



KM-6330

**SERVICE
MANUAL**

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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 the manufacturer's instructions.

CAUTION

Double-pole/neutral fusing.





Safety precautions


This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions


Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

 **DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle () symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.



General warning.



Warning of risk of electric shock.



Warning of high temperature.

 indicates a prohibited action. The specific prohibition is shown inside the symbol.



General prohibited action.



Disassembly prohibited.

 indicates that action is required. The specific action required is shown inside the symbol.



General action required.



Remove the power plug from the wall outlet.



Always ground the copier.

1. Installation Precautions

WARNING

• Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current.



• Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities.



CAUTION:

• Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury.



• Do not install the copier in a humid or dusty place. This may cause fire or electric shock.



• Do not install the copier near a radiator, heater, other heat source or near flammable material. This may cause fire.



• Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance.



• Always handle the machine by the correct locations when moving it.



• Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury.



• Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention.













• Advise customers that they must always follow the safety warnings and precautions in the copier's instruction handbook.








2. Precautions for Maintenance

WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. 
- Always follow the procedures for maintenance described in the service manual and other related brochures. 
- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. 
- Always use parts having the correct specifications. 
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. 
- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. 
- Always check that the copier is correctly connected to an outlet with a ground connection. 
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. 
- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. 
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. 

CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. 
- Use utmost caution when working on a powered machine. Keep away from chains and belts. 
- Handle the fixing section with care to avoid burns as it can be extremely hot. 
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. 
- Do not remove the ozone filter, if any, from the copier except for routine replacement. 

• Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself.



• Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item.



• Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks.



• Remove toner completely from electronic components.



• Run wire harnesses carefully so that wires will not be trapped or damaged.



• After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws.



• Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary.



• Handle greases and solvents with care by following the instructions below:



- Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
- Ventilate the room well while using grease or solvents.
- Allow applied solvents to evaporate completely before refitting the covers or turning the main switch on.
- Always wash hands afterwards.

• Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc.



• Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately.



3. Miscellaneous

WARNING

• Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas.



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1-1-1 Specifications

Copier

Type	Console
Copying system	Indirect electrostatic system
Originals	Sheets and books Maximum size: A3/11" × 17"
Original feed system	Fixed
Copy paper	Cassette: Plain paper (60 – 80 g/m ²) Duplex unit: Plain paper (64 – 105 g/m ²) Bypass table: Plain paper (45 – 200 g/m ²) Special paper: Transparencies, tracing paper, colored paper and envelopes (only when used as a printer) Note: Use the bypass table for special paper.
Copying sizes	Maximum: A3/11" × 17" Minimum: A6R/5 ¹ / ₂ " × 8 ¹ / ₂ " During duplex copying Maximum: A3/11" × 17" Minimum: A5R/5 ¹ / ₂ " × 8 ¹ / ₂ "
Magnification ratios	Manual mode: 25 – 400%, 1% increments Auto copy mode: Fixed ratios Metric 1:1, 1:4.00/1:2.00/1:1.41/1:1.06/1:0.75/1:0.70/1:0.50/1:0.25 Inch 1:1, 1:4.00/1:2.00/1:1.29/1:1.21/1:0.78/1:0.64/1:0.50/1:0.25
100% magnification	Copier: ±0.8% SRDF: ±1.5%
Enlargement/reduction	Copier: ±1.0% SRDF: ±1.5%
Copy speed	At 100% magnification in memory copy mode: A4/11" × 8 ¹ / ₂ ": 63 copies/min. A4R/8 ¹ / ₂ " × 11": 44 copies/min. A3/11" × 17": 32 copies/min. B4 (257 × 364 mm)/8 ¹ / ₂ " × 14": 38 copies/min. B5: 63 copies/min. B5R: 50 copies/min. When the SRDF is used (at 100% magnification): A4/11" × 8 ¹ / ₂ ": 63 copies/min.
First copy time	3.6 s (A4/11" × 8 ¹ / ₂ ", 100% magnification, upper cassette, manual copy density control)
Warm-up time	360 s or less (room temperature 20°C/68°F, 65%RH) With preheat, switchable between 90 s and 30 s (room temperature 20°C/68°F, 65%RH)
Paper feed system	Automatic feed Capacity: Cassette (two cassettes): 500 sheets Large paper deck: 3000 sheets Manual feed Capacity: Bypass: 100 sheets
Multiple copying	1 – 999 copies
Photoconductor	a-Si (film thickness 30 μm, drum diameter 84 mm)
Charging system	Double positive corona charging, 900 μA
Recording system	Semiconductor laser
Developing system	Dry, reverse developing (double magnet roller) Developer: 2-component, ferrite carrier and N32T black toner Density control: Developer density detection Toner replenishing: Automatic from a toner hopper
Transfer system	Transfer belt, approximately 1.2 to 1.3 kV (rated current: 50 μA)
Separation system	Transfer belt and separation claws

2CJ

Fixing system	Heat roller Heat source: Halogen heaters (main 970 W for 120 V models/1350 W for 230 V models, sub 270 W for 120 V models/380 W for 230 V models) Control temperature: 190°C/374°F (at normal ambient temperature) Abnormally high temperature protection devices: 180°C/356°F thermostats Fixing pressure: 80 N
Charge erasing system	Exposure by cleaning lamp
Cleaning system	Blade and fur brush
Scanning system	Flat bed scanning by CCD image sensor
Bitmap memory	128 MB (standard)
Image storage memory	20 GB (standard)
Resolution	600 × 600 dpi
Light source	Inert gas lamp (24 W)
Dimensions	685 (W) × 795 (D) × 1186(H) mm 26 ^{15/16} " (W) × 31 ^{5/16} " (D) × 46 ^{3/4} " (H)
Weight	200 kg/440 lbs
Floor requirements	1485 mm (W) × 795 (D) mm 58 ^{1/2} " (W) × 31 ^{5/16} " (D)
Functions	Auto paper selection mode, Image quality selection, Auto magnification selection mode, Zoom mode, Preset zoom mode, XY zoom mode, 2-sided copy modes, Page separation/Split copy modes, Margin mode, Centering/Image shift mode, Memo mode, Border erase modes, Combine/Merge Copy modes, Print page numbers mode, Form overlay mode, Booklet/Stitching mode, Book to Booklet mode, Sort/Finished mode, Auto rotation function, Auto Selection/Filing mode, Cover mode, Transparency + backing sheet mode, Invert mode, Mirror image mode, Proof mode, Repeat copy mode, Batch scanning mode, Eco print mode, Program function, Job build mode, Form registration, Shared data box, Synergy print boxes, Copy management mode, Weekly timer function, Language selection function
Power source	120 V AC, 60 Hz, 13A 220 – 240 V AC, 50 Hz, 4.9 A (ave.)
Power consumption	1920 W (max.) for 120 V models 2400 W (max.) for 230/240 V models
Options	Side deck, finisher, key counter, print/scan system and tandem copy kit.

SRDF

Original feed system	Automatic feed
Originals	Sheets
Original weights	Single-sided original mode: 35 – 160 g/m ² Double-sided original mode: 50 – 120 g/m ²
Original paper	Plain paper, thermal paper, art paper and colored paper
Original sizes	A3 – A5R, folio/11" × 17" – 5 ^{1/2} " × 8 ^{1/2} "
No. of originals	Up to 70 sheets (A3, B4, folio, 11" × 17", 8 ^{1/2} " × 14") Up to 100 sheets (up to A4/11" × 8 ^{1/2} ") Up to 30 sheets in the auto selection mode Art or thermal paper must be fed individually.
Power source	Electrically connected to the copier

1-1-2 Parts names and their functions

(1) Copier

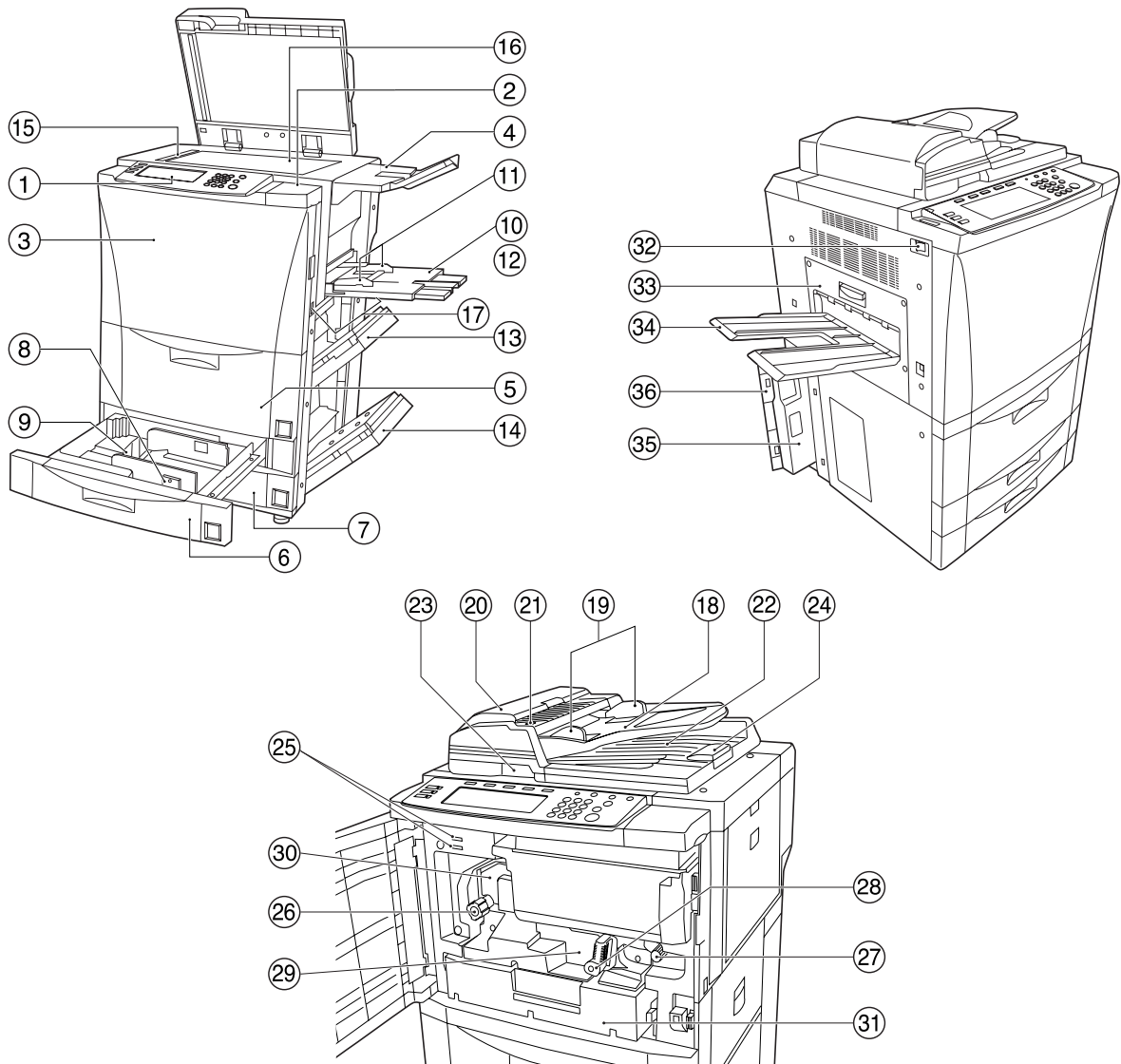


Figure 1-1-1

- | | | |
|---------------------------------|---------------------------------|---|
| ① Operation panel | ⑭ Lower right cover | ⑳ Fixing knob |
| ② Operation section right cover | ⑮ Original size indicator lines | ㉑ Paper feed section knob |
| ③ Front cover | ⑯ Contact glass | ㉒ Paper conveying section release lever |
| ④ Original tray | ⑰ Handles for transport | ㉓ Paper conveying section |
| ⑤ Large paper deck | ⑱ Original table | ㉔ Fixing unit |
| ⑥ Upper cassette | ⑲ Original insert guides | ㉕ Duplex unit |
| ⑦ Lower cassette | ㉑ DF original reversing cover | ㉖ Ejection tray |
| ⑧ Width guide | ㉒ Original set indicator | ㉗ Waste toner box |
| ⑨ Length guide | ㉓ Original ejection cover | ㉘ Waste toner box cover |
| ⑩ Bypass table | ㉔ DF opening/closing lever | |
| ⑪ Insert guides | ㉕ Ejection guide | |
| ⑫ Support guide | ㉖ Total counter | |
| ⑬ Upper right cover | | |

(2) Operation panel

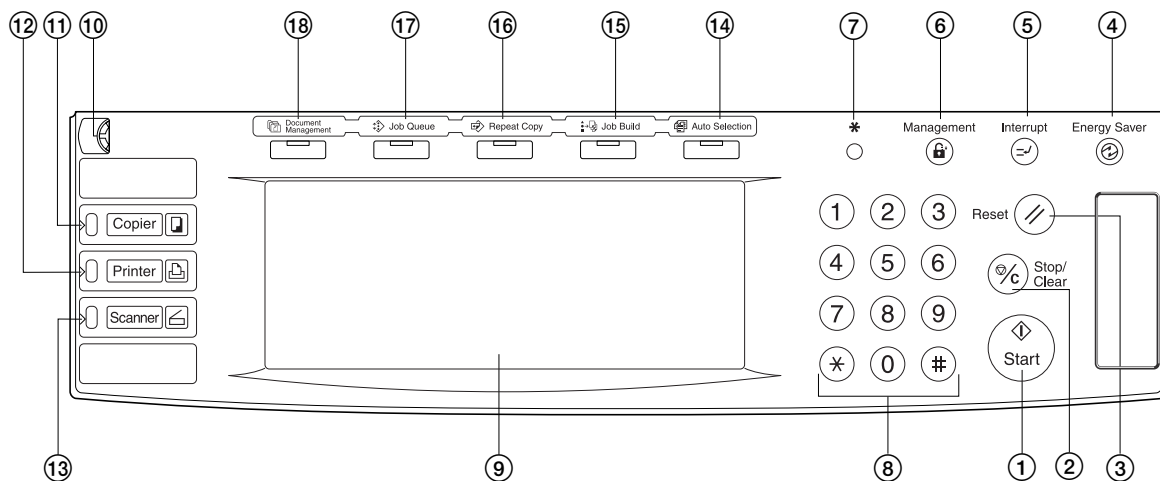


Figure 1-1-2

- | | |
|--------------------------------|---------------------------------------|
| ① Start key (indicator) | ⑩ Brightness adjustment control dial |
| ② Stop/clear key | ⑪ Copier key (indicator) |
| ③ Reset key | ⑫ Printer key (indicator) |
| ④ Energy saver key (indicator) | ⑬ Scanner key (indicator) |
| ⑤ Interrupt key (indicator) | ⑭ Auto selection key (indicator) |
| ⑥ Management key | ⑮ Job build key (indicator) |
| ⑦ *(default setting) key | ⑯ Repeat key (indicator) |
| ⑧ Numeric keys | ⑰ Job queue key (indicator) |
| ⑨ Touch panel | ⑱ Document management key (indicator) |

1-1-3 Machine cross section

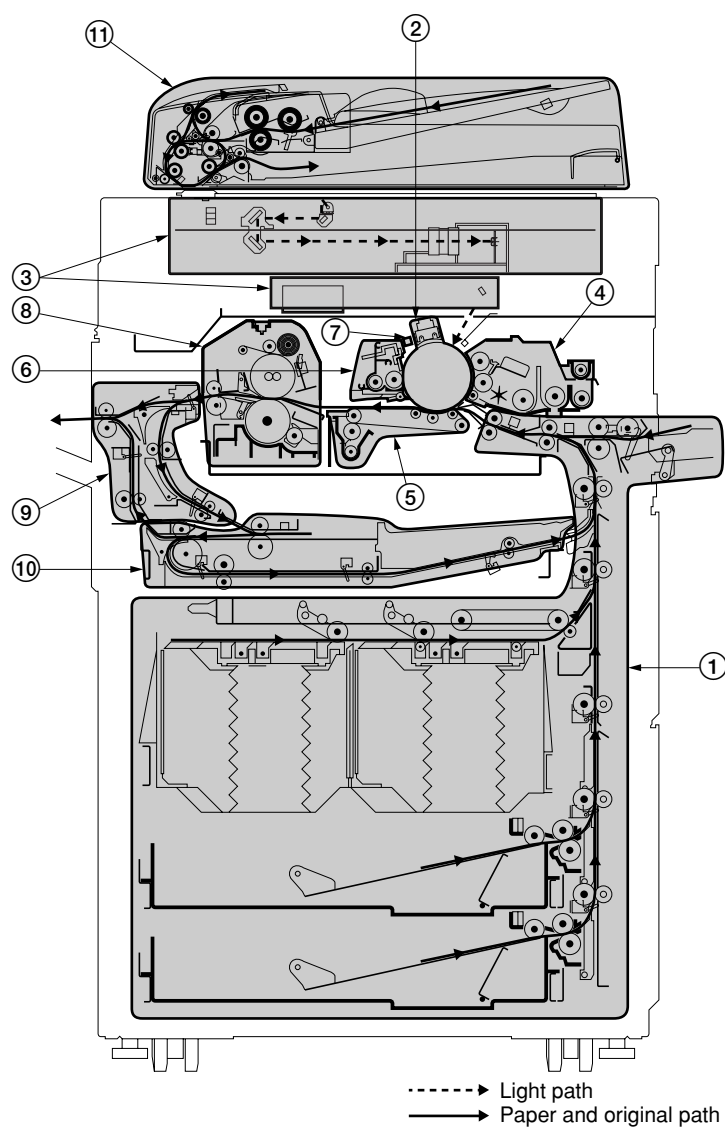


Figure 1-1-3 Machine cross section

- | | |
|--|-------------------------------|
| ① Paper feed section | ⑦ Charge erasing section |
| ② Main charging section | ⑧ Fixing section |
| ③ Optical section | ⑨ Feedshift and eject section |
| ④ Developing section | ⑩ Duplex section |
| ⑤ Transfer and paper conveying section | ⑪ SRDF |
| ⑥ Cleaning section | |

1-1-4 Drive system

(1) Drive system 1 (optical section)

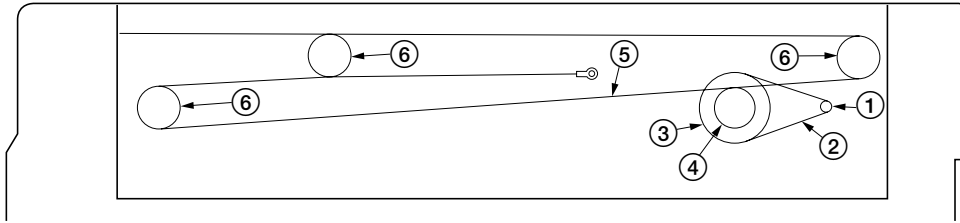


Figure 1-1-4

- ① Scanner motor pulley
- ② Scanner drive belt
- ③ Scanner drive pulley
- ④ Scanner wire drum
- ⑤ Scanner wire
- ⑥ Scanner wire pulley

(2) Drive system 2 (paper feed motor drive train)

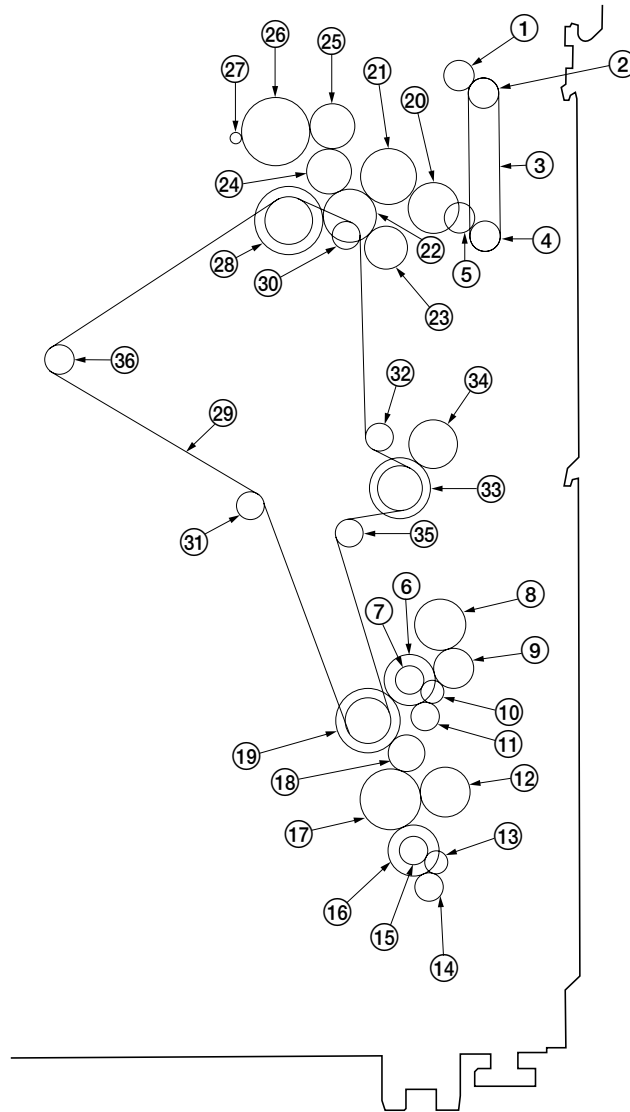


Figure 1-1-5

- | | |
|--------------------------------|-------------------------|
| ① Idle gear 20 | ⑲ Gear 42/32 |
| ② Feed gear 22/32 | ⑳ Feed clutch 2 gear |
| ③ Feed drive belt | ㉑ Gear 38T |
| ④ Feed gear 22/32 | ㉒ Gear 35 |
| ⑤ Idle gear 20 | ㉓ Gear 29 |
| ⑥ Upper paper feed clutch gear | ㉔ Idle gear 29 |
| ⑦ Idle sub gear 18 | ㉕ Idle gear 30 |
| ⑧ Feed clutch 4 gear | ㉖ Feed gear 55/45 |
| ⑨ Idle gear 26 | ㉗ Paper feed motor gear |
| ⑩ Paper feed gear 16 | ㉘ Gear 42/32 |
| ⑪ Toner roller gear | ㉙ Paper feed drive belt |
| ⑫ Feed clutch 5 gear | ㉚ Tension pulley 20 |
| ⑬ Paper feed gear 16 | ㉛ Tension pulley 20 |
| ⑭ Toner roller gear | ㉜ Tension pulley 20 |
| ⑮ Idle sub gear 18 | ㉝ Gear 42/32 |
| ⑯ Lower paper feed clutch gear | ㉞ Feed clutch 3 gear |
| ⑰ Idle gear 40 | ㉟ Tension pulley 20 |
| ⑱ Idle gear 24 | ㊱ Idle pulley 21 |

(3) Drive system 3 (image forming motor drive train)

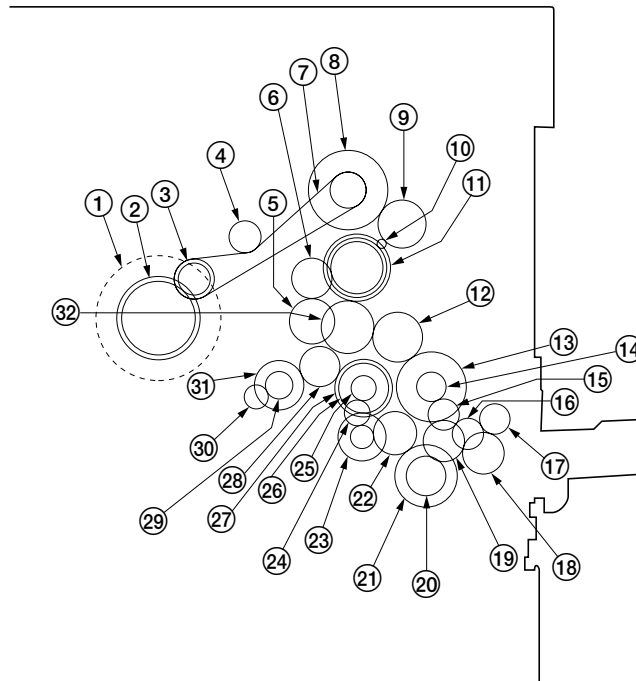


Figure 1-1-6

- | | | |
|----------------------------|----------------------------|------------------------------|
| ① Drum | ⑫ Developing spiral gear | ⑳ Idle gear 30/15 |
| ② Drum gear 60/54 | ⑬ Bypass clutch gear | ㉑ Registration upper gear 16 |
| ③ Drum pulley 26/26 | ⑭ Gear 18 | ㉒ Gear 18 |
| ④ Idle pulley | ⑮ Idle gear 20 | ㉓ Feed clutch 1 gear |
| ⑤ Developing gear 30 | ⑯ Idle gear 20 | ㉔ Paddle A gear |
| ⑥ Developing idle gear 27 | ⑰ Idle gear 20 | ㉕ Idle gear 27 |
| ⑦ Drum drive belt | ⑱ Clutch gear 26 | ㉖ Gear 18 |
| ⑧ Idle pulley 24/72 | ⑲ Clutch gear 26 | ㉗ Registration upper gear 16 |
| ⑨ Drum idle gear 45 | ㉘ Clutch gear 26 | ㉙ Registration clutch gear |
| ⑩ Image forming motor gear | ㉚ Bypass clutch gear | ㉛ Fixing drive gear |
| ⑪ Gear 53/44/33 | ㉜ Paper feed pulley B gear | |

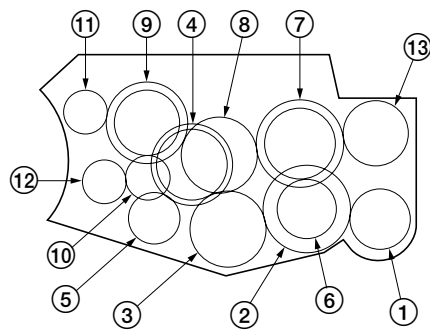


Figure 1-1-7 Developing section

- | | | |
|-------------------------------|------------------------------|------------------------------|
| ① Developing gear 27 | ⑥ Developing rear gear 25 | ⑪ Developing upper gear |
| ② Main unit mixing gear 35 | ⑦ Developing idle gear 27/36 | ⑫ Developing lower gear |
| ③ Toner gear 34 | ⑧ Developing joint gear | ⑬ Sub unit agitation gear 28 |
| ④ Paddle idle gear | ⑨ Developing idle gear | |
| ⑤ Developing left spiral gear | ⑩ Developing idle lower gear | |

(4) Drive system 4 (drive motor drive train)

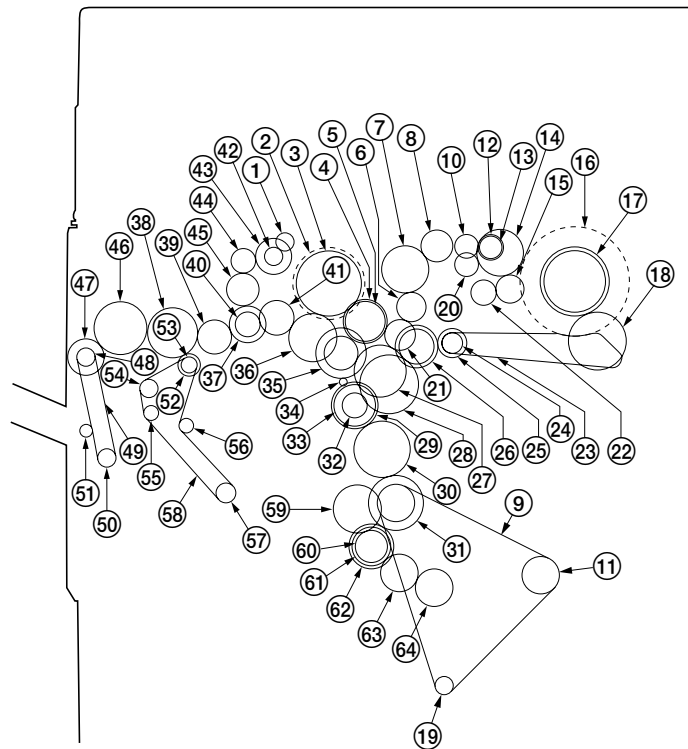


Figure 1-1-8

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---------------|--------------------|------------------------|-------------------------|----------------|------------------------|----------------|-----------------------|-----------------------|-------------|---------------------|-------------------------|------------------------|-----------------------------|--------|-------------------|---|------------------|----------------|----------------|---------------------|-----------------|------------------------------|----------------|----------------|----------------|----------------------------|-------------------|------------------|---------------------|----------------------|----------------------|--------------------|-------------------------|------------|---------------------------|--------------------|---------------------------|----------------------|----------------|----------------------|-----------|-----------|---------------------------|----------------|----------------|-------------------|-------------------------|---------------------|-------------------------------|--------------|-----------------------|-------------|-------------|-------------------------------|-------------|-------------------------------|----------------|---------------|------------|------------|-----------------|------------|
| ① Oil roller gear 16 | ② Heat roller | ③ Heat roller gear | ④ Fixing joint gear 36 | ⑤ Developing joint gear | ⑥ Idle gear 22 | ⑦ Fixing drive gear 36 | ⑧ Idle gear 25 | ⑨ Cleaning drive belt | ⑩ Cleaning drive gear | ⑪ Pulley 36 | ⑫ Feedshift gear 21 | ⑬ Spiral roller gear 19 | ⑭ Blade thrust gear 36 | ⑮ Oil supply roller gear 22 | ⑯ Drum | ⑰ Drum gear 60/54 | ⑱ Transfer charger belt release clutch gear | ⑲ Idle pulley 21 | ⑳ Loop gear 18 | ㉑ Idle gear 22 | ㉒ Agitation gear 20 | ⑳ Transfer belt | ㉔ Transfer belt drive roller | ㉕ Idle gear 22 | ㉖ Fulcrum gear | ㉗ Idle gear 40 | ㉘ Developing drive gear 45 | ㉙ Oil roller gear | ㉚ Duplex gear 44 | ㉛ Idle pulley 31/42 | ㉜ Developing gear 20 | ㉝ Motor idle gear 45 | ㉞ Drive motor gear | ㉟ Motor idle gear 56/25 | ㊱ Gear 38T | ㊲ Fixing eject joint gear | ㊳ Eject joint gear | ㊴ Fixing eject joint gear | ㊵ Developing gear 20 | ㊶ Idle gear 28 | ㊷ Oil roller gear 16 | ㊸ Gear 30 | ㊹ Gear 19 | ㊺ Fixing eject joint gear | ㊻ Idle gear 40 | ㊼ Idle gear 28 | ㊽ Eject pulley 24 | ㊾ Switchback drive belt | ㊿ Forwarding pulley | 1 Paper conveying belt pulley | 2 SB gear 19 | 3 Feedshift pulley 22 | 4 Pulley 16 | 5 Pulley 20 | 6 Paper conveying belt pulley | 7 Pulley 24 | 8 Duplex paper conveying belt | 9 Idle gear 40 | 10 SB gear 24 | 11 Gear 32 | 12 Gear 36 | 13 Idle gear 30 | 14 Gear 31 |
|----------------------|---------------|--------------------|------------------------|-------------------------|----------------|------------------------|----------------|-----------------------|-----------------------|-------------|---------------------|-------------------------|------------------------|-----------------------------|--------|-------------------|---|------------------|----------------|----------------|---------------------|-----------------|------------------------------|----------------|----------------|----------------|----------------------------|-------------------|------------------|---------------------|----------------------|----------------------|--------------------|-------------------------|------------|---------------------------|--------------------|---------------------------|----------------------|----------------|----------------------|-----------|-----------|---------------------------|----------------|----------------|-------------------|-------------------------|---------------------|-------------------------------|--------------|-----------------------|-------------|-------------|-------------------------------|-------------|-------------------------------|----------------|---------------|------------|------------|-----------------|------------|

(5) Drive system 5 (large paper deck)

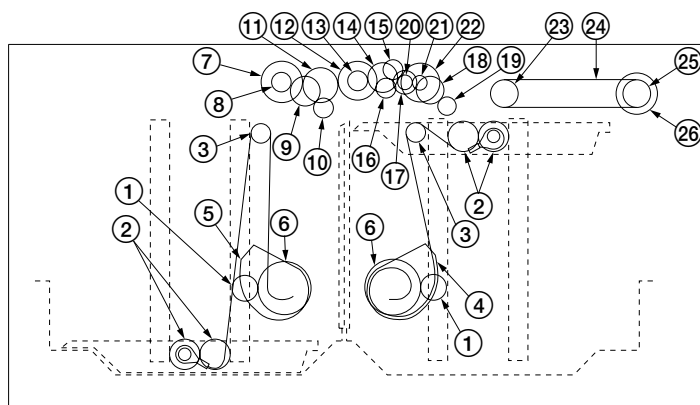


Figure 1-1-9

- | | |
|---|---|
| ① Pulse gear | ⑭ Gear 28 |
| ② Gear 1.0-24 | ⑮ Idle gear 19 |
| ③ Lift pulley | ⑯ Gear 20 |
| ④ Left lift belt assembly | ⑰ Gear 18 |
| ⑤ Right lift belt assembly | ⑱ Gear 18 |
| ⑥ Large paper deck lift motor gear | ⑳ Gear 14 |
| ⑦ Large paper deck paper feed clutch 2 gear | ㉑ Gear 14 |
| ⑧ Gear 18 | ㉒ Large paper deck paper feed clutch 1 gear |
| ⑨ Gear 24 | ㉓ Paper feed belt pulley |
| ⑩ Gear 18 | ㉔ Paper feed belt |
| ⑪ Idle gear 31 | ㉕ Paper feed belt pulley |
| ⑫ Gear 33 | ㉖ Large paper deck conveying clutch gear |
| ⑬ Gear 18 | |

(6) Drive system 6 (duplex section)

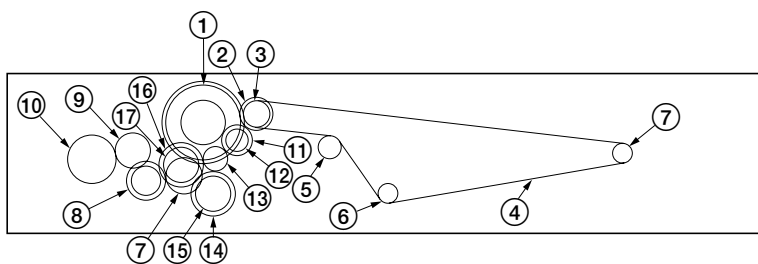
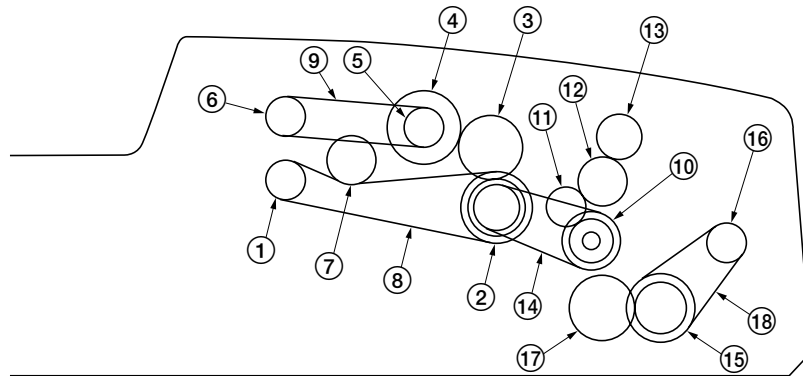


Figure 1-1-10

- | | |
|----------------------------------|---------------------------------|
| ① Duplex joint gear | ⑩ Front transfer drive gear |
| ② Clutch gear 26 | ⑪ Gear 22 |
| ③ Paper conveying pulley 40 | ⑫ Gear 18 |
| ④ Paper conveying drive belt | ⑬ Gear 17 |
| ⑤ Paper conveying tension pulley | ⑭ Gear 40 |
| ⑥ Paper conveying pulley 20 | ⑮ Duplex forwarding clutch gear |
| ⑦ Paper conveying pulley 20 | ⑯ Gear 40 |
| ⑧ Duplex registration gear 20/30 | ⑰ Duplex reversing clutch gear |
| ⑨ Clutch gear 26 | |

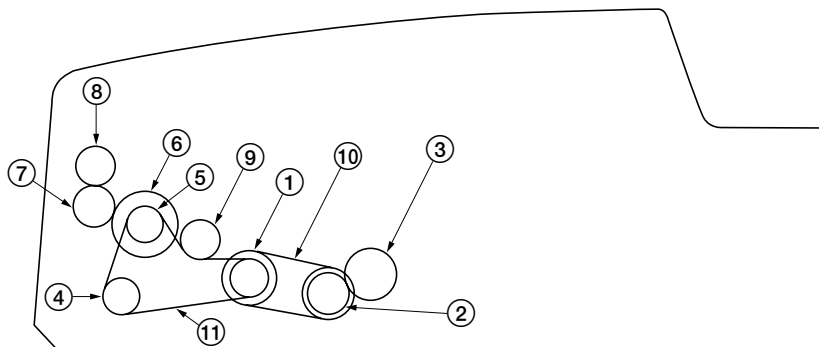
(7) Drive system 7 (SRDF)



As viewed from machine rear

Figure 1-1-11 SRDF (inside rear of machine)

- | | |
|------------------------------|-----------------------------------|
| ① Original feed motor pulley | ⑩ DF registration pulley 28/18 |
| ② Pulley 35/22/22 | ⑪ Idle gear 15 |
| ③ Idle gear 26 | ⑫ Idle gear 20 |
| ④ Original feed clutch gear | ⑬ Switchback gear 18 |
| ⑤ DF original feed pulley 18 | ⑭ DF registration drive belt |
| ⑥ DF forwarding pulley 18 | ⑮ Gear 22/35 |
| ⑦ Tension pulley | ⑯ Original conveying motor pulley |
| ⑧ Original feed drive belt | ⑰ Gear 28 |
| ⑨ DF forwarding belt | ⑱ Original conveying drive belt 1 |



As viewed from machine front

Figure 1-1-12 SRDF (inside front of machine)

- | | |
|---|--------------------------|
| ① Lower original conveying pulley 25/18 | ⑦ Joint gear 14 |
| ② Gear 18/25 | ⑧ JAM release gear 14 |
| ③ Eject gear 18 | ⑨ Tension pulley |
| ④ Middle original conveying pulley 18 | ⑩ Eject drive belt |
| ⑤ Upper original conveying pulley 18 | ⑪ Conveying drive belt 2 |
| ⑥ JAM release gear 24 | |

1-2-1 Drum

Note the following when handling or storing the drum.

- When removing the image formation unit, never expose the drum surface to strong direct light.
- Keep the drum at an ambient temperature between $-20^{\circ}\text{C}/-4^{\circ}\text{F}$ and $40^{\circ}\text{C}/104^{\circ}\text{F}$ and at a relative humidity not higher than 90% RH. Avoid abrupt changes in temperature and humidity.
- Avoid exposure to any substance which is harmful to or may affect the quality of the drum.
- Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

1-2-2 Developer and toner

Store the developer and toner in a cool, dark place. Avoid direct light and high humidity.

1-2-3 Installation environment

1. Temperature: $10 - 35^{\circ}\text{C}/50 - 95^{\circ}\text{F}$

2. Humidity: 15 - 85%RH

3. Power supply: 120 V AC, 13 A

220 - 240 V AC, 4.9 A (ave.)

4. Power source frequency: $50 \text{ Hz} \pm 0.3\%$ / $60 \text{ Hz} \pm 0.3\%$

5. Installation location

- Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
- Avoid extremes of temperature and humidity, abrupt ambient temperature changes, and hot or cold air directed onto the machine.
- Avoid dust and vibration.
- Choose a surface capable of supporting the weight of the machine.
- Place the machine on a level surface (maximum allowance inclination: 1°).
- Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic or alkaline vapors, inorganic gasses, NO_x , SO_x gases and chlorine-based organic solvents.
- Select a room with good ventilation.

6. Allow sufficient access for proper operation and maintenance of the machine.

Machine front: 1000 mm/ $39\frac{3}{8}$ " Machine rear: 100 mm/ $3\frac{15}{16}$ "

Machine right: 700 mm/ $27\frac{9}{16}$ " Machine left: 600 mm/ $23\frac{5}{8}$ "

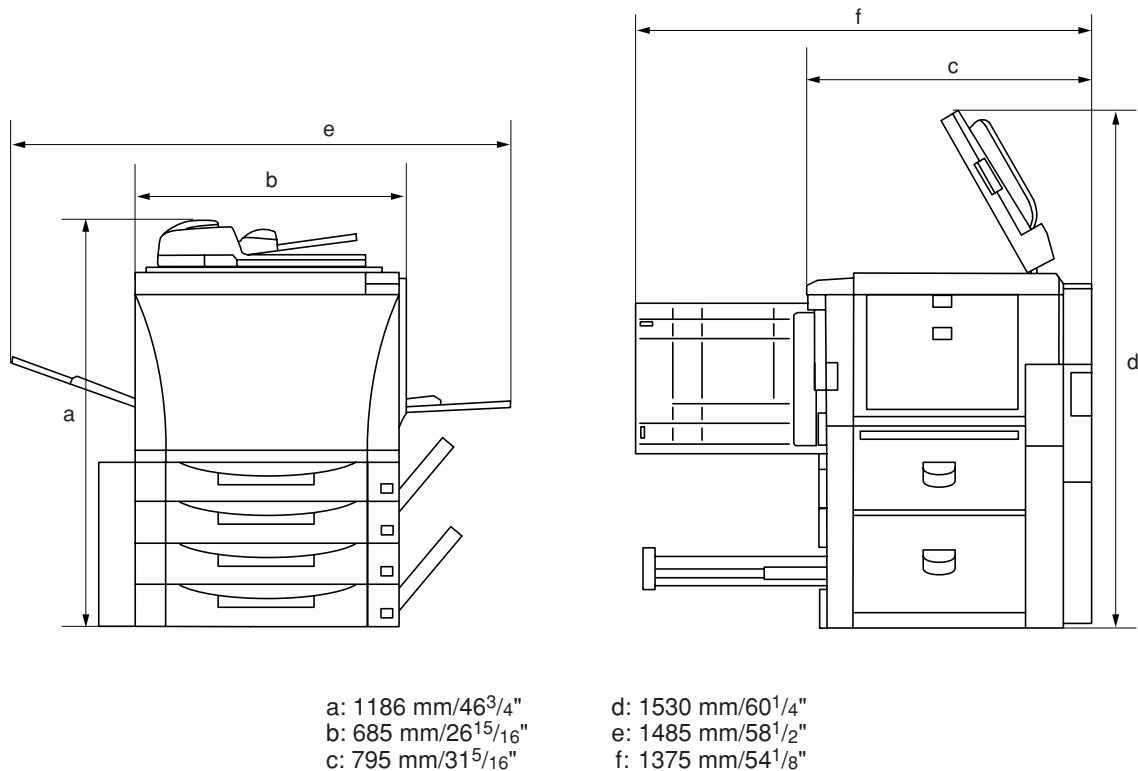
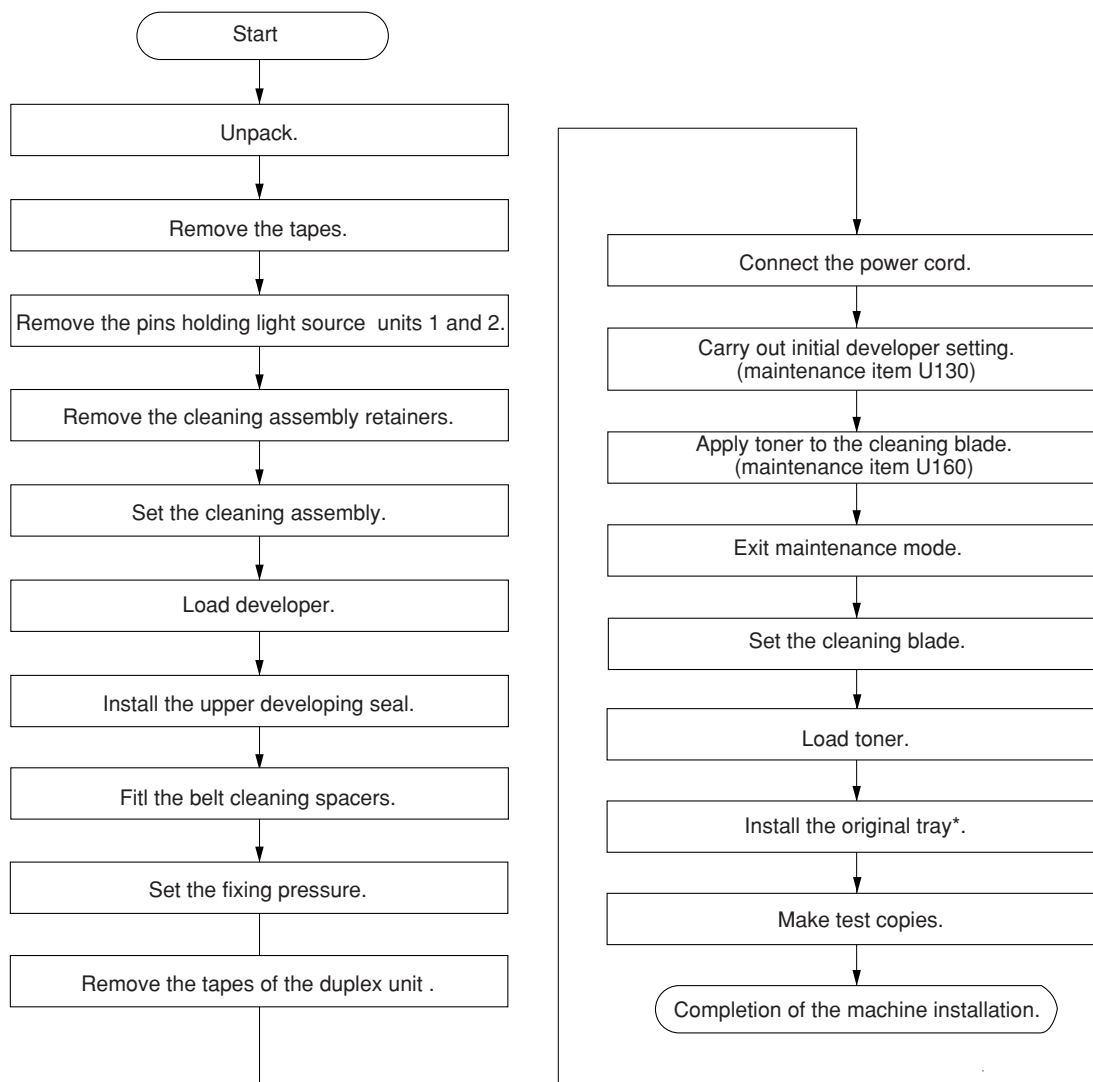


Figure 1-2-1 Installation dimensions

1-3-1 Unpacking and installation

(1) Installation procedure



*For inch models only.

Unpack.

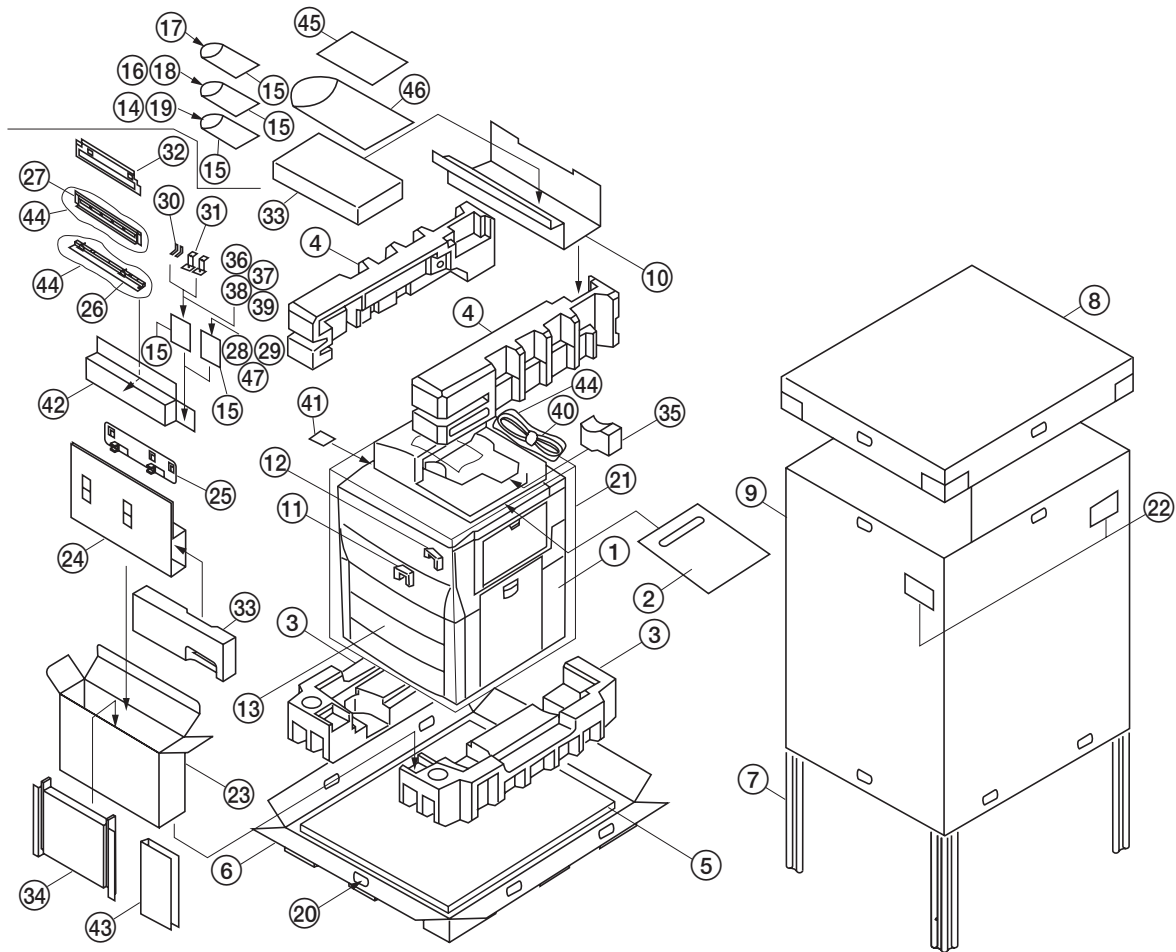


Figure 1-3-1 Unpacking

- | | | |
|-------------------------|---------------------------------|------------------------------------|
| ① Copier | ①⑦ Screws (M3 × 8 chromate) | ③③ Waste toner boxes |
| ② Upper spacer | ①⑧ Cassette size labels | ③④ Slider assembly |
| ③ Bottom pad | ①⑨ Screws (M4 × 10 TP-A bronze) | ③⑤ Eject pad |
| ④ Upper pad | ②⑩ Hinge joints | ③⑥ Screws (M4 × 12 TP-A chrome) |
| ⑤ Bottom plate | ②⑪ Machine cover | ③⑦ Screws (M4 × 6 TP-A chrome) |
| ⑥ Skid | ②⑫ Bar code labels | ③⑧ Screws (M4 × 10 binding bronze) |
| ⑦ Supports | ②⑬ Attachment case | ③⑨ Screws (M4 × 6 binding bronze) |
| ⑧ Upper case | ②⑭ Attachment spacer | ④⑩ Power code ^{*1} |
| ⑨ Outer case | ②⑮ Mounting plate assembly | ④⑪ DP spacer |
| ⑩ Tank spacer | ②⑯ Rail release plate | ④⑫ Upper spacer of attachment |
| ⑪ Front transfer spacer | ②⑰ Release fixing plate | ④⑬ Side spacer of attachment |
| ⑫ Rear transfer spacer | ②⑱ Release handle | ④⑭ Plastic bags |
| ⑬ Upper developing seal | ②⑲ Shield gasket ^{*1} | ④⑮ Operation guide |
| ⑭ Belt cleaning spacers | ③⑰ Connecting stoppers | ④⑯ Plastic bag |
| ⑮ Plastic bag | ③⑱ Mounting support plates | ④⑰ Clamp ^{*2} |
| ⑯ Paper labels | ③⑲ Release adjusting plate | |

*1: for 220 - 240 V specifications only.

*2: for 230 V specifications only.

Remove the tapes.

1. Remove the tapes holding the SRDF.
2. Remove the tape holding the front cover.
3. Remove the tape holding the right cover.
4. Remove the tapes holding the large paper deck and cassettes.
5. Remove the tape holding the bypass table.
6. Remove the tapes holding the power cord.*
*Inch models only.

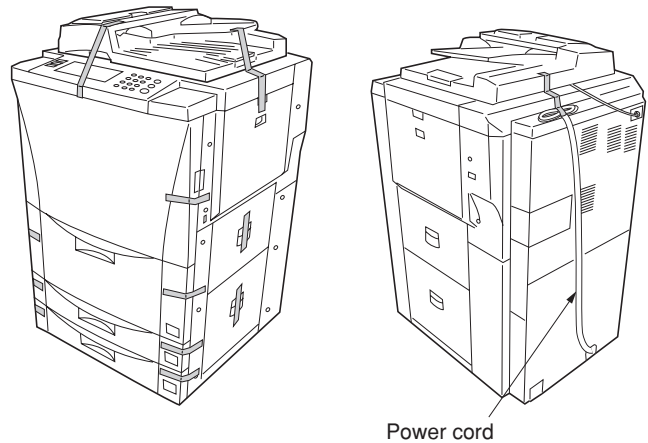


Figure 1-3-2

7. Draw out the upper cassette and remove the tapes holding the cassette lift and pull out the upper developing seal.

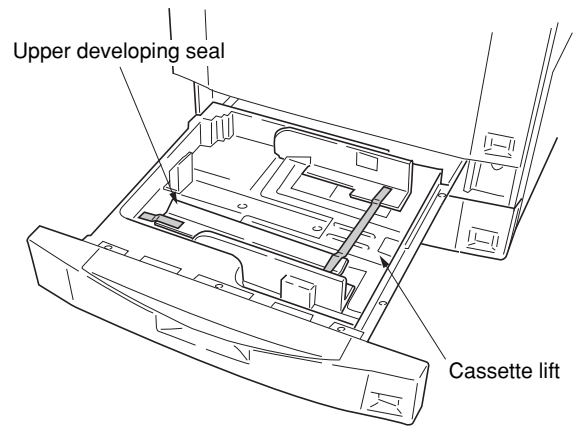


Figure 1-3-3

Remove the pins holding light source units 1 and 2.

1. Remove the tapes with the two pins holding light source unit 1 and the one pin holding light source unit 2 at the left side of the machine, and remove the each pin.
2. Remove the tapes holding the eject cover and DF original switchback cover.

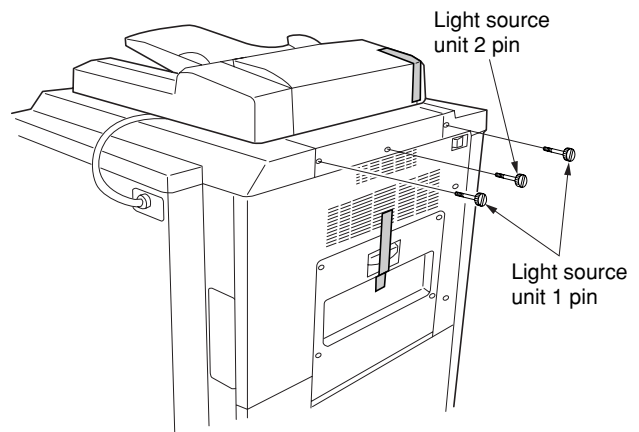


Figure 1-3-4

Remove the cleaning assembly retainers.

1. Open the front cover and remove the three screws holding the image forming unit. Tip the transfer section release lever, then pull out the image forming unit horizontally.
Caution: When pulling out the image forming unit, hold the both of the image forming unit firmly and do not touch the separation claws.

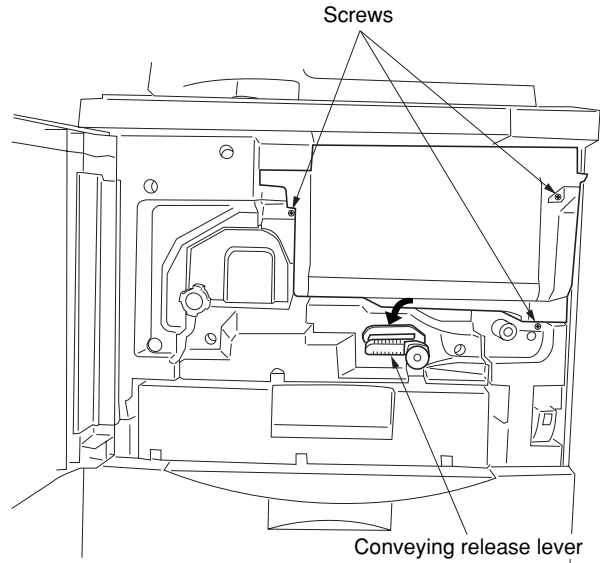


Figure 1-3-5

2. Remove the screw holding the cleaning assembly retainer (at the front side of the machine), then remove the cleaning assembly retainer. Remove the pin holding the cleaning assembly retainer (at the rear side of the machine), then remove the cleaning assembly retainer.

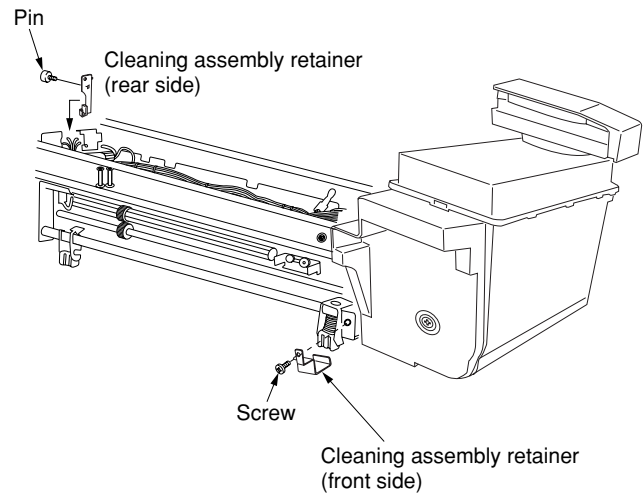


Figure 1-3-6

Set the cleaning assembly.

1. Turn the cleaning retaining levers in the direction of the arrow and set the cleaning retaining levers firmly.

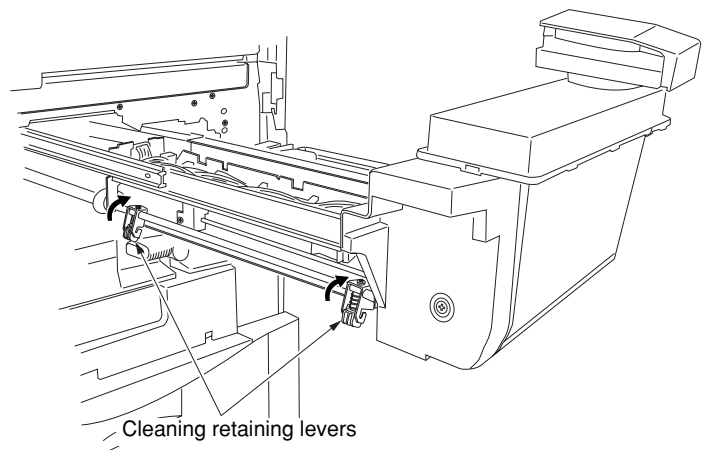
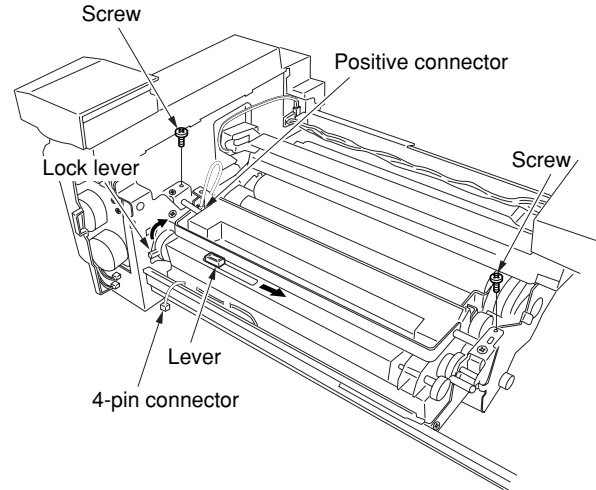


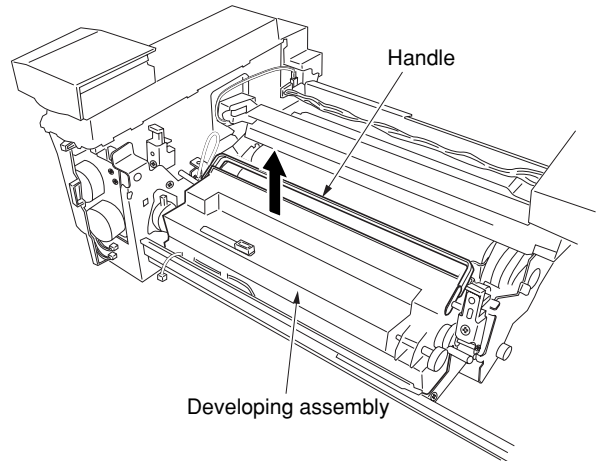
Figure 1-3-7

Load developer.

1. Lift the lock lever holding the developing assembly through 90 degrees and slide the lever on the top of the developing assembly in the direction of the arrow, then release the nozzle of the developing assembly from the toner hopper.
2. Remove the screw holding each of the front and rear developing assembly retainers and lift the levers for securing the developing assembly, and then disconnect the positive connector and 4-pin connector.

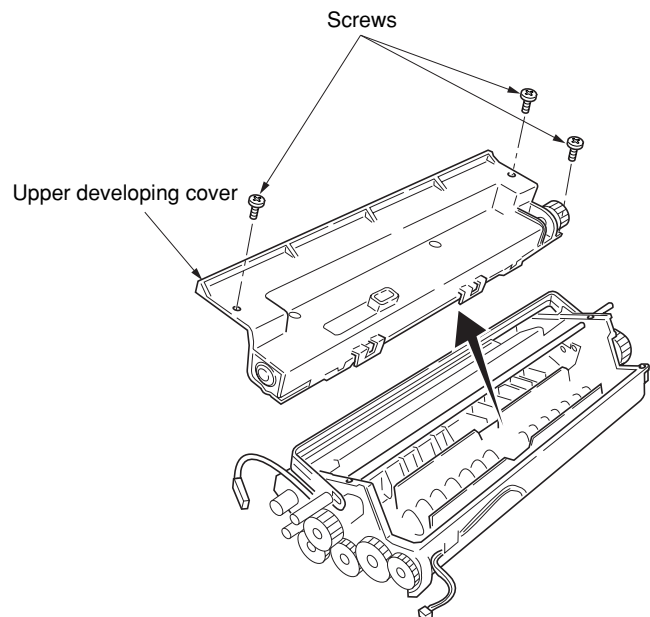
**Figure 1-3-8**

3. Hold the handle of the developing assembly and remove the assembly from the copier.

**Figure 1-3-9**

4. Remove the three screws and disengage the two hooks and then remove the upper developing cover.

Caution: Be sure to place the developing assembly on a level surface when loading developer.

**Figure 1-3-10**

5. Shake the developer bottle well to agitate the developer.
6. While turning the developing gear (with the marked arrow) in the direction of the arrow, uniformly pour developer into the developing assembly. (Pour two bottles of developer.)
Caution: Never turn the developing gear in the reverse direction.

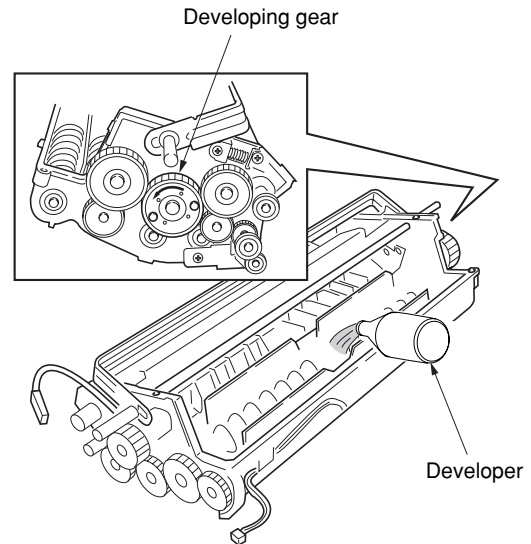


Figure 1-3-11

7. Refit the upper developing cover to the developing assembly.
 - When refitting the upper developing cover, be sure to insert the large and small hooks until they click into place and then secure with the three screws.

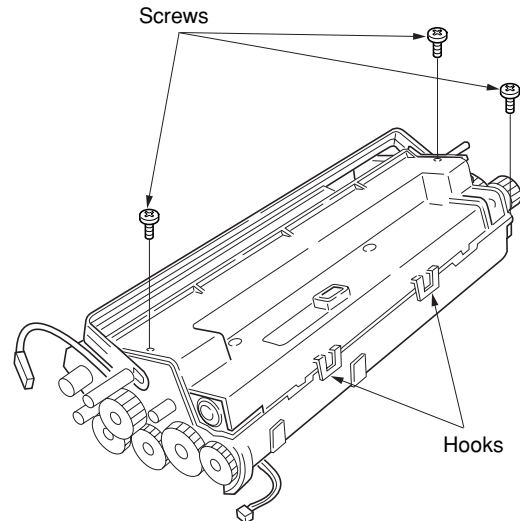


Figure 1-3-12

Install the upper developing seal.

1. Remove the two screws and fit the upper developing seal using the removed screws.
 - When fitting the upper developing seal, fit while holding it toward the drum.

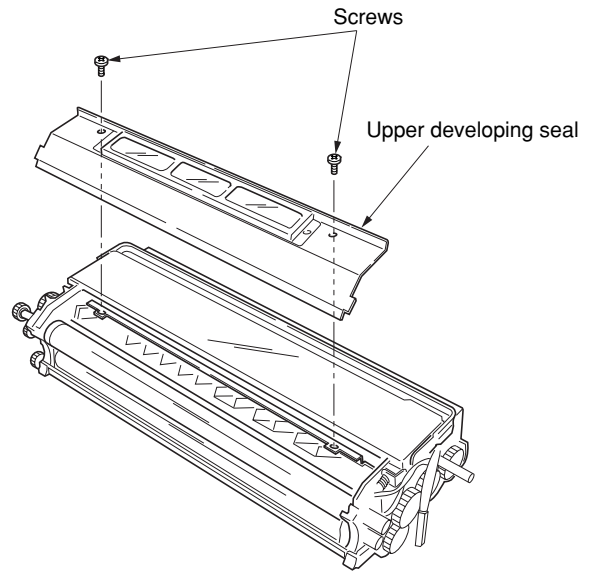


Figure 1-3-13

2. Insert the developing assembly back into the image forming unit and connect the positive connector and 4-pin connector.
3. Slide the lever on the top of the developing assembly in the direction of the arrow and lower the lock lever through 90 degrees to secure the nozzle of the developing assembly to the toner hopper.
4. Lower the levers for securing the developing assembly to lock the assembly and refit the screw holding each of the front and rear developing assembly retainers.

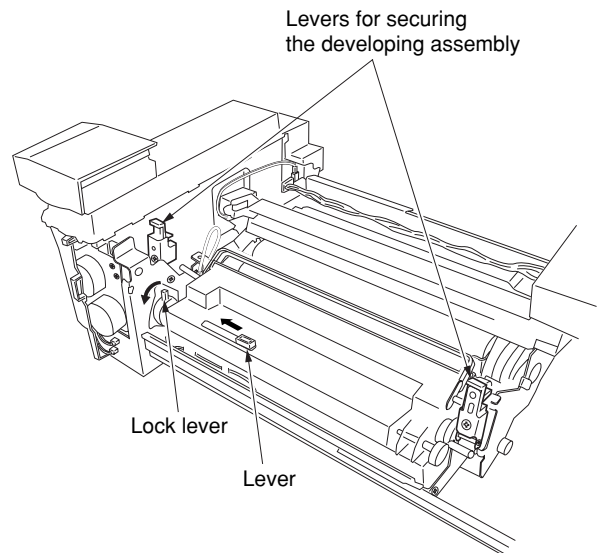


Figure 1-3-14

5. Push back the image forming unit its original position and lift the conveying release lever up the its original position, and then fasten with the three screws fastened the image forming unit .

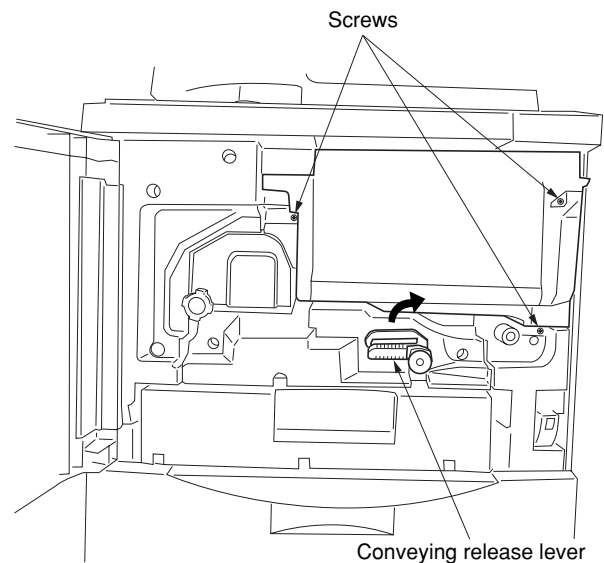


Figure 1-3-15

Fit the belt cleaning spacers.

1. Remove the screw and draw the conveying section out laterally.

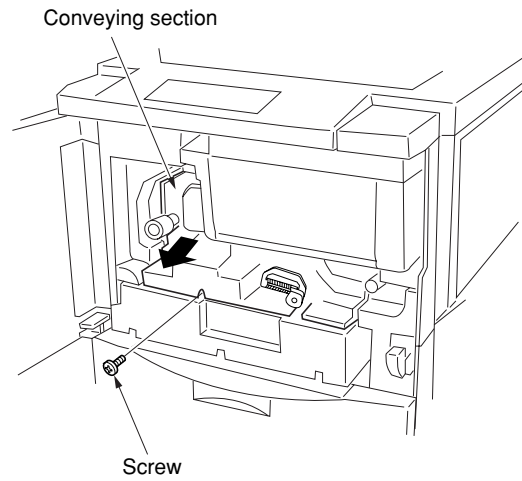


Figure 1-3-16

2. Remove the front and rear transfer spacers.

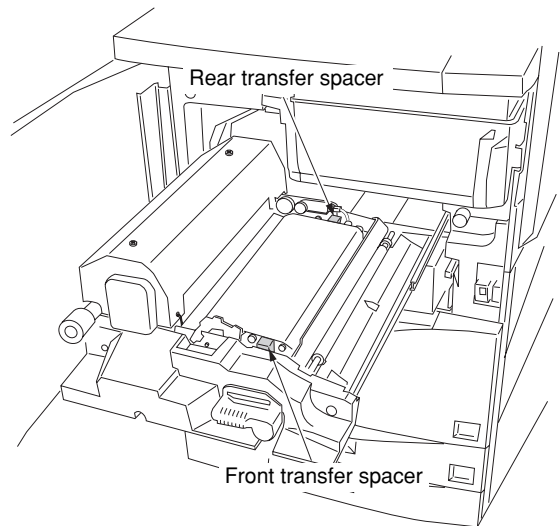


Figure 1-3-17

3. Remove the stop rings and bearing from the transfer charger belt shaft.

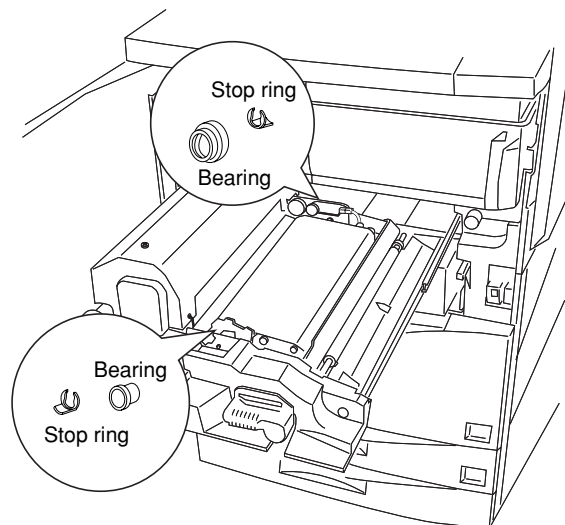


Figure 1-3-18

4. Disconnect the 1-pin connector on the white wire, 1-pin connector on the red wire and the 1-pin connector on the green wire. Shift the transfer charger belt in the direction of the arrow, then remove by lifting it.
Caution: Never touch the transfer charger belt.

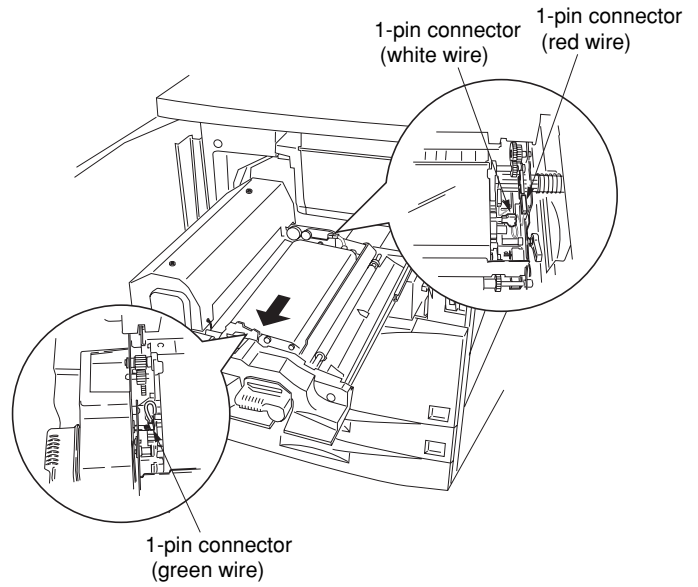


Figure 1-3-19

5. Remove the four screws and disconnect the 1-pin connector on a green wire, and then remove the belt cleaning housing.

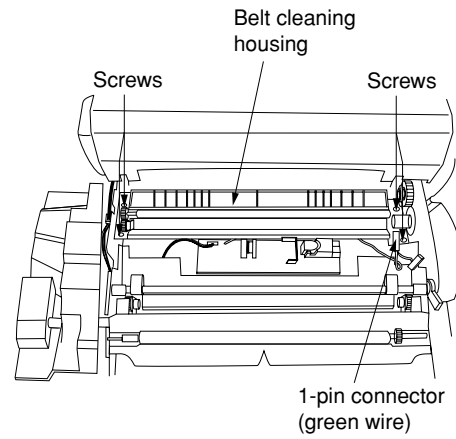


Figure 1-3-20

6. Fit the belt cleaning spacers as shown in the diagram.

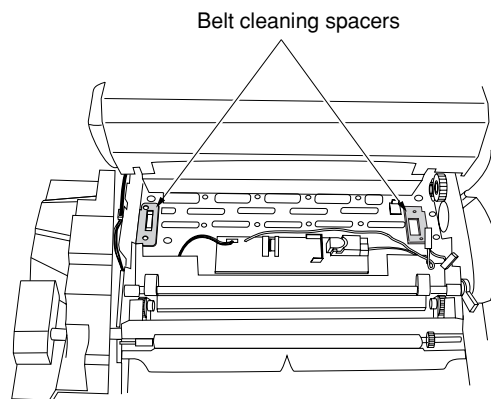


Figure 1-3-21

7. Use the supplied four screws to tighten the belt cleaning spacers and the belt cleaning housing together.
 - Reattach the film of the belt cleaning housing to its original position under the guide plate.

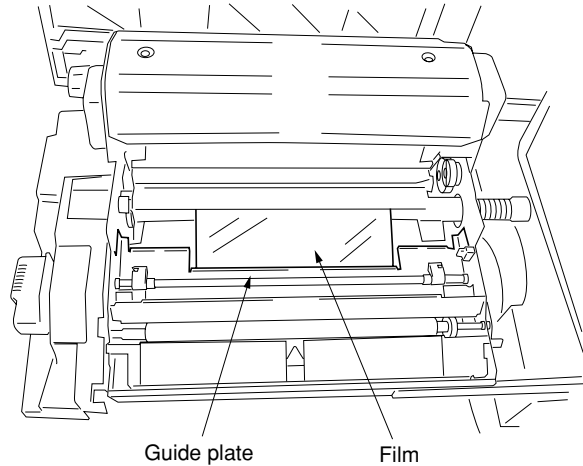


Figure 1-3-22

8. Connect the 1-pin connector on the green wire.
9. Refit the transfer charger belt.
 - Be sure to insert the grounding bearing into the grounding plate.
10. Connect the 1-pin connector on the green wire, 1-pin connector on the red wire and the 1-pin connector on the white wire, and then fit the stop rings and bearings to the transfer charger belt shaft.

Set the fixing pressure.

1. Open the fixing eject cover.

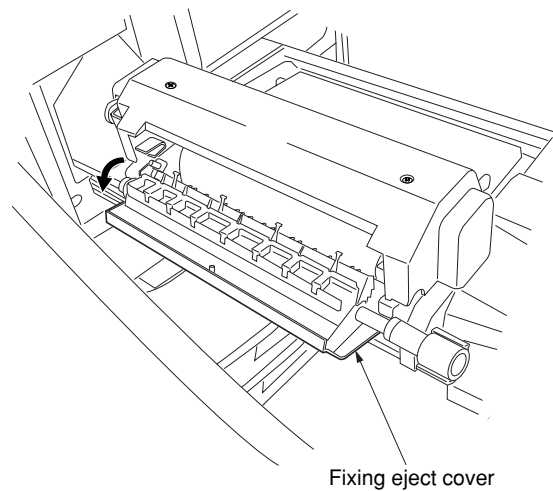


Figure 1-3-23

2. Turn the fixing pressure screws in the direction of the clockwise and tighten it, then set the fixing pressure.

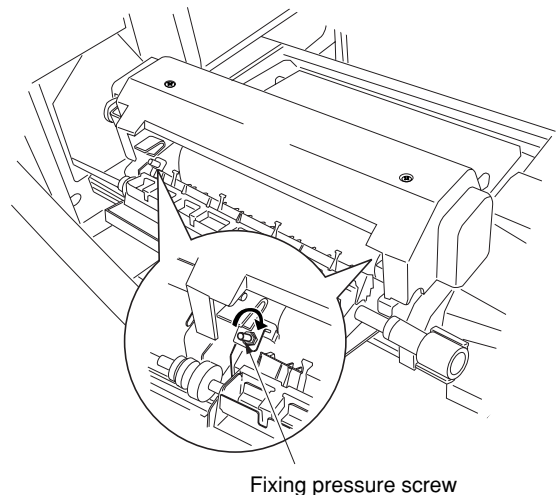


Figure 1-3-24

3. Close the fixing eject cover.
4. Push back the transfer section into its original position and lift the transfer section release lever to its original position, then fasten it.

Remove the tapes of the duplex unit.

1. Draw out the duplex unit and remove the two tapes holding the duplex cover.

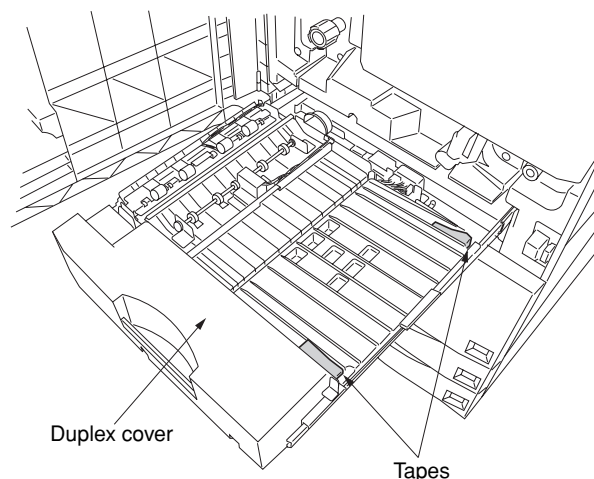


Figure 1-3-25

Connect the power cord.

1. Connect the power cord to the machine.*
2. Insert the power plug into the wall outlet.

*For metric models only.

Carry out initial developer setting. (maintenance item U130)

1. Turn the main switch on with opening the front cover.
 2. The machine starts warming up, after "Close the front cover" message is displayed, enter the maintenance mode by entering "10871087" using the numeric keys.
 3. Enter "130" using the numeric keys and press the start key.
 4. Close the front cover.
 5. Press the start key to execute the maintenance item.
 - In approximately 2 minutes, the toner control level and toner sensor control voltage are automatically set and the settings displayed on the touch panel.
- Display example
- INPUT: 104 (toner sensor output voltage)
 CONTROL: 125 (Toner sensor control voltage)
 FIRST TARGET: 103 (Toner control reference voltage)
 HUMID: 65 (Absolute humidity)
6. Press the stop/clear key.

Apply toner to the cleaning blade (maintenance item U160)

1. Enter "160" using the numeric keys and press the start key.
2. Press the start key to execute the maintenance item.
 - Toner is applied to the drum and then the drive stops automatically.

Exit maintenance mode.

1. Close and open the front cover.
2. Enter "001" using the numeric keys and press the start key.
 - The machine exits the simulation mode.

Set the cleaning blade.

1. Open the front cover and remove the three screws holding the image forming unit. Tip the transfer section release lever, then pull out the image forming unit horizontally.

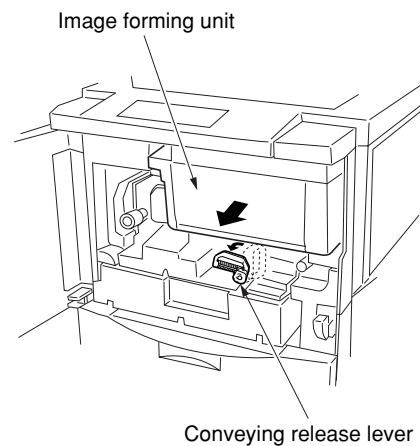


Figure 1-3-26

2. Check that the toner is applied to the drum and loosen the blade retaining screw at the left side of the image forming unit, then slide the blade release lever in the direction of the arrow.
 - The cleaning blade is set and the cleaning blade contacts with the drum.

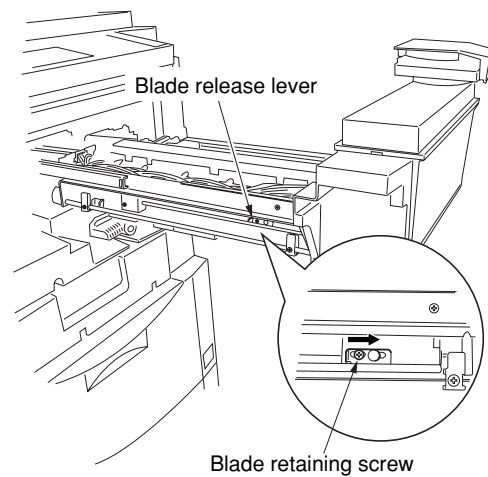


Figure 1-3-27

3. Refasten the blade retaining screw, then fasten the blade release lever.
4. Push back the image forming unit its original position and lift the conveying release lever up the its original position, and then fasten with the three screws fastened the image forming unit .

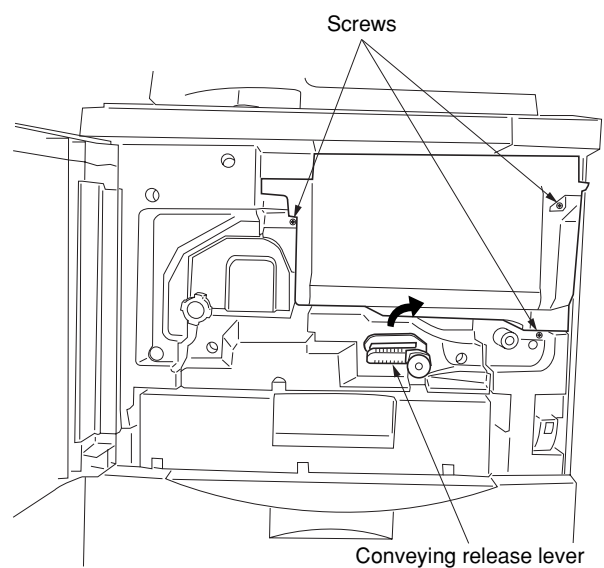
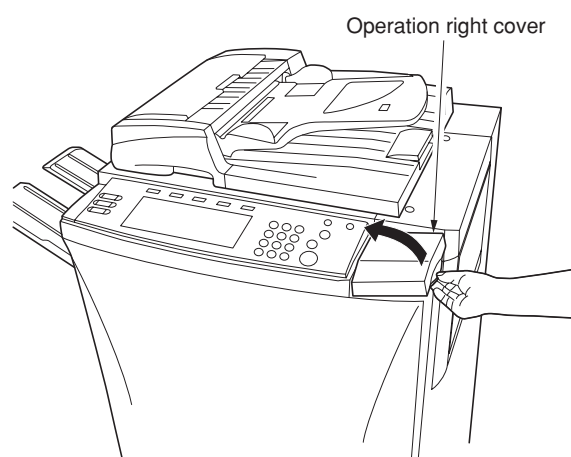


Figure 1-3-28

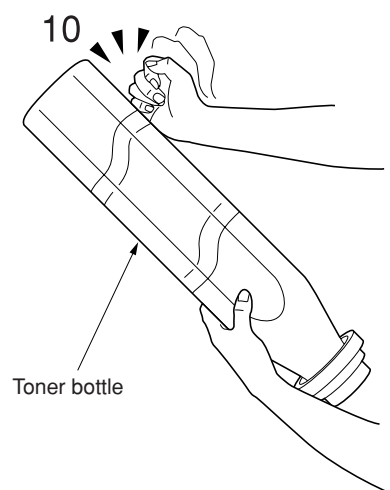
5. Close the front cover.

Load toner.

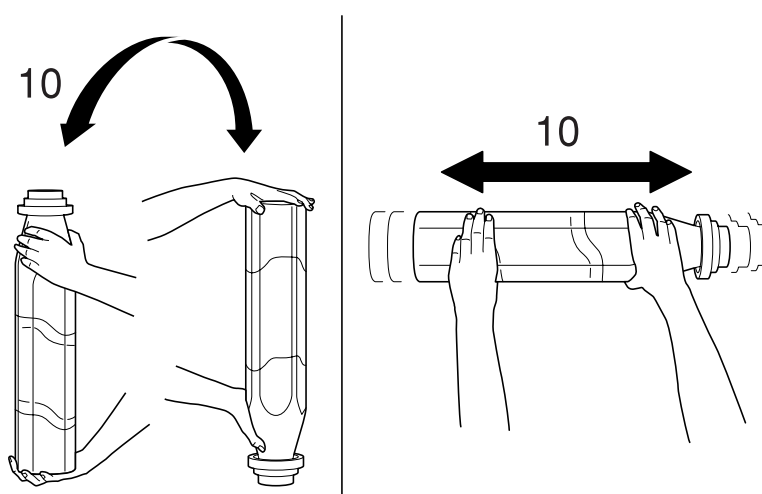
1. Open the operation right cover.

**Figure 1-3-29**

2. Hold a new toner bottle upside down and tap the bottom approximately 10 times.

**Figure 1-3-30**

3. Shake the toner bottle up and down and from side to side approximately 10 times.

**Figure 1-3-31**

- 4. Push the round hole of the toner bottle to the metal pin at the opening for toner replenishment.
- 5. While pushing down the toner bottle, turn it 90° clockwise.

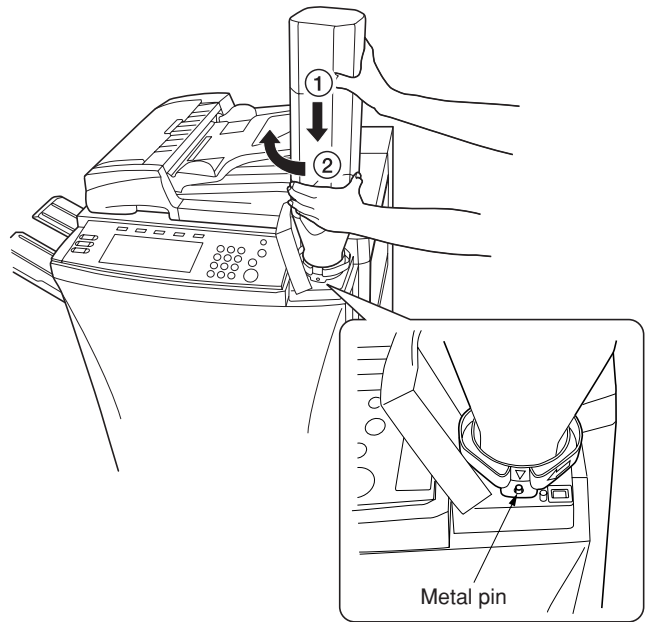


Figure 1-3-32

- 6. Wait until toner drops (approx. 60 seconds).

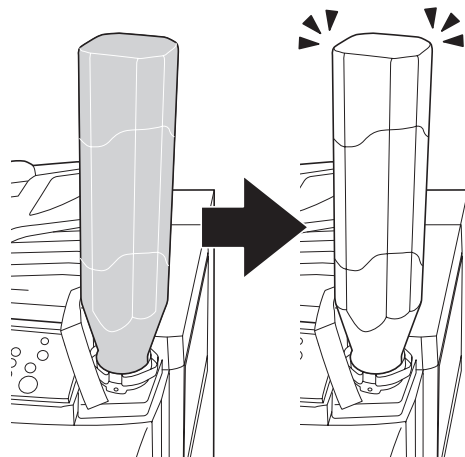


Figure 1-3-33

- 7. To drop toner completely, tap the side of the toner bottle approximately 10 times.

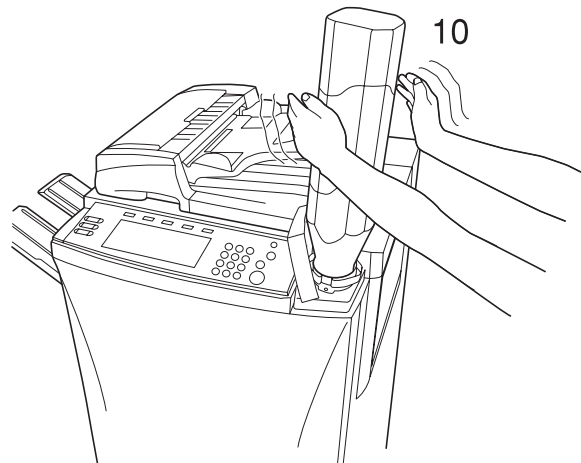


Figure 1-3-34

8. Turn the toner bottle to the original position while pushing it down, and gently remove it from the opening for toner replenishment.
9. Close the operation right cover.

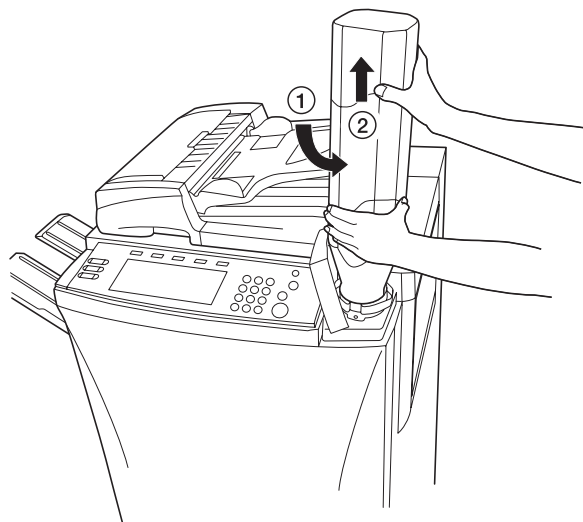


Figure 1-3-35

Install the original tray.*

1. Hook the grooves of the original tray to the pins (two) at the right side of the machine, then install the original tray to the machine.
*Inch models only.

Make test copies.

1. Load paper in a cassette and make test copies.

Completion of machine installation.

1-3-2 Setting initial copy modes

Factory settings are as follows:

Maintenance item No.	Contents	Factory setting
U253 U254 U255 U256 U258 U260 U263 U264 U266 U330 U331 U343 U344 U347	Switching between double and single counts Turning auto start function on/off Setting auto clear time Turning auto preheat/energy saver function on/off Switching copy operation at toner empty detection Changing the copy count timing Setting the paper ejection when copying from the DF Setting the display order of the date Setting the number of days after which to automatically delete documents Setting the number of sheets to enter stacking mode during sort operation Switching the paper ejection mode Switching between duplex/simplex copy mode Setting preheat/energy saver mode Setting auto drawer size detection	Double count (A3/LEDGER) ON 90s ON SINGLE MODE, 5 EJECT Face down Month-day-year (inch) Day-month-year (metric) 7 days 100 FACE UP Simplex copy Energy Star ON (inch), OFF (metric)
User settings	Exposure mode Exposure steps Original image quality Paper selection Default drawer Default magnification Margin width Border erase width Copy limit Auto shutoff time Auto preheat time	Manual 0.5 step Text+Photo APS Drawer1 Manual Left: 6 mm / 1/4" Top: 0 mm / 0" Outside border: 6 mm / 1/4" Center area: 6 mm / 1/4" 999 90 15

1-3-3 Installing the key counter (option)

Key counter installation requires the following parts:

Key counter set (P/N 2A369700)

Contents of the set:

- Key counter cover (P/N 2A360010)
- Key counter retainer (P/N 66060030)
- Key counter cover retainer (P/N 66060021)
- Key counter mount (P/N 66060040)
- Key counter assembly (P/N 41529210)
- Four (4) M4 × 6 bronze TP-A screws (P/N B4304060)
- Two (2) M4 × 10 bronze TP-A screws (P/N B4304100)
- One (1) M4 × 6 chrome TP-A screw (P/N B4104060)
- Two (2) M3 × 6 bronze flat-head screws (P/N B2303060)
- One (1) M3 bronze nut (P/N C2303000)

<Procedure>

1. Fit the key counter assembly to the key counter retainer using the two screws and nut.
2. Fit the key counter mount to the key counter cover using the two screws, and attach the key counter retainer to the mount using the two screws.

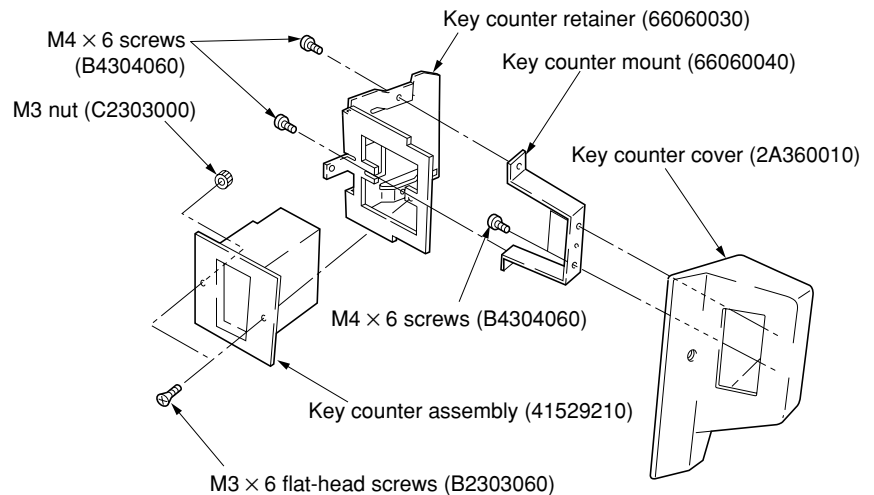


Figure 1-3-36

3. Remove the four screws and detach the middle right cover from the machine.
4. Cut out the aperture plate on the middle right cover using nippers.

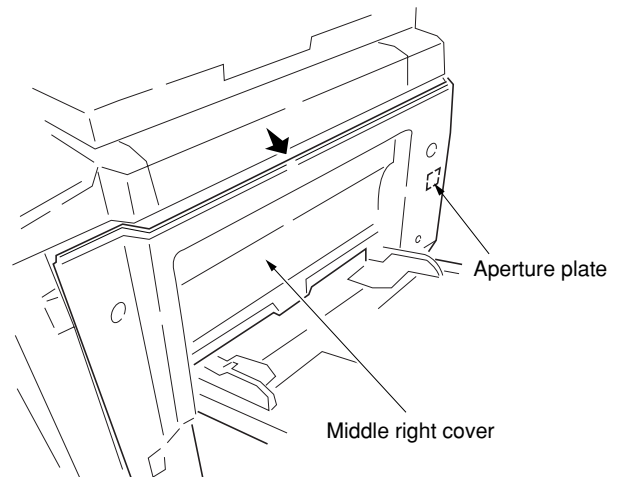


Figure 1-3-37

5. Pass the 4-pin connector of the key counter through the apertures in the key counter cover retainer and middle right cover, and insert into the 4-pin connector inside the machine.
6. Seat the projection of the key counter cover retainer in the aperture in the middle right cover, and fasten them both to the machine using the two screws.
7. Refit the screw to the machine of the middle right cover.
8. Fit the key counter cover with the key counter assembly inserted to the key counter cover retainer on the machine.

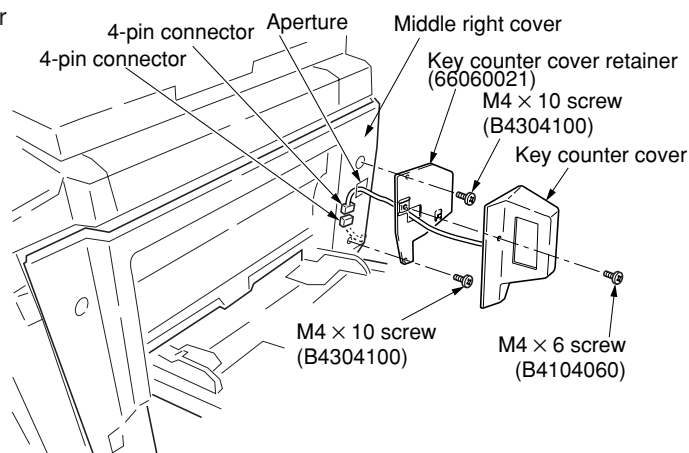


Figure 1-3-38

9. Insert the key counter into the key counter assembly.
10. Turn the main switch on and enter the maintenance mode.
11. Run maintenance item U204 and select "KEY COUNTER."
12. Exit the maintenance mode.
13. Check that the message requesting the key counter to be inserted is displayed when the key counter is pulled out.
14. Check that the counter counts up as copies are made.

1-3-4 Installing the cassette heater (option)

<Procedure>

1. Remove the four screws holding the lower rear cover and then the cover.
2. Remove the two screws securing the main PCB shield and open the main PCB shield.
3. Remove the four screws holding the large paper deck and then the deck.

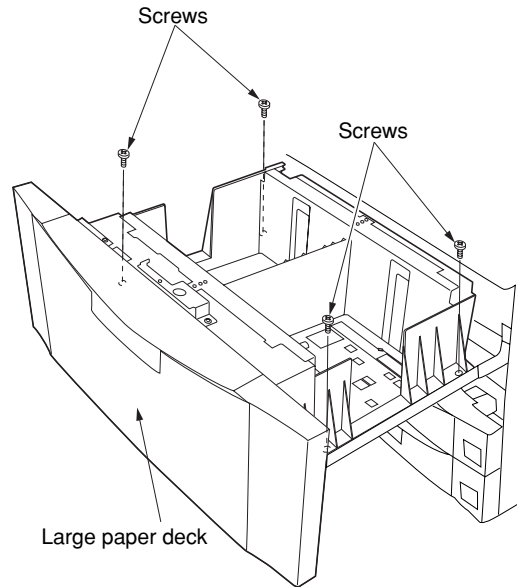


Figure 1-3-39

4. Pull the upper and lower cassettes out.
5. Fit the cassette heater using the tapes and then pass the wires through the clearance under the machine rear and let them out.

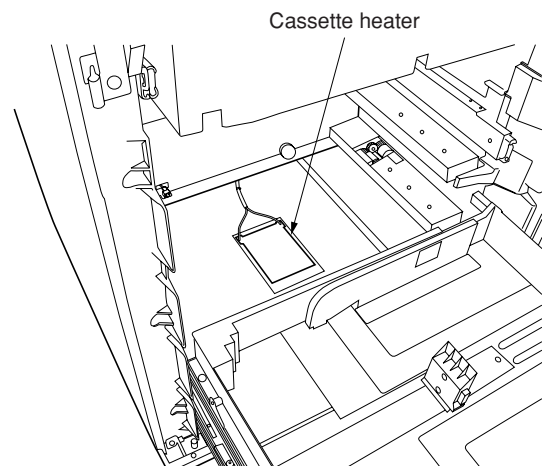


Figure 1-3-40

6. Remove the open connector from the 2-pin connector of the machine, and insert the 2-pin connector of the cassette heater into the 2-pin connector of the machine.
7. Secure the wires using the clamp.
8. Refit all the removed parts.

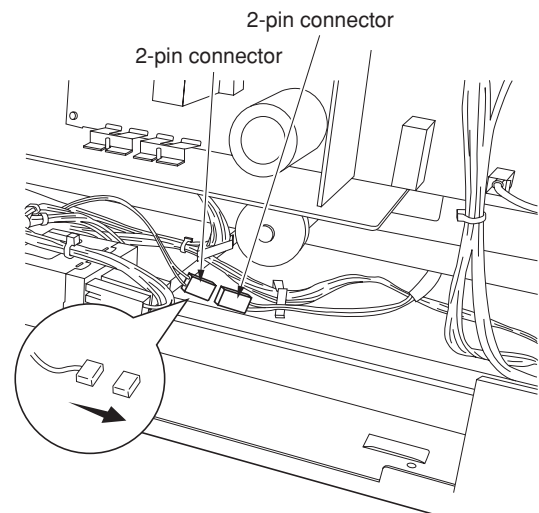


Figure 1-3-41

1-3-5 Installing the multi finisher (option)

<Procedure>

1. Fit the release fixing plate to the ejection cover of the copier with the two M4 × 12 TP screws.

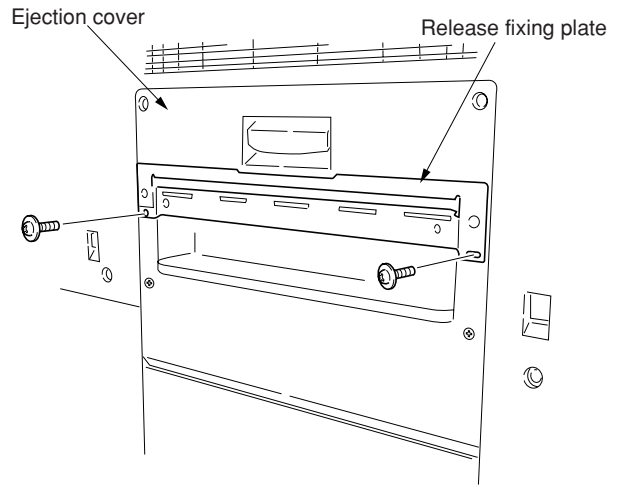


Figure 1-3-42

2. Remove the two screws from the ejection cover of the copier and fit the release adjusting plate with the removed two screws and the two M4 × 6 TP screws by aligning the lower end.

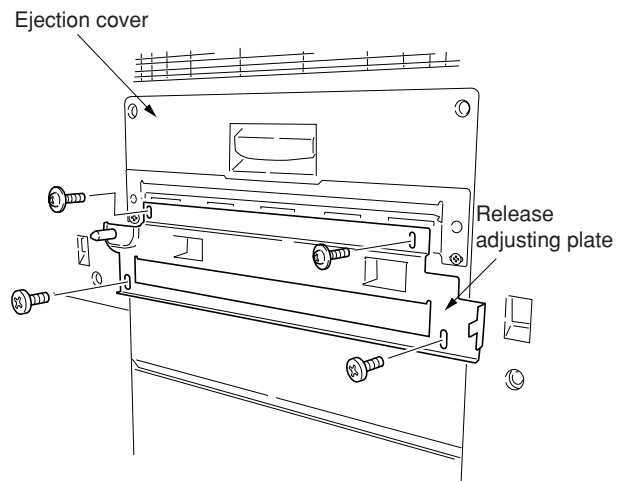


Figure 1-3-43

3. Insert the two rail unit mounting plate stoppers into the holes of the rail unit mounting plate.

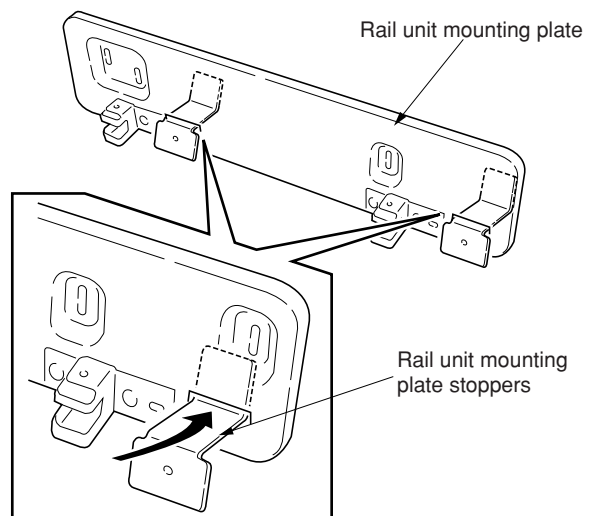


Figure 1-3-44

4. Remove the two screws from the copier and fit the rail unit mounting plate with the removed two screws by aligning the lower end.
5. Fix the rail unit mounting plate stoppers with the two M4 × 6 binding screws.

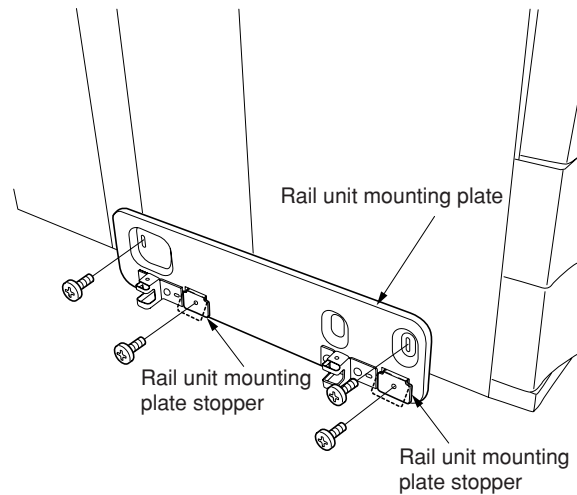


Figure 1-3-45

6. Attach the connecting sponge to the side plate of the finisher by aligning it to the lower end "a" of the narrow area and the front end "b" of the side plate.

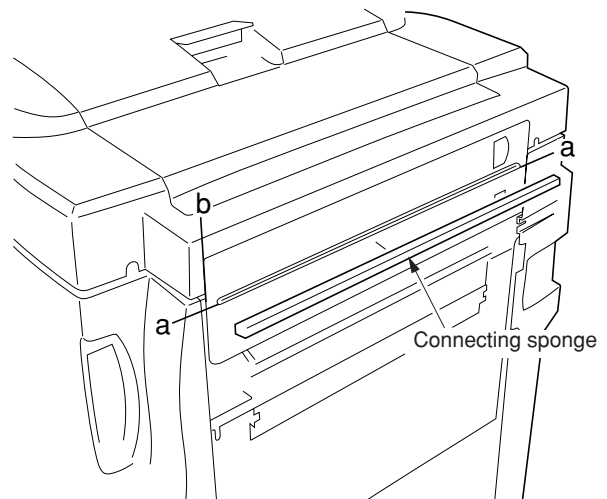


Figure 1-3-46

7. Remove the screw and then remove the release hook.
8. Remove the three pins and then remove the connecting rail.

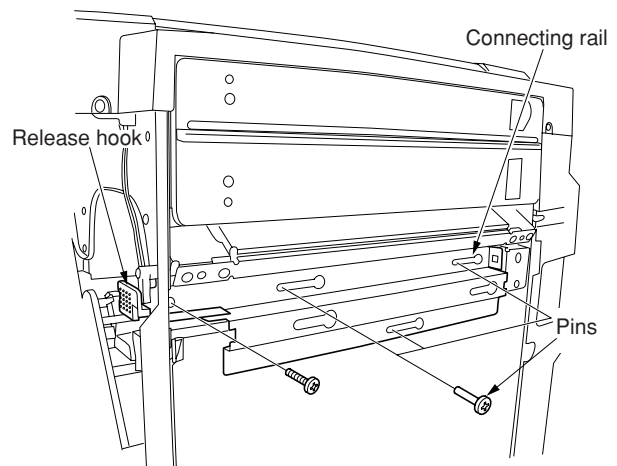


Figure 1-3-47

2CJ

9. Remove the screw and then remove the gray handle of the release hook. Fit the green release hook handle with the removed screw.

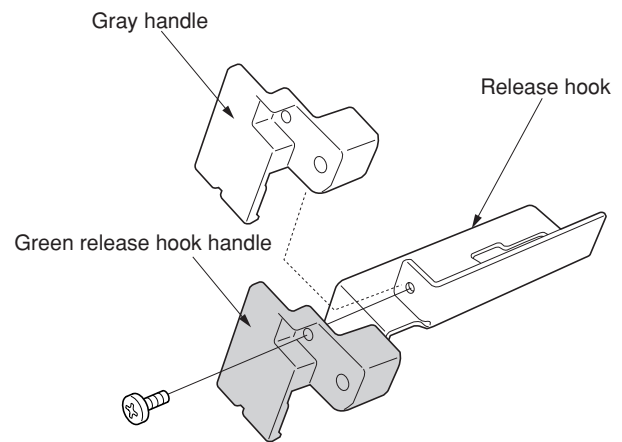


Figure 1-3-48

10. Fit the latch plate with the two pins that have been removed in step 8.

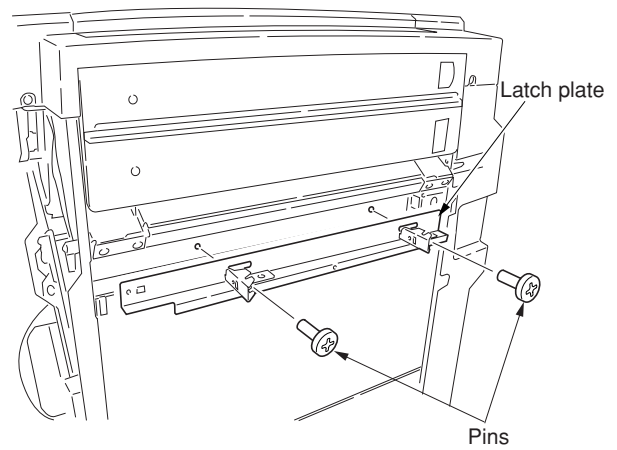


Figure 1-3-49

11. Fit the release hook with the screw that has been removed in step 7.

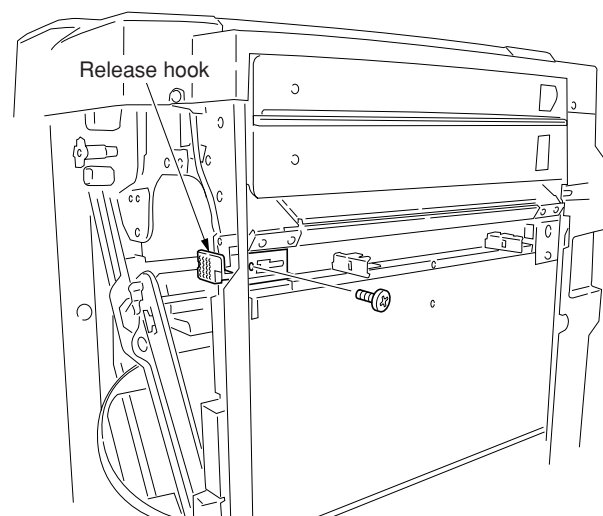


Figure 1-3-50

12. Open the front cover.
13. Remove the four blue screws locking each of the two separate retainers to the intermediate tray and detach both retainers.

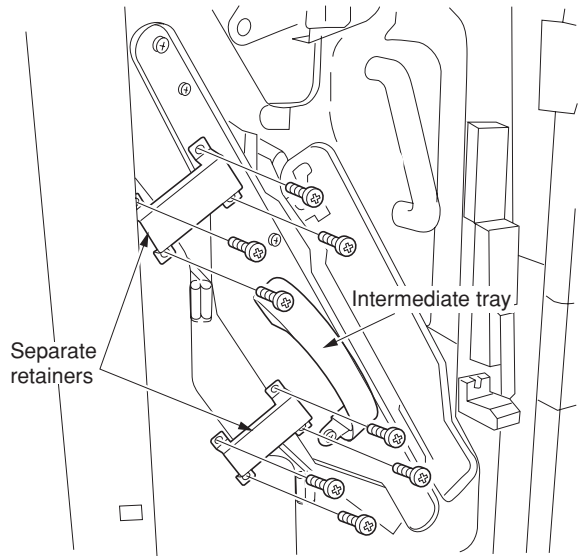


Figure 1-3-51

14. Pull out the intermediate tray.
15. Remove the strip of fixing tape from the release lever.

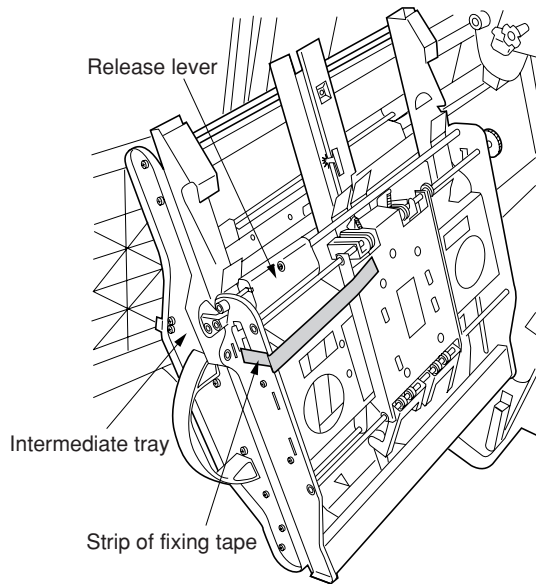


Figure 1-3-52

16. Raise the release lever to open the intermediate tray, and then remove the four strips of fixing tape.

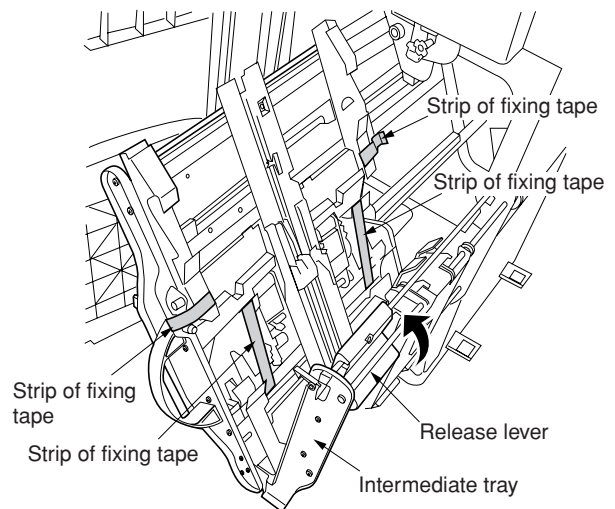


Figure 1-3-53

17. Insert a stapler cartridge into each of the staplers and of the intermediate tray. Press on the cartridges until they are securely locked.

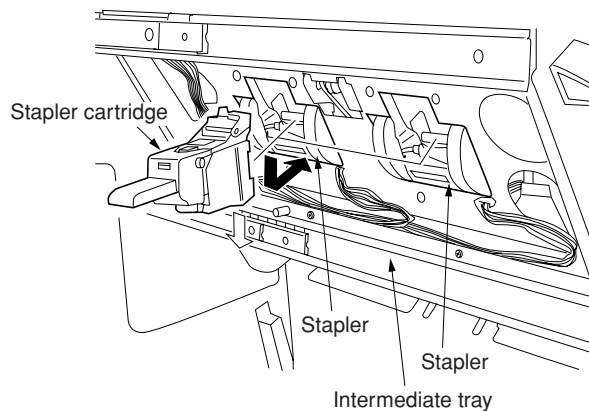


Figure 1-3-54

For 220 - 240 V specifications only

18. Attach the shield gasket to the rear side opening plate of the intermediate tray.

- Attach it after cleaning the rear side opening plate with alcohol.
- Attach it by aligning with the end of the rear side opening plate between the notch and the cable tie.

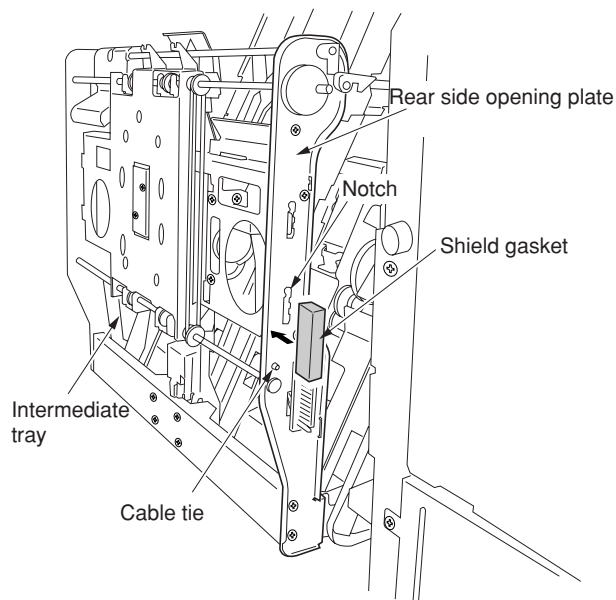


Figure 1-3-55

19. Push the release lever to close the intermediate tray and insert it into its original position.
20. Fit the main tray with two hexagonal nuts.
21. Secure the main tray with two pins.
22. Attach the sub tray to the finisher by inserting the projections at the front and back of the sub tray into the holes of the finisher.
23. Attach label A to the recessed portion on the side of the main tray.
24. Attach label B to the recessed portion on the side of the sub tray.

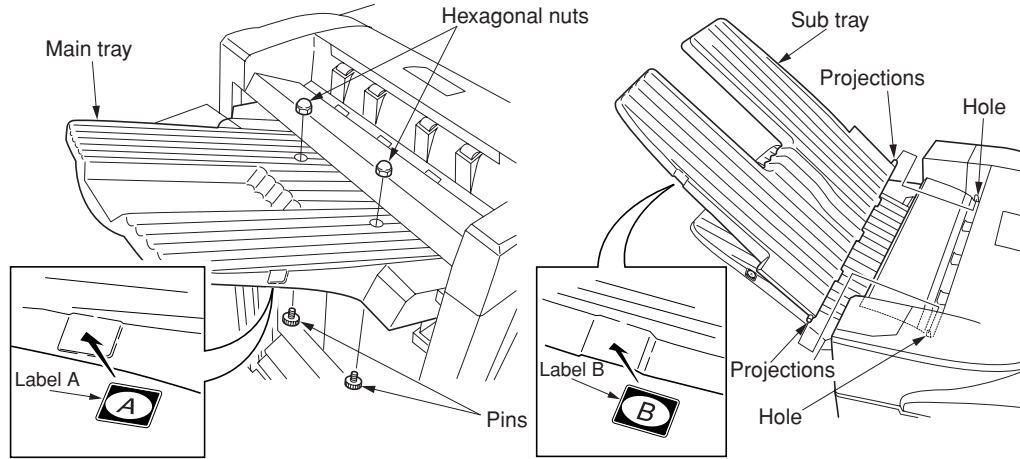


Figure 1-3-56

25. Remove the 2-pin connector from the main tray unit and then remove the five screws to remove the rear cover.

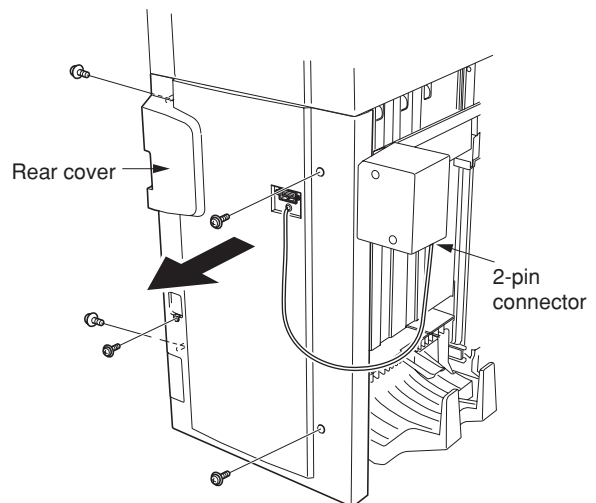


Figure 1-3-57

26. Remove the four screws and then remove the lower right stay.

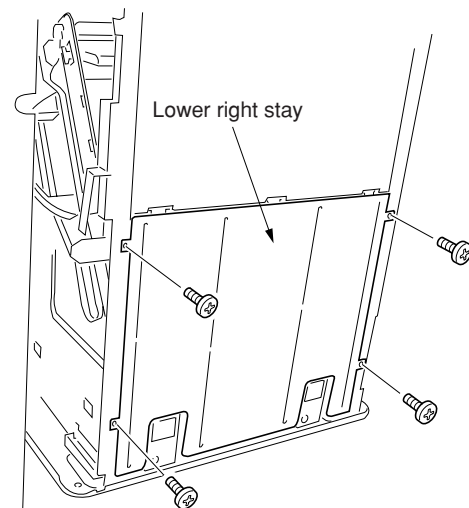


Figure 1-3-58

2CJ

- 27. Insert the rail unit into the lower part of the finisher.
- 28. Pull out the intermediate tray.

