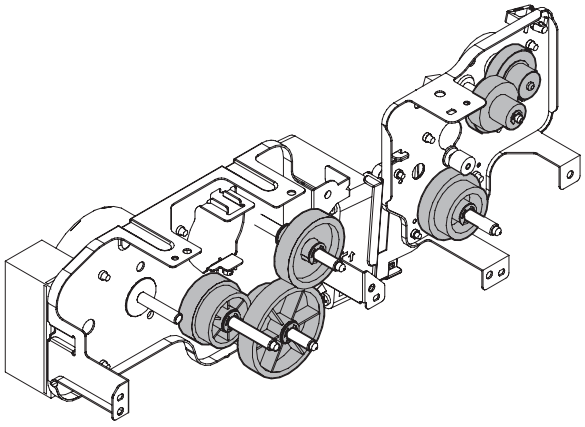


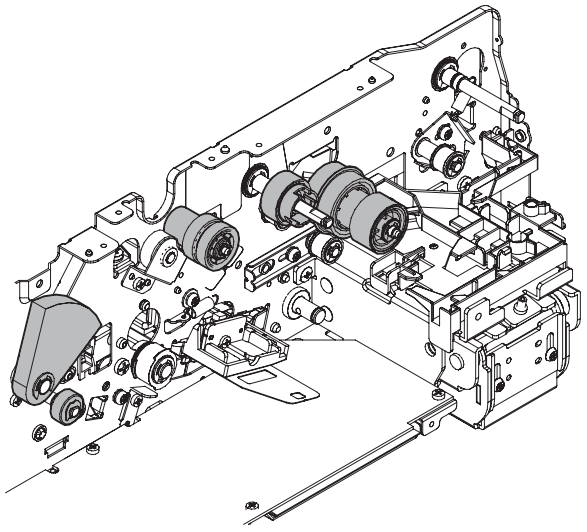

10) Remove the E-ring, the pulley and the belt.




**e. Gears**

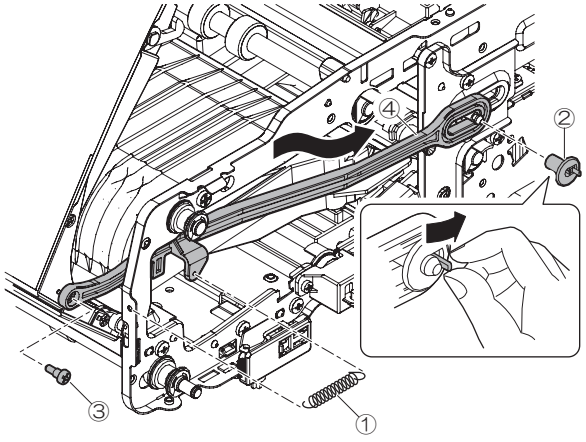
1) Remove the Gears.



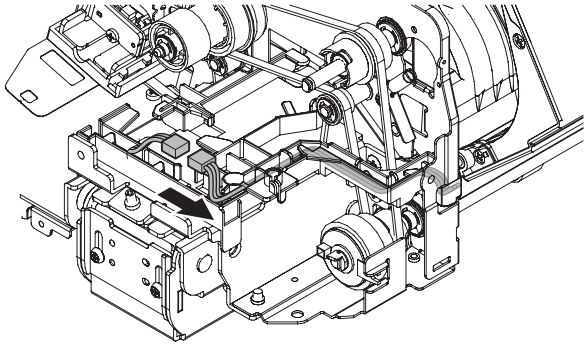


**f. Torque limiter**

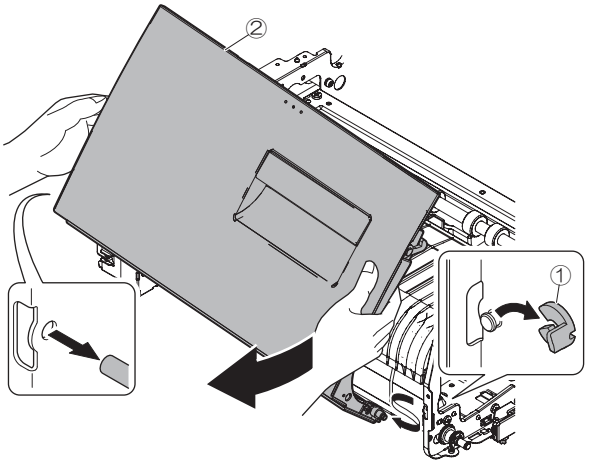
1) Remove the spring, pressure release axis holder, screw and pressure release link lever.



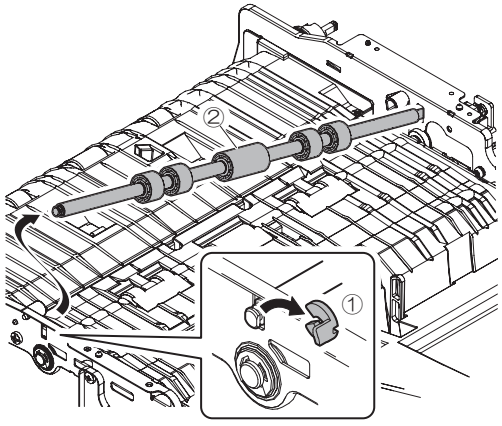

2) Disconnect the connector.



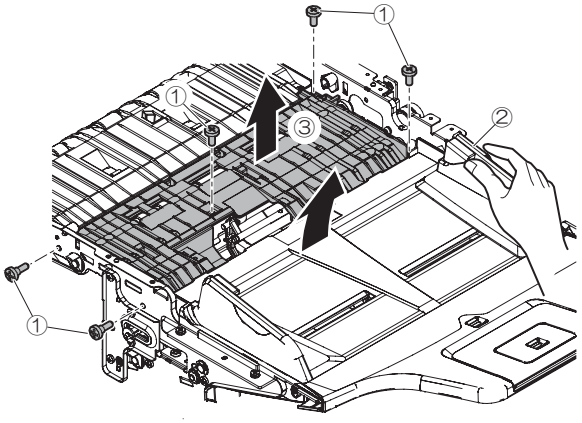
3) Remove the E-ring, and remove the upper door unit.



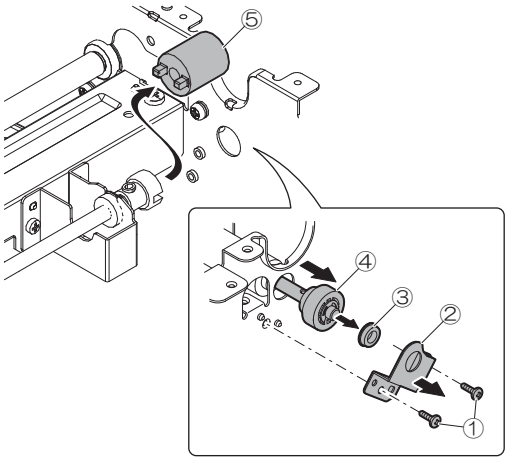

4) Remove the E-ring, and remove the transport roller 1 (Idle).




5) Remove the screw. Lift the document paper feed tray and remove the paper guide.

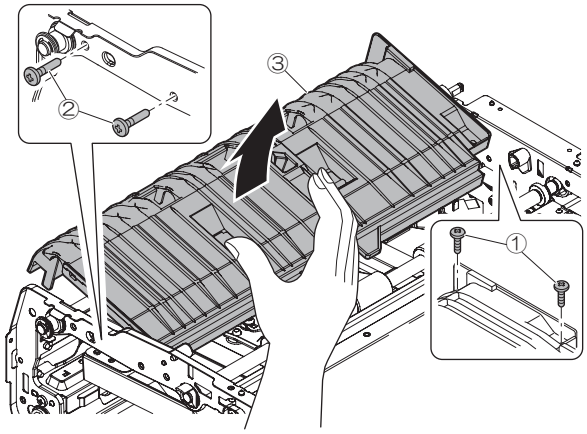


6) Remove the screw, and remove the support plate and the bearing. Remove the roller shaft, and remove the torque limiter.

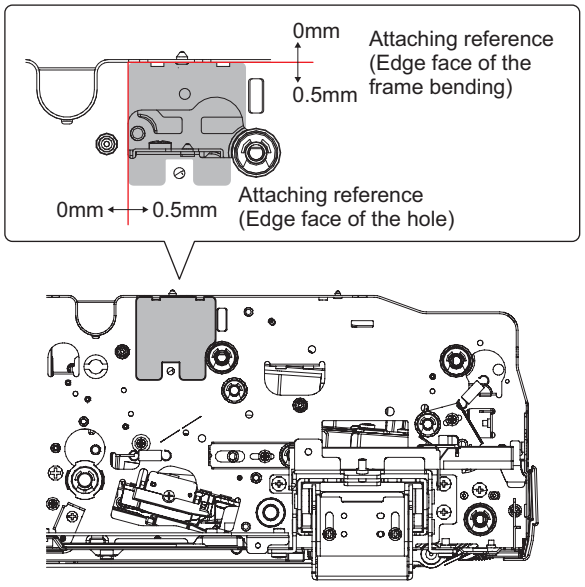



**g. Transport roller 1**

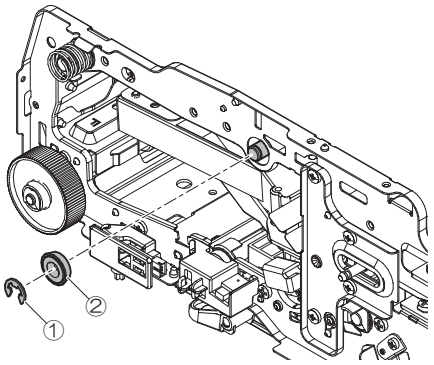
1) Remove the screws and paper guide.



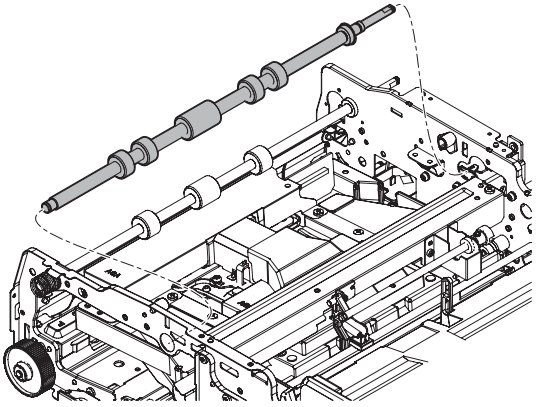

2) Remove the sheet.




3) Remove the E-ring and the bearing.

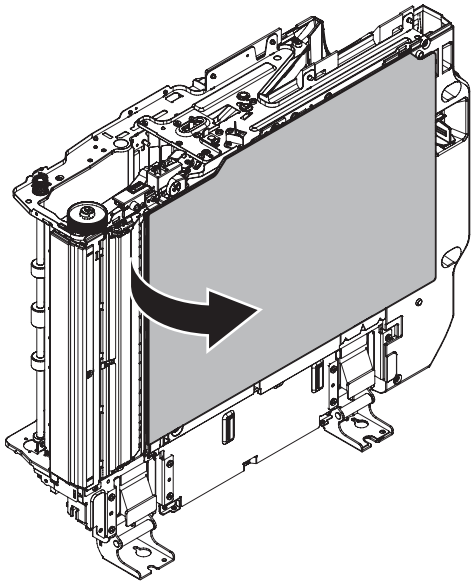



4) Remove the transport roller 1.



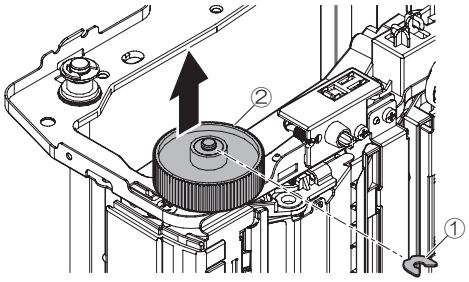
**h. OC mat**

1) Remove the OC mat.

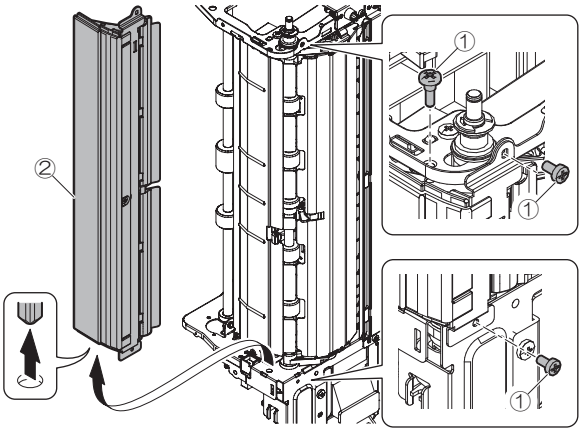


**i. No.1 scanning plate**

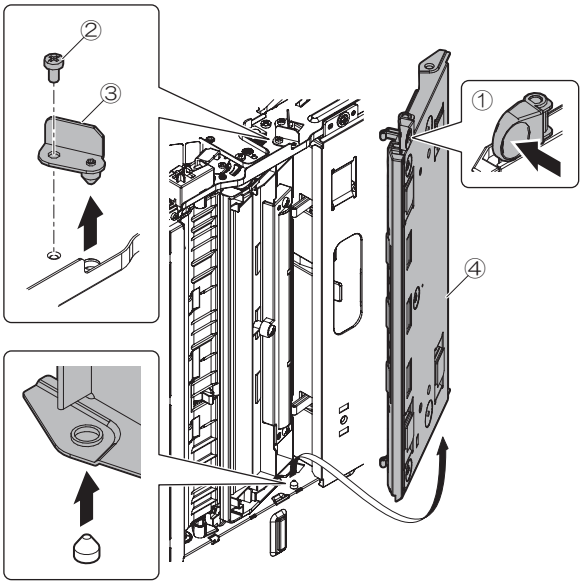
1) Remove the E-ring, and remove the PS knob.



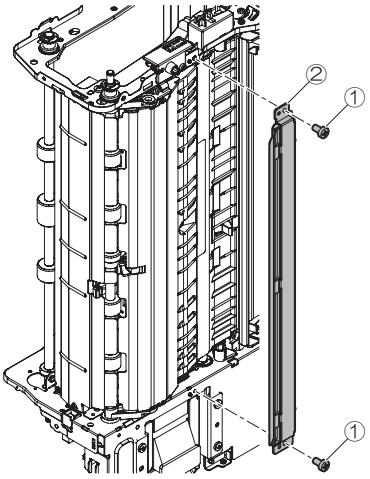

2) Remove the screw, and remove the paper guide.



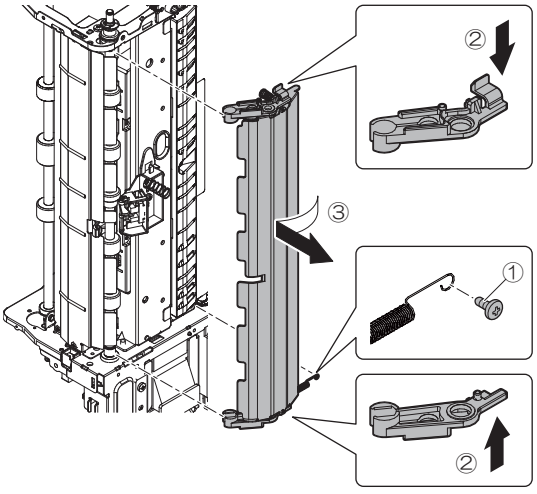

3) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.




4) Remove the dip up unit.



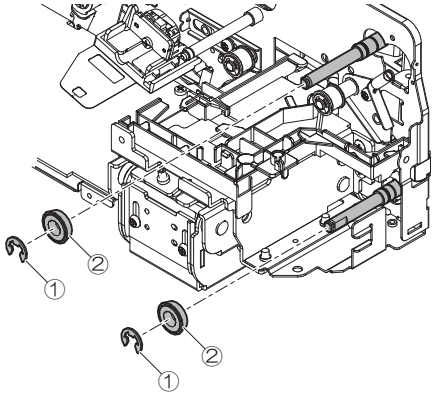

5) Remove the no.1 scanning plate.



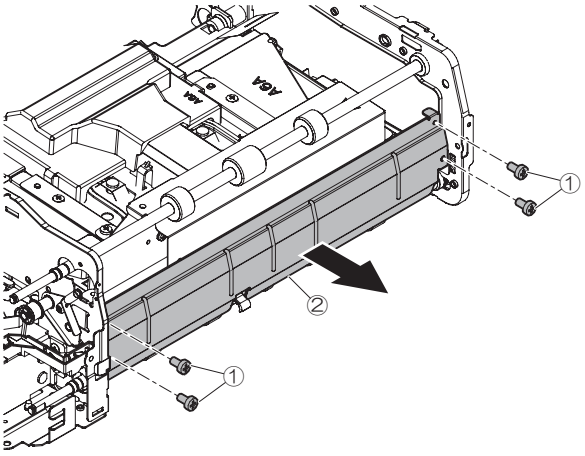

**j. Transport roller 2**

**k. Registration roller**

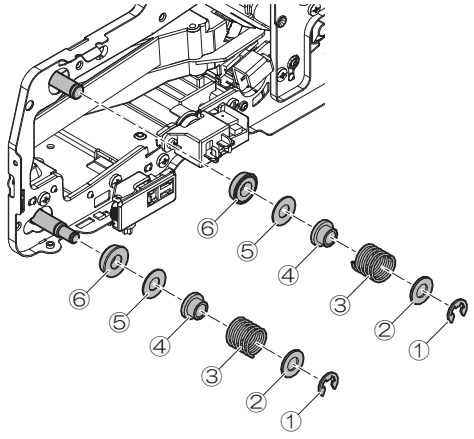
1) Remove the E-ring and the bearing.



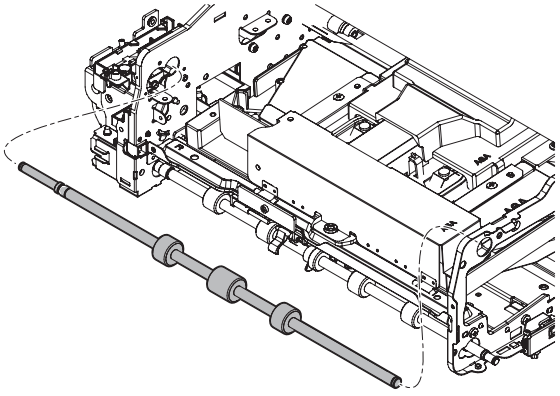
2) Remove the screw and the PS upper paper guide.



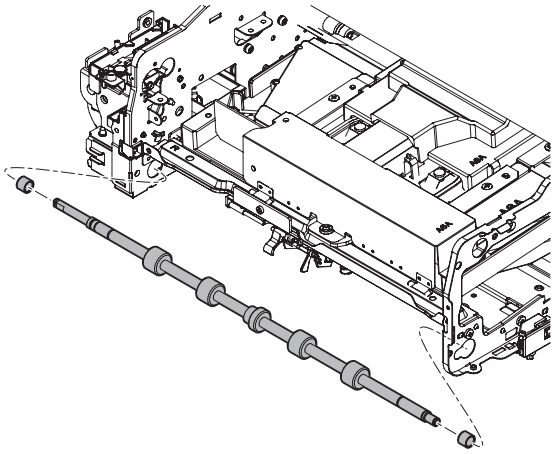
3) Remove the E-ring, the washer, the spring, the collar, the poly slider, and the bearing.



4) Remove the transport roller 2.

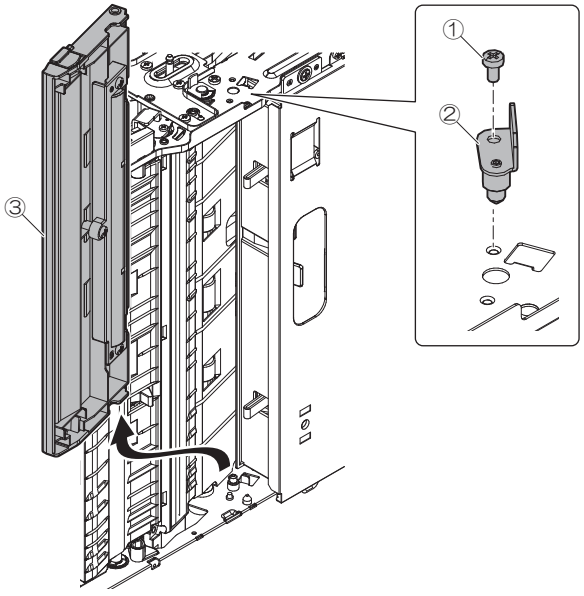


5) Remove the registration roller and the bearing.

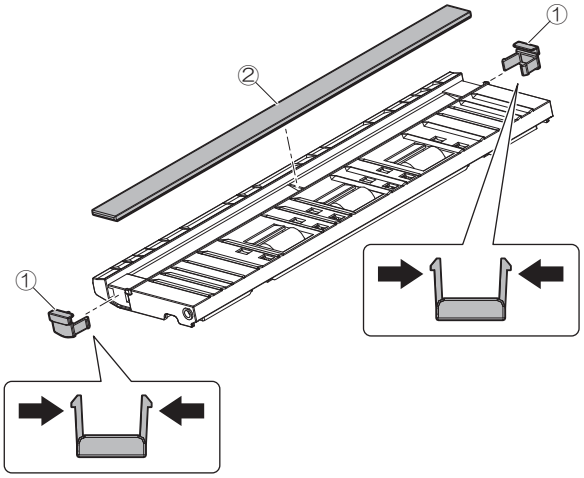


**I. No.2 scanning section, white reference glass**

1) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.

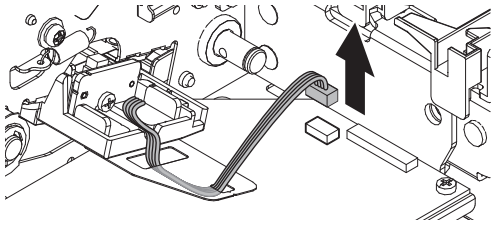


2) Remove the glass fixture and the no.2 scanning section, white reference glass.

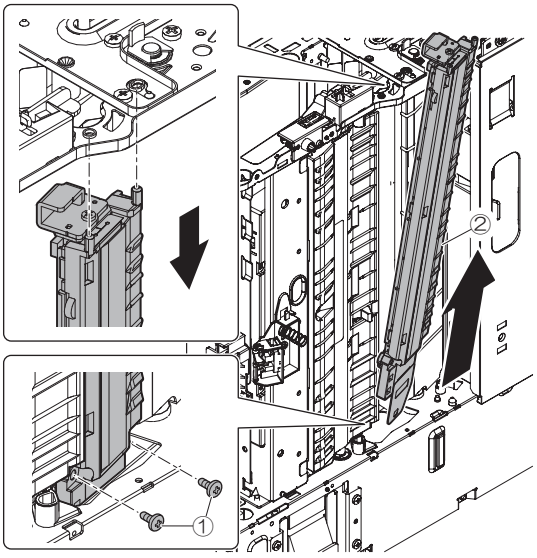


**m. Lamp**

1) Disconnect the connector for lamp unit from the control PWB.

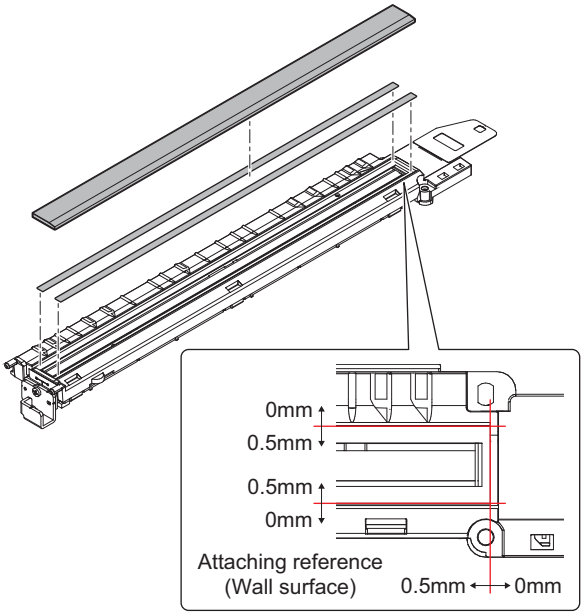


2) Remove the screw and lamp unit.



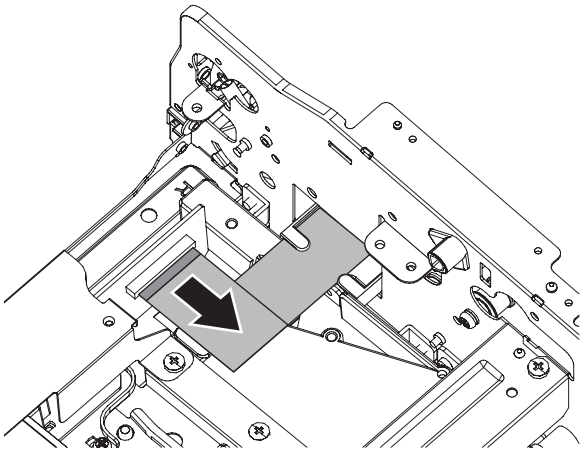

**n. No.2 scanning section, scanning glass**

1) Remove the no.2 scanning section, scanning glass.

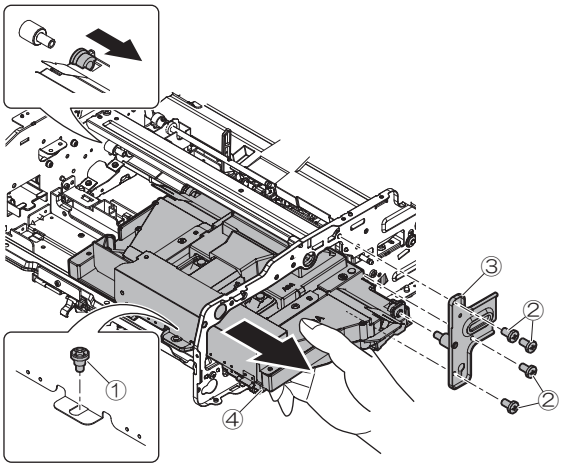



**o. Mirror**

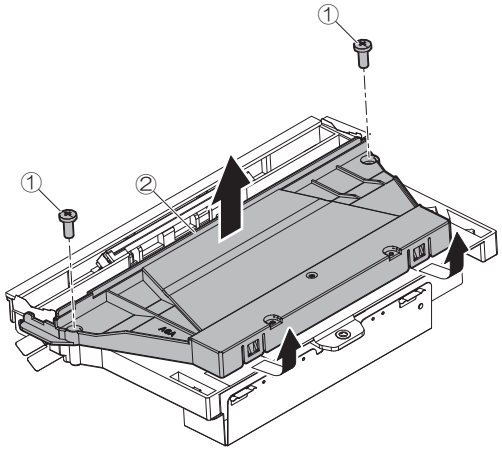
1) Remove the CCD FFC from the CCD PWB.



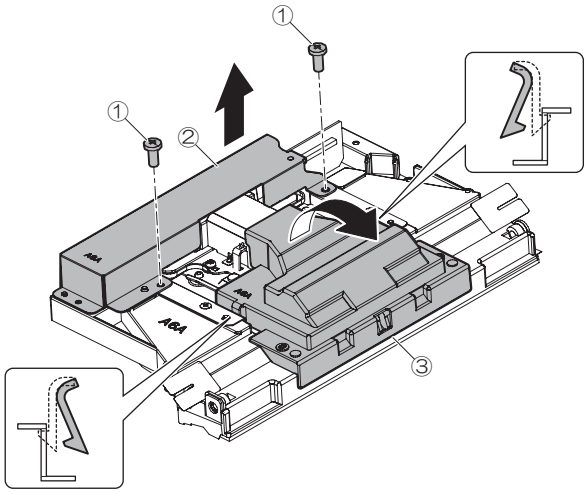
2) Remove the screw and cushion. Remove optics fixing plate and optical unit.



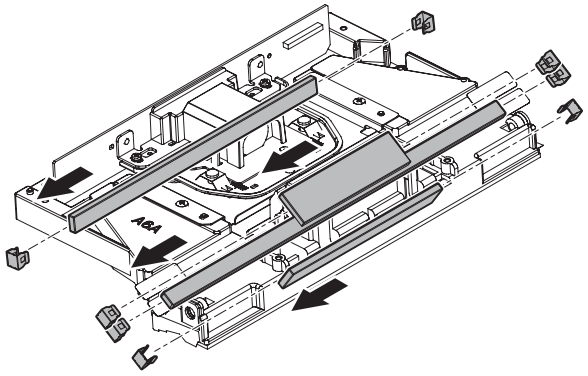

3) Remove the screw, and remove the mirror base cover.



4) Remove the screw, and remove the dark box. Remove the dust-proof cover.

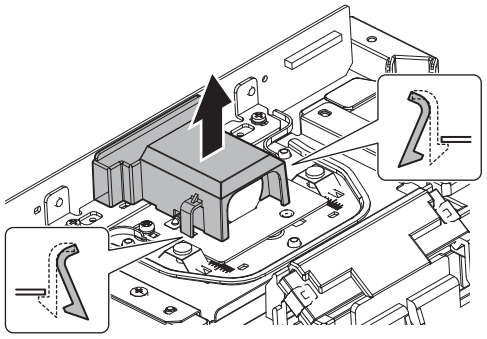



5) Remove the mirror retainers and the mirrors.

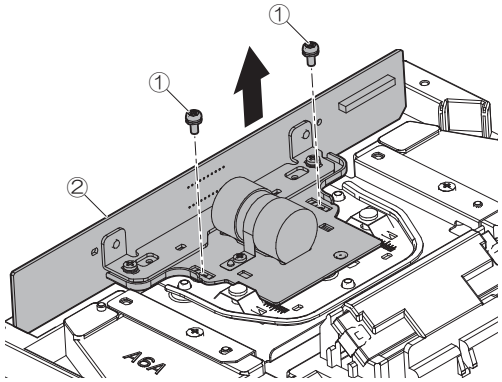



**p. Lens, CCD**

1) Remove the lens cover.

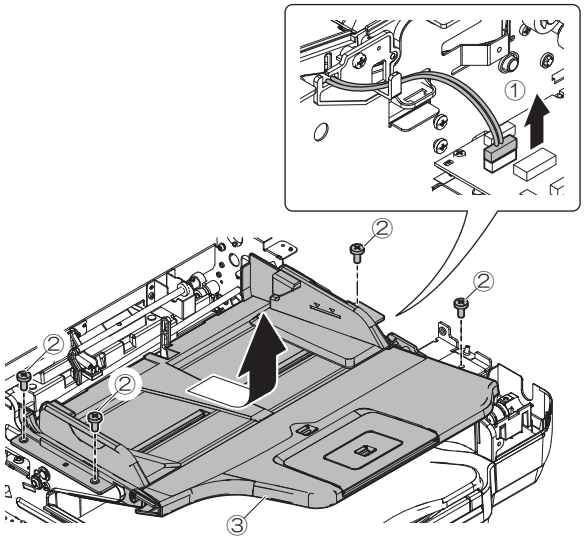


2) Remove the screws and the CCD unit.



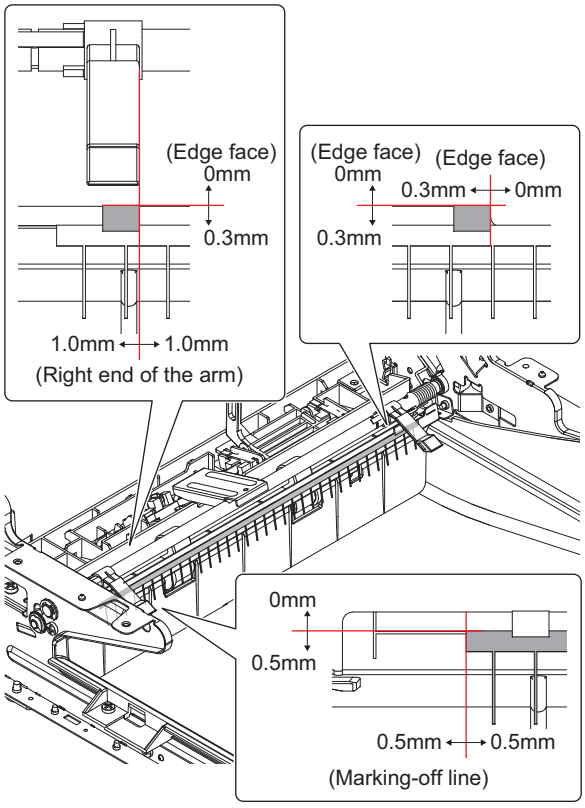

**q. Discharge brush**

1) Disconnect the connector. Remove the screw, and remove the document feed tray.



2) Remove the cushion and the discharge brush.

**NOTE:** Attach to the attachment reference.

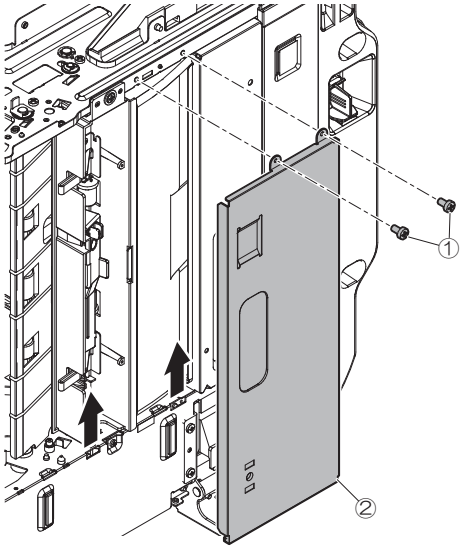



**r. Transport roller 3**

**s. Transport roller 4**

**t. Paper exit roller**

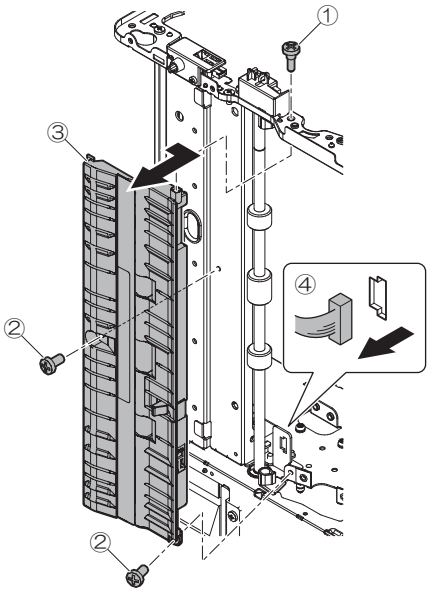
1) Remove the screws and the delivery lower paper guide cover.




2) Remove the screws and the transport paper guide lower. Disconnect the connector.

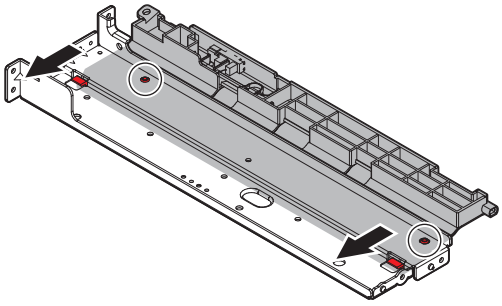
Important

When attaching the transport paper guide lower, tighten the screw in the order of (1) - (2).

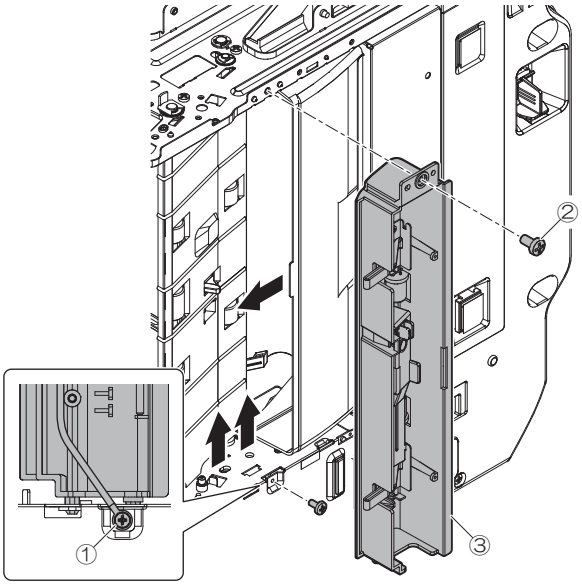



Important

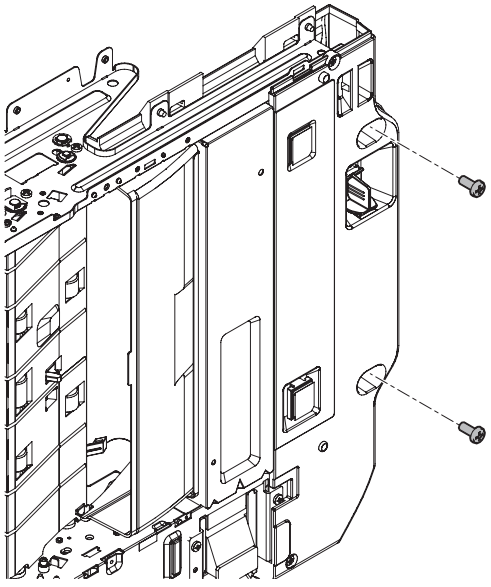
When attaching the transport paper guide lower, make sure that the nail and boss are inserted securely.



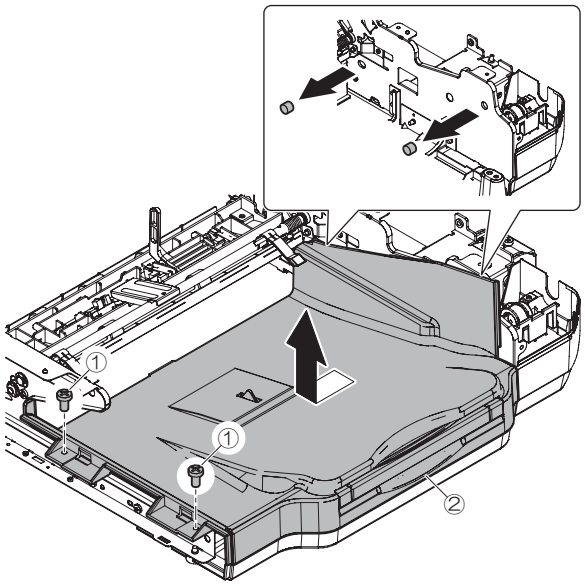
3) Remove the screws and the delivery paper guide bottom.



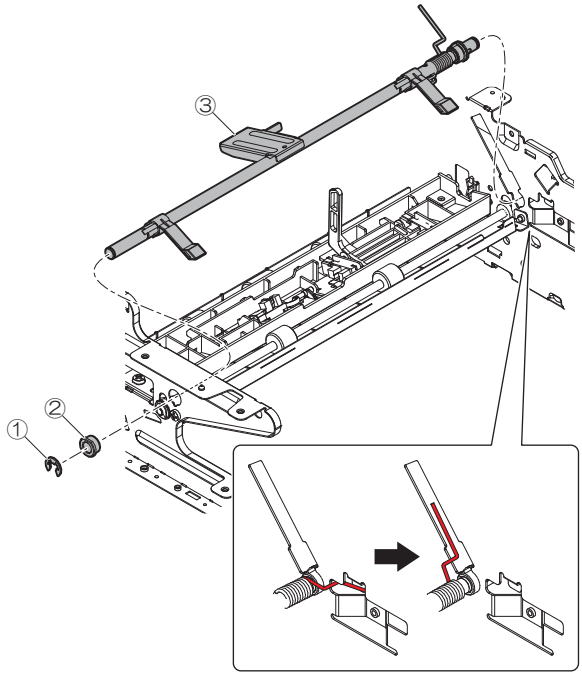

4) Remove the screws.



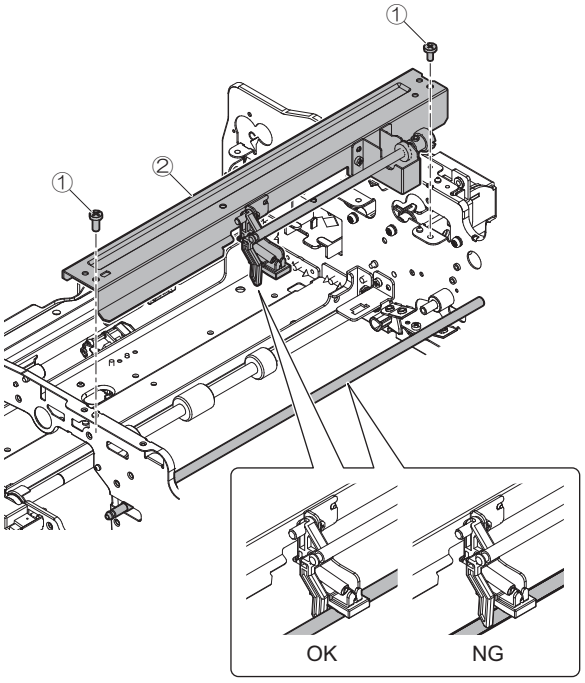
5) Remove the screw and paper exit tray.



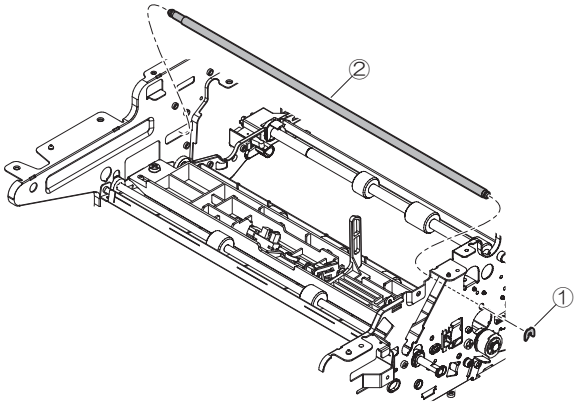

6) Remove the E-ring, bearing and the lift up unit.



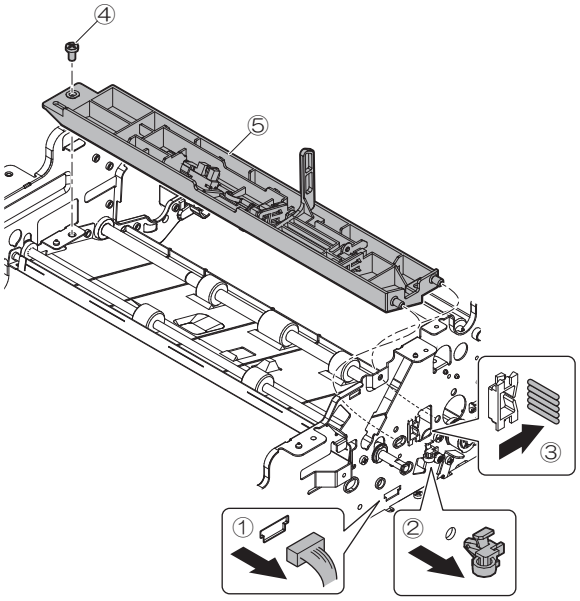
7) Remove the screws and the paper feed section stay unit.



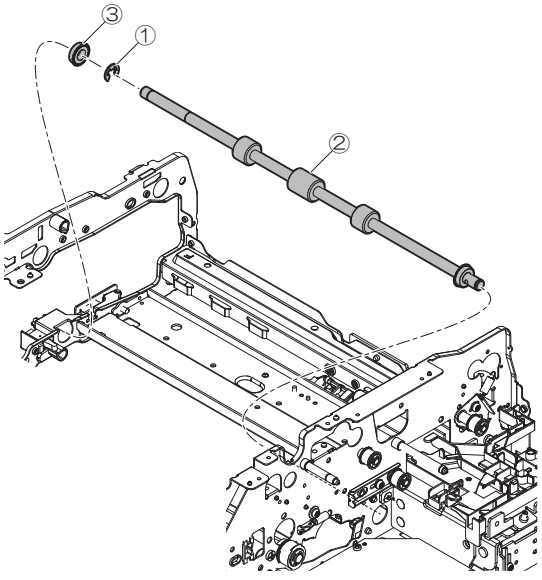

8) Remove the E-ring and the separate roller release shaft.



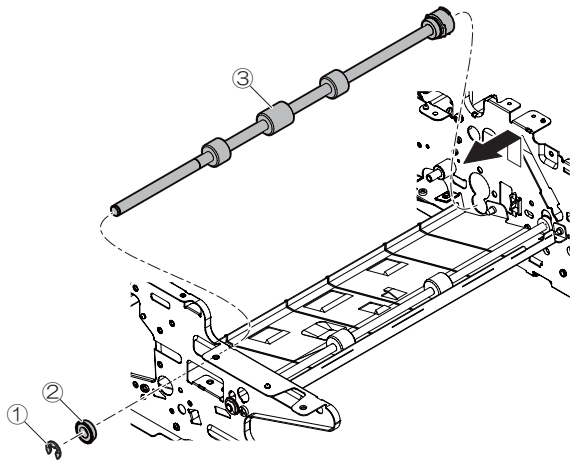

9) Disconnect the connector. Remove the reuse band, the screw and the paper exit upper unit.



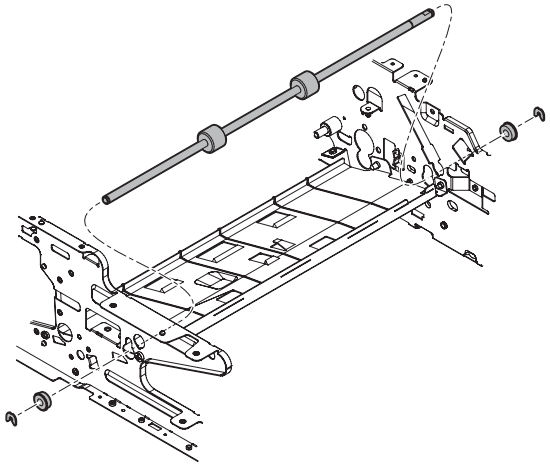

10) Remove the E-ring, the transport roller 3 and the bearing.



11) Remove the E-ring, the bearing and the transport roller 4.



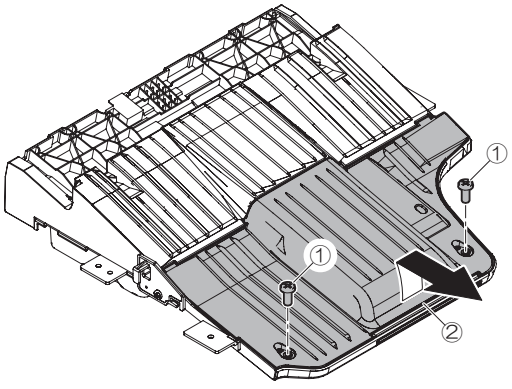

12) Remove the E-ring, the bearing and the paper exit roller.



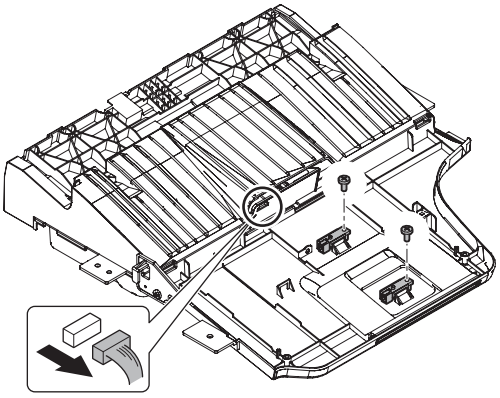
**u. Sensors**

**v. Irradiation lamp**

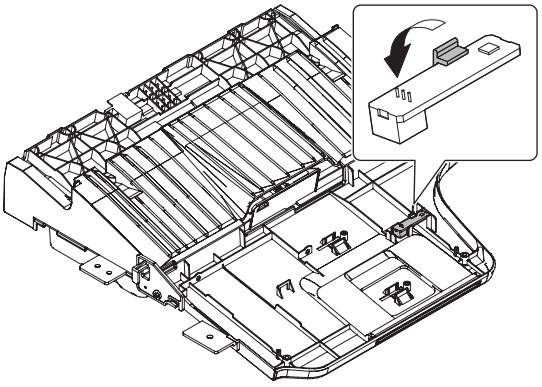
1) Remove the screw and the document feed tray lower.



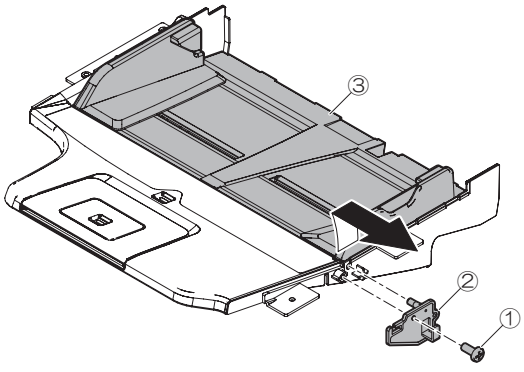

2) Disconnect the connector.
Remove the screws and the sensors.



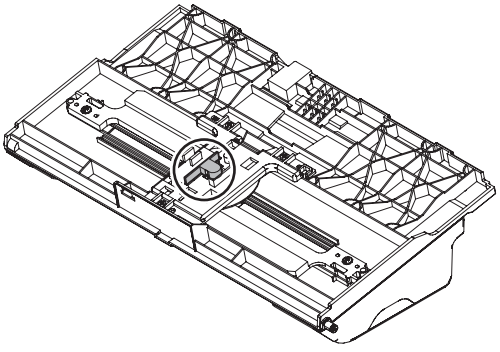
3) Remove the irradiation lamp.



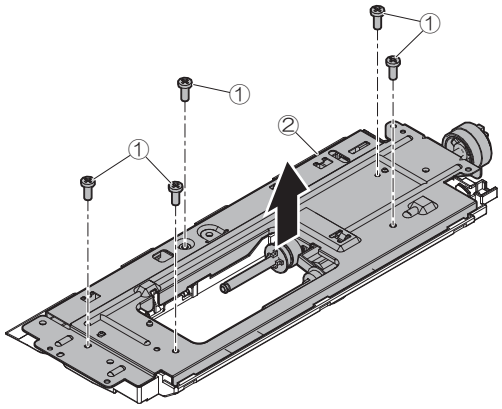
4) Remove the screw and the rotation tray shaft. Then, remove the document feed tray upper.



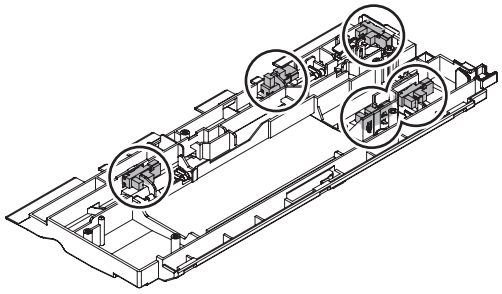

5) Remove the sensor.



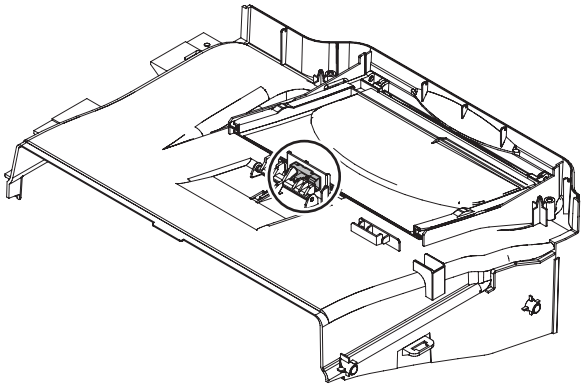
6) Remove the screw and the paper feed paper guide upper reinforcing plate.



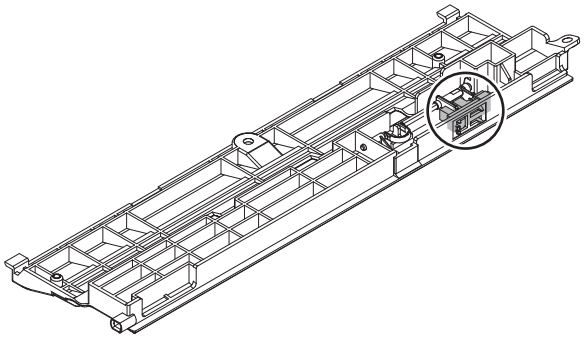

7) Remove the sensors.



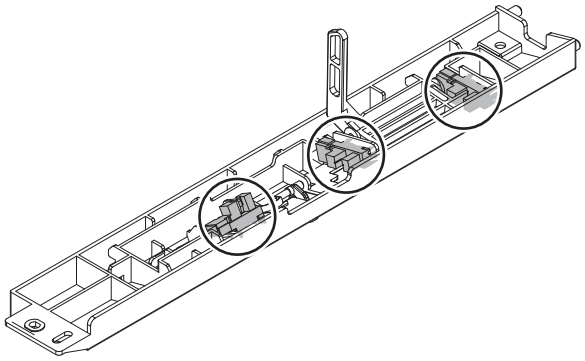
8) Remove the sensor.



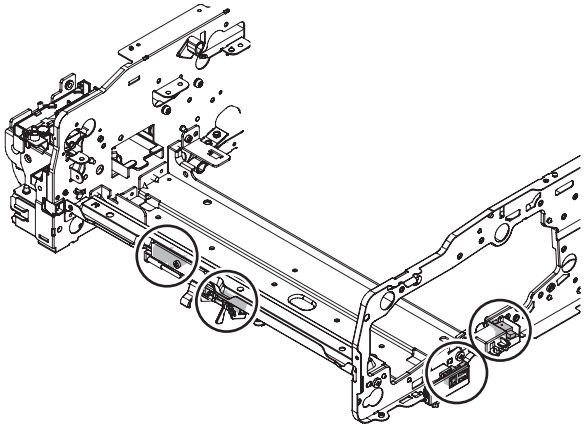
9) Remove the sensor.



10) Remove the sensors.

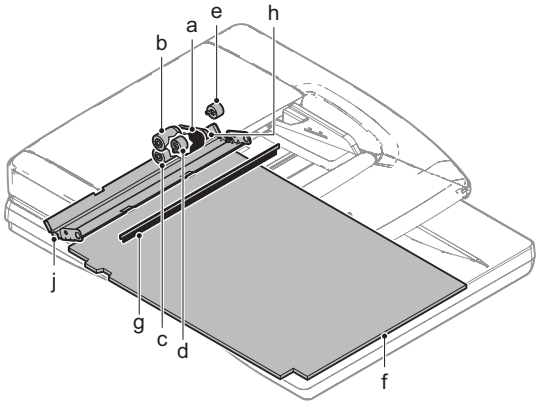


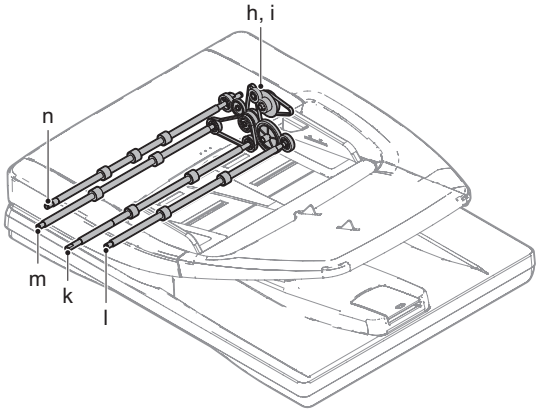
11) Remove the sensors.

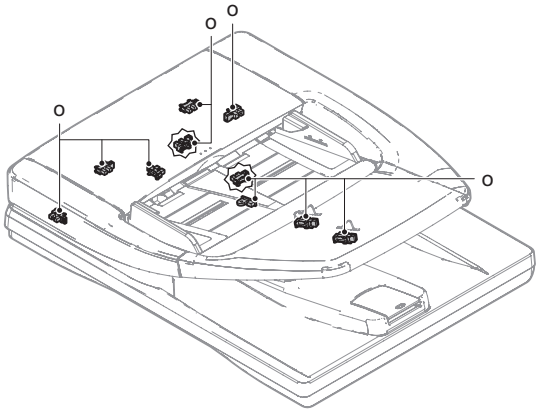


### (2) RSPF unit

| Part No. | Part name |
|---|---|
| a | Paper pickup roller |
| b | Paper feed roller |
| c | Separation roller |
| d | Torque limiter |
| e | Torque limiter pickup |
| f | OC mat |
| g | Discharge brush |
| h | Belts |
| i | Gears |
| j | Scan plate |
| k | Transport roller 2 |
| l | Paper exit roller |
| m | Transport roller 1 |
| n | Registration roller |
| o | Sensors |



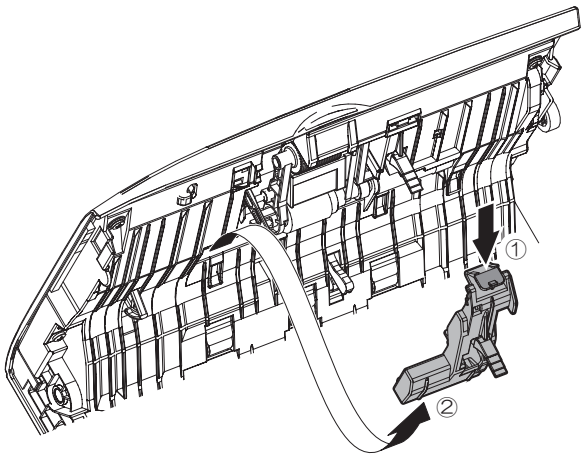



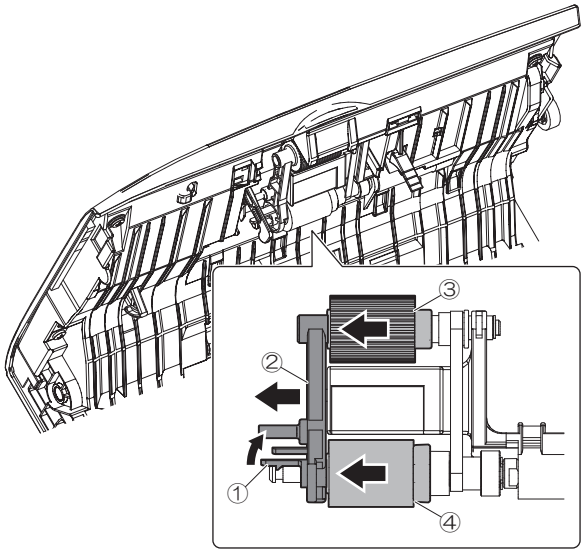

**a. Paper pickup roller**

**b. Paper feed roller**

1) Open the paper feed unit and remove the cover.



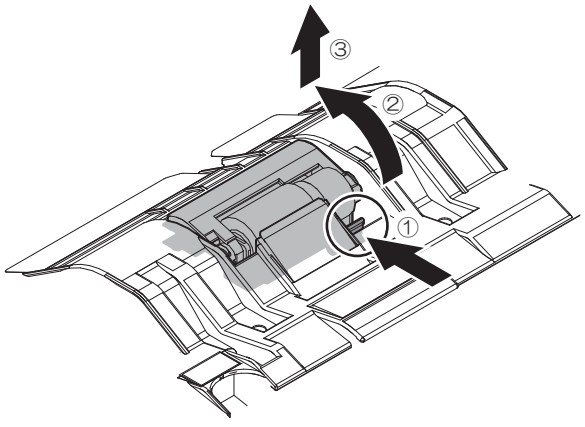

2) Remove the holder, the paper pickup roller and the paper feed roller.



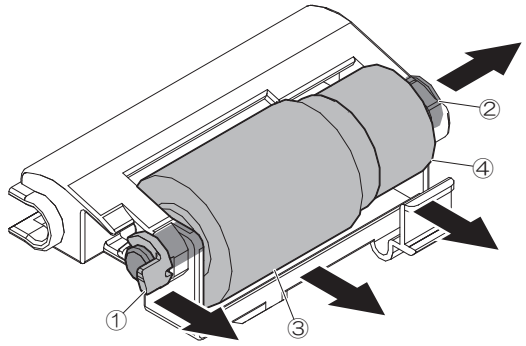

**c. Separation roller**

**d. Torque limiter**

1) Open the paper feed unit and remove the cover.

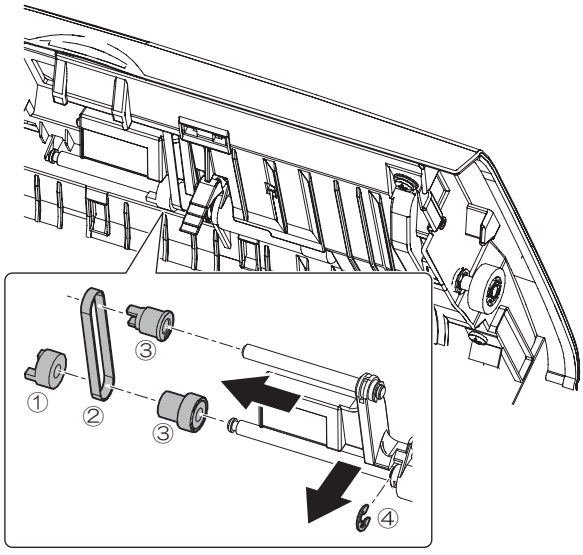


2) Remove the E-ring, the shaft, the separation roller and the torque limiter.

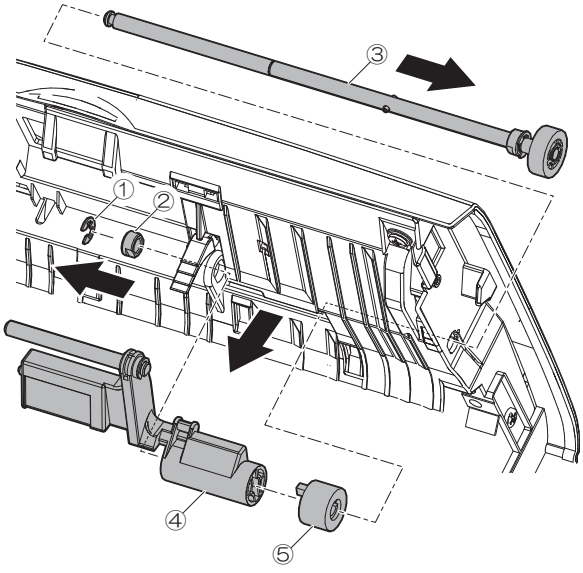



**e. Torque limiter pickup**

1) Remove the one-way coupling, the belt, the pulley and the E-ring.

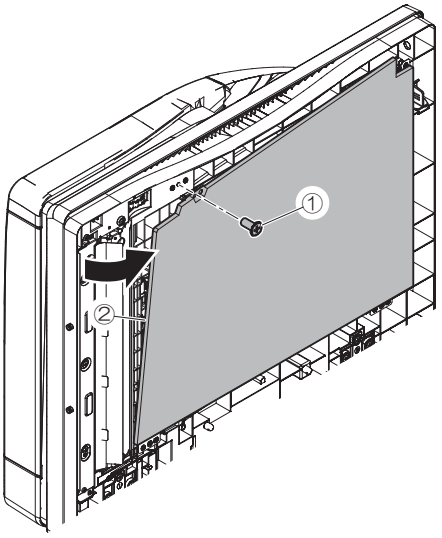



2) Remove the E-ring, and the bearing, then pull out the shaft, remove the holder and the torque limiter pickup.



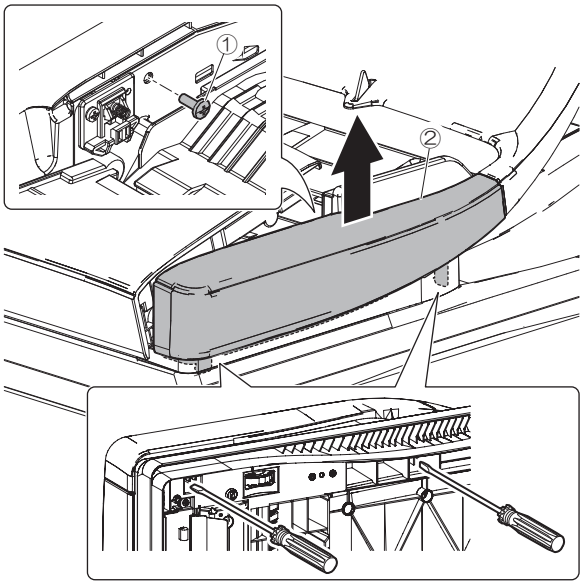

**f. OC mat**

1) Remove the OC mat.

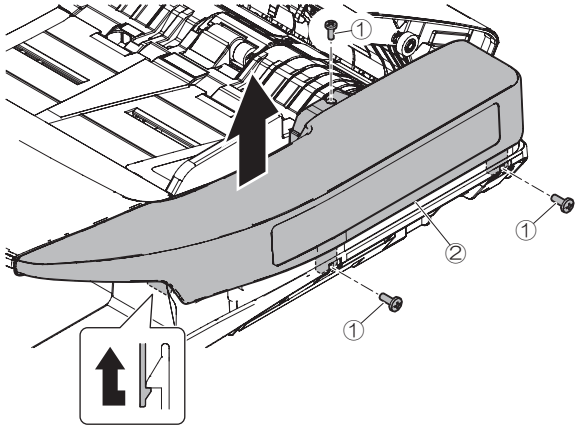



**g. Discharge brush**

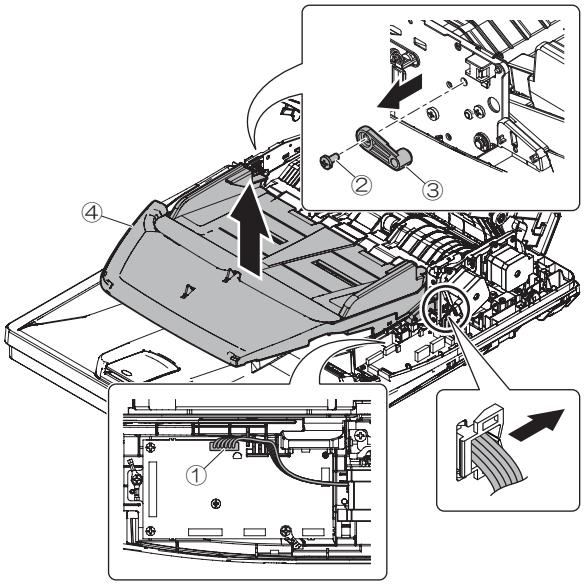
1) Remove the screw and the front cabinet.



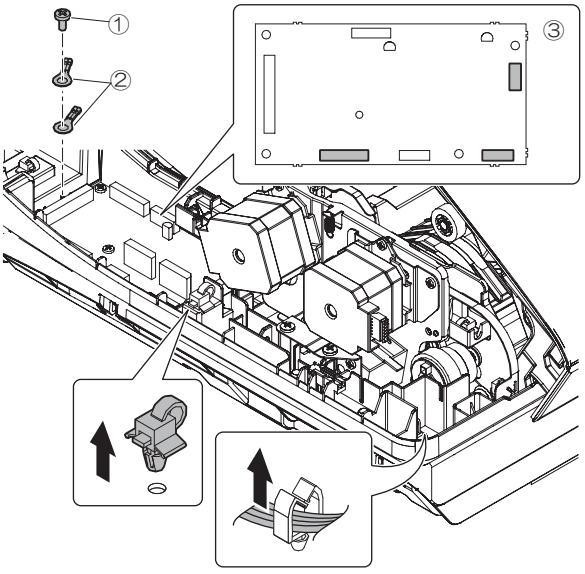

2) Remove the screw and the rear cabinet.



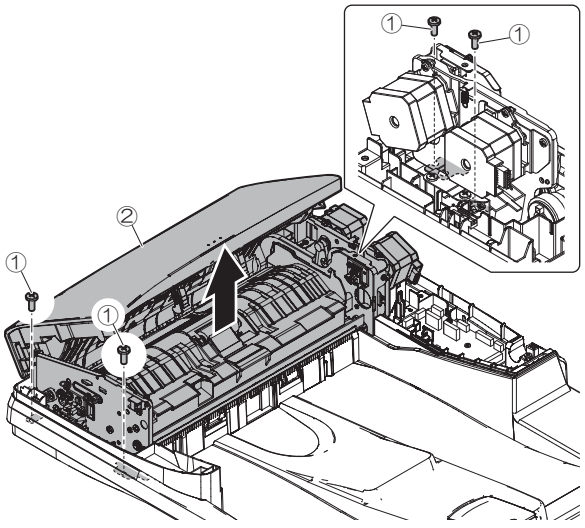
3) Disconnect the connector from the RSPF driver PWB. Remove the holder, and remove the RSPF paper feed tray unit.



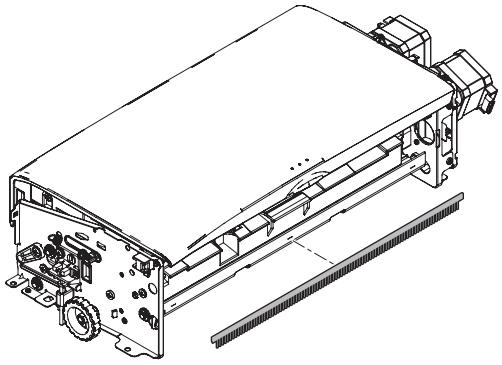

4) Remove the earth wire. Disconnect the connector from the RSPF driver PWB.

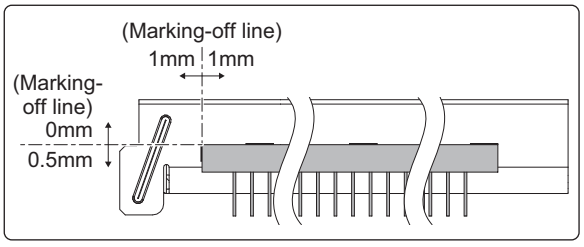



5) Remove the RSPF paper transport unit.




6) Remove the discharge brush.

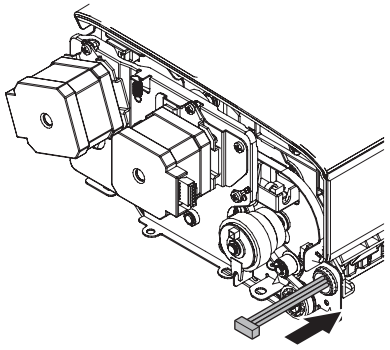




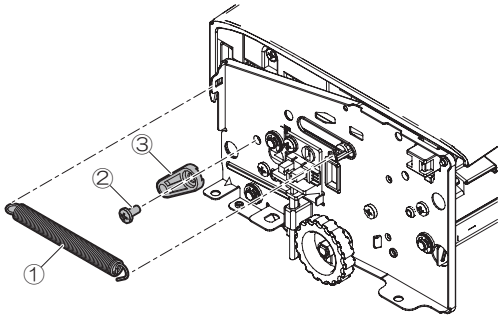

**h. Belts**

**i. Gears**

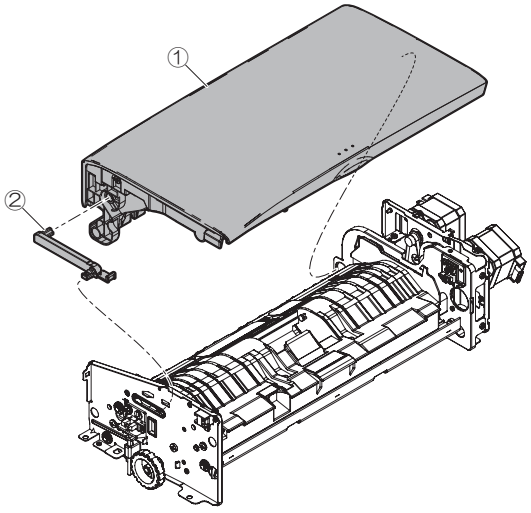
1) Pull out the harness from the hole.



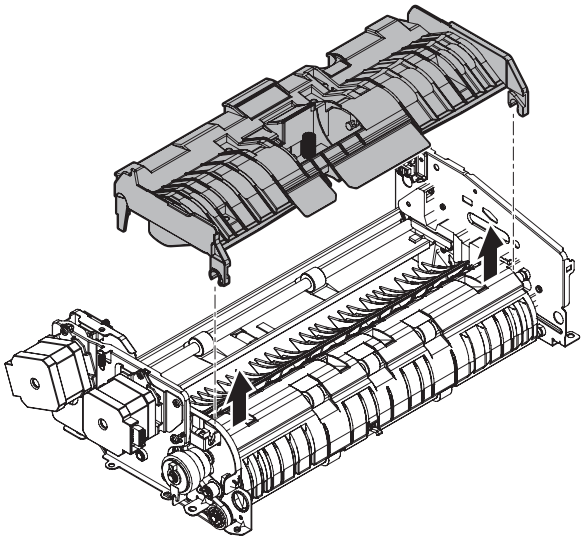
2) Remove the spring, the screw and the holder.



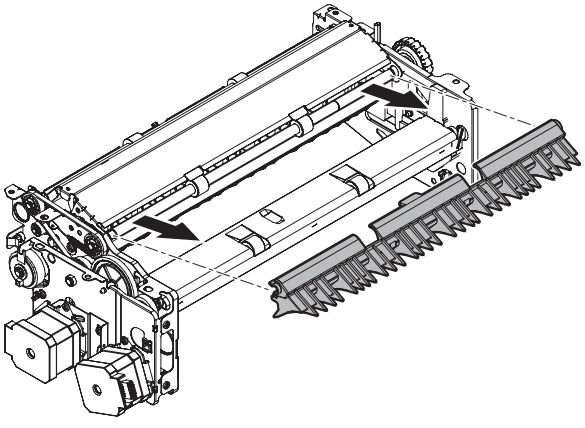
3) Remove the paper feed unit and the arm.



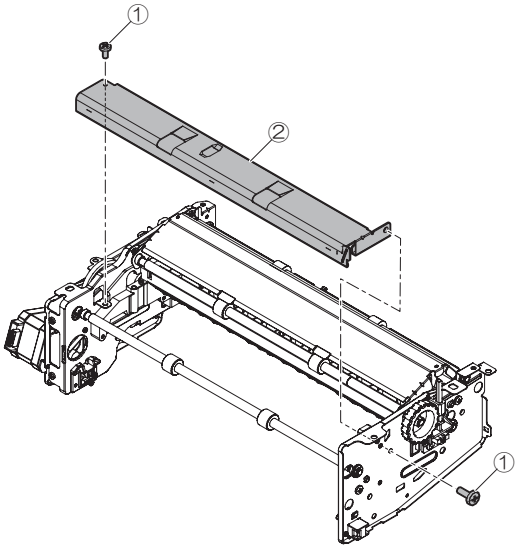

4) Remove the separate paper guide.



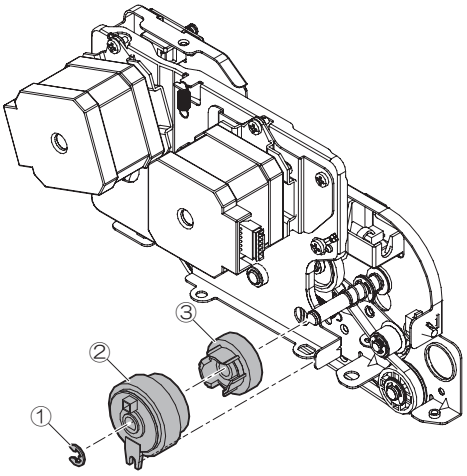
5) Remove the reverse gate.



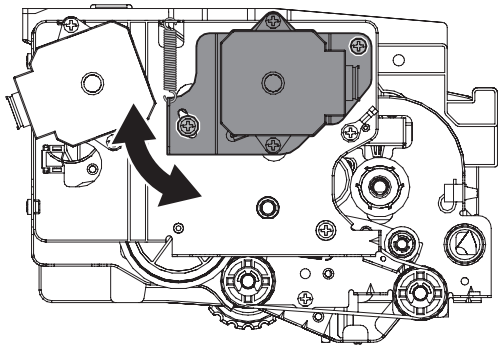
6) Remove the screws and the transport upper paper guide.



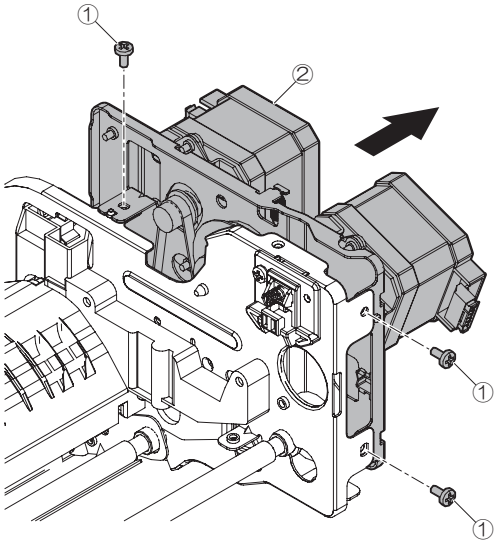

7) Remove the E-ring, the clutch and the gear.



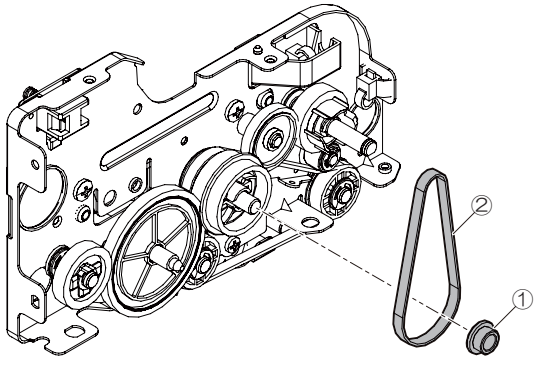

8) When removing the drive unit, loosen the screw and belt tension. When attaching the drive unit, loosen the screw. Then, tighten the screw while applying tension.



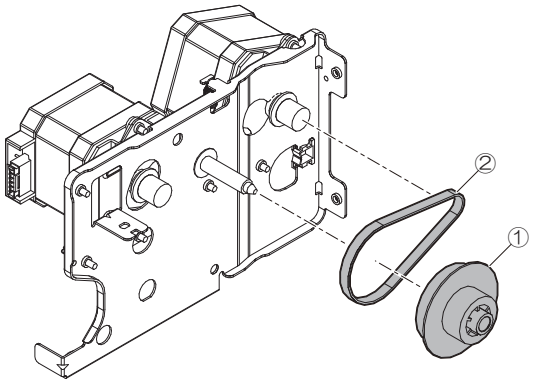
9) Remove the screws and the drive unit.



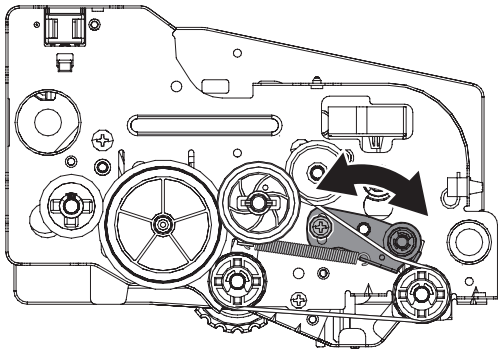

10) Remove the bearing and the belt.



