



KM-2530

KM-3530

KM-4030



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

Type	Desktop
Copying system	Indirect electrostatic system
Originals	Sheets and books
	Maximum size: A3/11" × 17"
Original feed system	Fixed
Copy paper	Drawer: Plain paper (64 – 80 g/m ²)
	Bypass table: Plain paper (60 – 160 g/m ²)
	Special paper: Transparencies, tracing paper, colored paper, letterhead and envelopes (when using the printer function only)
	Note: Use the bypass table for special paper.
Copying sizes	Maximum: A3/11" × 17"
	Minimum: A6R/5 ¹ / ₂ " × 8 ¹ / ₂ " (When the bypass table is used)
Magnification ratios	Manual mode: 25 – 400%, 1% increments
	Auto copy mode: fixed ratios
	Metric
	1:1 ± 1.0%, 1:4.00/1:2.00/1:1.41/1:1.22/1:1.15/1:0.86/1:0.81/1:0.70/1:0.50/1:0.25
	Inch
	1:1 ± 1.0%, 1:4.00/1:2.00/1:1.29/1:1.21/1:0.78/1:0.64/1:0.50/1:0.25
Copy speed	At 100% magnification in copy mode:
	25 cpm copier
	A3/11" × 17": 15 copies/min.
	B4/8 ¹ / ₂ " × 14": 18 copies/min.
	A4/11" × 8 ¹ / ₂ " : 25 copies/min.
	A4R/8 ¹ / ₂ " × 11": 20 copies/min.
	35 cpm copier
	A3/11" × 17": 19 copies/min.
	B4/8 ¹ / ₂ " × 14": 23 copies/min.
	A4/11" × 8 ¹ / ₂ " : 35 copies/min.
	A4R/8 ¹ / ₂ " × 11": 25 copies/min.
	40 cpm copier
	A3/11" × 17": 19 copies/min.
	B4/8 ¹ / ₂ " × 14": 23 copies/min.
	A4/11" × 8 ¹ / ₂ " : 40 copies/min.
	A4R/8 ¹ / ₂ " × 11": 25 copies/min.
First copy time	From 3.9 s (A4/11" × 8 ¹ / ₂ ")
Warm-up time	60 s or less (room temperature 20°C/68°F, 65% RH)
	In preheat/energy saver mode: 30 s or less (room temperature 20°C/68°F, 65% RH) [priority to power save]
	In preheat/energy saver mode: 10 s or less (room temperature 20°C/68°F, 65% RH) [priority to recovery]
Paper feed system	Automatic feed
	Capacity:
	Drawers: 500 sheets
	Manual feed
	Capacity:
	Bypass: 200 sheets
Continuous copying	1 - 250 sheets
Photoconductor	a-Si (drum diameter 40 mm)
Charging system	Single positive corona charging (500 µA)
Exposure light source	Semiconductor laser
Exposure scanning system	Polygon mirror
Developing system	Dry, reverse developing (magnetic brush)
	Developer: 1-component, magnetism toner
	Developing bias: +1.72 kV AC
	Developing shift bias: 160 V
	Toner replenishing: automatic from a toner container
Transfer system	Transfer roller (100 µA)
Separation system	Separation electrode (60 or 10 µA depending on the paper)

TONER

www.tonerplus.com.ua

Fixing system	Heat roller
	Heat source: halogen heaters (120 V specifications: main 600 W, sub 400 W/ 220-240 V specifications: main 630 W, sub 420 W)
	Control temperature: 165°C/329°F (at normal ambient temperature)
	Abnormally high temperature protection device: 170°C/338°F thermostat
	Fixing pressure: 107.8 N
Charge erasing system	Exposure by cleaning lamp
Cleaning system	Cleaning blade
Scanning system	Flat bed scanning by CCD image sensor
Bit map memory	9 MB (standard)
Image storage memory	23 MB (standard)
Resolution	600 × 600 dpi
Light source	Inert gas lamp
Dimensions	585 (W) × 646 (D) × 745 (H) mm
	23" (W) × 25 ² / ₅ " (D) × 29 ¹ / ₃ " (H)
Weight	Approx. 79 kg/165 lbs
Floor requirements	1356 (W) × 646 (D) mm
	53 ³ / ₈ " (W) × 25 ² / ₅ " (D)
Functions	Self-diagnostics, preheat, automatic copy density control, original size detection, auto paper size selection function, auto magnification selection mode, zoom copy mode, standard copy mode, size zoom mode, photo mode, margin mode, page separation copy mode, border erase mode, layout copy, sort mode, copy management function, language selection function
Power source	120 V AC, 60 Hz, 11 A
	220 – 240 V AC, 50/60 Hz, 4.5 A (Average)
Power consumption	1320 W (120V)
	1368W (220 – 240V)
Options	STDF*, SRDF, paper feed desk, large paper deck, duplex unit, job separator, finisher, booklet stitcher, built-in finisher, key counter, fax board, printer board, network printer board, network scanner board
	*Optional for 25 cpm copier only.

1-1-2 Parts names and their functions

(1) Copier

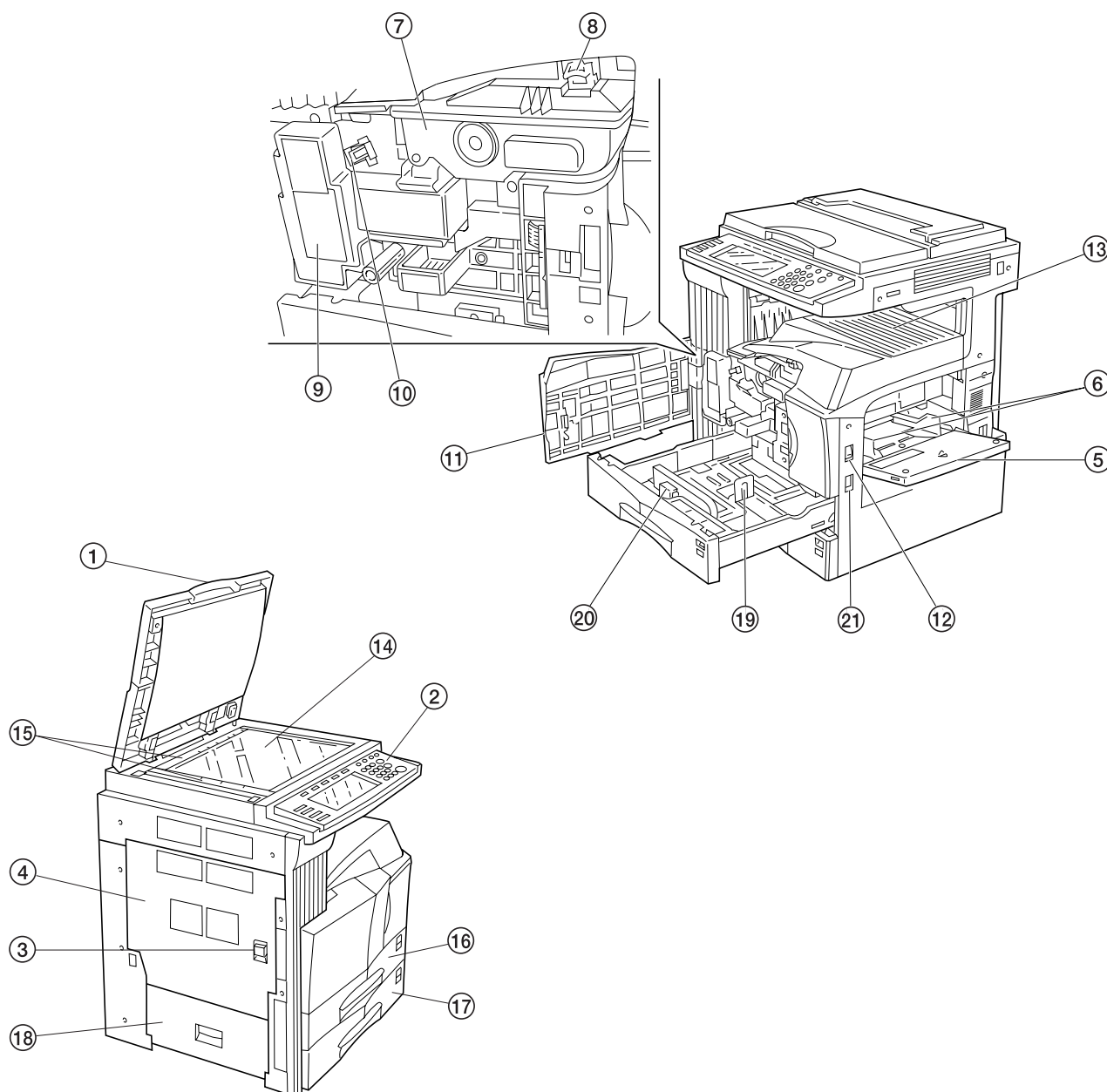
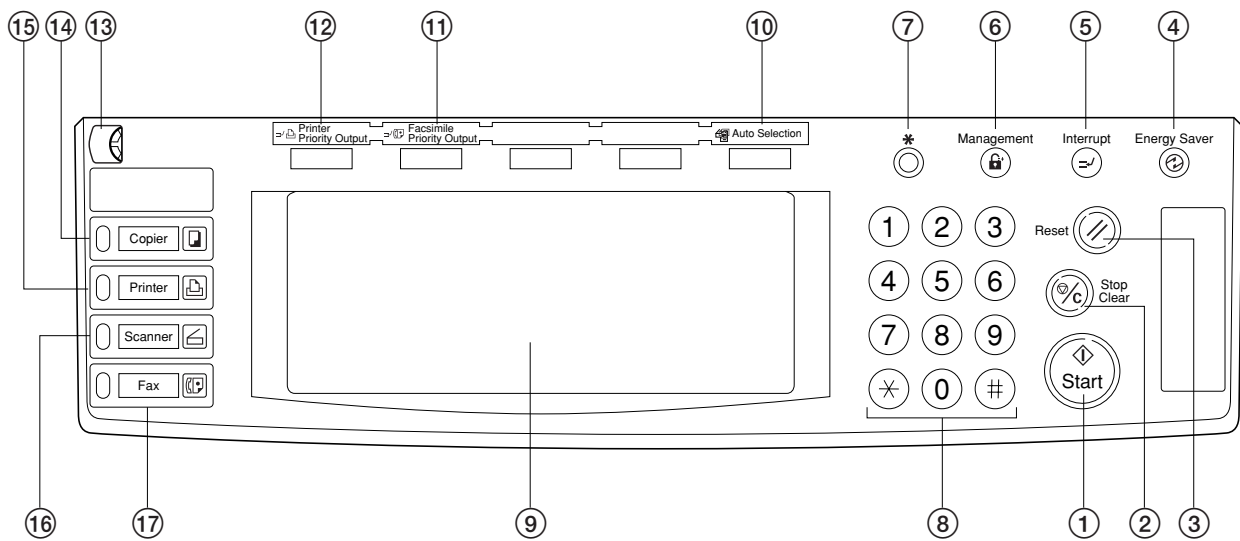