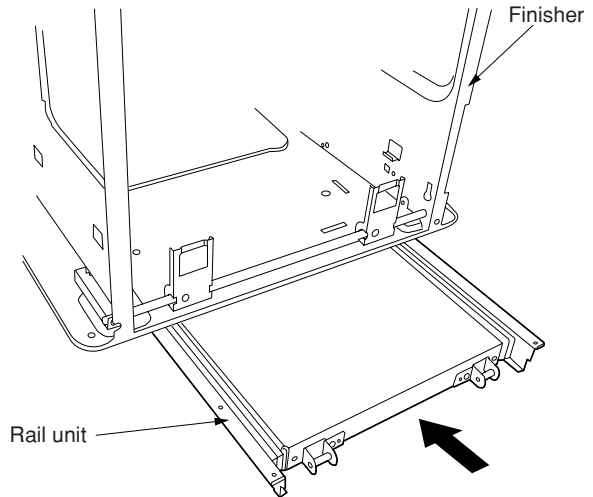


Figure 1-3-59

- 29. Fix the rail unit with the four M4 × 10 binding screws.
 - As shown in the illustration, the fixing positions of the M4 × 10 binding screws may be different depending on the finisher model.
- 30. Insert the intermediate tray into its original position.

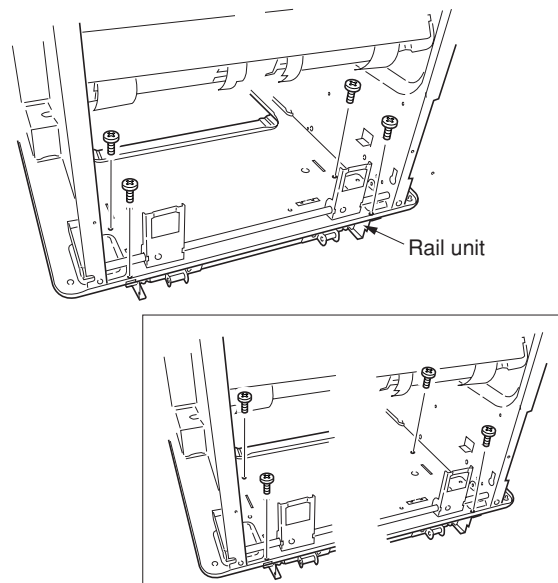


Figure 1-3-60

- 31. Refit the lower right stay to its original position.
- 32. Refit the rear cover to its original position and connect the 2-pin connector of the main tray unit.
- 33. Pull out the rail unit and insert the pin of the rail unit to the connecting section of the rail unit mounting plate.

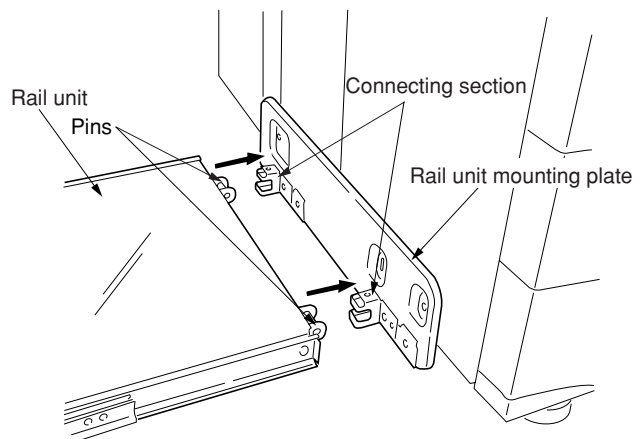


Figure 1-3-61

34. Insert the stopper to the connecting section and fix it with the two M4 × 6 binding screws.

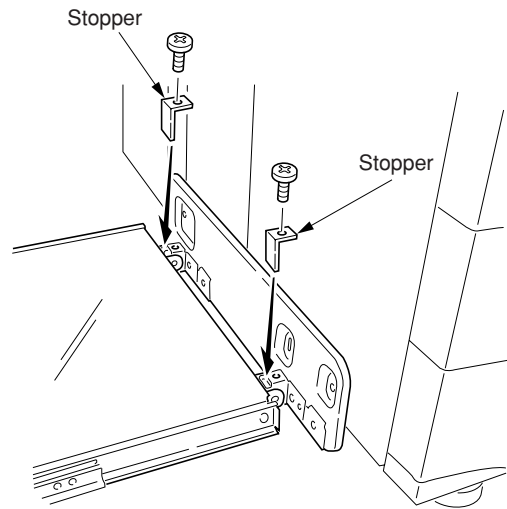


Figure 1-3-62

35. Connect the signal cable of the finisher to the connector of the copier.

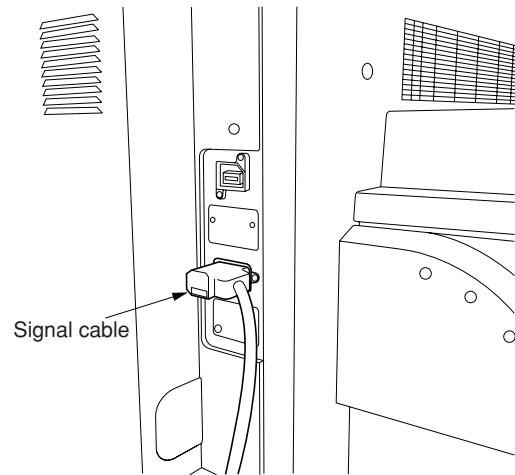


Figure 1-3-63

36. With the release hook handle pulled, loosen the two screws and the two M4 × 6 TP screws and adjust the mounting position of the release adjusting plate so that the claw of the latch plate is positioned at the center of the opening of the release adjusting plate.
37. Connect the finisher to the copier.
- The pin of the release adjusting plate is inserted into the hole of the finisher.
38. Close the front cover.
39. Plug the copier's power cable into a wall outlet and turn the copier on from the main switch.

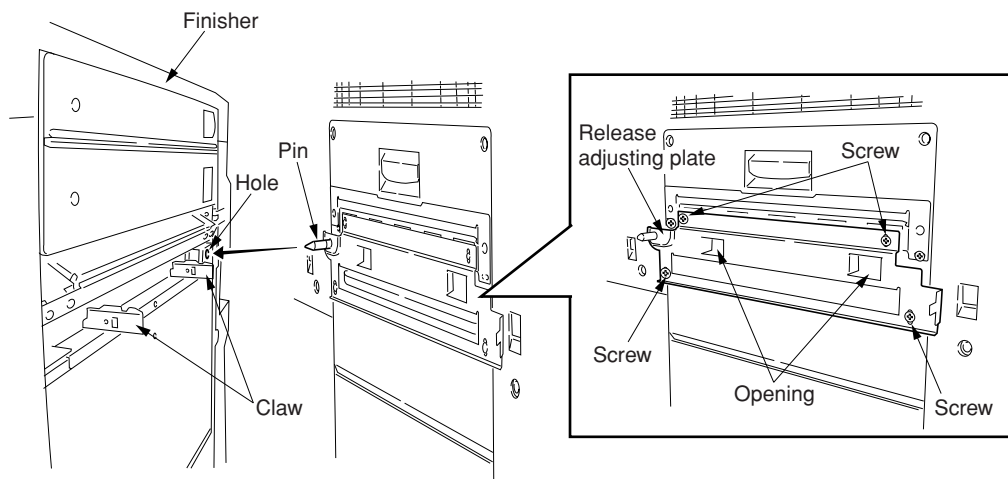


Figure 1-3-64

Correcting Paper Curling

1. Set the machine in the non-sort mode and run paper through the machine to make a test copy.
2. Check if the paper that is ejected from the finisher is curled. If it is, make the following adjustment.

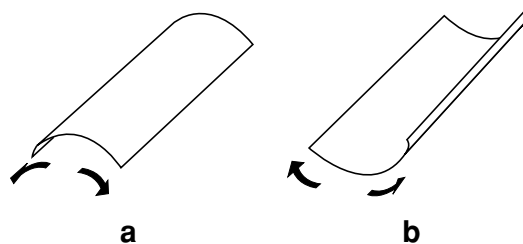


Figure 1-3-65

If the Paper Curls Downward (figure 1-3-65 “a”)

1. Open the front cover.
2. Rotate the lower lever by one mark in the direction of the higher numbers.

Note: There are 5 marks. The lever is set to the first mark when shipped.

3. Close the front cover.
4. Run paper through the machine and check if it is still curled downward.
5. Repeat steps 1 to 4 until the ejected paper does not curl downward anymore.

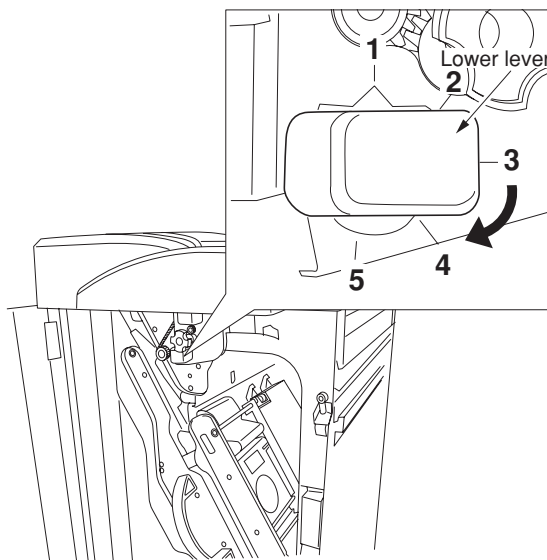
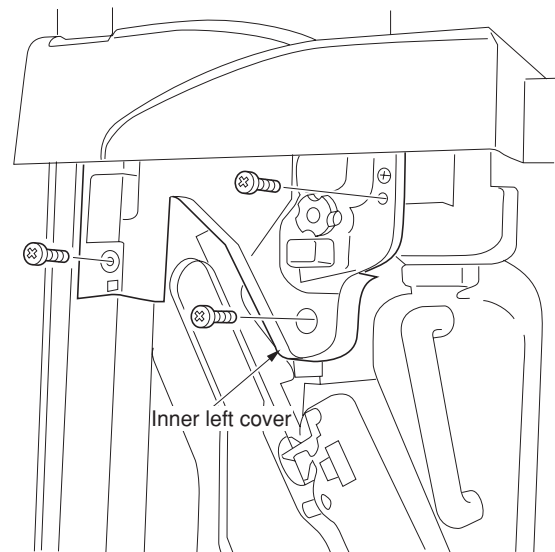


Figure 1-3-66

If the Paper Curls Upward (figure 1-3-65 “b”)

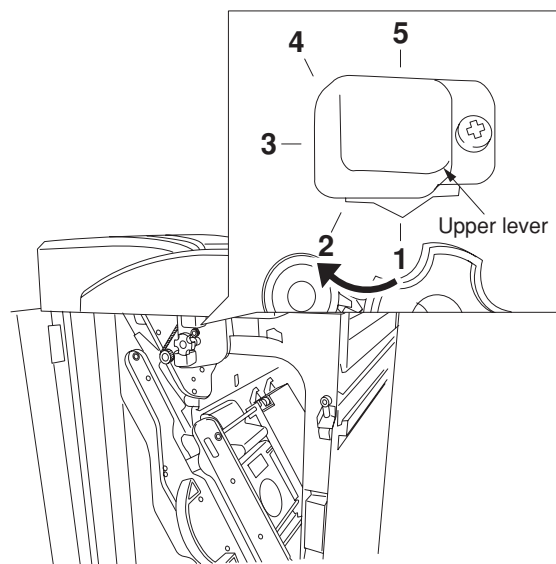
1. Open the front cover.
2. Remove the three screws locking down the inner left cover followed by the cover.

**Figure 1-3-67**

3. Rotate the upper lever by one mark in the direction of the higher numbers.

Note: There are 5 marks. The lever is set to the first mark when shipped.

4. Close the front cover.
5. Run paper through the machine and check if it is still curled upward.
6. Repeat steps 1 to 5 until the ejected paper does not curl upward anymore.
7. When the correction is completed, reattach the inner left cover.

**Figure 1-3-68**

1-3-6 Installing the side deck (option)

<Procedure>

1. Remove the two screws from the support.

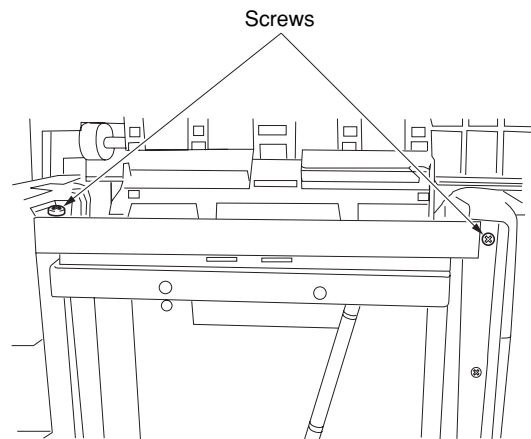


Figure 1-3-69

2. Cut out the three aperture plates on the upper right cover using nippers.

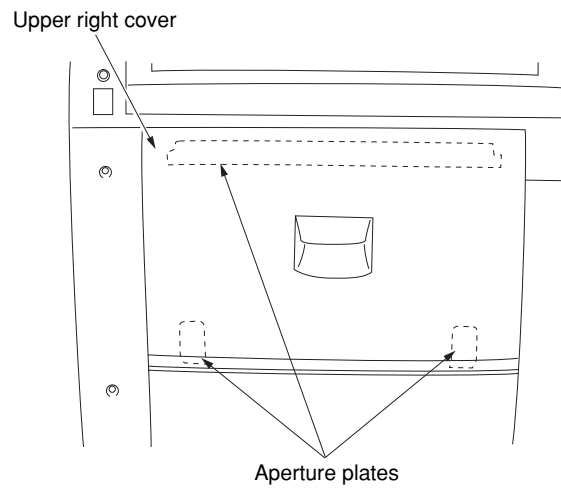


Figure 1-3-70

3. Insert the lower merge guide into the upper right cover. Open the upper right cover and secure the lower merge guide with two screws (M4 × 06 binding screws).

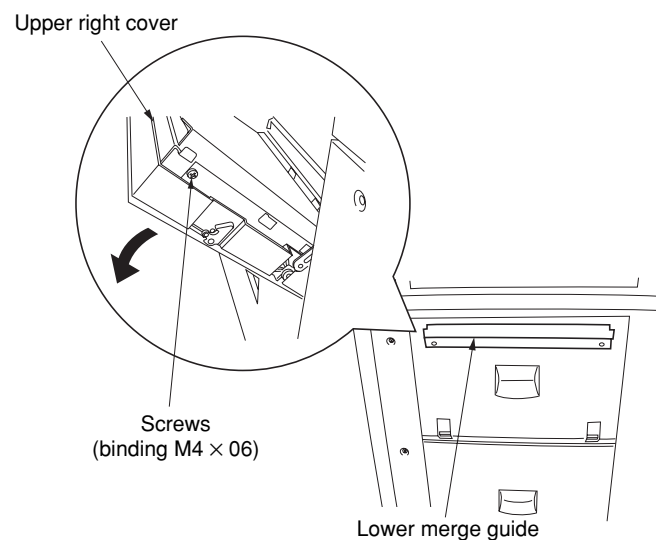


Figure 1-3-71

4. Close the upper right cover. While holding the lower merge guide downward, secure the guide with two screws (M4 × 08 TP-P tight screws).

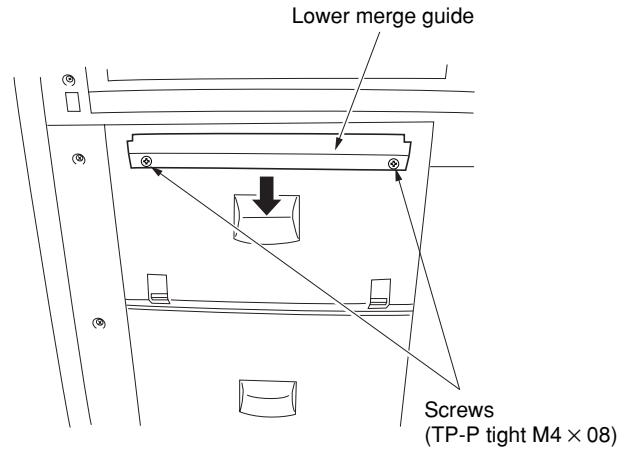


Figure 1-3-72

5. Open the upper right cover. Insert the upper merge guide into the cover from the inside and secure with two screws (M4 × 06 binding screws).

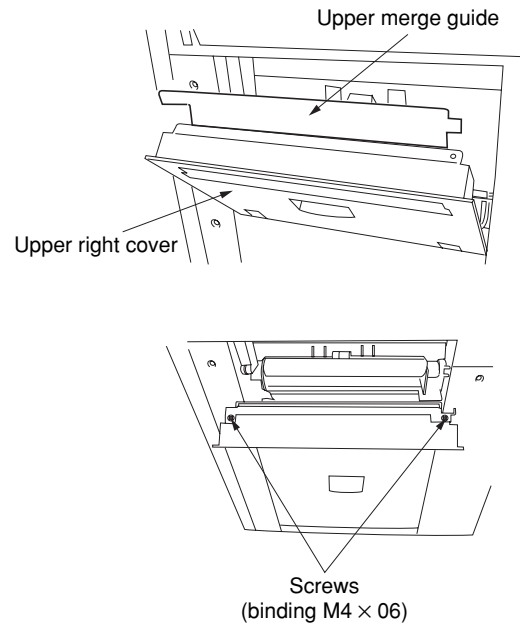


Figure 1-3-73

6. Close the upper right cover. While holding the upper merge guide upward, secure the guide with two screws (M4 × 08 TP-P tight screws).

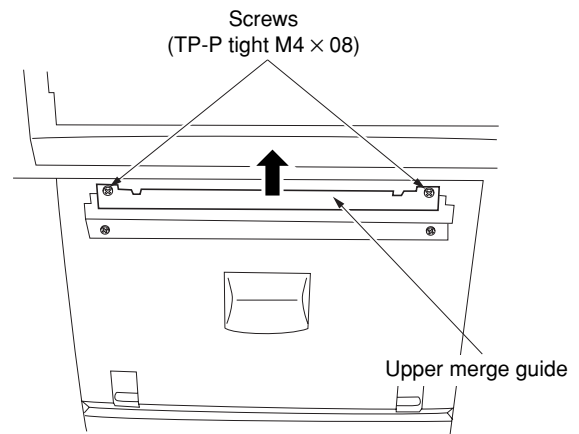


Figure 1-3-74

2CJ

7. Remove the two screws from the lower rear right cover, the screw from the lower front right cover, and then remove the lower middle right cover.

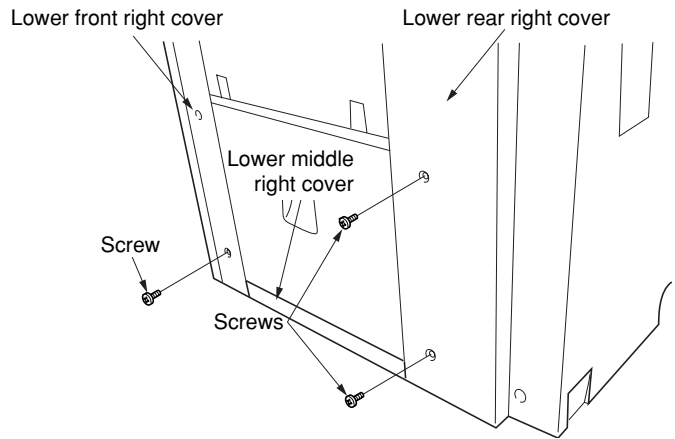


Figure 1-3-75

8. Refit the screws removed in step 7 to the lower rear right cover and lower front right cover.
9. Insert the folded part of the interlock switch into the slot in the lower rear right cover and secure with a screw (M4 × 12 flat-head screw).

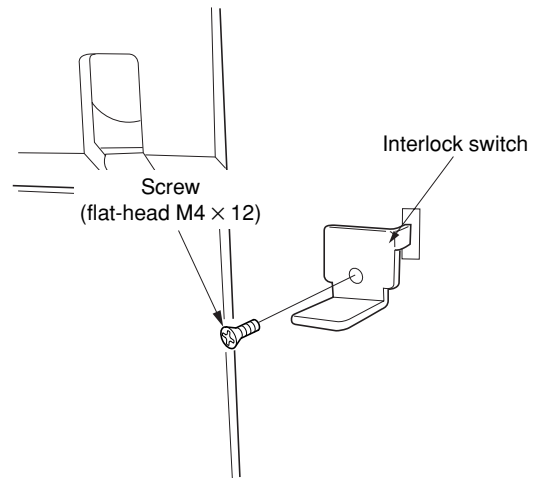


Figure 1-3-76

10. Pull out the rail retainer of the deck and insert it between the frame and the lower right cover.

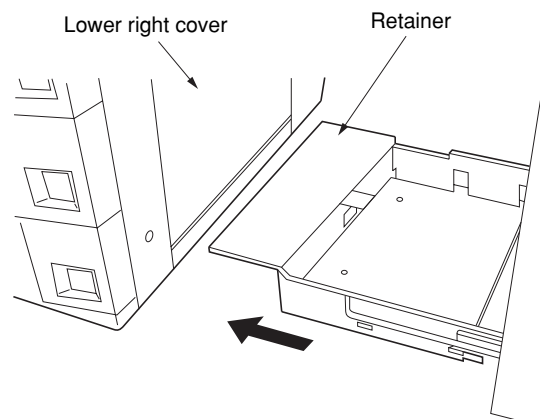


Figure 1-3-77

11. Open the lower vertical conveying cover and align the V-shaped groove of the retainer with the center of the scale located at the base. Then secure the retainer with two screws (M4 × 06 TP screws).

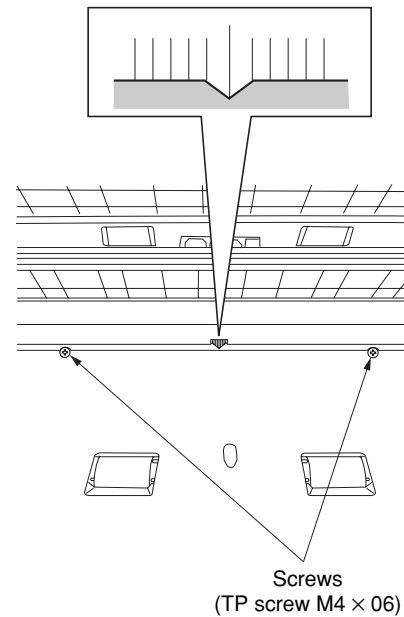


Figure 1-3-78

12. If the gaps between the copier and the side deck at the top and bottom are not even after installing the side deck, loosen the two height adjusting screws and move the retaining rail in the direction of the arrow by the necessary number of marks so that the gaps become even, and retighten the screws.

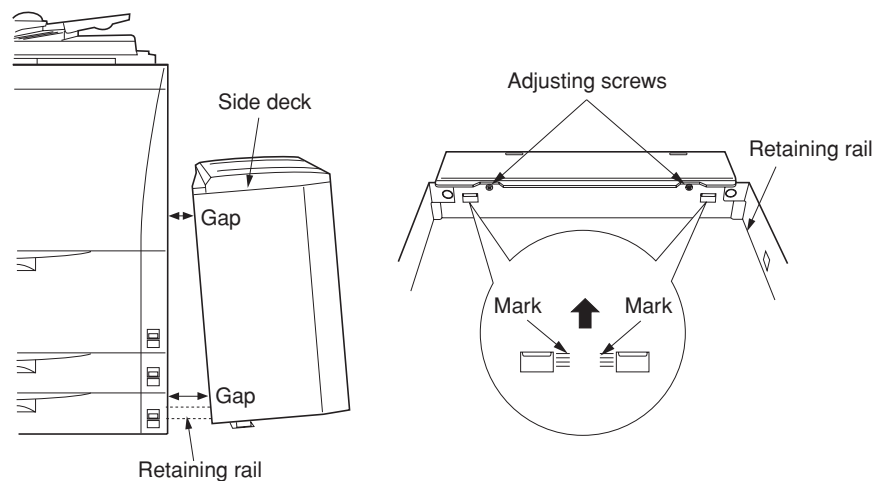


Figure 1-3-79

13. Connect the signal cable for the deck to the connector on the copier.
 14. Connect the power plug to the wall outlet and turn the main switch on.
 15. Press the right down switch to descend the lift until it reaches lower limit.
 16. Load paper in the side deck.
 17. Run maintenance item U034 (Adjusting the print start timing) and make a test copy.
 18. Measure the discrepancy L (mm) between the center of the test copy and the optical axis. If L is 1.0 mm or above, loosen the two screws of the retainer and move the V-shaped groove on the retainer by the measured amount L and retighten the screws.
- If the line is shifted to the front (a), move the V-shaped groove of the retainer toward the front.
 - If the line is shifted to the rear (b), move the V-shaped groove of the retainer toward the rear.

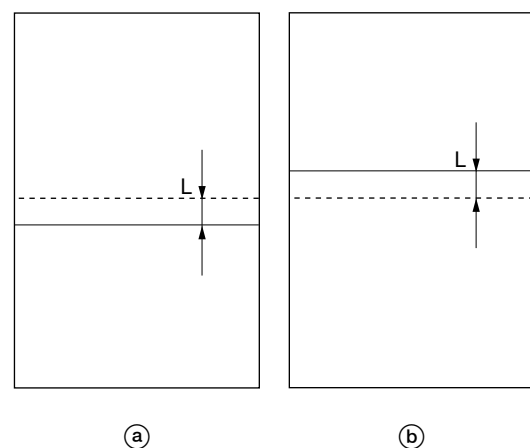
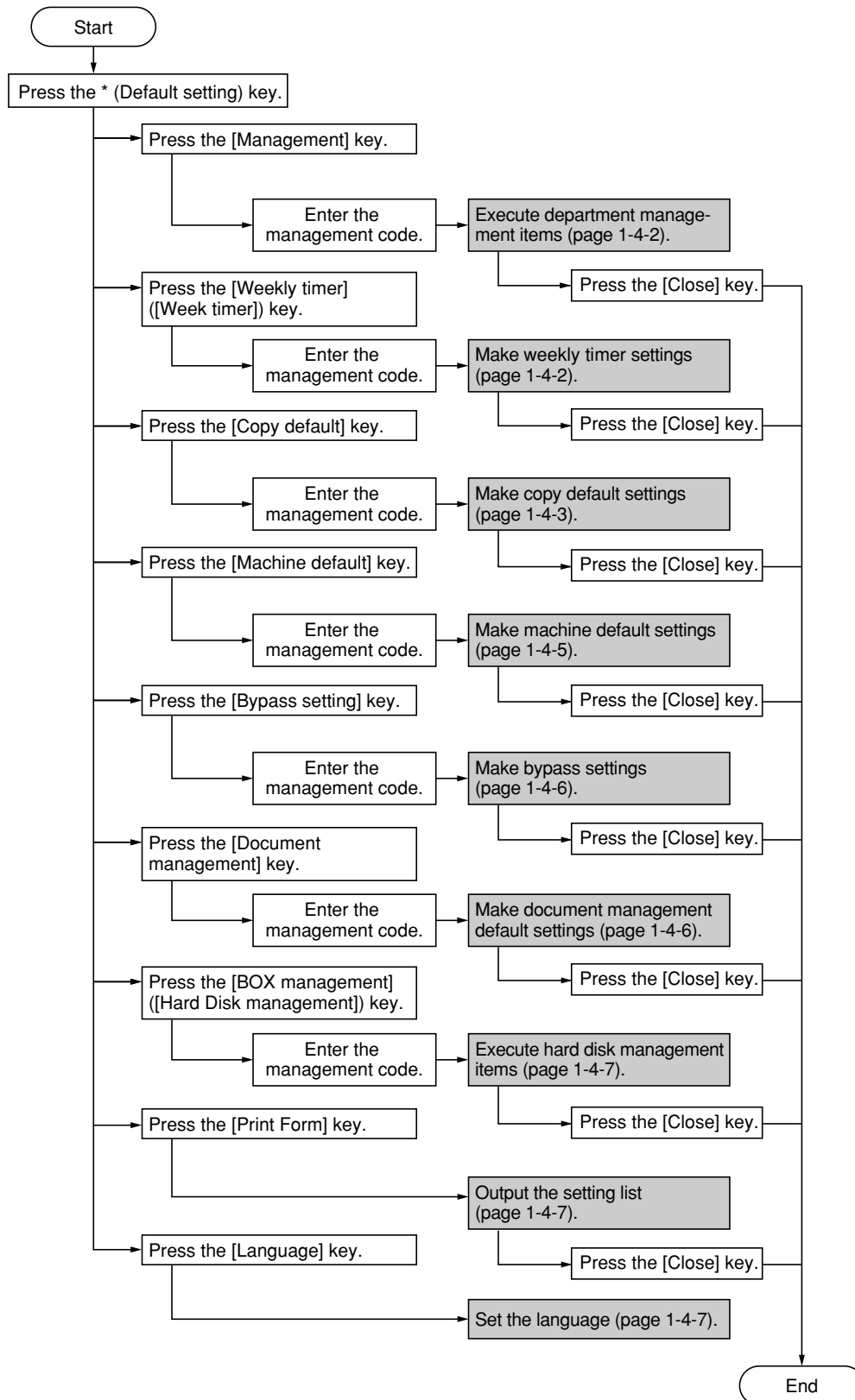


Figure 1-3-80

1-4-1 Copier management

This copier is equipped with the maintenance mode for service personnel and the management mode that can be used also by users (mainly by copier administrator). In this copier management mode, settings such as default settings can be changed.

(1) Using the copier management mode



(2) Setting department management items

Registering a new department code

Sets a department code and the limit of the number of copies for that department.

1. Press the [ID-code Reg./Del.] key.
2. Press the [Register] key and press the [# keys].
3. Enter a department code (8-digit) using the numeric keys and press the [# keys].
4. Enter the number of copies limit using the numeric keys. The copy limit can be set to any 1 page increment between 1 and 999999. Entering "0" enables unlimited copying.
5. Press the [Close] key.
6. Press the [Close] key.
7. Press the [On] key.
8. Press the [Close] key.

Deleting a department code

1. Press the [ID-code Reg./Del.] key.
2. Select the department code to be deleted and press the [Delete] key.
3. Select "Yes" or "No".
4. Press the [Close] key.
5. Press the [On] key.
6. Press the [Close] key.

Altering the copy limit

1. Press the [# of copy correct] key.
2. Select the department code to be altered and press the [Correction] key.
3. Enter the number of copies limit using the numeric keys. The copy limit can be set to any 1 page increment between 1 and 999999. Entering "0" enables unlimited copying.
4. Press the [Close] key.
5. Press the [Close] key.
6. Press the [On] key.
7. Press the [Close] key.

Clearing copy counts

1. Press the [Counter clear] key.
2. Select "Yes" or "No".
3. Press the [Close] key.

Viewing copy counts

1. Press the [Counter by ID-code] key.
2. View copy counts using the cursor up/down keys.
3. Press the [Close] key.
4. Press the [Close] key.

Print management list

1. Press the [Print the list] key.
If A4/11" × 8¹/₂" paper is present, the list is automatically printed out. Otherwise, select the paper source and press the start key.

Enabling/disabling department management

1. Select "On" or "Off".

Enabling/disabling printer department management

1. Select "On" or "Off" under "Printer".

Setting printer error report

When the printer department management is enabled, if printing is performed with an incorrect department code, an error report can be output.

1. Press the [On] key under "Printer".
2. Press the [Print Err. PRT.] key.
3. Press the [On] key.
4. Press the [Close] key.

(3) Weekly timer

Setting weekly timer

Sets the time at which the copier is to be turned ON or OFF during each day of the week, or whether it will be left ON or OFF all day on any of those days.

1. Select the day of the week and press the [Change #] key.
2. To set the time at which the copier is to be turned on or off, press the [Select work time] key and press the +/- keys to select the power-on hour and minute and the power-off hour and minute.
To set the copier OFF all day, press the [All day-OFF] key.
To set the copier ON all day, press the [All day-ON] key.
3. Press the [Close] key.

Canceling the weekly timer function temporarily

1. Select the day of the week and press the [Change #] key.
2. Press the [On] key under "Cancel".
3. Press the [Close] key.

Turning the [weekly timer] key ON/OFF

1. Select "On" or "Off".

(4) Copy default**Exposure mode**

Selects the exposure mode at power-on.

1. Select "Exposure mode" and press the [Change #] key.
2. Select "Manual" or "Auto".

Exposure steps

Sets the number of exposure steps for the manual exposure mode.

1. Select "Exposure steps" and press the [Change #] key.
2. Select "1 step" or "0.5 step".

Original image quality

Selects the copy quantity mode at power-on.

1. Select "Original image quality" ("Image quality Original") and press the [Change #] key.
2. Select "Text+Photo", "Photo" or "Text".

Custom original size (setting No. 1 - No. 4)

Sets the custom original sizes.

1. Select one of "Original size" settings ("custom 1" through "custom 4") and press the [Change #] key.
2. Press the [On] key.
3. Press the +/- keys to set Y (width).
Setting range: 2 to 11" (inch specifications)
50 to 297 mm (metric specifications)
4. Press the +/- keys to set X (length).
Setting range: 2 to 17" (inch specifications)
50 to 432 mm (metric specifications)

Eco print

Selects the toner economy mode to be automatically on or off at power-on.

1. Select "Eco print" and press the [Change #] key.
2. Select "On" or "Off".

Paper selection

Sets whether the same sized paper as the original to be copied is automatically selected.

1. Select "Paper selection" ("Select paper") and press the [Change #] key.
2. Select "APS" or "Default cassette".

Select paper type (APS)

Specifies paper types to be selected for the auto paper selection mode.

1. Select "Select paper type(APS)" and press the [Change #] key.
2. Press the [On] key.
3. Select the paper type. (Multiple types can be selected.)

Default drawer

Sets the drawer to be selected in cases such as after the reset key is pressed.

1. Select "Default drawer" ("Default cassette") and press the [Change #] key.
2. Select priority drawer.

Drawer for cover paper

Sets the drawer to be selected for cover paper.

1. Select "Drawer for cover paper" and press the [Change #] key.
2. Select the drawer for cover paper.

Default magnification

Selects whether auto magnification selection or 100% magnification is to be given priority when the sizes of the original and copy paper are different.

1. Select "Default magnification" ("Default mode") and press the [Change #] key.
2. Select "Manual" or "AMS".

Auto exposure adjustment

Adjusts the exposure for the auto exposure mode.

1. Select "Auto exposure adj. (Auto)" and press the [Change #] key.
2. Press the [Lighter] or [Darker] key to adjust default setting of copy exposure.
Setting range: -3 to +3

Auto exposure adjustment (OCR)

Adjusts the exposure for scanning with OCR in the scanner mode.

1. Select "Auto exposure adj. (OCR)" and press the [Change #] key.
2. Press the [Lighter] or [Darker] key to adjust default setting of copy exposure.
Setting range: -3 to +3

Manual exposure adjustment (Mixed)

Adjusts the exposure to be used when text and photo original is selected for the image mode.

1. Select "Manual exp. adj. (Mixed)" and press the [Change #] key.
2. Press the [Lighter] or [Darker] key to adjust default setting of copy exposure.
Setting range: -3 to +3

Manual exposure adjustment (Text)

Adjusts the exposure to be used when text original is selected for the image mode.

1. Select "Manual exp. adj. (Text)" and press the [Change #] key.
2. Press the [Lighter] or [Darker] key to adjust default setting of copy exposure.
Setting range: -3 to +3

Manual exposure adjustment (Photo)

Adjusts the exposure to be used when photo original is selected for the image mode.

1. Select "Manual exp. adj. (Photo)" and press the [Change #] key.
2. Press the [Lighter] or [Darker] key to adjust default setting of copy exposure.
Setting range: -3 to +3

Sort mode

Sets whether or not the sort mode will be the default setting in the initial mode.

1. Select "Sort" and press the [Change #] key.
2. Select "On" or "Off".

Auto rotation mode

Sets whether or not the auto rotation mode will be the default setting in the initial mode.

1. Select "Auto Rotation" and press the [Change #] key.
2. Select "Rotate" or "No Rotate".

Margin width

Sets the default setting of the margin width for the margin copying.

1. Select "Default margin width" and press the [Change #] key.
2. Press the up, down, right, and left cursor keys to set the default settings.
Setting range: 0 to 3/4" (inch specifications)
0 to 18 mm (metric specifications)

Border erase width

Sets the default setting of the border erase width for the border erase mode.

1. Select "Default erase width" and press the [Change #] key.
2. Press the +/- keys to adjust default erase width.
Setting range:

Outside border:

0 to 3/4" (inch specifications)
0 to 18 mm (metric specifications)

specifications)

Center area:

0 to 1 1/2" (inch specifications)
0 to 36 mm (metric specifications)

specifications)

Copy limit

Sets the number of copies limit for multiple copying.

1. Select "Preset limit" and press the [Change #] key.
2. Press the +/- keys to set copy preset in one job.

Setting range: 1 to 999 copies

Modify Copy

Disables the modify copy function or enables the modify copy function in the default mode.

1. Select "Modify Copy" and press the [Change #] key.
2. Select "On" or "Off" under "Function".
3. Select "On" or "Off" under "Default".

Job Queue Report

Sets whether or not the job queue report is selected.

1. Select "Job Queue Report" and press the [Change #] key.
2. Select "off", "On/All copy job" ("On/(All copy)") or "On/reserved" ("On/reserv.job").

Display register key

Sets whether or not to display the Register key in the copy operation screen.

1. Select "Display register key" and press the [Change #] key.
2. Select "On" or "Off".

Black-line correction

Reduces black lines that may be caused when the DF is used.

1. Select "Correct. fine black line" and press the [Change #] key.
2. Select "On" or "Off".

Customize the base screen (main function)

Changes the layout of the main functions of the base screen.

1. Select "Customize (Main function)" and press the [Change #] key.
2. Change the layout to press [Move ahead] or [Move to behind].

Customize the copy operating screen (add function)

Changes the layout of the functions except the main functions of the copy operating screens.

1. Select "Customize (Add function)" and press the [Change #] key.
2. Change the layout to press [←].

(5) Machine default

Auto drawer switching

Enables or disables the auto drawer switching function and sets whether "All types of paper" or "Feed same paper type" is selected.

1. Select "Auto drawer switching" ("Auto cassette switching") and press the [Change #] key.
2. Select "On" or "Off".
3. Select "All types of paper" or "Feed same paper type".

Paper size (drawer No.1 & No.2)

Sets the size of paper that is loaded in drawers 1 and 2.

1. Select one of the "Paper size" settings ("1st drawers" or "2nd drawer") and press the [Change #] key.
2. Select the paper size.

Paper type (drawer No.1 - No.5)

Sets the type of paper for drawers 1 through 5.

1. Select one of "Paper type" settings ("1st drawer" through "5th drawer") and press the [Change #] key.
2. Select the paper type.

Select paper type (2 sided)

Sets whether or not each of custom paper types (custom 1 - custom 8) will be available for 2 sided copying.

1. Select "Select paper type (2 sided)" and press the [Change #] key.
2. Select one of the "custom" paper type settings ("custom 1" through "custom 8") and set "On" or "Off".

Select paper type (for used paper)

Sets whether or not the used paper function will be turned on for each custom type of paper (custom 1 - custom 8).

1. Select "Select paper (Used Paper)" ["Select 'used paper' type"] and press the [Change #] key.
2. Select one of the "custom" paper type settings ("custom 1" through "custom 8") and set "On" or "Off".

Auto shutoff time

Sets the auto shutoff time.

1. Select "Auto shut-off time" and press the [Change #] key.
2. Press the +/- keys to set the auto shutoff time.
Setting range: 15 to 240 minutes

Auto preheat time

Sets the auto preheat time.

1. Select "Auto preheat time" and press the [Change #] key.
2. Press the +/- keys to set the auto preheat time.
Setting range: 1 to 45 minutes
Note: Set the auto preheat time to be shorter than the auto shutoff time.

Copy eject location setting

Sets the copy eject location when a finisher and a multi-job tray are installed.

1. Select "Select Copy output mode" and press the [Change #] key.
2. Select the eject location.

Key sound

Sets if a beep sounds when a key on the key press panel is pressed.

1. Select "Key sound ON/OFF" and press the [Change #] key.
2. Select "On" or "Off".

Silent mode

Selects whether or not to enter silent mode after copying.

1. Select "Silent Mode" and press the [Change #] key.
2. Select "On" or "Off".

Day & time

Sets the current date and time.

1. Select "Day & time" and press the [Change #] key.
2. Press the +/- keys to set the year, month, day, hour, and minute respectively.

Time difference

Sets the time difference.

1. Select "Time difference" and press the [Change #] key.
2. Press the +/- keys to set the time difference.
Setting range: +12:00 to -12:00

Management code change

Changes the management code.

1. Select "Management code change" and press the [Change #] key.
2. Enter the 4-digit management code using the numeric keys and press the enter key.

Auto shutoff

Sets whether the auto shutoff function is available.

1. Select "Auto shut-off" and press the [Change #] key.
2. Select "On" or "Off".

(6) Bypass setting

Paper size and paper type settings

Sets the paper size and paper type for the bypass settings.

When using special papers such as transparency, cards, and postcards, be sure to set the paper type to prevent faulty transfer and faulty fixing.

1. To enable the auto paper size detection, press the [Auto Detection] key and select "Centimeter" or "Inch".

To set a custom size, press the [Input size] key and press the +/- keys to set the paper size.

Setting range: Width: 3 7/8" - 11 5/8" (inch specifications)

Length: 5 7/8" - 17"

Width: 98 - 297 mm (metric specifications)

Length: 148 - 432 mm

2. Press the [Select paper type] key.
3. Select the paper type.
4. Press the [Close] key.

Other standard size setting

Sets a special standard size.

1. Press the [Others standard] key.
2. Press the [Select size] key.
3. Select the paper size.
4. Press the [Close] key.

(7) Document management default setting

Document list print out

Prints out each job list.

1. Press the function key to print out the document list you want.

Reset box

Prints out each job list.

1. Press the function key to delete all data you don't want.
2. Press the [Yes] key.

Box name setting

Sets the name of synergy print box.

1. Press the [Box editing] key.
2. Select the desired box.
3. Press the [Change #] key.
4. Enter the box name.
5. Press the [End] key.
6. Press the [Yes] key.
7. Press the [Close] key.
8. Press the [Job cancel] key.

Box password setting

Sets the password for the synergy print box.

1. Press the [Box editing] key.
2. Select the desired box.
3. Select "Password" and press the [Change #] key.
4. Enter the password and press the [Close] key.
5. Press the [Close] key.
6. Press the [Job cancel] key.

Box data deletion

Deletes the data in the synergy print box.

1. Press the [Box editing] key.
2. Select the desired box.
3. Press the [Reset Box] key.
4. Press the [Yes] key.
5. Press the [Close] key.
6. Press the [Job cancel] key.

Duration to save document data setting

Sets the duration to save the document data in the synergy print box.

1. Press the [Document data saving term] ([Document data save period]) key.
2. Press the +/- keys to set the duration.
Setting range: 1 to 7 days
To save documents with no specific duration, press the [Save without duration] key.
3. Press the [Close] key.

(8) Hard disk management

Deletes the invalid data in the hard disk.

1. Press the [On] key.
2. Press the [Close] key.

(9) Report

Outputs the setting reports.

1. Press the [Print form] key.
2. Select the report.
Copy report/Option report/Counter report/
Machine report

(10) Language

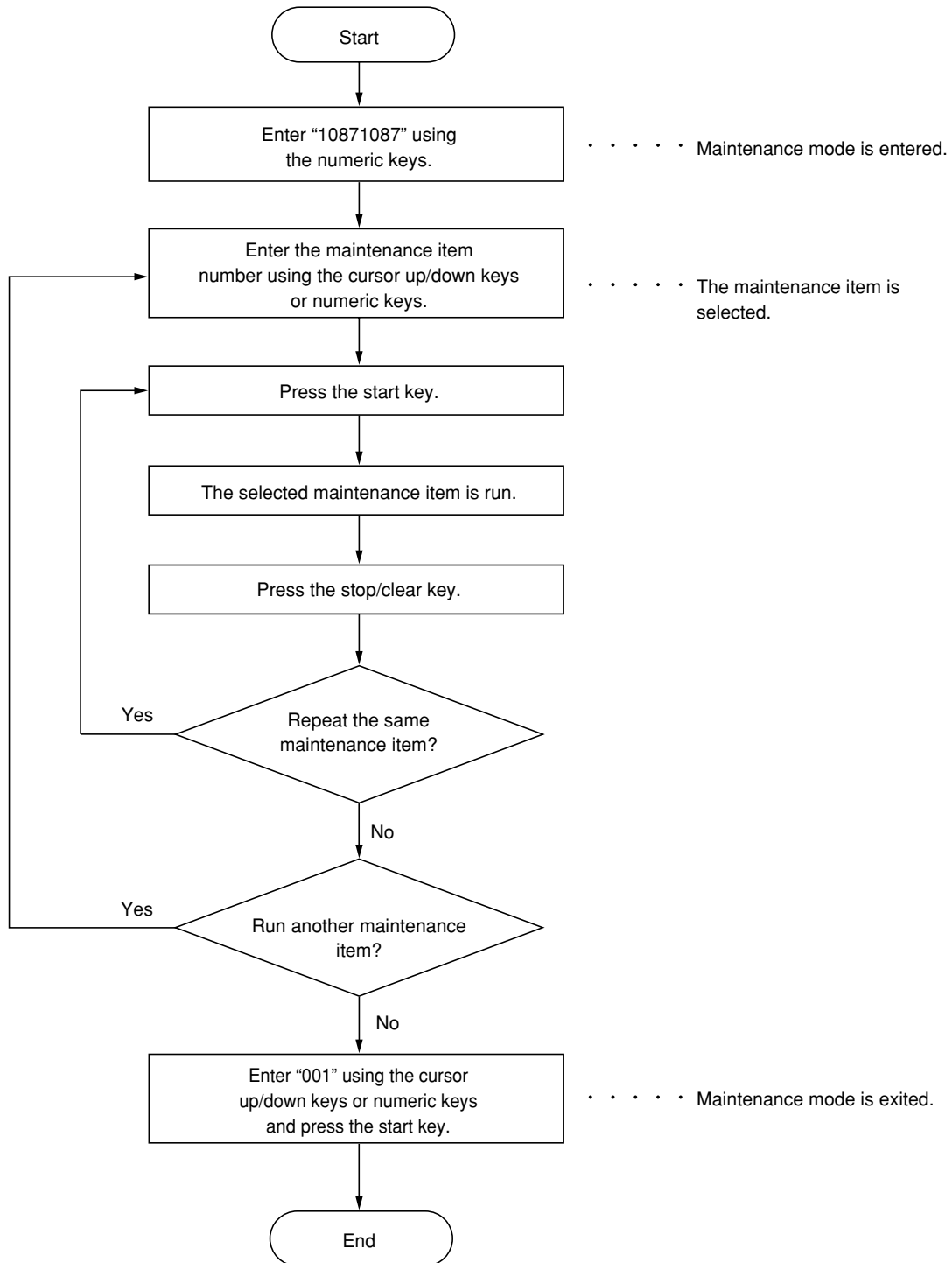
Switches the language to be displayed on the press panel.

1. Press the [Language] key.
2. Select the display language.

1-4-2 Maintenance mode

The copier is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item



(2) Maintenance mode item list

Section	Item No.	Maintenance item contents	Initial setting*
General	U000	Outputting an own-status report	—
	U001	Exiting the maintenance mode	—
	U002	Setting the factory default data	—
	U003	Setting the service telephone number	*****
	U004	Setting the machine number	000000
	U005	Copying without paper	—
	U018	Displaying the ROM checksum	—
	U019	Displaying the ROM version	—
Initialization	U020	Initializing all data	—
	U021	Initializing all memory	—
	U022	Initializing backup memory	—
	U024	HDD formatting	—
Drive, paper feed, paper conveying and cooling system	U030	Checking motor operation	—
	U031	Checking switches for paper conveying	—
	U032	Checking clutch operation	—
	U033	Checking solenoid operation	—
	U034	Setting paper timing • Leading edge registration/Leading edge registration for duplex copying • Center line/Center line for duplex copying	-5.5/0 -1.2/0
	U035	Setting folio size • Length • Width	330 210
	U037	Checking fan motor operation	—
	U050	Setting the switchback drive • Duplex forwarding clutch-off timing • Duplex forwarding clutch-off timing (for 11" × 17" copy paper only) • Duplex reversing clutch-on timing • Duplex reversing clutch-off timing	100 75 50 120
	U051	Adjusting the amount of slack in the paper • Drawer feed • Bypass feed • Duplex feed	15 -15 10
	U053	Adjusting motor speed standard • Drive motor speed adjustment • Paper conveying motor speed adjustment • Polygon motor speed adjustment	25 25 0
	U054	Adjusting the amount of slack in the paper	30
	U058	Setting of deck paper feed timing data	0/85/14
Optical	U060	Adjusting the scanner input properties	12
	U061	Turning the exposure lamp on	—
	U063	Adjusting the shading position	0
	U064	Adjusting the CCD level	9
	U065	Adjusting the scanner motor speed • Main scanning direction/auxiliary scanning direction	2/-2
	U066	Adjusting the leading edge registration for scanning an original on the contact glass • Leading edge registration/Leading edge registration for rotate copying	1/-8
	U067	Adjusting the center line for scanning an original on the contact glass • Center line/Center line for rotate copying	-18/-1

* Initial setting for factory default setting

Section	Item No.	Maintenance item contents	Initial setting*
Optical	U070	Adjusting the DF magnification	2
	U071	Adjusting the DF leading timing • DF leading edge registration • DF trailing edge registration	22 -23
	U072	Adjusting the DF original center line • 1 sided mode/front in 2 sided mode/rear in 2 sided mode	-25/-21/-25
	U073	Checking scanner motors	—
	U074	Executing DF automatic adjustment	—
	U080	Adjusting exposure in toner economy mode	-6
	U089	Outputting a MIP-PG pattern	—
	U091	Checking shading	—
	U092	Adjusting the scanner automatically	—
	U093	Setting the exposure density gradient • Text and photo/text/photo	0/0/0
	U099	Checking and setting the original size detection sensor	—
High voltage	U100	Checking the operation of main high voltage • Grid control voltage	115
	U101	Setting the other high voltages • Developing bias step control final voltage • Developing bias step control initial voltage • Transfer control voltage for simplex copying • Transfer control voltage for duplex copying	184 62 150 150
	U102	Setting the cleaning interval for the main charger	1
	U110	Checking/clearing the drum count	—
	U111	Checking/clearing the drum drive time	—
	Developing	U130	Initial setting for the developer
U131		Setting the toner sensor control voltage	128
U132		Replenishing toner forcibly	—
U135		Checking toner motors operation	—
U136		Turning the toner level detection function on/off	ON
U137		Checking the toner level detection sensor	—
U155		Displaying the toner sensor output	—
U156		Changing the toner control level • Toner control level • Difference between the toner control level and the toner empty level • Toner control reference voltage	141 30 102
U157		Checking/clearing the developing drive time	—
U158		Checking/clearing the developing count	—
Fixing and cleaning	U160	Applying toner to the cleaning blade	—
	U161	Setting the fixing control temperature • Control temperature during copying • Primary stabilization fixing temperature • Secondary stabilization fixing temperature • Aging time after secondary stabilization	195 165 190 90
	U162	Stabilizing fixing forcibly	—
	U163	Resetting the fixing problem data	—
	U194	Setting the fixing web drive	—
	U196	Turning the fixing heater on	—
	U198	Setting the fixing phase control	Inch: OFF Metric: ON

* Initial setting for factory default setting

Section	Item No.	Maintenance item contents	Initial setting*
Operation panel and support	U200	Turning all LEDs on	—
	U201	Initializing the touch panel	—
	U202	Setting the KMAS host monitoring system	—
	U203	Operating DF separately	—
	U204	Setting the presence or absence of a key card or key counter	OFF
	U206	Setting the presence or absence of the coin vender	—
	U207	Checking the operation panel keys	—
	U208	Setting the paper size for the deck	Inch: 11" × 8 ¹ / ₂ " Metric: A4
	U209	Setting date and time	—
	U212	Setting the deck lift operation	SIDE FEED
	U235	Setting output tray initialize mode	HP ON
	U240	Checking the operation of the finisher	—
	U241	Checking the operation of the switches of the finisher	—
	U243	Checking the operation of the DF motors, solenoids and clutch	—
	U244	Checking the DF switches	—
	U245	Checking messages	—
	U247	Setting the paper feed device	—
	U248	Setting the paper eject devices	—
Mode setting	U250	Setting the maintenance cycle	500000
	U251	Checking/clearing the maintenance count	0
	U252	Setting the destination	Inch
	U253	Switching between double and single counts	DOUBLE COUNT (A3/LEDGER)
	U254	Turning auto start function on/off	ON
	U255	Setting auto clear time	90
	U256	Turning auto preheat/energy saver function on/off	ON
	U258	Switching copy operation at toner empty detection	SINGLE/5
	U260	Changing the copy count timing	EJECT
	U263	Setting the paper ejection when copying from the DF	FACE-DOWN
	U264	Setting the display order of the date	Inch MONTH-DAY-YEAR Metric DAY-MONTH-YEAR
	U265	Setting OEM purchaser code	—
	U266	Setting the number of days after which to automatically delete documents	7
	U275	Setting the number of sheets for duplex circulation	MODE1
	U277	Setting auto application change time	30
	U330	Setting the number of sheets to enter stacking mode during sort operation	100
	U331	Switching the paper ejection mode	FACE UP
	U332	Setting the size conversion factor	1.0/1.0
	U335	Setting the drum heater mode	ON1
	U336	Setting the HDD type	0
U339	Setting the drawer heater mode	OFF	
U341	Specific paper feed location setting for printing function	—	
U342	Setting the ejection restriction	ON	
U343	Switching between duplex/simplex copy mode	OFF	
U344	Setting preheat/energy saver mode	ENERGY STAR	
U345	Setting the value for maintenance due indication	—	
U347	Setting auto drawer size detection	ON (inch), OFF(metric)	

* Initial setting for factory default setting

Section	Item No.	Maintenance item contents	Initial setting*
Printer	U350	Setting the ID-code error output	OFF
	U355	Setting the output mode for face up output	FIRST PRINT
Image processing	U402	Adjusting margins of image printing	—
	U403	Adjusting margins for scanning an original on the contact glass	—
	U404	Adjusting margins for scanning an original from the DF	—
	U407	Adjusting the leading edge registration for memory image printing	0
Network scanner	U504	Initializing the scanner NIC	—
	U505	Setting Data Base Assistant	ON
Others	U901	Checking/clearing copy counts by paper feed locations	—
	U903	Checking/clearing the paper jam counts	—
	U904	Checking/clearing the service call counts	—
	U905	Checking/clearing counts by optional devices	—
	U906	Resetting partial operation control	—
	U907	Checking and resetting the count value on each ejection location	—
	U908	Changing the total counter value	—
	U909	Checking/clearing the fixing web count	—
	U910	Clearing the black ratio data	—
	U911	Checking/clearing copy counts by paper sizes	—
	U922	Checking/clearing the solenoid count value	—
	U960	Outputting the machine used circumstances list	—
	U989	HDD Scandisk	—
	U990	Checking/clearing the time for the exposure lamp to light	—
	U991	Checking/clearing the scanner count	—
	U992	Checking or clearing the printer count	

* Initial setting for factory default setting

(3) Contents of maintenance mode items

Maintenance item No.	Description								
U000	<p>Outputting an own-status report</p> <p>Description Outputs lists of the current settings of the maintenance items, and paper jam and service call occurrences.</p> <p>Purpose To check the current setting of the maintenance items, or paper jam or service call occurrences. Before initializing or replacing the backup RAM, output a list of the current settings of the maintenance items to reenter the settings after initialization or replacement.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be output. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Output list</th> </tr> </thead> <tbody> <tr> <td>MAINTENANCE</td> <td>List of the current settings of the maintenance modes</td> </tr> <tr> <td>JAM</td> <td>List of the paper jam occurrences</td> </tr> <tr> <td>SERVICE CALL</td> <td>List of the service call occurrences</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The interrupt copy mode is entered and a list is output. When A4/11" × 8¹/₂" paper is available, a report of this size is output. If not, specify the paper feed location. When output is complete, the screen for selecting an item is displayed. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Output list	MAINTENANCE	List of the current settings of the maintenance modes	JAM	List of the paper jam occurrences	SERVICE CALL	List of the service call occurrences
Display	Output list								
MAINTENANCE	List of the current settings of the maintenance modes								
JAM	List of the paper jam occurrences								
SERVICE CALL	List of the service call occurrences								
U001	<p>Exiting the maintenance mode</p> <p>Description Exits the maintenance mode and returns to the normal copy mode.</p> <p>Purpose To exit the maintenance mode.</p> <p>Method Press the start key. The normal copy mode is entered.</p>								
U002	<p>Setting the factory default data</p> <p>Description Restores the machine conditions to the factory default settings.</p> <p>Purpose To reset the values such as an electronic counter. Also to move the mirror frame of the scanner to the position for transport (position in which the frame can be fixed).</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select a mode. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MODE1(ALL)</td> <td>To set the language to English and return the other settings to the factory default settings</td> </tr> <tr> <td>MODE2(SELECT)</td> <td>To return the settings to the factory default settings without changing the language</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The following count values are cleared. Developing count, service call count, each paper source count, and jam count Backup data of user simulation, etc. is reset to the default values for each destination. <p>Completion Turn the main switch off.</p>	Display	Description	MODE1(ALL)	To set the language to English and return the other settings to the factory default settings	MODE2(SELECT)	To return the settings to the factory default settings without changing the language		
Display	Description								
MODE1(ALL)	To set the language to English and return the other settings to the factory default settings								
MODE2(SELECT)	To return the settings to the factory default settings without changing the language								

Maintenance item No.	Description								
<p>U003</p>	<p>Setting the service telephone number</p> <p>Description Sets the telephone number to be displayed when a service call code is detected.</p> <p>Purpose To set the telephone number to call service when installing the machine.</p> <p>Method Press the start key. The currently set telephone number is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Enter a telephone number (up to 15 digits) using the numeric keys. <ul style="list-style-type: none"> To enter symbols such as hyphens and parentheses, select as required from the symbols displayed on the touch panel as shown below. To move the cursor, press LEFT or RIGHT in the bottom row. <table border="1"> <tr> <td style="text-align: center;">*</td> <td style="text-align: center;">#</td> </tr> <tr> <td style="text-align: center;">(</td> <td style="text-align: center;">)</td> </tr> <tr> <td style="text-align: center;">-</td> <td style="text-align: center;">(Space)</td> </tr> <tr> <td style="text-align: center;">LEFT</td> <td style="text-align: center;">RIGHT</td> </tr> </table> Press the start key. The phone number is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	*	#	()	-	(Space)	LEFT	RIGHT
*	#								
()								
-	(Space)								
LEFT	RIGHT								
<p>U004</p>	<p>Setting the machine number</p> <p>Description Displays and changes the machine number.</p> <p>Purpose To check or set the machine number.</p> <p>Method Press the start key. The currently set machine number is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Enter the last six digits of the machine number using the numeric key. Do not enter the first two digits, 3 and 7. Press the start key. The machine number is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								

Maintenance item No.	Description												
U005	<p>Copying without paper</p> <p>Description Simulates the copy operation without paper feed.</p> <p>Purpose To check the overall operation of the machine.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>PPC</td> <td>Only the copier operates.</td> </tr> <tr> <td>PPC + DF</td> <td>Both the copier and DF operate (continuous operation).</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the interrupt key. The copy mode screen is displayed. 4. Set the operation conditions required on the copy mode screen. Changes in the following settings can be made. <ul style="list-style-type: none"> • Paper feed locations • Magnifications • Simplex or duplex copy mode • Number of copies: in simplex copy mode, continuous copying is performed when set to 999; in duplex copy mode, continuous copying is performed regardless of the setting. • Copy density • Keys on the operation panel other than the energy saver (preheat) key 5. To control the paper feed pulley, remove all the paper in the drawers, or the drawers. With the paper present, the paper feed pulley does not operate. 6. Press the start key. The operation starts. Copy operation is simulated without paper under the set conditions. When operation is complete, the screen for selecting an item is displayed. 7. To stop continuous operation, press the stop/clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operation	PPC	Only the copier operates.	PPC + DF	Both the copier and DF operate (continuous operation).						
Display	Operation												
PPC	Only the copier operates.												
PPC + DF	Both the copier and DF operate (continuous operation).												
U018	<p>Displaying the ROM checksum</p> <p>Description Displays the checksum of ROM.</p> <p>Purpose To check the checksum.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. Program names for the copier and an optional finisher (when installed) are displayed. 2. Press the start key. The ROM checksum is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>Main PCB ROM checksum</td> </tr> <tr> <td>MMI</td> <td>Operation PCB ROM checksum</td> </tr> <tr> <td>LANGUAGE(Stand.)</td> <td>Standard language ROM checksum</td> </tr> <tr> <td>LANGUAGE(Optional)</td> <td>Optional language ROM checksum</td> </tr> <tr> <td>FINISHER</td> <td>Finisher main PCB ROM checksum</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MAIN	Main PCB ROM checksum	MMI	Operation PCB ROM checksum	LANGUAGE(Stand.)	Standard language ROM checksum	LANGUAGE(Optional)	Optional language ROM checksum	FINISHER	Finisher main PCB ROM checksum
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MMI	Operation PCB ROM checksum												
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LANGUAGE(Optional)	Optional language ROM checksum												
FINISHER	Finisher main PCB ROM checksum												

Maintenance item No.	Description																						
U019	<p>Displaying the ROM version</p> <p>Description Displays the part number of the ROM fitted to each PCB.</p> <p>Purpose To check the part number or to decide if the ROM version is new from the last digit of the number.</p> <p>Method Press the start key. The last six digits of the part number indicating the ROM version are displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>Main ROM IC</td> </tr> <tr> <td>MMI</td> <td>Operation ROM IC</td> </tr> <tr> <td>LANGUAGE(Stand.)</td> <td>Standard language ROM IC</td> </tr> <tr> <td>LANGUAGE(Optional)</td> <td>Optional language ROM IC</td> </tr> <tr> <td>MAIN BOOT</td> <td>Boot of main ROM IC</td> </tr> <tr> <td>MMI BOOT</td> <td>Boot of operation ROM IC</td> </tr> <tr> <td>PRINTER</td> <td>Optional printer ROM IC</td> </tr> <tr> <td>NETWORK SCANNER</td> <td>Optional network scanner ROM IC</td> </tr> <tr> <td>FINISHER</td> <td>Optional finisher ROM IC</td> </tr> <tr> <td>FINISHER BOOT</td> <td>Boot of optional finisher ROM IC</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MAIN	Main ROM IC	MMI	Operation ROM IC	LANGUAGE(Stand.)	Standard language ROM IC	LANGUAGE(Optional)	Optional language ROM IC	MAIN BOOT	Boot of main ROM IC	MMI BOOT	Boot of operation ROM IC	PRINTER	Optional printer ROM IC	NETWORK SCANNER	Optional network scanner ROM IC	FINISHER	Optional finisher ROM IC	FINISHER BOOT	Boot of optional finisher ROM IC
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FINISHER	Optional finisher ROM IC																						
FINISHER BOOT	Boot of optional finisher ROM IC																						
U020	<p>Initializing all data</p> <p>Description Initializes all the backup RAM on the main PCB to return to the original settings.</p> <p>Purpose Used when replacing the backup RAM on the main PCB.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. All data in the backup RAM is initialized, and the original settings for inch specifications are set. <p>When initialization is complete, the machine automatically returns to the same status as when the main switch is turned on and the display language to the initial setting of English.</p> <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																						
U021	<p>Initializing all memory</p> <p>Description Initializes the setting data other than that for adjustments due to variations between respective machines, i.e., settings for counters, service call history and mode settings. As a result, initializes the backup RAM according to the specifications depending on the destination selected in U252.</p> <p>Purpose Used to return the machine settings to the factory settings.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. All data other than that for adjustments due to variations between machines is initialized based on the destination setting. <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																						

Maintenance item No.	Description						
U022	<p>Initializing backup memory</p> <p>Description Initializes only the data set for the optical section.</p> <p>Purpose To be executed after replacing the scanner unit.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press SCANNER on the touch panel. 3. Press EXECUTE on the touch panel. It is displayed in reverse. 4. Press the start key. The data for the optical section (U060 to 067, U080 to 099, U403, U990 and U991) is initialized. <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
U024	<p>HDD formatting</p> <p>Description Formats the HDD backup data areas for the network scanner and department administration.</p> <p>Purpose To initialize the HDD when installing or replacing the HDD after shipping.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key to initialize the hard disk. The EXECUTE display flashes during initializing. Initialization results will be displayed when initializing is completed. 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
U030	<p>Checking motor operation</p> <p>Description Drives each motor.</p> <p>Purpose To check the operation of each motor.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the motor to be operated. The selected item is displayed in reverse and the operation starts. <table border="1"> <thead> <tr> <th>Display</th> <th>Motor</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>The drive motor operates and developing bias is applied. The paper conveying motor operates.</td> </tr> <tr> <td>FEED</td> <td>The paper feed motor operates.</td> </tr> </tbody> </table> 3. To stop operation, press the stop/clear key. <p>Completion Press the stop key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor	MAIN	The drive motor operates and developing bias is applied. The paper conveying motor operates.	FEED	The paper feed motor operates.
Display	Motor						
MAIN	The drive motor operates and developing bias is applied. The paper conveying motor operates.						
FEED	The paper feed motor operates.						

Maintenance item No.	Description																																
<p>U031</p>	<p>Checking switches for paper conveying</p> <p>Description Displays the on-off status of each paper detection switch on the paper path.</p> <p>Purpose To check if the switches for paper conveying operate correctly.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. A list of the switches, the on-off status of which can be checked, are displayed. 2. Turn each switch on and off manually to check the status. When the on-status of a switch is detected, that switch is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Switches</th> </tr> </thead> <tbody> <tr> <td>FEED A SW</td> <td>Paper feed switch 1 (PFSW1)</td> </tr> <tr> <td>FEED B SW</td> <td>Paper feed switch 2 (PFSW2)</td> </tr> <tr> <td>FEED C SW</td> <td>Paper feed switch 3 (PFSW3)</td> </tr> <tr> <td>FEED D SW</td> <td>Paper feed switch 4 (PFSW4)</td> </tr> <tr> <td>FEED E SW</td> <td>Paper feed switch 5 (PFSW5)</td> </tr> <tr> <td>FEED SW</td> <td>Feed switch (FSW)</td> </tr> <tr> <td>RESIST SW</td> <td>Registration switch (RSW)</td> </tr> <tr> <td>EJECT SW</td> <td>Eject switch (ESW)</td> </tr> <tr> <td>BRA1 SW</td> <td>Feed shift switch (FSSW)</td> </tr> <tr> <td>REV SW</td> <td>Switchback eject switch (SBESW)</td> </tr> <tr> <td>BRA3 SW</td> <td>Duplex feed shift switch (DUPFSSW)</td> </tr> <tr> <td>DUP SW</td> <td>Duplex jam detection switch (DUPJSW)</td> </tr> <tr> <td>DUP1 SW</td> <td>Duplex paper conveying switch 1 (DUPPCSW1)</td> </tr> <tr> <td>DUP2 SW</td> <td>Duplex paper conveying switch 2 (DUPPCSW2)</td> </tr> <tr> <td>DUP3 SW</td> <td>Duplex eject switch (DUPESW)</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	FEED A SW	Paper feed switch 1 (PFSW1)	FEED B SW	Paper feed switch 2 (PFSW2)	FEED C SW	Paper feed switch 3 (PFSW3)	FEED D SW	Paper feed switch 4 (PFSW4)	FEED E SW	Paper feed switch 5 (PFSW5)	FEED SW	Feed switch (FSW)	RESIST SW	Registration switch (RSW)	EJECT SW	Eject switch (ESW)	BRA1 SW	Feed shift switch (FSSW)	REV SW	Switchback eject switch (SBESW)	BRA3 SW	Duplex feed shift switch (DUPFSSW)	DUP SW	Duplex jam detection switch (DUPJSW)	DUP1 SW	Duplex paper conveying switch 1 (DUPPCSW1)	DUP2 SW	Duplex paper conveying switch 2 (DUPPCSW2)	DUP3 SW	Duplex eject switch (DUPESW)
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Maintenance item No.	Description																																		
U032	<p>Checking clutch operation</p> <p>Description Turns each clutch on.</p> <p>Purpose To check the operation of each clutch.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the clutch to be operated. The selected item is displayed in reverse, and the clutch turns on for 1 s. <table border="1"> <thead> <tr> <th>Display</th> <th>Clutches</th> </tr> </thead> <tbody> <tr> <td>SB FEED</td> <td>Bypass paper feed clutch (BYPPFCL)</td> </tr> <tr> <td>SB LIFT</td> <td>Bypass lift clutch (BYPLCL)</td> </tr> <tr> <td>PF D</td> <td>Upper paper feed clutch (PFCL-U)</td> </tr> <tr> <td>PF E</td> <td>Lower paper feed clutch (PFCL-L)</td> </tr> <tr> <td>LCF BCL</td> <td>Large paper deck conveying clutch (LPDCCL)</td> </tr> <tr> <td>LCF P1CL</td> <td>Large paper deck paper feed clutch 1 (LPDPFCL1)</td> </tr> <tr> <td>LCF P2CL</td> <td>Large paper deck paper feed clutch 2 (LPDPFCL2)</td> </tr> <tr> <td>FEED B</td> <td>Feed clutch 2 (FCL2)</td> </tr> <tr> <td>FEED C</td> <td>Feed clutch 3 (FCL3)</td> </tr> <tr> <td>FEED D</td> <td>Feed clutch 4 (FCL4)</td> </tr> <tr> <td>FEED E</td> <td>Feed clutch 5 (FCL5)</td> </tr> <tr> <td>FEED</td> <td>Feed clutch 1 (FCL1)</td> </tr> <tr> <td>RESIST</td> <td>Registration clutch (RCL)</td> </tr> <tr> <td>DUP FWD</td> <td>Duplex forwarding clutch (DUPFWDCL)</td> </tr> <tr> <td>DUP REV</td> <td>Duplex reversing clutch (DUPREVCL)</td> </tr> <tr> <td>TC BELT</td> <td>Transfer charger belt release clutch (TCBRCL)</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Clutches	SB FEED	Bypass paper feed clutch (BYPPFCL)	SB LIFT	Bypass lift clutch (BYPLCL)	PF D	Upper paper feed clutch (PFCL-U)	PF E	Lower paper feed clutch (PFCL-L)	LCF BCL	Large paper deck conveying clutch (LPDCCL)	LCF P1CL	Large paper deck paper feed clutch 1 (LPDPFCL1)	LCF P2CL	Large paper deck paper feed clutch 2 (LPDPFCL2)	FEED B	Feed clutch 2 (FCL2)	FEED C	Feed clutch 3 (FCL3)	FEED D	Feed clutch 4 (FCL4)	FEED E	Feed clutch 5 (FCL5)	FEED	Feed clutch 1 (FCL1)	RESIST	Registration clutch (RCL)	DUP FWD	Duplex forwarding clutch (DUPFWDCL)	DUP REV	Duplex reversing clutch (DUPREVCL)	TC BELT	Transfer charger belt release clutch (TCBRCL)
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U033	<p>Checking solenoid operation</p> <p>Description Turns each solenoid on.</p> <p>Purpose To check the operation of each solenoid.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the solenoid to be operated. The selected item is displayed in reverse, and the solenoid turns on for 1 s. <table border="1"> <thead> <tr> <th>Display</th> <th>Solenoids</th> </tr> </thead> <tbody> <tr> <td>BRANCH</td> <td>Feed shift solenoid (FSSOL)</td> </tr> <tr> <td>DUP FS</td> <td>Duplex eject switching solenoid (DUPESSOL)</td> </tr> <tr> <td>DUP PR</td> <td>Duplex pressure release solenoid (DUPPRSOL)</td> </tr> <tr> <td>SB SOL</td> <td>Bypass solenoid (BYSOL)</td> </tr> <tr> <td>FIX WEB SOL</td> <td>Fixing WEB solenoid (FWEBSOL)</td> </tr> <tr> <td>MSW OFF</td> <td>Main switch turns on</td> </tr> </tbody> </table> <p>Select MAIN SW SOL to check the operation of the main switch in auto shut off.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Solenoids	BRANCH	Feed shift solenoid (FSSOL)	DUP FS	Duplex eject switching solenoid (DUPESSOL)	DUP PR	Duplex pressure release solenoid (DUPPRSOL)	SB SOL	Bypass solenoid (BYSOL)	FIX WEB SOL	Fixing WEB solenoid (FWEBSOL)	MSW OFF	Main switch turns on																				
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U034	<p>Setting paper timing</p> <p>Adjustment See pages 1-6-17 and 19.</p>																																		

Maintenance item No.	Description																		
U035	<p>Setting folio size</p> <p>Description Changes the image area for copying onto folio size paper.</p> <p>Purpose To prevent the image at the trailing edge, or right or left side of the paper from not being copied by setting the actual size of the folio paper used.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. 2. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>LENGTH DATA</td> <td>Length</td> <td>330 to 356 mm</td> <td>330</td> </tr> <tr> <td>WIDTH DATA</td> <td>Width</td> <td>200 to 220 mm</td> <td>210</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Initial setting	LENGTH DATA	Length	330 to 356 mm	330	WIDTH DATA	Width	200 to 220 mm	210						
Display	Setting	Setting range	Initial setting																
LENGTH DATA	Length	330 to 356 mm	330																
WIDTH DATA	Width	200 to 220 mm	210																
U037	<p>Checking fan motor operation</p> <p>Description Applies power to each fan motor to turn on.</p> <p>Purpose To check the operation of each fan motor.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the desired fan motor to operate. The selected item is displayed in reverse and the operation starts. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Switches</th> </tr> </thead> <tbody> <tr> <td>S-BOX</td> <td>Optical section fan motor (OPFM)</td> </tr> <tr> <td>COOL</td> <td>Cooling fan motor (CFM)</td> </tr> <tr> <td>FIXING</td> <td>Fixing unit fan motor (FFM)</td> </tr> <tr> <td>MC</td> <td>Main charger fan motor (MCFM)</td> </tr> <tr> <td>LSU</td> <td>LSU fan motor (LSUFM)</td> </tr> <tr> <td>DUPLEX</td> <td>Duplex fan motor (DUPFM)</td> </tr> <tr> <td>EJECT</td> <td>Eject fan motor (EFM)</td> </tr> <tr> <td>BLOW</td> <td>Blow fan motors 1 and 2 (BFM1,2)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To stop operation, press the stop/clear key. <p>Completion Press the stop key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	S-BOX	Optical section fan motor (OPFM)	COOL	Cooling fan motor (CFM)	FIXING	Fixing unit fan motor (FFM)	MC	Main charger fan motor (MCFM)	LSU	LSU fan motor (LSUFM)	DUPLEX	Duplex fan motor (DUPFM)	EJECT	Eject fan motor (EFM)	BLOW	Blow fan motors 1 and 2 (BFM1,2)
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EJECT	Eject fan motor (EFM)																		
BLOW	Blow fan motors 1 and 2 (BFM1,2)																		
U050	<p>Setting the switchback drive</p> <p>Adjustment See page 1-6-72.</p>																		
U051	<p>Adjusting the amount of slack in the paper</p> <p>Adjustment See page 1-6-21.</p>																		

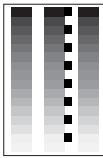


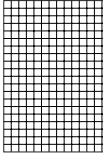
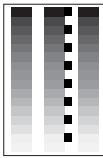


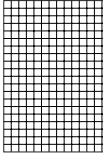
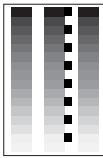


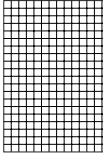
Maintenance item No.	Description																
U053	<p>Adjusting motor speed standard</p> <p>Description Performs fine adjustment of the speeds of the motors.</p> <p>Purpose Used to adjust the speed of the respective motors when the magnification is not correct.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. 2. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>MAIN MOTOR</td> <td>Drive motor speed adjustment</td> <td>0 to +49</td> <td>25</td> </tr> <tr> <td>CONV MOTOR</td> <td>Paper conveying motor speed adjustment</td> <td>0 to +49</td> <td>25</td> </tr> <tr> <td>POLYGON MOTOR</td> <td>Polygon motor speed adjustment</td> <td>-20 to +20</td> <td>0</td> </tr> </tbody> </table> <p>MAIN MOTOR /CONV MOTOR Increasing the setting makes the image longer in the auxiliary scanning direction, and decreasing it makes the image shorter in the auxiliary scanning direction.</p> <p>POLYGON MOTOR Increasing the setting makes the image longer in the main scanning direction and shorter in the auxiliary scanning direction; decreasing the setting makes the image shorter in the main scanning direction and longer in the auxiliary scanning direction.</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, a VTC pattern shown below is output in interrupt copy mode. Correct values for an A3/11" × 17" output are: A = 300 ± 1.5 mm B = 270 ± 1.0 mm</p> <div> <p>The diagram shows a rectangular VTC pattern with a grid of four squares. Dimension A is indicated by a vertical double-headed arrow on the right side, representing the height of the pattern. Dimension B is indicated by a horizontal double-headed arrow at the top, representing the width of the pattern.</p> </div> <p>Figure 1-4-1</p> <p>Adjustment</p> <ol style="list-style-type: none"> 1. Output an A3/11" × 17" VTC pattern in interrupt mode. 2. Measure A and B on the VTC pattern (Figure 1-4-1), and perform the following adjustments if they are different from the correct sizes: <ul style="list-style-type: none"> A: Drive motor speed adjustment B: Polygon motor speed adjustment <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	MAIN MOTOR	Drive motor speed adjustment	0 to +49	25	CONV MOTOR	Paper conveying motor speed adjustment	0 to +49	25	POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0
Display	Description	Setting range	Initial setting														
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CONV MOTOR	Paper conveying motor speed adjustment	0 to +49	25														
POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0														

Maintenance item No.	Description								
U054	<p>Adjusting the amount of slack in the paper</p> <p>Adjustment See page 1-6-22.</p>								
U058	<p>Setting of deck paper feed timing data</p> <p>Description Sets the timing of clutch ON/OFF in paper feeding from the large paper deck.</p> <p>Purpose To adjust the setting when improper conveying such as Z folds and no feeding due to excessive paper slack occurs.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>RIGHT P1CL ON</td> <td>To set the timing to turn on the large paper deck paper feed clutch 1 the moment the large paper deck conveying clutch is turned on in paper feeding from the right cassette.</td> </tr> <tr> <td>LEFT P1CL ON</td> <td>To set the timing to turn on the large paper deck paper feed clutch 1 the moment the large paper deck conveying clutch is turned on in paper feeding from the left cassette or in retry feeding.</td> </tr> <tr> <td>P1CL OFF</td> <td>To set the timing to turn off the large paper deck conveying clutch after the large paper deck paper path sensor 1 is turned off.</td> </tr> </tbody> </table> <p>Setting</p> <ol style="list-style-type: none"> Select the item to be set. The selecting item is displayed in reverse. Change the setting using the cursor up/down keys. Setting range: 1 to 100 Initial setting RIGHT P1CL ON: 0 , LEFT P1CL ON: 85, P1CL OFF: 14 A larger preset value advances the timing of ON or OFF and a smaller preset value delays the timing of ON or OFF. Press the start key. The value is set. <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	RIGHT P1CL ON	To set the timing to turn on the large paper deck paper feed clutch 1 the moment the large paper deck conveying clutch is turned on in paper feeding from the right cassette.	LEFT P1CL ON	To set the timing to turn on the large paper deck paper feed clutch 1 the moment the large paper deck conveying clutch is turned on in paper feeding from the left cassette or in retry feeding.	P1CL OFF	To set the timing to turn off the large paper deck conveying clutch after the large paper deck paper path sensor 1 is turned off.
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P1CL OFF	To set the timing to turn off the large paper deck conveying clutch after the large paper deck paper path sensor 1 is turned off.								
U060	<p>Adjusting the scanner input properties</p> <p>Description Adjusts the image scanning density in text, text and photo, or photo mode.</p> <p>Purpose Used when the entire image appears too dark or light.</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Image scanning density</td> <td>1 to +23</td> <td>12</td> </tr> </tbody> </table> <p>Increasing the setting makes the density lower, and decreasing it makes the density higher.</p> <ol style="list-style-type: none"> Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p> <p>Caution The following settings are also reset to the initial values by performing this maintenance item:</p> <ul style="list-style-type: none"> Exposure density gradient set in maintenance mode (U093) Exposure set in the copy default item of the copier management mode 	Description	Setting range	Initial setting	Image scanning density	1 to +23	12		
Description	Setting range	Initial setting							
Image scanning density	1 to +23	12							

Maintenance item No.	Description								
U061	<p>Turning the exposure lamp on</p> <p>Description Turns the exposure lamp on.</p> <p>Purpose To check the exposure lamp.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. The exposure lamp lights. 3. To turn the exposure lamp off, press the stop/clear key. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
U063	<p>Adjusting the shading position</p> <p>Description Changes the shading position.</p> <p>Purpose Used when white lines continue to appear longitudinally on the image after the shading plate is cleaned. This is due to flaws or stains inside the shading plate. To prevent this problem, the shading position should be changed so that shading is possible without being affected by the flaws or stains.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for adjustment is displayed. 2. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>Shading position</td> <td>-8 to +2</td> <td>0</td> <td>0.17 mm</td> </tr> </tbody> </table> <p>Increasing the setting moves the shading position toward the machine right, and decreasing it moves the position toward the machine left.</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Change in value per step	Shading position	-8 to +2	0	0.17 mm
Description	Setting range	Initial setting	Change in value per step						
Shading position	-8 to +2	0	0.17 mm						
U064	<p>Adjusting the CCD level</p> <p>Description Adjusts the CCD level.</p> <p>Purpose To adjust when density difference due to CCD is generated between both sides of the center of the copy image.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for adjustment is displayed. 2. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>CCD level</td> <td>7 to +11</td> <td>9</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	CCD level	7 to +11	9		
Description	Setting range	Initial setting							
CCD level	7 to +11	9							

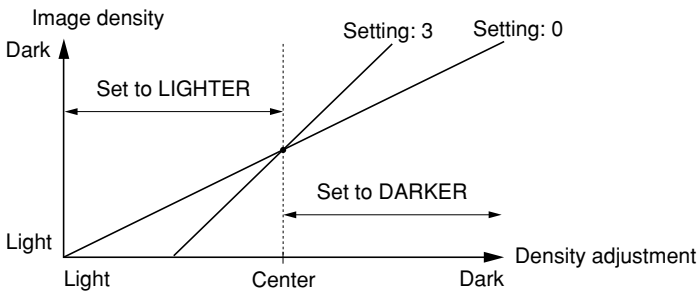
Maintenance item No.	Description																																												
U065	<p>Adjusting the scanner motor speed</p> <p>Adjustment See pages 1-6-39 and 40.</p>																																												
U066	<p>Adjusting the leading edge registration for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-42.</p>																																												
U067	<p>Adjusting the center line for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-41.</p>																																												
U070	<p>Adjusting the DF magnification</p> <p>Adjustment See pages 1-6-78.</p>																																												
U071	<p>Adjusting the DF leading timing</p> <p>Adjustment See page 1-6-80.</p>																																												
U072	<p>Adjusting the DF original center line</p> <p>Adjustment See page 1-6-79.</p>																																												
U073	<p>Checking scanner motors</p> <p>Description Simulates the scanner operation under arbitrary conditions.</p> <p>Purpose To check scanner operation.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be changed. The selected item is displayed in reverse. 3. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Display</th> <th style="text-align: center;">Operating conditions</th> <th style="text-align: center;">Setting range</th> </tr> </thead> <tbody> <tr> <td>ZOOM</td> <td>Magnification</td> <td>25 to 400%</td> </tr> <tr> <td>SIZE</td> <td>Original size</td> <td>See below.</td> </tr> <tr> <td>LAMP</td> <td>On and off of the exposure lamp</td> <td>0 (off) or 1 (on)</td> </tr> </tbody> </table> <p>Original sizes for each setting in SIZE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Setting</th> <th style="text-align: center;">Paper size</th> <th style="text-align: center;">Setting</th> <th style="text-align: center;">Paper size</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">8</td> <td>A4</td> <td style="text-align: center;">42</td> <td>A5R</td> </tr> <tr> <td style="text-align: center;">9</td> <td>B5</td> <td style="text-align: center;">47</td> <td>Folio</td> </tr> <tr> <td style="text-align: center;">24</td> <td>11" × 8¹/₂"</td> <td style="text-align: center;">52</td> <td>11" × 17"</td> </tr> <tr> <td style="text-align: center;">36</td> <td>A3</td> <td style="text-align: center;">53</td> <td>11" × 15"</td> </tr> <tr> <td style="text-align: center;">39</td> <td>B4</td> <td style="text-align: center;">55</td> <td>8¹/₂" × 14"</td> </tr> <tr> <td style="text-align: center;">40</td> <td>A4R</td> <td style="text-align: center;">56</td> <td>8¹/₂" × 11"</td> </tr> <tr> <td style="text-align: center;">41</td> <td>B5R</td> <td style="text-align: center;">58</td> <td>5¹/₂" × 8¹/₂"</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The setting is set. Scanning starts under the selected conditions. 5. To stop operation, press the stop/clear key. <p>Completion Press the stop/clear key when scanning stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operating conditions	Setting range	ZOOM	Magnification	25 to 400%	SIZE	Original size	See below.	LAMP	On and off of the exposure lamp	0 (off) or 1 (on)	Setting	Paper size	Setting	Paper size	8	A4	42	A5R	9	B5	47	Folio	24	11" × 8 ¹ / ₂ "	52	11" × 17"	36	A3	53	11" × 15"	39	B4	55	8 ¹ / ₂ " × 14"	40	A4R	56	8 ¹ / ₂ " × 11"	41	B5R	58	5 ¹ / ₂ " × 8 ¹ / ₂ "
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41	B5R	58	5 ¹ / ₂ " × 8 ¹ / ₂ "																																										

Maintenance item No.	Description																								
U074	<p>Executing DF automatic adjustment</p> <p>Description Uses a specified original and automatically adjusts the following items in the DF scanning section.</p> <ul style="list-style-type: none"> • Adjusting the DF magnification (U070) • Adjusting the DF scanning timing (U071) • Adjusting the DF center line (U072) • Adjusting the margins for scanning an original from the DF (U404) <p>When you run this maintenance mode, the preset values of U70, U071, U072, and U404 will also be updated.</p> <p>Purpose To perform automatic adjustment of various items in the DF scanning section.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Set a specified original (part number: 2AC68241) in the DF. 2. Press the start key. The screen for executing is displayed. 3. Press the start key. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CONVEY SPEED</td> <td>DF magnification in the auxiliary scanning direction</td> </tr> <tr> <td>LEAD EDGE ADJ</td> <td>DF leading edge registration</td> </tr> <tr> <td>TRAIL EDGE ADJ</td> <td>DF trailing edge registration</td> </tr> <tr> <td>ADJUST DATA</td> <td>DF original center line</td> </tr> <tr> <td> DATA (simplex)</td> <td></td> </tr> <tr> <td> DATA (duplex, front)</td> <td></td> </tr> <tr> <td> DATA (duplex, back)</td> <td></td> </tr> <tr> <td>DF A MARGIN</td> <td>DF scanning margin (A side)</td> </tr> <tr> <td>DF B MARGIN</td> <td>DF scanning margin (B side)</td> </tr> <tr> <td>DF C MARGIN</td> <td>DF scanning margin (C side)</td> </tr> <tr> <td>DF D MARGIN</td> <td>DF scanning margin (D side)</td> </tr> </tbody> </table> <p>If a problem occurs during auto adjustment, DATA: XX (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.</p> <p>Completion Press the stop/clear key after auto adjustment is complete. The screen for selecting a maintenance item is displayed. If the stop/clear key is pressed during auto adjustment, adjustment stops and no settings are changed.</p>	Display	Description	CONVEY SPEED	DF magnification in the auxiliary scanning direction	LEAD EDGE ADJ	DF leading edge registration	TRAIL EDGE ADJ	DF trailing edge registration	ADJUST DATA	DF original center line	DATA (simplex)		DATA (duplex, front)		DATA (duplex, back)		DF A MARGIN	DF scanning margin (A side)	DF B MARGIN	DF scanning margin (B side)	DF C MARGIN	DF scanning margin (C side)	DF D MARGIN	DF scanning margin (D side)
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DF C MARGIN	DF scanning margin (C side)																								
DF D MARGIN	DF scanning margin (D side)																								
U080	<p>Adjusting exposure in toner economy mode</p> <p>Description Adjusts the image density in the eco-print mode.</p> <p>Purpose To increase or decrease the image density in the eco-print mode.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Exposure in toner economy mode</td> <td>-12 to 0</td> <td>-6</td> </tr> </tbody> </table> <p>Increasing the setting makes the image darker; decreasing it makes the image lighter.</p> <ol style="list-style-type: none"> 2. Press the start key. The value is set. <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Exposure in toner economy mode	-12 to 0	-6																		
Description	Setting range	Initial setting																							
Exposure in toner economy mode	-12 to 0	-6																							

Maintenance item No.	Description																								
U089	<p>Outputting a MIP-PG pattern</p> <p>Description Selects and outputs the MIP-PG pattern created in the copier.</p> <p>Purpose When performing respective image printing adjustments, used to check the machine status apart from that of the scanner with a non-scanned output MIP-PG pattern.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the MIP-PG pattern to be output. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: center;">PG pattern to be output</th> <th style="text-align: left;">Purpose</th> </tr> </thead> <tbody> <tr> <td>GRAYSCALE</td> <td style="text-align: center;"></td> <td>To check the laser scanner unit engine output characteristics.</td> </tr> <tr> <td>MONO-LEVEL</td> <td style="text-align: center;"></td> <td>To check the drum quality.</td> </tr> <tr> <td>256-LEVEL</td> <td style="text-align: center;"></td> <td>To check resolution reproducibility in printing.</td> </tr> <tr> <td>1 DOT-LINE</td> <td style="text-align: center;"></td> <td>To check fine line reproducibility. To adjust the position of the laser scanner unit (lateral squareness)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To change the output conditions of MONO-LEVEL and 1dot-LINE, use the cursor up/down keys to change the preset values and press the Start key to register the setting. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Output density of MONO-LEVEL</td> <td>0 or 70</td> <td>0</td> </tr> <tr> <td>1dot-LINE</td> <td>0 to 21</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the interrupt key. The copy mode screen is displayed. 5. Press the start key. A MIP-PG pattern is output. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.</p>	Display	PG pattern to be output	Purpose	GRAYSCALE		To check the laser scanner unit engine output characteristics.	MONO-LEVEL		To check the drum quality.	256-LEVEL		To check resolution reproducibility in printing.	1 DOT-LINE		To check fine line reproducibility. To adjust the position of the laser scanner unit (lateral squareness)	Display	Setting range	Initial setting	Output density of MONO-LEVEL	0 or 70	0	1dot-LINE	0 to 21	0
Display	PG pattern to be output	Purpose																							
GRAYSCALE		To check the laser scanner unit engine output characteristics.																							
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Output density of MONO-LEVEL	0 or 70	0																							
1dot-LINE	0 to 21	0																							

Maintenance item No.	Description						
<p>U091</p>	<p>Checking shading</p> <p>Description Performs scanning under the same conditions as before and after shading is performed, displaying the original scanning values at nine points of the contact glass.</p> <p>Purpose To check the change in original scanning values before and after shading. The results may be used to decide the causes for fixing unevenness (uneven density) of the gray area of an image: either due to optical (shading or CCD) or other problems. Also to check the causes for a white or black line appearing longitudinally.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SHD BEFORE</td> <td>Performs scanning before shading and displays the result.</td> </tr> <tr> <td>SHD AFTER</td> <td>Performs scanning after shading and displays the result.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. Scanning is performed under the selected conditions and the result is displayed. When scanning is performed before shading, the scan value at the machine center should be slightly different from those at the machine front and rear. When scanning is performed after shading, there should be no difference between respective values. Any differences between the values at machine front and rear indicates that scanner problem causes the fixing unevenness. If the displayed results indicate no shading problems, the fixing unevenness (uneven copy density) is caused by factors other than in the scanner section (shading or CCD). If a black line appears, the cause may assumed to be based on the results of the scanning operation before shading: if a white line appears, they may be assumed based on the results of the scanning operation after shading. Note that depending on the thickness and location of the black or white line, it may not be possible to use this method to determine the cause. This is because the displayed values obtained from scanning at the limit of nine points are insufficient to provide significant information. <div style="text-align: center;"> <p>20 mm from the machine left — ① ② ③</p> <p>200 mm from the machine left — ④ ⑤ ⑥</p> <p>400 mm from the machine left — ⑦ ⑧ ⑨</p> <p>100 mm from the machine center toward machine front Machine center 100 mm from the machine center toward machine rear</p> </div> <p style="text-align: center;">Figure 1-4-2</p> <ol style="list-style-type: none"> 4. To return to the screen for selecting an item, press the stop/clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for entering a maintenance item is displayed.</p>	Display	Description	SHD BEFORE	Performs scanning before shading and displays the result.	SHD AFTER	Performs scanning after shading and displays the result.
Display	Description						
SHD BEFORE	Performs scanning before shading and displays the result.						
SHD AFTER	Performs scanning after shading and displays the result.						

Maintenance item No.	Description																		
<p>U092</p>	<p>Adjusting the scanner automatically</p> <p>Description Makes auto scanner adjustments in the order below using the specified original.</p> <ul style="list-style-type: none"> • Adjusting the scanner center line (U067) • Adjusting the scanner magnification in the main direction(U065) • Adjusting the scanner leading edge registration (U066) • Adjusting the scanner magnification in the auxiliary direction (U065) • Adjusting the margins for scanning an original on the contact glass (U403) <p>When this maintenance item is performed, the settings in U065, U066 and U067 are also changed.</p> <p>Purpose Used to make respective auto adjustments for the scanner.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Place the specified original (P/N: 2A068020) on the contact glass. 2. Press the start key. The screen for executing is displayed. 3. Press the start key. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCAN CENTER</td> <td>Scanner center line</td> </tr> <tr> <td>SCAN TIMING</td> <td>Scanner leading registration</td> </tr> <tr> <td>SUB SCAN</td> <td>Scanner magnification in the auxiliary direction</td> </tr> <tr> <td>MAIN SCAN</td> <td>Scanner magnification in the main scanning direction</td> </tr> <tr> <td>SCAN A MARGIN</td> <td>Scanner reading margin (A side)</td> </tr> <tr> <td>SCAN B MARGIN</td> <td>Scanner reading margin (B side)</td> </tr> <tr> <td>SCAN C MARGIN</td> <td>Scanner reading margin (C side)</td> </tr> <tr> <td>SCAN D MARGIN</td> <td>Scanner reading margin (D side)</td> </tr> </tbody> </table> <p>If a problem occurs during auto adjustment, DATA: XX (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.</p> <p>Completion Press the stop/clear key after auto adjustment is complete. The screen for selecting a maintenance item No. is displayed. If the stop/clear key is pressed during auto adjustment, adjustment stops and no settings are changed.</p>	Display	Description	SCAN CENTER	Scanner center line	SCAN TIMING	Scanner leading registration	SUB SCAN	Scanner magnification in the auxiliary direction	MAIN SCAN	Scanner magnification in the main scanning direction	SCAN A MARGIN	Scanner reading margin (A side)	SCAN B MARGIN	Scanner reading margin (B side)	SCAN C MARGIN	Scanner reading margin (C side)	SCAN D MARGIN	Scanner reading margin (D side)
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SCAN C MARGIN	Scanner reading margin (C side)																		
SCAN D MARGIN	Scanner reading margin (D side)																		

Maintenance item No.	Description																				
<p>U093</p>	<p>Setting the exposure density gradient</p> <p>Description Changes the exposure density gradient in manual density mode, depending on respective image modes (text, text and photo, photo).</p> <p>Purpose To set how the image density is altered by a change of one step in the manual density adjustment. Also used to make copy image darker or lighter.</p> <p>Start</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the image mode to be adjusted and press the start key. The screen for the selected item is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MIXED</td> <td>Density in text and photo mode</td> </tr> <tr> <td>TEXT</td> <td>Density in text mode</td> </tr> <tr> <td>PHOTO</td> <td>Density in photo mode</td> </tr> </tbody> </table> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be adjusted. The selected item is displayed in reverse. 2. Adjust the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>DARKER</td> <td>Change in density when manual density is set dark</td> <td>0 to 3</td> <td>0</td> </tr> <tr> <td>LIGHTER</td> <td>Change in density when manual density is set light</td> <td>0 to 3</td> <td>0</td> </tr> </tbody> </table> <p>Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.</p>  <p>Figure 1-4-3 Exposure density gradient</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MIXED	Density in text and photo mode	TEXT	Density in text mode	PHOTO	Density in photo mode	Display	Description	Setting range	Initial setting	DARKER	Change in density when manual density is set dark	0 to 3	0	LIGHTER	Change in density when manual density is set light	0 to 3	0
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LIGHTER	Change in density when manual density is set light	0 to 3	0																		

Maintenance item No.	Description																										
<p>U099</p>	<p>Checking and setting the original size detection sensor</p> <p>Description Checks the operation of the original size detection sensor and sets the sensing threshold value.</p> <p>Purpose To adjust the sensitiveness of the sensor and size judgement time if the original size detection sensor malfunctions frequently due to incident light or the like.</p> <p>Start</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select an item and press the start key. The screen for executing each item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>DATA</td> <td>Displaying detection sensor transmission data</td> </tr> <tr> <td>B/W LEVEL</td> <td>Setting detection sensor threshold value Setting original size judgment time</td> </tr> </tbody> </table> <p>Method to display the data for the sensor</p> <ol style="list-style-type: none"> 1. Press the start key. The detection sensor transmission data is displayed. <div style="text-align: center; margin: 10px 0;"> <p style="margin: 0;">Rear of machine — : 123 123 123</p> <p style="margin: 0;">Center of machine — : 123 123 123</p> <p style="margin: 0;">Front of machine — : 255 255 255</p> </div> <p style="text-align: center;">Figure 1-4-4</p> <ol style="list-style-type: none"> 2. To return to the screen for selecting an item, press the stop/clear key. <p>Setting</p> <ol style="list-style-type: none"> 1. Select an item to be set. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>LEVEL</td> <td>Detection sensor threshold value</td> <td>0 to 255</td> <td>170</td> </tr> <tr> <td>WAIT TIME</td> <td>Original size judgment time*</td> <td>0 to 100</td> <td>50</td> </tr> <tr> <td>ORIG. AREA</td> <td>Original size detection position display (mm)</td> <td>—</td> <td>—</td> </tr> <tr> <td>SIZE</td> <td>Detected original size display</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <p style="margin-left: 20px;">Time from activation of the original detection switch (ODSW) to original size judgment</p> <p>Method to set the detection threshold value</p> <ol style="list-style-type: none"> 1. Adjust the preset value using the cursor up/down keys. A larger value increases the sensor sensitivity, and a smaller value decreases it. 2. Press the start key. The value is set. 3. To return to the screen for selecting an item, press the stop/clear key. <p>Method to set the original size judgment time</p> <ol style="list-style-type: none"> 1. Adjust the preset value using the cursor up/down keys. A larger value increases the original size judgment time, and a smaller value decreases it. 2. Press the start key. The value is set. 3. To return to the screen for selecting an item, press the stop/clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.</p>	Display	Description	DATA	Displaying detection sensor transmission data	B/W LEVEL	Setting detection sensor threshold value Setting original size judgment time	Display	Description	Setting range	Initial setting	LEVEL	Detection sensor threshold value	0 to 255	170	WAIT TIME	Original size judgment time*	0 to 100	50	ORIG. AREA	Original size detection position display (mm)	—	—	SIZE	Detected original size display	—	—
Display	Description																										
DATA	Displaying detection sensor transmission data																										
B/W LEVEL	Setting detection sensor threshold value Setting original size judgment time																										
Display	Description	Setting range	Initial setting																								
LEVEL	Detection sensor threshold value	0 to 255	170																								
WAIT TIME	Original size judgment time*	0 to 100	50																								
ORIG. AREA	Original size detection position display (mm)	—	—																								
SIZE	Detected original size display	—	—																								

Maintenance item No.	Description																
U100	<p>Checking the operation of main high voltage</p> <p>Description Changes the surface potential by changing the grid control voltage. Also performs main charging.</p> <p>Purpose To set the surface potential or check main charging.</p> <p>Start Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DSP DATA</td> <td>Changing the grid control voltage</td> </tr> <tr> <td>MC ON</td> <td>Turning the main charger on</td> </tr> <tr> <td>MC ON/OFF</td> <td>Turning the main charger on and off</td> </tr> <tr> <td>LASER ON/OFF</td> <td>Turning the main charger on and the laser scanner unit on and off</td> </tr> </tbody> </table> <p>Method for main charger output</p> <ol style="list-style-type: none"> 1. Select the main charger output on the screen for selecting an item: select one from MC ON, MC ON/OFF or LASER ON/OFF on the touch panel. The selected operation starts. 2. To stop operation, press the stop/clear key. <p>Setting the grid control voltage</p> <ol style="list-style-type: none"> 1. Press the DSP DATA on the touch panel of the screen for selecting an item. 2. Change the setting using the * or # keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Grid control voltage</td> <td>77 to 230</td> <td>115</td> </tr> </tbody> </table> <p>Increasing the setting makes the surface potential higher, and decreasing it makes the potential lower. Change in value per step: approximately 3.6 V</p> <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for selecting an item when main charger output stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	DSP DATA	Changing the grid control voltage	MC ON	Turning the main charger on	MC ON/OFF	Turning the main charger on and off	LASER ON/OFF	Turning the main charger on and the laser scanner unit on and off	Description	Setting range	Initial setting	Grid control voltage	77 to 230	115
Display	Description																
DSP DATA	Changing the grid control voltage																
MC ON	Turning the main charger on																
MC ON/OFF	Turning the main charger on and off																
LASER ON/OFF	Turning the main charger on and the laser scanner unit on and off																
Description	Setting range	Initial setting															
Grid control voltage	77 to 230	115															

Maintenance item No.	Description																																		
U101	<p>Setting the other high voltages</p> <p>Description Sets the developing bias control voltage, the transfer control voltage, and the separation control voltage or checks the output of these voltages.</p> <p>Purpose To check or change the developing bias, the transfer voltage, and the separation voltage.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DEV BIAS SET</td> <td>Setting of developing bias control voltage</td> </tr> <tr> <td>TC SET</td> <td>Setting and output check of transfer control voltage</td> </tr> </tbody> </table> <p>Setting: developing bias control voltage</p> <ol style="list-style-type: none"> Press the DEV BIAS SET on the touch panel of the screen for selecting an item. Select an item to be set. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>DB DATA</td> <td>Developing bias step control final voltage</td> <td>0 to 255</td> <td>184</td> </tr> <tr> <td>DB DATA2</td> <td>Developing bias step control initial voltage</td> <td>0 to 255</td> <td>62</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Change the setting using the cursor up/down keys. Increasing the setting makes the image darker; decreasing it makes the image lighter. Press the start key. The value is set. <p>Setting: transfer bias control voltage</p> <ol style="list-style-type: none"> Press the TC SET on the touch panel of the screen for selecting an item. Select an item to be set. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>TC DATA</td> <td>Transfer control voltage for simplex copying</td> <td>0 to 255</td> <td>150</td> </tr> <tr> <td>TC DATA (DUP)</td> <td>Transfer control voltage for duplex copying</td> <td>0 to 255</td> <td>150</td> </tr> <tr> <td>TC ON</td> <td>Transfer voltage output ON</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Change the setting using the * or # keys. Increasing the setting makes the transfer voltage higher, and decreasing it makes the voltage lower. Press the TC ON on the touch panel. The currently set transfer voltage is output. To stop the transfer voltage output, press the stop/clear key. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.</p>	Display	Description	DEV BIAS SET	Setting of developing bias control voltage	TC SET	Setting and output check of transfer control voltage	Display	Description	Setting range	Initial setting	DB DATA	Developing bias step control final voltage	0 to 255	184	DB DATA2	Developing bias step control initial voltage	0 to 255	62	Display	Description	Setting range	Initial setting	TC DATA	Transfer control voltage for simplex copying	0 to 255	150	TC DATA (DUP)	Transfer control voltage for duplex copying	0 to 255	150	TC ON	Transfer voltage output ON	—	—
Display	Description																																		
DEV BIAS SET	Setting of developing bias control voltage																																		
TC SET	Setting and output check of transfer control voltage																																		
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TC DATA	Transfer control voltage for simplex copying	0 to 255	150																																
TC DATA (DUP)	Transfer control voltage for duplex copying	0 to 255	150																																
TC ON	Transfer voltage output ON	—	—																																

Maintenance item No.	Description						
U102	<p>Setting the cleaning interval for the main charger</p> <p>Description Executes a cleaning operation for the main charger and changes the intervals at which the main charger is cleaned.</p> <p>Purpose To check the cleaning operation for the main charger. Also to change the intervals for the operation. Making the intervals longer decreases the stand-by time when starting copying.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MC ADJUST DATA</td> <td>Main charger cleaning operation intervals</td> </tr> <tr> <td>MC TEST RUN</td> <td>Main charger cleaning operation ON</td> </tr> </tbody> </table> <p>Setting</p> <ol style="list-style-type: none"> Change the setting using the * or # keys. Setting range: 1 to 2 (unit: 1,000 sheets) Initial setting: 1 If you select MC TEST RUN, the main charger cleaning operation will be performed once. Press the start key. The value is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MC ADJUST DATA	Main charger cleaning operation intervals	MC TEST RUN	Main charger cleaning operation ON
Display	Description						
MC ADJUST DATA	Main charger cleaning operation intervals						
MC TEST RUN	Main charger cleaning operation ON						
U110	<p>Checking/clearing the drum count</p> <p>Description Displays the drum counts for checking, clearing or changing the figure, which is used as a reference when correcting the main charger potential output.</p> <p>Purpose To check the drum status. Also used to clear the count after replacing the drum during regular maintenance. Since the count was cleared before shipping, do not clear it when installing.</p> <p>Method Press the start key. The drum counter count is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> Press the CLEAR on the touch panel. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> Enter a six-digit count using the numeric keys. Press the start key. The count is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit the maintenance mode without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						

Maintenance item No.	Description
U111	<p>Checking/clearing the drum drive time</p> <p>Description Displays the drum drive time for checking, clearing or changing a figure, which is used as a reference when correcting the high voltage based on time.</p> <p>Purpose To check the drum status. Also used to clear the drive time after replacing the drum.</p> <p>Method Press the start key. The drum drive time is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The drive time is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a five-digit drive time using the numeric keys. 2. Press the start key. The drive time is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit the maintenance mode without changing the drive time, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description										
U130	<p>Initial setting for the developer</p> <p>Description Automatically sets the toner sensor control voltage and toner feed start level for the installed developer.</p> <p>Purpose To set the initial settings for the developer when installing the machine or replacing the developer.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. The initial settings for the developer is set, and the result is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT</td> <td>Toner sensor output value</td> </tr> <tr> <td>CONTROL</td> <td>Toner sensor control voltage</td> </tr> <tr> <td>FIRST TARGET</td> <td>Toner feed start level</td> </tr> <tr> <td>HUMID</td> <td>Absolute humidity</td> </tr> </tbody> </table> <p>Supplement The following data is also renewed or cleared by performing this maintenance item:</p> <ul style="list-style-type: none"> • Renewing the toner sensor control voltage (U131) • Renewing the toner feed start level (U156) • Clearing the developing drive time (U157) • Clearing the developing count (U158) • Resetting the toner feed start level and toner empty detection <p>Completion Press the stop/clear key after initial setting is complete. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INPUT	Toner sensor output value	CONTROL	Toner sensor control voltage	FIRST TARGET	Toner feed start level	HUMID	Absolute humidity
Display	Description										
INPUT	Toner sensor output value										
CONTROL	Toner sensor control voltage										
FIRST TARGET	Toner feed start level										
HUMID	Absolute humidity										
U131	<p>Setting the toner sensor control voltage</p> <p>Description Displays or changes the toner sensor control voltage automatically set in maintenance item U130.</p> <p>Purpose To check the automatically set toner sensor control voltage. Also to change the toner density if an image is too dark or light.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Adjust the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Toner sensor control voltage</td> <td>0 to 255</td> <td>128</td> </tr> </tbody> </table> <p>Increasing the setting makes the density higher, and decreasing it makes the density lower. Increasing the setting too high may result in toner scattering.</p> <ol style="list-style-type: none"> 2. Press the start key. The value is set. <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Toner sensor control voltage	0 to 255	128				
Description	Setting range	Initial setting									
Toner sensor control voltage	0 to 255	128									

Maintenance item No.	Description										
<p>U132</p>	<p>Replenishing toner forcibly</p> <p>Description Replenishes toner forcibly until the toner sensor output value reaches the toner feed start level.</p> <p>Purpose Used when the toner empty is detected frequently.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. Operation starts, and the current data is displayed. Toner is replenished until the toner sensor output value reaches the toner feed start level. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>INPUT</td> <td>Toner sensor output value after start key is pressed</td> </tr> <tr> <td>CONTROL</td> <td>Current toner feed start level</td> </tr> <tr> <td>TARGET</td> <td>Current toner sensor control voltage</td> </tr> <tr> <td>HUMID</td> <td>Absolute humidity</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To stop operation, press the stop/clear key. <p>Completion Press the stop/clear key when toner replenishment stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INPUT	Toner sensor output value after start key is pressed	CONTROL	Current toner feed start level	TARGET	Current toner sensor control voltage	HUMID	Absolute humidity
Display	Description										
INPUT	Toner sensor output value after start key is pressed										
CONTROL	Current toner feed start level										
TARGET	Current toner sensor control voltage										
HUMID	Absolute humidity										
<p>U135</p>	<p>Checking toner motors operation</p> <p>Description Drives the toner motor.</p> <p>Purpose To check the operation of the toner motor.</p> <p>Caution Note that driving the motor unnecessarily long may cause a toner jam, resulting in machine lockup. Be sure to drive the motor for only a few seconds.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse. The toner motor turns on. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Motor</th> </tr> </thead> <tbody> <tr> <td>MOTOR1</td> <td>Toner feed motor (TFM)</td> </tr> <tr> <td>MOTOR2</td> <td>Toner agitation motor (TAM)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To stop operation, press the stop/clear key. <p>Completion Press the stop/clear key when operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor	MOTOR1	Toner feed motor (TFM)	MOTOR2	Toner agitation motor (TAM)				
Display	Motor										
MOTOR1	Toner feed motor (TFM)										
MOTOR2	Toner agitation motor (TAM)										
<p>U136</p>	<p>Turning the toner level detection function on/off</p> <p>Description Turning the control based on the toner level sensor output on/off.</p> <p>Purpose To enable copying using the toner in the developing section after the toner level in the toner hopper decreases, by turning the control function off.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Controls based on the detection by the toner sensor detection sensor</td> </tr> <tr> <td>OFF</td> <td>Ignores the detection by the toner level detection sensor</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 2. Press the start key. The value is set. <p>Completion To exit this maintenance item without changing the current value, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Controls based on the detection by the toner sensor detection sensor	OFF	Ignores the detection by the toner level detection sensor				
Display	Description										
ON	Controls based on the detection by the toner sensor detection sensor										
OFF	Ignores the detection by the toner level detection sensor										

Maintenance item No.	Description												
U137	<p>Checking the toner level detection sensor</p> <p>Description Displays the detection status of the toner level detection sensor and toner hopper lockup detection sensor.</p> <p>Purpose To check the toner level in the toner hopper.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TE SW</td> <td>Toner level detection sensor (toner level in the toner hopper)</td> </tr> </tbody> </table> <p>When there is toner or if the sensor connector is disconnected, on is detected , and the corresponding display is displayed in reverse.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	TE SW	Toner level detection sensor (toner level in the toner hopper)								
Display	Description												
TE SW	Toner level detection sensor (toner level in the toner hopper)												
U155	<p>Displaying the toner sensor output</p> <p>Description Displays the toner sensor output value, and related data.</p> <p>Purpose To check the toner sensor output value.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. The current data is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT</td> <td>Toner sensor output value after start key is pressed</td> </tr> <tr> <td>TARGET</td> <td>Current toner feed level (value corrected based on humidity and drive time)</td> </tr> <tr> <td>CONTROL</td> <td>Current toner sensor control voltage</td> </tr> <tr> <td>HUMID</td> <td>Absolute humidity</td> </tr> <tr> <td>OUT TEMP</td> <td>External temperature</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the stop/clear key. The sampling operation stops. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INPUT	Toner sensor output value after start key is pressed	TARGET	Current toner feed level (value corrected based on humidity and drive time)	CONTROL	Current toner sensor control voltage	HUMID	Absolute humidity	OUT TEMP	External temperature
Display	Description												
INPUT	Toner sensor output value after start key is pressed												
TARGET	Current toner feed level (value corrected based on humidity and drive time)												
CONTROL	Current toner sensor control voltage												
HUMID	Absolute humidity												
OUT TEMP	External temperature												

Maintenance item No.	Description																										
U156	<p>Changing the toner control level</p> <p>Description Changes the toner control reference voltage set in maintenance item U130 or the toner control level or the toner empty level to be determined by the difference from the toner control level. The setting for this maintenance item does not need to be changed.</p> <p>Purpose To check the toner feed start level and toner empty level.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>TARGET</td> <td>Toner control level</td> </tr> <tr> <td>EMPTY</td> <td>Difference between the toner control level and toner empty level</td> </tr> <tr> <td>FIRST TARGET</td> <td>Toner control reference voltage for initial developer setting</td> </tr> </tbody> </table> <p>Setting for the toner control level</p> <ol style="list-style-type: none"> 1. Press the TARGET on the touch panel of the screen for selecting an item. 2. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Toner control level</td> <td>0 to 255</td> <td>141</td> </tr> </tbody> </table> <p>Increasing the setting makes the toner density lower.</p> <ol style="list-style-type: none"> 3. Press the start key. The time is set. <p>Setting for the toner empty level</p> <ol style="list-style-type: none"> 1. Press the EMPTY on the touch panel of the screen for selecting an item. 2. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Difference between the toner control level and the toner empty level</td> <td>0 to 255</td> <td>30</td> </tr> </tbody> </table> <p>Increasing the setting makes the toner empty level higher: the toner density is lower when the toner empty is detected.</p> <ol style="list-style-type: none"> 3. Press the start key. The time is set. <p>Setting for the toner control reference voltage</p> <ol style="list-style-type: none"> 1. Press the FIRST TARGET on the touch panel of the screen for selecting an item. 2. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Toner control reference voltage</td> <td>0 to 255</td> <td>102</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The time is set. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.</p>	Display	Description	TARGET	Toner control level	EMPTY	Difference between the toner control level and toner empty level	FIRST TARGET	Toner control reference voltage for initial developer setting	Description	Setting range	Initial setting	Toner control level	0 to 255	141	Description	Setting range	Initial setting	Difference between the toner control level and the toner empty level	0 to 255	30	Description	Setting range	Initial setting	Toner control reference voltage	0 to 255	102
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Maintenance item No.	Description
U157	<p>Checking/clearing the developing drive time</p> <p>Description Displays the developing drive time for checking, clearing or changing a figure, which is used as a reference when correcting the toner control. It is automatically cleared when U130 is executed.</p> <p>Purpose To check the developing drive time after replacing the developing unit.</p> <p>Method Press the start key. The developing drive time is displayed in minutes.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The drive time is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a five-digit drive time (in minutes) using the numeric keys. 2. Press the start key. The drive time is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the drive time, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U158	<p>Checking/clearing the developing count</p> <p>Description Displays the developing count for checking, clearing or changing a figure, which is used as a reference when correcting the toner control. It is automatically cleared when U130 is executed.</p> <p>Purpose To check the developing count after replacing the developing unit.</p> <p>Method Press the start key. The developing count is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a six-digit count using the numeric keys. 2. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U160	<p>Applying toner to the cleaning blade</p> <p>Description Applies toner to the cleaning blade.</p> <p>Purpose To apply toner to the drum to coat the cleaning blade. To be executed when replacing or cleaning the cleaning blade or the drum.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. Operation starts. When the operation is complete, the screen for selecting a maintenance item No. is displayed after open and close the front cover. <p>Completion To exit this maintenance item without performing operation, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description																				
U161	<p>Setting the fixing control temperature</p> <p>Description Changes the fixing control temperature.</p> <p>Purpose Normally no change is necessary. However, can be used to prevent curling or creasing of paper, or solve a fixing problem on thick paper.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>CONT TEMP</td> <td>Control temperature during copying</td> <td>170 to 200 (°C)</td> <td>195</td> </tr> <tr> <td>1ST TEMP</td> <td>Primary stabilization fixing temperature</td> <td>140 to 200 (°C)</td> <td>165</td> </tr> <tr> <td>2ND TEMP</td> <td>Secondary stabilization fixing temperature</td> <td>170 to 200 (°C)</td> <td>190</td> </tr> <tr> <td>TIME</td> <td>Aging time after secondary stabilization</td> <td>0 to 180 (s)</td> <td>90</td> </tr> </tbody> </table> <p>Setting</p> <ol style="list-style-type: none"> Select the item to be set. The selecting item is displayed in reverse. Change the setting using the cursor up/down keys. The respective temperatures are to be set such that 2ND TEMP ≥ 1ST TEMP. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	CONT TEMP	Control temperature during copying	170 to 200 (°C)	195	1ST TEMP	Primary stabilization fixing temperature	140 to 200 (°C)	165	2ND TEMP	Secondary stabilization fixing temperature	170 to 200 (°C)	190	TIME	Aging time after secondary stabilization	0 to 180 (s)	90
Display	Description	Setting range	Initial setting																		
CONT TEMP	Control temperature during copying	170 to 200 (°C)	195																		
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TIME	Aging time after secondary stabilization	0 to 180 (s)	90																		
U162	<p>Stabilizing fixing forcibly</p> <p>Description Stops the stabilization fixing drive forcibly, regardless of fixing temperature.</p> <p>Purpose To forcibly stabilize the machine before the fixing section reaches stabilization temperature.</p> <p>Method</p> <ol style="list-style-type: none"> Press the start key. The screen for executing is displayed. Press the start key. The forced stabilization mode is entered, and stabilization operation stops regardless of fixing temperature. The screen for selecting a maintenance item No. is displayed. To exit the forced stabilization mode, turn the power off and on. <p>Completion To exit this maintenance item without executing forced fixing stabilization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				
U163	<p>Resetting the fixing problem data</p> <p>Description Resets the detection of a service call code indicating a problem in the fixing section.</p> <p>Purpose To prevent accidents due to an abnormally high fixing temperature.</p> <p>Method</p> <ol style="list-style-type: none"> Press the start key. The screen for executing is displayed. Press EXECUTE on the touch panel. Press the start key. The fixing problem data is initialized. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				

Maintenance item No.	Description						
U194	<p>Setting the fixing web drive</p> <p>Description Sets the interval (number of copies) for turning on the fixing web solenoid.</p> <p>Purpose To be executed when the fixing web roller becomes extremely soiled.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Interval for turning on the fixing web solenoid</td> <td>1 to 99</td> <td>50</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The value is set. <p>Completion To exit this maintenance item without changing the current value, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Interval for turning on the fixing web solenoid	1 to 99	50
Description	Setting range	Initial setting					
Interval for turning on the fixing web solenoid	1 to 99	50					
U196	<p>Turning the fixing heater on</p> <p>Description Turns the fixing heater M or S on.</p> <p>Purpose To check fixing heaters turning on.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the heater to be turned on. 3. Press the start key. The selected heater turns on for 2 s and then turns off. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>Fixing heater M (H1)</td> </tr> <tr> <td>SUB</td> <td>Fixing heater S (H2)</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key when fixing motors M and S are off. The screen for selecting the maintenance item No. is displayed.</p>	Display	Description	MAIN	Fixing heater M (H1)	SUB	Fixing heater S (H2)
Display	Description						
MAIN	Fixing heater M (H1)						
SUB	Fixing heater S (H2)						
U198	<p>Setting the fixing phase control</p> <p>Description Sets the use of fixing phase control to reduce electrical noise generated by the copier.</p> <p>Purpose Normally no change is necessary. If electrical noise generated by the copier causes flickering of the lights around the copier, select fixing phase control to reduces the noise.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Fixing phase control present</td> </tr> <tr> <td>OFF</td> <td>Fixing phase control absent</td> </tr> </tbody> </table> <p>Initial setting: ON (220-240 V specifications) / OFF (120 V specifications)</p> <ol style="list-style-type: none"> 2. If you select ON, use the * or # key to set 0 (100 V system fixing heater phase control) or 1 (200 V system fixing heater phase control). 3. Press the start key. The value is set. <p>Completion To exit this maintenance item without changing the current value, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Fixing phase control present	OFF	Fixing phase control absent
Display	Description						
ON	Fixing phase control present						
OFF	Fixing phase control absent						

Maintenance item No.	Description
U200	<p>Turning all LEDs on</p> <p>Description Turns all the LEDs on the operation panel on.</p> <p>Purpose To check if all the LEDs on the operation panel light.</p> <p>Method Press the start key. All the LEDs on the operation panel light. Press the stop/clear key or wait for 10 s. The LEDs turns off, and the screen for selecting a maintenance item No. is displayed.</p>
U201	<p>Initializing the touch panel</p> <p>Description Automatically correct the positions of the X- and Y-axes of the touch panel.</p> <p>Purpose To automatically correct the display positions on the touch panel after it is replaced.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed, and the + key displayed at the upper left of the touch panel flashes. 2. Press on the center of the + key. The + key on lower right flashes. 3. Press the center of the flashing +. Initialization of the touch panel is complete, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without initializing, press the stop/clear key. The screen for selecting a maintenance mode No. is displayed.</p>
U202	<p>Setting the KMAS host monitoring system</p> <p>Description Initializes or operates the KMAS host monitoring system. This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.</p>

Maintenance item No.	Description										
U203	<p>Operating DF separately</p> <p>Description Simulates the original conveying operation separately in the DF.</p> <p>Purpose To check the DF.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Place an original in the DF if running this simulation with paper. 3. Select the item to be operated. The selected item is displayed in reverse and the operation starts. <table border="1"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>ADF</td> <td>With paper, single-sided original</td> </tr> <tr> <td>RADF</td> <td>With paper, double-sided original</td> </tr> <tr> <td>ADF (NON-P)</td> <td>Without paper, single-sided original (continuous operation)</td> </tr> <tr> <td>RADF (NON-P)</td> <td>Without paper, double-sided original (continuous operation)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. To stop continuous operation, press the stop/clear key. <p>Completion Press the stop/clear key when the operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operation	ADF	With paper, single-sided original	RADF	With paper, double-sided original	ADF (NON-P)	Without paper, single-sided original (continuous operation)	RADF (NON-P)	Without paper, double-sided original (continuous operation)
Display	Operation										
ADF	With paper, single-sided original										
RADF	With paper, double-sided original										
ADF (NON-P)	Without paper, single-sided original (continuous operation)										
RADF (NON-P)	Without paper, double-sided original (continuous operation)										
U204	<p>Setting the presence or absence of a key card or key counter</p> <p>Description Sets the presence or absence of the optional key card or key counter.</p> <p>Purpose To run this maintenance item if a key card or key counter is installed.</p> <p>Method Press the start key. The screen for selecting an item is displayed</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the optional counter to be installed using the cursor up/down keys. The selected counter is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>KEY-CARD</td> <td>The key card is installed</td> </tr> <tr> <td>KEY-COUNTER</td> <td>The key counter is installed</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The setting is set and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	KEY-CARD	The key card is installed	KEY-COUNTER	The key counter is installed				
Display	Description										
KEY-CARD	The key card is installed										
KEY-COUNTER	The key counter is installed										
U206	<p>Setting the presence or absence of the coin vender</p> <p>Description Sets the presence or absence of the optional coin vender. Also sets the details for coin vender operation, such as mode and unit price. This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.</p>										

Maintenance item No.	Description
U207	<p>Checking the operation panel keys</p> <p>Description Checks operation of the operation panel keys.</p> <p>Purpose To check operation of all the keys and LEDs on the operation panel.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. "COUNT1" is displayed and the leftmost LED on the operation panel lights. 3. As the keys lined up in the same line as the lit indicator are pressed in the order from the top to the bottom, the figure shown on the touch panel increases in increments of 1. When all the keys in that line are pressed and if there are any LEDs corresponding to the keys in the line on the immediate right, the top LED in that line will light. 4. When all the keys on the operation panel have been pressed, all the LEDs light for up to 10 seconds. 5. When the LEDs go off, press the start key. All the LEDs light for 10 seconds again. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U208	<p>Setting the paper size for the deck</p> <p>Description Sets the sizes of paper placed in drawer 3, drawer 4 and optional side deck respectively.</p> <p>Purpose To set the size when the size of paper placed in drawer 3, drawer 4 or optional side deck is changed.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the paper size (A4/11" × 8¹/₂" or B5). The selected item is displayed in reverse. Initial setting: A4/11" × 8¹/₂" 2. Press the start key. The setting is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U209	<p>Setting date and time</p> <p>Description Sets the real time clock.</p> <p>Purpose To set the date and time after initializing data.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. The current setting for the year is displayed. 2. Set the year (last two digits of the year) using the numeric or Up/Down keys and press the start key. For years 2000 to 2009, enter only the last digit. The current setting for the month is displayed. 3. Set the month using the numeric or Up/Down keys and press the start key. The current setting for the date is displayed. 4. Set the date using the numeric or Up/Down keys and press the start key. The current time setting for hours is displayed. 5. Set the hours using the numeric or Up/Down keys and press the start key. The current time setting for minutes is displayed. 6. Set the minutes using the numeric or Up/Down keys and press the start key. Setting is complete, and the screen for selecting a maintenance item No. is displayed. <p>Supplement To return to the last screen, press the stop/clear key while setting.</p> <p>Completion To stop this maintenance item without changing the current setting, press the stop/clear key at the screen for the year setting. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description						
U212	<p>Setting the deck lift operation</p> <p>Description Sets the operation of the side deck lift motor for when paper in the optional side deck is exhausted.</p> <p>Purpose To be set according to the paper loading method.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the method to load paper.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SIDE FEED</td> <td>Load paper through the right cover</td> </tr> <tr> <td>UPPER FEED</td> <td>Load paper through the upper cover</td> </tr> </tbody> </table> <p>Initial setting: SIDE FEED</p> <p>2. Press the start key. The setting is set.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SIDE FEED	Load paper through the right cover	UPPER FEED	Load paper through the upper cover
Display	Description						
SIDE FEED	Load paper through the right cover						
UPPER FEED	Load paper through the upper cover						
U235	<p>Setting output tray initialize mode</p> <p>Description Sets whether or not initialization (shift of eject position to main tray) is performed when auto clear is triggered if a multi-job tray is installed to an optional finisher.</p> <p>Purpose To be set as required according to the user.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the item to be set. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>HP ON</td> <td>Job tray initialization is performed.</td> </tr> <tr> <td>HP OFF</td> <td>Job tray initialization is not performed.</td> </tr> </tbody> </table> <p>Initial setting: HP ON</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	HP ON	Job tray initialization is performed.	HP OFF	Job tray initialization is not performed.
Display	Description						
HP ON	Job tray initialization is performed.						
HP OFF	Job tray initialization is not performed.						