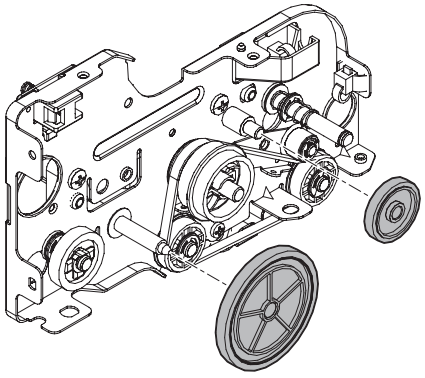

11) Remove the gear and the belt.



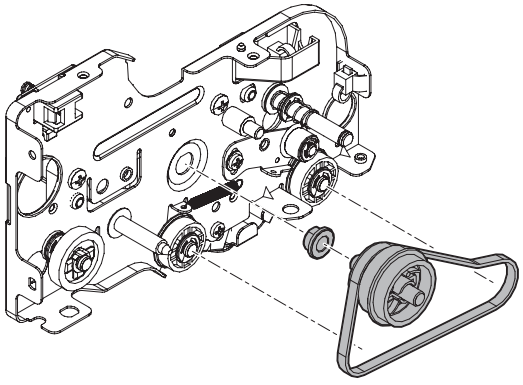

12) When removing the belt, loosen the screw and belt tension.
When attaching the belt, loosen the screw. Then, tighten the screw while applying tension.



13) Remove the gears.



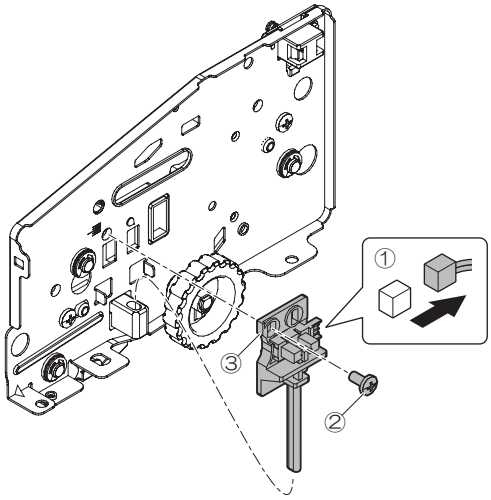
14) Remove the gear, the belt and the bearing.



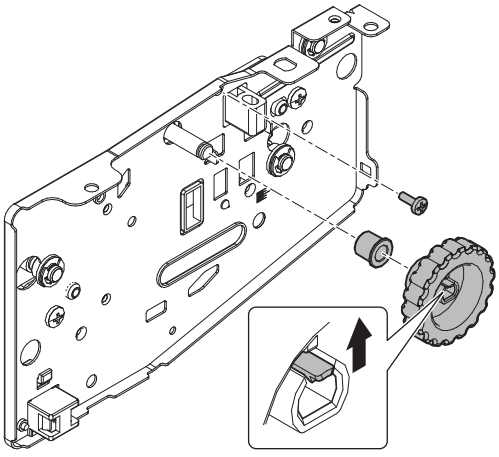
**j. Scan plate**

**k. Transport roller 2**

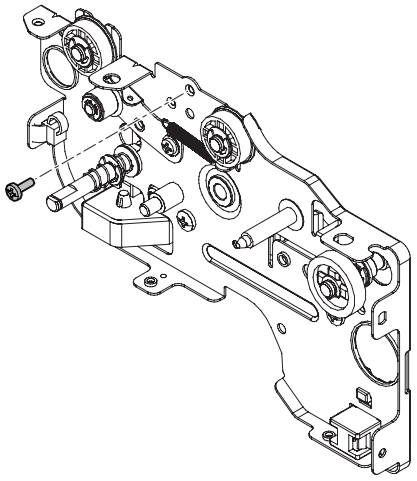
1) Disconnect the connector. Remove the screw and the sensor.



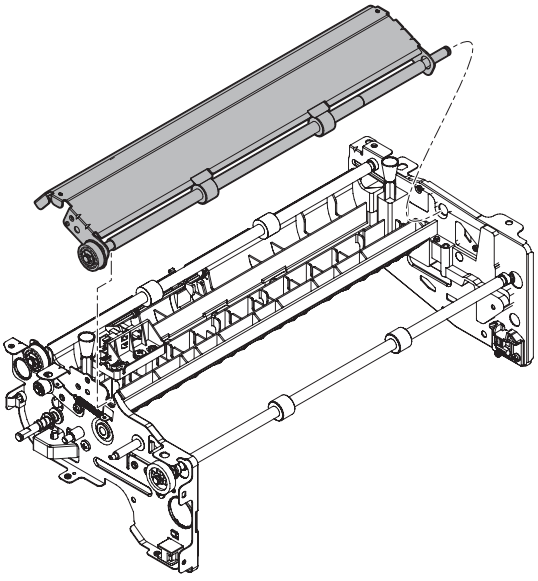

2) Remove the pulley, the bearing and the screw.



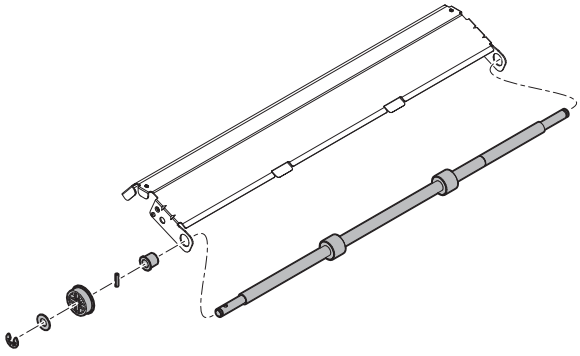
3) Remove the screw.



4) Remove the reading plate.

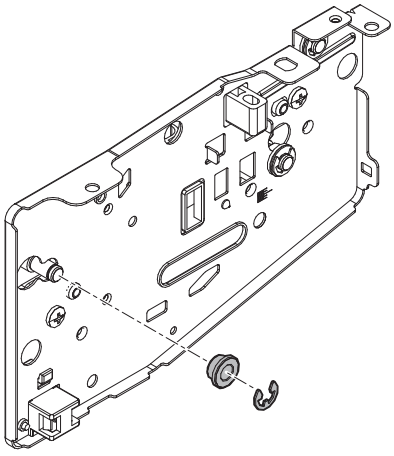


5) Remove the E-ring, the poly slider, the gear, the pin, the bearing and the transport roller 2.

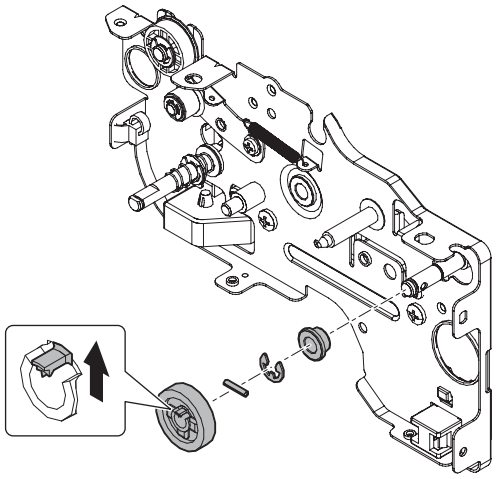


**l. Paper exit roller**

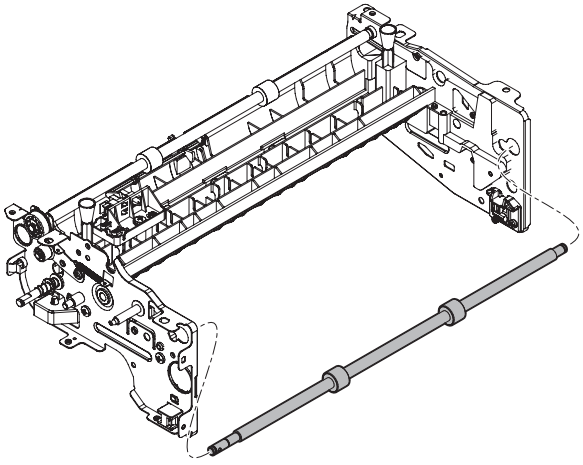
1) Remove the E-ring and the bearing.



2) Remove the gear, the pin, the E-ring and the bearing.

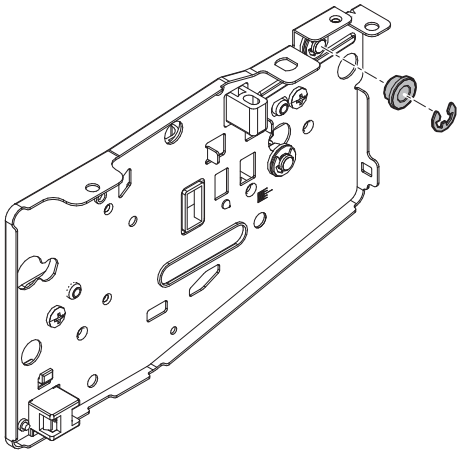


3) Remove the paper exit roller.

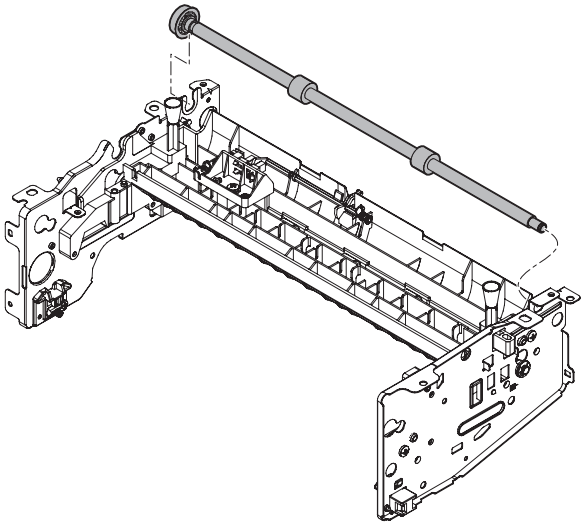


**m. Transport roller 1**

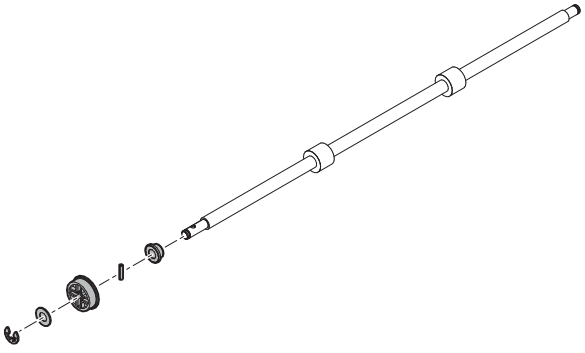
1) Remove the E-ring and the bearing.



2) Remove the transport roller 1.

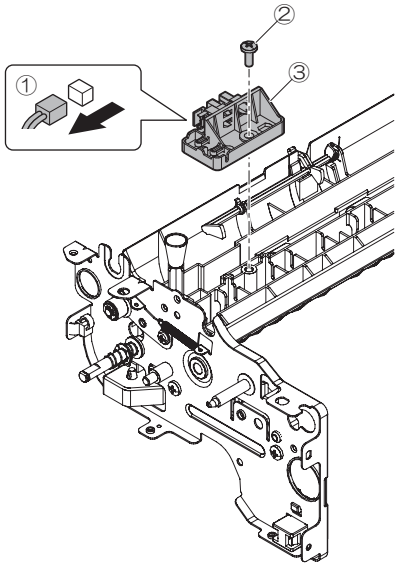


3) Remove the E-ring, the poly slider, the gear, the pin and the bearing.

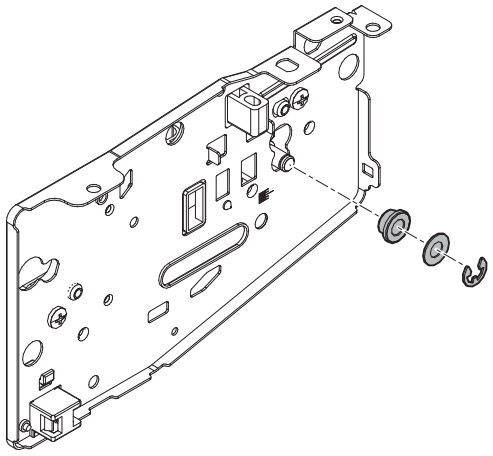


**n. Registration roller**

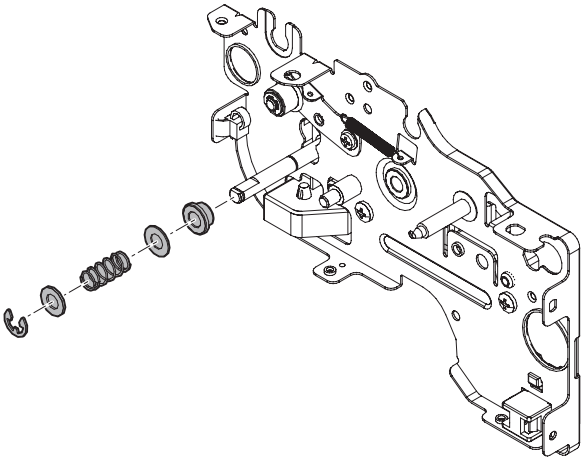
1) Disconnect the connector. Remove the screw and the sensor.



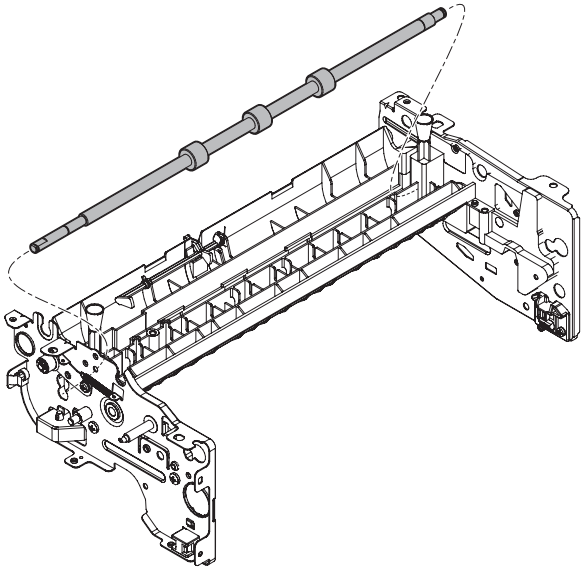
2) Remove the E-ring, the poly slider and the bearing.



3) Remove the E-ring, the washer, the spring, the poly slider and the bearing.

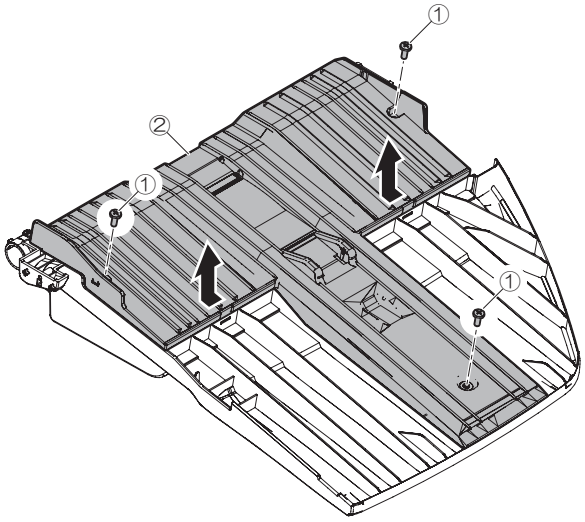


4) Remove the registration roller.

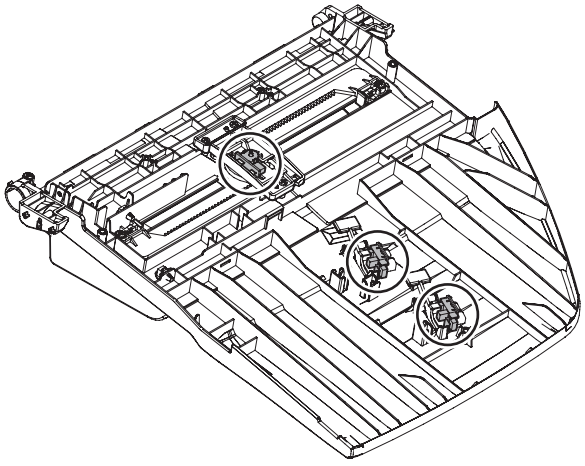


**o. Sensors**

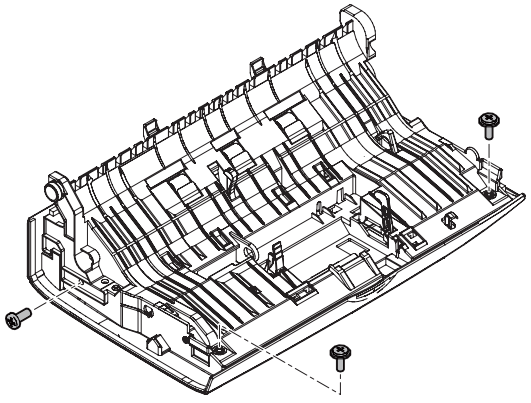
1) Remove the screws and the document tray lower.

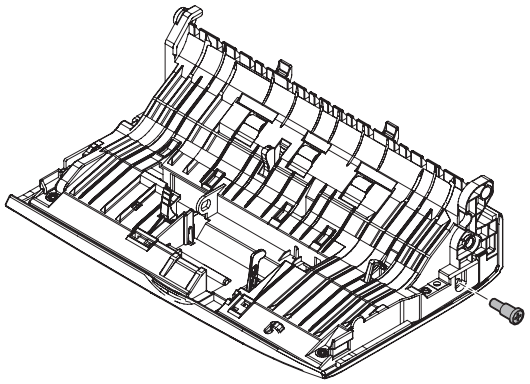



2) Remove the sensors.

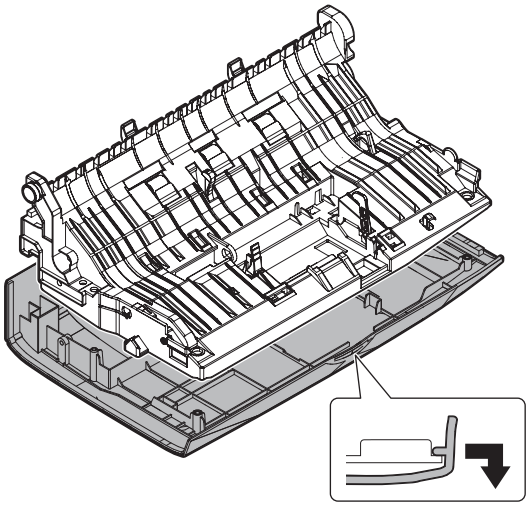


3) Remove the screws.

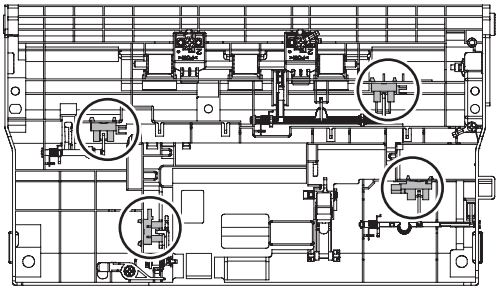




4) Remove the upper cover.



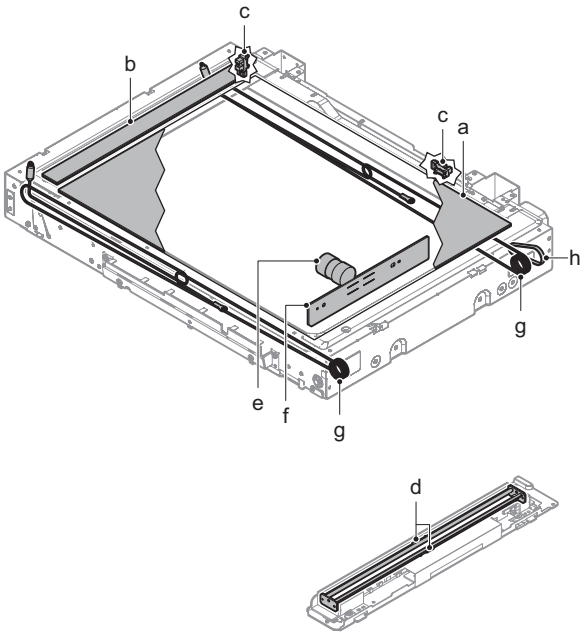
5) Remove the sensors.



## C. Scanner section

### (1) Scanner unit

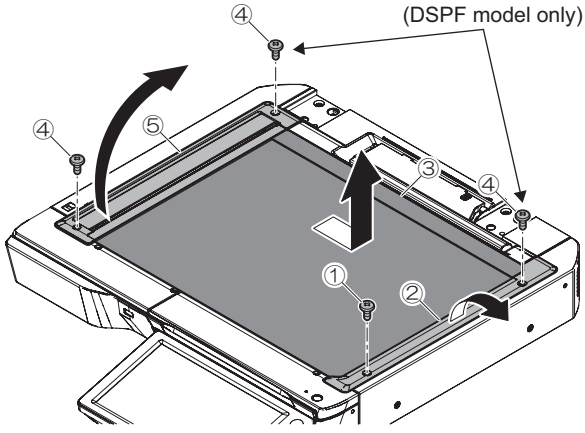
| Part No. | Part name |
|---|---|
| a | Table glass |
| b | SPF glass |
| c | Sensors |
| d | Lamp |
| e | Lens |
| f | CCD |
| g | Drive wire |
| h | Drive belt |




**a. Table glass**

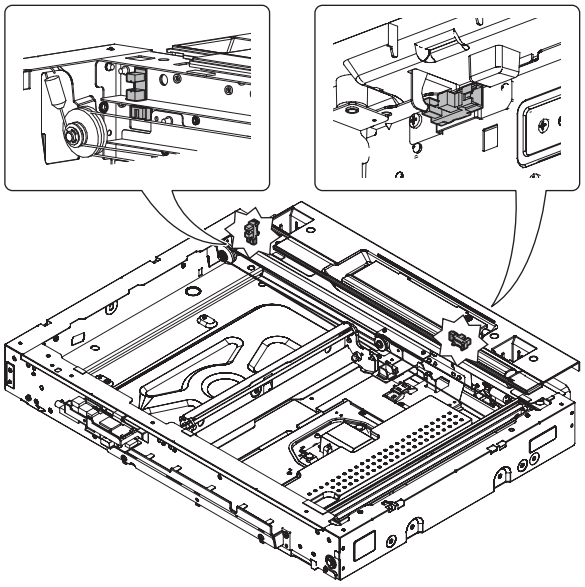
**b. SPF glass**

1) Remove the glass holder, the table glass, and the SPF glass.



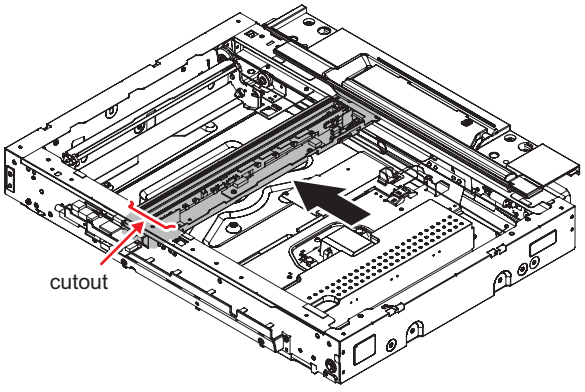
**c. Sensors**

1) Remove the sensors.

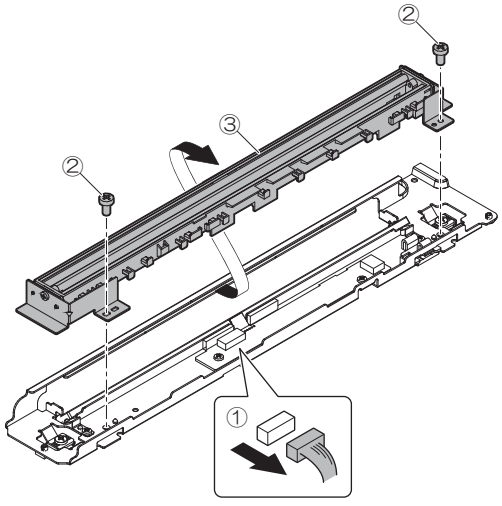


**d. Lamp**

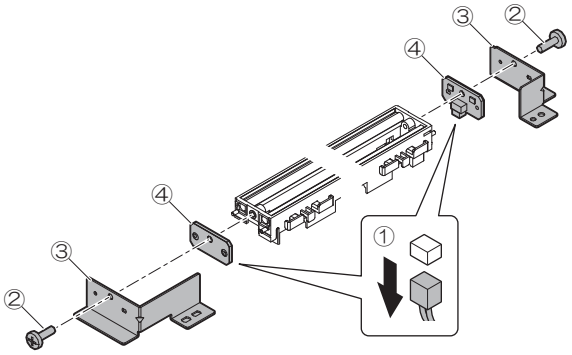
1) Move the lamp unit to the cutout position of the sheet metal.



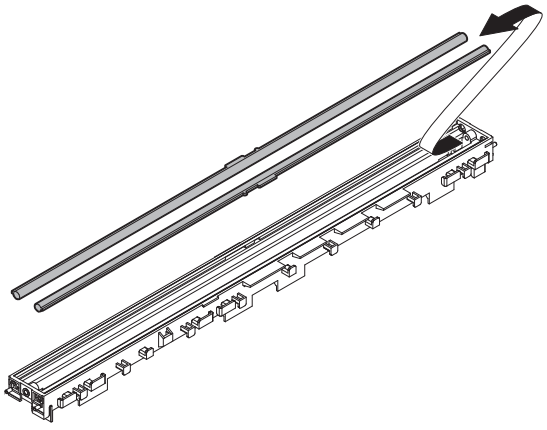

2) Disconnect the connector. Remove the screws and the LED PWB assembly.



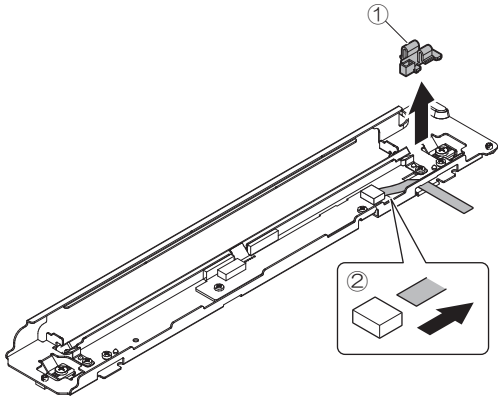

3) Disconnect the connector. Remove the screws, the plates and the LED PWBs.



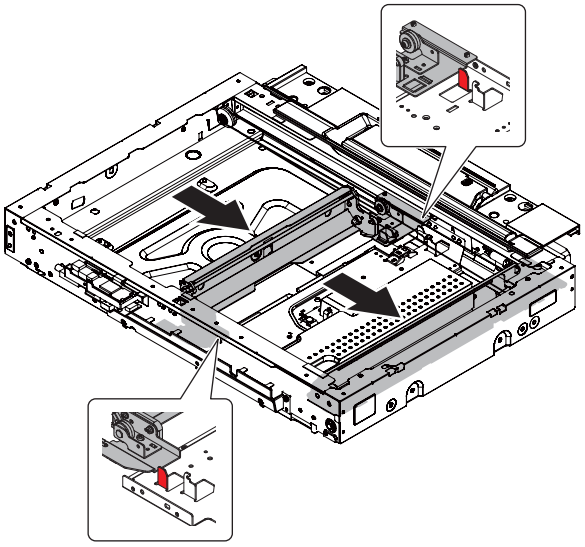

4) Remove the waveguide sticks.



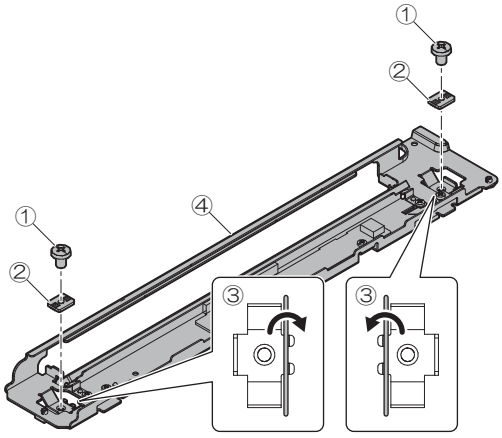
5) Remove the harness fixture. Disconnect the FFC.



6) Move the 2/3 mirror unit to the position where it hits the sheet metal.
Move the lamp unit to the position where it hits the right end of the optical base plate.



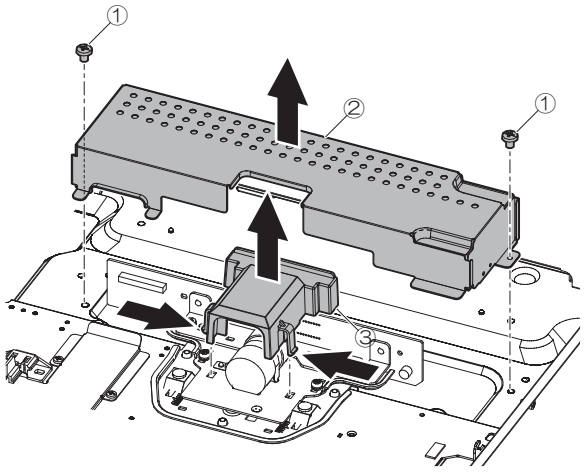
7) Remove the screws, the wire holders and the wires. Then, remove the lump unit.



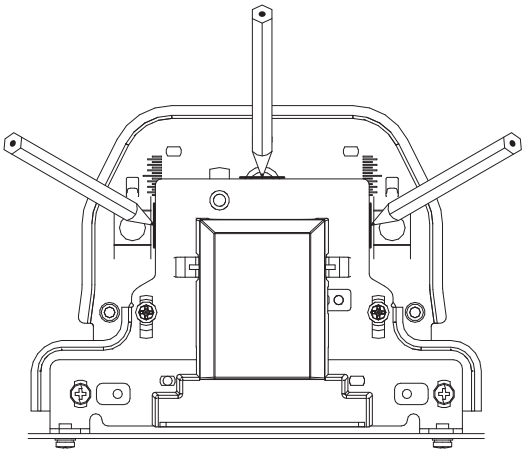

**e. Lens**

**f. CCD**

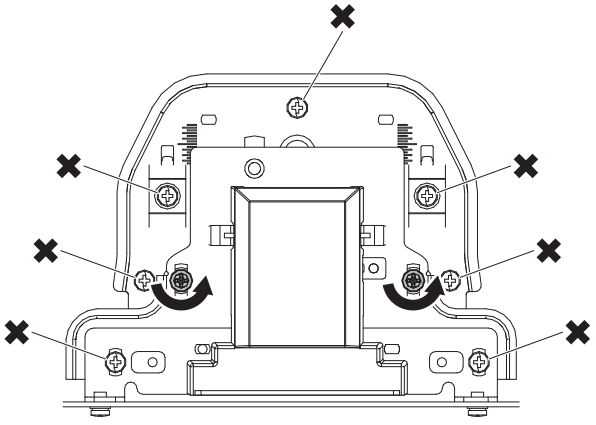
1) Remove the screws, the dark box, and the cover.




2) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below.



3) Remove the CCD unit.
* Adjustment is required when it was removed.
Refer to the "5 ADJUSTMENT AND SETTINGS"

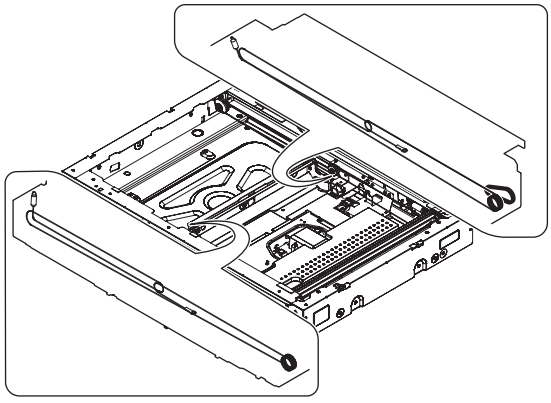


**NOTE:** Never loosen the screws marked with X.
If any one of these screws is loosened, the position and the angle of the CCD unit base may be changed to cause a problem, which cannot be adjusted in the market. In that case, the whole scanner unit must be replaced.

**g. Drive wire**

**h. Drive belt**

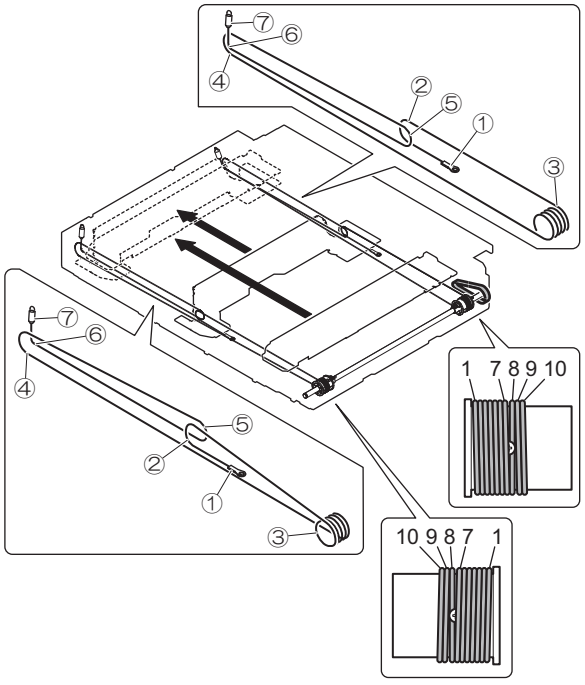
1) Remove the drive wires and the drive belt.



Important

Wind the drive wire in the sequence of 1 to 7 as shown in the figure below and fix it.

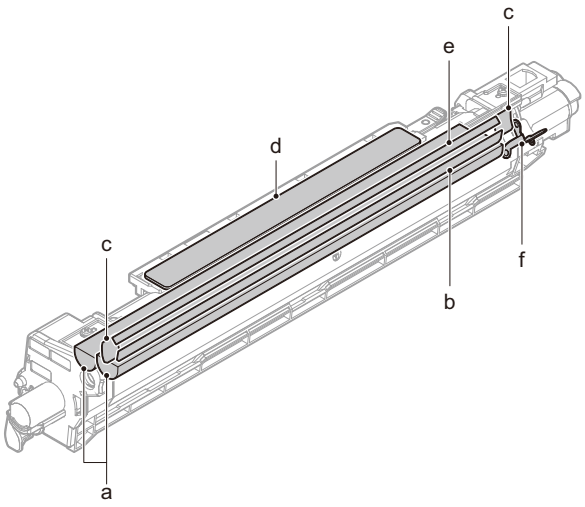
When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position, and wind 7 turns as shown in the figure, and fix the 8th turn with a screw. Then wind two turns furthermore around the pulley.




## D. Developing section

### (1) Developing unit

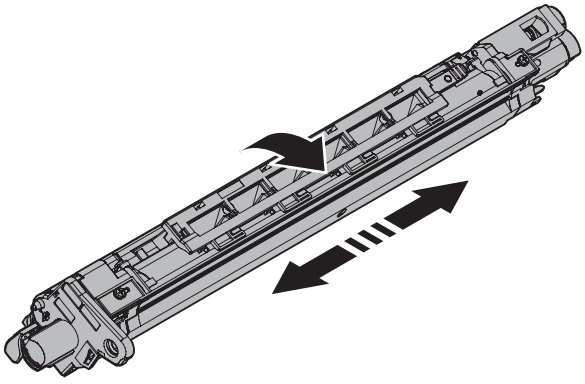
| Part No. | Part name |
|---|---|
| a | Developer |
| b | DV blade |
| c | DV side seal F·R |
| d | Toner filter |
| e | DV blade upper |



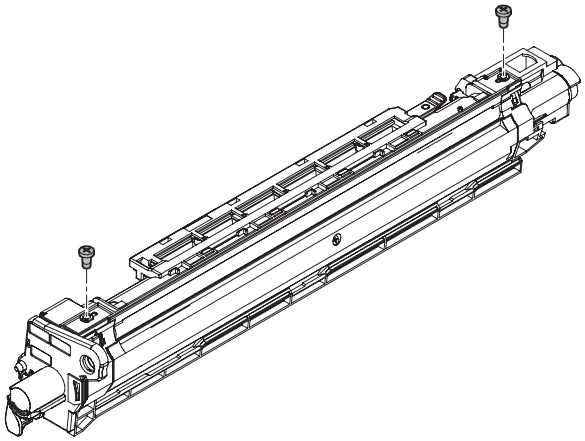

**a. Developer**

1) Tilt the developing unit slightly toward the direction of arrow and gently shake up a little.

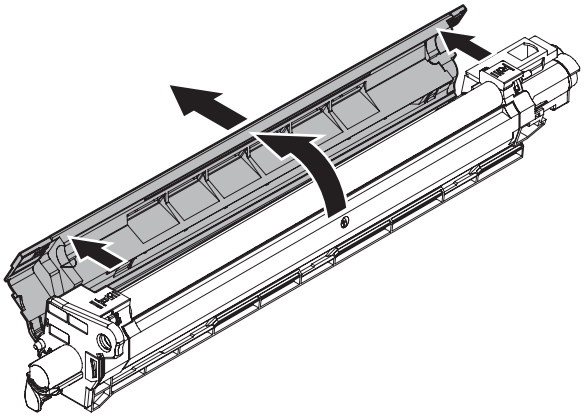
*To prevent the developer spilling out of developing unit



2) Remove the screw

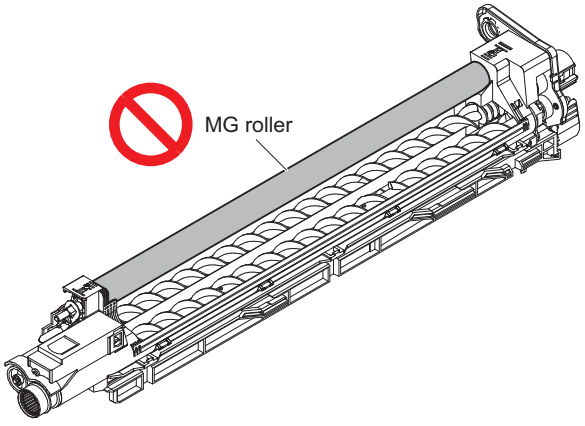


3) Press both edges of the cover and remove it while rotating.

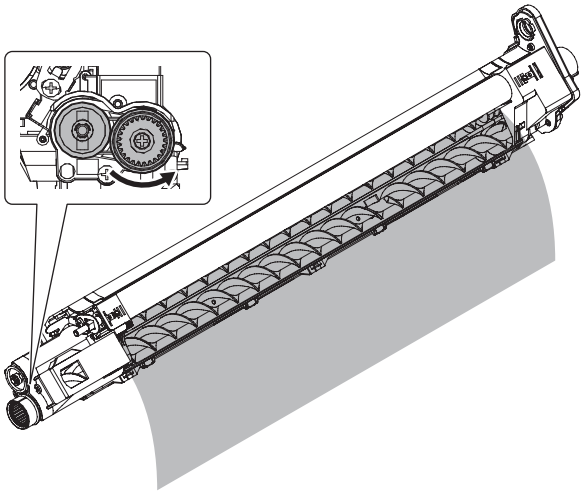


Important

Do not touch the MG roller.




4) While rotating the gear, dispose of developer



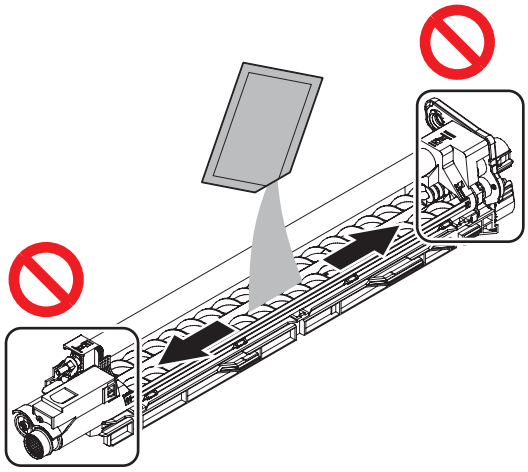
5) Loading developer to the developing unit

Important

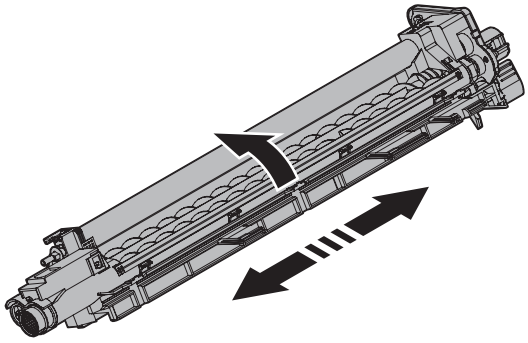
Be sure to shake the bag of developer thoroughly before pouring into the developing unit

Important

When pouring the developer into the unit, use care not to get developer into the drive section



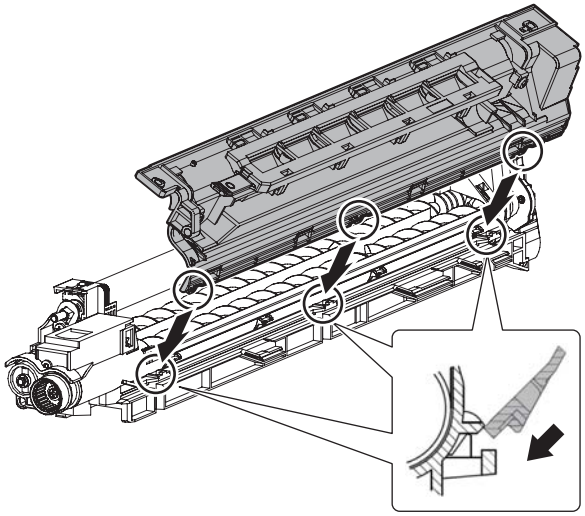
6) Slightly tilt the developing unit. Load developer on lower side of MG roller evenly on left and right.



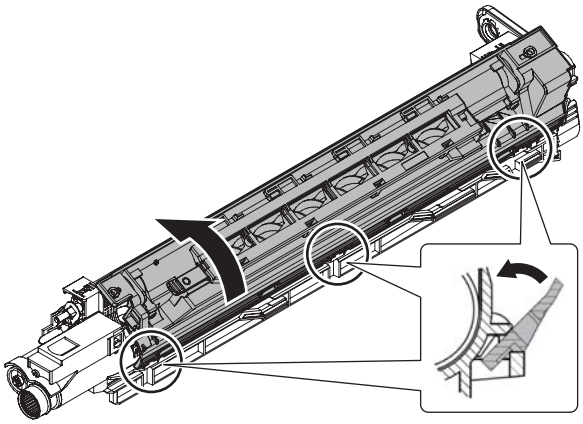
Important

Do not tilt the developing unit after loading the developer.

7) Insert the pawls on the cover into the holes on DV-BOX at an angle of 45 degrees.



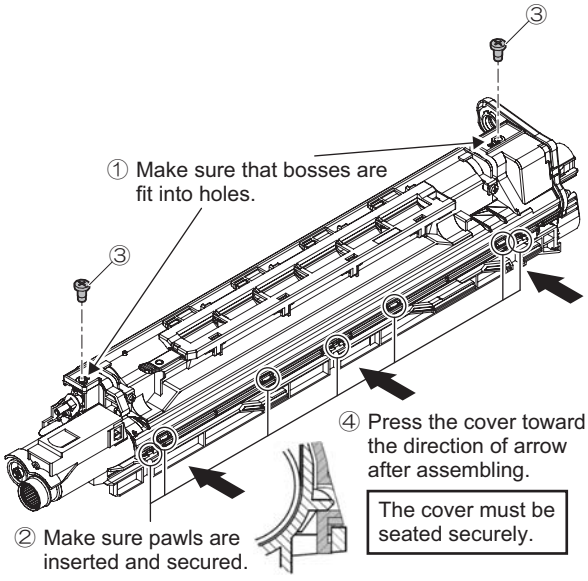
8) Rotate and insert the cover.



9) Check the mounting condition of the cover and tighten screws.

Important

Since shoulder screws are used, do not tighten too firmly.
Tightening torque of the screw 0.5 - 0.6Nm

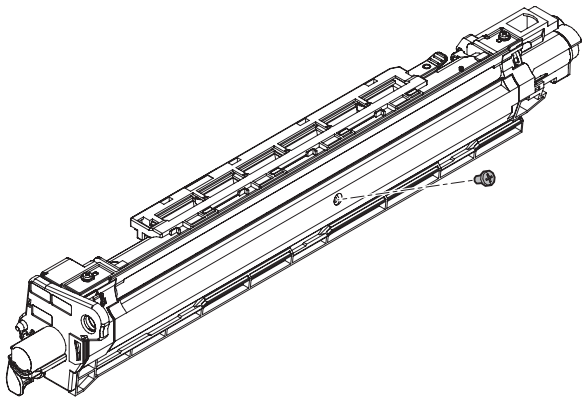



Note

Execute developer adjustment after replacement of the developer.
(Sim25-2)

**b. DV blade**

1) Remove the screw



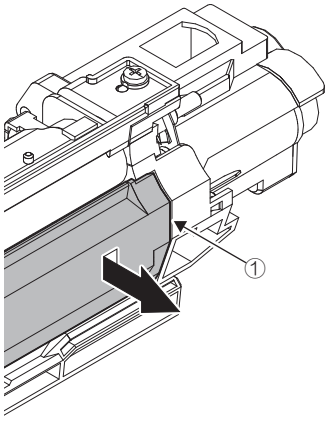
2) Pull the center section and remove the boss. Insert a flat-blade screwdriver into the space (1) in the illustration below. Slide the cover toward the front and remove the rear-side boss.

Important

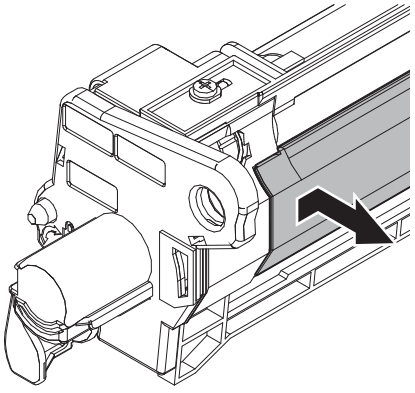
When removing the rear-side boss, press the cover gently to prevent toner dispersion.

Important

The front-side boss and rear-side boss must be handled with care to prevent fracturing.




3) Release the front-side boss while sliding the cover toward rear side and remove the cover.



4) Remove the DV blade

Important

When replacing the DV blade, affix the DV blade based on the reference position.

Important

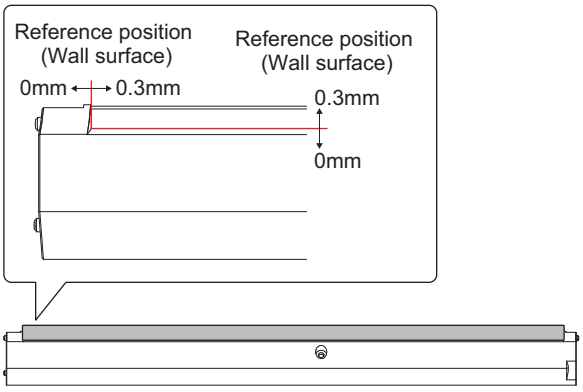
Before affixing new DV blade, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

Important

Steady the DV blade after affixing the blade. (Make sure that the sheet is seated securely.)

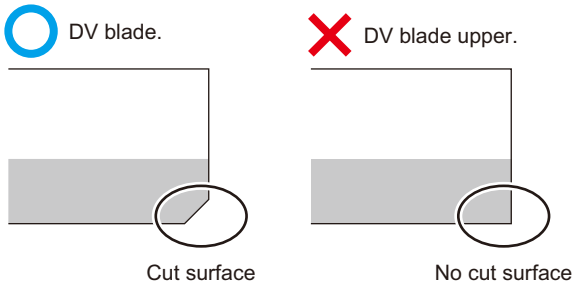
Important

Make sure there are no crinkles on lead edge of the DV blade after affixing the DV blade.




Important

Do not mistake for DV blade upper.




**c. DV side seal F·R**

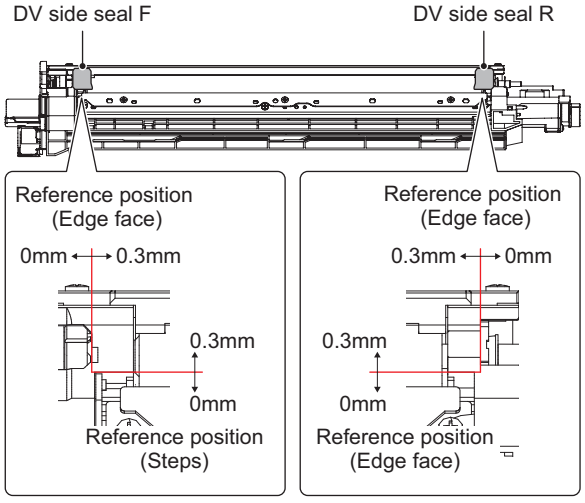
1) Remove the DV side seal F·R

Important

When replacing the DV side seal F·R, affix the seals based on the reference position.

Important

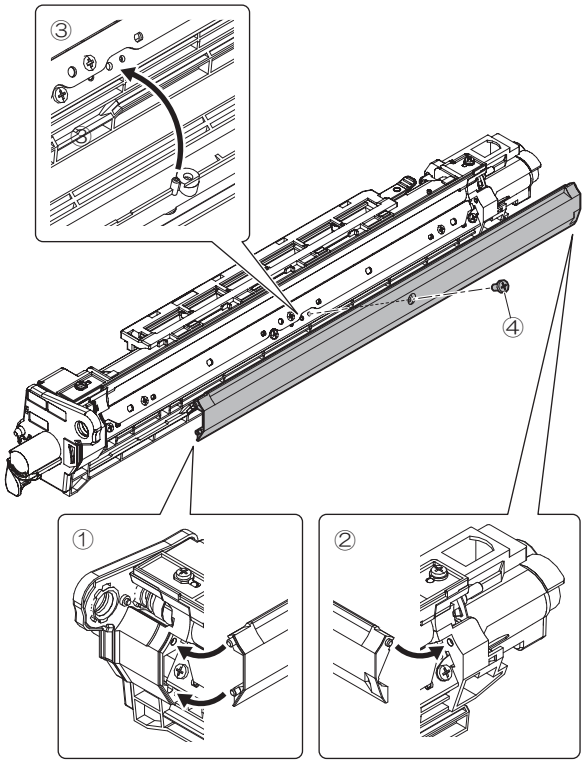
Before affixing new DV side seal F·R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




2) Insert two front-side bosses into the holes on DV-BOX.

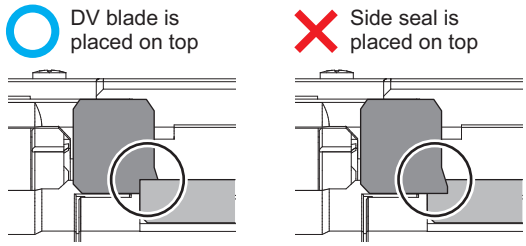
Insert one rear-side boss into the holes on DV-BOX while slightly bending the cover.

Insert the boss on back side of the cover securely and tighten screw.



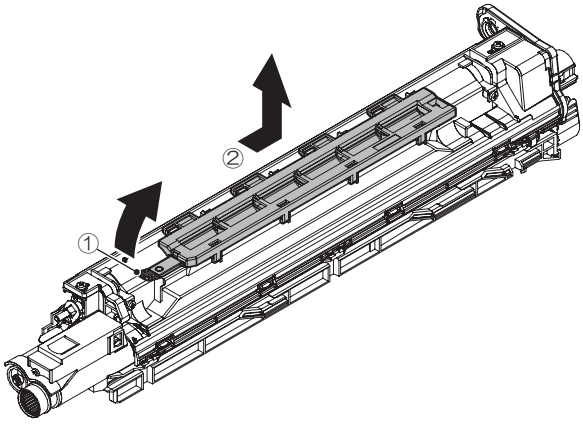
Important

Make sure a part of DV blade is placed on top of DV side seal F·R.



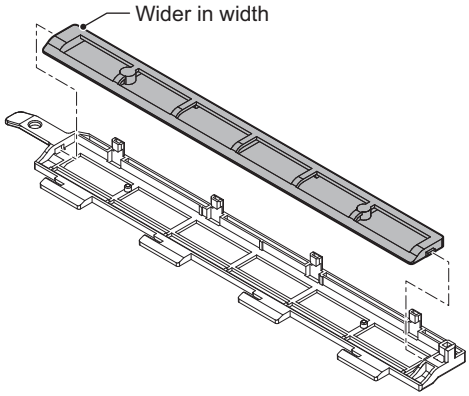

**d. Toner filter**

1) Uplift a knob on the filter cover (1), slide toward the direction of (2) and remove the cover.

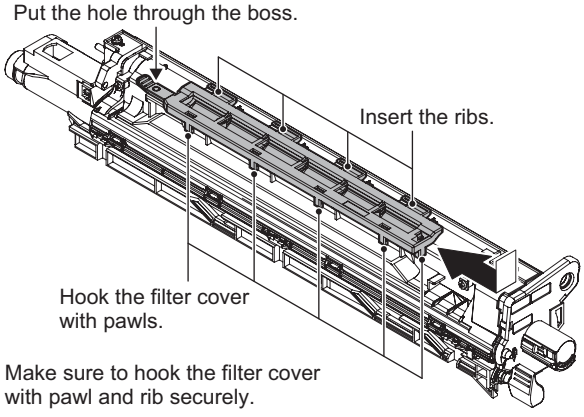



2) Remove the toner filter from the filter cover

Make sure to attach the filter in proper mounting direction for replacement.




3) Attach the filter cover.




Make sure to hook the filter cover with pawl and rib securely.

**e. DV blade upper**

1) Remove the DV cover
2) Remove the DV blade upper

Important

When replacing the DV blade upper, affix it based on the reference position.

Important

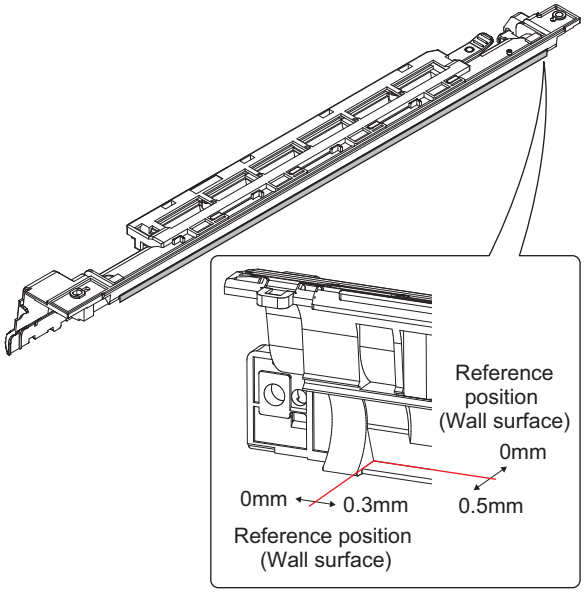
Before affixing new DV blade upper, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

Important

Steady the DV blade upper after affixing the blade. (Make sure that the sheet is seated securely.)

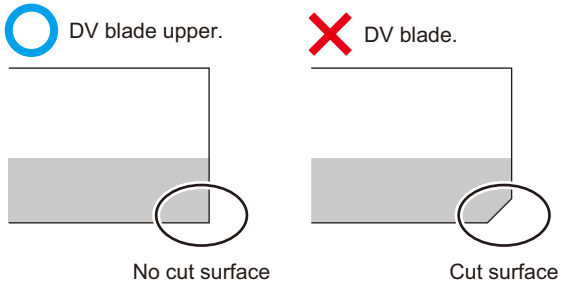
Important

Make sure there are no crinkles on lead edge of the DV blade upper after affixing the DV blade.




Important

Do not mistake for DV blade.

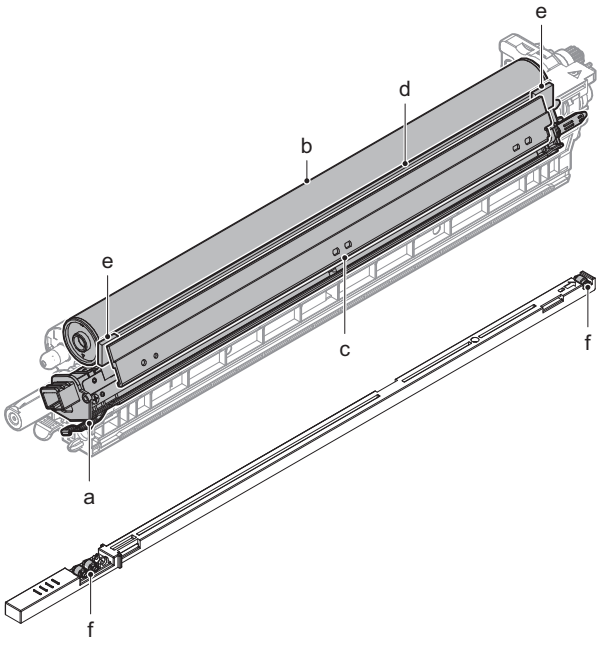



3) Attach the cover.

## E. OPC drum section

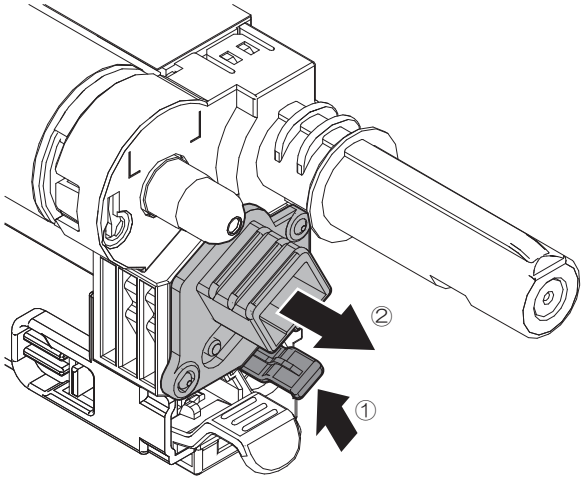
### (1) OPC drum unit

| Part No. | Part name |
|---|---|
| a | Charger unit |
| b | Drum |
| c | Cleaning blade |
| d | Toner reception sheet |
| e | Side seal F·R |
| f | Charger cleaner |



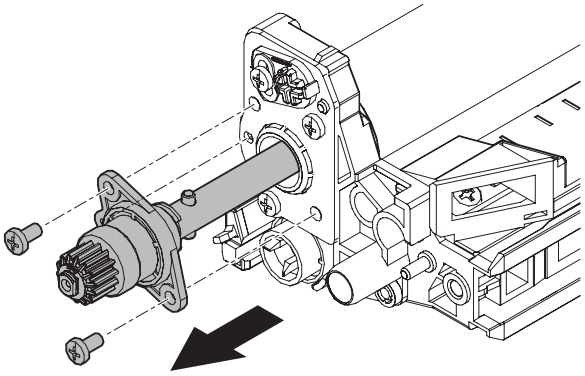

**a. Charger unit**

1) Uplift the lock lever and pull out the charger unit.

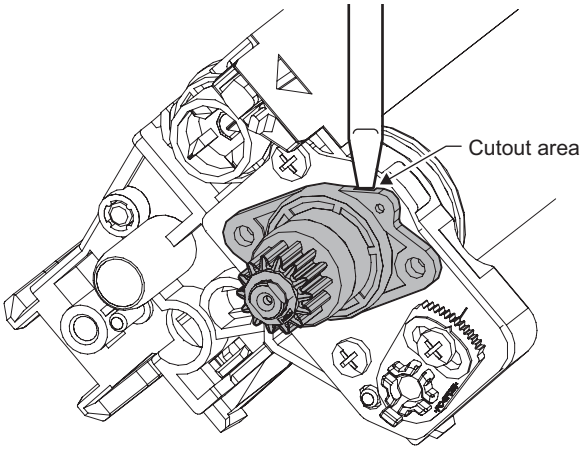



**b. Drum**

1) Remove the screw and pull out the shaft from the drum

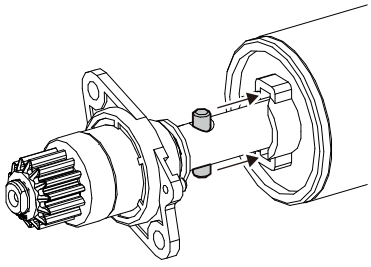


*If the drum shaft is hard to remove, insert a flat-blade screwdriver between process frame and cutout on bearing to remove (as shown in the illustration below).

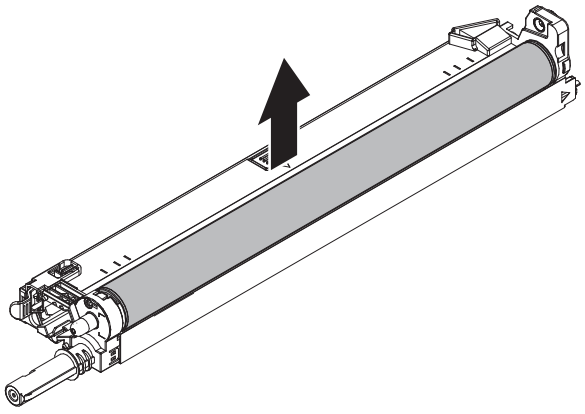



Important

When inserting the drum shaft, make sure to insert the pin all the way toward the direction of arrow (in the illustration below).

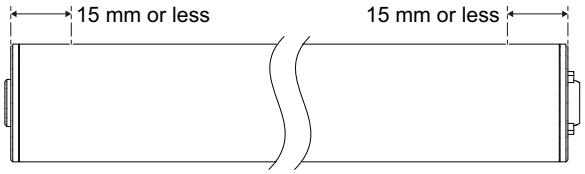


2) Remove the drum



Important

When handling the drum, make sure to hold within 15 mm of both edges or less.




Important

**Note for servicing the drums**

**(1) Prevent contamination**

**Note**

- Be careful not to leave fingerprints or oil dirt on the drum surface (keep the unit always oils and dust)
- When replacing the drum, cover the drum with the protection sheet and hold the protection sheet. If it is required to hold the drum directly, use enough care not to touch the cleaning blade area. 15mm inside from both edges of the drum. (If a fingerprint or oily dirt is attached to the cleaning blade area of the OPC drum, the cleaning blade may flip)

**Countermeasures**

If a fingerprint is attached to the drum surface erroneously, perform the following countermeasures

1) Use dry cloth to clean and remove the dirt

**Check method**

Check to confirm that the drum is free from fingerprints or oily dirt and that the cleaning blade is completely cleaned by the following method

- Make a print of a half tone image on all the surface of A4 (11 x 8.5) paper and check the printed paper for any abnormality in the image

**(2) Prior exposure prevention**

**Note**

- Avoid servicing in a place where there is strong light
- Do not expose the unit to light for a long time
- Cover the drum with light-blocking material (when using paper, use about 10 sheets of paper to block light)

**Countermeasures**

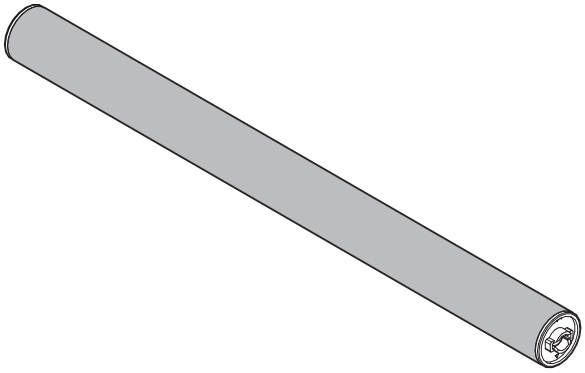
If the drum is erroneously exposed to light too much (prior exposure) perform the following countermeasures

1) Print half tone image on the whole surface of A4 (11 x 8.5) paper and check to confirm that there is no irregular density area in the previously exposed section
2) If the drum is subject to stress by being exposed to strong light. It may be recovered by leaving it in a dark and cool place. If it may not be recovered replace it with a new one

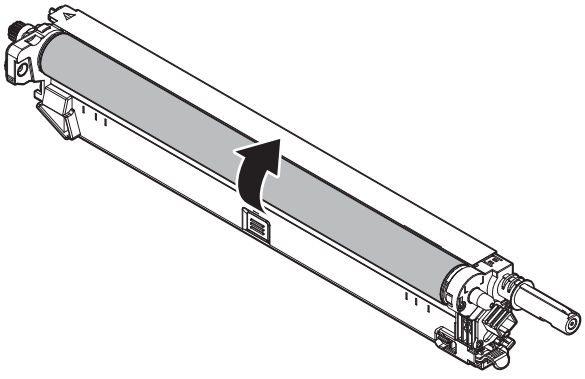
Important

When the drum is removed perform the following procedures

1) After removing the drum, apply stearic acid powder (UKOG-0312FCZZ) to the whole surface of the drum



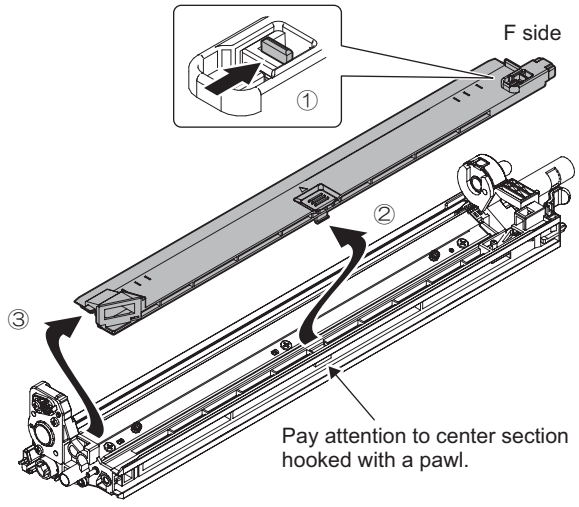
2) After mounting the drum on drum frame, hold both edges of drum within 15 mm or less. Rotate the drum manually in the forward direction twice (toward the direction of arrow as shown in the illustration below) and remove the stearic acid powder (UKOG-0312FCZZ) from drum surface.



- Do not touch the drum surface except for the both ends (15 mm) of the drum
- Any section of the drum may be touched from above the black protect sheet, but do not touch too strongly

**c. Cleaning blade**

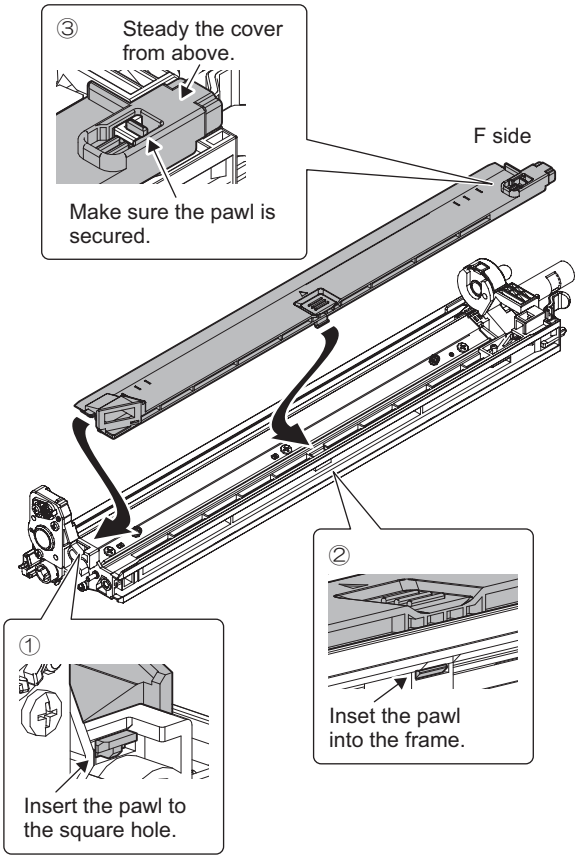
1) Remove the pawls and the MC cover.




Important

Followings must be observed while attaching the cover:

- (1) Insert the pawl on MC unit to the square hole on process frame.
- (2) Insert the pawl into the hole securely until it clicks.
- (3) Insert the pawl on front side securely.



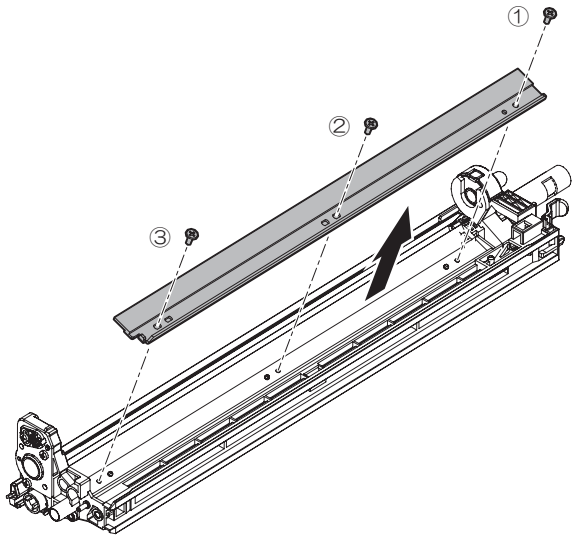

2) Remove the screw and the cleaning blade

Important

Do not touch the lead edge of the cleaning blade.

Important

When attaching the cleaning blade, tighten the screw in the order of (1) - (3).

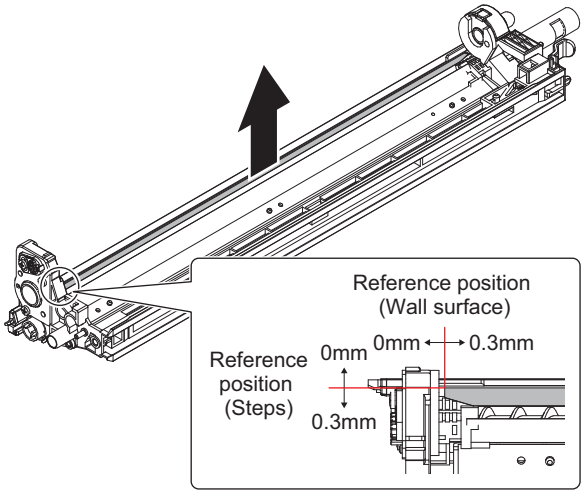



**d. Toner reception sheet**

1) Remove the toner reception sheet

Important

When replacing the toner reception sheet, affix the sheet based on the reference position. Clean the affixing surface with alcohol.



**e. Side seal F·R**

1) Remove the side seal F·R

Important

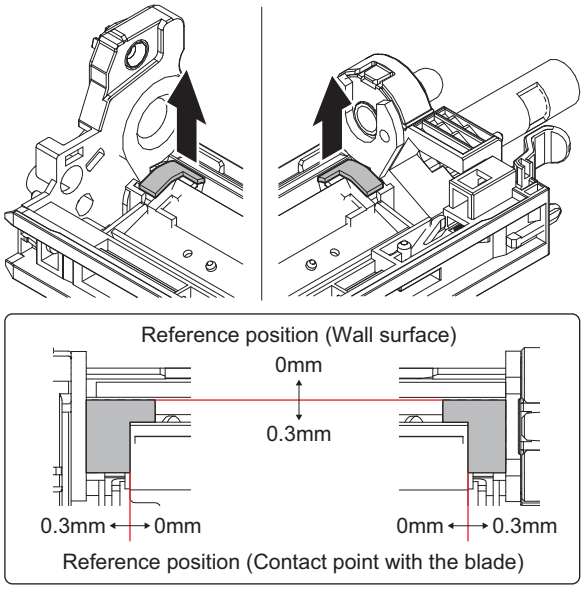
When replacing the side seal F·R, attach the cleaning blade first. Then move the side seals toward front side and attach based on the reference position. Clean the affixing surface with alcohol.

Important

Before affixing new seal, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

*The blade should not be put on top of the side seals while holding down the blade.

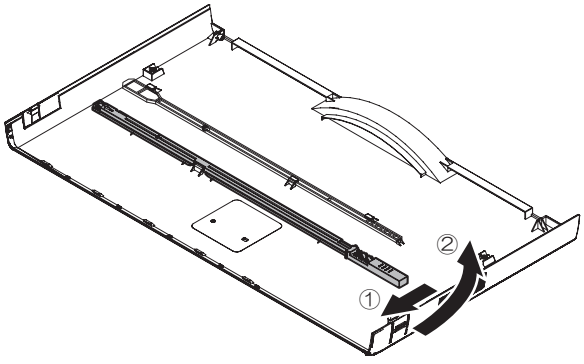
*The width of the clearance should be 0.3 mm or less.




**f. Charger cleaner**

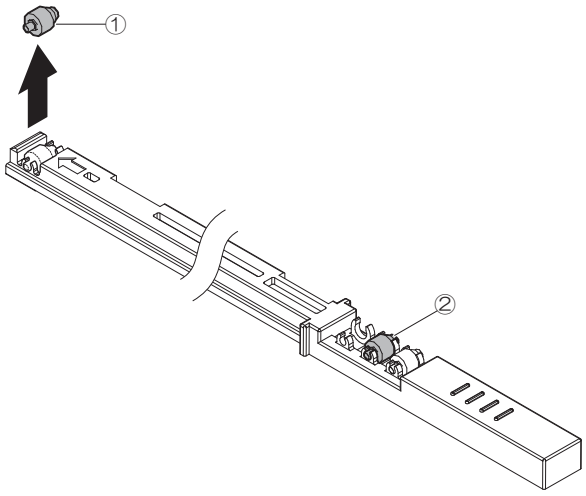
1) Open the cover and remove the MC cleaning bar.

Detach the cleaning bar by firstly detaching the bar from right-side pawl, move the right-side bar over the pawl. It will make left side of the bar slightly tilt upward; rotate the bar just a little and detach left side of the bar. Finally remove the bar from the center pawl.




2) (1) Remove the charger cleaner attached in front end of the MC cleaning bar and attach new charger cleaner.

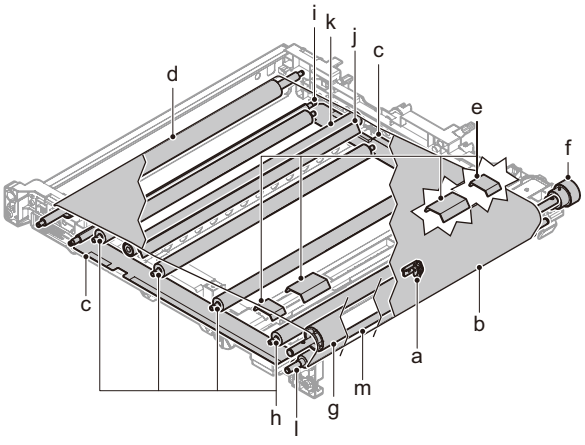
(2) If you have any spare charger cleaner, attach it near handle and keep it for next replacement.

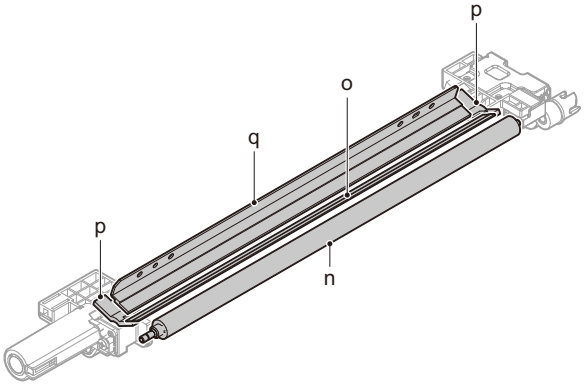


## F. Transfer section

### (1) Primary transfer unit

| Part No. | Part name |
|---|---|
| a | Separation pawl |
| b | Primary transfer belt |
| c | Primary transfer toner reception sheet F/R |
| d | Primary transfer tension roller |
| e | Resist backup stay cushion |
| f | Primary transfer drive gear |
| g | Primary transfer drive roller |
| h | Primary transfer roller |
| i | Y auxiliary roller |
| j | Primary transfer blade backup roller sheet |
| k | Primary transfer blade backup roller |
| l | Pre-transfer roller |
| m | BK auxiliary roller |
| n | Cleaning roller |
| o | Primary transfer cleaner sub blade |
| p | Primary transfer cleaner seals F/R |
| q | Primary transfer cleaner blade |



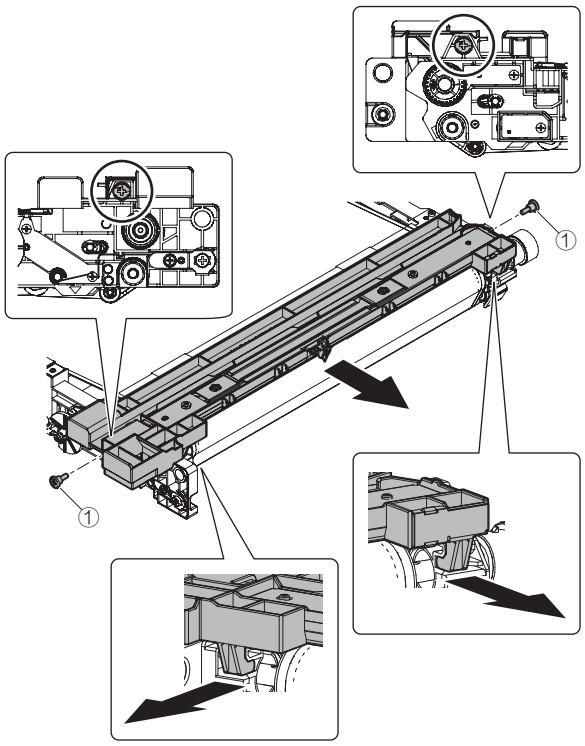

**a. Separation pawl**

1) Remove the screw and paper guide.

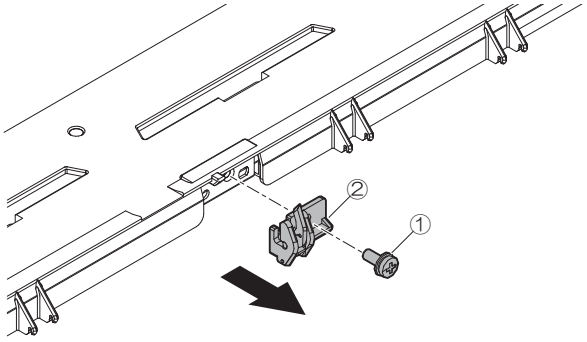
Important

After removing the paper guide, place it with the separation pawl upward to prevent damage on the tip of the pawl.

When attaching the paper guide, handle it carefully not to scratch transfer belt with separation pawl.




2) Place the paper guide with the separation pawl upward. Remove a screw and detach the separation pawl from the paper guide.