Figure 1-1-1

- | | |
|---------------------------------|---------------------------|
| ① Original cover | ⑫ Main switch |
| ② Operation panel | ⑬ Copy store section |
| ③ Conveying cover handle | ⑭ Platen |
| ④ Conveying cover | ⑮ Original size scales |
| ⑤ Bypass tray | ⑯ Upper drawer |
| ⑥ Insert guides | ⑰ Lower drawer |
| ⑦ Toner container | ⑱ Length adjustment plate |
| ⑧ Toner container release lever | ⑲ Width adjustment lever |
| ⑨ Toner disposal tank | ⑳ Handles for transport |
| ⑩ Cleaning shaft | |
| ⑪ Front cover | |

(2) Operation panel**Figure 1-1-2**

- | | |
|------------------------------|---|
| ① Start key (Indicator) | ⑩ Auto selection key (Indicator) |
| ② Stop/clear key | ⑪ Facsimile priority output key (Indicator) |
| ③ Reset key | ⑫ Printer priority output key (Indicator) |
| ④ Energy Saver (preheat) key | ⑬ Brightness adjustment control dial |
| ⑤ Interrupt key (Indicator) | ⑭ Copier key (Indicator) |
| ⑥ Management key | ⑮ Printer key (Indicator) |
| ⑦ * (Default) key | ⑯ Scanner key (Indicator) |
| ⑧ Numeric key | ⑰ Fax key (Indicator) |
| ⑨ Touch panel | |

1-1-3 Machine cross section

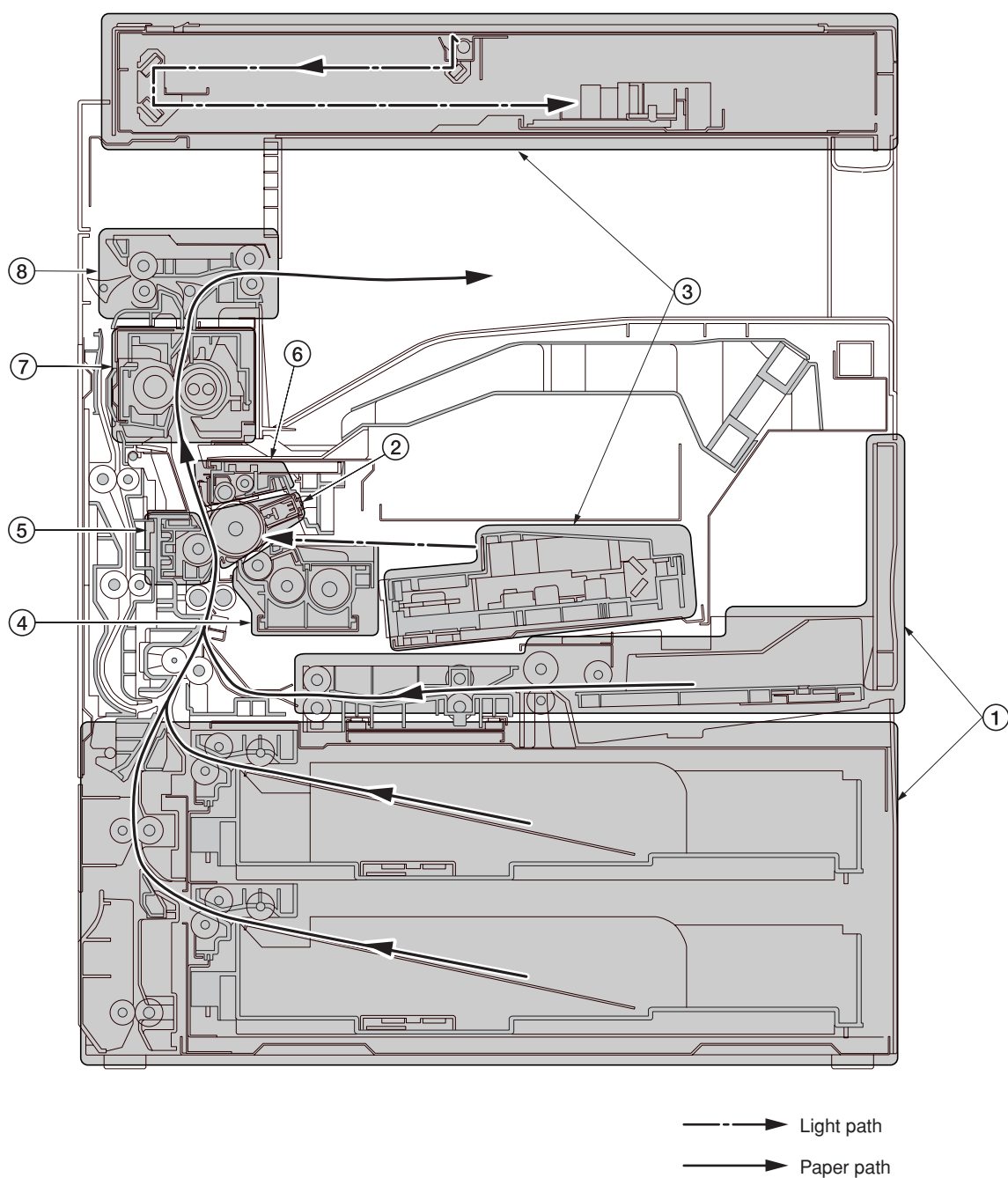
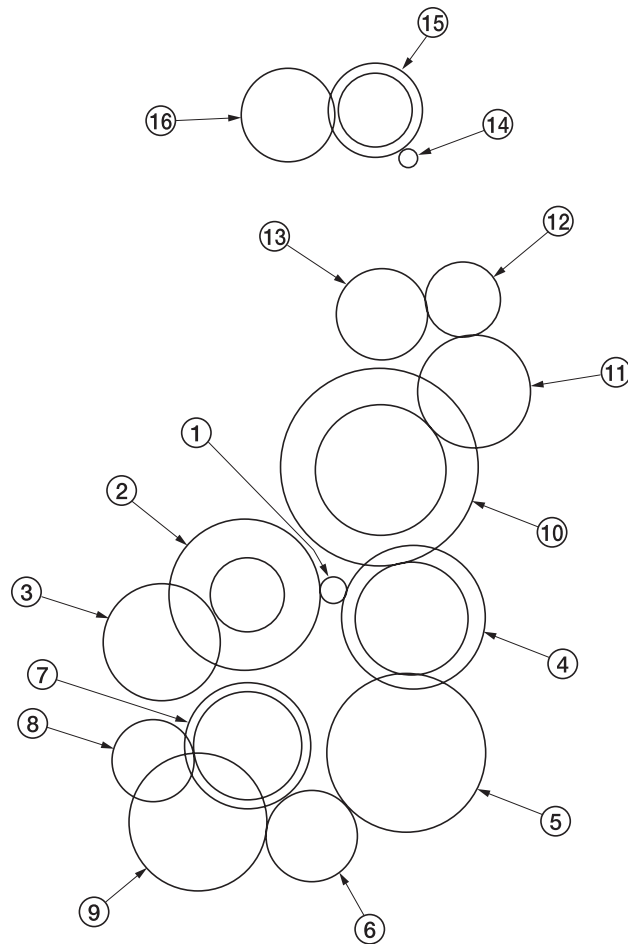