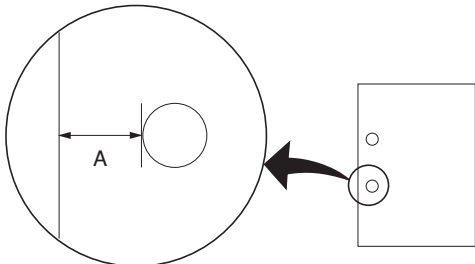
Maintenance item No.	Description																																																
U240	<p>Checking the operation of the finisher</p> <p>Description Turns each motor, clutch and solenoid of the optional document finisher ON.</p> <p>Purpose Used to check the operation of each motor, clutch and solenoid of the optional document finisher.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item will be displayed. 2. Select the motor, clutch or solenoid that you want to check the operation for. The selected item is displayed in reverse and the operation starts. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Motors, clutches and solenoids</th> </tr> </thead> <tbody> <tr><td>CONV MOTOR</td><td>Paper conveying motor (PCM)</td></tr> <tr><td>PUNCH MOTOR</td><td>Punch motor (PUNM)</td></tr> <tr><td>WID T MOTOR</td><td>Front/rear upper side-registration guide motor (SRGM-FU/SRGM-RU)</td></tr> <tr><td>WID U MOTOR</td><td>Lower side-registration guide motor (SRGM-L)</td></tr> <tr><td>MTRAY MOTOR</td><td>Main tray elevation motor (MTEM)</td></tr> <tr><td>JTRAY MOTOR</td><td>Multi job tray elevation motor (MJTEM)</td></tr> <tr><td>BRA A SOL</td><td>Feedshift solenoid A (FSSOLA)</td></tr> <tr><td>BRA B SOL</td><td>Feedshift solenoid B (FSSOLB)</td></tr> <tr><td>BRA C SOL</td><td>Feedshift solenoid C (FSSOLC)</td></tr> <tr><td>PUNCH P SOL</td><td>Punch solenoid (PUNSOL)</td></tr> <tr><td>MTRAY SOL</td><td>Paper holder solenoid (PHSOL)</td></tr> <tr><td>EJEC SOL</td><td>Eject guide solenoid (EGSOL)</td></tr> <tr><td>PUNCH I SOL</td><td>Paper entry guide solenoid (PEGSOL)</td></tr> <tr><td>MIDDLE SOL</td><td>Movable guide solenoid (MGSOL)</td></tr> <tr><td>DRAM CL</td><td><i>Siding drum clutch (SDCL)</i></td></tr> <tr><td>FEED IN CL</td><td>Paper conveying clutch (PCCL)</td></tr> <tr><td>PUNCH CL</td><td>Punch clutch (PUNCL)</td></tr> <tr><td>SADDLE ROL1</td><td>Main motor (MM)</td></tr> <tr><td>SADDLE ROL2</td><td>Main motor (MM)</td></tr> <tr><td>SADDLE BLD</td><td>Centerfold blade motor (SBLM)</td></tr> <tr><td>SADDLE INI1</td><td>Centering plate motor (CPM)</td></tr> <tr><td>SADDLE INI2</td><td>Side-registration guide motor (SRGM)</td></tr> <tr><td>SADDLE SOL</td><td>Pressure release solenoid (PRSOL)</td></tr> </tbody> </table> <ol style="list-style-type: none"> 3. To turn ON a clutch or solenoid with the motor driving, press the interrupt key before selecting the clutch or solenoid. * The driving motor will start operation, and the selected clutch or the solenoid will remain ON until the interrupt key is pressed again. 4. To stop motor driving, press the interrupt key again. 5. To return to the screen for selecting an item, press the stop/clear key with the motor stopped. <p>Completion Press the stop/clear key when the operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motors, clutches and solenoids	CONV MOTOR	Paper conveying motor (PCM)	PUNCH MOTOR	Punch motor (PUNM)	WID T MOTOR	Front/rear upper side-registration guide motor (SRGM-FU/SRGM-RU)	WID U MOTOR	Lower side-registration guide motor (SRGM-L)	MTRAY MOTOR	Main tray elevation motor (MTEM)	JTRAY MOTOR	Multi job tray elevation motor (MJTEM)	BRA A SOL	Feedshift solenoid A (FSSOLA)	BRA B SOL	Feedshift solenoid B (FSSOLB)	BRA C SOL	Feedshift solenoid C (FSSOLC)	PUNCH P SOL	Punch solenoid (PUNSOL)	MTRAY SOL	Paper holder solenoid (PHSOL)	EJEC SOL	Eject guide solenoid (EGSOL)	PUNCH I SOL	Paper entry guide solenoid (PEGSOL)	MIDDLE SOL	Movable guide solenoid (MGSOL)	DRAM CL	<i>Siding drum clutch (SDCL)</i>	FEED IN CL	Paper conveying clutch (PCCL)	PUNCH CL	Punch clutch (PUNCL)	SADDLE ROL1	Main motor (MM)	SADDLE ROL2	Main motor (MM)	SADDLE BLD	Centerfold blade motor (SBLM)	SADDLE INI1	Centering plate motor (CPM)	SADDLE INI2	Side-registration guide motor (SRGM)	SADDLE SOL	Pressure release solenoid (PRSOL)
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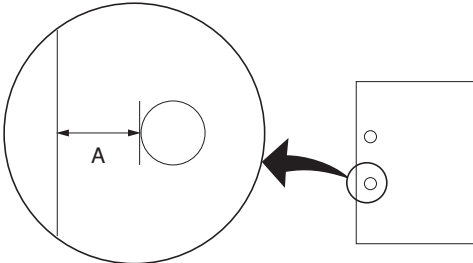
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U241	<p>Checking the operation of the switches of the finisher</p> <p>Description Displays the status of each switch of the optional document finisher.</p> <p>Purpose Used to check the operation of each switch of the optional document finisher.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key to run the maintenance item. 2. Turn each switch ON manually. <p>* When a switch is detected to be in the ON position, the display for that switch will be highlighted.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Switches</th> </tr> </thead> <tbody> <tr><td>CONV</td><td>Paper entry sensor (PES)</td></tr> <tr><td>EJECT SUB</td><td>Paper ejection sensor (PEJS)</td></tr> <tr><td>CONV TRAY</td><td>Intermediate tray paper conveying sensor (ITPCS)</td></tr> <tr><td>EJECT MAIN</td><td>Sub tray paper ejection sensor (STPES)</td></tr> <tr><td>TRAY U PAP</td><td>Upper paper sensor (PS-U)</td></tr> <tr><td>TRAY L PAP</td><td>Lower paper sensor (PS-L)</td></tr> <tr><td>MTRAY U LMT</td><td>Main tray upper limit detection sensor (MTULDS)</td></tr> <tr><td>MTRAY L LMT</td><td>Main tray lower limit detection sensor (MTLLDS)</td></tr> <tr><td>MTRAY POS</td><td>Main tray paper upper surface detection light emitting/intercepting sensor (MTPUSDLES/MTPUSDLIS)</td></tr> <tr><td>MTRAY PUSH</td><td>Paper holder detection sensor (PHDS)</td></tr> <tr><td>MTRAY OVER1</td><td>Main tray load 1000 detection sensor (MTLDS-10)</td></tr> <tr><td>MTRAY OVER2</td><td>Main tray load 1500 detection sensor (MTLDS-15)</td></tr> <tr><td>MTRAY OVER3</td><td>Main tray load 3000/2000 detection sensor (MTLDS-30/MTLDS-20)</td></tr> <tr><td>JOB U LMT</td><td>Multi job tray upper limit detection sensor (MJTULDS)</td></tr> <tr><td>JOB L LMT</td><td>Multi job tray lower limit detection sensor (MJTLLDS)</td></tr> <tr><td>JOB SAFETY</td><td>Multi job tray front/rear switch (MJTSW-F/MJTSW-R)</td></tr> <tr><td>JOB POS</td><td>Multi job tray position sensor (MJPS)</td></tr> <tr><td>JOB OVER</td><td>Multi job tray paper upper surface detection light emitting/intercepting sensor (MJTPUSDLES/MJTPUSDLIS)</td></tr> <tr><td>JOB PAP1</td><td>Paper detection switch 1 (PDSW1)</td></tr> <tr><td>JOB PAP2</td><td>Paper detection switch 2 (PDSW2)</td></tr> <tr><td>JOB PAP3</td><td>Paper detection switch 3 (PDSW3)</td></tr> <tr><td>JOB PAP4</td><td>Paper detection switch 4 (PDSW4)</td></tr> <tr><td>JOB PAP5</td><td>Paper detection switch 5 (PDSW5)</td></tr> <tr><td>SDL CONV</td><td>Centerfold unit paper entry sensor (CUPES)</td></tr> <tr><td>SDL EJECT</td><td>Eject switch (ESW)</td></tr> <tr><td>SDL PAP</td><td>Eject tray paper detection switch (ETPDSW)</td></tr> <tr><td>SDL BIN PAP</td><td>Inside tray detection sensor (ITDS)</td></tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	CONV	Paper entry sensor (PES)	EJECT SUB	Paper ejection sensor (PEJS)	CONV TRAY	Intermediate tray paper conveying sensor (ITPCS)	EJECT MAIN	Sub tray paper ejection sensor (STPES)	TRAY U PAP	Upper paper sensor (PS-U)	TRAY L PAP	Lower paper sensor (PS-L)	MTRAY U LMT	Main tray upper limit detection sensor (MTULDS)	MTRAY L LMT	Main tray lower limit detection sensor (MTLLDS)	MTRAY POS	Main tray paper upper surface detection light emitting/intercepting sensor (MTPUSDLES/MTPUSDLIS)	MTRAY PUSH	Paper holder detection sensor (PHDS)	MTRAY OVER1	Main tray load 1000 detection sensor (MTLDS-10)	MTRAY OVER2	Main tray load 1500 detection sensor (MTLDS-15)	MTRAY OVER3	Main tray load 3000/2000 detection sensor (MTLDS-30/MTLDS-20)	JOB U LMT	Multi job tray upper limit detection sensor (MJTULDS)	JOB L LMT	Multi job tray lower limit detection sensor (MJTLLDS)	JOB SAFETY	Multi job tray front/rear switch (MJTSW-F/MJTSW-R)	JOB POS	Multi job tray position sensor (MJPS)	JOB OVER	Multi job tray paper upper surface detection light emitting/intercepting sensor (MJTPUSDLES/MJTPUSDLIS)	JOB PAP1	Paper detection switch 1 (PDSW1)	JOB PAP2	Paper detection switch 2 (PDSW2)	JOB PAP3	Paper detection switch 3 (PDSW3)	JOB PAP4	Paper detection switch 4 (PDSW4)	JOB PAP5	Paper detection switch 5 (PDSW5)	SDL CONV	Centerfold unit paper entry sensor (CUPES)	SDL EJECT	Eject switch (ESW)	SDL PAP	Eject tray paper detection switch (ETPDSW)	SDL BIN PAP	Inside tray detection sensor (ITDS)
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U243	<p>Checking the operation of the DF motors, solenoids and clutch</p> <p>Description Turns the motors, solenoids or clutch in the DF on.</p> <p>Purpose To check the operation of the DF motors, solenoids and clutch .</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse and the operation starts. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Motors, solenoids and clutch</th> <th style="text-align: left;">Operation In operation</th> </tr> </thead> <tbody> <tr> <td>F MOT</td> <td>Original feed motor (OFM)</td> <td>In operation</td> </tr> <tr> <td>C MOT</td> <td>Original paper conveying motor (OCM)</td> <td>In operation</td> </tr> <tr> <td>FD CL</td> <td>Original feed clutch (OFCL)</td> <td>On for 0.5 s</td> </tr> <tr> <td>EJ SL</td> <td>Eject feedshift solenoid (EFSSOL)</td> <td>On for 0.5 s</td> </tr> <tr> <td>RJ SL</td> <td>Switchback feedshift solenoid (SBFSSOL)</td> <td>On for 0.5 s</td> </tr> <tr> <td>FD SL</td> <td>Original feed solenoid (OFSOL)</td> <td>On and off</td> </tr> <tr> <td>RP SL</td> <td>Switchback pressure solenoid (SBPSOL)</td> <td>On and off</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To turn each motor off, press the stop/clear key. <p>Completion Press the stop/clear key when operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motors, solenoids and clutch	Operation In operation	F MOT	Original feed motor (OFM)	In operation	C MOT	Original paper conveying motor (OCM)	In operation	FD CL	Original feed clutch (OFCL)	On for 0.5 s	EJ SL	Eject feedshift solenoid (EFSSOL)	On for 0.5 s	RJ SL	Switchback feedshift solenoid (SBFSSOL)	On for 0.5 s	FD SL	Original feed solenoid (OFSOL)	On and off	RP SL	Switchback pressure solenoid (SBPSOL)	On and off
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U244	<p>Checking the DF switches</p> <p>Description Displays the status of the respective switches in the DF.</p> <p>Purpose To check if respective switches in the DF operate correctly.</p> <p>Start</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the type of switches (SW or VR) to be checked. The screen for executing each item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Type of switches</th> </tr> </thead> <tbody> <tr> <td>SW</td> <td>On/off switches</td> </tr> <tr> <td>VR</td> <td>Volume switch</td> </tr> </tbody> </table> <p>Method for the on/off switches (SW)</p> <ol style="list-style-type: none"> 1. Turn the respective switches on and off manually to check the status. If the on-status of a switch is detected, the corresponding switch is displayed in reverse. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Switches</th> </tr> </thead> <tbody> <tr> <td>SET SW</td> <td>Original set switch (OSSW)</td> </tr> <tr> <td>FEED SW</td> <td>Original feed switch (OFSW)</td> </tr> <tr> <td>REV SW</td> <td>Original switchback switch (OSBSW)</td> </tr> <tr> <td>TMG SW</td> <td>DF timing switch (DFTSW)</td> </tr> <tr> <td>SZ A SW</td> <td>Original size length switch (OSLSW)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. To return to the screen for selecting an item, press the stop/clear key. 	Display	Type of switches	SW	On/off switches	VR	Volume switch	Display	Switches	SET SW	Original set switch (OSSW)	FEED SW	Original feed switch (OFSW)	REV SW	Original switchback switch (OSBSW)	TMG SW	DF timing switch (DFTSW)	SZ A SW	Original size length switch (OSLSW)						
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<p>U244</p>	<p>Method for the volume switch (VR)</p> <p>1. Move the original insertion guides to check the detection status of the original size width switch. The detected original width is displayed as a numerical value with the decimals omitted.</p> <table border="1"> <thead> <tr> <th>Numerical value</th> <th colspan="2">Original width to be detected</th> </tr> </thead> <tbody> <tr> <td>000</td> <td rowspan="2">A5R</td> <td>$5\frac{1}{2}" \times 8\frac{1}{2}"$</td> </tr> <tr> <td>49.664</td> <td></td> </tr> <tr> <td>50.176</td> <td rowspan="2">B5R</td> <td></td> </tr> <tr> <td>61.440</td> <td></td> </tr> <tr> <td>61.952</td> <td rowspan="2">Folio/A4R</td> <td>$8\frac{1}{2}" \times 14"$</td> </tr> <tr> <td>103.936</td> <td>$8\frac{1}{2}" \times 11"$</td> </tr> <tr> <td>104.448</td> <td rowspan="2">B4/B5</td> <td></td> </tr> <tr> <td>139.264</td> <td></td> </tr> <tr> <td>139.776</td> <td rowspan="2">CF (11" × 15")</td> <td>$11" \times 17"$</td> </tr> <tr> <td>146.432</td> <td>$11" \times 15"$</td> </tr> <tr> <td>146.994</td> <td rowspan="2">A3/A4</td> <td>$11" \times 8\frac{1}{2}"$</td> </tr> <tr> <td>197.120</td> <td></td> </tr> <tr> <td>197.632</td> <td></td> <td></td> </tr> <tr> <td>197.720</td> <td></td> <td></td> </tr> <tr> <td>223.232</td> <td></td> <td></td> </tr> <tr> <td>256</td> <td></td> <td></td> </tr> </tbody> </table> <p>For example, if any value between 105 and 139 is displayed when the original insertion guides are adjusted for A4R paper, it indicates that the original width is detected correctly.</p> <p>2. To return to the screen for selecting an item, press the stop/clear key.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Numerical value	Original width to be detected		000	A5R	$5\frac{1}{2}" \times 8\frac{1}{2}"$	49.664		50.176	B5R		61.440		61.952	Folio/A4R	$8\frac{1}{2}" \times 14"$	103.936	$8\frac{1}{2}" \times 11"$	104.448	B4/B5		139.264		139.776	CF (11" × 15")	$11" \times 17"$	146.432	$11" \times 15"$	146.994	A3/A4	$11" \times 8\frac{1}{2}"$	197.120		197.632			197.720			223.232			256		
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Maintenance item No.	Description												
<p>U245</p>	<p>Checking messages</p> <p>Description Displays a list of messages on the touch panel of the operation panel.</p> <p>Purpose To check the messages to be displayed.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select the item to be displayed. 3. Change the screen using the cursor up/down keys to display each message one at a time. When a message number is entered with the numeric keys and then the start key is pressed, the message corresponding the specified number is displayed. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
<p>U247</p>	<p>Setting the paper feed device</p> <p>Description Drives each motor of the optional side deck.</p> <p>Purpose To check the operation of the optional side deck.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the motor to be operated. The selected item is displayed in reverse and the operation starts. <table border="1"> <thead> <tr> <th>Display</th> <th>Motor</th> </tr> </thead> <tbody> <tr> <td>SDECK MOT</td> <td>Side deck drive motor (SDDM)</td> </tr> <tr> <td>SDECK FAN</td> <td>Suction fan motor (IFM)</td> </tr> <tr> <td>SDECK LIFT</td> <td>Side deck lift motor (SDLM)</td> </tr> <tr> <td>SDECK CVCL</td> <td>Side deck paper conveying clutch (SDCCL)</td> </tr> <tr> <td>SDECK FDCL</td> <td>Side deck paper feed clutch (SDPFCL)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To stop operation, press the stop/clear key. <p>Completion Press the stop key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor	SDECK MOT	Side deck drive motor (SDDM)	SDECK FAN	Suction fan motor (IFM)	SDECK LIFT	Side deck lift motor (SDLM)	SDECK CVCL	Side deck paper conveying clutch (SDCCL)	SDECK FDCL	Side deck paper feed clutch (SDPFCL)
Display	Motor												
SDECK MOT	Side deck drive motor (SDDM)												
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SDECK FDCL	Side deck paper feed clutch (SDPFCL)												

Maintenance item No.	Description																																										
U248	<p>Setting the paper eject devices</p> <p>Description Adjusts the paper stop timing in the punch mode, the booklet stapling position, and the center folding position for the copier with an optional finisher installed. Also, displays and clears the punch-hole scrap count.</p> <p>Purpose</p> <ul style="list-style-type: none"> • Adjustment of paper stop timing in the punch mode To adjust this item when the position of a punch hole is different from the specified one. • Punch-hole scrap count display (clearing) Used to manually clear the punch-hole scrap count if a message requiring collection of punch-hole scrap is shown on the touch panel after collection. • Adjustment of booklet stapling position Adjusts the booklet stapling position in the stitching mode if the position is not proper. • Adjustment of center folding position Adjusts the center folding position in the stitching mode if the position is not proper. <p>Start Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>PUNCH TIMING</td> <td>Adjustment of the paper stop timing in punch mode</td> </tr> <tr> <td>PUNCH TIMING(TURN)</td> <td>Adjustment of the paper stop timing at reversed paper ejection in punch mode</td> </tr> <tr> <td>PUNCH COUNT</td> <td>Punch-hole scrap count display</td> </tr> <tr> <td>SADDLE STAPLE ADJUST</td> <td>Booklet stapling position adjustment</td> </tr> <tr> <td>SADDLE ADJUST</td> <td>Adjustment of center folding position</td> </tr> <tr> <td>SADDLE ADJUST 2</td> <td>Adjustment of center folding position (correction of number of sheets of a batch)</td> </tr> </tbody> </table> <p>Setting the paper stop timing</p> <ol style="list-style-type: none"> 1. Select PUNCH TIMING on the screen for selecting an item. 2. Select the paper size to be set. 3. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>B5</td> <td>Paper stop timing of B5 size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A4/11 × 8.5</td> <td>Paper stop timing of A4/11" × 8 1/2" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>B5R</td> <td>Paper stop timing of B5R size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A4R/8.5 × 11</td> <td>Paper stop timing of A4R/8 1/2" × 11" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>B4/8.5 × 14</td> <td>Paper stop timing of B4/8 1/2" × 14" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A3/11 × 17</td> <td>Paper stop timing of A3/11" × 17" size</td> <td>-15 to +15</td> <td>0</td> </tr> </tbody> </table> <div>  <p>Preset value A: 5.5 ± 2mm (inch) 9.5 ± 2mm (metric)</p> </div> <p>If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value. Changing the value by 1 changes by 1.0 mm.</p> <ol style="list-style-type: none"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. 	Display	Operation	PUNCH TIMING	Adjustment of the paper stop timing in punch mode	PUNCH TIMING(TURN)	Adjustment of the paper stop timing at reversed paper ejection in punch mode	PUNCH COUNT	Punch-hole scrap count display	SADDLE STAPLE ADJUST	Booklet stapling position adjustment	SADDLE ADJUST	Adjustment of center folding position	SADDLE ADJUST 2	Adjustment of center folding position (correction of number of sheets of a batch)	Display	Description	Setting range	Initial setting	B5	Paper stop timing of B5 size	-15 to +15	0	A4/11 × 8.5	Paper stop timing of A4/11" × 8 1/2" size	-15 to +15	0	B5R	Paper stop timing of B5R size	-15 to +15	0	A4R/8.5 × 11	Paper stop timing of A4R/8 1/2" × 11" size	-15 to +15	0	B4/8.5 × 14	Paper stop timing of B4/8 1/2" × 14" size	-15 to +15	0	A3/11 × 17	Paper stop timing of A3/11" × 17" size	-15 to +15	0
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U248	<p>Setting the paper stop timing at reversed paper ejection</p> <ol style="list-style-type: none"> 1. Select PUNCH TIMING(TURN) on the screen for selecting an item. 2. Select the paper size to be set. 3. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>B5</td> <td>Paper stop timing at reversed paper ejection of B5 size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A4/11 × 8.5</td> <td>Paper stop timing at reversed paper ejection of A4/11" × 8¹/₂" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>B5R</td> <td>Paper stop timing at reversed paper ejection of B5R size reversed paper</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A4R/8.5 × 11</td> <td>Paper stop timing at ejection of A4R/8¹/₂" × 11" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>B4/8.5 × 14</td> <td>Paper stop timing at reversed paper ejection of B4/8¹/₂" × 14" size</td> <td>-15 to +15</td> <td>0</td> </tr> <tr> <td>A3/11 × 17</td> <td>Paper stop timing at reversed paper ejection of A3/11" × 17" size</td> <td>-15 to +15</td> <td>0</td> </tr> </tbody> </table>  <p style="text-align: right;">Preset value A: 5.5 ± 2mm (inch) 9.5 ± 2mm (metric)</p> <p>If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value. Changing the value by 1 changes by 1.0 mm.</p> <ol style="list-style-type: none"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. <p>Displaying the punch-hole scrap count</p> <ol style="list-style-type: none"> 1. Select PUNCH COUNT on the screen for selecting an item. The punch-hole scrap count is displayed. 2. Press the reset key. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Punch-hole scrap count (current number of punching times)</td> <td>0 to 999999</td> <td>-</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key to clear the count. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Setting the booklet stapling position</p> <ol style="list-style-type: none"> 1. Select SADDLE STAPLE ADJUST on the screen for selecting an item. 2. Select the size to be set. 3. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>A4R/LTR</td> <td>Adjustment of booklet stapling position for A4R/LETTER size</td> </tr> <tr> <td>B4R</td> <td>Adjustment of booklet stapling position for B4R size</td> </tr> <tr> <td>A3R/LDR</td> <td>Adjustment of booklet stapling position for A3R/LEDGER size</td> </tr> </tbody> </table> <p>Setting range: -10 to +10 Initial setting: 0 Change in value per step: 0.6 mm</p> <p>If the staple position is displaced toward the ejection side (copy sample 1), decrease the preset value. If the staple position is displaced toward the feeding side (copy sample 2), increase the preset value.</p>	Display	Description	Setting range	Initial setting	B5	Paper stop timing at reversed paper ejection of B5 size	-15 to +15	0	A4/11 × 8.5	Paper stop timing at reversed paper ejection of A4/11" × 8 ¹ / ₂ " size	-15 to +15	0	B5R	Paper stop timing at reversed paper ejection of B5R size reversed paper	-15 to +15	0	A4R/8.5 × 11	Paper stop timing at ejection of A4R/8 ¹ / ₂ " × 11" size	-15 to +15	0	B4/8.5 × 14	Paper stop timing at reversed paper ejection of B4/8 ¹ / ₂ " × 14" size	-15 to +15	0	A3/11 × 17	Paper stop timing at reversed paper ejection of A3/11" × 17" size	-15 to +15	0	Description	Setting range	Initial setting	Punch-hole scrap count (current number of punching times)	0 to 999999	-	Display	Description	A4R/LTR	Adjustment of booklet stapling position for A4R/LETTER size	B4R	Adjustment of booklet stapling position for B4R size	A3R/LDR	Adjustment of booklet stapling position for A3R/LEDGER size
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Maintenance item No.	Description																				
<p>U248</p>	<div> </div> <div> </div> <div> </div> <div> <p>Copy example 1</p> </div> <div> </div> <div> </div> <div> <p>Copy example 2</p> </div> <div> <ol style="list-style-type: none"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. </div> <div> <p>Setting the center folding position</p> </div> <div> <ol style="list-style-type: none"> 1. Select SADDLE ADJUST on the screen for selecting an item. 2. Select the size to be set. 3. Change the setting using the cursor up/down keys. </div> <div> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>A4R/LTR</td> <td>Adjustment of center folding position for A4R/LETTER size</td> </tr> <tr> <td>B4R</td> <td>Adjustment of center folding position for B4R size</td> </tr> <tr> <td>A3R/LDR</td> <td>Adjustment of center folding position for A3R/LEDGER size</td> </tr> </tbody> </table> </div> <div> <p>Setting range: -10 to +10</p> </div> <div> <p>Initial setting: 0</p> </div> <div> <p>Change in value per step: 0.6 mm</p> </div> <div> <table border="1"> <thead> <tr> <th>Left stapling</th> <th>Right stapling</th> <th>Adjustment method</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td>Proper</td> </tr> <tr> <td> </td> <td> </td> <td>Decrease the preset value.</td> </tr> <tr> <td> </td> <td> </td> <td>Increase the preset value.</td> </tr> </tbody> </table> </div> <div> <ol style="list-style-type: none"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. </div>	Display	Description	A4R/LTR	Adjustment of center folding position for A4R/LETTER size	B4R	Adjustment of center folding position for B4R size	A3R/LDR	Adjustment of center folding position for A3R/LEDGER size	Left stapling	Right stapling	Adjustment method			Proper			Decrease the preset value.			Increase the preset value.
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		Decrease the preset value.																			
		Increase the preset value.																			

Maintenance item No.	Description														
U248	<p>Setting the center folding position (correction of number of sheets of a batch)</p> <ol style="list-style-type: none"> 1. Select SADDLE ADJUST 2 on the screen for selecting an item. 2. Select the item to be set. 3. Change the setting using the cursor up/down keys. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>A4R/LTR(2)</td> <td>Adjustment of center folding position for A4R/LETTER size (Number of sheets of a batch: 6 - 10 sheets)</td> </tr> <tr> <td>B4R(2)</td> <td>Adjustment of center folding position for B4R size (Number of sheets of a batch: 6 - 10 sheets)</td> </tr> <tr> <td>A3R/LDR(2)</td> <td>Adjustment of center folding position for A3R/LEDGER size (Number of sheets of a batch: 6 - 10 sheets)</td> </tr> <tr> <td>A4R/LTR(3)</td> <td>Adjustment of center folding position for A4R/LETTER size (Number of sheets of a batch: 11 - 16 sheets)</td> </tr> <tr> <td>B4R(3)</td> <td>Adjustment of center folding position for B4R size (Number of sheets of a batch: 11 - 16 sheets)</td> </tr> <tr> <td>A3R/LDR(3)</td> <td>Adjustment of center folding position for A3R/LEDGER size (Number of sheets of a batch: 11 - 16 sheets)</td> </tr> </tbody> </table> <p>Setting range: -10 to +10 Initial setting: 0 Change in value per step: 0.6 mm</p> <ol style="list-style-type: none"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. <p>Supplement If the items of SADDLE ADJUST are changed, those of SADDLE ADJUST 2 will also be changed. SADDLE ADJUST 2, therefore, need not be changed in principle. Only if any problem occurs at the center folding position depending on the number of sheets of a batch, adjust SADDLE ADJUST 2.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	A4R/LTR(2)	Adjustment of center folding position for A4R/LETTER size (Number of sheets of a batch: 6 - 10 sheets)	B4R(2)	Adjustment of center folding position for B4R size (Number of sheets of a batch: 6 - 10 sheets)	A3R/LDR(2)	Adjustment of center folding position for A3R/LEDGER size (Number of sheets of a batch: 6 - 10 sheets)	A4R/LTR(3)	Adjustment of center folding position for A4R/LETTER size (Number of sheets of a batch: 11 - 16 sheets)	B4R(3)	Adjustment of center folding position for B4R size (Number of sheets of a batch: 11 - 16 sheets)	A3R/LDR(3)	Adjustment of center folding position for A3R/LEDGER size (Number of sheets of a batch: 11 - 16 sheets)
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Maintenance item No.	Description						
U250	<p>Setting the maintenance cycle</p> <p>Description Displays and changes the maintenance cycle.</p> <p>Purpose To check and change the maintenance cycle.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Change the setting using the numeric keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Maintenance cycle</td> <td>0 to 600000</td> <td>500000</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Maintenance cycle	0 to 600000	500000
Description	Setting range	Initial setting					
Maintenance cycle	0 to 600000	500000					
U251	<p>Checking/clearing the maintenance count</p> <p>Description Displays, clears and changes the maintenance count.</p> <p>Purpose To check the maintenance count. Also to clear the count during maintenance service.</p> <p>Method Press the start key. The maintenance count is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a six-digit count using the numeric keys. 2. Press the start key. The count is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						

Maintenance item No.	Description																									
U252	<p>Setting the destination</p> <p>Description Switches the operations and screens of the machine according to the destination.</p> <p>Purpose To be executed after replacing the backup RAM on the main PCB or initializing the backup RAM by running maintenance item U020, in order to return the setting to the value before replacement or initialization.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the destination. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>JAPAN METRIC</td> <td>Metric (Japan) specifications</td> </tr> <tr> <td>INCH</td> <td>Inch (North America) specifications</td> </tr> <tr> <td>EUROPE METRIC</td> <td>Metric (Europe) specifications</td> </tr> <tr> <td>ASIA PACIFIC</td> <td>Metric (Asia Pacific) specifications</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The setting is set, and the machine automatically returns to the same status as when the power is turned on. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p> <p>Supplement The specified initial settings are provided according to the destinations in the maintenance items below. To change the initial settings in those items, be sure to run maintenance item U021 after changing the destination.</p> <ul style="list-style-type: none"> Initial setting according to the destinations <table border="1"> <thead> <tr> <th>Maintenance item No.</th> <th>Title</th> <th>Japan</th> <th>Inch</th> <th>Europe Metric, Asia Pacific</th> </tr> </thead> <tbody> <tr> <td>253</td> <td>Switching between double and single counts</td> <td>Single</td> <td>Double</td> <td>Double</td> </tr> <tr> <td>255</td> <td>Setting auto clear time</td> <td>120 s</td> <td>90 s</td> <td>90 s</td> </tr> </tbody> </table>	Display	Description	JAPAN METRIC	Metric (Japan) specifications	INCH	Inch (North America) specifications	EUROPE METRIC	Metric (Europe) specifications	ASIA PACIFIC	Metric (Asia Pacific) specifications	Maintenance item No.	Title	Japan	Inch	Europe Metric, Asia Pacific	253	Switching between double and single counts	Single	Double	Double	255	Setting auto clear time	120 s	90 s	90 s
Display	Description																									
JAPAN METRIC	Metric (Japan) specifications																									
INCH	Inch (North America) specifications																									
EUROPE METRIC	Metric (Europe) specifications																									
ASIA PACIFIC	Metric (Asia Pacific) specifications																									
Maintenance item No.	Title	Japan	Inch	Europe Metric, Asia Pacific																						
253	Switching between double and single counts	Single	Double	Double																						
255	Setting auto clear time	120 s	90 s	90 s																						
U253	<p>Switching between double and single counts</p> <p>Description Switches the count system for the total counter and other counters.</p> <p>Purpose According to user (copy service provider) request, select if A3/LEDGER or B4/LEGEL paper is to be counted as one sheet (single count) or two sheets (double count).</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select double or single count. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SINGLE COUNT</td> <td>Single count for all size paper</td> </tr> <tr> <td>DOUBLE COUNT(A3/LEDGER)</td> <td>Double count for A3/LEDGER paper only</td> </tr> <tr> <td>DOUBLE COUNT(B4/LEGEL)</td> <td>Double count for B4/LEGEL size or larger</td> </tr> </tbody> </table> <p>Initial setting: DOUBLE COUNT(A3/LEDGER)</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SINGLE COUNT	Single count for all size paper	DOUBLE COUNT(A3/LEDGER)	Double count for A3/LEDGER paper only	DOUBLE COUNT(B4/LEGEL)	Double count for B4/LEGEL size or larger																	
Display	Description																									
SINGLE COUNT	Single count for all size paper																									
DOUBLE COUNT(A3/LEDGER)	Double count for A3/LEDGER paper only																									
DOUBLE COUNT(B4/LEGEL)	Double count for B4/LEGEL size or larger																									

Maintenance item No.	Description						
U254	<p>Turning auto start function on/off</p> <p>Description Selects if the auto start function is turned on.</p> <p>Purpose Normally no change is necessary. If incorrect operation occurs, turn the function off: this may solve the problem.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select either ON or OFF. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Auto start function on</td> </tr> <tr> <td>OFF</td> <td>Auto start function off</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Auto start function on	OFF	Auto start function off
Display	Description						
ON	Auto start function on						
OFF	Auto start function off						
U255	<p>Setting auto clear time</p> <p>Description Sets the time to return to initial settings after copying is complete.</p> <p>Purpose To be set according to frequency of use. Set to a comparatively long time for continuous copying at the same settings, and a comparatively short time for frequent copying at various settings.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting 1. Change the setting using the cursor up/down keys.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Auto clear time</td> <td>10 to 270 (s)</td> <td>90</td> </tr> </tbody> </table> <p>The setting can be changed by 10 s per step. When set to 0, the auto clear function is cancelled.</p> <p>2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Auto clear time	10 to 270 (s)	90
Description	Setting range	Initial setting					
Auto clear time	10 to 270 (s)	90					

Maintenance item No.	Description						
<p>U256</p>	<p>Turning auto preheat/energy saver function on/off</p> <p>Description Selects if the auto preheat/energy saver function is turned on. When set to ON, the time to enter preheat/energy saver mode can be changed in copy management mode.</p> <p>Purpose According to user request, to set the preheat time to save energy, or enable copying promptly without the recovery time from preheat mode.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Auto preheat/energy saver function on</td> </tr> <tr> <td>OFF</td> <td>Auto preheat/energy saver function off</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. When the setting is changed from OFF to ON, the auto preheat time is set to the initial setting of 15 minutes. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Auto preheat/energy saver function on	OFF	Auto preheat/energy saver function off
Display	Description						
ON	Auto preheat/energy saver function on						
OFF	Auto preheat/energy saver function off						

Maintenance item No.	Description																								
U258	<p>Switching copy operation at toner empty detection</p> <p>Description Selects if continuous copying is enabled after toner empty is detected, and sets the number of copies that can be made after the detection.</p> <p>Purpose To change the copying operation after detection of toner empty status.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>EMPTY COUNT</td> <td>Number of copies to be made after turning off of the toner level sensor before indicating toner empty</td> </tr> <tr> <td>EMPTY MODE</td> <td>Operation of copies after toner empty detection</td> </tr> </tbody> </table> <p>Setting the number of copies after turning off of the toner level sensor before indicating toner empty</p> <p>1. Change the setting using the cursor up/down keys.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Number of copies to be made after turning off of the toner level sensor before indicating toner empty</td> <td>100 to 300 (copies)</td> <td>200</td> </tr> </tbody> </table> <p>The setting can be changed by 100 per step.</p> <p>2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Setting the copy operation after toner empty detection</p> <p>1. Select single or continuous copying. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SINGLE</td> <td>Enables only single copying.</td> </tr> <tr> <td>CONTINUE</td> <td>Enables single and continuous copying.</td> </tr> </tbody> </table> <p>Initial setting: SINGLE</p> <p>2. Set the number of copies that can be made using the * or # keys .</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Number of copies after toner empty detection</td> <td>0 to 200 (copies)</td> <td>5</td> </tr> </tbody> </table> <p>The setting can be changed by 5 copies per step.</p> <p>When set to 0, the number of copies is not limited regardless of the setting for single or continuous copying.</p> <p>3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	EMPTY COUNT	Number of copies to be made after turning off of the toner level sensor before indicating toner empty	EMPTY MODE	Operation of copies after toner empty detection	Description	Setting range	Initial setting	Number of copies to be made after turning off of the toner level sensor before indicating toner empty	100 to 300 (copies)	200	Display	Description	SINGLE	Enables only single copying.	CONTINUE	Enables single and continuous copying.	Description	Setting range	Initial setting	Number of copies after toner empty detection	0 to 200 (copies)	5
Display	Description																								
EMPTY COUNT	Number of copies to be made after turning off of the toner level sensor before indicating toner empty																								
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Maintenance item No.	Description								
U260	<p>Changing the copy count timing</p> <p>Description Changes the copy count timing for the total counter and other counters.</p> <p>Purpose To be set according to user (copy service provider) request. If a paper jam occurs frequently in the finisher when the number of copies is counted at the time of paper ejection, copies are provided without copy counts. The copy service provider cannot charge for such copying. To prevent this, the copy timing should be made earlier. If a paper jam occurs frequently in the paper conveying or fixing sections when the number of copies is counted before the paper reaches those sections, copying is charged without a copy being made. To prevent this, the copy timing should be made later.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the copy count timing . The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>FEED</td> <td>When secondary paper feed starts</td> </tr> <tr> <td>EJECT</td> <td>When the paper is ejected</td> </tr> </tbody> </table> <p>Initial setting: EJECT</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	FEED	When secondary paper feed starts	EJECT	When the paper is ejected		
Display	Description								
FEED	When secondary paper feed starts								
EJECT	When the paper is ejected								
U263	<p>Setting the paper ejection when copying from the DF</p> <p>Description Sets whether the copies will be ejected in the same or opposite order as the originals when copying from the DF.</p> <p>Purpose Set according to the preference of the user.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the ejection order.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>FACE-DOWN (NOMAL)</td> <td>Face down ejection</td> </tr> <tr> <td>FACE-UP (SPEED)</td> <td>Face up ejection with bitmap copy</td> </tr> <tr> <td>FACE-UP (MEMORY)</td> <td>Face up ejection with memory copy</td> </tr> </tbody> </table> <p>Initial setting: FACE-DOWN</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	FACE-DOWN (NOMAL)	Face down ejection	FACE-UP (SPEED)	Face up ejection with bitmap copy	FACE-UP (MEMORY)	Face up ejection with memory copy
Display	Setting								
FACE-DOWN (NOMAL)	Face down ejection								
FACE-UP (SPEED)	Face up ejection with bitmap copy								
FACE-UP (MEMORY)	Face up ejection with memory copy								

Maintenance item No.	Description								
U264	<p>Setting the display order of the date</p> <p>Description Selects year, month and day as the order of that appears on lists, etc.</p> <p>Purpose Set according to the user preference.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the desired order. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>YEAR-MONTH-DATE</td> <td>Year/Month/Day</td> </tr> <tr> <td>MONTH-DATE-YEAR</td> <td>Month/Day/Year</td> </tr> <tr> <td>DATE-MONTH-YEAR</td> <td>Day/Month/Year</td> </tr> </tbody> </table> <p>Initial setting: MONTH-DATE-YEAR (for the inch specifications) DATE-MONTH-YEAR (for the metric specifications)</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	YEAR-MONTH-DATE	Year/Month/Day	MONTH-DATE-YEAR	Month/Day/Year	DATE-MONTH-YEAR	Day/Month/Year
Display	Setting								
YEAR-MONTH-DATE	Year/Month/Day								
MONTH-DATE-YEAR	Month/Day/Year								
DATE-MONTH-YEAR	Day/Month/Year								
U265	<p>Setting OEM purchaser code</p> <p>Description Sets the OEM purchaser code.</p> <p>Purpose Sets the code when replacing the main PCB and the like.</p> <p>Method Press the start key.</p> <p>Setting</p> <ol style="list-style-type: none"> Use the numeric keys or cursor up/down keys to adjust the preset value. Press the start key. The count is set , and the screen for selecting a maintenance item is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								

Maintenance item No.	Description						
U266	<p>Setting the number of days after which to automatically delete documents</p> <p>Description Sets the number of days to save documents on the HDD before automatically deleting.</p> <p>Purpose To change the number of days to retain data that is saved within the auto-delete area of the HDD before automatically deleting.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Number of days after which to automatically delete documents</td> <td>0 to 7 (days)</td> <td>7</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Number of days after which to automatically delete documents	0 to 7 (days)	7
Description	Setting range	Initial setting					
Number of days after which to automatically delete documents	0 to 7 (days)	7					
U275	<p>Setting the number of sheets for duplex circulation</p> <p>Description Sets the number of sheets for circulation in the duplex copy mode.</p> <p>Purpose To reduce the number of sheets for circulation if paper jams occur frequently in the duplex copy mode.</p> <p>Method</p> <ol style="list-style-type: none"> Press the start key. The screen for selecting an item is displayed. Select an item to be set. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MODE0</td> <td>Circulation of five sheets</td> </tr> <tr> <td>MODE1</td> <td>Circulation of four sheets</td> </tr> </tbody> </table> <p>Initial setting: MODE1</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MODE0	Circulation of five sheets	MODE1	Circulation of four sheets
Display	Description						
MODE0	Circulation of five sheets						
MODE1	Circulation of four sheets						
U277	<p>Setting auto application change time</p> <p>Description Sets the time that passes until the machine starts automatically printing after completing copying or operation when the machine is used as a printer (only if the printer kit is installed).</p> <p>Purpose According to user request, changes the setting.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Switching time</td> <td>30 to 270 (s)</td> <td>30</td> </tr> </tbody> </table> <p>The setting can be changed by 30 s per step.</p> <ol style="list-style-type: none"> Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Switching time	30 to 270 (s)	30
Description	Setting range	Initial setting					
Switching time	30 to 270 (s)	30					

Maintenance item No.	Description												
U330	<p>Setting the number of sheets to enter stacking mode during sort operation</p> <p>Description Sets the number of copies at which copy ejection will be switched from the optional document finisher's sub tray to its main tray when sorting is turned ON in the setting for the output mode under user simulation.</p> <p>Purpose To be set as required according to the number of copies the user makes.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Number of copies to be ejected on the sub tray</td> <td>0 to 100 (sheets)</td> <td>100</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Number of copies to be ejected on the sub tray	0 to 100 (sheets)	100						
Description	Setting range	Initial setting											
Number of copies to be ejected on the sub tray	0 to 100 (sheets)	100											
U331	<p>Switching the paper ejection mode</p> <p>Description Sets whether to eject copied sheets with the printed face facing up or down.</p> <p>Purpose To be set according to user request.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the ejection mode. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>FACE UP</td> <td>Face-up ejection</td> </tr> <tr> <td>FACE DOWN</td> <td>Face-down ejection</td> </tr> </tbody> </table> <p>Initial setting: FACE UP</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	FACE UP	Face-up ejection	FACE DOWN	Face-down ejection						
Display	Description												
FACE UP	Face-up ejection												
FACE DOWN	Face-down ejection												
U332	<p>Setting the size conversion factor</p> <p>Description Sets the coefficient of nonstandard sizes in relation to the A4/11" × 8¹/₂" size. The coefficient set here is used to convert the black ratio in relation to the A4/11" × 8¹/₂" size and to display the result in user simulation.</p> <p>Purpose To set the coefficient for converting the black ratio for nonstandard sizes in relation to the A4/11" × 8¹/₂" size for copying and printing respectively.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select copying (COPY) or printing (PRT). Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>COPY</td> <td>Size parameter for copying</td> <td>0.1 to 3.0</td> <td>1.0</td> </tr> <tr> <td>PRT</td> <td>Size parameter for printing</td> <td>0.1 to 3.0</td> <td>1.0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>	Display	Description	Setting range	Initial setting	COPY	Size parameter for copying	0.1 to 3.0	1.0	PRT	Size parameter for printing	0.1 to 3.0	1.0
Display	Description	Setting range	Initial setting										
COPY	Size parameter for copying	0.1 to 3.0	1.0										
PRT	Size parameter for printing	0.1 to 3.0	1.0										

Maintenance item No.	Description										
<p>U335</p>	<p>Setting the drum heater mode</p> <p>Description Sets the drum heater to ON or OFF.</p> <p>Purpose To change the setting when dew condensation on the drum is heavy.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select ON1,ON2,ON3 or OFF. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON1</td> <td>To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on: 10 minutes</td> </tr> <tr> <td>ON2</td> <td>To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: ON, Heater ON time after power on: 10 minutes</td> </tr> <tr> <td>ON3</td> <td>To activate the following drum heater ON/OFF control regardless of the absolute humidity in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on, under absolute humidity of 135 g/m³ or more: 10 minutes, under absolute humidity of less than 135 g/m³: 5 minutes</td> </tr> <tr> <td>OFF</td> <td>To keep the drum heater OFF</td> </tr> </tbody> </table> <p>Initial setting: ON1</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON1	To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m ³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on: 10 minutes	ON2	To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m ³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: ON, Heater ON time after power on: 10 minutes	ON3	To activate the following drum heater ON/OFF control regardless of the absolute humidity in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on, under absolute humidity of 135 g/m ³ or more: 10 minutes, under absolute humidity of less than 135 g/m ³ : 5 minutes	OFF	To keep the drum heater OFF
Display	Description										
ON1	To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m ³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on: 10 minutes										
ON2	To activate the following drum heater ON/OFF control if the absolute humidity is 135 g/m ³ or more in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: ON, Heater ON time after power on: 10 minutes										
ON3	To activate the following drum heater ON/OFF control regardless of the absolute humidity in the copy-stop state after power is turned on * During copying: OFF, When front cover is open: OFF, Heater ON time after power on, under absolute humidity of 135 g/m ³ or more: 10 minutes, under absolute humidity of less than 135 g/m ³ : 5 minutes										
OFF	To keep the drum heater OFF										
<p>U336</p>	<p>Setting the HDD type</p> <p>Description Sets the manufacturer and type of the HDD.</p> <p>Purpose To set data according to the manufacturer and type of the new HDD after replacement.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>HDD type</td> <td>0 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>	Description	Setting range	Initial setting	HDD type	0 to 255	0				
Description	Setting range	Initial setting									
HDD type	0 to 255	0									

Maintenance item No.	Description										
U339	<p>Setting the drawer heater mode</p> <p>Description Sets the drawer heater to ON or OFF for the sleep mode.</p> <p>Purpose Change of setting is not needed in principle.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select ON or OFF. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>The drawer heater is on even if the main switch is off. (The drawer heater is always on except during driving.)</td> </tr> <tr> <td>OFF</td> <td>The drawer heater is on only if the main switch is off. (The drawer heater is off if the main switch is on.)</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	The drawer heater is on even if the main switch is off. (The drawer heater is always on except during driving.)	OFF	The drawer heater is on only if the main switch is off. (The drawer heater is off if the main switch is on.)				
Display	Description										
ON	The drawer heater is on even if the main switch is off. (The drawer heater is always on except during driving.)										
OFF	The drawer heater is on only if the main switch is off. (The drawer heater is off if the main switch is on.)										
U341	<p>Specific paper feed location setting for printing function</p> <p>Description Sets a paper feed location specified for printer output (only if a printer kit is installed).</p> <p>Purpose To use a paper feed location only for printer output.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the paper feed location for the printer. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>LCF</td> <td>Larger paper deck</td> </tr> <tr> <td>CASSETTE 3</td> <td>Upper drawer</td> </tr> <tr> <td>CASSETTE 4</td> <td>Lower drawer</td> </tr> <tr> <td>SIDE DECK</td> <td>Optional side deck</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The setting is set. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	LCF	Larger paper deck	CASSETTE 3	Upper drawer	CASSETTE 4	Lower drawer	SIDE DECK	Optional side deck
Display	Description										
LCF	Larger paper deck										
CASSETTE 3	Upper drawer										
CASSETTE 4	Lower drawer										
SIDE DECK	Optional side deck										
U342	<p>Setting the ejection restriction</p> <p>Description Sets or cancels the restriction on the number of sheets to be ejected continuously when the internal eject tray is selected as the eject location.</p> <p>Purpose According to user request, sets or cancels restriction on the number of sheets.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select ON or OFF. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Sets restriction on the number of sheets</td> </tr> <tr> <td>OFF</td> <td>Cancels restriction on the number of sheets</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Sets restriction on the number of sheets	OFF	Cancels restriction on the number of sheets				
Display	Description										
ON	Sets restriction on the number of sheets										
OFF	Cancels restriction on the number of sheets										

Maintenance item No.	Description										
U343	<p>Switching between duplex/simplex copy mode</p> <p>Description Switches the initial setting between duplex and simplex copy.</p> <p>Purpose To be set according to frequency of use: set to the more frequently used mode.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select ON or OFF. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Duplex copy</td> </tr> <tr> <td>OFF</td> <td>Simplex copy</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Duplex copy	OFF	Simplex copy				
Display	Description										
ON	Duplex copy										
OFF	Simplex copy										
U344	<p>Setting preheat/energy saver mode</p> <p>Description Changes the control for preheat/energy saver mode.</p> <p>Purpose According to user request, selects which has priority, the recovery time from preheat or energy saver.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select control mode. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INSTANT READY</td> <td>The fixing control temperature is not lowered and only the display on the operation panel is turned off.</td> </tr> <tr> <td>ENERGY STAR</td> <td>The fixing control temperature is lowered by 20°C/68°F and forced stabilization is performed 30 seconds after exiting preheat.</td> </tr> <tr> <td>E 2000</td> <td>The fixing control temperature is lowered by 25°C/77°F and forced stabilization is performed 30 seconds after exiting preheat.</td> </tr> <tr> <td>TOP RUNNER</td> <td>Control in accordance with Top Runner is performed.</td> </tr> </tbody> </table> <p>Initial setting: ENERGY STAR</p> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INSTANT READY	The fixing control temperature is not lowered and only the display on the operation panel is turned off.	ENERGY STAR	The fixing control temperature is lowered by 20°C/68°F and forced stabilization is performed 30 seconds after exiting preheat.	E 2000	The fixing control temperature is lowered by 25°C/77°F and forced stabilization is performed 30 seconds after exiting preheat.	TOP RUNNER	Control in accordance with Top Runner is performed.
Display	Description										
INSTANT READY	The fixing control temperature is not lowered and only the display on the operation panel is turned off.										
ENERGY STAR	The fixing control temperature is lowered by 20°C/68°F and forced stabilization is performed 30 seconds after exiting preheat.										
E 2000	The fixing control temperature is lowered by 25°C/77°F and forced stabilization is performed 30 seconds after exiting preheat.										
TOP RUNNER	Control in accordance with Top Runner is performed.										
U345	<p>Setting the value for maintenance due indication</p> <p>Description Sets when to display a message notifying that the time for maintenance is about to be reached, by setting the number of copies that can be made before the current maintenance cycle ends. When the difference between the number of copies of the maintenance cycle and that of the maintenance count reaches the set value, the message is displayed. This maintenance mode is effective for only Japanese specification.</p>										

Maintenance item No.	Description						
U347	<p>Setting auto drawer size detection</p> <p>Description Turns the auto drawer size detection function on/off.</p> <p>Purpose To be used when turning the auto paper size (in the drawers) detection off and making copies onto only the specified size paper.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Detects the paper sizes in the drawers automatically.</td> </tr> <tr> <td>OFF</td> <td>Does not detect the paper sizes in the drawers automatically.</td> </tr> </tbody> </table> <p>Initial setting: ON (inch), OFF (metric)</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Detects the paper sizes in the drawers automatically.	OFF	Does not detect the paper sizes in the drawers automatically.
Display	Description						
ON	Detects the paper sizes in the drawers automatically.						
OFF	Does not detect the paper sizes in the drawers automatically.						
U350	<p>Setting the ID-code error output</p> <p>Description Sets whether or not an error report is output when an ID-code error occurs.</p> <p>Purpose According to user request, changes the setting.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Error report is output</td> </tr> <tr> <td>OFF</td> <td>Error report is not output</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Error report is output	OFF	Error report is not output
Display	Description						
ON	Error report is output						
OFF	Error report is not output						

Maintenance item No.	Description						
<p>U355</p>	<p>Setting the output mode for face up output</p> <p>Description Specifies whether to output from the first page so that the pages after the second page are stacked on the first page or to output from the last page so that the first page is stacked at the top when outputting face up in printing.</p> <p>Purpose Set according to the preference of the user.</p> <p>Method Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>FIRST PRINT</td> <td>To output from the first page</td> </tr> <tr> <td>ORDER OF PAGE</td> <td>To output from the last page</td> </tr> </tbody> </table> <p>Initial setting: FIRST PRINT</p> <ol style="list-style-type: none"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	FIRST PRINT	To output from the first page	ORDER OF PAGE	To output from the last page
Display	Description						
FIRST PRINT	To output from the first page						
ORDER OF PAGE	To output from the last page						
<p>U402</p>	<p>Adjusting margins of image printing</p> <p>Adjustment See page 1-6-20.</p>						
<p>U403</p>	<p>Adjusting margins for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-43.</p>						
<p>U404</p>	<p>Adjusting margins for scanning an original from the DF</p> <p>Adjustment See page 1-6-82.</p>						
<p>U407</p>	<p>Adjusting the leading edge registration for memory image printing</p> <p>Adjustment See page 1-6-18.</p>						

Maintenance item No.	Description														
U504	<p>Initializing the scanner NIC</p> <p>Description Initializing the optional scanner NIC to its factory default.</p> <p>Purpose To return to a setup at the time of factory shipments.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. All data in the scanner NIC is initialized. <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>														
U505	<p>Setting Data Base Assistant</p> <p>Description Sets whether or not the database linkage setting is enabled if an optional network scanner is installed.</p> <p>Purpose According to user request, changes the setting.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Database linkage setting is enabled.</td> </tr> <tr> <td>OFF</td> <td>Database linkage setting is disabled.</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Database linkage setting is enabled.	OFF	Database linkage setting is disabled.								
Display	Description														
ON	Database linkage setting is enabled.														
OFF	Database linkage setting is disabled.														
U901	<p>Checking/clearing copy counts by paper feed locations</p> <p>Description Displays or clears copy counts by paper feed locations.</p> <p>Purpose To check the time to replace consumable parts. Also to clear the counts after replacing the consumable parts.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The counts by paper feed locations are displayed. 2. Change the screen using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Paper feed locations</th> </tr> </thead> <tbody> <tr> <td>BYPASS</td> <td>Bypass tray</td> </tr> <tr> <td>LCF</td> <td>Large paper deck</td> </tr> <tr> <td>THIRD</td> <td>Drawer 3</td> </tr> <tr> <td>FORTH</td> <td>Drawer 4</td> </tr> <tr> <td>SIDE DECK</td> <td>Optional side deck</td> </tr> <tr> <td>DUPLEX</td> <td>Duplex unit</td> </tr> </tbody> </table> <p>When an optional paper feed device is not installed, the corresponding count is not displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the count to be cleared. The selected item is displayed in reverse. To clear the counts for all paper feed locations, press the reset key. 2. Press the start key. The count is cleared. When clearing all counts, the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Paper feed locations	BYPASS	Bypass tray	LCF	Large paper deck	THIRD	Drawer 3	FORTH	Drawer 4	SIDE DECK	Optional side deck	DUPLEX	Duplex unit
Display	Paper feed locations														
BYPASS	Bypass tray														
LCF	Large paper deck														
THIRD	Drawer 3														
FORTH	Drawer 4														
SIDE DECK	Optional side deck														
DUPLEX	Duplex unit														

Maintenance item No.	Description						
<p>U903</p>	<p>Checking/clearing the paper jam counts</p> <p>Description Displays or clears the jam counts by jam locations.</p> <p>Purpose To check the paper jam status. Also to clear the jam counts after replacing consumable parts.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>COUNT</td> <td>Displays/clears the jam counts</td> </tr> <tr> <td>TOTAL COUNT</td> <td>Displays the total jam counts</td> </tr> </tbody> </table> <p>Method: Displays/clears the jam counts</p> <ol style="list-style-type: none"> 1. Select COUNT in the screen for selecting an item. The count for jam detection by type is displayed. 2. Change the screen using the * or # keys. 3. Select the counts for all jam codes and press the reset key. 4. Press the start key. The count is cleared. <p>Method: Displays the total jam counts</p> <ol style="list-style-type: none"> 1. Select TOTAL COUNT in the screen for selecting an item. The total number of jam counts by type is displayed. 2. Use the * or # keys to switch the display. The total number of jam count cannot be cleared. To return to the screen for selecting an item, press the stop clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	COUNT	Displays/clears the jam counts	TOTAL COUNT	Displays the total jam counts
Display	Description						
COUNT	Displays/clears the jam counts						
TOTAL COUNT	Displays the total jam counts						
<p>U904</p>	<p>Checking/clearing the service call counts</p> <p>Description Displays or clears the service call code counts by types.</p> <p>Purpose To check the service call code status by types. Also to clear the service call code counts after replacing consumable parts.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>COUNT</td> <td>Displays/clears the call for service counts</td> </tr> <tr> <td>TOTAL COUNT</td> <td>Displays the total call for service counts</td> </tr> </tbody> </table> <p>Method: Displays/clears the call for service counts</p> <ol style="list-style-type: none"> 1. Select COUNT in the screen for selecting an item. The count for call for service detection by type is displayed. 2. Change the screen using the * or # keys. 3. Select the counts for all service call and press the reset key. 4. Press the start key. The count is cleared. <p>Method: Displays the total call for service counts</p> <ol style="list-style-type: none"> 1. Select TOTAL COUNT in the screen for selecting an item. The total number of call for service counts by type is displayed. 2. Use the * or # keys to switch the display. The total number of call for service count cannot be cleared. To return to the screen for selecting an item, press the stop clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	COUNT	Displays/clears the call for service counts	TOTAL COUNT	Displays the total call for service counts
Display	Description						
COUNT	Displays/clears the call for service counts						
TOTAL COUNT	Displays the total call for service counts						

Maintenance item No.	Description																				
U905	<p>Checking/clearing counts by optional devices</p> <p>Description Displays or clears the counts of the DF or optional finisher.</p> <p>Purpose To check the use of the DF and optional finisher. Also to clear the counts after replacing consumable parts.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the device, the count of which is to be checked. The count of the selected device is displayed. <ul style="list-style-type: none"> • DF <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CHANGE</td> <td>Original replacement count</td> </tr> <tr> <td>ADF</td> <td>No. of single-sided originals that has passed through the DF in ADF mode</td> </tr> <tr> <td>RADF</td> <td>No. of double-sided originals that has passed through the DF in RADF mode</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Finisher <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CP CNT</td> <td>No. of copies that has passed</td> </tr> <tr> <td>STAPLE</td> <td>Frequency the stapler has been activated</td> </tr> <tr> <td>PUNCH</td> <td>Frequency the punch has been activated</td> </tr> <tr> <td>STACK</td> <td>Frequency the stacker has been activated</td> </tr> <tr> <td>SADDLE</td> <td>Frequency the center holding has been activated</td> </tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. The selected item is displayed in reverse. Select the counts for all, press the reset key. 2. Press the start key. The count is cleared. 3. To return to the screen for selecting an item, press the stop/clear key. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	CHANGE	Original replacement count	ADF	No. of single-sided originals that has passed through the DF in ADF mode	RADF	No. of double-sided originals that has passed through the DF in RADF mode	Display	Description	CP CNT	No. of copies that has passed	STAPLE	Frequency the stapler has been activated	PUNCH	Frequency the punch has been activated	STACK	Frequency the stacker has been activated	SADDLE	Frequency the center holding has been activated
Display	Description																				
CHANGE	Original replacement count																				
ADF	No. of single-sided originals that has passed through the DF in ADF mode																				
RADF	No. of double-sided originals that has passed through the DF in RADF mode																				
Display	Description																				
CP CNT	No. of copies that has passed																				
STAPLE	Frequency the stapler has been activated																				
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STACK	Frequency the stacker has been activated																				
SADDLE	Frequency the center holding has been activated																				
U906	<p>Resetting partial operation control</p> <p>Description Resets the service call code for partial operation control.</p> <p>Purpose To be reset after partial operation is performed due to problems in the drawers or other sections, and the related parts are serviced.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Press EXECUTE on the touch panel. 3. Press the start key to reset partial operation control. The maintenance mode is exited, and the machine returns to the same status as when the main switch is turned on. 																				

Maintenance item No.	Description								
U907	<p>Checking and resetting the count value on each ejection location</p> <p>Description Displays and resets the count value of ejected sheets on each ejection location.</p> <p>Purpose Checks the replacement period for maintenance parts. Also resets the count value after replacing the maintenance parts.</p> <p>Method Press the start key. The screen for selecting an item is displayed. The count value on each ejection location is displayed</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>STRAIGHT</td> <td>Straight ejection count</td> </tr> <tr> <td>SWITCH BACK</td> <td>Reversed ejection count</td> </tr> <tr> <td>AUTO DUPLEX</td> <td>Duplex tray ejection count</td> </tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> Select the count to be cleared. The selected item is displayed in reverse. To clear the counts for all, press the reset key. Press the start key. The count is cleared, When clearing all counts, the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	STRAIGHT	Straight ejection count	SWITCH BACK	Reversed ejection count	AUTO DUPLEX	Duplex tray ejection count
Display	Description								
STRAIGHT	Straight ejection count								
SWITCH BACK	Reversed ejection count								
AUTO DUPLEX	Duplex tray ejection count								
U908	<p>Changing the total counter value</p> <p>Description Displays, clears and changes the total counter value.</p> <p>Purpose To check the total counter value.</p> <p>Method Press the start key. The screen for total count value is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TOTAL COUNT</td> <td>Electronic total counter value</td> </tr> <tr> <td>TOTAL COUNT (MACHINE)</td> <td>Mechanical total counter value entered at the beginning</td> </tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> Select the count to be cleared. The selected item is displayed in reverse. Press the reset key. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	TOTAL COUNT	Electronic total counter value	TOTAL COUNT (MACHINE)	Mechanical total counter value entered at the beginning		
Display	Description								
TOTAL COUNT	Electronic total counter value								
TOTAL COUNT (MACHINE)	Mechanical total counter value entered at the beginning								
U909	<p>Checking/clearing the fixing web count</p> <p>Description Displays and clears the count of the fixing web roller operation.</p> <p>Purpose To clear the fixing web counts after replacing the fixing web roller during maintenance or for other reasons.</p> <p>Method Press the start key.</p> <p>Clearing</p> <ol style="list-style-type: none"> Press the reset key. Press the start key. The value is cleared. The screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> Enter a six-digit value using the numeric keys. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								

Maintenance item No.	Description						
U910	<p>Clearing the black ratio data</p> <p>Description Clears the accumulated black ratio data for A4 sheets.</p> <p>Purpose To clear data as required at times such as during maintenance service.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Press CANCEL on the touch panel. 3. Press the start key. The accumulated black ratio data is cleared, and the screen for selecting a maintenance item is displayed. <p>Completion To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>						
U911	<p>Checking/clearing copy counts by paper sizes</p> <p>Description Displays and clears the paper feed counts by paper sizes.</p> <p>Purpose To check or clear the counts after replacing consumable parts.</p> <p>Method Press the start key. The screen for the paper feed counts by paper size is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the paper size. The selected item is displayed in reverse. To clear all counts, press the reset key. 2. Press the start key. The count is cleared. When clearing all counts, the screen for selecting a maintenance item is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
U922	<p>Checking/clearing the solenoid count value</p> <p>Description Displays and clears the count value of solenoid</p> <p>Purpose To check the period of replacement of solenoid. Also to clear the count value after replacement.</p> <p>Method Press the start key.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>BRA SOL COUNT</td> <td>Feed shift solenoid (FSSOL)</td> </tr> <tr> <td>D PRS OF SOL COUNT</td> <td>Duplex pressure release solenoid (DUPPRSOL)</td> </tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. 2. Press the reset key. 3. Press the start key. The value is cleared. The screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be changed. 2. Enter a six-digit value using the numeric keys. 3. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance No. item is displayed.</p>	Display	Description	BRA SOL COUNT	Feed shift solenoid (FSSOL)	D PRS OF SOL COUNT	Duplex pressure release solenoid (DUPPRSOL)
Display	Description						
BRA SOL COUNT	Feed shift solenoid (FSSOL)						
D PRS OF SOL COUNT	Duplex pressure release solenoid (DUPPRSOL)						

Maintenance item No.	Description
U960	<p>Outputting the machine used circumstances list</p> <p>Description Outputs machine used circumstances list and clears the data.</p> <p>Purpose To check the machine operation situation. Also to clear the data.</p> <p>Method Press the start key.</p> <p>Outputting the list</p> <ol style="list-style-type: none"> 1. Select OUTPUT. 2. Press the start key to output the list. <p>Clearing</p> <ol style="list-style-type: none"> 1. Select COUNT CLEAR. 2. Press the start key to clear the count. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U989	<p>HDD Scandisk</p> <p>Description Restores data in the hard disk by scanning the disk.</p> <p>Purpose If power is turned off while accessing to the hard disk is performed, the control information in the hard disk drive may be damaged. Use this mode to restore the data.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. When scanning of the disk is complete, the execution result is displayed. 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without executing scandisk, press the stop/clear key. The screen for selecting a <i>maintenance item No. is displayed.</i></p>
U990	<p>Checking/clearing the time for the exposure lamp to light</p> <p>Description Displays, clears or changes the accumulated time for the exposure lamp to light.</p> <p>Purpose To check duration of use of the exposure lamp. Also to clear the accumulated time for the lamp after replacement.</p> <p>Method Press the start key. The accumulated time of illumination for the exposure lamp is displayed in minutes.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The accumulated time is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a six-digit accumulated time using the numeric keys. 2. Press the start key. The time is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the accumulated time, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description						
U991	<p>Checking/clearing the scanner count</p> <p>Description Displays or clears the scanner operation count.</p> <p>Purpose To check the status of use of the scanner.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TOTAL SCAN COUNT</td> <td>Counts of scanner operation</td> </tr> <tr> <td>NT SCAN COUNT</td> <td>Counts of network scanner operation</td> </tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. 2. Press the reset key. 3. Press the start key. The count is cleared. The screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be changed. 2. Enter a seven-digit count using the numeric key. 3. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance No. item is displayed.</p>	Display	Description	TOTAL SCAN COUNT	Counts of scanner operation	NT SCAN COUNT	Counts of network scanner operation
Display	Description						
TOTAL SCAN COUNT	Counts of scanner operation						
NT SCAN COUNT	Counts of network scanner operation						
U992	<p>Checking or clearing the printer count</p> <p>Description Displays, clears or changes the print count of the printer when the optional printer board is installed.</p> <p>Purpose To check the frequency of use of the printer.</p> <p>Method Press the start key. <i>The screen for the printer count of the printer is displayed.</i></p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key. The count is cleared. The screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Enter a seven-digit count using the numeric keys. 2. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance No. item is displayed.</p>						

1-5-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the copier immediately stops copying and displays the jam location on the operation panel. Paper misfeed counts sorted by the detection condition can be checked in maintenance item U903.

To remove paper jammed in the copier, open the cassette, front cover, upper right cover or lower right cover. When paper is jammed in the SRDF, open the DF original reversing cover. To clear a jam in the feedshift and duplex sections, open the ejection cover or draw out the duplex unit.

Paper misfeed detection can be reset by opening and closing the respective covers to turn safety switch 1, 2, 3 or 4 off and on.

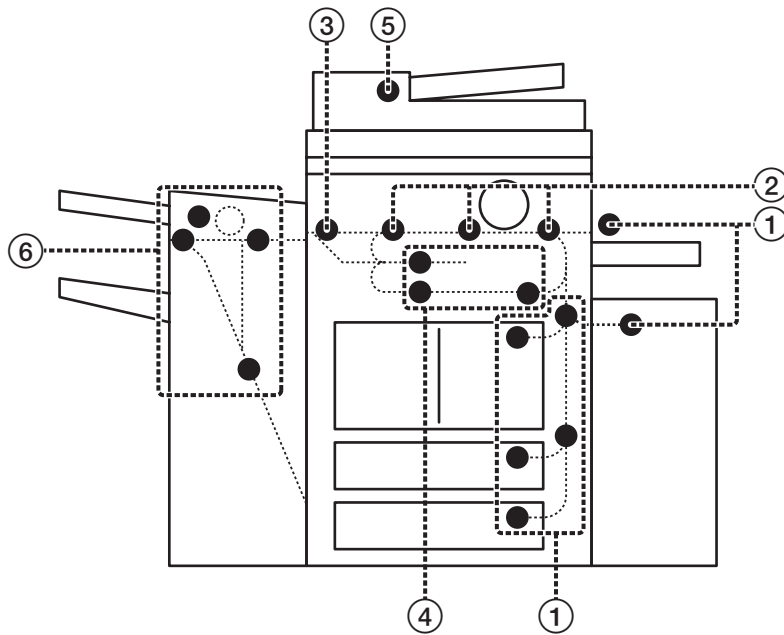


Figure 1-5-1

- ① Misfeed in the paper feed section
- ② Misfeed in the paper conveying section
- ③ Misfeed in the fixing section or the eject section
- ④ Misfeed in the feedshift section or duplex unit
- ⑤ Misfeed in the SRDF
- ⑥ Misfeed in the optional finisher

(2) Paper misfeed detection conditions

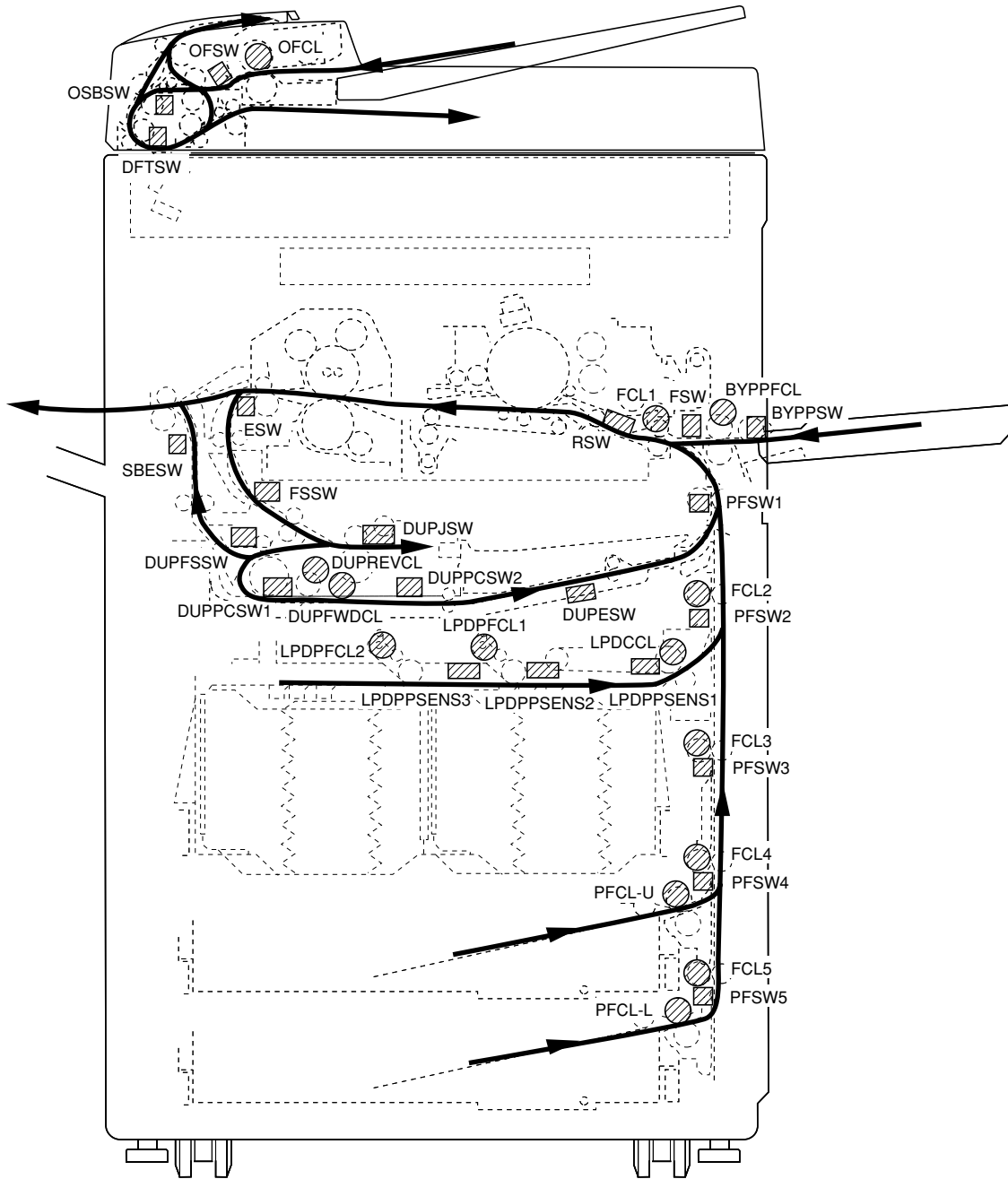


Figure 1-5-2

Section	Jam code	Description	Conditions
Paper feed section	10	No paper feed from large paper deck	Paper feed switch 2 (PFSW2) does not turn on within 818 ms of the large paper deck conveying clutch (LPDCCL) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the switch again fails to turn on within 818 ms.
	13	No paper feed from the upper cassette	Paper feed switch 4 (PFSW4) does not turn on within 789 ms of the upper paper feed clutch (PFCL-U) turning on; the clutch is then successively turned off for 1 s and turned back on twice, but the switch again fails to turn on within 789 ms.
	14	No paper feed from the lower cassette	Paper feed switch 5 (PFSW5) does not turn on within 789 ms of the lower paper feed clutch (PFCL-L) turning on; the clutch is then successively turned off for 1 s and turned back on twice, but the switch again fails to turn on within 789 ms.
	15	No paper feed from optional side deck	Paper feed switch 1 (PFSW1) does not turn on within 848 ms of the side deck paper feed clutch (SDPFCL) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the switch again fails to turn on within 848 ms.
	16	No paper feed from bypass	The feed switch (FSW) does not turn on within 424 ms of the bypass paper feed clutch (BYPPFCL) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the switch again fails to turn on within 424 ms.
	17	No paper feed from the large paper deck	Large paper deck paper path sensor 1 (LPDPPSENS1) does not turn on within 261 ms of large paper deck paper feed clutch 1 (LPDPFCL1) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the sensor again fails to turn on within 261 ms.
	18	No paper feed from the large paper deck	Large paper deck paper path sensor 2 (LPDPPSENS2) does not turn on within 423 ms of large paper deck paper feed clutch 2 (LPDPFCL2) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the sensor again fails to turn on within 423 ms.
	19	No paper feed from the large paper deck	Large paper deck paper path sensor 3 (LPDPPSENS3) does not turn on within 212 ms of large paper deck paper feed clutch 2 (LPDPFCL2) turning on; the clutch is then successively held off for 1 s and turned back on twice, but the sensor again fails to turn on within 212 ms.
	20	Misfeed in copier vertical paper conveying section 1	The feed switch (FSW) does not turn on within 833 ms of paper feed switch 1 (PFSW1) turning on (when paper is fed from a cassette).
	21	Misfeed in copier vertical paper conveying section 2	The feed switch (FSW) does not turn on within 833 ms of paper feed switch 1 (PFSW1) turning on (when paper is fed from the duplex unit).
	22	Misfeed in copier vertical paper conveying section 3	Paper feed switch 1 (PFSW1) does not turn on within 888 ms of paper feed switch 2 (PFSW2) turning on.
	23	Misfeed in copier vertical paper conveying section 4	Paper feed switch 2 (PFSW2) does not turn on within 1079 ms of paper feed switch 3 (PFSW3) turning on.
	24	Misfeed in copier vertical paper conveying section 5	Paper feed switch 3 (PFSW3) does not turn on within 939 ms of paper feed switch 4 (PFSW4) turning on.

Section	Jam code	Description	Conditions
Paper feed section	25	Misfeed in copier vertical paper conveying section 6	Paper feed switch 4 (PFSW4) does not turn on within 939 ms of paper feed switch 5 (PFSW5) turning on.
	26	Misfeed in converging section	The registration switch (RSW) does not turn on within 503 ms of the feed switch (FSW) turning on.
	27	Multiple sheets in copier vertical conveying section 1	Paper feed switch 1 (PFSW1) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on (when paper is fed from a cassette).
	28	Multiple sheets in copier vertical conveying section 2	Paper feed switch 1 (PFSW1) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on (when paper is fed from the duplex unit).
	29	Multiple sheets in copier vertical conveying section 3	Paper feed switch 2 (PFSW2) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on (when paper is fed from the large paper deck).
	30	Multiple sheets in copier vertical conveying section 4	Paper feed switch 2 (PFSW2) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on (when paper is fed from other than the large paper deck)
	31	Multiple sheets in copier vertical conveying section 5	Paper feed switch 3 (PFSW3) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on.
	32	Multiple sheets in copier vertical conveying section 6	Paper feed switch 4 (PFSW4) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on.
	33	Multiple sheets in copier vertical conveying section 7	Paper feed switch 5 (PFSW5) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on.
	34	Multiple sheets before registration section	The feed switch (FSW) does not turn off within the time required to convey the length of the used paper size plus 606 ms of turning on.
Paper conveying section	35	Misfeed in registration/transfer section 1	The registration switch (RSW) does not turn off within the time required to convey the length of the used paper size plus 375 ms of turning on (when paper is fed from a cassette).
	36	Misfeed in registration/transfer section 2	The registration switch (RSW) does not turn off within the time required to convey the length of the used paper size plus 375 ms of turning on (when paper is fed from the duplex unit).
Fixing section	40	Misfeed in fixing section 1	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the large paper deck).
	43	Misfeed in fixing section 2	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the upper cassette).

Section	Jam code	Description	Conditions
Fixing section	44	Misfeed in fixing section 3	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the lower cassette).
	45	Misfeed in fixing section 4	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the optional side deck).
	46	Misfeed in fixing section 5	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the bypass table).
	47	Misfeed in fixing section 6	The eject switch (ESW) does not turn on within 1829 ms of the registration clutch (RCL) turning on (when paper is fed from the duplex unit).
Eject section	50	Misfeed in eject section	The eject switch (ESW) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
	51	Misfeed in reverse face eject section	The switchback eject switch (SBESW) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
Feedshift section	52	Misfeed in feedshift section 1	The feedshift switch (FSSW) does not turn on within 1141 ms of the eject switch (ESW) turning on (when paper is fed from the large paper deck).
	55	Misfeed in feedshift section 2	The feedshift switch (FSSW) does not turn on within 1141 ms of the eject switch (ESW) turning on (when paper is fed from the upper cassette).
	56	Misfeed in feedshift section 3	The feedshift switch (FSSW) does not turn on within 1141 ms of the eject switch (ESW) turning on (when paper is fed from the lower cassette).
	57	Misfeed in feedshift section 4	The feedshift switch (FSSW) does not turn on within 1141 ms of the eject switch (ESW) turning on (when paper is fed from the optional side deck).
	58	Misfeed in feedshift section 5	The feedshift switch (FSSW) does not turn on within 1141 ms of the eject switch (ESW) turning on (when paper is fed from the bypass table).
	59	Misfeed in feedshift section 6	The feedshift switch (FSSW) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
Duplex section	60	Misfeed in duplex tray	The duplex feedshift switch (DUPFSSW) does not turn on within 625 ms of the duplex reversing clutch (DUPREVCL) turning on.
	61	Duplex/eject switching section 1	The switchback eject switch (SBESW) does not turn on within 1016 ms of the duplex feedshift switch (DUPFSSW) turning on.
	62	Duplex/eject switching section 2	Duplex paper conveying switch 1 (DUPPCSW1) does not turn on within 828 ms of the duplex feedshift switch (DUPFSSW) turning on.
	63	Misfeed in duplex paper conveying section 1	Duplex paper conveying switch 2 (DUPPCSW2) does not turn on within 1156 ms of duplex paper conveying switch 1 (DUPPCSW1) turning on.

Section	Jam code	Description	Conditions
Duplex section	64	Misfeed in duplex paper conveying section 2	The duplex eject switch (DUPESW) does not turn on within 1153 ms of duplex paper conveying switch 2 (DUPPCSW2) turning on.
	65	Misfeed in duplex paper conveying section 3	Duplex paper conveying switch 1 (DUPPCSW1) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
	66	Misfeed in duplex paper conveying section 4	Duplex paper conveying switch 2 (DUPPCSW2) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
	67	Misfeed in duplex eject section 1	Paper feed switch 1 (PFSW1) does not turn on within 1084 ms of the duplex eject switch (DUPESW) turning on.
	68	Misfeed in duplex eject section 2	The duplex eject switch (DUPESW) does not turn off within the time required to convey the length of the used paper size plus 625 ms of turning on.
DF	70	No original feed	In the primary original feed for the second original or after in the 1 sided or 2 sided original mode, even if retry operation is performed two times, primary original feed is not performed.
	71	An original jam in the original feed section 1	In the secondary original feed in the 1 sided original mode, even if the specified number of pulses of the original feed motor (OFM) passes after the original switchback switch (OSBSW) turns on, the ON status of the DF timing switch (DFTSW) is not detected.
	72	An original jam in the original feed section 2	In the secondary original feed in the 1 sided original mode, even if the specified number of pulses of the original conveying motor (OCM) passes after the DF timing switch (DFTSW) turns on, the OFF status of the original feed switch (OFSW) or the original switchback switch (OSBSW) is not detected. In the original switchback in the 2 sided original mode, even if the specified number of pulses of the original feed motor (OFM) passes after the original feed switch (OFSW) turns on, the OFF status of the original feed switch (OFSW) is not detected and the ON status of the original switchback switch (OSBSW) is not detected.
	73	An original jam in the original conveying section	In the secondary original feed in the 1 sided or 2 sided original mode, even if the specified number of pulses of the original conveying motor (OCM) passes after the DF timing switch (DFTSW) turns on, the OFF status of the DF timing switch (DFTSW) is not detected. In the secondary original feed in the 1 sided or 2 sided original mode, before the specified number of pulses of the original conveying motor (OCM) passes after the DF timing switch (DFTSW) turns on, the OFF status of the DF timing switch (DFTSW) is detected.
	74	An original jam remaining after retries	In the secondary original feed in the 1 sided or 2 sided original mode, even if retry operation is performed five times, secondary original feed is not performed.

Section	Jam code	Description	Conditions
DF	75	An original jam in the switchback section 1	<p>In the original switchback in the 2 sided original mode, even if the specified number of pulses of the original feed motor (OFM) passes after the original switchback switch (OSBSW) turns on, the OFF status of the original switchback switch (OSBSW) is not detected.</p> <p>In the secondary original feed in the 2 sided original mode, even if the specified number of pulses of the original feed motor (OFM) passes after the original conveying motor (OCM) turns on, the ON status of the DF timing switch (DFTSW) is not detected.</p> <p>In the original switchback in the 2 sided original mode, even if the specified number of pulses of the original feed motor (OFM) passes after the original feed switch (OFSW) turns on, the OFF status of the original feed switch (OFSW) is not detected and the OFF status of the original switchback switch (OSBSW) is detected.</p>
	76	An original jam in the switchback section 2	While the back side of an original is being scanned in the 2 sided original mode, even if the specified number of pulses of the original conveying motor (OCM) passes after the DF timing switch (DFTSW) turns on, the ON status of the original switchback switch (OSBSW) is not detected.
Optional finisher	80	Jam between the finisher and copier	There is no reply.
	81	Paper jam during paper insertion to the finisher	See the finisher service manual.
	82	Paper jam during paper insertion to the finisher and paper ejection to the sub tray	See the finisher service manual.
	83	Paper jam at the siding drum	See the finisher service manual.
	84	Paper jam during paper insertion to the intermediate tray	See the finisher service manual.
	85	Paper jam during ejection of stack of paper	See the finisher service manual.
	86	Jam in eject section of main tray	See the finisher service manual.
	87	Jam in eject section (middle tray) of main tray	See the finisher service manual.
	88	Jam in eject section of main tray	See the finisher service manual.
	89	Jam in cover open	See the finisher service manual.
	90	Jam in stapler	See the finisher service manual.
	91	Jam in saddle paper entry section	See the finisher service manual.
92	Jam in saddle paper entry section	See the finisher service manual.	

Section	Jam code	Description	Conditions
Optional finisher	93	Jam in saddle tray section	See the finisher service manual.
	94	Jam in saddle eject section	See the finisher service manual.
	95	Jam in saddle eject section	See the finisher service manual.
System	04	Cover open JAM	A cover open state is detected during copying.
	05	Secondary feed timeout JAM	Secondary feed start request is not issued even 30 seconds after the registration switch (RSW) is turned on.
	06	Main charger fault JAM	The main charger fault signal is detected continuously for 400 ms when main charging is turned on.

(3) Paper misfeeds**• Copier**

Problem	Causes/check procedures	Corrective measures
(1) A paper jam in the paper feed, conveying or eject section is indicated as soon as the main switch is turned on.	A piece of paper torn from copy paper is caught around paper feed switch 1/2/3/4/5, the feed switch, registration switch or eject switch.	Check visually and remove it, if any.
	Defective paper feed switch 1.	Run maintenance item U031 and turn paper feed switch 1 on and off manually. Replace paper feed switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 2.	Run maintenance item U031 and turn paper feed switch 2 on and off manually. Replace paper feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 3.	Run maintenance item U031 and turn paper feed switch 3 on and off manually. Replace paper feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 4.	Run maintenance item U031 and turn paper feed switch 4 on and off manually. Replace paper feed switch 4 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 5.	Run maintenance item U031 and turn paper feed switch 5 on and off manually. Replace paper feed switch 5 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch.	Run maintenance item U031 and turn feed switch on and off manually. Replace feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn registration switch on and off manually. Replace registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
Defective eject switch.	Run maintenance item U031 and turn eject switch on and off manually. Replace eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.	
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from copier large paper deck). Jam code 10	Paper in the large paper deck is extremely curled.	Change the paper.
	Broken paper feed switch 2 actuator.	Check visually and replace paper feed switch 2 if its actuator is broken.
	Defective paper feed switch 2.	Run maintenance item U031 and turn paper feed switch 2 on and off manually. Replace paper feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the large paper deck conveying clutch malfunctions.	Run maintenance item U032 and select the large paper deck conveying clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.

Problem	Causes/check procedures	Corrective measures
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from copier large paper deck). Jam code 10	Electrical problem with the large paper deck conveying clutch.	Check (see page 1-5-52).
	Check if the large paper deck paper feed clutch 1/2 malfunctions.	Run maintenance item U032 and select the large paper deck paper feed clutch 1/2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the large paper deck paper feed clutch 1/2.	Check (see page 1-5-52 and 53).
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from copier upper cassette). Jam code 13	Paper in the upper cassette is extremely curled.	Change the paper.
	Check if the upper paper feed pulley, lower paper feed pulley or upper forwarding pulley of the upper cassette are deformed.	Check visually and replace any deformed pulleys.
	Broken paper feed switch 4 actuator.	Check visually and replace paper feed switch 4 if its actuator is broken.
	Defective paper feed switch 4.	Run maintenance item U031 and turn paper feed switch 4 on and off manually. Replace paper feed switch 4 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the upper paper feed clutch malfunctions.	Run maintenance item U032 and select the upper paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the upper paper feed clutch.	Check (see page 1-5-51).
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from copier lower cassette). Jam code 14	Paper in the lower cassette is extremely curled.	Change the paper.
	Check if the upper paper feed pulley, lower paper feed pulley or upper forwarding pulley of the lower cassette are deformed.	Check visually and replace any deformed pulleys.
	Broken paper feed switch 5 actuator.	Check visually and replace paper feed switch 5 if its actuator is broken.
	Defective paper feed switch 5.	Run maintenance item U031 and turn paper feed switch 5 on and off manually. Replace paper feed switch 5 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the lower paper feed clutch malfunctions.	Run maintenance item U032 and select the lower paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the lower paper feed clutch.	Check (see page 1-5-51).

Problem	Causes/check procedures	Corrective measures
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from optional side deck). Jam code 15	Check if the side deck paper feed clutch malfunctions.	Check and repair if necessary.
	Electrical problem with the side deck paper feed clutch.	Check.
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from bypass). Jam code 16	Paper on the bypass table is extremely curled.	Change the paper.
	Check if the forwarding pulley, upper or lower paper feed pulleys of the bypass are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch actuator.	Check visually and replace the feed switch if its actuator is broken.
	Defective feed switch.	Run maintenance item U031 and turn feed switch on and off manually. Replace feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the bypass paper feed clutch malfunctions.	Run maintenance item U032 and select the bypass paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the bypass paper feed clutch.	Check (see page 1-5-52).
(7) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section). Jam code 20,21,22,23,24,25	Broken feed switch actuator.	Check visually and replace the feed switch if its actuator is broken.
	Defective feed switch.	Run maintenance item U031 and turn feed switch on and off manually. Replace feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 1 actuator.	Check visually and replace paper feed switch 1 if its actuator is broken.
	Defective paper feed switch 1.	Run maintenance item U031 and turn paper feed switch 1 on and off manually. Replace paper feed switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 2 actuator.	Check visually and replace paper feed switch 2 if its actuator is broken.
	Defective paper feed switch 2.	Run maintenance item U031 and turn paper feed switch 2 on and off manually. Replace paper feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 3 actuator.	Check visually and replace paper feed switch 3 if its actuator is broken.
	Defective paper feed switch 3.	Run maintenance item U031 and turn paper feed switch 3 on and off manually. Replace paper feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(7) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section). Jam code 20,21,22, 23,24,25	Broken paper feed switch 4 actuator.	Check visually and replace paper feed switch 4 if its actuator is broken.
	Defective paper feed switch 4.	Run maintenance item U031 and turn paper feed switch 4 on and off manually. Replace paper feed switch 4 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 5 actuator.	Check visually and replace paper feed switch 5 if its actuator is broken.
	Defective paper feed switch 5.	Run maintenance item U031 and turn paper feed switch 5 on and off manually. Replace paper feed switch 5 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the feed pulleys, feed roller and vertical paper conveying rollersA, B,C and D do not contact each other.	Check visually and remedy if necessary.
	Check if the feed pulleys, feed roller and vertical paper conveying rollersA, B,C and D are deformed.	Repair or replace if necessary.
	Check if the upper paper feed clutch malfunctions.	Run maintenance item U032 and select the upper paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the upper paper feed clutch.	Check (see page 1-5-51).
	Check if the lower paper feed clutch malfunctions.	Run maintenance item U032 and select the lower paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the lower paper feed clutch.	Check (see page 1-5-51).	
(8) A paper jam in the paper feed section is indicated during copying (jam in converging section). Jam code 26	Defective registration switch.	Run maintenance item U031 and turn registration switch on and off manually. Replace registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(9) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier vertical conveying section). Jam code 27,28,29, 30,31,32,33	Broken paper feed switch 2 actuator.	Check visually and replace paper feed switch 2 if its actuator is broken.
	Defective paper feed switch 2.	Run maintenance item U031 and turn paper feed switch 2 on and off manually. Replace paper feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 3 actuator.	Check visually and replace paper feed switch 3 if its actuator is broken.
	Defective paper feed switch 3.	Run maintenance item U031 and turn paper feed switch 3 on and off manually. Replace paper feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
<p>(9) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier vertical conveying section). Jam code 27,28,29,30,31,32,33</p>	Broken paper feed switch 4 actuator.	Check visually and replace paper feed switch 4 if its actuator is broken.
	Defective paper feed switch 4.	Run maintenance item U031 and turn paper feed switch 4 on and off manually. Replace paper feed switch 4 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper feed switch 5 actuator.	Check visually and replace paper feed switch 5 if its actuator is broken.
	Defective paper feed switch 5.	Run maintenance item U031 and turn paper feed switch 5 on and off manually. Replace paper feed switch 5 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the feed pulleys, feed roller and vertical paper conveying rollersA, B,C and D do not contact each other.	Check visually and remedy if necessary.
	Check if the feed pulleys, feed roller and vertical paper conveying rollersA, B,C and D are deformed.	Repair or replace if necessary.
	Check if the upper paper feed clutch malfunctions.	Run maintenance item U032 and select the upper paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the upper paper feed clutch.	Check (see page 1-5-51).
	Check if the lower paper feed clutch malfunctions.	Run maintenance item U032 and select the lower paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the lower paper feed clutch.	Check (see page 1-5-51).
Deformed guides along the paper conveying path.	Repair or replace if necessary.	
<p>(10) A paper jam in the paper feed section is indicated during copying (multiple sheets before registration section). Jam code 34</p>	Deformed guides along the paper conveying path.	Repair or replace if necessary.
	Defective feed switch.	Run maintenance item U031 and turn feed switch on and off manually. Replace feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
<p>(11) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 35,36</p>	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-50).
	Check if the upper and lower registration rollers contact each other.	Check visually and remedy if necessary.

Problem	Causes/check procedures	Corrective measures
(11) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 35,36	Check if the upper and lower feed rollers contact each other.	Check visually and remedy if necessary.
(12) A paper jam in the fixing section is indicated during copying (jam in fixing section). Jam code 40,43,44,45,46,47	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-50).
	Check if the upper and lower registration rollers contact each other.	Check visually and remedy if necessary.
	Check if the fixing unit front guide is deformed.	Repair or replace if necessary.
	Check if the press roller is extremely dirty or deformed.	Clean or replace if necessary.
	Check if the heat roller separation claws are dirty or deformed.	Clean or replace if necessary.
	Check if the heat roller and its separation claws contact each other.	Remedy if the separation claw springs are out of place.
	Broken eject switch actuator.	Check visually and replace the eject switch if its actuator is broken.
	Defective eject switch.	Run maintenance item U031 and turn eject switch on and off manually. Replace eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(13) A paper jam in the eject section is indicated during copying (jam in eject section). Jam code 50	Check if the eject roller and eject pulley contact each other.	Check visually and remedy if necessary.
	Broken eject switch actuator.	Check visually and replace the eject switch if its actuator is broken.
	Defective eject switch.	Run maintenance item U031 and turn eject switch on and off manually. Replace eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(14) A paper jam in the eject section is indicated during copying (jam in switchback eject section). Jam code 51	Broken switchback eject switch actuator.	Check visually and replace the switchback eject switch if its actuator is broken.
	Defective switchback eject switch.	Run maintenance item U031 and turn switchback eject switch on and off manually. Replace switchback eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the left or right switchback feed roller is deformed.	Check visually and replace any deformed rollers.

Problem	Causes/check procedures	Corrective measures
(14) A paper jam in the eject section is indicated during copying (jam in switchback eject section). Jam code 51	Check if the right middle or left switchback eject guide is deformed.	Repair or replace if necessary.
(15) A paper jam in the feedshift section is indicated during copying (jam in feedshift section). Jam code 52,55,56,57,58,59	Broken feedshift switch actuator.	Check visually and replace the feedshift switch if its actuator is broken.
	Defective feedshift switch.	Run maintenance item U031 and turn feedshift switch on and off manually. Replace feedshift switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Electrical problem with the feedshift solenoid.	Check (see page 1-5-53).
	Deformed lower feedshift guide.	Repair or replace if necessary.
	Check if the left and right feedshift rollers contact each other.	Check visually and remedy if necessary.
(16) A paper jam in the duplex section is indicated during copying (jam in duplex tray section). Jam code 60	Broken duplex feedsift switch actuator.	Check visually and replace the duplex feedsift switch if its actuator is broken.
	Defective duplex feedsift switch.	Run maintenance item U031 and turn duplex feedsift switch on and off manually. Replace duplex feedsift switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(17) A paper jam in the duplex section is indicated during copying (jam in duplex/eject switching section). Jam code 61,62	Check if the duplex eject switching solenoid malfunctions.	Check and repair if necessary.
	Electrical problem with the duplex eject switching solenoid.	Check (see page 1-5-53).
	Broken switchback eject switch actuator.	Check visually and replace the switchback eject switch if its actuator is broken.
	Defective switchback eject switch.	Run maintenance item U031 and turn switchback eject switch on and off manually. Replace switchback eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex paper conveying switch 1 actuator.	Check visually and replace the duplex paper conveying switch 1 if its actuator is broken.
	Defective duplex paper conveying switch 1.	Run maintenance item U031 and turn duplex paper conveying switch 1 on and off manually. Replace duplex paper conveying switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(18) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section). Jam code 63,64,65,66	Broken duplex paper conveying switch 2 actuator.	Check visually and replace the duplex paper conveying switch 2 if its actuator is broken.
	Defective duplex paper conveying switch 2.	Run maintenance item U031 and turn duplex paper conveying switch 2 on and off manually. Replace duplex paper conveying switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex eject switch actuator.	Check visually and replace the duplex eject switch if its actuator is broken.
	Defective duplex eject switch.	Run maintenance item U031 and turn duplex eject switch on and off manually. Replace duplex eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if upper and lower duplex registration rollers, upper and lower duplex paper conveying rollers and upper and lower duplex eject rollers contact each other correctly.	Check visually and remedy if necessary.
	Check if upper or lower duplex registration roller, upper and lower duplex paper conveying roller or upper and lower duplex eject roller are deformed.	Repair or replace if necessary.
(19) A paper jam in the duplex section is indicated during copying (jam in duplex eject section). Jam code 67,68	Broken paper feed switch 1 actuator.	Check visually and replace paper feed switch 1 if its actuator is broken.
	Defective paper feed switch 1.	Run maintenance item U031 and turn paper feed switch 1 on and off manually. Replace paper feed switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex eject switch actuator.	Check visually and replace the duplex eject switch if its actuator is broken.
	Defective duplex eject switch.	Run maintenance item U031 and turn duplex eject switch on and off manually. Replace duplex eject switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

• DF

Problem	Causes/check procedures	Corrective measures
(1) An original jams when the main switch is turned on.	A piece of paper torn from an original is caught around the original feed switch.	Remove any found.
	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around the original switchback switch.	Remove any found.
	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the original switchback switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around the DF timing switch.	Remove any found.
	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the DF timing switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(2) An original jams during continuous copying of multiple originals.	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor or the original conveying motor malfunction.	Run maintenance item U243 and select the original feed motor/ original conveying motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(3) An original jams in the DF is indicated during copying (no original feed). Jam code 70	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(4) An original jams in the DF during copying (a jam in the original feed/conveying section). Jam code 72,73	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the DF timing switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(4) An original jams in the DF during copying (a jam in the original feed/conveying section). Jam code 72,73	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the original switchback switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Check if the DF original feed pulley or the DF separation pulley is deformed.	Check visually and replace the deformed pulley.
	Check if the DF registration roller or the DF registration pulley is deformed.	Check visually and replace the deformed pulley.
	Check if the lower original conveying roller or the front scanning pulley is deformed.	Check visually and replace the deformed pulley.
	Check if the original conveying motor malfunctions.	Run maintenance item U243 and select the original conveying motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(5) An original jams in the DF during copying (a jam in the original switchback section). Jam code 75,76	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the original switchback switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the DF timing switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Check if the original conveying motor malfunctions.	Run maintenance item U243 and select the original conveying motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(6) Original jams frequently.	An original outside the specifications is used.	Use only originals conforming to the specifications.
	The DF forwarding pulleys, DF original feed pulley or DF switchback pulley is dirty with paper powder.	Clean with isopropyl alcohol.
	The DF original feed pulley and the DF separation pulley do not contact correctly.	Check and remedy.

1-5-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of "C" followed by a number between 0100 and 9170, indicating the nature of the problem. A message is also displayed requesting the user to call for service.

After removing the problem, the self-diagnostic function can be reset by turning safety switches 1, 2, 3 or 4 off and back on.



Figure 1-5-3 Service call code display

• List of system errors

When an unexpected error is detected for some reason, a system error will be indicated. (When the 0800 error is detected, JAM05 will be indicated.) After a system error is indicated, the error can be cleared by turning the main switch off and then on. If the error is detected continuously, however, perform the operation shown in Table 1-5-1. If a system error occurs frequently, a fault may have occurred. Check the details of the C call to take proper measures.

System error	Contents	Operation
0250	Network scanner PCB communication problem	Indicated only on the scanner screen.
0420	Side deck communication problem	System error → Normal C call processing
0440	Finisher communication problem	System error → Normal C call processing
0610	Bitmap (DIMM) problem	Repetition of system error → C call → system error
0630	DMA problem	Repetition of system error → C call → system error
0640	Hard disk drive problem	System error → Normal C call processing
0800	Secondary feed timeout	Repetition of JAM05 → system error → JAM05
3100	Scanner carriage problem	System error → Normal C call processing
4000	Polygon motor synchronization problem	System error → Normal C call processing
4010	Polygon motor steady-state problem	System error → Normal C call processing
4100	BD initialization (A) problem	System error → Normal C call processing
4110	BD initialization (B) problem	System error → Normal C call processing
4200	BD steady-state problem	System error → Normal C call processing
7520	Shorted drum thermistor	Repetition of system error → C call → system error
7530	Broken drum heater wire	Repetition of system error → C call → system error

Table 1-5-1 List of system errors

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0100	Backup memory read/write problem • Read and write data does not match.	Defective backup RAM or main PCB.	Replace the main PCB and check for correct operation.
C0110	Backup memory data problem • Data in the specified area of the backup memory does not match the specified values.	Problem with the backup memory data.	Turn safety switch 3 off and back on and run maintenance item U020 to set the contents of the backup memory data again.
		Defective backup RAM.	If the C0110 is displayed after re-setting the backup memory contents, replace the backup RAM or main PCB.
C0210	Operation unit PCB communication problem • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connectors CN10 on the main PCB and CN2 on the operation unit PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB or operation unit left PCB.	Replace the main PCB or operation unit left PCB and check for correct operation.
C0240	Printer PCB* communication problem • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connector CN3 on the main PCB and the connector on the printer PCB. Repair or replace if necessary.
		Defective main PCB or printer PCB.	Replace the main PCB or printer PCB and check for correct operation.
C0250	Network scanner PCB* communication problem • There is no reply, in during regular communication from network scanner PCB to main PCB.	Poor contact in the connector terminals.	Check the connection of connector CN4 on the main PCB and the connector on the network scanner PCB. Repair or replace if necessary.
		Defective main PCB or network scanner PCB.	Replace the main PCB or network scanner PCB and check for correct operation.
C0420	Side deck* communication problem • An error code from the side deck is detected eight times in succession. No communication: there is no reply after 5 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession.	Poor contact in the connector terminals.	Check the connection of connectors CN17 on the main PCB and CN3 on the side deck main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective side deck main PCB.	Replace the side deck main PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0440	Finisher* communication problem <ul style="list-style-type: none"> Communication errors from the communication microcomputer on the main PCB: No communication: there is no reply after 5 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession. 	Poor contact in the connector terminals.	Check the connection of connectors CN18 on the engine PCB and CN2 on the finisher main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C0610	Bitmap (DIMM) problem <ul style="list-style-type: none"> There is a problem with the data or address bus of the bitmap DRAM. 	Defective main PCB.	Replace the main PCB and check for correct operation.
		DIMM installed incorrectly.	Check if the DIMM is inserted into the socket on the main PCB correctly.
		Defective DIMM.	Replace the DIMM and check for correct operation.
C0630	DMA problem <ul style="list-style-type: none"> DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time. 	Defective main PCB.	Replace the main PCB and check for correct operation.
C0640	Hard disk drive problem <ul style="list-style-type: none"> The hard disk drive cannot be accessed. 	Poor contact of the hard disk drive connector terminals.	Check the connection of connectors CN2 on the main PCB and hard disk drive, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective hard disk drive.	Run U906 (Resetting partial operation control) to cancel partial operation control. Run U024 (HDD formatting) without turning the power off to initialize the hard disk. Replace the hard disk drive and check for correct operation if the problem is still detected after initialization.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C1030	Upper lift motor problem <ul style="list-style-type: none"> When the upper cassette is inserted, the upper lift limit switch does not turn on within 9 s of the upper lift motor turning on. During copying, the upper lift limit switch does not turn on within 200 ms of the upper lift motor turning on. 	Broken gears or couplings of the upper lift motor.	Replace the upper lift motor.
		Defective upper lift motor.	Check for continuity across the coil. If none, replace the upper lift motor.
		Poor contact of the upper lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective upper lift limit switch.	Check if CN 2-6 on the engine PCB goes low when the upper lift limit switch is turned off. If not, replace the upper lift limit switch.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1030	Upper lift motor problem <ul style="list-style-type: none"> When the upper cassette is inserted, the upper lift limit switch does not turn on within 9 s of the upper lift motor turning on. During copying, the upper lift limit switch does not turn on within 200 ms of the upper lift motor turning on. 	Poor contact of the upper lift limit switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1040	Lower lift motor problem <ul style="list-style-type: none"> When the lower cassette is inserted, the lower lift limit switch does not turn on within 9 s of the lower lift motor turning on. During copying, the lower lift limit switch does not turn on within 200 ms of the lower lift motor turning on. 	Broken gears or couplings of the lower lift motor.	Replace the lower lift motor.
		Defective lower lift motor.	Check for continuity across the coil. If none, replace the lower lift motor.
		Poor contact of the lower lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lower lift limit switch.	Check if CN2-14 on the engine PCB goes low when the lower lift limit switch is turned off. If not, replace the lower lift limit switch.
		Poor contact of the lower lift limit switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1050	Large paper deck right lift motor problem <ul style="list-style-type: none"> When the large paper deck is inserted, the large paper deck level switch 1 does not turn on within 30 s of the deck right lift motor turning on. During copying, the large paper deck level switch 1 does not turn on within 200 ms of the deck right lift motor turning on. 	Broken gear or coupling of the large paper deck right lift motor.	Replace the large paper deck right lift motor.
		Defective large paper deck right lift motor.	Check for continuity across the coil. If none, replace the large paper deck right lift motor.
		Poor contact in the large paper deck right lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective large paper deck level switch 1.	Check if CN13-A9 on the engine PCB goes low when large paper deck level switch 1 is turned on. If not, replace large paper deck level switch 1.
		Poor contact in the large paper deck level switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1060	Large paper deck left lift motor problem <ul style="list-style-type: none"> When the large paper deck is inserted, the large paper deck level switch 2 does not turn on within 30 s of the deck left lift motor turning on. During copying, the large paper deck level switch 2 does not turn on within 200 ms of the deck left lift motor turning on. 	Broken gear or coupling of the large paper deck left lift motor.	Replace the large paper deck left lift motor.
		Defective large paper deck left lift motor.	Check for continuity across the coil. If none, replace the large paper deck left lift motor.
		Poor contact in the large paper deck left lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective large paper deck level switch 2.	Check if CN13-A8 on the engine PCB goes low when large paper deck level switch 2 is turned on. If not, replace large paper deck level switch 2.
		Poor contact in the large paper deck level switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
C1140	Side deck* lift motor (going up) problem <ul style="list-style-type: none"> When the side deck's right cover is closed, the upper limit detection switch does not turn on within 17 s of the side deck lift motor turning on. When the upper limit detection switch detects edge of turning off signal, the upper limit detection switch does not turn on within 200 ms of the side deck lift motor turning on. 	Poor contact in the upper limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective upper limit detection switch.	Replace the upper limit detection switch.
		Defective side deck main PCB.	Replace the side deck main PCB.
C1150	Side deck* lift motor (going down) problem <ul style="list-style-type: none"> When the side deck's right cover is closed, the lower limit detection switch does not turn on within 17 s of the side deck lift motor turning on. When the lower limit detection switch detects edge of turning off signal, the lower limit detection switch does not turn on within 200 ms of the side deck lift motor turning on. 	Poor contact in the lower limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective lower limit detection switch.	Replace the lower limit detection switch.
		Defective side deck main PCB.	Replace the side deck main PCB.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2000	Image formation motor problem • LOCK ALM signal remains high for 1 s, 1 s after the image formation motor has turned on.	Poor contact in the image formation motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective image formation motor rotation control circuit.	Replace the image formation motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2500	Paper feed motor problem • LOCK DRIVE signal remains high for 1 s, 1 s after the paper feed motor has turned on.	Poor contact in the paper feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper feed motor rotation control circuit.	Replace the paper feed motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2550	Drive motor problem • LOCK ALM signal remains high for 1 s, 1 s after the drive motor has turned on.	Poor contact in the drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective drive motor rotation control circuit.	Replace the drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2640	Side deck* drive motor problem • SDDM ALM signal remains high for 1 s, 1 s after the side deck drive motor has turned on.	Poor contact in the side deck drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective side deck drive motor rotation control circuit.	Replace the side deck drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3100	Scanner carriage problem <ul style="list-style-type: none"> The home position is not correct when the power is turned on or copying the document placed on the contact glass. 	Poor contact of the connector terminals.	Check the connection of connector CN21 on the engine PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner home position switch.	Replace the scanner home position switch.
		Defective engine PCB or scanner motor PCB.	Replace the engine PCB or scanner motor PCB and check for correct operation.
		Defective scanner motor.	Replace the scanner motor.
C3300	Optical system (AGC) problem <ul style="list-style-type: none"> After AGC, correct input is not obtained at CCD. 	Insufficient exposure lamp luminosity.	Replace the exposure lamp or inverter PCB.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position sensor.
		CCD PCB output problem.	Replace the ISU.
C4000	Polygon motor synchronization problem <ul style="list-style-type: none"> The polygon motor does not reach the stable speed within 10 s of the START signal turning on. 	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the LSU.
		Defective power source PCB.	Check if 24 V DC is supplied to CN1-4 on the main PCB. If not, replace the power source PCB.
		Defective junction B PCB.	Check if 24 V DC is output from CN5-7 on the junction B PCB. If not, replace the junction B PCB.
C4010	Polygon motor steady-state problem <ul style="list-style-type: none"> The polygon motor rotation is not stable for 600 ms after the polygon motor rotation has been stabilized. 	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the LSU.
		Defective power source PCB.	Check if 24 V DC is supplied to CN1-4 on the main PCB. If not, replace the power source PCB.
		Defective junction B PCB.	Check if 24 V DC is output from CN5-7 on the junction B PCB. If not, replace the junction B PCB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C4100	BD initialization (A) problem • When power is turned on, only laser A is output and MIP detects a BD error for 600 ms.	Defective laser scanner unit.	Replace the LSU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C4110	BD initialization (B) problem • When power is turned on, only laser B is output and MIP detects a BD error for 600 ms.	Defective laser scanner unit.	Replace the LSU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C4200	BD steady-state problem • The MIC detects a BD error for 600 ms after the polygon motor rotation has been stabilized.	Defective laser diode.	Replace the LSU.
		Defective polygon motor.	Replace the LSU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C5100	Main charger problem • MC ALM signal is detected continuously for 400 ms when MC REM signal is turned on.	Leakage during main charging.	Check and clean the main charger unit.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C5500	Drum surface potential sensor problem 1 • The sensor output is 0.5 V or less when MC REM signal is turned on.	Poor contact in the drum surface potential sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C5510	Drum surface potential sensor problem 2 • The sensor output is 4.5 V or more when the MC REM signal is turned on.	Defective drum surface potential sensor.	Replace the drum surface potential sensor.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5600	Drum surface potential problem 1 • Maximizing the grid output cannot set the potential.	Deteriorated main charger.	Check the main charger wire and replace it if necessary.
		Grid or main charger shield is dirty.	Clean the grid or main charger shield if necessary.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
C5610	Drum surface potential problem 2 • Minimizing the grid output cannot set the potential.	Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C6000	Broken fixing heater wire • The fixing temperature does not increase for 40 s after the fixing heaters have been turned on for warming up. • The fixing temperature remains below 50°C/122°F for 10 s continuously after the fixing heaters have been turned on during stabilization.	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN7 on the junction A PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat.
		Fixing heater M and S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater M and S wire.	Check for continuity. If none, replace the fixing heater M and S.
C6020	Abnormally high fixing unit thermistor temperature • The fixing temperature exceeds 230°C/464 °F for 10 s. • The fixing unit temperature detection circuit on the engine PCB detects and abnormally high temperature.	Shorted fixing unit thermistor.	Measure the resistance. If it is 0 Ω, replace the fixing unit thermistor.
		Broken fixing heater control circuit on the power source PCB.	Replace the power source PCB and check for correct operation.
C6030	Broken fixing unit thermistor • The fixing temperature remains at 0°C/32°F for 30 s continuously when the fixing heater is on.	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN7 on the junction A PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Broken fixing unit thermistor wire.	Measure the resistance. If it is ∞ Ω, replace the fixing unit thermistor.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6050	Abnormally low fixing unit thermistor temperature <ul style="list-style-type: none"> The fixing temperature remains below 120°C/248°F for 10 s. 	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN7 on the junction A PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Broken fixing unit thermistor wire.	Measure the resistance. If it is $\infty \Omega$, replace the fixing unit thermistor.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat.
		Fixing heater M and S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater M and S wire.	Check for continuity. If none, replace the fixing heater M and S.
C6400	Zero-crossing signal problem <ul style="list-style-type: none"> The main PCB does not detect the zero-crossing signal (Z CROSS SIG) for the time specified below. At power-on: 3 s Others: 5 s 	Poor contact in the connector terminals.	Check the connection of connectors CN15-10 on the main PCB and CN2-7 on the power source PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective power source PCB.	Check if the zero-crossing signal is output from CN2-7 on the power source PCB. If not, replace the power source PCB.
		Defective main PCB.	Replace the main PCB if C6400 is detected while CN2-7 on the power source PCB outputs the zero-crossing signal.
C7100	Toner sensor problem <ul style="list-style-type: none"> The toner sensor output voltage is outside the range of 0.5 to 4.5 V during copying or in maintenance item U130. The toner sensor control voltage cannot be set within the range in maintenance item U130. 	Defective toner sensor.	Replace the toner sensor.
		Poor contact in the toner sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective developer.	Replace the developer.
C7300	Toner hopper problem <ul style="list-style-type: none"> Toner level is not detected when toner empty is detected. 	Defective toner level detection sensor.	Replace the toner level detection sensor.
		Poor contact in the toner level detection sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7500	Broken drum thermistor wire <ul style="list-style-type: none"> The drum thermistor input voltage is 4.5 V or more when the front cover is closed. 	Broken drum thermistor wire.	Measure the resistance. If it is $\infty \Omega$, replace the drum thermistor.
		Poor contact in the drum thermistor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
C7520	Shorted drum thermistor <ul style="list-style-type: none"> The drum thermistor input voltage is 1.2 V or less when the front cover is closed. 	Broken drum thermistor wire.	Measure the resistance. If it is 0Ω , replace the drum thermistor.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C7530	Broken drum heater wire <ul style="list-style-type: none"> The drum temperature does not change within 5 minutes of the drum heater turning on. 	Broken drum heater wire.	Check for continuity within the drum heater. If none, replace the drum heater.
		Poor contact in the drum heater connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
C7800	Broken external temperature thermistor <ul style="list-style-type: none"> The input voltage is 4.5 V or more. 	Poor contact in the humidity sensor PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective external temperature thermistor.	Replace the humidity sensor PCB and check for correct operation.
C7810	Short-circuited external temperature thermistor <ul style="list-style-type: none"> The input voltage is 0.5 V or less. 	Poor contact in the humidity sensor PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective external temperature thermistor.	Replace the humidity sensor PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8010	Paper conveying motor problem* • The LOCK signal of the paper conveying motor is detected for more than 500 ms while the paper conveying motor is operating. However, the first 1 s after the paper conveying motor is turned on is excluded from detection.	Loose connection of the paper conveying motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper conveying motor.	Replace the paper conveying motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8020	Punch motor problem* • The LOCK signal of the punch motor is detected for more than 500 ms while the punch motor is operating. However, the first 1 s after the punch motor is turned on is excluded from detection.	Loose connection of the punch motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective punch motor.	Replace the punch motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8030	Upper paper conveying belt problem* • During initialization, the intermediate tray upper sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the upper paper conveying belt. • When the intermediate tray upper sliding plate is operated from the home position, the upper paper conveying belt home position sensor does not turn off within 1 s.	Phase shift of the upper paper conveying belt.	Correct the phase of the upper paper conveying belt and check for correct operation.
		Malfunction of the upper paper conveying belt motor.	Replace the upper paper conveying belt motor and check for correct operation.
		Malfunction of the upper paper conveying belt home position sensor.	Replace the upper paper conveying belt home position sensor and check for correct operation.
		Loose connection of the upper paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8040	Lower paper conveying belt problem* <ul style="list-style-type: none"> • During initialization, the intermediate tray lower sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the lower paper conveying belt. • When the intermediate tray lower sliding plate is operated from the home position, the lower paper conveying belt home position sensor does not turn off within 1 s. 	Phase shift of the lower paper conveying belt.	Correct the phase of the lower paper conveying belt and check for correct operation.
		Malfunction of the lower paper conveying belt motor.	Replace the lower paper conveying belt motor and check for correct operation.
		Malfunction of the lower paper conveying belt home position sensor.	Replace the lower paper conveying belt home position sensor and check for correct operation.
		Loose connection of the lower paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation
C8140	Main tray problem* <ul style="list-style-type: none"> • When the main tray is not detected by the main tray upper limit detection sensor or the main tray load detection sensor within 20 s from the moment it starts ascending. • During main tray descent, the main tray upper limit detection sensor or the main tray load detection sensor does not turn off within 500 ms after it turns on. • During main tray ascent, the main tray upper limit detection sensor or the main tray load detection sensor stays on for more than 2 s. 	Loose connection of the main tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the main tray elevation motor.	Replace the main tray elevation motor and check for correct operation.
		Malfunction of the main tray upper limit detection sensor.	Replace the main tray upper limit detection sensor and check for correct operation.
		Loose connection of the main tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the main tray load detection sensor.	Replace the main tray load detection sensor and check for correct operation.
		Loose connection of the main tray load detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8150	Multi job tray problem* <ul style="list-style-type: none"> When the multi job tray is not detected by the multi job tray upper limit detection sensor within 15 s from the moment it starts ascending. During multi job tray descent, the multi job tray upper limit detection sensor does not turn off within 500 ms after it turns on. 	Loose connection of the multi job tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the multi job tray elevation motor.	Replace the multi job tray elevation motor and check for correct operation.
		Malfunction of the multi job tray upper limit detection sensor.	Replace the multi job tray upper limit detection sensor and check for correct operation.
		Loose connection of the multi job tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8170	Front upper side-registration guide problem* <ul style="list-style-type: none"> During initialization, the front upper side-registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front upper side-registration guide. When the front upper side-registration guide is operated from the home position, the front upper side-registration home position sensor does not turn off within 500 ms. 	Loose connection of the front upper side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front upper side-registration guide motor.	Replace the front upper side-registration guide motor and check for correct operation.
		Malfunction of the front upper side-registration guide home position sensor.	Replace the front upper side-registration guide home position sensor and check for correct operation.
		Loose connection of the front upper side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8180	<p>Rear upper side-registration guide problem*</p> <ul style="list-style-type: none"> • During initialization, the rear upper side-registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear upper side-registration guide. • When the rear upper side-registration guide is operated from the home position, the rear upper side-registration home position sensor does not turn off within 500 ms. 	Loose connection of the rear upper side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear upper side-registration guide motor.	Replace the rear upper side-registration guide motor and check for correct operation.
		Malfunction of the rear upper side-registration guide home position sensor.	Replace the rear upper side-registration guide home position sensor and check for correct operation.
		Loose connection of the rear upper side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8190	<p>Lower side-registration guide problem*</p> <ul style="list-style-type: none"> • During initialization, the front/rear lower side-registration guides are not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the lower side-registration guide. • When the lower side-registration guide is operated from the home position, the lower side-registration home position sensor does not turn off within 500 ms. 	Loose connection of the lower side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the lower side-registration guide motor.	Replace the lower side-registration guide motor and check for correct operation.
		Malfunction of the lower side-registration guide home position sensor.	Replace the lower side-registration guide home position sensor and check for correct operation.
		Loose connection of the lower side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8210	<p>Front stapler problem*</p> <ul style="list-style-type: none"> • During initialization, the front stapler is not detected in the home position within 500 ms after the front stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front stapler. • When the front stapler is operated from the home position, the front stapler home position sensor does not turn off within 500 ms. 	Loose connection of the front stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the front stapler motor.	Replace the front stapler motor and check for correct operation.
		Malfuction of the front stapler home position sensor.	Replace the front stapler home position sensor and check for correct operation.
		Loose connection of the front stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8220	<p>Front clincher problem*</p> <ul style="list-style-type: none"> • During initialization, the front clincher is not detected in the home position within 500 ms after the front clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front clincher. • When the front clincher is operated from the home position, the front clincher home position sensor does not turn off within 500 ms. 	Loose connection of the front clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the front clincher motor.	Replace the front clincher motor and check for correct operation.
		Malfuction of the front clincher home position sensor.	Replace the front clincher home position sensor and check for correct operation.
		Loose connection of the front clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

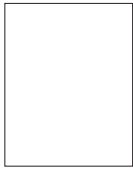
*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8230	<p>Rear stapler problem*</p> <ul style="list-style-type: none"> • During initialization, the rear stapler is not detected in the home position within 500 ms after the rear stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear stapler. • When the rear stapler is operated from the home position, the rear stapler home position sensor does not turn off within 500 ms. 	Loose connection of the rear stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the rear stapler motor.	Replace the rear stapler motor and check for correct operation.
		Malfuction of the rear stapler home position sensor.	Replace the rear stapler home position sensor and check for correct operation.
		Loose connection of the rear stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8240	<p>Rear clincher problem*</p> <ul style="list-style-type: none"> • During initialization, the rear clincher is not detected in the home position within 500 ms after the rear clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear clincher. • When the rear clincher is operated from the home position, the rear clincher home position sensor does not turn off within 500 ms. 	Loose connection of the rear clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the rear clincher motor.	Replace the rear clincher motor and check for correct operation.
		Malfuction of the rear clincher home position sensor.	Replace the rear clincher home position sensor and check for correct operation.
		Loose connection of the rear clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

*: Optional.