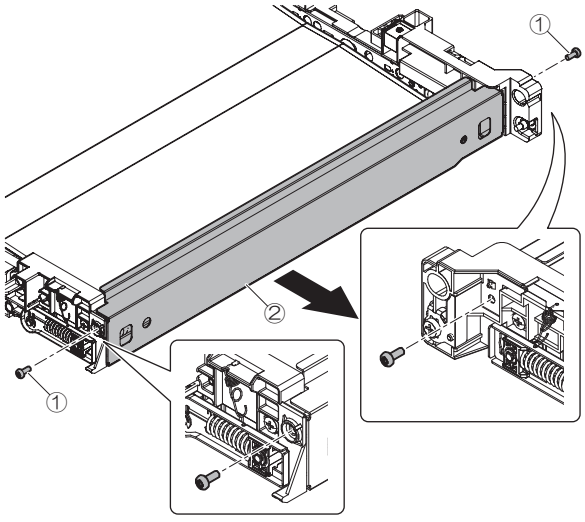



**b. Primary transfer belt**

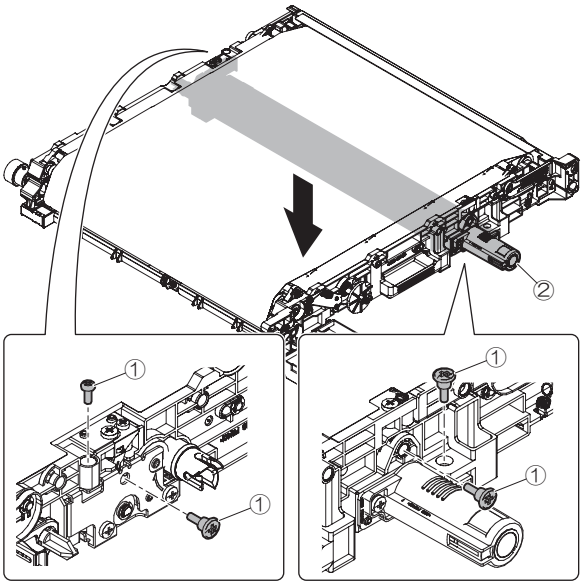
1) Remove the screw while Primary transfer cleaner unit in on top and remove the rail.

Important

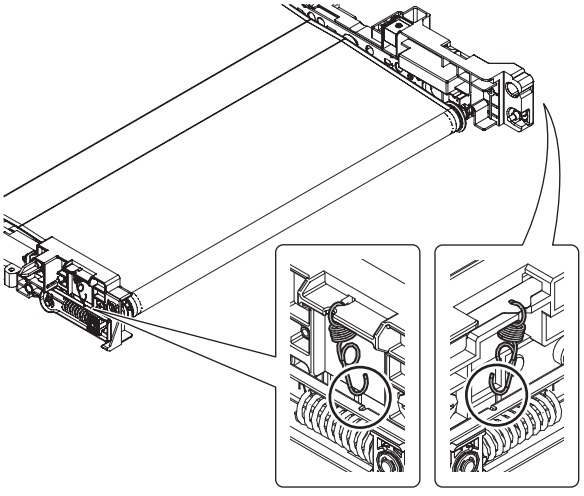
Do not touch the belt.



2) Flip the unit upside down and remove screws.
3) Remove primary transfer cleaner unit.



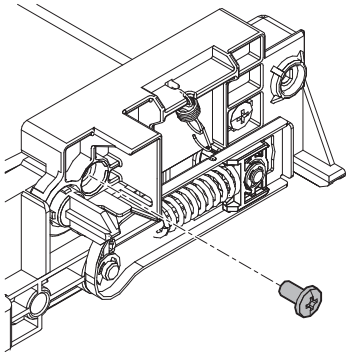

4) Remove the spring.



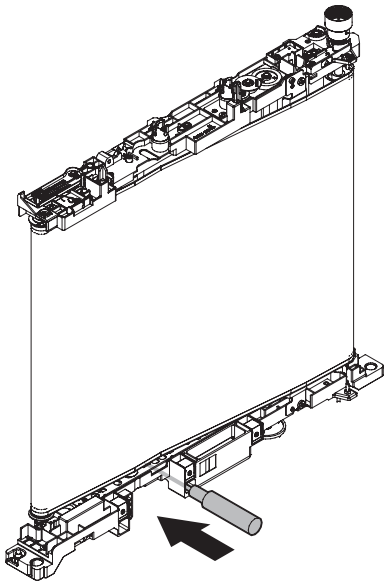
Important

Handle the belt carefully to avoid contact with floor.

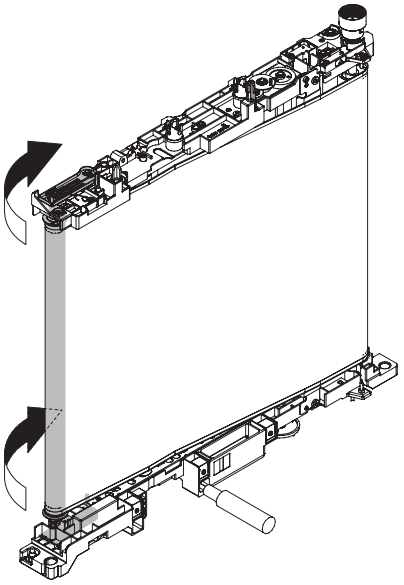
5) Remove the screw.



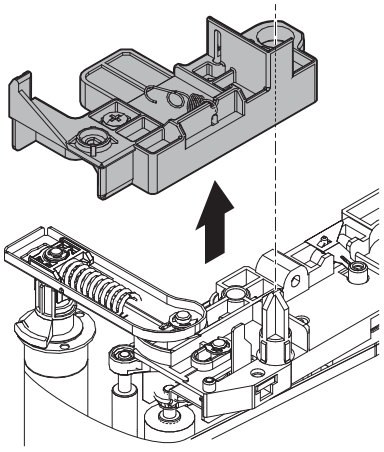
6) Insert a driver into the hole on the frame and set the unit upright.



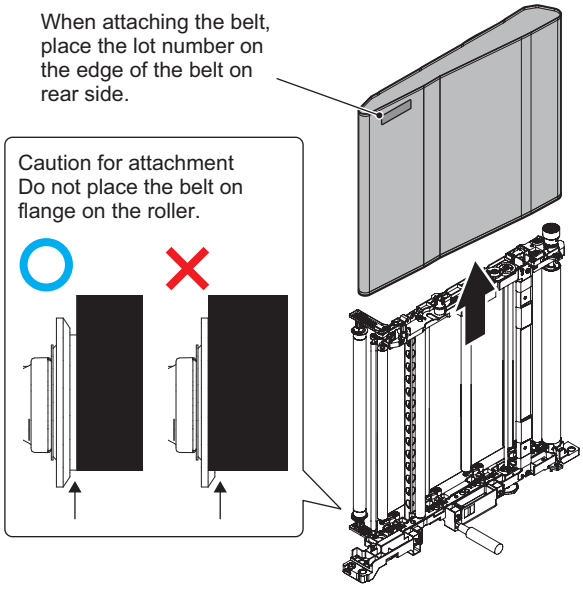
7) Fold the primary transfer belt followed roller.



8) Remove the sub frame.



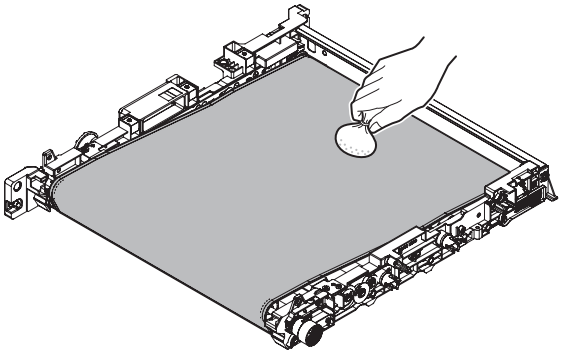
9) Pull out the primary transfer belt slowly.




**NOTE:** Caution for attachment

Follow the steps below after replacing the primary transfer belt.

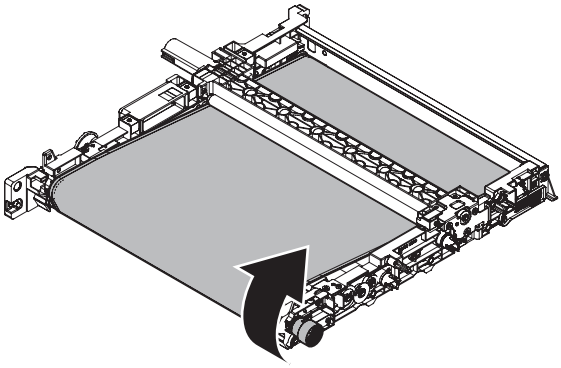
1) Apply Y powder (CKOG-0345DS51) on entire surface of the primary transfer belt with primary transfer cleaner unit being removed.



2) Attach the primary transfer cleaner unit.
3) Manually rotate the primary transfer belt drive gear and remove the powder applied on the primary transfer belt.

Important

Confirm proper rotation direction. Never rotate in inverse direction.



**c. Primary transfer toner reception sheet F/R**

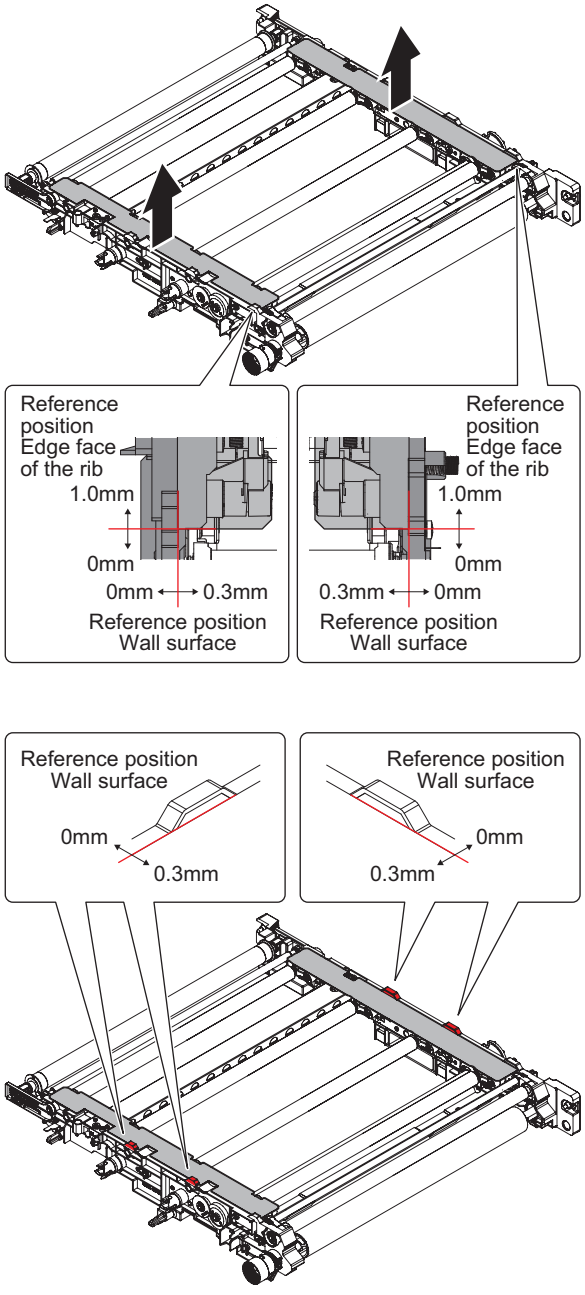
1) Remove the primary transfer toner reception sheet F/R

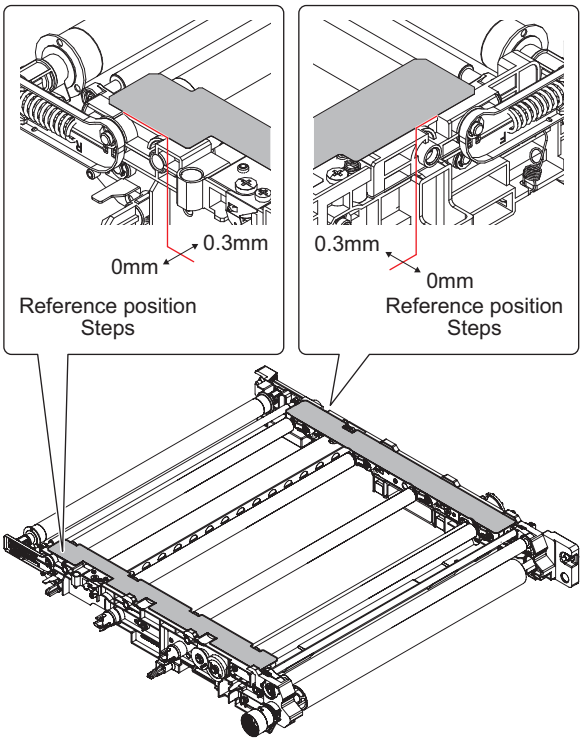
Important

When replacing the primary transfer toner reception sheet F/R, affix the sheets based on the reference position.

Important

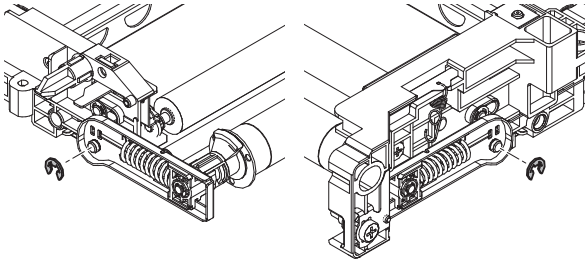
Before affixing new primary transfer toner reception sheet F/R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.



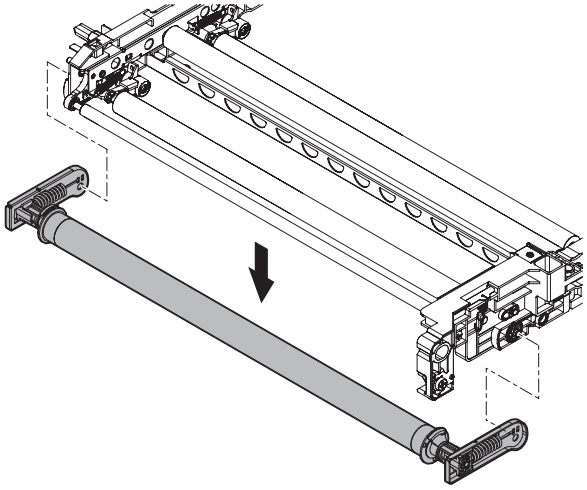



**d. Primary transfer tension roller**

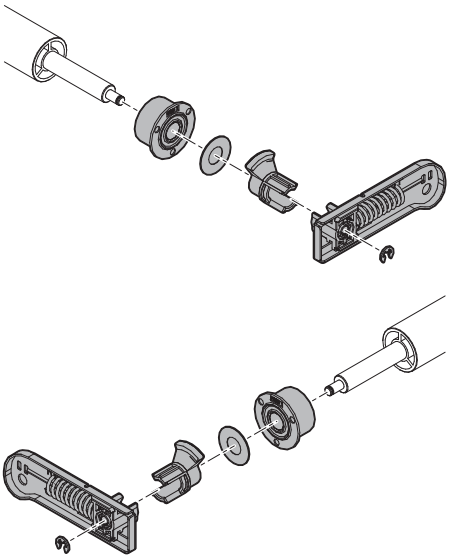
1) Remove the E-rings.



2) Remove the primary transfer tension roller assembly.

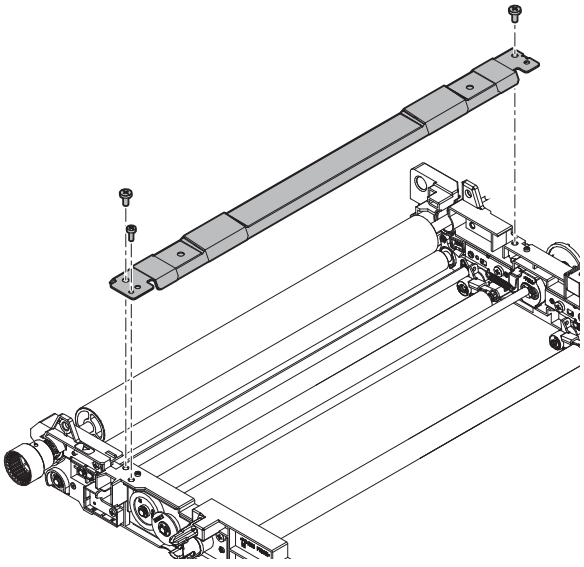


3) Remove the E-rings, the arms, the collars and the poly sliders.



**e. Resist backup stay cushion**

1) Remove the resist backup stay.



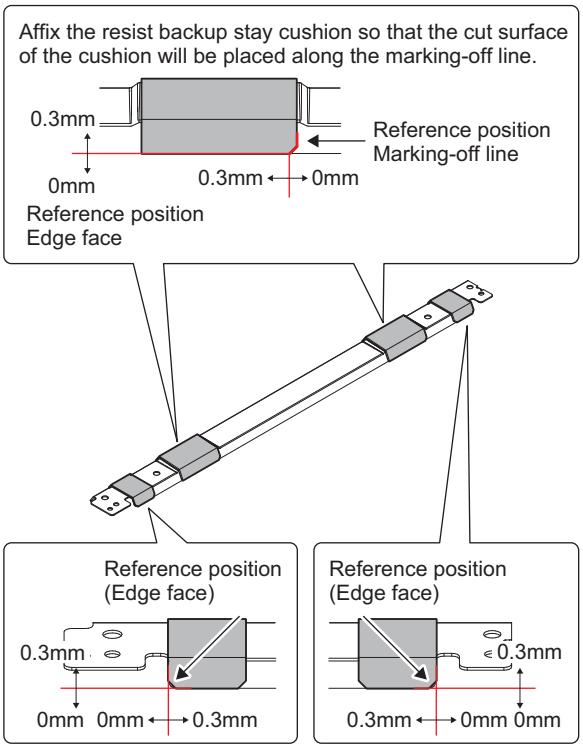
2) Remove the resist backup stay cushions.

Important

When replacing the resist backup stay cushion, attach the cushion based on the reference position.

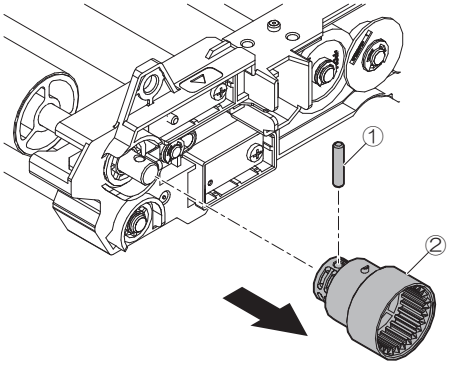
Important

Before affixing new resist backup stay cushion, make sure to remove any foreign material and remaining adhesive from affixing surface completely.



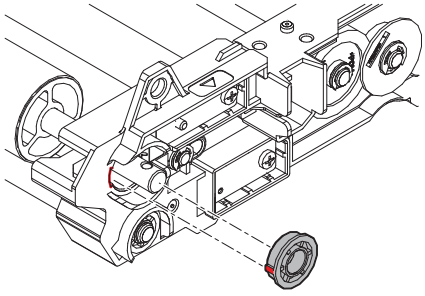

**f. Primary transfer drive gear**

1) Pull out the pin and remove the primary transfer drive gear.

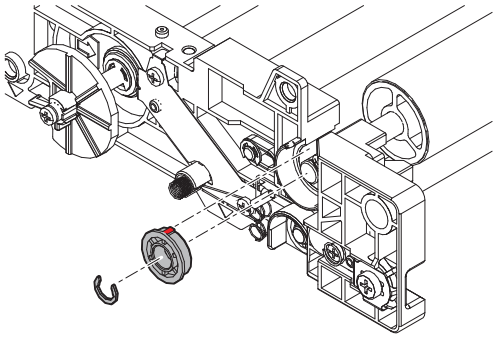



**g. Primary transfer drive roller**

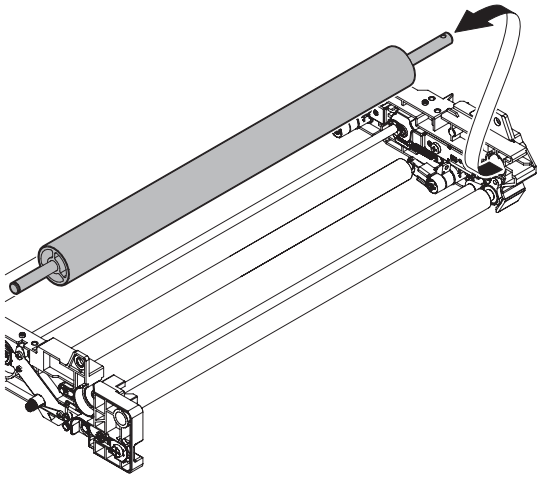
1) Remove the bearing.



2) Remove the clip and the bearing.

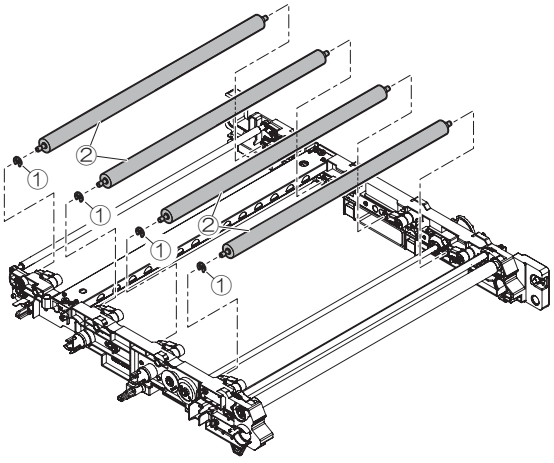


3) Remove the primary transfer drive roller.



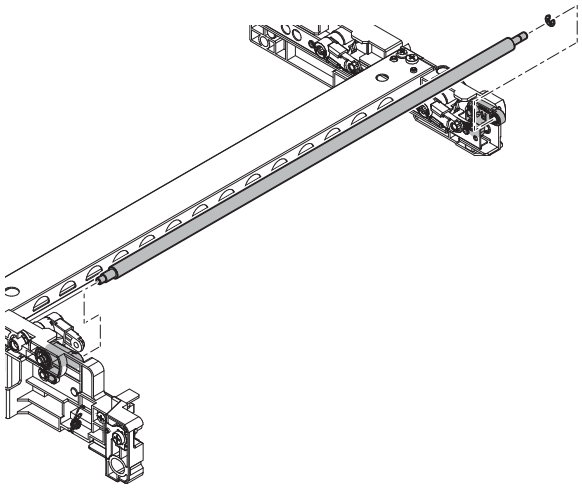
**h. Primary transfer roller**

1) Remove the E-rings and the primary transfer rollers.



**i. Y auxiliary roller**

1) Remove the E-ring and the Y auxiliary roller.

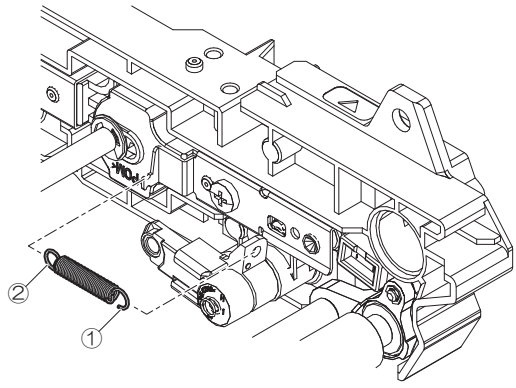


**j. Primary transfer blade backup roller sheet**

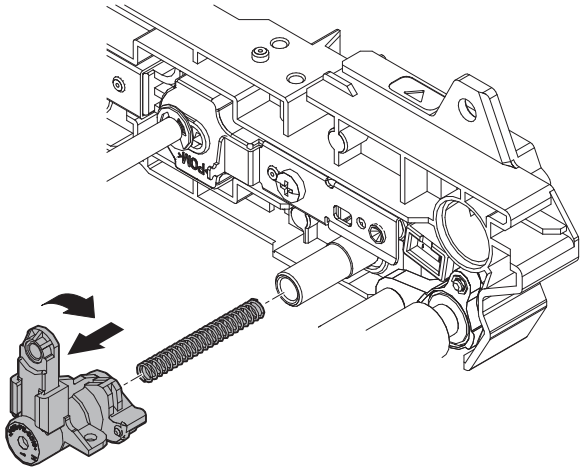
1) Remove the spring.

Important

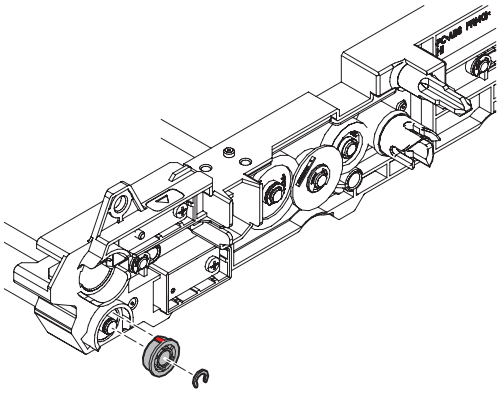
When attaching the spring, attach in order of (1) - (2).



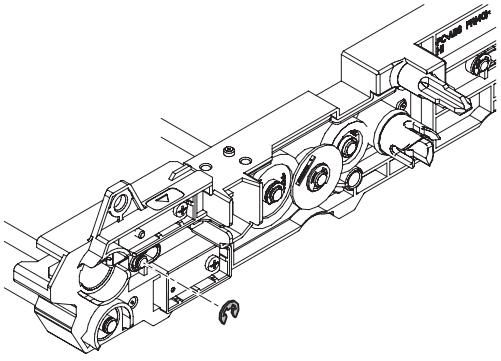

2) Remove the arm holder and the spring.



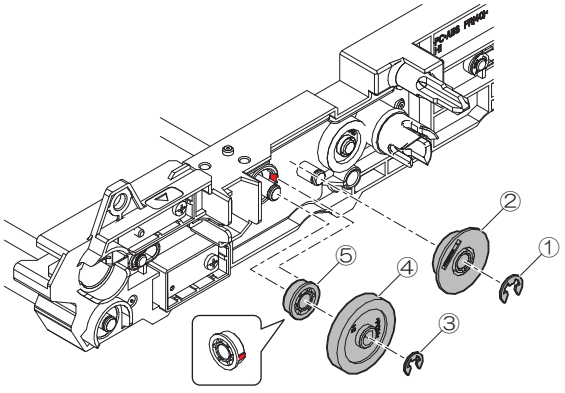
3) Remove the clip and the bearing.



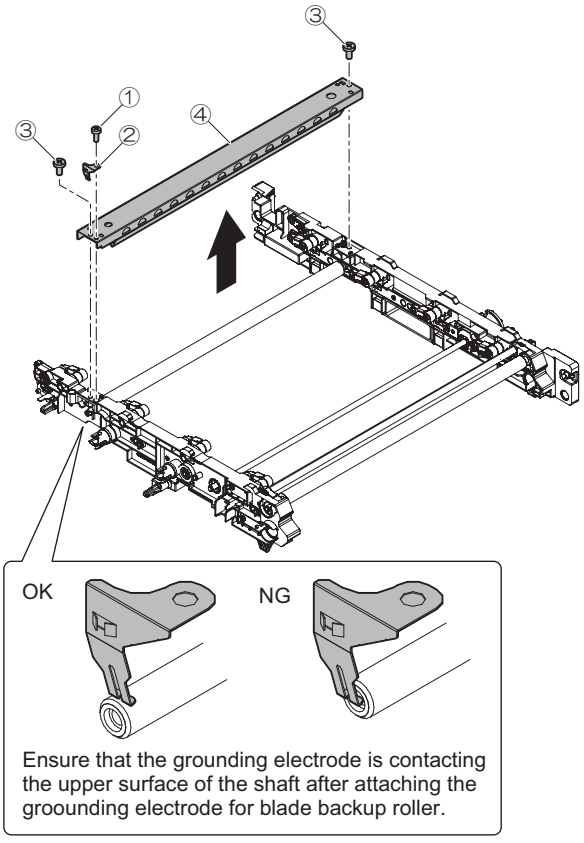
4) Remove the E-ring.



5) Remove the E-rings, the gears and the bearing.



6) Remove the parts in the order of a screws, the grounding electrode for blade backup roller, and the frame.



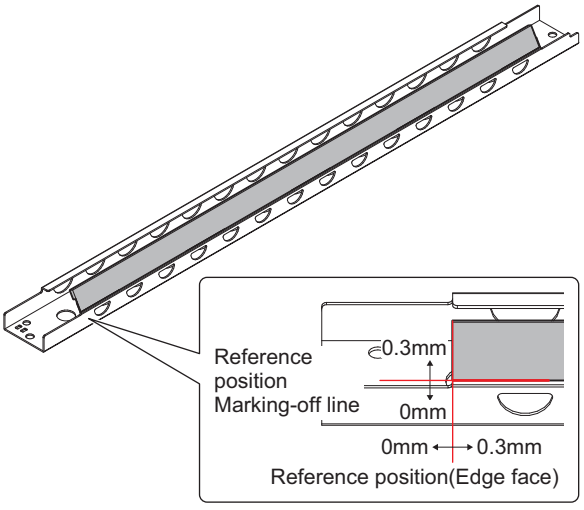

7) Remove the primary transfer blade backup roller sheet.

Important

When replacing the primary transfer blade backup roller sheet, affix the sheet based on the reference position.

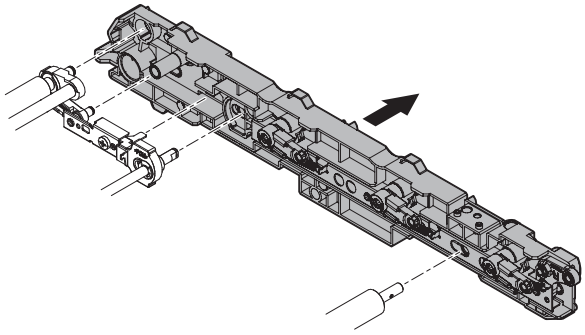
Important

Before affixing new primary transfer blade backup roller sheet, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

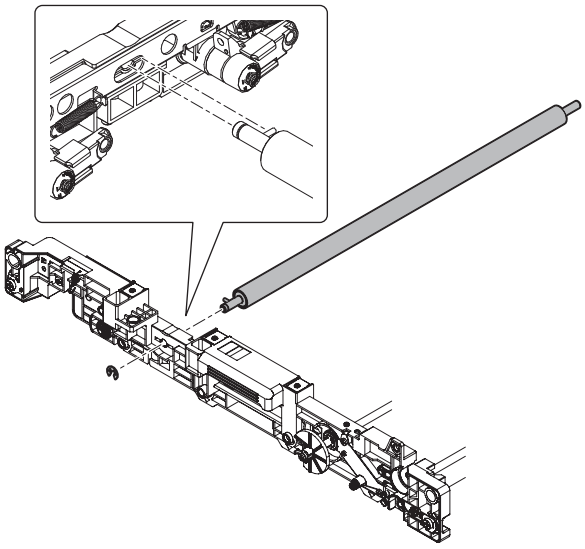



**k. Primary transfer blade backup roller**

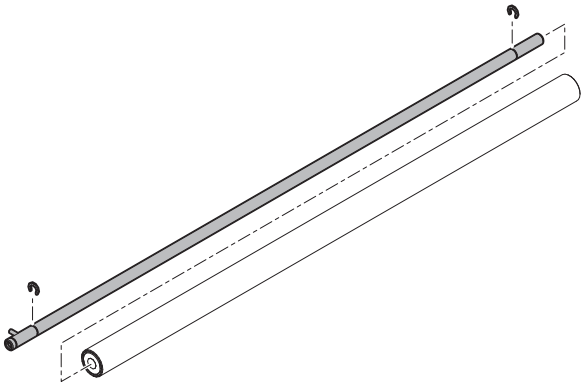
1) Remove the primary transfer frame R.



2) Remove the E-ring and the primary transfer blade backup roller.



3) Remove the clip and the shaft.



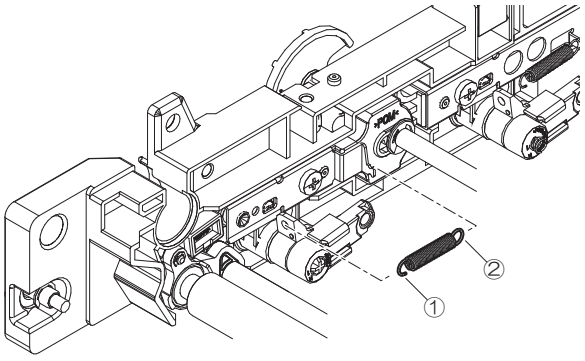
**l. Pre-transfer roller**

**m. BK auxiliary roller**

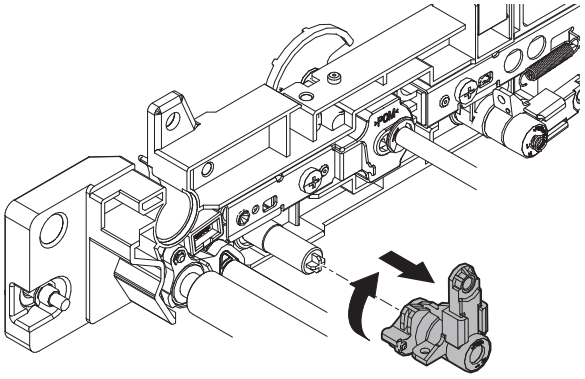
1) Remove the spring.

Important

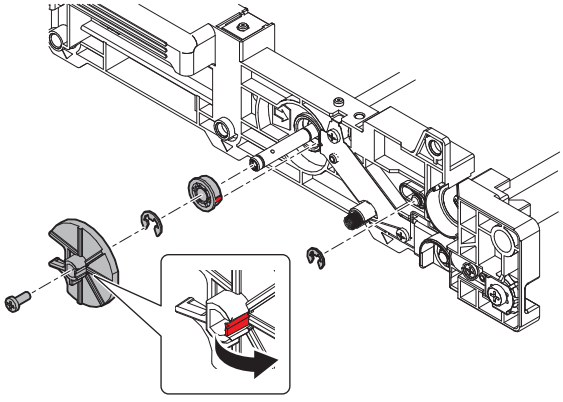
When attaching the spring, attach in order of (1) - (2).



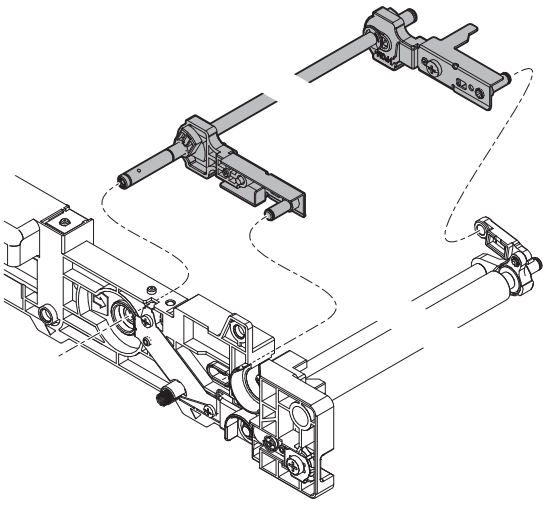

2) Remove the arm holder.



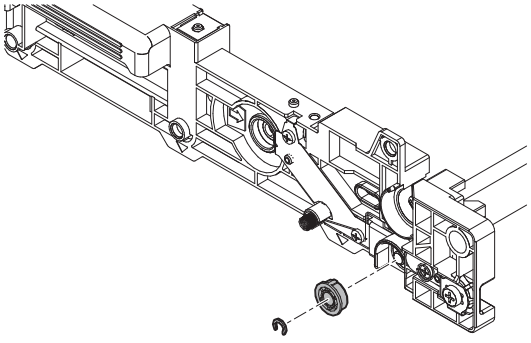
3) Remove the screw, the cam, the E-rings and the bearing.



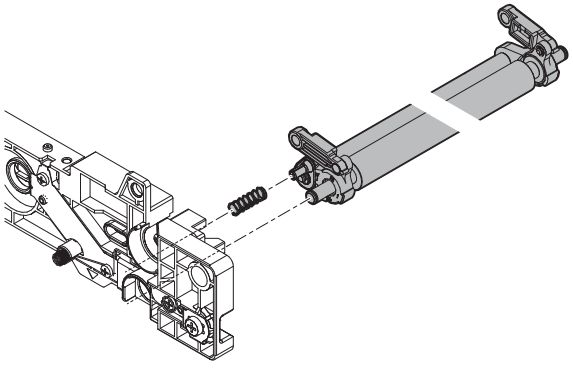
4) Remove the shaft assembly.



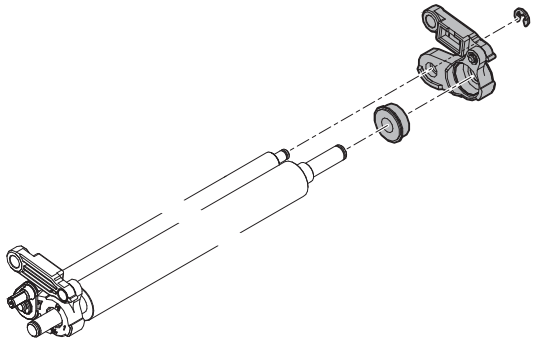
5) Remove the clip and the bearing.



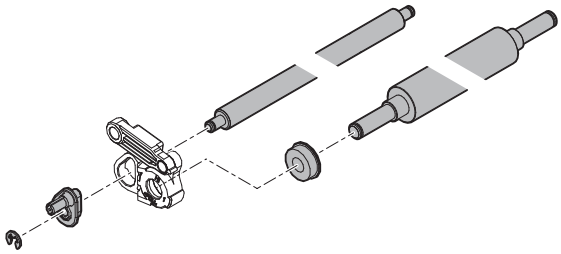
6) Remove the spring and the pre-transfer roller assembly.



7) Remove the E-ring, the arm and the bearing.

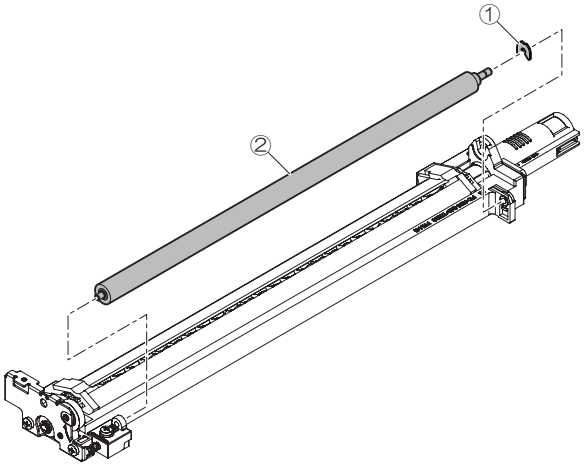


8) Remove the E-ring, the holder, the bearing, the pre-transfer roller and the BK auxiliary roller.



**n. Cleaning roller**

1) Remove the E-ring and the cleaning roller.




**o. Primary transfer cleaner sub blade**

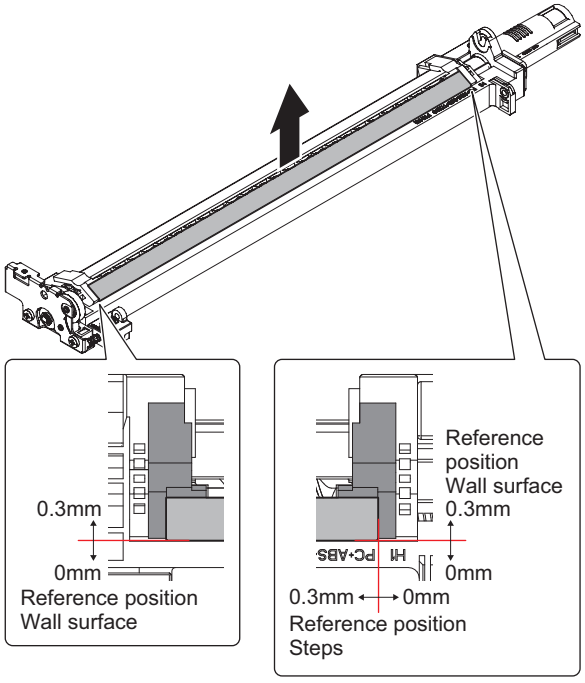
1) Remove the primary transfer cleaner sub blade.

Important

Before replacing the primary transfer cleaner sub blade, affix the blade based on the reference position.

Important

Before affixing new primary transfer cleaner sub blade, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




**p. Primary transfer cleaner seals F/R**

1) Remove the primary transfer cleaner seals F/R.

Important

When replacing the primary transfer cleaner seals F/R, affix the seals based on the reference position.

Important

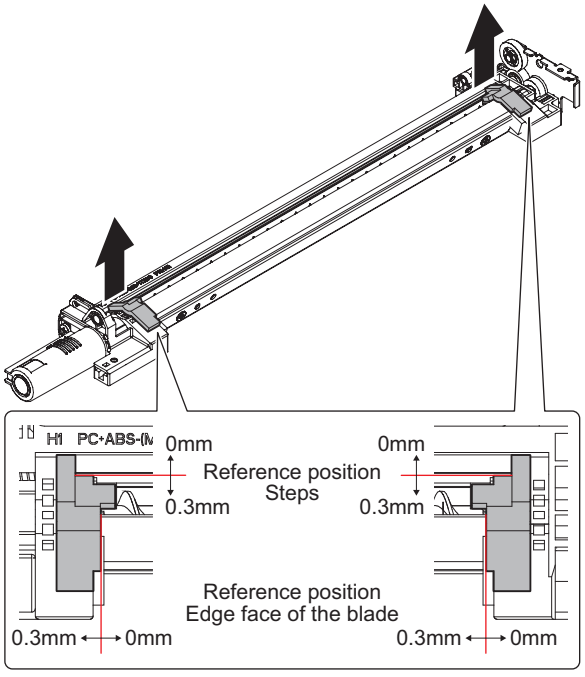
Do no place any part of the seals on top of the blade.

Important

The seals should not get stuck at rubber section on the cleaner blade.

Important

Before affixing new primary transfer cleaner seals F/R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.




**q. Primary transfer cleaner blade**

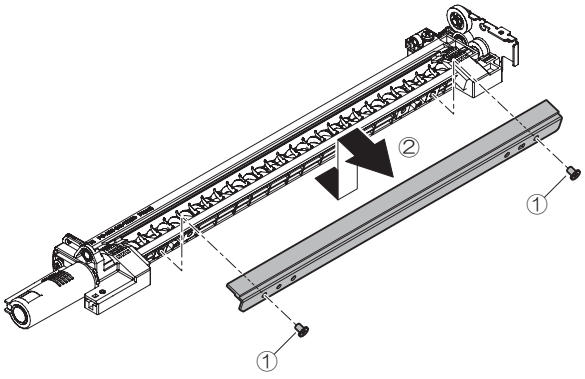
1) Remove the screw and primary transfer cleaner blade.

Important

Do not touch the edge of the blade.

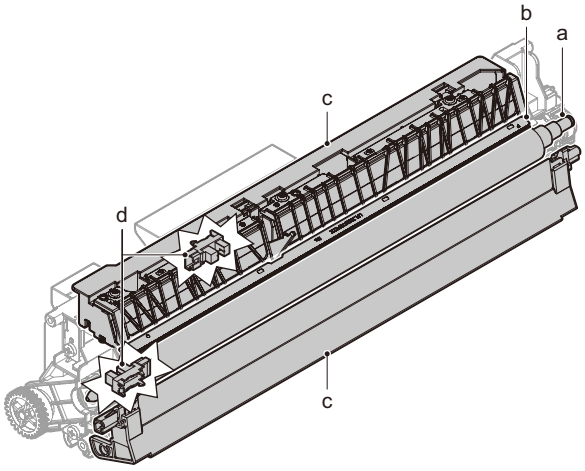
Important

Do not deform the toner agitation sheet when attaching the blade.



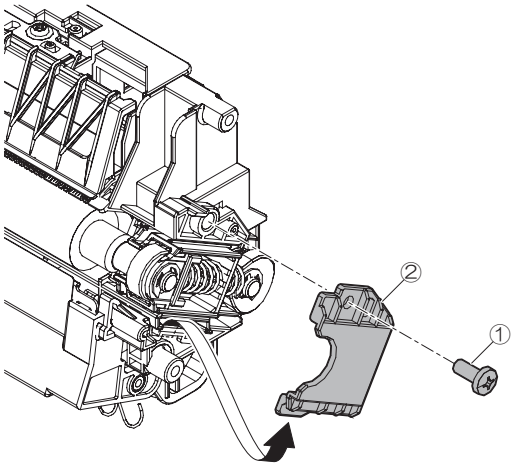

### (2) Secondary transfer unit

| Part No. | Part name |
|---|---|
| a | Secondary transfer roller |
| b | Secondary transfer separation plate |
| c | Paper guide |
| d | Sensors |

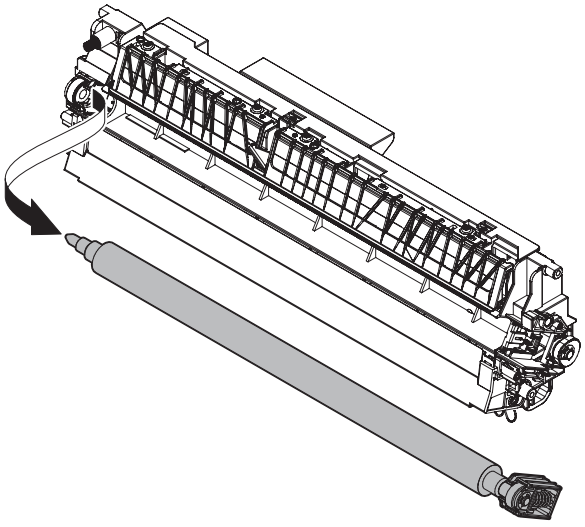



**a. Secondary transfer roller**

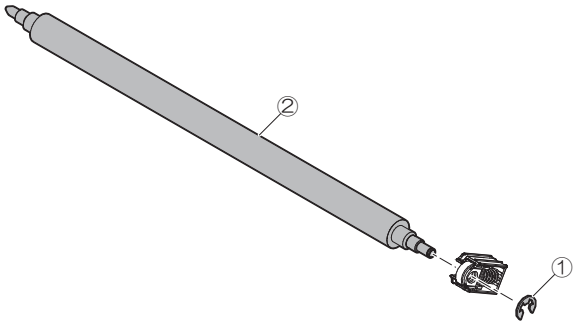
1) Remove the screw and the cover




2) Remove the secondary transfer roller sub unit



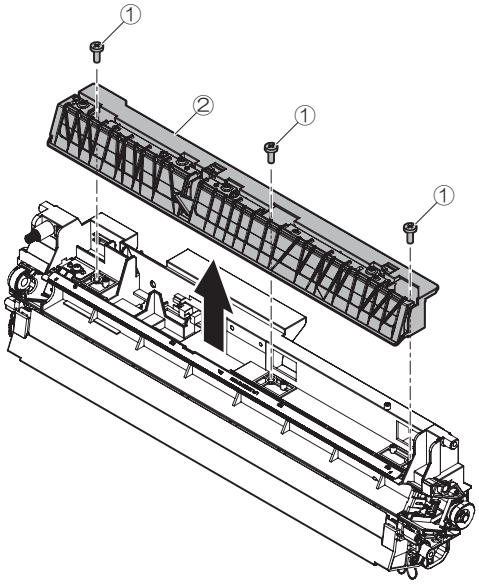
3) Remove the E-ring and the secondary transfer roller




**b. Secondary transfer separation plate**

**c. Paper guide**

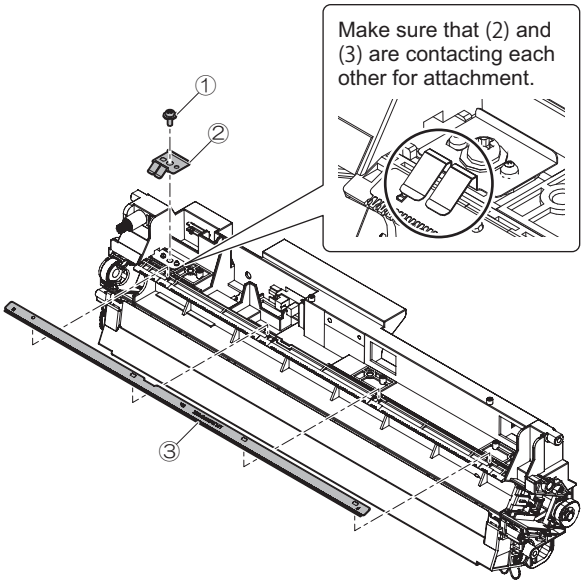
1) Remove the screw and the cover




2) Remove the screw, the separating electrode connecting plate and the secondary transfer separation plate.

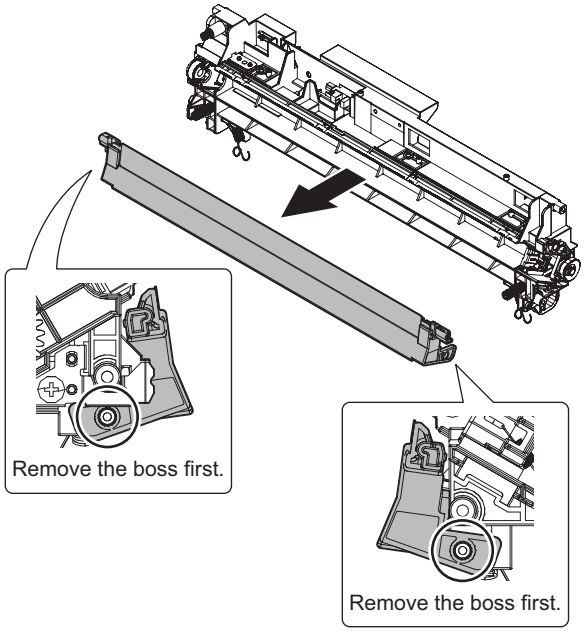
Important

Do not put any oil content etc. by directly touching the separating electrode connecting plate and the secondary transfer separation plate with your hand.




**d. Paper guide**

1) Remove the plate



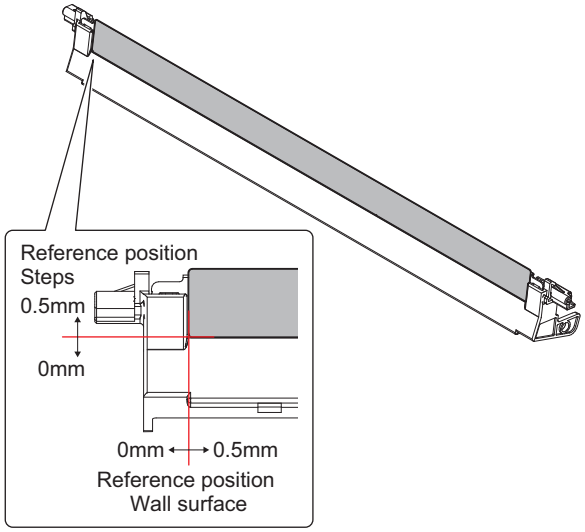

2) Remove the sheet

Important

When replacing the sheet, affix the sheet based on the reference position.

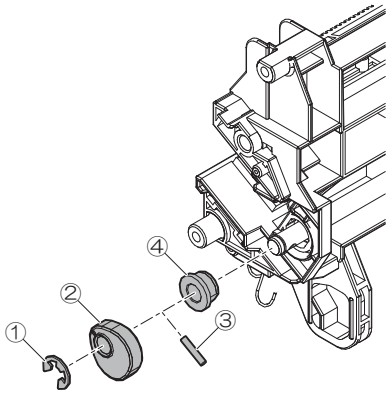
Important

Before affixing new sheet, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

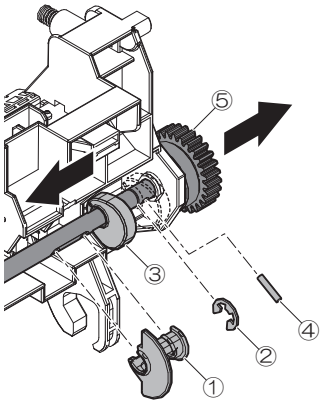


**e. Sensors**

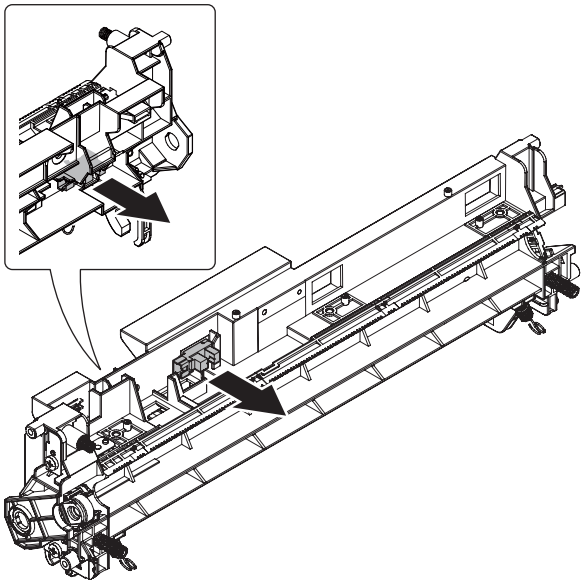
1) Remove the E-ring, secondary transfer separation sensor cam, pin, and bearing.




2) Remove the secondary transfer separation sensor cam and then E-ring. Slide secondary transfer separation cam. Remove the parallel pin and then remove the secondary transfer separation cam shaft sub assy.

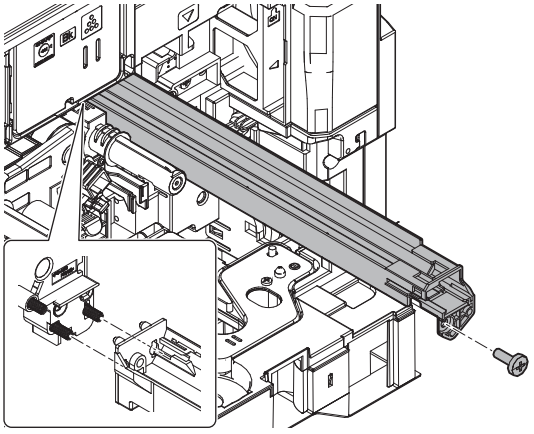



3) Remove the sensor



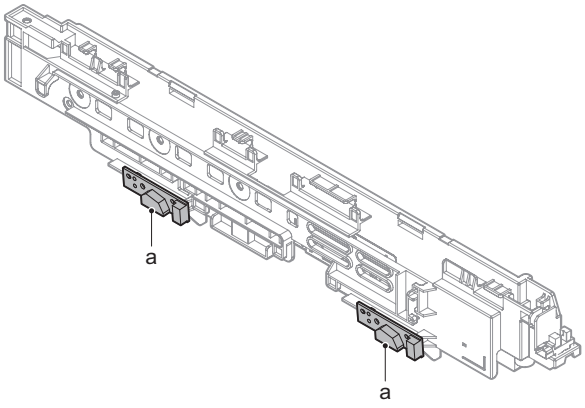
### (3) PTC outer holder

1) Remove the primary transfer unit.
2) Remove the PTC unit.
3) Remove the PTC outer holder.



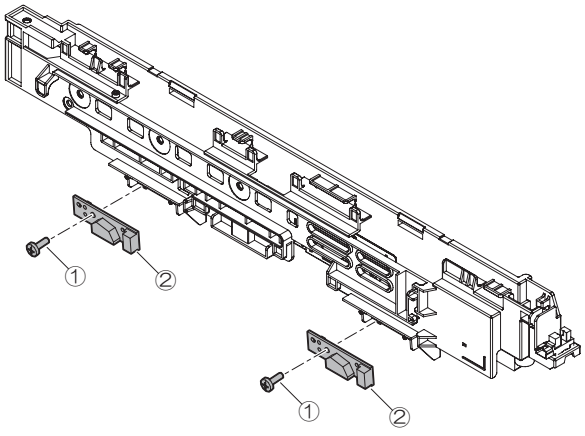
### (4) Registration sensor unit

| Part No. | Part name |
|---|---|
| a | Image density and image registration sensor |




**a. Image density and image registration sensor**

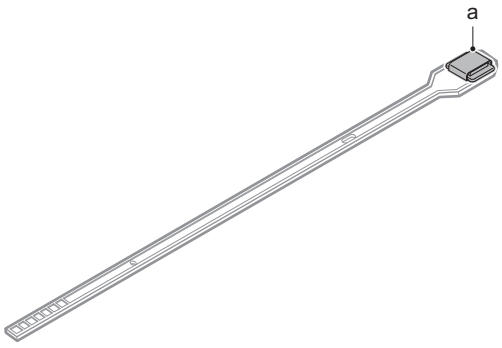
1) Remove the Image density and image registration sensor.



## G. LSU section

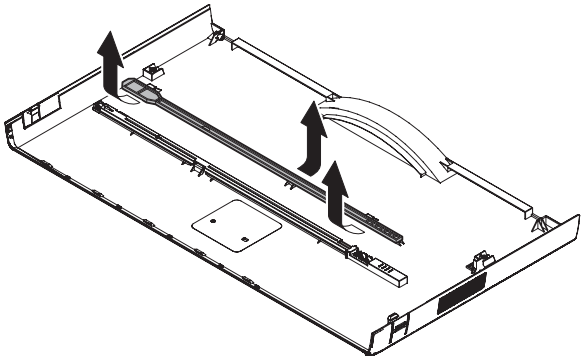
### (1) LSU unit

| Part No. | Part name |
|---|---|
| a | Cleaning base |

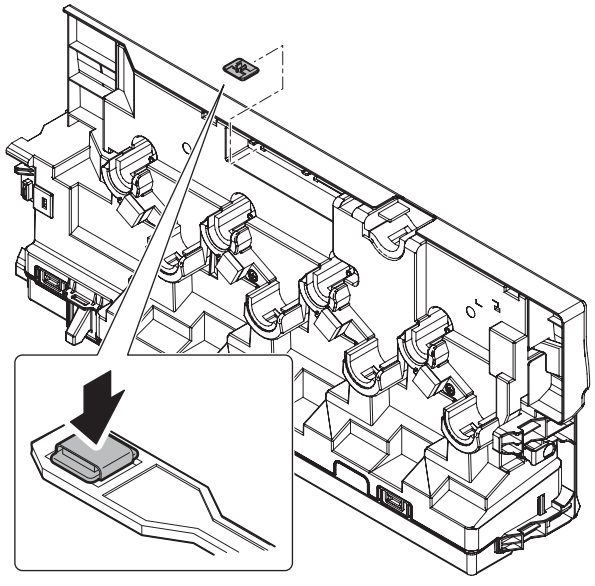



**a. Cleaning base**

1) Open the cover and remove the LSU cleaning bar.



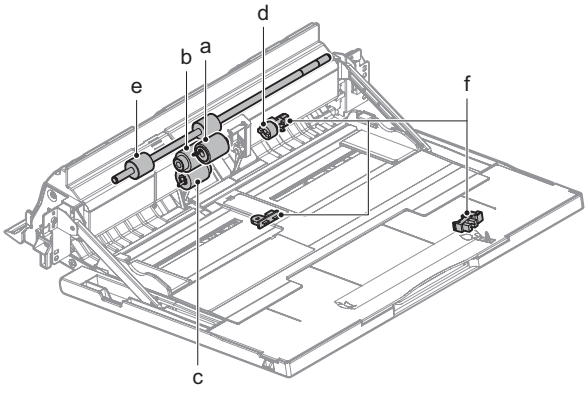
2) Remove the waste toner box
3) Remove the cleaning base from the waste toner box and attach it to the LSU cleaning bar.



## H. Manual paper feed section

### (1) Manual paper feed unit

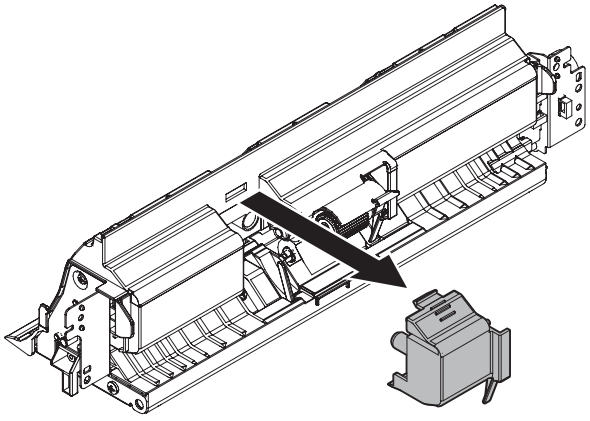
| Part No. | Part name |
|---|---|
| a | Paper pickup roller |
| b | Paper feed roller |
| c | Separation roller |
| d | Torque limiter |
| e | Transport roller 10 |
| f | Sensors |



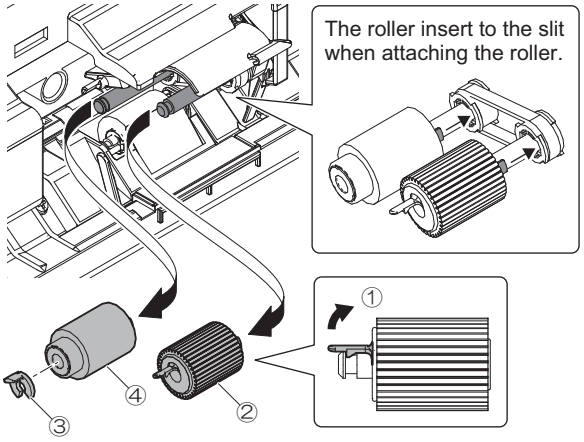

**a. Paper pickup roller**

**b. Paper feed roller**

1) Remove the cover

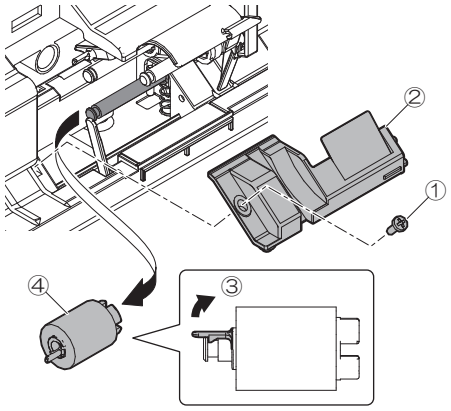


2) Uplift the pawl and detach the pickup roller. Remove the E-ring and detach the paper feed roller.



**c. Separation roller**

1) Remove a screw and then detach the paper guide. Uplift the pawl and then detach the separation roller.

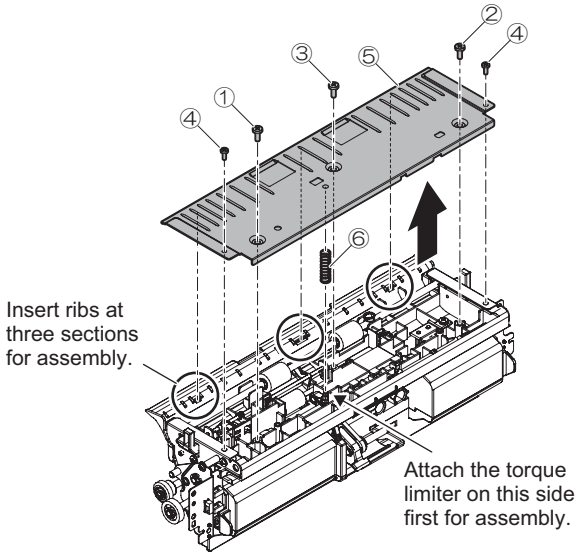



**d. Torque limiter**

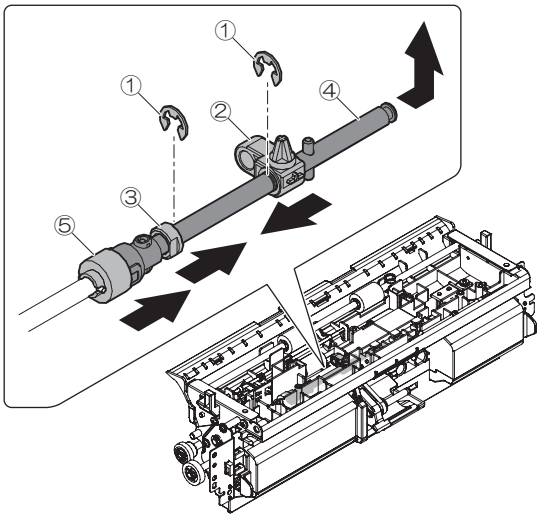
1) Remove the screw and the frame

Important

Fasten screws in the order of (1) and (2) for assembly.




2) Remove the E-ring and slide the holder and the bearing toward the direction of arrow in the illustration below. Remove the shaft and then remove the torque limiter.

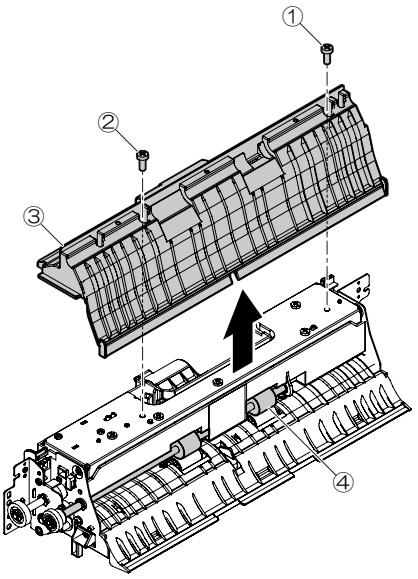



**e. Transport roller 10**

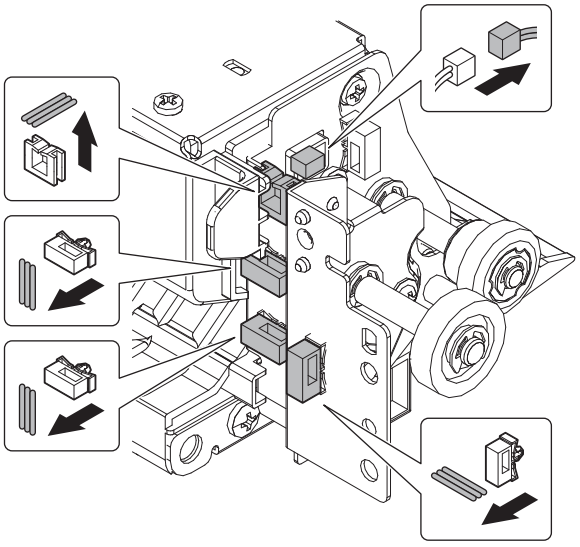
1) Remove the screw and the paper guide

Important

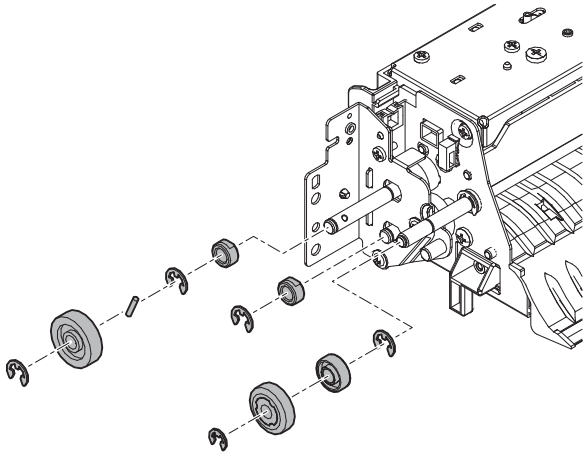
Fasten screws in the order of (1) and (2) for assembly.



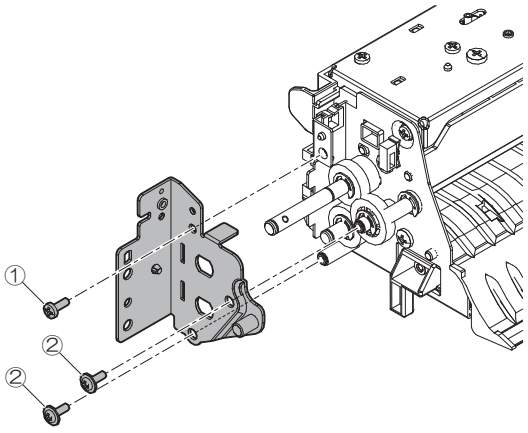

2) Disconnect the connector. Remove the harness.



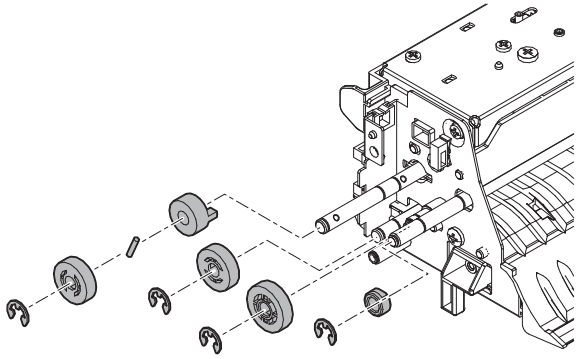
3) Remove the E-ring, the gear, the collar, the pin and the bearing.



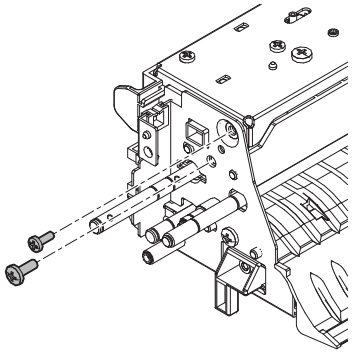
4) Remove the screws and the frame.



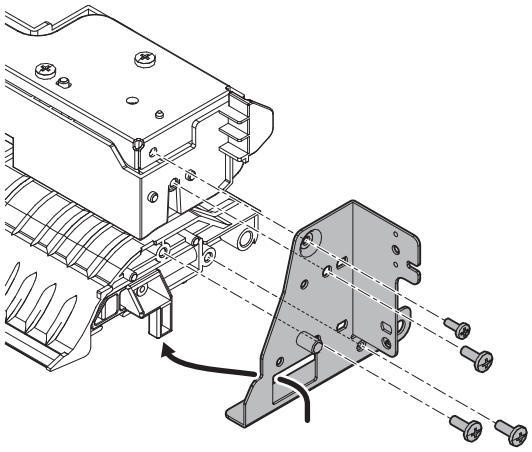

5) Remove the E-rings, the gears, the pin, the coupling and the bearing.



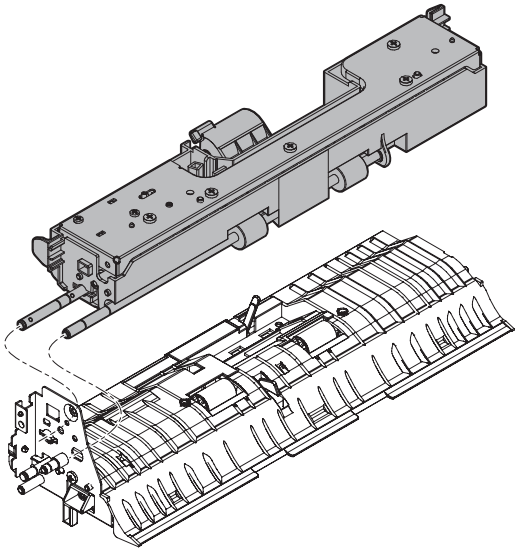
6) Remove the screws.



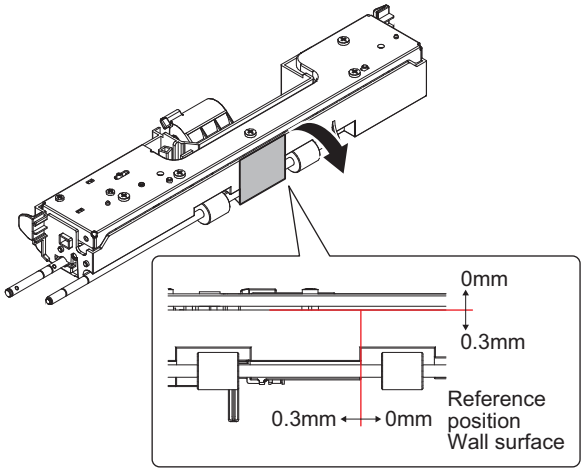
7) Remove the screws and the frame.



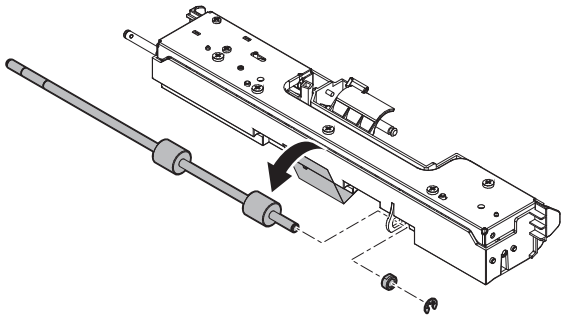
8) Remove the paper guide assembly.



9) Remove the sheet.

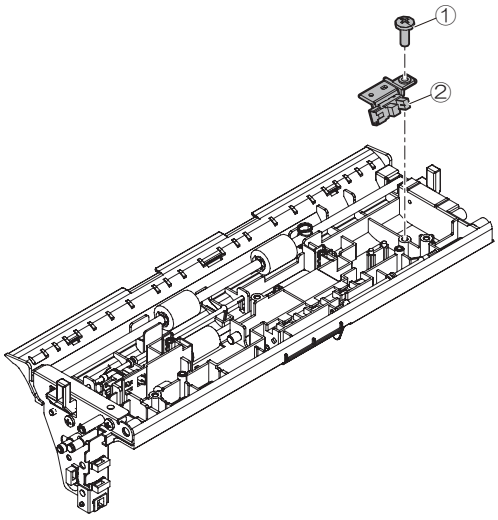


10) Remove the E-ring, the bearing and the transport roller 10.

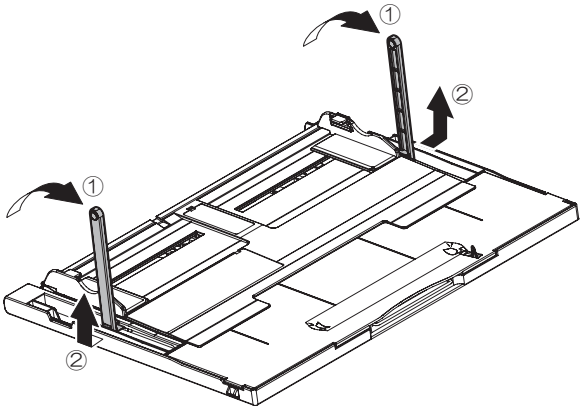


**f. Sensors**

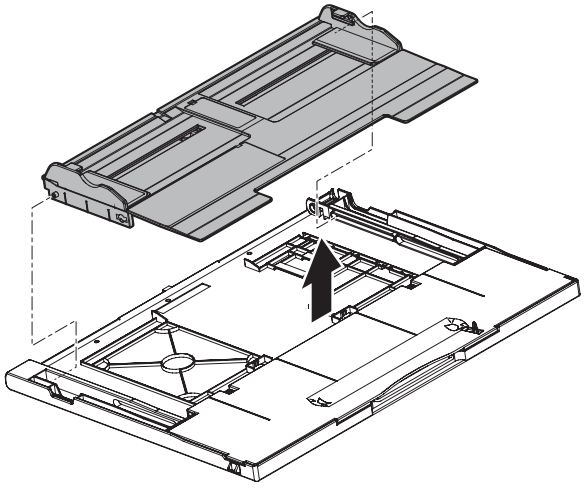
1) Remove the screw and the sensor



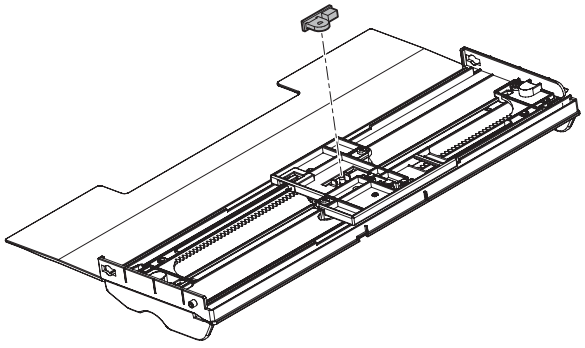

2) Remove the arm



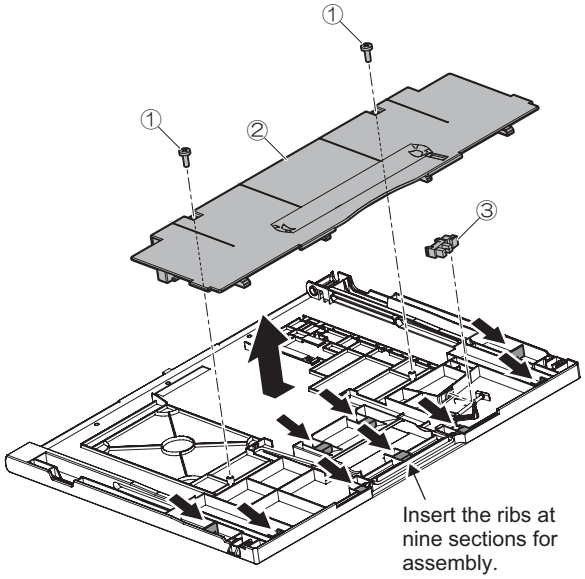

3) Remove the tray



4) Remove the sensor



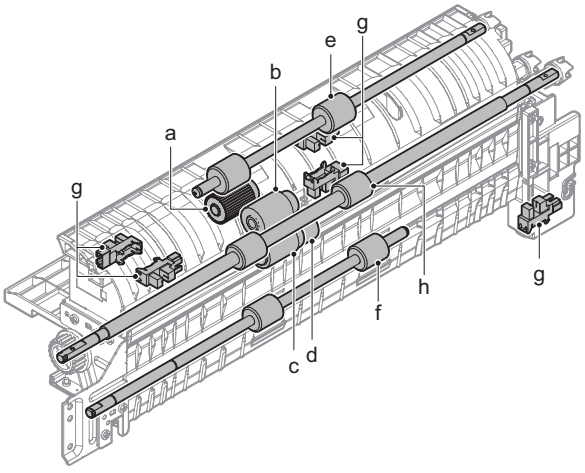
5) Remove the screw, the tray and the sensor



## I. Tray paper feed section

### (1) Tray paper feed unit

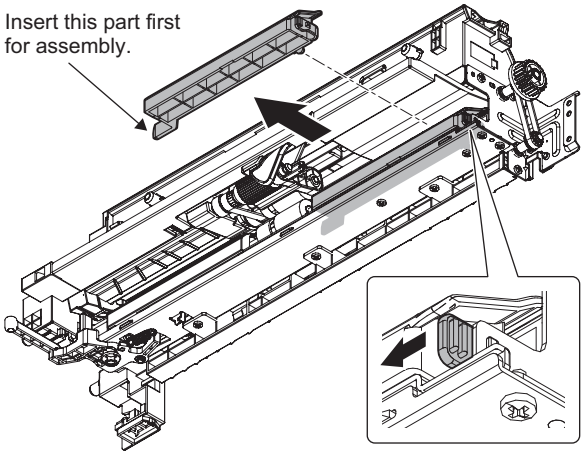
| Part No. | Part name |
|---|---|
| a | Paper pickup roller |
| b | Paper feed roller |
| c | Separation roller |
| d | Torque limiter |
| e | Transport roller 3 |
| f | Transport roller 1 |
| g | Sensors |
| h | Transport roller 2 |



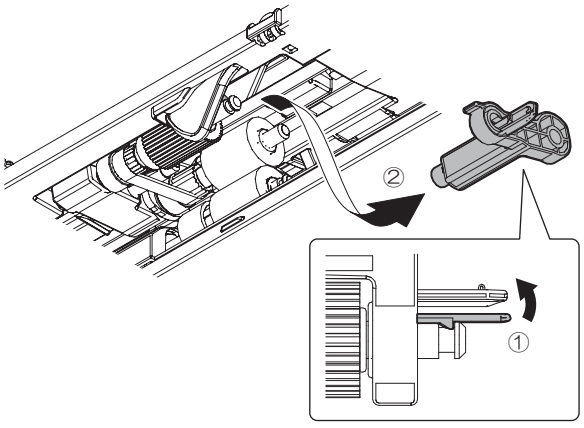

**a. Paper pickup roller**

**b. Paper feed roller**

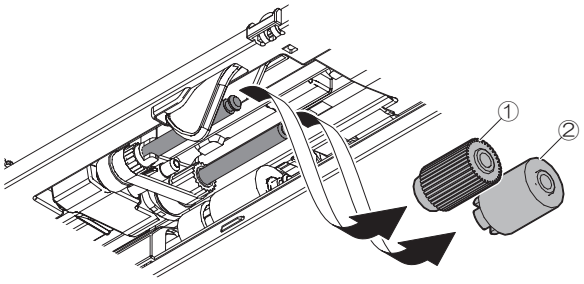
1) Remove the paper guide




2) Remove the pawl and then remove the holder.