Figure 1-1-4 Machine cross section

- ① Paper feed section
- ② Main charging section
- ③ Optical section
- ④ Developing section
- ⑤ Transfer and separation section
- ⑥ Cleaning and charge erasing section
- ⑦ Fixing section
- ⑧ Eject and switchback section

1-1-4 Drive system

(1) Drive system 1 (drive motor and eject motor drive trains)

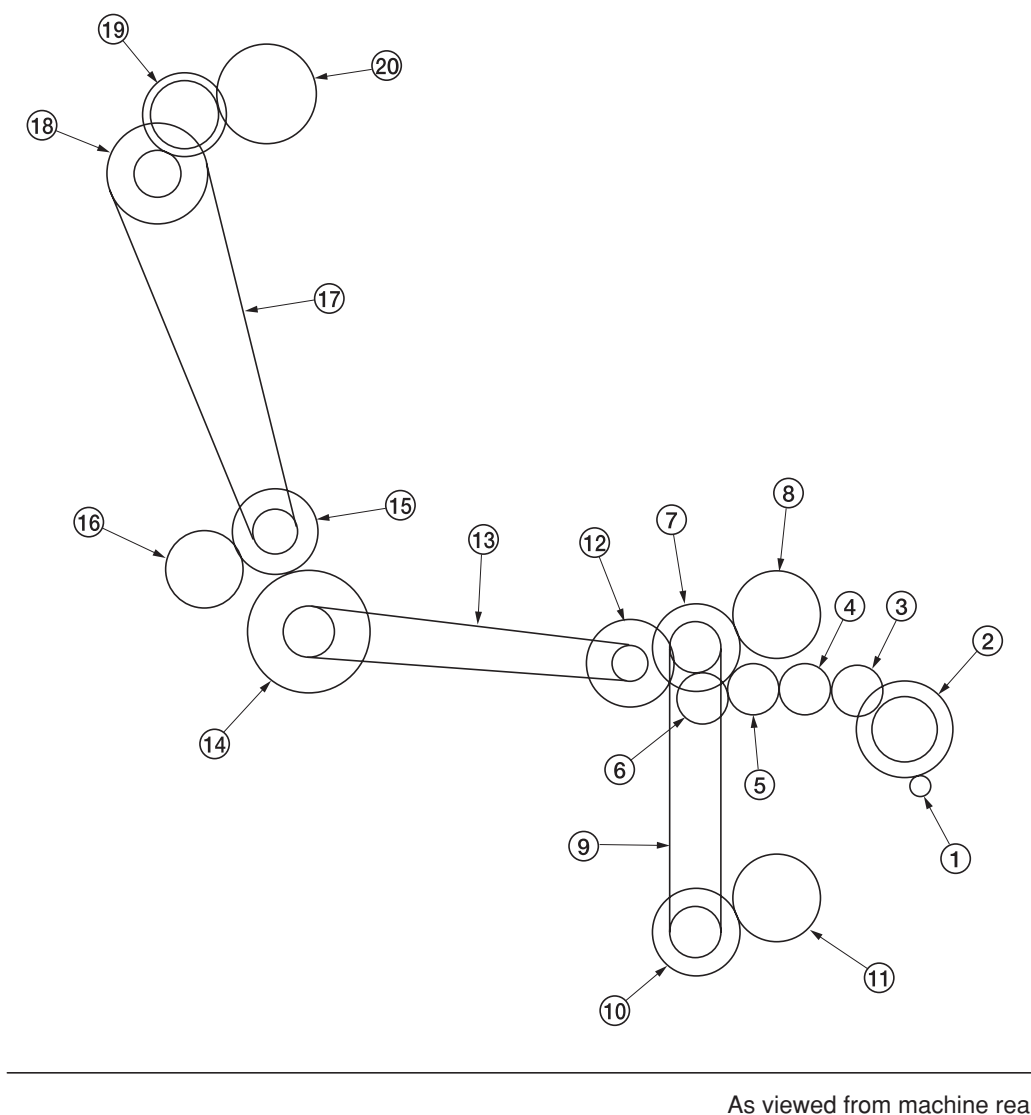


As viewed from machine rear

Figure 1-1-4

- | | |
|-----------------------|----------------------------|
| ① Drive motor gear | ⑨ Registration clutch gear |
| ② Drum gear Z76H/Z30H | ⑩ Gear Z63H/Z45S |
| ③ Drum gear Z70H | ⑪ Gear Z37S |
| ④ Gear Z76H/Z35H | ⑫ Gear Z24S |
| ⑤ Gear Z50H | ⑬ Joint gear Z32S |
| ⑥ Gear Z36S/Z31H | ⑭ Eject motor gear |
| ⑦ Gear Z37H/28H | ⑮ Gear Z47S/Z28S |
| ⑧ Gear Z34H | ⑯ Eject gear Z30S |

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



As viewed from machine rear

Figure 1-1-5

- | | |
|--------------------------------|--------------------------------|
| ① Paper feed motor gear | ⑪ Lower paper feed clutch gear |
| ② Gear Z76H/Z35S | ⑫ Gear Z41S/P15 |
| ③ Feed gear Z25 | ⑬ Bypass drive belt |
| ④ Feed gear Z25 | ⑭ Gear Z60S/P20 |
| ⑤ Feed gear Z25 | ⑮ Gear Z41S/P18 |
| ⑥ Feed gear Z25 | ⑯ Gear Z40S/Z32S |
| ⑦ Gear Z41S/Z24S/P30 | ⑰ Container drive belt |
| ⑧ Upper paper feed clutch gear | ⑱ Gear Z24S/P40 |
| ⑨ Paper feed drive belt | ⑲ Gear Z40S/Z25S |
| ⑩ Gear Z41S/Z24S | ⑳ Container gear |

1-2-1 Drum

Note the following when handling or storing the drum.