1-5-3 Image formation problems

(1) No image appears (entirely white).



See page 1-5-38

(2) No image appears (entirely black).



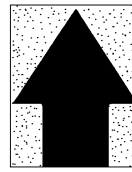
See page 1-5-38

(3) Image is too light.



See page 1-5-39

(4) Background is visible.



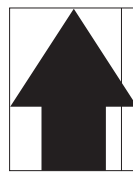
See page 1-5-39

(5) A white line appears longitudinally.



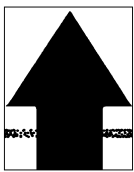
See page 1-5-39

(6) A black line appears longitudinally.



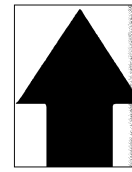
See page 1-5-40

(7) A black line appears laterally.



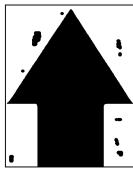
See page 1-5-40

(8) One side of the copy image is darker than the other.



See page 1-5-40

(9) Black dots appear on the image.



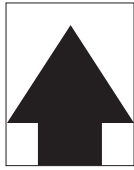
See page 1-5-41

(10) Image is blurred.



See page 1-5-41

(11) The leading edge of the image is consistently misaligned with the original.



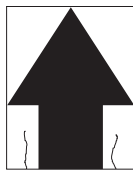
See page 1-5-41

(12) The leading edge of the image is sporadically misaligned with the original.



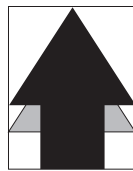
See page 1-5-42

(13) Paper creases.



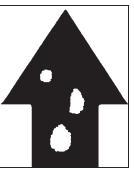
See page 1-5-42

(14) Offset occurs.



See page 1-5-42

(15) Image is partly missing.



See page 1-5-43

(16) Fixing is poor.



See page 1-5-43

(17) Image is out of focus.



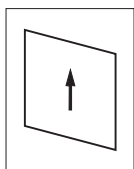
See page 1-5-43

(18) Image center does not align with the original center.



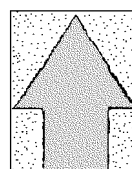
See page 1-5-43

(19) Image is not square.



See page 1-5-44

(20) Image contrast is low (carrier scattering).



See page 1-5-44

(21) When the large paper deck is used, the center of the original image and that of the copy image do not align.



See page 1-5-44

(22) There is a regular error between the centers of the original and copy image when the SRDF is used.



See page 1-5-45

(23) There is a regular error between the leading edges of the original and copy image when the SRDF is used.



See page 1-5-45

2CJ

(1) No image appears (entirely white).

Causes

1. No transfer charging.



Causes	Check procedures/corrective measures
1. No transfer charging.	
A. The connector terminals of the transfer charger belt bais PCB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Defective main PCB.	Check if CN1-119 on the main PCB goes low when maintenance item U101 is run. If not, replace the main PCB.
C. Defective engine PCB.	Check if CN13-A14 on the engine PCB goes low when CN1-119 on the main PCB is held low while maintenance item U101 is run. If not, replace the engine PCB.
D. Defective transfer charger belt bais PCB.	Check if transfer charging takes place when CN1-3 on the transfer charger belt bais PCB goes low while maintenance item U101 is run. If not, replace the transfer charger belt bais PCB.

(2) No image appears (entirely black).

Causes

1. No main charging.
2. Exposure lamp fails to light.



Causes	Check procedures/corrective measures
1. No main charging.	
A. Broken main charger wire.	Replace the wire.
B. Leaking main charger housing.	Clean the main charger wire, grid and shield.
C. The connector terminals of the high-voltage transformer PCB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
D. Defective main PCB.	Check if CN1-120 on the main PCB goes low when maintenance item U100 is run. If not, replace the main PCB.
E. Defective engine PCB.	Check if CN5-3 on the engine PCB goes low when CN1-120 on the main PCB is held low while maintenance item U100 is run. If not, replace the engine PCB.
F. Defective high-voltage transformer PCB.	Check if main charging takes place when CN1-7 on the high-voltage transformer PCB goes low while maintenance item U100 is run. If not, replace the high-voltage transformer PCB.
2. Exposure lamp fails to light.	
A. The connector terminals of the exposure lamp make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Defective inverter PCB.	Check if the exposure lamp lights when CN1-5 and 1-6 on the inverter PCB go low while maintenance item U061 is run. If not, replace the inverter PCB.
C. Defective engine PCB.	Check if CN21-14 on the engine PCB goes low when maintenance item U061 is run. If not, replace the engine PCB.

(3) Image is too light.



Causes

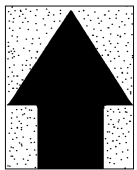
1. Insufficient toner.
2. Deteriorated developer.
3. Dirty or deteriorated drum.
4. Defective transfer charger belt bias PCB.

Causes	Check procedures/corrective measures
1. Insufficient toner.	If the display shows the message requesting toner replenishment, replace the cartridge.
2. Deteriorated developer.	Check the number of copies made with the current developer. If it has reached the specified limit, replace the developer.
3. Dirty or deteriorated drum.	Clean the drum or, if the maintenance level has been reached, replace the drum (see page 1-6-40).
4. Defective transfer charger belt bias PCB.	Check if transfer charging takes place when CN1-3 on the transfer charger belt bias PCB goes low while maintenance item U101 is run. If not, replace the transfer charger belt bias PCB.

(4) Background is visible.

Causes

1. Deteriorated developer.



Causes	Check procedures/corrective measures
1. Deteriorated developer.	Check the number of copies made with the current developer. If it has reached the specified limit, replace the developer.

(5) A white line appears longitudinally.

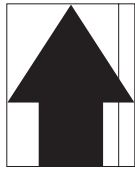
Causes

1. Foreign matter in the developing section.
2. Flawed drum.
3. Dirty shading plate.
4. Dirty LSU cover glass.



Causes	Check procedures/corrective measures
1. Foreign matter in the developing section.	Check if the magnetic brush is formed uniformly. If not, replace the developer.
2. Flawed drum.	Replace the drum (see page 1-6-44).
3. Dirty shading plate.	Clean the shading plate.
4. Dirty LSU cover glass.	Clean the LSU cover glass.

(6) A black line appears longitudinally.

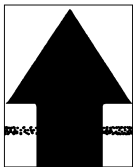


Causes

1. Dirty or flawed drum.
2. Deformed or worn cleaning blade.
3. Dirty scanner mirror.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Clean the drum or, if it is flawed, replace it (see page 1-6-44).
2. Deformed or worn cleaning blade.	Replace the cleaning blade (see page 1-6-56).
3. Dirty scanner mirror.	Clean the scanner mirror.

(7) A black line appears laterally.

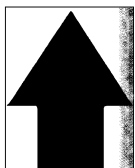


Causes

1. Flawed drum.
2. Dirty developing section.
3. Leaking main charger housing.

Causes	Check procedures/corrective measures
1. Flawed drum.	Replace the drum (see page 1-6-44).
2. Dirty developing section.	Clean any part contaminated with toner or carrier in the developing section.
3. Leaking main charger housing.	Clean the main charger wire, grid and shield.

(8) One side of the copy image is darker than the other.

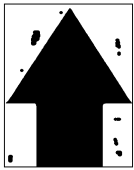


Causes

1. Dirty main charger wire.
2. Defective exposure lamp.

Causes	Check procedures/corrective measures
1. Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it.
2. Defective exposure lamp.	Check if the exposure lamp light is distributed evenly. If not, replace the exposure lamp (see page 1-6-29).

(9) Black dots appear on the image.

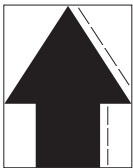


Causes

1. Dirty or flawed drum.
2. Dirty contact glass.
3. Deformed or worn cleaning blade.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Clean the drum or, if it is flawed, replace it (see page 1-6-44).
2. Dirty contact glass.	Clean the contact glass.
3. Deformed or worn cleaning blade.	Replace the cleaning blade (see page 1-6-56).

(10) Image is blurred.



Causes

1. Scanner moves erratically.
2. Deformed press roller.
3. Paper conveying section drive problem.

Causes	Check procedures/corrective measures
1. Scanner moves erratically.	Check if there is any foreign matter on the front and rear scanner rails. If any, remove it.
2. Deformed press roller.	Replace the press roller (see page 1-6-67).
3. Paper conveying section drive problem.	Check the gears and belts and, if necessary, grease them.

(11) The leading edge of the image is consistently misaligned with the original.



Causes

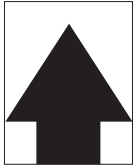
1. Misadjusted leading edge registration.

Causes	Check procedures/corrective measures
1. Misadjusted leading edge registration.	Readjust the leading edge registration (see pages 1-6-17).

(12) The leading edge of the image is sporadically misaligned with the original.

Causes

1. Registration clutch, bypass paper feed clutch or upper or lower paper feed clutch installed or operating incorrectly.

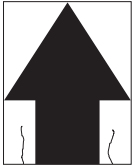


Causes	Check procedures/corrective measures
1. Registration clutch, bypass paper feed clutch or upper or lower paper feed clutch installed or operating incorrectly.	Check the installation position and operation of the registration clutch, bypass paper feed clutch and upper and lower paper feed clutches. If any of them operates incorrectly, replace it.

(13) Paper creases.

Causes

1. Paper curled.
2. Paper damp.
3. Defective pressure springs.

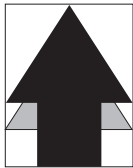


Causes	Check procedures/corrective measures
1. Paper curled.	Check the paper storage conditions.
2. Paper damp.	Check the paper storage conditions.
3. Defective pressure springs.	Replace the pressure springs.

(14) Offset occurs.

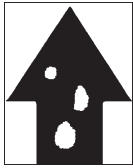
Causes

1. Defective cleaning blade.



Causes	Check procedures/corrective measures
1. Defective cleaning blade.	Replace the cleaning blade (see page 1-6-56).

(15) Image is partly missing.

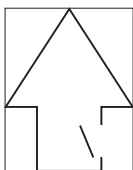


Causes

1. Paper damp.
2. Paper creased.
3. Drum condensation.
4. Flawed drum.

Causes	Check procedures/corrective measures
1. Paper damp.	Check the paper storage conditions.
2. Paper creased.	Replace the paper.
3. Drum condensation.	Clean the drum.
4. Flawed drum.	Replace the drum (see page 1-6-44).

(16) Fixing is poor.



Causes

1. Wrong paper.
2. Defective pressure springs.
3. Flawed press roller.

Causes	Check procedures/corrective measures
1. Wrong paper.	Check if the paper meets specifications.
2. Defective pressure springs.	Replace the pressure springs.
3. Flawed press roller.	Replace the press roller (see page 1-6-67).

(17) Image is out of focus.

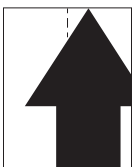


Causes

1. Defective image scanning unit.

Causes	Check procedures/corrective measures
1. Defective image scanning unit.	Replace the image scanning unit (see page 1-6-34).

(18) Image center does not align with the original center.

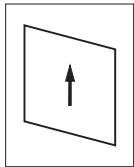


Causes

1. Misadjusted image center line.
2. Misadjusted scanner center line.
3. Original placed incorrectly.

Causes	Check procedures/corrective measures
1. Misadjusted image center line.	Readjust the image center line (see page 1-6-19).
2. Misadjusted scanner center line.	Readjust the scanner center line (see page 1-6-41).
3. Original placed incorrectly.	Place the original correctly.

(19) Image is not square.

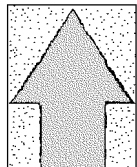


Causes

1. Laser scanner unit positioned incorrectly.
2. Image scanning unit positioned incorrectly.

Causes	Check procedures/corrective measures
1. Laser scanner unit positioned incorrectly.	Adjust the installation position of the laser scanner unit (see page 1-6-36).
2. Image scanning unit positioned incorrectly.	Adjust the installation position of the image scanning unit (see page 1-6-38).

(20) Image contrast is low (carrier scattering).

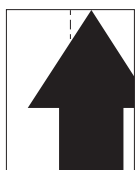


Causes

1. No developing bias output.

Causes	Check procedures/corrective measures
1. No developing bias output.	
A. Developing bias wire makes poor contact.	Check the developing bias wire. If there are any problems, replace it.
B. Defective main PCB.	Check if CN1-117 on the main PCB goes low when maintenance item U030 is run. If not, replace the main PCB.
C. Defective engine PCB.	Check if CN5-9 on the engine PCB goes low when maintenance item U030 is run. If not, replace the engine PCB.
D. Defective high-voltage transformer PCB.	Check if developing bias is output when there is no problem with the main PCB while maintenance item U030 is run. If not, replace the high-voltage transformer PCB.

(21) When the large paper deck is used, the center of the original image and that of the copy image do not align.



Causes

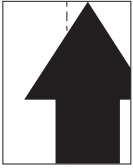
1. Center adjuster installed incorrectly.

Causes	Check procedures/corrective measures
1. Center adjuster installed incorrectly.	Adjust the installation position of the center adjuster (see page 1-6-16).

(22) There is a regular error between the centers of the original and copy image when the SRDF is used.

Causes

1. Misadjusted DF center line.



Causes	Check procedures/corrective measures
1. Misadjusted DF center line.	Readjust the DF center line (see page 1-6-79).

(23) There is a regular error between the leading edges of the original and copy image when the SRDF is used.

Causes

1. Misadjusted DF original scanning start position.



Causes	Check procedures/corrective measures
1. Misadjusted DF original scanning start position.	Readjust the DF original scanning start position (see page 1-6-80).

1-5-4 Electrical problems

• Copier

Problem	Causes	Check procedures/corrective measures
(1) The machine does not operate when the main switch is turned on.	No electricity at the power outlet.	Measure the input voltage.
	The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	The front, upper right, lower right and/or eject cover are/is not closed completely.	Check the front, upper right, lower right and eject covers.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective main switch.	Check for continuity across the contacts. If none, replace the main switch.
	Blown fuse in the power source PCB.	Check for continuity. If none, remove the cause of blowing and replace the fuse.
	Defective safety switch 1, 2, 3 or 4.	Check for continuity across the contacts of each switch. If none, replace the switch.
	Defective power source PCB.	With AC present, check for 5 V DC at CN8-1 on the power source PCB, 12 V DC at CN8-9 and 24 V DC at CN1-2. If none, replace the power source PCB.
(2) The image forming motor does not operate (C2000).	Poor contact in the image forming motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken image forming motor gear.	Check visually and replace the image forming motor if necessary.
	Defective image forming motor.	Run maintenance item U030 and check if the image forming motor operates when CN7-A3 on the engine PCB goes low. If not, replace the image forming motor.
	Defective engine PCB.	Run maintenance item U030 and check if CN7-A3 on the engine PCB goes low. If not, replace the engine PCB.
(3) The drive motor does not operate (C2550).	Poor contact in the drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drive motor gear.	Check visually and replace the drive motor if necessary.
	Defective drive motor.	Run maintenance item U030 and check if the drive motor operates when CN8-3 on the engine PCB goes low. If not, replace the drive motor.
	Defective engine PCB.	Run maintenance item U030 and check if CN8-3 on the engine PCB goes low. If not, replace the engine PCB.
(4) Paper feed motor does not operate (C2500).	Poor contact in the paper feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor gear.	Check visually and replace the paper feed motor if necessary.
	Defective paper feed motor.	Run maintenance item U030 and check if the paper feed motor operates when CN7-B3 on the engine PCB goes low. If not, replace the paper feed motor.
	Defective engine PCB.	Run maintenance item U030 and check if CN7-B3 on the engine PCB goes low. If not, replace the engine PCB.

Problem	Causes	Check procedures/corrective measures
(5) The scanner motor does not operate.	Poor contact in the scanner motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective scanner motor.	Run maintenance item U073 and check if the scanner motor operates when the motor drive coil energization pulse signals are output at CN2-1, CN2-3, CN2-4 and CN2-6 on the scanner motor PCB. If not, replace the scanner motor PCB.
	Defective scanner motor PCB.	Run maintenance item U073 and check if the scanner motor operates when CN1-10, CN1-11, CN1-12 and CN1-13 go low. If not, replace the scanner motor PCB.
(6) The duplex fan motor does not operate.	Broken duplex fan motor coil.	Check for continuity across the coil. If none, replace the duplex fan motor.
	Poor contact in the duplex fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U037 and check if CN6-6 on the engine PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN14-A5 on the engine PCB goes low. If not, replace the engine PCB.
(7) The optical section motor does not operate.	Broken optical section fan motor coil.	Check for continuity across the coil. If none, replace the optical section fan motor.
	Poor contact in the optical section fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U037 and check if CN8-A10 on the engine PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN15-A5 on the engine PCB goes low. If not, replace the engine PCB.
(8) The cooling fan motor does not operate.	Broken cooling fan motor coil.	Check for continuity across the coil. If none, replace the cooling fan motor.
	Poor contact in the cooling fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN5-6 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A3 on the engine PCB goes low. If not, replace the engine PCB.
(9) The fixing unit fan motor does not operate.	Broken fixing unit fan motor coil.	Check for continuity across the coil. If none, replace the fixing unit fan motor.
	Poor contact in the fixing unit fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN5-2 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A1 on the engine PCB goes low. If not, replace the engine PCB.

Problem	Causes	Check procedures/corrective measures
(10) LSU fan motor 1 does not operate.	Broken LSU fan motor 1 coil.	Check for continuity across the coil. If none, replace the LSU fan motor 1.
	Poor contact in the LSU fan motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN5-8 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A4 on the engine PCB goes low. If not, replace the engine PCB.
(11) LSU fan motor 2 does not operate.	Broken LSU fan motor 2 coil.	Check for continuity across the coil. If none, replace the LSU fan motor 2.
	Poor contact in the LSU fan motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN5-10 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A5 on the engine PCB goes low. If not, replace the engine PCB.
(12) The main charger fan motor does not operate.	Broken main charger fan motor coil.	Check for continuity across the coil. If none, replace the main charger fan motor.
	Poor contact in the main charger fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN5-4 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A2 on the engine PCB goes low. If not, replace the engine PCB.
(13) The eject fan motor does not operate.	Broken eject fan motor coil.	Check for continuity across the coil. If none, replace the eject fan motor.
	Poor contact in the eject fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U037 and check if CN4-10 on the engine PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U037 and check if CN12-A10 on the engine PCB goes low. If not, replace the engine PCB.
(14) The upper lift motor does not operate (C1030).	Broken upper lift motor coil.	Check for continuity across the coil. If none, replace the upper lift motor.
	Poor contact in the upper lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Check if 24 V DC is output across CN4-B5 and CN4-B6 on the engine PCB right after the upper cassette is installed. If not, replace the engine PCB.

Problem	Causes	Check procedures/corrective measures
(15) The lower lift motor does not operate (C1040).	Broken lower lift motor coil.	Check for continuity across the coil. If none, replace the lower lift motor.
	Poor contact in the lower lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Check if 24 V DC is output across CN4-B7 and CN4-B8 on the engine PCB right after the lower cassette is installed. If not, replace the engine PCB.
(16) The large paper deck right lift motor does not operate (C1050).	Broken large paper deck right lift motor coil.	Check for continuity across the coil. If none, replace the large paper deck right lift motor.
	Poor contact in the large paper deck right lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Check if 24 V DC is output across CN6-1 and CN6-2 on the junction A PCB right after the large paper deck is installed. If not, replace the junction A PCB.
(17) The large paper deck left lift motor does not operate (C1060).	Broken large paper deck left lift motor coil.	Check for continuity across the coil. If none, replace the large paper deck left lift motor.
	Poor contact in the large paper deck left lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Check if 24 V DC is output across CN6-3 and CN6-4 on the junction A PCB right after the large paper deck is installed. If not, replace the junction A PCB.
(18) Blow fan motor 1 does not operate.	Broken blow fan motor 1 coil.	Check for continuity across the coil. If none, replace blow fan motor 1.
	Poor contact in the blow fan motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U037 and check if CN10-1 on the engine PCB goes low. If not, replace the engine PCB.
(19) Blow fan motor 2 does not operate.	Broken blow fan motor 2 coil.	Check for continuity across the coil. If none, replace blow fan motor 2.
	Poor contact in the blow fan motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U037 and check if CN10-5 on the engine PCB goes low. If not, replace the engine PCB.
(20) The toner feed motor does not operate.	Broken toner feed motor coil.	Check for continuity across the coil. If none, replace the toner feed motor.
	Poor contact in the toner feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U135 and check if drive pulse signal is output across CN10-1 and CN10-2 on the junction A PCB. If not, replace the junction A PCB.

Problem	Causes	Check procedures/corrective measures
(20) The toner feed motor does not operate.	Defective engine PCB.	Run maintenance item U135 and check if drive pulse signal is output across CN13-B1 and CN13-B2 on the engine PCB. If not, replace the engine PCB.
(21) The main charger cleaning motor does not operate.	Broken main charger cleaning motor coil.	Check for continuity across the coil. If none, replace the main charger cleaning motor.
	Poor contact in the main charger cleaning motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U102 and check if CN10-5 and CN10-6 on the junction A PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U102 and check if CN13-B6 and CN13-B7 on the engine PCB goes low. If not, replace the engine PCB.
(22) The toner agitation motor does not operate.	Broken toner agitation motor coil.	Check for continuity across the coil. If none, replace the toner agitation motor.
	Poor contact in the toner agetation motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U135 and check if drive pulse signal is output across CN10-3 and CN10-4 on the junction A PCB. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U135 and check if drive pulse signal is output across CN13-B3 and CN13-B4 on the engine PCB. If not, replace the engine PCB.
(23) The registration clutch does not operate.	Broken registration clutch coil.	Check for continuity across the coil. If none, replace the registration clutch.
	Poor contact in the registration clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN8-A4 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN15-A2 on the engine PCB goes low. If not, replace the engine PCB.
(24) Feed clutch 1 does not operate.	Broken feed clutch 1 coil.	Check for continuity across the coil. If none, replace feed clutch 1.
	Poor contact in feed clutch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN8-B4 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN15-B8 on the engine PCB goes low. If not, replace the engine PCB.
(25) Feed clutch 2 does not operate.	Broken feed clutch 2 coil.	Check for continuity across the coil. If none, replace feed clutch 2.
	Poor contact in feed clutch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(25) Feed clutch 2 does not operate.	Defective junction B PCB.	Run maintenance item U032 and check if CN8-A6 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN15-A3 on the engine PCB goes low. If not, replace the engine PCB.
(26) Feed clutch 3 does not operate.	Broken feed clutch 3 coil.	Check for continuity across the coil. If none, replace feed clutch 3.
	Poor contact in feed clutch 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN8-A8 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN15-A4 on the engine PCB goes low. If not, replace the engine PCB.
(27) Feed clutch 4 does not operate.	Broken feed clutch 4 coil.	Check for continuity across the coil. If none, replace feed clutch 4.
	Poor contact in feed clutch 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U032 and check if CN4-A4 on the engine PCB goes low. If not, replace the engine PCB.
(28) Feed clutch 5 does not operate.	Broken feed clutch 5 coil.	Check for continuity across the coil. If none, replace feed clutch 5.
	Poor contact in feed clutch 5 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U032 and check if CN4-A2 on the engine PCB goes low. If not, replace the engine PCB.
(29) The upper paper feed clutch does not operate.	Broken upper paper feed clutch coil.	Check for continuity across the coil. If none, replace the upper paper feed clutch.
	Poor contact in the upper paper feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U032 and check if CN2-2 on the engine PCB goes low. If not, replace the engine PCB.
(30) The lower paper feed clutch does not operate.	Broken lower paper feed clutch coil.	Check for continuity across the coil. If none, replace the lower paper feed clutch.
	Poor contact in the lower paper feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PCB.	Run maintenance item U032 and check if CN2-10 on the engine PCB goes low. If not, replace the engine PCB.
(31) The bypass lift clutch does not operate.	Broken bypass lift clutch coil.	Check for continuity across the coil. If none, replace the bypass lift clutch.
	Poor contact in the bypass lift clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN7-21 on the junction B PCB goes low. If not, replace the junction B PCB.

Problem	Causes	Check procedures/corrective measures
(31) The bypass lift clutch does not operate.	Defective engine PCB.	Run maintenance item U032 and check if CN15-B5 on the engine PCB goes low. If not, replace the engine PCB.
(32) The bypass paper feed clutch does not operate.	Broken bypass paper feed clutch coil.	Check for continuity across the coil. If none, replace the bypass paper feed clutch.
	Poor contact in the bypass paper feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN7-23 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN15-B6 on the engine PCB goes low. If not, replace the engine PCB.
(33) The duplex forwarding clutch does not operate.	Broken duplex forwarding clutch coil.	Check for continuity across the coil. If none, replace the duplex forwarding clutch.
	Poor contact in the duplex forwarding clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN4-11 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN14-B2 on the engine PCB goes low. If not, replace the engine PCB.
(34) The duplex reversing clutch does not operate.	Broken duplex reversing clutch coil.	Check for continuity across the coil. If none, replace the duplex reversing clutch.
	Poor contact in the duplex reversing clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN4-12 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN14-B1 on the engine PCB goes low. If not, replace the engine PCB.
(35) The large paper deck conveying clutch does not operate.	Broken large paper deck conveying clutch coil.	Check for continuity across the coil. If none, replace the large paper deck conveying clutch.
	Poor contact in the large paper deck conveying clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN5-6 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN14-A8 on the engine PCB goes low. If not, replace the engine PCB.
(36) Large paper deck paper feed clutch 1 does not operate.	Broken large paper deck paper feed clutch 1 coil.	Check for continuity across the coil. If none, replace large paper deck paper feed clutch 1.
	Poor contact in the large paper deck paper feed clutch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(36) Large paper deck paper feed clutch 1 does not operate.	Defective junction A PCB.	Run maintenance item U032 and check if CN9-12 on the junction A PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN13-A6 on the engine PCB goes low. If not, replace the engine PCB.
(37) Large paper deck paper feed clutch 2 does not operate.	Broken large paper deck paper feed clutch 2 coil.	Check for continuity across the coil. If none, replace large paper deck paper feed clutch 2.
	Poor contact in the large paper deck paper feed clutch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U032 and check if CN9-14 on the junction A PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN13-A5 on the engine PCB goes low. If not, replace the engine PCB.
(38) The transfer charger belt release clutch does not operate.	Broken transfer charger belt release clutch coil.	Check for continuity across the coil. If none, replace the transfer charger belt release clutch.
	Poor contact in the transfer charger belt release clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U032 and check if CN6-1 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U032 and check if CN14-A7 on the engine PCB goes low. If not, replace the engine PCB.
(39) The duplex eject switching solenoid does not operate.	Broken duplex eject switching solenoid coil.	Check for continuity across the coil. If none, replace the duplex eject switching solenoid.
	Poor contact in the duplex eject switching solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U033 and check if CN4-7 and CN4-8 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U033 and check if CN14-B5 and CN14-B6 on the engine PCB goes low. If not, replace the engine PCB.
(40) The duplex pressure release solenoid does not operate.	Broken duplex pressure release solenoid coil.	Check for continuity across the coil. If none, replace the duplex pressure release solenoid.
	Poor contact in the duplex pressure release solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction B PCB.	Run maintenance item U033 and check if CN4-9 and CN4-10 on the junction B PCB goes low. If not, replace the junction B PCB.
	Defective engine PCB.	Run maintenance item U033 and check if CN14-B3 and CN14-B4 on the engine PCB goes low. If not, replace the engine PCB.
(41) The feedshift solenoid does not operate.	Broken feedshift solenoid coil.	Check for continuity across the coil. If none, replace the feedshift solenoid.
	Poor contact in the feedshift solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(41) The feedshift solenoid does not operate.	Defective junction A PCB.	Run maintenance item U033 and check if CN4-1 and CN4-2 on the junction A PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U033 and check if CN12-A6 and CN12-A7 on the engine PCB goes low. If not, replace the engine PCB.
(42) The fixing web solenoid does not operate.	Broken fixing web solenoid coil.	Check for continuity across the coil. If none, replace the fixing web solenoid.
	Poor contact in the fixing web solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective junction A PCB.	Run maintenance item U033 and check if CN10-10 on the junction A PCB goes low. If not, replace the junction A PCB.
	Defective engine PCB.	Run maintenance item U033 and check if CN13-B13 on the engine PCB goes low. If not, replace the engine PCB.
(43) The cleaning lamp does not turn on.	Poor contact in the cleaning lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cleaning lamp.	Check for continuity. If none, replace the cleaning lamp.
	Defective junction A PCB.	If the cleaning lamp turns on when CN10-8 on the junction A PCB is held low, replace the junction A PCB.
	Defective engine PCB.	If the cleaning lamp turns on when CN13-B5 on the engine PCB is held low, replace the engine PCB.
(44) The exposure lamp does not turn on.	Poor contact in the exposure lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective inverter PCB.	If the exposure lamp turn on when CN2-1 and CN2-4 on the inverter PCB are held low, replace the inverter PCB.
	Defective scanner motor PCB.	If the exposure lamp turn on when CN3-1 and CN3-2 on the scanner motor PCB are held low, replace the scanner motor PCB.
(45) The exposure lamp does not turn off.	Defective inverter PCB.	If the exposure lamp does not turn off with CN2-1 and CN2-4 on the inverter PCB high, replace the inverter PCB.
	Defective scanner motor PCB.	If CN3-1 and CN3-2 on the scanner motor PCB are always low, replace the scanner motor PCB.
(46) Fixing heater M or S does not turn on (C6000).	Broken wire in fixing heater M or S.	Check for continuity across each heater. If none, replace the heater.
	Fixing unit thermostat triggered.	Check for continuity across thermostat. If none, remove the cause and replace the thermostat.
(47) Fixing heater M or S does not turn off.	Dirty sensor part of the fixing unit thermistor.	Check visually and clean the thermistor sensor parts.
	Defective engine PCB.	If fixing heater M/S stays on while CN22-4 and CN22-5 on the engine PCB go high, replace the engine PCB.

Problem	Causes	Check procedures/corrective measures
(48) Main charging is not performed (C5100).	Broken main charger wire.	See page 1-5-38.
	Leaking main charger housing.	
	Poor contact in the high-voltage transformer PCB connector terminals.	
	Defective high-voltage transformer PCB.	
	Defective engine PCB.	
	Defective main PCB.	
(49) Transfer charging is not performed (C5110).	Poor contact in the transfer charger belt bias PCB connector terminals.	See page 1-5-38.
	Defective high-voltage transformer PCB.	
	Defective engine PCB.	
	Defective main PCB.	
(50) No developing bias is output.	Poor contact in the developing bias wire.	Check the developing bias wire. If there is any problem, replace it.
	Poor contact in the high-voltage transformer PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective high-voltage transformer PCB.	Check if the developing bias is output when CN1-3 on the high-voltage transformer PCB goes low while maintenance item U030 is run. If not, replace the high-voltage transformer PCB.
	Defective engine PCB.	Check if CN5-7 on the engine PCB goes low during copying. If not, replace the engine PCB.
(51) The original size is not detected.	Defective original detection switch.	If the level of CN5-2 on the scanner motor PCB does not change when the original detection switch is turned on and off, replace the original detection switch.
(52) The original size is not detected correctly.	Original is not placed correctly.	Check the original and correct if necessary.
	Poor contact in the original size detection sensors connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective original size detection sensor or the scanner motor PCB.	Check if sensor operates correctly. If not, replace it or, if necessary, the scanner motor PCB.
(53) The touch panel keys do not work.	Poor contact in the touch panel connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective touch panel or operation unit PCB.	If any keys do not work after the touch panel has been initialized, replace the touch panel or operation unit main PCB.

Problem	Causes	Check procedures/corrective measures
(54) The message re- questing paper to be loaded is shown when paper is present in the large paper deck.	Poor contact in the large paper deck paper empty sensor connector termi- nals.	Reinsert the connector. Also check for continuity within the con- nector cable. If none, remedy or replace the cable.
	Defective large paper deck paper empty sensor.	Check if CN8-3 on the junction A PCB goes low when the large paper deck paper emptysensor is turned on with 5 V DC present at CN8-1 on the junction A PCB. If not, replace the large paper deck paper emptysensor.
(55) The message re- questing paper to be loaded is shown when paper is present in the upper cassette.	Poor contact in the upper paper switch connector terminals.	Reinsert the connector. Also check for continuity within the con- nector cable. If none, remedy or replace the cable.
	Defective upper paper switch.	Check if CN2-3 on the engine PCB goes low when the upper paper switch is turned on with 5 V DC present at CN2-5 on the engine PCB. If not, replace the upper paper switch.
(56) The message re- questing paper to be loaded is shown when paper is present in the lower cassette.	Poor contact in the lower paper switch connector terminals.	Reinsert the connector. Also check for continuity within the con- nector cable. If none, remedy or replace the cable.
	Defective lower paper switch.	Check if CN2-11 on the engine PCB goes low when the lower paper switch is turned on with 5 V DC present at CN2-13 on the engine PCB. If not, replace the lower paper switch.
(57) The message re- questing paper to be loaded is shown when paper is present on the by- pass table.	Poor contact in the bypass paper switch connector terminals.	Reinsert the connector. Also check for continuity within the con- nector cable. If none, remedy or replace the cable.
	Defective bypass paper switch.	Check if CN7-3 on the junction B PCB goes low when the by- pass paper switch is turned on with 5 V DC present at CN7-1 on the junction B PCB. If not, replace the bypass paper switch.
(58) The size of paper in the upper cassette is not displayed cor- rectly.	Poor contact in the upper paper length switch* connector terminals (inch specs).	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective upper paper length switch* (inch specs).	Check if CN6-2 on the engine PCB goes low when the upper paper length switch is turned on. If not, replace the upper paper length switch.
	Poor contact in the upper paper width switch* connector terminals (inch specs).	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective upper paper width switch* (inch specs).	Check if the levels of CN3-1, CN3-2 and CN3-4 on the engine PCB change alternately when the width guide in the upper cas- sette is moved. If not, replace the upper paper width switch.
	Incorrectly set cassette paper size in copier man- agement mode (metric specs).	Check the cassette paper size and reset.

* For inch specifications only.

Problem	Causes	Check procedures/corrective measures
(59) The size of paper in the lower cassette is not displayed correctly.	Poor contact in the lower paper length switch* connector terminals (inch specs).	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lower paper length switch* (inch specs).	Check if CN6-4 on the engine PCB goes low when the lower paper length switch is turned on. If not, replace the lower paper length switch.
	Poor contact in the lower paper width switch* connector terminals (inch specs).	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lower paper width switch* (inch specs).	Check if the levels of CN3-5, CN3-6 and CN3-8 on the engine PCB change alternately when the width guide in the lower cassette is moved. If not, replace the lower paper width switch.
	Incorrectly set cassette paper size in copier management mode (metric specs).	Check the cassette paper size and reset.
(60) The size of paper on the bypass table is not displayed correctly.	Poor contact in the bypass paper length switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass paper length switch.	Check if CN15-A6 on the engine PCB goes low when the bypass paper length switch is turned on. If not, replace the bypass paper length switch.
	Poor contact in the bypass paper width switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass paper width switch.	Check if the levels of CN15-A7, CN15-A8 and CN15-A9 on the engine PCB change alternately when the insert guide on the bypass table is moved. If not, replace the bypass paper width switch.
(61) A paper jam in the paper feed, paper conveying or fixing section is indicated on the touch panel immediately after the main switch is turned on.	A piece of paper torn from copy paper is caught around paper feed switch 1/2/3/4/5, the feed switch, registration switch, feedshift switch or eject switch.	Check and remove if any.
	Defective paper feed switch 1.	Run maintenance item U031 and turn paper feed switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 2.	Run maintenance item U031 and turn paper feed switch 2 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 3.	Run maintenance item U031 and turn paper feed switch 3 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective paper feed switch 4.	Run maintenance item U031 and turn paper feed switch 4 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

* For inch specifications only.

Problem	Causes	Check procedures/corrective measures
(61) A paper jam in the paper feed, paper conveying or fixing section is indicated on the touch panel immediately after the main switch is turned on.	Defective paper feed switch 5.	Run maintenance item U031 and turn paper feed switch 5 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch.	Run maintenance item U031 and turn feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn registration switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feedshift switch.	Run maintenance item U031 and turn feedshift switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective eject switch.	Run maintenance item U031 and turn eject switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(62) The message requesting covers to be closed is displayed when the front, upper right, lower right and eject covers are closed.	Poor contact in the connector terminals of safety switch 1, 2, 3 or 4.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective safety switch 1, 2, 3 or 4.	Check for continuity across each switch. If there is no continuity when the switch is on, replace it.
(63) Others.	Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.
	Noise.	Locate the source of noise and remove.

• DF

Problem	Causes	Check procedures/corrective measures
(1) The original feed motor does not operate.	Defective original feed motor coil.	Check for continuity across the coil. If none, replace the original feed motor.
	The connector terminals of the original feed motor make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check for continuity across the original feed motor coil and connector terminals. If good, replace the DF driver PCB.
(2) The original conveying motor does not operate.	Defective original conveying motor coil.	Check for continuity across the coil. If none, replace the original conveying motor.
	The connector terminals of the original conveying motor make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check for continuity across the original conveying motor coil and connector terminals. If good, replace the DF driver PCB.
(3) The original feed solenoid does not operate.	Defective original feed solenoid coil.	Check for continuity across the coil. If none, replace the original feed solenoid.
	The connector terminals of the original feed solenoid make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check if the original feed solenoid operates when CN5-B13 or CN5-B12 on the DF driver PCB is low. If it does, replace the DF driver PCB.
(4) The switchback feedshift solenoid does not operate.	Defective switchback feedshift solenoid coil.	Check for continuity across the coil. If none, replace the switchback feedshift solenoid.
	The connector terminals of the switchback feedshift solenoid make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check if the switchback feedshift solenoid operates when CN5-B8 on the DF driver PCB is low. If it does, replace the DF driver PCB.
(5) The eject feedshift solenoid does not operate.	Defective eject feedshift solenoid coil.	Check for continuity across the coil. If none, replace the eject feedshift solenoid.
	The connector terminals of the eject feedshift solenoid make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check if the eject feedshift solenoid operates when CN5-A7 on the DF driver PCB is low. If it does, replace the DF driver PCB.
(6) The switchback pressure solenoid does not operate.	Defective switchback pressure solenoid coil.	Check for continuity across the coil. If none, replace the switchback pressure solenoid.
	The connector terminals of the switchback pressure solenoid make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check if the switchback pressure solenoid operates when CN5-A2 or CN5-A3 on the DF driver PCB is low. If it does, replace the DF driver PCB.

Problem	Causes	Check procedures/corrective measures
(7) The original feed clutch does not operate.	Defective original feed clutch coil.	Check for continuity across the coil. If none, replace the original feed clutch.
	The connector terminals of the original feed clutch make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF driver PCB.	Check if the original feed clutch operates when CN5-A5 on the DF driver PCB is low. If it does, replace the DF driver PCB.
(8) A message indicating cover open is displayed when the DF is closed correctly.	The connector terminals of DF safety switch 1 make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DF safety switch 1.	Check for continuity across the contacts of the switch. If none when the switch is on, replace DF safety switch 1.
(9) An original jams when the main switch is turned on.	A piece of paper torn from an original is caught around the original feed switch.	Remove any found.
	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around the original switch-back switch.	Remove any found.
	Defective original switch-back switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the original switchback switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around the DF timing switch.	Remove any found.
	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the DF timing switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	The surface facing the DF timing switch is soiled.	Check if the projection at the center of the conveying cover that is facing the DF timing switch is soiled with paper powder. If so, clean it.

1-5-5 Mechanical problems

• Copier

Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the following rollers or pulleys are dirty with paper powder: forwarding pulleys, upper/lower paper feed pulleys, upper/lower feed rollers, vertical paper conveying rollers A/B/C/D, feed pulleys, bypass forwarding roller and bypass upper/lower paper feed pulleys.	Clean with isopropyl alcohol.
	Check if the upper or lower paper feed pulley or forwarding pulley is deformed.	Check visually and replace any deformed pulleys (see page 1-6-3).
	Electrical problem with the following electromagnetic clutches: upper/lower paper feed clutches, feed clutches 1/2/3/4/5, large paper deck conveying clutch and bypass paper feed clutch.	See pages 1-5-50, 51 and 52.
(2) No secondary paper feed.	Check if the surfaces of the upper and lower registration rollers are dirty with paper powder.	Clean with isopropyl alcohol.
	Electrical problem with the registration clutch.	See page 1-5-50.
(3) Skewed paper feed.	Width guide in a cassette installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a cassette.	Repair or replace if necessary .
	Check if a pressure spring along the paper conveying path is deformed or out of place.	Repair or replace.
(4) The scanner does not travel.	Check if the scanner wire is loose.	Reinstall the scanner wire (see page 1-6-30).
	The scanner motor malfunctions.	See page 1-5-47.
(5) Multiple sheets of paper are fed at one time.	Check if the lower paper feed pulley is worn.	Replace the lower paper feed pulley if it is worn (see page 1-6-3).
	Check if the paper is curled.	Change the paper.
(6) No refeed.	Check if the surfaces of the following rollers are dirty with paper powder: duplex upper/lower registration rollers, duplex upper/lower conveying rollers and duplex upper/lower eject rollers.	Clean with isopropyl alcohol.
(7) Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Deformed guides along the paper conveying path.	Repair or replace if necessary.
	Check if the contact between the upper and lower registration rollers is correct.	Check visually and remedy if necessary.
	Check if the contact between the upper and lower feed rollers is correct.	Check visually and remedy if necessary.
	Check if the fixing unit upper or lower guide is deformed.	Repair or replace if necessary.

Problem	Causes/check procedures	Corrective measures
(7) Paper jams.	Check if the press roller is extremely dirty or deformed.	Clean or replace the press roller.
	Check if the contact between the heat roller and its separation claws is correct.	Repair if any springs are off the separation claws.
	Check if the contact between the eject roller and pulley is correct.	Check visually and remedy if necessary.
	The feedshift solenoid malfunctions.	See page 1-5-53.
	Check if the contact between the feedshift lower roller and feedshift pulley is correct.	Check visually and remedy if necessary.
(8) Toner drops on the paper conveying path.	Check if the developing unit is extremely dirty.	Clean the developing unit.
(9) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following electromagnetic clutches are installed correctly: upper/lower paper feed clutches, feed clutches 1/2/3/4/5, large paper deck conveying clutch and bypass paper feed clutch.	Correct.

• DF

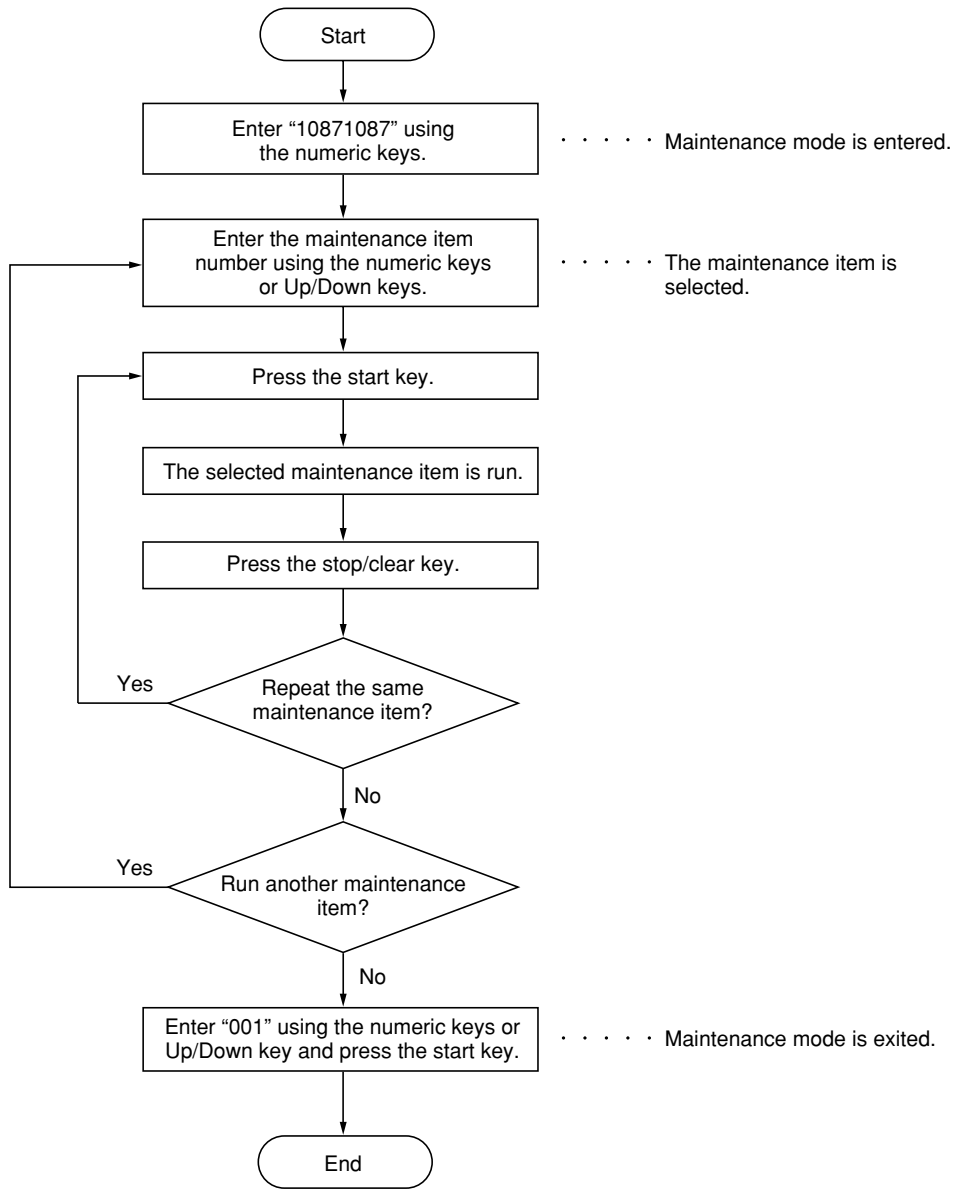
Problem	Causes/check procedures	Corrective measures
(1) No primary original feed.	The surfaces of the DF forwarding pulleys, DF original feed pulley or DF separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	Check if the DF original feed pulley or the DF forwarding pulley is deformed.	If so, replace (see pages 1-6-73).
	Electrical problem with the following clutch or solenoid: • Original feed solenoid • Original feed clutch	See pages 1-5-59 and 60.
(2) No secondary original feed.	The DF registration pulley and the DF registration roller do not contact each other correctly.	Check visually and remedy if necessary.
(3) Originals jam.	Originals outside the specifications are used.	Use only originals conforming to the specifications.
	The surfaces of the DF forwarding pulleys, DF original feed pulley or DF separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	The DF original feed pulley and the DF separation pulley do not contact each other correctly.	Check visually and remedy if necessary.

1-6-1 Precautions for assembly and disassembly

(1) Precautions

- Be sure to turn the main switch off and disconnect the power plug before starting disassembly.
- When handling PCBs, do not touch connectors with bare hands or damage the board.
- Do not touch any PCB containing ICs with bare hands or any object prone to static charge.
- Use only the specified parts to replace the fixing unit thermostat. Never substitute electric wires, as the copier may be seriously damaged.
- Use the following testers when measuring voltages:
 - Hioki 3200
 - Sanwa MD-180C
 - Sanwa YX-360TR
 - Beckman TECH300
 - Beckman DM45
 - Beckman 330*
 - Beckman 3030*
 - Beckman DM850*
 - Fluke 8060A*
 - Arlec DMM1050
 - Arlec YF1030C
- * Capable of measuring RMS values.
- Prepare the following as test originals:
 1. NTC (new test chart)
 2. NPTC (newspaper test chart)

(2) Running a maintenance item



1-6-2 Paper feed section

(1) Detaching and refitting the forwarding, upper and lower paper feed pulleys

Follow the procedure below to clean or replace the upper and lower paper feed pulleys.

Procedure

1. Remove the lower right inner cover.
2. Open the lower vertical conveying cover.
3. Remove the screw each and pull out the primary paper feed units (for upper cassette and lower cassette) as shown in the figure, then remove the primary paper feed units from the machine.

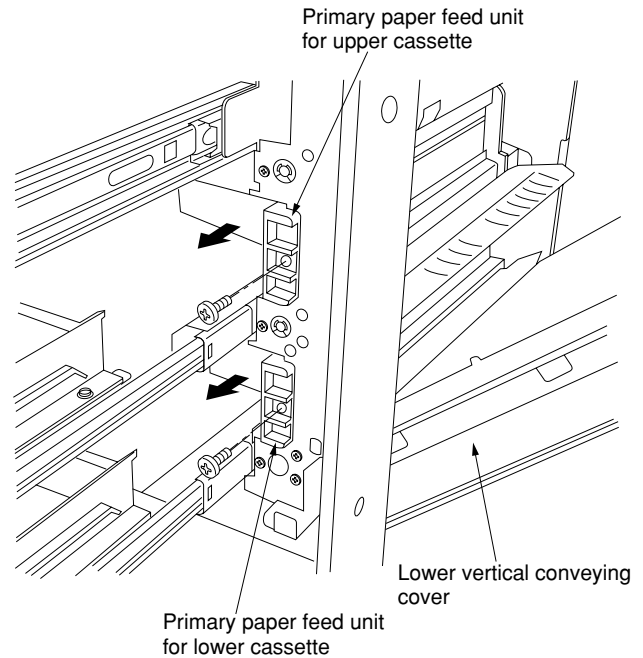


Figure 1-6-1

• Removing the forwarding pulley

4. Raise the forwarding pulley retainer in the directions of the arrows as shown in the figure, and remove it from the primary paper feed unit.

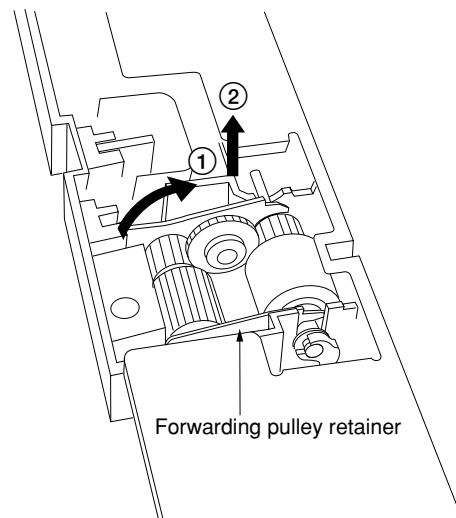


Figure 1-6-2

5. Remove the stop ring and pull out the forwarding pulley shaft in the direction of the arrow, then remove the forwarding pulley.

* When refitting the forwarding pulley, check that the joint section of the forwarding pulley (section indicated by round mark in the figure) is firmly geared with the joint section of the gear.

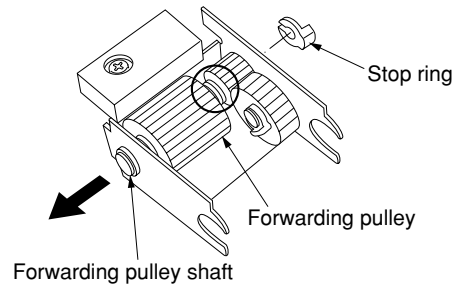


Figure 1-6-3

• Removing the upper paper feed pulley
6. Remove the eight screws, then remove upper paper feed housing reinforcement plate.

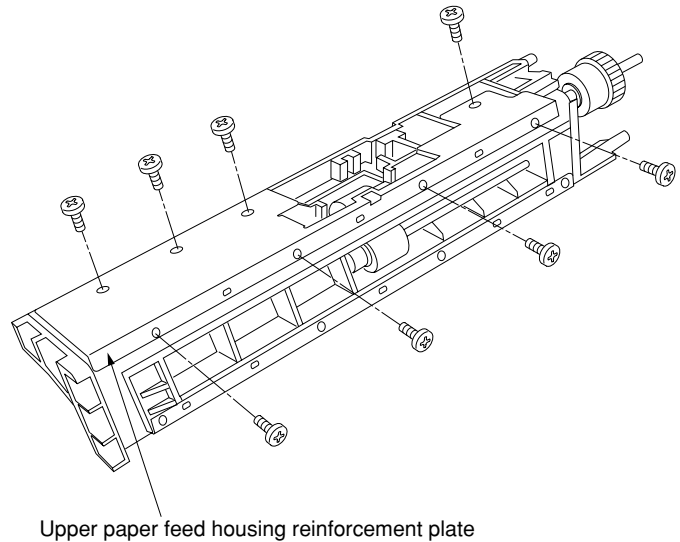


Figure 1-6-4

7. Free the wire of the paper feed clutch from the two hooks and groove of the upper paper feed housing.

8. Remove the stop ring, then remove the bushing.

9. Pull the upper paper feed shaft in the direction of the arrow, then remove the upper paper feed pulley as shown in the figure.

* When refitting, be careful about following points.

- Refit the upper paper feed pulley so that the one-way clutch is machine front.
- Refit the gear so that the one-way clutch (blue) is machine front.
- The stopper (section indicated by round mark in the figure) of the paper feed clutch must be firmly into the groove of the upper paper feed housing.

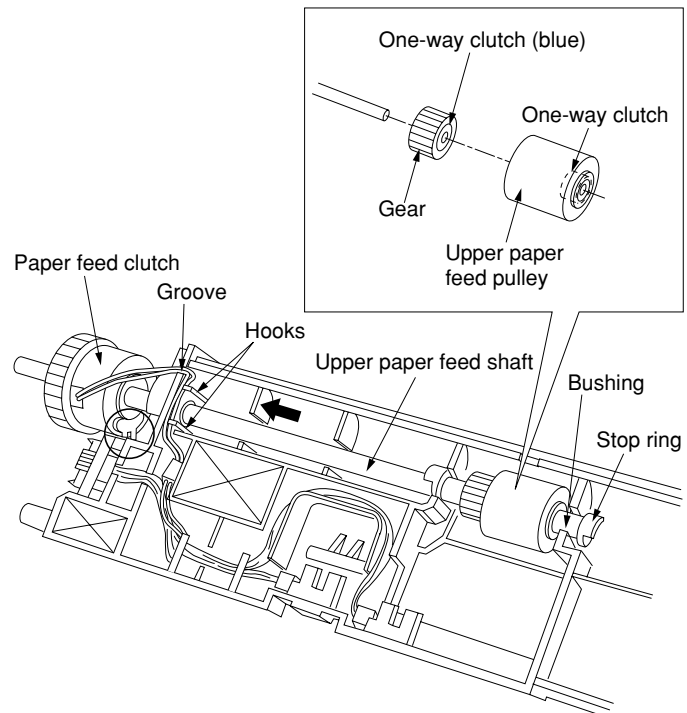
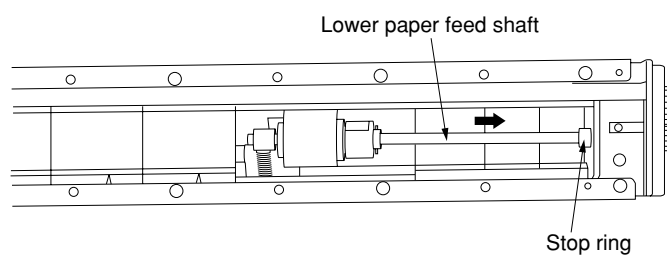
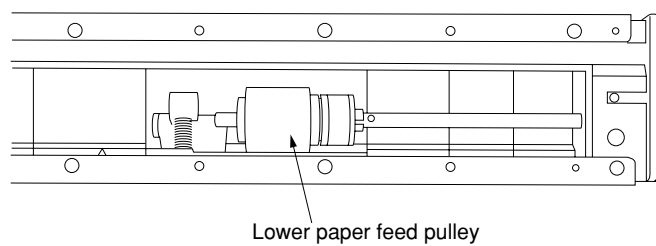


Figure 1-6-5

- Removing the lower paper feed pulley
10. Remove the stop ring on the rear of the primary paper feed unit.
 11. Pull the lower paper feed shaft in the direction of the arrow as shown in the figure.

**Figure 1-6-6**

12. Remove the lower paper feed pulley.
13. Refit all the removed parts.

**Figure 1-6-7**

(2) Detaching and refitting the bypass forwarding roller, bypass upper and lower paper feed pulleys

Follow the procedure below to clean or replace the bypass forwarding roller, bypass upper and lower paper feed pulleys.

(2-1) Detaching the bypass paper feed unit

Follow the procedure below to detach the bypass paper feed unit to perform disassembly.

Procedure

1. Remove the upper right cover.
 2. Disconnect the 7-pin connector and free the wire of the connector from the cord clamp.
 3. Remove the two screws, then remove the bypass table assembly as shown in the figure.
- * When refitting, be careful about following points.
- Run the wire of the connector through the part (indicated by the arrow (a) in the figure), rewind the wire to the cord clamp.
 - Check that the rail sections (sections indicated by round marks in the figure) at the bypass table assembly must be firmly into the bypass table mounts (machine front and rear).

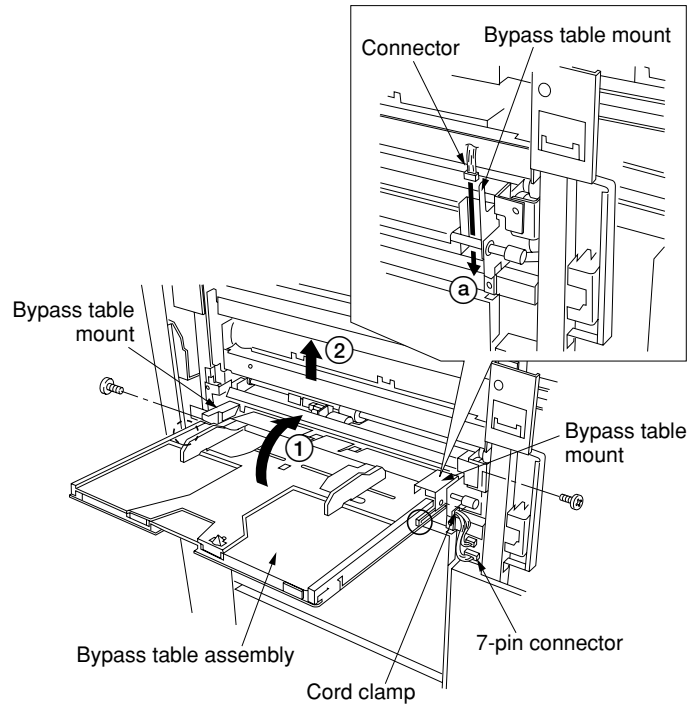


Figure 1-6-8

4. Disconnect the 6-pin connector and remove the four screws, then remove the bypass paper feed unit.

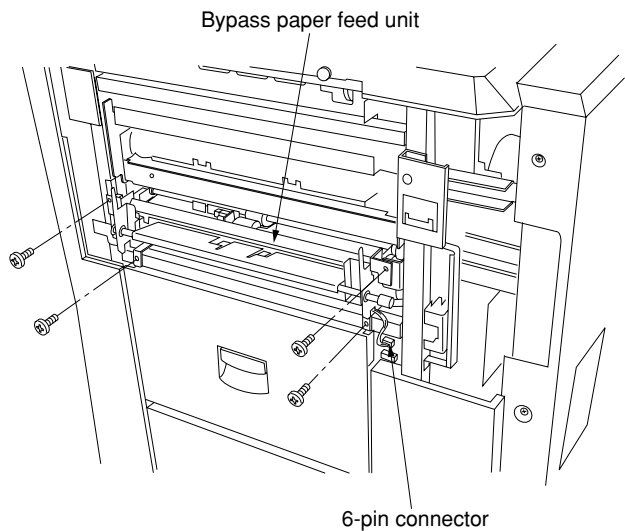
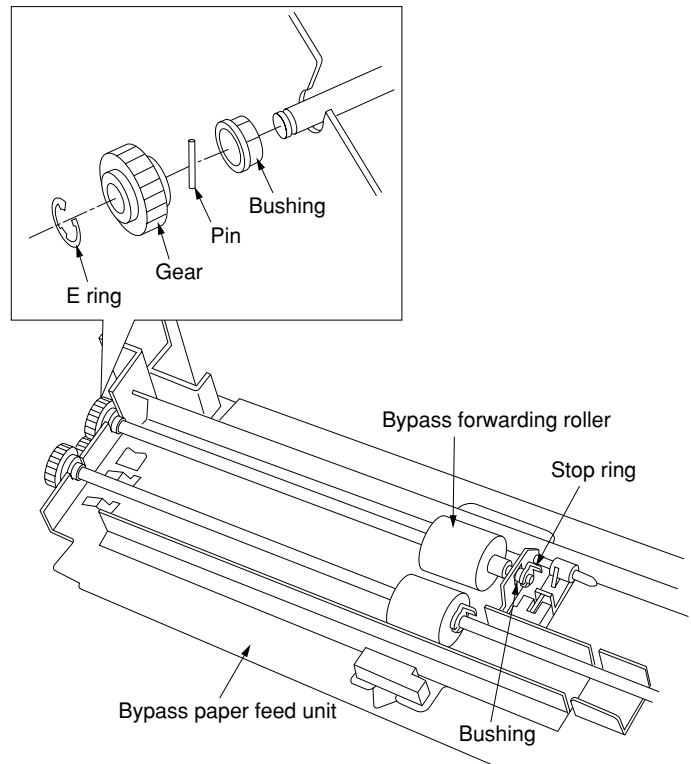


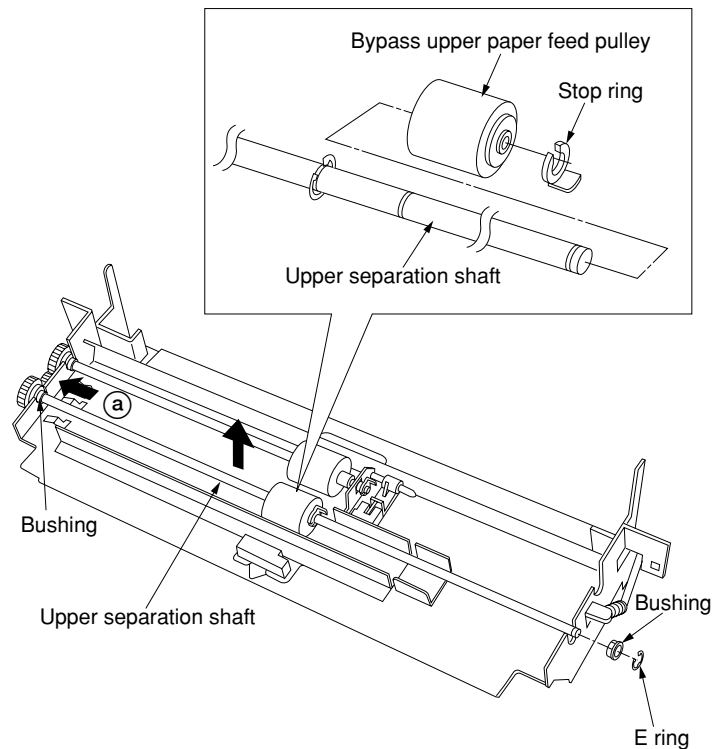
Figure 1-6-9

(2-2) Detaching the bypass forwarding roller**Procedure**

1. Remove the bypass paper feed unit (see page 1-6-6).
2. Remove the E ring, then remove the gear, pin and bushing.
3. Remove the stop ring, then remove the bushing.
4. Remove the bypass forwarding roller from the bypass paper feed unit.
5. Refit all the removed parts.

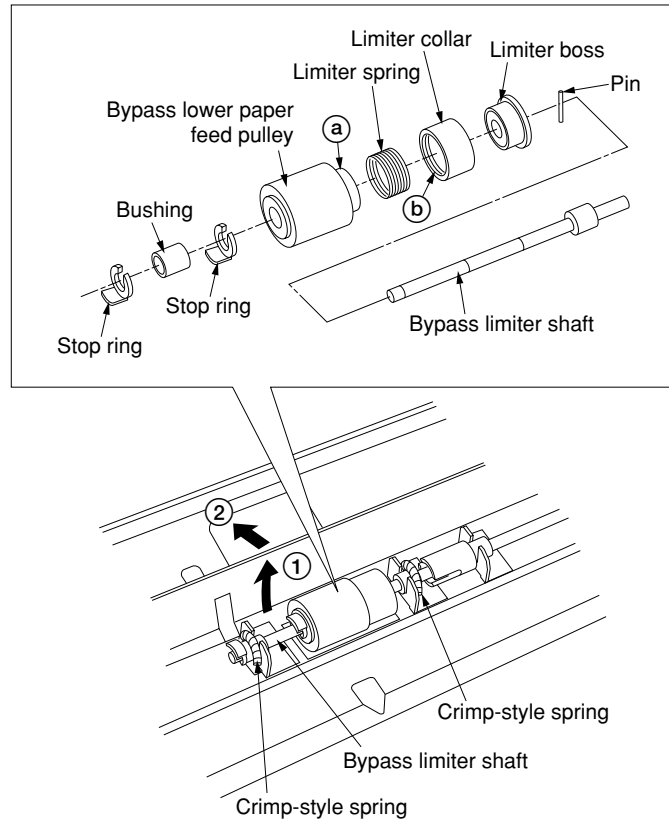
**Figure 1-6-10****(2-3) Detaching the bypass upper paper feed pulley****Procedure**

1. Remove the bypass paper feed unit (see page 1-6-6).
2. Remove the E ring, then remove the bushing.
3. Shift the bushing in the direction of the arrow (a), then remove the upper separation shaft from the bypass paper feed unit.
4. Remove the stop ring, then remove the bypass upper paper feed pulley from the upper separation shaft.
5. Refit all the removed parts.

**Figure 1-6-11**

(2-4) Detaching the bypass lower paper feed pulley**Procedure**

1. Remove the bypass paper feed unit (see page 1-6-6).
 2. Remove the left and right crimp-style springs, then remove the bypass limiter shaft from the bypass paper feed unit in the direction of the arrows as shown in the figure.
 3. Remove the stop ring, then remove the bushing.
 4. Remove the stop ring and remove the each parts as shown in the figure, then remove the bypass lower paper feed pulley.
- * When refitting, apply the specified grease to the part of the lower bypass paper feed pulley (a) indicated in the figure) and inside of the limiter collar (b) indicated in the figure).
5. Refit all the removed parts.

**Figure 1-6-12**

(3) Cleaning the paper feed belts

Follow the procedure below to clean the paper feed belts.

Procedure

1. Open the front cover.
2. Pull the large paper deck out.
3. Remove the four screws, then remove the duplex unit.

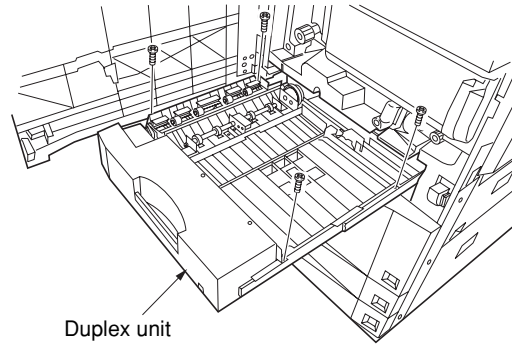


Figure 1-6-13

4. Remove the lower rear right cover.
5. Remove the two screws, then remove the vertical conveying mount.
6. Disengage the hook of the vertical conveying damper spring from the hole in the machine and remove the upper vertical conveying cover assembly.

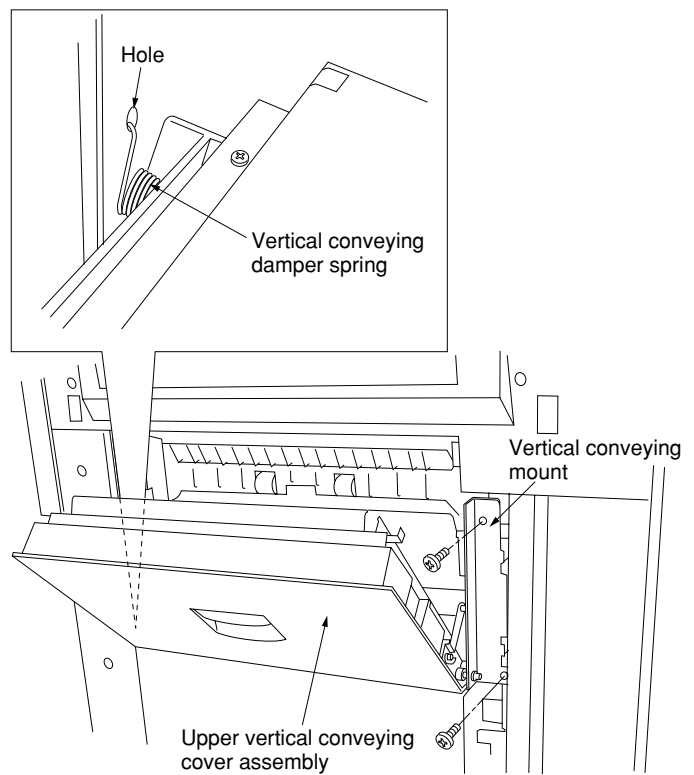


Figure 1-6-14

7. Disconnect the 13-pin connector and the 14-pin connector on the right side of the deck paper conveying unit, and then disconnect the 2-pin connector on the left side.
8. Remove the two screws, then pull the deck paper conveying unit in the direction of the arrow to remove it from the machine.

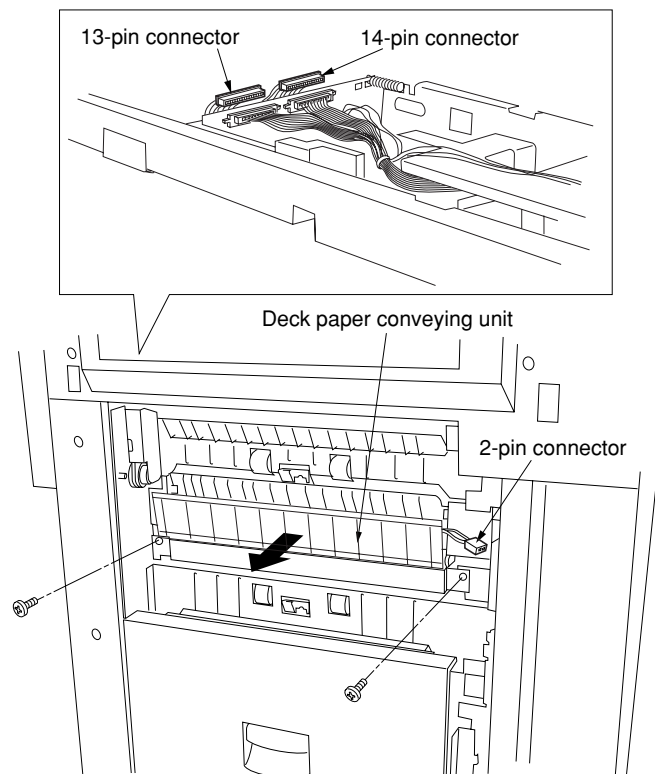


Figure 1-6-15

9. Clean the paper feed belts with alcohol.
10. Refit all the removed parts.

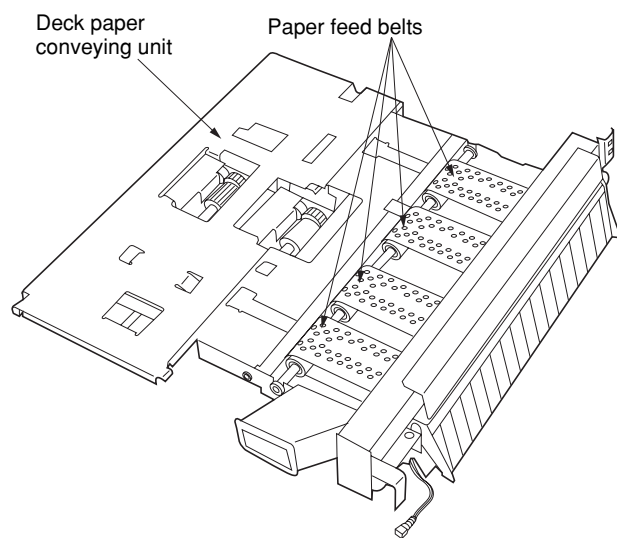


Figure 1-6-16

(4) Detaching and refitting the deck paper feed roller and deck paper conveying roller

Follow the procedure below to clean or replace the deck paper feed roller or deck paper conveying roller.

Procedure

1. Remove the deck paper conveying unit from the machine (see page 1-6-9).
2. Remove the two stop rings and the bearing and then remove the roller unit from the pickup arm.
3. Replace the deck paper feed roller or deck paper conveying roller.
4. Refit all the removed parts.

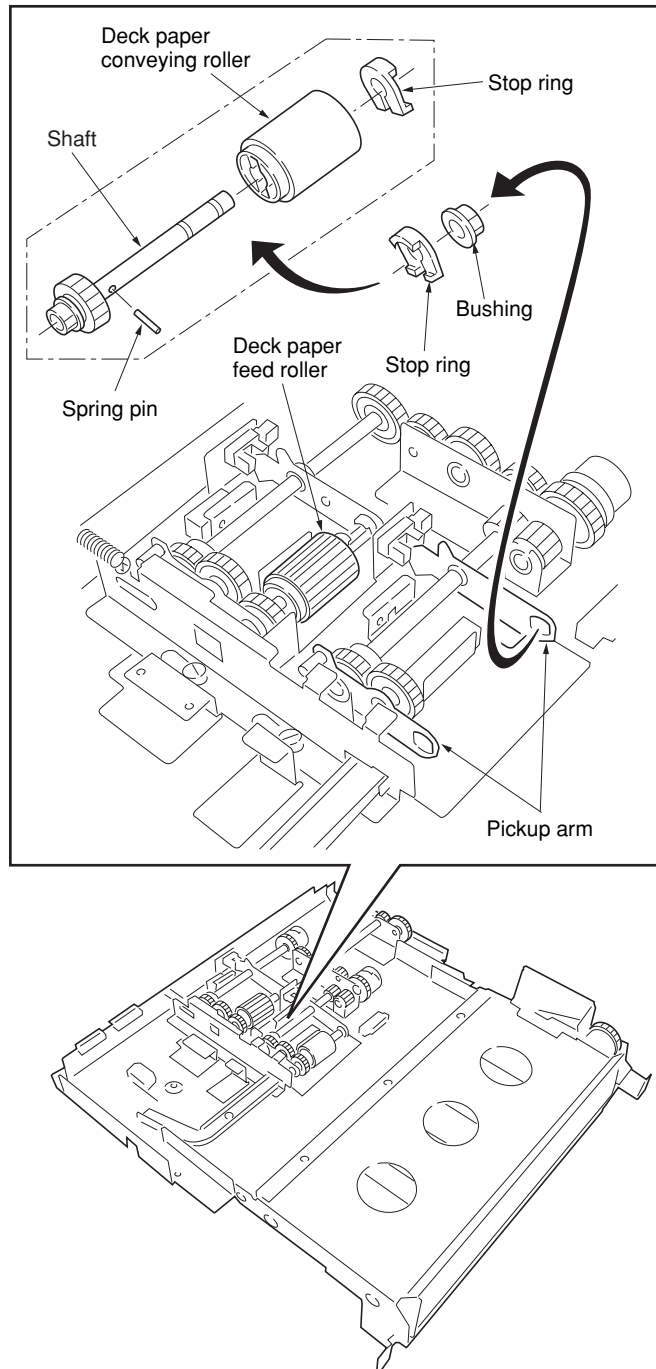


Figure 1-6-17

(5) Detaching and refitting the upper and lower paper width switches (for inch models only)

Follow the procedure below to check or replace the upper and lower paper width switches.

Caution:

After replacing a paper width switch, be sure to perform "(7-1) Adjusting the position of the rack adjuster" (see page 1-6-15).

Procedure

1. Remove the four screws, then remove the cassette from the machine.

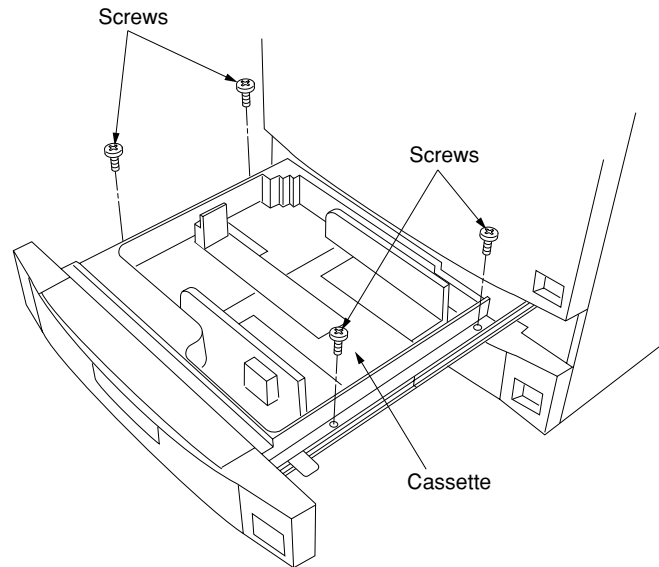


Figure 1-6-18

2. Remove the two screws and two spacers, then remove the 8-pin socket from the rear of the cassette.
3. Remove the 8-pin connector for the paper width switch from the 8-pin socket.
4. Remove the three screws holding the width adjustment lever.
5. While lifting the cassette lift in the direction of the arrow, then remove the width adjustment lever.

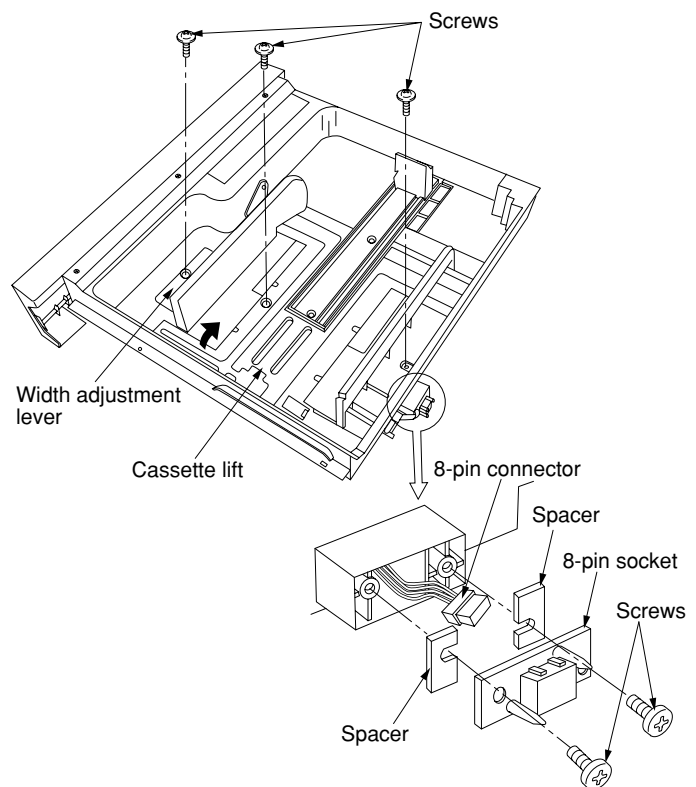


Figure 1-6-19

6. Remove the two screws on the back of the width adjustment lever, then remove the paper width switch.
- * When replacing, apply the specified grease to the printed surface of the new paper width switch (shaded area in the figure) and fit the switch to the width adjustment lever.

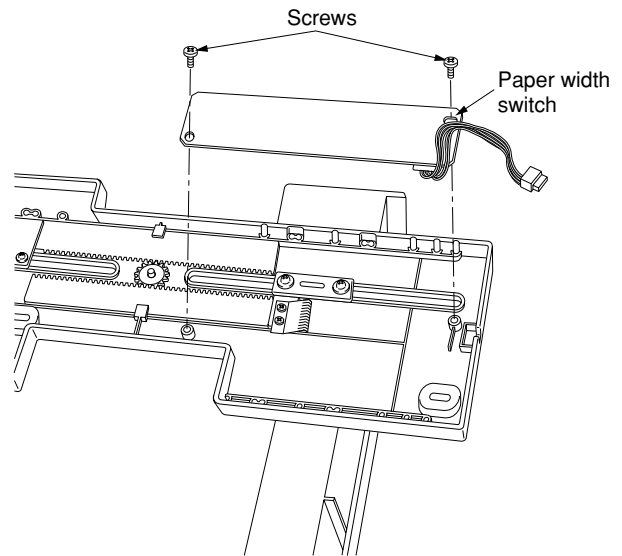


Figure 1-6-20

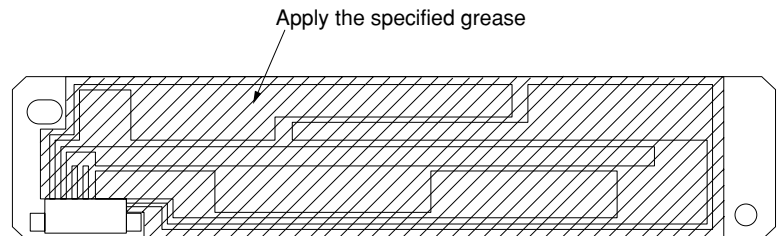


Figure 1-6-21

7. Refit all the removed parts.

(6) Detaching and refitting the bypass paper width switch

Follow the procedure below to check or replace the bypass paper width switch.

Procedure

1. Remove the bypass table assembly (see page 1-6-6).
2. Remove the three screws, then remove the upper bypass table.
 - * When refitting, check that the wire of the connector must be run through the notch of the upper bypass table (section indicated by round mark in the figure).

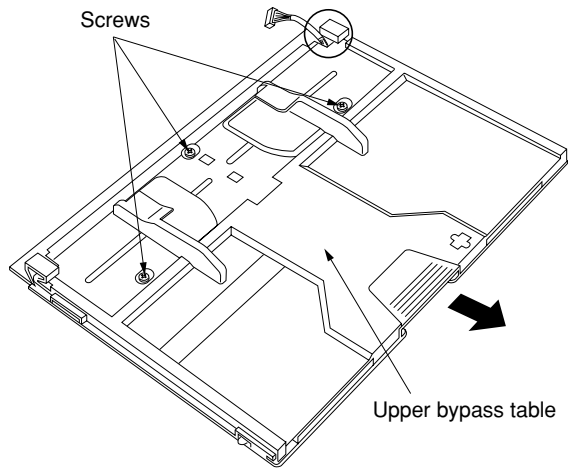


Figure 1-6-22

3. Remove the two screws and disconnect the connector, then remove the bypass paper width switch.
 - * When replacing, apply the specified grease to the printed surface of the new bypass paper width switch (shaded area in the figure) and fit the switch to the upper bypass table.

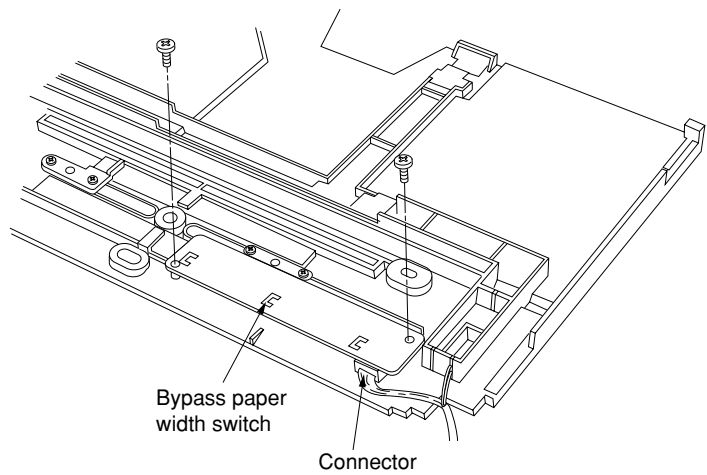


Figure 1-6-23

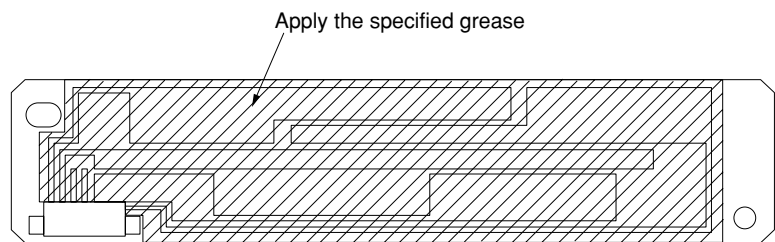


Figure 1-6-24

4. Refit all the removed parts.

(7) Adjusting the center registration

Perform the following adjustment if there is a regular error between the centers of the original and the copy image.

(7-1) Adjusting the position of the rack adjuster

Perform the following adjustment if there is a regular error between the centers of the original and the copy image on the paper fed from a cassette.

Procedure

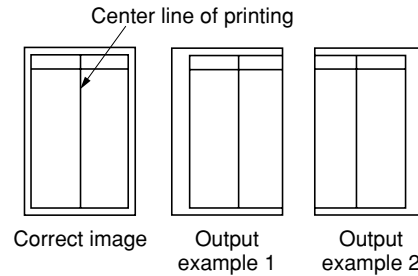
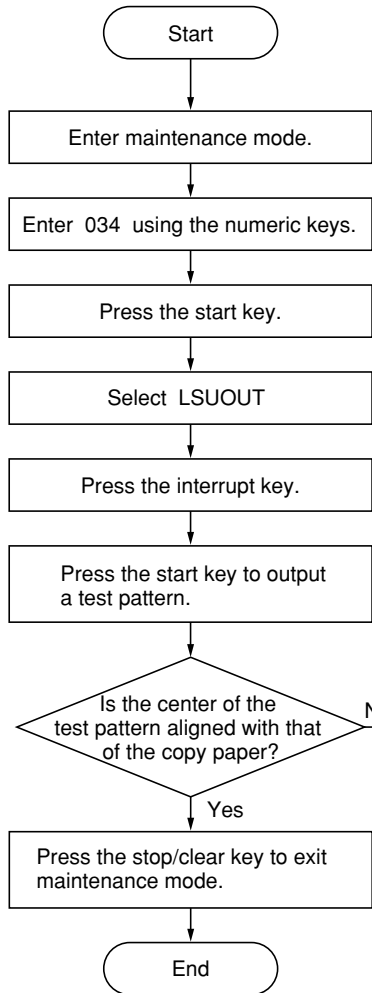


Figure 1-6-25

Loosen the three screws holding the rack adjuster and adjust the position of the rack adjuster so that the centers of the test pattern and the copy paper are aligned.
 ¥ For output example 1, move it toward the machine rear (←).
 ¥ For output example 2, move it toward the machine front (→).

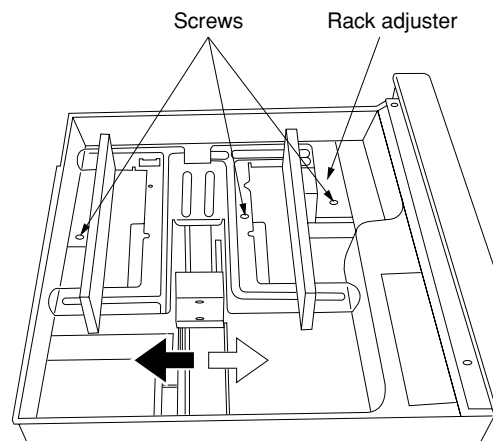


Figure 1-6-26

(7-2) Adjusting the position of the center adjuster

Perform the following adjustment if there is a regular error between the centers of the original and the copy image on the paper feed from a large paper deck.

Procedure

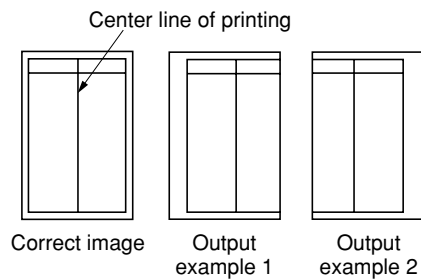
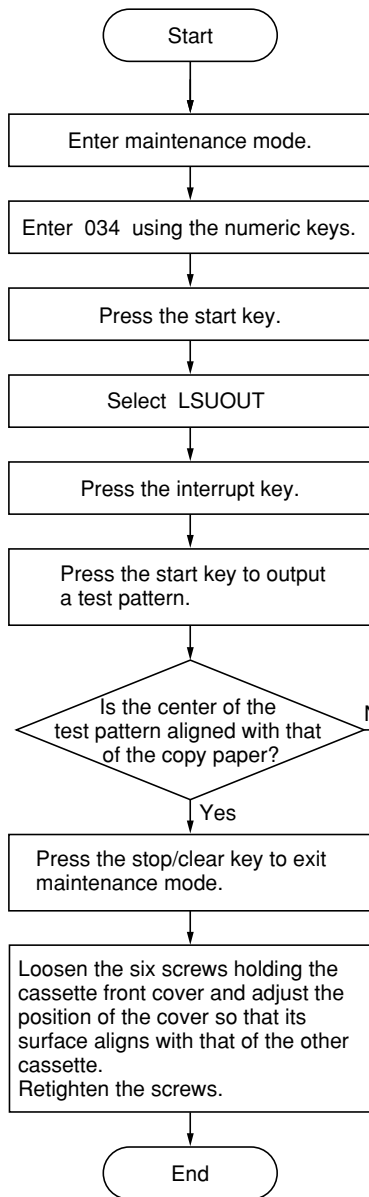


Figure 1-6-27

Loosen the two screws holding the center adjuster and adjust the position of the center adjuster so that the centers of the test pattern and the copy paper are aligned.
 ¥ For output example 1, move it toward the machine front (←).
 ¥ For output example 2, move it toward the machine rear (→).

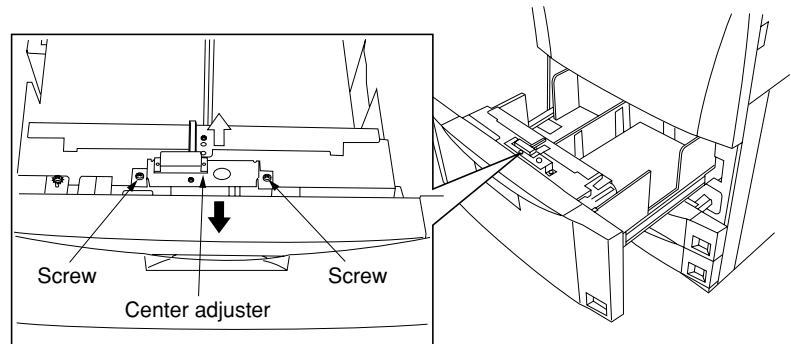


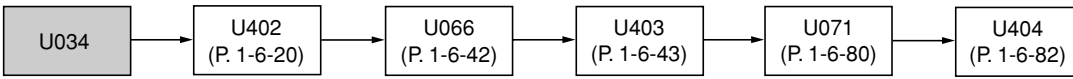
Figure 1-6-28

(8) Adjustment after roller and clutch replacement

Perform the following adjustment after refitting rollers and clutches.

(8-1) Adjusting the leading edge registration

Make the following adjustment if there is a regular error between the leading edges of the copy image and original.



Caution:

Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

Procedure

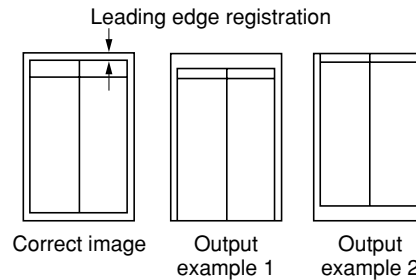
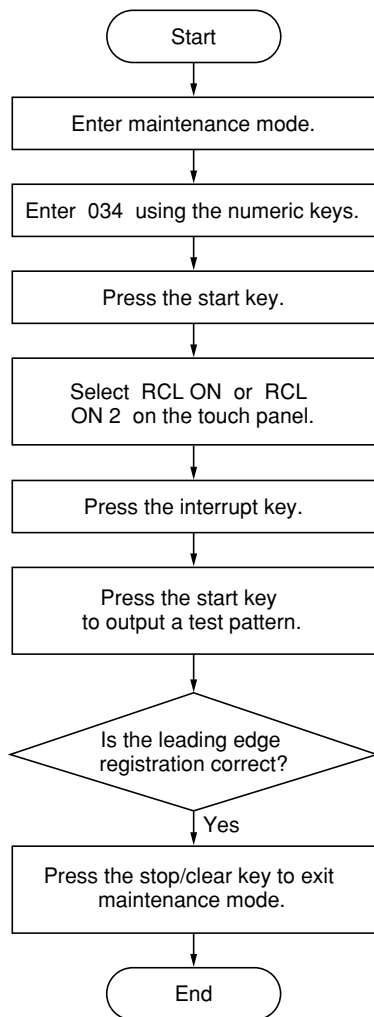
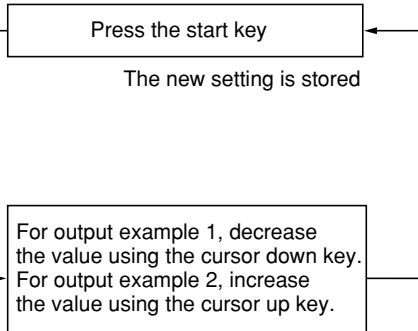


Figure 1-6-29

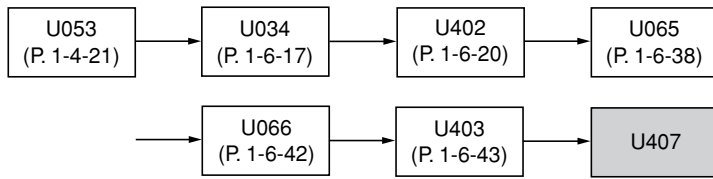
Touch panel display
 RCL ON: Leading edge registration
 RCL ON 2: Leading edge registration for duplex copying (second face)



Setting range: -30.0 — +30.0
 Changing the value by 1 moves the leading edge by 0.1 mm.
 Initial setting
 Leading edge registration: -5.5
 Leading edge registration for duplex copying (second face): 0

(8-2) Adjusting the leading edge registration for duplex switchback copying

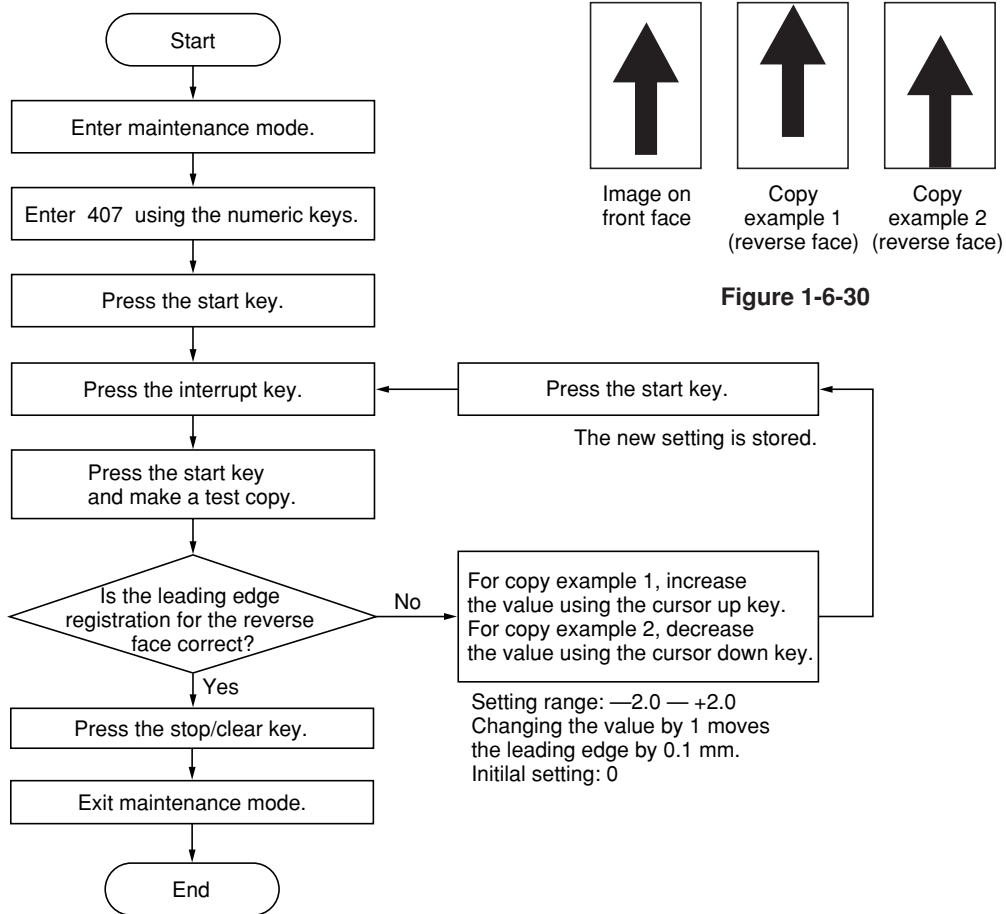
Make the following adjustment if there is a regular error between the leading edge of the copy image on the front face and that on the reverse face during duplex switchback copying.



Caution:

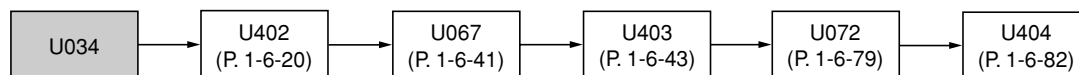
Before making the following adjustment, ensure the above adjustments have been made in maintenance mode.

Procedure

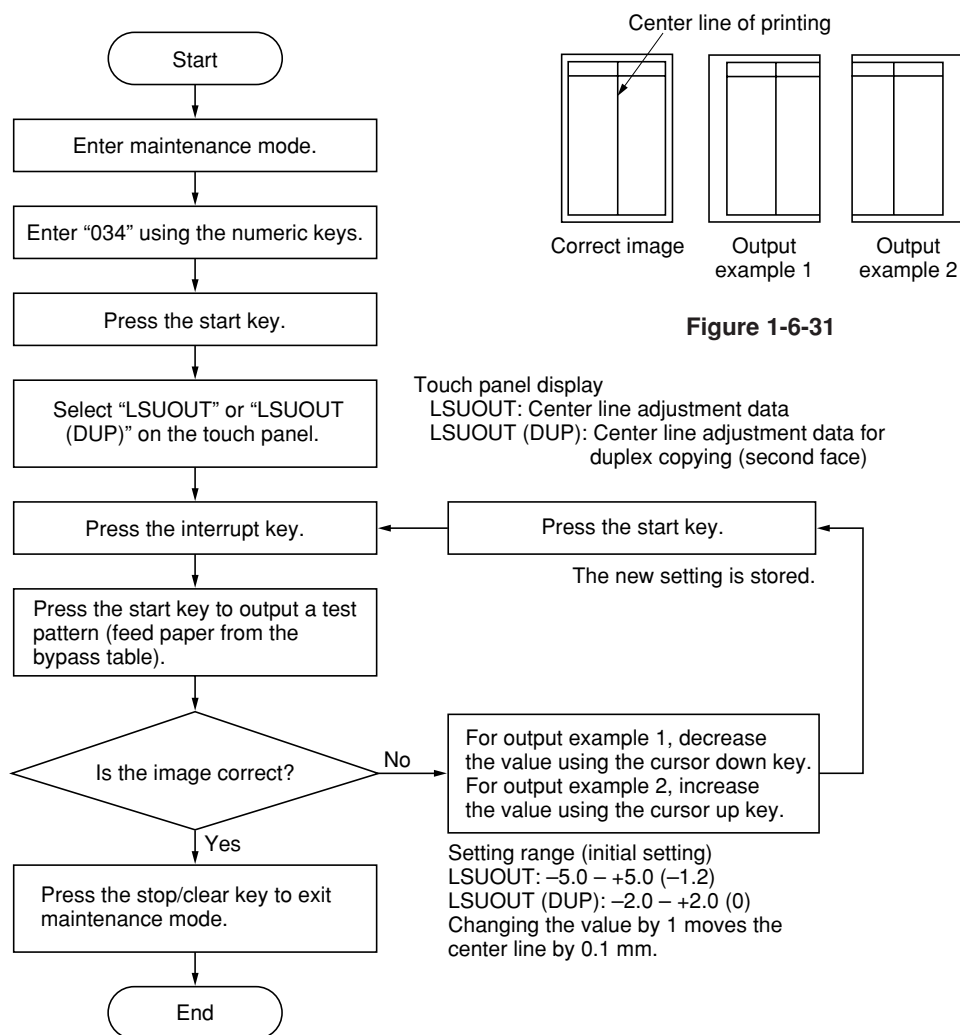


(8-3) Adjusting the center line of image printing

Make the following adjustment if there is a regular error between the center lines of the copy image and original when paper is fed from the drawer.

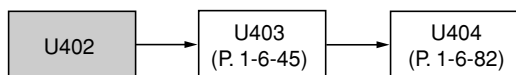
**Caution:**

Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

Procedure

(8-4) Adjusting the margins for printing

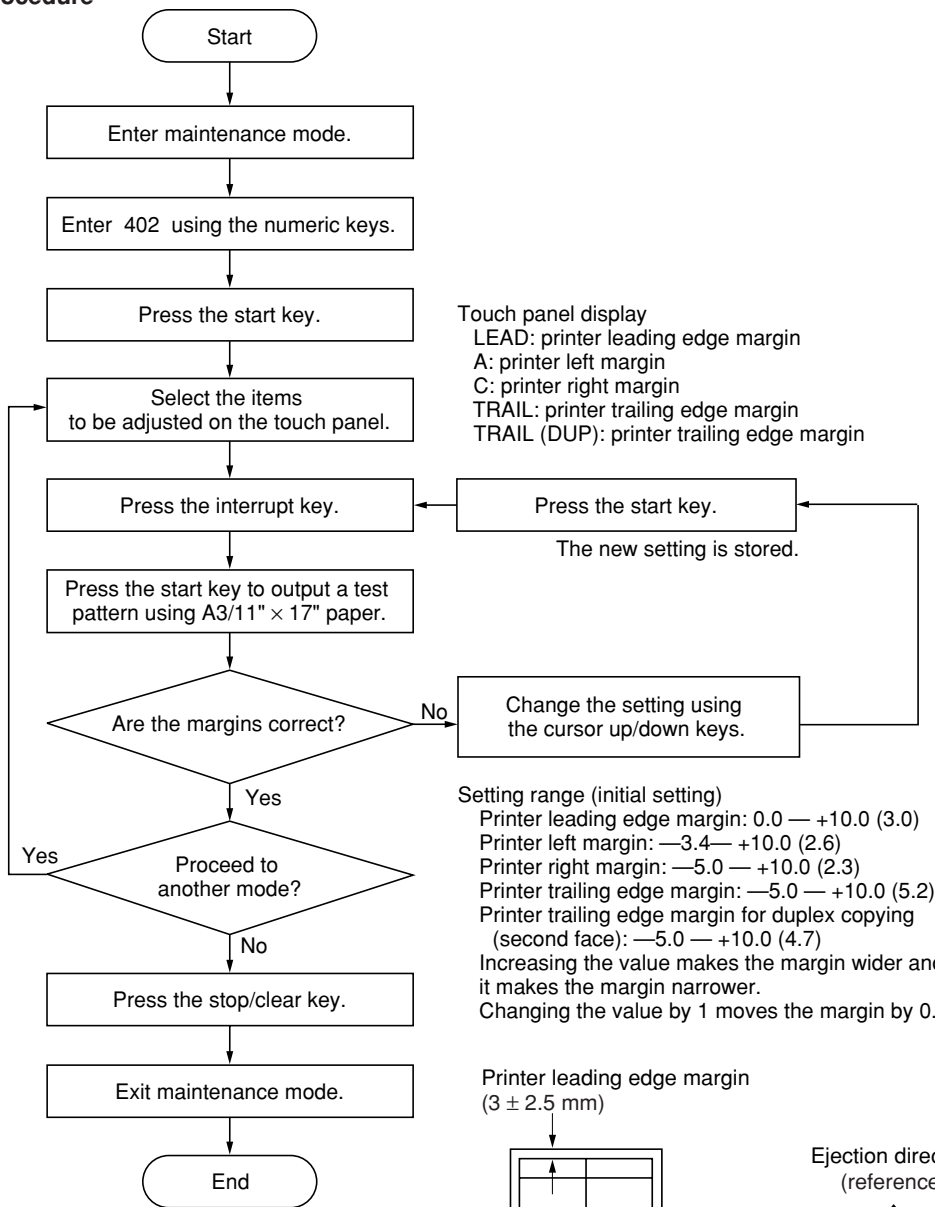
Make the following adjustment if the margins are not correct.



Caution:

Check the copy image after the adjustment. If the margins are still incorrect, perform the above adjustments in maintenance mode.

Procedure



Touch panel display
 LEAD: printer leading edge margin
 A: printer left margin
 C: printer right margin
 TRAIL: printer trailing edge margin
 TRAIL (DUP): printer trailing edge margin

The new setting is stored.

Setting range (initial setting)
 Printer leading edge margin: 0.0 — +10.0 (3.0)
 Printer left margin: -3.4 — +10.0 (2.6)
 Printer right margin: -5.0 — +10.0 (2.3)
 Printer trailing edge margin: -5.0 — +10.0 (5.2)
 Printer trailing edge margin for duplex copying (second face): -5.0 — +10.0 (4.7)
 Increasing the value makes the margin wider and decreasing it makes the margin narrower.
 Changing the value by 1 moves the margin by 0.1 mm for all.

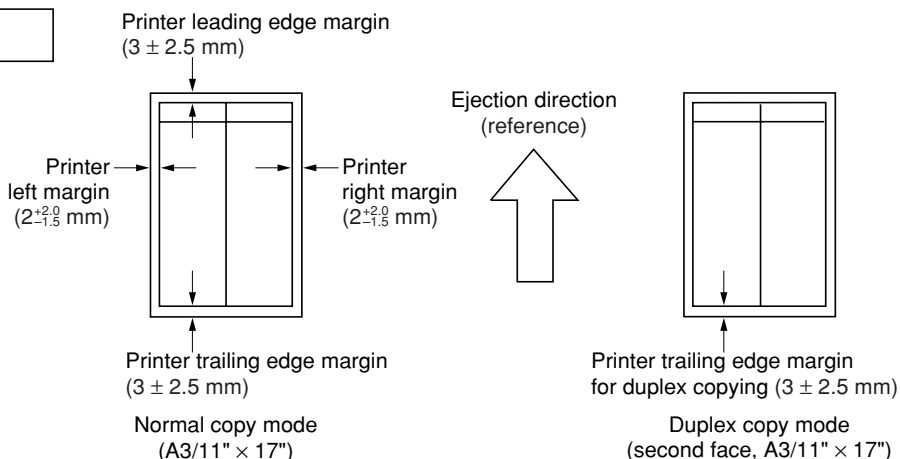


Figure 1-6-32

(8-5) Adjusting the amount of slack in the paper at the registration roller for drawer, bypass and duplex feeds

Make the following adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

Procedure

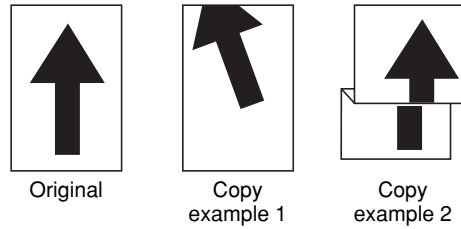
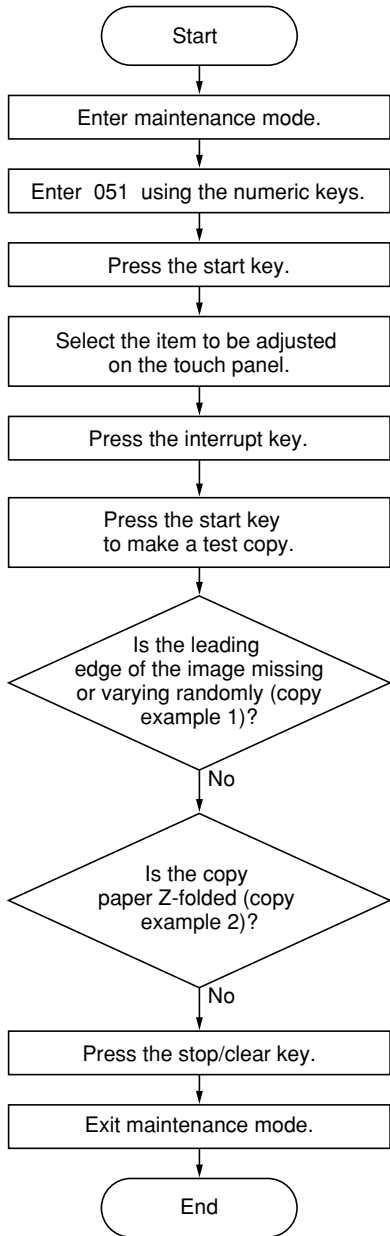


Figure 1-6-33

Touch panel display
 DECK DATA: Amount of slack at the registration roller for drawer feed
 BYPASS DATA: Amount of slack at the registration roller for bypass feed
 DUPLEX DATA: Amount of slack at the registration roller for duplex feed

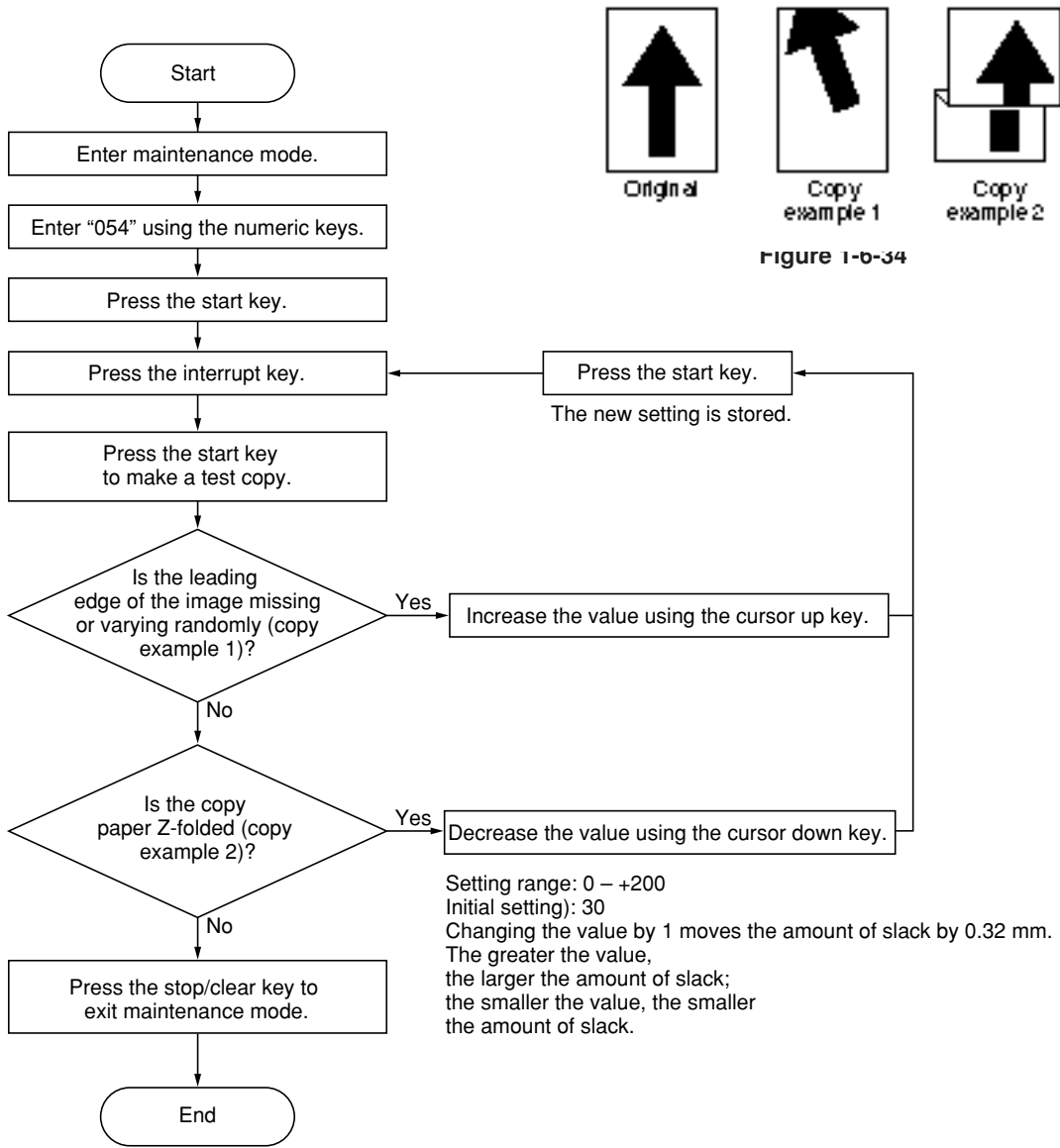
Press the start key.
 The new setting is stored.

Setting range: -30 — +40
 Changing the value by 1 changes the amount of slack by 0.32 mm.
 Initial setting
 DECK DATA: +15
 BYPASS DATA: -10
 DUPLEX DATA: +10
 The greater the value, the larger the amount of slack; the smaller the value, the smaller the amount of slack.

(8-6) Adjusting the amount of slack in the paper at the vertical conveying

Make the following adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

Procedure



(9) Detaching and refitting the upper registration roller

Follow the procedure below to check or replace the upper registration roller.