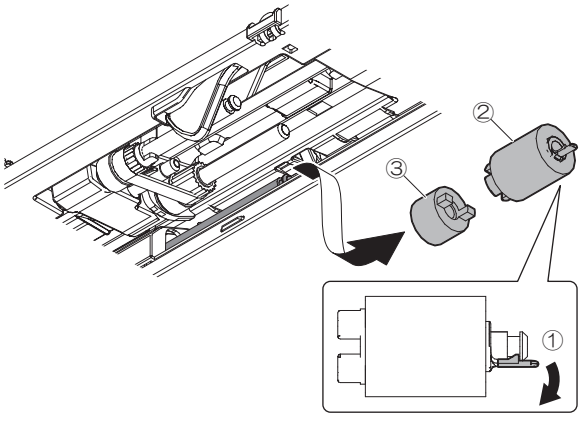

3) Remove the paper pickup roller and the paper feed roller




**c. Separation roller**

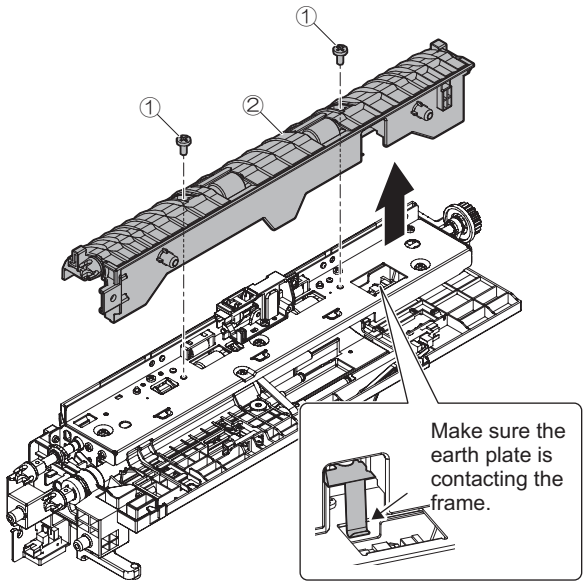
**d. Torque limiter**

1) Remove the pawl, separation roller and then torque limiter.

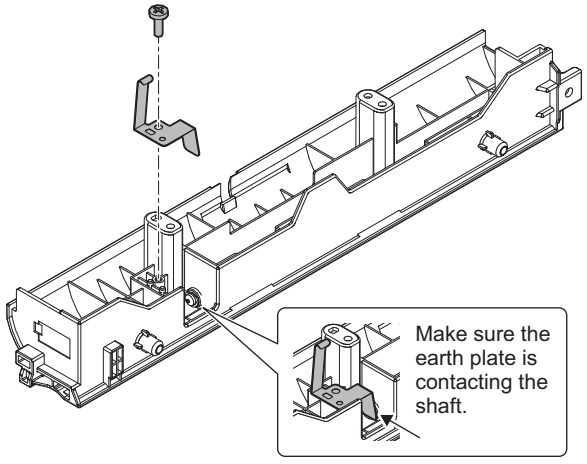


**e. Transport roller 3**

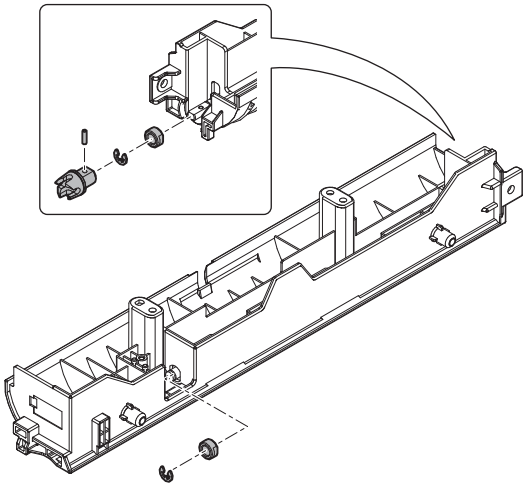
1) Remove the screws and the paper guide.



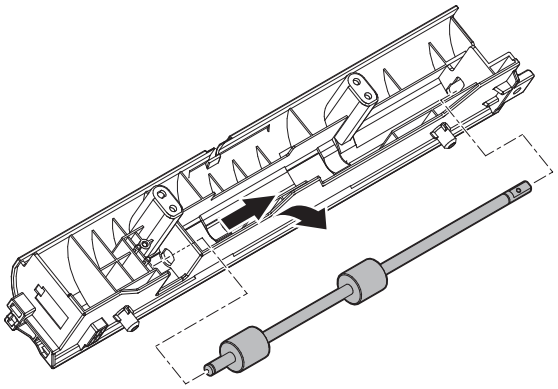

2) Remove the screw and the earth plate.




3) Remove the coupling, the pin, the E-rings and the bearings.

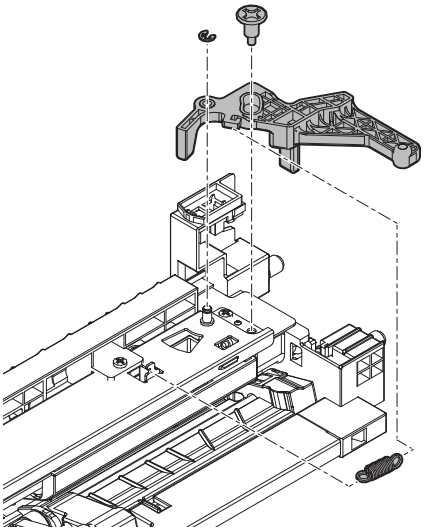


4) Remove the transport roller 3.

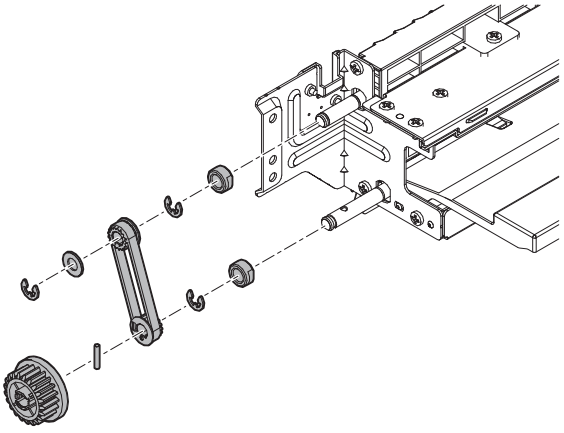


**f. Transport roller 1**

1) Remove the spring, the screw, the E-ring and the arm.



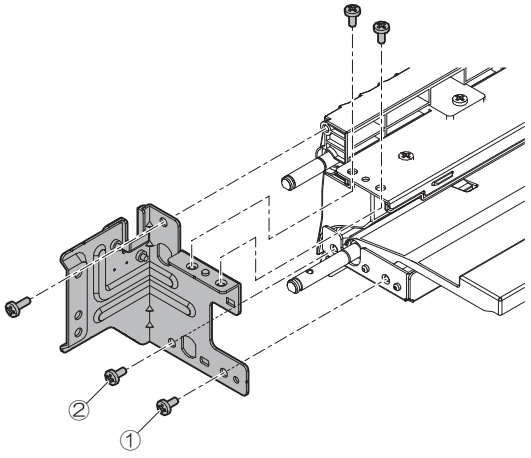
2) Remove the gear, the pin, the E-rings, the poly slider, the belt, the pulleys and the bearings.



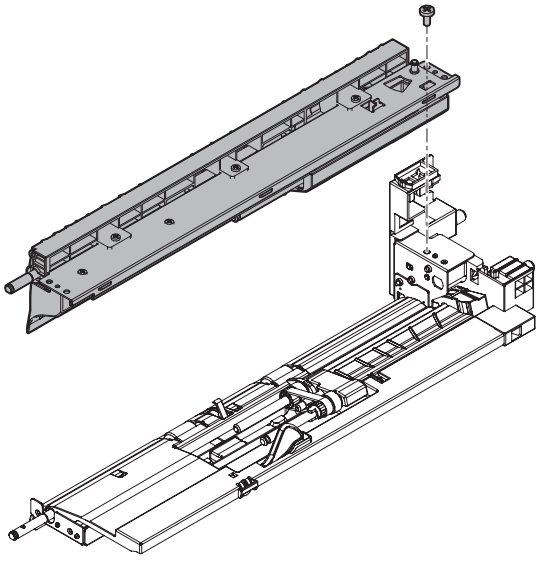
3) Remove the screws and the frame.

Important

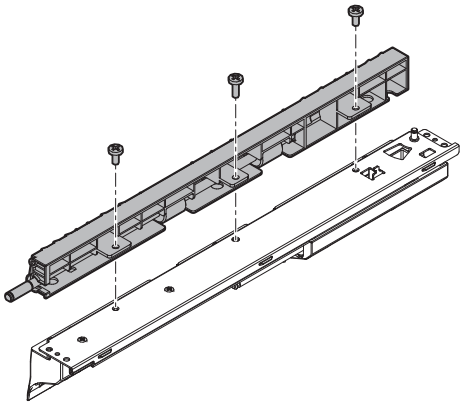
When attaching the frame, tighten the screw in the order of (1) - (2).



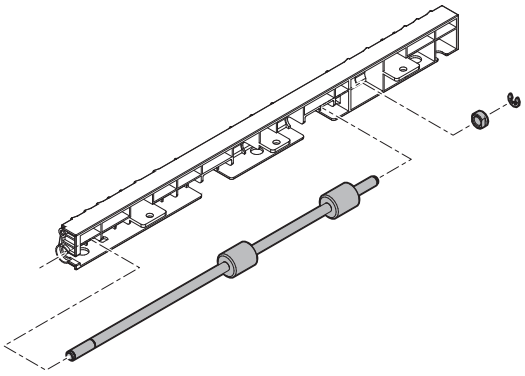

4) Remove the screw and the paper feed unit lower.



5) Remove the screws and the paper guide assembly.



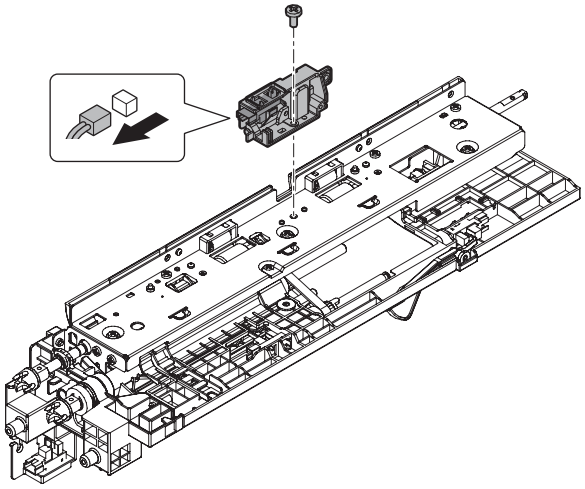
6) Remove the E-ring, the bearing and the transport roller 1.



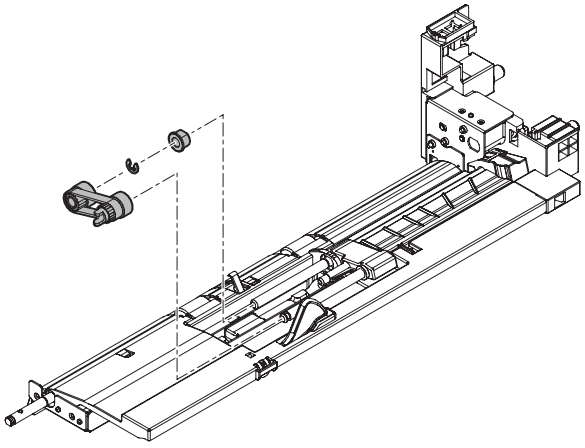
**g. Sensors**

**h. Transport roller 2**

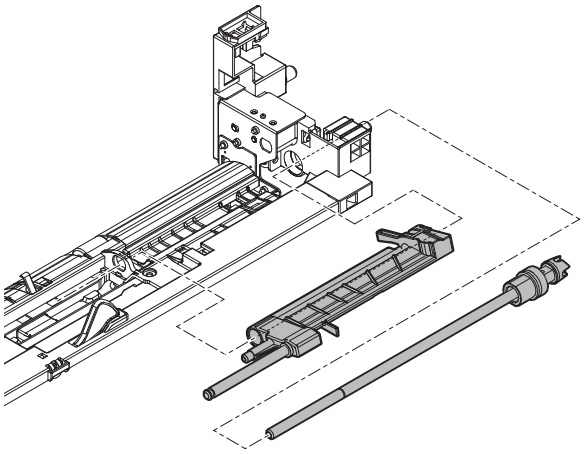
1) Disconnect the connector. Remove the screw and the sensor.



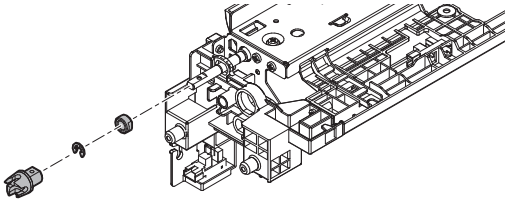
2) Remove the pulleys, the belt, the E-ring and the bearing.



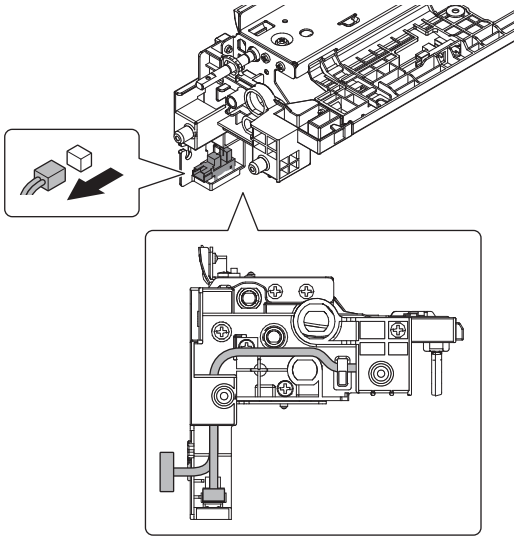
3) Remove the holder and the shaft assembly.



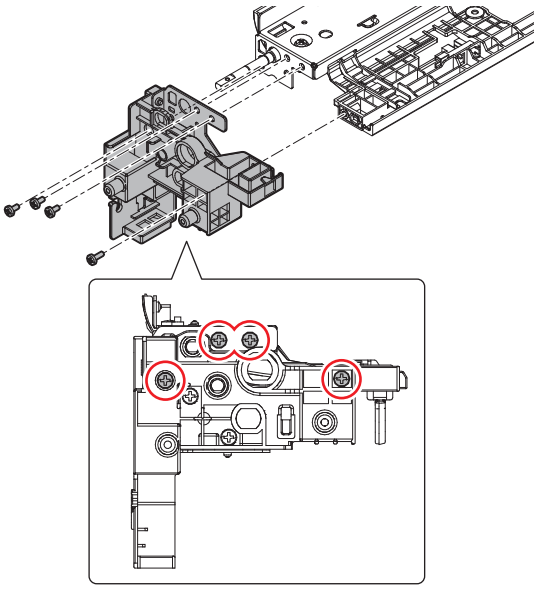
4) Remove the coupling, the E-ring and the bearing.



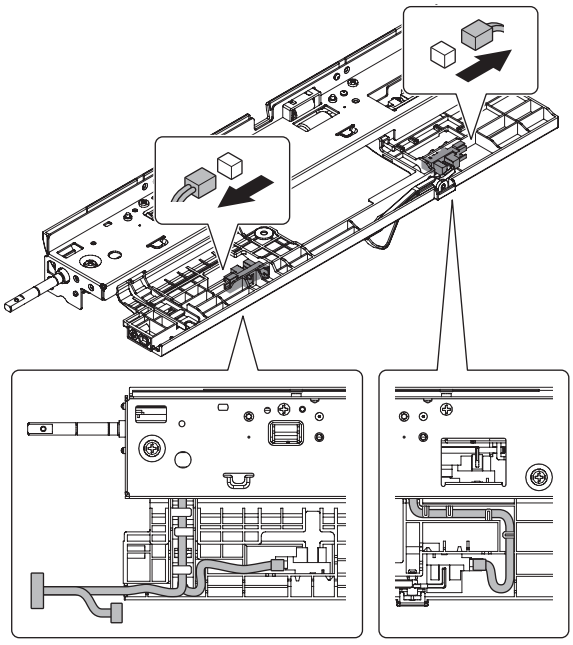
5) Disconnect the connector. Remove the sensor.
Remove the harness from rib.



6) Remove the screws and the frame.



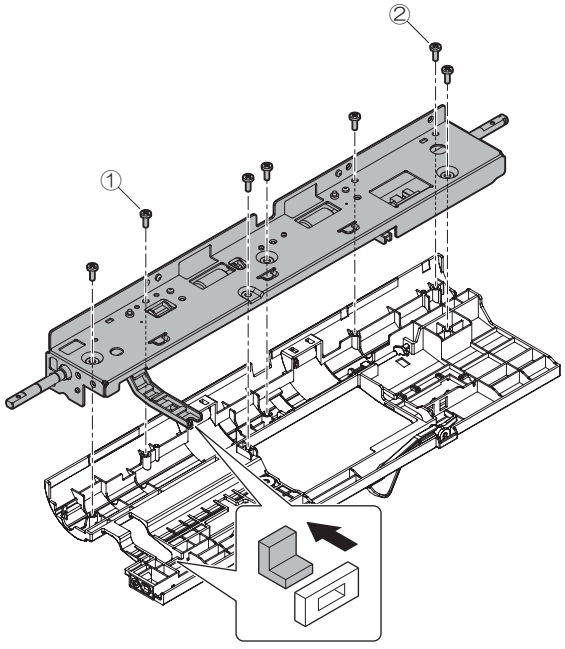
7) Disconnect the connectors. Remove the sensors.
Remove the harness from rib.



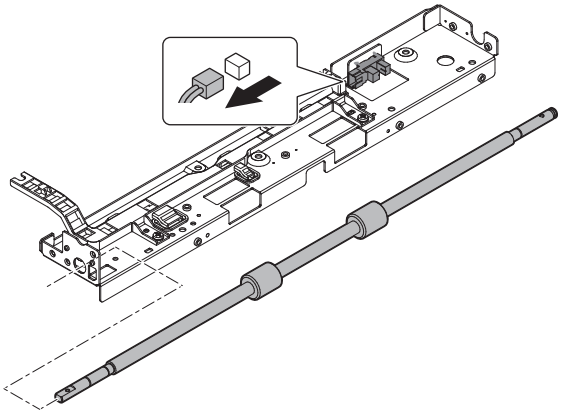
8) Remove the screws and the sheet metal assembly.

Important

When attaching the sheet metal assembly, tighten the screw in the order of (1) - (2).



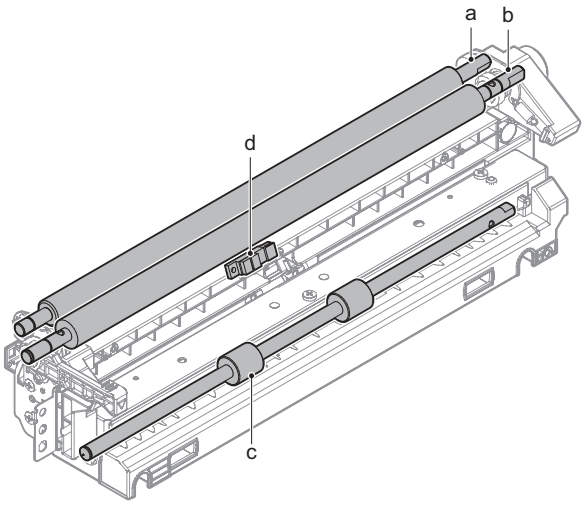

9) Disconnect the connector. Remove the sensor.
Remove the transport roller 2.



## J. Paper transport section / ADU section / Paper exit section

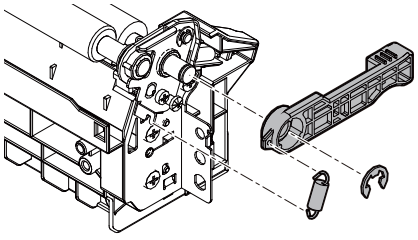
### (1) PS unit

| Part No. | Part name |
|---|---|
| a | Registration roller (idle) |
| b | Registration roller (drive) |
| c | Transport roller 4 |
| d | Sensor |




**a. Registration roller (idle)**

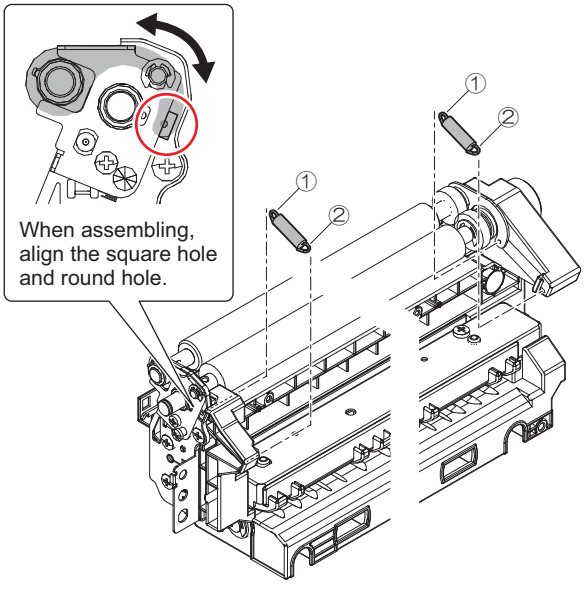
1) Remove the spring, the E-ring and the handle.



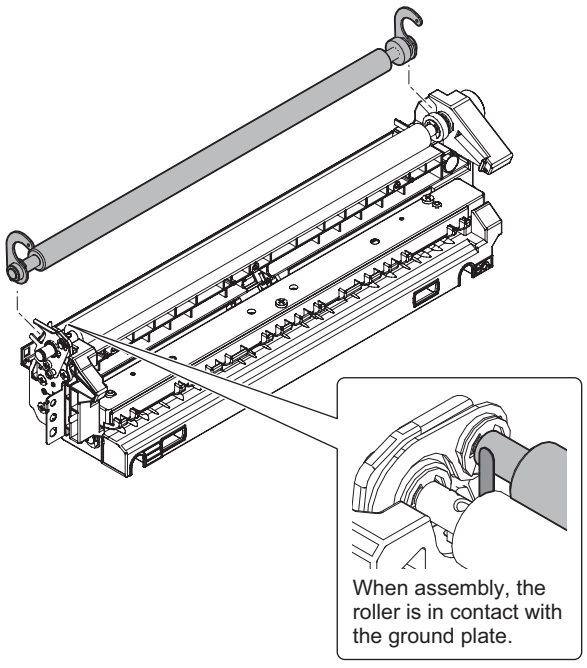
2) Remove the spring.

Important

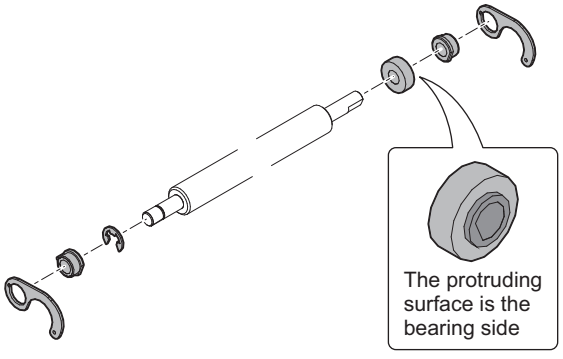
When attaching the spring, attach in order of (1) - (2).



3) Remove the registration roller (idle) assembly.

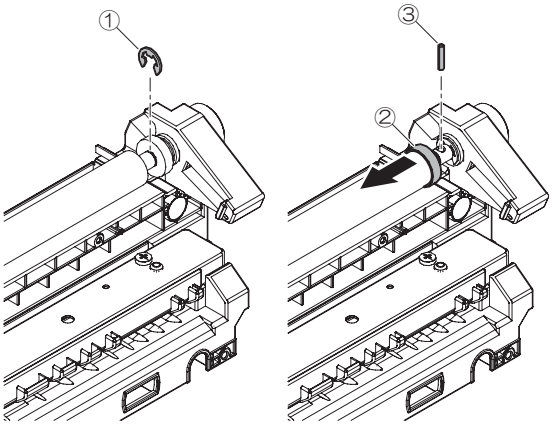



4) Remove the plates, the bearings, the E-rings and the gear.

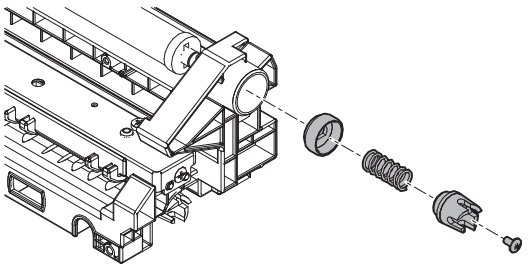



**b. Registration roller (drive)**

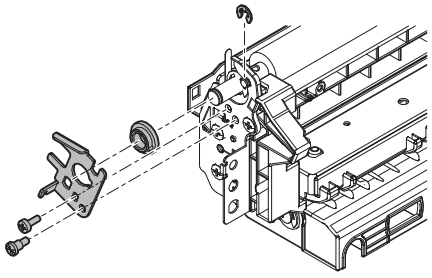
1) Remove the E-ring and slide the gear. Remove the pin.



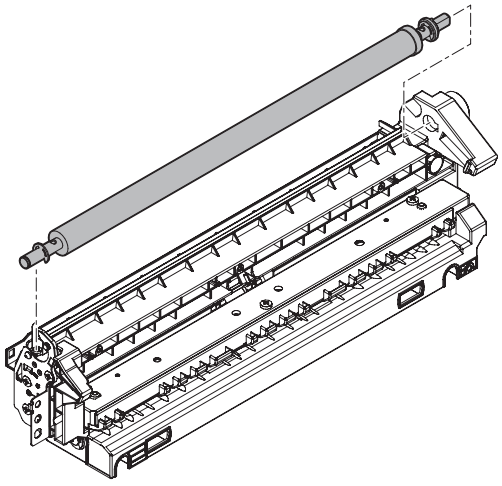

2) Remove the screw, the coupling, the spring and the holder.



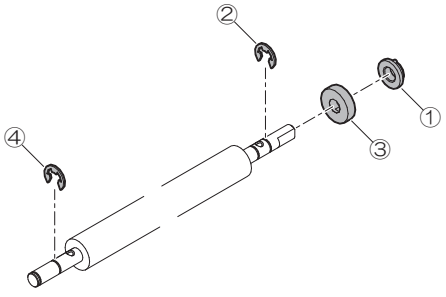
3) Remove the screws, the E-ring, the plate and the bearing.



4) Remove the registration roller (drive) assembly.

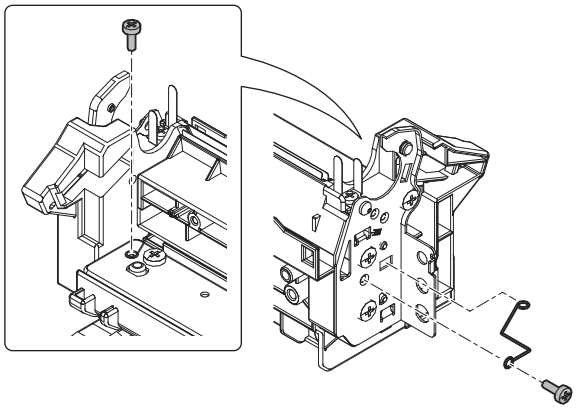


5) Remove the bearing, the E-rings and the gear.

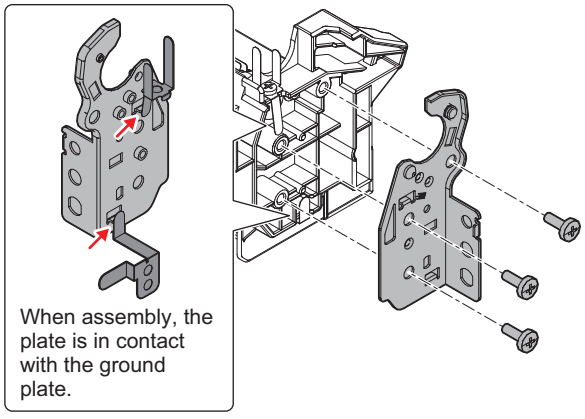


**c. Transport roller 4**

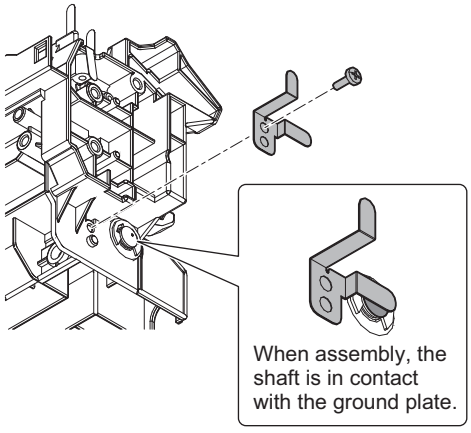
1) Remove the screw and the earth spring.



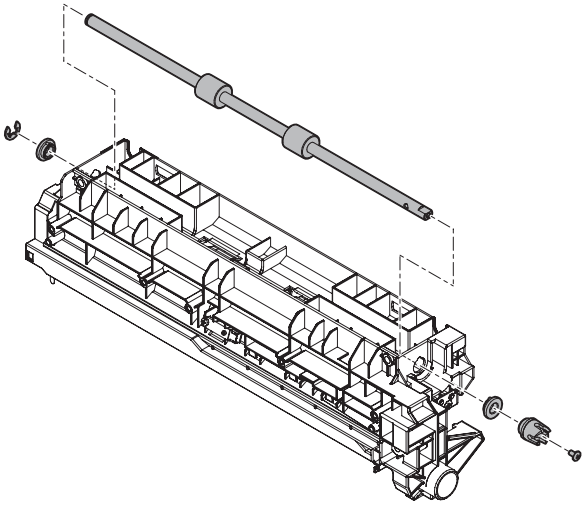
2) Remove the screws and the plate.




3) Remove the screw and the earth plate.

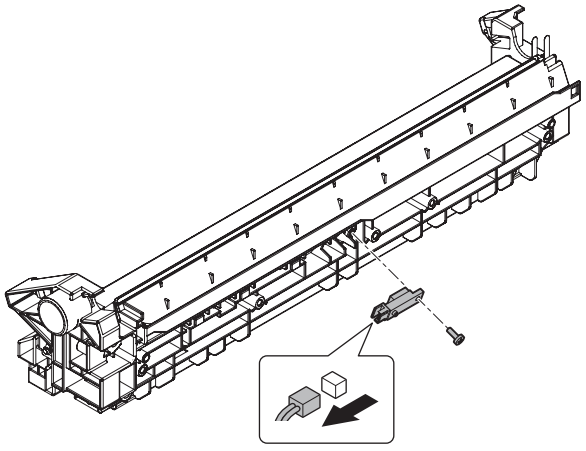



4) Remove the screw, the coupling, the bearings, the E-ring and the transport roller 4.



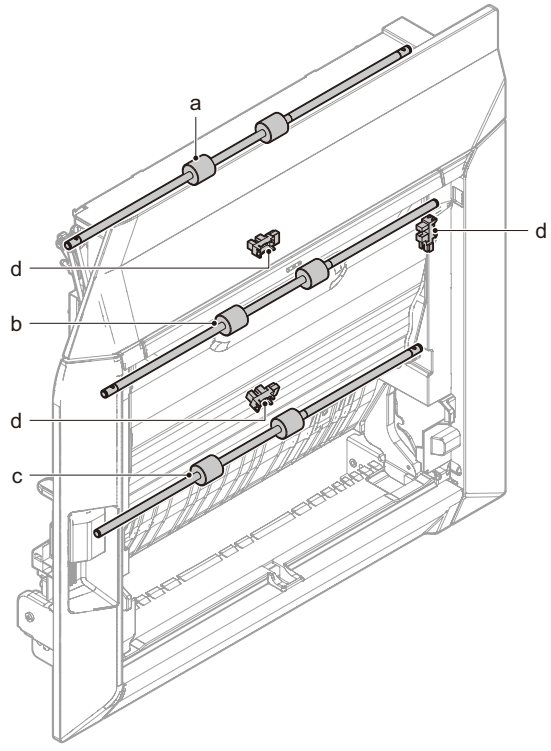
**d. Sensor**

1) Disconnect the connector. Remove the screw and the sensor.



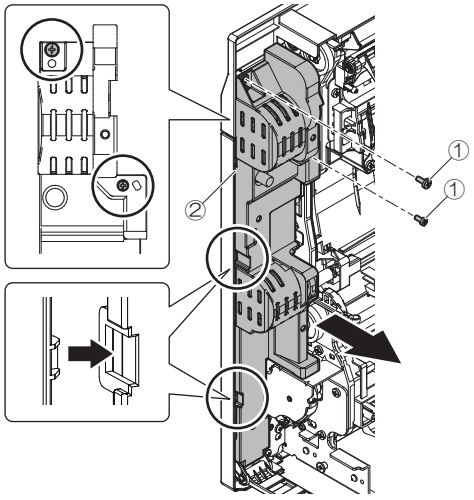
### (2) Right door unit

| Part No. | Part name |
|---|---|
| a | Transport roller 7 |
| b | Transport roller 8 |
| c | Transport roller 9 |
| d | sensor |

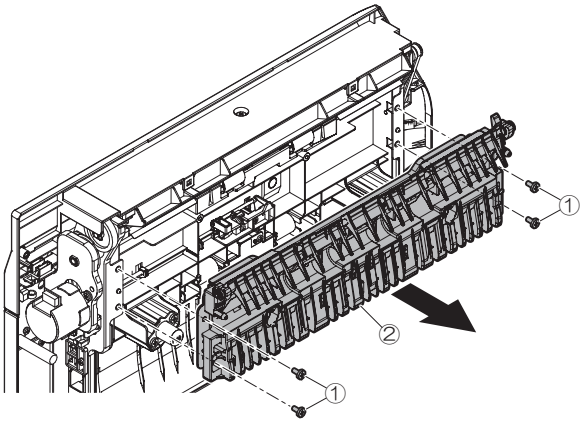



**a. Transport roller 7**

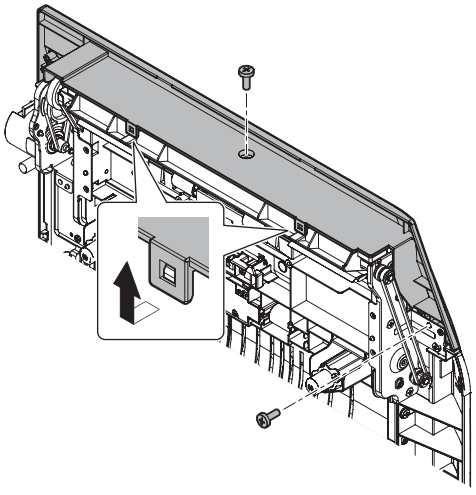
1) Remove the screws and the cover.



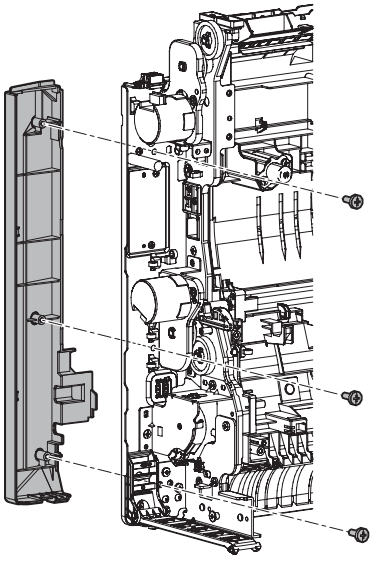

2) Remove the screws and the paper guide.



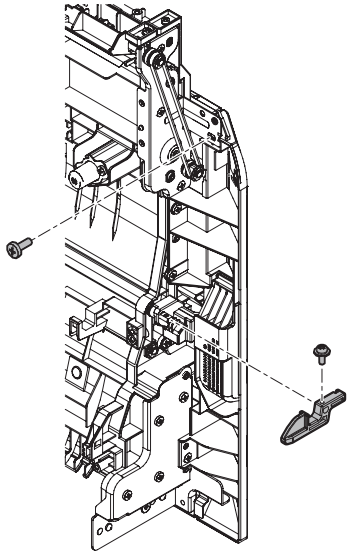

3) Remove the screws and the cover.



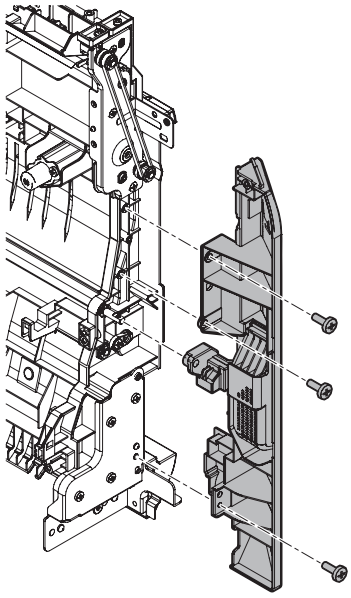
4) Remove the screws and the cover.



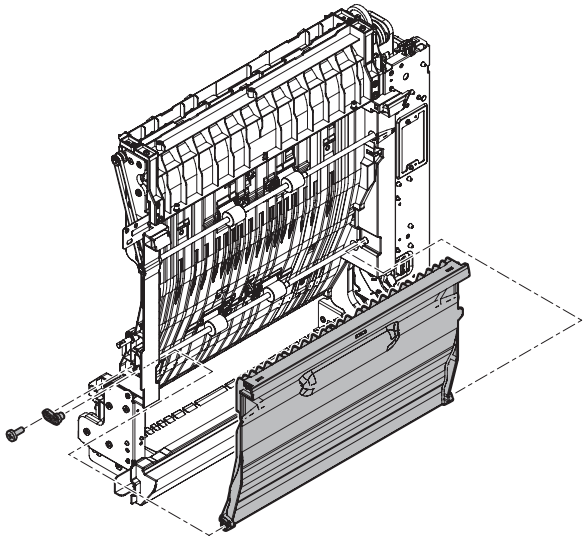
5) Remove the screws and the pawl.



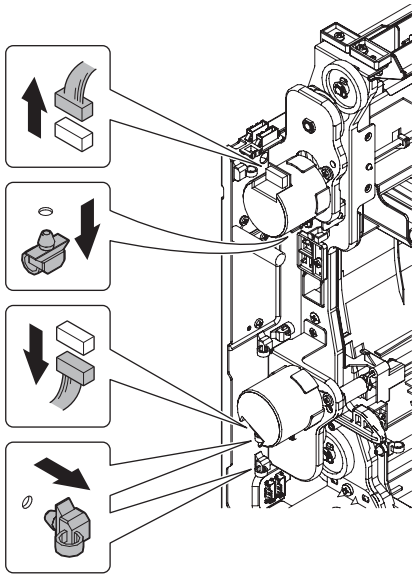
6) Remove the screws and the cover.



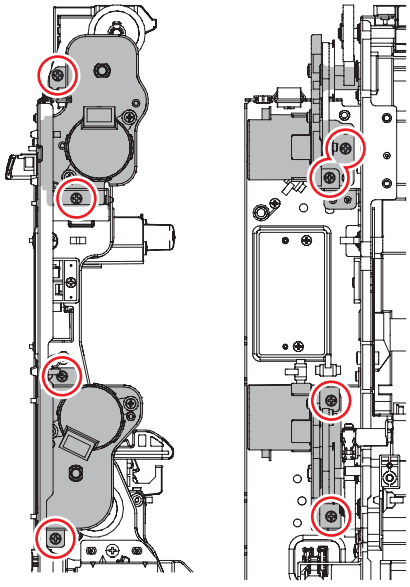
7) Remove the screw, the holder and the door.



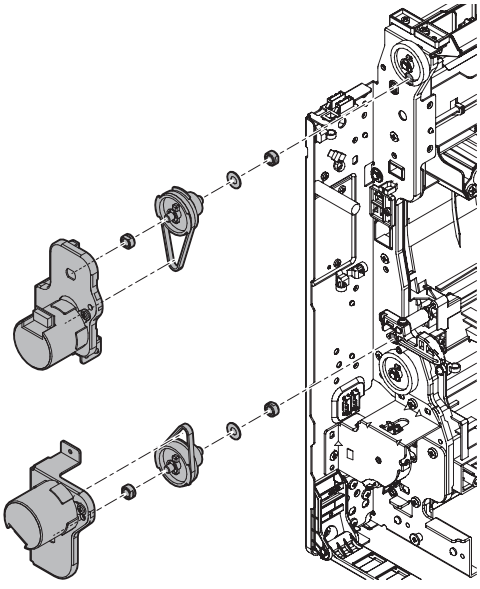
8) Disconnect the connectors. Remove the reuse bands.



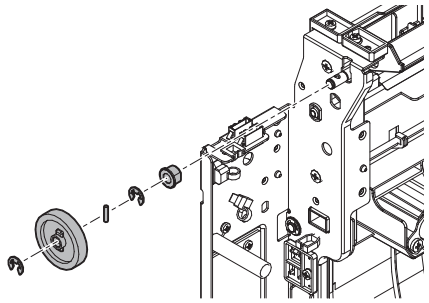
9) Remove the screws.



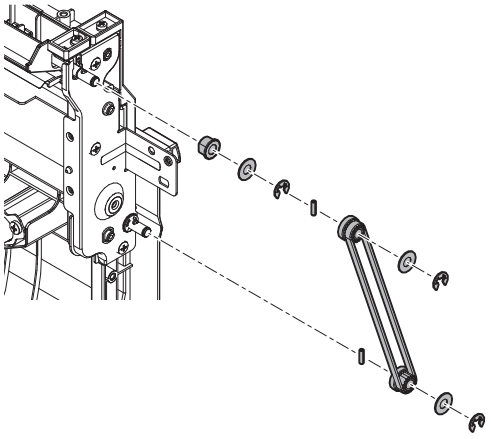
10) Remove the motor assembly, the bearings, the belts, the shaft assembly and the poly slider.



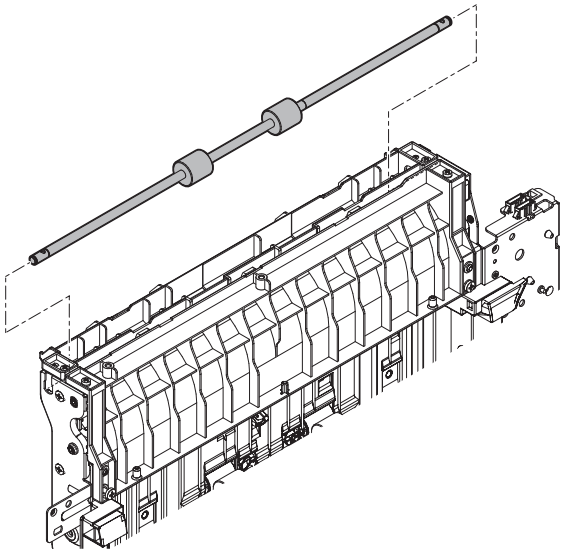
11) Remove the E-rings, the gear, the pin and the bearing.



12) Remove the E-rings, the mylars, the belt, the pulleys, the pins, the poly slider and the bearing.



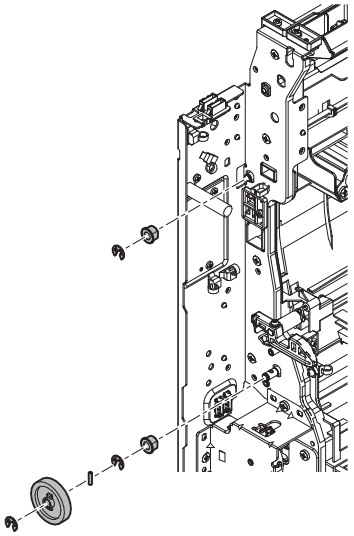
13) Remove the transport roller 7.



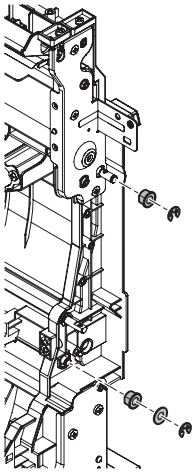
**b. Transport roller 8**

**c. Transport roller 9**

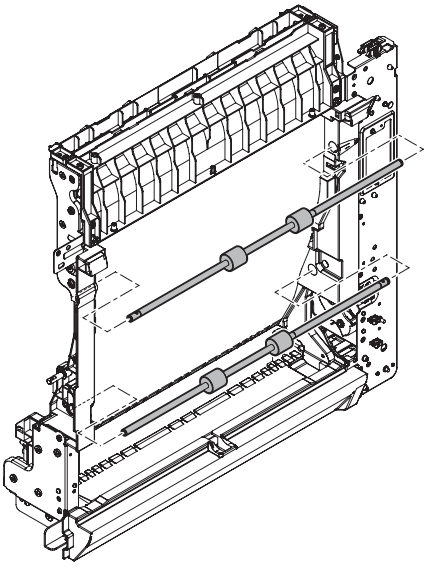
1) Remove the E-rings, the gear, the pin and the bearings.



2) Remove the E-rings, the poly slider and the bearings.

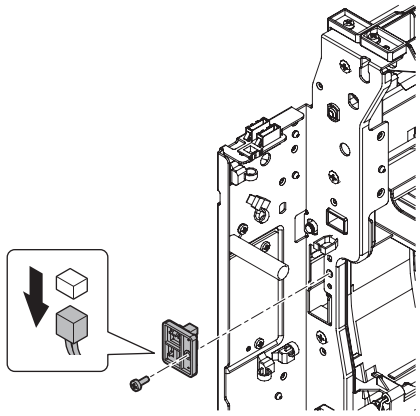


3) Remove the transport roller 8 and the transport roller 9.

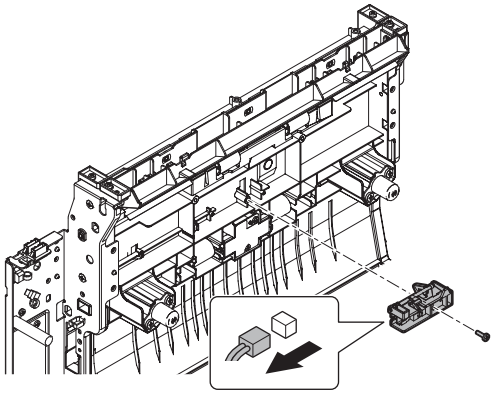


**d. sensor**

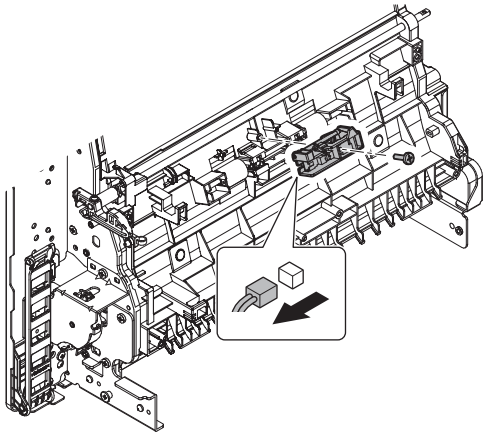
1) Disconnect the connector. Remove the screw and the sensor.



2) Disconnect the connector. Remove the screw and the sensor.

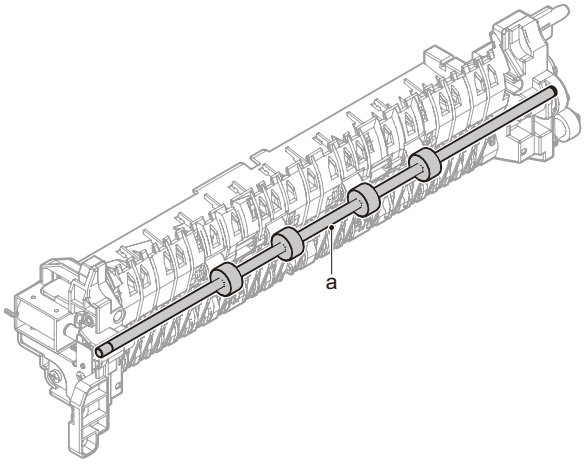


3) Disconnect the connector. Remove the screw and the sensor.



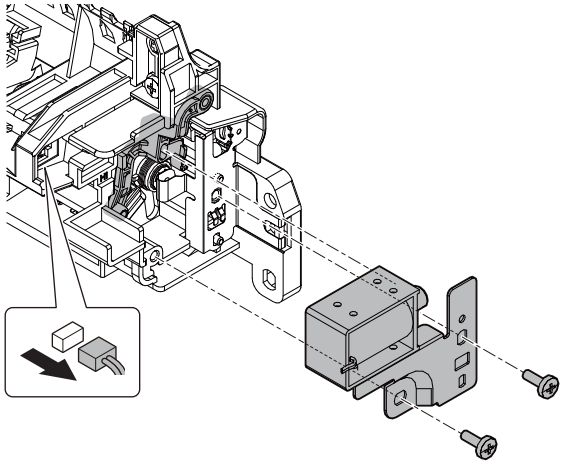
### (3) Fusing rear unit

| Part No. | Part name |
|---|---|
| a | Transport roller 6 |

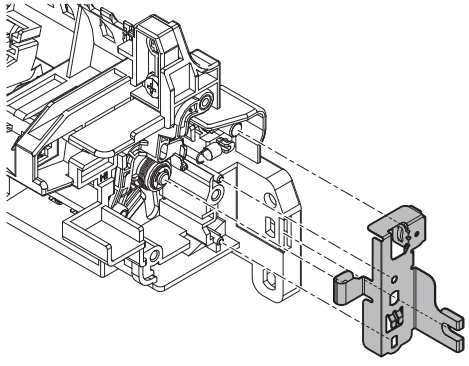



**a. Transport roller 6**

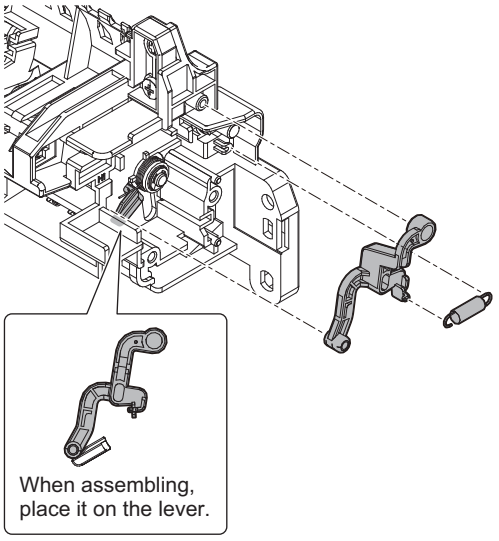
1) Disconnect the connector. Remove the screw and the solenoid.



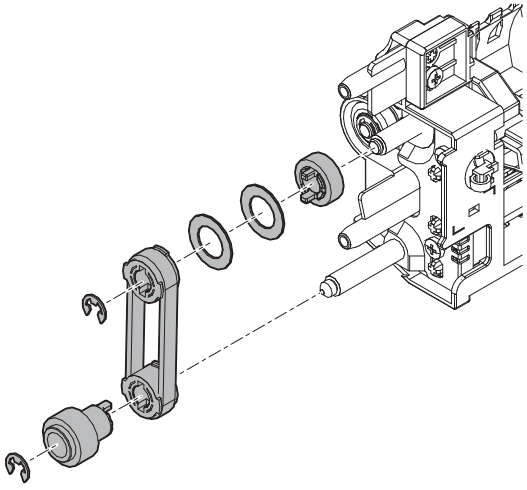
2) Remove the earth plate.



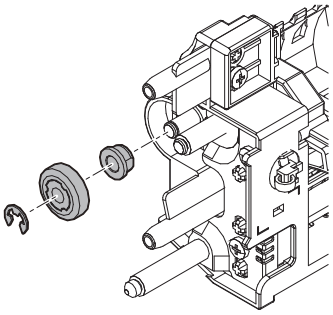
3) Remove the spring and the arm.



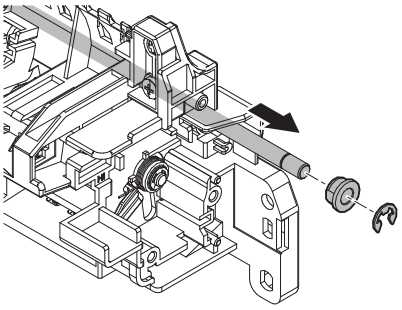

4) Remove the E-rings, the gears, the belt, the pulleys and the poly sliders.



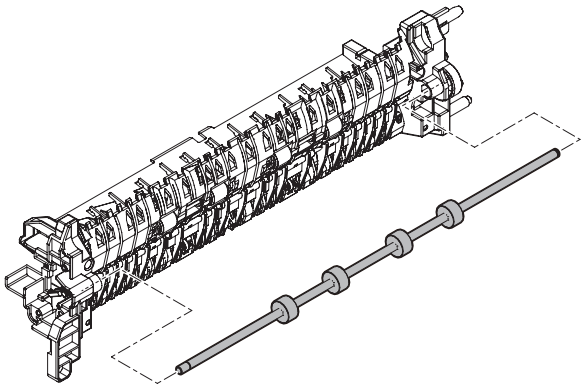
5) Remove the E-ring, the gear and the bearing.



6) Slide the roller. Remove the E-ring and the bearing.

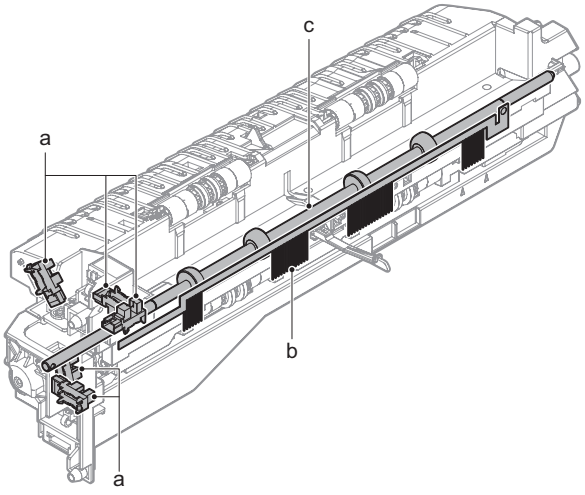


7) Remove the transport roller 6.



### (4) Paper exit unit

| Part No. | Part name |
|---|---|
| a | Sensors |
| b | Discharge brush |
| c | Paper exit roller 2 |

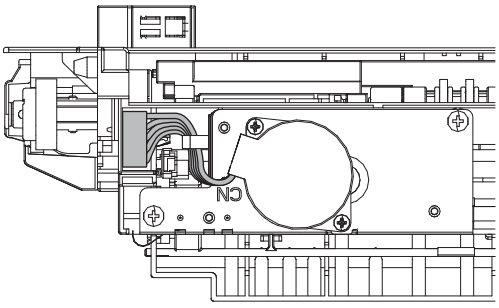


**a. Sensors**

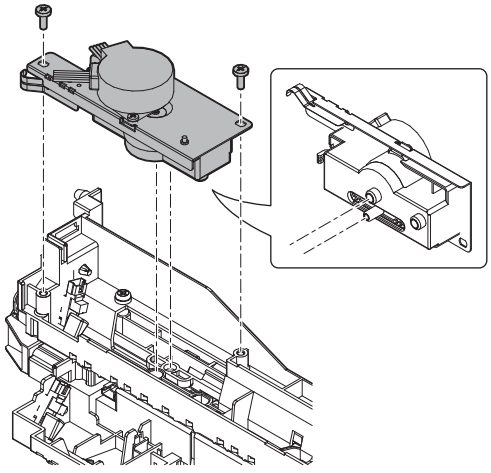
**b. Discharge brush**

**c. Paper exit roller 2**

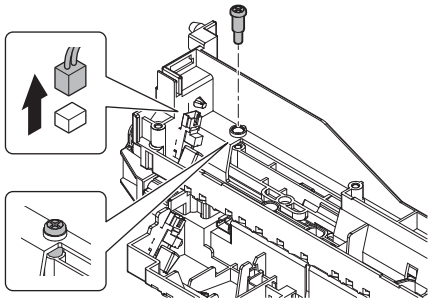
1) Disconnect the connector.



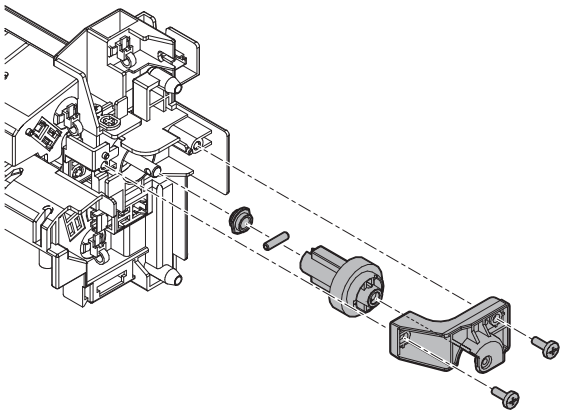
2) Remove the screws and shifter drive.



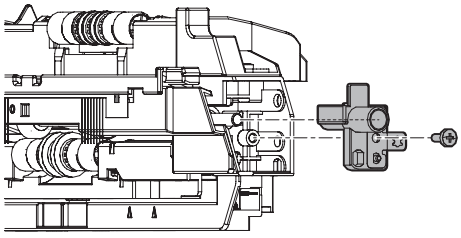
3) Disconnect the connector. Remove the screw.



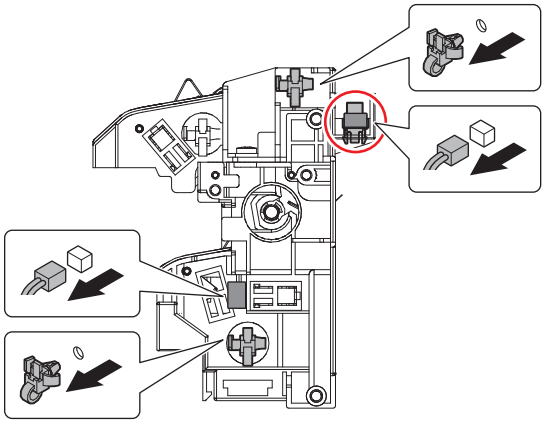
4) Remove the screws, the holder, the gear, the pin and the bearing.



5) Remove the screw and the holder.



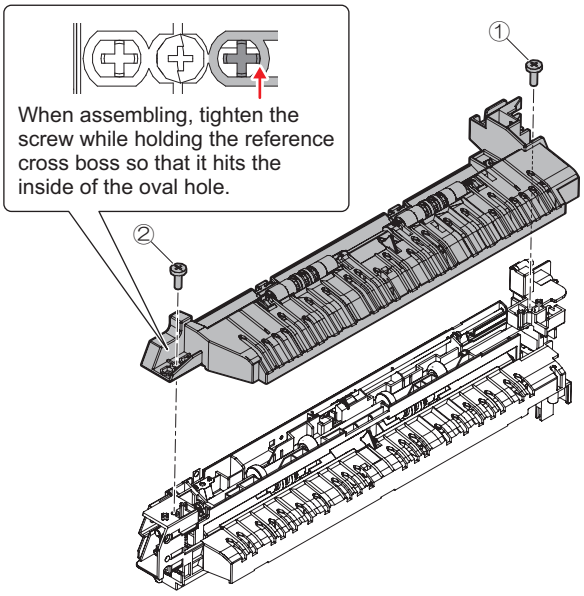
6) Disconnect the connectors. Remove the sensors and the reuse bands.



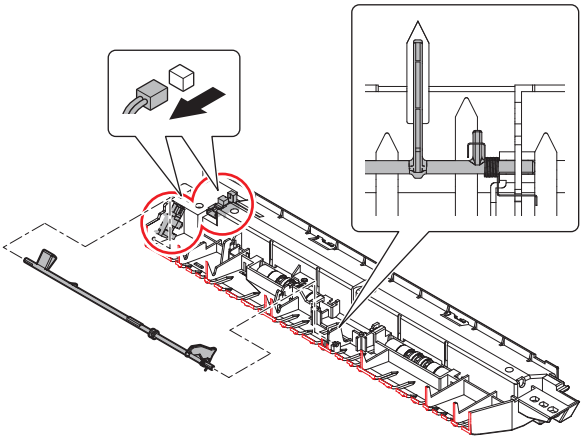
7) Remove the screws and the paper guide.

Important

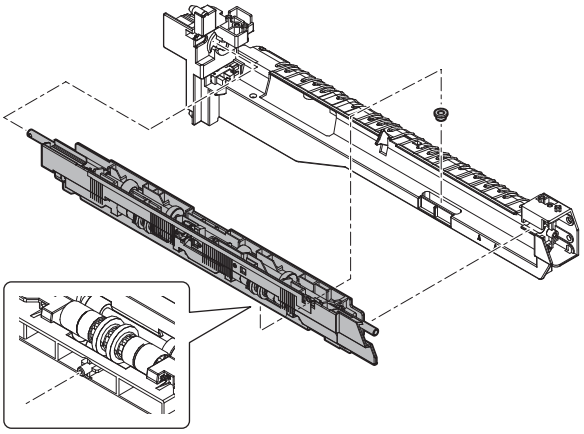
When attaching the paper guide, tighten the screw in the order of (1) - (2).



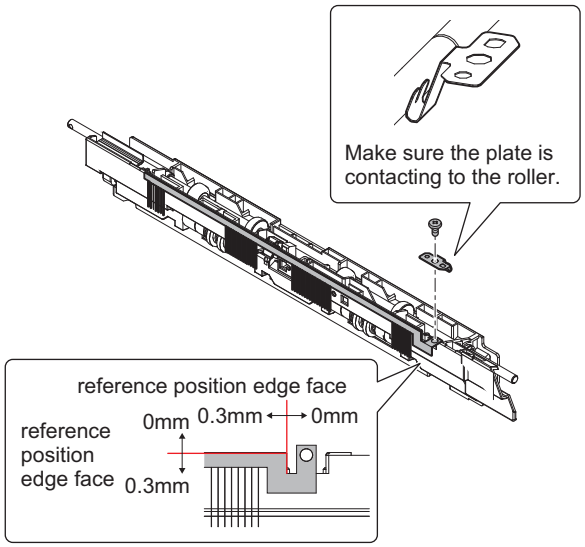

8) Remove the actuator. Disconnect the connector. Remove the sensor.



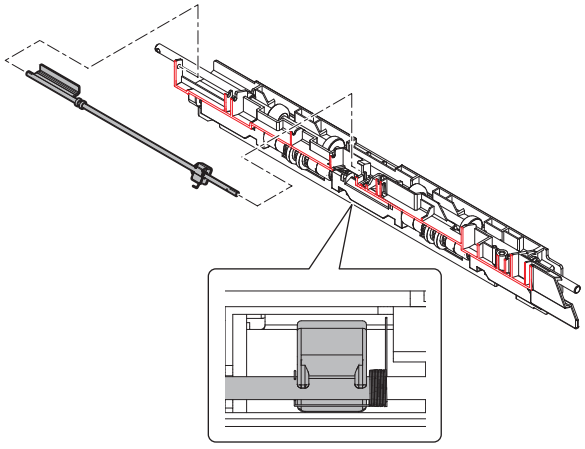
9) Remove the paper guide assembly and the collar.



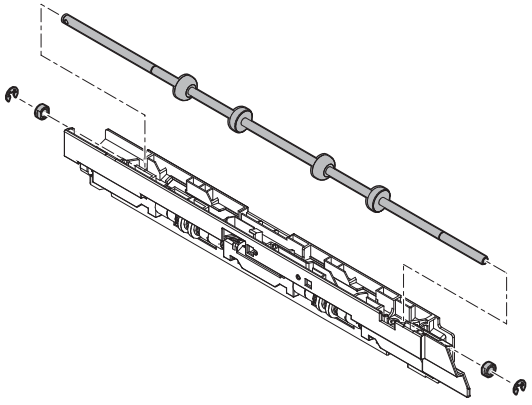
10) Remove the screw, the earth plate and the discharge brush.



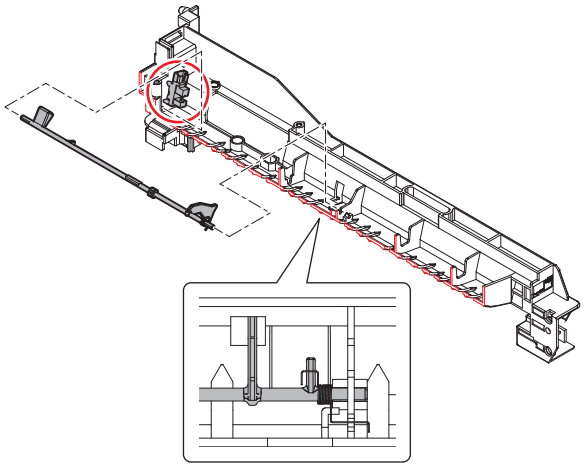

11) Remove the actuator.



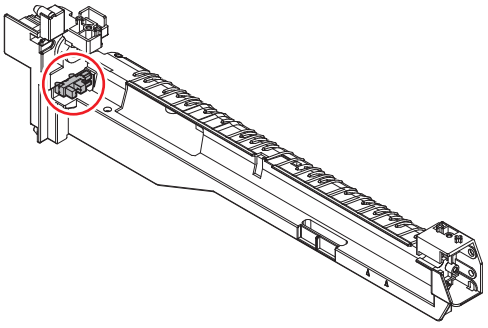
12) Remove the E-rings, the bearings and the paper exit roller 2.



13) Remove the actuator and the sensor.



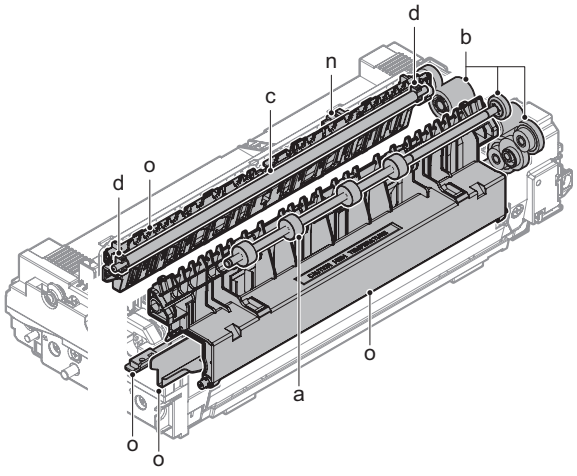
14) Remove the sensor.

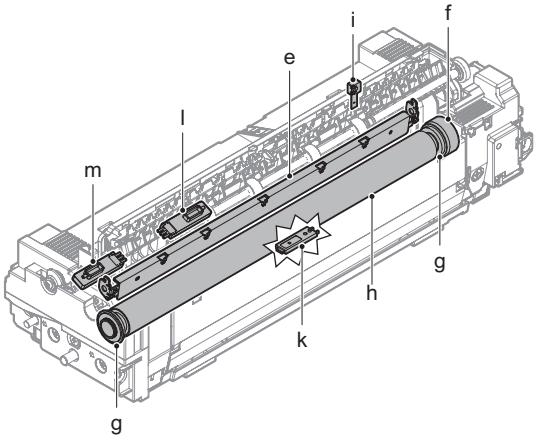


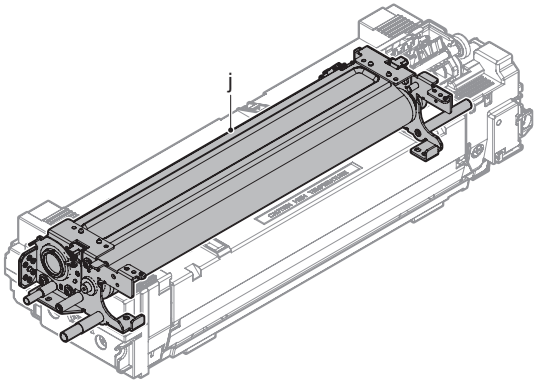
## K. Fusing section

### (1) Fusing unit

| Part No. | Part name |
|---|---|
| a | Lower fusing transport roller |
| b | Gears |
| c | Upper fusing transport roller |
| d | Pressure bearing |
| e | Separation plate |
| f | Pressure roller gear |
| g | Pressure roller bearing |
| h | Pressure roller |
| i | Upper thermistor |
| j | Fusing belt unit |
| k | Lower thermistor |
| l | Main thermistor |
| m | Sub thermistor |
| n | Sensors |
| o | Paper guides |

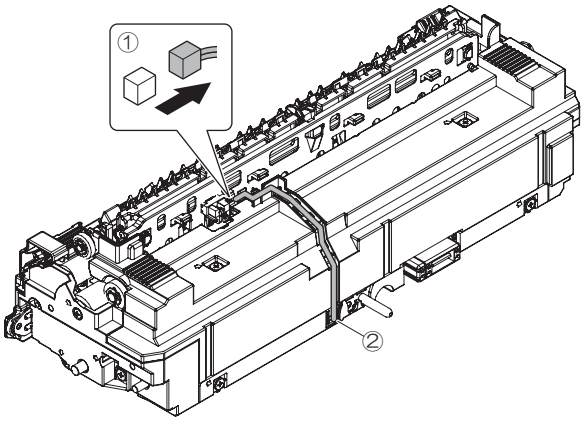


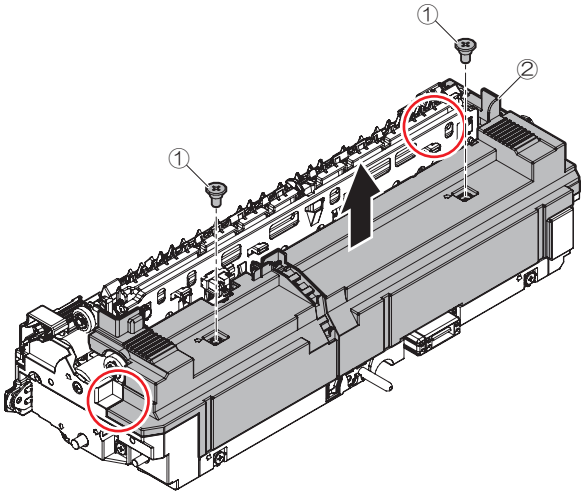
**a. Lower fusing transport roller**

1) Remove the connector and detach the harness from the rib.

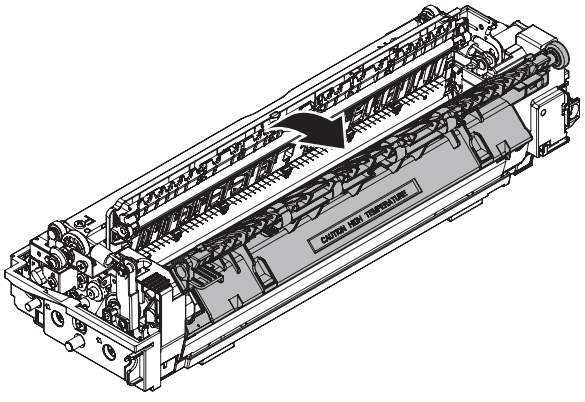



2) Remove the spring and the cover

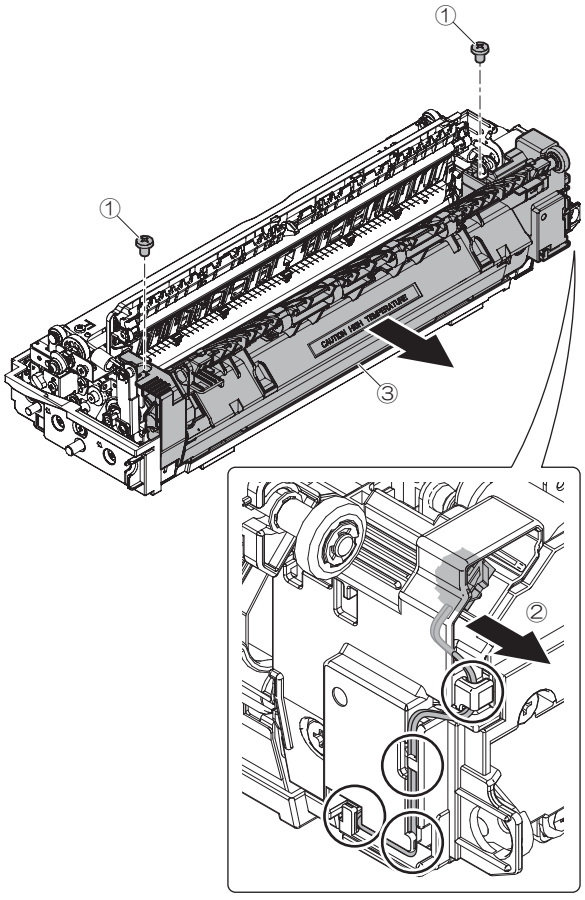
**NOTE:** Do not break the pawls while removing (as shown in the red circles.).




3) Open the lower paper guide.

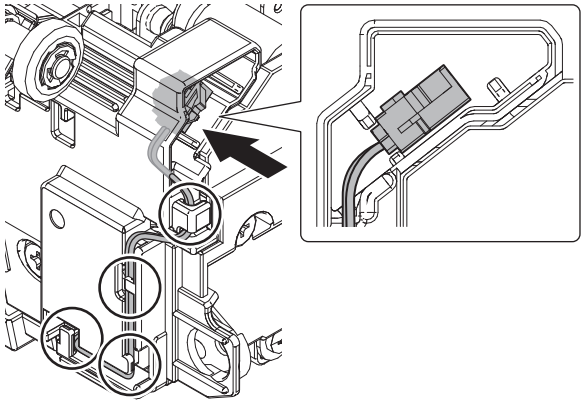


4) Remove the screws, harnesses, and then remove the paper guide.

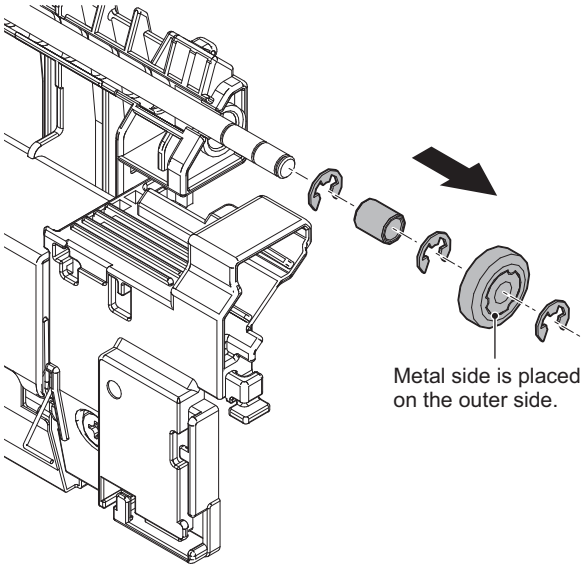



**NOTE:** When mounting the harnesses, make sure to wire the connectors so that the connector won't protrude.

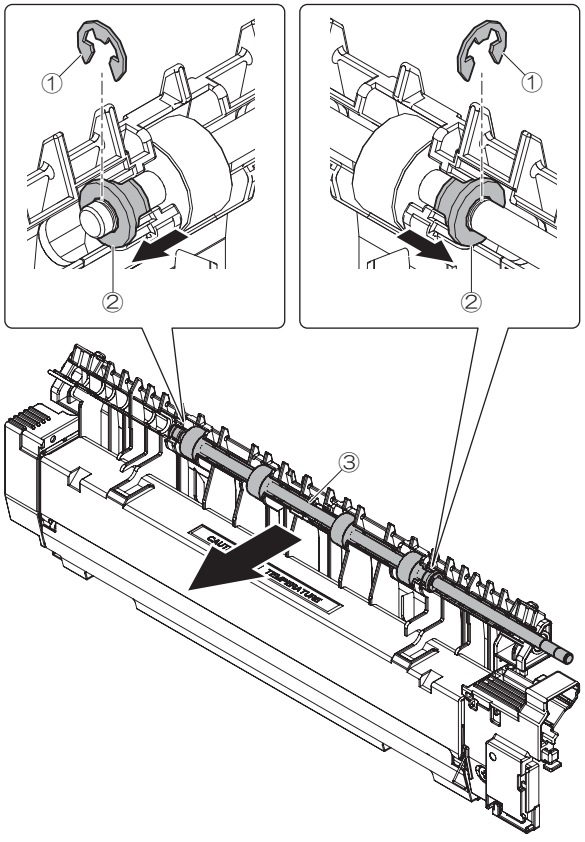
- Attach the connector in the direction shown in the illustration below. Hook the connector rib to the holder rib to fix.
- Slide extra harness into the areas in the red circle.



5) Remove the E ring, gear and bearing.

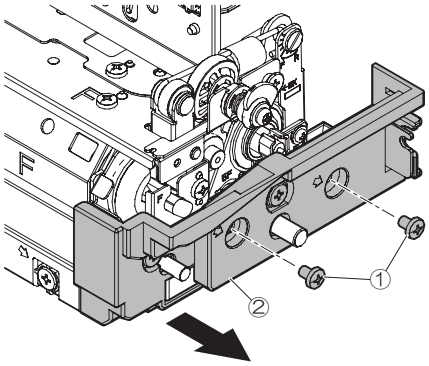



6) Remove the E ring. shift the bearing and remove the lower fusing transport roller.