- When removing the drum unit, never expose the drum surface to strong direct light.
- Keep the drum at an ambient temperature between 0°C/32°F and 35°C/95°F and at a relative humidity not higher than 85% 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 Toner

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

1-2-3 Installation environment

1. Temperature: 10 - 35°C/50 - 95°F
2. Humidity: 15 - 85%RH
3. Power supply: 120 V AC, 11 A
220 - 240 V AC, 4.5 A (Average)
4. Power source frequency: 50 Hz $\pm 0.3\%$ /60 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, NOx, SOx 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/39³/₈" Machine rear: 300 mm/11¹³/₁₆"
Machine right: 300 mm/11¹³/₁₆" Machine left: 300 mm/11¹³/₁₆"

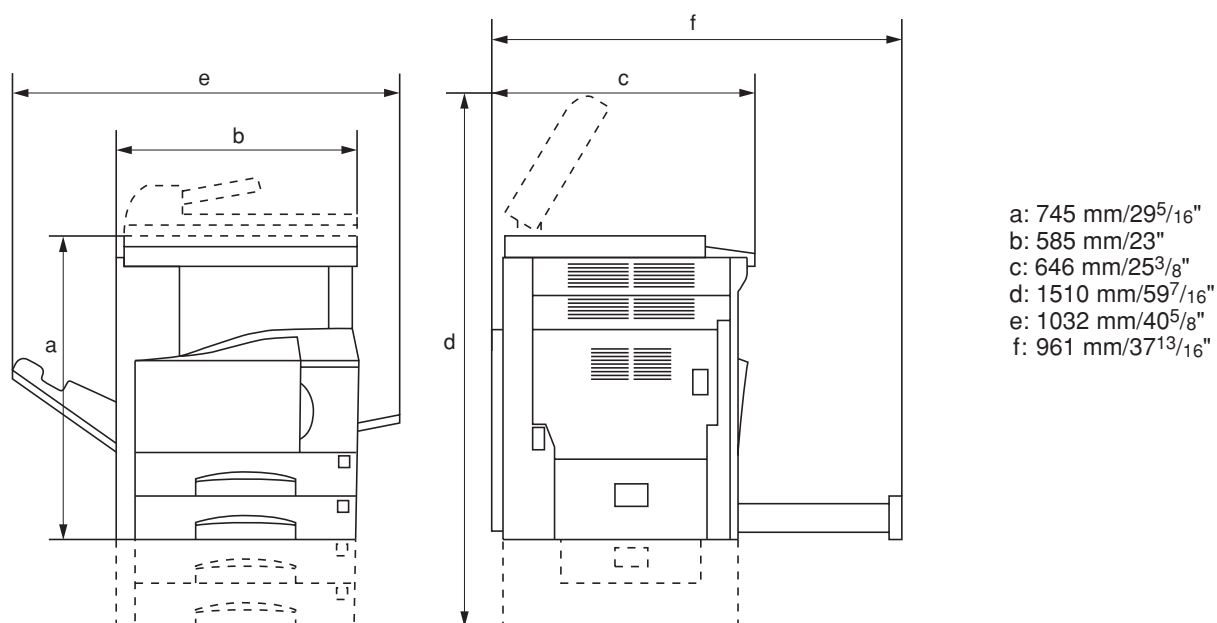
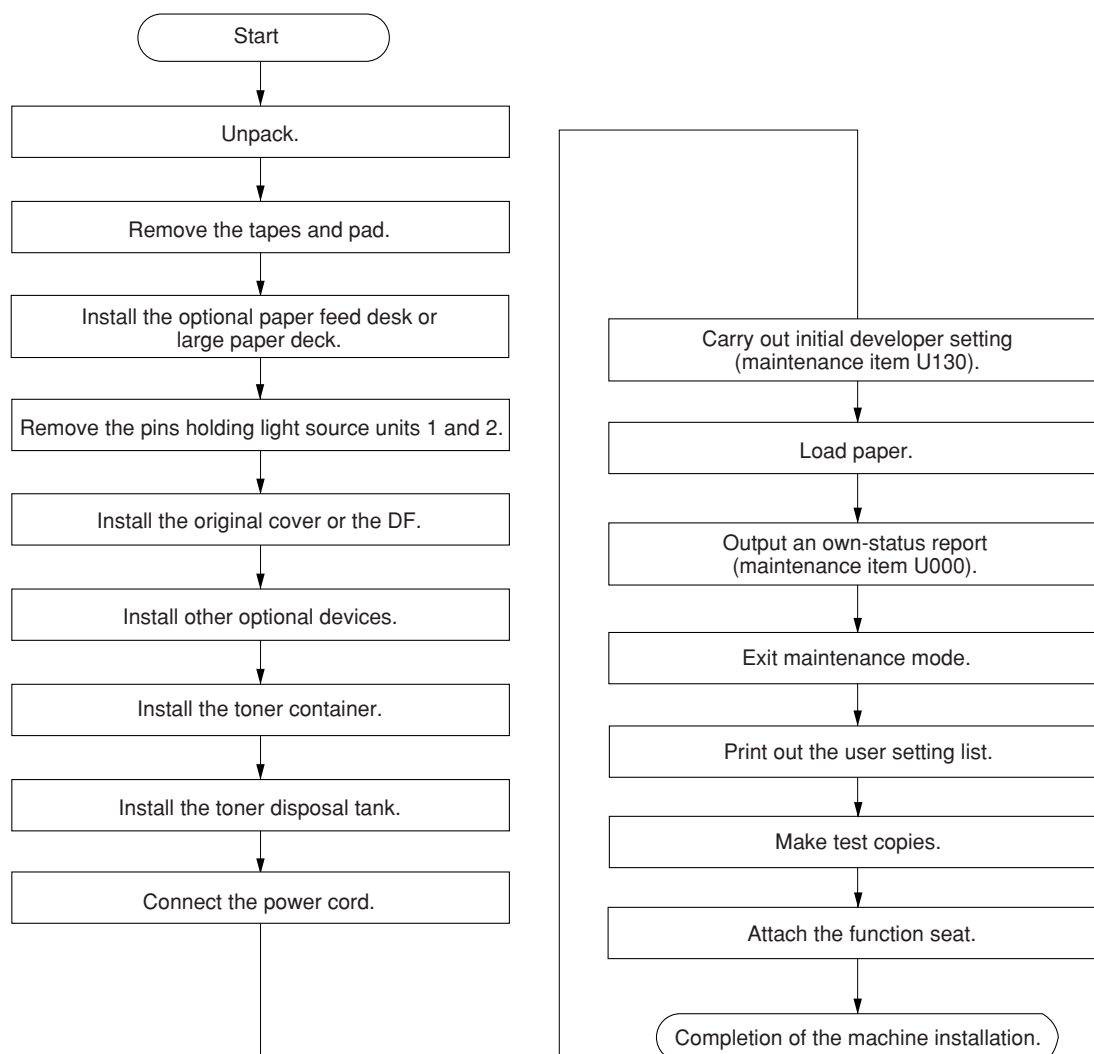


Figure 1-2-1 Installation dimensions

1-3-1 Unpacking and installation

(1) Installation procedure



Moving the machine

When moving the machine, pull out the four handles for transport on the right and left sides and hold them.

* For the left front handle for transport, open the door and push it into the machine before pulling out the handle.