Procedure

1. Open the front cover.
2. Pull out the image formation unit and remove the developing unit.
3. Remove the four screws, then remove the right, left and lower image formation covers.

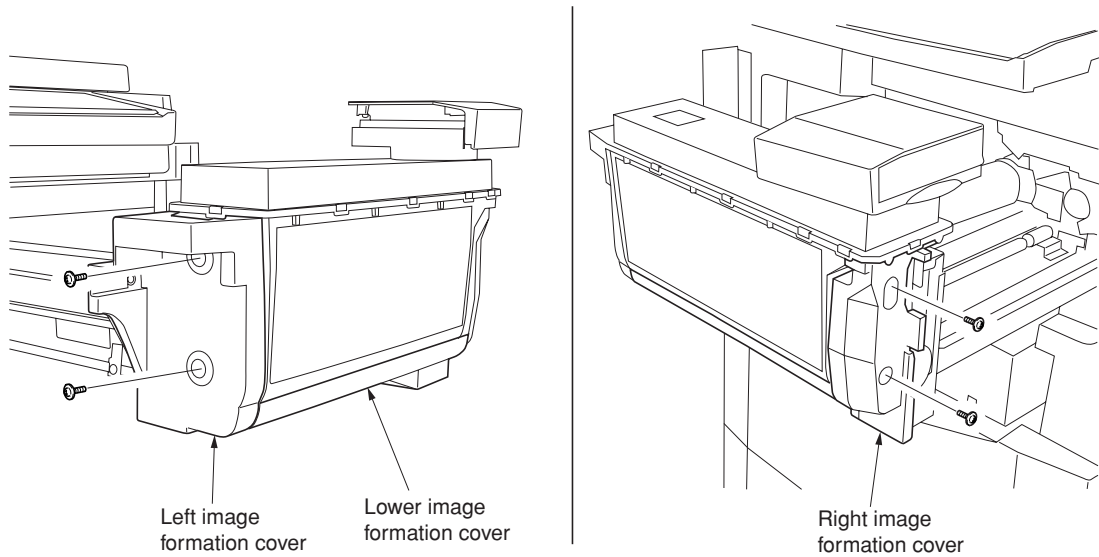


Figure 1-6-35

4. Remove the E ring from the front lower part of the image formation unit.

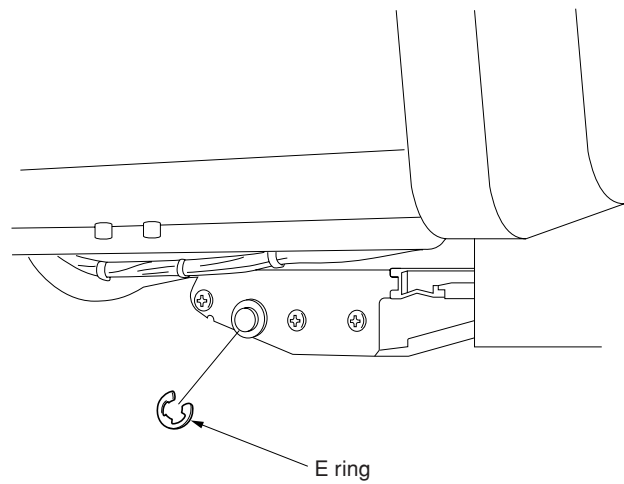


Figure 1-6-36

2CJ

5. Remove the screw, then remove the retainer.
6. Remove the upper registration roller from the lower part of the image formation unit.

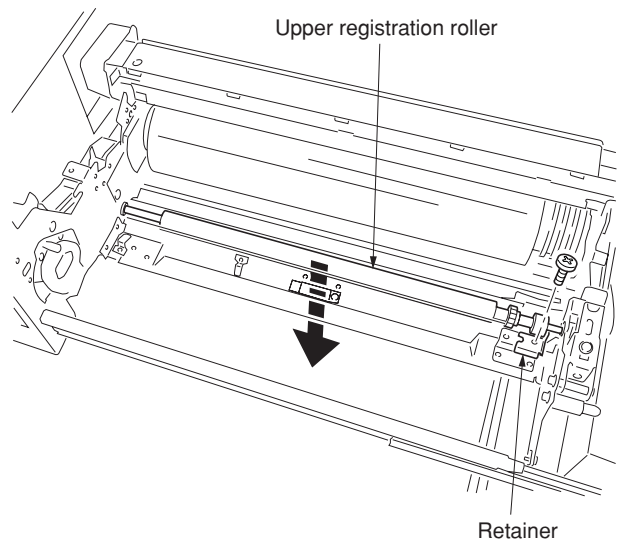


Figure 1-6-37

7. Remove the E ring, gear, pin and torque limiter from the upper registration roller. Replace the upper registration roller.
8. Refit all the removed parts.

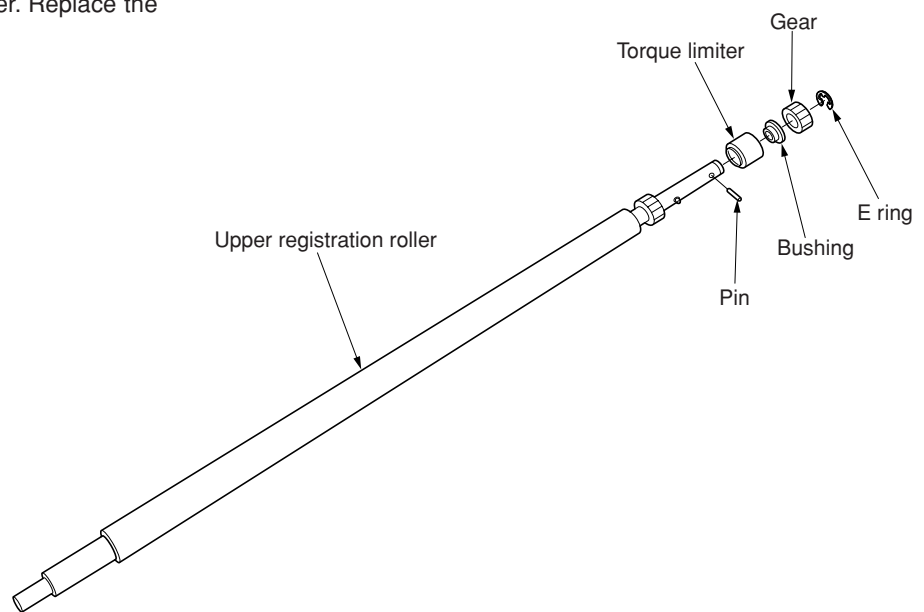


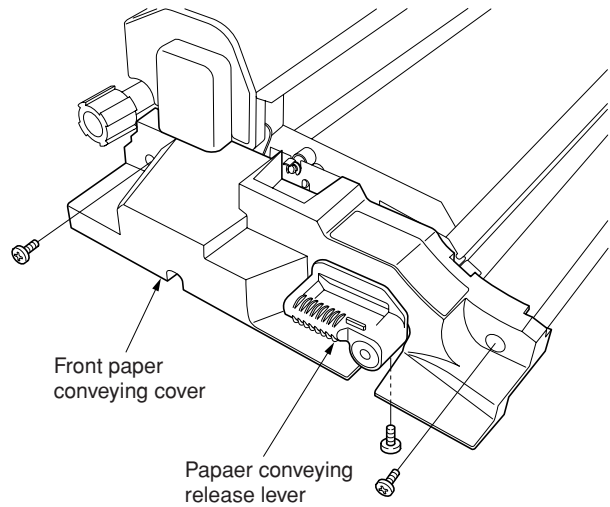
Figure 1-6-38

(10) Detaching and refitting the Lower registration roller

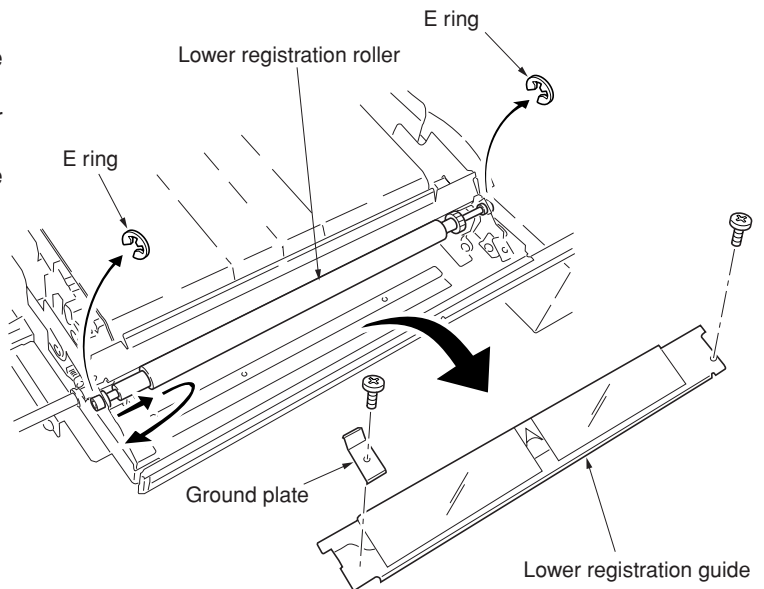
Follow the procedure below to check or replace the lower registration roller.

Procedure

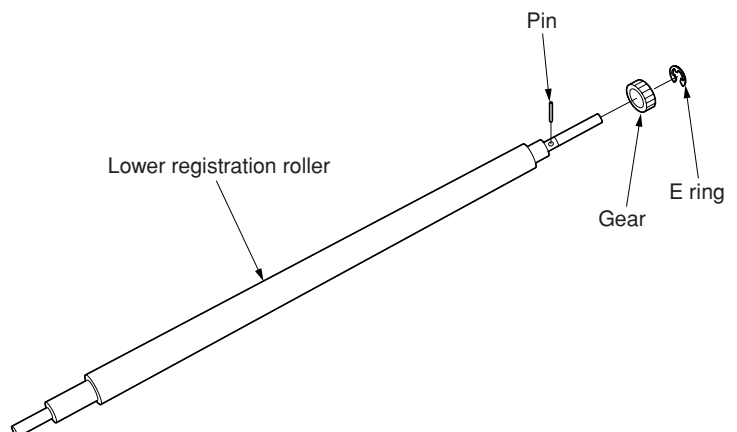
1. Open the front cover and pull out the paper conveying unit.
2. Remove the screw, then remove the paper conveying release lever.
3. Remove the two screws, then remove the front paper conveying cover.

**Figure 1-6-39**

4. Remove the two screws, then remove the lower registration guide and ground plate.
5. Remove the E ring from the front and the rear of the paper conveying unit respectively.
6. Remove the lower registration roller from the paper conveying unit.

**Figure 1-6-40**

7. Remove the E ring, gear and pin from the lower registration roller. Replace the lower registration roller.
8. Refit all the removed parts.

**Figure 1-6-41**

1-6-3 Main charging section

(1) Replacing the charger wire and charger grid assembly

Follow the procedure below when the charger wire or charger grid wire is broken or to be replaced.

Precautions

- Use the specified tungsten wire for the charger wire.
- The part of the wire wrapped around the charger spring must not protrude from the charger housing.
- The cut end of the charger wire must not protrude more than 2 mm from under the charger wire retainer pin.
- Use a clean, undamaged tungsten charger wire.
- Keep the charger wire taut by stretching the charger spring.
- Clean the main charger shield when replacing the charger wire.
 - * Do not use organic solvents such as alcohol and thinner to clean the main charger shield.

Procedure

1. Pull out the image formation section (three screws) from the machine.
2. Disconnect the two 2-pin connectors for the main charger cleaning motor and cleaning lamp.
3. Loosen the retainer pin, then remove the main charger assembly as shown in the figure.

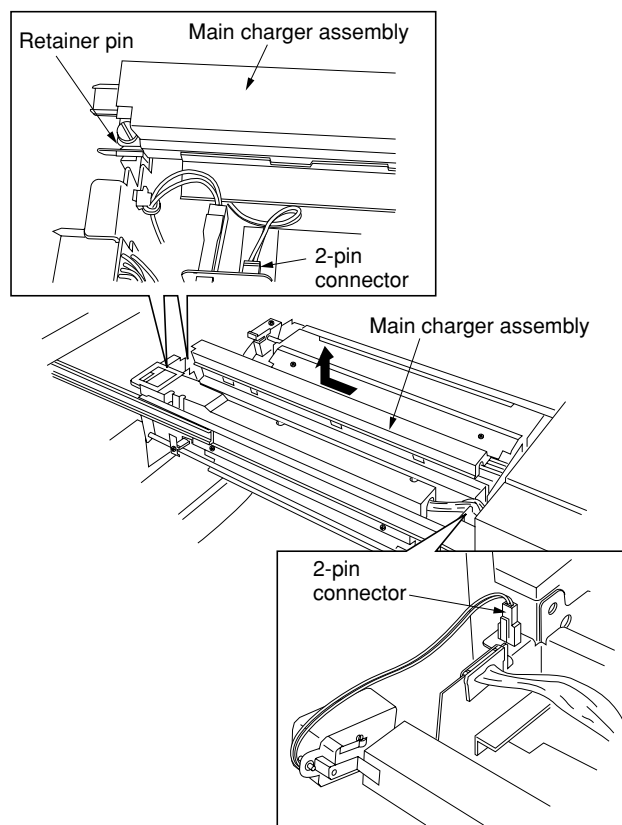


Figure 1-6-42

4. Remove the screw, then remove the charger grid assembly.
5. Remove the grid wire cleaning pad and charger wire cleaning pad (see page 1-6-28).

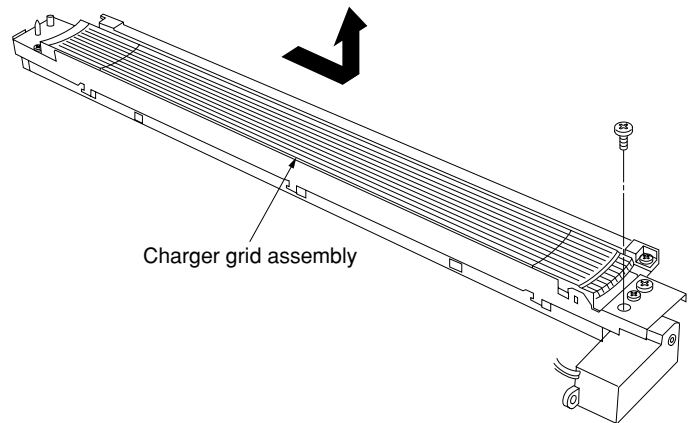


Figure 1-6-43

6. Remove the charger retainer pin and the charger spring, then remove the charger wire.
7. Wind the new tungsten wire at 4 and 6 turns around one end of the charger spring and trim the end of the wire.
 - * The length of the twists and the cut wire must be less than 2 mm.
8. Hook the other end of the charger spring onto the charger terminal of the main charger rear housing, then pass the wire through the notches of the main charger rear housing as shown in the figure.
9. Hook the charger wire on the pulley of the main charger front housing as shown in the figure.
10. Pass the wire through the notch of the main charger rear housing.
11. Pass the charger wire through the V cut part of the charger retainer pin.
12. Pull the charger wire so that the length of the charger spring is 14 and 16 mm, then insert the charger retainer pin into the projection of the main charger rear housing and fix the charger wire.
13. Cut off the excess wire under the charger retainer pin so less than 2 mm protrudes.
14. Refit all the removed parts.

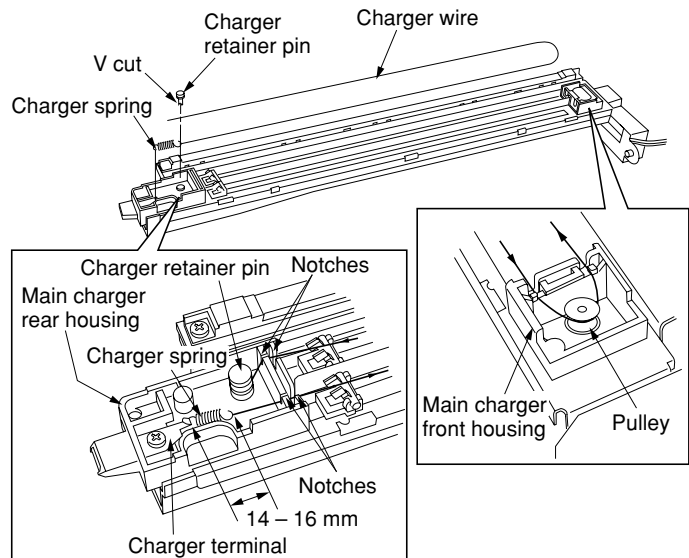


Figure 1-6-44

(2) Replacing the grid wire cleaning pad and charger wire cleaning pad

Follow the procedure below to replace the grid wire cleaning pad and charger wire cleaning pad.

Procedure

1. Remove the charger grid assembly (see page 1-6-26).
2. Open the hinge of the grid wire cleaning pad in the direction of the arrow ① to remove from pin, then remove the grid wire cleaning pad.
3. Remove the two claws each (sections indicated by round marks in the figure), then remove the charger wire cleaning pads.
4. Refit all the removed parts.

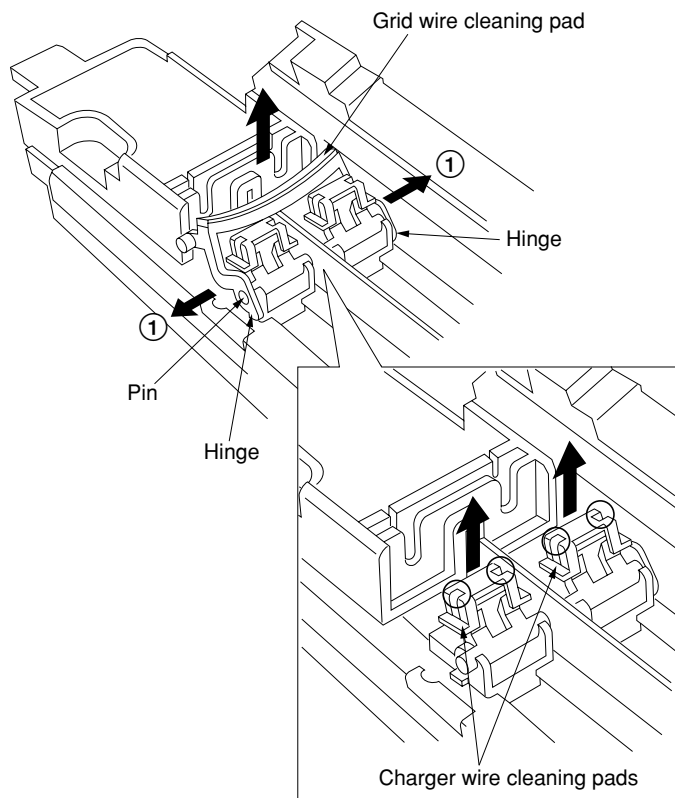


Figure 1-6-45

1-6-4 Optical section

(1) Detaching and refitting the exposure lamp

Clean or replace the exposure lamp as follows.

Procedure

1. Open the SRDF.
2. Remove the two screws holding the upper right cover and then the cover.
3. While taking care not to touch the shading plate or rear face of the contact glass, remove the contact glass.
4. Move the scanner to the cutouts at the center of the machine.

Caution:

When moving the scanner, do not touch the exposure lamp nor inverter PCB.

5. Detach the exposure lamp 2-pin connector from the inverter PCB.
6. Remove the two screws holding the exposure lamp and then the lamp.
7. Clean or replace the exposure lamp.
8. Refit all removed parts.

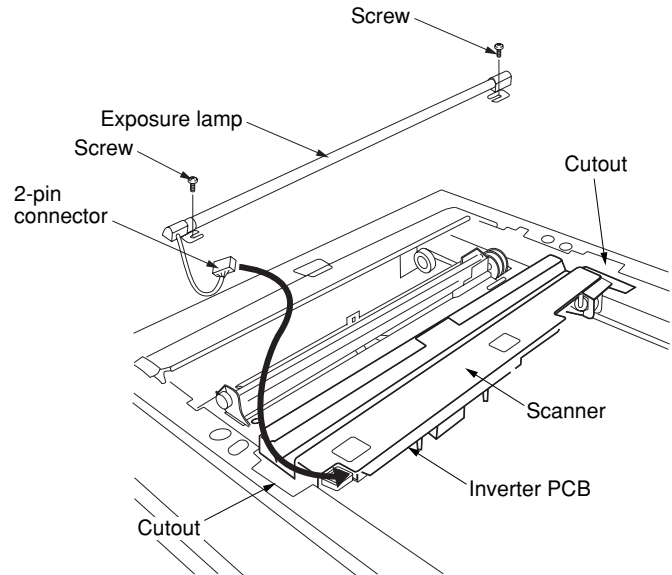


Figure 1-6-46 Detaching the exposure lamp

(2) Detaching and refitting the scanner wires

Take the following procedure when the scanner wires are broken or to be replaced.

- After replacing the scanner wires, proceed to “(6) Adjusting scanner image lateral squareness (reference)”.

(2-1) Detaching the scanner wires**Procedure**

1. Remove the SRDF from the machine.
2. Remove the middle rear cover, upper rear cover and upper right cover.
3. While taking care not to touch the shading plate or rear face of the contact glass, remove the contact glass.
4. Remove the upper left cover and slit glass.
5. Loosen the two screws securing the lamp wire and remove the wire from the inverter PCB.

Caution:

Remove the lamp wire completely from the machine.

6. Remove the front cover.
7. Remove the three screws holding the image formation section and then pull out the image formation section.
8. Remove the upper inner cover.
9. Remove the operation unit.
10. Remove the four screws holding the mirror 1 upper frame and then the frame.

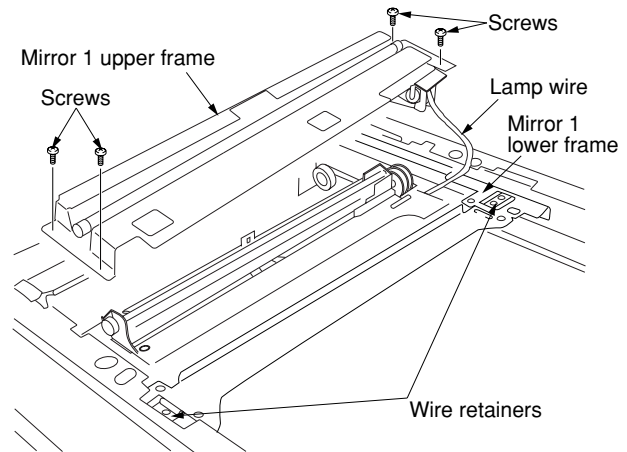


Figure 1-6-47 Detaching the mirror 1 upper frame

11. Remove the two screws from each of the wire retainers and then the retainers from the mirror 1 lower frame.
12. Remove the mirror 1 lower frame from the scanner unit.
13. Detach the round terminal of the scanner wire from the scanner wire spring on the left side of the scanner unit.
14. Remove the scanner wire.

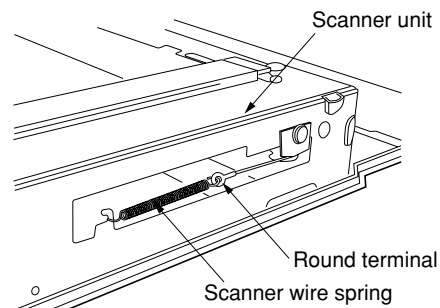


Figure 1-6-48 Detaching the scanner wire

(2-2) Refitting the scanner wires

Caution: When fitting the scanner wires, be sure to use those specified below.

Machine front: 2AC12170

Machine rear: 2AC12420 (black)

Refitting requires the following tool: Frame securing tool (P/N: 2AC68230)

Procedure

At the machine rear:

1. Insert the two frame securing tools into the positioning holes at the front and rear of the scanner unit to pin the mirror 2 frame in position.
2. Secure the two frame securing tools at the machine front and rear using the two screws for each.
3. Hook the round terminal on one end of the scanner wire onto the left catch on the inside of the scanner unit. ①
4. Loop the scanner wire around the rear groove in the scanner wire pulley on the mirror 2 frame, winding from below to above. ②
5. Loop the scanner wire around the groove in the scanner wire pulley at the machine right, winding from above to below. ③

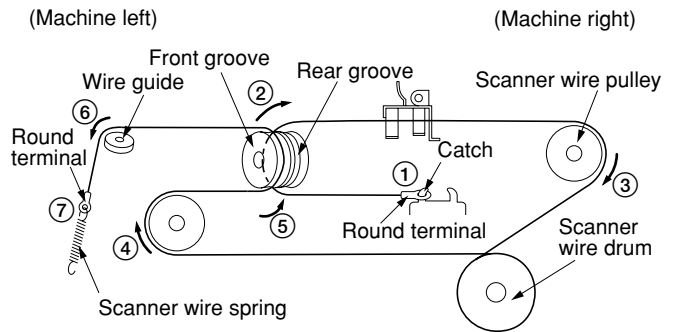


Figure 1-6-49 Refitting the scanner wires

6. Wind the scanner wire around the scanner wire drum four turns from the rear toward the hole in the drum.
7. Insert the locating ball on the scanner wire into the hole in the scanner wire drum.
8. Wind the scanner wire a further five turns from the locating ball toward the machine front.

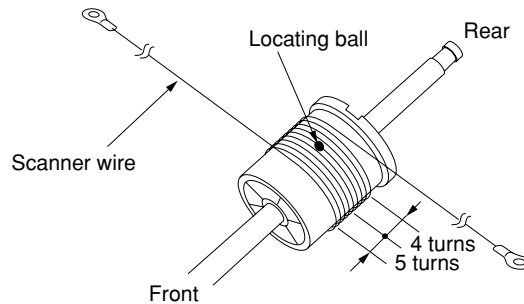


Figure 1-6-50 Winding the scanner wire

9. Loop the scanner wire around the groove in the scanner wire pulley at the machine left, winding from below to above. ④
10. Loop the scanner wire around the front groove in the scanner wire pulley on the mirror 2 frame, winding from below to above. ⑤
11. Run the scanner wire around the wire guide at the machine left. ⑥
12. Hook the round terminal onto the scanner wire spring. ⑦
13. Hook the other end of the scanner wire spring onto the catch at the machine left.
14. Repeat steps 2 to 13 for the scanner wire at the machine front.
15. Remove the two screws from each of the frame securing tools and then the tools.
16. Move the scanner from side to side to correctly locate the wire in position.

2CJ

17. Loosen the two screws securing the mirror 2 frame.
18. Insert the mirror 1 lower frame into the scanner unit and seat it on the positioning holes.
19. Insert the two frame securing tools into the positioning holes in the front and rear of the scanner unit and determine the positions of the mirror 1 lower frame and mirror 2 frame.
20. While holding the scanner wire on the mirror 1 lower frame, secure the wire retainers at the front and rear of the mirror 1 lower frame using the two screws for each.
21. Retighten the two screws securing the mirror 2 frame.
22. Remove the two screws holding each of the two frame securing tools and then the tools.
23. Refit all removed parts.

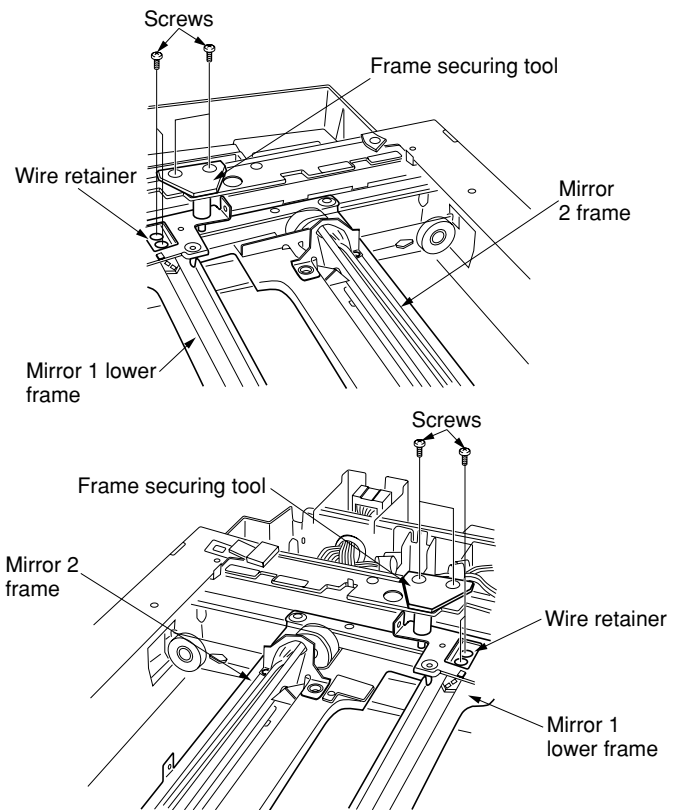


Figure 1-6-51 Securing the scanner wire

(3) Replacing the laser scanner unit

Take the following procedure when the laser scanner unit is to be checked or replaced.

Caution:

After replacing the laser scanner unit, proceed to “(6) Adjusting scanner image lateral squareness (reference)”.

Procedure

1. Remove the SRDF, middle rear cover, upper rear cover, upper right cover and upper left cover.
2. Remove the front cover.
3. Remove the three screws holding the image formation section and then pull out the image formation section.
4. Remove the upper inner cover.
5. Remove the operation unit.
6. Remove the three clamps and three connectors at the front of the scanner unit.
7. Remove the five clamps and three connectors at the rear of the scanner unit.
8. Remove the screw and the two connectors from the right of the scanner unit.
9. Remove the wires detached in steps 6, 7 and 8 from the scanner unit.
10. While taking care not to touch the shading plate or rear face of the contact glass, remove the contact glass.
11. Remove the ISU cover, and detach the three connectors.
12. Remove the four screws with rubber mounts and then the scanner unit.

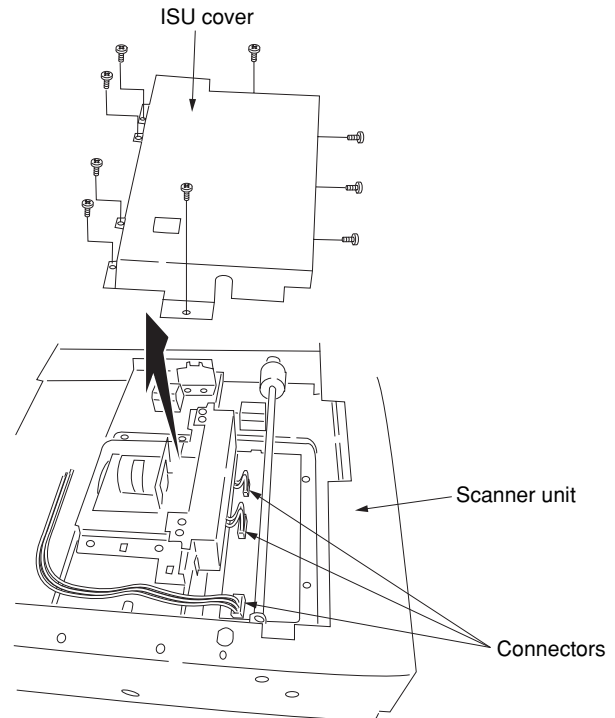


Figure 1-6-52 Detaching the scanner unit

13. Detach the three connectors.
14. Remove the two screws holding the LSU adjuster mount and then the mount.
15. Remove the three screws and replace the laser scanner unit.
16. Refit all the removed parts.

Caution:

When fitting the scanner unit, fit from directly above the machine to prevent deformation of the grounding point.

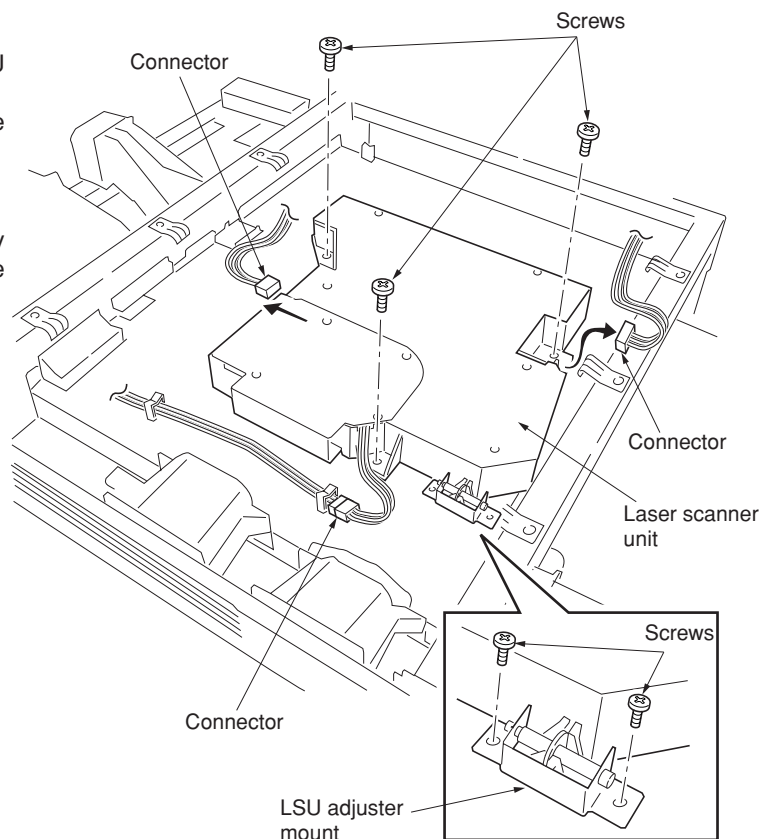


Figure 1-6-53 Replacing the laser scanner unit

(4) Replacing the ISU (reference)

Take the following procedure when the ISU is to be checked or replaced.

Caution: After fitting the ISU, proceed to “(6-2) Adjusting the position of the ISU”.

Procedure

1. Remove the upper right cover.
2. While taking care not to touch the shading plate or rear face of the contact glass, remove the contact glass.
3. Remove the ISU cover, and detach the two connectors.
4. Remove the four screws holding the ISU and then the ISU.
5. Check or replace the ISU.

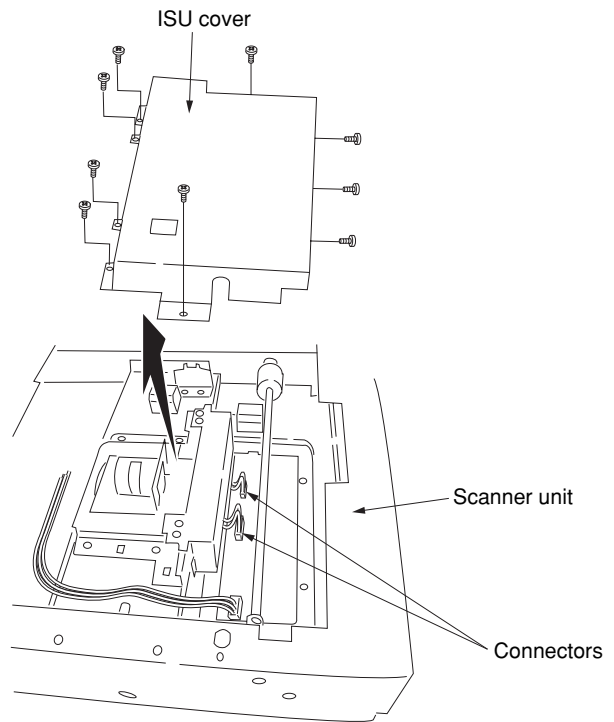


Figure 1-6-54

• Securing the ISU

ISU installation requires the following tools:
Two (2) positioning pins (P/N 18568120)

Procedure

1. Secure the ISU using the two positioning pins.
2. Refit the four screws.
3. Remove the two positioning pins.
4. Refit all the removed parts.

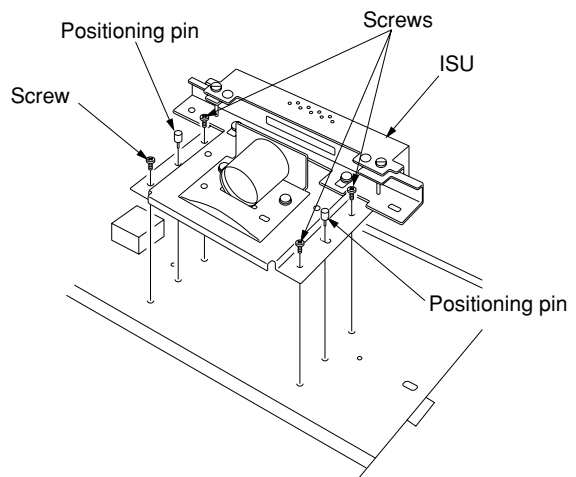


Figure 1-6-55

(5) Adjusting the longitudinal squareness (reference)

Perform the following adjustment if the copy image is longitudinally skewed (longitudinal squareness is not obtained).

Caution:

- Before making the following adjustment, output a 1 DOT-LINE PG pattern in maintenance item U089 to use as the original for the adjustment.
- Adjust the amount of slack in the paper at the registration roller for drawer, bypass and duplex feeds (page 1-6-21) first. Check for the longitudinal squareness of the copy image, and if it is not obtained, perform the longitudinal squareness adjustment.

Procedure

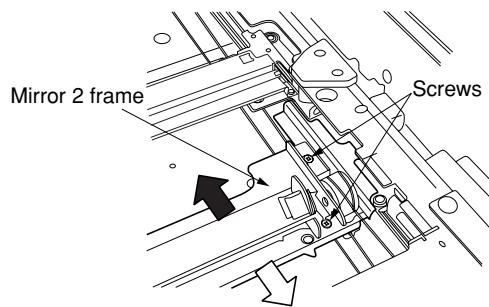
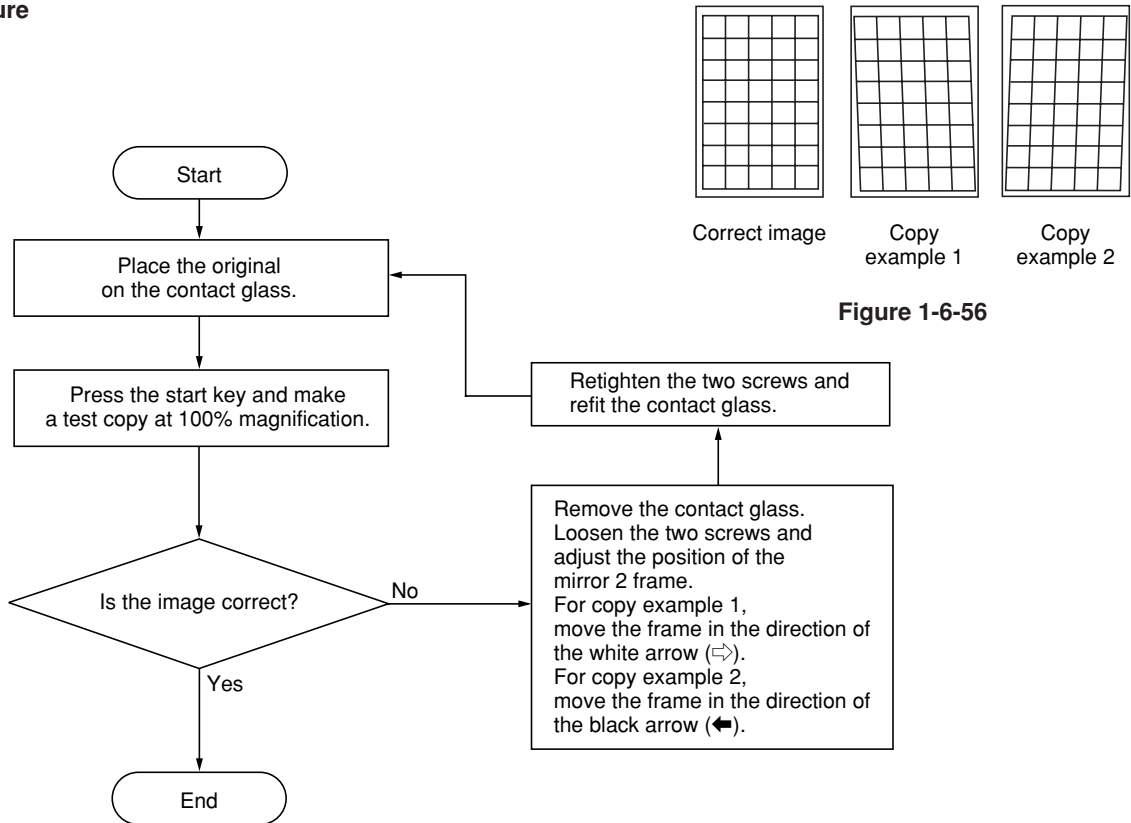


Figure 1-6-57 Adjusting the position of the mirror 2 frame

(6) Adjusting scanner image lateral squareness (reference)

Perform the following adjustment if the copy image is laterally skewed (lateral squareness not obtained).

Caution:

- Before making the following adjustment, open the front cover and remove the operation unit lower cover.
- Perform “(6-1) Adjusting the position of the laser scanner unit” first and check for lateral squareness of the copy image. If squareness is not obtained, perform “(6-2) Adjusting the position of ISU”.

(6-1) Adjusting the position of the laser scanner unit

Procedure

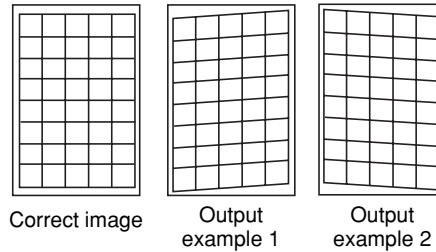
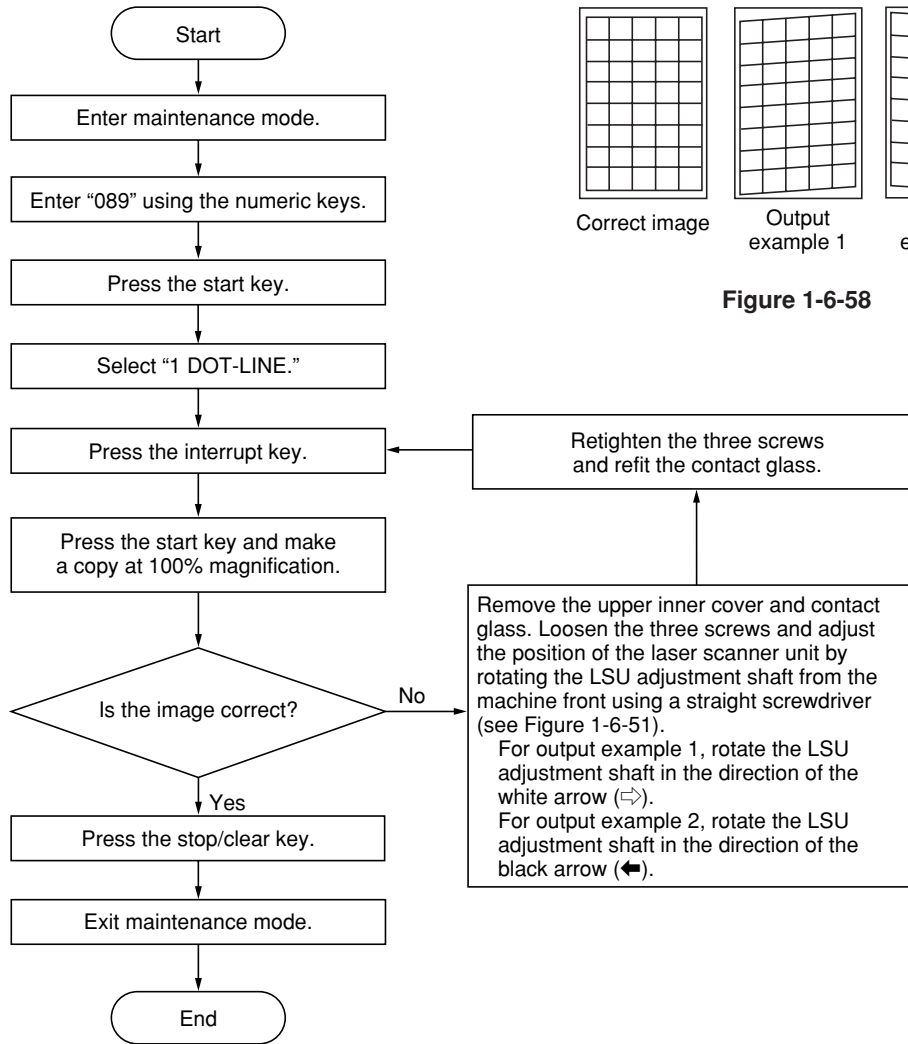


Figure 1-6-58

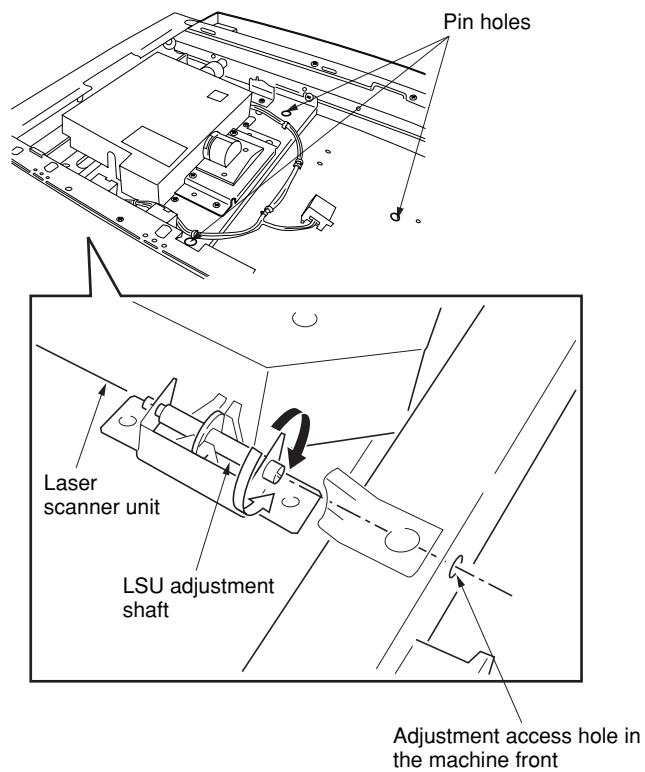


Figure 1-6-59 Adjusting the position of the laser scanner unit

(6-2) Adjusting the position of the ISU

Caution:

- Before making the following adjustment, output a 1 DOT-LINE PG pattern in maintenance item U089 to use as the original for the adjustment.
- Adjust the pin at the machine front only and never touch the one at the machine rear.

Procedure

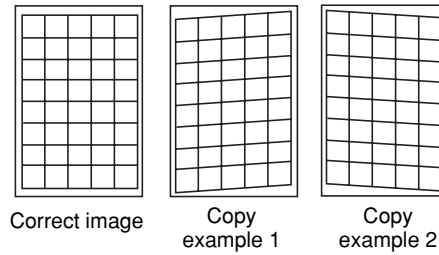
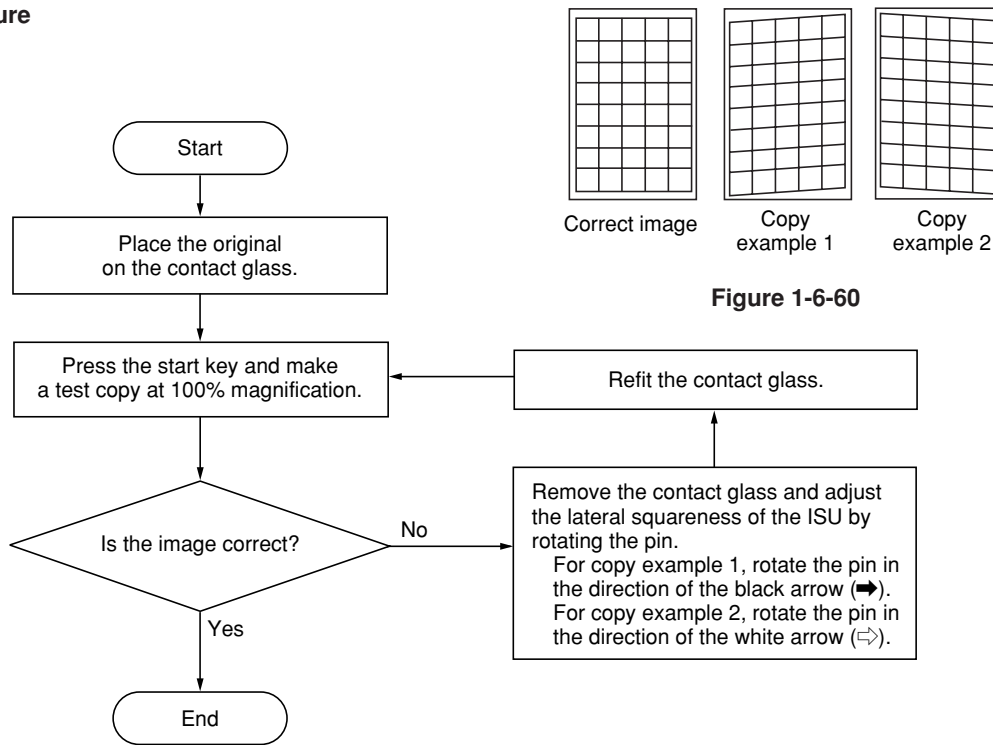


Figure 1-6-60

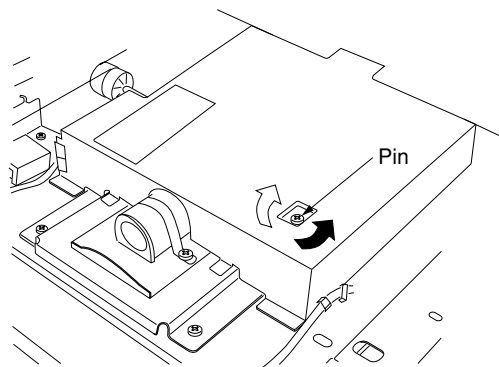
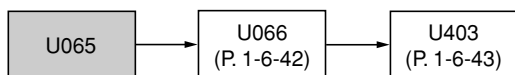


Figure 1-6-61 Adjusting the position of the ISU

(7) Adjusting magnification of the scanner in the main scanning direction

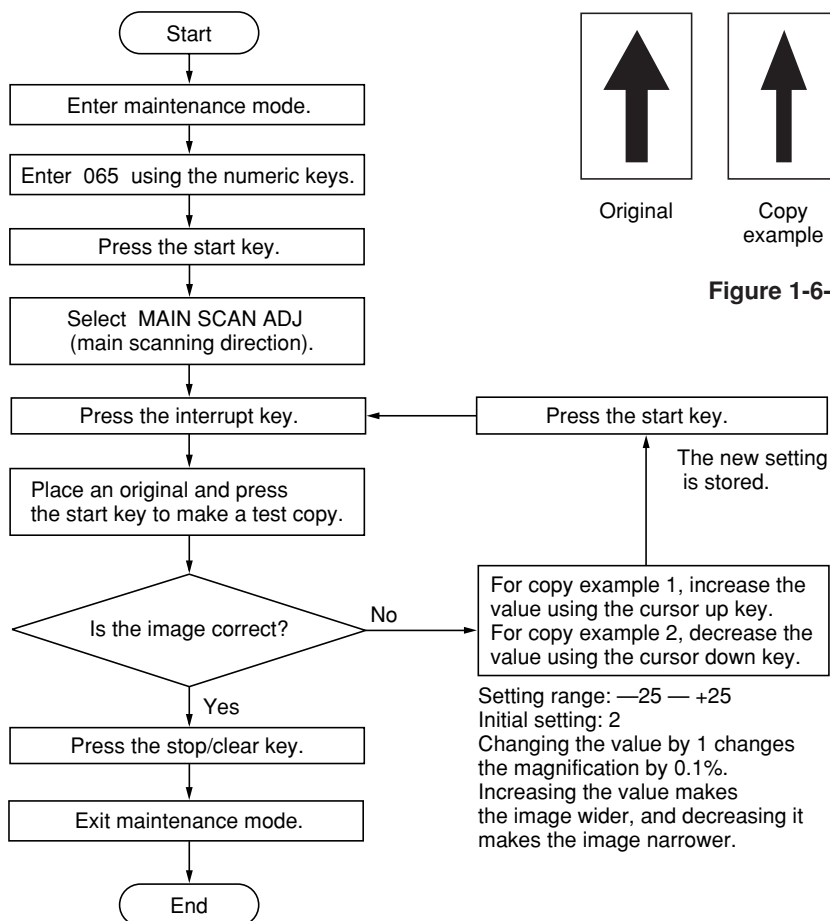
Perform the following adjustment if the magnification in the main scanning direction is not correct.



Caution:

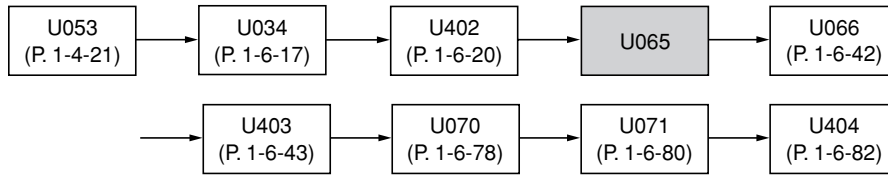
Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

Procedure



(8) Adjusting magnification of the scanner in the auxiliary scanning direction

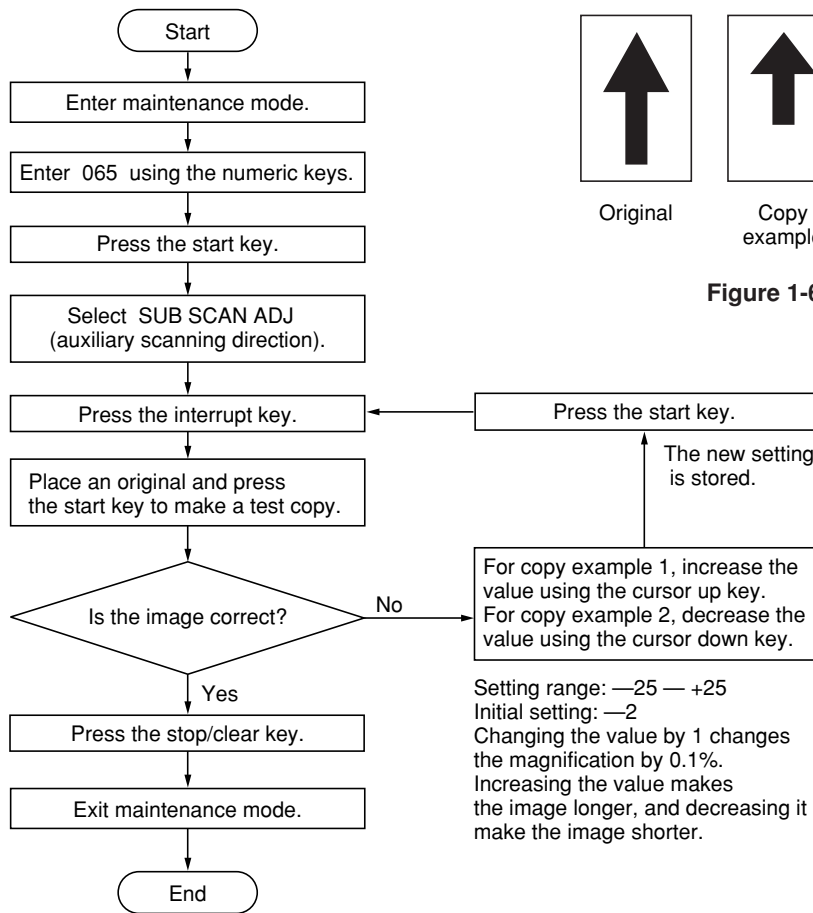
Perform the following adjustment if the magnification in the auxiliary scanning direction is not correct.



Caution:

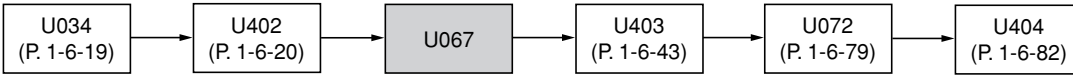
Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure



(9) Adjusting the scanner center line

Perform the following adjustment if there is a regular error between the center lines of the copy image and original.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure

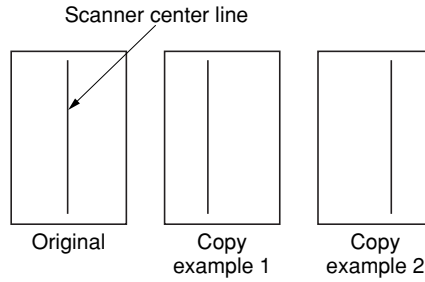
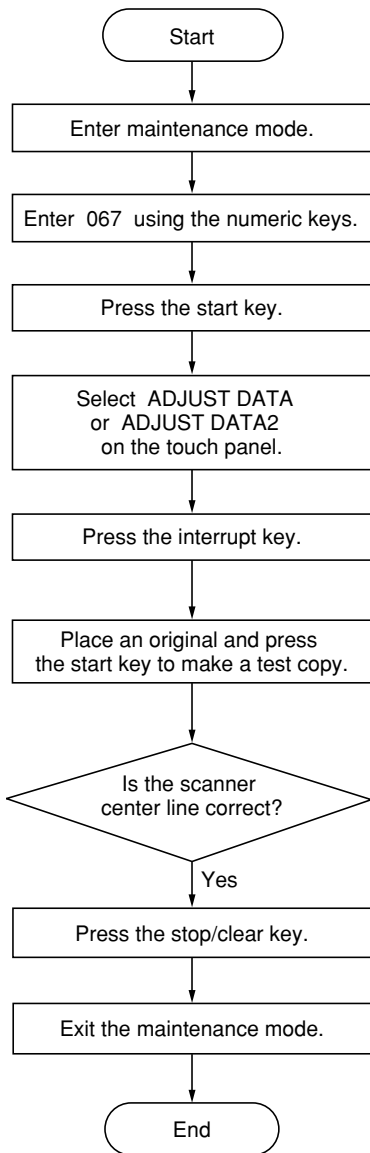


Figure 1-6-64

Touch panel display
 ADJUST DATA:
 center line for simplex copy mode
 ADJUST DATA2:
 center line for duplex copy mode (second face)

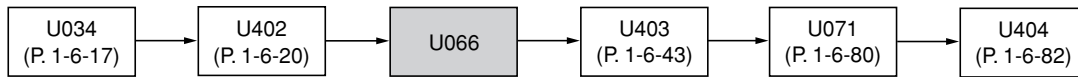
Press the start key.
 The new setting is stored.

For copy example 1, increase the value using the cursor up key.
 For copy example 2, decrease the value using the cursor down key.

Setting range (initial setting)
 Center line for simplex copy mode:
 -39 — +39 (-18)
 Center line for duplex copy mode (second face): -7 — +7 (-1)
 Changing the value by 1 moves the center line by 0.17 mm

(10) Adjusting the scanner leading edge registration

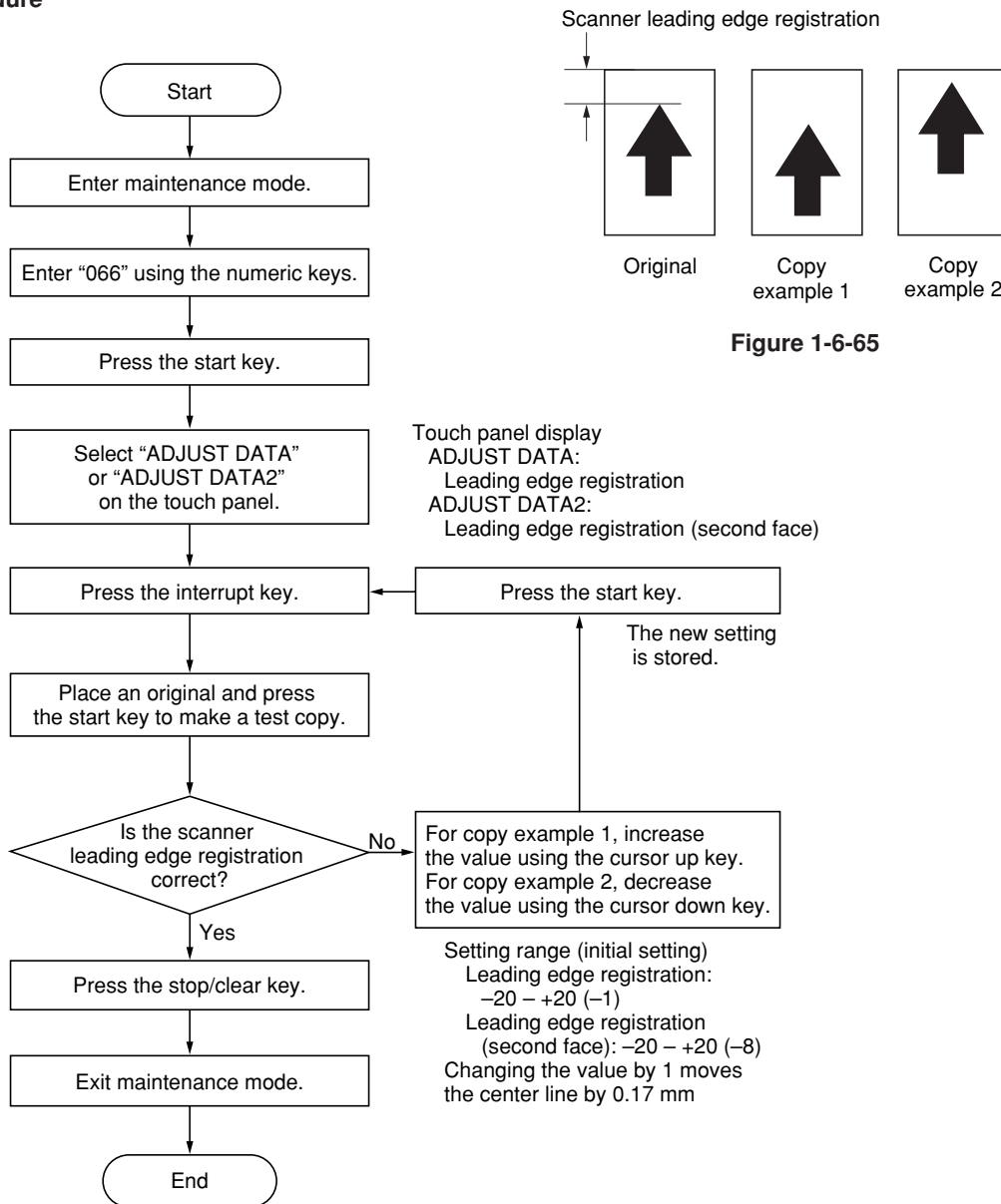
Perform the following adjustment if there is regular error between the leading edges of the copy image and original.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure



(11) Adjusting the margins for scanning an original on the contact glass

Perform the following adjustment if the margins are not correct.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure

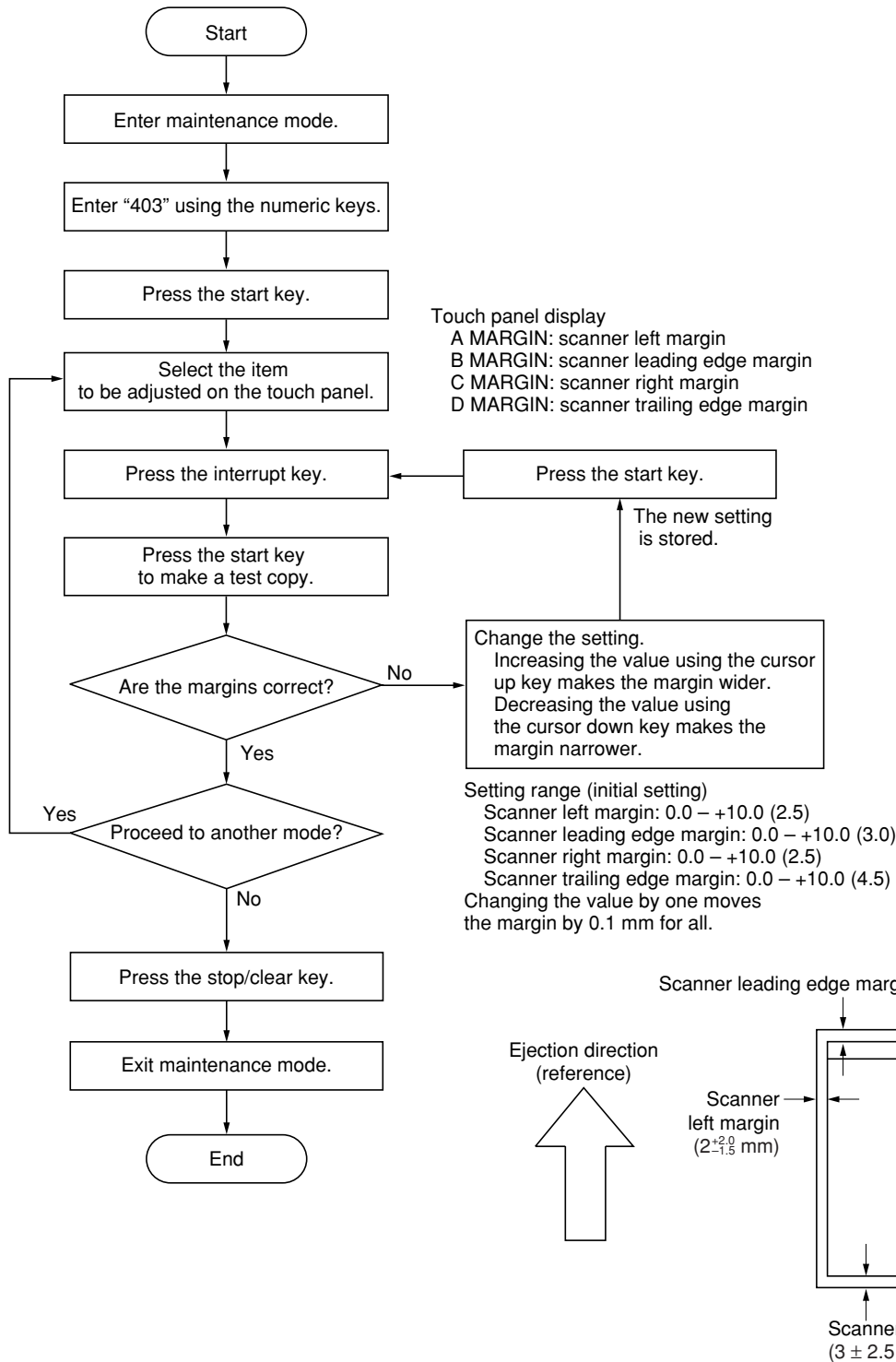


Figure 1-6-66

1-6-5 Drum section

(1) Detaching and refitting the drum and drum heater

Follow the procedure below to replace the drum and drum heater.

Cautions:

- Avoid direct sunlight and strong light when detaching and refitting the drum.
- Hold the drum at the ends and never touch the drum surface.
- After removing the drum, keep it in the drum case or storage bag to protect the surface from light.
- When cleaning drum, rub with a clean cloth.

Procedure

1. Remove the developing assembly and cleaning assembly.
2. Remove the main charger assembly (see page 1-6-22).
3. Loosen the retain5er pins each (front and rear) holding the drum stopper, then release the drum stoppers in the direction of the arrow.
4. Remove the drum assembly from the image formation section.

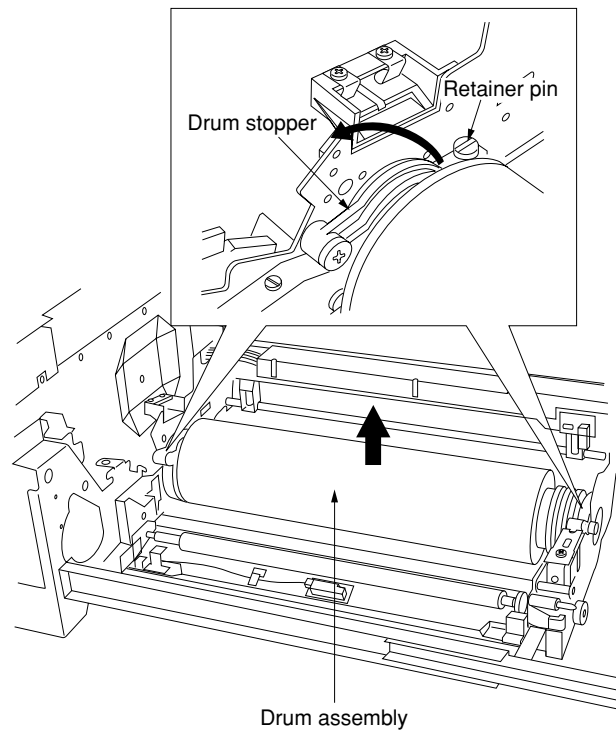


Figure 1-6-67

5. Remove the bearings from the drum assembly.

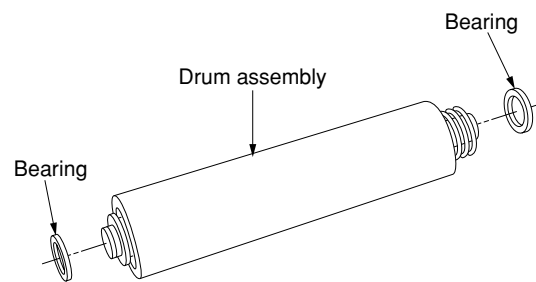


Figure 1-6-68

6. Remove the two retainer pins and two springs, then remove the front drum flange from the drum assembly slowly.
7. Disconnect the 1-pin connector, then remove the front drum flange.
8. Disconnect the 6-pin connector for the drum heater.

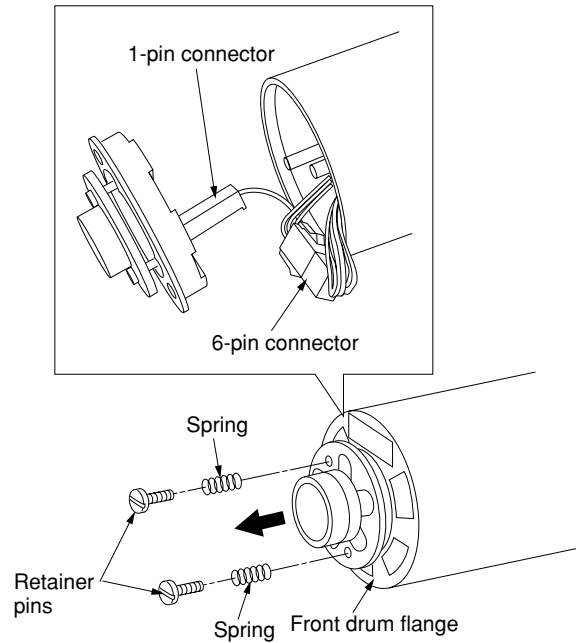


Figure 1-6-69

9. Pull the rear drum flange out together with the drum flange stay from the drum slowly.
10. Pull the drum heater out of the drum.
 - * When installing the drum, install it with the label pasted inside the drum to the front side of the machine if the end of the serial No. of the label is "F" and to the rear side if the end is "R."
11. Refit all the removed parts.

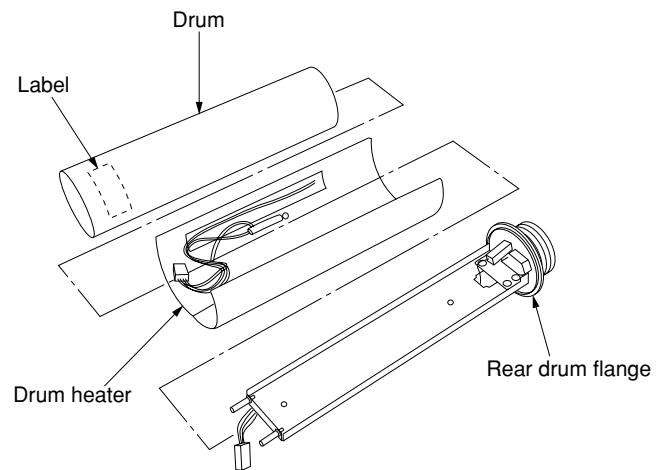


Figure 1-6-70

(2) Detaching and refitting the front and rear drum electrode wires

Follow the procedure below to check or replace the front and rear drum electrode wires.

Procedure

1. Remove the drum assembly (see page 1-6-44).
2. Remove the left, ight and lower image forming covers.
3. Remove the toner hopper assembly.
4. Remove the three screws (machine front: 2, machine rear: 1), then remove the upper front transfer guide from the image forming assembly.
5. Disconnect the 1-pin connector for the front drum electrode wire.
6. Cut off the binding band, then free the wire from the cord clamp.
 - * When refitting, fasten the wire with binding band to its original position.
7. Remove the screw on the image forming rear side plate and the two screws on the image forming front side plate, then remove the transfer upper front guide plate.
8. Remove the screw on the front drum holder lid, then remove the front drum holder lid.

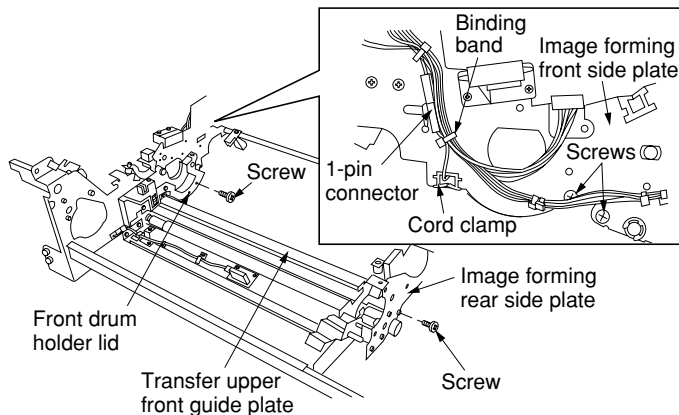


Figure 1-6-71

9. Remove the electrode for the front drum electrode wire from the front drum holder, then remove the front drum electrode wire.

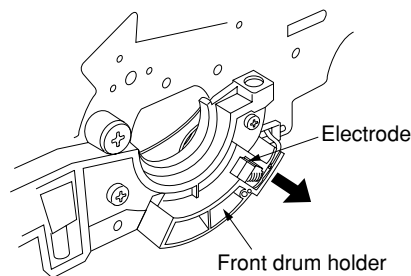


Figure 1-6-72

10. Disconnect the 3-pin connector for the rear drum electrode wire.
11. Cut off the two binding bands.
 - * When refitting, fasten the wire with binding bands to its original position.
12. Remove the two screws, then remove the rear drum holder lid.

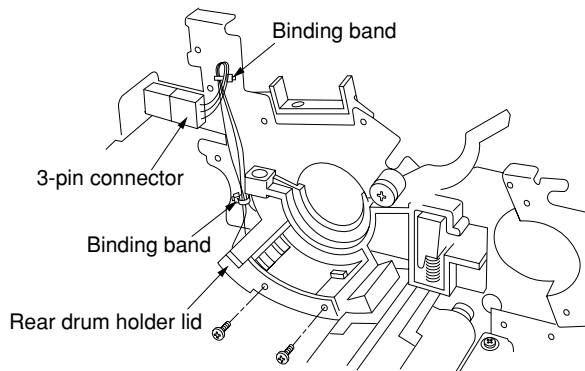


Figure 1-6-73

13. Remove the electrode 1 (brown wire) for the rear drum electrode wire from the rear drum holder.
 14. Remove the electrode spacer.
 15. Remove the electrode 2 (blue wire) for the rear drum electrode wire from the rear drum holder.
 16. Remove the electrode 3 (black wire) for the rear drum electrode wire from the rear drum holder, then remove the rear drum electrode wire.
- * When refitting, be careful about following points.
- Be careful of the fitting position of the each electrode.
 - When refitting, run the wire of the electrode 3 through the groove (broken line indicated in the figure) between rear drum holder and rear image forming plate.
17. Refit all the removed parts.

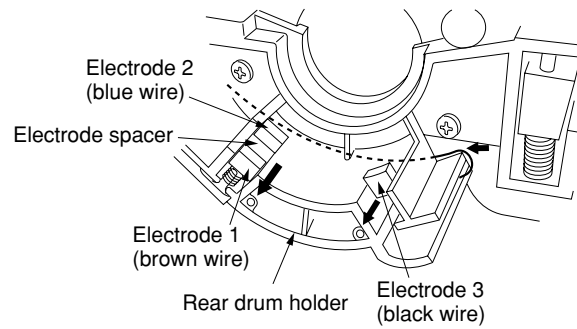


Figure 1-6-74

(3) Detaching and refitting the drum heater electrodes A and B

Follow the procedure below to replace the drum heater electrodes A and B.

Procedure

1. Remove the drum assembly (see page 1-6-44).
2. Remove the front drum flange from the drum assembly (see page 1-6-45).
3. Remove the two screws, then remove the drum heater electrode B.

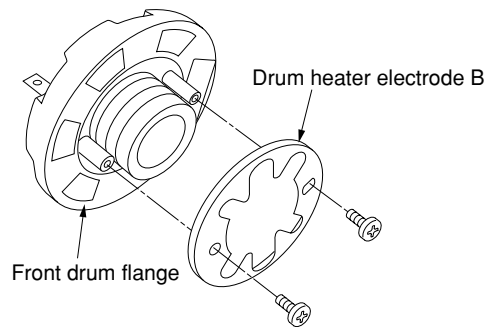


Figure 1-6-75

4. Remove the rear drum flange from the drum assembly (see page 1-6-45).
5. Remove the two screws each, then remove the two drum heater electrodes A from the rear drum flange.
6. Remove the two screws, then remove the drum heater electrode B from the rear drum flange.
7. Refit all the removed parts.

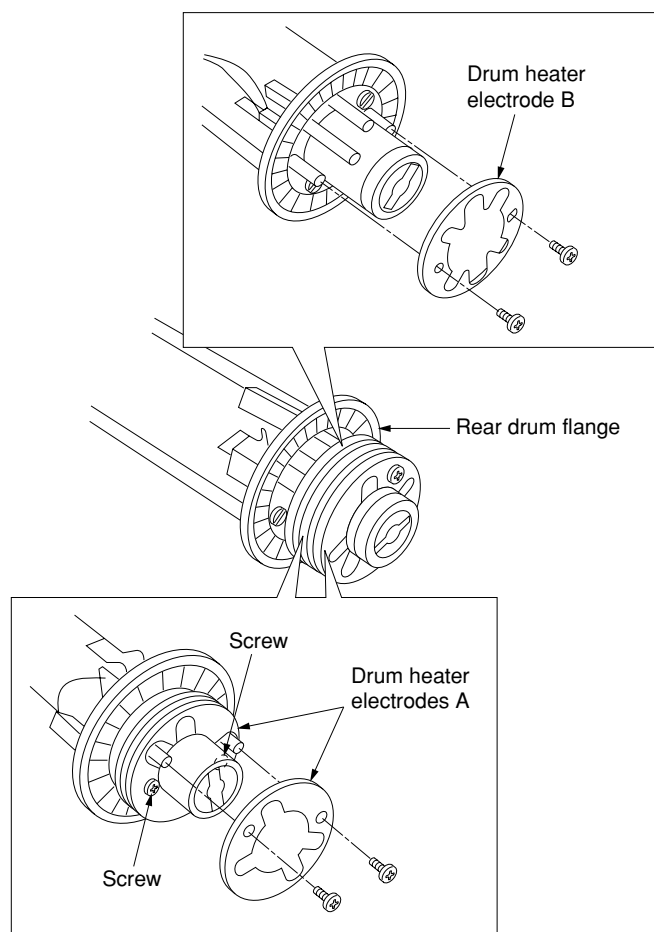


Figure 1-6-76

1-6-6 Developing section

(1) Adjusting the position of the magnetic brush (developing roller) (reference)

Check or adjust if the image density is too dark or light.

* Before starting this adjustment, ensure that the correct amount of developer is present.

Procedure

1. Loosen the screw holding each of the upper and lower magnet roller adjusting plates.
2. Move the positions of the upper and lower magnet roller adjusting plates.
 - When the position of the upper or lower magnet roller adjusting plate is moved to the right or downward respectively:

The image density becomes darker (the position of the magnetic brush moves downward).
However, the image resolution becomes deteriorate.
 - When the position of the upper or lower magnet roller adjusting plate is moved to the left or upward respectively:

The image density becomes lighter (the position of the magnetic brush moves upward).
However, the faint of dark part for the original image occurs.
3. Refasten the screw holding each of the upper and lower magnet roller adjusting plates.
4. After adjustment, make a test copy to check for performance.

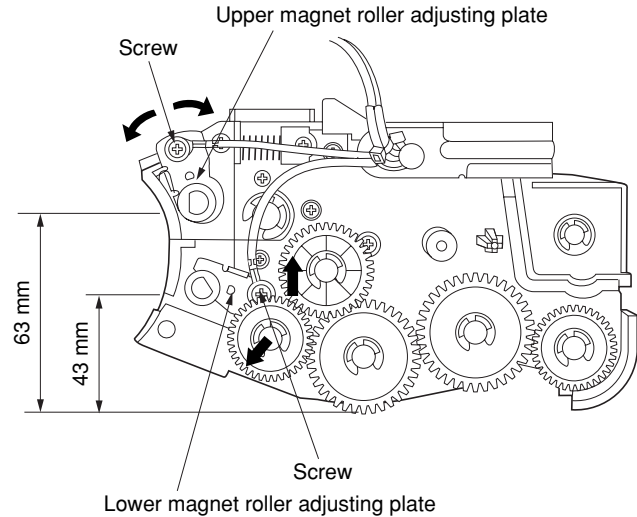


Figure 1-6-77

(2) Checking the position of the doctor blade (reference)

Follow the procedure below when carrier or background appears on the copy image.

Procedure

1. Remove the two screws, then remove the two lower developing covers from the developing housing.
2. Turn the developing joint gear in the direction of the arrow until the two slits in the developing paddle appear below.
3. Insert the thickness gauges into the two slits in the developing paddle and check whether the gap between the doctor blade and the upper developing roller is the prescribed value (the 0.75-mm gauge should enter the slits and the 0.8-mm gauge should not).

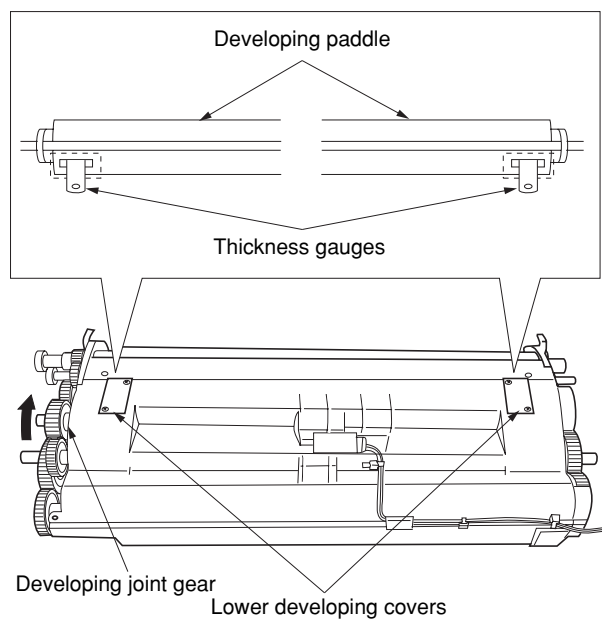


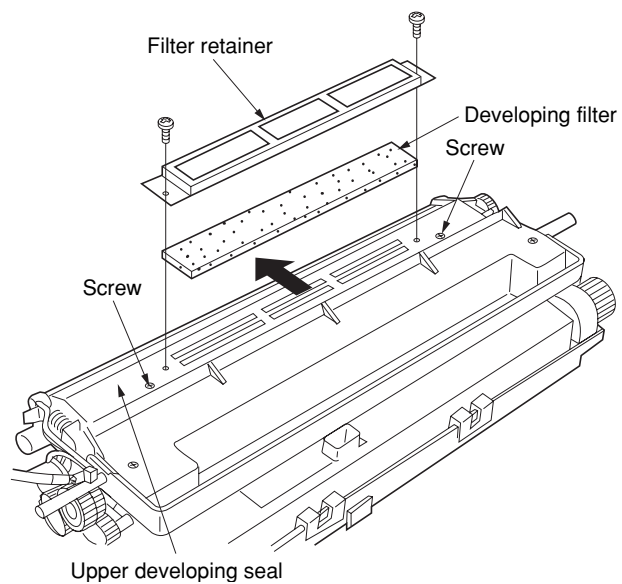
Figure 1-6-78

(3) Detaching and refitting the developing filter and the upper developing seal

Follow the procedure below to clean or replace the developing filter or the upper developing seal.

Procedure

1. Remove the two screws from the filter retainer, then remove the developing filter.
2. Remove the two screws, then remove the upper developing seal.
- * When refitting, secure the seal while pushing it toward the drum (in the direction of the arrow).
3. Clean or replace the developing filter or upper developing seal.
4. Refit all the removed parts.

**Figure 1-6-79**

(4) Detaching and refitting the lower developing shaft and developing blade assembly

Follow the procedure below to clean or replace the lower developing shaft or developing blade assembly.

* Before detaching the lower developing shaft and the developing blade assembly, be sure to first remove the developer.

Procedure

1. Remove the E ring, then remove the lower developing roller lever and the lower developing roller spring.
2. Remove the E ring, then remove the lower developing idle gear.
3. Remove the screws, then remove the front lower developing roller bushing and the rear lower developing roller bushing.
4. Remove the lower developing shaft.

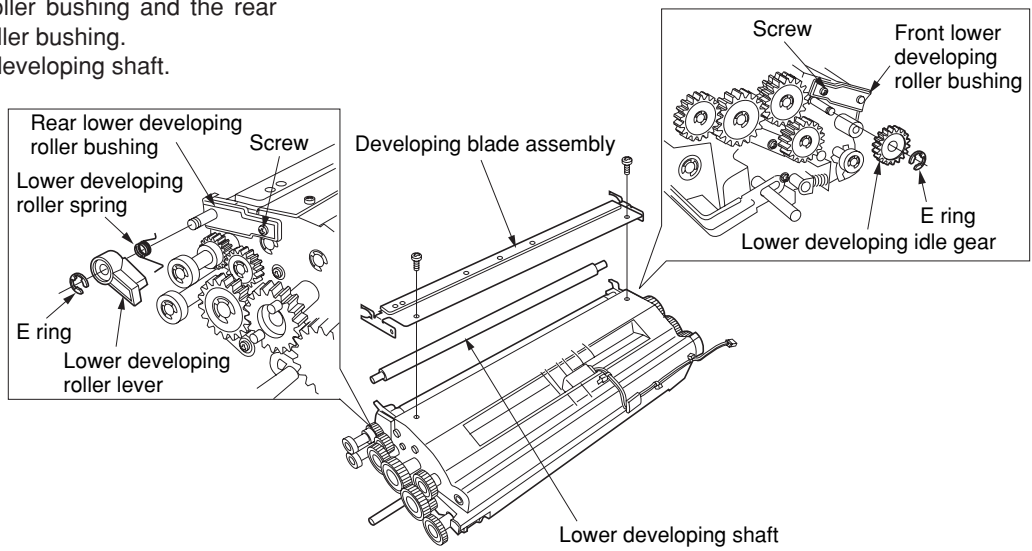


Figure 1-6-80

5. Remove the two screws, then remove the developing blade assembly.

* When refitting, first push away from the drum (①), then push toward the drum (②) and secure.

6. Clean or replace the lower developing shaft or the developing blade assembly.
7. Refit all the removed parts.

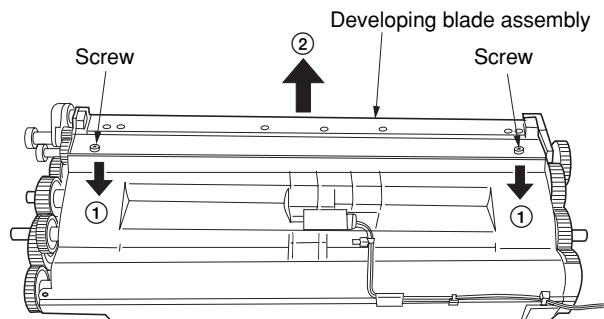


Figure 1-6-81

1-6-7 Transfer section

(1) Detaching and refitting the transfer charger belt

Follow the procedure below to clean or replace the transfer charger belt.

Cautions:

- When handling the transfer charger belt, hold the both end of the transfer charger belt (within 10 mm), do not touch the surface with bare hand.
- Be careful not so as to adhere grease on the surface of the transfer charger belt.

Procedure

1. Open the front cover and pull out the paper conveying unit.
2. Remove the stop ring, then remove the bushing at the machine front.
3. Remove the stop ring, then remove the bushing at the machine rear.
4. Disconnect the three 1-pin connectors, then remove the transfer belt unit from the machine.

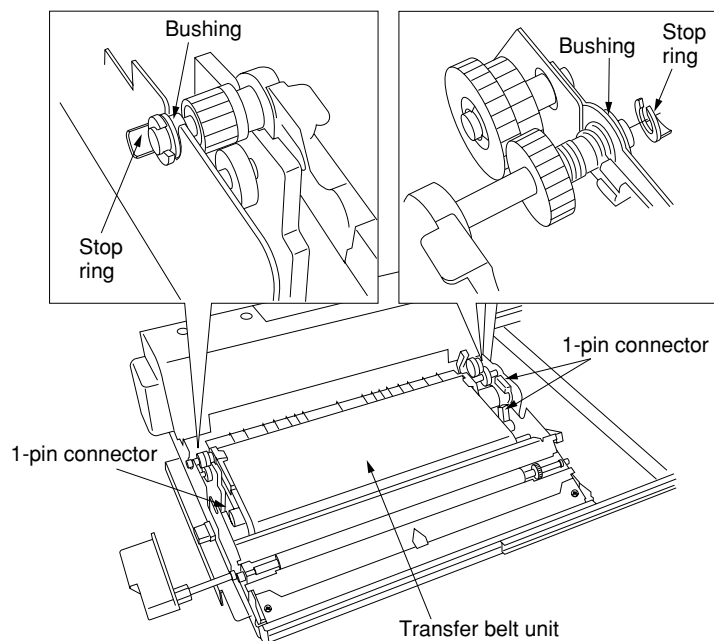


Figure 1-6-82

5. Remove the screw each, then rotate the front and rear turn frames in the direction of the arrow (a).
 6. Pull out the transfer charger belt in the direction of the arrow (b), then remove the transfer charger belt from the transfer belt unit.
- * When refitting the transfer charger belt, check that the transfer charger belt pass under the belt guide section of the front and rear turn frame.

After refitting, turn the belt drive roller and turn the transfer charger belt two or three times, check that the edge of the transfer charger belt runs on to the front/rear turn frame and the side plate section of the transfer charger belt unit. If so, rotate the transfer charger belt until the edge of the transfer charger belt does not run on.

7. Refit all the removed parts.

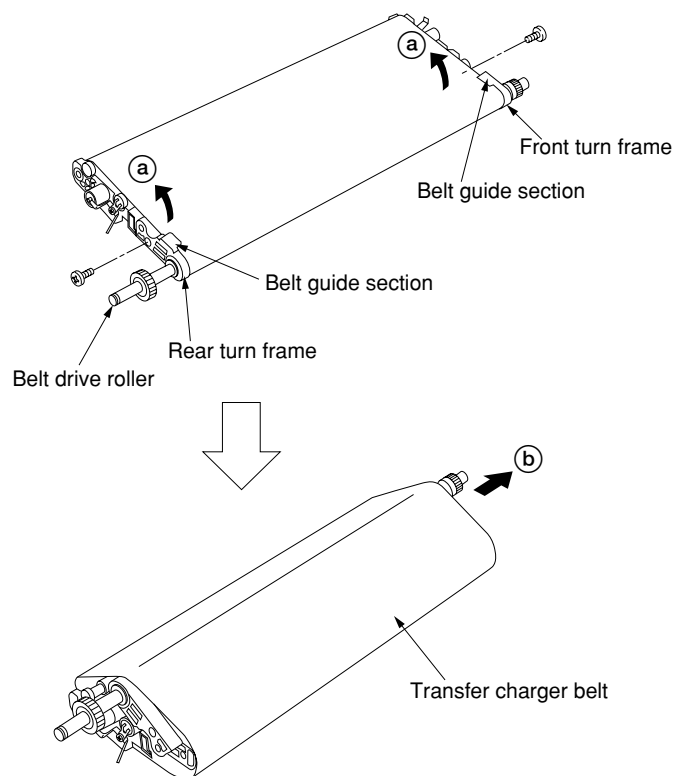


Figure 1-6-83

(2) Detaching and refitting the transfer roller

Follow the procedure below to clean or replace the transfer roller.

Procedure

1. Remove the transfer charger belt (see page 1-6-49).
2. Remove the two screws, then remove the transfer roller retainer.
3. Remove the transfer roller.
4. Remove the bearings from the end of the transfer roller.
5. Refit all the removed parts.

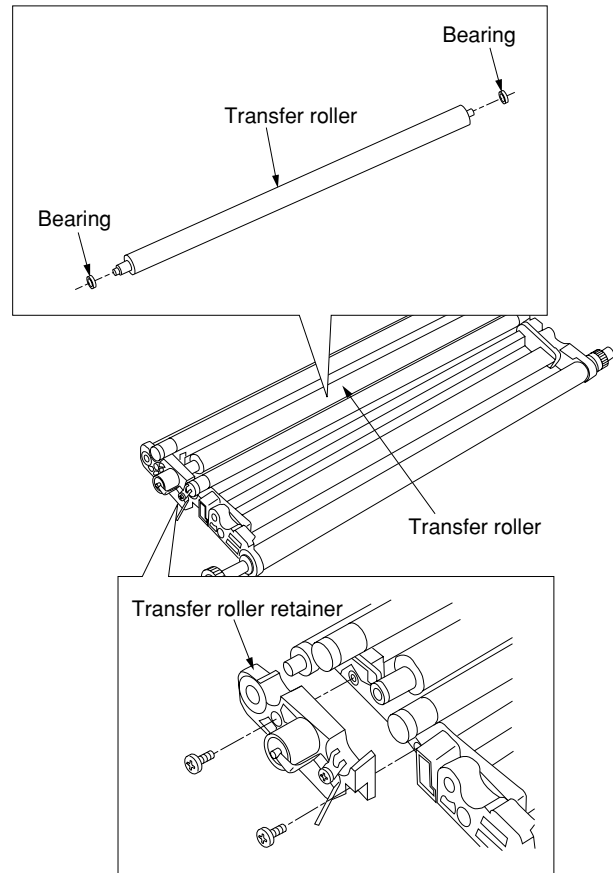


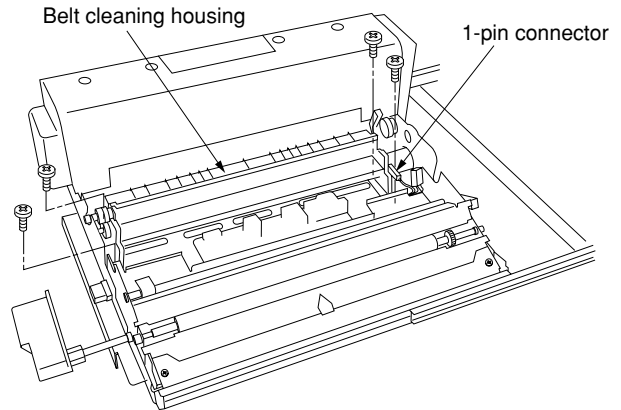
Figure 1-6-84

(3) Detaching and refitting the belt cleaning brush

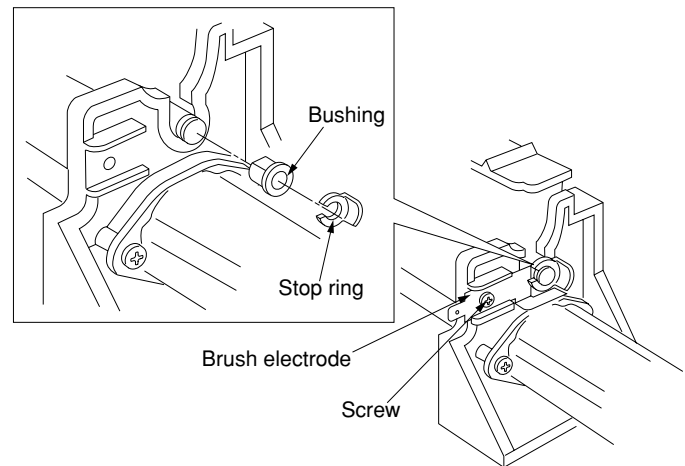
Follow the procedure below to clean or replace the belt cleaning brush.

Procedure

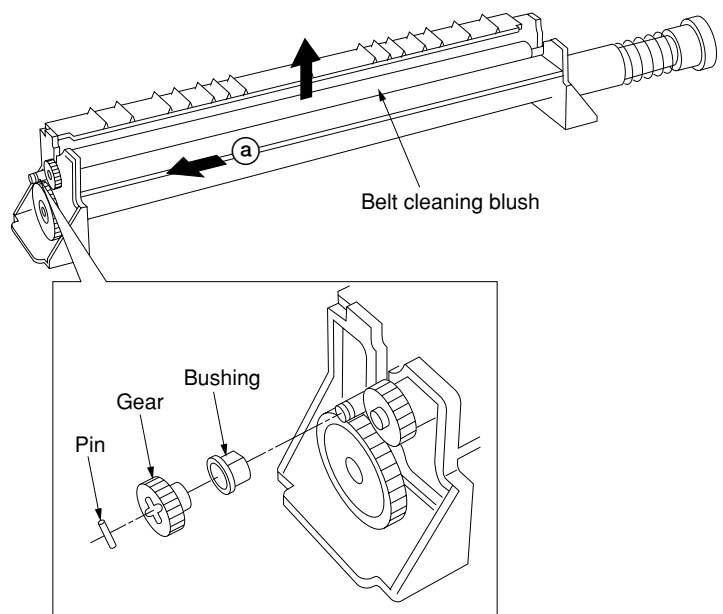
1. Remove the transfer belt unit (see page 1-6-53).
2. Remove the four screws and 1-pin connector for the brush electrode, then remove the belt cleaning housing.

**Figure 1-6-85**

3. Remove the screw, then remove the brush electrode.
4. Remove the stop ring, then remove the bushing.

**Figure 1-6-86**

5. Shift the belt cleaning brush in the direction of the arrow (a) and remove the pin, then remove the gear and bushing.
6. Remove the belt cleaning brush from the belt cleaning housing.
7. Refit all the removed parts.

**Figure 1-6-87**

1-6-8 Cleaning section

(1) Detaching and refitting the cleaning blade

Follow the procedure below to replace the cleaning blade.

Procedure

1. Loosen the screw holding the blade release slide plate.
2. While lifting the cleaning blade weight up, slide the blade release slide plate in the direction of the arrow (a) and fix the cleaning blade to the release position.
3. Fasten the screw holding the blade release slide plate.

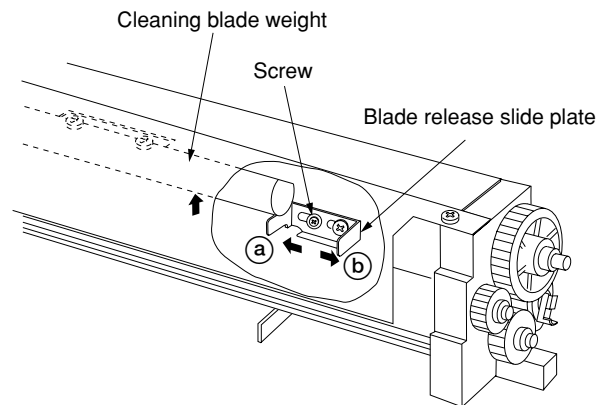


Figure 1-6-88

4. Remove the cleaning assembly from the machine.
5. Remove the two screws, then remove the upper cleaning cover and cleaning windbreak plate.
- * When refitting, with pushing the upper cleaning cover all the way in the direction of the arrows to fasten.

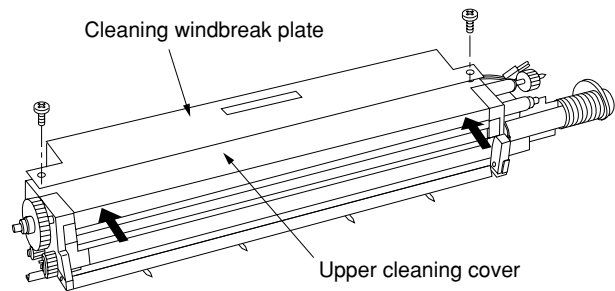


Figure 1-6-89

6. Remove the retainer pin, then remove the cleaning blade.
- * When refitting, check that the both end of the cleaning blade is in contact with the side of the sponge.

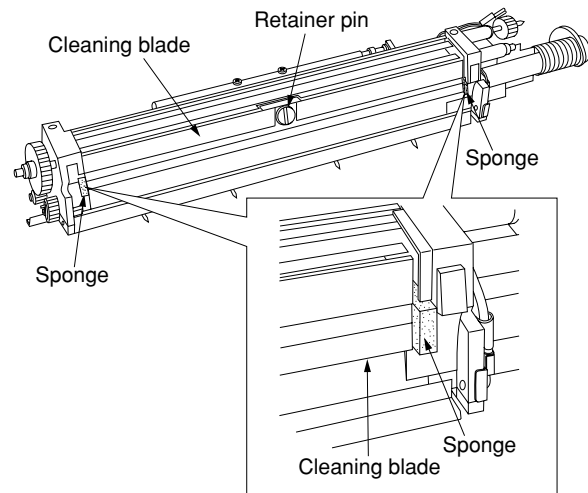


Figure 1-6-90

7. Replace the cleaning blade.
8. Refit all the removed parts.
9. Turn the main switch on and enter the maintenance mode.
10. Enter 160 (Applying toner to the cleaning blade) with the numeric keys.
11. Press the start key.
 - * The machine starts driving and the toner applies to the drum.
12. After the machine stops driving, open the front cover and pull out the image formation section, then loosen the screw holding the blade release slide plate.
13. Slide the blade release slide plate in the direction of the arrow (b), contact the cleaning blade to the drum (see Figure 1-6-80).
14. Fasten the screw holding the blade release slide plate.
15. Push back the image formation section and close the front cover.
 - * The machine starts driving and the applying toner to the cleaning blade starts.
16. After machine stops, exit the maintenance mode.

(2) Detaching and refitting the cleaning brush

Follow the procedure below to clean or replace the cleaning brush.

Procedure

1. Remove the cleaning assembly from the machine.
2. Remove the stop ring, then remove the gear and bushing (plastic: white).
3. Remove the screw holding the cleaning brush mount assembly.

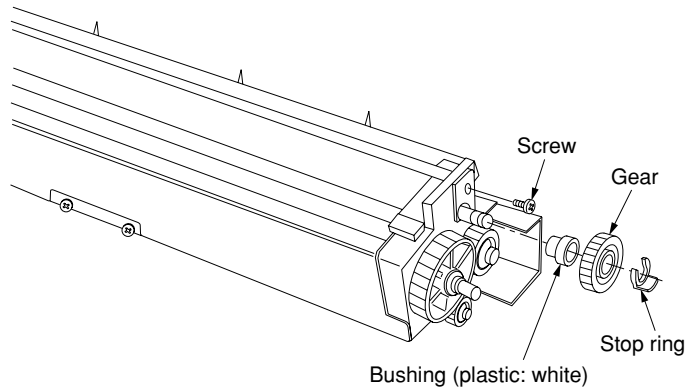


Figure 1-6-91

4. Remove the screw, then remove the grounding terminal and cleaning brush terminal.
5. Remove the stop ring, then remove the bushing (metal).

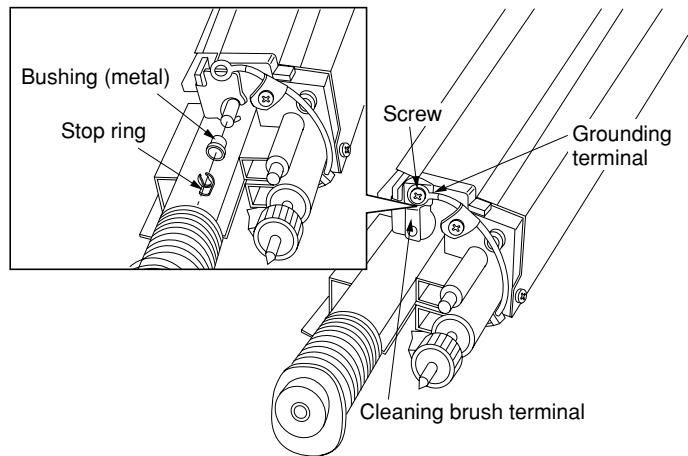


Figure 1-6-92

6. Remove the screw, then remove the cleaning brush mount assembly.
7. Remove the cleaning brush.
8. Refit all the removed parts.

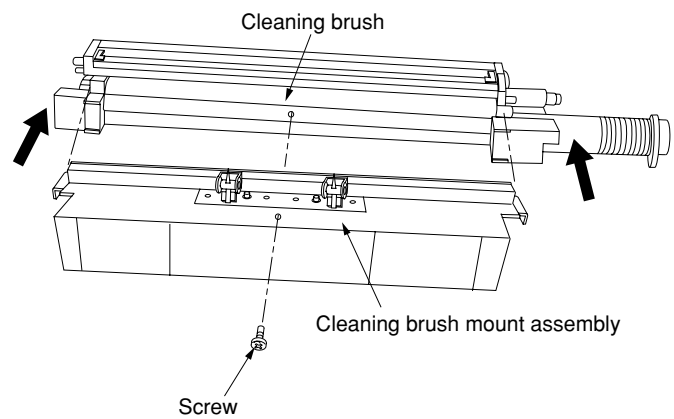


Figure 1-6-93

(3) Detaching and refitting the cleaning brush mount

Follow the procedure below to replace the cleaning brush mount.

Procedure

1. Remove the cleaning brush mount assembly (see page 1-6-58).
2. Remove the separation claw assembly (see page 1-6-60).
3. Remove the two screws, then remove the lower cleaning base assembly from the cleaning brush mount.
4. Refit all the removed parts.

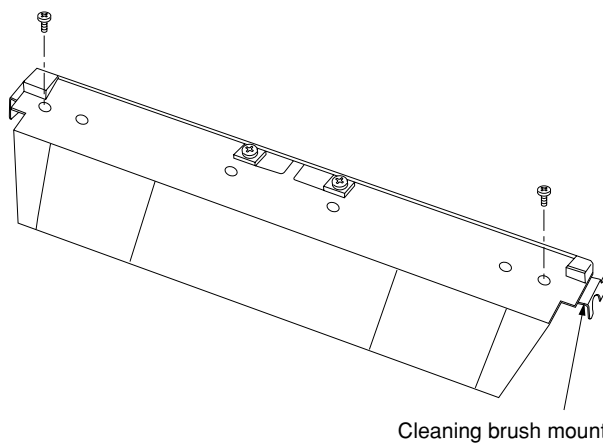


Figure 1-6-94

(4) Detaching and refitting the separation claw assembly

Follow the procedure below to replace the separation claw assembly.

Procedure

1. Remove the cleaning assembly from the machine.
2. Remove the four screws, then remove the separation claw assemblies.
 - * When refitting, press the separation claw assembly in the direction of the arrow (away from the drum), and fasten the screws.
3. Refit all the removed parts.

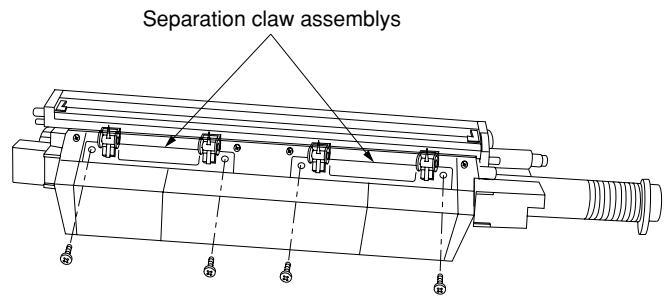


Figure 1-6-95

1-6-9 Fixing section

(1) Detaching and refitting the fixing unit thermostat

Follow the procedure below to check or replace the fixing unit thermostat.

Caution:

Use the specified thermostat for replacement. Do not substitute a simple wire or similar; otherwise, the copier will be seriously damaged.

Procedure

1. Open the front cover and pull out the paper conveying unit.
2. Remove the three retainer pins and screw, then remove the fixing cover.

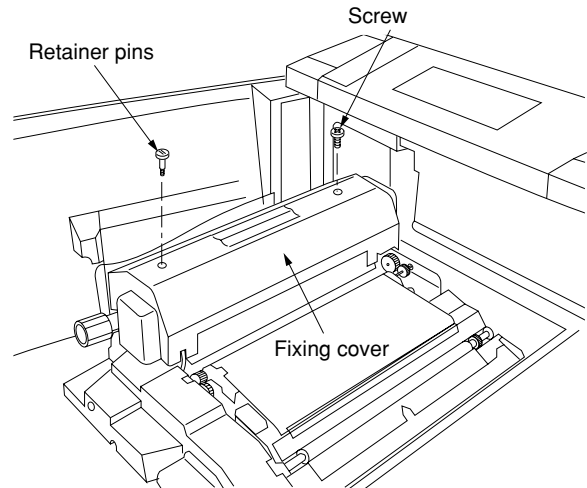


Figure 1-6-96

3. Disconnect the connectors for the fixing heater wire and fixing unit wire from the fixing unit thermostat.

* When disconnecting the connector for the fixing unit wire, disconnect the connector while pressing the projection of the connector.

4. Remove the two screws, then remove the fixing unit thermostat.
5. Refit all the removed parts.

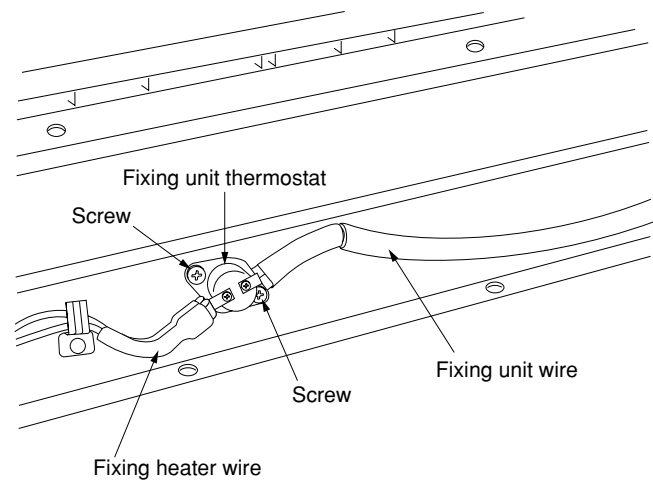


Figure 1-6-97

(2) Detaching and refitting the cleaning felt

Follow the procedure below to replace the cleaning felt.

Procedure

1. Remove the fixing cover (see page 1-6-61).
2. Remove the two screws, then remove the fixing cleaning stay.
3. Pull the two shafts of the cleaning felt toward the machine front, then remove the cleaning felt from the fixing assembly.
4. Fit a new cleaning felt while aligning the notch in the shaft (prior to winding on the cleaning felt) with the pin on the fixing cleaning drive shaft.
5. Turn the gear several times in the direction of the arrow to take up the slack in the cleaning felt.
6. Refit all the removed parts.
7. Turn the gear several more times in the direction of the arrow to take up the remaining slack in the cleaning felt.

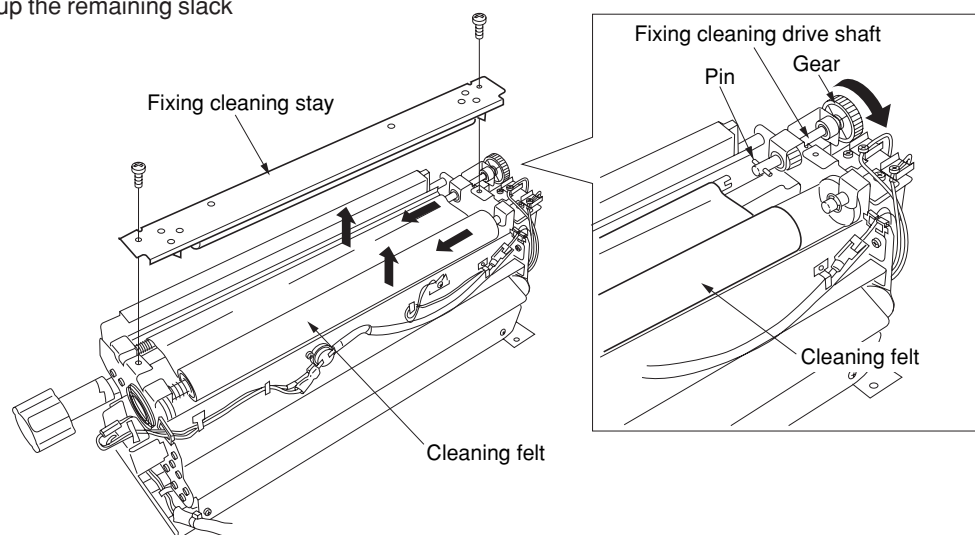


Figure 1-6-98

(3) Detaching and refitting the fixing heaters M and S

Follow the procedure below to check or replace the fixing heaters M and S.

Caution:

When replacing fixing heaters M and S, be sure to use the heaters rated as follows:

	Fixing heater M	Fixing heater S
120 V models	970 W	270 W
230/240 V models	1350 W	380 W

Procedure

1. Open the front cover and pull out the paper conveying unit.
 2. Disconnect the 7-pin connector for the fixing assembly.
 3. Release the two cord clamps, then free the wire for the 7-pin connector from the cord clamps.
 4. Open the fixing eject cover.
 5. Remove the four screws, then remove the fixing assembly.
- * When refitting the fixing assembly, be careful about following points.
- Check that the pins (broken line circles in the figure) of the paper conveying unit must be firmly into the notches of the fixing side plate.
 - While passing the fixing assembly in the direction of the arrow (a) (machine front), after fasten the two screws of the machine front, fasten the two screws of the machine rear.

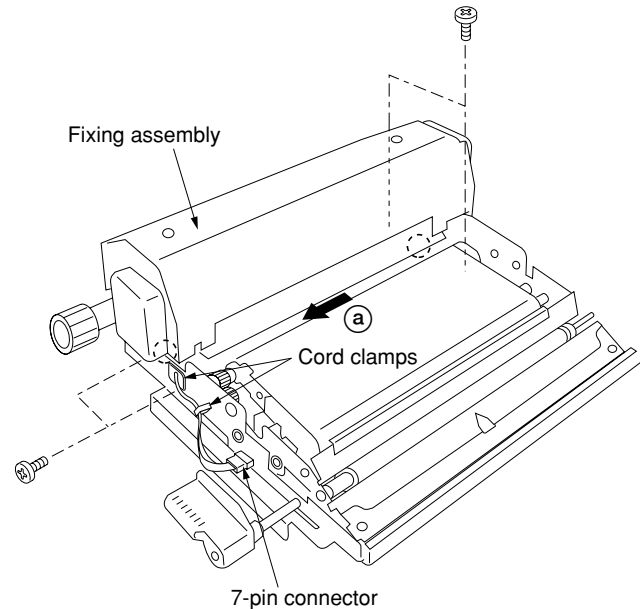


Figure 1-6-99

6. Remove the fixing cover (see page 1-6-57).
 7. Disconnect the connector for the fixing heater from the fixing unit thermostat.
 8. Release the cord clamp, then free the wire for the fixing heater from the cord clamp and two cord clamp sections of the fixing assembly.
 9. Remove the screw (M3), then remove the terminals for the fixing heater S and fixing unit wire.
 10. Remove the screw (M4), then remove the terminals for the fixing heater M and fixing unit wire.
- * When fastening the terminal of the fixing heater M, be sure to fasten the screw with pressing all the way to the machine left (in the direction of the arrow (b)).
11. Remove the screw, then remove the rear heater support plate.
 12. Pull the fixing heaters M and S out to the machine rear side (in the direction of the arrow (a)), then remove the fixing heaters M and S from the fixing assembly.
- * When refitting the fixing heaters M and S, place the fixing heater M on the right side and fixing heater S on the left side of the machine.

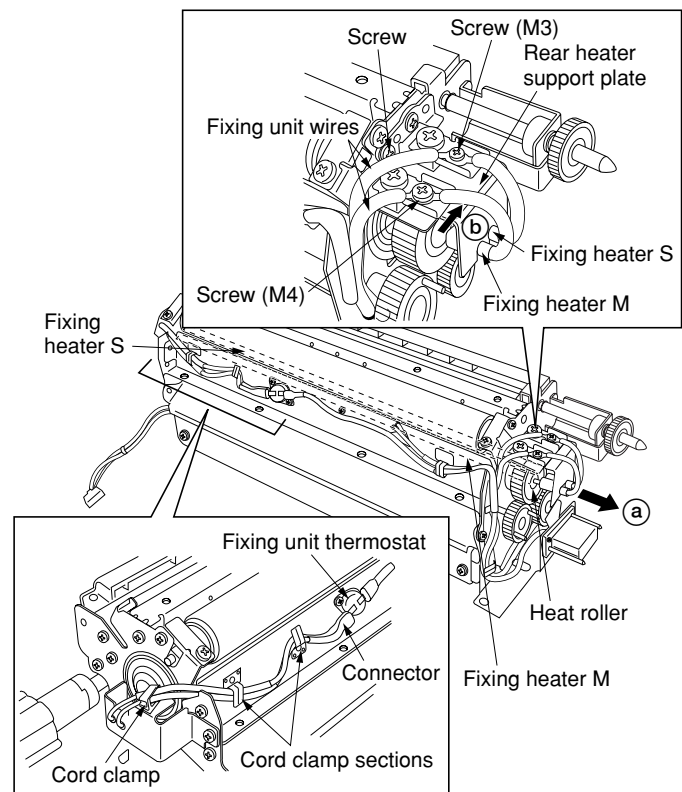


Figure 1-6-100

2CJ

13. Disconnect the connector (male) for the fixing heater S from the connector (female) for fixing heater M.
14. Refit all the removed parts.

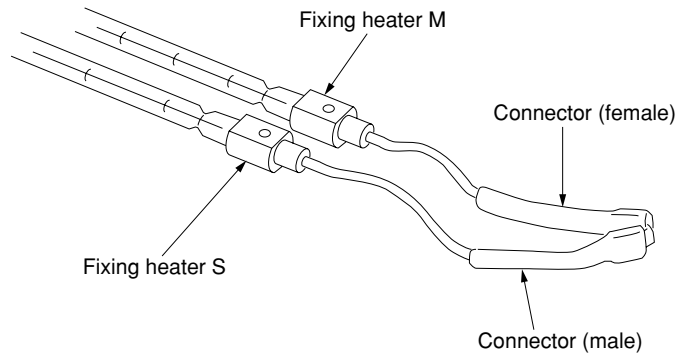


Figure 1-6-101

(4) Detaching and refitting the fixing unit thermistor

Follow the procedure below to check or replace the fixing unit thermistor.

Procedure

1. Remove the fixing assembly (see page 1-6-63).
2. Remove the fixing cover (see page 1-6-61).
3. Disconnect the connector for the fixing unit thermostat.
 - * When disconnecting the connector, remove while pressing the projection of the connector.
4. Disconnect the 2-pin connector for the fixing unit thermistor.
5. Free the wire for the fixing unit thermistor from the two cord clamp sections of the fixing assembly.
6. Remove the screw, then remove the fixing unit thermistor.
 - * When refitting the fixing thermistor, check that the projection on the fixing thermistor is firmly inserted into the notch in the fixing assembly and that the temperature detector face of the fixing thermistor is in contact with the heat roller.
7. Refit all the removed parts.

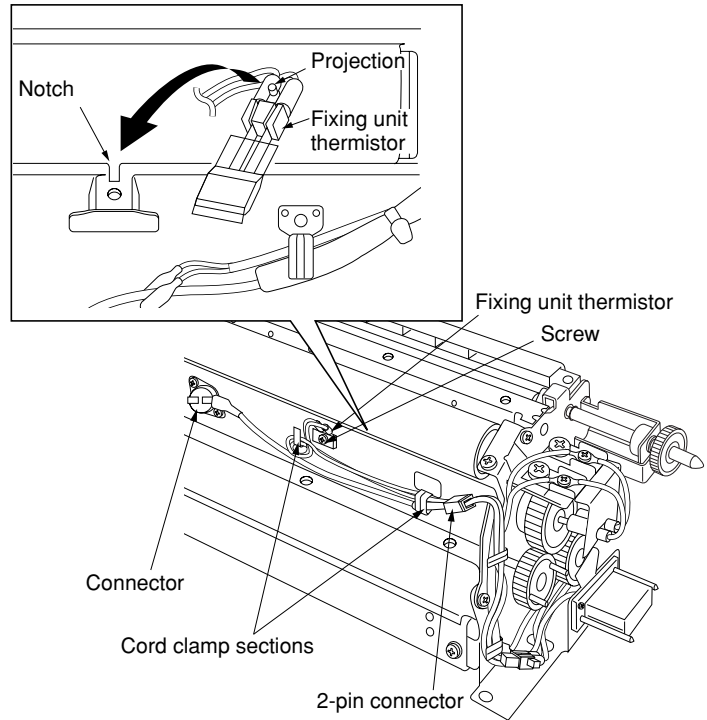


Figure 1-6-102

(5) Detaching and refitting the lower cleaning roller

Follow the procedure below to replace the lower cleaning roller.

Procedure

1. Remove the fixing assembly (see page 1-6-63).
2. Remove the two screws, then remove the lower cleaning roller mount from the fixing assembly.