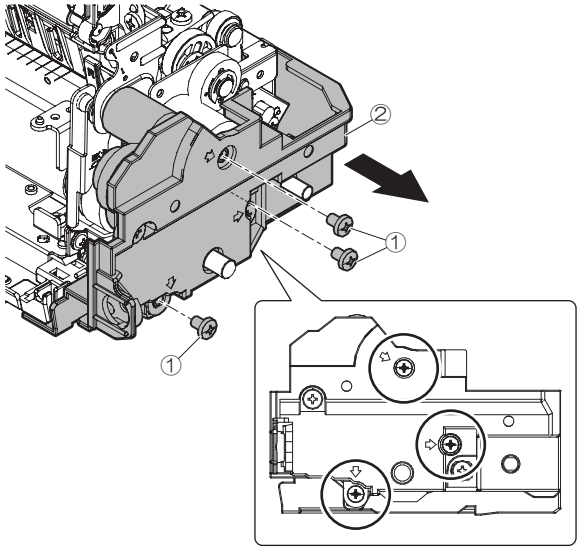



**b. Gears**

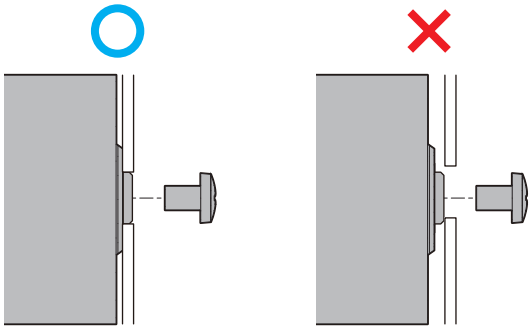
1) Remove the screw and the cover



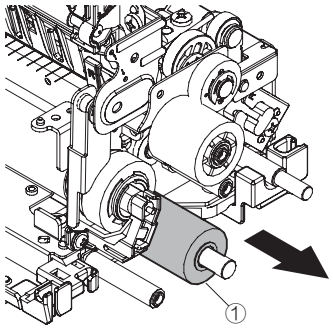

2) Remove the screw and the cover




**NOTE:** Be sure to confirm that bearing should be fixed by the hole of cover when the cover is installed.



3) Remove the gear.

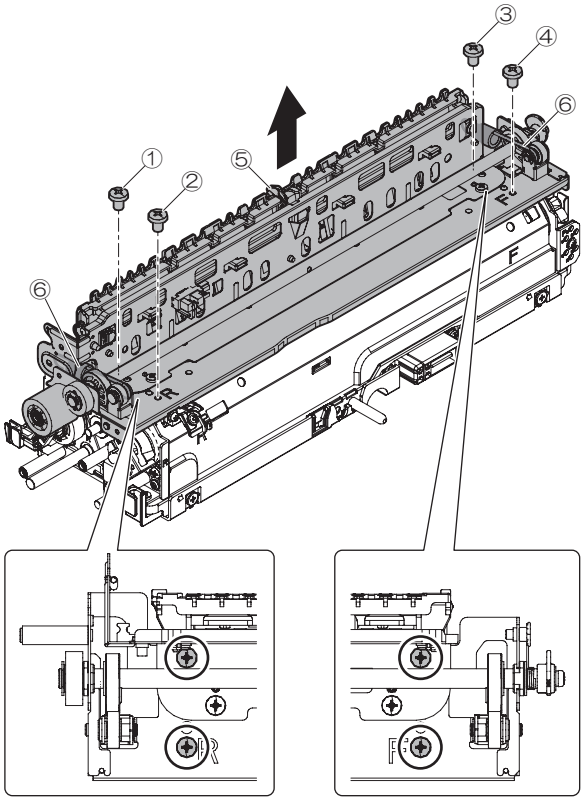



**c. Upper fusing transport roller**

1) Remove the screws, paper guide, and then remove the springs.

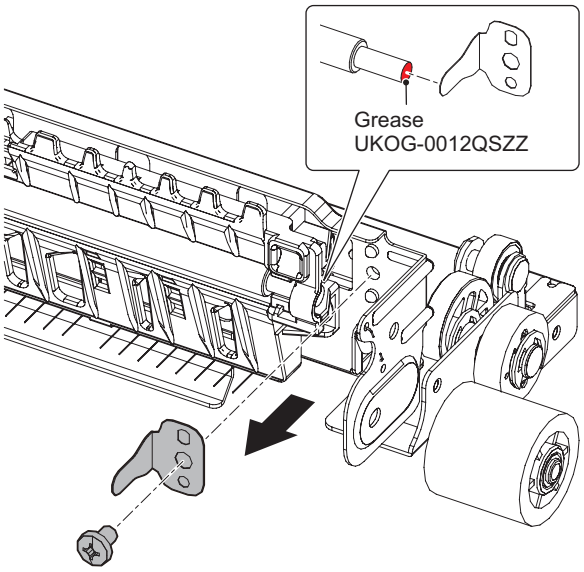
**NOTE:** Make sure the paper guide does not contact with the separation plate.

When attaching the paper guide, fasten screws in the order of (1)-(4) shown in the illustration below.

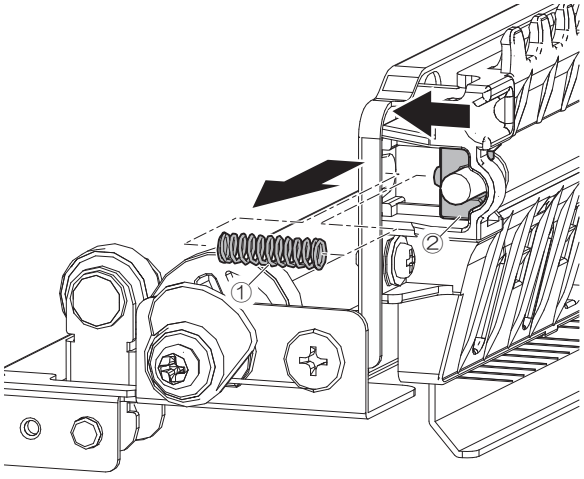



2) Remove the screw and earth plate.

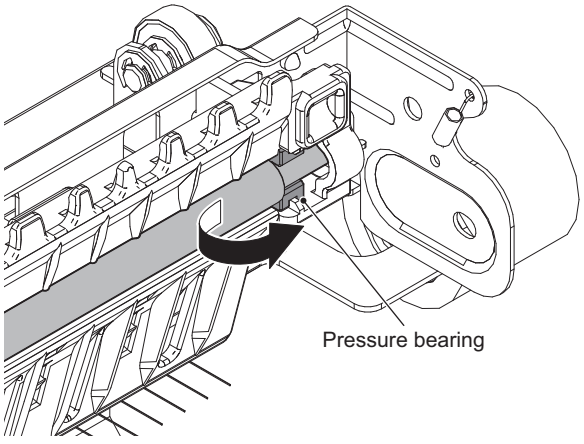
**NOTE:** Be sure to confirm that the edge of the upper fusing transport roller and earth plate are contacted when assembled.




3) Remove the spring and shift the pressure bearing.

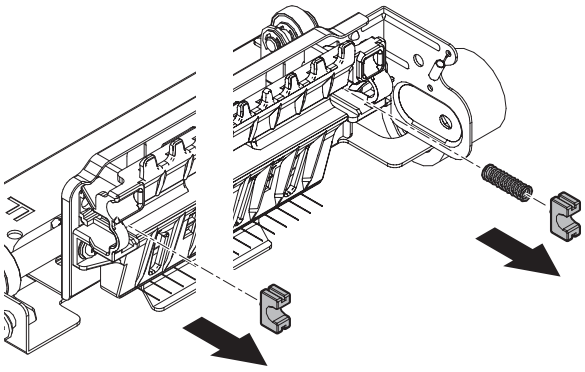



4) Hold the pressure bearing and remove the upper fusing transport roller.



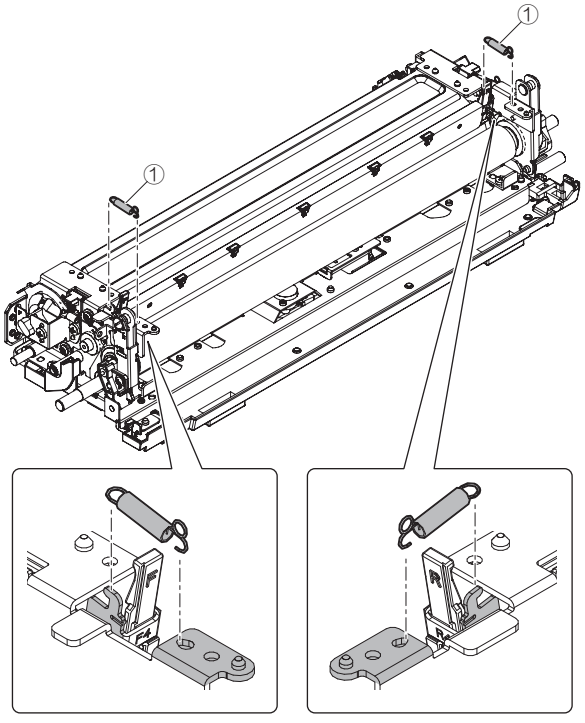
**d. Pressure bearing**

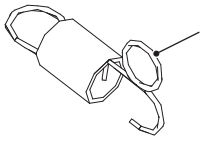
1) Remove the pressure bearing and the spring.



**e. Separation plate**

1) Remove the spring



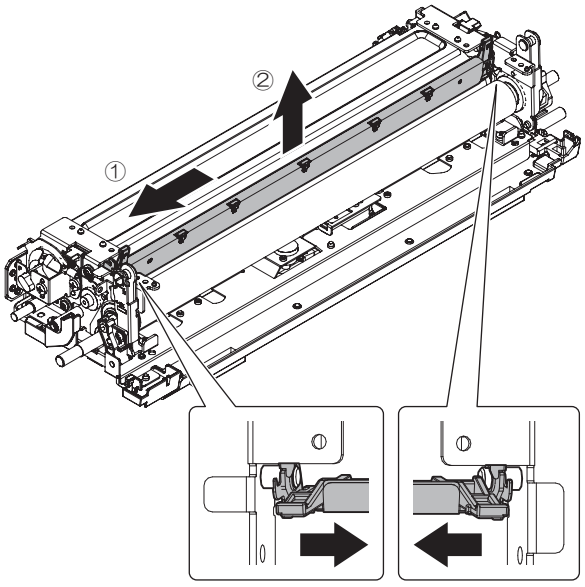



Hold here with longnose pliers for attachment and detachment.

2) Slide the holder to the right and left and remove from the boss.

Important

Do not scratch, contaminate or deform the surface of separation plate.




**f. Pressure roller gear**

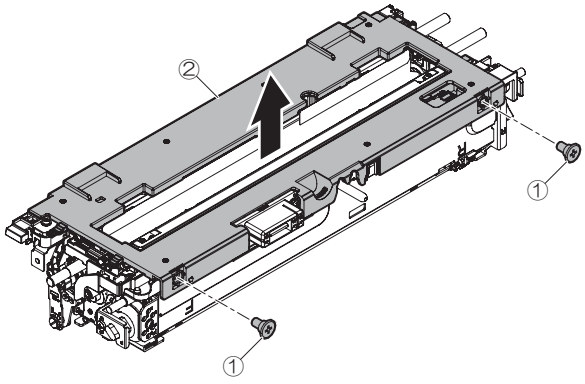
**g. Pressure roller bearing**

**h. Pressure roller**

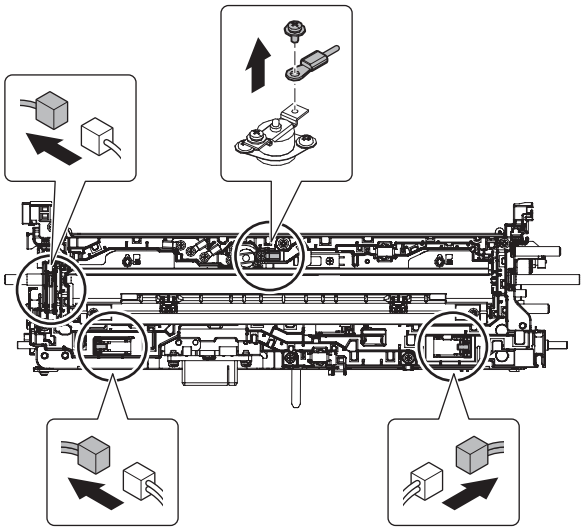
1) Turn the fusing unit upside down. Remove the screws and then remove the cover.

Important

Make sure the holder has been removed.

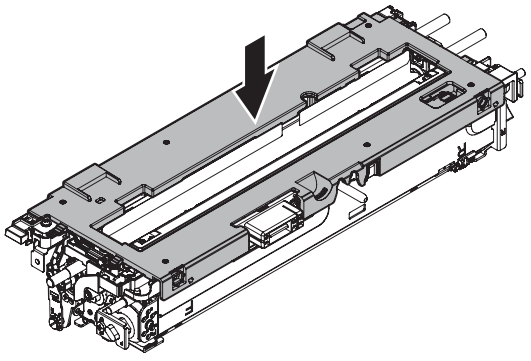


2) Disconnect the connectors and detach the harness from the rib.

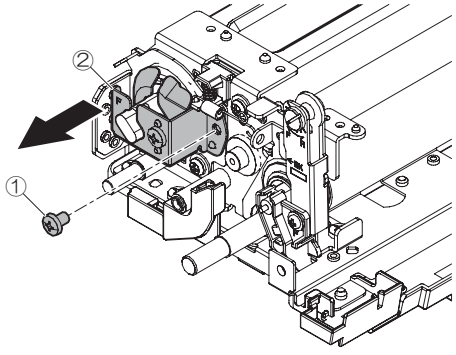


3) Attach the cover (without fastening screw).

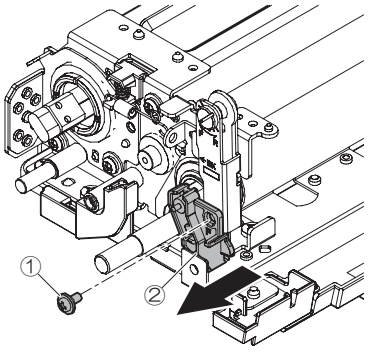
**NOTE:** To protect the mylar sheet, make sure to keep attaching the cover when not flipping the unit upside down.



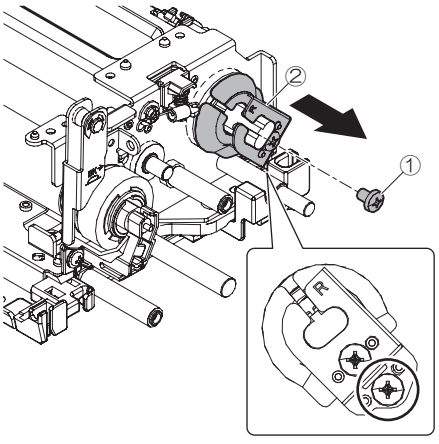
4) Remove the screw and the holder



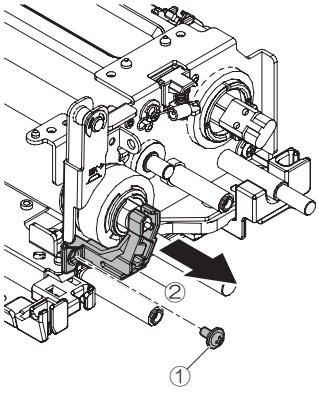

5) Remove the screw and the holder



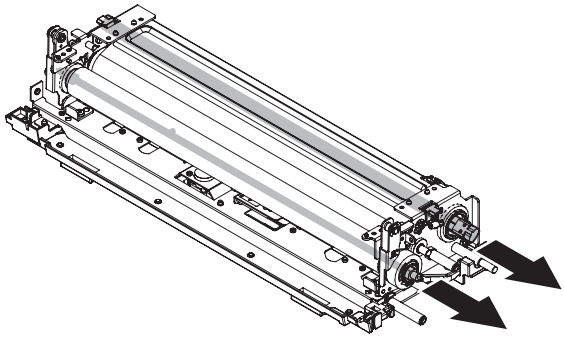

6) Remove the screw and the holder



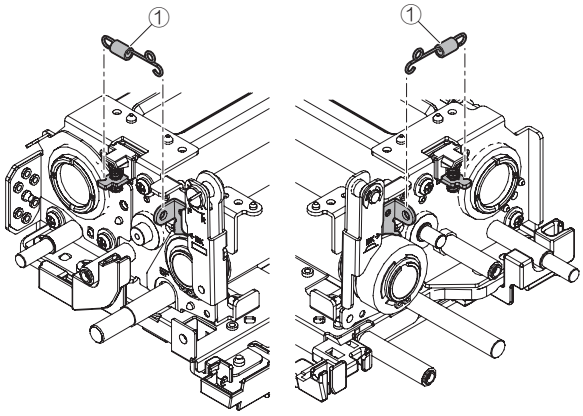

7) Remove the screw and the holder




8) Remove the upper heater lamp and low heater lamp

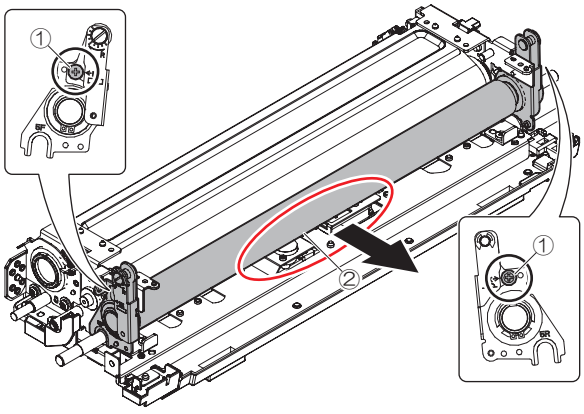


9) Remove the spring

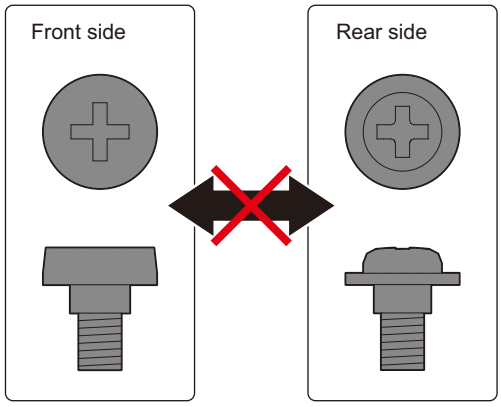



10) Remove the screw and the pressure roller unit

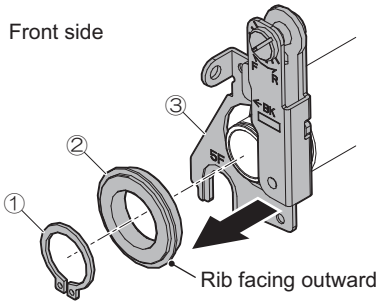
**NOTE:** Do not touch the thermostat and thermistor shown in the red circle in the illustration below.



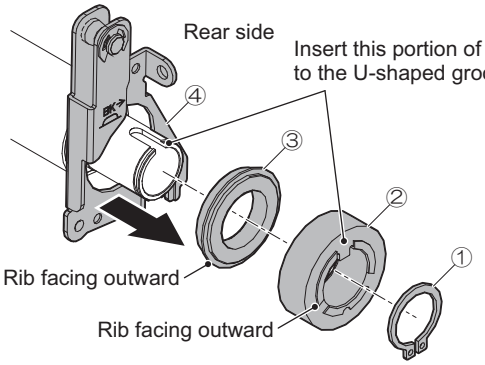

**NOTE:** Different screw is used for front and rear side. Make sure to fasten proper screw on each side.




11) Remove the ring, the bearing and the lever



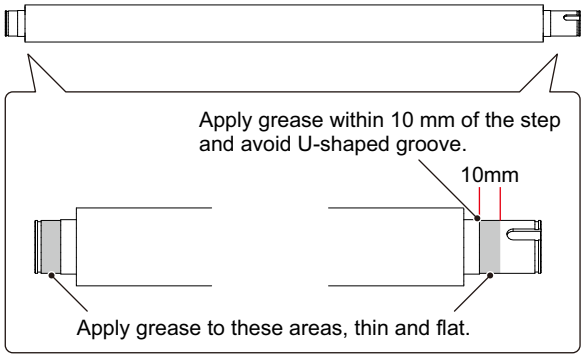

12) Remove the ring, gear, bearing and the lever




**Important**

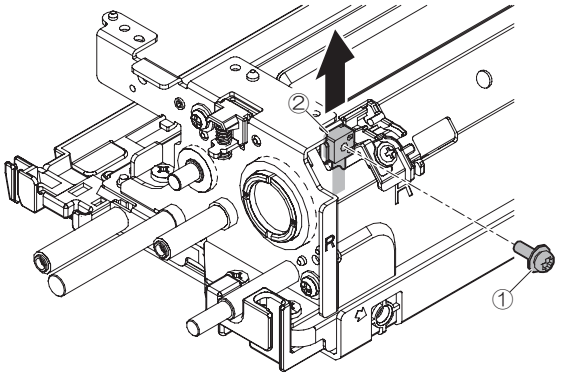
Attach the pressure roller without removing the protector sheet. Remove the sheet after completing the assembly.

Apply grease (UKOG-0235FCZZ) when replacing the pressure roller.



**i. Upper thermistor**

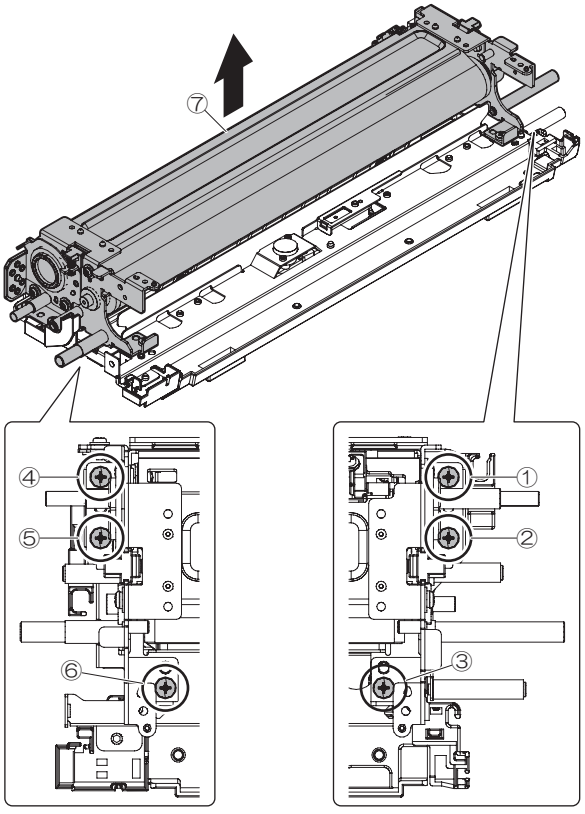
1) Remove the screw and the thermistor




**j. Fusing belt unit**

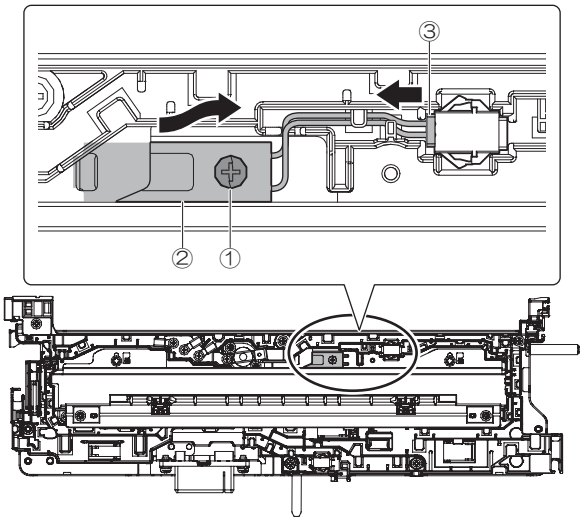
1) Remove the screw and the fusing belt unit

When attaching fusing belt unit, fasten screws in the order of (1)-(6) shown in the illustration below.




**k. Lower thermistor**

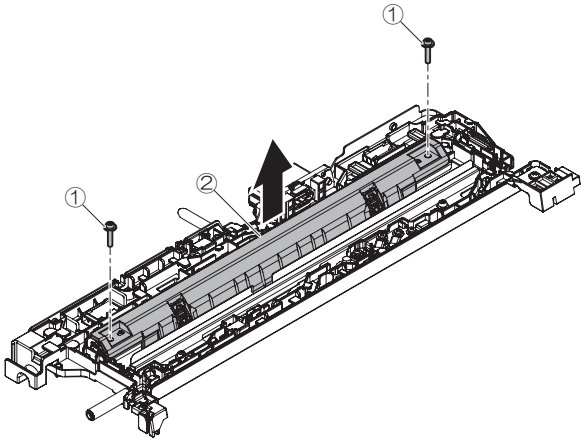
1) Remove the screw and the lower thermistor



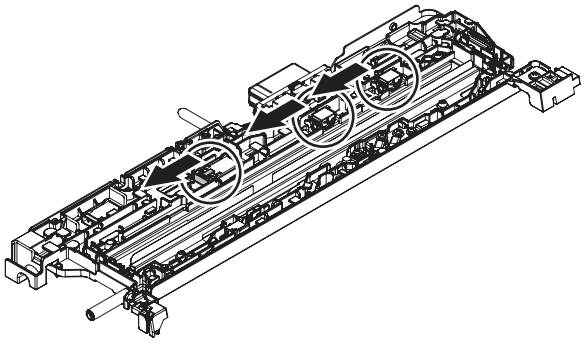

**l. Main thermistor**

**m. Sub thermistor**

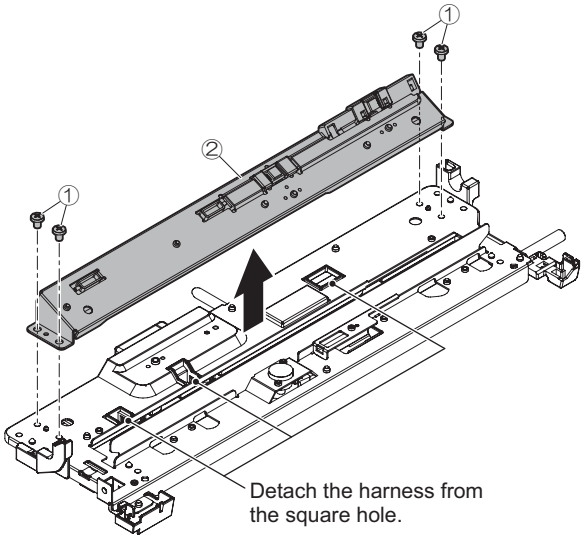
1) Remove the screws. Then remove the paper guide.



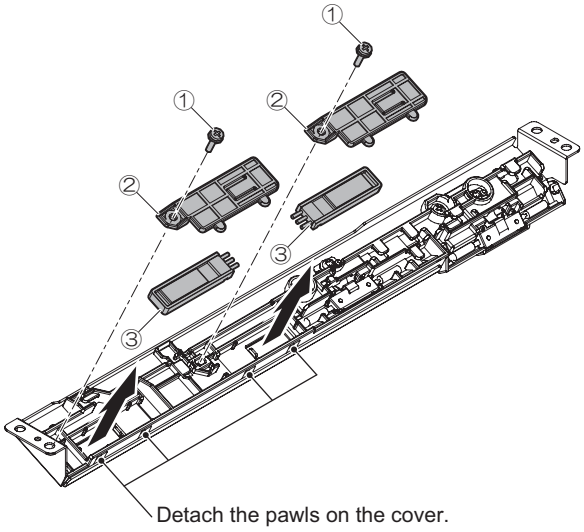

2) Disconnect the connectors and detach the harness from the rib.



3) Remove the screw and the plate

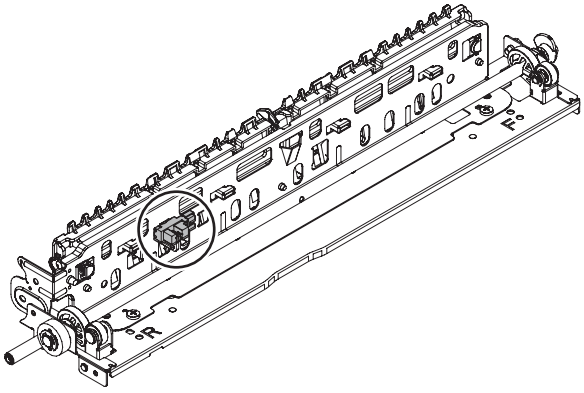



4) Remove the screw, the cover, the main thermistor and the sub thermistor




**n. Sensors**

1) Remove the sensor

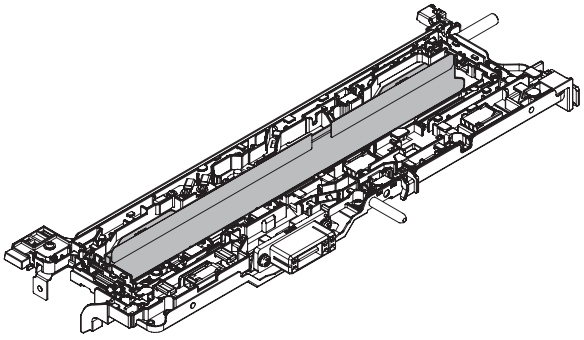


**o. Paper guides**

1) Clean the paper guide

Important

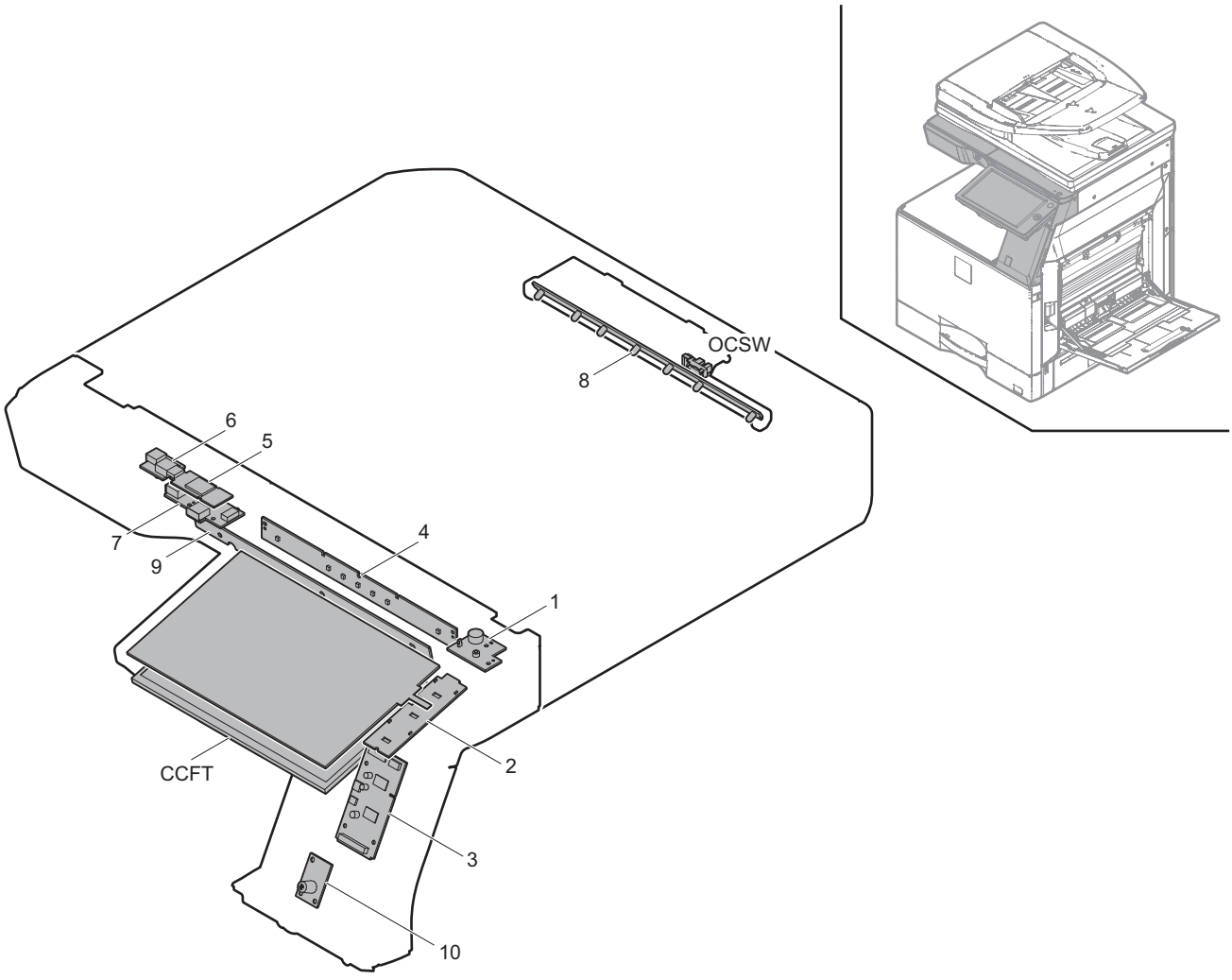
Do not deform the paper guide.



# [11] OPERATIONAL DESCRIPTIONS

## 1. Operation panel section

### A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| CCFT | LCD backlight | LCD backlight |
| OCSW | Paper size detection trigger sensor | Detects generation of the paper size detection trigger signal |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | PWR-R PWB | Power switch, Buzzer, Display power ON / OFF status with green LED |
| 2 | HOME KEY PWB | Outputs the key operation signal [For MX-xx51 series] |
| | NFC HOME KEY PWB | Outputs the key operation signal and built in NFC tag [For MX-xx61/xx71 series] |
| 3 | LVDS PWB | Converts the display data signal to the LCD display signal from SCN MFP PWB and controls the touch panel |
| 4 | FRONT LED PWB | Display indication state of MFP (Blue, Green, Red) |
| 5 | WIRELESS LAN PWB | Connect the network by the wireless LAN |
| 6 | USB CN PWB | Connect WIRELESS LAN PWB and SCN MFP PWB |
| 7 | FRONT USB PWB | Relays USB device and SCN MFP PWB |
| 8 | ORS_LED | Drives the LED for the document size detection |
| 9 | ORS_PD | Outputs the document size detection signal |
| 10 | MOTION SENSOR PWB | Detects the approach of human in energy saving mode and send signal to SCN MFP PWB [For MX-xx61/xx71 series] |

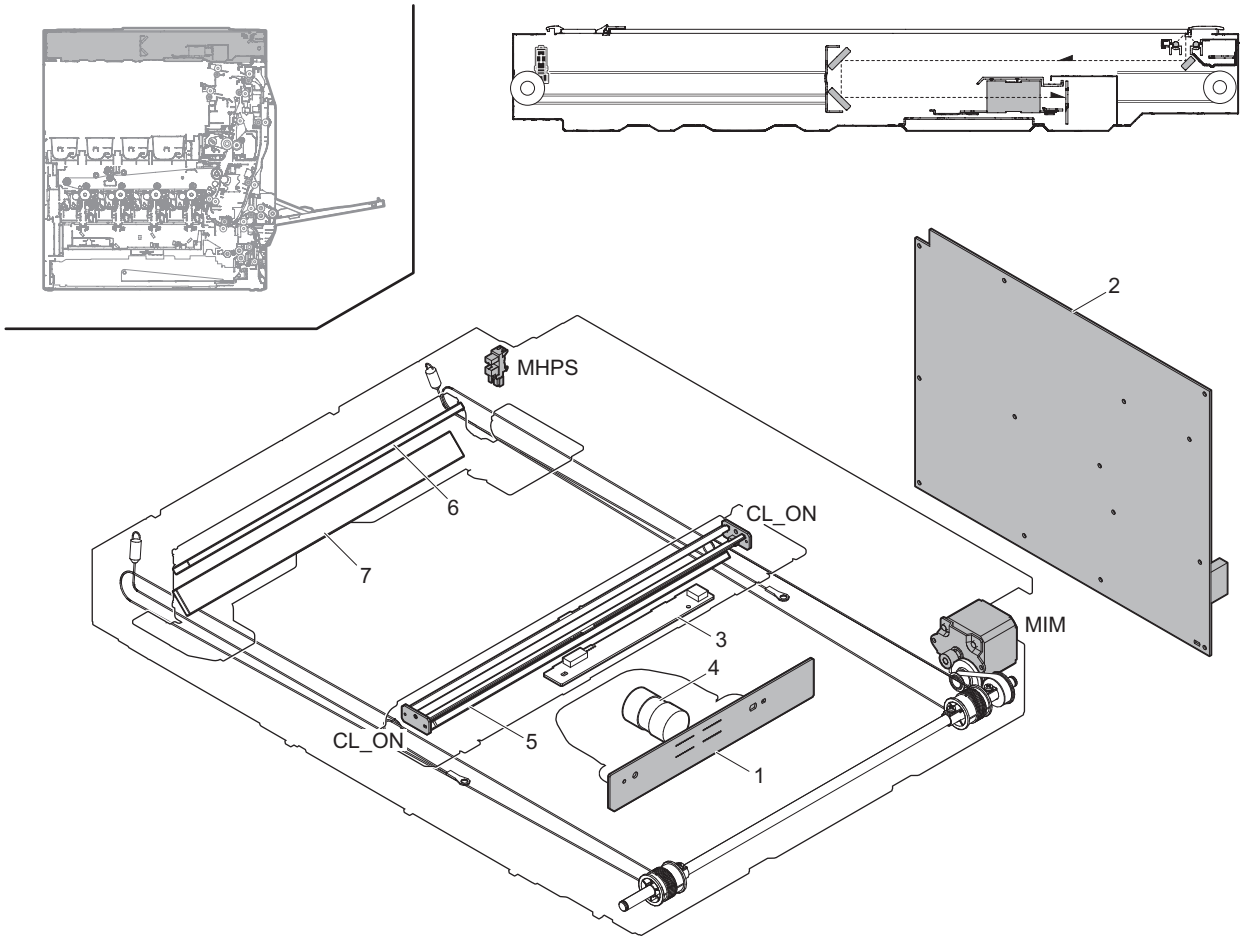
## B. Operational descriptions

The operation panel unit is composed of the LCD unit, the LVDS PWB, the FRONT USB PWB, and the HOME KEY PWB / NFC HOME KEY PWB. It displays the machine operation.
It is provided with the FRONT USB PWB which is used for the firmware update, USB print, and Scan to USB.
In addition, the USB I/F line is provided inside the operation panel to connect with the keyboard and the IC card reader.

A document size is detected by the ORS_LED and the ORS_PD.
The detection timing of document size is determined according to the document size detection trigger sensor signal.

## 2. Scanner section

### A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| CL_ON | Scanner lamp | Radiates light onto a document for the CCD to scan the document image |
| MHPS | Scanner home position sensor | Detects the scanner home position |
| MIM | Scan motor | Drives the scanner unit (scan, return operations) |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | CCD PWB | Scan document images and performs A/D conversion of the scanning signal |
| 2 | SCN MFP PWB | Controls image data (compression, decompression and filing) and controls the whole machine.<br>Converts print data into image data. |
| 3 | LED DRIVER PWB | Drives the scanner lamp |
| 4 | Lens | Reduces a document image (light) and project it to the CCD. |
| 5 | 1st mirror | Leads a document image to the lens. |
| 6 | 2nd mirror | |
| 7 | 3rd mirror | |

## B. Operational descriptions

### (1) General

This section performs the following operations.

1) Light is radiated onto the document by the scanner lamp and the reflected image is scanned by the 3-line (RGB) CCD elements to be converted into analog image signals.
2) The analog image signals are converted into 10-bit digital signals by the A/D converter.
3) The digital image signals are sent to the SCN MFP PWB for image processing.

### (2) Detailed descriptions

#### a. Optical section drive

The optical section is driven as follows: The drive power is transmitted from the scanner motor (MIM) through the belt to the drive pulley/wire, and the copy lamp unit and the mirror base which are attached to the wire are driven.

The scanner motor (MIM) is controlled with the signals sent from the SCN MFP PWB.

#### b. Scanner lamp drive

The scanner lamp is driven by the scanner lamp drive voltage which is generated by the scanner lamp drive PWB with the control signals sent from the SCN MFP PWB.

#### c. Image scan and color separation

Light is radiated onto the document by the scanner lamp and the reflected image is scanned by the 3-line (RGB) CCD elements to be converted into analog image signals.

The color components are extracted into R, G, and B by the three kinds of CCD elements (R, G, and B).

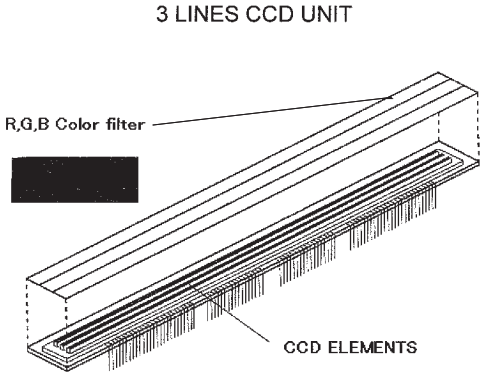
The red CCD extracts the red component of an image, the green CCD extracts the green component, and the blue CCD extracts the blue component. This operation is called color separation.

The CCD element is apparently seen as one unit, but it includes the three kinds of elements (R, G, and B).

The CCD element scans the document in the main scanning direction. Scanning in the sub scanning direction is made by shifting the scanner unit with the scanner motor.

The document images are optically reduced by the lens and reflected to the CCD.

The scanning direction is 600dpi.



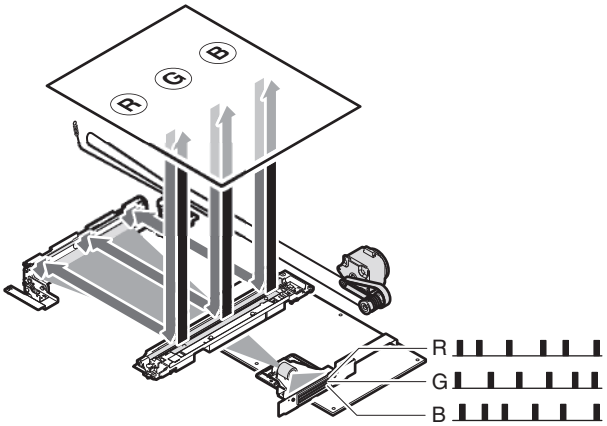
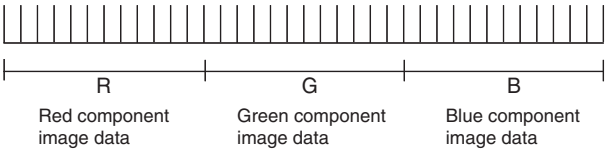



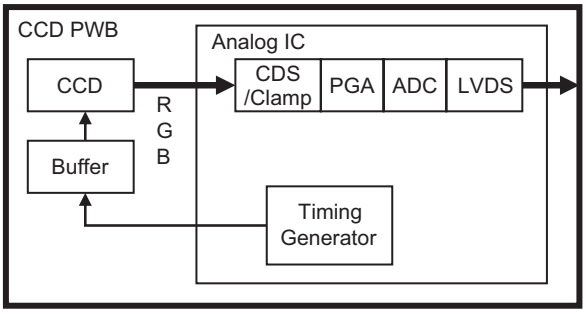

**Image data of one line**




#### d. Image signal A/D conversion

1) Each image signal (analog) of R, G, and B is converted into a 10bit digital signal by the A/D converter in the CCD PWB.

   Each color pixel has 10bit information.
2) Each 10bit digital image signal of R, G, and B is outputted from the CCD PWB and sent to the SCN MFP PWB, where it is converted into an 8bit signal and sent to the SCN MFP PWB.



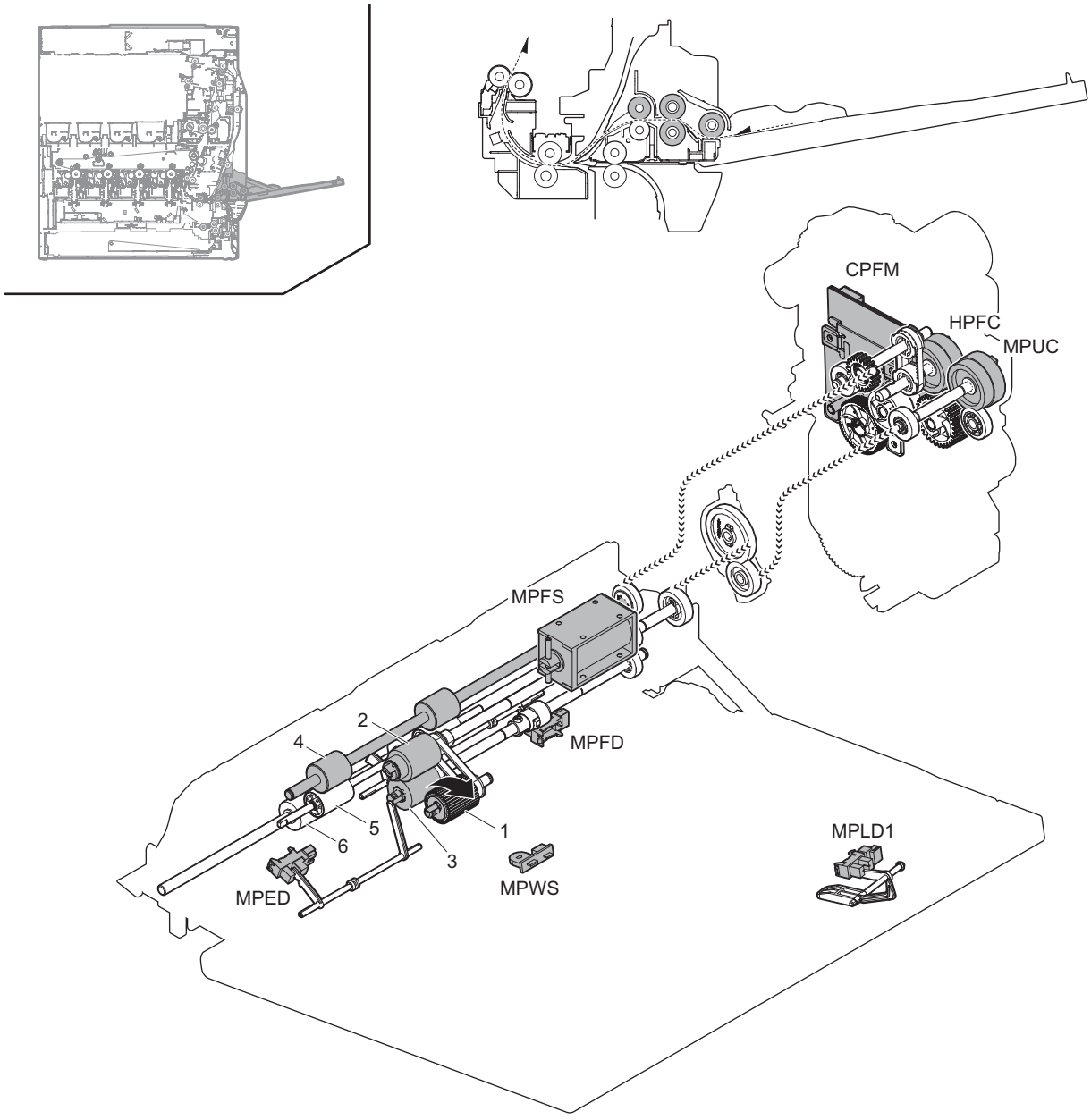

#### e. Zooming operation

Zooming in the sub scanning direction is performed by changing the scanning speed in the sub scanning direction.

Zooming in the main scanning direction is not made optically, but performed by the image process technology (software).

# 3. Manual paper feed section

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| CPFM | Paper feed motor | Drives the paper feed section |
| HPFC | Horizontal transport clutch | Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray) |
| MPED | Paper empty sensor | Detects presence of paper (Manual paper feed tray) |
| MPFD | Paper feed sensor | Detects paper pass (Manual paper feed tray) |
| MPFS | Paper feed solenoid | Controls the paper feed roller (Manual paper feed tray) |
| MPLD1 | Paper length sensor | Detects the paper length (Manual paper feed tray) |
| MPUC | Paper feed clutch | Controls ON/OFF of the paper feed roller (Manual paper feed tray) |
| MPWS | Paper width sensor | Detects the paper width (Manual paper feed tray) |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Paper pickup roller | Feeds paper to the paper feed roller (Manual paper feed tray) |
| 2 | Paper feed roller | Feeds paper to the paper transport section (Manual paper feed tray) |
| 3 | Separation roller | Separate paper to prevent double feeding (Manual paper feed tray) |
| 4 | Transport roller 10 (Drive) | Transports paper transported from manual paper tray to the transport roller 4 |
| 5 | Transport roller 10 (Idle) | Apply a pressure to paper and transport roller to provide the transport power of the transport roller to paper |
| 6 | Transport roller 3 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |

## B. Operational descriptions

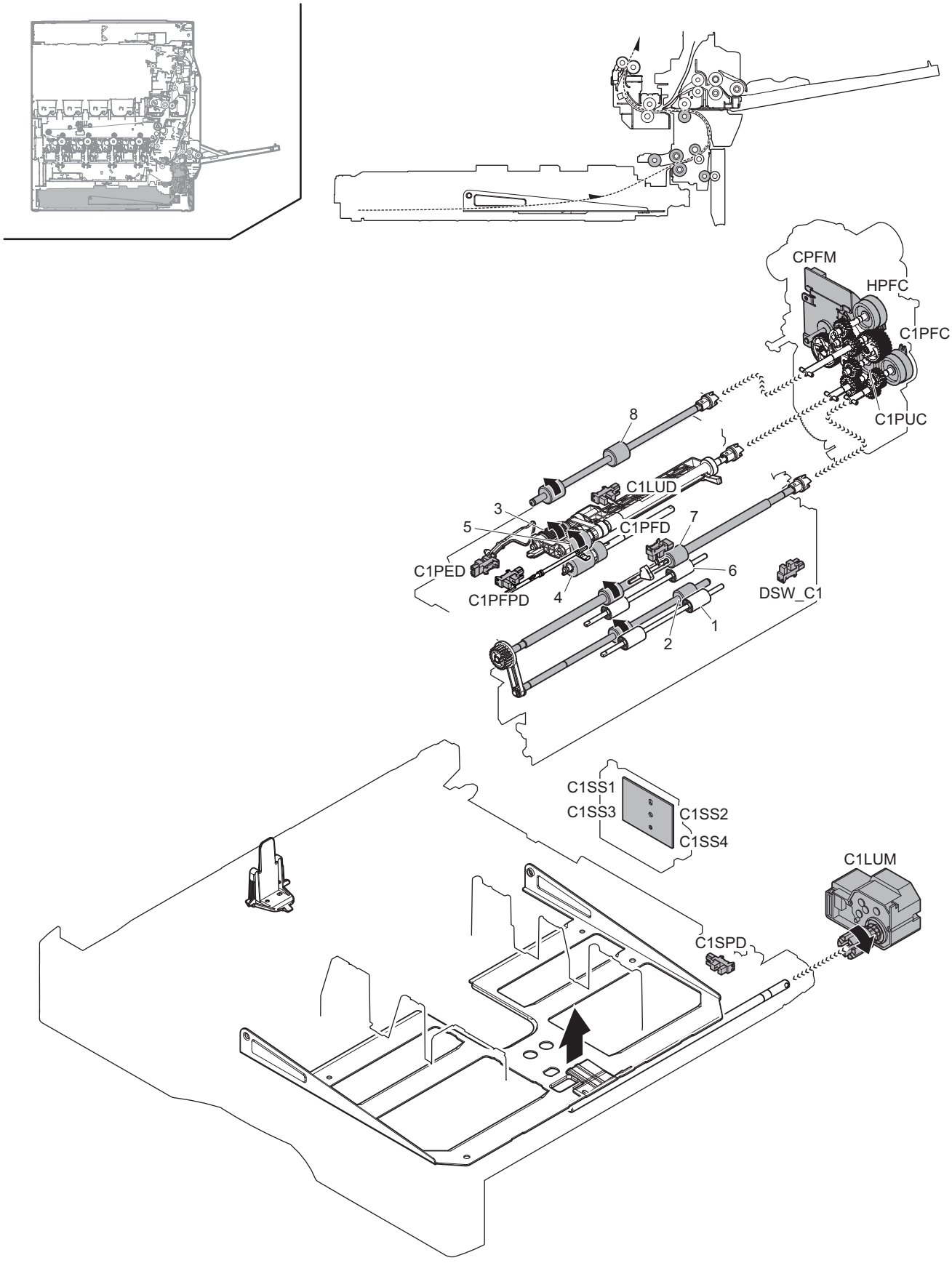
### (1) Paper feed operation

The pickup roller moves up and down to press the paper surface, separating the paper on the top of the paper bundle and sending it to the paper feed roller section.

The paper feed roller feeds paper to the transport section to prevent against double feed with the separation roller. The manual paper feed clutch controls ON/OFF of the pickup roller and the paper feed roller. Paper is sent to the registration roller by the manual transport roller.

## 4. Tray paper feed section

### A. Electrical and mechanical relation diagram



| Signal name | Name | Function/Operation |
|---|---|---|
| C1LUD | Paper feed tray upper limit sensor | Detects the upper limit of the paper lift up (Paper feed tray 1) |
| C1LUM | Paper tray lift motor | Lifts the lift plate of the paper feed tray (Paper feed tray1) |
| C1PED | Paper empty sensor | Detects paper empty (Paper feed tray 1) |
| C1PFC | Vertical transport clutch | Controls the transport roller (Paper feed tray1) |
| C1PFD | Paper transport sensor | Detects paper pass in the paper transport section (Paper feed tray 1) |
| C1PFPD | Paper pass sensor | Detects paper pass in the paper transport section (Paper feed tray 1) |
| C1PUC | Paper feed clutch | Controls ON/OFF of the paper feed roller (Paper feed tray1) |
| C1SPD | Paper remaining quantity sensor | Detects the paper remaining quantity (Paper feed tray 1) |
| C1SS1-4 | Paper size sensor | Detects paper size (Paper feed tray 1) |
| CPFM | Paper feed motor | Drives the paper feed section |
| DSW_C1 | Transport cover sensor | Detects open/close of the transport section cover (Paper feed tray 1) |
| HPFC | Horizontal transport clutch | Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray) |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Transport roller 1 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 2 | Transport roller 1 (Drive) | Transports paper fed from the paper feed tray to the transport roller 3 |
| 3 | Paper pickup roller | Feeds paper to the paper feed roller (Paper feed tray 1) |
| 4 | Separation roller | Separates paper to prevent double feeding (Paper feed tray 1) |
| 5 | Paper feed roller | Feeds paper to the paper transport section (Paper feed tray 1) |
| 6 | Transport roller 2 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 7 | Transport roller 2(Drive) | Transports paper fed from the paper feed tray 1 to the transport roller 3 |
| 8 | Transport roller 3 (Drive) | Transports paper from the transport roller 1 and 2 to the transport roller 4 |

## B. Operational descriptions

### (1) Paper feed front operation

- Set paper and insert the paper feed tray, and the pickup roller falls to turn ON the paper feed tray sensor.
- The lift-up motor drives the rotating plate to move it up.
- The paper upper limit sensor turns ON, and the rotation plate stops at the specified position.

### (2) Paper feed operation

- When copy/print operation is started, the motor and the clutch are turned ON to rotate the pickup roller in the paper pickup timing, feeding paper.
- At the same time, the paper feed roller rotates to transport paper to the transport section. At that time, the separation roller rotates to prevent against double feed of paper.

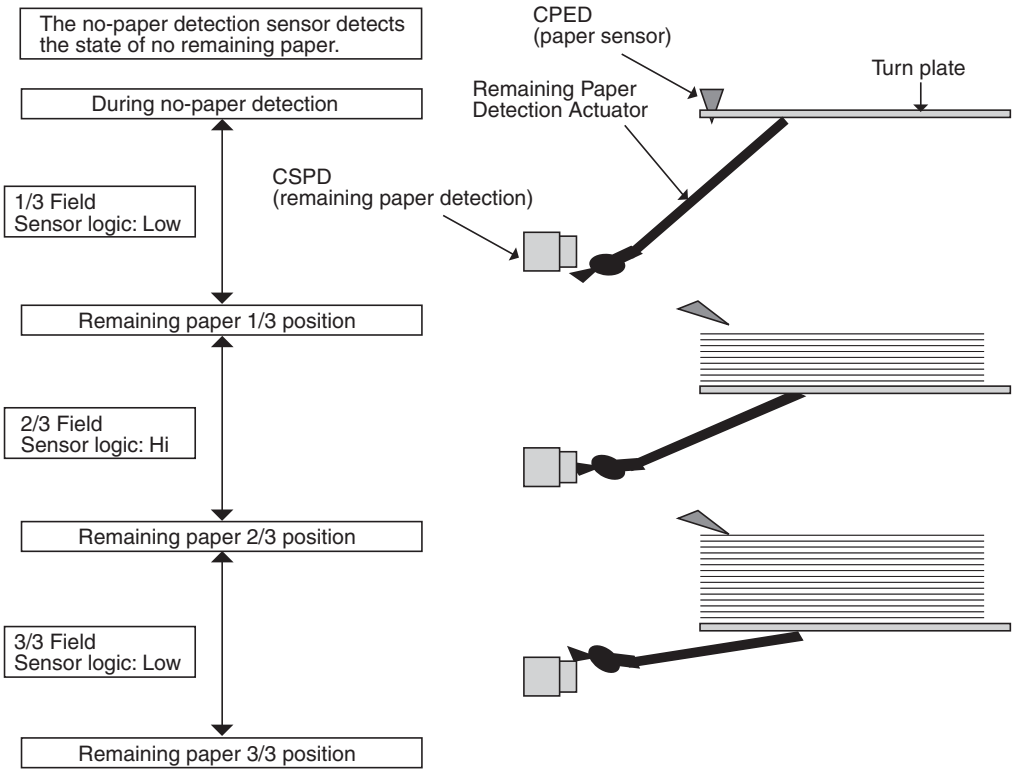
### (3) Paper remaining detection

The notifying levels of paper remaining quantity are 4 steps in total; 3 steps of paper remaining quantity and 1 step of paper empty. The result is displayed.

### (4) Paper remaining quantity detection method

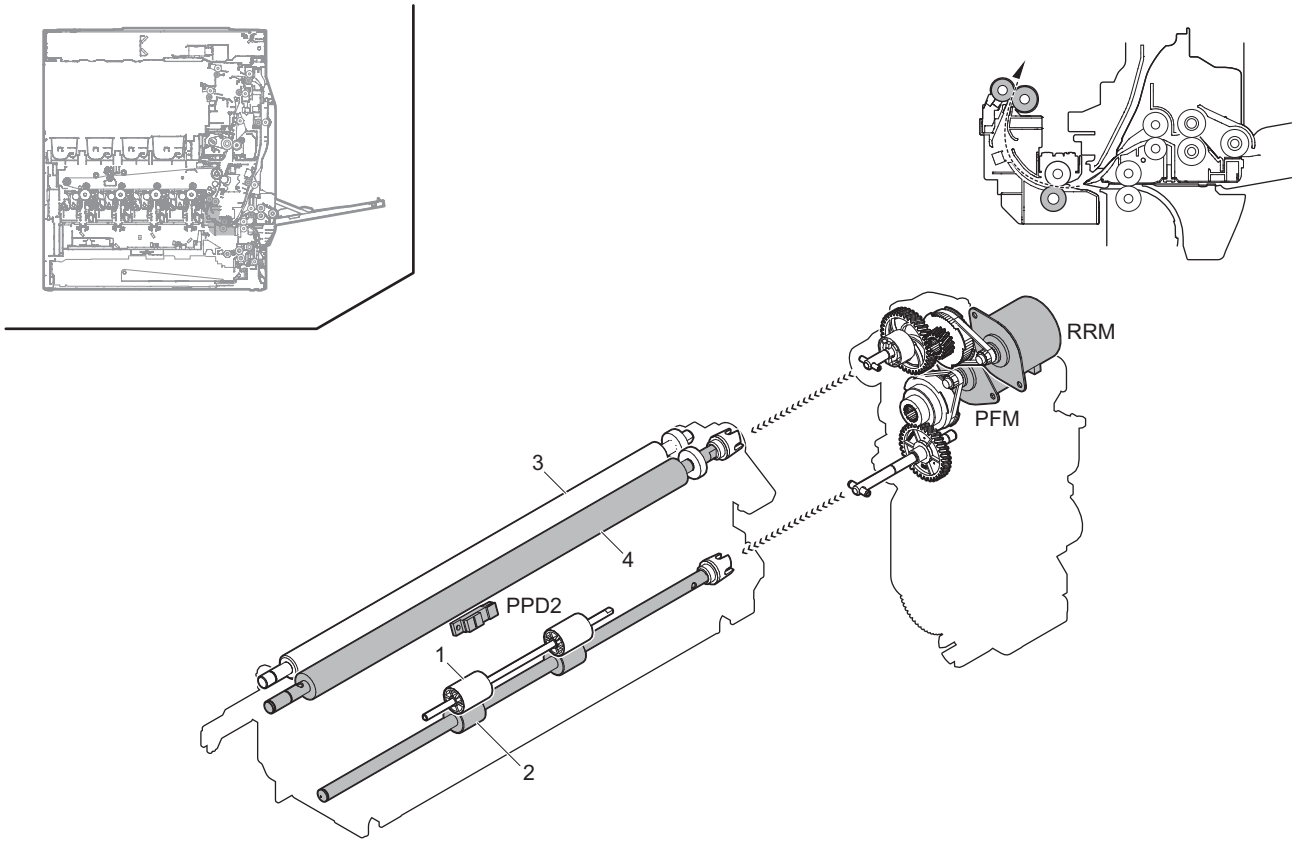
- The paper remaining quantity is judged from the number of rotations of the remaining quantity sensor from starting the lift-up operation of the paper feed tray to turning ON the upper limit sensor.

**(Figure showing state transition of the remaining paper detection sensor during tray elevation and changes in status according to the number of remaining sheets)**



# 5. Paper registration section (Paper transport section)

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| PFM | Transport motor | Drives the transport roller 4 |
| PPD2 | Paper transport sensor 2 | Detects paper pass in the transport roller 4 and registration roller |
| RRM | Registration motor | Drives the registration roller (Controls the timing of the transfer image for the paper) |

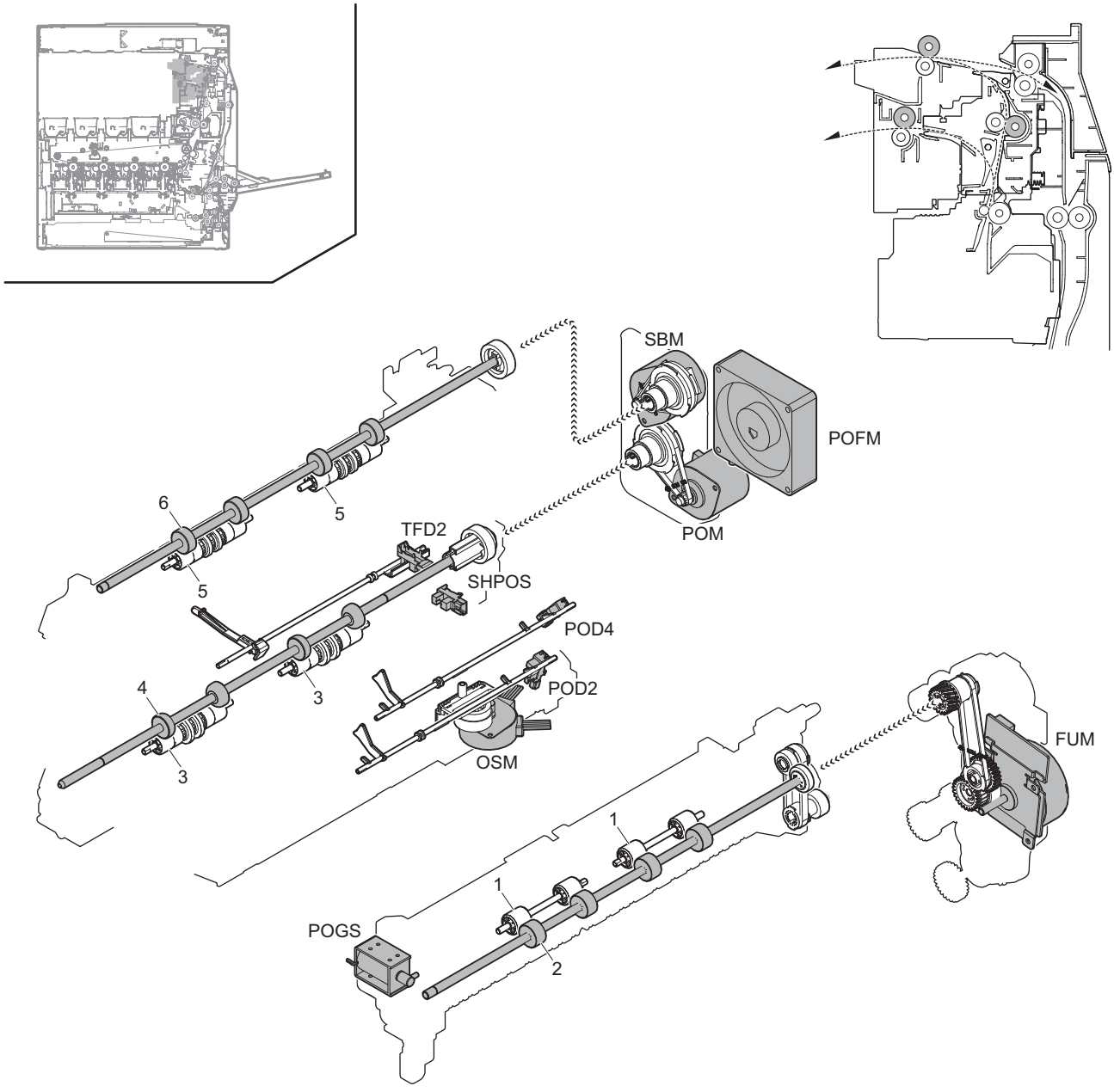
| No. | Name | Function/Operation |
|---|---|---|
| 1 | Transport roller 4 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 2 | Transport roller 4 (Drive) | Transports paper to the registration roller. Paper is buckled between the registration roller and this roller to correct the paper skew and the relation between images and paper |
| 3 | Registration roller (Idle) | Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper |
| 4 | Registration roller (Drive) | Transports paper to the transfer section. Controls the transport timing of paper and adjusts relative position between the images and paper |

## B. Operational descriptions

Paper is fed from each paper feed section and transported to the registration roller by the transport rollers. ON/OFF control of each transport roller is made by the paper transport clutch. The registration roller controls the relative positions of transported paper and the transfer image. The registration roller is driven by the transport motor. The relative positions of paper and the transfer image are determined by the ON timing of the transport motor.

# 6. Paper exit section

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| FUM | Fusing motor | Drives the fusing section |
| OSM | Offset motor | Offsets (shifts) paper |
| POD2 | Paper exit sensor 2 | Detects paper transport to the center paper exit tray |
| POD4 | Paper exit sensor 4 | Detects paper transport to the upper paper exit tray |
| POFM | Paper exit fan | Cools the fusing section and the paper exit section |
| POGS | Gate solenoid | Controls ON/OFF of the gate solenoid selecting upper tray and lower tray |
| POM | Paper exit motor | Drives the roller in the paper exit section |
| SBM | Reverse motor | Drives the transport roller in duplex mode |
| SHPOS | Shifter home position sensor | Detects the shifter home position |
| TFD2 | Paper exit tray full sensor | Detects paper full in the center paper exit tray |

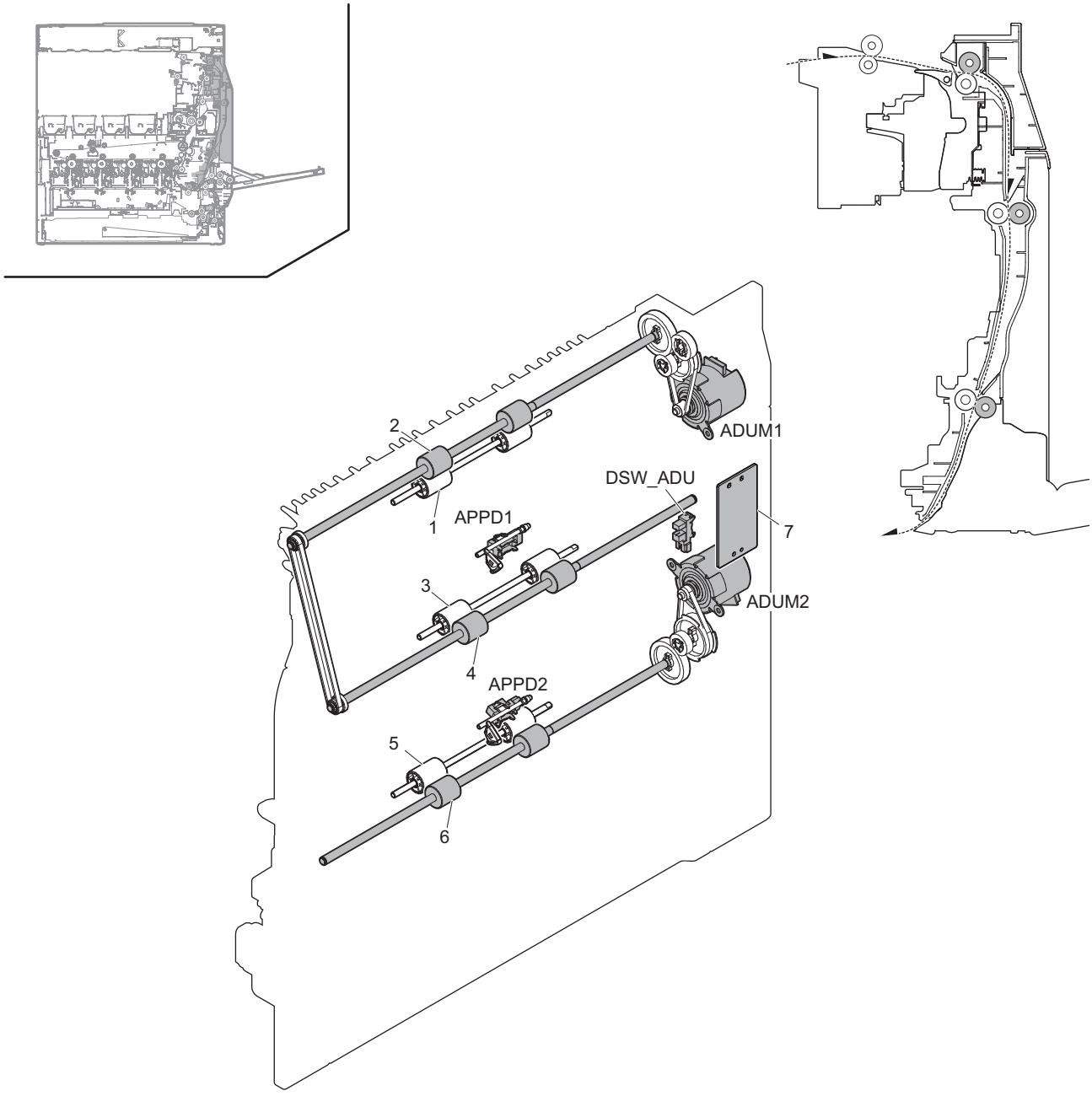
| No. | Name | Function/Operation |
|---|---|---|
| 1 | Transport roller 6 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 2 | Transport roller 6 (Drive) | Transports paper to the paper exit section |
| 3 | Paper exit roller 2 (Idle) | Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper |
| 4 | Paper exit roller 2 (Drive) | Transports paper to the lower paper exit tray |
| 5 | Paper exit roller 1 (Idle) | Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper |
| 6 | Paper exit roller 1 (Drive) | Transports paper to the upper paper exit tray or switchback to the ADU section |

## B. Operational descriptions

- The paper transported from the fusing section is sent from transport roller 6 (which is driven by the FUM motor) to paper exit roller 1, and then discharged to the inner tray.

# 7. ADU section

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| ADUM1 | ADU motor 1 | Drives the transport roller in the right door and right paper exit section |
| ADUM2 | ADU motor 2 | Drives the transport roller in the right door section |
| APPD1 | ADU paper transport sensor 1 | Detects paper entry and paper pass in the ADU section |
| APPD2 | ADU paper transport sensor 2 | Detects paper pass of the transport roller 9 |
| DSW_ADU | ADU cover sensor | Detects open/close of the ADU cover |

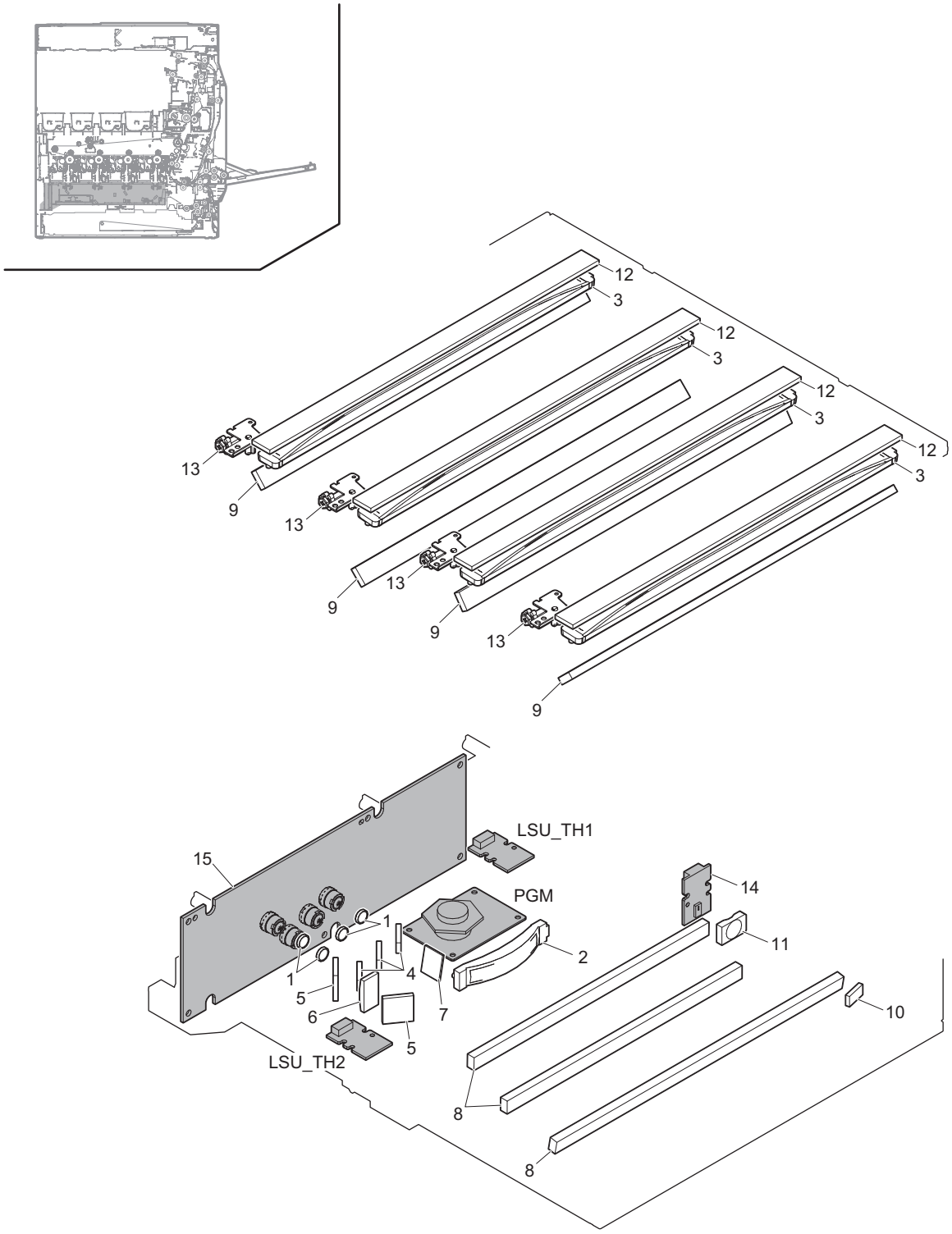
| No. | Name | Function/Operation |
|---|---|---|
| 1 | Transport roller 7 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 2 | Transport roller 7 (Drive) | Transports paper to transport roller 8 |
| 3 | Transport roller 8 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 4 | Transport roller 8 (Drive) | Transports paper transported from switchback section to the transport roller 9 |
| 5 | Transport roller 9 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 6 | Transport roller 9 (Drive) | Transports paper transported from transport roller 8 to the transport roller 4 |
| 7 | RD I/F PWB | Detects each sensor in the right door unit |

## B. Operational descriptions

- The paper transported from the fusing section is sent from transport roller 6 (which is driven by the ADU motor) to paper exit roller 1. At that time, the paper passed under the gate.
- When POD4 detects the paper lead edge, the paper exit drive motor reverses.
- By reversion of the paper exit motor, the paper is sent to the ADU section. At that time, the paper passes over the ADU guide which fell by its own weight.
- Transport rollers 7 and 8 are driven the ADU motor 1, and transport roller 9 by the ADU motor 2. The paper is transported to the duplex paper feed position.
- The paper is once stopped at the duplex paper feed position, and transported again to the inside of the machine.