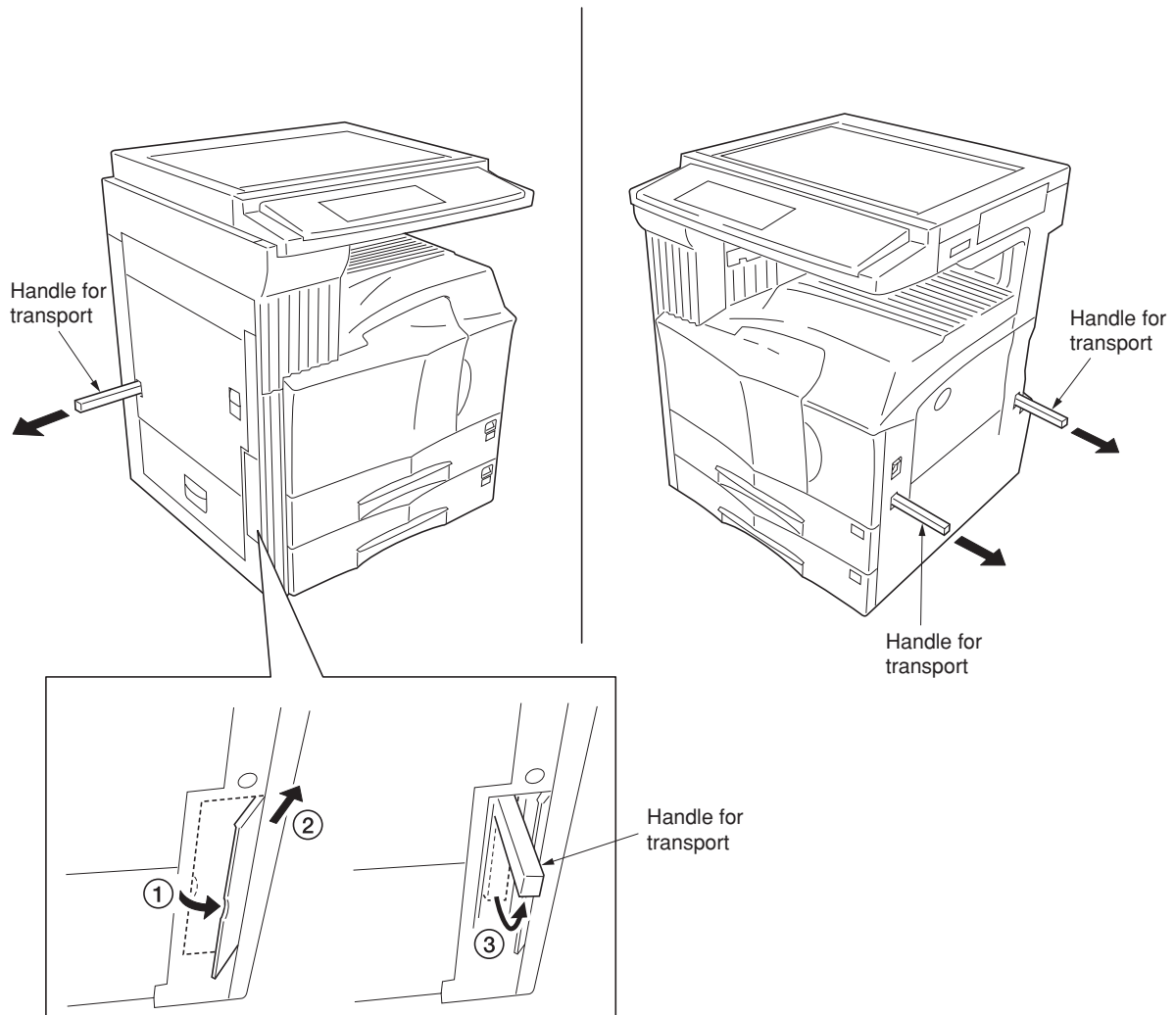


Figure 1-3-1

Unpack.

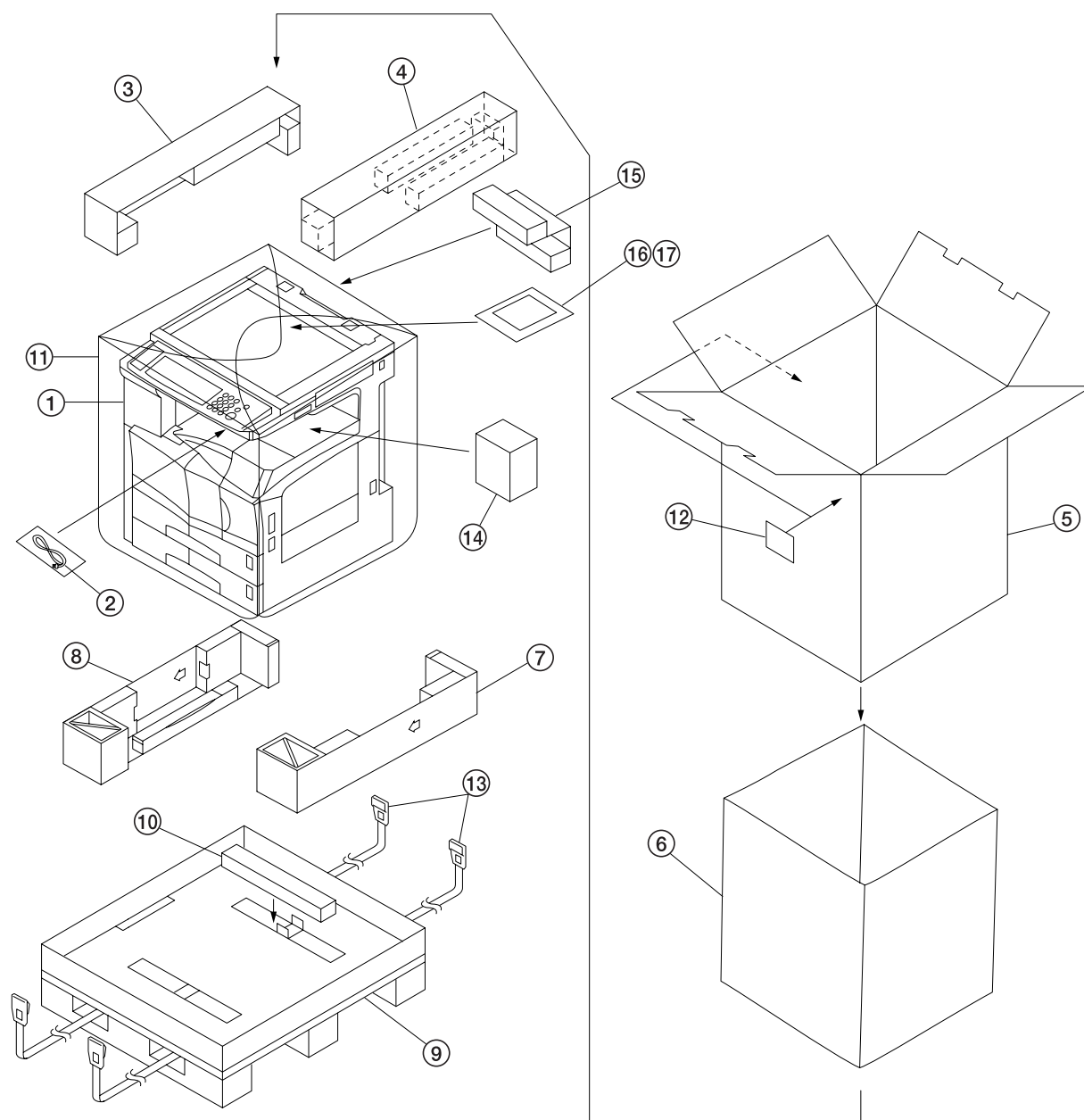


Figure 1-3-2 Unpacking

- | | |
|-------------------|-------------------|
| ① Copier | ⑩ Bottom pad |
| ② Power cord | ⑪ Machine cover |
| ③ Upper left pad | ⑫ Bar code labels |
| ④ Upper right pad | ⑬ Belt |
| ⑤ Outer case | ⑭ Eject spacer |
| ⑥ Inner frame | ⑮ Spacer* |
| ⑦ Lower right pad | ⑯ Plastic bag |
| ⑧ Lower left pad | ⑰ Operation guide |
| ⑨ Skid | |

*220-230 V specifications only.

Remove the tapes and pad.

1. Remove the tapes holding the front cover, bypass tray, drawers and original detection switch.
2. Remove the pad at the eject section.