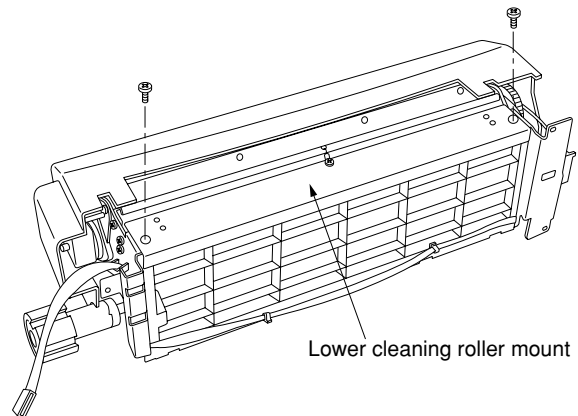


Figure 1-6-103

3. Remove the crimp-style spring and slide the lower cleaning roller bushing in the direction of the arrow ①, then remove the lower cleaning roller bushing from the lower cleaning roller.
4. Pull out the lower cleaning roller in the direction of the arrow ② and remove the lower cleaning roller from the bushing on the opposite side, then remove the lower cleaning roller.
5. Refit all the removed parts.

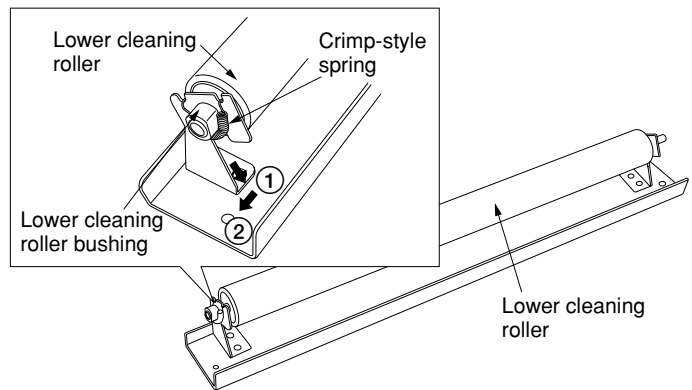


Figure 1-6-104

(6) Detaching and refitting the heat roller and press roller

Follow the procedure below to clean or replace the heat roller and press roller.

Procedure

1. Remove the fixing assembly from the machine (see page 1-6-63).
 2. Remove the fixing cover (see page 1-6-61).
 3. Remove the cleaning felt (see page 1-6-62).
 4. Remove fixing heaters M and S (see page 1-6-63).
 5. Remove the screw, then remove the fixing eject unit holder.
 6. Open the fixing eject cover, then remove the fixing eject cover from the fixing assembly as shown in the figure.
- * When refitting, the hinge of the fixing eject cover on the rear of the machine must be firmly into the gap between the groove of the fixing assembly and the rear fixing eject unit holder (section indicated by round mark in the figure).

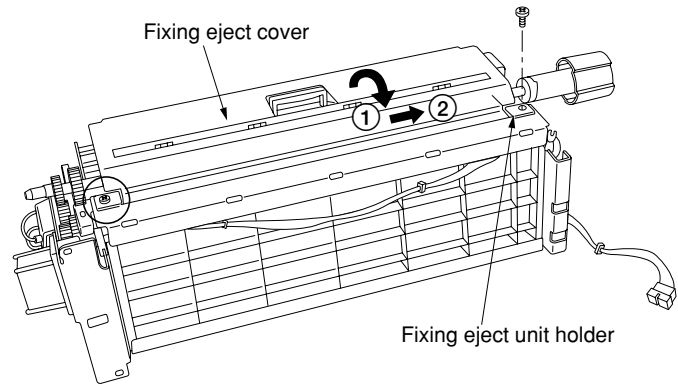


Figure 1-6-105

7. Remove the two screws, then open the fixing assembly.

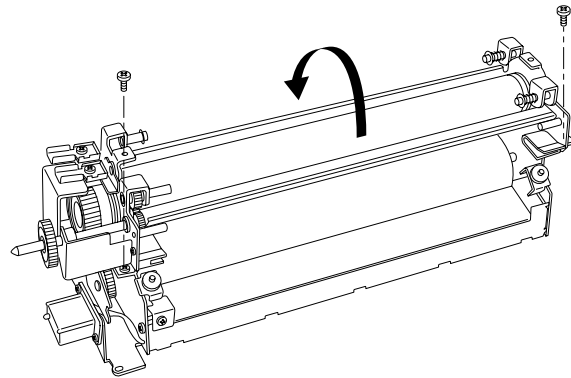


Figure 1-6-106

8. Remove the press roller from the fixing assembly.
9. Remove the C ring, then remove the bearing (machine front).
10. Remove the screw, then slide the heat roller gear in the direction of the arrow (a).
11. Slide the heat roller in the direction of the arrow (1) and remove the heat roller from the bearing (machine rear).
12. Remove the heat roller from the fixing assembly as shown in the arrows (2) and (3).
13. Refit all the removed parts.

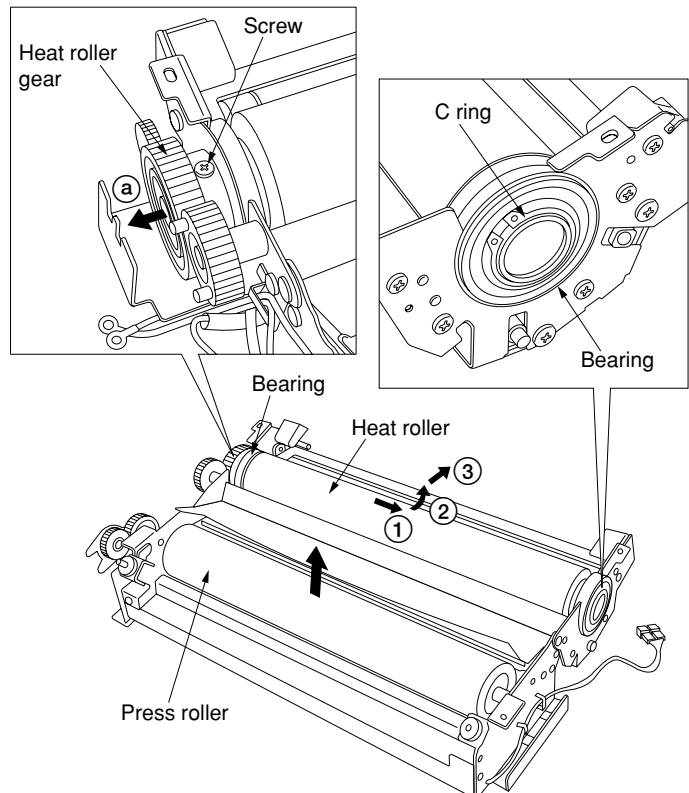


Figure 1-6-107

(7) Detaching and refitting the heat roller separation claw

Follow the procedure below to clean or replace the heat roller separation claw.

Procedure

1. Remove the fixing eject cover from the fixing assembly (see page 1-6-67).
2. Remove the four pins, then remove the upper fixing eject guide.

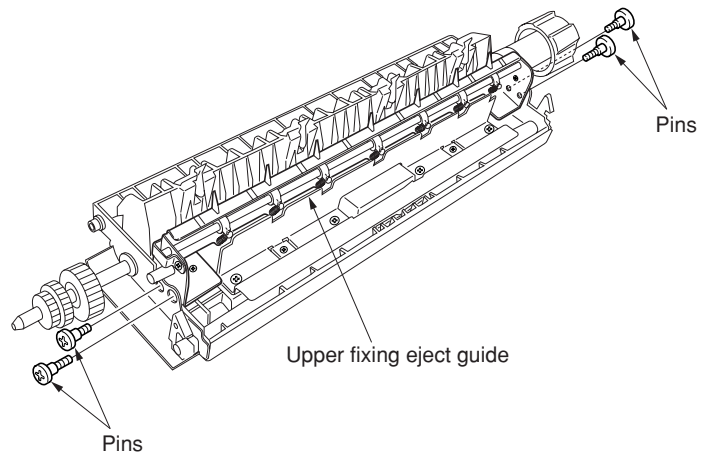


Figure 1-6-108

3. Remove the heat roller separation claw spring each.
4. Remove the screw, then remove the backing plate.
5. Remove the heat roller separation claw shaft, then remove the seven heat roller separation claws.
6. Replace the heat roller separation claws.
7. Refit all the removed parts.

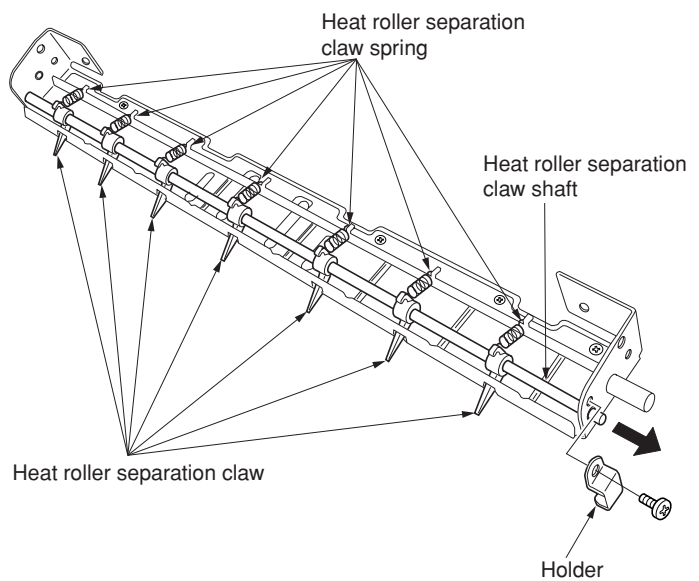


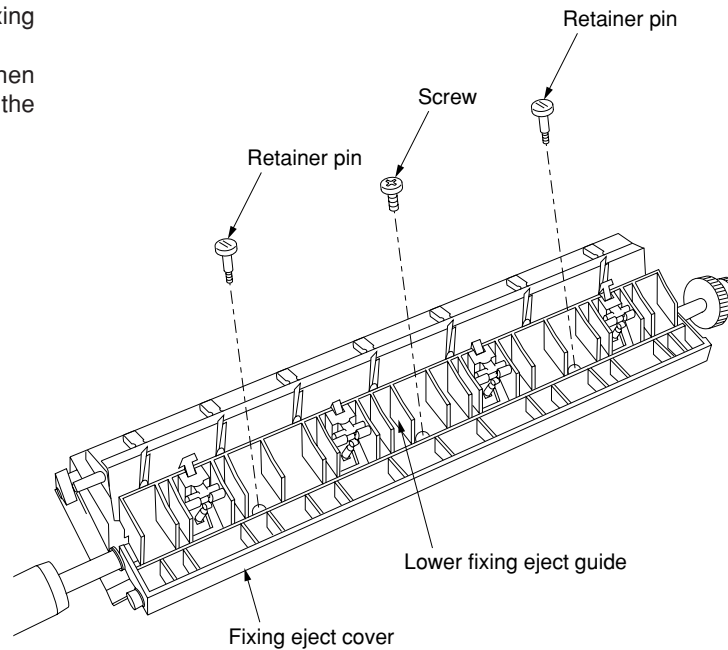
Figure 1-6-109

(8) Detaching and refitting the press roller separation claw

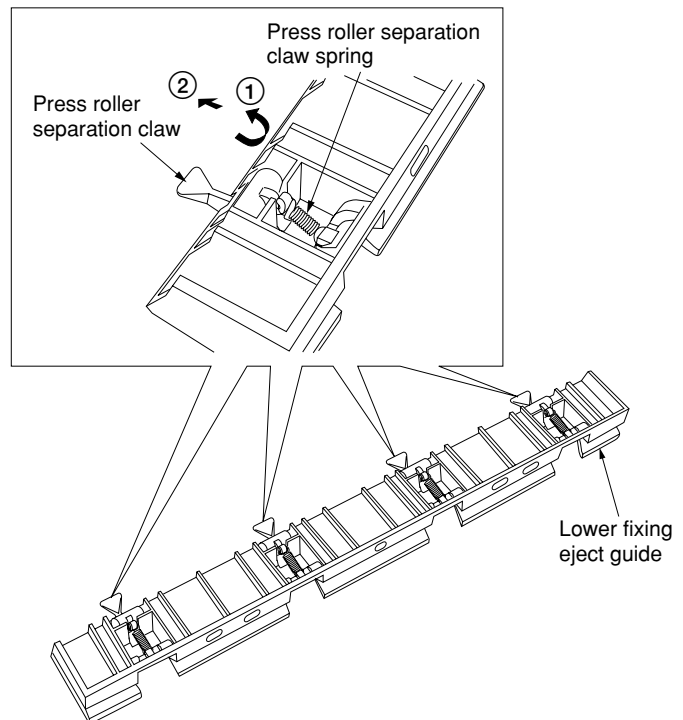
Follow the procedure below to clean or replace the press roller separation claw.

Procedure

1. Remove the fixing eject cover from the fixing assembly (see page 1-6-67).
2. Remove the two retainer pins and screw, then remove the lower fixing eject guide from the fixing eject cover.

**Figure 1-6-110**

3. Remove the press roller separation claw spring each, then remove the four press roller separation claws.
4. Refit all the removed parts.

**Figure 1-6-111**

1-6-10 Duplex section

(1) Cleaning the duplex switchback rollers

Follow the procedure below to clean the duplex switchback rollers.

Procedure

1. Open the front cover.
2. Remove the four screws, then remove the duplex unit.

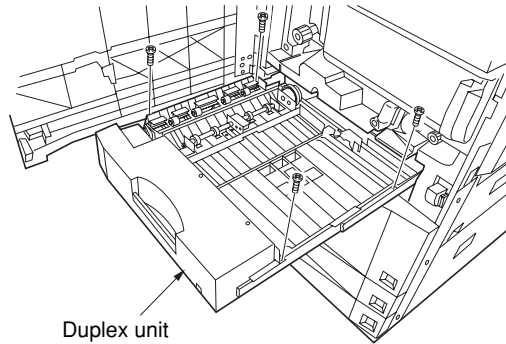


Figure 1-6-112

3. Remove the four screws, then remove the duplex cover.
4. Remove the stop ring, then remove the duplex joint gear.
5. Remove the two screws, then remove the duplex upper entry guide.

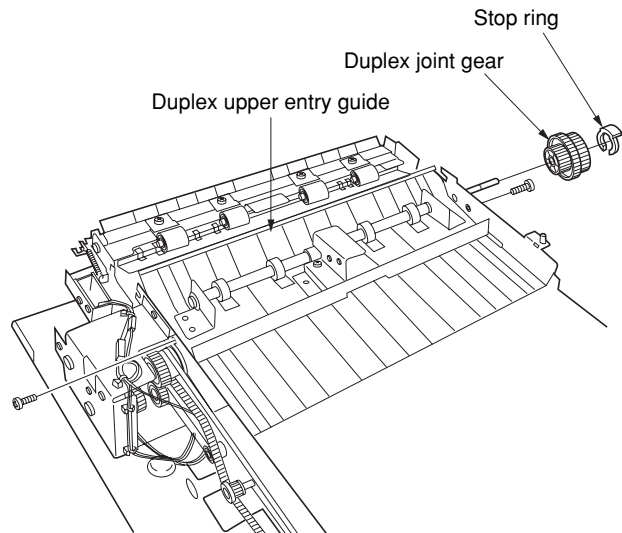


Figure 1-6-113

6. Clean the duplex switchback rollers.
7. Refit all the removed parts.

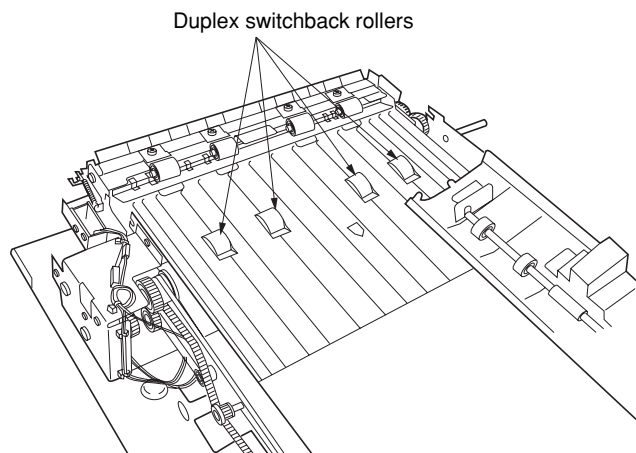


Figure 1-6-114

(2) Adjusting the position of the duplex eject switching solenoid

Follow the procedure below after replacing the duplex eject switching solenoid or if paper jams frequently in the duplex section.

Procedure

1. Open the front cover and pull the duplex unit out.
2. Remove the four screws, then remove the duplex cover.
3. Loosen the screw securing the duplex eject switching solenoid.
4. Adjust the position of the duplex eject switching solenoid so that the gap between the switchback feedshift guide and the duplex refeed guide is between 2.5 and 3.0 mm when the plunger of the duplex eject switching solenoid is pushed (solenoid: on).
5. Tighten the screw of the duplex eject switching solenoid.
6. Refit all the removed parts.

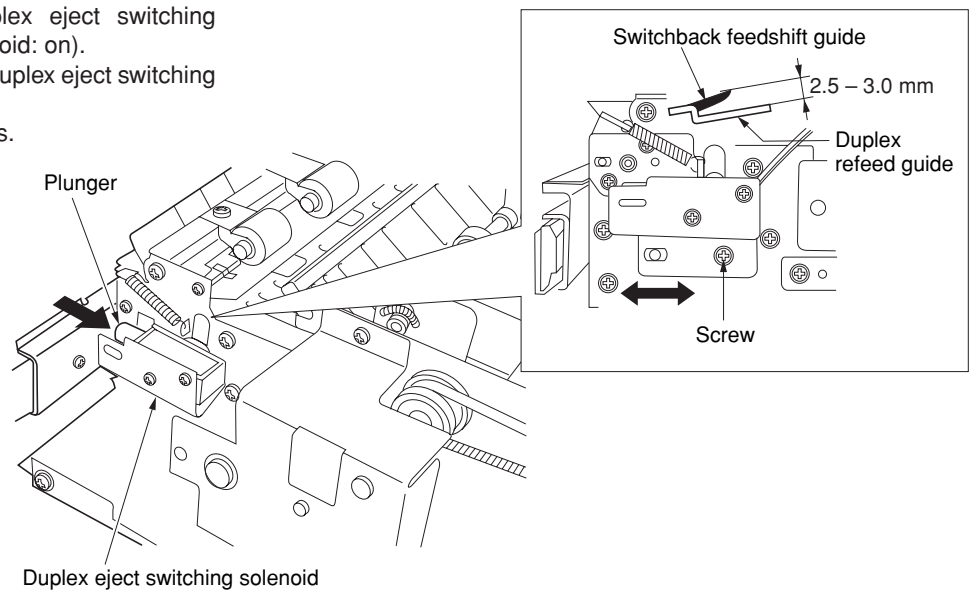


Figure 1-6-115

(3) Setting the switchback drive

Follow the procedure below if paper jams or the leading edge of paper is folded in the duplex section frequently during duplex copying.

Procedure

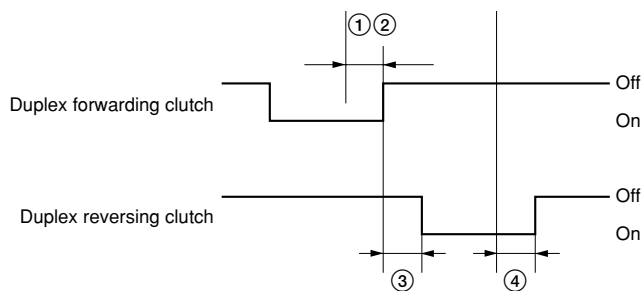
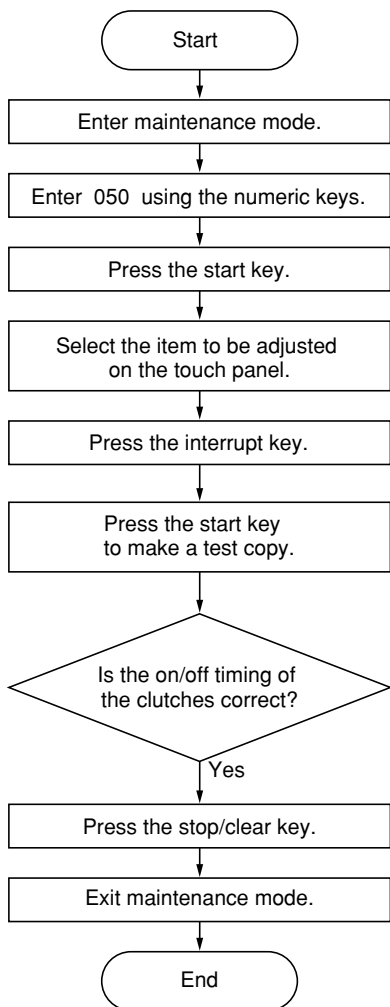


Figure 1-6-116

Touch panel display

- ① FWD CL OFF: Duplex forwarding clutch-off timing
- ② FWD CL OFF2: Duplex forwarding clutch-off timing (for 11" × 17" copy paper only)
- ③ DUP CL OFF: Duplex reversing clutch-on timing
- ④ REV CL OFF: Duplex reversing clutch-off timing

Press the start key.
The new setting is stored.

Setting range (Initial setting)
 Duplex forwarding clutch-off timing: 0 — 254 (100)
 Duplex forwarding clutch-off timing (for 11" × 17" copy paper only): 0 — 254 (75)
 Duplex reversing clutch-on timing: 0 — 254 (50)
 Duplex reversing clutch-off timing: 0 — 254 (120)
 Increasing the value makes the on/off timing of the clutch later, and decreasing it makes the timing earlier.

1-6-11 SRDF section

(1) Detaching and refitting the DF forwarding pulley and DF feed pulley

Follow the procedure below to clean or replace the DF forwarding pulley or DF feed pulley.

Procedure

1. Open the DF original reversing cover.
2. Remove the two screws holding the upper original feed cover and then the cover.
 - Detaching the DF forwarding pulley
3. Remove the stop ring at the machine front and then remove the bushing.
4. Pull out the forwarding shaft toward the rear side of the machine and slide the bushing.
5. Remove the DF forwarding pulley from the forwarding shaft.
- Detaching the DF feed pulley
6. Remove the stop ring at the machine front and then remove the bushing.
7. Remove the stop ring at the machine rear.
8. Pull out the front original feed shaft toward the rear side of the machine and slide the bushing.
9. Remove the DF feed pulley from the front original feed shaft.
10. Clean or replace the DF forwarding pulley and the DF feed pulley.
11. Refit all the removed parts.
 - * When refitting the DF forwarding pulley and DF feed pulley, ensure that the notches in the pulleys are aligned with the projections on the one-way clutches.

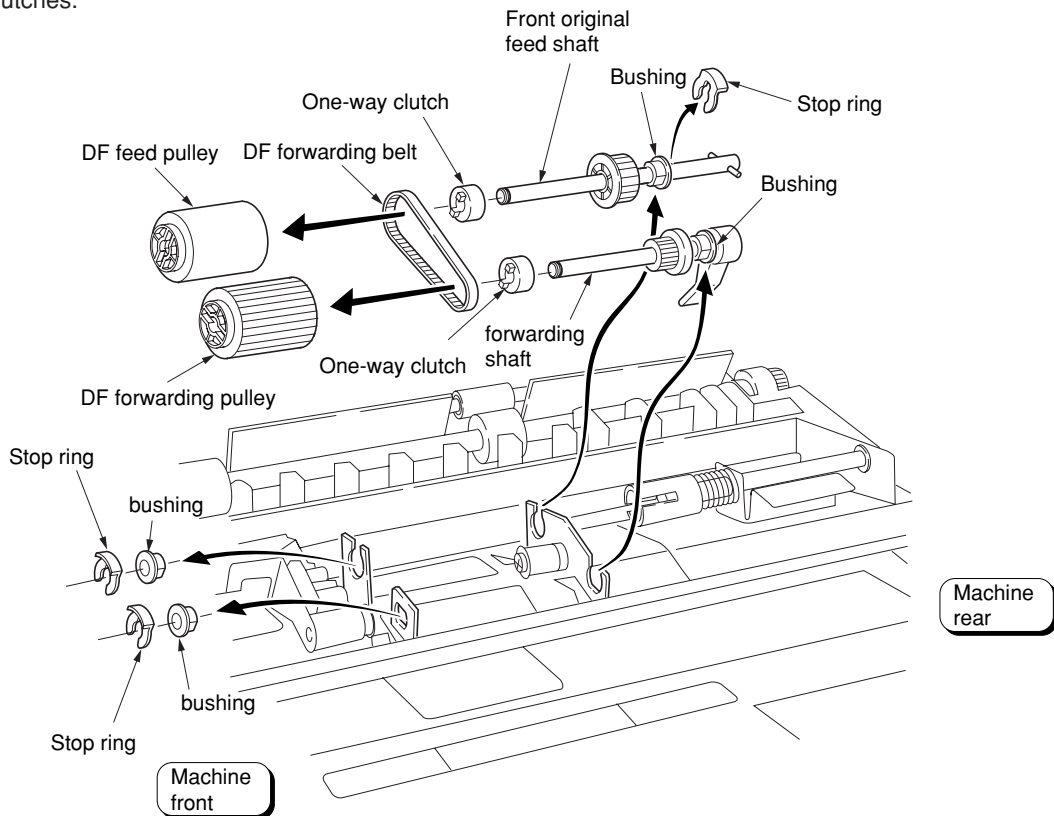


Figure 1-6-117

(2) Detaching and refitting the DF separation pulley

Follow the procedure below to clean or replace the DF separation pulley.

Procedure

1. Open the DF original reversing cover.
2. Remove the DF front and rear covers.
3. Remove the two screws holding the upper original feed cover and then the cover.

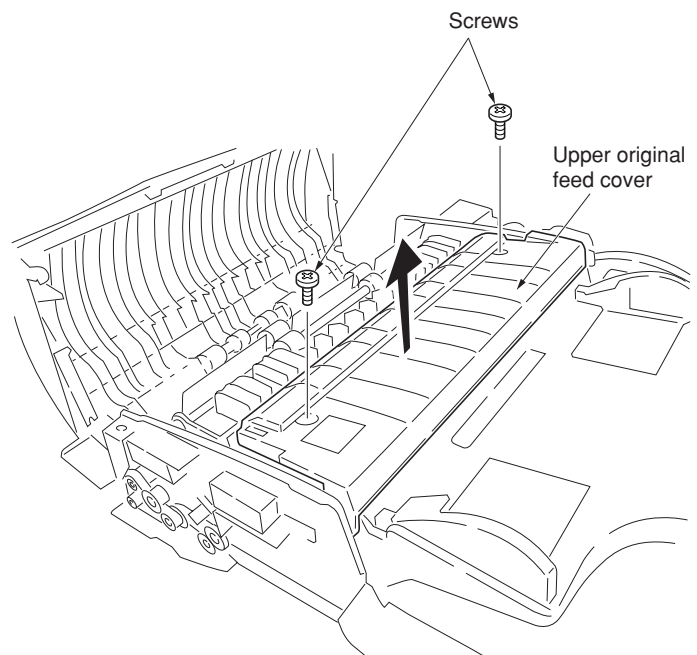


Figure 1-6-118

4. Remove the four connectors and then remove the wires from the two wire clamps.

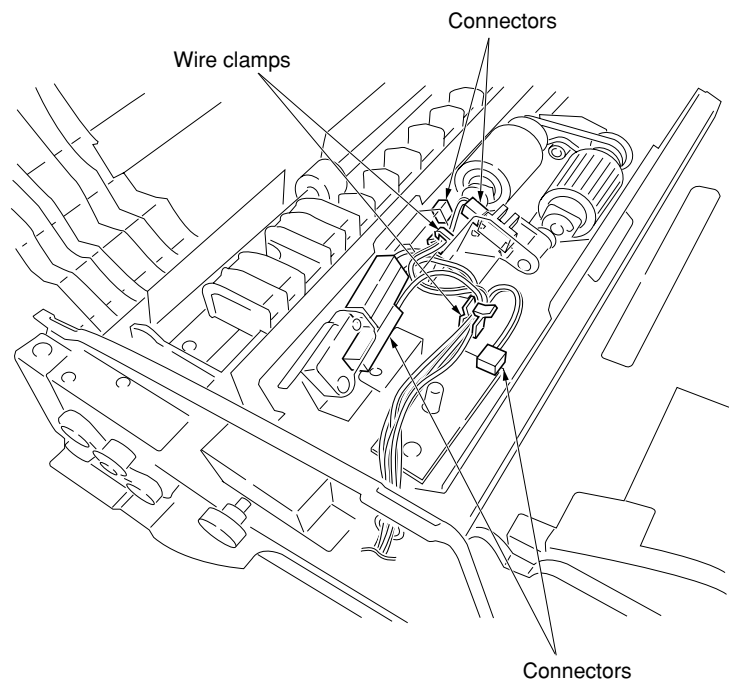


Figure 1-6-119

5. Remove the two screws holding the solenoid bracket and then the bracket.
6. Remove the screw and then remove the feed guide pin.

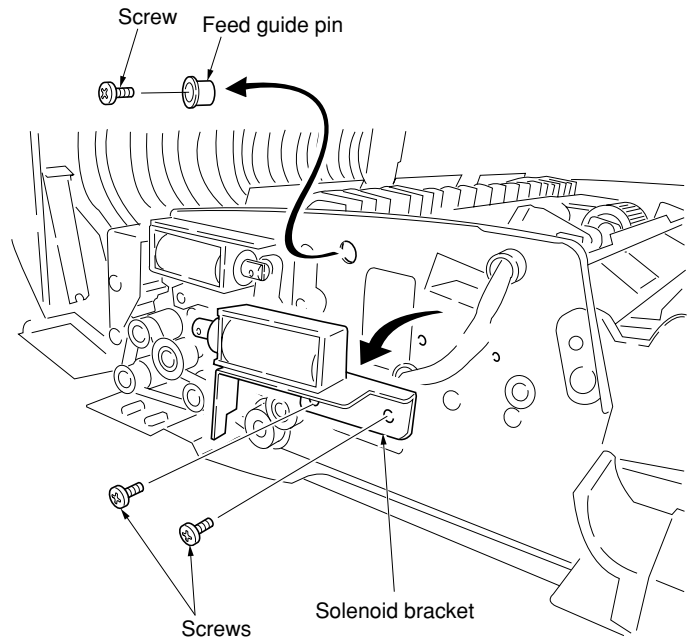


Figure 1-6-120

7. Remove the E-ring and then the original feed clutch.
8. Remove the E-ring and then remove the bushing.

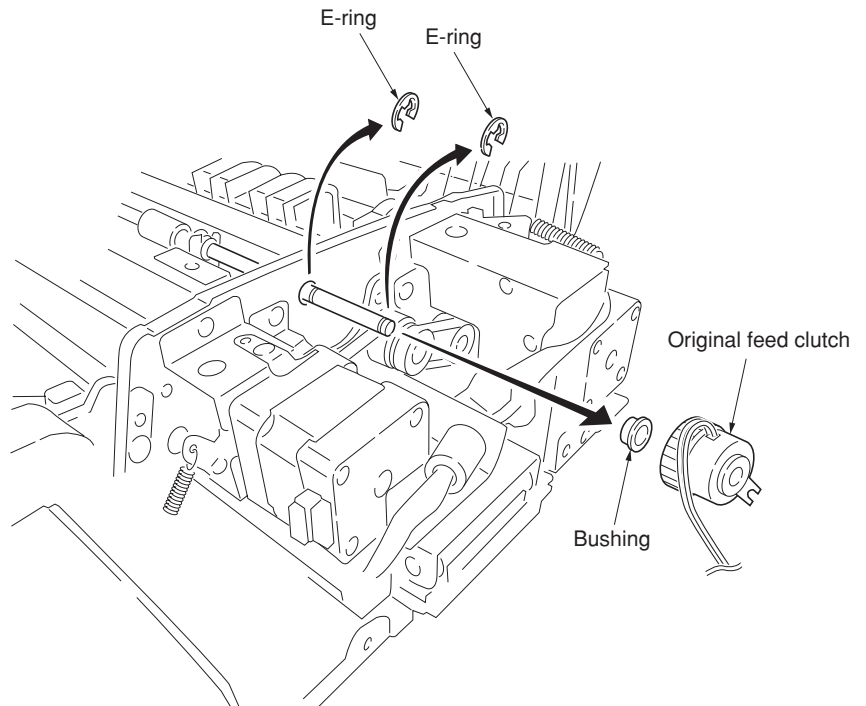


Figure 1-6-121

2CJ

9. Open the registration guide and remove the guide.
10. Remove the two screws holding the upper feed guide plate and then the plate.

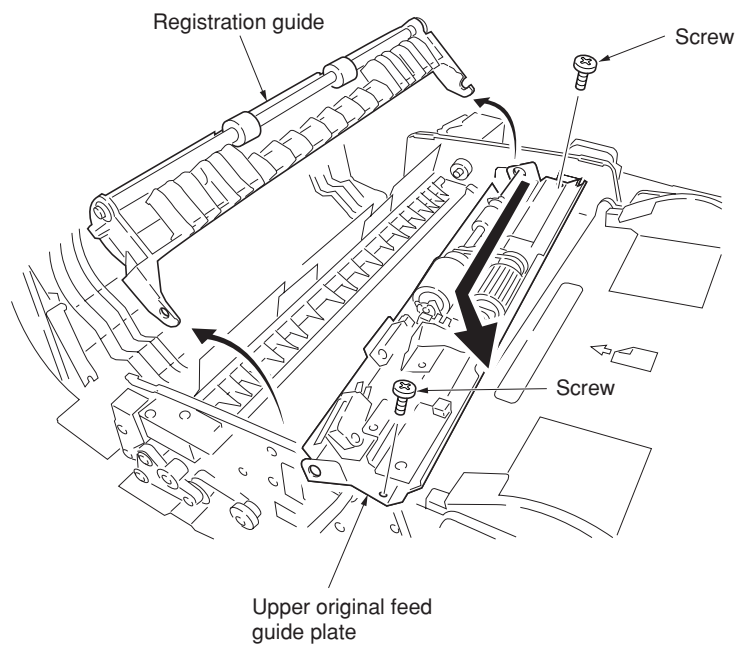


Figure 1-6-122

11. Remove the two screws holding the original feed lift and then the lift.
12. Remove the screw holding the separation guide and then the guide.

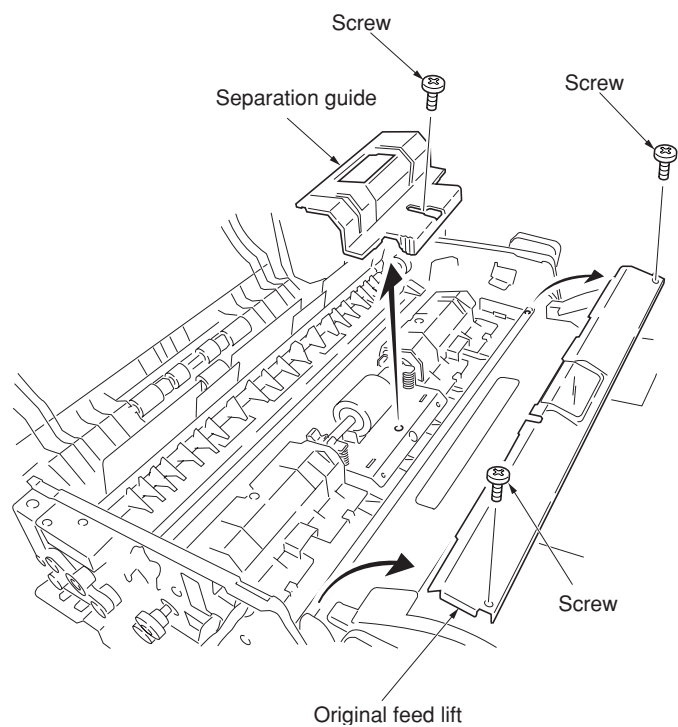


Figure 1-6-123

13. Remove the separation shaft from the separation pulley arms.
14. Remove the stopper and torque limiter from the separation shaft and then remove the DF separation pulley.
15. Clean or replace the DF separation pulley.
16. Refit all the removed parts.

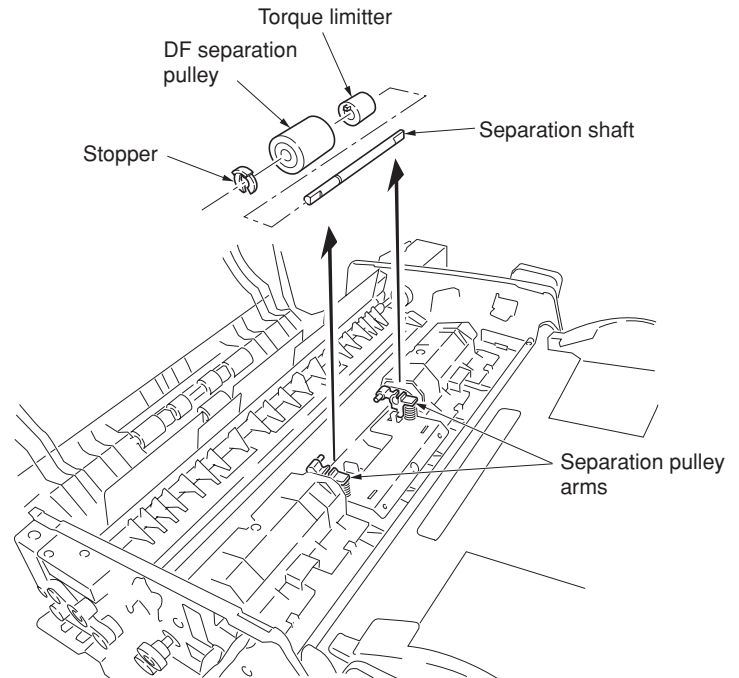
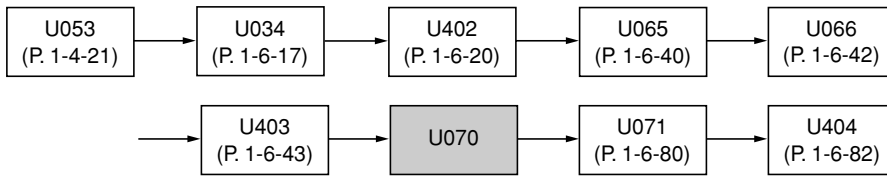


Figure 1-6-124

(3) Adjusting the DF magnification

Adjust magnification in the auxiliary scanning direction if magnification is incorrect when the DF is used.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure

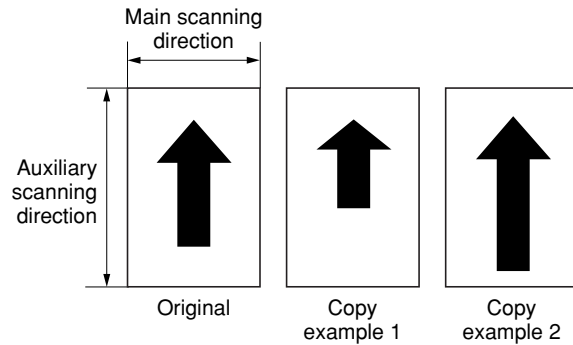
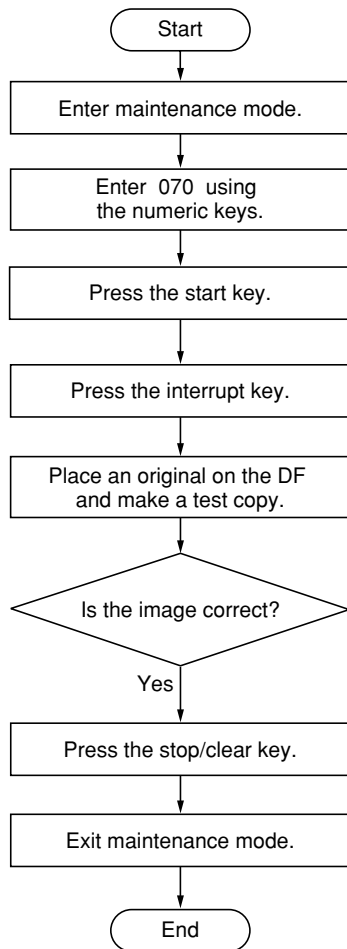
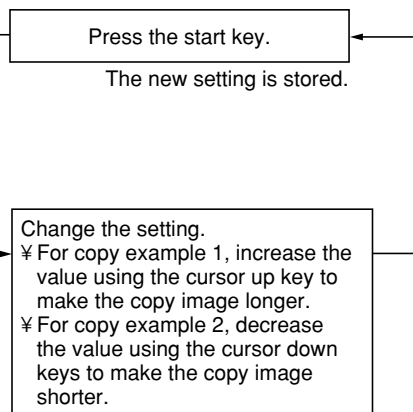


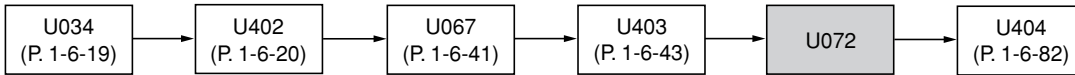
Figure 1-6-125



Setting range: -25 — +25
 Changing the value by 1 changes the magnification by 0.1%.
 Initial setting: 2

(4) Adjusting the DF center line

Perform the following adjustment if there is a regular error between the centers of the original and the copy image.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure

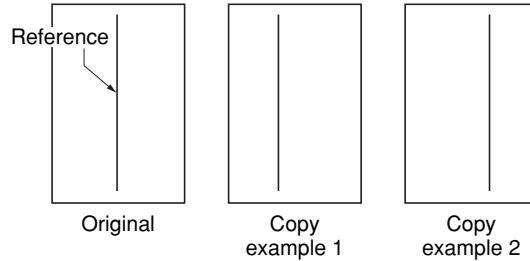
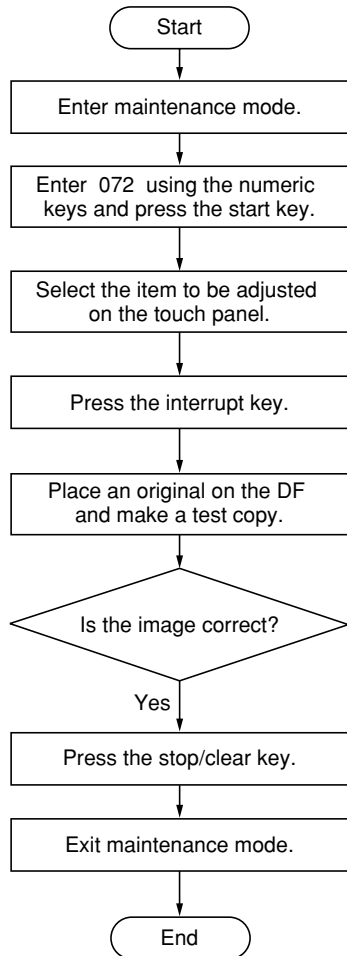


Figure 1-6-126

Touch panel display
 DATA (1 sided): Center line for the simplex copy mode
 DATA (2 sided front): Center line for the front face in duplex copy mode
 DATA (2 sided back): Center line for the reverse face in duplex copy mode

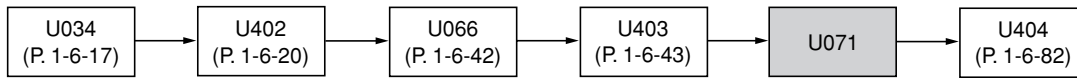
Press the start key.
 The new setting is stored.

Change the setting.
 ¥ For copy example 1, increase the value using the cursor up key.
 ¥ For copy example 2, decrease the value using the cursor down key.

Setting range (Initial setting)
 Center line for the simplex copy mode: —39.0 — +39.0 (—25)
 Center line for the front face in duplex copy mode: —39.0 — +39.0 (—21)
 Center line for the reverse face in duplex copy mode: —39.0 — +39.0 (—25)
 Changing the value by 1 moves the center line by 0.17 mm.

(5) Adjusting the scanning start position when the DF is used

Perform the following adjustment if there is a regular error between the leading or trailing edges of the original and the copy image.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

(5-1) Adjusting the DF leading edge registration

Procedure

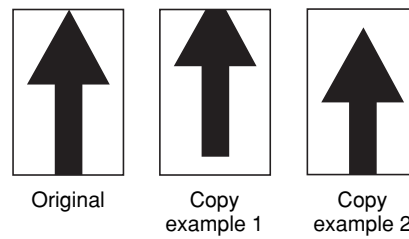
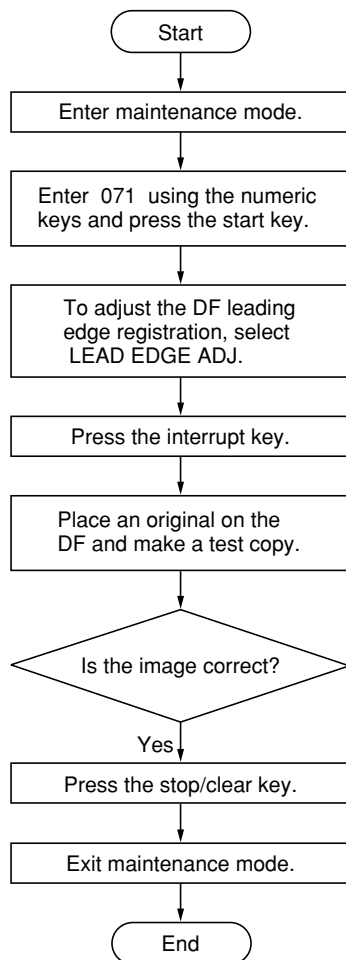


Figure 1-6-127

¥ For copy example 1, decrease the value using the cursor down key.
 ¥ For copy example 2, increase the value using the cursor up key.

Setting range: —32 — +32
 Initial setting: 22
 Changing the value by 1 moves the copy image by 0.19 mm.
 Decreasing the value moves the copy image backward, and increasing it moves the image forward.

(5-2) Adjusting the DF trailing edge registration

Procedure

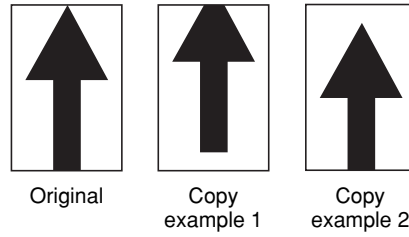
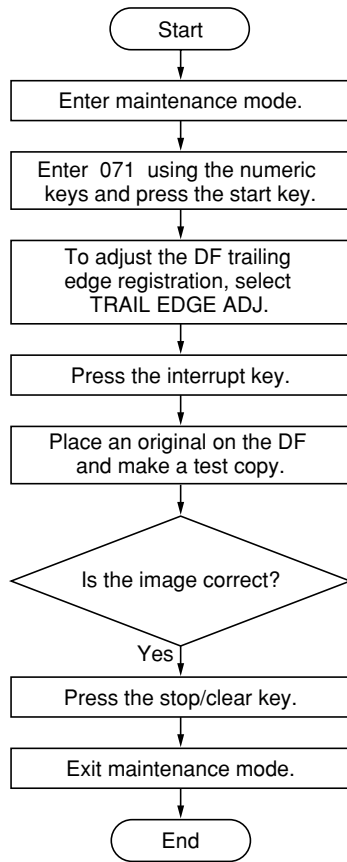
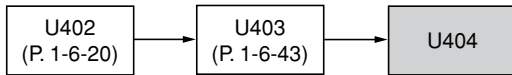


Figure 1-6-128

¥ For copy example 1, increase the value using the cursor up key.
 ¥ For copy example 2, decrease the value using the cursor down key.
 Setting range: —32 — +32
 Initial setting: —23
 Changing the value by 1 moves the copy image by 0.19 mm.
 Increasing the value moves the copy image backward, and decreasing it moves the image forward.

(6) Adjusting the margins for scanning the original from the DF

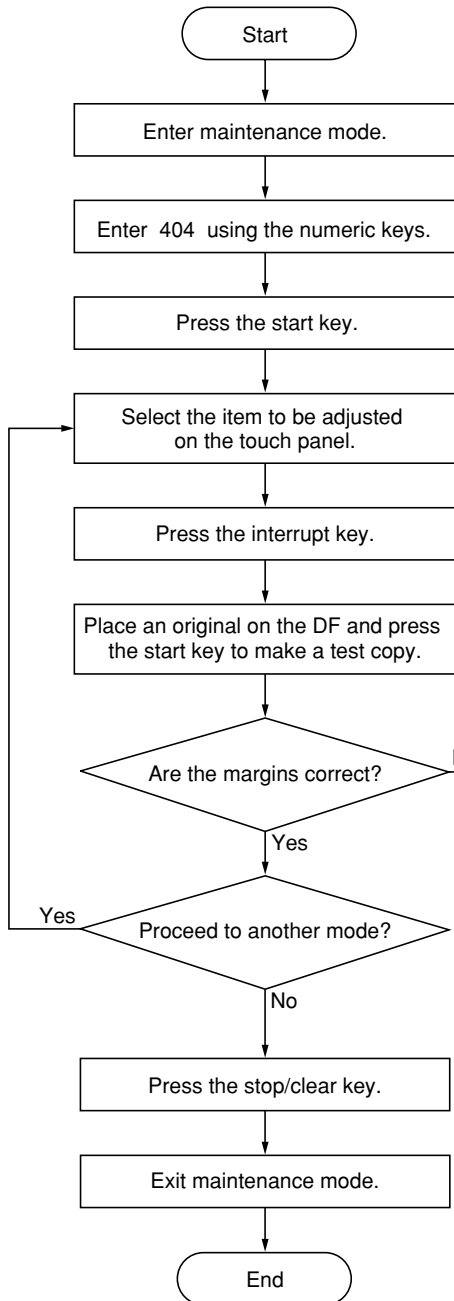
Perform the following adjustment if margins are not correct.



Caution:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure



Touch panel display
 A MARGIN: DF left margin
 B MARGIN: DF leading edge margin
 C MARGIN: DF right margin
 D MARGIN: DF trailing edge margin

Press the start key.
 The new setting is stored.

Change the setting.
 ¥ Increasing the value using the cursor up key makes the margin wider.
 ¥ Decreasing the value using the cursor down key makes the margin narrower.

Setting range (initial setting)
 DF left margin: 0.0 — +10.0 (2.5)
 DF leading edge margin: 0.0 — +10.0 (3.0)
 DF right margin: 0.0 — +10.0 (3.0)
 DF trailing edge margin: 0.0 — +10.0 (4.5)
 Changing the value by 1 moves the margin by 0.1 mm for all.

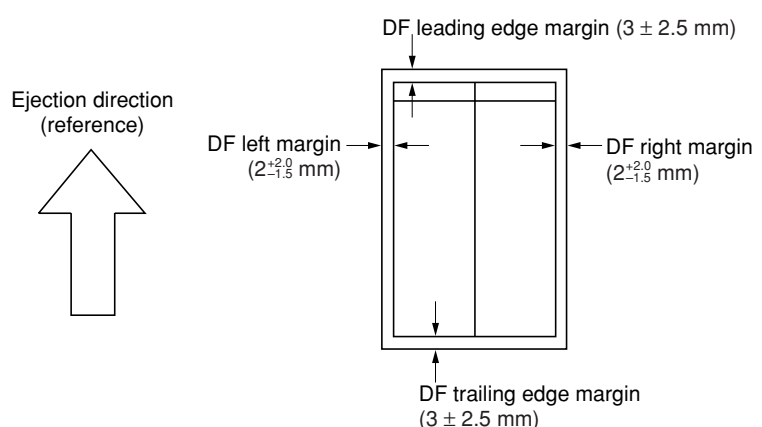


Figure 1-6-129

1-6-12 Others

(1) Detaching and refitting the drum grounding plate spring

Follow the procedure below to clean or replace the drum grounding plate spring.

Procedure

1. Remove the middle and lower rear covers.
2. Remove the two screws, then open the shield box assembly.

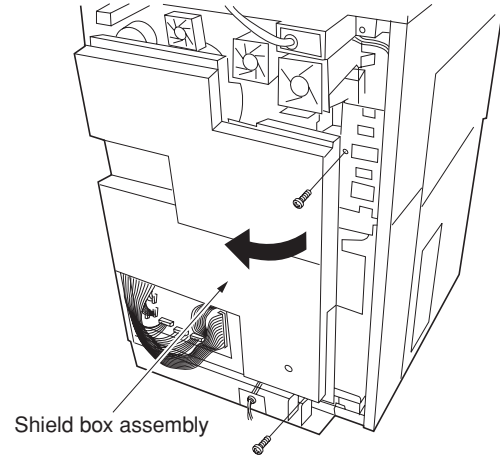


Figure 1-6-130

3. Remove the screw, then remove the flywheel.
4. Remove the two screws, then remove the drum grounding plate spring.
5. Clean or replace the drum grounding plate spring.
 - * When refitting the drum grounding plate spring, be sure to apply conductive grease to the surface that makes contact with the drum drive shaft.
6. Refit all the removed parts.

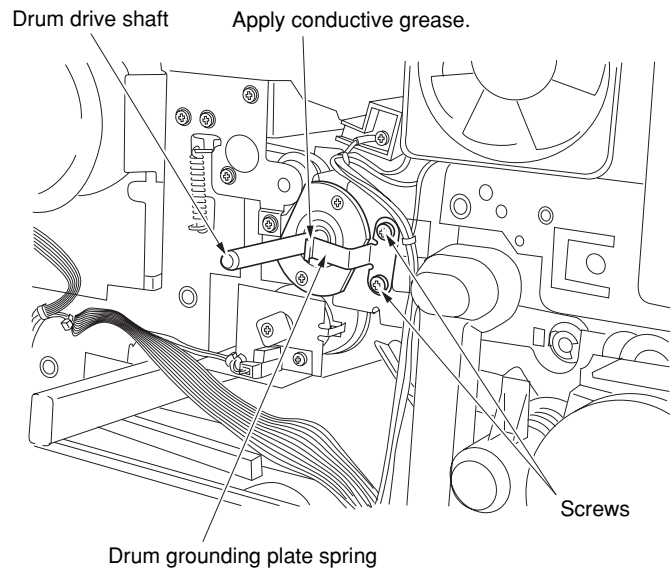


Figure 1-6-131

(2) Detaching and refitting the front cleaning seal

Follow the procedure below to replace the front cleaning seal.

Procedure

1. Remove the transfer charger belt (see page 1-6-53).
2. Remove the screw, then remove the rear transfer charger guide, ground plate and front cleaning seal.
3. Replace the front cleaning seal.
4. Refit all the removed parts.

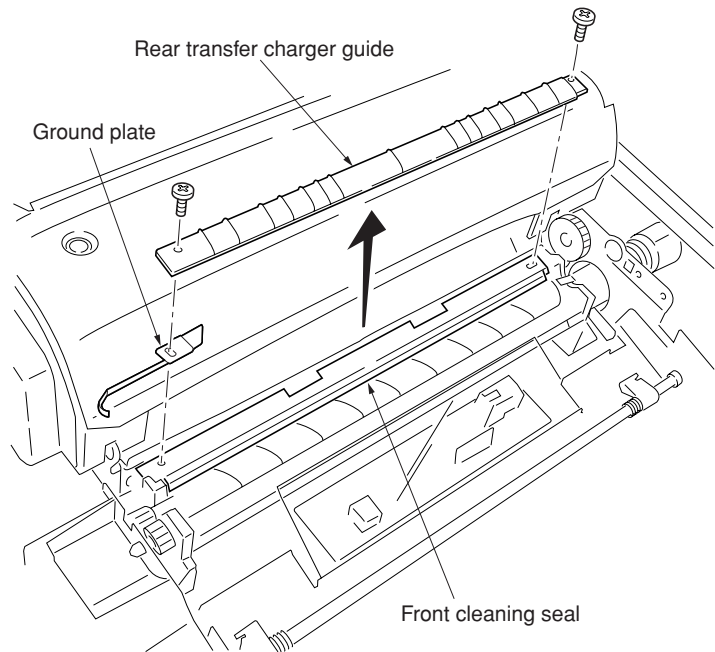


Figure 1-6-132

1-7-1 Upgrading the firmware on the main PCB

Firmware upgrading requires the following tools:

Compact Flash (Products manufactured by SANDISK are recommended.)

NOTE

When writing data to a new Compact Flash from a computer, be sure to format it in advance.

(For formatting, insert a Compact Flash and select a drive.)

For a desktop computer, connect a Compact Flash card reader/writer to it. For a notebook computer, use a PC card adapter or a connection portion only for Compact Flash.

Procedure

1. Turn the main switch off and disconnect the power plug.
2. Remove the two screws, then remove the CF cover.
3. Insert Compact Flash in a notch hole of the copier.

* Insert it straight all the way into the machine with the front side facing the rear of the machine. If the main switch is turned off when the CompactFlash is not properly inserted, the PCB may be damaged.

4. Insert the power plug and turn the main switch on.

* The Energy saver key and the Start key will blink alternately and firmware upgrade operation will start. (for approximately three minutes)

Upgrading firmware starts for 3 minutes.

Caution:

Never turn the main switch off during upgrading.

5. "Completed" is displayed on the touch panel when upgrading is complete.
6. Turn the main switch off and disconnect the power plug.
7. Remove Compact Flash from the copier and refit the CF cover.
8. Insert the power plug and turn the main switch on.

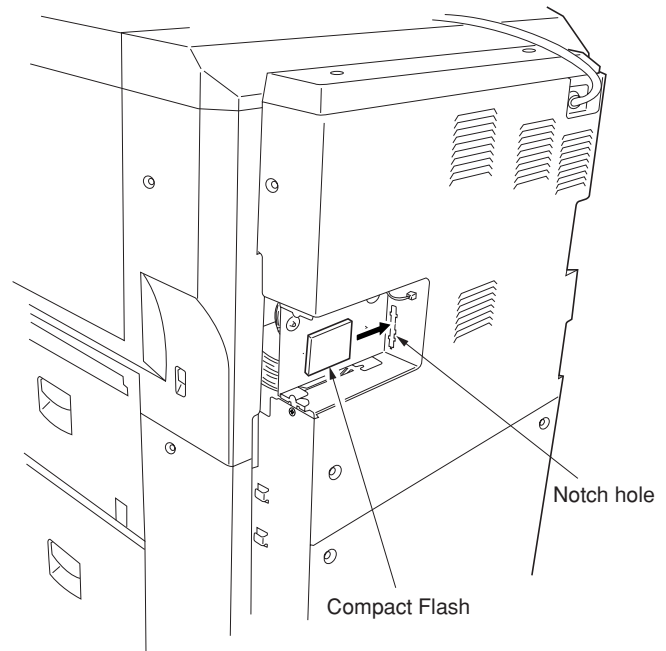


Figure 1-7-1

2CJ

1-7-2 Adjustment-free variable resistors (VR)

The variable resistors listed below are set at the factory prior to shipping and cannot be adjusted in the field.

- High-voltage transformer PCB: VR101, VR201, VR301, VR302, VR401, VR402, VR501
- Transfer charger belt bias PCB: VR101, VR201, VR202

2-1-1 Paper feed section

This copier is designed to feed paper either automatically from the large paper deck and two paper cassettes or manually from the bypass table.

The paper feed section consists of the primary paper feed and secondary paper feed subsections. Primary paper feed conveys paper from the upper or lower cassettes, large paper deck or bypass table to the upper and lower registration rollers, at which point secondary paper feed takes place and the paper travels to the transfer/conveying sections in sync with the image printing timing.

(1) Paper feed from the cassettes

Each cassette consists of the cassette lift driven by the paper cassette lift motor and other components (forwarding pulley, upper paper feed pulley, lower paper feed pulley etc.). Each cassette can hold up to 500 sheets of paper. Paper is fed out of the cassette by the rotation of the forwarding pulley, upper paper feed pulley and lower paper feed pulley.

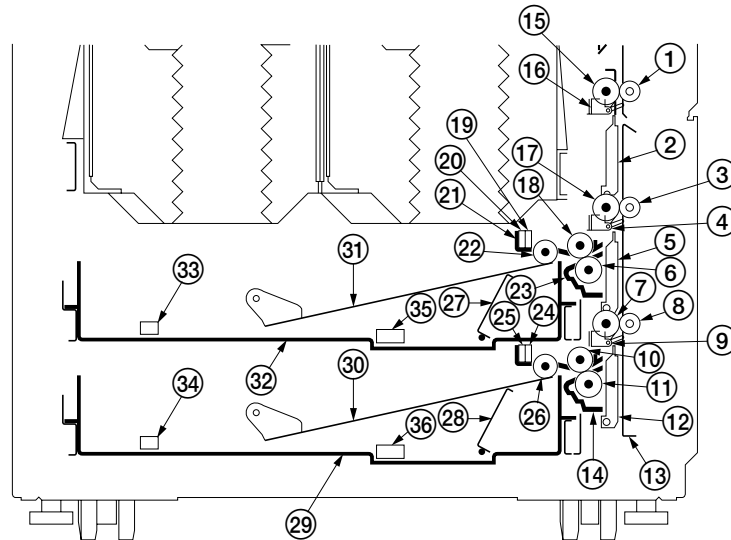


Figure 2-1-1 Paper feed section 1

- | | |
|-------------------------------------|---------------------------------------|
| ① Right feed pulley | ②① Upper paper feed housing |
| ② Confluence guide | ②② Forwarding pulley |
| ③ Right feed pulley | ②③ Lower paper feed housing |
| ④ Paper feed switch 4 (PFSW4) | ②④ Lower paper switch (PSW-L) |
| ⑤ Confluence guide | ②⑤ Lower lift limit switch (LICSW-L) |
| ⑥ Lower paper feed pulley | ②⑥ Forwarding pulley |
| ⑦ Vertical conveying roller D | ②⑦ Lift operating plate |
| ⑧ Right feed pulley | ②⑧ Lift operating plate |
| ⑨ Paper feed switch 5 (PFSW5) | ②⑨ Cassette |
| ⑩ Upper paper feed pulley | ③⑩ Cassette lift |
| ⑪ Lower paper feed pulley | ③⑪ Cassette |
| ⑫ Confluence guide | ③⑫ Upper paper length switch (PLSW-U) |
| ⑬ Lower vertical conveying guide | ③⑬ Lower paper length switch (PLSW-L) |
| ⑭ Lower paper feed housing | ③⑭ Upper paper width switch (PWSW-U)* |
| ⑮ Vertical conveying roller B | ③⑮ Lower paper width switch (PWSW-L)* |
| ⑯ Paper feed switch 3 (PFSW3) | |
| ⑰ Vertical conveying roller C | |
| ⑱ Upper paper feed pulley | |
| ⑲ Upper paper switch (PSW-U) | |
| ⑲ Upper lift limit switch (LICSW-U) | |

* For inch models only.

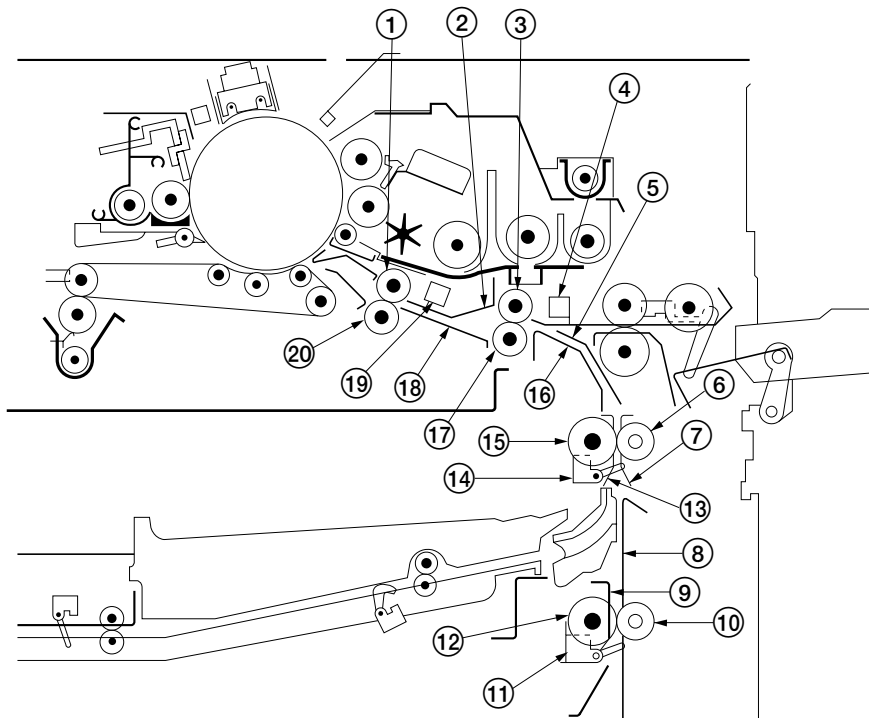


Figure 2-1-2 Paper feed section 2

- | | |
|----------------------------------|-------------------------------|
| ① Upper registration roller | ⑪ Paper feed switch 2 (PFSW2) |
| ② Upper registration guide | ⑫ Vertical conveying roller A |
| ③ Upper feed roller | ⑬ Lower left feed guide |
| ④ Feed switch (FSW) | ⑭ Paper feed switch 1 (PFSW1) |
| ⑤ Upper right feed guide | ⑮ Left feed roller |
| ⑥ Right feed pulley | ⑯ Upper left feed guide |
| ⑦ Lower right feed guide | ⑰ Lower feed roller |
| ⑧ Upper vertical conveying guide | ⑱ Lower registration guide |
| ⑨ Left vertical conveying guide | ⑲ Registration switch (RSW) |
| ⑩ Right feed pulley | ⑳ Lower registration roller |

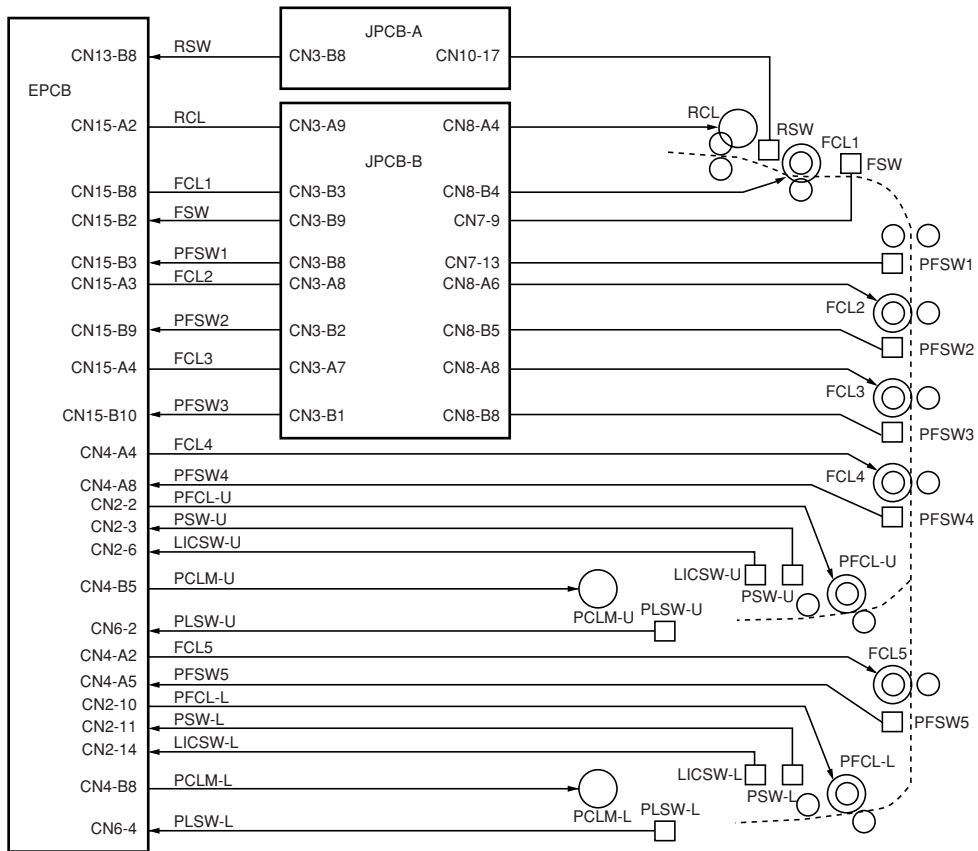
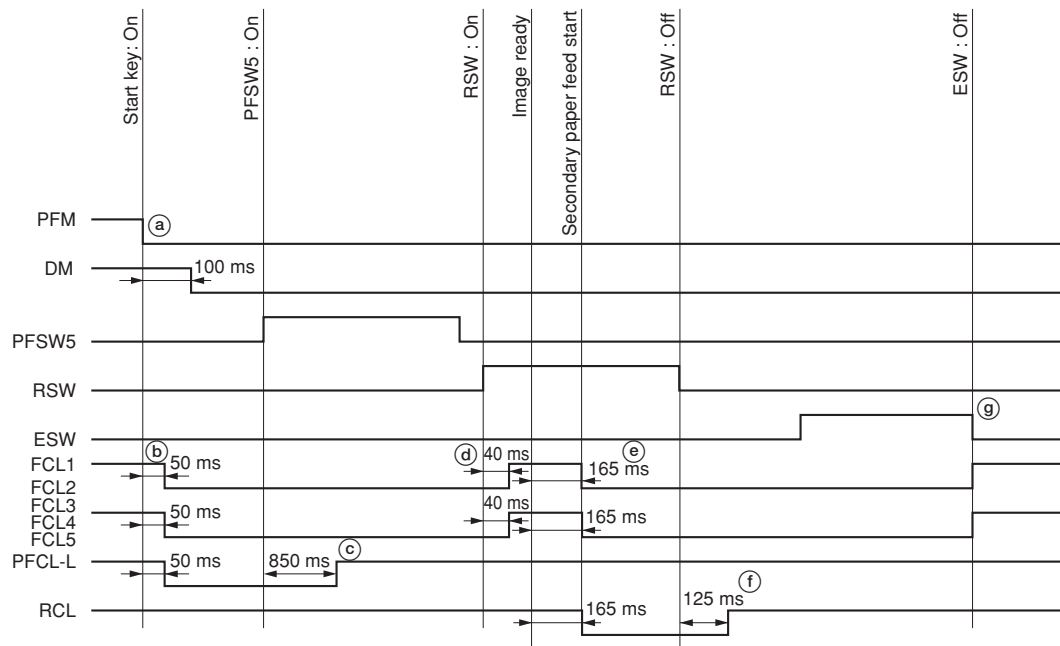


Figure 2-1-3 Paper feed section block diagram (cassette paper feed section)



Lower cassette, paper size A3/11" × 17"

Timing chart 2-1-1 Paper feed from the lower cassette

- Ⓐ When the start key is pressed, the paper feed motor (PFM) turns on and 100 ms later the drive motor (DM) turns on, thereby starting machine drive.
- Ⓑ 50 ms after the start of machine drive, feed clutch 1 (FCL1), feed clutch 2 (FCL2), feed clutch 3 (FCL3), feed clutch 4 (FCL4), feed clutch 5 (FCL5) and lower paper feed clutch (PFCL-L) turn on and the forwarding pulley and upper and lower paper feed pulleys of the lower cassette rotate to start primary paper feed.
- Ⓒ 850 ms after the leading edge of the paper turns paper feed switch 5 (PFSW5) on, the lower paper feed clutch (PFCL-L) turns off and the forwarding pulley and upper and lower paper feed pulleys of the lower cassette stop rotating.
- Ⓓ 40 ms after the leading edge of the paper turns the registration switch (RSW) on, feed clutch 1 (FCL1), feed clutch 2 (FCL2), feed clutch 3 (FCL3), feed clutch 4 (FCL4) and feed clutch 5 (FCL5) turn off to complete the primary paper feed.
- Ⓔ 165 ms after the image ready signal turns on, registration clutch (RCL), feed clutch 1 (FCL1), feed clutch 2 (FCL2), feed clutch 3 (FCL3), feed clutch 4 (FCL4) and feed clutch 5 (FCL5) turn on to start secondary paper feed.
- Ⓕ 125 ms after the trailing edge of the paper turns the registration switch (RSW) off, the registration clutch (RCL) turns off to complete the secondary paper feed.
- Ⓖ When the trailing edge of the paper turns the eject switch (ESW) off, feed clutch 1 (FCL1), feed clutch 2 (FCL2), feed clutch 3 (FCL3), feed clutch 4 (FCL4) and feed clutch 5 (FCL5) turn off.

(2) Paper feed from the large paper deck

The large paper deck consists of the right and left cassettes and separation section. Paper is fed from the right cassette by controlling currents of air. The top sheet of the paper loaded on the lift is floated by blow fan motor 1 (BFM1) and then induced onto the paper conveying belt by blow fan motor 2 (BFM2). The paper thus attracted to the paper feed belts is then sent to the paper feed belt pulley and deck paper conveying pulley by the drive of the belts. When the right cassette becomes empty, the left cassette primary paper feed section conveys paper onto the lift of the right cassette. The paper feed belt pulley and deck paper conveying pulley in the separation section convey paper fed from the right cassette primary paper feed section into the secondary paper feed section, preventing multiple sheets from being fed at one time.

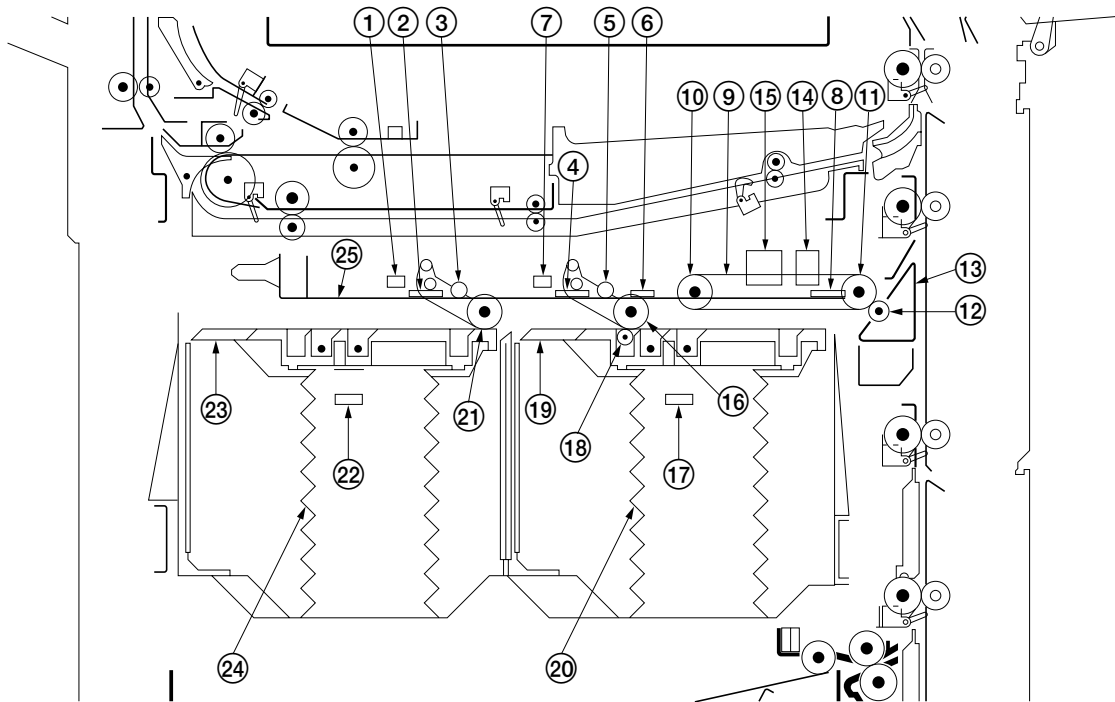


Figure 2-1-4 Large paper deck section

- | | |
|---|---|
| ① Large paper deck level switch 2 (LPDLSW2) | ⑬ Lower paper conveying guide |
| ② Large paper deck paper empty sensor (LPDPESENS) | ⑭ Blow fan motor 1 (BFM1) |
| ③ Pickup arm | ⑮ Blow fan motor 2 (BFM2) |
| ④ Large paper deck paper path sensor 3 (LPDPPSENS3) | ⑯ Deck paper conveying roller |
| ⑤ Pickup arm | ⑰ Large paper deck paper level detection sensor 1 (LPDPLDSENS1) |
| ⑥ Large paper deck paper path sensor 2 (LPDPPSENS2) | ⑱ Guide pulley |
| ⑦ Large paper deck level switch 1 (LPDLSW1) | ⑲ Lift |
| ⑧ Large paper deck paper path sensor 1 (LPDPPSENS1) | ⑳ Air damper |
| ⑨ Paper feed belt | ㉑ Deck paper feed roller |
| ⑩ Paper feed belt pulley | ㉒ Large paper deck paper level detection sensor 2 (LPDPLDSENS2) |
| ⑪ Paper feed belt pulley | ㉓ Lift |
| ⑫ Deck paper conveying pulley | ㉔ Air damper |
| | ㉕ Paper conveying base |

(2-1) Right cassette paper feed

As the large paper deck conveying clutch (LPDCCL) turns on, the drive of the paper feed motor (PFM) is transmitted to the paper feed belt, paper feed belt pulley and deck paper conveying pulley, starting paper feed from the right cassette. The paper feed belt pulley and deck paper conveying pulley ensure that the paper is fed one sheet at a time. Also, when the right cassette is empty, its lift serves as a guide for the paper being conveyed from the left cassette lift.

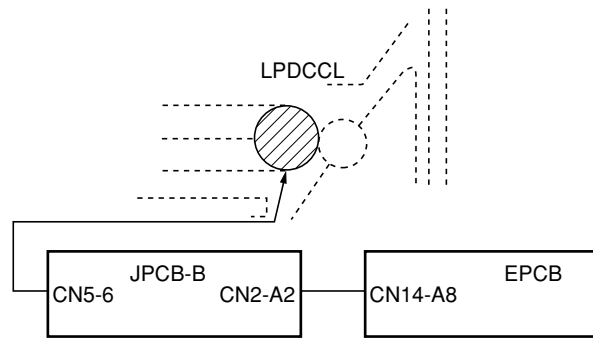
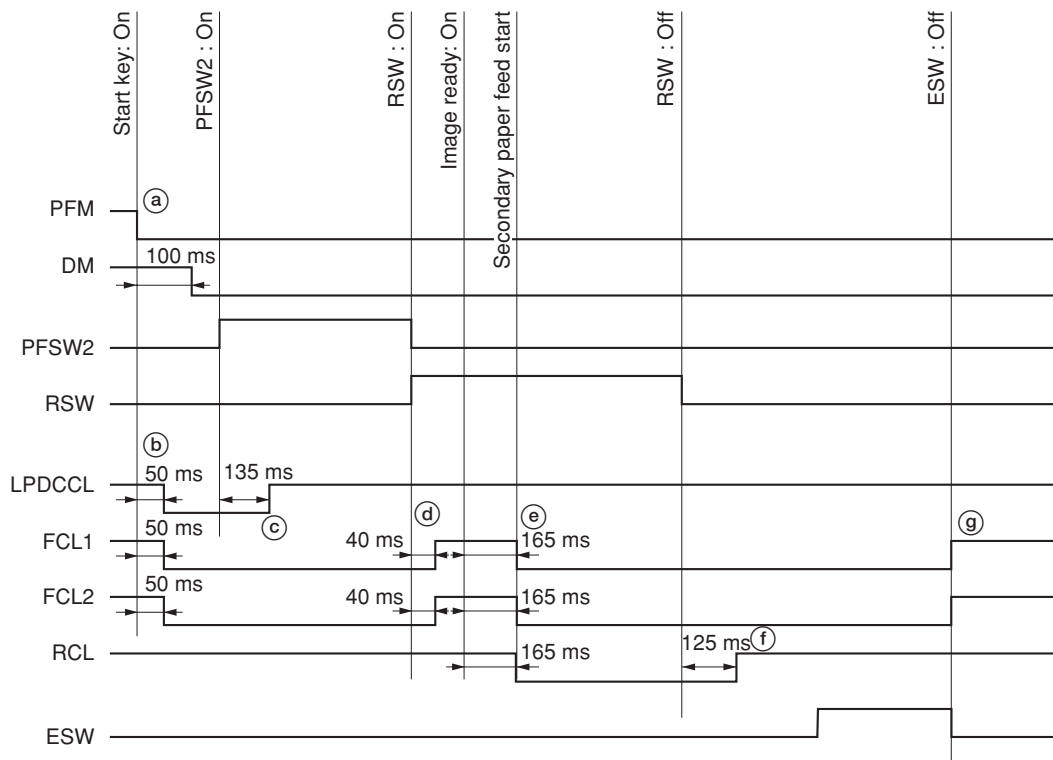


Figure 2-1-5 Right cassette block diagram



Large paper deck right cassette, paper size A4/8¹/₂" × 11"

Timing chart 2-1-2 Right cassette paper feed

- Ⓐ When the start key is pressed, the paper feed motor (PFM) turns on and 100 ms later the drive motor (DM) turns on, thereby starting machine drive.
- Ⓑ 50 ms after the start of machine drive, the large paper deck conveying clutch (LPDCCL), feed clutch 1 (FCL1) and feed clutch 2 (FCL2) turn on. The turning on of the large paper deck conveying clutch (LPDCCL) triggers the drive of the paper feed belt pulley and paper feed belts and primary paper feed starts.
- Ⓒ 135 ms after the leading edge of the paper turns paper feed switch 2 (PFSW2) on, the large paper deck conveying clutch (LPDCCL) turns off and the drive of the paper feed belt pulley and paper feed belts stops.
- Ⓓ 40 ms after the leading edge of the paper turns the registration switch (RSW) on, feed clutch 1 (FCL1) and feed clutch 2 (FCL2) turn off to complete the primary paper feed.
- Ⓔ 165 ms after the image ready signal turns on, the registration clutch (RCL), feed clutch 1 (FCL1) and feed clutch 2 (FCL2) turn on to start secondary paper feed.
- Ⓕ 125 ms after the trailing edge of the paper turns the registration switch (RSW) off, the registration clutch (RCL) turns off to complete the secondary paper feed.
- Ⓖ When the trailing edge of the paper turns the eject switch (ESW) off, feed clutch 1 (FCL1) and feed clutch 2 (FCL2) turn off.

(2-2) Left cassette paper feed

As the last sheet in the right cassette is fed, large paper deck paper feed clutch 2 (LPDPFCL2) and large paper deck paper feed clutch 1 (LPDPFCL1) turn on, transmitting the drive of the paper feed motor (PFM) to the deck paper feed roller and deck paper conveying roller. Receiving the drive of the paper feed motor (PFM), the deck paper feed roller and deck paper conveying roller start to rotate to convey paper from the left cassette onto the right cassette lift.

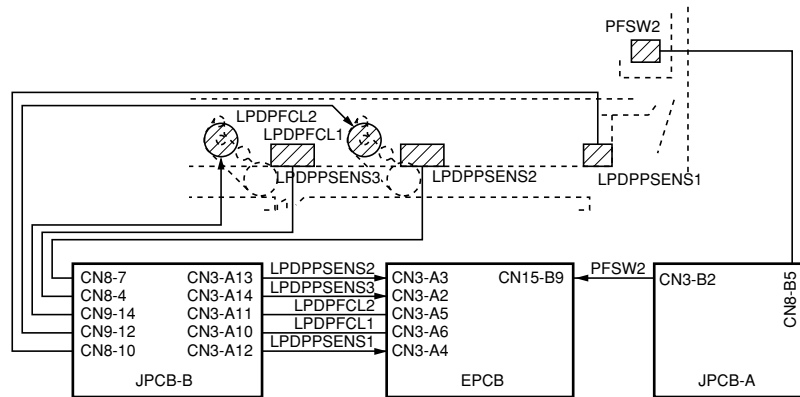
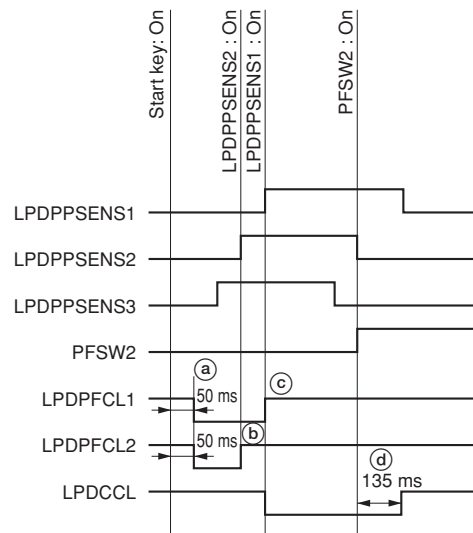


Figure 2-1-6 Left cassette block diagram



Timing chart 2-1-3 Left cassette paper feed

- Ⓐ 50 ms after the start key is pressed, large paper deck paper feed clutch 1 (LPDPFCL1) and large paper deck paper feed clutch 2 (LPDPFCL2) turn on, and the deck paper feed roller and deck paper conveying roller start to rotate to convey paper to the right cassette.
- Ⓑ When the leading edge of the paper turns large paper deck paper path sensor 2 (LPDPPSENS2) on, large paper deck paper feed clutch 2 (LPDPFCL2) turns off.
- Ⓒ When the leading edge of the paper turns large paper deck paper path sensor 1 (LPDPPSENS1) on, large paper deck paper feed clutch 1 (LPDPFCL1) turns off and the large paper deck conveying clutch (LPDCCL) turns on. The turning on of the large paper deck conveying clutch (LPDCCL) triggers the drive of paper feed belt pulley and paper feed belts and primary paper feed starts.
- Ⓓ 135 ms after the leading edge of the paper turns paper feed switch 2 (PFSW2) on, the large paper deck conveying clutch (LPDCCL) turns off and the drive of the paper feed belt pulley and paper feed belts stops.

(2-3) Raising and lowering the lifts

*The mechanism of operating the lifts is same for the right and left lifts, so only the right side is explained here.

The large paper deck right lift motor (LPDLM-R) drives the right lift belt assembly that winches the belt up and hence raises the lift until it is stopped by the large paper deck level switch 1 (LPDLSW1).

When paper is loaded on the lift and the deck is closed, the lift is raised until the large paper deck level switch 1 (LPDLSW1) comes on.

When large paper deck level switch 1 (LPDLSW1) is turned off as the paper on the lift is used, the large paper deck right lift motor (LPDLM-R) starts to raise the lift until the switch turns on.

When the deck is opened for removing a misfed paper or other purposes, the winch shaft is released from its holder on the large paper deck right lift motor (LPDLM-R), allowing the lift to descend under its own weight. The air damper buffers the impact of the descending lift.

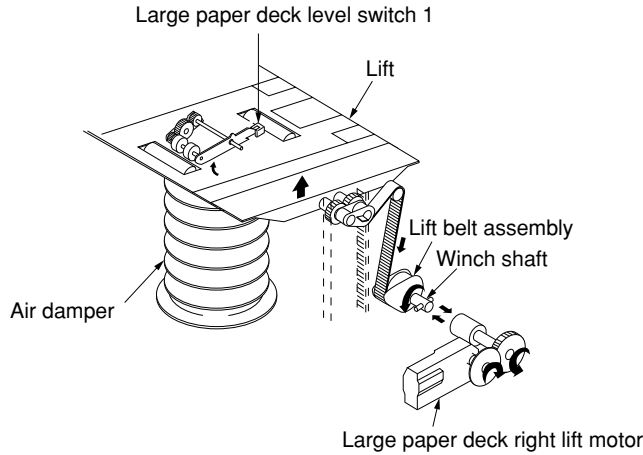


Figure 2-1-7 Raising and lowering the lift

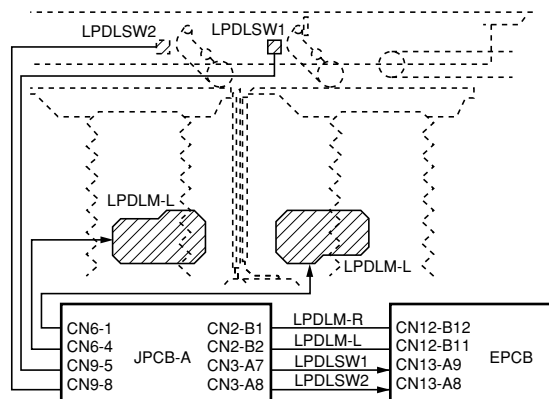


Figure 2-1-8 Lift block diagram

(2-4) Detecting the paper level

The lift rises as paper in the large paper deck is used. When the remaining number of sheets in either right or left cassette reduces to around 100 to 250 sheets, the projection on the lift belt assembly pushes against the sensor lever which turns the relevant large paper deck paper level detection sensor 1 or 2 (LPDPLDSENS1/2) on.

When both the large paper deck paper level detection sensors 1 and 2 (LPDPLDSENS1/2) have turned on, the message indicating paper is getting low is shown on the message display. This message is not shown when only one of them is on.

As more copies are made with the message on, large paper deck paper path sensors 1, 2 and 3 (LPDPPSENS1, 2, 3) and the large paper deck paper empty sensor (LPDPESENS) start to detect exhaustion of paper, and the message on the message display changes to that requesting paper to be loaded.

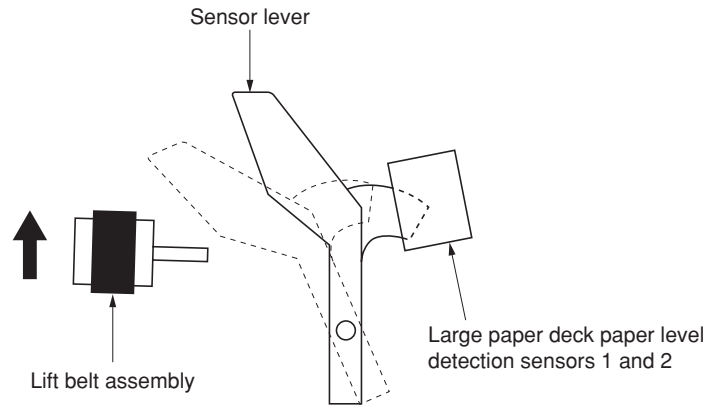


Figure 2-1-9 Detecting the paper level

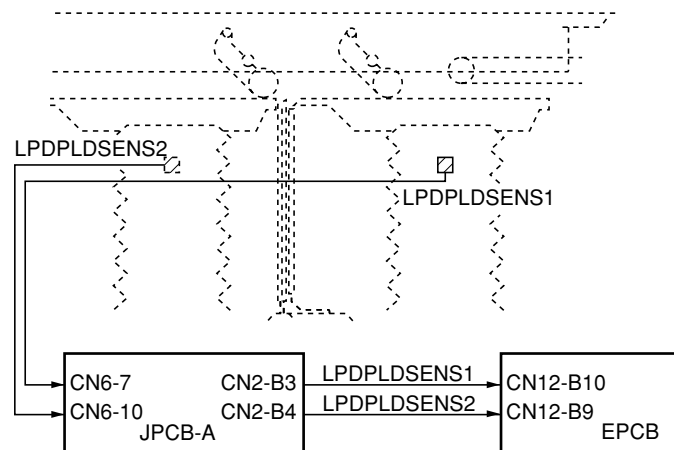


Figure 2-1-10 Paper level detection system block diagram

(3) Paper feed from the bypass table

The bypass table can be hold up to 100 sheets of paper at one time.

When the start key is pressed, the bypass lift clutch (BYPLCL) turns on and the bypass lift guide operates. The paper placed on the bypass table comes into contact with the bypass forwarding pulley, is primary paper fed by the rotating of the bypass forwarding roller and is conveyed to the bypass upper and lower paper feed pulleys.

Also during paper feed, the bypass lower paper feed pulley prevents multiple sheets from being fed at one time by the torque limiter.

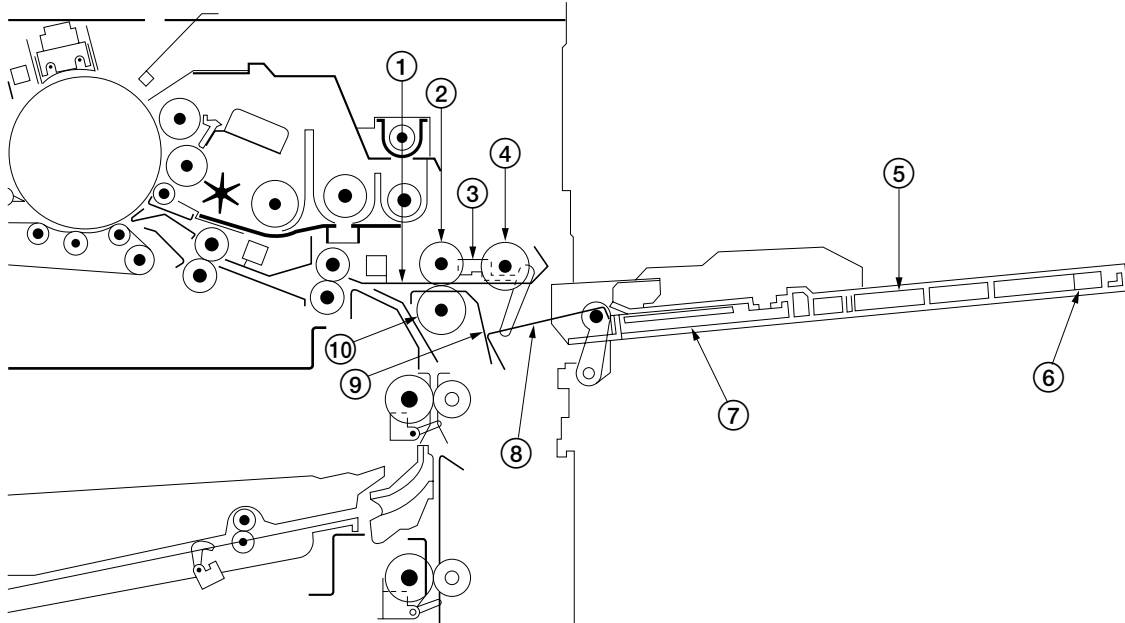


Figure 2-1-11 Bypass paper feed section

- ① Upper bypass guide
- ② Bypass upper paper feed pulley
- ③ Bypass paper switch (BYPPSW)
- ④ Bypass forwarding roller
- ⑤ Bypass table
- ⑥ Bypass paper length switch (BYPPLSW)
- ⑦ Bypass paper width switch (BYPPWSW)
- ⑧ Bypass lift guide
- ⑨ Lower bypass guide
- ⑩ Bypass lower paper feed pulley

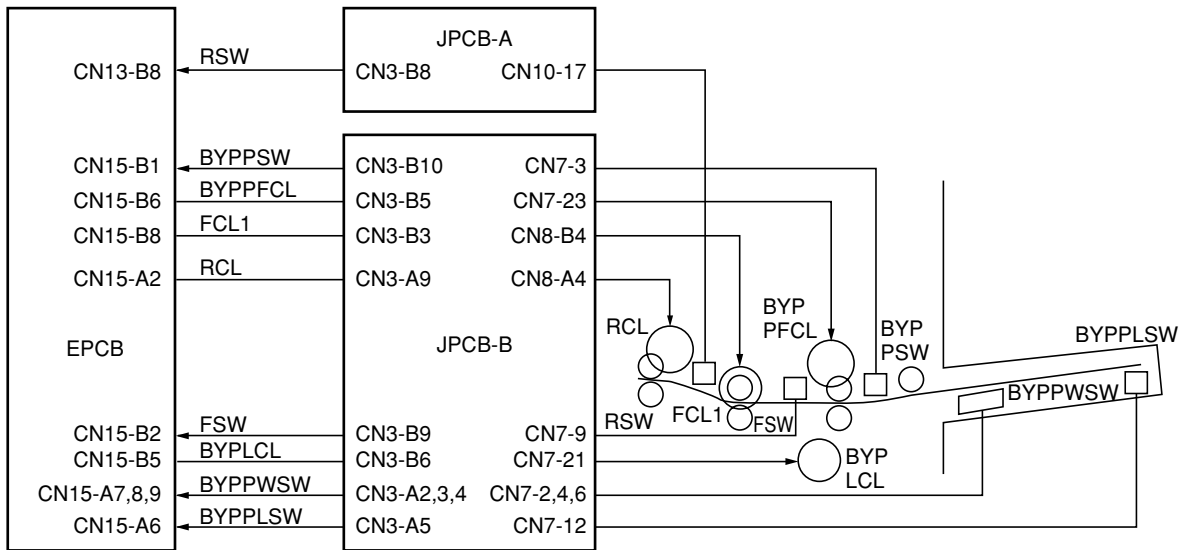
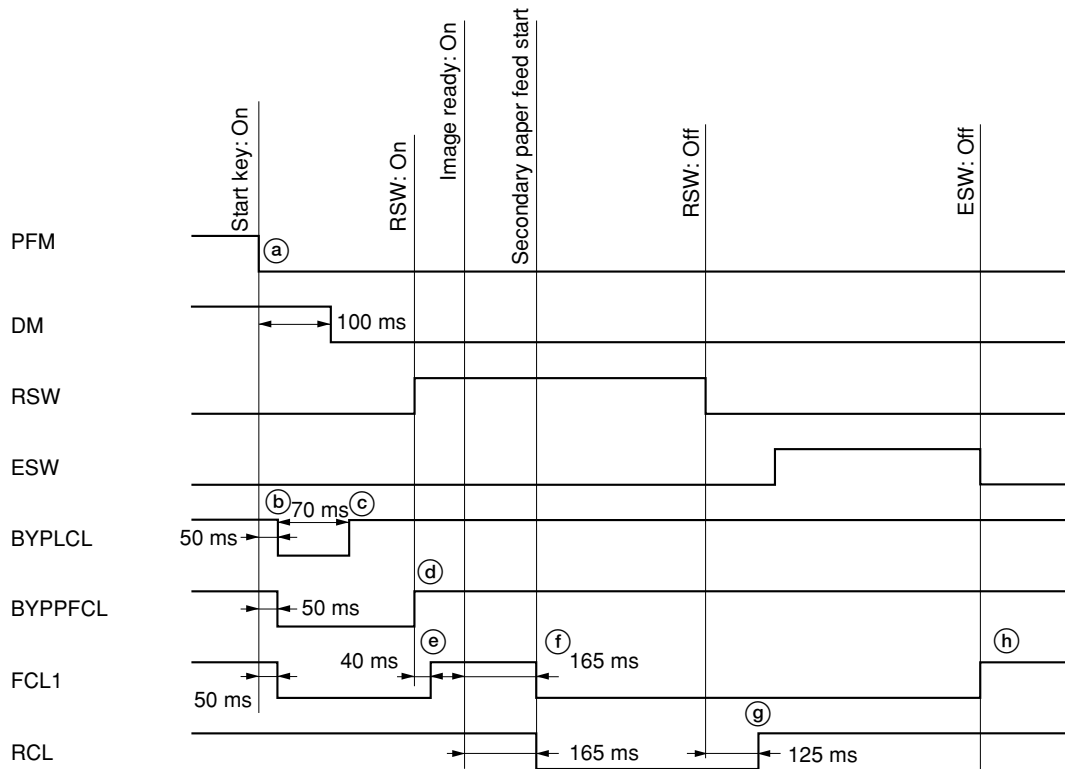


Figure 2-1-12 Bypass paper feed section block diagram

Paper size A4R/8¹/₂" × 11"**Timing chart 2-1-4 Paper feed from the bypass table**

- Ⓐ When the start key is pressed, the paper feed motor (PFM) turns on and 100 ms later the drive motor (DM) turns on, thereby starting machine drive.
- Ⓑ 50 ms after the machine drive starts, the bypass lift clutch (BYPLCL), bypass paper feed clutch (BYPPFCL) and feed clutch 1 (FCL1) turn on. The turning on of the bypass lift clutch (BYPLCL) raises the bypass lift guide and the paper placed on the bypass table makes contact with the bypass forwarding roller. When the bypass paper feed clutch (BYPPFCL) and feed clutch 1 (FCL1) turn on, the bypass forwarding roller, bypass upper paper feed pulley and bypass lower paper feed pulley rotate to start primary paper feed.
- Ⓒ 70 ms after the bypass lift clutch (BYPLCL) turns on, the clutch turns off, lowering the bypass lift guide to the standby position.
- Ⓓ When the leading edge of the paper turns the registration switch (RSW) on, the bypass paper feed clutch (BYPPFCL) turns off.
- Ⓔ 40 ms after the leading edge of the paper turns the registration switch (RSW) on, feed clutch 1 (FCL1) turns off, completing the primary paper feed.
- Ⓕ 165 ms after the image ready signal turns on, the registration clutch (RCL) and feed clutch 1 (FCL1) turn on to start secondary paper feed.
- Ⓖ 125 ms after the trailing edge of the paper turns the registration switch (RSW) off, the registration clutch (RCL) turns off, completing the secondary paper feed.
- Ⓗ When the trailing edge of the paper turns the eject switch (ESW) off, feed clutch 1 (FCL1) turns off.

2-1-2 Main charging section

The main charging section consists of the main charger assembly, drum and drum surface potential sensor (DSPSENS) and so on. The drum is electrically charged uniformly by means of a grid to form a latent image on the surface. The drum surface potential sensor (DSPSENS) reads the drum surface potential and corrects surface potential. The main charger assembly has the main charger cleaning motor (MCCM), main charger cleaning pad for automatic cleaning of the charger wire. The drum heater (DH)* inside the drum is turned on and off based on changes in ambient temperature and humidity to stabilize the image quality.
*Optional.

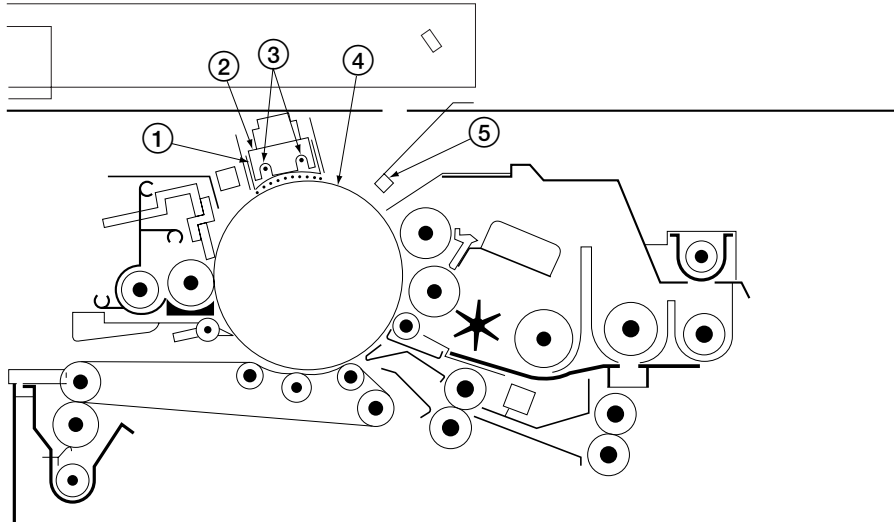


Figure 2-1-13 Main charging section

- ① Charger grid assembly
- ② Main charger housing
- ③ Main charger wire (Tungsten wire)
- ④ Drum
- ⑤ Drum surface potential sensor (DSPSENS)

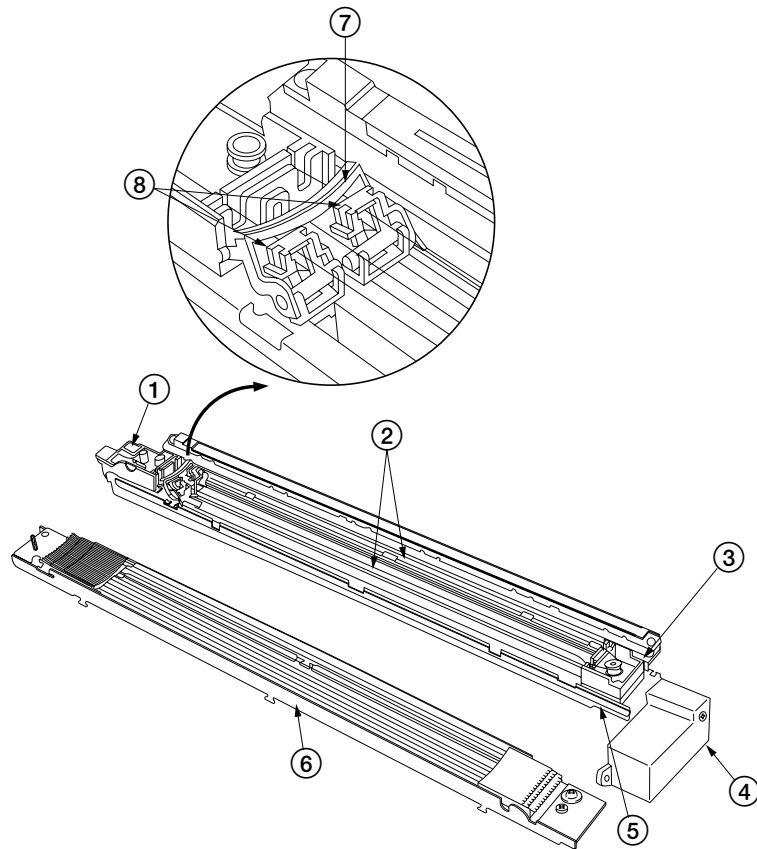


Figure 2-1-14 Main charger assembly

- ① Main charger rear housing
- ② Main charger (Tungsten wire)
- ③ Main charger front housing
- ④ Main charger cleaning motor (MCCM)
- ⑤ Main charger base
- ⑥ Charger grid assembly
- ⑦ Grid cleaning pad
- ⑧ Main charger cleaning pads

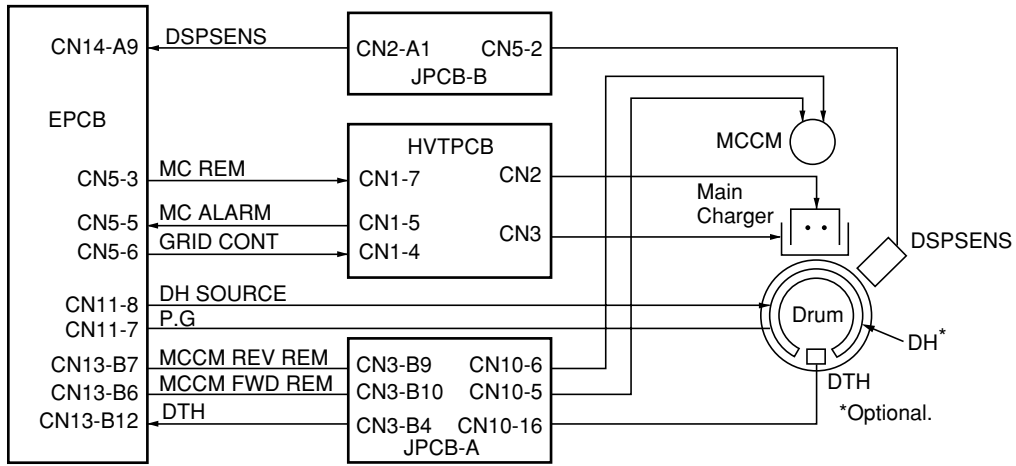
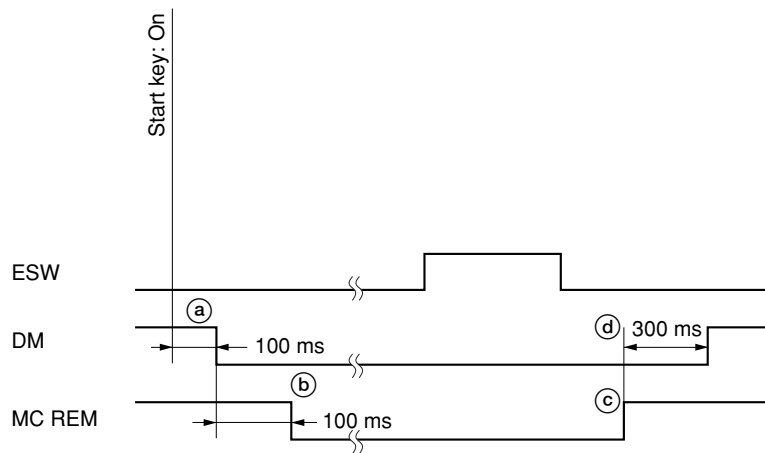


Figure 2-1-15 Main charging section block diagram



Timing chart 2-1-5 Main charging

- Ⓐ 100 ms after the start key is pressed, the drive motor (DM) turns on to start machine drive.
- Ⓑ 100 ms after the drive motor (DM) turns on, the MC REM signal turns on, high voltage is applied to the main charger from the high voltage transformer PCB (HVT PCB) and main charging starts.
- Ⓒ The MC REM signal turns off and main charging ends.
- Ⓓ 300 ms after the end of main charging (MC REM), the drive motor (DM) turns off.

2-1-3 Optical section

The optical section consists of the scanner, mirror frame and image scanning unit for scanning and the laser scanner unit for printing.

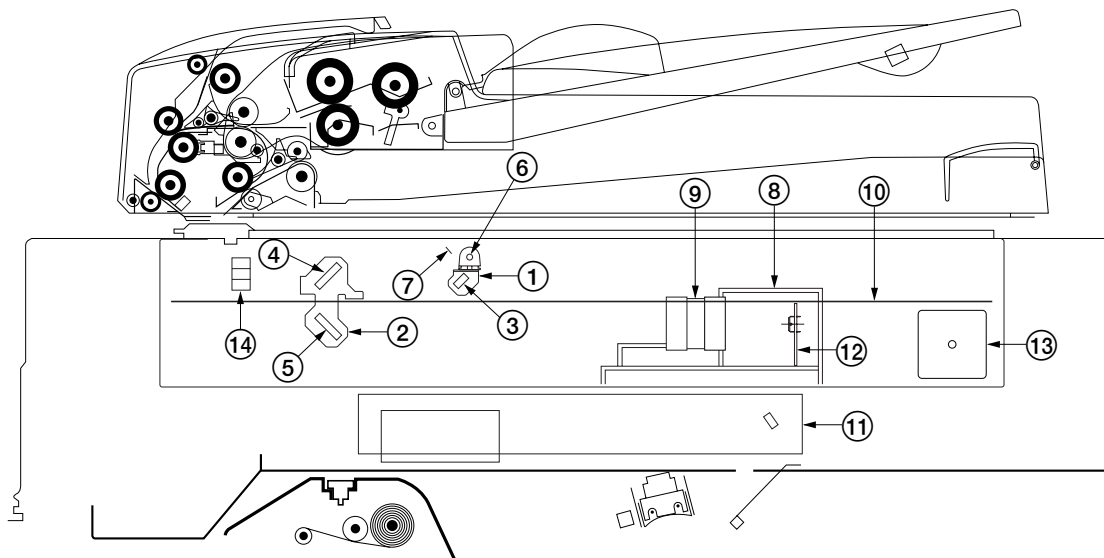


Figure 2-1-16 Optical section

- | | |
|-----------------------|--|
| ① Scanner | ⑨ Lens |
| ② Mirror frame | ⑩ Optical rail |
| ③ Mirror 1 | ⑪ Laser scanner unit (LSU) |
| ④ Mirror 2 | ⑫ CCD PCB (CCDPCB) |
| ⑤ Mirror 3 | ⑬ Scanner motor (SM) |
| ⑥ Exposure lamp (EL) | ⑭ Scanner home position switch (SHPSW) |
| ⑦ Reflector | |
| ⑧ Image scanning unit | |

(1) Original scanning

The original image is illuminated by the exposure lamp (EL) and scanned by the CCD PCB (CCDPCB) in the image scanning unit via the three mirrors, the reflected light being converted to an electrical signal.

The scanner and mirror frame travel to scan on the optical rails on the front and rear of the machine to scan from side to side. The speed of the mirror frame is half the speed of the scanner. When the SRDF is used, the scanner and mirror frame stop at the DF original scanning position to start scanning.

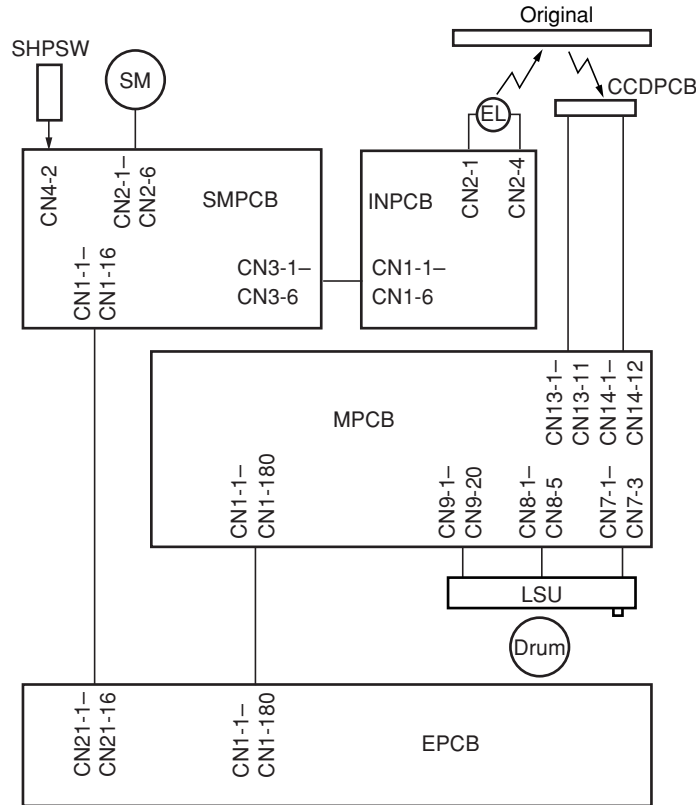
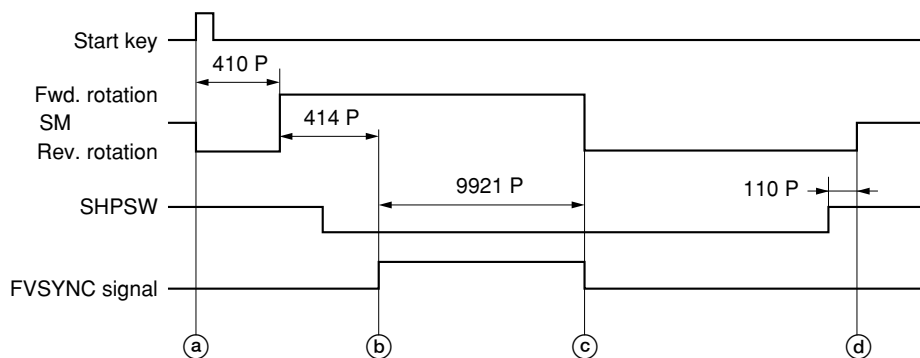


Figure 2-1-17 Optical section block diagram



Manual copy density control, copy paper: A3/11" × 17", magnification ratio 100%

Timing chart 2-1-6 Scanner operation

- (a) When the start key is pressed, the scanner motor (SM) reverses for 410 pulses and then rotates forward.
- (b) 414 pulses after the scanner motor rotates forward, the FVSYNC signal turns on for 9921 pulses for scanning.
- (c) The scanner motor (SM) reverses to return the scanner to the home position.
- (d) 110 pulses after the scanner home position switch (SHPSW) turns on, the scanner motor (SM) turns off, and the scanner stops at its home position.

(2) Image printing

The image data scanned by the CCD PCB (CCDPCB) is processed on the main PCB (MPCB) and transmitted as image printing data to the laser scanner unit (LSU). By repeatedly turning the laser on and off, the laser scanner unit forms a latent image on the drum surface.

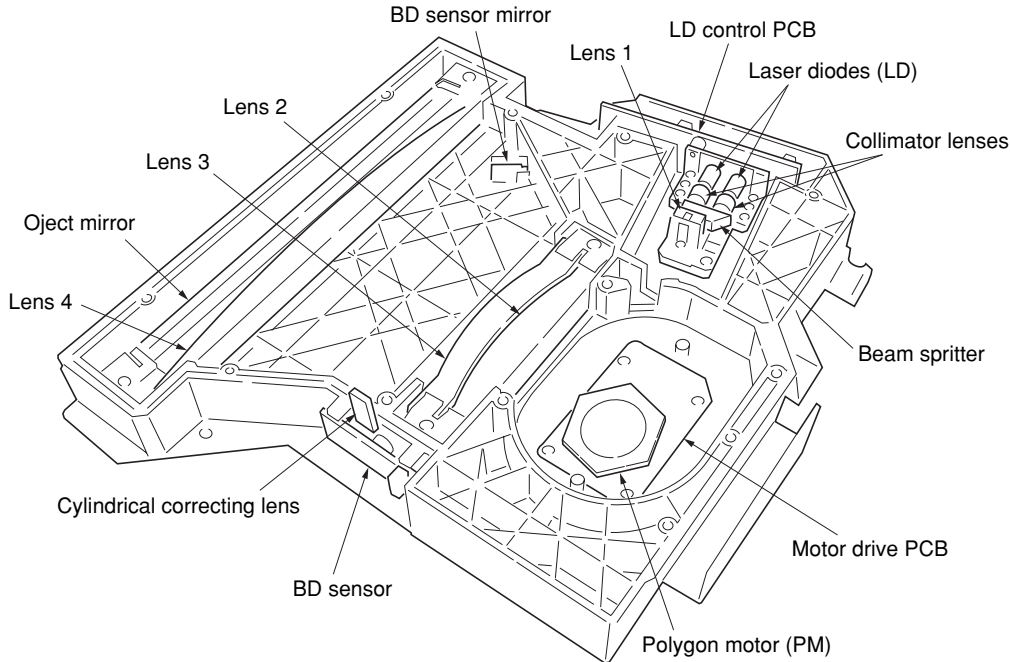
• Laser scanner unit

Figure 2-1-18 Laser scanner unit (1)

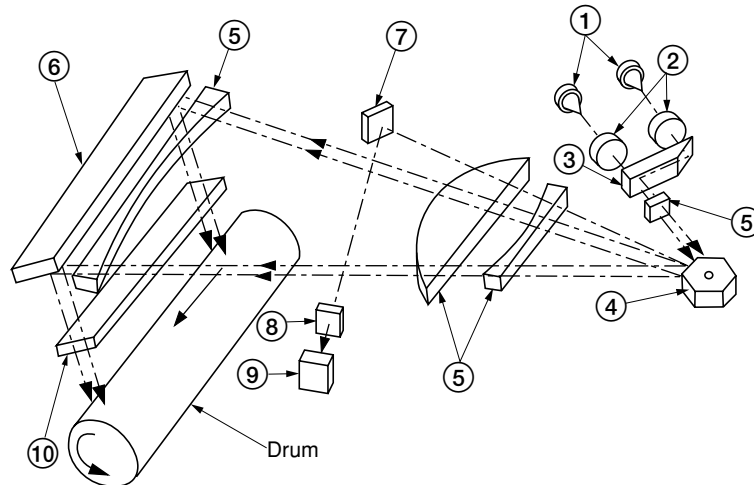


Figure 2-1-19 Laser scanner unit (2)

- ① Laser diodes: Generate the laser beams that form the latent image on the drum.
- ② Collimator lenses: Collimate the diffused laser beams emitted from the laser diodes into cylindrical beams.
- ③ Beam splitter: Refracts the laser beam emitted from one of the laser diodes so that it becomes parallel to the other laser beam, and sends those two beams to lens 1.
- ④ Polygon mirror: 6-faced mirror that rotates at approximately 37795 rpm. Each face reflects the laser beams toward the drum in the horizontal (main) scan direction. The motion of the beams across the drum forms one scan line.
- ⑤ Lenses 1, 2, 3 and 4: Maintain scanning speed across the drum and beam diameters constant. These lenses also correct the vertical alignment of the polygon mirror so that the focal plane of the laser beams are always on the drum.
- ⑥ Object mirror: Reflects the laser beams onto the drum surface.
- ⑦ BD sensor mirror: Directs a laser beam to the BD sensor to generate the horizontal sync signal.
- ⑧ Cylindrical correcting lens: Corrects for the deviation of the laser beam reflected by the BD sensor mirror.
- ⑨ BD sensor: Detects the laser beam reflected by BD sensor mirror, and sends the detection signal to the main PCB (MPCB). The main PCB (MPCB) uses this signal to determine the horizontal scanning signal timing.
- ⑩ Glass dust filter: Prevents dust from entering the unit.

The dimensions of the laser beam are as shown in Figure 2-1-20.

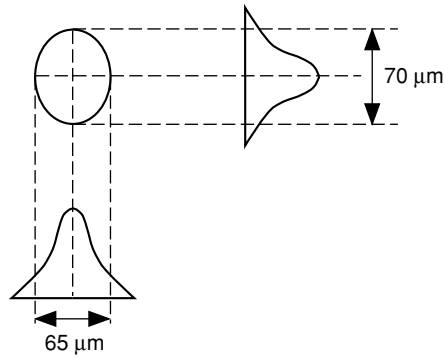


Figure 2-1-20

Scanning in the main direction is provided by the rotating polygon mirror, while scanning in the auxiliary direction is provided by the rotating drum, forming a static latent image on the drum. The static latent image of the letter "A", for example, is formed on the drum surface as shown in Figure 2-1-21. Electrical charge is dissipated on the area of the drum surface irradiated by the laser. The focal point of the laser beam is moved line by line, and adjacent lines slightly overlap each other.