# 8. LSU section

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| LSU_TH1 | LSU temperature sensor 1 | Detects LSU temperature |
| LSU_TH2 | LSU temperature sensor 2 | Detects LSU temperature |
| PGM | Polygon motor | Scans laser beams |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Colimeter lens | Forms laser beams. |
| 2 | f θ lens 1 | Equalizes the laser beam dot intervals in the main scanning direction. (Corrects the laser dot intervals on the OPC drum.) |
| 3 | f θ lens 2 | |
| 4 | 1st Incident mirror | Reflects laser beams to the OPC drum. |

| No. | Name | Function/Operation |
|---|---|---|
| 5 | 2nd,3rd Incident mirror | Reflects laser beams to the OPC drum. |
| 6 | Incident CYL | Leads laser beams to the Polygon motor. |
| 7 | Incident glass | Prevents dust, toner, and foreign materials to polygon motor. |
| 8 | 1st Outgoing mirror | Reflects laser beams to the OPC drum. |
| 9 | last outgoing mirror | Reflects laser beams to the OPC drum. |
| 10 | BD mirror | Leads laser beams to the BD (Beam Detector). |
| 11 | Conversion lens for BD | Converges laser beams and leads to the BD (Bean Detector). |
| 12 | Filter glass | Prevents dust, toner, and foreign materials from entering the LSU. |
| 13 | Skew adjustment screw (C, M, Y, K) | Adjusts the radiating angle of laser beams for the OPC drum. By turning this adjustment screw, image skew can be adjusted. |
| 14 | BD PWB | Detects laser and outputs the synchronous signal |
| 15 | LSU PWB | Controls the LSU and generates the video data. Controls laser diode and power |

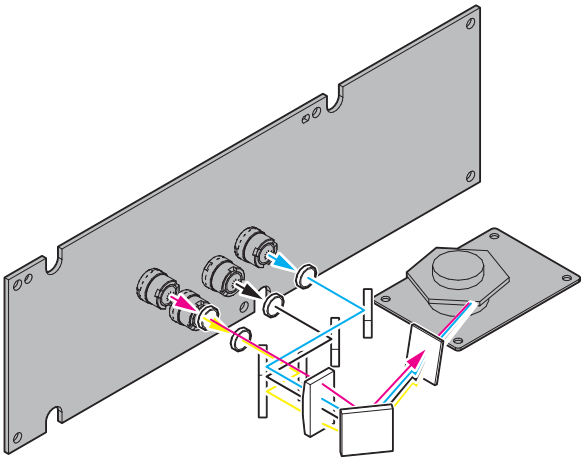
## B. Operational descriptions

### (1) General

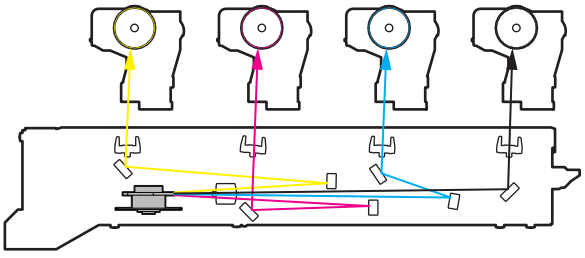
Image data sent from the LSU PWB are converted into laser beams and radiated onto the OPC drum surface. The LSU unit is composed of : (1) the optical elements from the laser to the polygon mirror, (2) the primary system including the mirror which secures the optical path, (3) the optical elements including the polygon mirror, and (4) the scanning system including the mirror which secure the optical path.

### (2) Composition

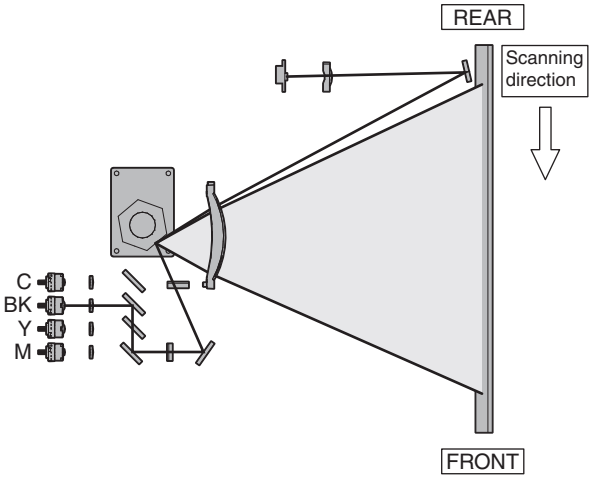
**Primary system**



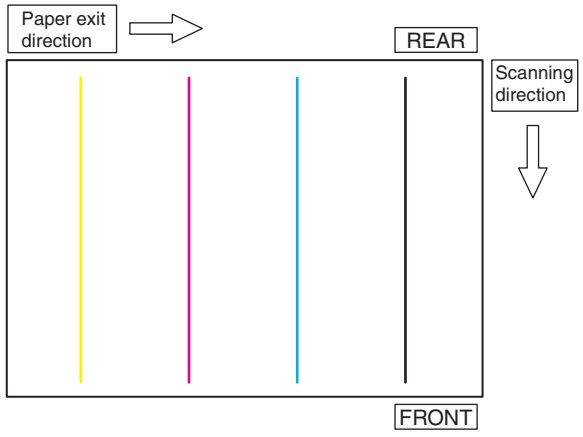
**Scanning system**



**Main scanning direction**




**Writing position on paper**

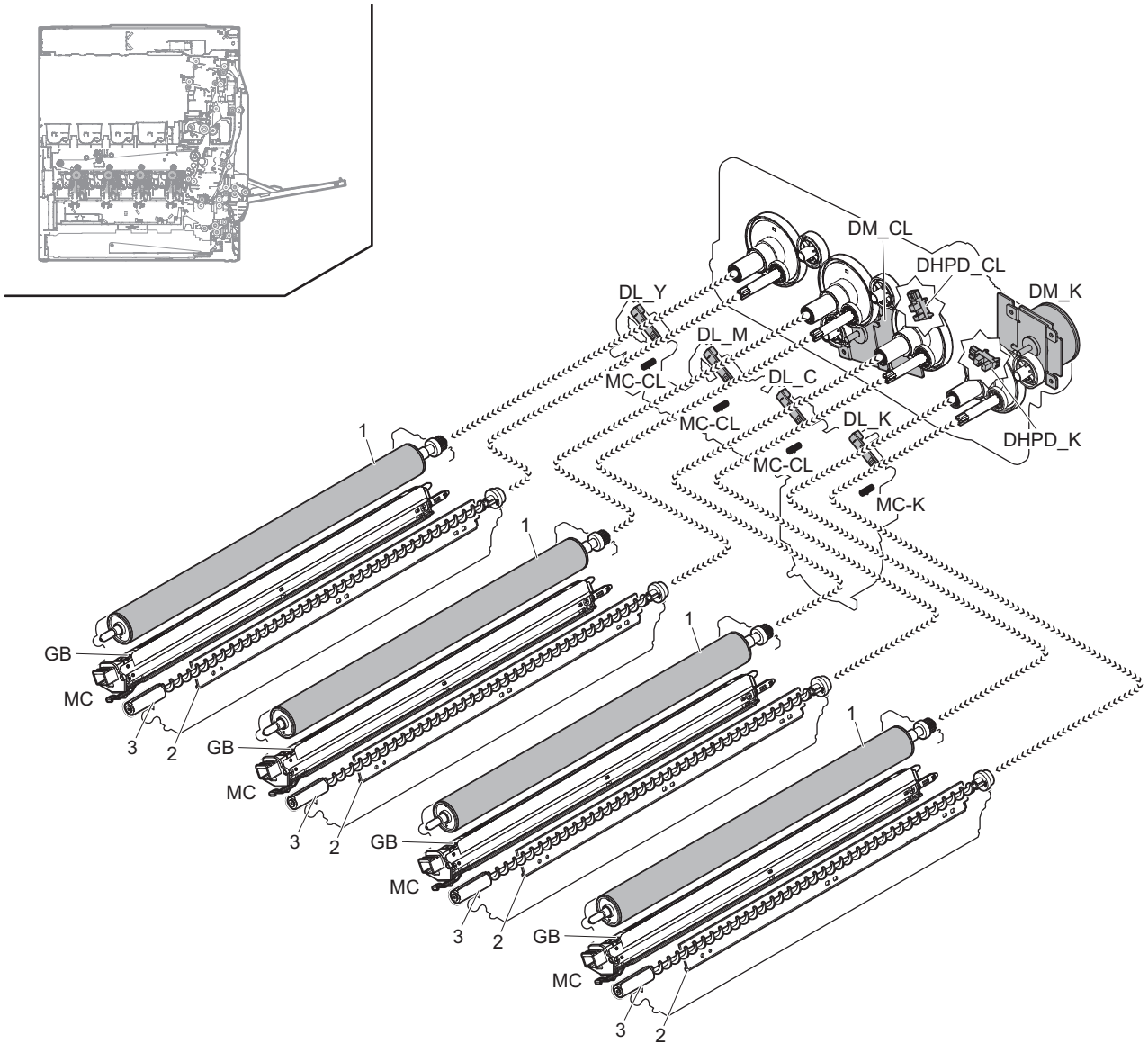



### (3) Outline of LSU specifications

| | MX-xx61/xx71 series | MX-xx51 series |
|---|---|---|
| Process speed | 180mm/sec | |
| Resolution | 1200dpi | 600dpi |
| Laser beam | 2 beams | 1 beam |
| Polygon motor rotation speed | 42520cpm | |
| Laser power | Max 0.375mW/1beam | Max 1.1mW |
| Bearing type | Oil bearing | |
| Number of mirrors | 6 | |
| Laser beam diameter | 50 - 85 x 50 - 80μm | |
| Effective scan length | 329mm | |
| Laser wave length | 780-800nm | 775-800nm |

# 9. OPC drum section

## A. Electrical and mechanical relation diagram



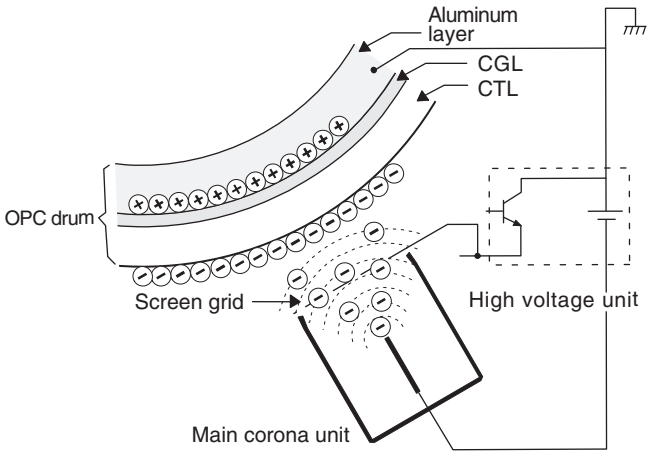

| Signal name | Name | Function/Operation |
|---|---|---|
| DHPD_CL | Drum phase sensor (CL) | Detects rotation and the phase of the OPC drum |
| DHPD_K | Drum phase sensor (K) | Detects rotation and the phase of the OPC drum |
| DL_C | Discharge lamp C | Discharges electric charges on the OPC drum |
| DL_K | Discharge lamp K | Discharges electric charges on the OPC drum |
| DL_M | Discharge lamp M | Discharges electric charges on the OPC drum |
| DL_Y | Discharge lamp Y | Discharges electric charges on the OPC drum |
| DM_CL | Drum motor (CL) | Drives the OPC drum/developing section |
| DM_K | Drum motor (K) | Drives the OPC drum, developing and primary transfer section |
| GB (Y, M, C, K) | Grid (Y, M, C, K) | The OPC drum surface potential is controlled. |
| GB (Y, M, C, K) | Main charger grid voltage (K, M, C, Y) | The OPC drum surface charging voltage is controlled. |
| MC (Y, M, C, K) | Main charger (Y, M, C, K) | The OPC drum surface is negatively charged. |
| MC-CL | Main charger applying voltage (CL) | The main charger is charged to generate negative electric charges. |
| MC-K | Main charger applying voltage (K) | |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | OPC drum unit (Y, M, C, K) | Latent electrostatic images are formed. |
| 2 | Cleaning blade (Y, M, C, K) | Remaining toner on the OPC drum surface is cleaned. |
| 3 | Waste toner transport screw | Waste toner in the OPC drum unit is transported to the waste toner collection section. |

## B. Operational descriptions

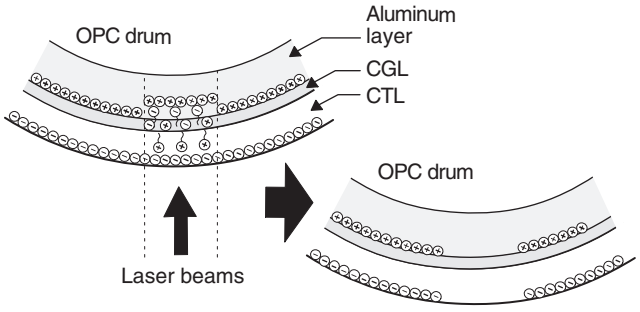
The OPC drum surface is negatively charged by the main charger, then laser image beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.

1) The OPC drum surface is negatively charged by the main charger.




The main charger grid is provided with the screen grid. The OPC drum is charged at a voltage virtually same as the voltage applied to the screen grid.

2) Laser beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.




When laser beams are radiated onto the CGL of the OPC drum, positive and negative charges are generated.

Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

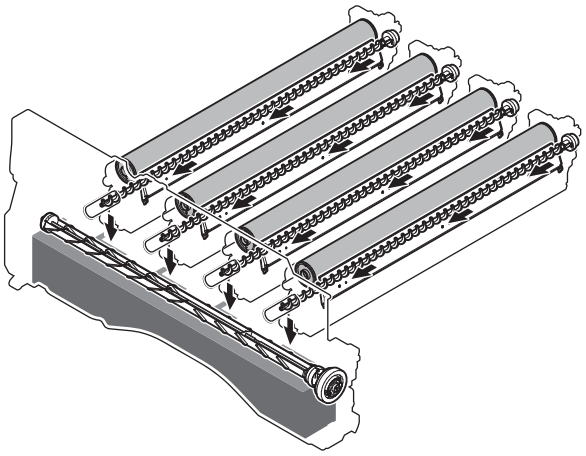
Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage.

Electric charges remain at a position where laser beam are not radiated.

As a result, latent electrostatic images are formed on the OPC drum surface.

3) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner section by the waste toner transport screw.



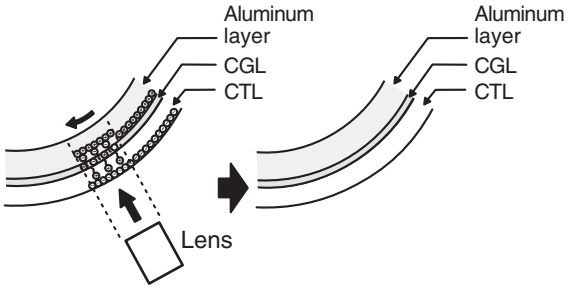
**OPC drum rotation control**

The OPC drum (K) is driven by the DM motor (DM_K), and the rotation speed is monitored by the OPC drum phase sensor (DHPD_K).

The color OPC drums (C, M, and Y) are driven by the DM motor (DM_CL), and the rotation speed is monitored by the OPC drum phase sensor (DHPD_CL).

Based on the signals monitored by the two sensors, the rotation speeds of K OPC drum and the color OPC drums and the rotation phase are controlled.

4) The whole surface of the OPC drum is discharged.

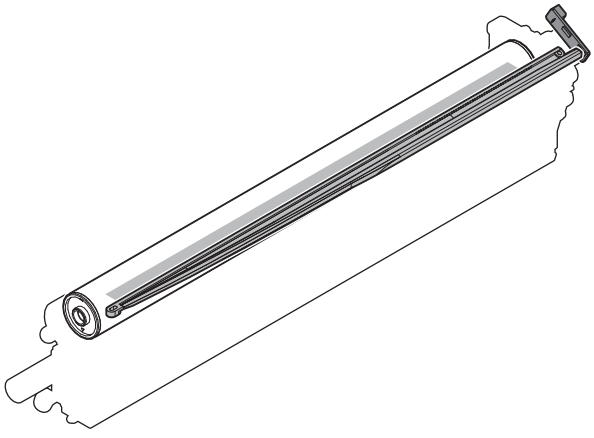



By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

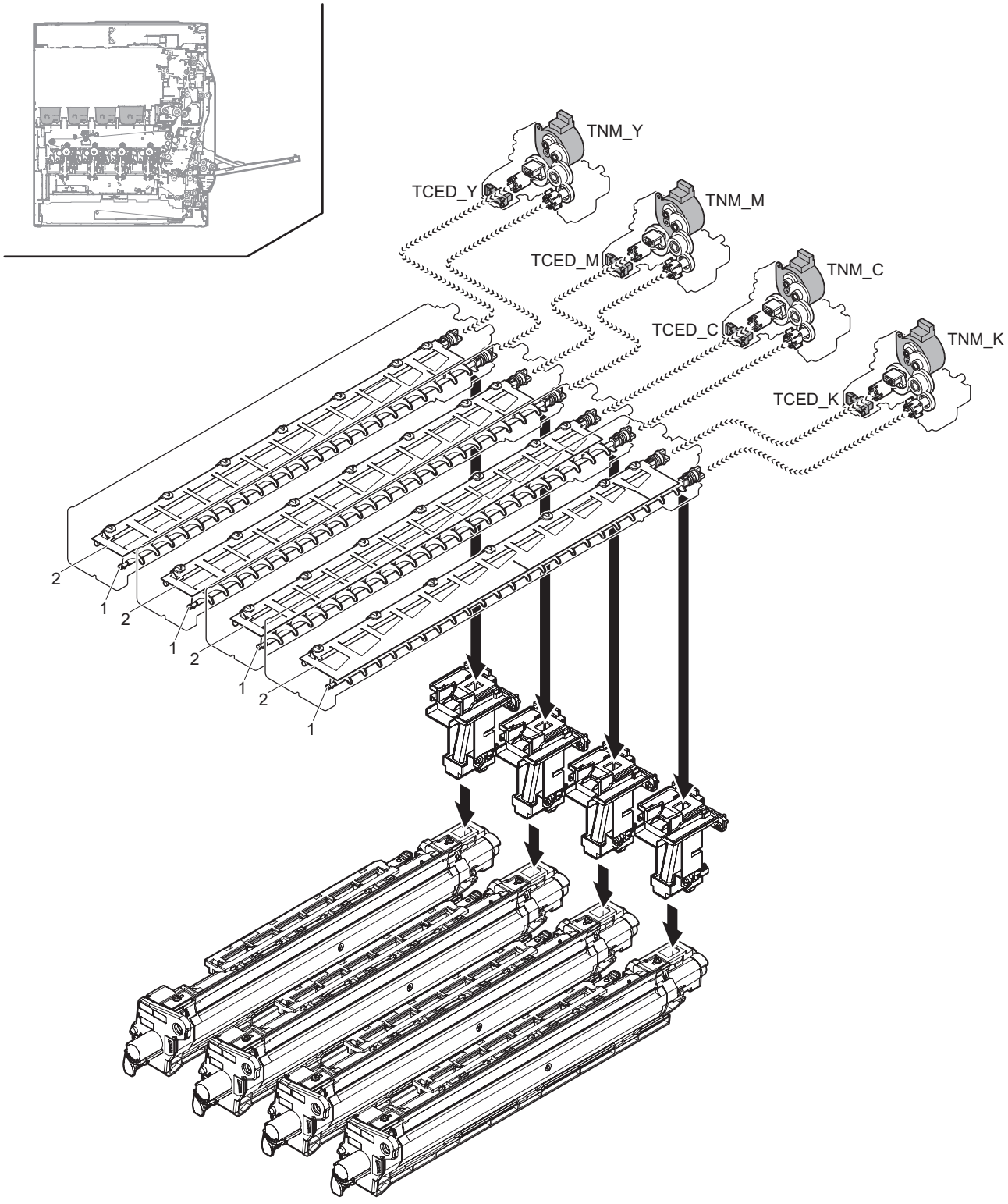
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive and negative charges are balanced out on the OPC drum surface and in the aluminum layer, reducing positive and negative charged to decrease the surface voltage of the OPC drum.



## 10. Toner supply section

### A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| TCED_C | Toner cartridge ejecting sensor (C) | Detects ejecting position of toner cartridge |
| TCED_K | Toner cartridge ejecting sensor (K) | Detects ejecting position of toner cartridge |
| TCED_M | Toner cartridge ejecting sensor (M) | Detects ejecting position of toner cartridge |
| TCED_Y | Toner cartridge ejecting sensor (Y) | Detects ejecting position of toner cartridge |
| TNM_C | Toner motor (C) | Supplies toner from the toner cartridge to the developing unit |
| TNM_K | Toner motor (K) | Supplies toner from the toner cartridge to the developing unit |
| TNM_M | Toner motor (M) | Supplies toner from the toner cartridge to the developing unit |
| TNM_Y | Toner motor (Y) | Supplies toner from the toner cartridge to the developing unit |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Toner transport screw | Transports toner from the toner cartridge to the developing unit. |
| 2 | Toner stirring plate | Moves toner to the toner transport screw to assist the toner transport operation. |

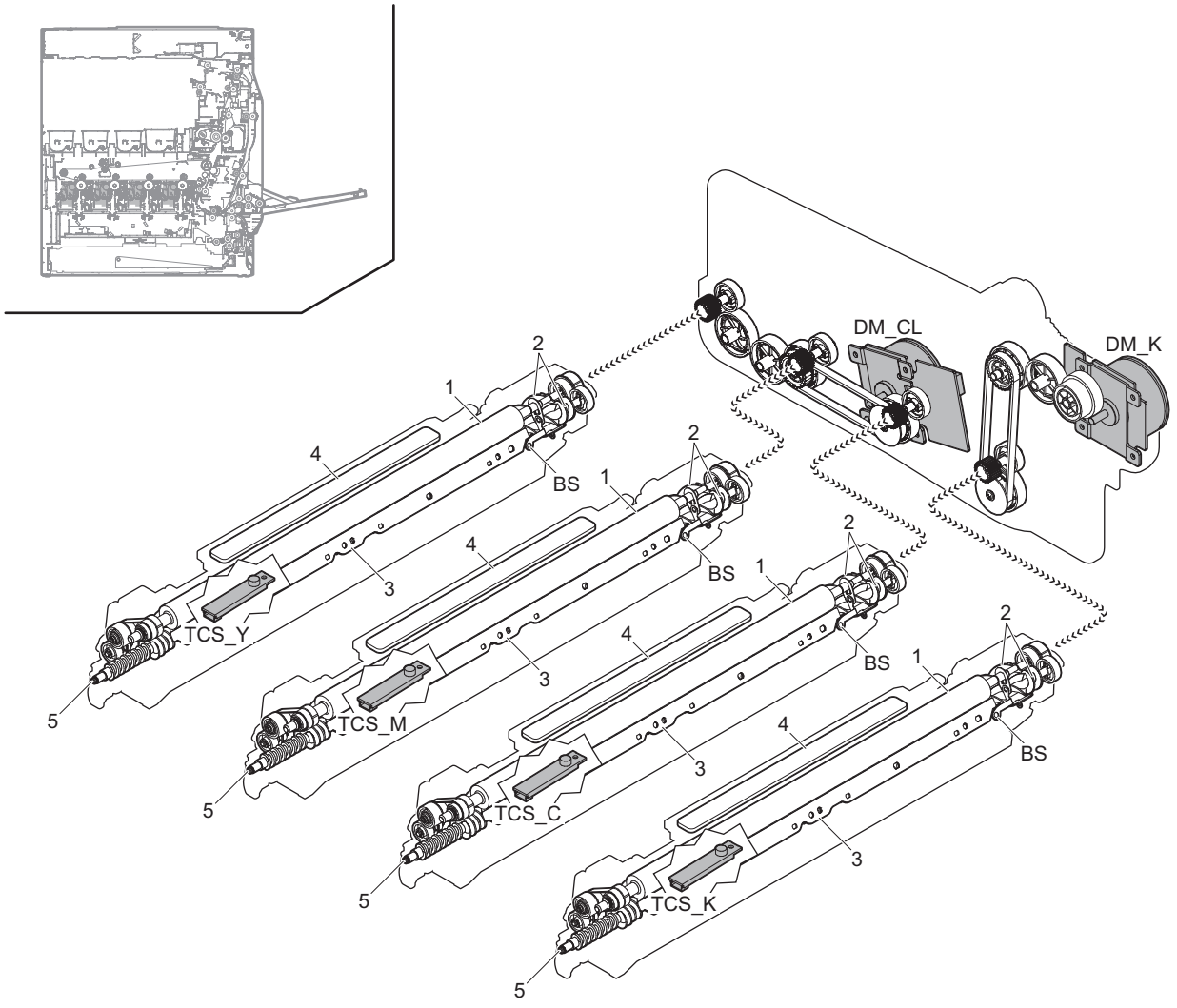
## B. Operational descriptions

Based on the print pixel count and the process control information, Yes/No of toner supply is judged.

When it is judged that the toner density is decreasing, the toner motor is rotated to supply toner in the toner cartridge through the toner transport screw and the toner transfer pipe to the developing unit.

# 11. Developing section

## A. Electrical and mechanical relation diagram

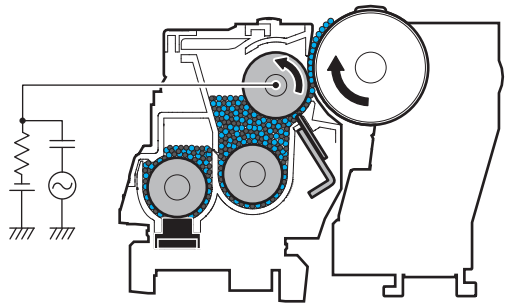



| Signal name | Name | Function/Operation |
|---|---|---|
| BS (K, M, C, Y) | Developing bias voltage (K, M, C, Y) | Voltage to form toner images on the OPC drum. Controls the developing density. |
| DM_CL | Drum motor (CL) | Drives the OPC drum/developing section |
| DM_K | Drum motor (K) | Drives the OPC drum, developing and primary transfer section |
| TCS_C | Toner sensor (C) | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_K | Toner sensor (K) | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_M | Toner sensor (M) | Detects toner supply from the toner cartridge<br>Detects toner density |
| TCS_Y | Toner sensor (Y) | Detects toner supply from the toner cartridge<br>Detects toner density |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Developing roller | Attaches toner to electrostatic latent images on the OPC drum and forms toner images. |
| 2 | Mixing roller | Stirs developer and toner to negatively charge toner. |
| 3 | Doctor | Maintains the quantities of toner and developer on the DV roller at a constant levels. |
| 4 | Toner filter | Prevents toner splash. |
| 5 | Mixing roller R | Exhaust supplied surplus developers and keep the amount of developers constant. |

## B. Operational descriptions

Toner is attached to electrostatic latent images formed on the OPC drum surface by laser image beams to form toner images.



Toner and carrier in the developing unit are agitated and transported by the mixing roller.

By stirring, toner and carrier are negatively charged by mechanical friction.

The developing bias voltage (AC component and negative DC component) is applied to the developing roller.

Negatively charged toner is attracted to the exposed section on the OPC drum where the negative potential falls due to the developing bias.

If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted.

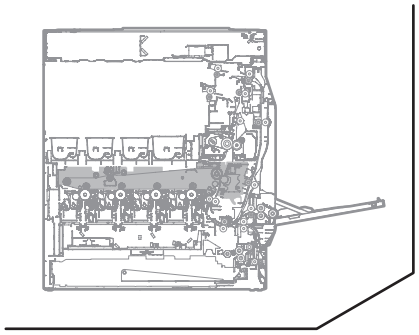
The toner sensor detects the toner supply state from the toner cartridge.

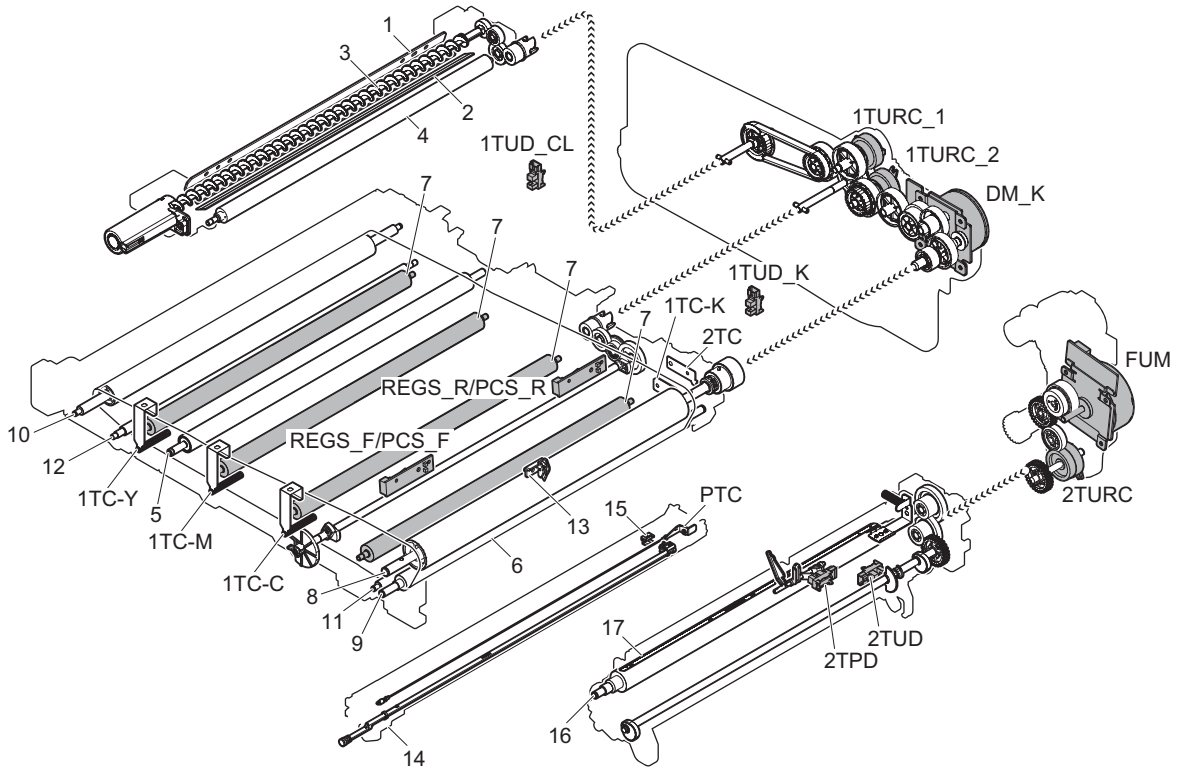
In this machine, the toner density is detected by the toner sensor, but the toner supply operation is not controlled only by the toner density detection result. The toner density control is performed according to the process control data.

A small amount of carrier is replenished from the toner cartridge at the same time that toner is replenished, and the developer in the developing unit is constantly refreshed by discharging the surplus.

# 12. Transfer section

## A. Electrical and mechanical relation diagram






| Signal name | Name | Function/Operation |
|---|---|---|
| 1TC (CMY) | Primary transfer voltage (CMY) | Flows the transfer current to the primary transfer belt, and transfers toner images from the OPC drum to the transfer belt. |
| 1TC (K) | Primary transfer voltage (K) | Flows the transfer current to the primary transfer belt, and transfers toner images from the OPC drum to the transfer belt. |
| 1TUD_CL | Transfer mode sensor (CL) | Detects separation of the transfer belt and the transfer mode |
| 1TUD_K | Transfer mode sensor (K) | Detects separation of the transfer belt and the transfer mode |
| 1TURC_1 | Primary transfer separation clutch 1 | Controls separation of the primary transfer unit |
| 1TURC_2 | Primary transfer separation clutch 2 | Controls separation of the primary transfer unit |
| 2TC | Secondary transfer voltage | Flows the transfer current to the primary transfer roller, and transfers toner images from the primary transfer belt to paper. |
| 2TPD | Secondary transfer paper sensor | Detects paper remained after recovery from paper JAM |
| 2TUD | Secondary transfer position sensor | Detects the position (separation) of the secondary transfer unit |
| 2TURC | Secondary transfer separation clutch | Controls separation of the secondary transfer unit |
| DM_K | Drum motor (K) | Drives the OPC drum, developing and primary transfer section |
| FUM | Fusing motor | Drives the fusing section |
| PTC | PTC voltage | High voltage for PTC |
| REGS_F/ PCS_F | Image registration / Density sensor (F) | Detects image color shift and the toner patch density |
| REGS_R/ PCS_R | Image registration / Density sensor (R) | Detects image color shift and the toner patch density |

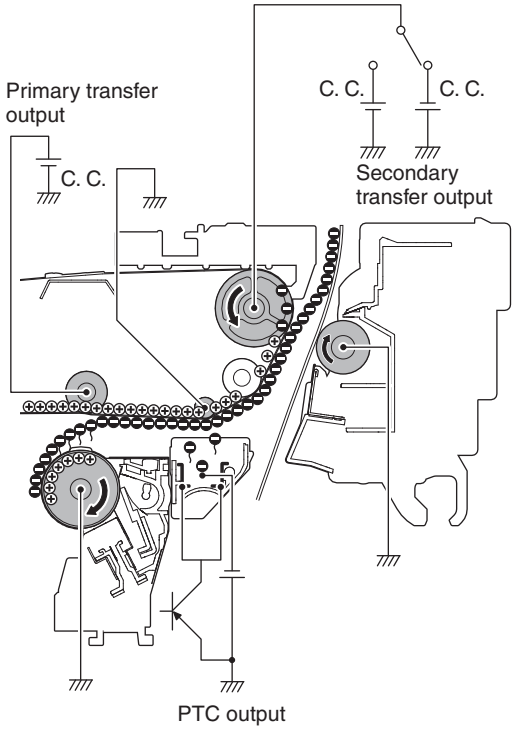
| No. | Name | Function/Operation |
|---|---|---|
| 1 | Cleaning blade | Cleans residual toner on the primary transfer belt. |

| No. | Name | Function/Operation |
|---|---|---|
| 2 | Cleaning sub blade | Prevent toner from cleaner unit. |
| 3 | Primary transfer waste toner transport screw | Transports waste toner in the primary transfer cleaning unit to the waste toner collection section. |
| 4 | Cleaning roller | Stabilization of the cleaning performance. |
| 5 | Primary transfer blade backup roller | Stabilization of the contact state of a blade and roller. |
| 6 | Primary transfer belt | Transfers toner images of the OPC drum onto the transfer belt. |
| 7 | Primary transfer roller (K, C, M, Y) | Applies a high positive voltage to the primary transfer belt. |
| 8 | Primary transfer belt drive roller | Drives the transfer belt. A negative voltage is applied when in the transfer operation, and an alternate high voltage (positive and negative) is applied when cleaning. |
| 9 | Pre-transfer roller | Angle adjustment to the paper feed course of the transfer belt. |
| 10 | Primary transfer belt follower roller | Transfer belt follower drive |
| 11 | BK auxiliary roller | Stabilization of the contact state of BK drum and transfer belt. |
| 12 | Y auxiliary roller | Stabilization of the contact state of Y drum and transfer belt. |
| 13 | Separation pawl | Separates paper after transfer. |
| 14 | PTC unit | Reduces positive charges on the primary transfer belt, and improves the transfer efficiency. |
| 15 | PTC cleaner | Clean the PTC wire. |
| 16 | Secondary transfer roller | Connects the secondary transfer roller to the GND and flows the transfer current. |
| 17 | Discharge brush | Discharges the secondary transfer roller after transfer to neutralize it. |

## B. Operational descriptions

### (1) Transfer, cleaning operation

**Transfer operation**




A high positive voltage is applied to the primary transfer roller to transfer toner images from the OPC drum to the primary transfer belt.

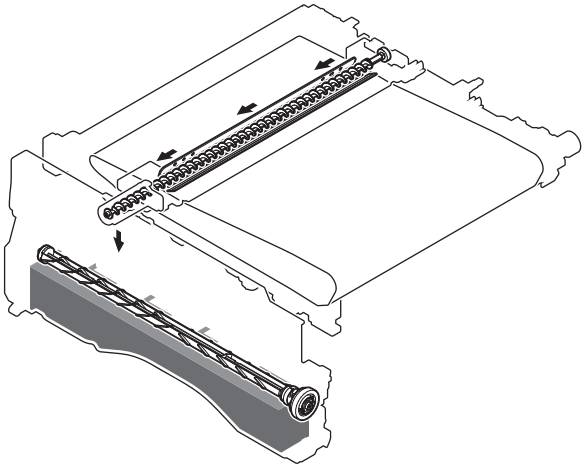
Negative electronic charges are generated by the PTC unit, supplying negative charges to toner.

This operation improves the transfer efficiency in the secondary transfer.

Then a high negative voltage is applied to the primary transfer drive roller, to transfer toner images from the primary transfer belt to paper.

**Primary transfer cleaning operation**

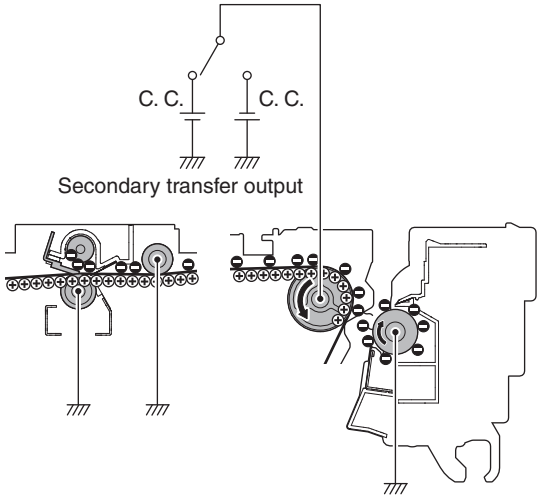
The primary transfer belt is cleaned mechanically by the cleaning blade.



Remaining toner removed from the primary transfer belt is transported to the waste toner collection section by the waste toner transport screw.

**Secondary transfer cleaning**

A high positive voltage is applied to the primary transfer belt to attach unnecessary toner to the primary transfer belt, and it is cleaned by the primary transfer belt cleaning.



**Primary transfer belt mode select**

There are three kinds of modes of the transfer belt: the free position, the color print mode, and the monochrome print mode.

Mode select is made with the developing motor, the mode select clutches 1TURC1 and 1TURC2.

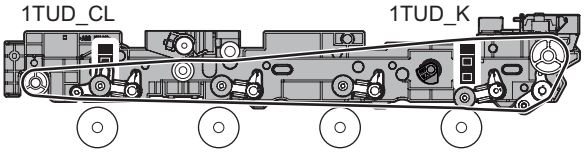
When the roller separation clutch is turned ON, the transfer cam rotates, and the primary transfer link in conjunction with the cam is shifted in the arrow direction, separating the transfer roller.

The color transfer rollers (C, M, and Y) and the black transfer roller (K) perform an independent separation operation, and the mode state is detected by the combination of the transfer mode detector 1TUD_CL and 1TUD_K signals.

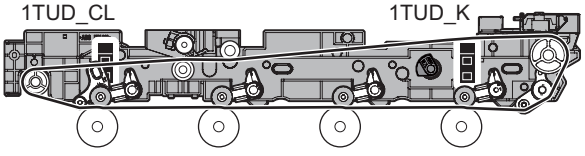
To select the rotating direction of the mode select cam, two mode select clutches 1TURC1 and 1TURC2 are used.

The two mode select clutches are used to select the mode in the shortest time.

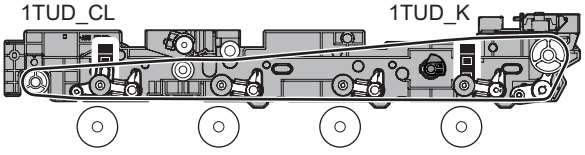
| Mode | Transfer mode detector | |
|---|---|---|
| | 1TUD_CL | 1TUD_K |
| Monochrome print mode | ON | ON |
| Color print mode | OFF | ON |
| Free position | ON | OFF |




Monochrome print mode




Color print mode




Free position

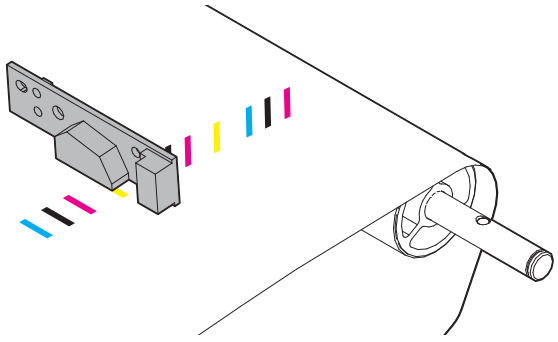
## (2) Image density detection and registration detection operation

The image density detection and the image registration detection are performed the sensors which are provided separately on the front frame side and the rear frame side.

**a. Functions and operations of the color image density sensor and the image registration sensor F (REGS F) provided on the front frame side**

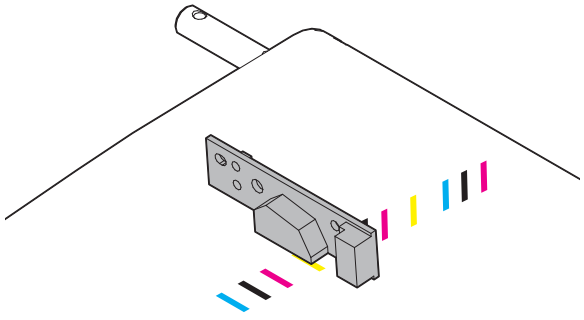
When the process control is performed with one sensor, the color toner patch density is detected. When the image registration adjustment is performed, the image registration shift on the front frame side is detected.

Before execution of the process control and the automatic registration adjustment, the standard reflection plate is closed and the sensor sensitivity adjustment is performed by using the standard reflection plate.



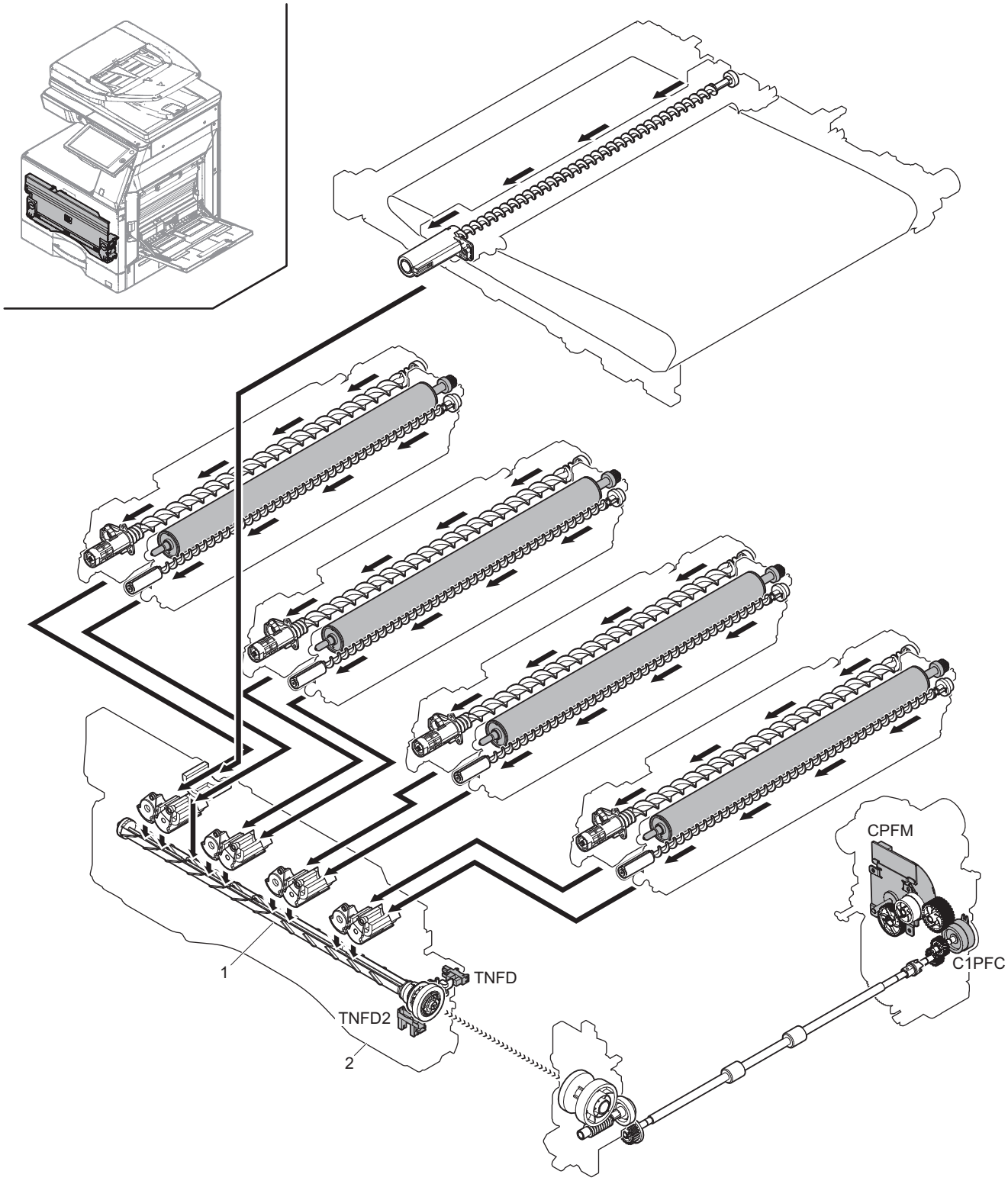
**b. Functions and operations of the black image density sensor and the image registration sensor R (REGS R) provided on the rear frame side**

When the process control is performed with one sensor, the black toner patch density is detected. When the image registration adjustment is performed, the image registration shift on the rear frame side is detected.



## 13. Waste toner collection section

### A. Electrical and mechanical relation diagram



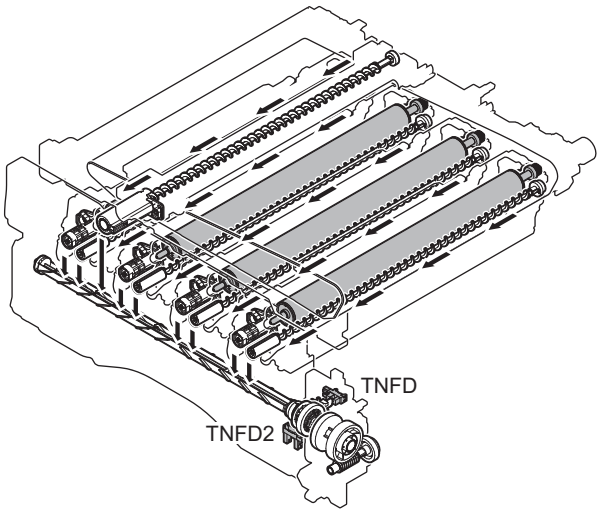

| Signal name | Name | Function/Operation |
|---|---|---|
| C1PFC | Vertical transport clutch | Controls the transport roller (Paper feed tray1) |
| CPFM | Paper feed motor | Drives the paper feed section |
| TNFD | Waste toner sensor | Detects full of waste toner |
| TNFD2 | Waste Developer sensor | Detects full of waste developer |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Waste toner transport screw | Transports waste toner to the waste toner box. |
| 2 | Waste toner box | Collects waste toner. |

## B. Operational descriptions

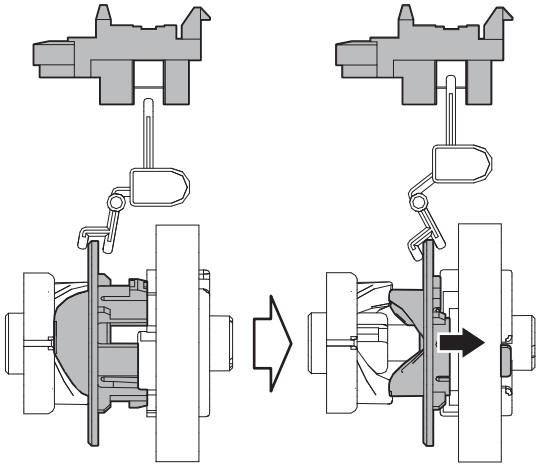
### (1) Waste toner transport collection operation

Waste toner generated in the OPC drum and the primary transfer cleaning section is transported to the waste toner box by the waste toner transport screw which is driven by the paper feed motor.




### (2) Waste toner full detection operation

The toner collection box section is provided with the waste toner full detection mechanism. When the waste toner quantity in the toner collection box becomes full, the rotation load of the waste toner transport screw increases and the waste toner transport screw drive coupler is stranded to turn ON the waste toner full sensor -(TNFD).

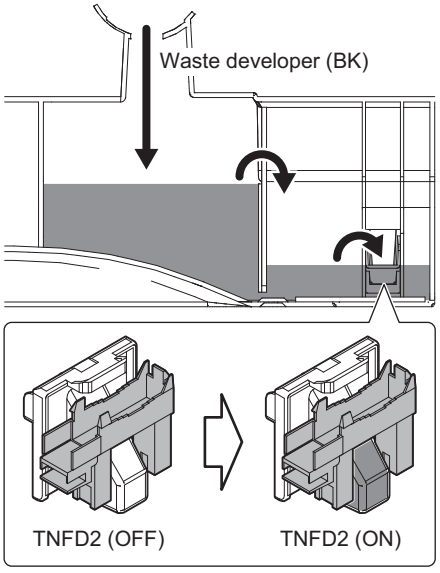



### (3) Waste developer (BK) full detection operation

There is a first collecting part where the waste developer (BK) is deposited inside the waste toner box and a second collecting part connected by the slit hole at a height adjacent to the collecting part.

The waste developer discharged from the developing section in the first collecting section drops and accumulates and flows over the slit hole and flows into the second collecting section.

TNFD2 turns on by depositing a certain amount in the waste toner window cover attached to the wall surface of the second collection part and then flowing in.

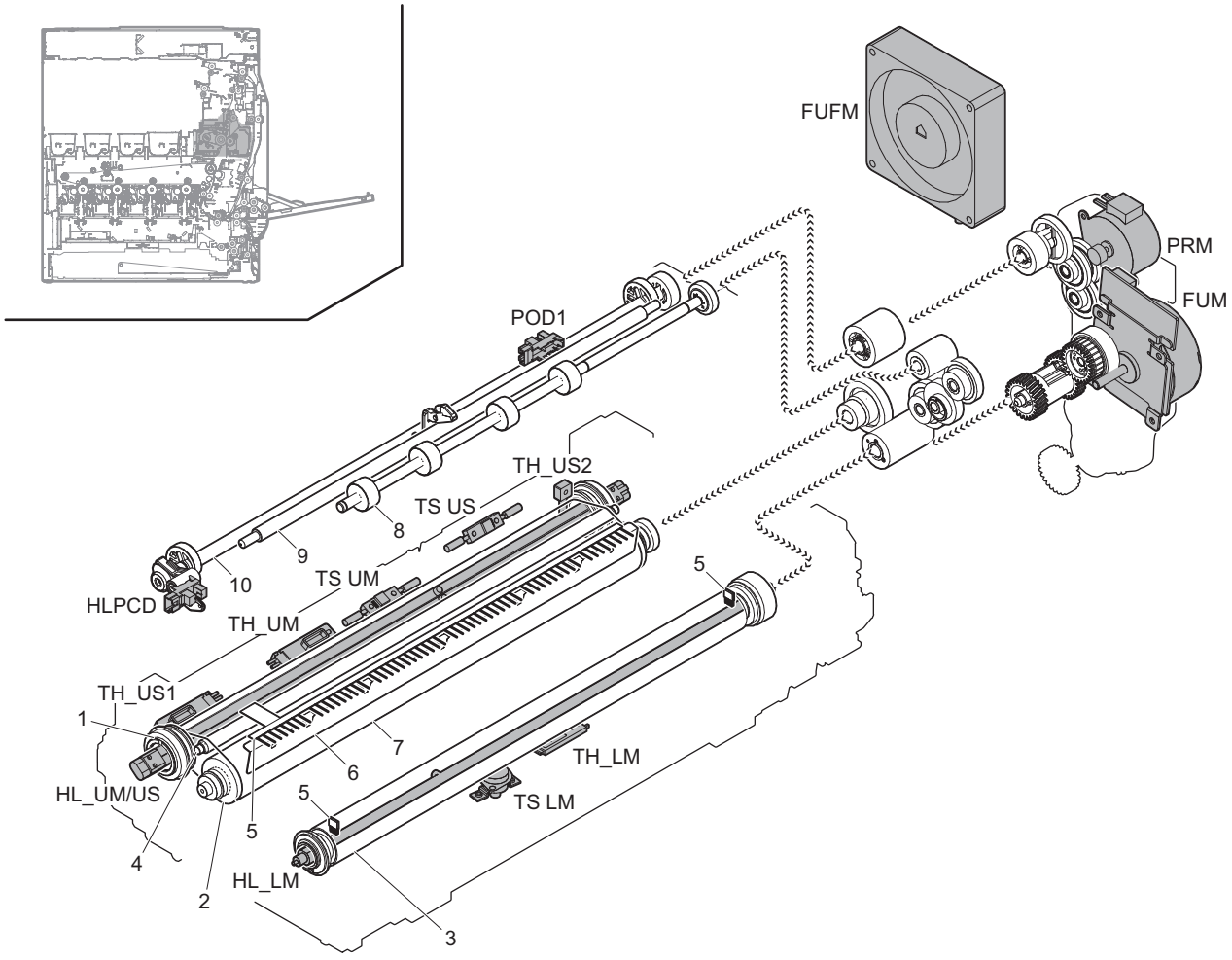



### (4) Near end detection and message

When one of the TNFD or TNFD2 is turn ON continuously for 3 sec, it is judged as near end and the message is displayed to indicate that the replacement of the toner collection box is approaching.

# 14. Fusing section

## A. Electrical and mechanical relation diagram




| Signal name | Name | Function/Operation |
|---|---|---|
| FUFM | Fusing fan | Cools the fusing section and the paper exit section |
| FUM | Fusing motor | Drives the fusing section |
| HL_LM | Heater lamp | Heats the fusing roller |
| HL_UM/US | Heater lamp | Heats the fusing roller and the fusing belt |
| HLPCD | Fusing pressure sensor | Detects the fusing pressure state |
| POD1 | Paper exit sensor 1 | Detects paper transport from the fusing section |
| PRM | Fusing pressure motor | Controls ON/OFF of the fusing roller pressure |
| TH_LM | Fusing temperature sensor (main) | Detects the surface temperature of the pressure roller |
| TH_UM | Fusing temperature sensor (main) | Detects the surface temperature at the center section of the fusing belt |
| TH_US1 | Fusing temperature sensor (sub1) | Detects the surface temperature at the edge section of the fusing belt |
| TH_US2 | Fusing temperature sensor (sub2) | Detects the surface temperature at the edge section of the fusing belt |
| TS LM | Thermostat | Shuts down the heater lamp (HL_LM) circuit when the fusing section is overheated |
| TS UM | Thermostat | Shuts down the heater lamp (HL_UM) circuit when the fusing section is overheated (center section) |
| TS US | Thermostat | Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated (edge section) |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Heat roller | Heats the fusing belt |
| 2 | Fusing roller | The sponge layer of the roller forms a wide nip between the fusing belt and fusing roller |
| 3 | Pressure roller | Heats the back surface of paper to fuse toner on the paper |
| 4 | Belt tension roller | make tension of the fusing belt. |
| 5 | Discharge brush | Discharges static electricity generated in the fusing section to the ground. |
| 6 | Separation plate | Separates the whole surface of paper. (non-contact) |
| 7 | Fusing belt | Heats the front surface of paper to fuse toner on the paper. |
| 8 | Transport roller 5 (Drive) | Transports paper transported from the fusing section to the paper exit section and the switchback section |
| 9 | Transport roller 5 (Idle) | Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper |
| 10 | Pressure shaft | Pressure fusing roller and pressure roller. |

## B. Operational descriptions

### (1) Outline of operations

This machine employs the fusing system by the belt.

**The features of the belt-type fusing system are as follows:**

1) Short warm-up time
2) Low power consumption
3) Wide nip providing high fusing capability

### (2) Heater lamp driving

The surface temperature of the fusing belt and the fusing roller (pressure) detected by the fusing temperature sensor is sent to the PCU. If the temperature is lower than the specified temperature, the heater lamp lighting signal is sent from the PCU to the heater lamp drive circuit in the HL PWB.

When the power triac in the heater lamp drive circuit is turned ON, the AC power is supplied to the heater lamp to light the lamp and heat the fusing belt.

A thermostat is provided as a safety device against an abnormally high temperature in the fusing belt and the fusing roller (pressure).

When the thermostat is opened, the AC power supply to the heater lamp is cut off.

The heater lamp is arranged to fusing roller (F1) and fusing roller (B).

In heater lamp (HL_UM/US), two lamps are integrated into one.

**Heater lamp operations**

| Heater lamp | Operation |
|---|---|
| Heater lamp (HL_UM) | Heats fusing roller (heat) and the fusing belt. |
| Heater lamp (HL_US) | Heats fusing roller (heat) and the fusing belt. |
| Heater lamp (HL_LM) | Heats fusing roller (pressure). Does not turn ON while heater lamp (HL_UM) and heater lamp (HL_LS) light up. |

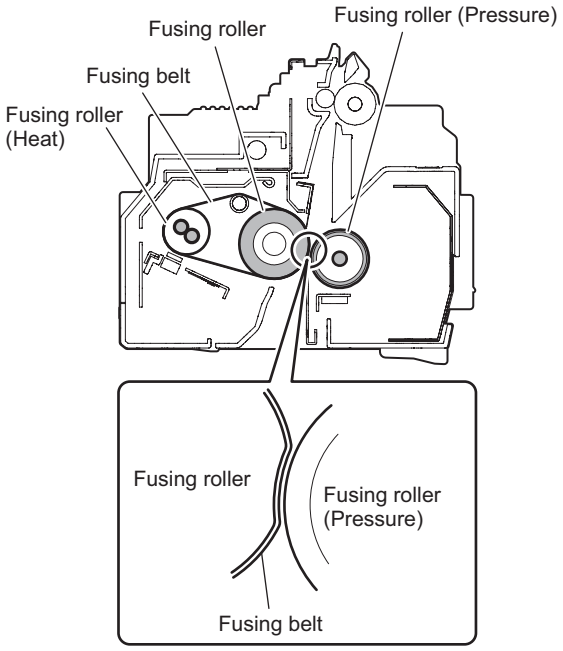
### (3) Fusing operation

Color toner (Y, M, C, and K) on paper is heated and pressed by the fusing belt, fusing roller, and fusing roller (pressure) to be fused on paper.

Toner in the four layers on the paper is fused by heating from up and down and both sides.

The fusing belt, fusing roller which is provided with the sponge layer, and fusing roller (pressure) realize the following operations.

1) The nip amount is increased and the heat capacity to paper is increased.
2) By pressing with the flexible roller, toner of many layers can be fused without being deformed.
3) An even pressure is applied to rough surface of toner (due to the multi-layer composition).



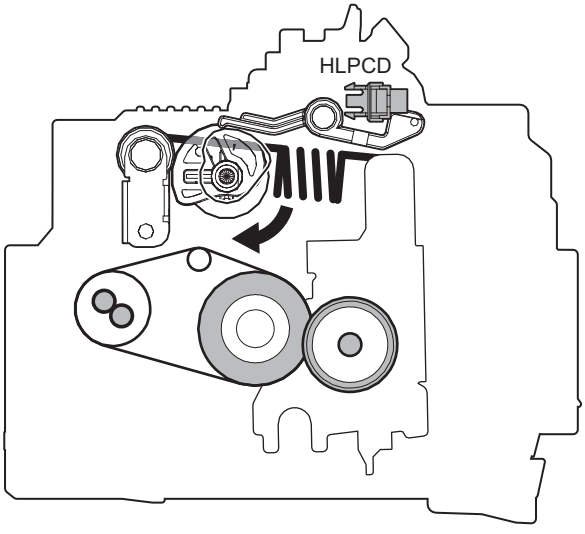

### (4) Automatic pressure release system

Normally the upper and lower heat rollers are pressed. When, however, the following conditions are satisfied, the pressure is released.

- When the machine shifts to the preheat mode.
- When the machine shifts to the auto power shut off mode.
- When the power switch of the operation panel is turned OFF.
- When in the envelope mode.
- When a jam occurs.

**a. Pressure release operation**

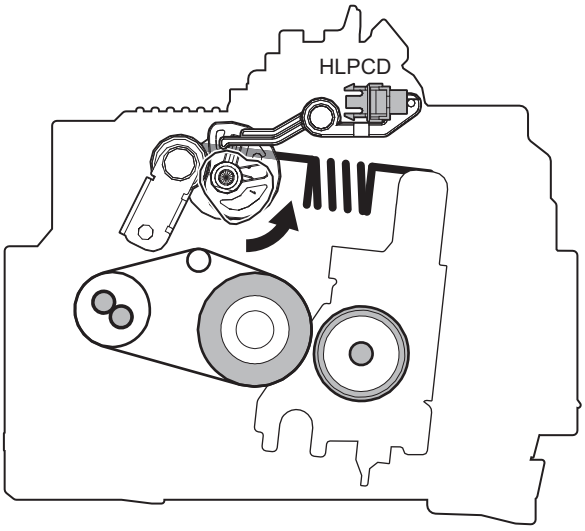
The fusing pressure control motor (PRM) rotates to turn ON the fusing pressure detector (HLPCD) (H level). When the specified time passes after turning ON the fusing pressure detector (HLPCD) (H level) by rotation of the fusing pressure control roller (PRM), the pressure release motor stops to complete the pressure release operation.



**b. Pressure release operation**

When the end user makes some operations or when the machine receives the Job signal, the fusing pressure control motor (PRM) rotates reversely to drive the pressure release lever to the pressing state.

When the specified time passes from turning OFF the fusing pressure detector (HLPCD), the pressure release motor stops to complete the pressing operation.




Important

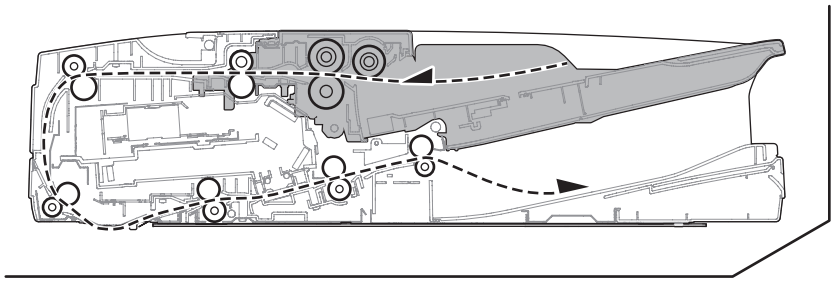
When turning OFF the main power switch of the machine, be sure to turn OFF the power switch of the operation panel and check to confirm that the LCD display goes off before turning OFF the main power switch.

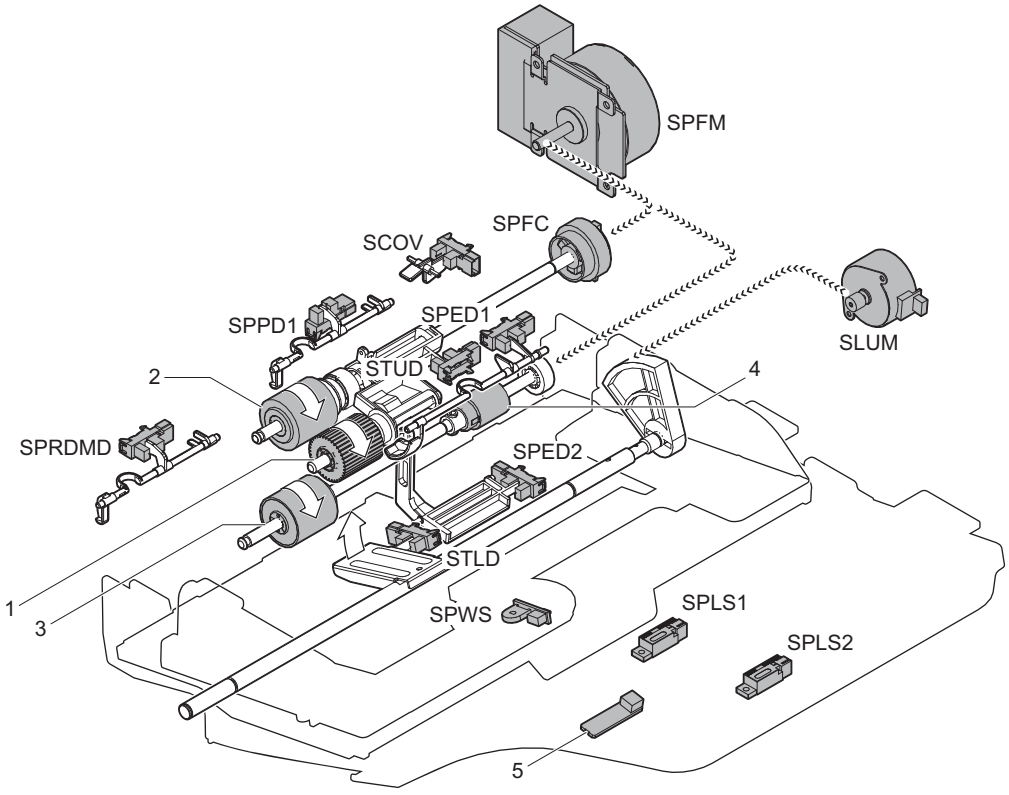
If the main power switch is turned OFF with the LCD lighted, the power is cut off before completion of the pressure release operation. If this state is kept for a long time, the fusing roller may be deformed.

# 15. DSPF section

## A. Electrical and mechanical relation diagram

### (1) Paper feed section

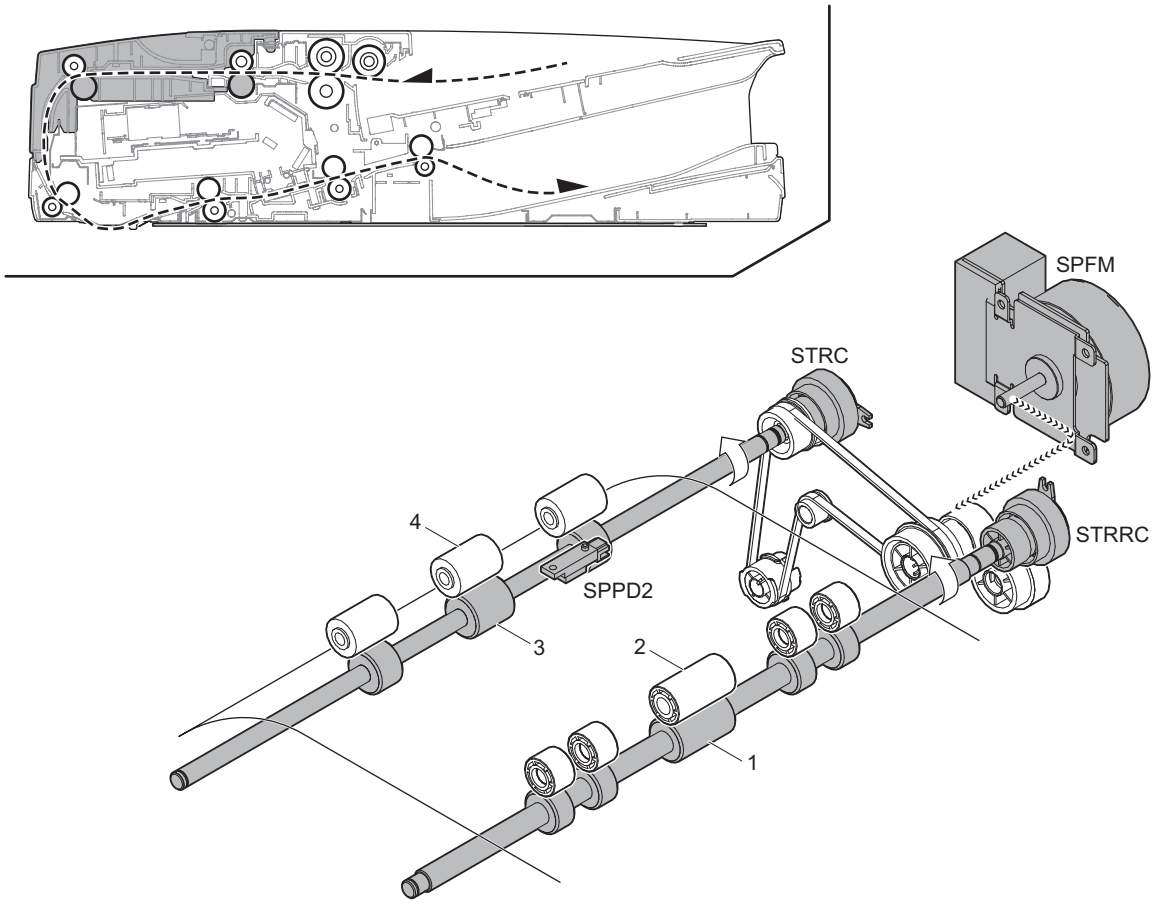





| Signal name | Name | Function/Operation |
|---|---|---|
| SCOV | Upper cover sensor | Detects open/close of the upper cover |
| SLUM | Lift motor | Lifts up and down the document feeder tray |
| SPED1 | Document sensor 1 | Detects document empty of the document feeder tray |
| SPED2 | Document sensor 2 | Detects document empty of the document feeder tray |
| SPFC | Document feed clutch | Controls ON/OFF of rollers in the document feed section |
| SPFM | Transport motor | Drives transport roller |
| SPLS1 | Document length sensor 1 | Detects document length of the document feeder tray |
| SPLS2 | Document length sensor 2 | Detects document length of the document feeder tray |
| SPPD1 | Document pass sensor 1 | Detects document pass |
| SPRDMD | Document random sensor | Detects document size in random document feed |
| SPWS | Document width sensor | Detects document width of the document feeder tray |
| STLD | Tray lower limit sensor | Detects lower limit of the document feeder tray |
| STUD | Tray upper limit sensor | Detects upper limit of the document feeder tray |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Pickup roller | Picks up document and feed it to the document feed roller |
| 2 | Document feed roller | Perform the document feed operation of documents |
| 3 | Separation roller | Separate a document to prevent against double feed |
| 4 | Torque limiter | A fixed level of resistance is always provided for rotation of the separation roller to prevent double feed. |
| 5 | POT LED PWB | Radiates light onto the document exit tray for notifying that document has been discharged |

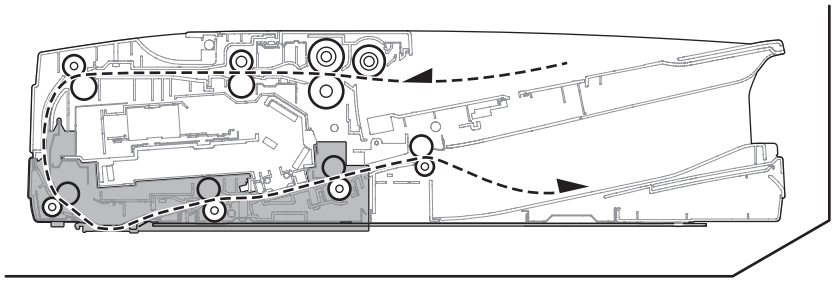
### (2) Upper transport section

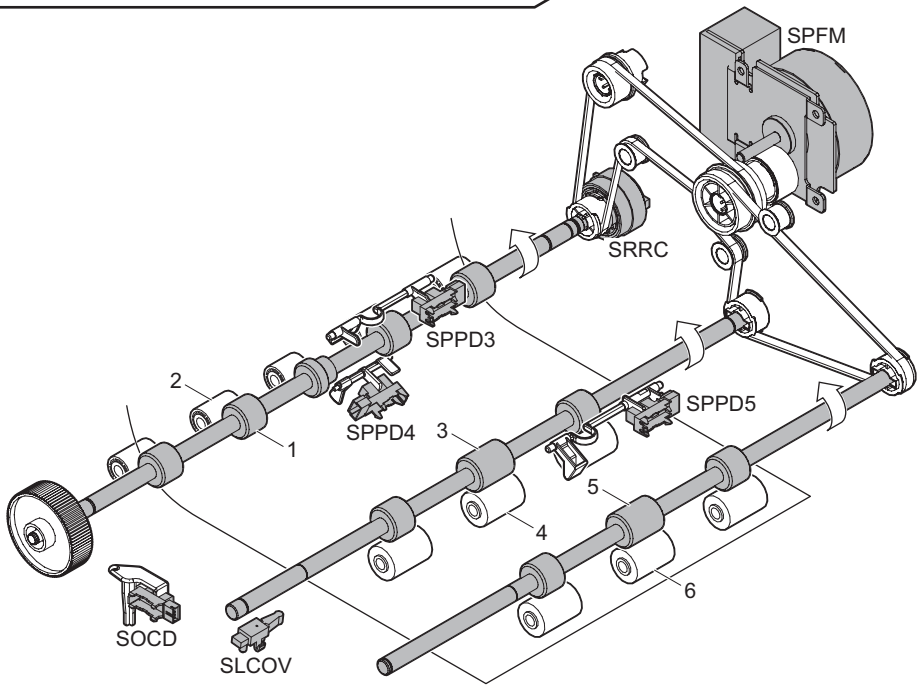



| Signal name | Name | Function/Operation |
|---|---|---|
| SPFM | Transport motor | Drives transport roller |
| SPPD2 | Document pass sensor 2 | Detects document pass |
| STRC | Transport roller 2 clutch | Controls ON/OFF of transport roller 2 |
| STRRC | Transport roller 1 clutch | Controls ON/OFF of transport roller 1 |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Transport roller 1 (Drive) | Transports document from paper feed roller to transport roller 2 |
| 2 | Transport roller 1 (Idle) | Applied a pressure to document and the transport roller, and provides transport power of the transport roller to document |
| 3 | Transport roller 2 (Drive) | Transports document from transport roller to registration roller |
| 4 | Transport roller 2 (Idle) | Applied a pressure to document and the transport roller, and provides the transport power of the transport roller to document |

### (3) Lower transport section

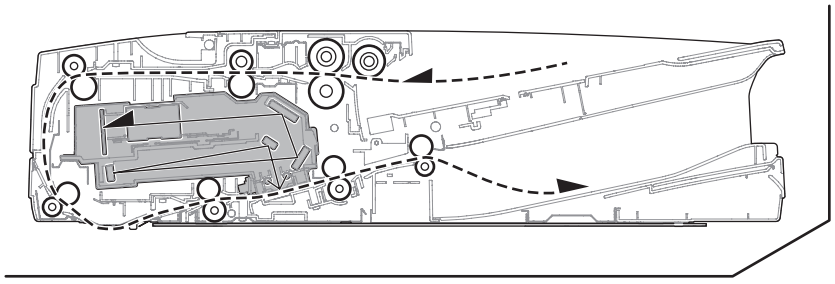


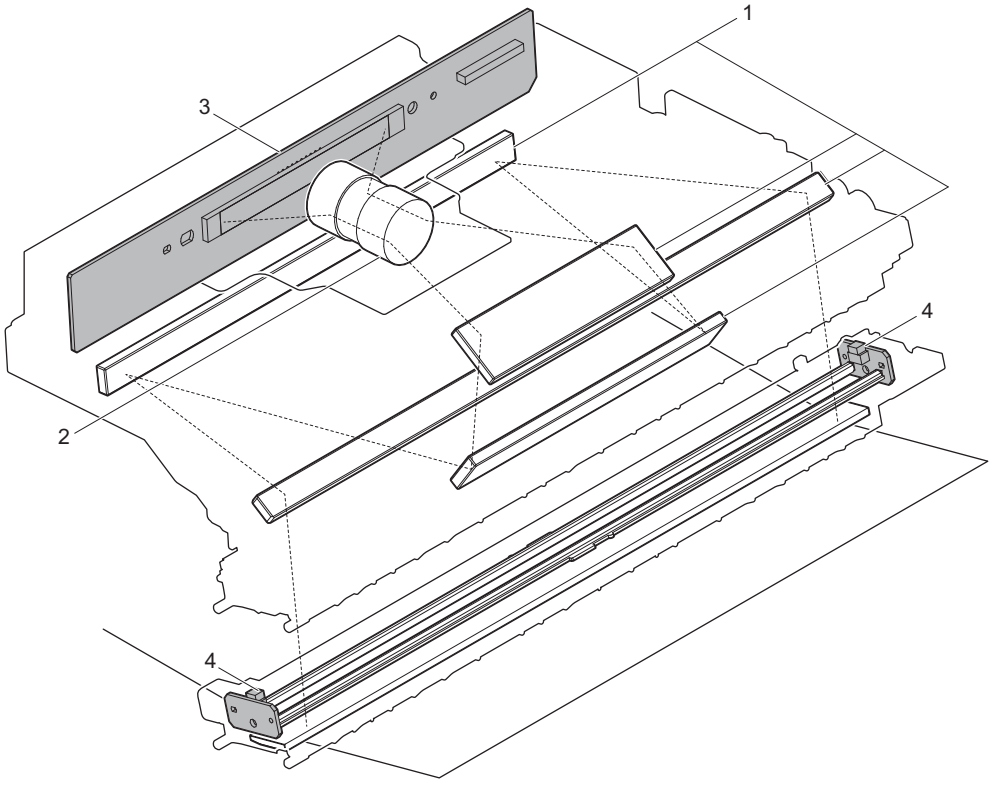



| Signal name | Name | Function/Operation |
|---|---|---|
| SLCOV | Lower cover sensor | Detects open/close of the lower cover |
| SOCD | SPF sensor | Detects open/close of the SPF unit |
| SPFM | Transport motor | Drives transport roller |
| SPPD3 | Document pass sensor 3 | Detects document pass |
| SPPD4 | Document pass sensor 4 | Detects document pass |
| SPPD5 | Document pass sensor 5 | Detects document pass |
| SRRC | Registration roller clutch | Controls ON/OFF of registration roller |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Registration roller (Drive) | Performs resist of document transport |
| 2 | Registration roller (Idle) | Applies a pressure to document and the registration roller, and provides transport power of the registration roller to document |
| 3 | Transport roller 3 (Drive) | Transports document from the No.1 scan section to the transport roller 4 |
| 4 | Transport roller 3 (Idle) | Applies a pressure to document and the transport roller and provides transport power of the transport roller to document |
| 5 | Transport roller 4 (Drive) | Transports document from the transport roller 3 to the document exit roller |
| 6 | Transport roller 4 (Idle) | Applies a pressure to document and the transport roller and provides transport power of the transport roller to document |

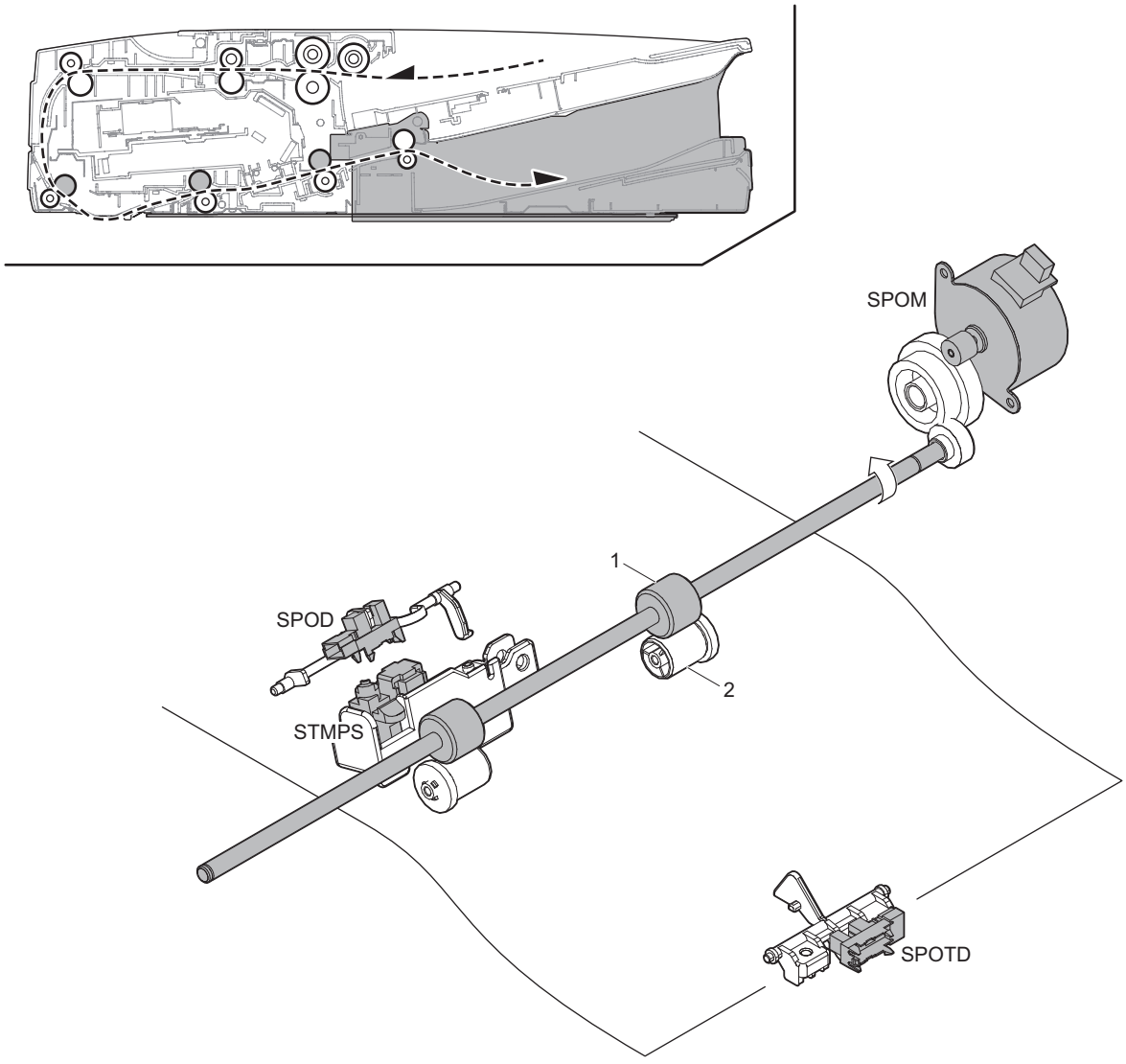
### (4) Optical section






| No. | Name | Function/Operation |
|---|---|---|
| 1 | Mirror | Sends the document image to the lens. |
| 2 | Lens | Reduces the document image (light) and reflects it onto the CCD. |
| 3 | CCD PWB | Scans document images and perform A/D conversion of scanning signal |
| 4 | LED PWB | Radiates light onto document for the CCD to scan document image |

### (5) Paper exit section




| Signal name | Name | Function/Operation |
|---|---|---|
| SPOD | Document exit sensor | Detects document exit |
| SPOM | Document exit motor | Drives document exit roller |
| SPOTD | Document exit tray sensor | Detects document empty of the document exit tray |
| STMPS | Stamp solenoid | Drives the stamp solenoid |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Document exit roller (Drive) | Discharges document |
| 2 | Document exit roller (Idle) | Applies a pressure to document and the document exit roller and provides transport power of the document exit roller to document |

## B. Operational descriptions

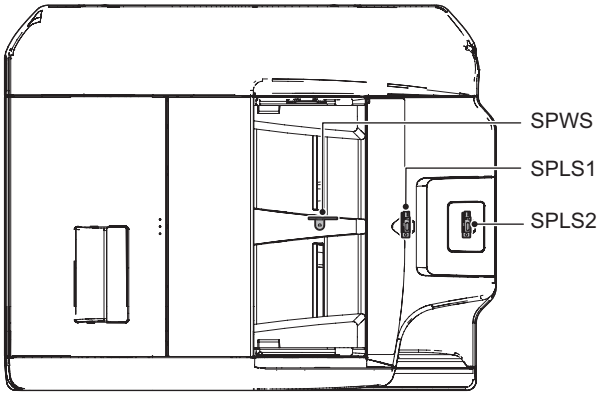
### (1) Document size detection

Size detection on the document tray

The document size is detected by the DSPF document width sensor (SPWS), and the document length is detected by the DSPF document length sensors (SPLS1, SPLS2). The document size is judged from the document width and the document length as shown in the table below.