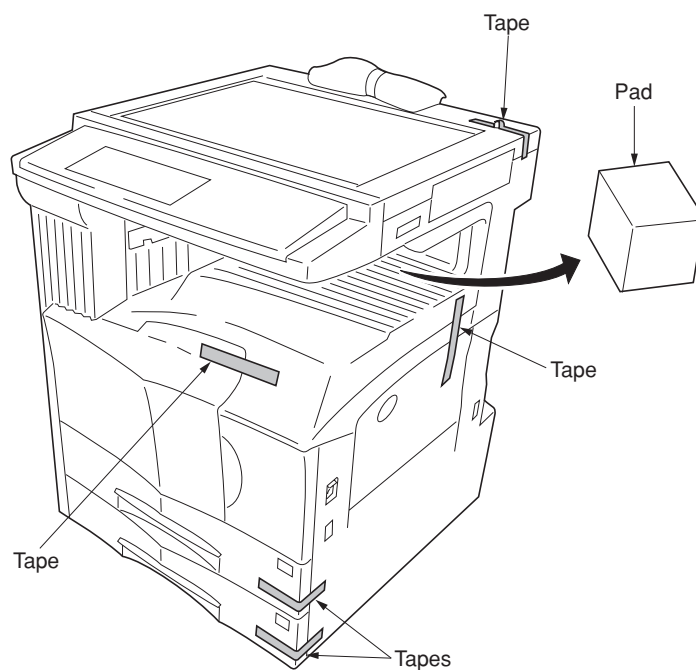


Figure 1-3-3

3. Remove the three tapes holding the pins for light source units 1 and 2.
 4. Remove the tape holding the conveying cover.
 5. Remove the two tapes holding the power cord.*
- *120 V specifications only.

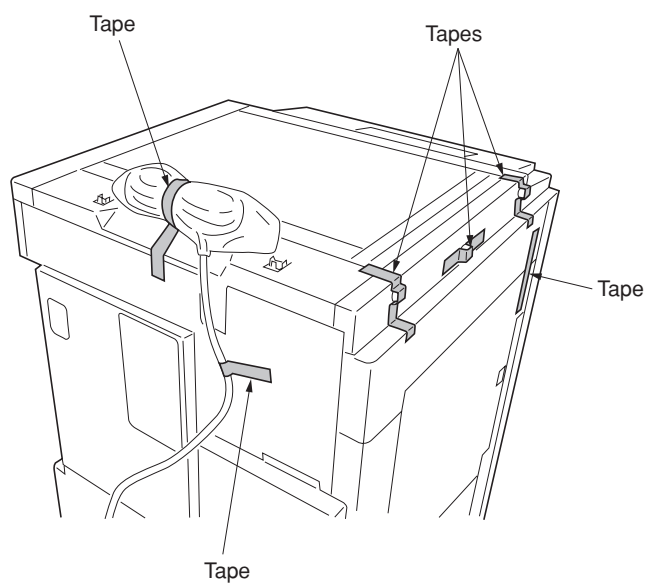


Figure 1-3-4

6. Pull upper and lower drawers out and remove the tape holding each of the drawer lift.

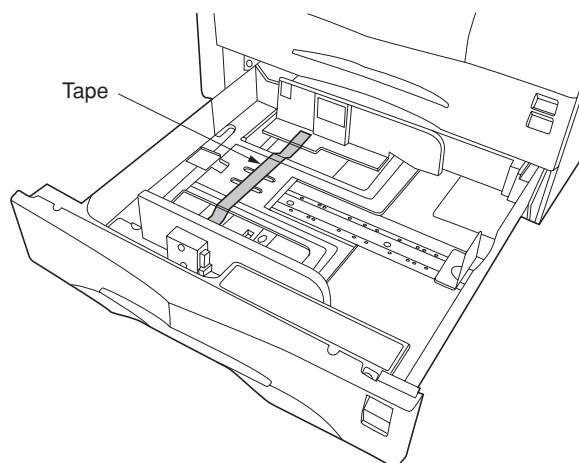


Figure 1-3-5

Install the optional paper feed desk or large paper deck.

1. Install the optional paper feed desk or large paper deck as necessary (see page 1-3-18 to 1-3-24).

Remove the pins holding light source units 1 and 2.

1. Remove the two pins for light source unit 1 and the pin for light source unit 2.

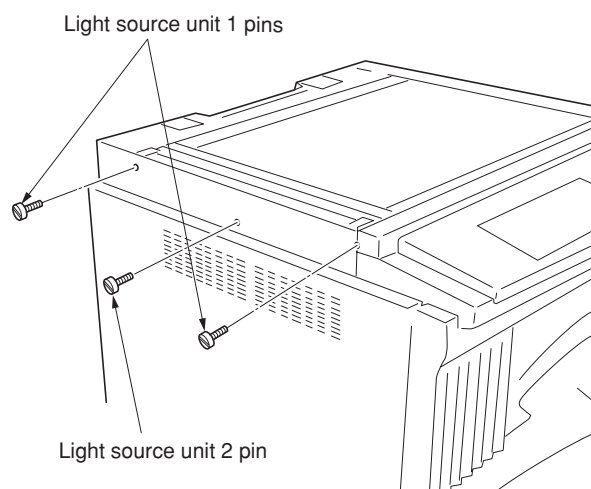


Figure 1-3-6

Install the original cover or the DF.

1. Install the original cover or DF (see page 1-3-34 when installing the DF).

Install other optional devices.

1. Install the optional devices (job separator, duplex unit, finisher, fax board, and/or printer board etc.) as necessary (see pages 1-3-35 to 1-3-56).

Install the toner container.

1. Open the front cover.
2. Tap the top of the toner container five to six times.

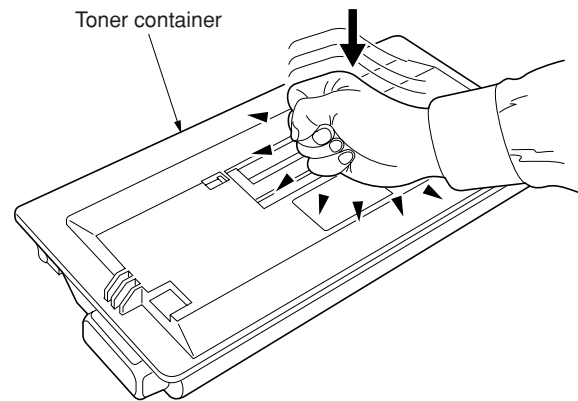


Figure 1-3-7

3. Shake the toner container approximately 10 times in the horizontal direction to stir toner.

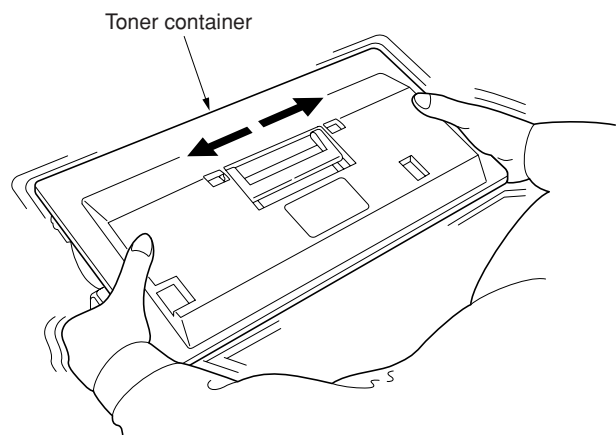


Figure 1-3-8

4. Gently push the toner container into the copier along the rails.
*Push the container all the way into the copier until it locks in place.

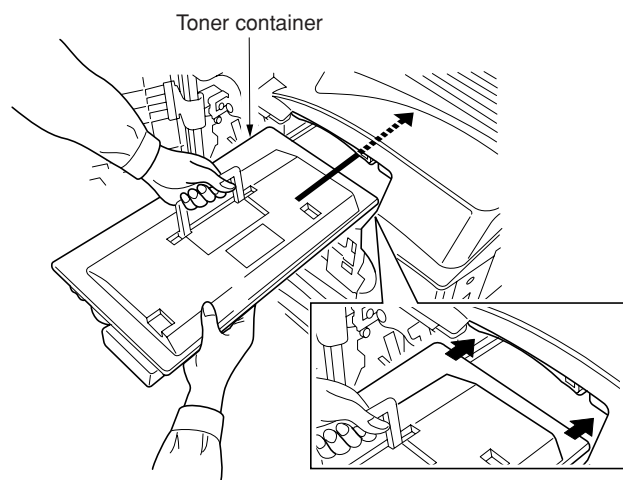
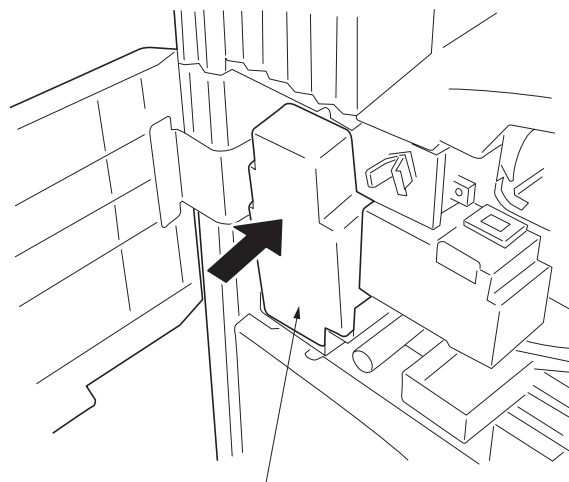


Figure 1-3-9

Install the toner disposal tank.