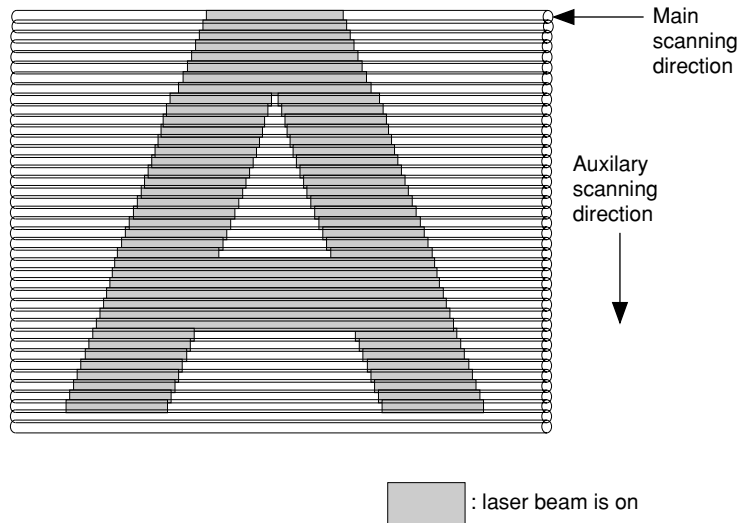


Figure 2-1-21

2-1-4 Developing section

The developing section consists of the developing assembly and the toner hopper assembly.

The developing assembly consists of the developing roller where a magnetic brush is formed, the doctor blade and the developing spirals that agitate the developer.

The toner hopper assembly consists of the toner conveying spiral, toner draw spiral, hopper agitation spring and turns on/off the toner feed motor according to the toner sensor output voltage, and supply toner in the toner hopper to the developing assembly. (The toner hopper assembly is attached to the developing assembly side (machine front)).

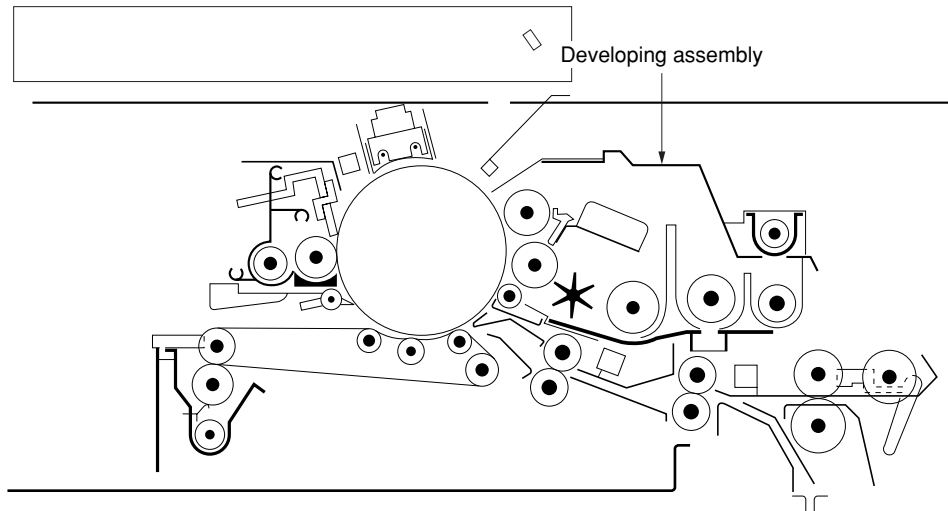
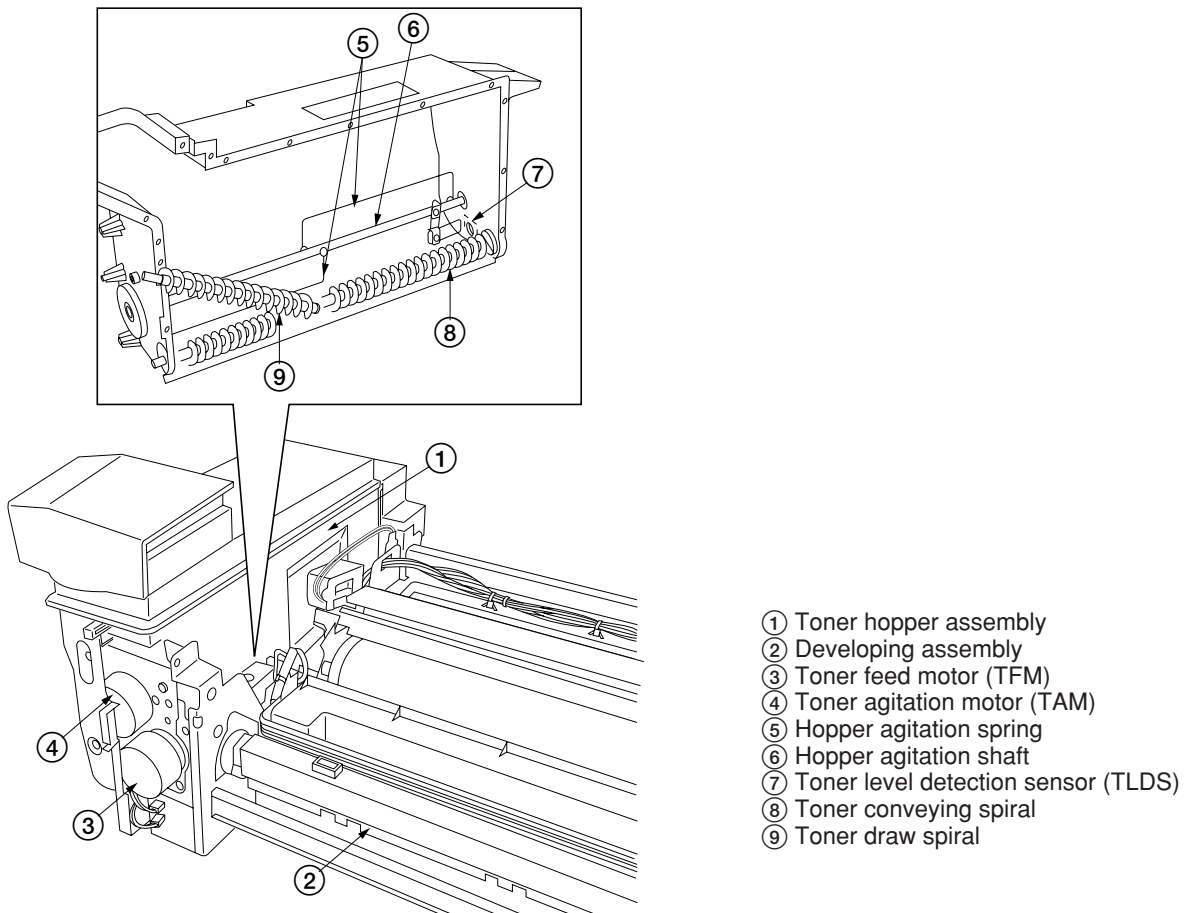


Figure 2-1-22 Developing section



- ① Toner hopper assembly
- ② Developing assembly
- ③ Toner feed motor (TFM)
- ④ Toner agitation motor (TAM)
- ⑤ Hopper agitation spring
- ⑥ Hopper agitation shaft
- ⑦ Toner level detection sensor (TLDS)
- ⑧ Toner conveying spiral
- ⑨ Toner draw spiral

Figure 2-1-23 Toner hopper assembly

(1) Formation of magnetic brush

The upper and lower developing rollers consist of a magnet roller with three or five poles and a sleeve roller. Rotation of the sleeve roller around the magnet roller entrains developer, which in turn forms a magnetic brush at pole N1 on the magnet roller. The height of the magnet brush is regulated by the doctor blade; the developing result is affected by the position of the poles on the magnet roller and the position of the doctor blade. A developing bias voltage generated by the high voltage transformer (HVTPCB) is applied to the upper and lower developing rollers to provide image contrast.

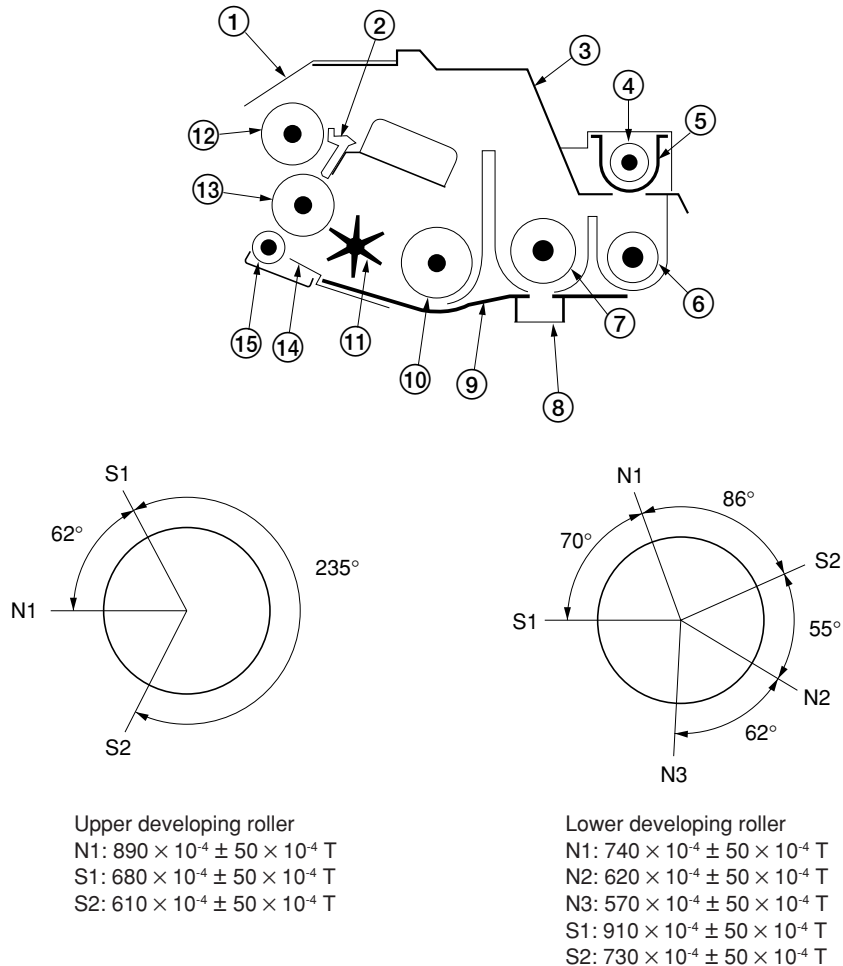


Figure 2-1-24 Forming a magnetic brush

- | | |
|------------------------------------|--|
| ① Developing upper seal | ⑨ Developing housing |
| ② Doctor blade (Doctor blade stay) | ⑩ Developing left spiral |
| ③ Developing cover | ⑪ Developing paddle |
| ④ Toner supply spiral | ⑫ Upper developing roller |
| ⑤ Toner supply case | ⑬ Lower developing roller |
| ⑥ Developing right spiral | ⑭ Developing blade |
| ⑦ Developing center spiral | ⑮ Developing lower roller (Toner removal roller) |
| ⑧ Toner sensor (TNS) | |

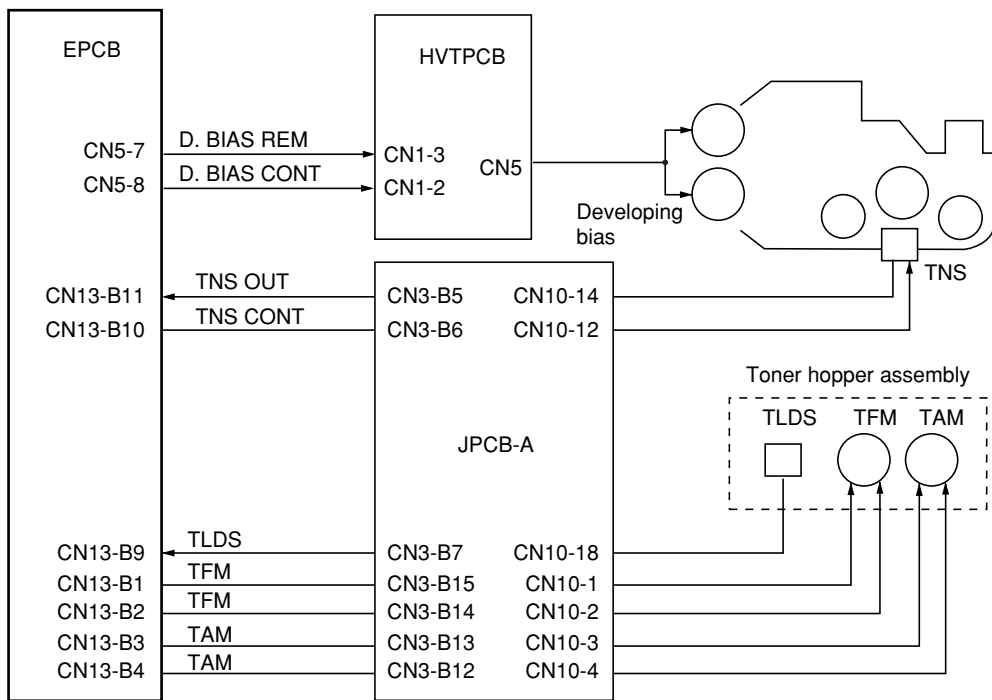


Figure 2-1-25 Developing section block diagram

(2) Toner density control

To maintain the toner density of the developer constant, the toner sensor (TNS) and the toner level sensor (TLDS) detect the toner density and toner level in the toner hopper respectively. Based on the detection result, toner is fed by turning the toner feed motor (TFM) and toner agitation motor (TAM) on and off.

(2-1) Toner empty detection by the toner sensor

Toner density control is performed using as the reference the toner control level (FIRST TARGET) set automatically when maintenance item U130 is run after loading developer.

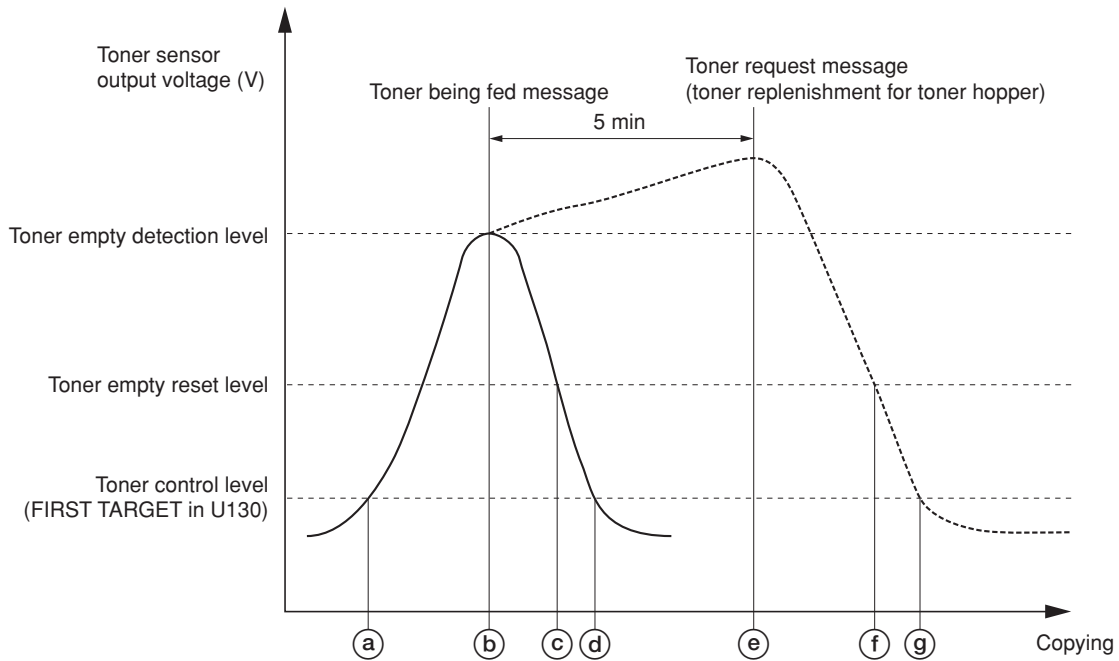


Figure 2-1-26 Toner density control

- Ⓐ When the toner sensor output voltage exceeds the toner control level, the toner feed motor (TFM) turns on to feed toner.
- Ⓑ When the toner sensor output voltage exceeds the toner empty detection level, the toner being fed message appears and forced toner feed is conducted for up to 5 minutes.
- Ⓒ When the toner sensor output voltage drops to the toner empty reset level, the toner being fed message disappears.
- Ⓓ When the toner sensor output voltage drops to the toner control level, the toner feed motor (TFM) turns off and toner feed ends.
- Ⓔ If the toner sensor output voltage does not fall to the toner empty detection level after 5-minute's forced toner feed, the toner request message appears and copies are made based on the conditions set in maintenance item U258. When toner is replenished into the toner hopper and the toner level sensor (TLDS) turns on, the toner feed motor (TFM) turns on to feed toner. The toner being fed message appears.
- Ⓕ When the toner sensor output voltage drops to the toner empty reset level, the toner being fed message disappears.
- Ⓖ When the toner sensor output voltage drops to the toner control level, the toner feed motor (TFM) turns off, and the toner feed ends.

(2-2) Controlling the toner feed motor and toner agitation motor

The toner feed motor (TFM) and toner agitation motor (TAM) are turned on and off based on the toner sensor output voltage as follows:

• Under normal conditions

When the toner sensor output voltage is larger than the toner control level

Toner feed motor (TFM): Turned on for 0.5 s and turned off for 1.5 s

Toner agitation motor (TAM): Turned on for 1 s and turned off for 1 s

When the toner sensor output voltage is larger than the toner control level plus 20

Toner feed motor (TFM): Turned on for 0.5 s and turned off for 0.5 s

Toner agitation motor (TAM): Turned on for 0.5 s and turned off for 0.5 s

When the toner sensor output voltage is larger than the toner control level plus 25

Toner feed motor (TFM): Continuously turned on

Toner agitation motor (TAM): Continuously turned on

• During toner feed

When the toner sensor output voltage is larger than the toner empty detection level (toner feed performed when the level of toner in the toner hopper drops abruptly)

Toner feed motor (TFM): Continuously turned on

Toner agitation motor (TAM): Continuously turned on

When the toner sensor output voltage is larger than the toner control level plus 20

Toner feed motor (TFM): Turned on for 1.5 s and turned off for 0.5 s

Toner agitation motor (TAM): Turned on for 1.5 s and turned off for 0.5 s

When the toner sensor output voltage is larger than the toner control level plus 14

Toner feed motor (TFM): Turned on for 1 s and turned off for 1 s

Toner agitation motor (TAM): Turned on for 1.5 s and turned off for 0.5 s

(2-3) Toner empty detection by the toner level sensor

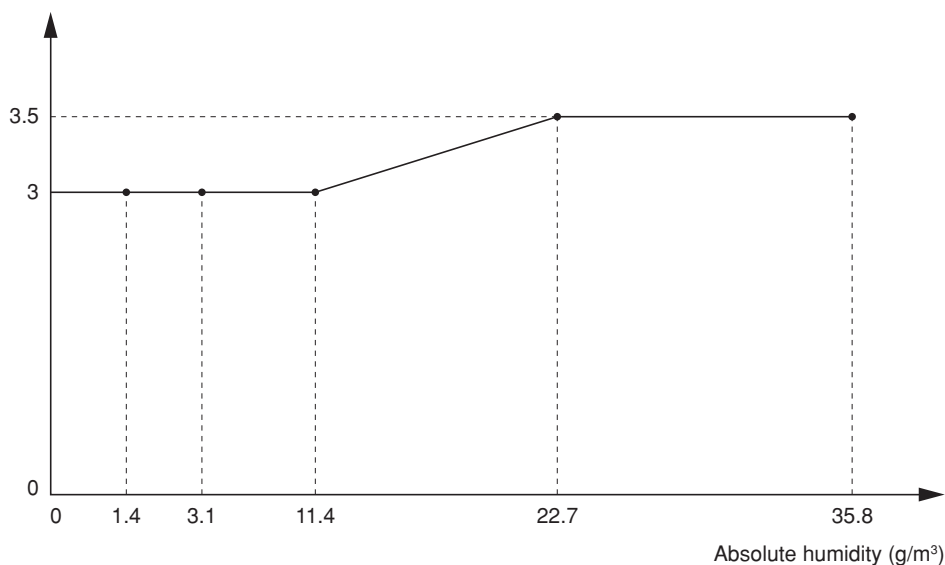
When the setting of maintenance item U136 is "ON," the toner level sensor (TLDS) detects toner empty in the toner hopper.

1. When the toner in the toner hopper is exhausted and the toner level sensor (TLDS) turns off, toner empty is detected and the toner request message appears.
2. When the number of copies made after the toner level sensor (TLDS) has turned off reaches the limit set in maintenance item U258, the toner request message and a message indicating that copying is disabled appear.
3. When toner is replenished into the toner hopper and the toner level sensor (TLDS) turns on, the toner empty detection is reset and toner feed motor (TFM) starts toner feed.

(2-4) Toner control level absolute humidity correction

The results of toner density detection vary with the temperature and humidity due to their influence on the toner sensor output characteristic. Therefore, the toner control level is corrected based on the absolute humidity level detected by the humidity sensor PCB (HUMPCB).

Toner control level (V)



The above correction is for when "TARGET" of U154 is 154.

Figure 2-1-27 Toner control level absolute humidity correction

2-1-5 Transfer and conveying sections

The transfer and paper conveying section comprises the transfer roller for transferring the toner image on the drum onto the paper, the transfer charger belt for conveying the paper after transfer to the fixing section, the belt cleaning brush that cleans the transfer charger belt, etc.

When the copier is in the ready state, the transfer charger belt is in the released position (the state separated from the drum). When copying starts, the transfer charger belt release clutch (TCBRCL) comes on and the action of the transfer charger belt cam engages the transfer charger belt with the drum. When the paper passes between the drum and the transfer charger belt, the transfer bias current output from the transfer charger belt bias PCB (TCBPCB) is applied to the transfer roller. This effects the transfer charging and the toner image developed on the drum is transferred to the paper. Also, through the transfer charge, the transfer charger belt is charged and pulls the paper and separates it from the drum.

Bias voltage is applied to the belt cleaning brush to improve the cleaning effect and to prevent residual toner from sticking to the belt cleaning brush.

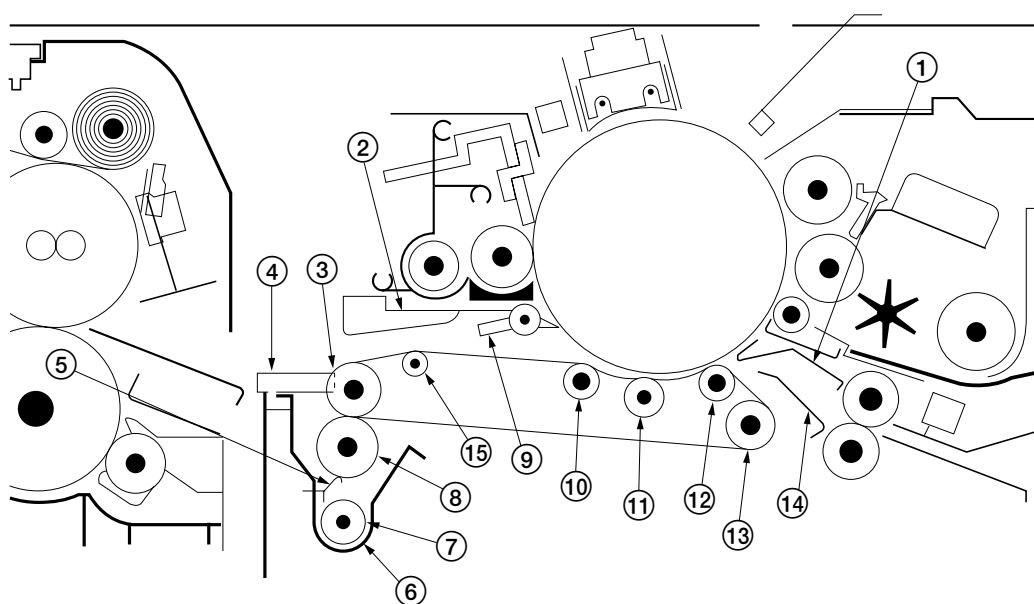


Figure 2-1-28 Transfer and conveying sections

- | | |
|--------------------------------------|---|
| ① Upper front transfer guide | ⑨ Separation claw |
| ② Transfer charger belt | ⑩ Middle roller |
| ③ Transfer charger belt drive roller | ⑪ Transfer roller |
| ④ Rear transfer guide | ⑫ Middle roller |
| ⑤ Belt cleaning scraper | ⑬ Idle roller |
| ⑥ Belt cleaning housing | ⑭ Lower front transfer guide |
| ⑦ Belt cleaning spiral | ⑮ Transfer charger belt separation pulley |
| ⑧ Belt cleaning brush | |

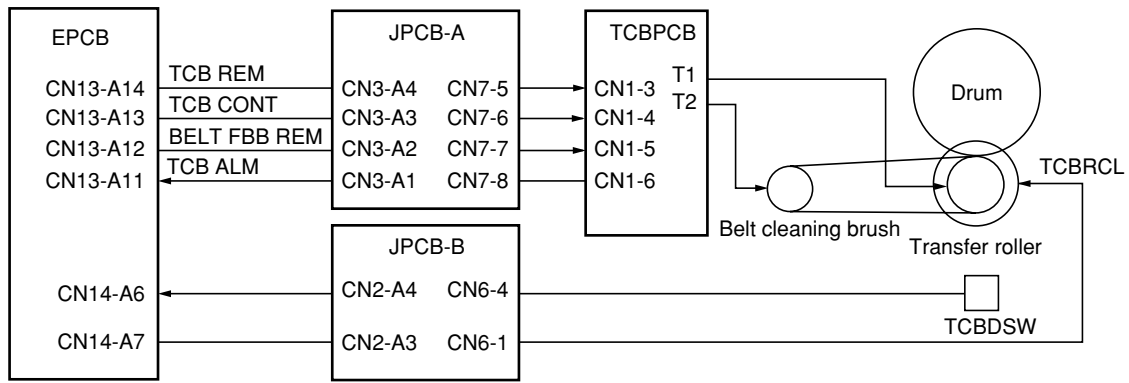
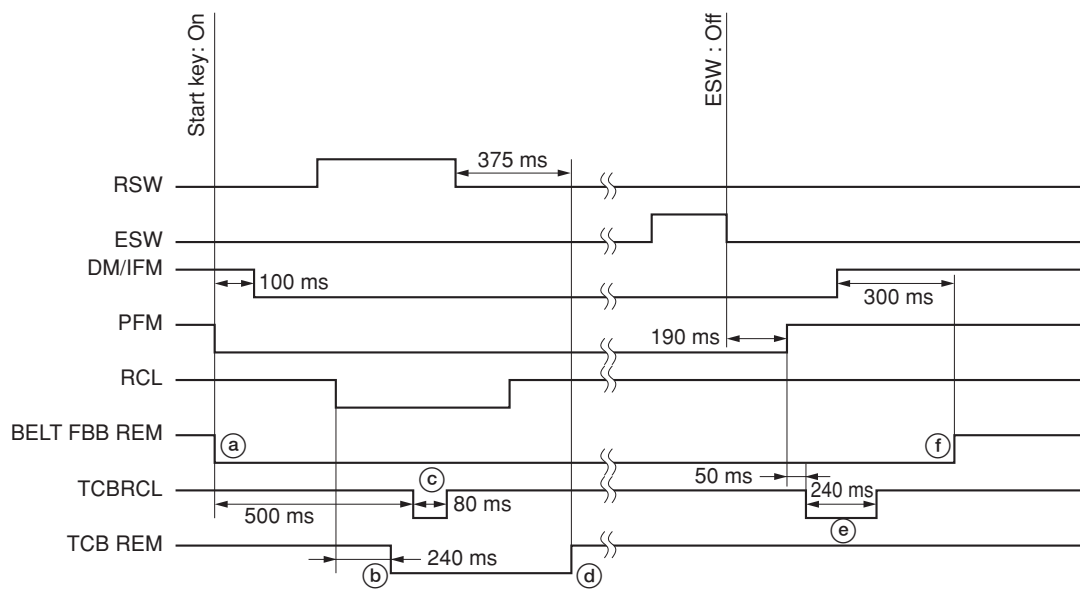


Figure 2-1-29 Transfer and conveying sections block diagram



Timing chart 2-1-7 Transfer operation

- Ⓐ When the start key is pressed, the paper feed motor (PFM) turns on, which starts the drive for the machine. At the same time, the BELT FBB REM signal turns on and the cleaning bias voltage is applied to the belt cleaning brush from the transfer charger belt bias PCB (TCBPCB).
- Ⓑ 240 ms after the registration clutch (RCL) turns on, the TCB REM signal turns on, the transfer bias current is applied to the transfer roller from the transfer charger belt bias PCB (TCBPCB) and the transfer charging starts.
- Ⓒ 500 ms after the machine starts the drive, the transfer charger belt release clutch (TCBRCL) turns on for 80 ms. The transfer charger belt unit is lifted up by the transfer charger belt cam, and the transfer charger belt sticks to the drum.
- Ⓓ 375 ms after the trailing edge of the paper turns the registration switch (RSW) off, the TCB REM signal turns off and the transfer charging ends.
- Ⓔ 50 ms after the paper feed motor (PFM) turns off, the transfer charger belt release clutch (TCBRCL) turns on for 240 ms. The transfer charger belt unit is lowered, and the transfer charger belt is released from the drum and returns to the copy ready position.
- Ⓕ 300 ms after the drive motor (DM) and image forming motor (IFM) turn off, the BELT FBB REM signal turn off and the applying of the cleaning bias voltage to the belt cleaning brush ends.

2-1-6 Cleaning section

The copier employs a blade cleaning method with a cleaning brush.

The cleaning section consists of the cleaning blade and cleaning brush which remove residual toner from the drum surface after transfer, the cleaning brush scraper that remove toner from the cleaning brush, and the cleaning spiral that carries the residual toner to the waste toner box.

After the transfer process is completed, residual toner on the drum is removed first by the rotation of the cleaning brush and then by the cleaning blade.

The cleaning bias voltage is applied to the cleaning brush to reduce residual charge on the drum surface and at the same time to prevent toner removed from the drum surface from sticking to the cleaning brush due to static.

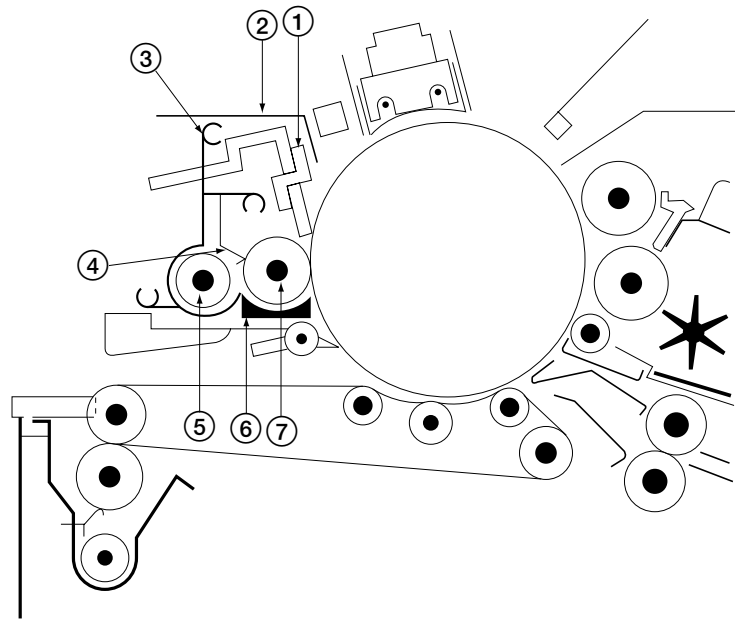


Figure 2-1-30 Cleaning section

- ① Cleaning blade
- ② Upper cleaning cover
- ③ Cleaning stay
- ④ Cleaning brush scraper
- ⑤ Cleaning spiral
- ⑥ Lower cleaning base
- ⑦ Cleaning brush

2-1-7 Charge erasing section

The main component of the charge erasing section is the cleaning lamp (CL).
 The cleaning lamp (CL) consists of 27 LEDs (red).
 The cleaning lamp (CL) removes residual charge from the drum surface.

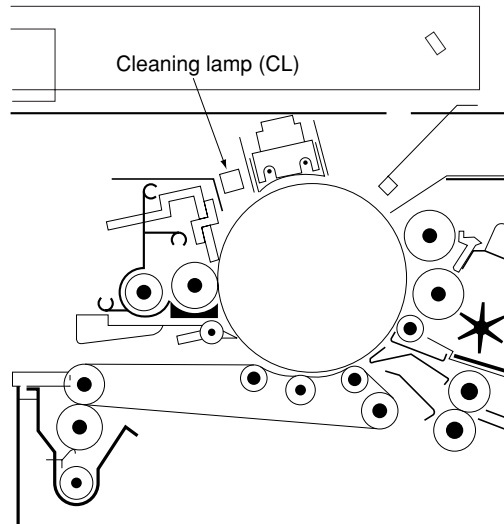


Figure 2-1-31 Charge erasing section

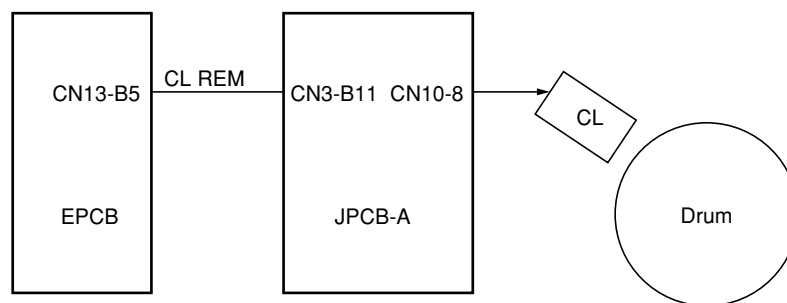
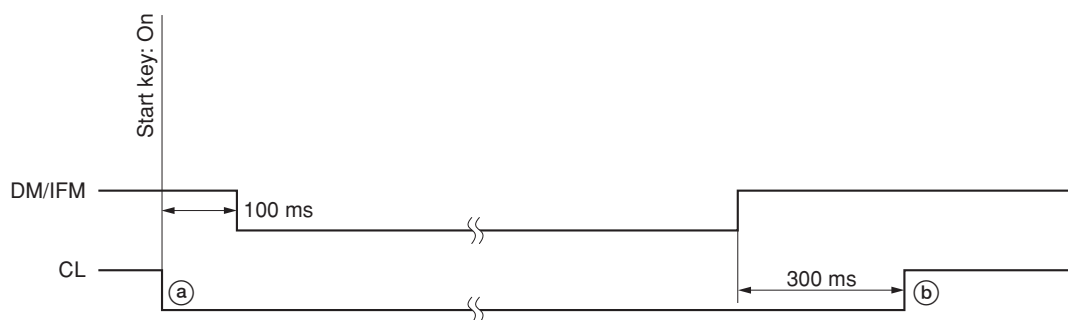


Figure 2-1-32 Charge erasing section block diagram



Timing chart 2-1-8 Charge erasing operation

- Ⓐ When the start key is pressed, the cleaning lamp (CL) lights to remove the residual charge from the drum surface.
- Ⓑ 300 ms after the drive motor (DM) and image forming motor (IFM) turn off and the machine drive stops, the cleaning lamp (CL) turns off.

2-1-8 Fixing section

The fixing and eject section consists of the parts shown in the figure.

When the paper reaches the fixing section after the transfer process, it passes through the gap between the press roller and heat roller, which is heated by fixing heaters M and S (H1 and H2), where pressure is applied by the pressure springs so that toner on the paper is melted and fused onto the paper.

When the fixing process is completed, the paper is separated from the heat roller and press roller by their separation claws and is ejected out of the copier by the rotation of the fixing eject pulley and roller.

The cleaning felt in contact with the heat roller cleans the surface of the heat roller.

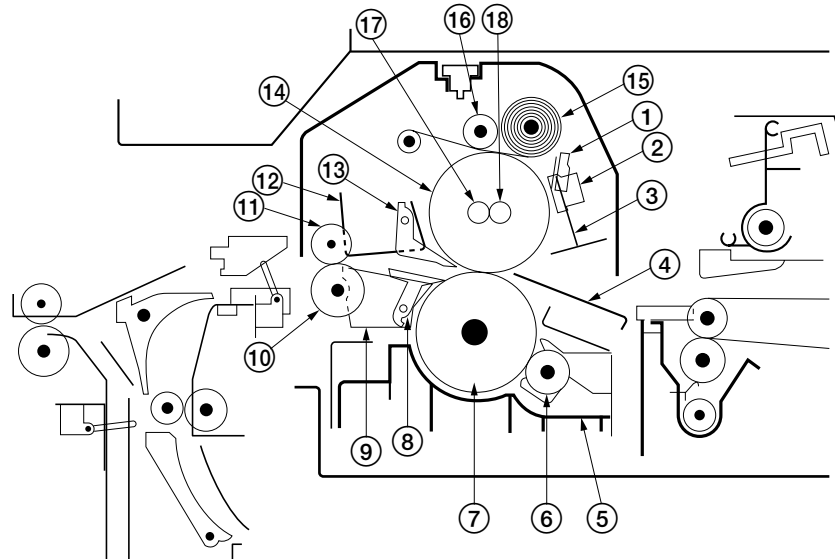


Figure 2-1-33 Fixing section

- | | |
|--------------------------------|-------------------------------|
| ① Fixing unit thermistor (FTH) | ⑩ Fixing eject roller |
| ② Fixing unit thermostat (TH) | ⑪ Fixing eject pulley |
| ③ Upper front fixing guide | ⑫ Upper fixing eject guide |
| ④ Lower front fixing guide | ⑬ Heat roller separation claw |
| ⑤ Lower fixing housing | ⑭ Heat roller |
| ⑥ Lower cleaning roller | ⑮ Cleaning felt |
| ⑦ Press roller | ⑯ Cleaning pressure roller |
| ⑧ Press roller separation claw | ⑰ Fixing heater S (H2) |
| ⑨ Lower fixing eject guide | ⑱ Fixing heater M (H1) |

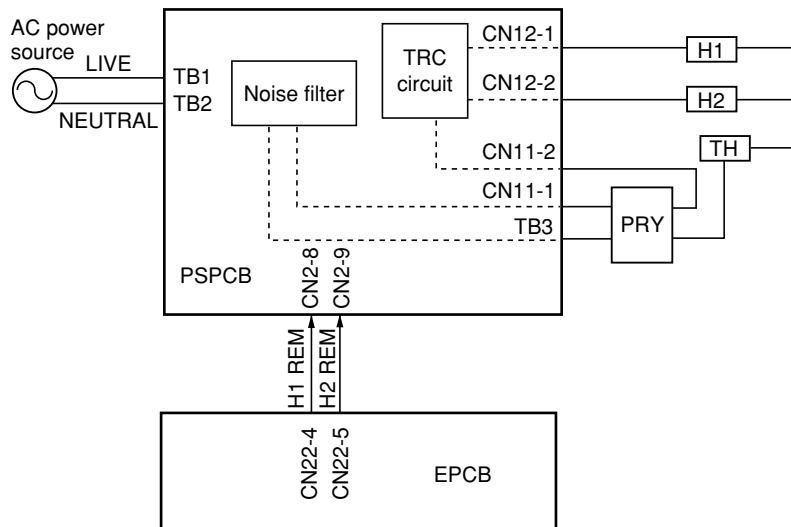
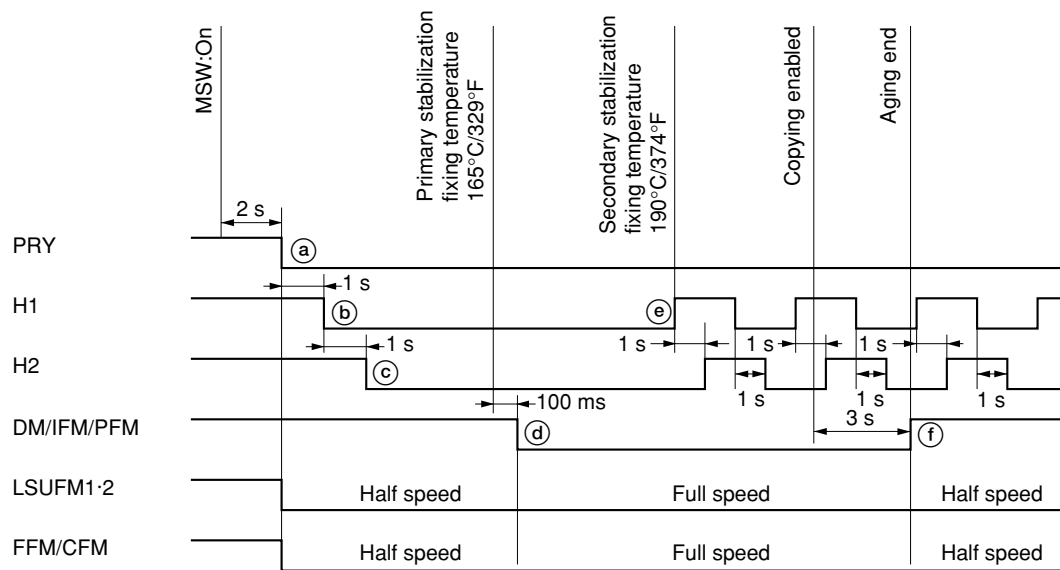


Figure 2-1-34 Fixing section block diagram



Timing chart 2-1-9 Fixing temperature control

- Ⓐ 2 s after the main switch (MSW) is turned on, the power relay (PRY) turns on and LSU fan motors 1 and 2 (LSUFM1 and 2), the fixing unit fan motor (FFM) and the cooling fan motor (CFM) rotate at half speed.
- Ⓑ 1 s after the power relay (PRY) turns on, fixing heater M (H1) turns on to heat the heat roller.
- Ⓒ 1 s after fixing heater M (H1) turns on, fixing heater S (H2) turns on.
- Ⓓ 100 ms after the fixing temperature reaches the primary stabilization temperature (165°C/329°F), the drive motor (DM), image forming motor (IFM) and paper feed motor (PFM) turn on to start aging. At the same time, LSU fan motors 1 and 2 (LSUFM1 and 2), the fixing fan motor (FFM) and the cooling fan motor (CFM) start rotating at full speed.
- Ⓔ When the fixing temperature reaches the secondary stabilization temperature (190°C/374°F), fixing heater M (H1) and fixing heater S (H2) turn on and off to maintain the fixing control temperature at 195°C/383°F.
- Ⓕ 3 s after copying is enabled, the drive motor (DM), image forming motor (IFM) and paper feed motor (PFM) turn off, and aging ends. At the same time, LSU fan motors 1 and 2 (LSUFM1 and 2), the fixing fan motor (FFM) and the cooling fan motor (CFM) start rotating at half speed.

2-1-9 Feedshift and eject sections

The feedshift and eject sections switches the paper path by copy mode and eject paper or convey the paper to the duplex section.

For duplex copy mode, the paper for which copying on the rear side has been completed is conveyed to the duplex section by the feedshift section operation. After the conveyed paper is inverted, it is fed again for front side copying.

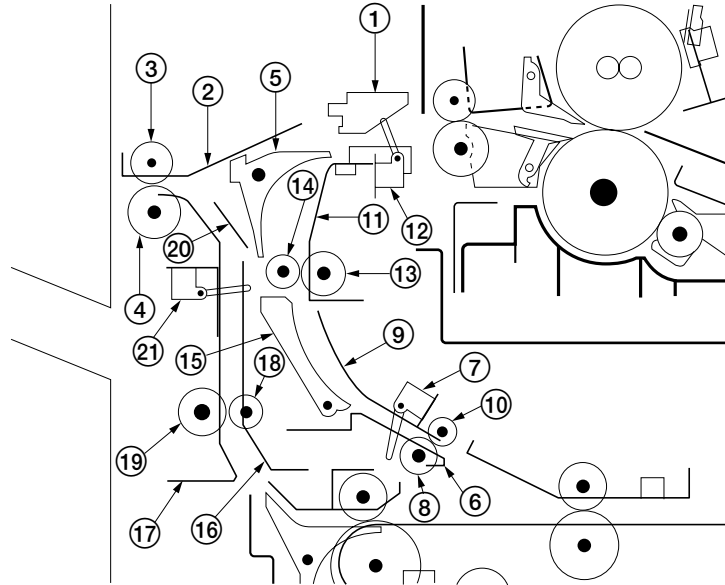


Figure 2-1-35 Feedshift and eject sections

- | | |
|-------------------------------------|--------------------------------------|
| ① Upper feedshift guide | ⑫ Eject switch (ESW) |
| ② Upper eject guide | ⑬ Right feedshift roller |
| ③ Upper eject roller | ⑭ Left feedshift roller |
| ④ Eject roller | ⑮ Left feedshift guide |
| ⑤ Conveying shift guide | ⑯ Lower right switchback eject guide |
| ⑥ Lower feedshift eject guide | ⑰ Left switchback eject guide |
| ⑦ Duplex feedshift switch (DUPFSSW) | ⑱ Right switchback feed roller |
| ⑧ Feedshift roller | ⑲ Left switchback feed roller |
| ⑨ Upper feedshift eject guide | ⑳ Upper right switchback eject guide |
| ⑩ Feedshift pulley | ㉑ Switchback eject switch (SBESW) |
| ⑪ Lower feedshift guide | |

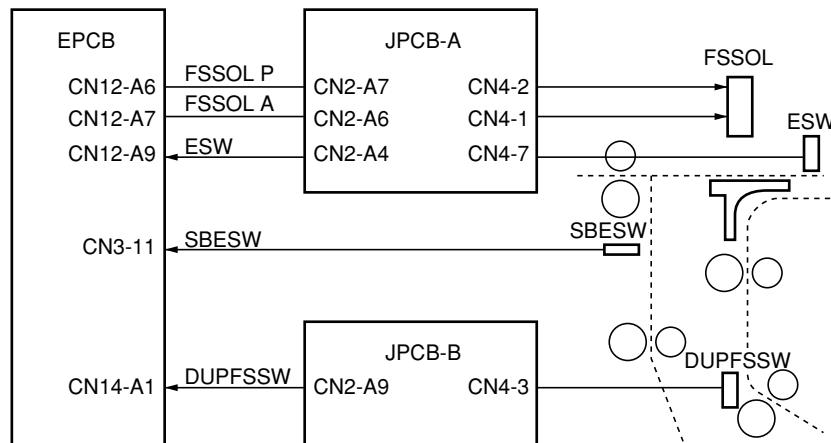


Figure 2-1-36 Feedshift and eject sections block diagram

2-1-10 Duplex section

As paper is conveyed from the feedshift section into the duplex section, the switchback feedshift guide shifts the paper path to switch-back the paper for refeeding or reverse side ejection. The paper is then conveyed to the feedshift and eject section.

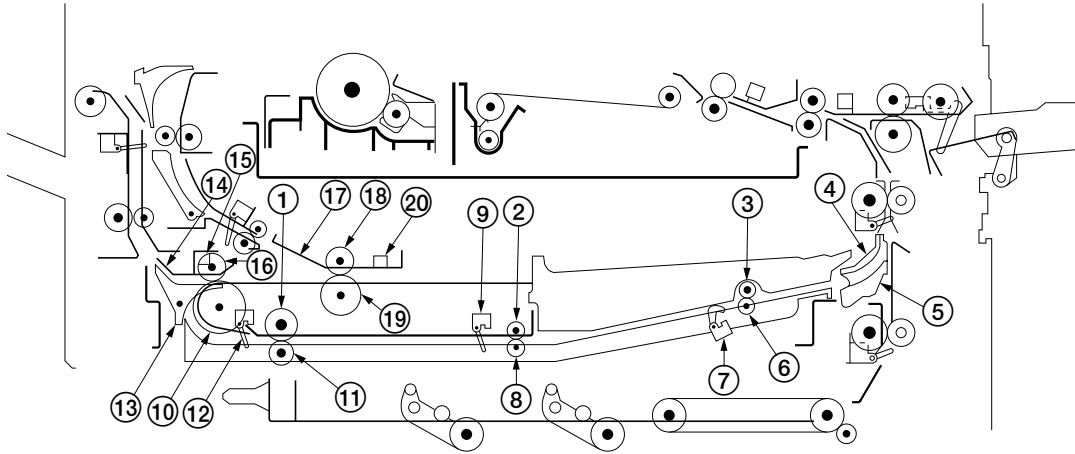


Figure 2-1-37 Duplex section

- | | |
|--|--|
| ① Duplex upper registration roller | ⑫ Duplex paper conveying switch 1 (DUPPCSW1) |
| ② Duplex upper conveying roller | ⑬ Switchback feedshift guide |
| ③ Duplex upper eject roller | ⑭ Duplex refeed guide |
| ④ Duplex upper feed guide | ⑮ Duplex feedshift switch (DUPFSSW) |
| ⑤ Duplex lower feed guide | ⑯ Refeed pulley |
| ⑥ Duplex lower eject roller | ⑰ Duplex upper entry guide |
| ⑦ Duplex eject switch (DUPESW) | ⑱ Duplex switchback pulley |
| ⑧ Duplex lower conveying roller | ⑲ Duplex switchback roller |
| ⑨ Duplex paper conveying switch 2 (DUPPCSW2) | ⑳ Duplex jam detection switch (DUPJSW) |
| ⑩ Refeed roller | |
| ⑪ Duplex lower registration roller | |

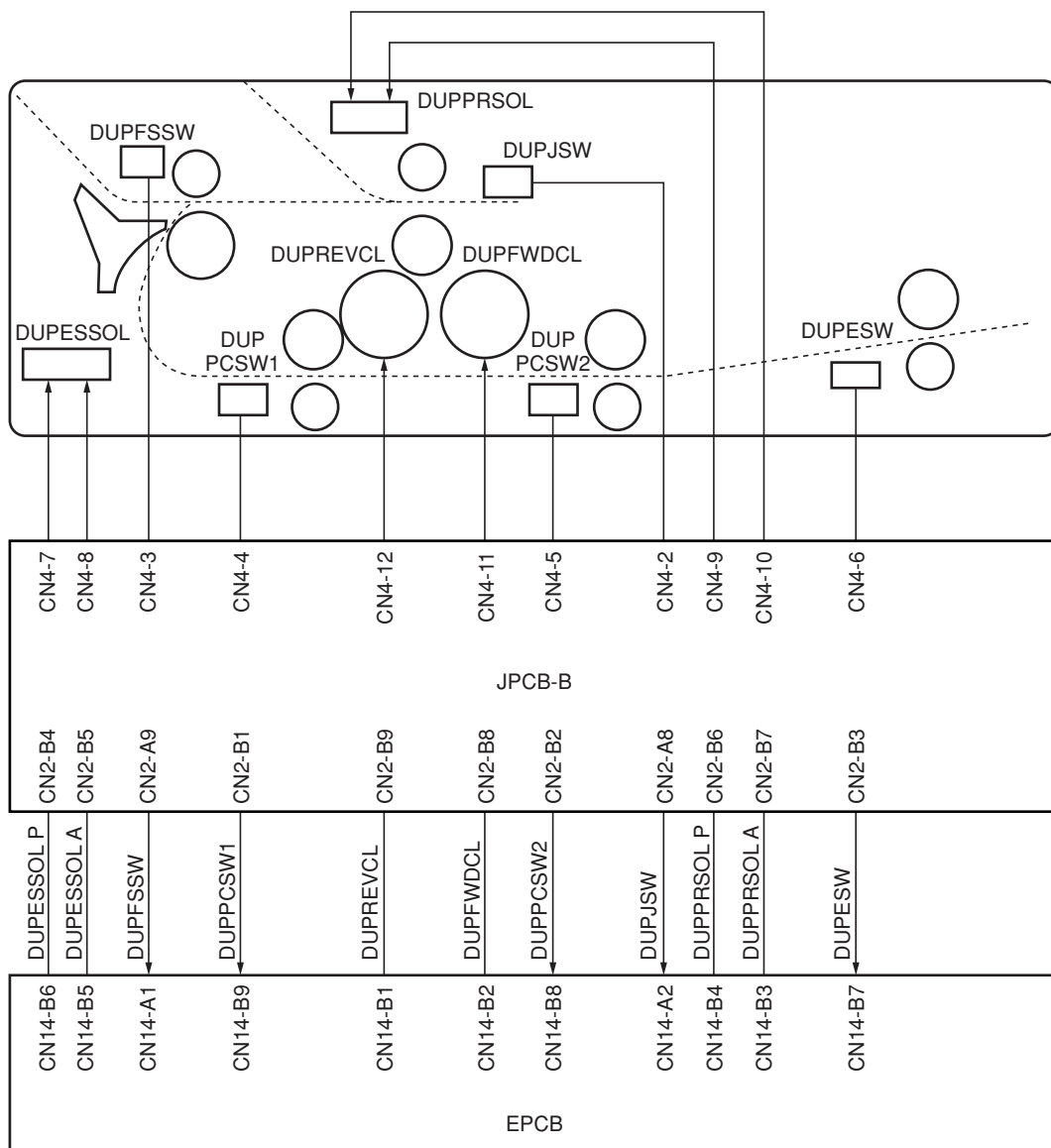
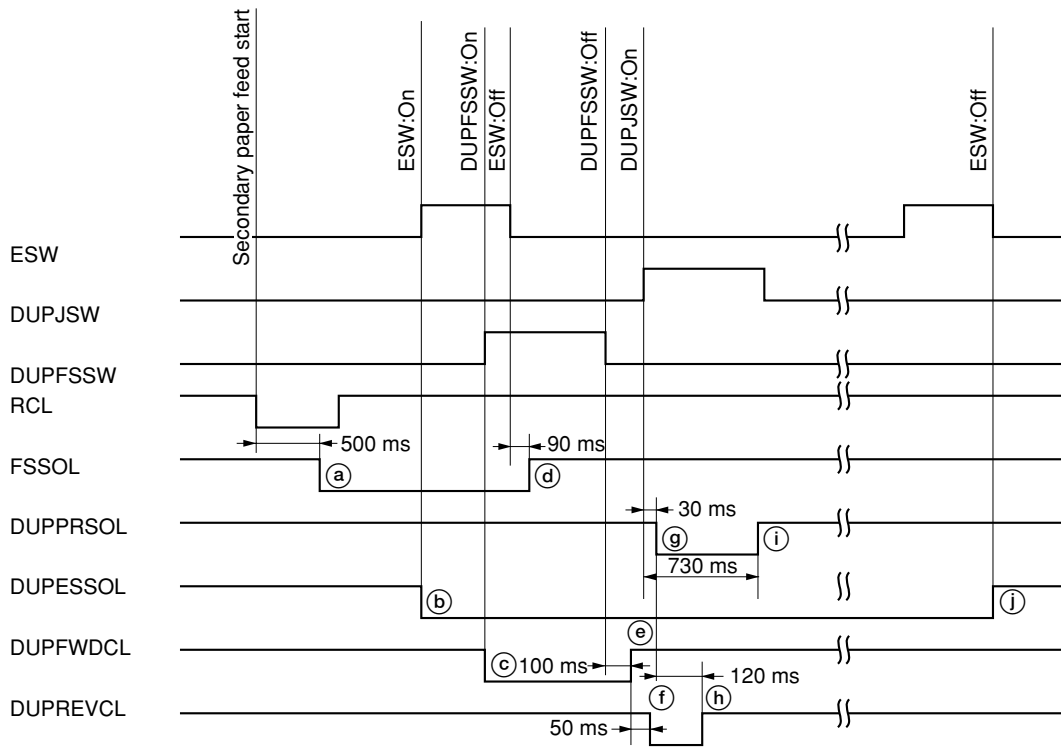


Figure 2-1-38 Duplex section block diagram



Timing chart 2-1-10 Duplex copying operation

- Ⓐ When copying onto the reverse side, 500 ms after the registration clutch (RCL) turns on, the feedshift solenoid (FSSOL) turns on, operating the conveying shift guide to switch the paper path to the duplex unit.
- Ⓑ When the eject switch (ESW) turns on, the duplex eject switching solenoid (DUPESSOL) turns on to operate the switchback feedshift guide.
- Ⓒ When the duplex feedshift switch (DUPFSSW) turns on, the duplex forwarding clutch (DUPFWDCL) turns on, rotating the duplex switchback roller in the forward direction to convey paper to the duplex section.
- Ⓓ 90 ms after the eject switch (ESW) turns off, the feedshift solenoid (FSSOL) turns off.
- Ⓔ 100 ms after the duplex feedshift switch (DUPFSSW) turns off, the duplex forwarding clutch (DUPFWDCL) turns off.
- Ⓕ 50 ms after the duplex forwarding clutch (DUPFWDCL) turns off, the duplex reversing clutch (DUPREVCL) turns on to rotate the duplex switchback roller in the reverse direction.
- Ⓖ 30 ms after the paper enters the duplex section and the duplex jam detection switch (DUPJSW) turns on, the duplex pressure release solenoid (DUPPRSOL) turns on and the duplex switchback pulley lowers. The paper is then switched back by the duplex switchback pulley and duplex switchback roller and re-fed by the refeed roller.
- Ⓗ 120 ms after the duplex pressure release solenoid (DUPPRSOL) turns on, the duplex reversing clutch (DUPREVCL) turns off and the duplex switchback roller stops.
- Ⓙ 730 ms after the duplex jam detection switch (DUPJSW) turns on, the duplex pressure release solenoid (DUPPRSOL) turns off.
- Ⓚ When copying onto the front face is complete and the eject switch (ESW) turns off, the duplex eject switching solenoid (DUPESSOL) turns off.

2-1-11 SRDF

(1) Original feed section

The original feed section consists of the parts shown in figure. An original placed on the original table is conveyed to the original switchback section or the original conveying section.

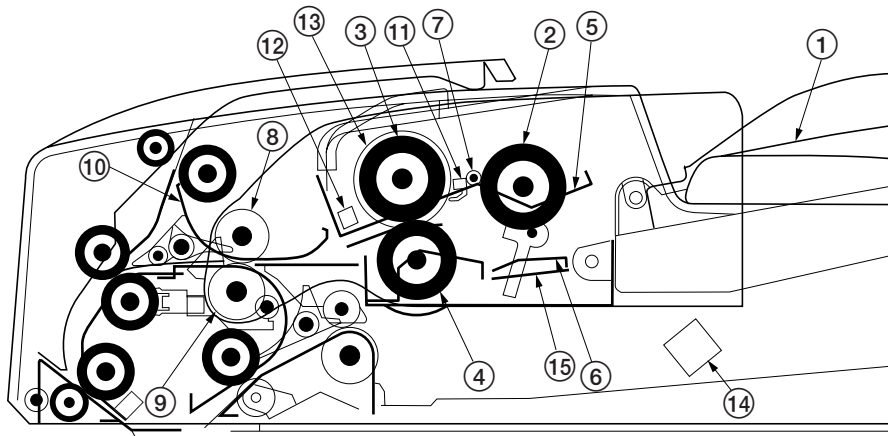


Figure 2-1-39 Original feed section

- | | |
|--------------------------------|----------------------------------|
| ① Original table | ⑨ DF registration roller |
| ② DF forwarding pulleys | ⑩ DF registration guide |
| ③ DF original feed pulley | ⑪ Original set switch (OSSW) |
| ④ DF separation pulley | ⑫ Original feed switch (OFSW) |
| ⑤ DF original feed upper guide | ⑬ Original feed clutch (OFCL) |
| ⑥ DF original feed lower guide | ⑭ Original feed solenoid (OFSOL) |
| ⑦ Original stopper | ⑮ Original feed lift |
| ⑧ DF registration pulley | |

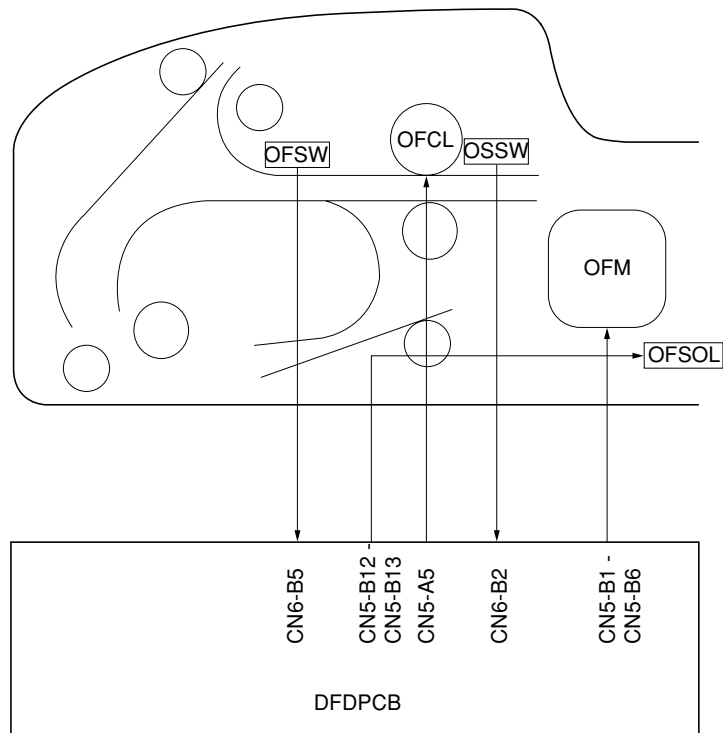
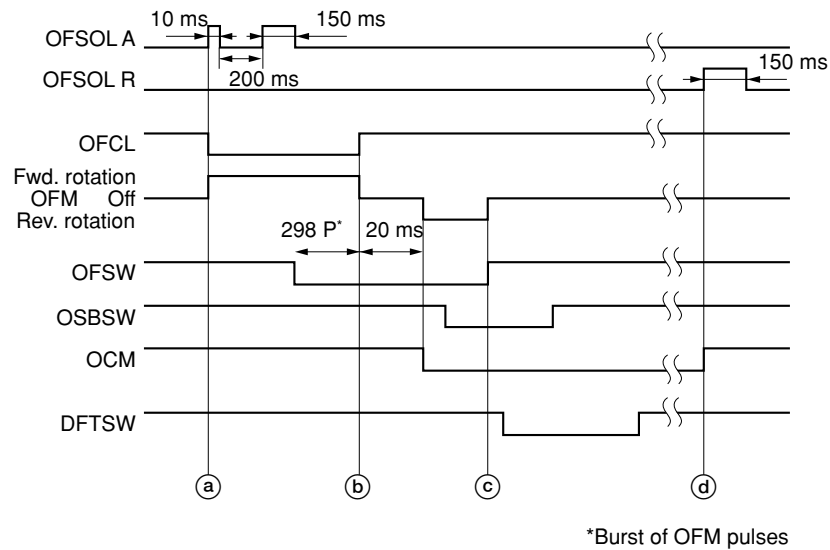


Figure 2-1-40 Original feed section block diagram

(1-1) Original feed timing



Timing chart 2-1-11 Original feed (in simple-sided original mode)

- Ⓐ The OFSOL A signal goes high for 10 ms and then turns off for 200 ms. It goes high again for 150 ms and the original feed solenoid (OFSOL) turns on, raising the original feed lift to convey the original forward.
- Ⓑ 298 OFM pulses after the leading edge of the original turns the original feed clutch (OFCL) and original feed motor (OFM) turn off. 20 ms later, the rotation of the motor switches to the reverse direction and secondary original feed is performed by rotation of the DF registration roller.
- Ⓒ Simultaneously as the trailing edge of the original turns the original feed switch (OFSW) off, the original feed motor (OFM) turns off.
- Ⓓ After ejection of the original, as the original conveying motor (OCM) turns off, the OFSOL R signal turns on for 150 ms and the original feed solenoid (OFSOL) turns off.

(2) Original switchback section

The original switchback section consists of the parts shown in figure. The original from the original feed section or original conveying section is reversed and conveyed to the original conveying section.

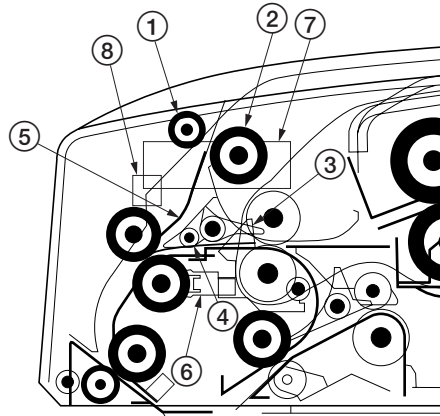


Figure 2-1-41 Original switchback section

- ① Switchback pulley
- ② Switchback roller
- ③ Switchback feedshift guide
- ④ Left switchback guide
- ⑤ Switchback guide
- ⑥ Original switchback switch (OSBSW)
- ⑦ Switchback feedshift solenoid (SBFSSOL)
- ⑧ Switchback pressure solenoid (SBPSOL)

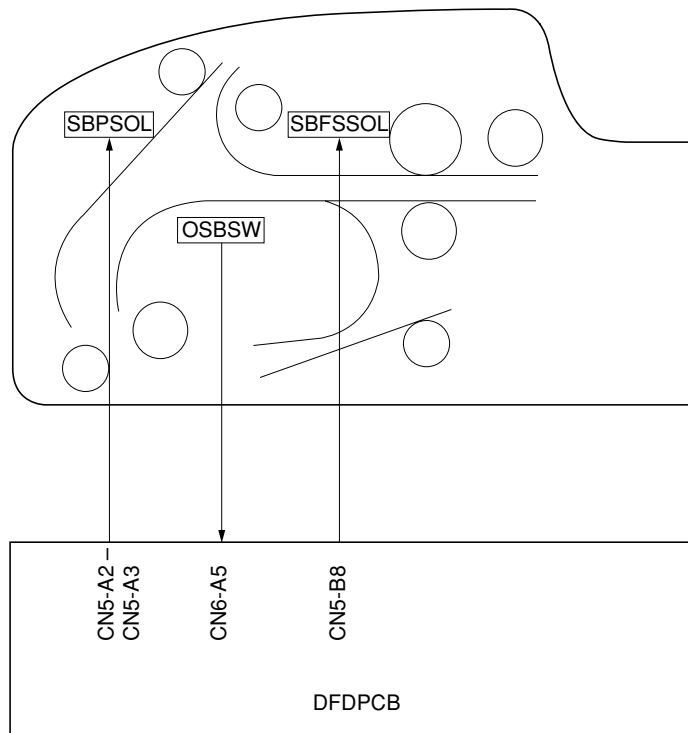


Figure 2-1-42 Original switchback section block diagram

(2-1) Operation of original switchback

In the double-sided original mode, the switchback feedshift solenoid (SBFSSOL) turns on, changing the position of the switchback feedshift guide. This switches the path of the original to the original switchback section to where the original is fed.

The switchback feedshift solenoid (SBFSSOL) then turns off, allowing the switchback feedshift guide to return to the original position by which the path of the original is switched back to the original conveying section. The now reversed original is carried to the original conveying section and the switchback pressure solenoid (SBPSOL) turns off, releasing the switchback pulley to prevent an original jam in the original switchback section.

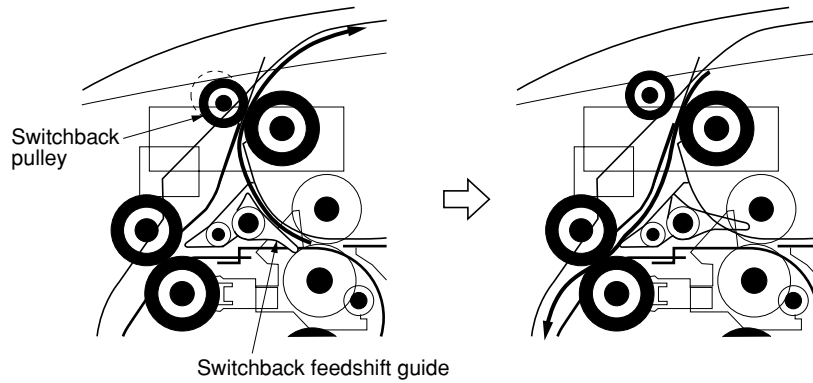


Figure 2-1-43

(3) Original conveying section

The original conveying section consists of the parts shown in figure. Synchronized with the copier scanning operation, the original is conveyed across the slit glass and ejected when scanning is complete.

In the double-sided original mode, the eject feedshift solenoid (EFSSOL) turns on, moving the eject feedshift guide to switch the path of the original. When the scanning of the first face (reverse face) of the original is complete, the original is conveyed to the original switchback section again.

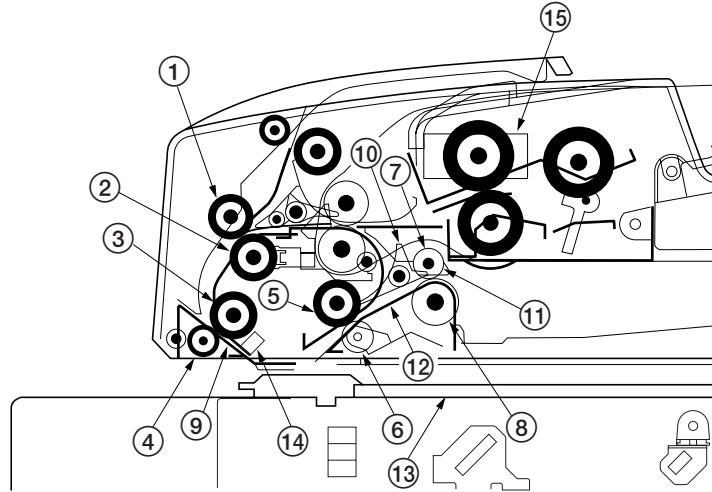


Figure 2-1-44 Original conveying section

- | | |
|------------------------------------|-------------------------------------|
| ① Upper original conveying pulley | ⑨ Original conveying guide |
| ② Upper original conveying roller | ⑩ Eject feedshift guide |
| ③ Lower original conveying roller | ⑪ Upper eject guide |
| ④ Front scanning pulley | ⑫ Lower eject guide |
| ⑤ Middle original conveying roller | ⑬ Slit glass (copier) |
| ⑥ Middle original conveying pulley | ⑭ DF timing switch (DFTSW) |
| ⑦ Eject pulley | ⑮ Eject feedshift solenoid (EFSSOL) |
| ⑧ Eject roller | |

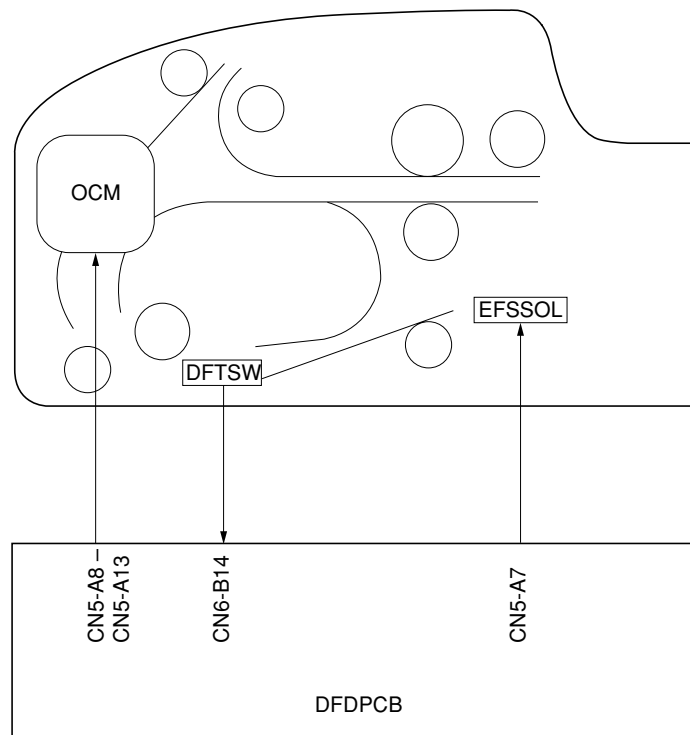
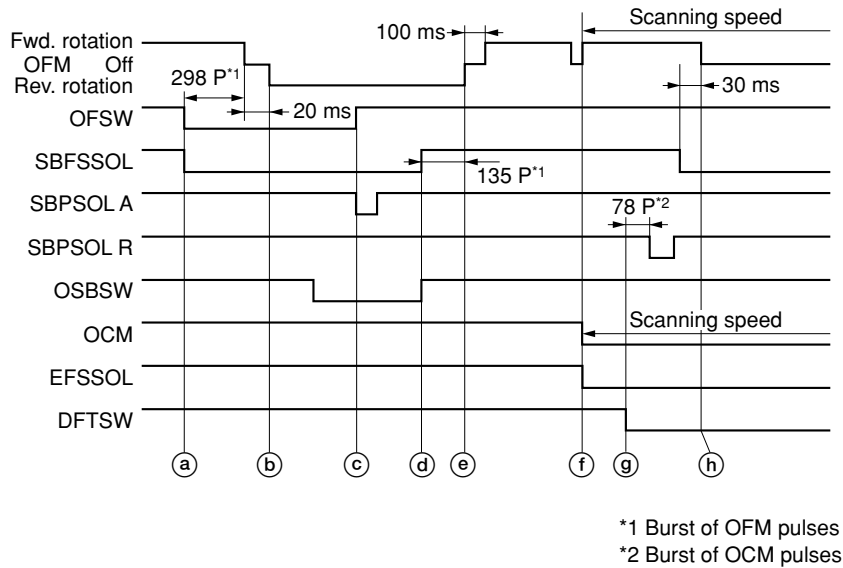
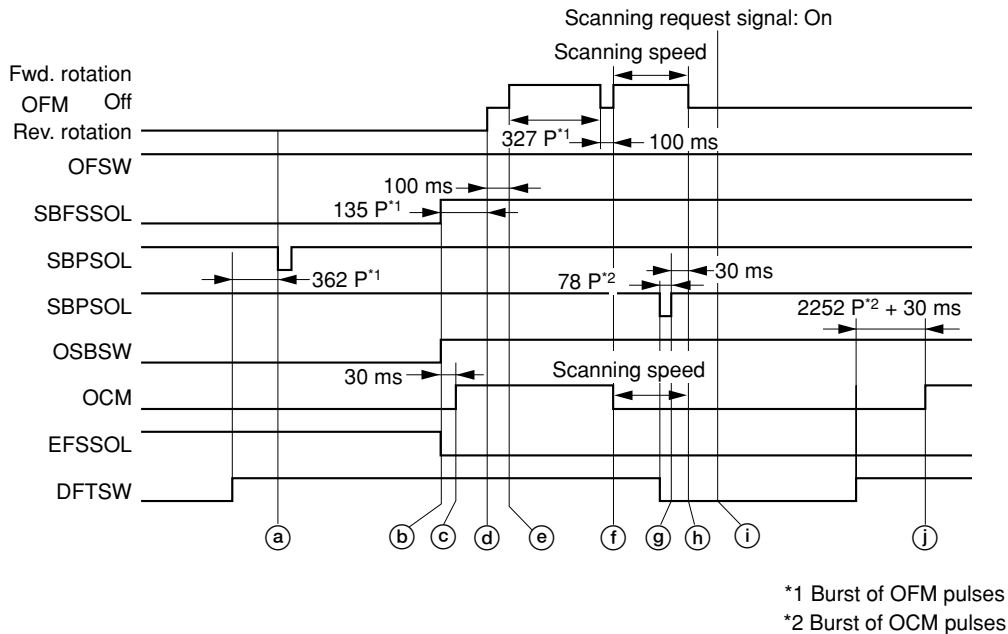


Figure 2-1-45 Original conveying section block diagram

(3-1) Original switchback/conveying timing**Timing chart 2-1-12 Reversing the first face of the original**

- (a) During primary original feed, when the original feed switch (OFSW) turns on, the switchback feedshift solenoid (SBFSSOL) also turns on, changing the position of the switchback feedshift guide. This switches the path of the original to the original switchback section.
- (b) 298 OFM pulses plus 20 ms after the original feed switch (OFSW) turns on, the rotation of the original feed motor (OFM) switches to the reverse direction and the original is conveyed to the switchback section by the rotation of the switchback roller.
- (c) Simultaneously as the original feed switch (OFSW) turns off, the switchback pressure solenoid (SBPSOL) turns on to operate the switchback pulley.
- (d) When the trailing edge of the original turns the original switchback switch (OSBSW) off, the switchback feedshift solenoid (SBFSSOL) turns off, the switchback feedshift guide returns to the original position.
- (e) 135 OFM pulses after the original switchback switch (OSBSW) turns off, the original feed motor (OFM) turns off. 100 ms later, the original feed motor (OFM) rotates forward, switching the rotational direction of the switchback roller. The original in the original switchback section is then reversed and conveyed to the original conveying section.
- (f) Simultaneously as the original feed motor (OFM) starts rotating forward, the original conveying motor (OCM) turns on to convey the original onto the slit glass. The eject feedshift solenoid (EFSSOL) simultaneously turns on, changing the position of the eject feedshift guide. This switches the path of the original to the original switchback section.
- (g) When the original is conveyed onto the slit glass, the DF timing switch (DFTSW) turns on. 78 OCM pulses later, the switchback pressure solenoid (SBPSOL).
- (h) 30 ms after the switchback pressure solenoid (SBPSOL) turns off, the original feed motor (OFM) turns off.



Timing chart 2-1-13 Reversing of the second face of the original and ejection

- (a) 362 OFM pulses after the scanning of the first face (reverse face) of the original completes and the DF timing switch (DFTSW) turns off, the switchback pressure solenoid (SBPSOL) turns on, operating the switchback pulley.
- (b) When the trailing edge of the original turns the original switchback switch (OSBSW) off, the eject feedshift solenoid (EFSSOL) turns off and the eject feedshift guide returns to the original position, switching the path of the original to the eject section. Simultaneously, the switchback feedshift solenoid (SBFSSOL) turns off and the switchback feedshift guide returns to the original position.
- (c) 30 ms after the original switchback switch (OSBSW) turns off, the original conveying motor (OCM) turns off.
- (d) 135 OFM pulses after the original switchback switch (OSBSW) turns off, the original feed motor (OFM) turns off.
- (e) 100 ms after the original feed motor (OFM) turns off, the motor starts rotating forward, switching the rotational direction of the switchback roller. The original in the original switchback section is then reversed and conveyed to the original conveying section.
- (f) 327 OFM pulses plus 100 ms after the original feed motor (OFM) turns off, the motor starts rotating forward again and the original conveying motor (OCM) turns on simultaneously, conveying the original onto the slit glass.
- (g) 78 OFM pulses after the original is conveyed onto the slit glass and the DF timing switch (DFTSW) turns on, the switchback pressure solenoid (SBPSOL) turns off.
- (h) 30 ms after the switchback pressure solenoid (SBPSOL) turns off, the original feed motor (OFM) turns off.
- (i) When the scanning request signal turns on, scanning of the second face (front face) of the original starts.
- (j) 2252 OCM pulses plus 30 ms after scanning of the second face (front face) of the original completes and the DF timing switch (DFTSW) turns off, the original conveying motor (OCM) turns off, completing the ejection of the original.

2-2-1 Electrical parts layout

(1) PCBs

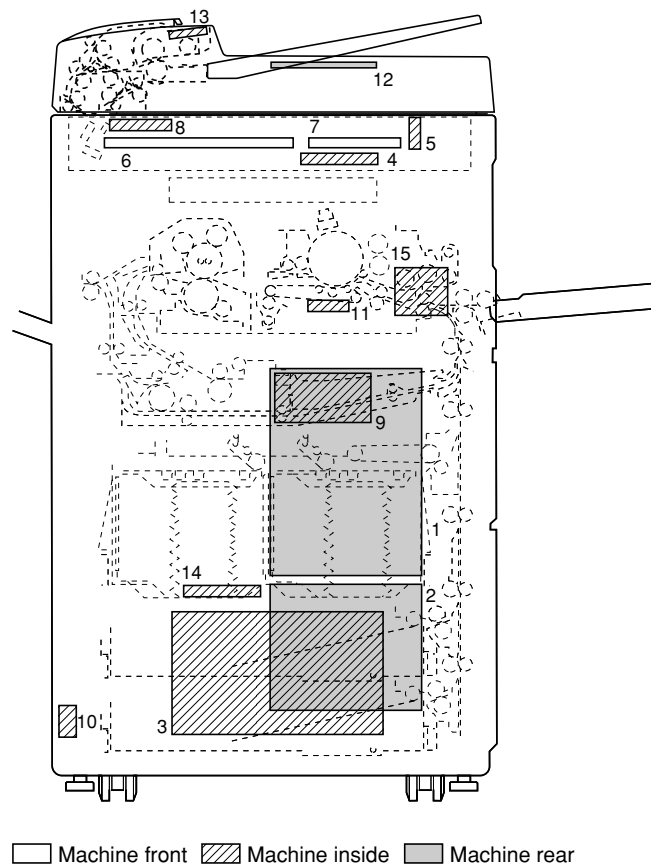


Figure 2-2-1 PCBs

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Main PCB (MPCB) 2. Engine PCB (EPCB) 3. Power source PCB (PSPCB) 4. Scanner motor PCB (SMPCB) 5. CCD PCB (CCDPCB) 6. Operation unit left PCB (OPCB-L) 7. Operation unit right PCB (OPCB-R) 8. Inverter PCB (INPCB) 9. High voltage transformer PCB (HVTPCB) ... 10. Humidity sensor PCB (HUMPCB) 11. Transfer charger belt bias PCB (TCBPCB) 12. DF driver PCB (DFDPCB) 13. Original set LED PCB (OSLEDPCB) 14. Junction A PCB (JPCB-A) 15. Junction B PCB (JPCB-B) | <p>Controls the other PCBs and electrical components.</p> <p>Controls electrical components and optional devices.</p> <p>Generates 24 V DC, +12 V DC, 3.4 V DC and 5 V DC; controls fixing heaters M and S.</p> <p>Controls the scanner section.</p> <p>Reads the image off originals.</p> <p>Controls touch panel and LCD indication.</p> <p>Consists of operation keys and display LEDs.</p> <p>Controls the exposure lamp.</p> <p>Generates high voltage for main charging and developing bias.</p> <p>Detects absolute humidity.</p> <p>Generates high voltage for transfer/separation charging.</p> <p>Controls electrical components of the SRDF.</p> <p>Indicates presence of originals on the SRDF or an original jam.</p> <p>Relay between each electrical component and the engine PCB.</p> <p>Relay between each electrical component and the engine PCB.</p> |
|--|--|

(2) Switches and sensors

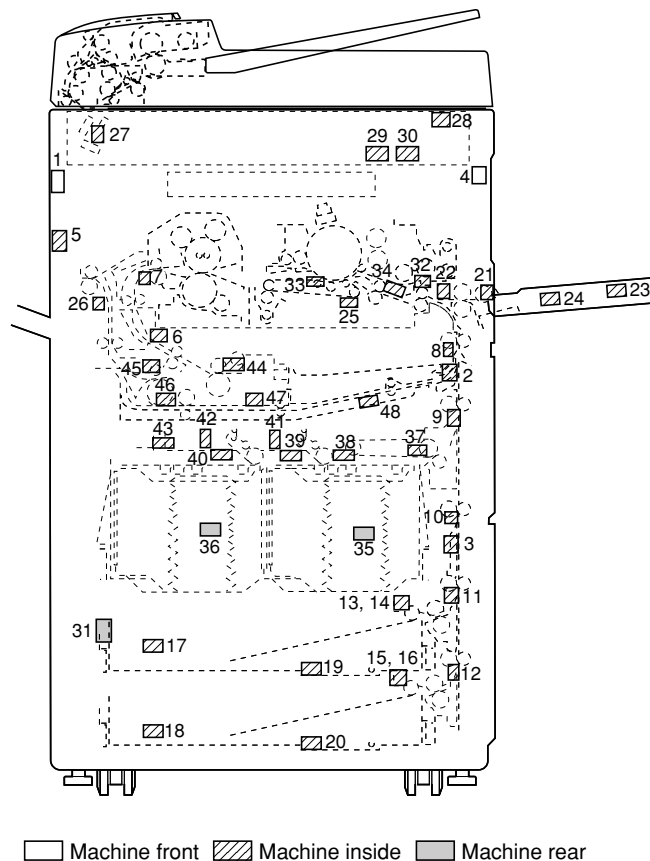


Figure 2-2-2 Copier switches and sensors

- 1. Main switch (MSW) Turns the AC power on and off.
- 2. Safety switch 1 (SSW1) Breaks the safety circuit when the upper right cover is opened.
- 3. Safety switch 2 (SSW2) Breaks the safety circuit when the lower right cover is opened.
- 4. Safety switch 3 (SSW3) Breaks the safety circuit when the front cover is opened.
- 5. Safety switch 4 (SSW4) Breaks the safety circuit when the eject cover is opened.
- 6. Feedshift switch (FSSW) Detects a paper misfeed in the feedshift section.
- 7. Eject switch (ESW) Detects a paper misfeed in the fixing section.
- 8. Paper feed switch 1 (PFSW1) Detects a paper misfeed.
- 9. Paper feed switch 2 (PFSW2) Controls the primary paper feed and detects a paper misfeed.
- 10. Paper feed switch 3 (PFSW3) Controls feed clutch 3 and detects a paper misfeed.
- 11. Paper feed switch 4 (PFSW4) Controls feed clutch 4 and detects a paper misfeed.
- 12. Paper feed switch 5 (PFSW5) Controls feed clutch 5 (PFSW5) and detects a paper misfeed.
- 13. Upper paper switch (PSW-U) Detects the presence of paper in the upper cassette.
- 14. Upper lift limit switch (LICSU-U) Detects the upper cassette lift reaching the upper limit.
- 15. Lower paper switch (PSW-L) Detects the presence of paper in the lower cassette.
- 16. Lower lift limit switch (LICSU-L) Detects the lower cassette lift reaching the upper limit.
- 17. Upper paper length switch (PLSU-U) Detects the length of paper in the upper cassette.*1
 Detects the presence of the upper cassette.*1
- 18. Lower paper length switch (PLSU-L) Detects the length of paper in the lower cassette.*1
 Detects the presence of the lower cassette.*1
- 19. Upper paper width switch (PWSU-U) Detects the width of paper in the upper cassette.*2
- 20. Lower paper width switch (PWSU-L) Detects the width of paper in the lower cassette.*2
- 21. Bypass paper switch (BYPPSW) Detects the presence of paper on the bypass table.
- 22. Feed switch (FSW) Controls the secondary paper feed start timing.
- 23. Bypass paper length switch (BYPPLSW) Detects the length of paper on the bypass table.
- 24. Bypass paper width switch (BYPPWSW) Detects the width of paper on the bypass table.

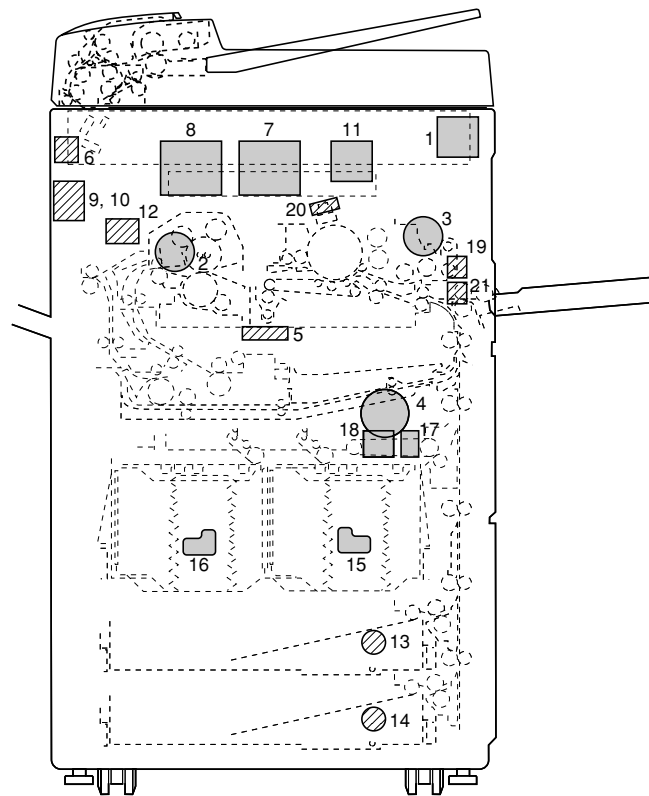
*1: Paper length detection is for inch models and cassette presence detection is for metric models.

*2: For inch models only.

25. Transfer charger belt detection switch (TCBDSW) Detects the position of the transfer charger belt.
26. Switchback eject switch (SBESW) Detects a paper misfeed in the switchback eject section.
27. Scanner home position switch (SHPSW) Detects the optical system in the home position.
28. Original detection switch (ODSW) Operates the original size detection sensors.
29. Original size detection sensor 1 (OSD1) Detects the size of the original.
30. Original size detection sensor 2 (OSD2) Detects the size of the original.*
31. Waste toner detection switch (WTDSW) Detects the weight of the waste toner box.
32. Toner sensor (TNS) Detects the toner density in the developing section.
33. Toner level sensor (TLDS) Detects the toner level in the toner hopper.
34. Registration switch (RSW) Controls the secondary paper feed stop timing.
35. Large paper deck paper level detection sensor 1 (LPDPLDSENS1) Detects the paper level in the right large paper deck.
36. Large paper deck paper level detection sensor 2 (LPDPLDSENS2) Detects the paper level in the left large paper deck.
37. Large paper deck paper path sensor 1 (LPDPPSENS1) Detects a paper misfeed and the presence of paper on the lift of the large paper deck.
38. Large paper deck paper path sensor 2 (LPDPPSENS2) Detects a paper misfeed and the presence of paper on the lift of the large paper deck.
39. Large paper deck paper path sensor 3 (LPDPPSENS3) Detects a paper misfeed and the presence of paper on the lift of the large paper deck.
40. Large paper deck paper empty sensor (LPDPESENS) Detects the presence of paper in the left large paper deck.
41. Large paper deck level switch 1 (LPDLSW1) Detects the stop position of the right large paper deck lift.
42. Large paper deck level switch 2 (LPDLSW2) Detects the stop position of the left large paper deck lift.
43. Large paper deck open safety switch (LPDOSSW) Detects when the large paper deck is opened or closed.
44. Duplex jam detection switch (DUPJSW) Detects a paper misfeed.
45. Duplex feedshift switch (DUPFSSW) Detects a paper misfeed in the duplex feedshift section.
46. Duplex paper conveying switch 1 (DUPPCSW1) Detects a paper misfeed in the duplex paper conveying section.
47. Duplex paper conveying switch 2 (DUPPCSW2) Detects a paper misfeed in the duplex paper conveying section.
48. Duplex eject switch (DUPESW) Detects a paper misfeed in the duplex eject section.

* For inch models only.

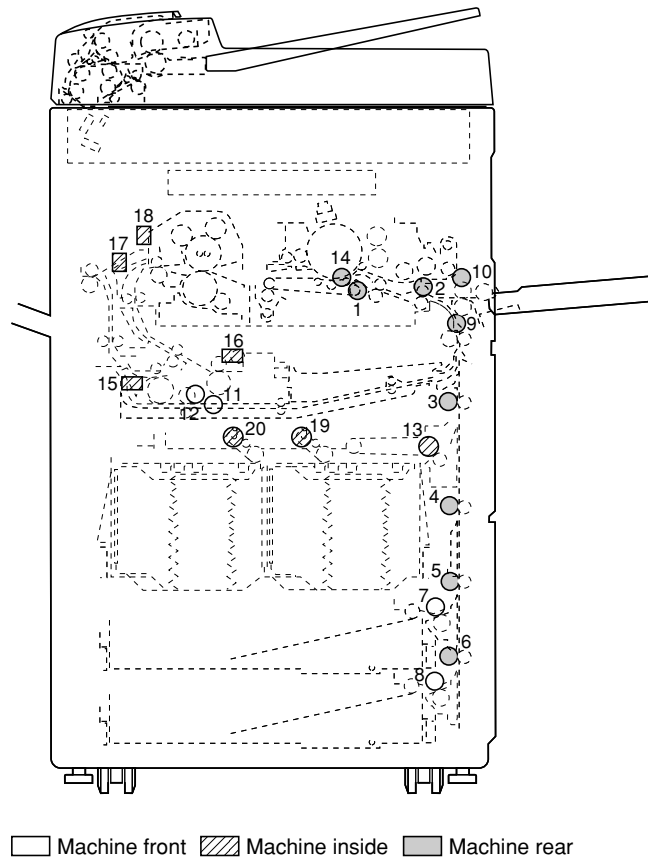
(3) Motors



Machine front Machine inside Machine rear

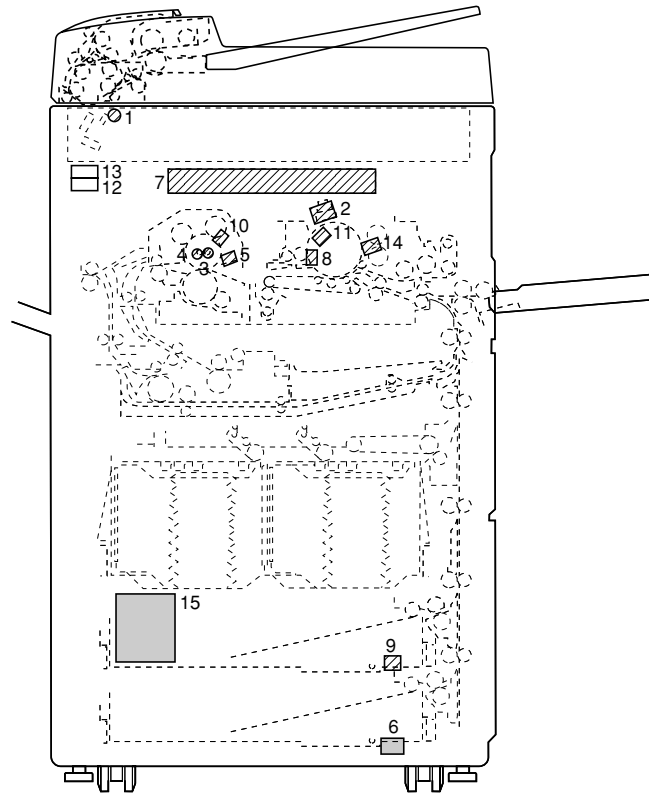
Figure 2-2-3 Copier motors

- 1. Scanner motor (SM) Drives the optical system.
- 2. Drive motor (DM) Drives the machine.
- 3. Image forming motor (IFM) Drives the image formation section.
- 4. Paper feed motor (PFM) Drives the paper feed and conveying system.
- 5. Duplex fan motor (DUPFM) Cools the duplex section.
- 6. Optical section fan motor (OPFM) Cools the optical section.
- 7. Cooling fan motor (CFM) Cools the machine inside.
- 8. Fixing unit fan motor (FFM) Cools the fixing section.
- 9. LSU fan motor 1 (LSUFM1) Cools the LSU.
- 10. LSU fan motor 2 (LSUFM2) Cools the LSU.
- 11. Main charger fan motor (MCFM) Cools the main charger section.
- 12. Eject fan motor (EFM) Cools the eject section.
- 13. Upper lift motor (PCLM-U) Drives the upper cassette lift.
- 14. Lower lift motor (PCLM-L) Drives the lower cassette lift.
- 15. Large paper deck right lift motor (LPDLM-R) Drives the large paper deck right lift.
- 16. Large paper deck left lift motor (LPDLM-L) Drives the large paper deck left lift.
- 17. Blow fan motor 1 (BFM1) Floats paper toward the paper feed belts.
- 18. Blow fan motor 2 (BFM2) Induces paper onto the paper feed belts.
- 19. Toner feed motor (TFM) Replenishes toner.
- 20. Main charger cleaning motor (MCCM) Cleans the main charger wire.
- 21. Toner agitation motor (TAM) Agitates toner.

(4) Clutches and solenoids**Figure 2-2-4 Copier clutches and solenoids**

- | | |
|--|--|
| 1. Registration clutch (RCL) | Secondary paper feed. |
| 2. Feed clutch 1 (FCL1) | Controls the drive of the upper feed roller. |
| 3. Feed clutch 2 (FCL2) | Controls the drive of vertical conveying roller A. |
| 4. Feed clutch 3 (FCL3) | Controls the drive of vertical conveying roller B. |
| 5. Feed clutch 4 (FCL4) | Controls the drive of vertical conveying roller C. |
| 6. Feed clutch 5 (FCL5) | Controls the drive of vertical conveying roller D. |
| 7. Upper paper feed clutch (PFCL-U) | Primary paper feed from the upper cassette. |
| 8. Lower paper feed clutch (PFCL-L) | Primary paper feed from the lower cassette. |
| 9. Bypass lift clutch (BYPLCL) | Operates the bypass lift guide. |
| 10. Bypass paper feed clutch (BYPPFCL) | Primary paper feed from the bypass table. |
| 11. Duplex forwarding clutch (DUPFWDCL) | Conveys paper forward. |
| 12. Duplex reversing clutch (DUPREVCL) | Conveys paper in the reverse direction. |
| 13. Large paper deck conveying clutch
(LPDCCL) | Controls the drive of the paper feed belts. |
| 14. Transfer charger belt release clutch
(TCBRCL) | Controls the positioning of the transfer charger belt. |
| 15. Duplex eject switching solenoid
(DUPESSOL) | Operates the switchback feedshift guide. |
| 16. Duplex pressure release solenoid
(DUPPRSOL) | Operates the duplex switchback pulley. |
| 17. Feedshift solenoid (FSSOL) | Operates the conveying shift guide. |
| 18. Fixing web solenoid (FWEBSOL) | Drives the cleaning felt. |
| 19. Large paper deck paper feed
clutch 1 (LPDPFCL1) | Drives the deck paper conveying roller. |
| 20. Large paper deck paper feed
clutch 2 (LPDPFCL2) | Drives the deck paper feed roller. |

(5) Other electrical components



□ Machine front ▨ Machine inside ■ Machine rear

Figure 2-2-5 Other electrical components

- | | |
|---|---|
| 1. Exposure lamp (EL) | Exposes originals. |
| 2. Cleaning lamp (CL) | Removes residual charge from the drum surface. |
| 3. Fixing heater M (H1) | Heats the heat roller. |
| 4. Fixing heater S (H2) | Heats the heat roller. |
| 5. Fixing unit thermostat (TH) | Prevents overheating in the fixing section. |
| 6. Relay (PRY) | Turns the AC power and 24 V DC power supplies to the fixing section on and off. |
| 7. Laser scanner unit (LSU) | |
| • Polygon motor (PM) | Drives the polygon mirror. |
| • Laser diode (LD) | Generates the laser beam. |
| 8. Drum heater (DH) | Prevents drum condensation.* |
| 9. Cassette heater (CH) | Dehumidifies the cassette section.* |
| 10. Fixing unit thermistor (FTH) | Detects the heat roller temperature. |
| 11. Drum thermistor (DTH) | Detects the drum heater temperature.* |
| 12. Total counter (TC) | Displays the total number of copies produced. |
| 13. Scanner counter (SC) | Displays the total number of originals scanned. |
| 14. Drum surface potential sensor (DSPSENS) | Detects the potential on the drum surface. |
| 15. Hard disk (HDD) | Enables printing, special purpose copying and Box management function.* |

* Optional.

(6) SRDF switches and sensors

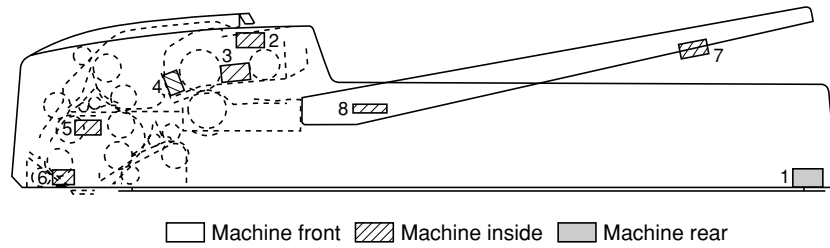


Figure 2-2-6 SRDF switches and sensors

- | | |
|--|---|
| 1. DF safety switch 1 (DFSSW1) | Breaks the safety circuit when the SRDF is opened; resets original misfeed detection. |
| 2. DF safety switch 2 (DFSSW2) | Breaks the safety circuit when the DF original switchback cover is opened; resets original misfeed detection. |
| 3. Original set switch (OSSW) | Detects the presence of an original. |
| 4. Original feed switch (OFSW) | Detects primary original feed end timing. |
| 5. Original switchback switch (OSBSW) | Detects an original misfeed in the original switchback section. |
| 6. DF timing switch (DFTSW) | Detects the original scanning timing. |
| 7. Original size length switch (OSLSW) | Detects the length of the original. |
| 8. Original size width switch (OSWSW) | Detects the width of the original. |

(7) SRDF motors

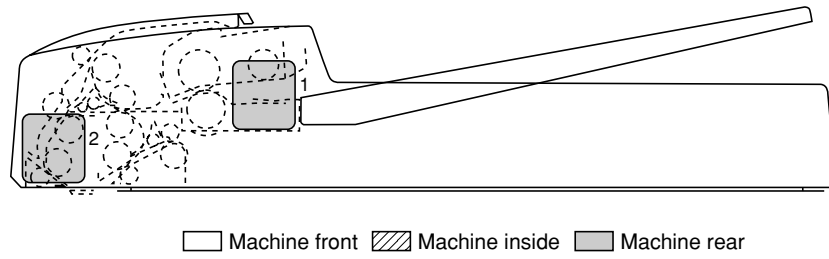
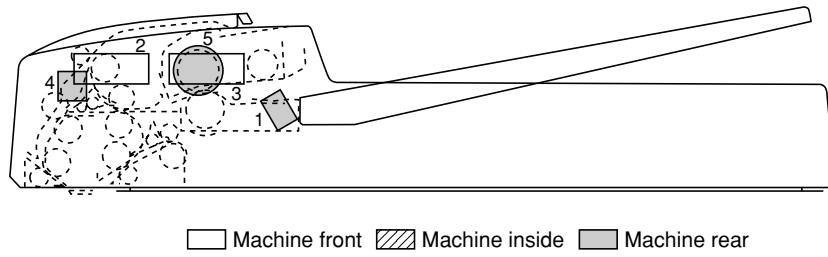


Figure 2-2-7 SRDF motors

- 1. Original feed motor (OFM) Drives the original feed and switchback sections.
- 2. Original conveying motor (OCM) Drives the original conveying section.

(8) SRDF clutches and solenoids**Figure 2-2-8 SRDF clutches and solenoids**

1. Original feed solenoid (OFSOL) Operates the paper feed lift.
2. Switchback feedshift solenoid (SBFSSOL) Operates the switchback feedshift guide.
3. Eject feedshift solenoid (EFSSOL) Operates the eject feedshift guide.
4. Switchback pressure solenoid (SBPSOL) ... Operates the switchback pulley.
5. Original feed clutch (OFCL) Controls the drive of the DF original feed pulley.

2-3-1 Power source PCB

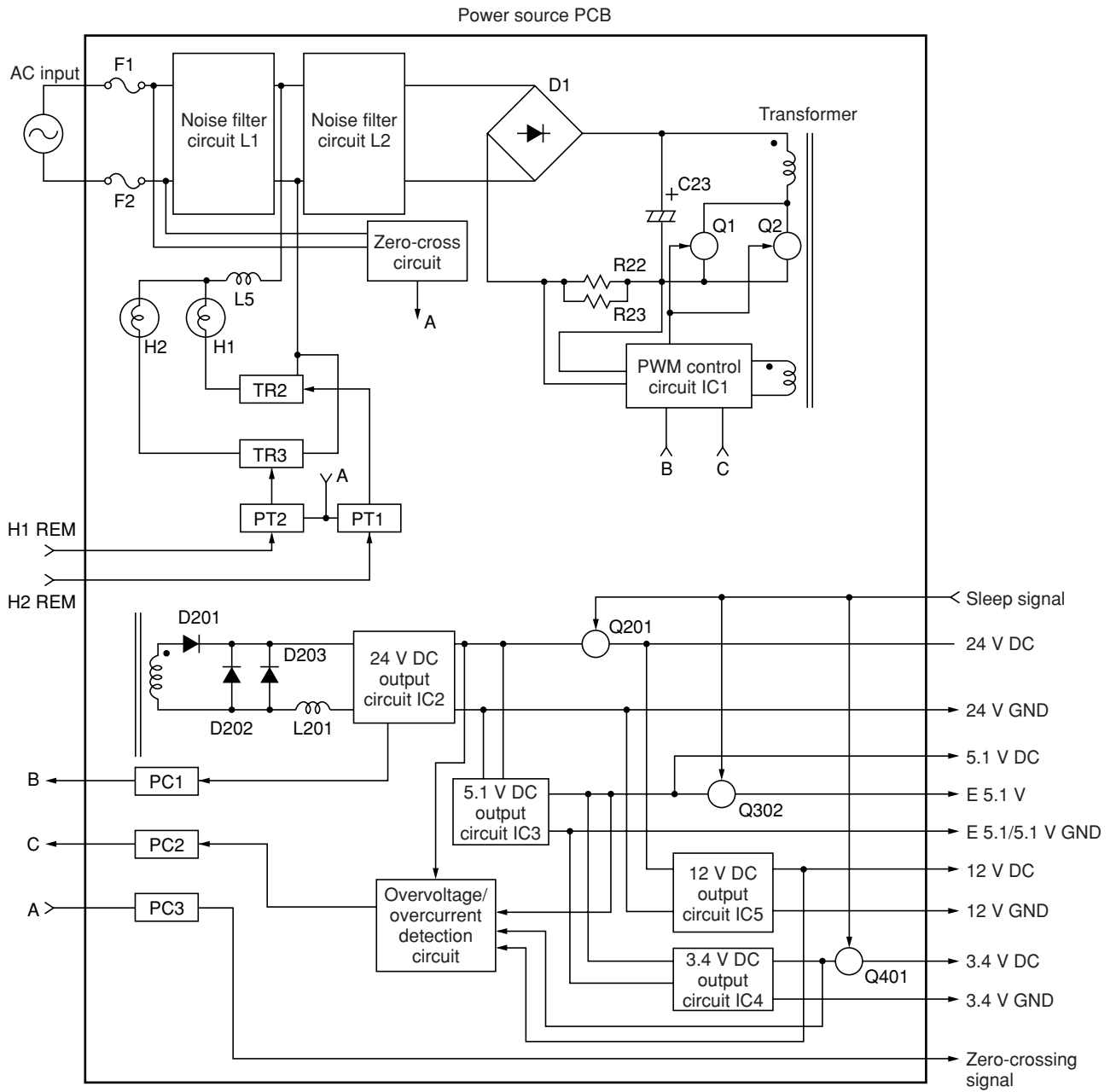


Figure 2-3-1 Power source PCB block diagram

The power source PCB (PSPCB) is a switching regulator which converts an AC input to generate 24 V DC, 5.1 V DC, 3.4 V DC and 12 V DC. It includes the components shown in Figure 2-3-1; noise filter circuits, a rectifier circuit, a PWM control circuit, a 24 V DC output circuit, a 5.1 V DC output circuit, a 3.4 V DC output circuit, a 12 V DC output circuit, a fixing heater control circuit, an overvoltage/overcurrent detection circuit.

The noise filter circuit, consisting mainly of noise filter circuits L1 and L2 in the power source section and capacitors, attenuates external noise from the AC input and prevents switching noise generated by the power source circuit from leaving the machine via the AC line. Choke coil L5 prevents the noise generated in the heater circuit when the heater turns on from leaving the machine via the AC line.

The rectifier circuit full-wave rectifies the AC input which has passed through the noise filter circuits L1 and L2 using the diode bridge D1.

In the PWM control circuit, PWM controller IC1 turns FETs Q1 and Q2 on and off to convert DC voltage full-wave rectified via diode bridge D1 and smoothed by electrolytic capacitor C23 to a high-frequency current, which is applied to the primary coil of the transformer.

The 24 V DC output circuit smoothes the current induced on the secondary coil of the transformer via diodes D201, D202 and D203 and smoothing choke coil L201, providing a more stable 24 V DC through 24 V DC control circuit including IC2. It also monitors the 24 V DC output status, which is fed back to PWM controller IC1 in the PWM control circuit via photocoupler PC1. PWM controller IC1 controls the switching duty width of switching FETs Q1 and Q2 based on the output voltage status, producing a stable 24 V DC output.

The 5.1 V DC output circuit receives 24 V DC from the 24 V DC control circuit and outputs a stable 5.1 V DC via DC/DC converter controller IC3.

The 3.4 V DC output circuit receives 5.1 V DC from the 5.1 V DC control circuit and outputs a stable 3.4 V DC via DC/DC converter controller IC4.

The 12 V DC output circuit receives 24 V DC from the 24 V DC control circuit and outputs a stable 12 V DC via DC/DC converter controller IC5.

FETs Q201, Q302 and Q401 turn on/off the output based on the sleep signal they receive from the main PCB (MPCB). In the energy saving mode, the FETs turn off to cut off the output of 24 V DC and 3.4 V DC, and some outputs of 5.1 V DC. Since the 12 V DC output is the input from output-controlling FET Q201, output of 12 V DC also ceases. As a result, all DC outputs except some 5.1 V DC outputs are cut off, by which means energy consumption is lowered to the Energy Star accreditation level while in the stand-by mode.

Abnormal rise of voltage for all DC outputs and overcurrent in 5.1 V DC and 12 V DC outputs are monitored by the overvoltage/overcurrent detection circuit, and if any abnormal rise is detected, alarm signals are fed back to the PWM control circuit IC1 via photocoupler PC2 instantly, by which means power supply is limited to the stand-by level. Overload of the 24 V DC output is monitored by resistors R22 and R23 as the total sum of all DC output power. If any abnormal condition is detected, the power supply is latched off. To recover the power supply, remove the cause of abnormality and turn the AC input off and back on. Overload of the 3.4 V DC output is monitored by the overcurrent detection function of IC4 of the 3.4 V DC circuit. If any abnormality is detected, only the 3.4 V DC output is shut down, while all other DC outputs remain live. When the abnormal output condition is removed, the 3.4 V DC output returns to the normal output condition.

The fixing heater control circuit sends a zero-crossing signal from the zero-crossing circuit via the photocoupler PC3 to the main PCB (MPCB). These signals are in turn converted into signals to control the on/off timing and phases, which are then input to the power source PCB (PSPCB) as H1 REM and H2 REM signals. The phototriacs PT1 and PT2 are turned on by these signals, and current flows through triacs TR2 and TR3 to turn the fixing heaters on.