When, however, documents of different sizes are mixed and set on the document tray, the largest size is detected.

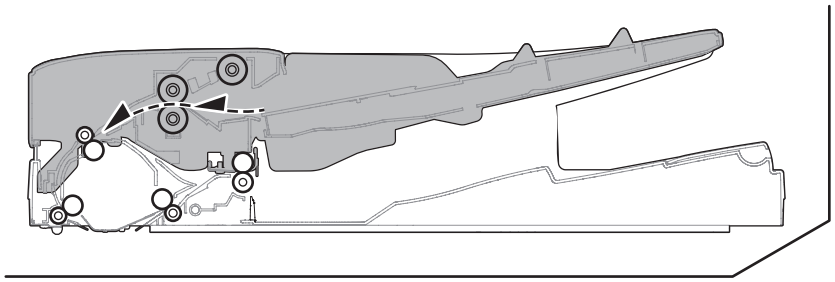
| | Document size | Document length sensor | |
|---|---|---|---|
| | | SPLS1 | SPLS2 |
| AB series | A5 | OFF | OFF |
| | B5 | OFF | OFF |
| | 11" x 8.5" | OFF | OFF |
| | A4 | OFF | OFF |
| | B5R | ON | OFF |
| | A4R | ON | OFF |
| | 8.5" x 13" | ON | ON |
| | B4 | ON | ON |
| | A3 | ON | ON |
| | 11" x 17" | ON | ON |
| | 8.5" x 14" | ON | ON |
| | 8.5" x 13.4" | ON | ON |
| | 8.5" x 13.5" | ON | ON |
| Inch series | 8.5" x 5.5" | OFF | OFF |
| | 11" x 8.5" | OFF | OFF |
| | A4 | OFF | OFF |
| | 11" x 8.5"R | ON | OFF |
| | 8.5" x 13" | ON | ON |
| | 8.5" x 14" | ON | ON |
| | A3 | ON | ON |
| | 11" x 17" | ON | ON |
| | 8.5" x 13.4" | ON | ON |

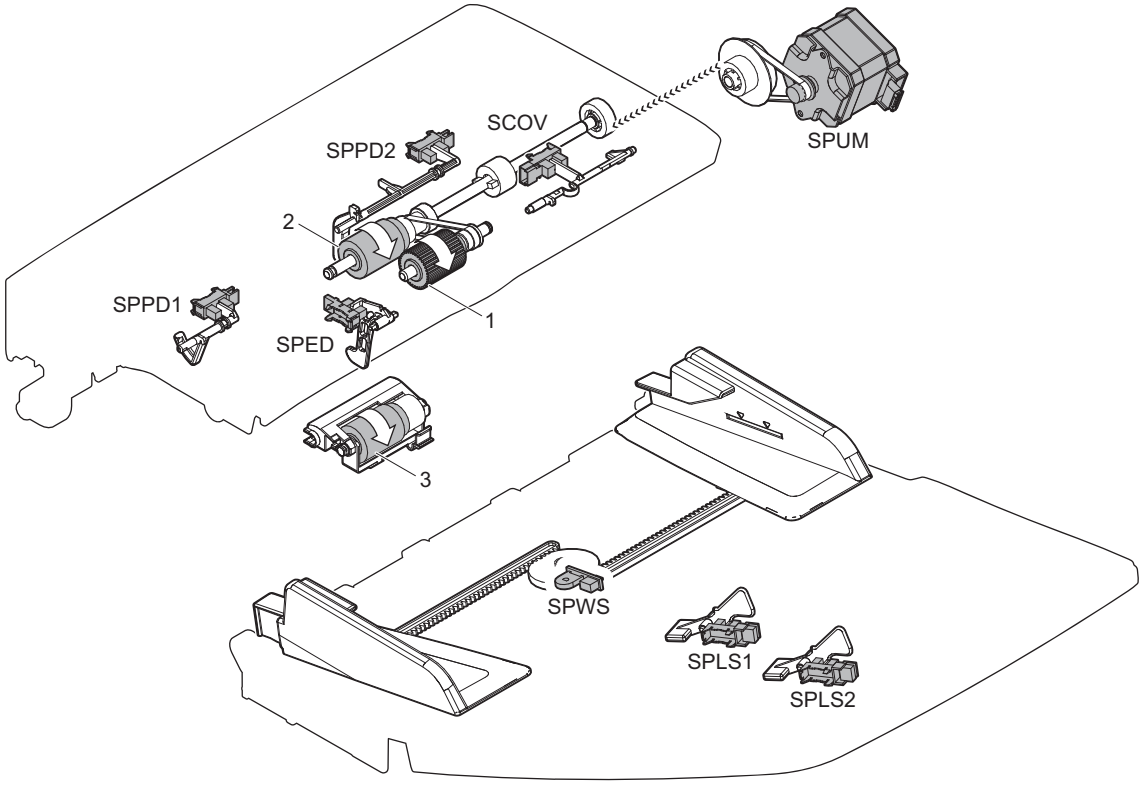


# 16. RSPF section

## A. Electrical and mechanical relation diagram

### (1) Paper feed section

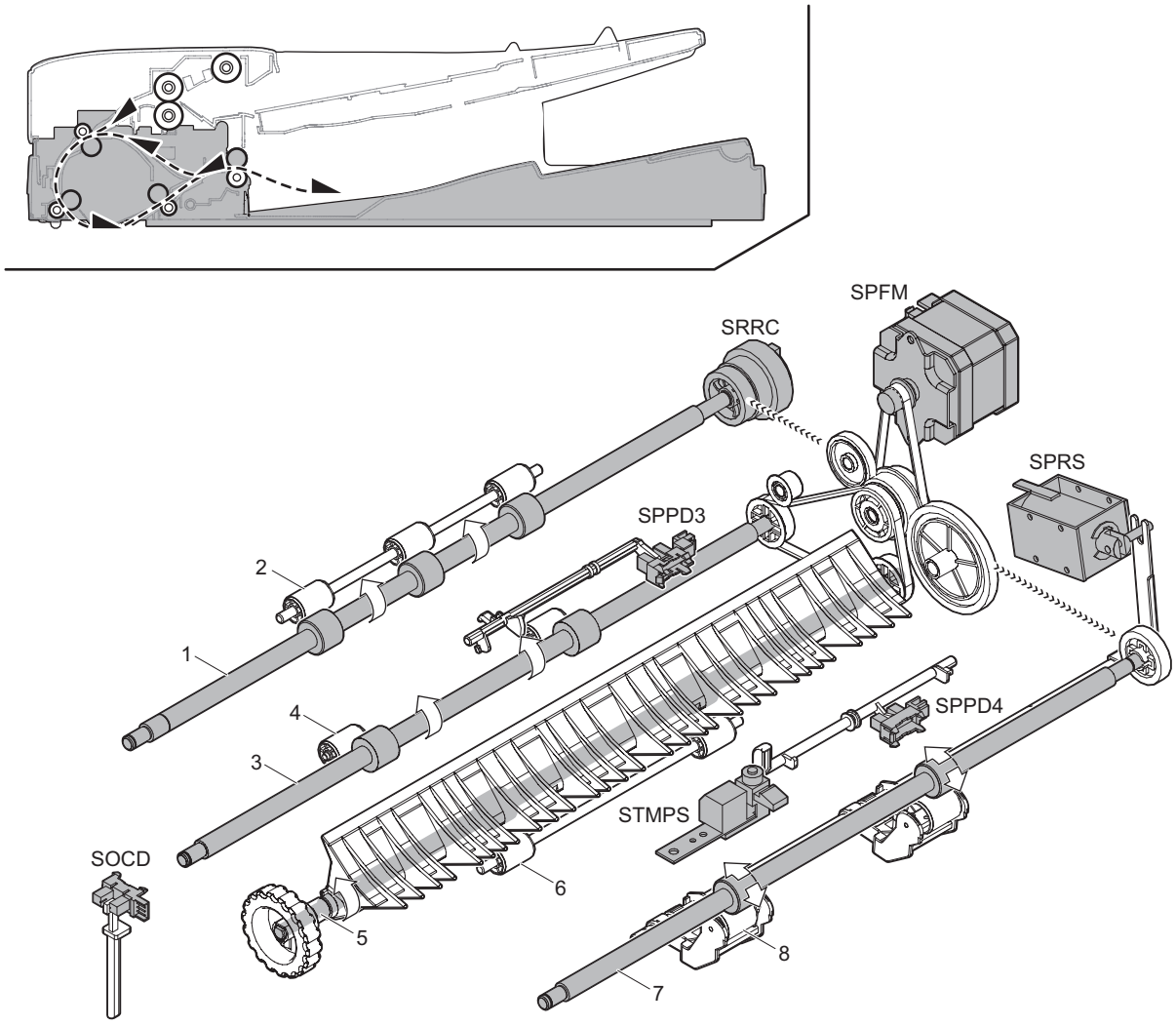





| Signal name | Name | Function/Operation |
|---|---|---|
| SCOV | Cover sensor | Detects open/close of the cover |
| SPED | Document sensor | Detects document empty of the document feeder tray |
| SPLS1 | Document length sensor 1 | Detects document length of the document feeder tray |
| SPLS2 | Document length sensor 2 | Detects document length of the document feeder tray |
| SPPD1 | Document pass sensor 1 | Detects document feed and document size in random paper feed |
| SPPD2 | Document pass sensor 2 | Detects document pass |
| SPUM | Document feed motor | Drives document feed roller |
| SPWS | Document width sensor | Detects document width of the document feeder tray |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Pickup roller | Picks up document and feed it to the document feed roller |
| 2 | Document feed roller | Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan |
| 3 | Separation roller | Separates a document to prevent double-feeding |

### (2) Transport/paper exit section




| Signal name | Name | Function/Operation |
|---|---|---|
| SOCD | SPF sensor | Detects open/close of the SPF unit |
| SPFM | Transport motor | Drives transport roller |
| SPPD3 | Document pass sensor 3 | Detects document pass |
| SPPD4 | Document pass sensor 4 | Detects document exit and switchback |
| SPRS | Document exit roller solenoid | Controls ON/OFF of document exit roller |
| SRRC | Registration roller clutch | Controls ON/OFF of registration roller |
| STMPS | Stamp solenoid | Drives the finish stamp |

| No. | Name | Function/Operation |
|---|---|---|
| 1 | Registration roller (Drive) | Transports a document to the transport roller 1 / Controls the transport timing of the document and adjusts the document scanning timing |
| 2 | Registration roller (Idle) | Apply a pressure to a document and the registration roller to provide the transport power of the transport roller to the document |
| 3 | Transport roller 1 (Drive) | Transports a document transported from the registration roller to the document scanning section |
| 4 | Transport roller 1 (Idle) | Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document |
| 5 | Transport roller 2 (Drive) | Transports a document transported from the document scanning section to the paper exit roller |
| 6 | Transport roller 2 (Idle) | Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document |
| 7 | Paper exit roller (Drive) | Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface |
| 8 | Paper exit roller (Idle) | Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document |

## B. Operational descriptions

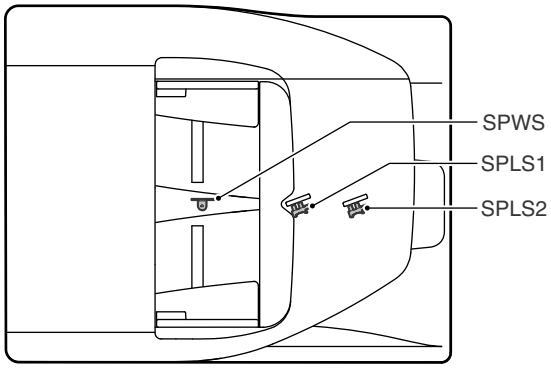
### (1) Document size detection

Size detection on the document tray

The document width is detected with the RSPF document width sensor (SPWS), and the document length is detected with the RSPF document length sensors (SPLS1, SPLS2). The document size is judged from the document width and the document length according to the table below. When documents of different sizes are mixed and set on the document tray, the largest document size is detected.

| | Document size | Document length sensor | |
|---|---|---|---|
| | | SPLS1 | SPLS2 |
| AB series | A5 | OFF | OFF |
| | B5 | OFF | OFF |
| | 11" x 8.5" | OFF | OFF |
| | A4 | OFF | OFF |
| | B5R | ON | OFF |
| | A4R | ON | OFF |
| | 8.5" x 13" | ON | ON |
| | B4 | ON | ON |
| | A3 | ON | ON |
| | 11" x 17" | ON | ON |
| | 8.5" x 14" | ON | ON |
| | 8.5" x 13.4" | ON | ON |
| | 8.5" x 13.5" | ON | ON |
| Inch series | 8.5" x 5.5" | OFF | OFF |
| | 11" x 8.5" | OFF | OFF |
| | A4 | OFF | OFF |
| | 11" x 8.5"R | ON | OFF |
| | 8.5" x 13" | ON | ON |
| | 8.5" x 14" | ON | ON |
| | A3 | ON | ON |
| | 11" x 17" | ON | ON |
| | 8.5" x 13.4" | ON | ON |

**RSPF unit**




### (2) RSPF paper feed and transport operations

**a. Paper feed operation**

The paper feed motor is turned ON and the power of the paper feed motor is transmitted to the pickup roller and the paper feed roller.

The pickup roller descends to pickup the top document and feed it to the paper feed roller.

The paper feed roller feeds a document to the transport section.

At that time, the document is separated by the separation roller to prevent double-feeding.

**b. Single face scanning**

The lead edge of the fed document is aligned (registration) by the registration roller, and passed through transport roller 1 to the document scanning section, where images are scanned.

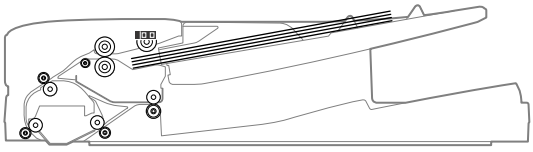
Then the document is passed through transport roller 2 to the paper exit roller.

The rollers (the registration roller, transport rollers 1 and 2, the paper exit roller) in the transport section are driven by the transport motor.

The paper exit roller (drive pulley) is separated by the paper exit roller pressure control solenoid.

When the read edge of the document passes the scanning section, the both rollers are brought into close contact to supply the power for paper exit.

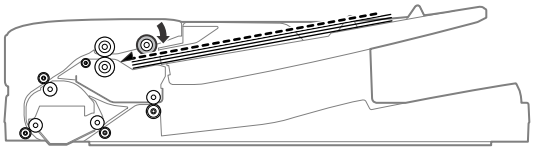
1) Document set (Document empty sensor ON)



2) Paper feed start (1st sheet)

The pick-up roller descends. (The paper feed motor is booted.)

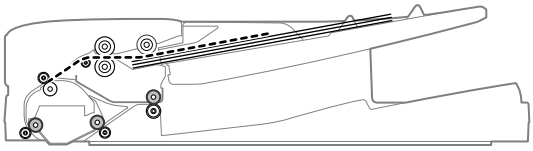
(The transport motor is booted simultaneously.)



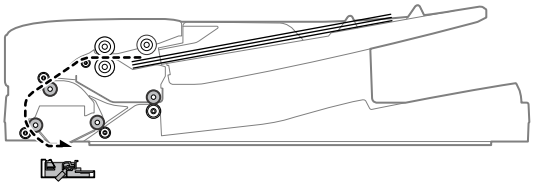
3) Registration operation (1st sheet)

(Registration clutch ON)

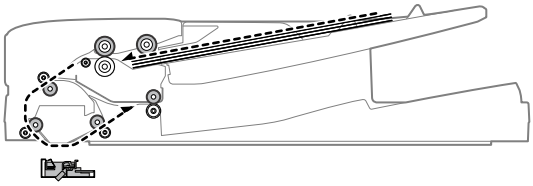
(When a certain time passes after turning ON the registration clutch, the paper feed motor is turned OFF.)



4) Scanning start (1st sheet)

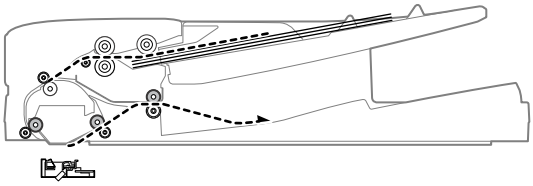


5) Paper feed start (2nd sheet)

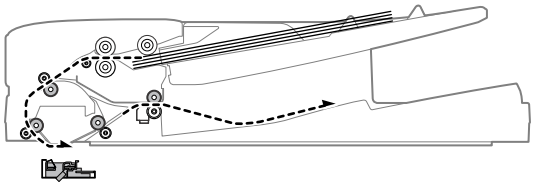


6) Scanning complete (1st sheet)/Registration operation (2nd sheet)

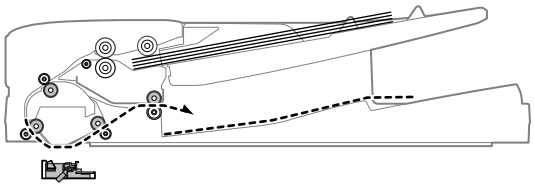
(When a certain time passes after turning ON the registration clutch, the paper feed motor is turned OFF.)



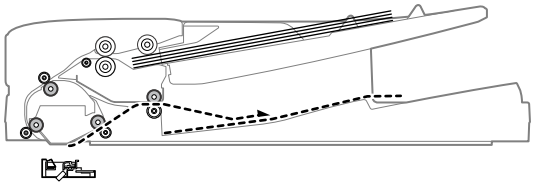
7) Scanning start (2nd sheet)



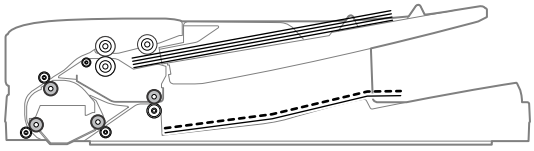
8) Paper exit complete (1st sheet)



9) Scanning complete (2nd sheet)

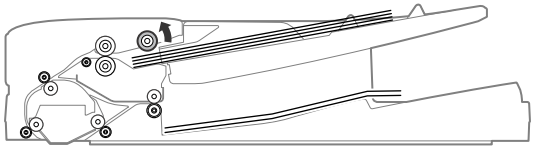


10) Paper exit complete (2nd sheet)



11) Pick-up roller lifting up

(After completion of a job, the paper feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)



**c. Duplex scanning**

Images on the document surface are scanned, and detection of the rear edge of the document by sensor SPPD3 triggers the following. That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

Due to the above operation, the paper exit roller is reversed to switchback the document, returning it to the registration roller section and aligning (registration) the document.

Then the transport motor is rotated normally to transport the document to the scanning section, scanning images on the back surface.

To reset the page order of the documents, the following operations are made which are triggered by the detection of the rear edge of the document. That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

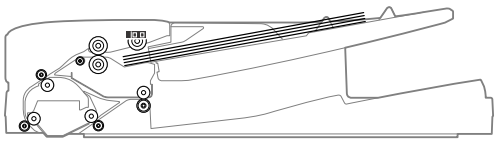
Due to the above operation, the paper exit roller is reversed to switchback the document, returning it to the registration roller section and aligning (registration) the document.

Then the transport motor is rotated normally to transport the document to the paper exit section and discharge it.

When a duplex document is scanned, the document lead edge section and the rear edge section intersect. At that timing, the paper exit roller pressure release solenoid is turned ON to make a gap between the paper exit roller (drive) and the paper exit roller (idle).

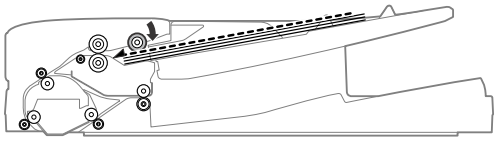
During the time from when the document rear edge passes the scanning section to when it is switch backed and send to the registration roller section, the paper exit roller pressure release solenoid is turned OFF to keep the paper exit roller (drive) and the paper exit roller (idle) in contact.

1) Document set (Document empty sensor ON)

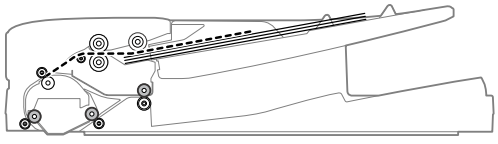


2) Paper feed start (1st sheet)

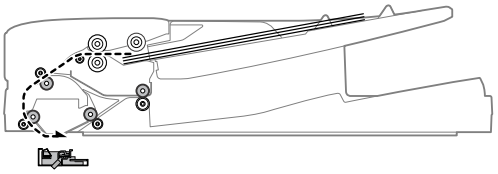
Pick-up roller descending



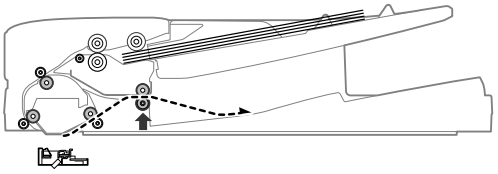
3) Registration operation (1st sheet, front surface)



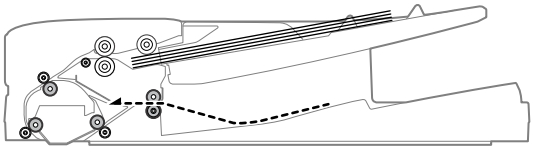
4) Scanning start (1st sheet, front surface)



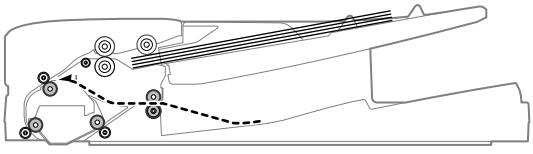
5) After completion of scanning, the reverse follower roller is pressed. (Solenoid ON)



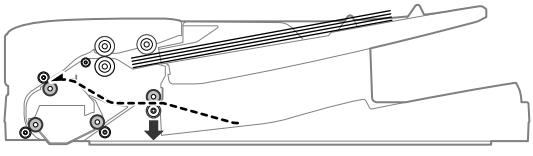
6) After stopping the operation, reversing is started.



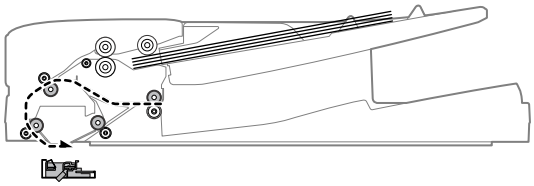
7) After reversing, registration operation is executed.



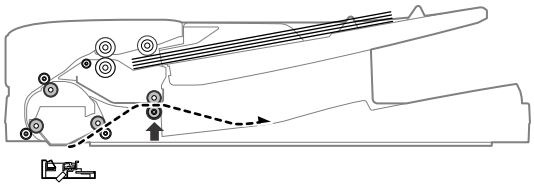
8) After turning ON the PS clutch, the reverse follower roller pressure is released.



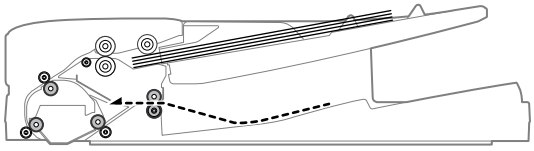
9) Scanning start (First sheet, back surface)



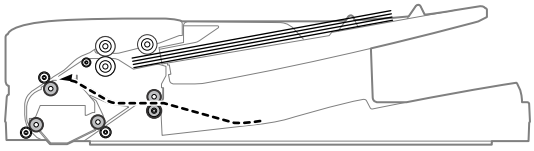
10) After completion of scanning, the reverse follower roller is pressed.



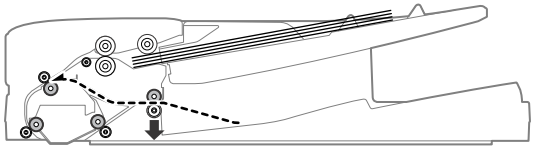
11) After stopping the operation, reversing is started.



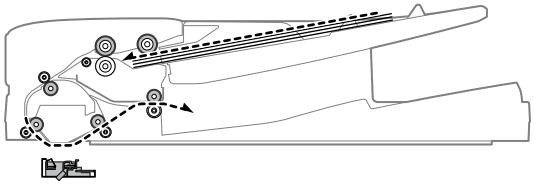
12) After reversing, registration operation is executed.



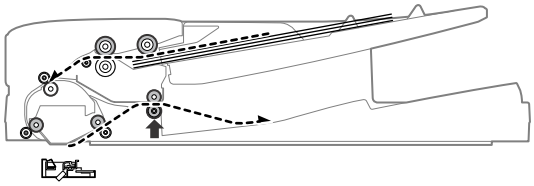
13) After turning ON the PS clutch, the reverse follower roller pressure is released.



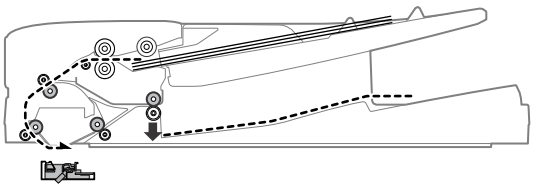
14) Scanning start (Second sheet)



15) After passing the scanning section, the reverse follower roller is pressed.

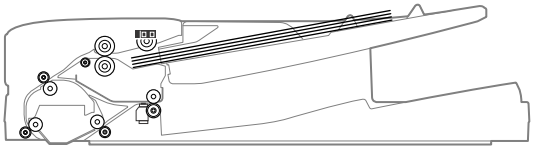


16) After discharge (First sheet), the reverse follower roller pressure is released.

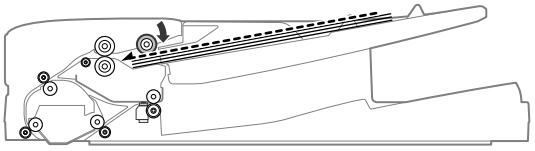


**d. Stamp operation**

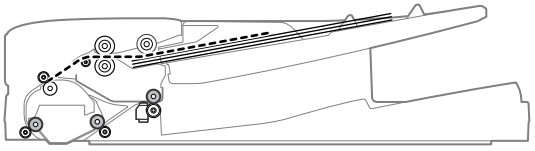
1) Document set (Document empty sensor ON)



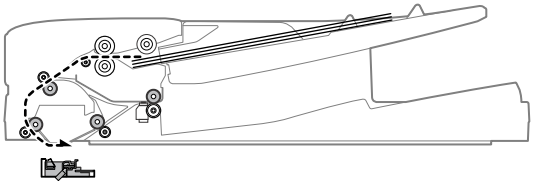
2) Paper feed start (1st sheet)
Pick-up roller descending (The paper feed motor is booted.)
(The transport motor is booted simultaneously.)



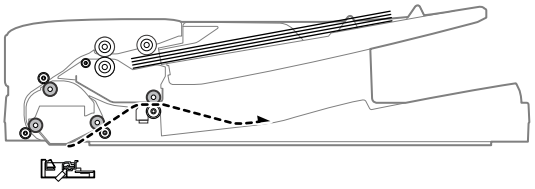
3) Registration operation (1st sheet)
(Registration clutch ON)
(When a certain time passes after turning ON the registration clutch, the paper feed motor is turned OFF.)



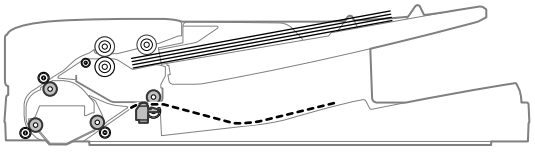
4) Scanning start (1st sheet)



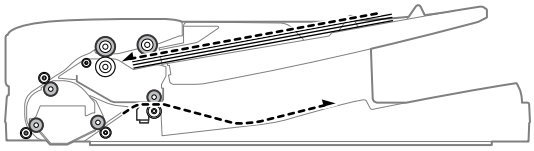
5) Scanning complete (1st sheet)



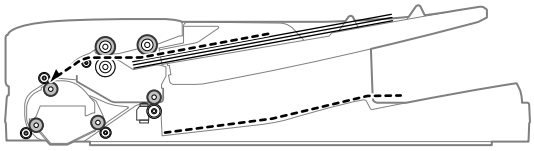
6) Stop at the stamp position/Stamp operation (1st sheet)
(Stamp solenoid ON)



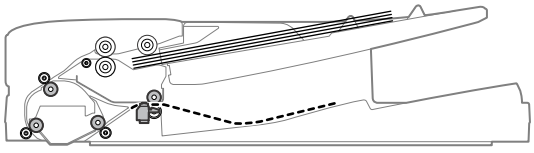
7) Paper exit start (1st sheet)/Preliminary paper feed start (2nd sheet)



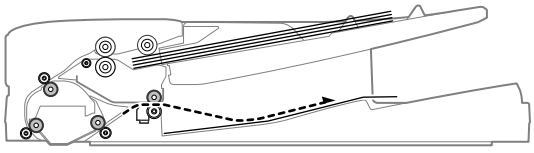
8) Paper exit complete (1st sheet)



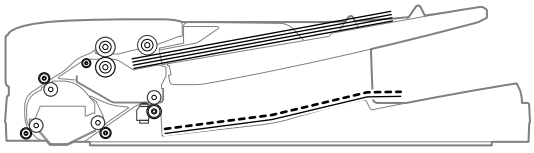
9) Stop at the stamp position/Stamp operation (2nd sheet)
(Stamp solenoid ON)



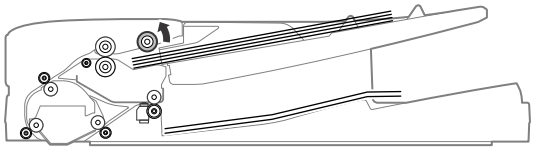
10) Paper exit start (2nd sheet)



11) Paper exit complete (2nd sheet)



12) Pick-up roller lifting up
(After completion of a job, the paper feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)

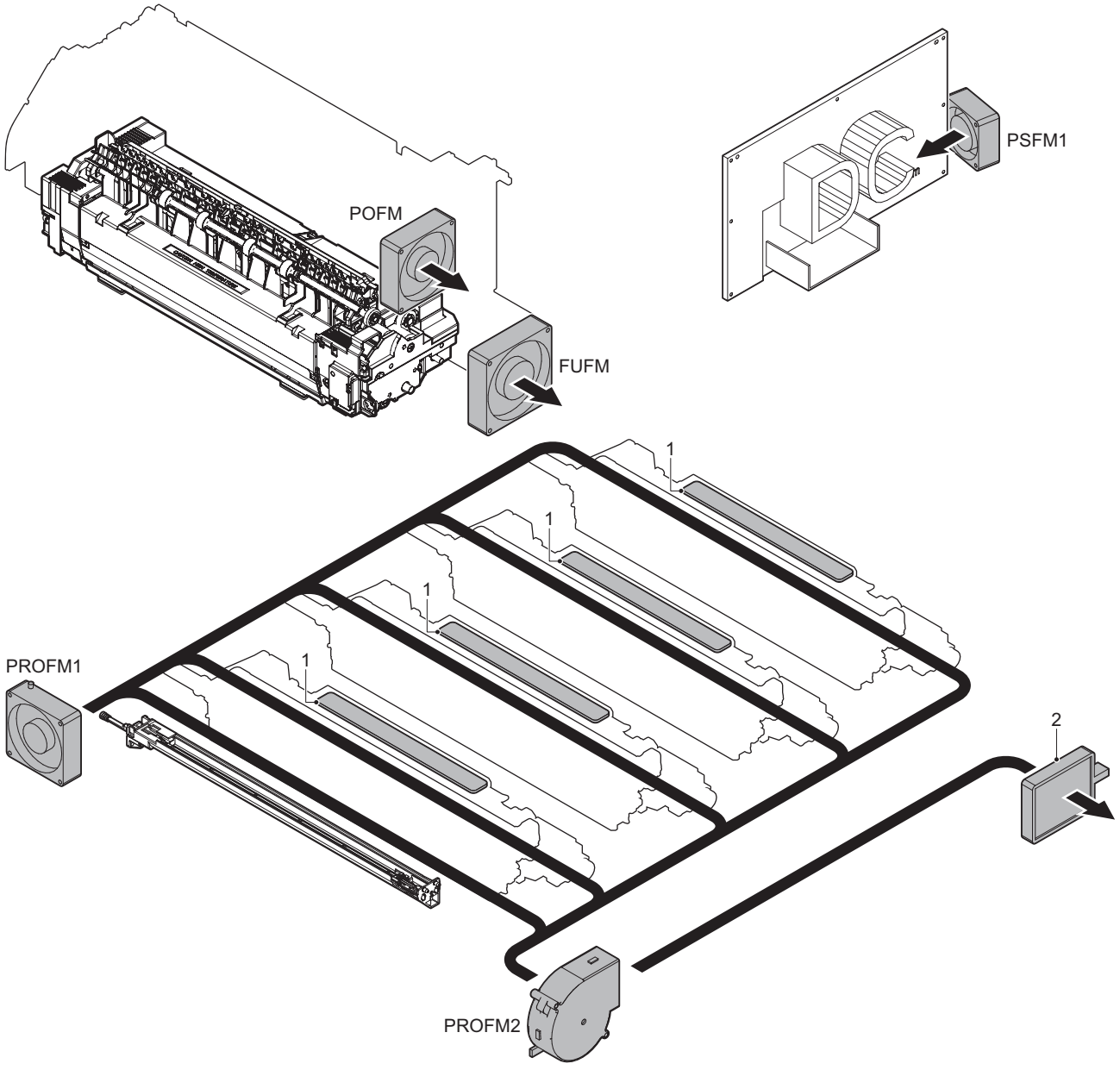


## 17. Fan and filter

The machine is provided with the following fan to discharge air from the process section and cool the fusing section and the power unit.

| Signal name | Name | Function/Operation |
|---|---|---|
| FUFM | Fusing fan | Cools the fusing section and the paper exit section |
| POFM | Paper exit fan | Cools the fusing section and the paper exit section |
| PROFM1 | Process fan 1 | Discharges air and cools the process section |
| PROFM2 | Process fan 2 | Discharges air and cools the process section |
| PSFM1 | Power supply fan 1 | Cools the power supply unit |

The flow of air is as shown in the figure below.




The machine is provided with the following filter to remove ozone generated in the process section.

Filter process fan motor 1 produces an air flow to generate a difference in the air pressure between inside outside of the developing unit, preventing toner from splashing from the open port of the developing unit.

The toner filter prevents toner from leaking from the slit caused by this difference in air pressure.

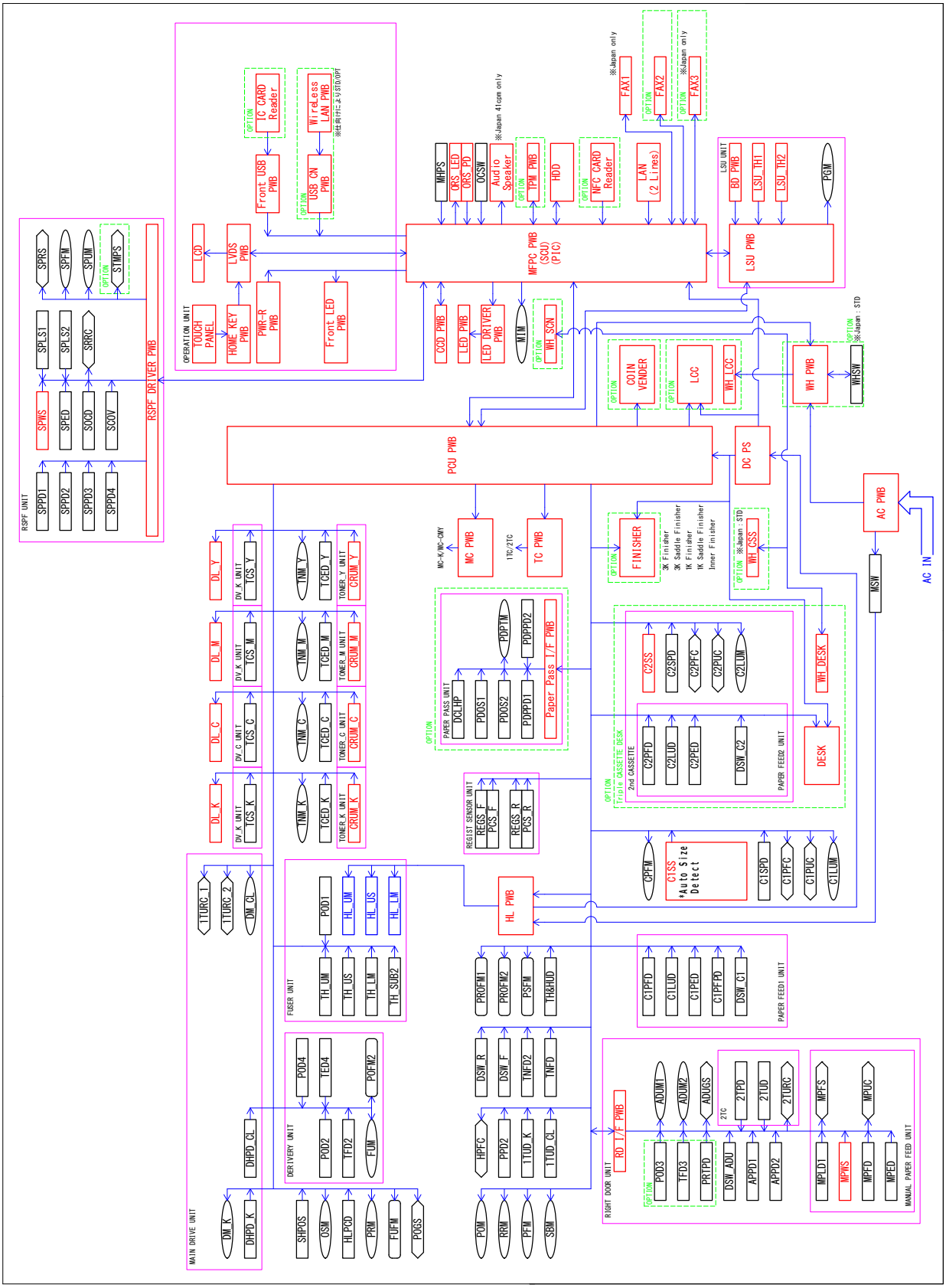
| No. | Name | Function/Operation |
|---|---|---|
| 1 | Toner filter | Prevents toner splash |
| 2 | Ozone filter | Absorbs ozone generated in the image process section |

# [12] ELECTRICAL SECTION

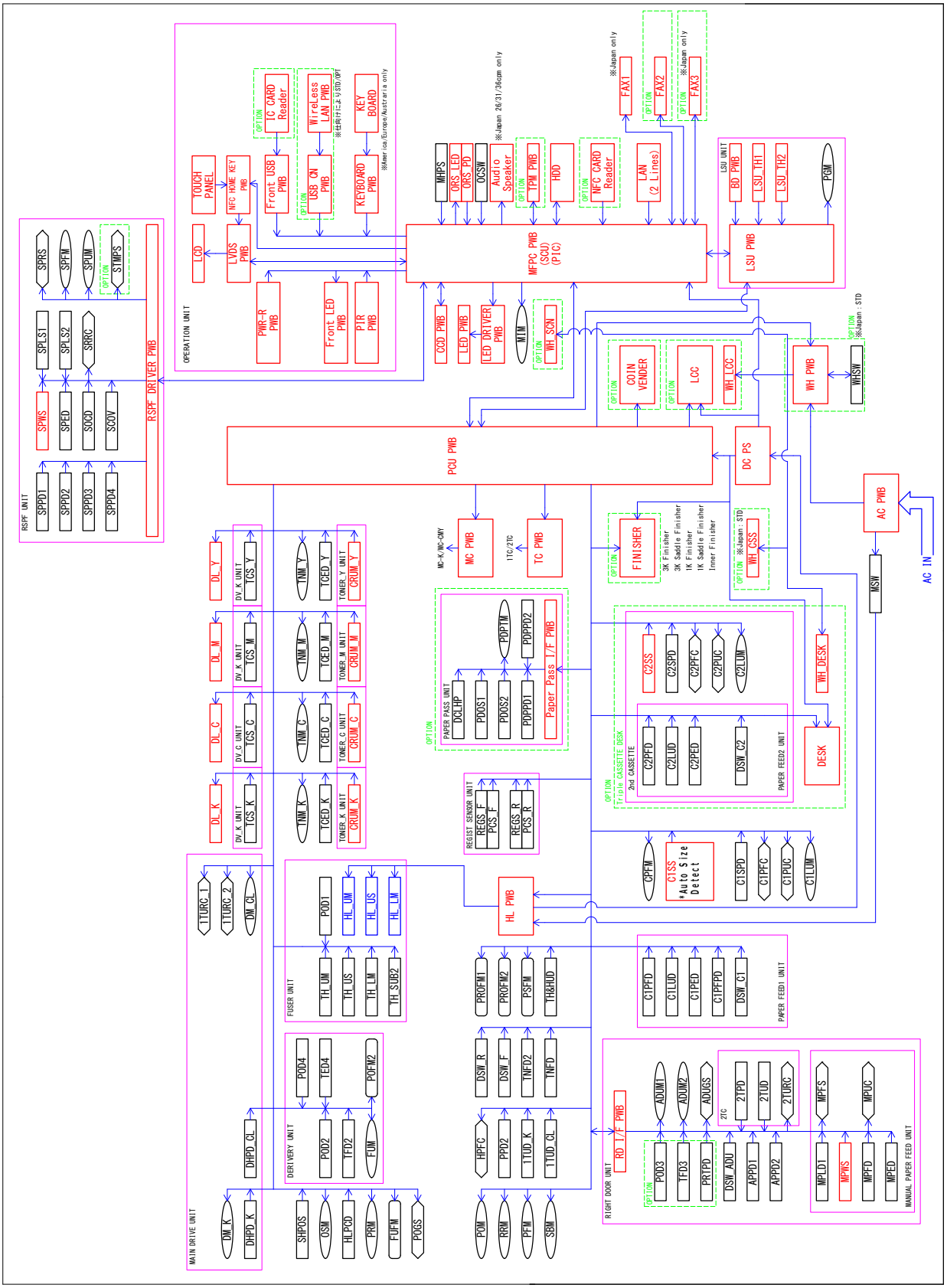
## 1. Block diagram

### A. System block diagram

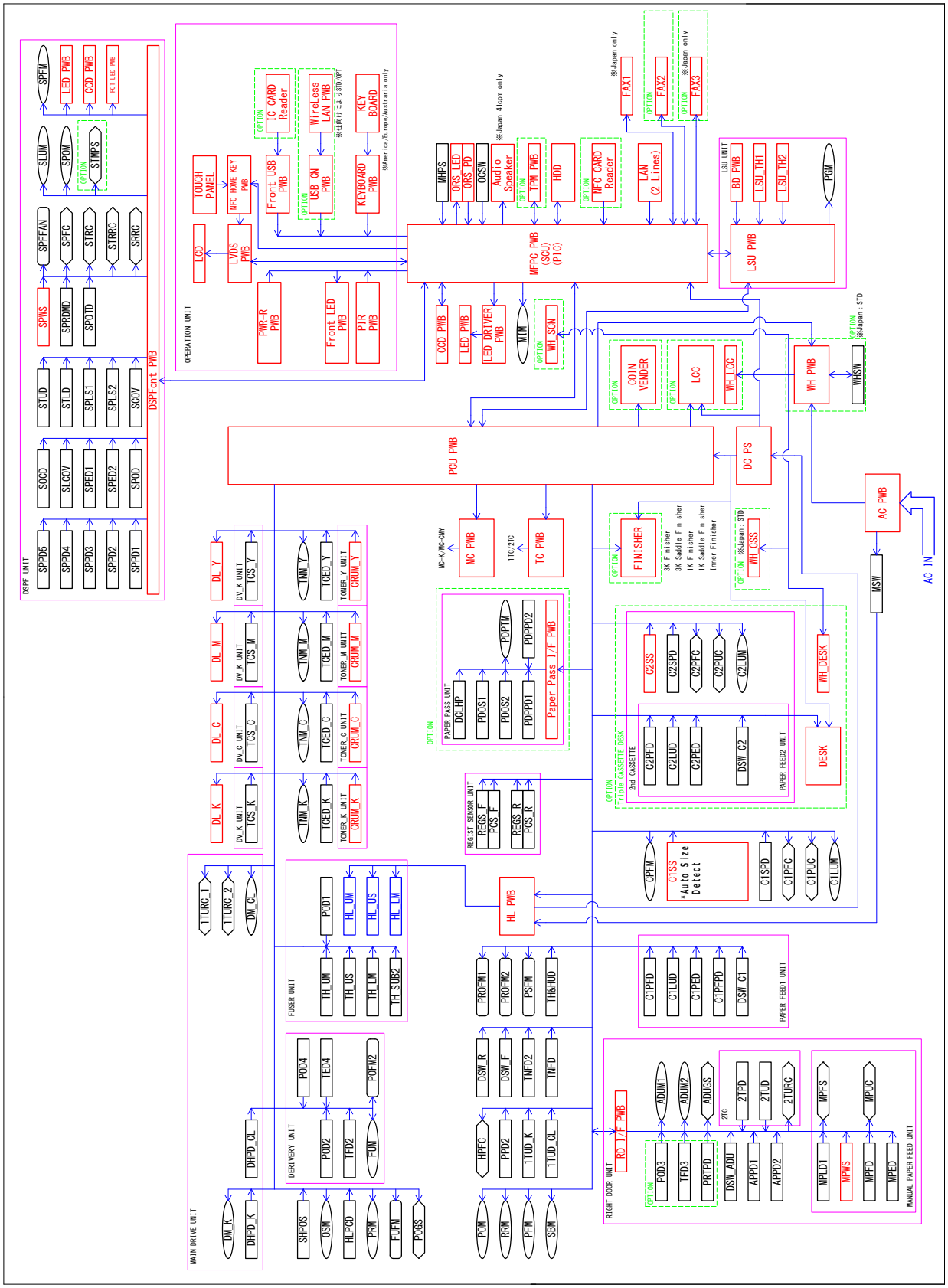
#### (1) MX-xx51



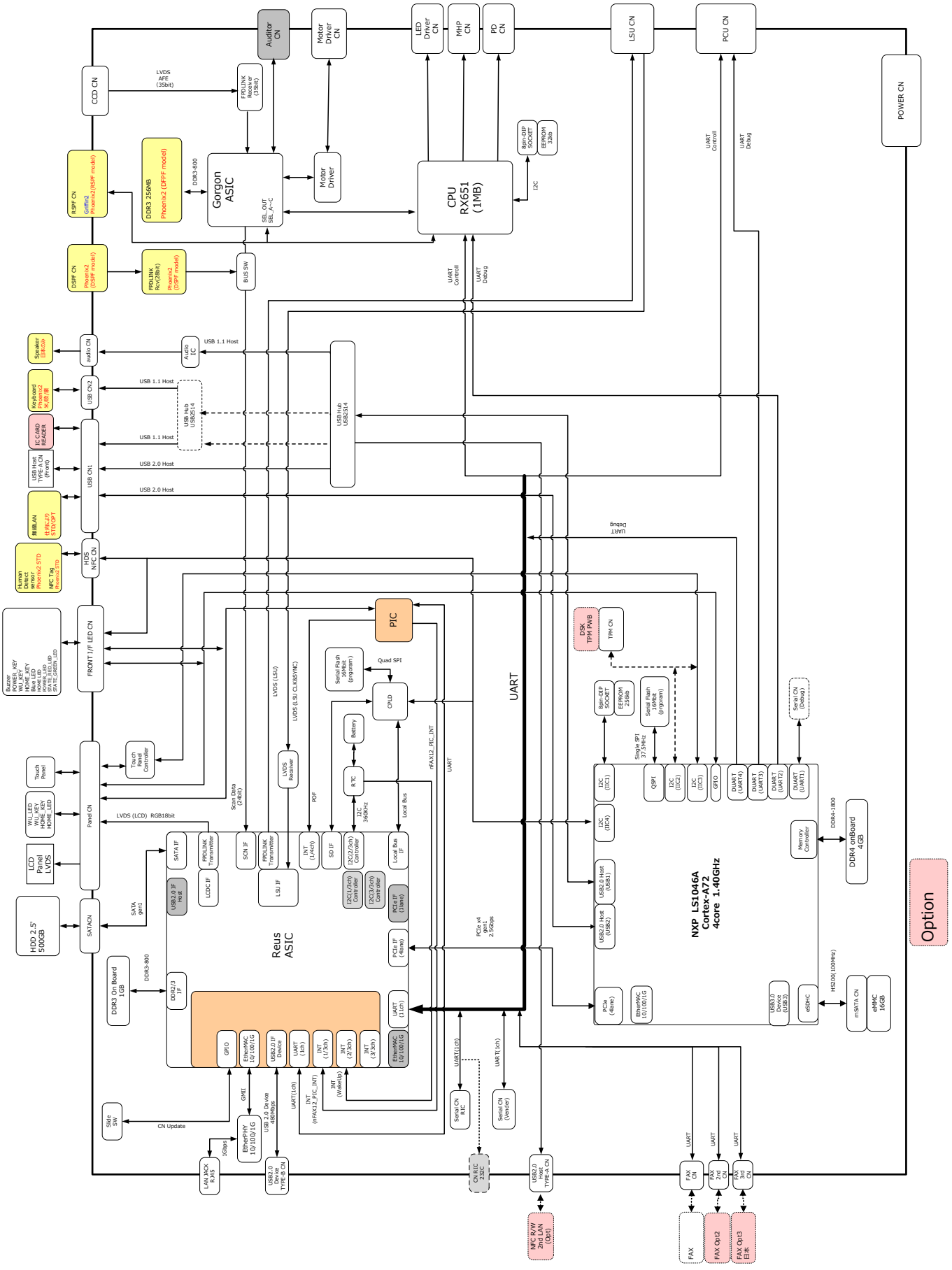
**(2) MX-xx61**


OPERATION UNIT
TOUCH PANEL
NFC HOME KEY PWB
LCD
LVDS PWB
Front USB PWB
IC CARD Reader
USB CN PWB
WIreLess LAN PWB
KEYBOARD PWB
KEY BOARD
PWR-R PWB
Front LED PWB
PTR PWB
MFPC PWB (SCU) (P1C)
MHPS
ORS_LED ORS_PD
OCSW
Audio Speaker
TPM PWB
HDD
NFC CARD Reader
LAN (2 Lines)
FAX1
FAX2
FAX3
LSU UNIT
BD PWB
LSU_TH1
LSU_TH2
PGM
LSU PWB
CCD PWB
LED PWB
LED DRIVER PWB
MTM
WH_SCN
COIN VENDER
LCC
WH_LCC
WH PWB
WHSW
RSPF UNIT
RSPF DRIVER PWB
SPRS
SPFM
SPUM
STMPS
SPLS1
SPLS2
SRRC
SPWS
SPED
SOCD
SCOV
SPPD1
SPPD2
SPPD3
SPPD4
PCU PWB
DC PS
AC PWB
AC IN
MSW
MC PWB
TC PWB
MC-K,MC-CMY
1TC/2TC
FINISHER
2K Finisher
3K Saddle Finisher
1K Finisher
1K Saddle Finisher
Inner Finisher
WH_CSS
WH_DESK
DESK
PAPER PASS UNIT
DOLHP
PDOS1
PDOS2
PDPPD1
PDPPD2
PDPTM
Paper Pass I/F PWB
C2SS
C2SPD
C2PFC
C2PUC
C2LUM
2nd CASSETTE
C2PFD
C2LUD
C2PED
DSW_C2
PAPER FEED2 UNIT
Triple CASSETTE DESK
REGIST SENSOR UNIT
REGS_F
PCS_F
REGS_R
PCS_R
HL PWB
CPFM
C1SS *Auto Size Detect
C1SPD
C1PFC
C1PUC
C1LUM
C1PFD
C1LUD
C1PED
C1PFPD
DSW_C1
PAPER FEED1 UNIT
DV_Y
DV_M
DV_C
DV_K
DV_K UNIT
TCS_Y
TCS_M
TCS_C
TCS_K
TONER Y UNIT
TONER M UNIT
TONER C UNIT
TONER K UNIT
TNM_Y
TNM_M
TNM_C
TNM_K
TCED_Y
TCED_M
TCED_C
TCED_K
CRUM_Y
CRUM_M
CRUM_C
CRUM_K
1TURC_1
1TURC_2
DM_CL
FUSER UNIT
POD1
HL_UM
HL_US
HL_LM
TH_UM
TH_US
TH_LM
TH_SUB2
PROFM1
PROFM2
PSFM
THRHUD
DSW_R
DSW_F
TNFD2
TNFD
HPFC
PPD2
1TUD_K
1TUD_CL
DELIVERY UNIT
POD4
TED4
POFM2
POD2
TFD2
FUFM
DHPD_CL
DHPD_K
MAIN DRIVE UNIT
DM_K
SHPOS
OSM
HLPCD
PRM
FUFM
POGS
POM
RRM
PFM
SBM
RIGHT DOOR UNIT
RD I/F PWB
ADUM1
ADUM2
ADUGS
2TPD
2TUD
2TURC
2TC
POD3
TFD3
PRTPD
DSW_ADU
APPD1
APPD2
MANUAL PAPER FEED UNIT
MPLD1
MPWS
MPFD
MPED
MPFS
MPUC

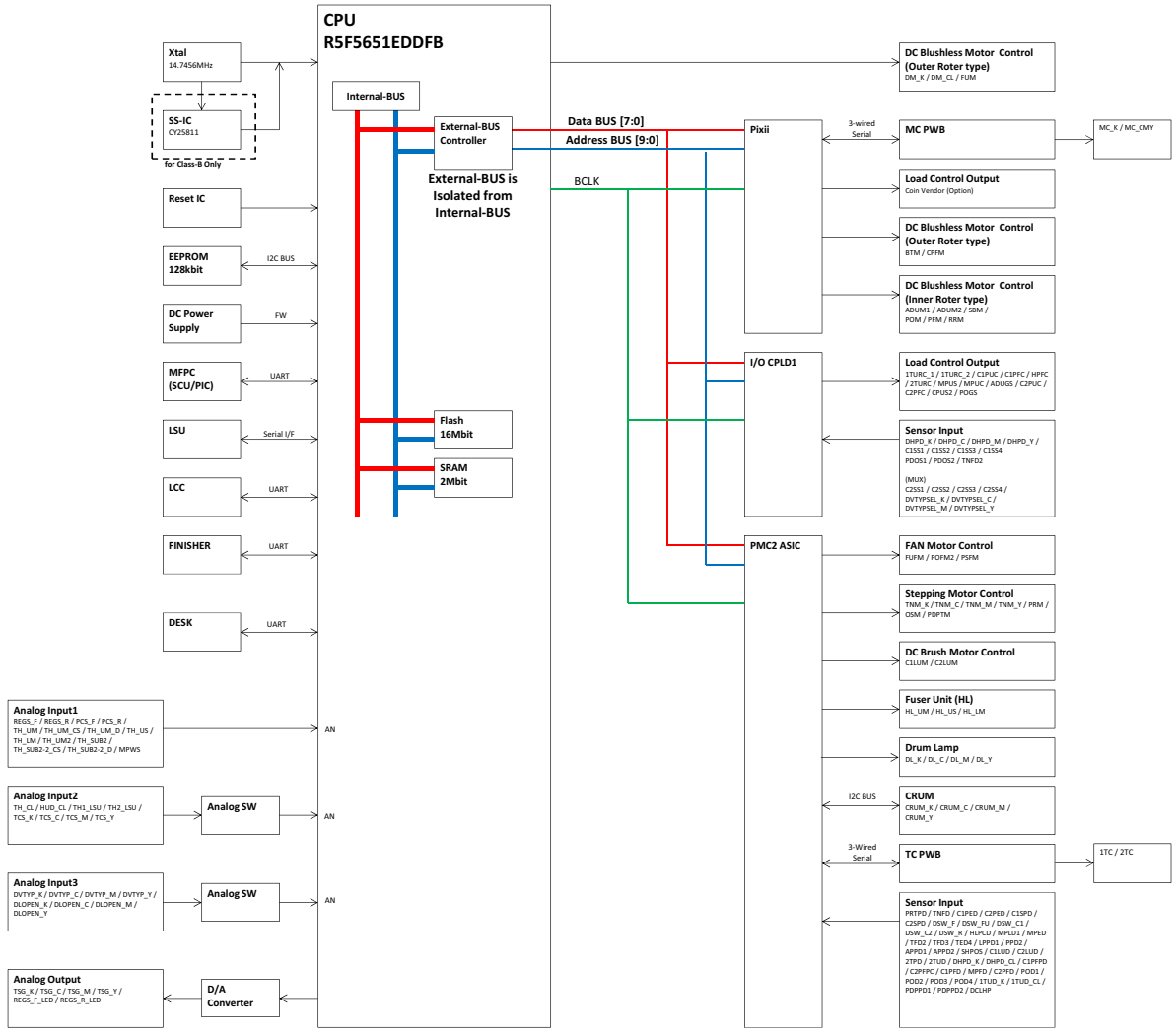
**(3) MX-xx71**


DSPF UNIT
SPPD5
SPPD4
SPPD3
SPPD2
SPPD1
SOOD
SLCOV
SPED1
SPED2
SPOD
STUD
STLD
SPLS1
SPLS2
SCOV
SPWS
SPRDMD
SPOTD
SPFFAN
SPFC
STRC
STRRC
SRRC
SPFM
SLUM
SPOM
STMPS
LED PWB
CCD PWB
PWR LED PWB
DSPFront PWB
OPERATION UNIT
LCD
LVDS PWB
TOUCH PANEL
NFC HOME KEY PWB
Front USB PWB
IC CARD Reader
Wireless LAN PWB
USB CN PWB
KEYBOARD PWB
KEY BOARD
PWR-R PWB
Front LED PWB
PTR PWB
MFPC PWB (SCU) (P1C)
MHPS
ORS_LED
ORS_PD
OCSW
Audio Speaker
TPM PWB
HDD
NFC CARD Reader
LAN (2 Lines)
FAX1
FAX2
FAX3
LSU UNIT
BD PWB
LSU_TH1
LSU_TH2
PGM
LSU PWB
CCD PWB
LED PWB
LED DRIVER PWB
WTM
WH_SCN
COIN VENDER
LCC
WH_LCC
WH PWB
WHSW
PCU PWB
DC PS
AC PWB
AC IN
MSW
MC PWB
TC PWB
FINISHER
WH_CSS
WH_DESK
DESK
C2SS
C2SPD
C2PFC
C2PUC
C2LUM
C2PFD
C2LUD
C2PED
DSW_C2
C1SS
*Auto Size Detect
C1SPD
C1PFC
C1PUC
C1LUM
C1PFD
C1LUD
C1PED
C1PFPD
DSW_C1
DL_Y
DL_M
DL_C
DL_K
DV_K UNIT
DV_C UNIT
TCS_Y
TCS_M
TCS_C
TCS_K
TNM_Y
TNM_M
TNM_C
TNM_K
TCED_Y
TCED_M
TCED_C
TCED_K
TONER_Y UNIT
TONER_M UNIT
TONER_C UNIT
TONER_K UNIT
CRUM_Y
CRUM_M
CRUM_C
CRUM_K
PAPER PASS UNIT
DCLHP
PDOS1
PDOS2
PDPPD1
PDPPD2
PDPTM
Paper Pass I/F PWB
REGIST SENSOR UNIT
REGS_F
PCS_F
REGS_R
PCS_R
HL PWB
1TURC_1
1TURC_2
DM_CL
FUSER UNIT
POD1
TH_UM
TH_US
TH_LM
TH_SUB2
HL_UM
HL_US
HL_LM
DELIVERY UNIT
POD4
TED4
POFM2
POD2
TFD2
FUM
PROFM1
PROFM2
PSFM
TH&HUD
DSW_R
DSW_F
TNFD2
TNFD
HPFC
PPD2
1TUD_K
1TUD_GL
MAIN DRIVE UNIT
DHPD_GL
DHPD_K
DM_K
SHPOS
OSM
HLPCD
PRM
FUFM
POGS
POM
RRM
PFM
SBM
RIGHT DOOR UNIT
RD I/F PWB
ADUM1
ADUM2
ADUGS
2TC
2TPD
2TUD
2TURC
POD3
TFD3
PRTPD
DSW_ADU
APPD1
APPD2
PAPER FEED1 UNIT
MANUAL PAPER FEED UNIT
MPFS
MPUC
MPLD1
MPWS
MPFD
MPED
OPTION
※Japan only
※Japan 41ppm only
※Japan : STD
※Europe/Austria only
※America/Europe/Australia only
※任意ﾀｲﾌﾟ:ESP/STD/OPT
2nd CASSETTE
Triple CASSETTE DESK
PAPER FEED2 UNIT
3K Finisher
3K Saddle Finisher
1K Finisher
1K Saddle Finisher
Inner Finisher
MC-K,MC-CMY
1TC/2TC

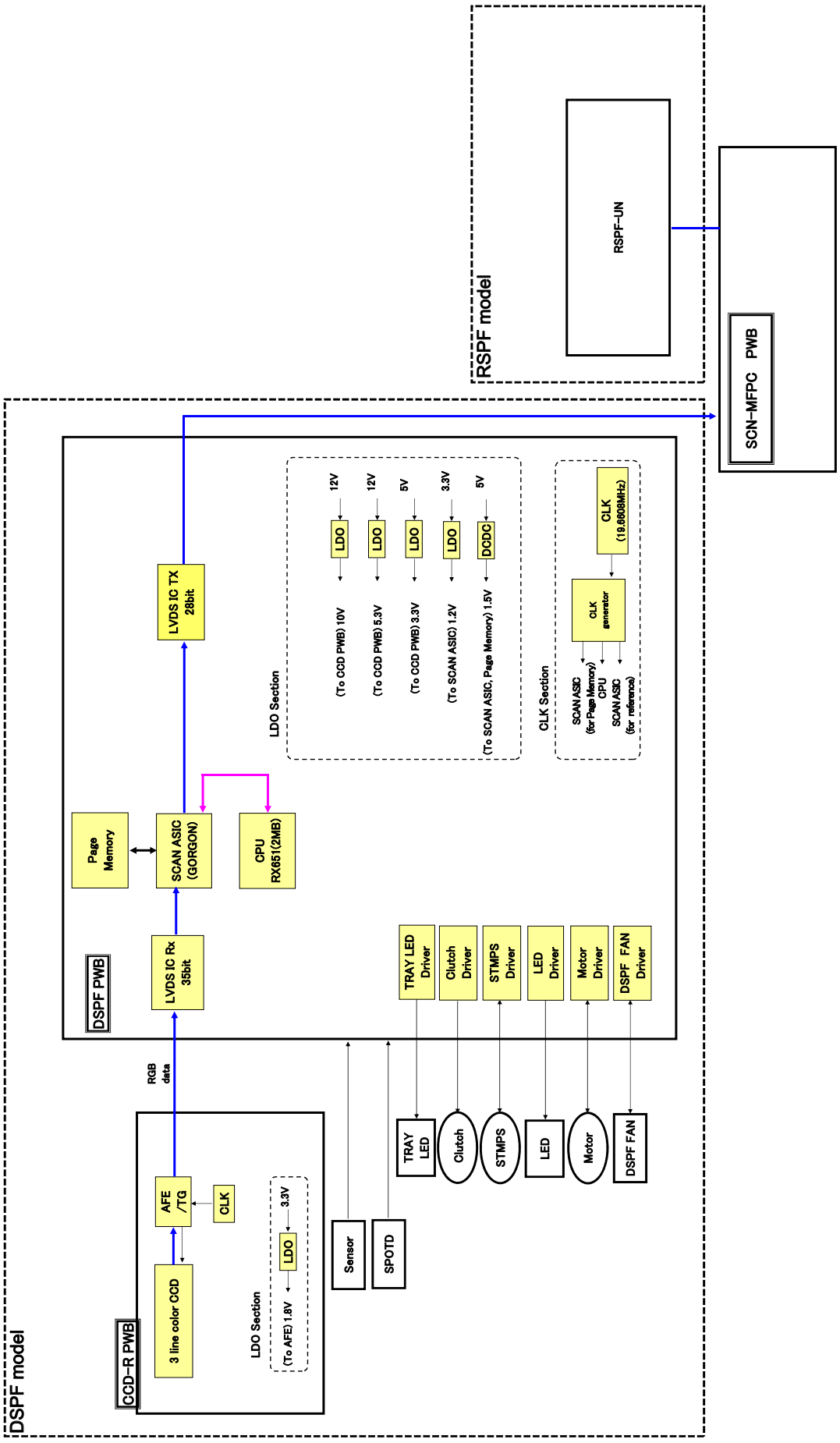
## B. SCN MFP PWB


Auditor CN
Motor Driver CN
LED Driver CN
MHP CN
PD CN
LSU CN
PCU CN
POWER CN
CCD CN
LVDS AFE (35bit)
FPDLINK Receiver (35bit)
ASPF CN
Griffin2 Phoenix2(ASPF model)
DDR3 256MB Phoenix2 (DPFF model)
DDR3-800
Gorgon ASIC
SEL_OUT SEL_A~C
Motor Driver
CPU RX651 (1MB)
8pin-DIP SOCKET
EEPROM 32kb
I2C
UART Controll
UART Debug
DSPF CN
Phoenix2 (DSPF model)
FPDLINK Rcv(28bit)
Phoenix2 (DSPF mode)
BUS SW
Speaker 16ohm
audio CN
Audio I/C
USB 1.1 Host
Keyboard Phoenix2 K-BD/JIS
USB CN2
USB Hub USB2514
IC CARD READER
USB Host TYPE-A CN (Front)
USB CN1
USB 2.0 Host
無線LAN IEEE802.11 b/g/n
HDS NFC CN
Human Presence sensor Phoenix2 STD
NFC Tag Phoenix2 STD
Buzzer
POWER_KEY
WU_KEY
HOME_KEY
Back LED
HOME LED
POWER LED
STATE_RED_LED
STATE_GREEN_LED
FRONT I/F LED CN
PIC
Touch Panel
Touch Panel Controller
WU_LED
WU_KEY
HOME_KEY
HOME_LED
Panel CN
LVDS (LCD) RGB18bit
LCD Panel LVDS
Scan Data (CMS)
LVDS Receiver
LVDS (LSU)
LVDS (LSU) CLK&SYNC
Serial Flash 16Mbit (program)
Quad SPI
CPLD
Battery
RTC
I2C 360KHz
POF
mFAX12_PIC_INT
UART
Local Bus
SATA IF
FPDLINK Transmitter
LCDC IF
SCN IF
LSU IF
SD IF
I2C(1/4ch)
I2C(2/3ch) Controller
I2C(1/3ch) Controller
Local Bus IF
PCIe IF (1lane)
PCIe IF (4lane)
UART (1ch)
HDD 2.5' 500GB
SATACN
SATA gen1
USB2.0 IF 4ch
DDR3 On Board 1GB
DDR3-800
DDR2/3 IF
Reus ASIC
GPIO
EtherMAC 10/100/1G
USB2.0 IF Device
UART (1ch)
INT (1/3ch)
INT (2/3ch)
INT (3/3ch)
INT (nFAX12_PIC_INT)
INT (WakeUp)
UART(1ch)
Serial CN RTC
Serial CN (Vendor)
Side SW
CN Update
GMII
EtherPHY 10/100/1G
1Gbps
USB 2.0 Device 480Mbps
LAN JACK RJ45
USB2.0 Device TYPE-B CN
CN MFC 232C
USB2.0 Host TYPE-A CN
NFC R/W 2nd LAN (Opt)
FAX CN
FAX 2nd CN
FAX 3rd CN
FAX
FAX Opt2
FAX Opt3 日本
PCIe x4 gen2 L1 2.5Gbps
NXP LS1046A Cortex-A72 4core 1.40GHz
I2C (IIC1)
I2C (IIC4)
QSPI
I2C (IIC2)
I2C (IIC3)
GPIO
DUART (UART0)
DUART (UART3)
DUART (UART2)
DUART (UART1)
8pin-DIP SOCKET
EEPROM 256kb
Serial Flash 16Mbit (program)
Single SPI 37.5MHz
Serial CN (Debug)
DSK TPM PWB
TPM CN
Memory Controller
DDR4 onBoard 4GB
DDR4-1800
USB2.0 Host (USB1)
USB2.0 Host (USB2)
PCIe (4ch1ch)
EtherMAC 10/100/1G
USB3.0 Device (USB3)
eSDHC
HS200(100MHz)
mSATA CN
eMMC 16GB
Option

## C. PCU PWB

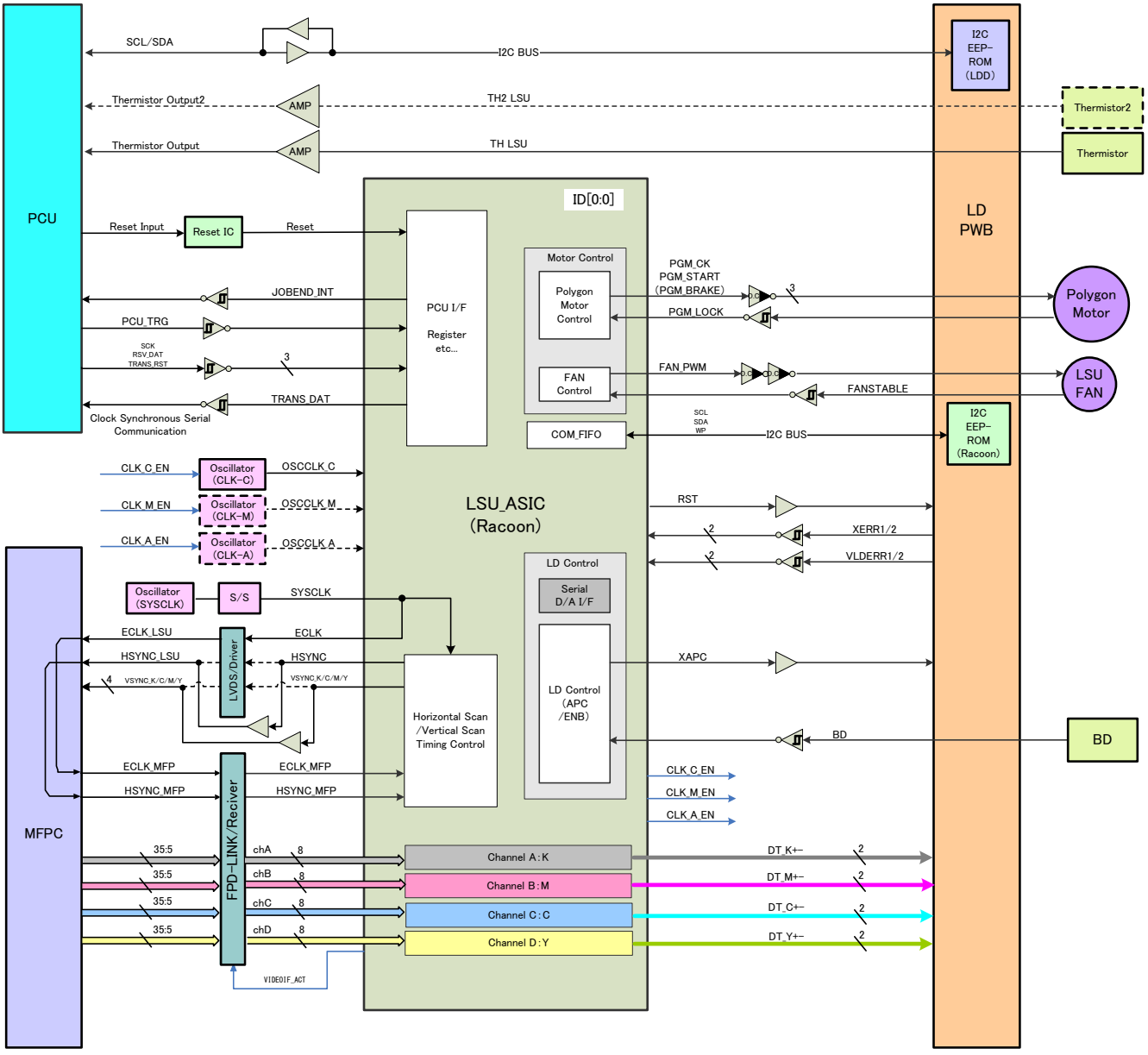

CPU
R5F5651EDDFB
Xtal
14.7456MHz
SS-IC
CY25811
for Class-B Only
Reset IC
EEPROM
128kbit
I2C BUS
DC Power
Supply
FW
MFPC
(SCU/PIC)
UART
LSU
Serial I/F
LCC
UART
FINISHER
UART
DESK
UART
Internal-BUS
External-BUS
Controller
External-BUS is
Isolated from
Internal-BUS
Flash
16Mbit
SRAM
2Mbit
Data BUS [7:0]
Address BUS [9:0]
BCLK
Pixii
I/O CPLD1
PMC2 ASIC
3-wired
Serial
I2C BUS
3-Wired
Serial
DC Blushless Motor Control
(Outer Roter type)
DM_K / DM_CL / FUM
MC PWB
MC_K / MC_CMY
Load Control Output
Coin Vendor (Option)
DC Blushless Motor Control
(Outer Roter type)
BTM / CPFM
DC Blushless Motor Control
(Inner Roter type)
ADUM1 / ADUM2 / SBM /
POM / PFM / RRM
Load Control Output
1TURC_1 / 1TURC_2 / C1PUC / C1PFC / HPFC
/ 2TURC / MPUS / MPUC / ADUGS / C2PUC /
C2PFC / CPUS2 / POGS
Sensor Input
DHPD_K / DHPD_C / DHPD_M / DHPD_Y /
C1SS1 / C1SS2 / C1SS3 / C1SS4
PDOS1 / PDOS2 / TNFD2
(MUX)
C2SS1 / C2SS2 / C2SS3 / C2SS4 /
DVTYPSEL_K / DVTYPSEL_C /
DVTYPSEL_M / DVTYPSEL_Y
FAN Motor Control
FUFM / POFM2 / PSFM
Stepping Motor Control
TNM_K / TNM_C / TNM_M / TNM_Y / PRM /
OSM / PDPTM
DC Brush Motor Control
C1LUM / C2LUM
Fuser Unit (HL)
HL_UM / HL_US / HL_LM
Drum Lamp
DL_K / DL_C / DL_M / DL_Y
CRUM
CRUM_K / CRUM_C / CRUM_M /
CRUM_Y
TC PWB
1TC / 2TC
Sensor Input
PRTPD / TNFD / C1PED / C2PED / C1SPD /
C2SPD / DSW_F / DSW_FU / DSW_CL /
DSW_C2 / DSW_R / HLPCD / MPLD1 / MPED
/ TFD2 / TFD3 / TED4 / LPPD1 / PPD2 /
APPD1 / APPD2 / SHPOS / C1LUD / C2LUD /
2TPD / 2TUD / DHPD_K / DHPD_CL / C1PFPD
/ C2PFPC / C1PFD / MPFD / C2PFD / POD1 /
POD2 / POD3 / POD4 / 1TUD_K / 1TUD_CL /
PDPPD1 / PDPPD2 / DCLHP
Analog Input1
REGS_F / REGS_R / PCS_F / PCS_R /
TH_UM / TH_UM_CS / TH_UM_D / TH_US /
TH_LM / TH_UM2 / TH_SUB2 /
TH_SUB2-2_CS / TH_SUB2-2_D / MPWS
Analog Input2
TH_CL / HUD_CL / TH1_LSU / TH2_LSU /
TCS_K / TCS_C / TCS_M / TCS_Y
Analog SW
Analog Input3
DVTYP_K / DVTYP_C / DVTYP_M / DVTYP_Y /
DLOPEN_K / DLOPEN_C / DLOPEN_M /
DLOPEN_Y
Analog SW
Analog Output
TSG_K / TSG_C / TSG_M / TSG_Y /
REGS_F_LED / REGS_R_LED
D/A
Converter
AN
AN
AN