1. Install the toner disposal tank in the copier.
2. Close the front cover.



Toner disposal tank

Figure 1-3-10

Connect the power cord.

1. Connect the power cord to the connector on the copier.*
2. Insert the power plug into the wall outlet.

*200-240 V specifications only.

Carry out initial developer setting (maintenance item U130).

1. Turn the main switch on and enter the maintenance mode by entering "10871087" using the numeric keys.
2. Enter "130" using the numeric keys and press the start key.
3. Press the start key to execute the maintenance item.
The drive stops within approximately 5 minutes.
4. Press the stop/clear key.

Load paper.

1. Load paper in the drawer.

Output an own-status report (maintenance item U000).

1. Enter "000" using the numeric keys and press the start key.
2. Select "MAINTENANCE" and press the start key to output a list of the current settings of the maintenance items.
3. Press the stop/clear key.

Exit maintenance mode.

1. Enter "001" using the numeric keys and press the start key.
The machine exits the maintenance mode.

Print out the user setting list.

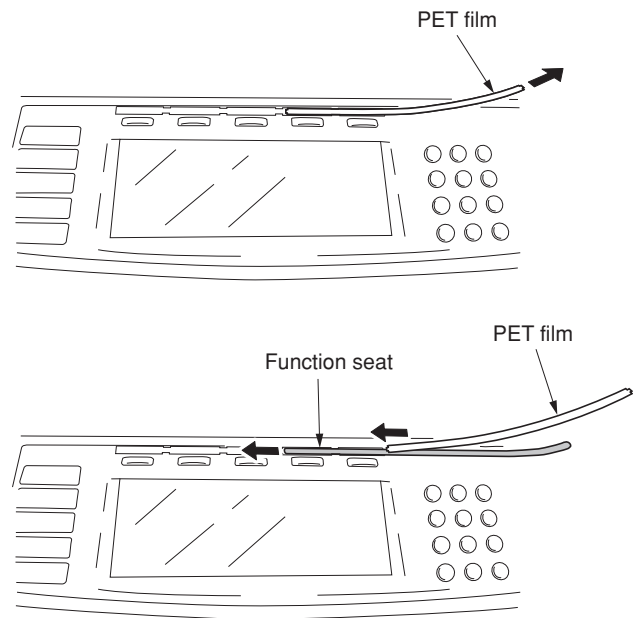
1. Press the * key to enter default setting and press the [Print form] key. The counter report will be output.

Make test copies.

1. Place an original and make test copies.

Attach the function seat.

1. Remove the PET film from the operation panel.
2. Fit the relevant function sheet.
If the DF has been installed, select a function sheet among No. 1 to 4 based on installation of the fax board and the printer board.
If the DF has not been installed, select a function sheet among No. 5 to 8 based on installation of the fax board and the printer board.
3. Refit the PET film to its original position.

**Figure 1-3-11****Completion of the machine installation.**

1-3-2 Setting initial copy modes

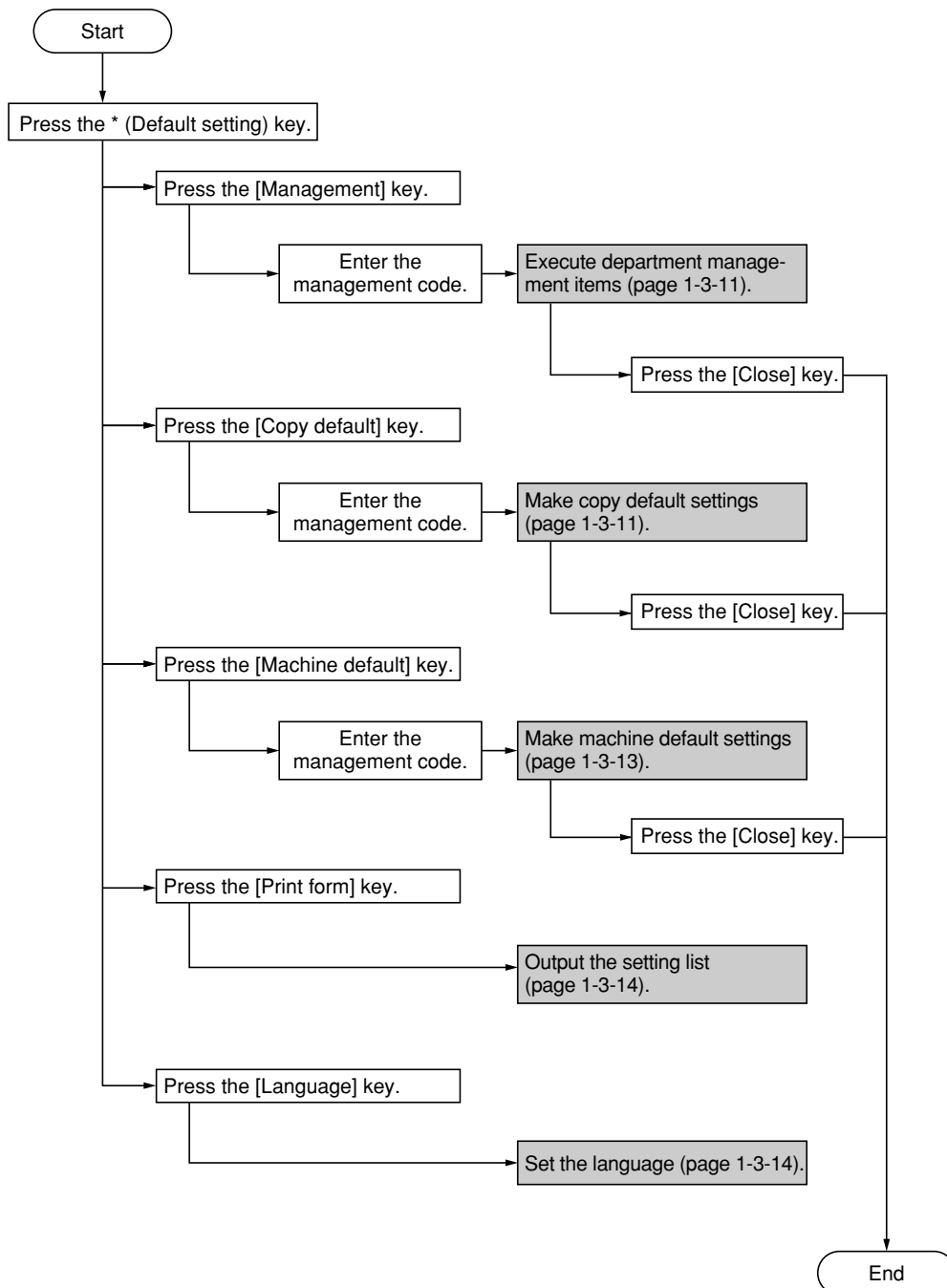
Factory settings are as follows:

Maintenance item No.	Contents	Factory setting
U253	Switching between double and single counts	Double count
U254	Turning auto start function on/off	ON
U255	Setting auto clear time	90s
U256	Turning auto preheat/energy saver function on/off	ON
U258	Switching copy operation at toner empty detection	SINGLE MODE, 70
U260	Changing the copy count timing	After ejection
U342	Setting the ejection restriction	ON
U343	Switching between duplex/simplex copy mode	OFF
U344	Setting preheat/energy saver mode	ENERGY STAR

1-3-3 Copier management

In addition to a maintenance function for service, the copier is equipped with a management function which can be operated by users (mainly by the 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. Setting range is 1000 pieces of units to 1000-999000 pieces. 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. Setting range is 1000 pieces of units to 1000-999000 pieces. 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.