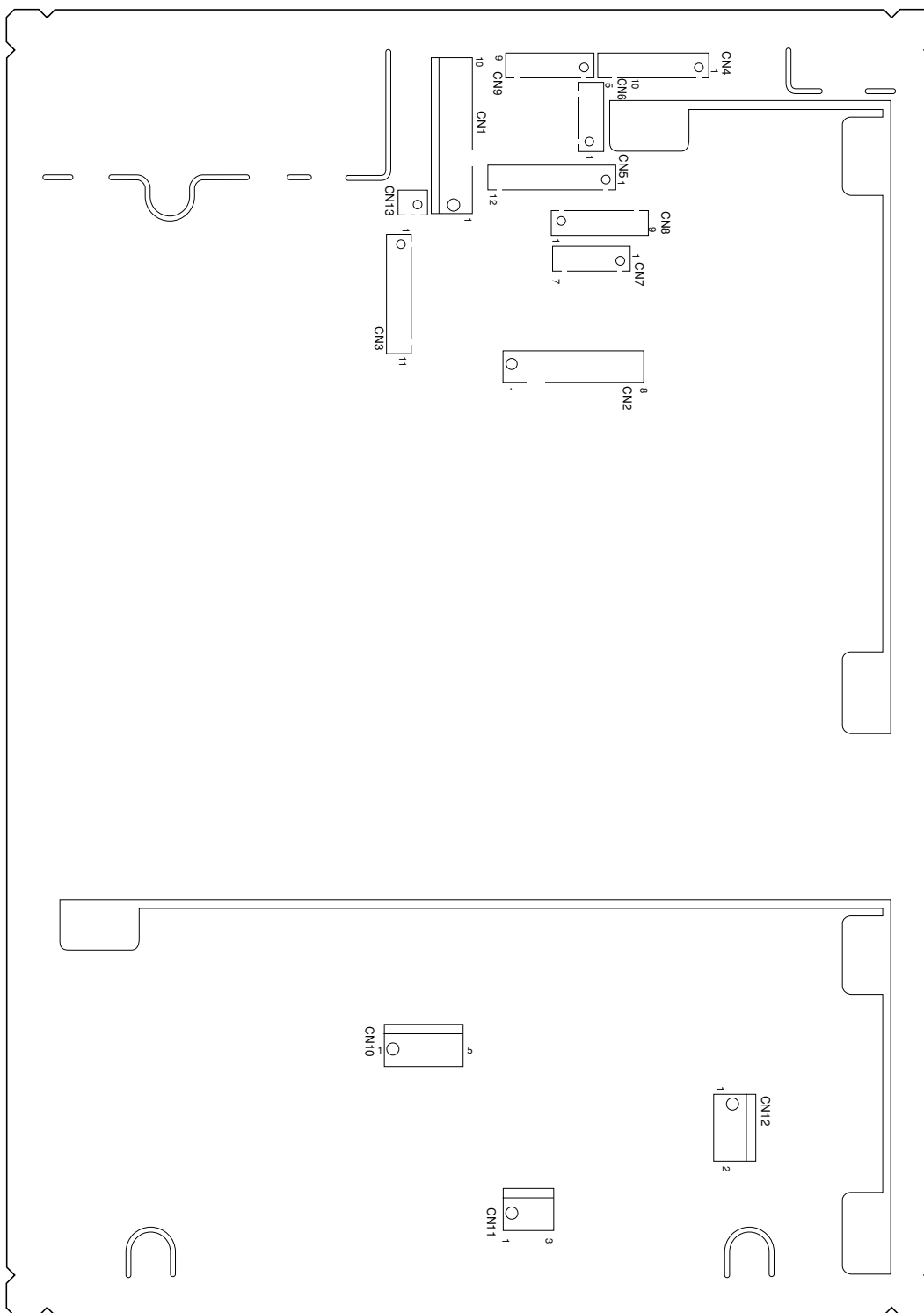


Figure 2-3-2 Power source PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
TB Connected to the AC power plug and power relay.	TB1	LIVE	I	Local voltage	120 V AC or 220-240 V AC
	TB2	COM	I	Local voltage	120 V AC or 220-240 V AC
	TB3	LIVE OUT	O	Local voltage	120 V AC or 220-240 V AC power source to PRY, output
CN1 Connected to the cassette heater, engine PCB, main PCB and scanner motor PCB.	1	24 V	O	24 V DC	Power source to CH, output
	2	24 V	O	24 V DC	Power source, output
	3	24 V	O	24 V DC	Power source, output
	4	24 V	O	24 V DC	Power source to EPCB, output
	5	24 V	O	24 V DC	Power source to MPCB, output
	6	24 V	O	24 V DC	Power source to SMPCB, output
	7	24 V	O	24 V DC	Power source to SMPCB, output
	8	G(R24 V)	-	-	Ground for EPCB
	9	G(R24 V)	-	-	Ground for EPCB
	10	G(24 V)	-	-	Ground for EPCB
CN2 Connected to the junction A PCB, main PCB and scanner motor PCB.	1	P.G	-	-	Ground for JPCB-A
	2	P.G	-	-	Ground for MPCB
	3	P.G	-	-	Ground for SMPCB
	4	P.G	-	-	Ground for SMPCB
	6	SLEEP SIG	I	0/5.2 V DC	Sleep mode signal: On/Off
	7	Z CROSS SIG	O	0/5.2 V DC (pulse)	Zero-cross signal
	8	H1 REM	I	0/5.2 V DC	H1: On/Off
	9	H2 REM	I	0/5.2 V DC	H2: On/Off
	CN3 Connected to the finisher*, side deck* and DF driver PCB.	1	24 V	O	24 V DC
2		24 V	O	24 V DC	Power supply for finisher*
3		24 V	O	24 V DC	Power supply for finisher*
8		24 V	O	24 V DC	Power supply for DFDPCB
9		24 V	O	24 V DC	Power supply for DFDPCB
10		24 V	O	24 V DC	Power supply for side deck*
11		24 V	O	24 V DC	Power supply for side deck*
CN4 Connected to the junction B PCB, finisher*, side deck* and DF driver PCB.	1	P.G	-	Ground	Ground for finisher*
	2	P.G	-	Ground	Ground for finisher*
	3	P.G	-	Ground	Ground for finisher*
	4	P.G	-	Ground	Ground for finisher*
	5	P.G	-	Ground	Ground for JPCB-B
	6	P.G	-	Ground	Ground for JPCB-B
	7	P.G	-	Ground	Ground for DFDPCB
	8	P.G	-	Ground	Ground for DFDPCB
	9	P.G	-	Ground	Ground for side deck*
	10	P.G	-	Ground	Ground for side deck*
CN5 Connected to the main PCB, finisher*, side deck* and DF driver PCB.	1	E5V	O	5.2 V DC	Power supply for finisher*
	2	E5V	O	5.2 V DC	Power supply for finisher*
	4	E5V	O	5.2 V DC	Power supply for DFDPCB
	5	E5V	O	5.2 V DC	Power supply for DFDPCB
	6	E5V	O	5.2 V DC	Power supply for side deck*
	8	S.G	-	Ground	Ground for DFDPCB
	9	S.G	-	Ground	Ground for DFDPCB
	10	S.G	-	Ground	Ground for finisher*
	11	S.G	-	Ground	Ground for MPCB
	12	S.G	-	Ground	Ground for side deck*

*: Optional

Connector	Pin No.	Signal	I/O	Voltage	Description
CN6 Connected to the main PCB and junction B PCB .	1	3.4V	O	3.3 V DC	Power supply for MPCB
	4	S.G	-	Ground	Ground for MPCB
	5	S.G	-	Ground	Ground for JPCB-B
	6	S.G	-	Ground	Ground for JPCB-B
CN7 Connected to the main PCB.	1	5V	O	5.2 V DC	Power source to MPCB, output
	2	5V	O	5.2 V DC	Power source to MPCB, output
	3	5V	O	5.2 V DC	Power source to MPCB, output
	4	5V	O	5.2 V DC	Power source to MPCB, output
	5	S.G	-	Ground	Ground for MPCB
	6	S.G	-	Ground	Ground for MPCB
	7	S.G	-	Ground	Ground for MPCB
CN8 Connected to the engine PCB, main PCB, scanner motor PCB and hard disk.	1	E5V	O	5.2 V DC	Power source to MPCB, output
	2	E5V	O	5.2 V DC	Power source to HDD, output
	3	E5V	O	5.2 V DC	Power source to HDD, output
	4	E5V	O	5.2 V DC	Power source to SMPCB, output
	5	E5V	O	5.2 V DC	Power source to EPCB, output
	6	E5V	O	5.2 V DC	Power source to MPCB, output
	7	E5V	O	5.2 V DC	Power source to MPCB, output
	9	12V	O	12 V DC	Power supply for HDD
	CN9 Connected to the engine PCB, main PCB, scanner motor PCB and hard disk.	1	S.G	-	Ground
2		G(5V)	-	Ground	Ground for EPCB
3		S.G	-	Ground	Ground for MPCB
4		S.G	-	Ground	Ground for MPCB
5		S.G	-	Ground	Ground for TAMPCB*
6		S.G	-	Ground	Ground for HDD
7		S.G	-	Ground	Ground for HDD
8		S.G	-	Ground	Ground for SMPCB
CN10 Connected to the main switch.	1	LIVE OUT	O	120 V AC or 220-240 V AC	AC power source to MSW, output
	5	LIVE IN	I	120 V AC or 220-240 V AC	AC power source via MSW, input
CN11 Connected to the power relay.	1	NEUTRAL OUT	O	120 V AC or 220-240 V AC	AC power source to PRY, output
	2	-	I	120 V AC or 220-240 V AC	AC power source via PRY, input
CN12 Connected to the fixing heater M and S.	1	-	O	120 V AC or 220-240 V AC	H1: On/Off
	2	-	O	120 V AC or 220-240 V AC	H2: On/Off

2-3-2 Main PCB

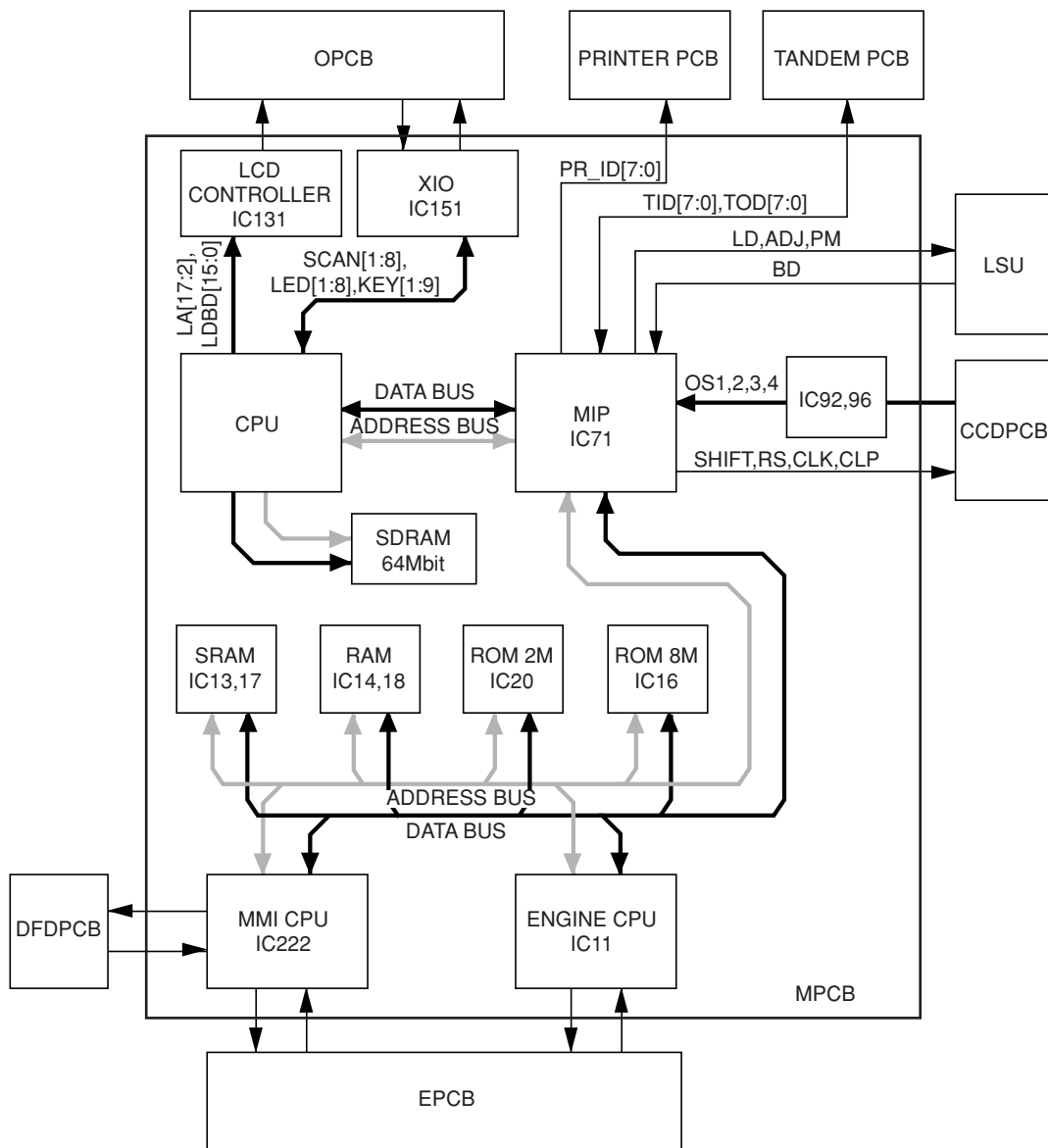


Figure 2-3-3 Main PCB block diagram

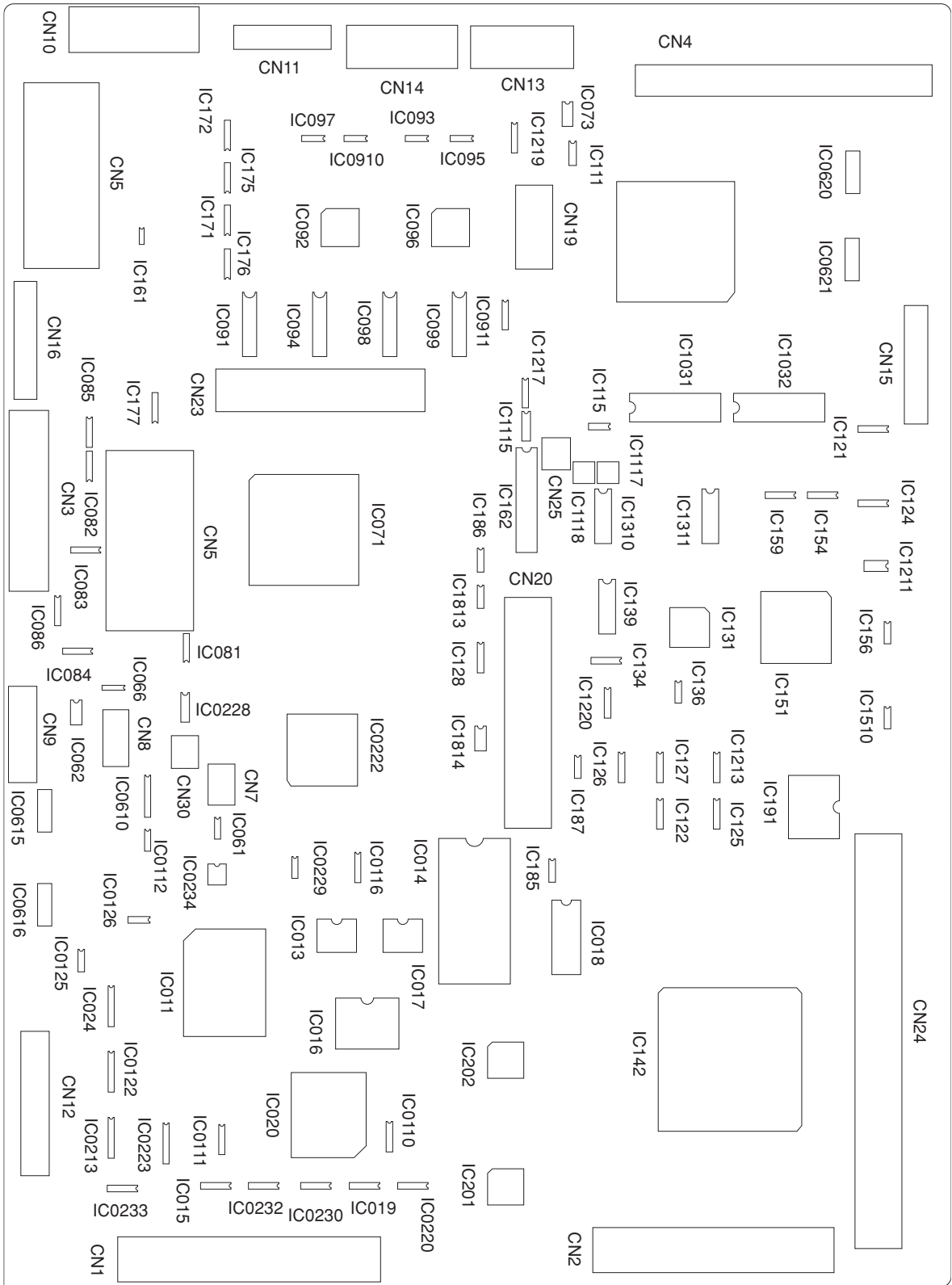


Figure 2-3-4 Main PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
CN7 Connected to the polygon motor control PCB (LSU).	1	CLOCK	O	0/5.2 V DC (pulse)	PM rotation clock
	2	START	O	0/5.2 V DC	PM: On/Off
	3	READY	I	0/5.2 V DC	PM rotation status: Stabilized/Not stabilized
CN8 Connected to the BD sensor PCB (LSU).	1	G(5V)	-	Ground	Ground for BD sensor PCB (LSU)
	2	BD-	I	0/5.2 V DC (pulse)	Horizontal synchronized signal (-)
	3	BD+	I	0/5.2 V DC (pulse)	Horizontal synchronized signal (+)
	4	G(5V)	-	Ground	Ground for BD sensor PCB (LSU)
	5	5V	O	5.2 V DC	Ground for BD sensor PCB (LSU)
CN9 Connected to the LD control PCB (LSU).	1	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	2	5V	O	5.2 V DC	Power supply for LDPCB (LSU)
	3	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	4	/EN	O	0/5.2 V DC	LD output enable signal: Enable/Not enable
	5	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	6	/ADJUST1	O	0/5.2 V DC	LD power adjust signal (1)
	7	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	8	/ADJUST2	O	0/5.2 V DC	LD power adjust signal (2)
	9	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	10	LOAD	O	0/5.2 V DC	LD LOAD signal
	11	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	12	CLK	O	0/5.2 V DC	LD CLK signal
	13	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	14	DATE	O	0/5.2 V DC	LD DATE signal
	15	/VD1-	O	0/5.2 V DC	Video data signal
	16	/VD1+	O	0/5.2 V DC	Video data signal
	17	/VD2-	O	0/5.2 V DC	Video data signal
	18	/VD2+	O	0/5.2 V DC	Video data signal
	19	G(5V)	-	Ground	Ground for LD control PCB (LSU)
	20	NC	-	-	Not used
CN10 Connected to the operation unit left PCB and operation unit right PCB.	A1	BUZZER	O	0/5.2 V DC	Buzzer: On/Off
	A2	X1	I	0 V to 5.2 V DC	Touch panel detection voltage
	A3	Y1	I	0 V to 5.2 V DC	Touch panel detection voltage
	A4	X2	O	0 V to 5.2 V DC	Touch panel detection voltage
	A5	Y2	O	0 V to 5.2 V DC	Touch panel detection voltage
	A6	LCD FRAME	O	0/5.2 V DC	LCD control signal
	A7	LCD LOAD	O	0/5.2 V DC	LCD control signal
	A8	LCD CP	O	0/5.2 V DC (pulse)	LCD drive clock
	A9	LCD VSS(S.G)	-	Ground	Ground for LCD (OPCB-L)
	A10	LCD VDD(5V)	O	5.2 V DC	Power supply for LCD (OPCB-L)
	A11	LCD VSS(S.G)	-	-	Ground for LCD (OPCB-L)
	A12	LCD DISP OFF	O	0/5.2 V DC	LCD: On/Off
	A13	LCD D0	O	0/5.2 V DC (pulse)	LCD display data signal (D0)
	A14	LCD D1	O	0/5.2 V DC (pulse)	LCD display data signal (D1)
	A15	LCD D2	O	0/5.2 V DC (pulse)	LCD display data signal (D2)
	A16	LCD D3	O	0/5.2 V DC (pulse)	LCD display data signal (D3)
	A17	VEE OFF	O	0/5.2 V DC	LCD power supply control signal
	B1	NC	-	-	Not used
	B2	NC	-	-	Not used
	B3	LAMP OFF	O	0/5.2 V DC	LCD back light: On/Off
B4	S.GND	-	Ground	Ground for OPCB-R	
B5	5V	O	5.2 V DC	Power supply for OPCB-R	
B6	DIG LED 8	O	0/5.2 V DC (pulse)	LED drive signal 8	
B7	DIG LED 7	O	0/5.2 V DC (pulse)	LED drive signal 7	
B8	SCAN 8	O	0/5.2 V DC (pulse)	LED drive signal 8	
B9	SCAN 7	O	0/5.2 V DC (pulse)	LED drive signal 7	

Connector	Pin No.	Signal	I/O	Voltage	Description
CN10 Connected to the operation unit left PCB and operation unit right PCB.	B10	SCAN 6	O	0/5.2 V DC (pulse)	LED drive signal 6
	B11	SCAN 5	O	0/5.2 V DC (pulse)	LED drive signal 5
	B12	DIG KEY 9	I	0/5.2 V DC (pulse)	KEY return signal 9
	B13	DIG KEY 8	I	0/5.2 V DC (pulse)	KEY return signal 8
	B14	DIG KEY 7	I	0/5.2 V DC (pulse)	KEY return signal 7
	B15	DIG KEY 6	I	0/5.2 V DC (pulse)	KEY return signal 6
	B16	DIG KEY 5	I	0/5.2 V DC (pulse)	KEY return signal 5
CN11 Connected to the operation unit left PCB.	1	DIG LED 6	O	0/5.2 V DC (pulse)	LED drive signal 6
	2	DIG LED 5	O	0/5.2 V DC (pulse)	LED drive signal 5
	3	DIG LED 4	O	0/5.2 V DC (pulse)	LED drive signal 4
	4	DIG LED 3	O	0/5.2 V DC (pulse)	LED drive signal 3
	5	DIG LED 2	O	0/5.2 V DC (pulse)	LED drive signal 2
	6	DIG LED 1	O	0/5.2 V DC (pulse)	LED drive signal 1
	7	SCAN 4	O	0/5.2 V DC (pulse)	LED scan signal 4
	8	SCAN 3	O	0/5.2 V DC (pulse)	LED scan signal 3
	9	SCAN 2	O	0/5.2 V DC (pulse)	LED scan signal 2
	10	SCAN 1	O	0/5.2 V DC (pulse)	LED scan signal 1
	11	DIG KEY 3	I	0/5.2 V DC (pulse)	KEY return signal 3
	12	DIG KEY 2	I	0/5.2 V DC (pulse)	KEY return signal 2
	13	DIG KEY 1	I	0/5.2 V DC (pulse)	KEY return signal 1
CN12 Connected to the DF driver PCB.	1	OSLED (RED)	O	0/5.2 V DC	OSLED (red): On/Off
	2	OSLED (GN)	O	0/5.2 V DC	OSLED (green): On/Off
	3	SBPSOL (RET)	O	0/24 V DC	SBPSOL (release): On/Off
	4	SBPSOL (ACT)	O	0/24 V DC	SBPSOL (latch-on): On/Off
	5	OFCL	O	0/24 V DC	OFCL: On/Off
	6	EFSSOL	O	0/24 V DC	EFSSOL: On/Off
	7	OFSOL (RET)	O	0/24 V DC	OFSOL (release): On/Off
	8	SBFSSOL	O	0/24 V DC	SBFSSOL: On/Off
	9	OFM ENABLE	O	0/5.2 V DC	OFM (enable): On/Off
	10	OFSOL (ACT)	O	0/24 V DC	OFSOL (latch-on): On/Off
	11	OFM CLK	O	0/5.2 V DC (pulse)	OFM drive clock pulse
	12	OFM RET	O	0/5.2 V DC	OFM control signal: On/Off
	13	OCM ENABLE	O	0/5.2 V DC	OCM (enable): On/Off
	14	OFM CWB	O	0/5.2 V DC	OFM rotation direction switching signal
	15	OCM CWB	O	0/5.2 V DC	OCM rotation direction switching signal
	16	OCM CLK	O	0/5.2 V DC(pulse)	OCM drive clock
	17	OCM M3	O	0/5.2 V DC	OCM drive control signal (M3)
	18	OCM M2	O	0/5.2 V DC	OCM drive control signal (M2)
	19	OCM Vref	O	0/5.2 V DC	OCM drive control signal
	20	OCM M1	O	0/5.2 V DC	OCM drive control signal (M1)
	21	OSBSW	I	0/5.2 V DC	OSBSW: On/Off
	22	OFSW	I	0/5.2 V DC	OFSW: On/Off
	23	SET SW	I	0/5.2 V DC	OSLSW: On/Off
	24	DF SHORT	I	0/5.2 V DC	DF set status: Installed/Not installed
	25	SZ DET	I	0/5.2 V DC	Original size detection signal
	26	DFSSW2	I	0/5.2 V DC	DFSSW2: On/Off
	27	DFSSW1	I	0/5.2 V DC	DFSSW1: On/Off
	28	SZ SW A	I	0/5.2 V DC	OSWSW: On/Off
	29	DFTSW	I	0/5.2 V DC	DFTSW: On/Off
	30	S.GND	-	Ground	Ground for DFDPB
	31	NC	-	-	Not used
	32	NC	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
CN13 Connected to the CCD PCB.	1	ϕ CLP-	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	2	ϕ CLP+	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	3	ϕ RS+	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	4	ϕ RS-	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	5	ϕ CLK-	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	6	ϕ CLK+	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	7	ϕ SHIFT+	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	8	ϕ SHIFT-	O	0/3.3 V DC (pulse)	CCDPCB drive clock
	9	5V	O	5.2 V DC	Power supply for CCDPCB
	10	5V	O	5.2 V DC	Power supply for CCDPCB
	11	5V	O	5.2 V DC	Power supply for CCDPCB
CN14 Connected to the CCD PCB.	1	OS2+	I	0/12 V DC (pulse)	CCDPCB control signal
	2	OS2-	I	0/12 V DC (pulse)	CCDPCB control signal
	3	OS1+	I	0/12 V DC (pulse)	CCDPCB control signal
	4	OS1-	I	0/12 V DC (pulse)	CCDPCB control signal
	5	OS3+	I	0/12 V DC (pulse)	CCDPCB control signal
	6	OS3-	I	0/12 V DC (pulse)	CCDPCB control signal
	7	OS4+	I	0/12 V DC (pulse)	CCDPCB control signal
	8	OS4-	I	0/12 V DC (pulse)	CCDPCB control signal
	9	N.C	-	-	Not used
	10	+12V	O	+12V DC	Power supply for CCDPCB
	11	G(analog)	-	Ground	Analog ground for CCDPCB
	12	G(analog)	-	Ground	Analog ground for CCDPCB
CN15 Connected to the power source PCB.	1	5V	I	5.2 V DC	Power supply from PSPCB
	2	5V	I	5.2 V DC	Power supply from PSPCB
	3	S.G	-	Ground	Ground from PSPCB
	4	S.G	-	Ground	Ground from PSPCB
	5	E5V	I	5.2 V DC	Power supply from PSPCB
	6	E5V	I	5.2 V DC	Power supply from PSPCB
	7	S.G	-	Ground	Ground from PSPCB
	8	S.G	-	Ground	Ground from PSPCB
	9	SLEEP SIG	O	0/5.2 V DC	PSPCB sleep mode signal: On/Off
	10	Z CROSS SIG	I	0/5.2 V DC (pulse)	Zero-cross signal
CN16 Connected to the power source PCB.	1	5V	I	5.2 V DC	Power supply from PSPCB
	2	5V	I	5.2 V DC	Power supply from PSPCB
	3	E5V	I	5.2 V DC	Power supply from PSPCB
	4	S.G	-	Ground	Ground from PSPCB
	5	S.G	-	Ground	Ground from PSPCB
	6	S.G	-	Ground	Ground from PSPCB
	7	3.4V	I	3.3 V DC	Power supply from PSPCB
	8	S.G	-	Ground	Ground from PSPCB
	9	24V	I	24 V DC	Power supply from PSPCB
	10	P.G	-	Ground	Ground from PSPCB

2-3-3 Engine PCB

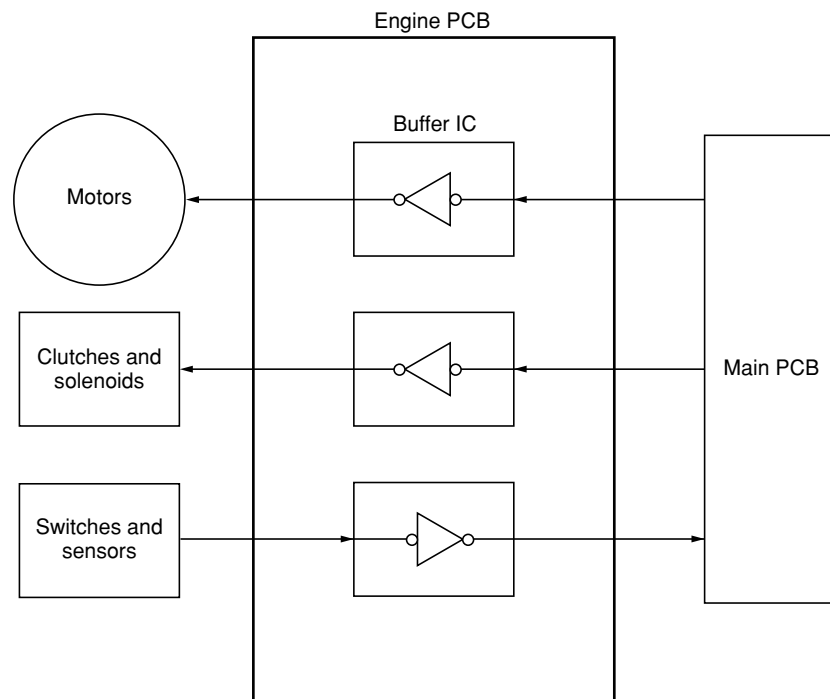


Figure 2-3-5 Engine PCB block diagram

The engine PCB (EPCB) transmits the status of each switch or sensor to the main PCB (MPCB). It also transmits drive control signals from the main PCB (MPCB) through buffer ICs to motors and clutches.

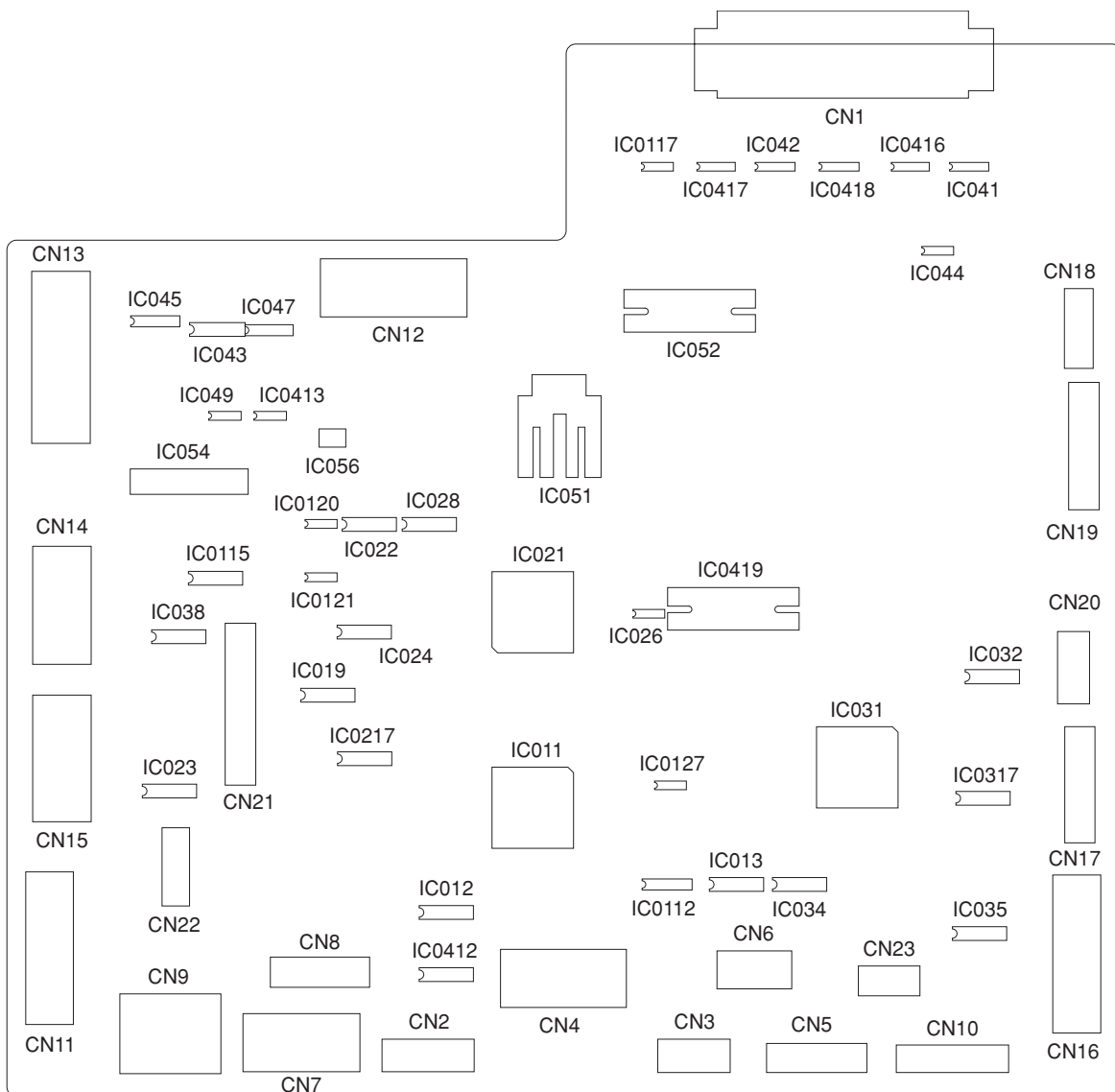


Figure 2-3-6 Engine PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
Connected to the upper lift limit switch, upper paper switch, upper paper feed clutch, lower lift limit switch, lower paper switch and lower paper feed clutch.	1	R24V	O	24 V DC	Power supply for PFCL-U
	2	PFCL-U	O	0/24 V DC	PFCL-U: On/Off
	3	PSW-U	I	0/5.2 V DC	PSW-U: On/Off
	4	S.GND	-	Ground	Ground for PSW-U
	5	5V	O	5.2 V DC	Power supply for PSW-U
	6	LICSW-U	I	0/5.2 V DC	LICSW-U: On/Off
	7	S.GND	-	Ground	Ground for LICSW-U
	8	5V	O	5.2 V DC	Power supply for LICSW-U
	9	R24V	O	24 V DC	Power supply for PFCL-L
	10	PFCL-L	O	0/24 V DC	PFCL-L: On/Off
	11	PSW-L	I	0/5.2 V DC	PSW-L: On/Off
	12	S.GND	-	Ground	Ground for PSW-L
	13	5V	O	5.2 V DC	Power supply for PSW-L
	14	LICSW-L	I	0/5.2 V DC	LICSW-L: On/Off
	15	S.GND	-	Ground	Ground for LICSW-L
	16	5V	O	5.2 V DC	Power supply for LICSW-L
Connected to the upper paper width switch, lower paper width switch and switchback eject switch.	1	PWSW3 DIG1	I	0/5.2 V DC	PWSW-U (1): On/Off
	2	PWSW-U DIG0	I	0/5.2 V DC	PWSW-U (0): On/Off
	3	S.GND	-	Ground	Ground for PWSW-U
	4	PWSW-U DIG2	I	0/5.2 V DC	PWSW-U (2): On/Off
	5	PWSW-L DIG1	I	0/5.2 V DC	PWSW-L (1): On/Off
	6	PWSW-L DIG0	I	0/5.2 V DC	PWSW-L (0): On/Off
	7	S.GND	-	Ground	Ground for PWSW-L
	8	PWSW-L DIG2	I	0/5.2 V DC	PWSW-L (2): On/Off
	9	SBESW	I	0/5.2 V DC	SBESW: On/Off
	10	5V	O	5.2 V DC	Power supply for SBESW
	11	S.G	-	Ground	Ground for SBESW
Connected to the feed clutch 4/5, paper feed switch 4/5, humidity sensor PCB, upper and lower lift motor.	A1	R24V	O	24 V DC	Power supply for PFCL5
	A2	FCL5	O	0/24 V DC	PFCL5: On/Off
	A3	R24V	O	24 V DC	Power supply for PFCL4
	A4	FCL4	O	0/24 V DC	PFCL4: On/Off
	A5	PFSW5	I	0/5.2 V DC	PFSW5: On/Off
	A6	5V	O	5.2 V DC	Power supply for PFSW5
	A7	GND	-	Ground	Ground for PFSW5
	A8	PFSW4	I	0/5.2 V DC	PFSW4: On/Off
	A9	5V	O	5.2 V DC	Power supply for PFSW4
	A10	GND	-	Ground	Ground for PFSW4
	B1	TH	I	0 V to 5 V DC	HUMPCB sensing temperature voltage
	B2	S.G(TH)	-	Ground	Ground for HUMPCB
	B3	HUMS SIG	I	0 V to 5 V DC	HUMPCB sensing humidity voltage
	B4	5V	O	5.2 V DC	Power supply for HUMPCB
	B5	PCLM-U	O	0/24 V DC	PCLM-U: On/Off
	B6	R24V	O	24 V DC	Power supply for PCLM-U
B7	R24V	O	24 V DC	Power supply for PCLM-L	
B8	PCLM-L	O	0/24 V DC	PCLM-L: On/Off	
Connected to the high voltage transformer PCB.	1	R24V	O	24 V DC	Power supply for HVTPCB
	2	P.GND	-	Ground	Ground for HVTPCB
	3	MC REM	O	0/24 V DC	MC: On/Off
	4	NC	-	-	Not used
	5	MC ALARM	I	0/24 V DC	MC output status: Normal/Abnormal
	6	GRID CNT	O	0 V to 5 V DC	Main charger grid control voltage
	7	D.BIAS REM	O	0/24 V DC	D.BIAS: On/Off
	8	D.BIAS CNT	O	0 V to 5 V DC	D.BIAS output voltage
	9	C.BIAS REM	O	0/24 V DC	C.BIAS: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
CN6 Connected to the upper paper length switch, lower paper length switch and waste toner detection switch.	1	S.GND	-	Ground	Ground for PLSW-U
	2	PLSW-U	I	0/5.2 V DC	PLSW-U: On/Off
	3	S.GND	-	Ground	Ground for PLSW-L
	4	PLSW-L	I	0/5.2 V DC	PLSW-L: On/Off
	5	S.GND	-	Ground	Ground for PLSW-U
	6	WTDSW	I	0/5.2 V DC	WTDSW: On/Off
CN7 Connected to the image forming motor and paper feed motor.	A1	CLOCK	O	0/5.2 V DC (pulse)	IFM drive clock
	A2	LOCK ALM	I	5.2 V DC/0V	IFM rotation status: Normal/Lock
	A3	IFM REM	O	0/5.2 V DC	IFM: On/Off
	A4	5V	O	5.2 V DC	Power supply for IFM
	A5	S.G	-	Ground	Ground for IFM
	A6	P.G	-	Ground	Ground for IFM
	A7	P.G	-	Ground	Ground for IFM
	A8	R24V	O	24 V DC	Power supply for IFM
	A9	R24V	O	24 V DC	Power supply for IFM
	B1	CLOCK	O	0/5.2 V DC (pulse)	PFM drive clock
	B2	LOCK ALM	I	0/5.2 V DC	PFM rotation status: Normal/Lock
	B3	PFM REM	O	0/5.2 V DC	PFM: On/Off
	B4	5V	O	5.2 V DC	Power supply for PFM
	B5	S.G	-	Ground	Ground for PFM
	B6	P.G	-	Ground	Ground for PFM
	B7	P.G	-	Ground	Ground for PFM
B8	R24V	O	24 V DC	Power supply for PFM	
B9	R24V	O	24 V DC	Power supply for PFM	
CN8 Connected to the drive motor.	1	CLOCK	O	0/5.2 V DC (pulse)	DM drive clock
	2	LOCK ALM	I	5.2 V DC/0V	DM rotation status: Normal/Lock
	3	DM REM	O	0/5.2 V DC	DM: On/Off
	4	5V	O	5.2 V DC	Power supply for DM
	5	S.G	-	Ground	Ground for DM
	6	P.G	-	Ground	Ground for DM
	7	P.G	-	Ground	Ground for DM
	8	R24V	O	24 V DC	Power supply for DM
	9	R24V	O	24 V DC	Power supply for DM
CN9 Connected to the safety switch 1/2/3/4.	1	SSW4	I	24 V DC/0V	SSW4: On/Off
	2	SSW3	I	24 V DC/0V	SSW3: On/Off
	3	SSW1,2	I	24 V DC/0V	SSW1, 2: On/Off
	4	PRY REM	O	0/24 V DC	PRY: On/Off
	5	24V SOURCE	O	24 V DC	Power source to SSW4, output
	6	24V SOURCE	O	24 V DC	Power source to SSW3, output
	7	24V SOURCE	O	24 V DC	Power source to SSW1 and SSW2, output
	8	24V SOURCE	O	24 V DC	Power source to PRY
CN10 Connected to the blow fan motor 1/2.	1	BFM1 REM	O	0/24 V DC	BFM1: On/Off
	2	R24V	O	24 V DC	Power supply for BFM1
	3	5V	O	5.2 V DC	Power supply for BFM1
	4	P.G	-	Ground	Ground for BFM1
	5	BFM2 REM	O	0/24 V DC	BFM2: On/Off
	6	R24V	O	24 V DC	Power supply for BFM2
	7	5V	O	5.2 V DC	Power supply for BFM2
	8	P.G	-	Ground	Ground for BFM2

Connector	Pin No.	Signal	I/O	Voltage	Description
CN11 Connected to the power relay and power source PCB.	1	R24V	I	24 V DC	Power source via PRY, input
	2	R24V	I	24 V DC	Power source via PRY, input
	3	G(R24V)	-	Ground	Ground from PSPACE
	4	G(R24V)	-	Ground	Ground from PSPACE
	5	G(24V)	-	Ground	Ground from PSPACE
	6	24V	I	24 V DC	Power source from PSPACE, input
	7	P.G	-	Ground	Ground for DH
	8	24V SOURCE	O	24 V DC	Power source to DH, output
CN12 Connected to the junction A PCB.	A1	FFM	O	0/24 V DC	FFM: On/Off
	A2	MCFM	O	0/24 V DC	MCFM: On/Off
	A3	CFM	O	0/24 V DC	CFM: On/Off
	A4	LSUFM1	O	0/24 V DC	LSUFM1: On/Off
	A5	LSUFM2	O	0/24 V DC	LSUFM2: On/Off
	A6	FSSOL P	O	0/24 V DC	FSSOL (P): On/Off
	A7	FSSOL A	O	0/24 V DC	FSSOL (A): On/Off
	A8	FSSW	I	0/5.2 V DC	FSSW: On/Off
	A9	ESW	I	0/5.2 V DC	ESW: On/Off
	A10	EFM	O	0/12 V DC	EFM: On/Off
	A11	12V	O	12 V DC	Power supply for EFM
	A12	NC	-	-	Not used
	B1	NC	-	-	Not used
	B2	NC	-	-	Not used
	B3	NC	-	-	Not used
	B4	NC	-	-	Not used
	B5	NC	-	-	Not used
	B6	NC	-	-	Not used
	B7	NC	-	-	Not used
	B8	NC	-	-	Not used
	B9	LPDPLDSEN2	I	0/5.2 V DC	LPDPLDSEN2: On/Off
	B10	LPDPLDSEN1	I	0/5.2 V DC	LPDPLDSEN1: On/Off
	B11	LPDLM-L	O	0/24 V DC	LPDLM-L: On/Off
	B12	LPDLM-R	O	0/24 V DC	LPDLM-R: On/Off
CN13 Connected to the junction A PCB.	A1	LPDPESENS	I	0/5.2 V DC	LPDPESENS: On/Off
	A2	LPDPPSENS3	I	0/5.2 V DC	LPDPPSENS3: On/Off
	A3	LPDPPSENS2	I	0/5.2 V DC	LPDPPSENS2: On/Off
	A4	LPDPPSENS1	I	0/5.2 V DC	LPDPPSENS1: On/Off
	A5	LPDPFCL2	O	0/24 V DC	LPDPFCL2: On/Off
	A6	LPDPFCL1	O	0/24 V DC	LPDPFCL1: On/Off
	A7	LPDOSSW	I	0/24 V DC	LPDOSSW: On/Off
	A8	LPDLSW2	I	0/5.2 V DC	LPDLSW2: On/Off
	A9	LPDLSW1	I	0/5.2 V DC	LPDLSW1: On/Off
	A10	LCF/CASS	I	0/5.2 V DC	LCF/CASS switching signal
	A11	TB ALARM	I	0/24 V DC	TB output status: Normal/Abnormal
	A12	TB BELT FBB	I	0/24 V DC	TB BELT FBB: On/Off
	A13	TB CNT	O	0 V to 5 V DC	TB output control voltage
	A14	TB REM	O	0/24 V DC	TB: On/Off
	A15	FTH	I	0 V to 5 V DC	FTH detection voltage
	B1	TFM	O	24/0 V AC (pseudo)	TFM: On/Off
	B2	TFM	O	24/0 V AC (pseudo)	TFM: On/Off
	B3	TAM	O	24/0 V AC (pseudo)	TAM: On/Off
	B4	TAM	O	24/0 V AC (pseudo)	TAM: On/Off
	B5	CL	O	0/24 V DC	CL: On/Off
	B6	MCCM FWD	O	0/12 V DC	MCCM forward rotation: On/Off
	B7	MCCM REV	O	0/12 V DC	MCCM reverse rotation: On/Off
	B8	RSW	I	0/5.2 V DC	RSW: On/Off
	B9	TLDS	I	0 V to 5 V DC	TLDS detection voltage
B10	TNS CNT	O	0 V to 5 V DC	TNS control voltage	
B11	TNS	I	0 V to 5 V DC	TNS detection voltage	
B12	DTH	I	0 V to 5 V DC	DTH detection voltage	

Connector	Pin No.	Signal	I/O	Voltage	Description
CN13 Connected to the junction A PCB.	B13	FWEBSOL	O	0/24 V DC	FWEBSOL: On/Off
	B14	NC	-	-	Not used
	B15	NC	-	-	Not used
CN14 Connected to the junction B PCB.	A1	DUPFSSW	I	0/5.2 V DC	DUPFSSW: On/Off
	A2	DUPJSW	I	0/5.2 V DC	DUPJSW: On/Off
	A3	DUP SET	I	0/5.2 V DC	Duplex unit set: Installed/Not installed
	A4	MSW OFF REM	O	0/24 V DC	MSW: Off/Normal
	A5	DUPFM	O	0/24 V DC	DUPFM: On/Off
	A6	TCBDSW	I	0/5.2 V DC	TCBDSW: On/Off
	A7	TCBRCL	O	0/24 V DC	TCBRCL: On/Off
	A8	LPDCCL	O	0/24 V DC	LPDCCL: On/Off
	A9	DSPSENS	I	0 V to 24 V DC	DSPSENS detection voltage
	B1	DUPREVCL	O	0/24 V DC	DUPREVCL: On/Off
	B2	DUPFWDCL	O	0/24 V DC	DUPFWDCL: On/Off
	B3	DUPPRSOL P	O	0/24 V DC	DUPPRSOL (A): On/Off
	B4	DUPPRSOL A	O	0/24 V DC	DUPPRSOL (P): On/Off
	B5	DUPESSOL P	O	0/24 V DC	DUPESSOL (A): On/Off
	B6	DUPESSOL A	O	0/24 V DC	DUPESSOL (P): On/Off
	B7	DUPESW	I	0/5.2 V DC	DUPESW: On/Off
	B8	DUPPCSW2	I	0/5.2 V DC	DUPPCSW2: On/Off
B9	DUPPCSW1	I	0/5.2 V DC	DUPPCSW1: On/Off	
CN15 Connected to the junction B PCB.	A1	TC	O	0/24 V DC	TC: On/Off
	A2	RCL	O	0/24 V DC	RCL: On/Off
	A3	FCL2	O	0/24 V DC	FCL2: On/Off
	A4	FCL3	O	0/24 V DC	FCL3: On/Off
	A5	OPFM	O	0/24 V DC	OPFM: On/Off
	A6	BYPPLSW	I	0/5.2 V DC	BYPPLSW: On/Off
	A7	BYPPWSW DIG2	I	0/5.2 V DC	BYPPWSW (2): On/Off
	A8	BYPPWSW DIG1	I	0/5.2 V DC	BYPPWSW (1): On/Off
	A9	BYPPWSW DIG0	I	0/5.2 V DC	BYPPWSW (0): On/Off
	A10	NC	-	-	Not used
	B1	BYPPSW	I	0/5.2 V DC	BYPPSW: On/Off
	B2	FSW	I	0/5.2 V DC	FSW: On/Off
	B3	PFSW1	I	0/5.2 V DC	PFSW1: On/Off
	B4	SC	O	0/24 V DC	SC: On/Off
	B5	BYPLCL	O	0/24 V DC	BYPLCL: On/Off
	B6	BYPPFCL	O	0/24 V DC	BYPPFCL: On/Off
	B7	MSW	I	0/24 V DC	MSW: On/Off
B8	FCL1	O	0/24 V DC	FCL1: On/Off	
B9	PFSW2	I	0/5.2 V DC	PFSW2: On/Off	
B10	PFSW3	I	0/5.2 V DC	PFSW3: On/Off	
CN17 Connected to the side deck*.	1	FEED	O	0/5.2 V DC	Side deck* control signal
	2	READY	I	0/5.2 V DC	Side deck* ready signal
	3	G(5V)	-	Ground	Ground for serial communication
	4	RXD	I	0/5.2 V DC (pulse)	Serial communication receive signal
	5	G(5V)	-	Ground	Ground for serial communication
	6	TxD	O	0/5.2 V DC (pulse)	Serial communication transmit signal
	7	SET SIG	I	0/5.2 V DC	Side deck* set status: Installed/Not installed
	8	RESET	O	0/5.2 V DC	Side deck*: Reset/Normal

*: Optional

Connector	Pin No.	Signal	I/O	Voltage	Description
CN18 Connected to the finisher* and side deck*.	1	SET SIG	I	0/5.2 V DC	Finisher* set status: Installed/Not installed
	2	RESET	O	0/5.2 V DC	Finisher*: Reset/Normal
	3	G(5V)	-	Ground	Ground for serial communication
	4	TxD	O	0/5.2 V DC (pulse)	Serial communication transmit signal
	5	G(5V)	-	Ground	Ground for serial communication
	6	RxD	I	0/5.2 V DC (pulse)	Serial communication receive signal
	8	FEED SW	I	0/5.2 V DC	Side deck* control signal
	9	FEED REQUEST	O	0/5.2 V DC	Side deck* control signal
	CN21 Connected to the scanner motor PCB.	1	OSD1	I	0/5.2 V DC
2		OSD2	I	0/5.2 V DC	OSD2: On/Off (Inch model only.)
3		ODSW	I	0/5.2 V DC	ODSW: On/Off
4		SM Vref	O	DC0V \hat{A} 5V	SM current control signal
5		SM M1	O	0/5.2 V DC	SM drive mode signal (M1)
6		SM M2	O	0/5.2 V DC	SM drive mode signal (M2)
7		SM M3	O	0/5.2 V DC	SM drive mode signal (M3)
8		NC	-	-	-
9		NC	-	-	-
10		SM CLK	I	0/5.2 V DC (pulse)	SM drive clock
11		SM CWB	O	0/5.2 V DC	SM rotation detection switching signal
12		SM RET	O	0/5.2 V DC	SM rotation control signal
13		SM ENABLE	O	0/5.2 V DC	SM drive: Enable/Not enable
14		EL ON REM	O	0/5.2 V DC	EL: On/Off
15		SHPSW	I	0/5.2 V DC	SHPSW: On/Off
16		G(5V)	-	Ground	Ground for SMPCB
CN22 Connected to the power source PCB.	1	E5V	I	5.2 V DC	Power supply from PSPCB
	2	G(5V)	-	Ground	Ground from PSPCB
	3	CH REM	O	0/24 V DC	CH: On/Off
	4	H1 REM	O	0/5.2 V DC	H1: On/Off
	5	H2 REM	O	0/5.2 V DC	H2: On/Off
CN23 Connected to the key counter*.	1	24V	O	24 V DC	Power supply for key counter*
	2	COUNT REM	O	0/5 V DC	Key counter* count: On/Off
	3	SET SIG	I	0/5.2 V DC	Key counter* setting status: Installed/Not installed
	4	SET G	-	Ground	Ground for key counter*

2-3-4 Scanner motor PCB

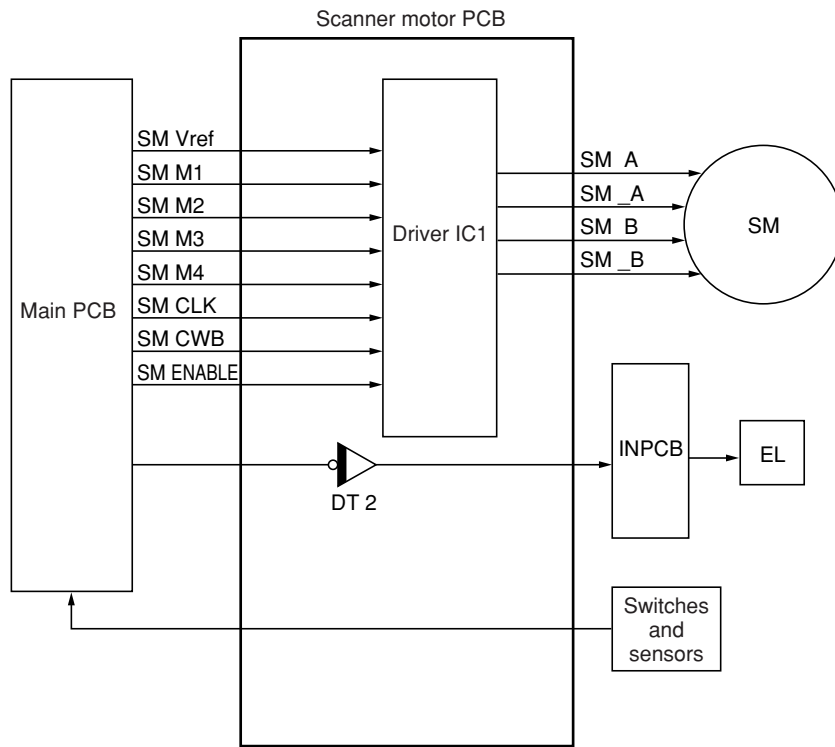


Figure 2-3-7 Scanner motor PCB block diagram

The scanner motor PCB (SMPCB) drives the scanner motor (SM), turns the exposure lamp (EL) on and off, and relays signals from the scanner home position switch (SHPSW), the original detection switch (ODSW) and original size detection sensor 1, 2 (OSD1, 2*).

The scanner motor (SM) is driven by turning the output for motor phase switchover on and off (SM A, SM_A, SM B, SM_B). It is activated by the driver IC1 processing the currently set reference signal (SM Vref), mode signals (SM M1 to M3, SM CWB), phase switchover clock (SM CLK), and drive/stop signals (SM ENABLE) from the engine PCB (EPCB).

* For inch models only.

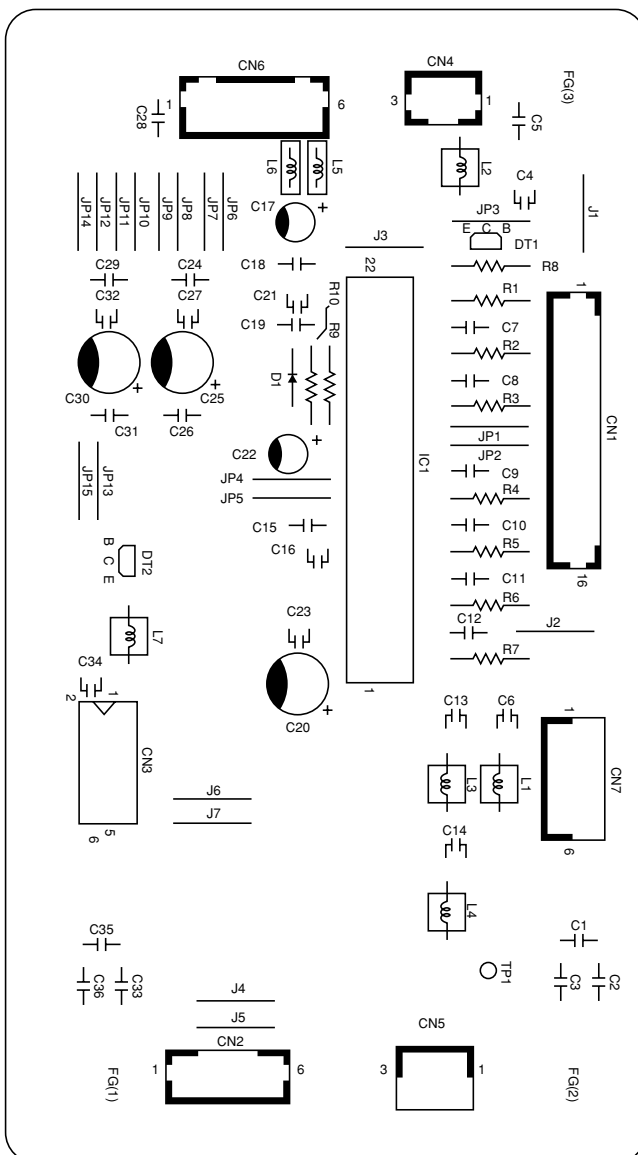


Figure 2-3-8 Scanner motor PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
CN1 Connected to the engine PCB.	1	G(5V)	-	Ground	Ground for SMPCB
	2	SHPSW	O	0/5.2 V DC	SHPSW: On/Off
	3	EL ON REM	I	5.2 V DC	EL: On/Off
	4	SM ENABLE	I	0/5.2 V DC	SM drive enable signal: Enable/Not enable
	5	SM RET	I	0/5.2 V DC	SM drive control signal
	6	SM CWB	I	0/5.2 V DC	SM rotation direction switching signal
	7	SM CLK	I	0/5.2 V DC (pulse)	SM drive control clock
	8	NC	-	-	-
	9	NC	-	-	-
	10	SM M3	I	0/5.2 V DC	SM drive mode signal (M3)
	11	SM M2	I	0/5.2 V DC	SM drive mode signal (M2)
	12	SM M1	I	0/5.2 V DC	SM drive mode signal (M1)
	13	SM Vref	I	0 V to 5 V DC	SM current control voltage
	14	ODSW	O	0/5.2 V DC	ODSW: On/Off
	15	OSDS2	O	0/5.2 V DC	OSD2*: On/Off
	16	OSDS1	O	0/5.2 V DC	OSD1: On/Off
CN2 Connected to the scanner motor.	1	SM _B	O	0/24 V DC (pulse)	SM drive pulse phase _B
	2	24V	O	24 V DC	Power supply for SM
	3	SM B	O	0/24 V DC (pulse)	SM drive pulse phase B
	4	SM A	O	0/24 V DC (pulse)	SM drive pulse phase A
	5	24V	O	24 V DC	Power supply for SM
	6	SM _A	O	0/24 V DC (pulse)	SM drive pulse phase _A
CN3 Connected to the INPCB.	1	EL ON	O	0/24 V DC	EL: On/Off
	2	EL ON	O	0/24 V DC	EL: On/Off
	3	24V	O	24 V DC	Power supply for INPCB
	4	24V	O	24 V DC	Power supply for INPCB
	5	G(24V)	-	Ground	Ground for INPCB
	6	G(24V)	-	Ground	Ground for INPCB
CN4 Connected to the scanner home position switch.	1	5V	O	5.2 V DC	Power supply for SHPSW
	2	SHPSW	I	0/5.2 V DC	SHPSW: On/Off
	3	GND	-	-	Ground for SHPSW
CN5 Connected to the original detection switch.	1	5V	O	5.2 V DC	Power supply for ODSW
	2	ODSW	I	0/5.2 V DC	ODSW: On/Off
	3	GND	-	-	Ground for ODSW
CN6 Connected to the power source PCB.	1	G(24V)	-	Ground	Ground from PSPCB
	2	24V	I	24 V DC	Power source from PSPCB
	3	G(24V)	-	Ground	Ground from PSPCB
	4	24V	I	24 V DC	Power source from PSPCB
	5	G(5.1V)	-	Ground	Ground from PSPCB
	6	5.1V	I	5.2 V DC	Power source from PSPCB
CN7 Connected to the original size detection sensors 1 and 2*.	1	S.G	-	Ground	Ground for OSD1
	2	5V	O	5.2 V DC	Power supply for OSD1
	3	OSD1	I	0/5.2 V DC	OSD1: On/Off
	4	S.G	-	Ground	Ground for OSD2*
	5	5V	O	5.2 V DC	Power supply for OSD2*
	6	OSD2	I	0/5.2 V DC	OSD2*: On/Off

*: Inch model only.

2-3-5 CCD PCB

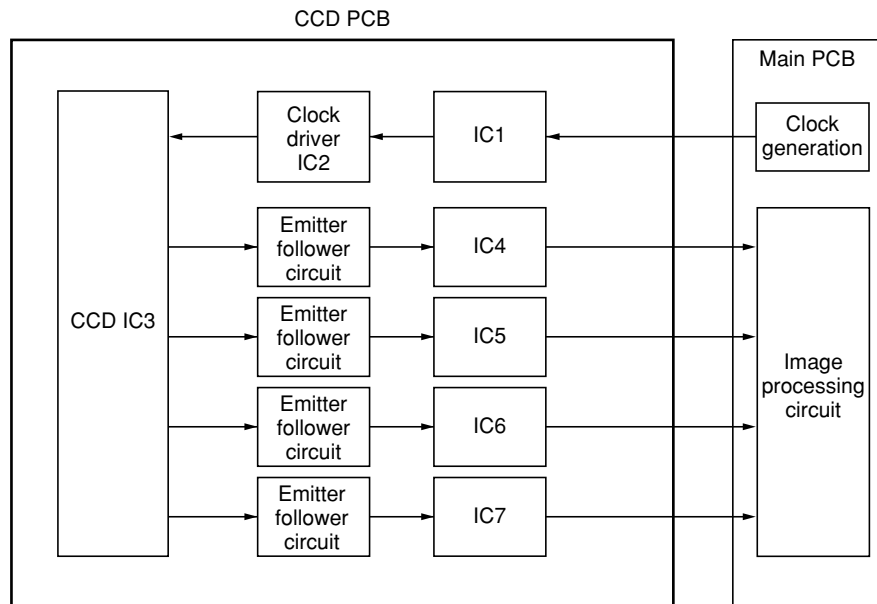


Figure 2-3-9 CCD PCB block diagram

The CCD PCB (CCDPCB) receives clock signals $\phi\text{SHIFT+}$, $\phi\text{SHIFT-}$, $\phi\text{CLK+}$, $\phi\text{CLK-}$, $\phi\text{RS+}$, $\phi\text{RS-}$, $\phi\text{CLP+}$, and $\phi\text{CLP-}$ from the main PCB (MPCB), and based on these signals, generates the CCD drive signal to drive CCD IC3.

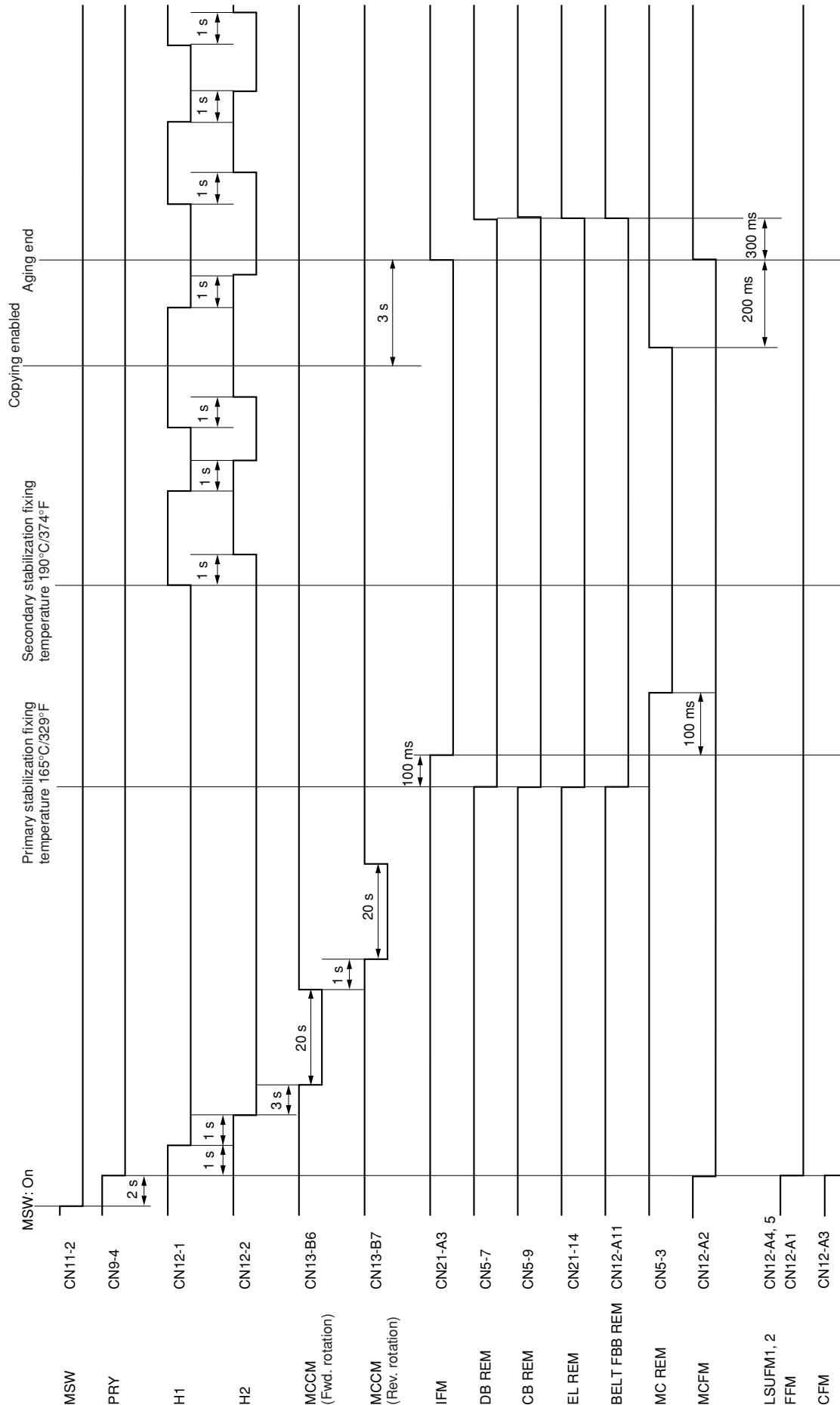
When clock signals are input, the CCD IC3 outputs analog signals according to the set density of the image, which are transmitted to the main PCB (MPCB) via the emitter follower circuits and differential amplifiers IC4, IC5, IC6 and IC7.



Figure 2-3-10 CCD PCB silk-screen diagram

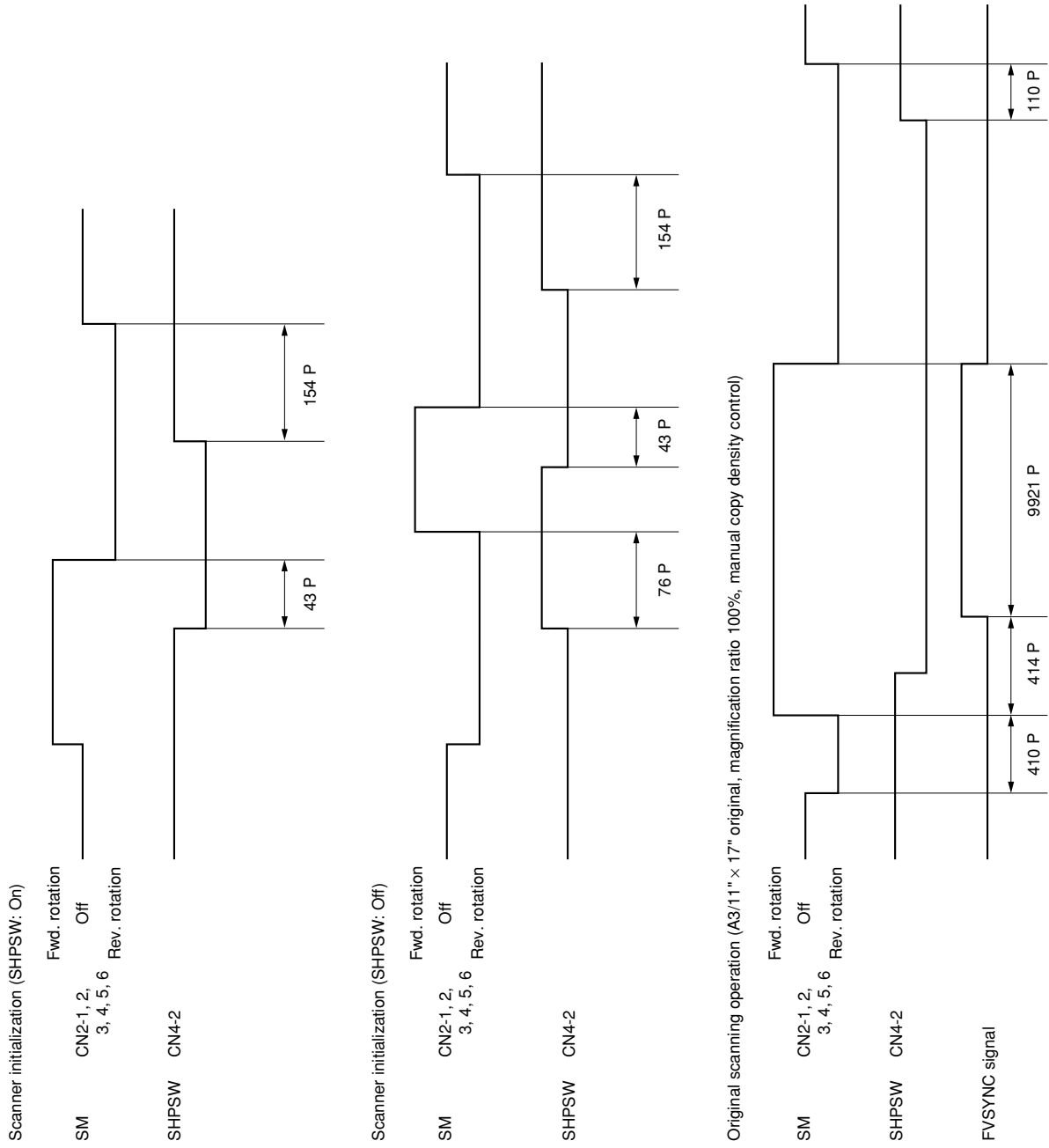
Connector	Pin No.	Signal	I/O	Voltage	Description
CN1 Connected to the main PCB.	1	ϕ CLP-	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	2	ϕ CLP+	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	3	ϕ RS+	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	4	ϕ RS-	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	5	ϕ CLK-	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	6	ϕ CLK+	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	7	ϕ SHIFT+	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	8	ϕ SHIFT-	I	0/3.3 V DC (pulse)	CCDPCB drive clock
	9	5V	I	5.2 V DC	Power supply for CCDPCB
	10	5V	I	5.2 V DC	Power supply for CCDPCB
	11	5V	I	5.2 V DC	Power supply for CCDPCB
CN2 Connected to the main PCB.	1	OS2+	O	0/12 V DC (pulse)	CCDPCB control signal
	2	OS2-	O	0/12 V DC (pulse)	CCDPCB control signal
	3	OS1+	O	0/12 V DC (pulse)	CCDPCB control signal
	4	OS1-	O	0/12 V DC (pulse)	CCDPCB control signal
	5	OS3+	O	0/12 V DC (pulse)	CCDPCB control signal
	6	OS3-	O	0/12 V DC (pulse)	CCDPCB control signal
	7	OS4+	O	0/12 V DC (pulse)	CCDPCB control signal
	8	OS4-	O	0/12 V DC (pulse)	CCDPCB control signal
	9	N.C	-	-	Not used
	10	+12V	I	+12 V DC	Power supply for CCDPCB
	11	G(analog)	-	Ground	Analog ground for CCDPCB
	12	G(analog)	-	Ground	Analog ground for CCDPCB

Timing chart No. 1 From the main switch turned on to machine stabilization

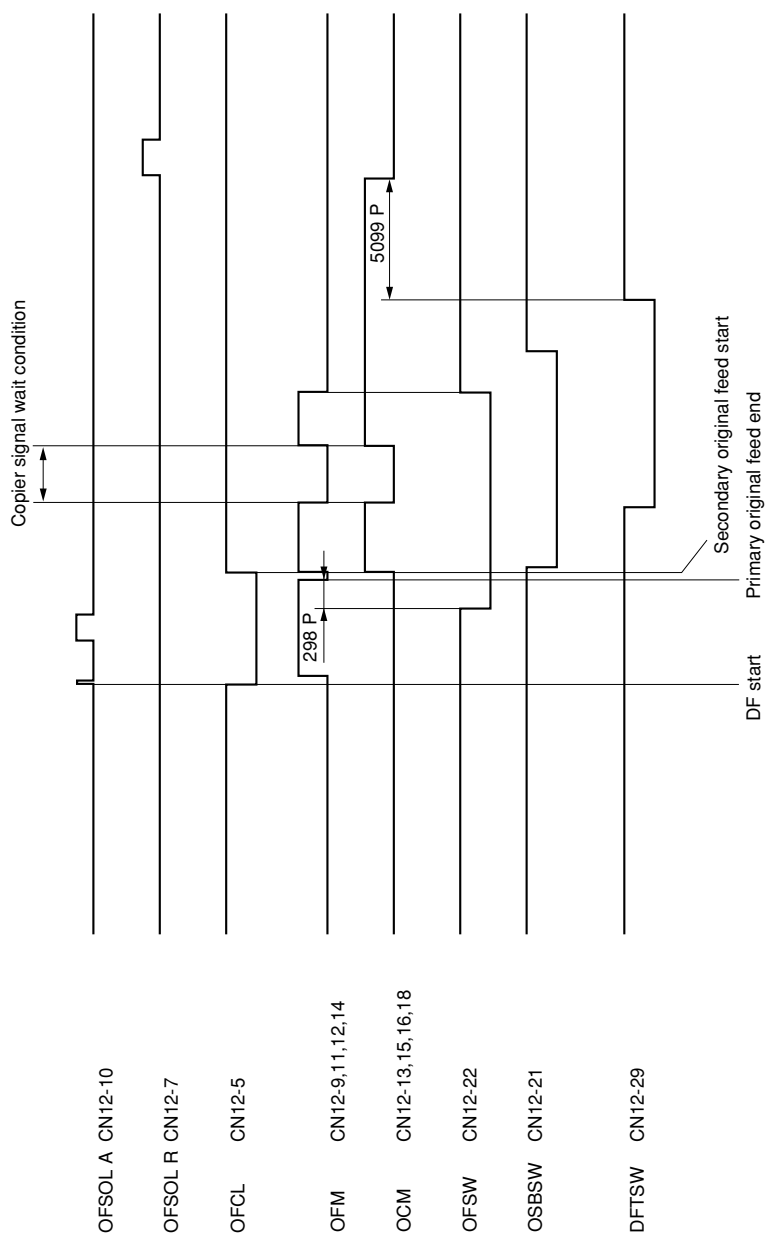


Timing chart No. 2 Scanner operation

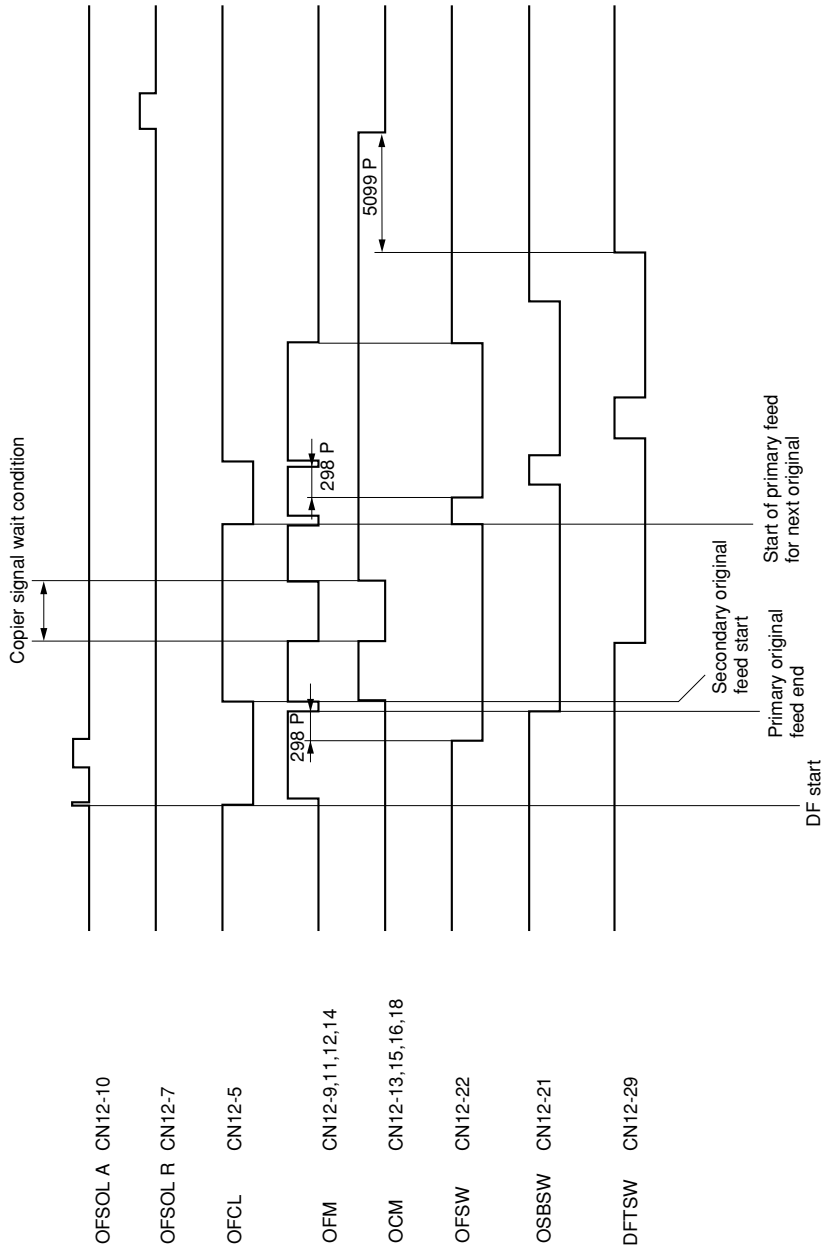
2-4-2



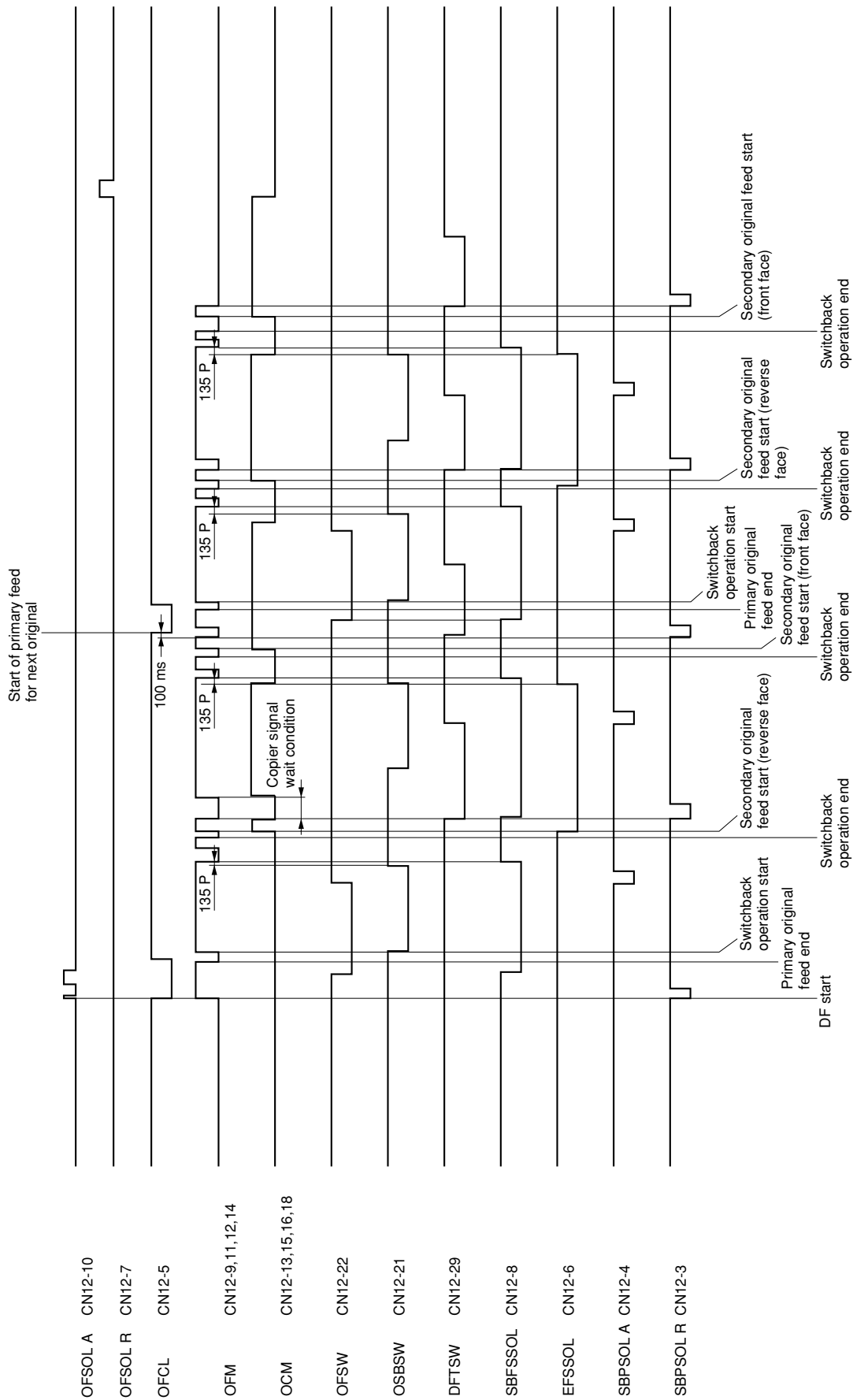
Timing chart No. 3 Original feed operation 1: Feeding an A4/11" x 8 1/2" original in single-sided original mode



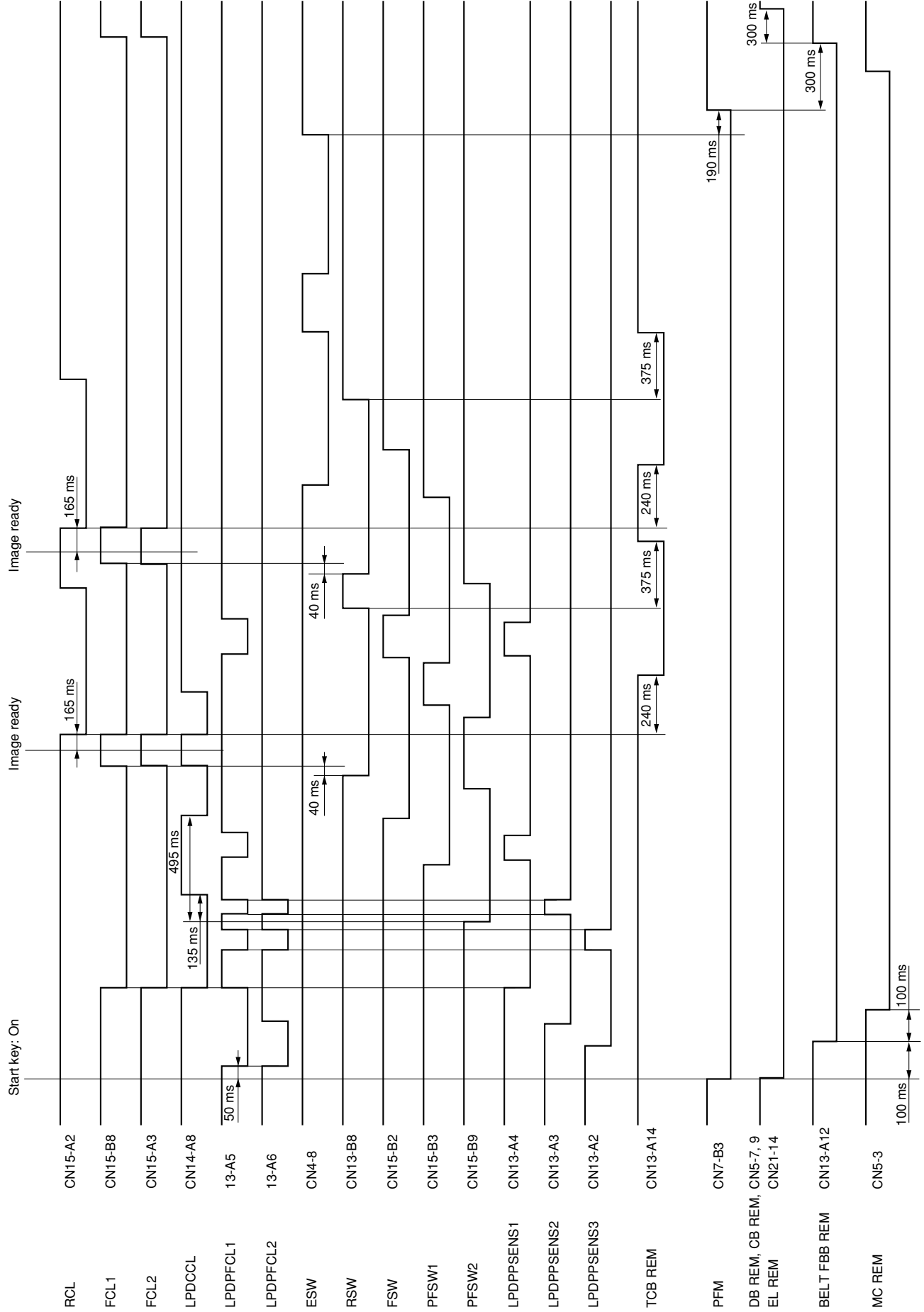
Timing chart No. 4 Original feed operation 2: Feeding two A4/11" x 8 1/2" originals successively in single-sided original mode



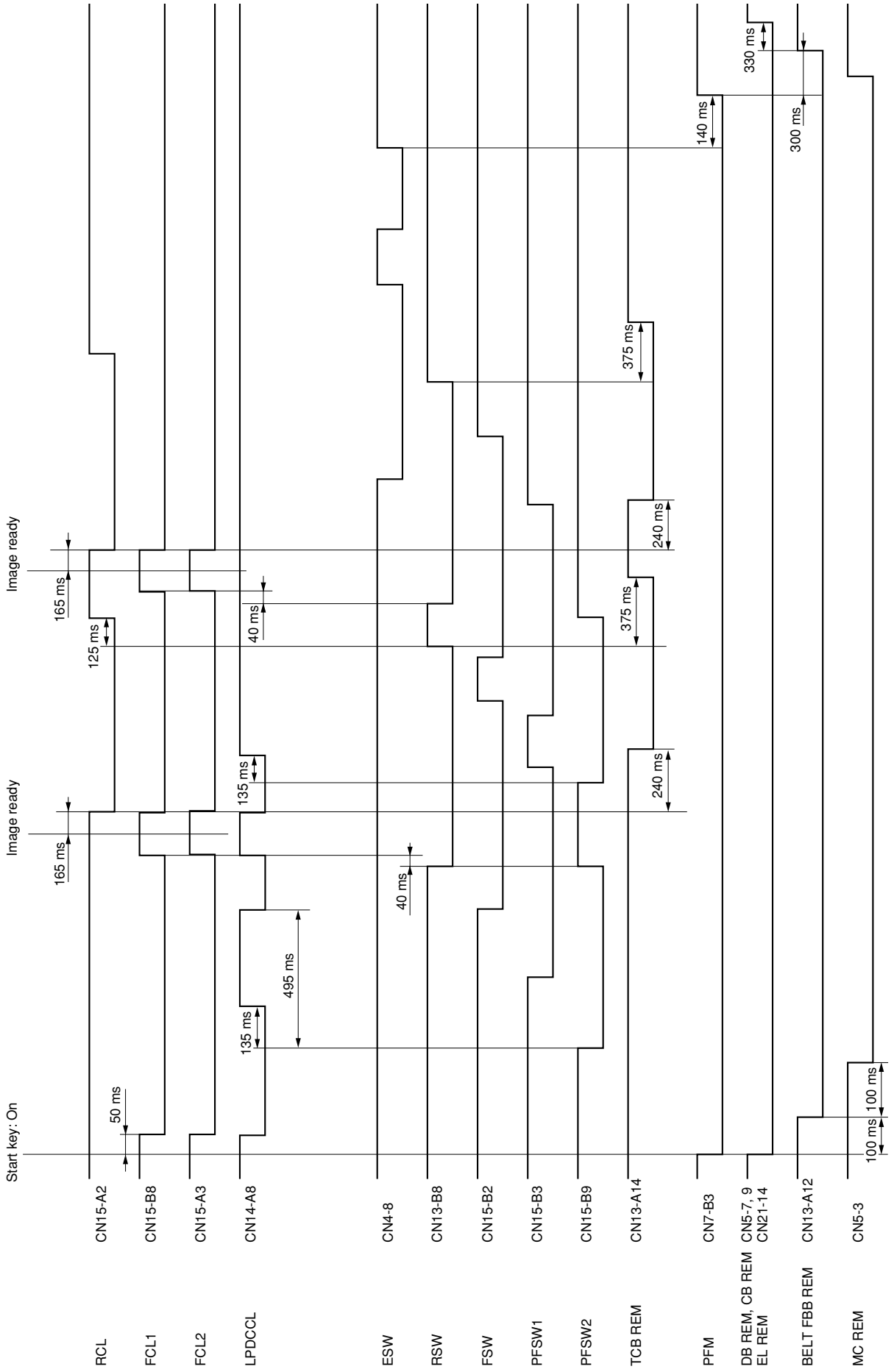
Timing chart No. 5 Original feed operation 3: Feeding two A4R/8 1/2" x 11" originals successively in double-sided original mode



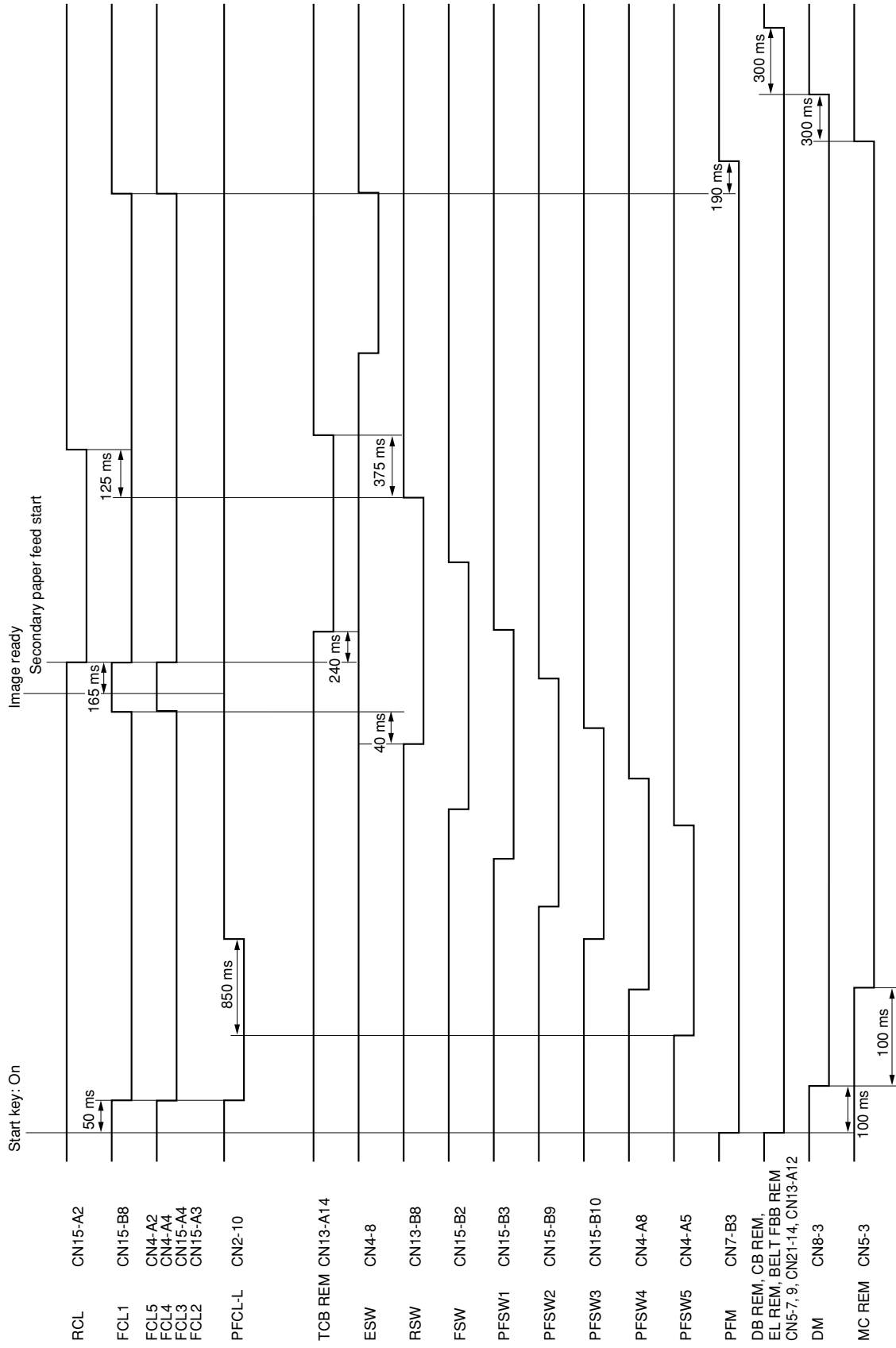
Timing chart No. 6 Continuous copying onto two sheets of A4/11" x 8 1/2" copy paper from the large paper deck left cassette



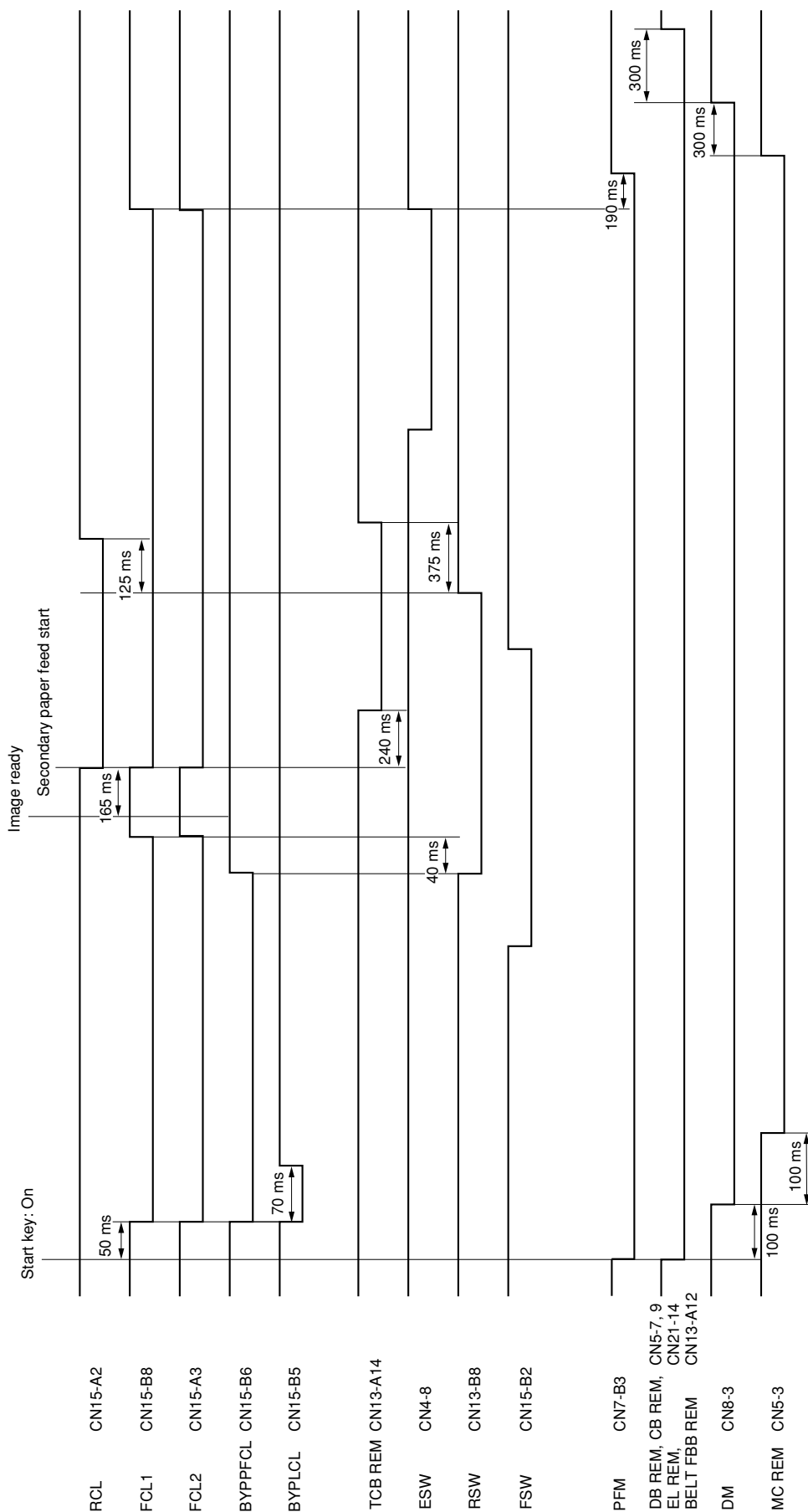
Timing chart No. 7 Continuous copying onto two sheets of A4/11" x 8 1/2" copy paper from the large paper deck right cassette



Timing chart No. 8 Copying onto a sheet of A3/11" x 17" copy paper from the lower cassette



Timing chart No. 9 Copying onto a sheet of A4R/8 1/2" x 11" copy paper from the bypass table



Timing chart No. 10 Continuous duplex copying onto two sheets of A4R/8¹/₂" x 11" copy paper from the upper cassette

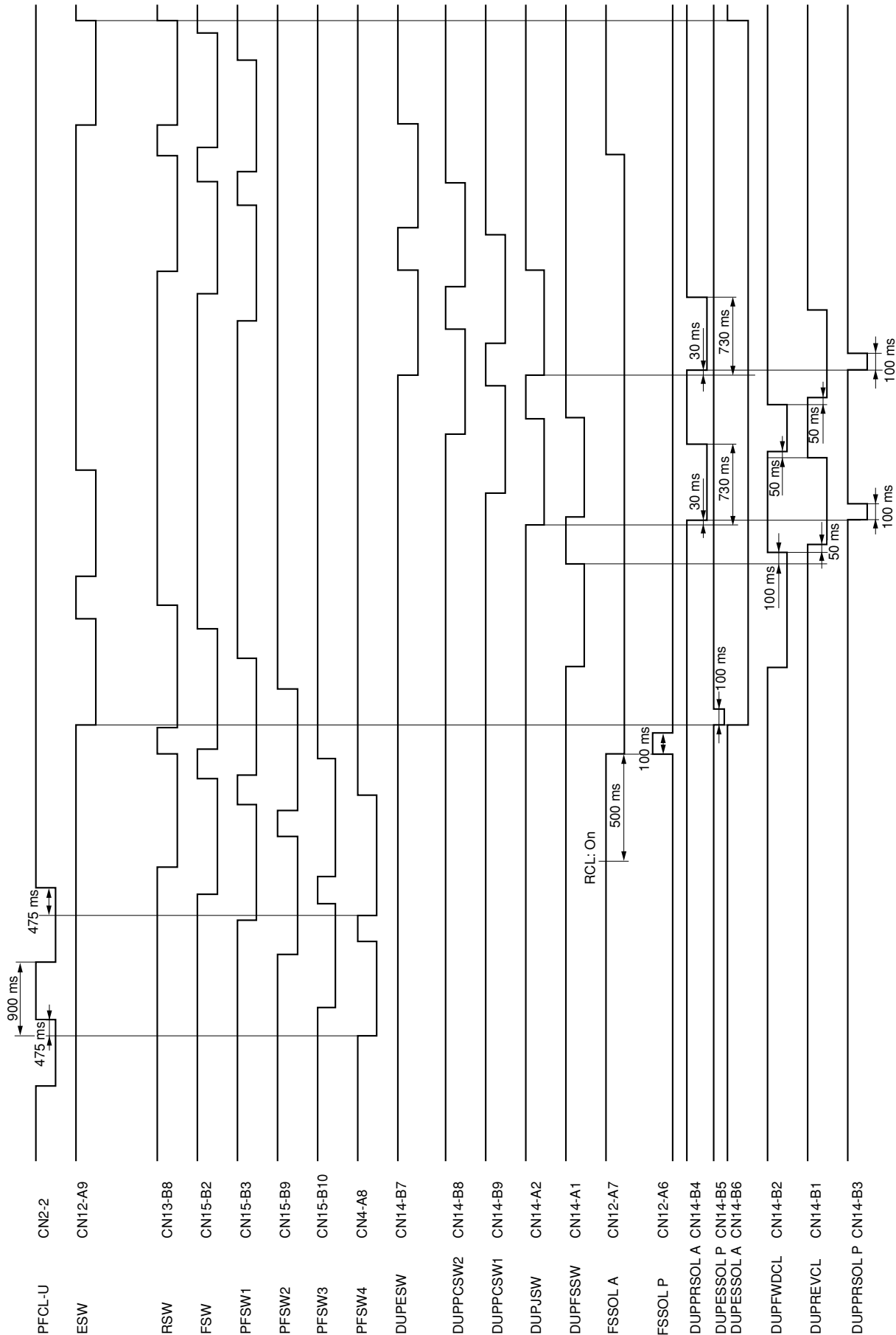
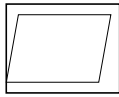
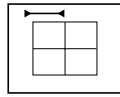
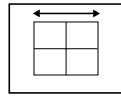
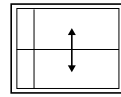
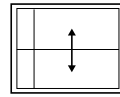
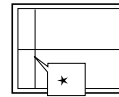
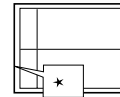
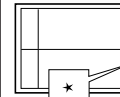
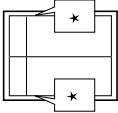
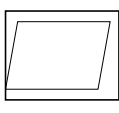
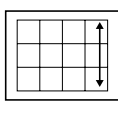
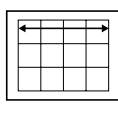
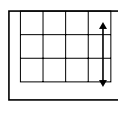
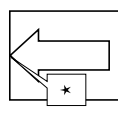
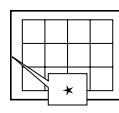
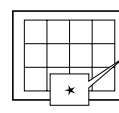
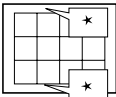


Chart of image adjustment procedures

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
①	Adjusting the lateral squareness (printing adjustment)		Adjusting the position of the laser scanner unit (printing adjustment)	—	—	U089 (1 DOT-LINE)	1-6-36	
②	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Drive motor speed adjustment	U053	MAIN MOTOR	U053 test pattern	1-4-21	
③	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Paper feed motor speed adjustment	U053	CONV MOTOR	U053 test pattern	1-4-21	
④	Adjusting the center line of the bypass table (printing adjustment)		Adjusting the LSU print start timing	U034	LSUOUT	U034 test pattern	1-6-19	The center line of the bypass table is used as the reference in the adjustment of the center lines for other paper sources. To make an adjustment for duplex copying, select "LSUOUT (DUP)".
⑤	Adjusting the center line of the cassettes and large paper deck (printing adjustment)		Adjusting the position of the rack adjuster	—	—	U034 test pattern	1-6-15	Adjusts the position of each paper source.
⑥	Adjusting the leading edge registration (printing adjustment)		Adjusting the position of the center registration clutch turning on timing (secondary paper feed start timing)	U034	RCL ON	U034 test pattern	1-6-17	To make an adjustment for duplex copying, select "RCL ON2".
⑦	Adjusting the leading edge margin (printing adjustment)		LSU illumination start timing	U402	LEAD	U402 test pattern	1-6-20	
⑧	Adjusting the trailing edge margin (printing adjustment)		LSU illumination end timing	U402	TRAIL	U402 test pattern	1-6-20	To make an adjustment for duplex copying, select "TRAIL (DUP)".

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑨	Adjusting the left and right margins (printing adjustment)		LSU illumination start/end timing	U402	A/C	U402 test pattern	1-6-20	
⑩	Adjusting the lateral squareness (scanning adjustment)		Adjusting the position of the ISU (scanning adjustment)	—	—	Test chart	1-6-38	
⑪	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	MAIN SCAN ADJ	Test chart	1-6-39	No adjustment for copying using the DF.
⑫	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment)		Original scanning speed	U065 U070	SUB SCAN ADJ —	Test chart	1-6-40 1-6-78	U065: For copying an original placed on the contact glass. U070: For copying originals from the DF.
⑬	Adjusting the center line (scanning adjustment)		Adjusting the original scan data (image adjustment)	U067 U072	ADJUST DATA —	Test chart	1-6-41 1-6-79	U067: For copying an original placed on the contact glass. U072: For copying originals from the DF.
⑭	Adjusting the leading edge registration (scanning adjustment)		Original scan start timing	U066 U071	ADJUST DATA LEAD EDGE ADJ	Test chart	1-6-42 1-6-80	U066: For copying an original placed on the contact glass. U071: For copying originals from the DF.
⑮	Adjusting the leading edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	B MARGIN B MARGIN	Test chart	1-6-43 1-6-82	U403: For copying an original placed on the contact glass. U404: For copying originals from the DF.
⑯	Adjusting the trailing edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	D MARGIN D MARGIN	Test chart	1-6-43 1-6-82	U403: For copying an original placed on the contact glass. U404: For copying originals from the DF.

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑰	Adjusting the left and right margins (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	A MARGIN/ C MARGIN/ A MARGIN/ C MARGIN	Test chart	1-6-43 1-6-82	U403: For copying an original placed on the contact glass. U404: For copying originals from the DF.

When maintenance item U092 (Adjusting the scanner automatically) is run using the specified original (P/N 2A0668020), the following adjustments are automatically made:

- Adjusting the scanner center line (U067)
- Adjusting the scanner magnification in the main scanning direction (U065)
- Adjusting the scanner leading edge registration (U066)
- Adjusting the scanner magnification in the auxiliary scanning direction (U065)
- Adjusting margins for reading an original on the contact glass (U403)

When maintenance item U074 (Adjusting the DF automatically) is run using the specified original (P/N 2AC68241), the following adjustments are automatically made:

- Adjusting the DF magnification (U070)
- Adjusting the DF scanning timing (U071)
- Adjusting the DF center line (U072)
- Adjusting margins for DF original reading (U404)

Image quality

Item	Specifications
100% magnification	Copier: $\pm 0.8\%$ Using SRDF: $\pm 1.5\%$
Enlargement/reduction	Copier: $\pm 1.0\%$ Using SRDF: $\pm 1.5\%$
Lateral squareness (copier mode)	Copier: ± 1.5 mm/375 mm Using SRDF: ± 2.5 mm/375 mm
Lateral squareness (printer mode)	± 1.0 mm/375 mm
Margins (copier mode)	A: $3.0^{+2.0}_0$ mm B: 3.0 ± 2.5 mm C: $3.0^{+2.0}_0$ mm
Margins (printer mode)	D: 3.0 ± 2.5 mm A: 6.0 ± 2.0 mm B: 6.0 ± 2.5 mm C: 6.0 ± 2.0 mm D: 6.0 ± 2.5 mm
Leading edge registration	Cassette/large paper deck: ± 2.5 mm Bypass: ± 2.5 mm
Skewed paper feed (left-right difference)	Duplex copying: ± 2.5 mm Cassette: 1.5 mm or less Bypass: 1.5 mm or less
Lateral image shifting	Duplex copying: 2.0 mm or less Cassette: ± 2.0 mm Bypass: ± 2.0 mm Duplex copying: ± 3.0 mm

Maintenance parts list

Maintenance part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
Paper feed belt	BELT, PAPER FEED LCF	2A007990	5	31
Upper conveying roller	UPPER ROLLER, CONVEYING	2A007120	5	4
Deck paper feed roller	LEFT PULLEY LCF	2A006190	6	9
Deck paper conveying roller	RIGHT PULLEY LCF	2CJ07010	6	35
Deck pick pulley	C-PICK PULLEY	5A707580	4	18
Forwarding pulley	PULLEY, PICK UP	60906161	8	24
Upper paper feed pulley	PULLEY, PAPER FEED	36706290	8	20
Lower paper feed pulley	LOWER PULLEY, PAPER FEED	33906060	8	8
Bypass forwarding roller	ROLLER, SB LEADING FEED	36707050	7	27
Bypass upper paper feed pulley	UPPER PULLEY, BYPASS	61706770	7	43
Bypass lower paper feed pulley	LOWER PULLEY, BYPASS	61706780	7	44
Upper registration roller	UPPER ROLLER, REGISTRATION	36706511	16	28
Lower registration roller	LOWER ROLLER, REGISTRATION	36706520	12	20
Slit glass	CONTACT GLASS, ADF	35911450	14	12
Contact glass	CONTACT GLASS	35912010	14	7
Mirror 1	MIRROR A	2AC12140	13	20
Mirror 2 and mirror 3	MIRROR B	2AC12150	13	21
Lens	LENS, SCANNER	2AC12501	—	—
Reflector	REFLECTOR, SCANNER	2AC12130	13	19
Exposure lamp	LAMP, SCANNER	2BC12150	13	36
Optical rail	RAIL, SCANNER	2AC12080	—	—
Original size detection sensor	SENSOR, ORIGINAL DETECTION	35927290	13	58
Developing assembly	DEVELOPING ASS'Y	2A000216	17	1
Developing blade assembly	DEVELOPING BLADE ASS'Y	2A000220	17	3
Lower developing shaft	LOWER SHAFT, DEVELOPING	36714280	18	43
Upper developing seal	UPPER SEAL, DEVELOPING	2A014360	17	37
Developing filter	FILTER, DEVELOPING	2A014460	17	35
Cleaning assembly	CLEANING ASS'Y	2CJ93010	20	1
Cleaning blade	PARTS, BLADE CLEANING(SP)	36793312	20	18
Separation claw assembly	CLAW, SEPARATION	2A018160	20	56
Cleaning brush	BRUSH, CLEANING	2A018051	20	10
Upper cleaning cover	PARTS, UPPER COVER CLEANING(SP)	36793341	20	26
Cleaning brush terminal	TERMINAL, CLEANING BRUSH	36718110	20	25
Lower cleaning blade	LOWER BLADE ASS'Y	2A068210	20	59
Waste toner tank	DISPOSAL TANK ASS'Y	36700522	21	19
Drum assembly	SET, DRUM FOR 6230	2A082010	15	32
Drum heater electrode A	ELECTRODE A, DRUM HEATER	36708040	15	40
Drum heater electrode B	ELECTRODE B, DRUM HEATER	36708190	15	42
Drum surface potential sensor	PARTS SENSOR SURFACE POTENTIAL(SP)	2CJ28050	16	63
Main charger assembly	MAIN CHARGER ASS'Y	2A000073	15	1
Charger wire	WIRE, MAIN CHARGER	2AR10160	15	11
Cleaning lamp	LAMP, CLEANING LAMP	36908040	15	17
Charger grid assembly	GRID ASS'Y	2A068171	15	3
Main charger rear housing	REAR CHARGER HOUSING ASS'Y	2A068180	15	7
Rear drum electrode wire	REAR DRUM ELECTRODE WIRE ASS'Y	36701012	16	26
Front drum electrode wire	FRONT DRUM ELECTRODE WIRE ASS'Y	36701021	16	27
Charger wire cleaning pad	MC CLEANING PAD ASS'Y	2A068220	15	12
Grid wire cleaning pad	GRID CLEANING PAD ASS'Y	36768081	15	22
Upper front transfer guide	UPPER FRONT GUIDE, TRANSFER	36716550	16	49
Heat roller	ROLLER, HEAT	2A020010	23	7
Press roller	ROLLER, PRESSURE	2BC20260	23	8
Cleaning felt	FELT, CLEANING	2A020330	23	50
Lower cleaning roller	LOWER ROLLER, CLEANING	2CJ93130	22	11
Fixing unit thermister	THERMISTOR, FIXING	18520201	23	6
Heat roller separation claw	SEPARATION CLAW, B	61720750	22	38
Press roller separation claw	CLAW, PRESS ROLLER	36720493	22	39
Transfer charger belt	PARTS, BELT TRANSFER(SP)	36793281	11	4
Transfer roller	ROLLER, TRANSFER	2A016020	11	3
Belt cleaning brush	BRUSH, BELT CLEANING	2A016040	11	5
Rear transfer guide	REAR GUIDE, TRANSFER	36716383	11	29
Front cleaning seal	PARTS FRONT SHIELD, CLEANING(SP)	36793670	11	32

Maintenance part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
DF forwarding pulley	PULLEY,LEADING FEED	3BC07010	40	5
DF feed pulley	PULLEY,SEPARATION	3BC07020	40	6
DF separation pulley	PULLEY,SEPARATION	3BC07020	40	27
DF registration roller	ROLLER,REGISTRATION	3BC08050	42	56
Front reading pulley	FRONT PULLEY,READING	3AL08480	42	7
DF registration pulley	PULLEY B,REGISTRATION	3BC08220	41	12
Original feed switch	SWITCH L,FEED	63227150	40	17
Lower original conveying roller	LOWER ROLLER,CONVEYING	3AL08112	42	32
Upper original conveying roller	UPPER ROLLER,CONVEYING	3AL08161	42	30
Upper original conveying pulley	UPPER PULLEY,CONVEYING	3AL08140	37	5
Original conveying guide	GUIDE,CONVEYING	3AL08033	42	1
Original conveying pulley cover	COVER,CONVEYING PULLEY	3AL08302	42	4
Middle original conveying roller	INNER ROLLER,CONVEYING	3BC08150	42	19
Middle original conveying pulley	INNER PULLEY,CONVEYING	3AL08100	42	52
Eject pulley	PULLEY,EJECT	3AL08170	41	11
Switchback roller	ROLLER,LOOP	3AL10020	41	6
Eject pulley	PULLEY,EJECT	3AL08170	41	20
Eject roller	ROLLER,EJECT	3AL08130	42	39
Original size length switch filter	FILTER CF SENSOR	78706241	39	16
Original holder mat	MAT,ORIGINAL HOLDER	3AL04060	37	16
Original holder sheet	SHEET,ORIGINAL HOLDER	3AL08401	42	10
Original size indicator sponge	SPONGE,ORIGINAL SIZE INDICATOR	35912531	14	10
Drum grounding plate spring	PLATE SPRING, DRUM GROUND	2A022050	25	19

Periodic maintenance procedures

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Test copy	Every service		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Paper feed section	Paper feed belt	Clean	Every service	Clean with alcohol or a dry cloth.	1-6-9
	Upper conveying roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Deck paper feed roller	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-11
	Deck paper conveying roller	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-11
	Deck pick pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	
	Forwarding pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-3
	Upper paper feed pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-3
	Lower paper feed pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-3
	Bypass forwarding roller	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-6
	Bypass upper paper feed pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-6
	Bypass lower paper feed pulley	Clean or replace	Every service	Replace after feeding 500,000 sheets. Clean with alcohol.	1-6-6
	Upper registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Lower registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	
Rollers	Clean	Every service	Clean with alcohol or a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Optical section	Slit glass	Clean	Every service	Clean with alcohol and then a dry cloth.	1-6-29
	Contact glass	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Mirror 1	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Mirror 2 and mirror 3	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Lens	Clean	Every service	Clean with a dry cloth.	
	Reflector	Clean	Every service	Clean with a dry cloth.	
	Exposure lamp	Clean or replace	Every service	Replace if an image problem occurs or after the exposure lamp has been lit for 1,000 hours.	
	Optical rail	Grease	Every service	Check noise and shifting and then apply scanner rail grease PG671.	
Original size detection sensor	Clean	Every service	Clean with alcohol or a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Developing section	Developer	Replace	Every service	Vacuum or clean with a dry cloth.	1-6-52
	Developing assembly	Clean	Every service		
	Developing blade assembly	Replace	Every service		
	Lower developing shaft	Clean	Up to 500,000 counts	Clean with a dry cloth.	1-6-52
		Check and replace	After 500,000 counts (reset after replacement)	Replace if caked with toner.	
	Upper developing seal	Replace	Every service	Vacuum.	1-6-51
	Developing filter	Replace	Every service		1-6-51
	Toner hopper (cartridge)	Clean	Every service		
Seals	Clean	Every service			
			Vacuum or clean with a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Cleaning section	Cleaning assembly	Clean	Every service	Clean with a dry cloth; replace if the tip is deformed.	1-6-56
	Cleaning blade	Replace	Every service		
	Separation claw assembly	Check and replace	Every service		1-6-60
	Cleaning brush	Replace	Every service		
	Upper cleaning cover	Replace	Every service		
	Cleaning brush terminal	Replace	Every service		
	Lower cleaning blade	Replace	Every service		
	Waste toner tank	Replace	Every service		
	Seals	Clean	Every service		
			Vacuum or clean with a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Image formation section	Drum assembly	Check and clean	Every service	Clean with the cleaner bemkot; check for scratches on the drum.	1-6-44
	Drum heater electrode A	Check and replace	Every service	Replace if the resistance between the disk and electrode is 10 Ω or more.	1-6-48
	Drum heater electrode B	Check and replace	Every service	Replace if the resistance between the disk and electrode is 10 Ω or more.	1-6-48
	Drum surface potential sensor	Clean	Every service	Air blow (do not vacuum).	
	Main charger assembly	Clean	Every service	Clean the shield with a wet cloth and then a dry cloth.	1-6-26
	Charger wire	Replace	Every service		1-6-26
	Cleaning lamp	Clean	Every service	Clean with alcohol or a dry cloth.	
	Charger grid assembly	Clean	Every service	Clean the grid shield with wet cloth and then a dry cloth.	1-6-26
	Main charger rear housing	Clean	Every service	Clean with alcohol or a dry cloth.	
	Rear drum electrode wire	Check and replace	Every service	Replace if the resistance between the disk and electrode is 10 Ω or more.	1-6-46
	Front drum electrode wire	Check and replace	Every service	Replace if the resistance between the disk and electrode is 10 Ω or more.	1-6-46
	Charger wire cleaning pad	Replace	Every 600,000 counts		1-6-28
	Grid wire cleaning pad	Replace	Every 600,000 counts		1-6-28
Upper front transfer guide	Clean	Every service	Clean with alcohol or a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Fixing section	Heat roller	Replace	Every service		1-6-67
	Press roller	Replace	Every service		1-6-67
	Cleaning felt	Replace	Every service		1-6-62
	Lower cleaning roller	Replace	Every service		1-6-66
	Fixing unit thermistor	Check and clean	Every service	Clean with toluene or thinner; check the level of wear on contacting surfaces.	1-6-65
	Heat roller separation claw	Replace	Every service		1-6-68
	Press roller separation claw	Clean or replace	Every service	Clean with a dry cloth or alcohol; check the levels of wear on the tip of the claw and the coating of the surface that makes contact with paper.	1-6-69
	Guides	Clean	Every service	Clean with a dry cloth, toluene or thinner.	
	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Paper convey- ing section	Transfer charger belt	Replace	Every service		1-6-53
	Transfer roller	Replace	Every service		1-6-54
	Belt cleaning brush	Replace	Every service		1-6-55
	Rear transfer guide	Clean	Every service	Vacuum or clean with a dry cloth.	
	Front cleaning seal	Clean or replace	Every service	Vacuum or clean with a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Eject section	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	
	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Feedshift and duplex sections	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	
	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	1-6-70



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
DF section	DF forwarding pulley	Replace or clean	Every 100,000 counts	Clean with alcohol when visiting the user.	1-6-73
	DF feed pulley	Replace or clean	Every 100,000 counts	Clean with alcohol when visiting the user.	1-6-73
	DF separation pulley	Replace or clean	Every 100,000 counts	Clean with alcohol when visiting the user.	1-6-74
	DF registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Front reading pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	DF registration pulley	Check or clean	Every service	Clean with alcohol or a dry cloth if it is dirty.	
	Original feed switch	Check or clean	Every service	Clean with airbrush or a dry cloth.	
	Lower original conveying roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Upper original conveying roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Upper original conveying pulley	Check or clean	Every service	Clean with alcohol or a dry cloth if it is dirty.	
	Original conveying guide	Clean	Every service	Clean with alcohol or a dry cloth.	
	Original conveying pulley cover	Clean	Every service	Clean the opposite side of the DF timing switch with alcohol or a dry cloth.	
	Middle original conveying roller	Clean	Every 400,000 counts	Clean with alcohol (Remove the front, rear and right covers and original conveying pulley mount plate).	
	Middle original conveying pulley	Clean	Every 400,000 counts	Clean with alcohol (Remove the front, rear and right covers and original conveying pulley mount plate).	
	Eject pulley	Check or clean	Every service	Clean with alcohol or a dry cloth if it is dirty.	
	Original size length switch	Clean	Every service	Clean with alcohol. Filter	
	Covers	Clean	Every service	Clean with alcohol.	
Original holder mat	Clean	Every service	Clean with alcohol or a dry cloth.		
Original holder sheet	Clean	Every service	Clean with alcohol or a dry cloth.		
Original size indicator sponge	Clean	Every service	Clean with alcohol or a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Drive section	Drum grounding plate spring	Check and replace	After 500,000 counts, check at every service.	Replace when the surface that makes contact with the drum drive shaft breaks.	1-6-83
		Grease	After 500,000 counts, check at every service.	Apply conductive grease GE-334C.	
	Clutches	Check	Every service		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Covers	Covers	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Other	Image quality	Check and adjust	Every service		

Optional devices supplied parts list

Multi finisher

Name used in service manual	Name used in installation guide	Part No.
Main tray	Main tray	3B804140
Finisher connecting plate	Finisher connecting plate	3B803010
Stapler cartridge	Stapler cartridge	3B827020
M4 × 12 binding screw	M4 × 12 binding screw	B1304120
Hexagonal nut	Hexagonal nut	C1054070
Pin	Pin	33920500
Sub tray	Sub tray	3B804180
Paper insertion aid guide plate	Paper insertion aid guide plate	3B816900
M4 × 10 tap-tight binding screw	M4 × 10 tap-tight binding screw	B3314100
Connecting sponge	Connecting sponge	3B803020

Side deck

Name used in service manual	Name used in installation guide	Part No.
Upper merge guide	Upper merge guide	3BF19540
Lower merge guide	Lower merge guide	3BF19550
Interlock switch backstop	Interlock switch backstop	3BF19720
M4 × 6 TP-A chromate screw	M4×6 TP-A chromate screw	B4004060
M4 × 12 flat head screw	M4×12 flat head screw	B2004120
M3 × 6 TP-A bronze screw	M4×6 chromate binding screw	B1004060
M4 × 8 TP-P tight screw	M4×8 TP-P tight screw	B4044080

List of error codes

Scanner

Error code	Description	Remedy
E001	Transmission has been canceled and interrupted during transmission.	
E010	Recognition of the destination has been lost during data transmission. Recognition of the destination has been lost during communication with a computer with a personal address book.	Check for a line error.
E011	Transmission has failed in graphic data transmission due to abnormal data.	
E012	A line error has occurred in data acquisition of a personal address book, and data cannot be acquired.	Check to see if the computer with a personal address book is properly connected.
E020	The SMTP server has not been recognized in E-mail transmission.	Check to see if the SMTP server has started.
E021	E-mail destination is restricted by transmission restriction or is not permitted by destination permission.	Change the destination restriction or permission. Check the E-mail destination address.
E022	An E-mail address that cannot be recognized by the SMTP server has been included in the destination.	Check the E-mail destination address.
E023	The SMTP server is not operating properly.	Check to see if the SMTP server has started.
E030	The destination computer cannot be recognized. The file utility has not started or is already used by another scanner.	Check to see if the destination computer has started. Check for a line error. Check to see if the file utility has started. Check to see if the file utility is being used by another scanner.
E031	The password does not match with the destination computer in graphic data transmission.	Check the password of the relevant folder of the destination computer.
E032	Some trouble has occurred in transmission to a computer when a file was saved in the destination computer. In transmission to a computer, the capacity of the HDD of the destination computer has been exceeded and overflow has been detected.	Wait for some time and then retry. Change the file name. Check the HDD of the destination computer.
E033	The version of the file utility is not proper.	Check the version of the file utility.
E034	The file utility is being used by another scanner.	Retransmit when the file utility is not used by another scanner.
E035	The folder number of the file utility is not correct.	Check the setting of the file utility.
E036	In compression for transmission after scanning, the compressed data memory has exceeded the expected memory capacity.	Reduce the resolution. Change the image quality mode. Reduce the number of originals.
E039	Unexpected trouble has occurred in the computer. A command received from the computer is not correct.	Check to see if the file utility in the destination computer has started normally. Check to see if a program for reception from another network has started on the destination computer.
E040	Recognition of the destination computer has been lost in TWAIN operation.	Check the operation of the computer on which the TWAIN driver has started. Check for a line error.
E049	Trouble has occurred in the computer on which TWAIN has started. A command received from the computer is not correct.	Check to see if the TWAIN in the destination computer has started normally. Check to see if a program for reception from another network has started on the destination computer.

Error code	Description	Remedy
E059	Trouble has occurred in the computer on which the personal address book has started. A command received from the computer is not correct.	Check to see if the personal address book of the destination computer has started normally. Check to see if a program for reception from another network has started on the destination computer.
E061	If a group is selected as a destination for E-mail transmission or PC transmission, some trouble has occurred in a destination that constitutes the group.	Check the error of the destination group.
E101	When multiple destinations are selected and broadcast is performed, some error has occurred.	Check each error in the destinations.

Printer

Error code	LCD message	Description	Remedy
Code: 01	*1, 2	Format error	Execute formatting.
	*3	Abnormal format	Turn the power off and then on.
Code: 02	*1, 2	Memory device mounting error	Mount properly HD-3 or CompactFlash.
	*3	RAM DISK mode is off.	Turn on the RAM DISK mode.
Code: 03	*1, 2, 3	Writing cannot be performed.	Disable write protect.
Code: 04	*1, 2, 3	Available memory space is not sufficient.	Delete unnecessary files.
Code: 05	*1, 2, 3	Specified file is not found.	Files specified by other than VMB and e-MPS JOB are not found.
Code: 06	*2, 3	Memory for disk system is not sufficient.	Add optional memory.
Code: 10	*2, 3	Formatting cannot be performed because data spooling is being performed.	Wait until the printer is ready.
Code: 20	*2	HD-3 has been inserted into an incorrect slot.	Insert HD-3 into a proper slot.
Code: 85	*2	VMB: Name error	Although a name was set for the VMB tray, the name data does not exist.
Code: 86	*2	VMB: Password error	Input the password again.
Code: 88	*2	VMB: Unreadable data is included in VMB bin.	Stored job data is damaged.
Code: 97	*2	MPS: The number of registered jobs has exceeded the limit.	Increase the limit of the number of registered jobs.
Code: 98	*2	MPS: Unreadable pages are included in the job.	Stored job data is damaged.
	*3	Data in sorting cannot be read.	Stored job data is damaged.

LCD message

*1: Memory Card error Press GO

Code: ##

*2: HARD DISK error Press GO

Code: ##

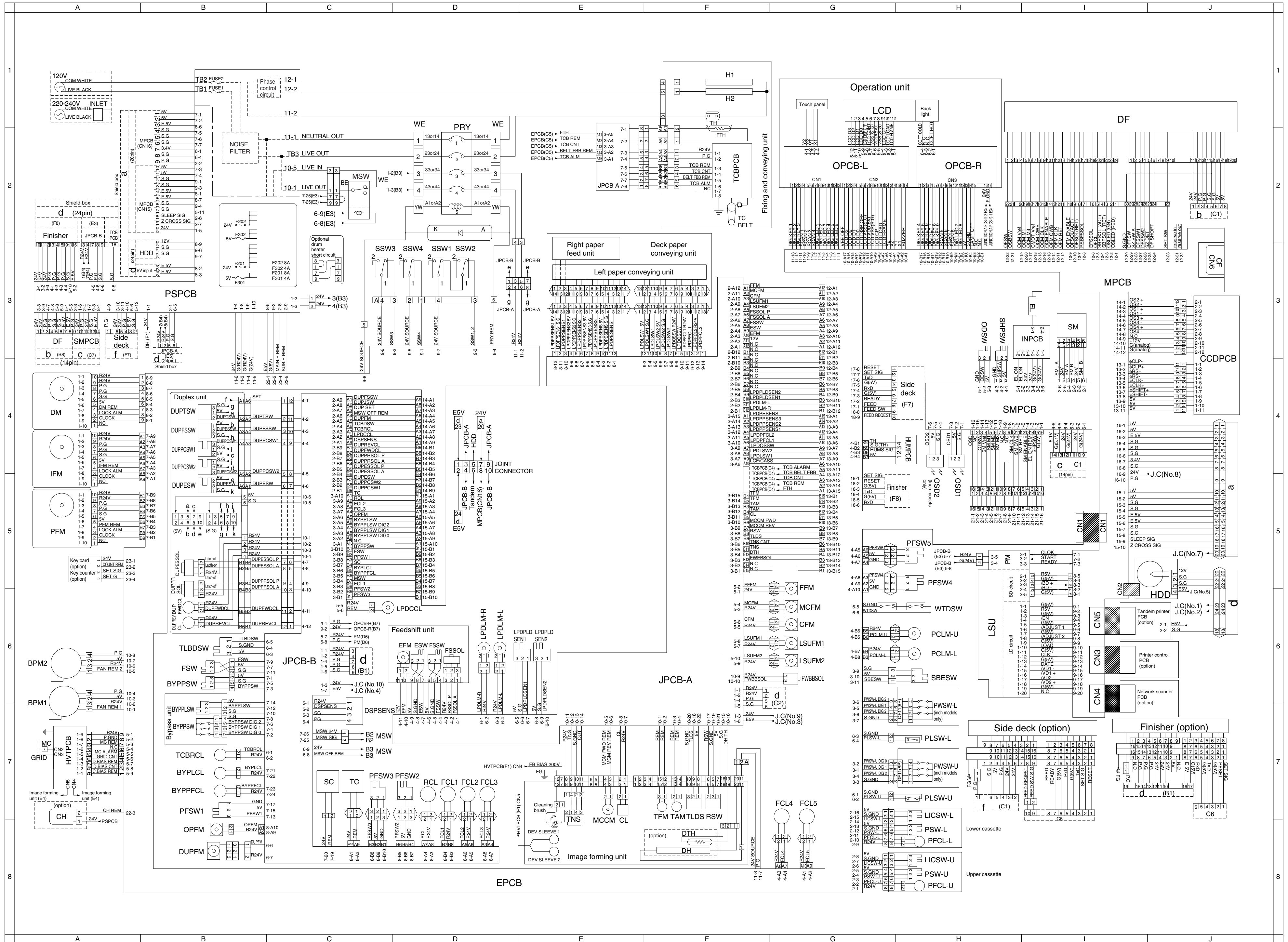
*3: RAM disk error Press GO

Code: ##

*4: KPDL error Press GO

Code: ##

For the KPDL error codes, see the PS error codes.



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