## D. DSPF/RSPF

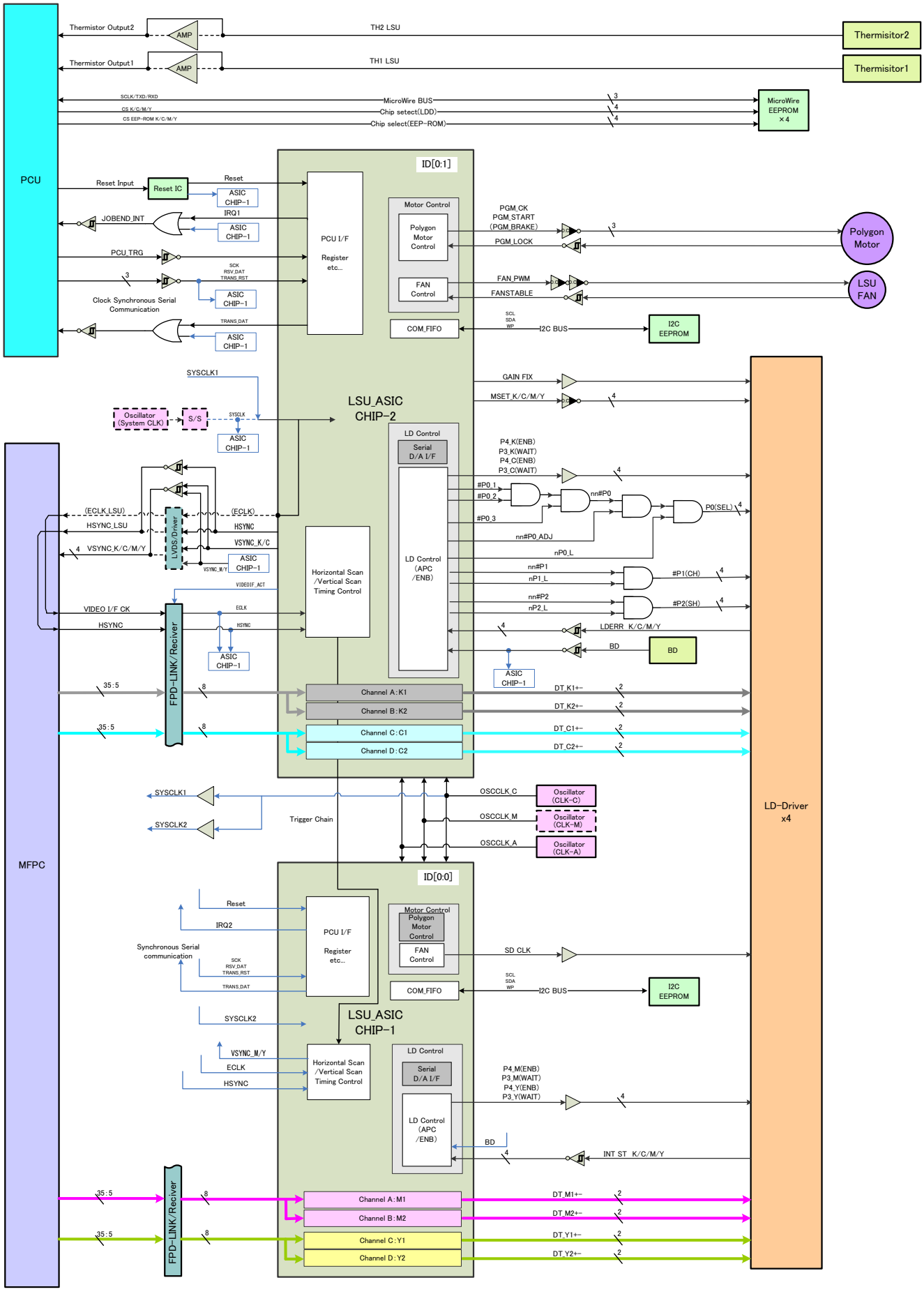

RSPF model
RSPF-UN
SCN-MFPC PWB
DSPF model
LVDS IC TX 28bit
LDO Section
12V
12V
5V
3.3V
5V
LDO
LDO
LDO
LDO
DCDC
(To CCD PWB) 10V
(To CCD PWB) 5.3V
(To CCD PWB) 3.3V
(To SCAN ASIC) 1.2V
(To SCAN ASIC, Page Memory) 1.5V
CLK Section
CLK (19.6608MHz)
CLK generator
SCAN ASIC (for Page Memory)
CPU
SCAN ASIC (for reference)
Page Memory
SCAN ASIC (GORGON)
CPU RX651(2MB)
DSPF PWB
LVDS IC Rx 35bit
TRAY LED Driver
Clutch Driver
STMPS Driver
LED Driver
Motor Driver
DSPF FAN Driver
RGB data
TRAY LED
Clutch
STMPS
LED
Motor
DSPF FAN
CCD-R PWB
AFE /TG
CLK
3 line color CCD
LDO Section
3.3V
LDO
(To AFE) 1.8V
Sensor
SPOTD

## E. LSU

### (1) MX-xx51

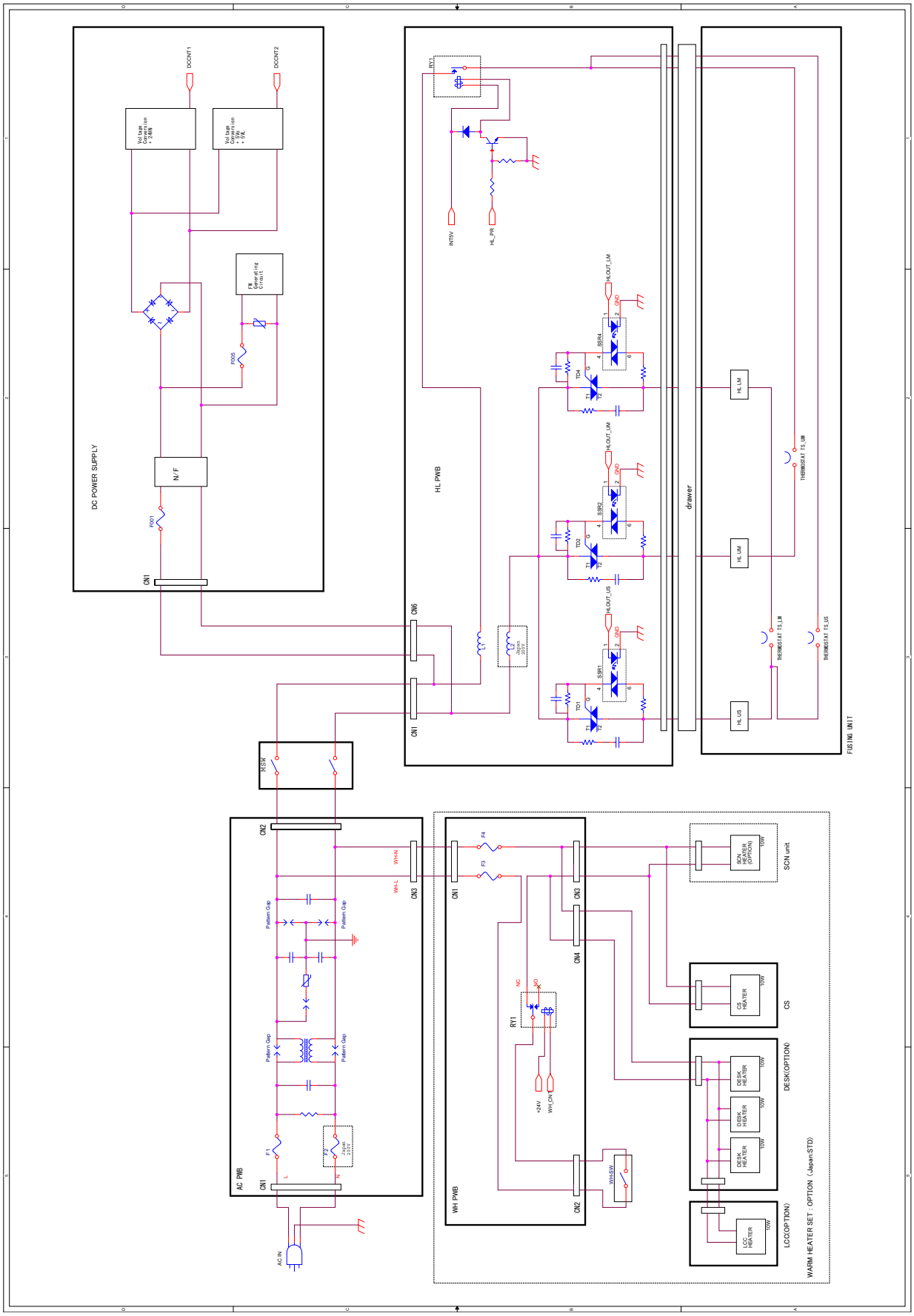


## (2) MX-xx61/xx71

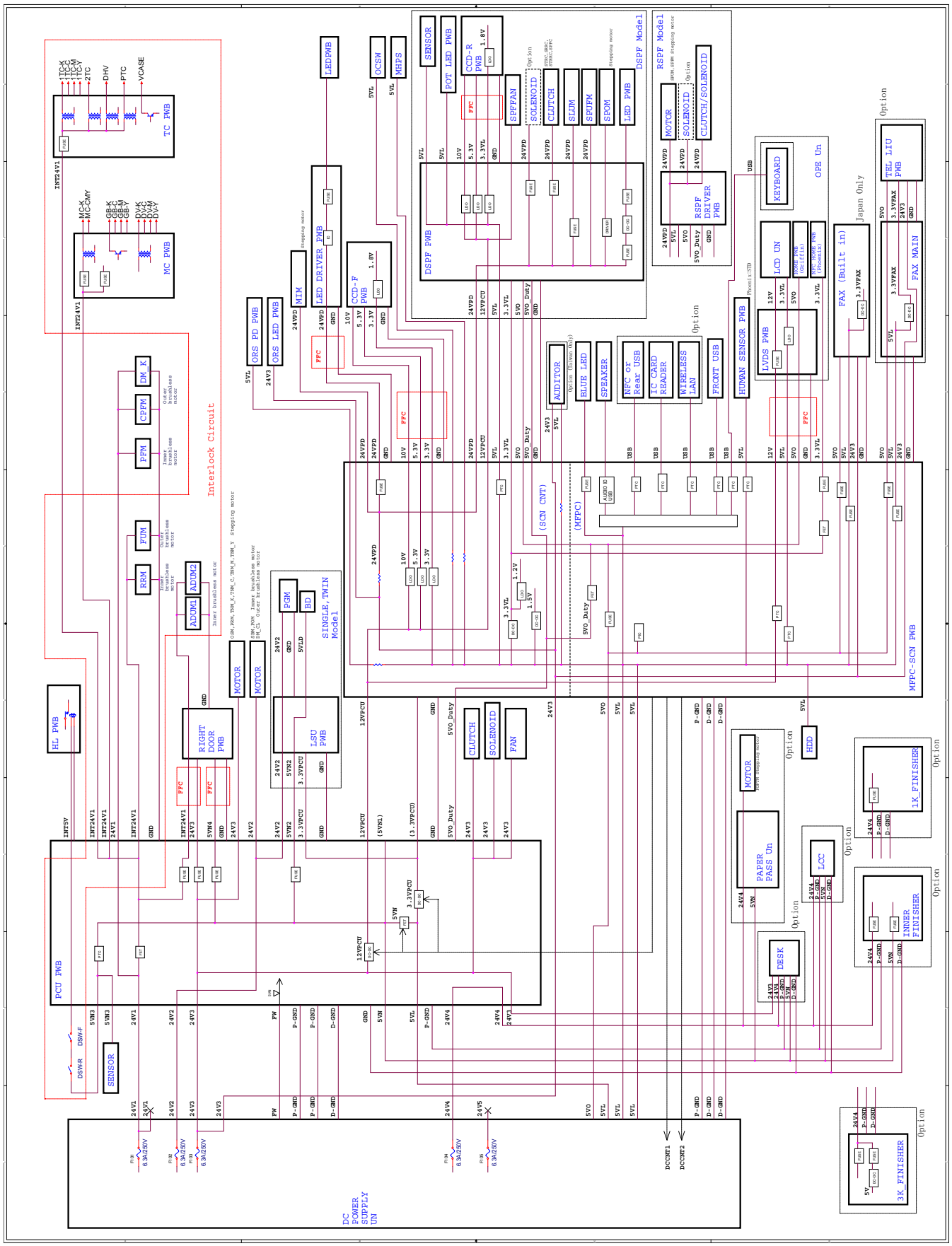


## 2. Power line diagram

### A. AC power line diagram

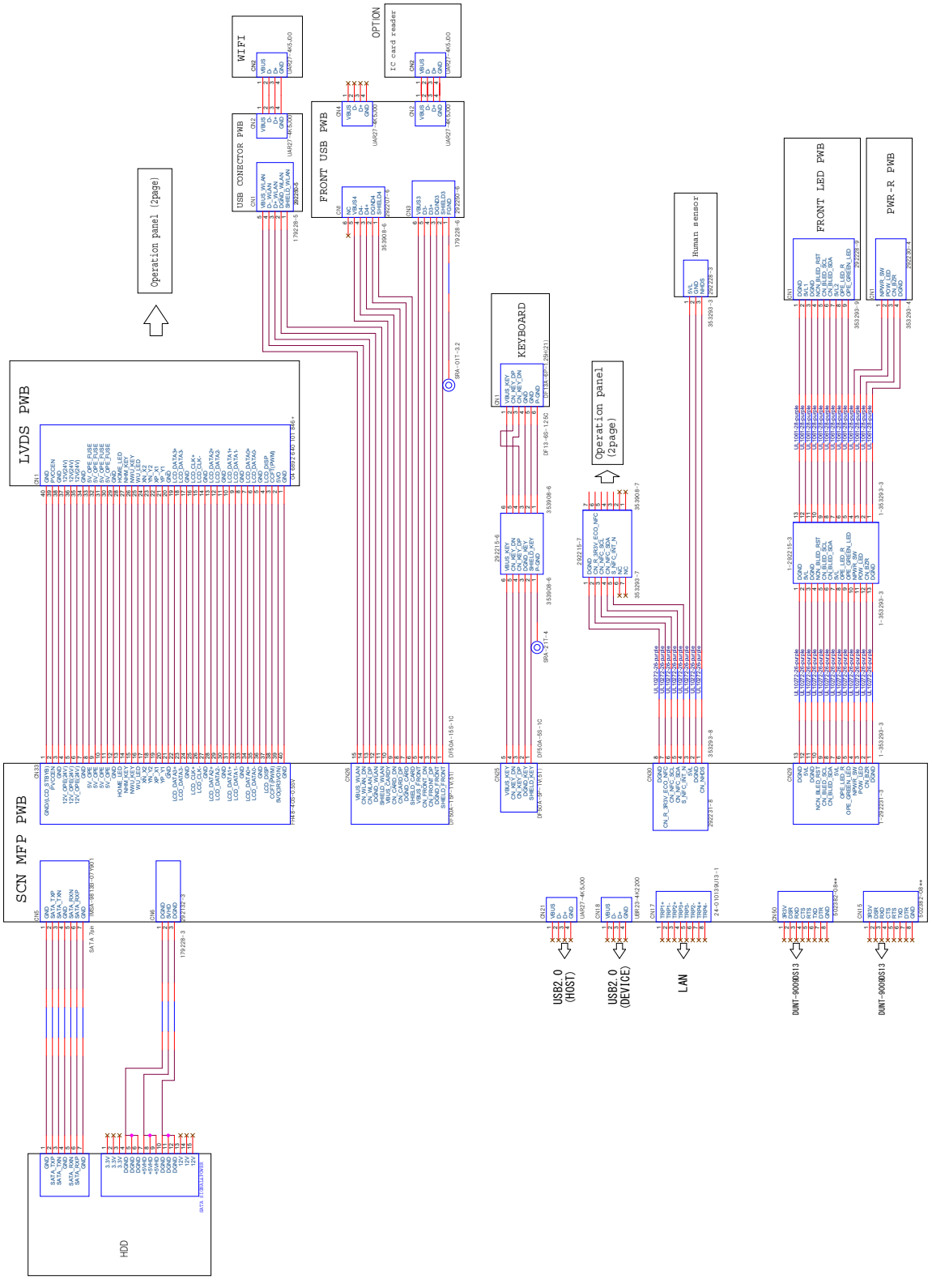


## B. DC power line diagram

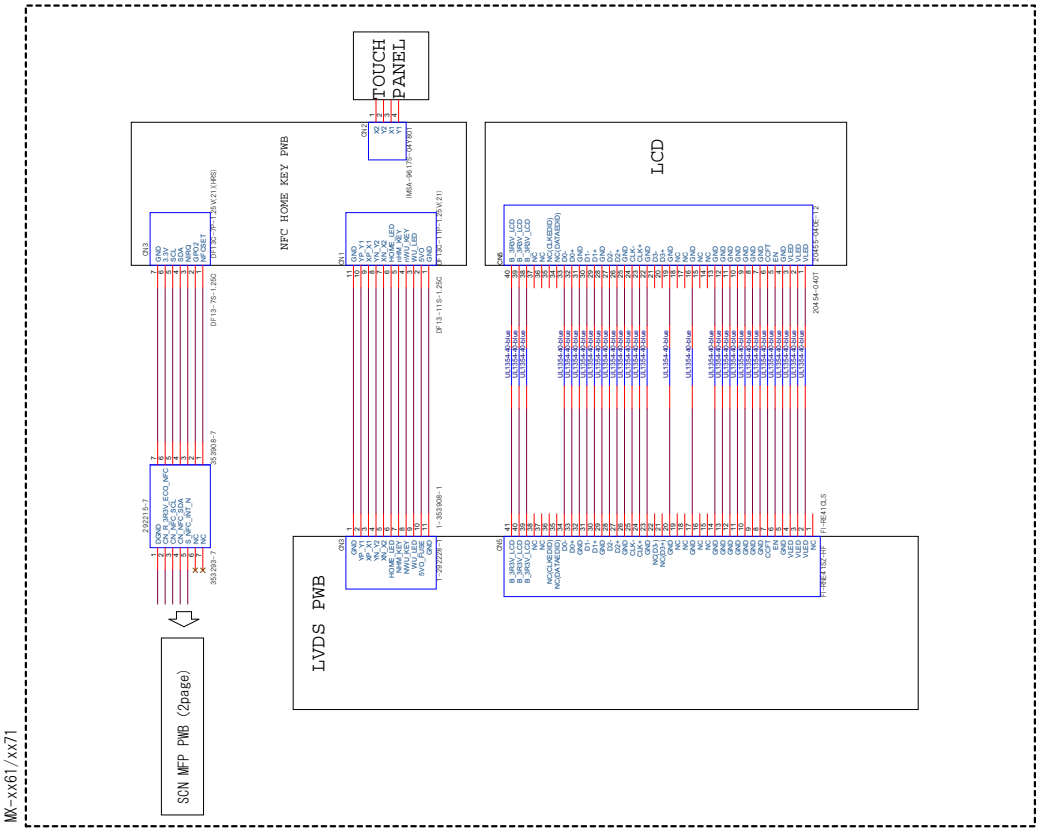


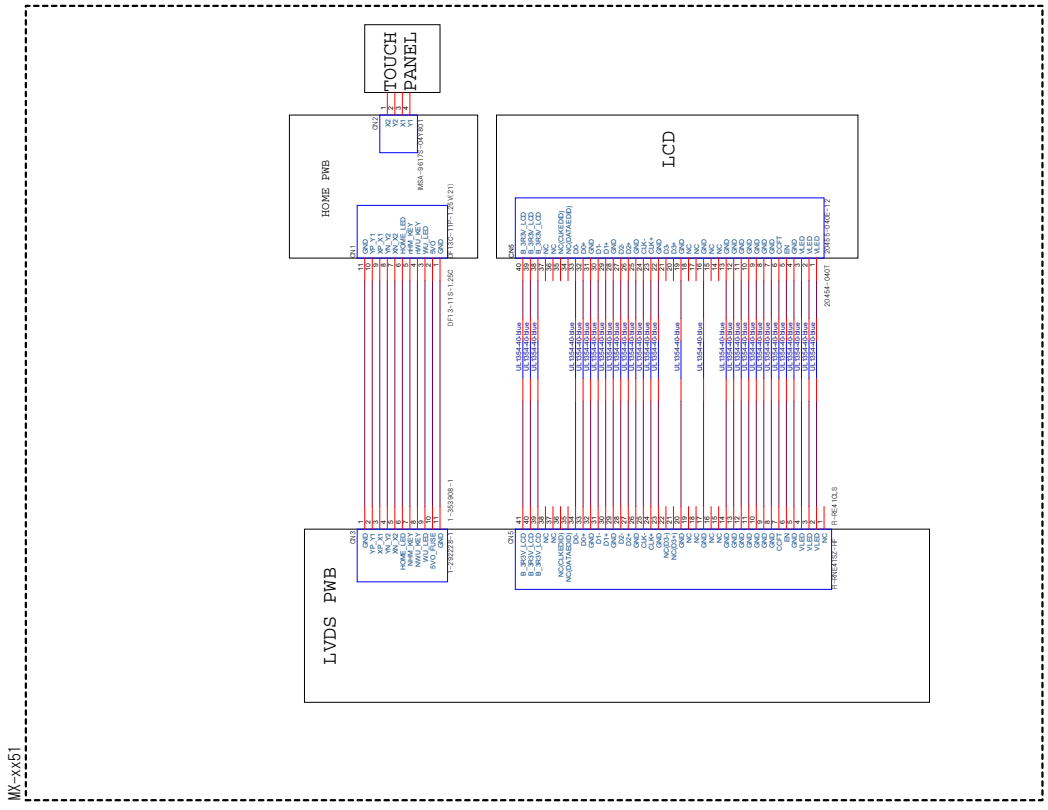
# 3. Actual wiring chart

## A. HDD, FAX, USB



## B. Operation panel

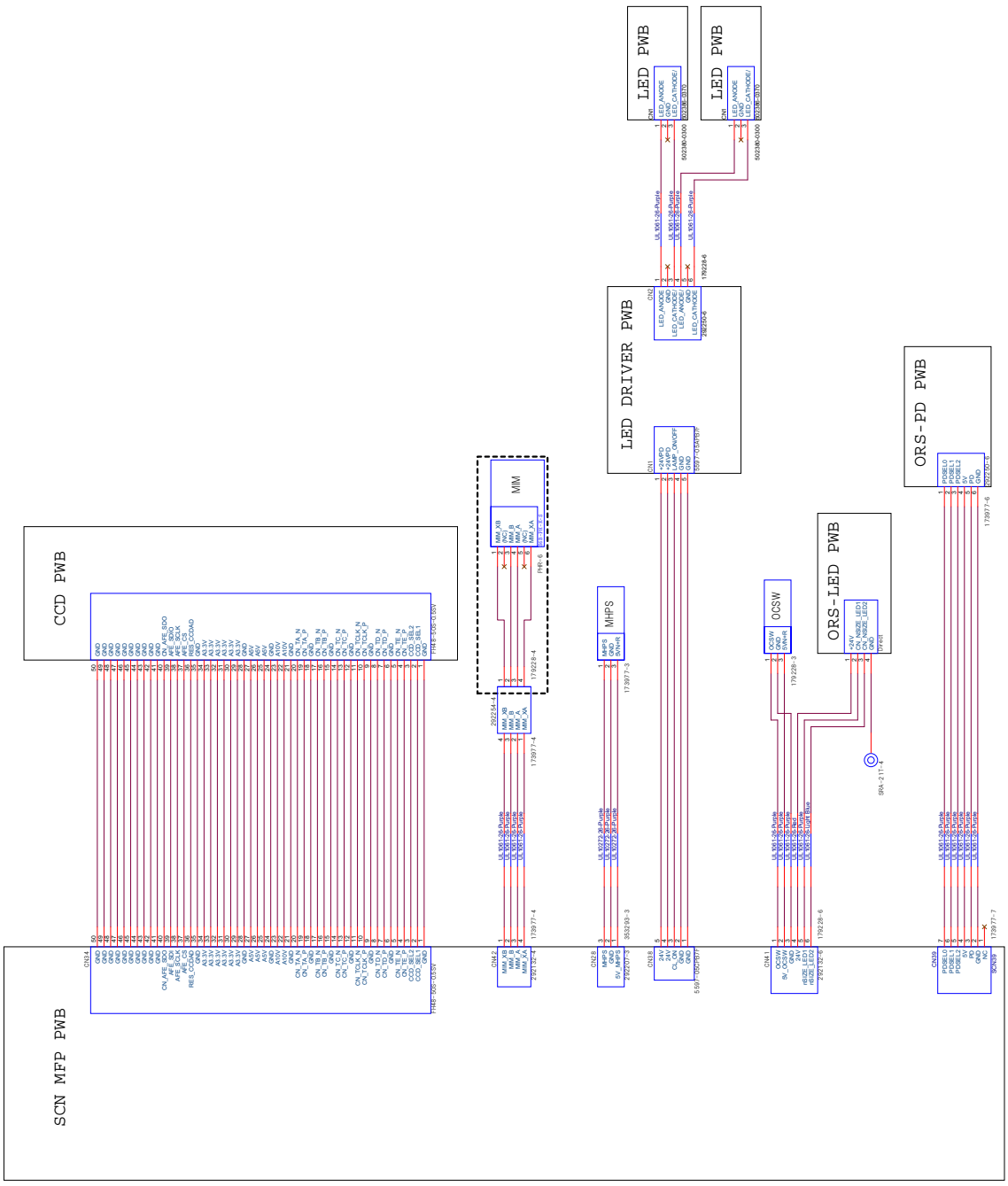


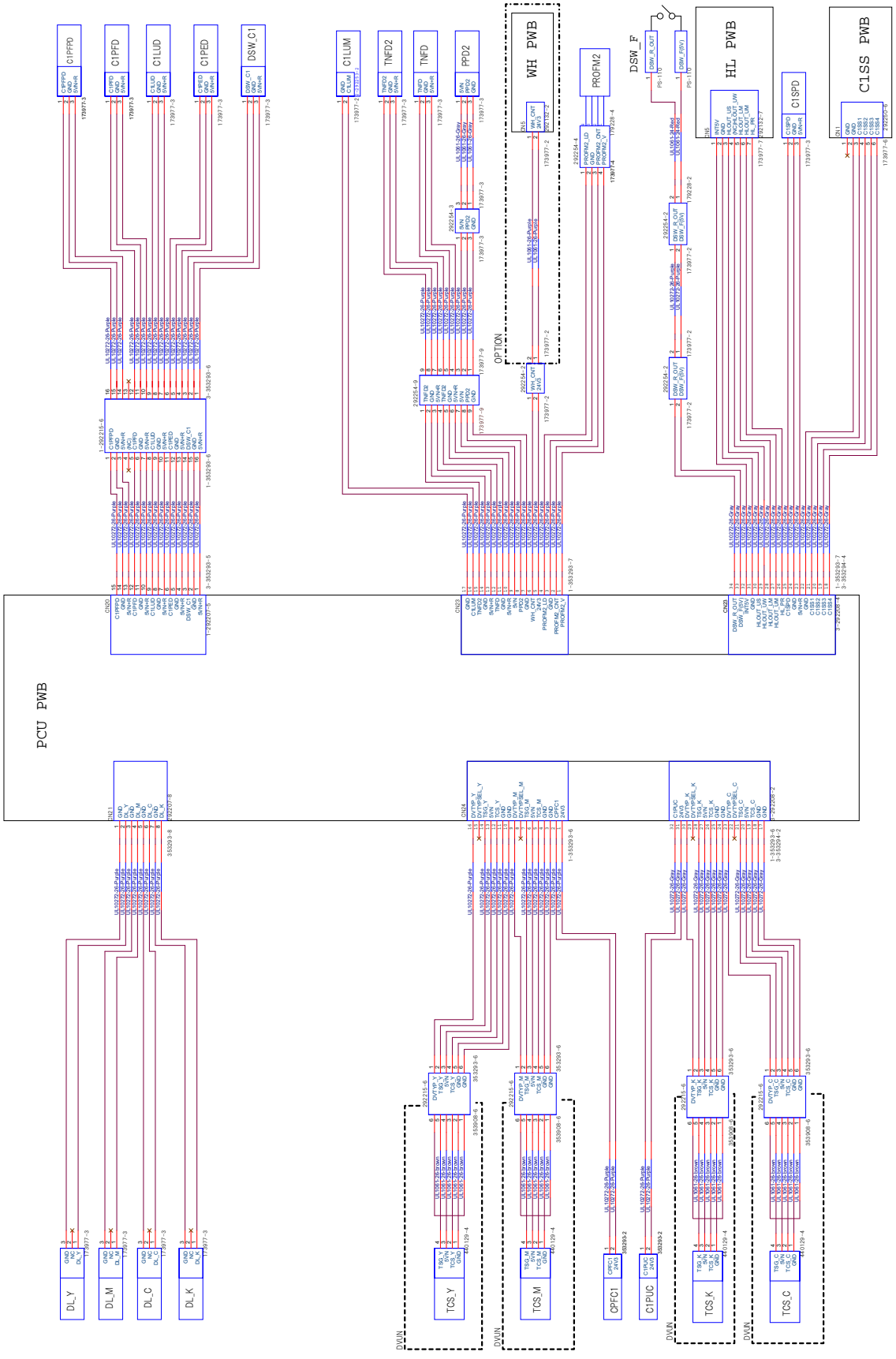
## C. LSU


SCN MFP PWB
LSU 1beam :
LSU SINGLE PWB
LSU 2beam :
LSU TWIN PWB
BD PWB
TH1_LSU PWB
TH2_LSU PWB
PGM
PCU PWB
MX-xx61/xx71
MX-xx51
TH/HUD

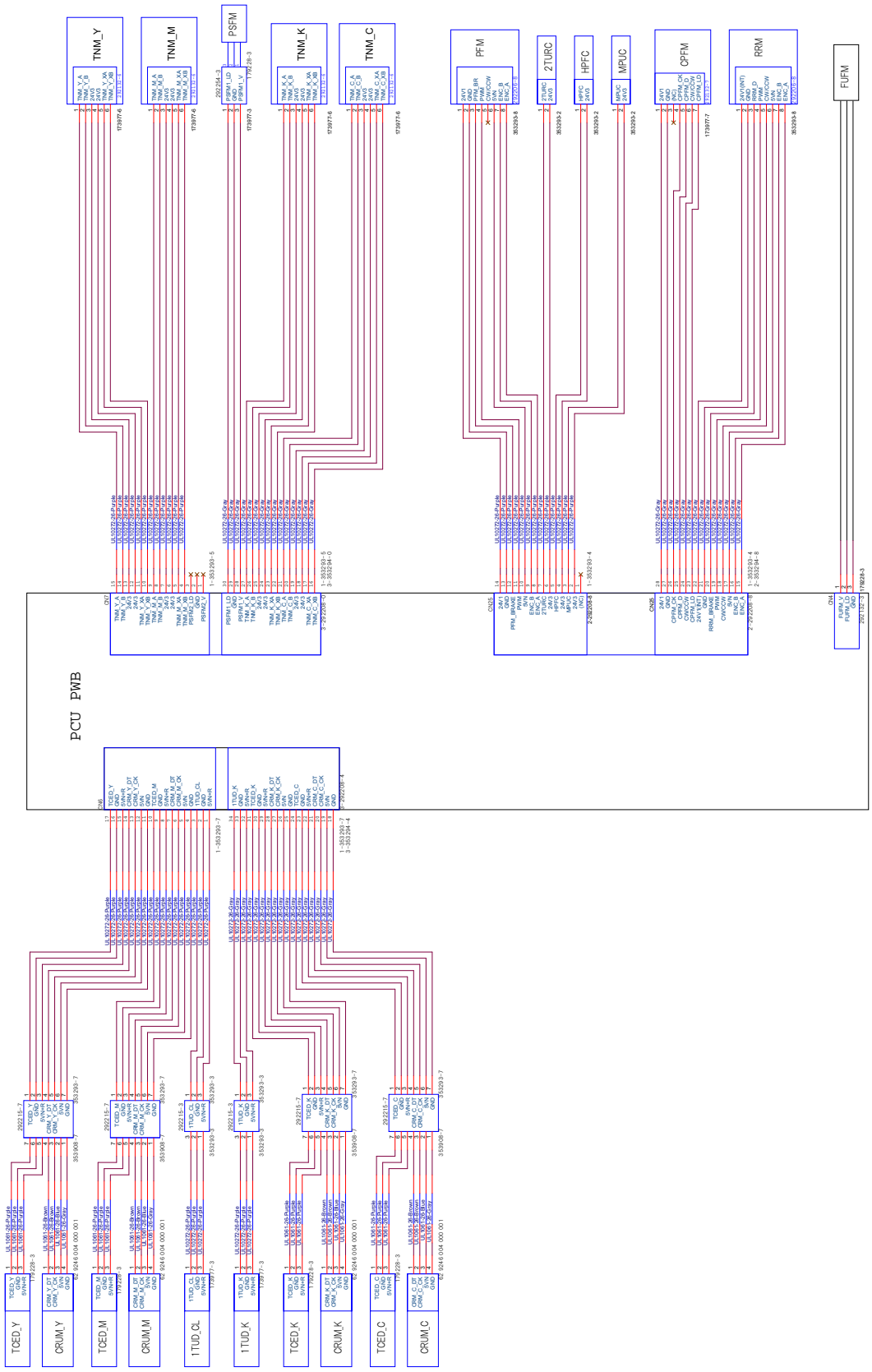
## D. Scanner


SCN MFP PWB
CCD PWB
MM
LED DRIVER PWB
LED PWB
LED PWB
ORS-LED PWB
ORS-PD PWB
MHPS
OCSW

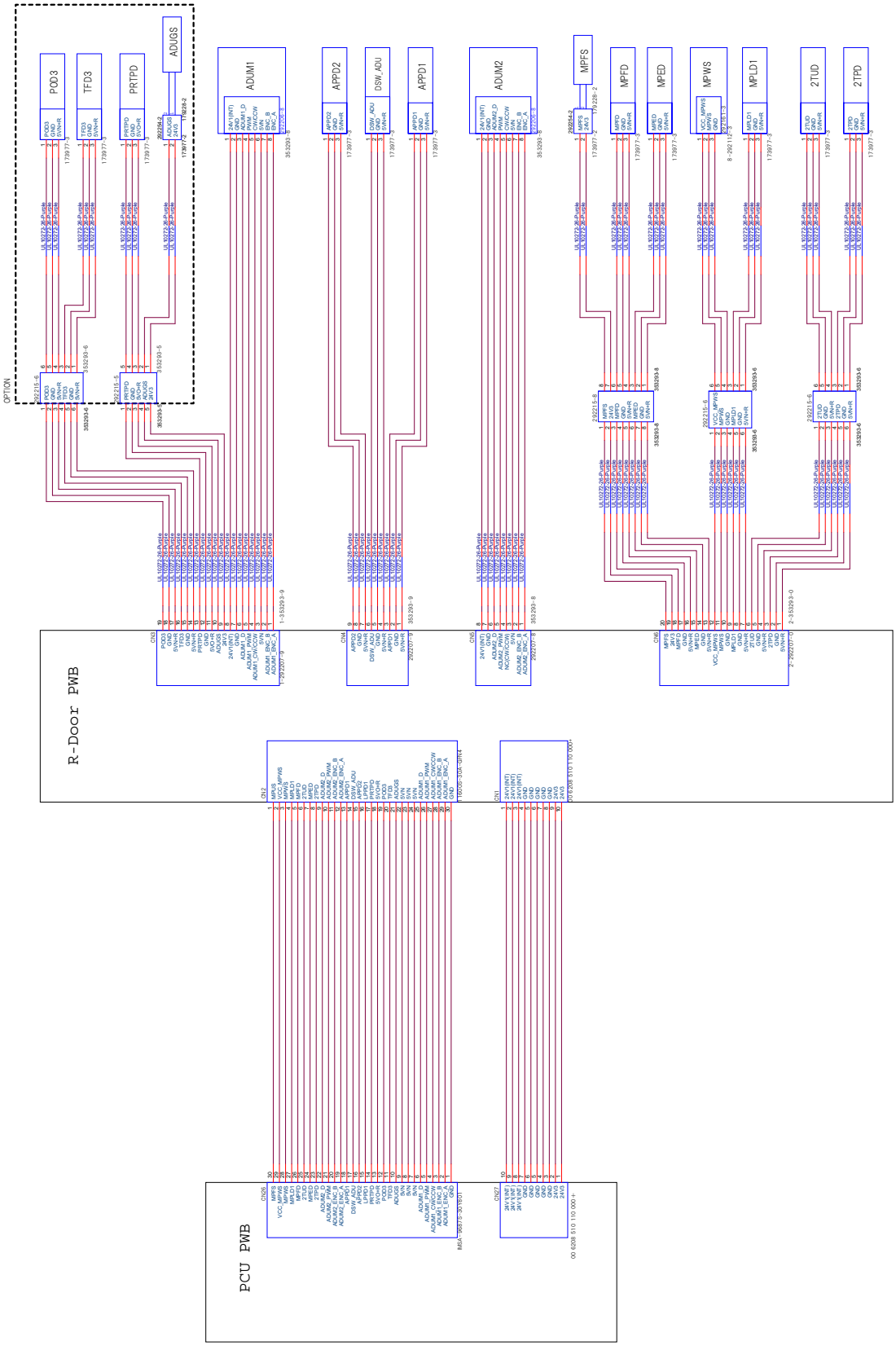
## E. Paper feed, Tray, Process, DV



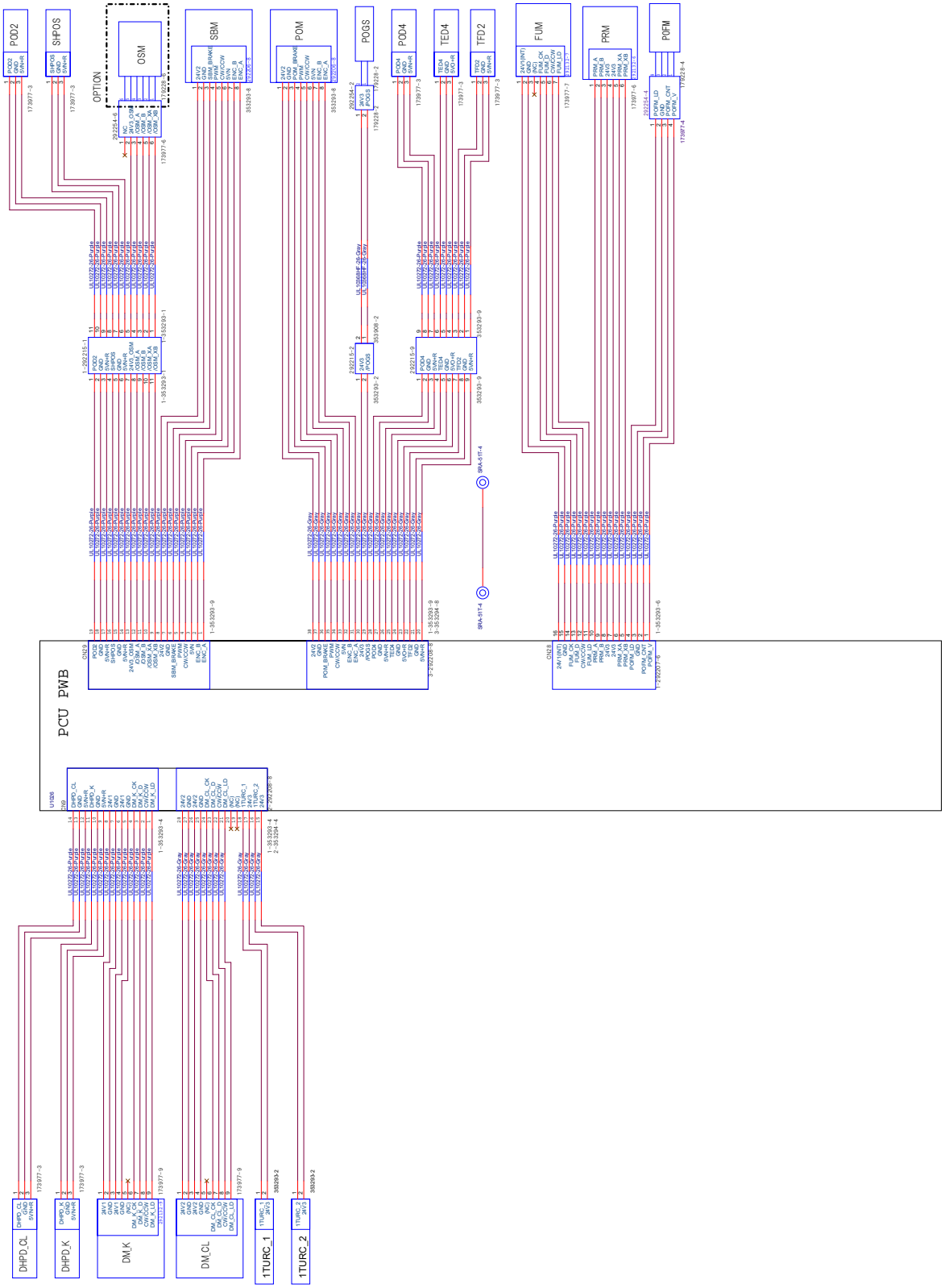
## F. Toner motor, Paper transport drive



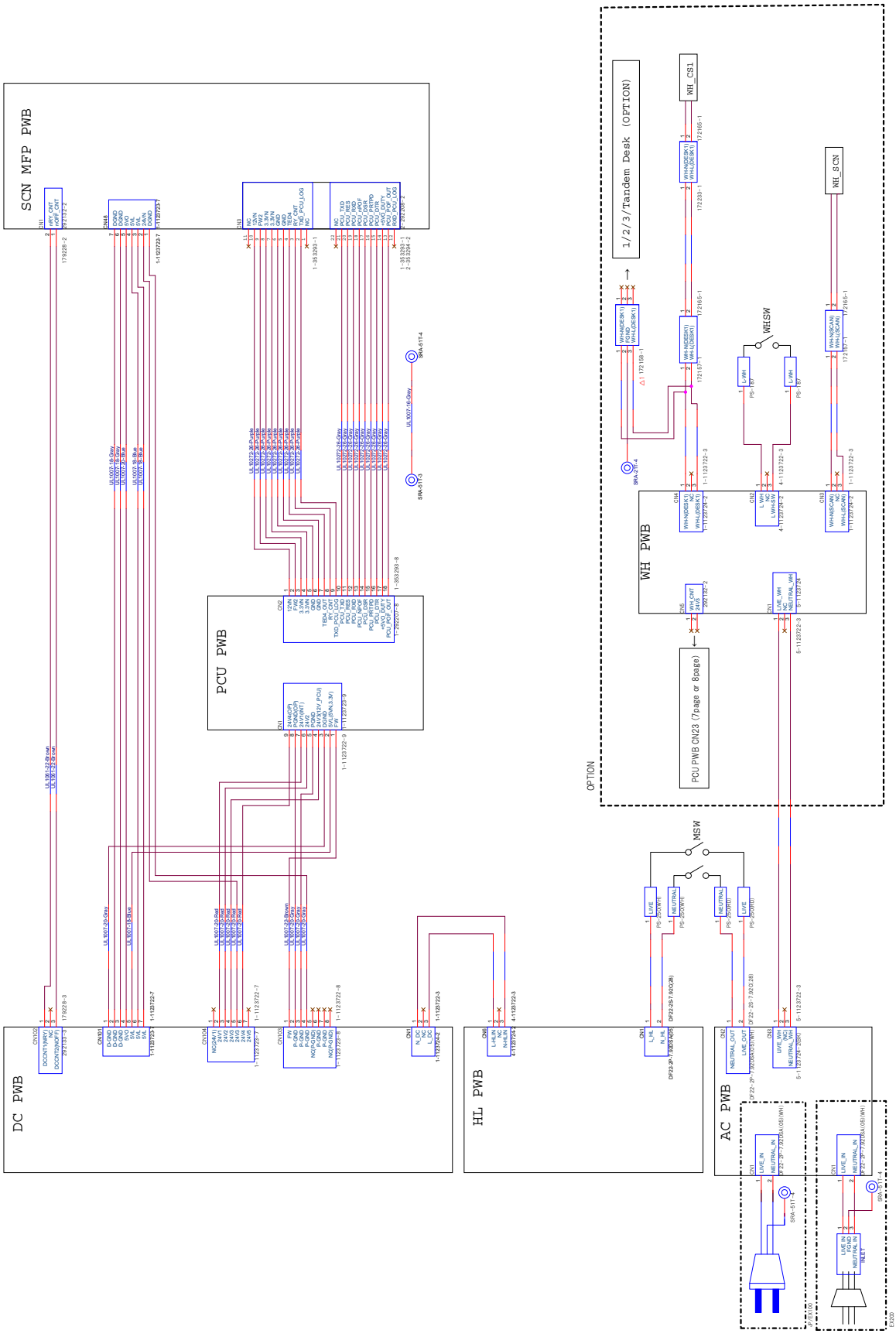
## G. Right door, Manual paper feed



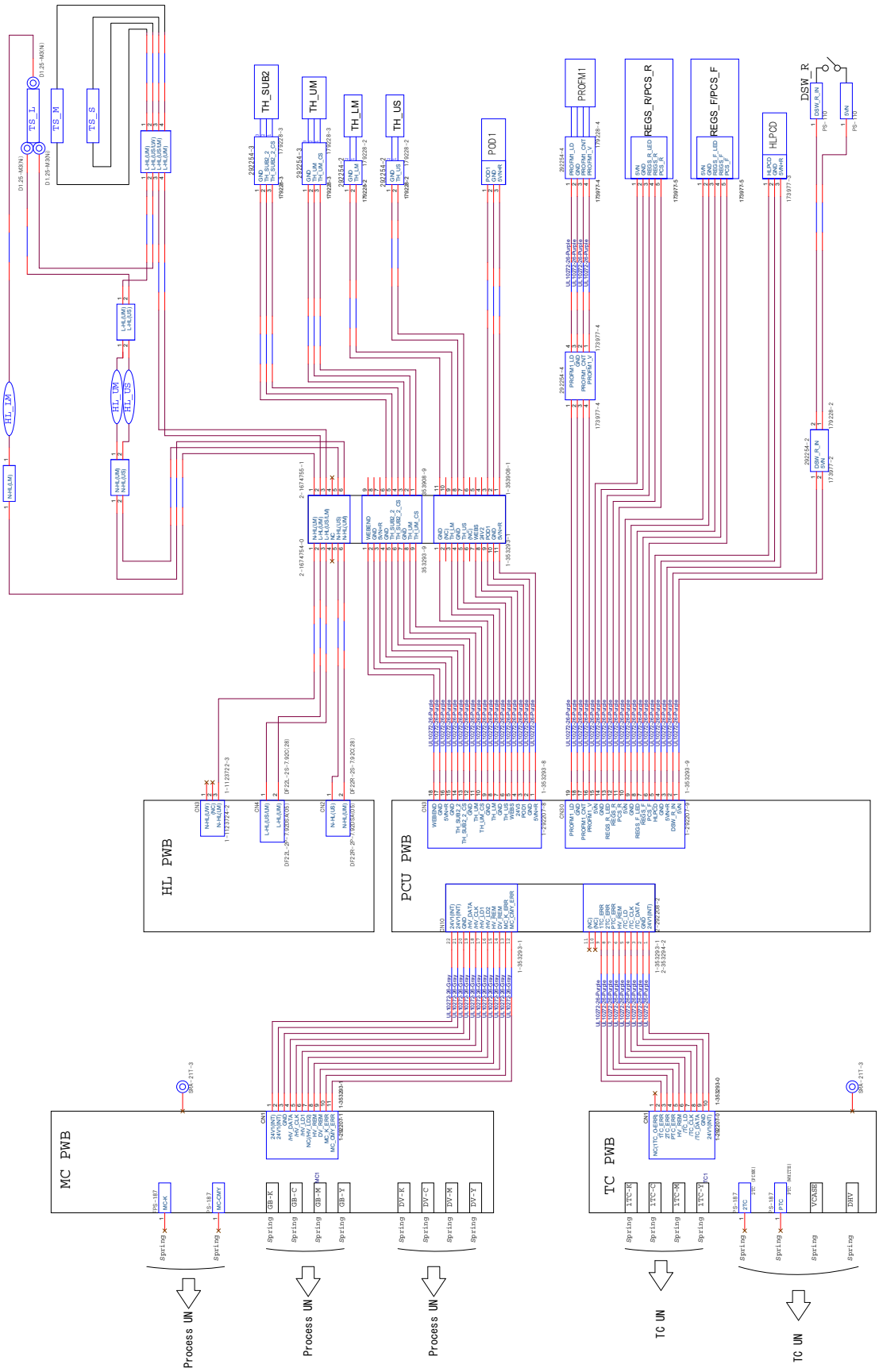
## H. Paper exit, Main drive



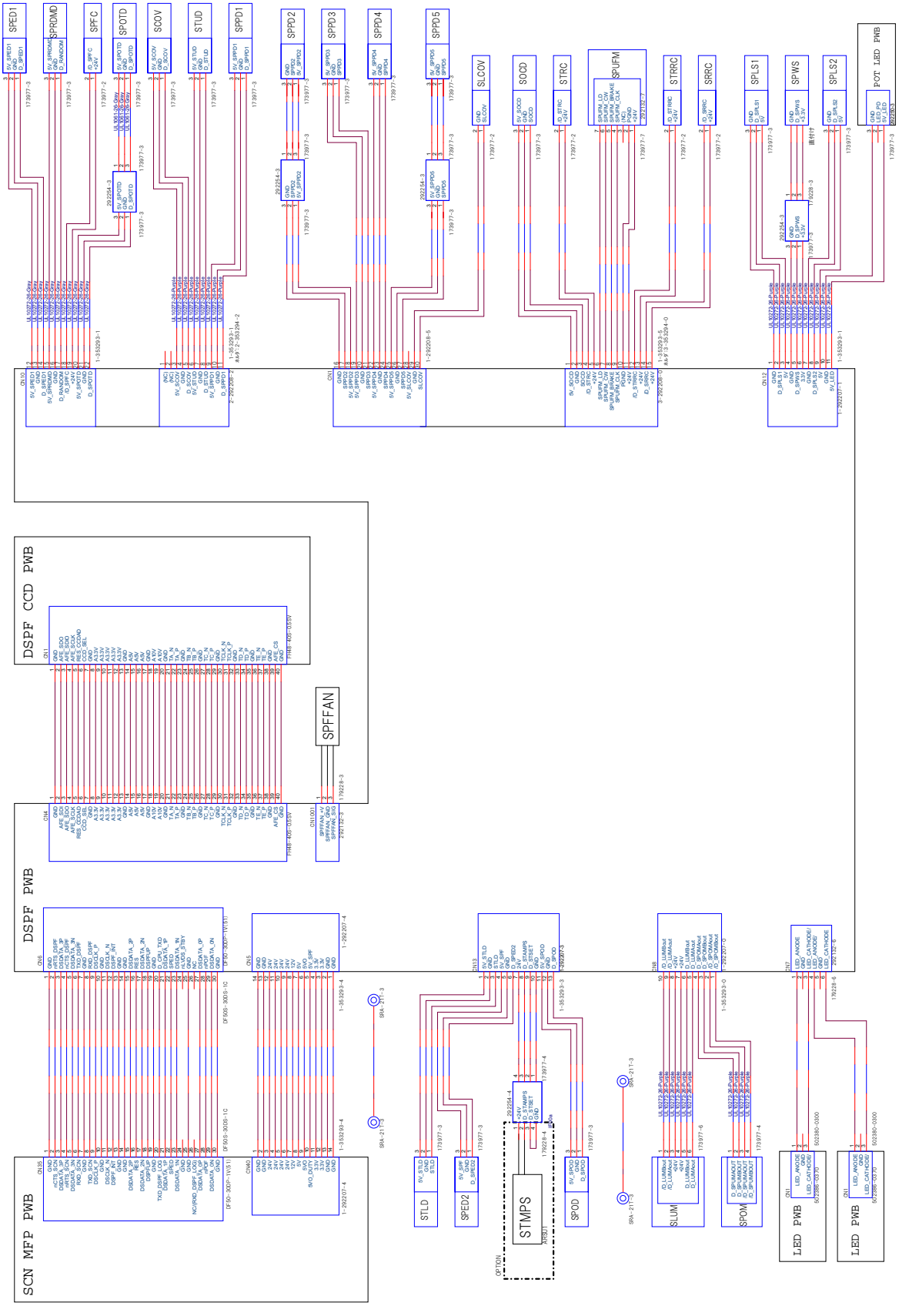
## I. Power supply, WH



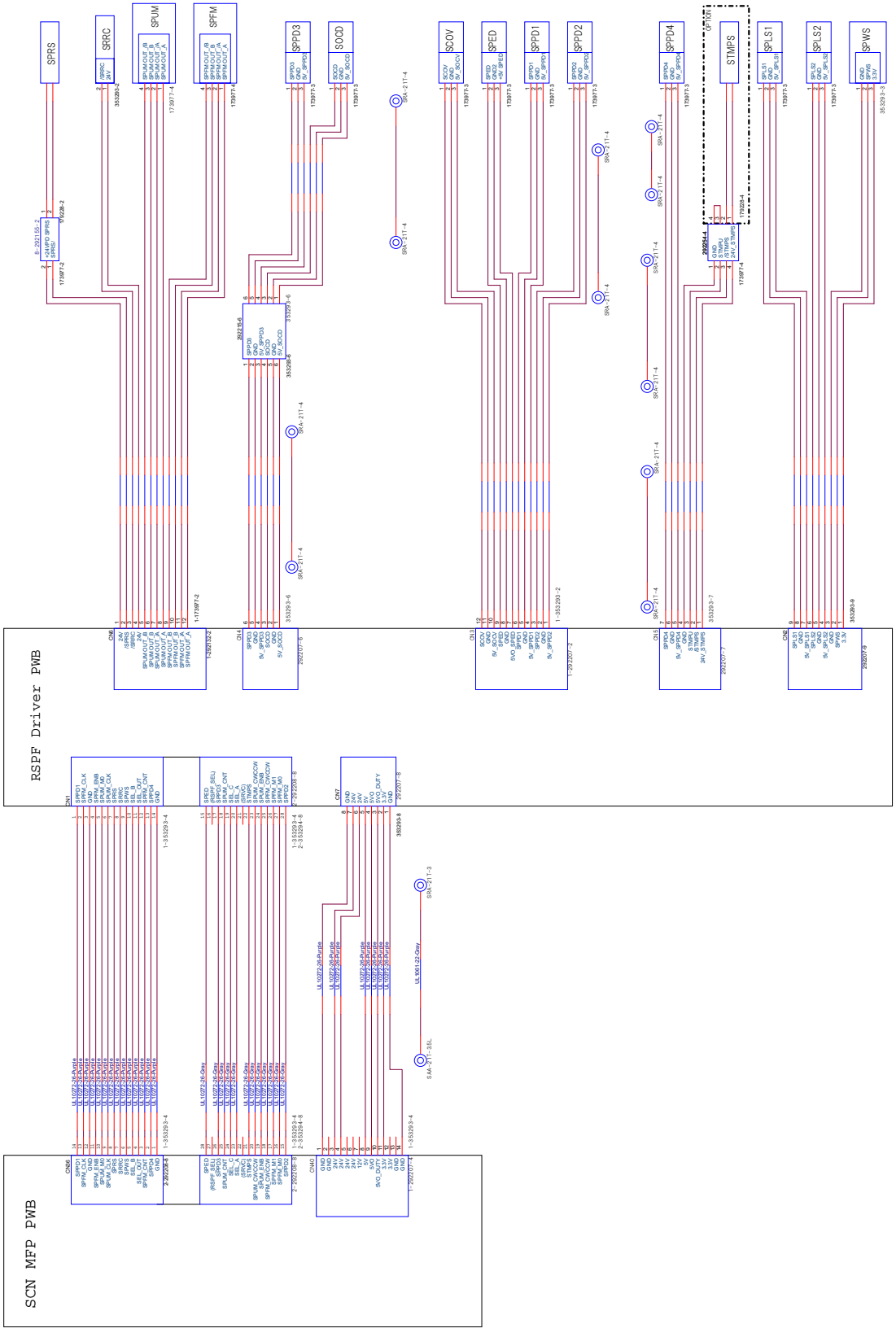
## J. Fusing, Resist sensor, High voltage



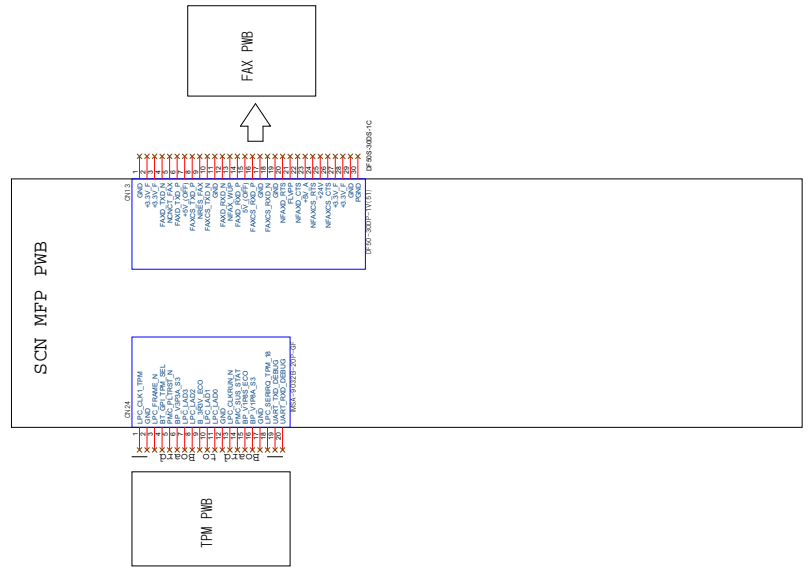
## K. DSPF

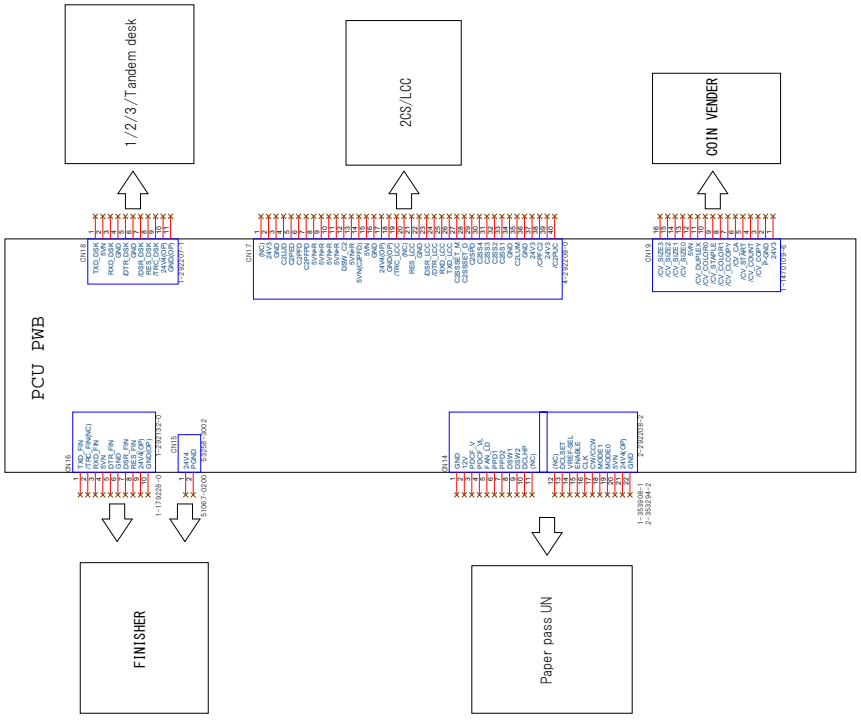

SPED1
SPRDMD
SPF C
SPOTD
SCOV
STUD
SPPD1
SPPD2
SPPD3
SPPD4
SPPD5
SLCOV
SOCD
STRC
SPUFM
STRRC
SRRC
SPLS1
SPWS
SPLS2
POT LED PWB
DSPF CCD PWB
DSPF PWB
DSPF PWB
SPFFAN
SCN MFP PWB
STLD
SPED2
STMPS
SPOD
SLUM
SPOM
LED PWB
LED PWB

## L. RSPF


RSPF Driver PWB
SCN MFP PWB
SPRS
SRRC
SPUM
SPFM
SPPD3
SOCD
SCOV
SPED
SPPD1
SPPD2
SPPD4
STMPS
SPLS1
SPLS2
SPWS

## M. Option


FAX PWB
SCN MFP PWB
TPM PWB


1/2/3/Tandem desk
2OS/LCC
COIN VENDER
PCU PWB
FINISHER
Paper pass UN

# [13] OTHERS

## 1. TOOL LIST

| Name | PARTS CODE | NOTE |
|---|---|---|
| Y toner powder | CKOG-0345DS51 | Primary transfer belt |
| Conductive grease (FLOIL GE-676) | UKOG-0012QSZZ | For shaft |
| Grease (FLOIL GP-501MR) | UKOG-0013QSZZ | Paper feed roller shaft |
| Grease (MOLYKOTE X5-6020) | UKOG-0158FCZZ | Scanner rail |
| Gray test chart | UKOG-0162FCZZ | |
| Grease (JFE552) | UKOG-0235FCZZ | |
| Grease (HANARL FL-955R) | UKOG-0299FCZZ | |
| Grease (FLOIL G-313S) | UKOG-0307FCZZ | |
| Stearic acid powder | UKOG-0312FCZZ | OPC drum |
| Color copy test chart | UKOG-0326FCZZ / UKOG-0326FC11 | |
| Shading adjustment sheet | UKOG-0333FCZZ | DSPF |
| Scanner adjustment chart | UKOG-0356FCZZ | |

## 2. VARIOUS STORAGE DATA HANDLING

### A. HDD / eMMC PWB memory contents

#### (1) HDD data contents

| No. | File system | Stored data |
|---|---|---|
| L-1 | Not available | ICU firmware |
| I-1 | Image data | Image data (ERDH + document filing) |
| I-2 | Image data | Image data (temporary storage) |
| I-3 | Image data | Image data (user watermark / stamp) |
| I-4 | Image data | FAX/internet FAX received images |
| L-2 | Not available | System storage data |
| S-1 | Universal | System storage data (for backup) |
| S-2 | Universal | Download font<br>Download color profile<br>User macro<br>Key operation storage data<br>Database system file<br>Custom icon, background data |
| S-3 | Universal | System log |
| S-4 | Universal | Document filing<br>Job log<br>Job log completion list |
| S-5 | Universal | Address book<br>Account management data<br>Paper property registration data<br>Billing account data<br>Cookie file for OSA application |
| S-6 | Universal | Database file |
| S-7 | Universal | Spool area for printer |
| S-8 | Universal | Print release storage data<br>Print release file management information |
| S-9 | Universal | Work area for OCR |
| S-10 | Universal | Work area for application |
| S-11 | Universal | eOSA application file |
| S-12 | Universal | Log data |
| S-14 | Universal | User file (SMB) |
| S-15 | Universal | User data of set value etc which must not be erased when installing the DSK |
| L-3 | Not available | Firmware recovery data |

#### (2) eMMC PWB data contents

| No. | File system | Stored data |
|---|---|---|
| L-101 | Universal | ICU firmware |
| S-101 | Universal | Font<br>Spdl<br>Option font ROM |
| L-102 | Not available | Snapshot image |
| S-102 | Universal | e-manual<br>Watermark<br>OCR dictionary<br>Voice data |
| S-103 | Universal | System setting data |
| S-104 | Universal | BPS system data |
| I-101 | Image data | FAX/internet FAX received data (backup) |
| S-105 | Universal | Backup data |
| S-106 | Universal | Log data |
| L-105 | Not available | Swap area |

### B. Necessary steps when replacing PWB, HDD and eMMC PWB

#### (1) SCN MFP PWB replacement procedure (work flow)

Registered user information will not be recovered if SCN MFP PWB is affected by U2-05 trouble.

1) Attach EEPROM, eMMC PWB of the SCN MFP PWB onto the new SCN MFP PWB and install it to the main unit.

   Ground your body with grounding band during the work.

2) U2 trouble occurs, use Sim16 to cancel it.

3) Set as follows after rebooting the main unit.

   Set the appropriate country code by Sim66-2 (clear software switch related to FAX).

#### (2) Procedures necessary for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If HDD operates normally and data backup is possible before replacement, perform data backup and then replace HDD.
- HDD does not operate normally, data cannot backed up.
- HDD replacement procedures with a broken HDD differs from that with a normal HDD.

### (3) HDD storage data and backup

Some HDD storage data can be backed up, some storage data can be reinstalled, If HDD operate normally before replacement and can be backed up data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of HDD.

**a. HDD storage data list**

| No. | Data kind | Before installation (when shipping from the factory) | After installation (after use by users) | Data backup | Backup method | Data reinstallation | Data reinstall procedures | Reinstall operator |
|---|---|---|---|---|---|---|---|---|
| 1 | Address book | Not available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service/ User |
| 2 | Image send registration data (sender's information, meta data etc) | Not available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service/ User |
| 3 | User authentication Account management | Not available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service |
| 4 | Japanese FEP dictionary | Not available | Available | Disable | --- | Disable | --- | --- |
| 5 | Chinese FEP dictionary | Not available | Available | Disable | --- | Disable | --- | --- |
| 6 | JOB log | Not available | Available | Enable | Sim56-4/ WEB PAGE | Disable | --- | --- |
| 7 | JOB completion list | Not available | Available | Disable | --- | Disable | --- | --- |
| 8 | New N/A (FSS) information | Not available | Available | Disable | --- | Disable | --- | --- |
| 9 | User font | Not available | Available | Disable | --- | Enable | WEB PAGE | Service/ User |
| 10 | User macro | Not available | Available | Disable | --- | Enable | WEB PAGE | Service/ User |
| 11 | Document filing | Not available | Available | Enable | SIM56-3/ WEB PAGE | Enable | SIM56-3/ WEB PAGE | Service/ User |
| 12 | System setting data | Not available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service/ User |
| 13 | User color profile | Not available | Available | Disable | --- | Enable | WEB PAGE | Service/ User |
| 14 | Cookie file for OSA application | Not available | Available | Disable | --- | Disable | --- | --- |
| 15 | User file saved in the SMB | Not available | Available | Disable | --- | Disable | --- | --- |
| 16 | Paper property registration data | Not available | Available | Enable | SIM56-2/ Device cloning | Enable | SIM56-2/ Device cloning | Service/ User |
| 17 | Billing account data | Not available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service |
| 18 | Print release storage data | Not available | Available | Disable | --- | Disable | --- | --- |
| 19 | eOSA application file | Not available | Install application | Disable | --- | Disable | Re-install application | Service |

### (4) Replacement procedures when HDD storage data can be backed up

#### a. Work contents and procedures

| Procedures | When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used. | When a used HDD (used in the same model) is used * |
|---|---|---|
| Step 1 | Back up the HDD storage data before replacement.<br>(Servicing)<br>Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.)<br>(Backup enable data: HDD storage data list No. 1, 2, 3<br>(Address book, Image send series registration data, User authentication data)) | |
| Step 2 | Back up the HDD storage data before replacement. (User or servicing)<br>Back up the data to PC with Web page.<br>(Backup enable data: HDD storage data list No. 6, 11 (JOB LOG data, Document filing data)) | |
| Step 3 | When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the eMMC PWB to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.) | |
| Step 4 | Replace the HDD. | |
| Step 5 | Boot the complex machine.<br>→ Formatting is automatically performed. | Boot the complex machine. |
| Step 6 | | The trouble code, U2-05, is displayed. → Cancel with SIM16. |
| Step 7 | Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM. | Use SIM62-1 to format the HDD. |
| Step 8 | Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.) | |
| Step 9 | Import the data backed up in Step 1.<br>Use SIM56-2, or the device cloning, or the storage backup to import.<br>(Import enable data: HDD storage data list No. 1, 2, 3<br>(Address book, Image send series registration data, User authentication data)) | |
| Step 10 | Import the data backed up with the Web page function in Step 2.<br>Import enable data: Document filing data, User font, Use macro<br>(The JOB LOG data can be backed up but cannot be imported.) | |

### (5) Replacement procedures when HDD storage data cannot be backed up due to breakdown

#### a. Display when HDD breakdown

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

#### b. Work contents and procedures

| Procedures | When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used. | When a used HDD (used in the same model) is used * |
|---|---|---|
| Step 1 | Install a HDD to the machine, and boot the complex machine.<br>→ Formatting is automatically performed. | Install a HDD to the machine, and boot the complex machine. |
| Step 2 | | The trouble code, U2-05, is displayed. → Cancel with SIM16. |
| Step 3 | Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM. | Use Sim62-1 to format the HDD. |
| Step 4 | When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the eMMC PWB to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.) | |
| Step 5 | Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.) | |

With the above procedures, the HDD is reset to the state of factory shipping.

### (6) eMMC PWB storage data and backup

Some eMMC PWB storage data can be backed up, some storage data can be reinstalled, If eMMC PWB operate normally before replacement and can be backed up data before replacement of eMMC PWB referring to eMMC PWB storage data list. Then reinstall the data after replacement of eMMC PWB.

#### a. eMMC PWB storage data list

| No. | Data kind | Before installation (when shipping from the factory) | After installation (after use by users) | Data backup | Backup method | Data reinstallation | Data reinstall procedures | Reinstall operator |
|---|---|---|---|---|---|---|---|---|
| 1 | ICU firmware/ Snapshot | Available | Available | Disable | --- | Enable | SIM49-1 | Service |
| 2 | font spdl | Available | Available | Disable | --- | Enable | SIM49-1 | Service |
| 3 | Option font ROM | Available | Available | Disable | --- | Enable | SIM49-1 | Service |
| 4 | e-Manual | Available | Available | Disable | --- | Enable | SIM49-7 | Service |
| 5 | Watermark | Available | Available | Disable | --- | Enable | SIM49-7 | Service |
| 6 | OCR dictionary | Available | Available | Disable | --- | Enable | SIM49-7 | Service |
| 7 | Voice data | Available | Available | Disable | --- | Enable | SIM49-7 | Service |
| 8 | Backup data | Not available | Available | Disable | --- | Disable | --- | --- |
| 9 | System setting data | Available | Available | Enable | SIM56-2/ Device cloning/ Storage backup | Enable | SIM56-2/ Device cloning/ Storage backup | Service/User |
| 10 | FAX/internet FAX received data | Not available | Available | Enable | SIM66-62 | Disable | --- | --- |

#### b. Work contents and procedures

| Step | |
|---|---|
| Step 1 | Use Sim56-2 to backup eMMC PWB data to USB memory |
| Step 2 | Backup eMMC PWB by device cloning function when operation panel screen is customized |
| Step 3 | Replace eMMC PWB with new one |
| Step 4 | Upgrade firmware to the latest version |
| Step 5 | Use Sim56-2 to restore data backed up in step1) |
| Step 6 | Restore data backed up in step2) by using device cloning function |

## 3. Advanced Settings

Describing on access procedure to advanced settings and operation.

**Setting items list**

| ID | Setting item name |
|---|---|
| 00001 | Display Setting for Sharp OSA Browser Setting. |
| 00002 | Setting of Shortcut Dialog Display upon Inserting External Memory Device. |

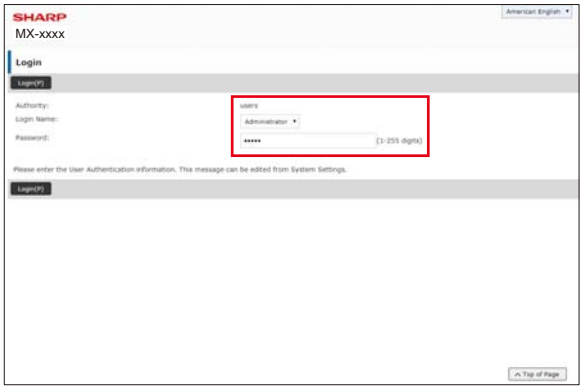
**Access to advanced setting screen**

1) Access the web page of the main machine.

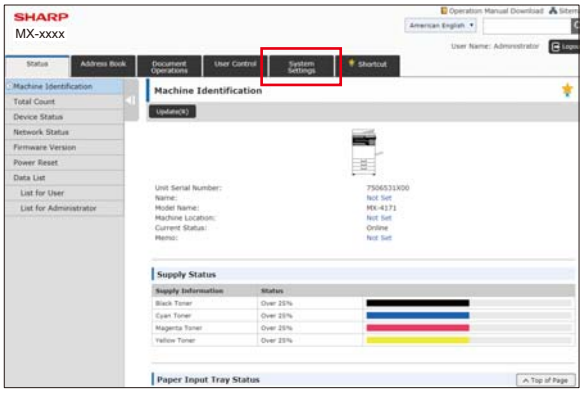



**NOTE:** Depending on the authentication method, a screen different from the above is displayed.

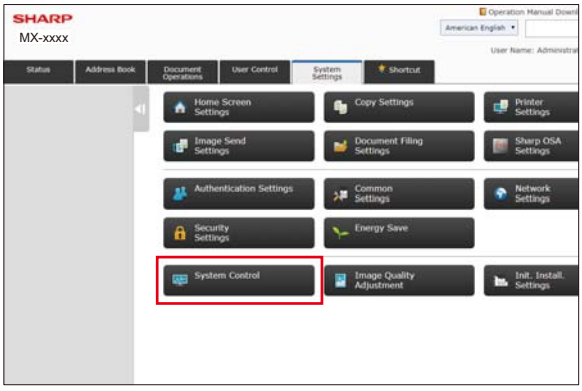
2) Log in with administrator privileges.



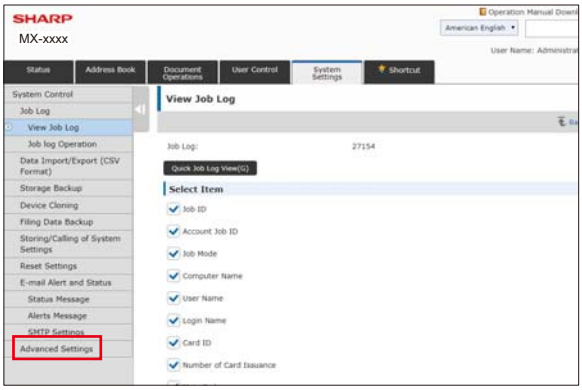

3) Select [System settings].



4) Select [System Control].

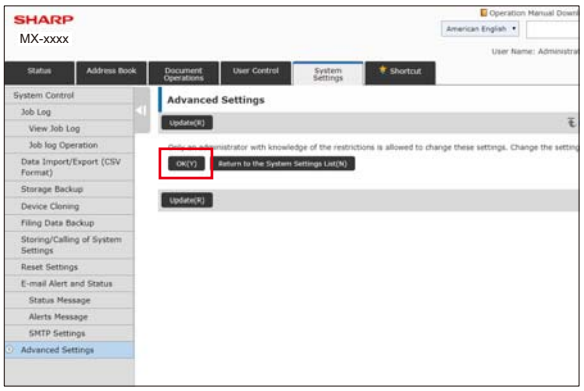



5) Select [Advanced settings].
Advanced setting page is displayed.

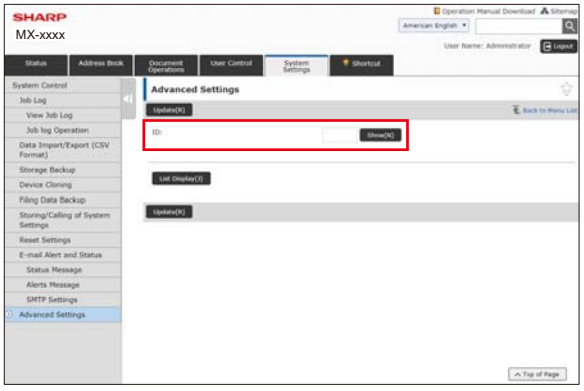



**How to use advanced settings**

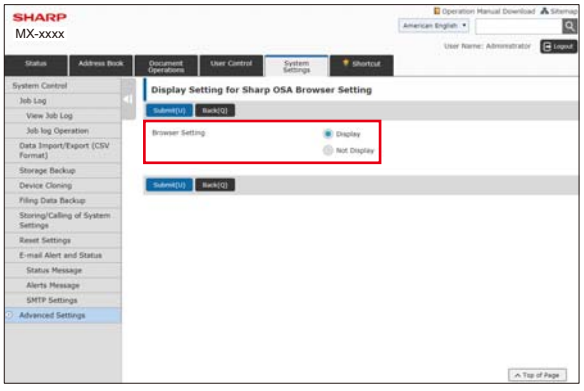
1) Select [OK(Y)] on the warning text screen.




2) Enter the setting item ID in the ID text box and press [Show(N)].



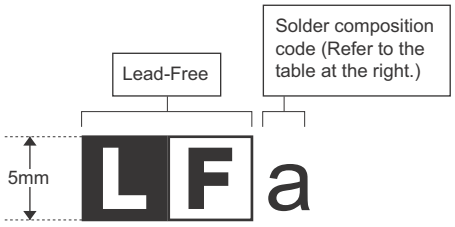

3) Change the setting of the target item.



# LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder.
The alphabet following the LF mark shows the kind of lead-free solder.

**Example:**




**<Solder composition code of lead-free solder>**

| Solder composition | Solder composition code |
|---|---|
| Sn-Ag-Cu | a |
| Sn-Ag-Bi<br>Sn-Ag-Bi-Cu | b |
| Sn-Zn-Bi | z |
| Sn-In-Ag-Bi | i |
| Sn-Cu-Ni | n |
| Sn-Ag-Sb | s |
| Bi-Sn-Ag-P<br>Bi-Sn-Ag | p |

## (1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

## (2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

## CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according to manufacturer's instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

## CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)
"BATTERY DISPOSAL"
THIS PRODUCT CONTAINS A LITHIUM PRIMARY (MANGANESS DIOXIDE) MEMORY BACK-UP BATTERY THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE BATTERY FROM THE PRODUCT AND CONTACT YOUR LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"
CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANÈSE) QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE AGENCE ENVIRONNEMENTALE LOCALE POUR DES INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET DE TRAITEMENT.

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