(3) 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 type

Selects the copy quantity mode at power-on.

1. Select "Original type" and press the [Change #] key.
2. Select "Text+Photo", "Photo" or "Text".

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" and press the [Change #] key.
2. Select "APS" or "Default cassette".

Default drawer

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

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

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" 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 adjustment" 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

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 +/- keys to adjust default margin width.
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: 0 to 3/4" (inch specifications)
0 to 18 mm (metric 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

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".

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 [←].

(4) Machine default**Auto drawer switching**

Sets whether the auto drawer switching function is available.

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

Special paper

Sets the drawer for such special paper as colored paper or recycled paper.

1. Select "Special paper" and press the [Change #] key.
2. Select "1st paper" or "2nd paper".

APS for special paper

Sets whether to use the paper source with the special paper for auto paper selection and auto drawer switching.

1. Select "APS for special paper" and press the [Change #] key.
2. Select "On" or "Off".

Paper size (upper drawer)

Sets the paper size for upper drawer.

1. Select "Paper size (1st cassette)" and press the [Change #] key.
2. Select the paper size.

Paper size (lower drawer)

Sets the paper size for lower drawer.

1. Select "Paper size (2nd cassette)" and press the [Change #] key.
2. Select the paper size.

Paper type (upper drawer)

Sets the paper type (standard or special) for upper drawer.

1. Select "Paper type (1st cassette)" and press the [Change #] key.
2. Select the paper type.

Paper type (lower drawer)

Sets the paper type (standard or special) for lower drawer.

1. Select "Paper type (2nd cassette)" and press the [Change #] key.
2. Select the paper type.

Check bypass sizing

Sets whether or not to display the paper size key of the basic screen when copying with the bypass tray.

1. Select "Check bypass express" and press the [Change #] key.
2. Select "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

Selects whether to eject copies to copier, finisher or job separator.

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".

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".

(5) Report

Outputs the setting reports.

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

(6) Language

Switches the language to be displayed on the press panel.

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

1-3-4 Installing the key counter (option)

Key counter installation requires the following parts:

Key counter set (P/N 2A369703)

Contents of the set:

- Key counter cover (P/N 2A360010)
- Key counter retainer (P/N 66060030)
- Key counter cover retainer (P/N 66060022)
- Key counter mount (P/N 66060040)
- Key counter socket 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 × 20 bronze TP-A screw (P/N B4304200)
- One (1) M4 × 6 chrome TP-A screw (P/N B4104060)
- One (1) M3 × 8 bronze binding screw (P/N B1303080)
- One (1) M4 × 30 bronze binding screw (P/N B1304300)
- 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 socket 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.

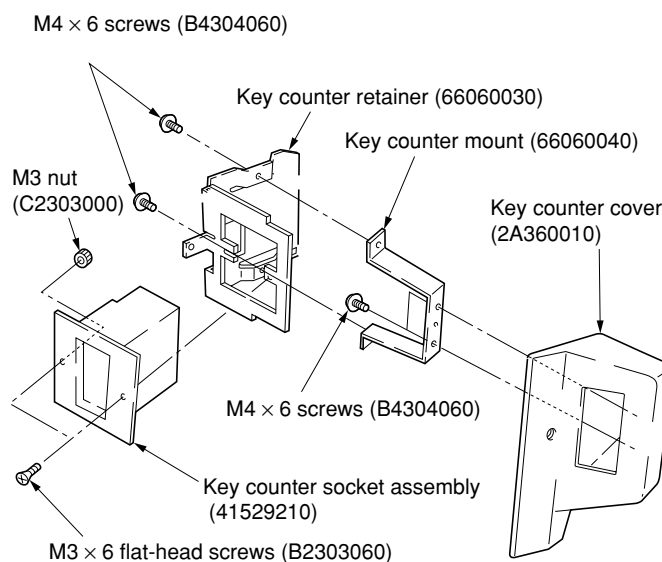


Figure 1-3-12

3. Remove the three screws holding the middle right cover and then the cover.
4. Cut out the aperture plate on the middle right cover using nippers.
5. Pass the connect inside the copier through the aperture and refit the middle right cover.

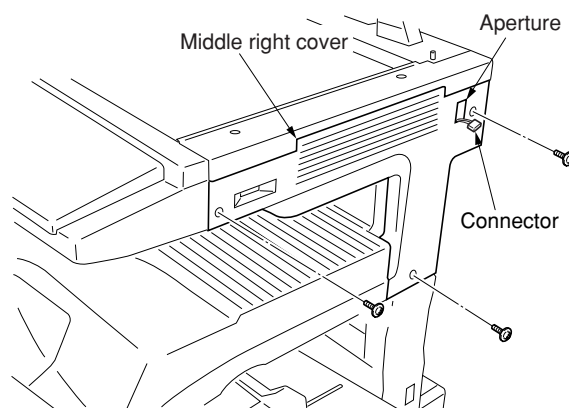


Figure 1-3-13

6. Pass the connector of the key counter through the aperture in the key counter retainer, and insert into the connector of the copier.
7. Seat the projection of the key counter cover retainer in the aperture in the middle right cover.
8. Fit the key counter cover with the key counter socket assembly inserted to the key counter cover retainer on the copier using the screw.
9. Insert the key counter into the key counter socket assembly.

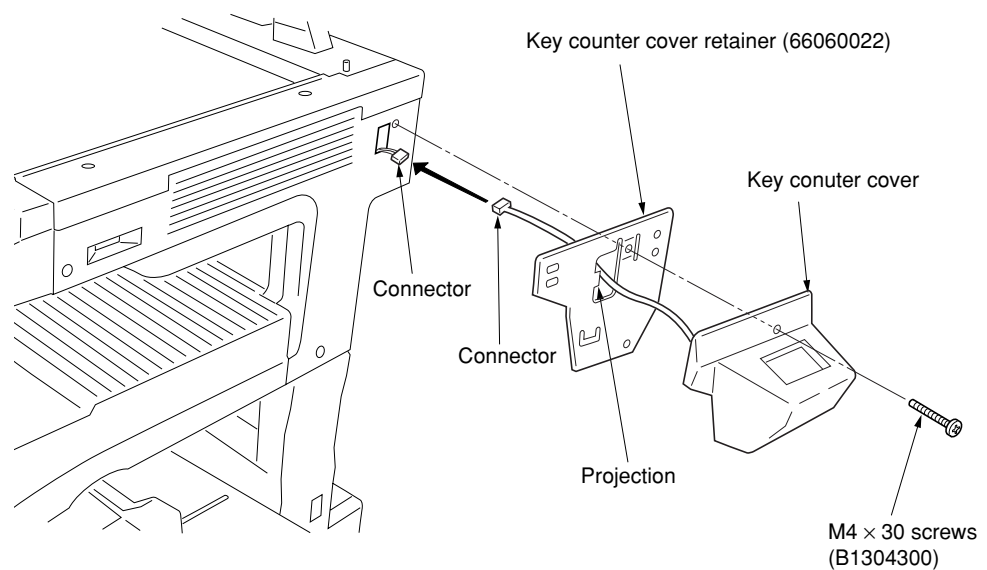


Figure 1-3-14

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 on the touch panel when the key counter is pulled out.
14. Check that the counter counts up as copies are made.

1-3-5 Installing the drawer heater (option)

Drawer heater installation requires the following parts:

- Drawer heater (P/N 34860030): for 120 V specifications
- Drawer heater (P/N 33960020): for 220 - 240 V specifications
- Band (P/N M2107120)

Procedure

1. Pull the upper and lower drawers out.
2. Fit the drawer heater to the bottom of the machine and bind the wire of the drawer heater with the band.
3. Put the wire of the drawer heater out of the machine through the aperture of the rear frame.

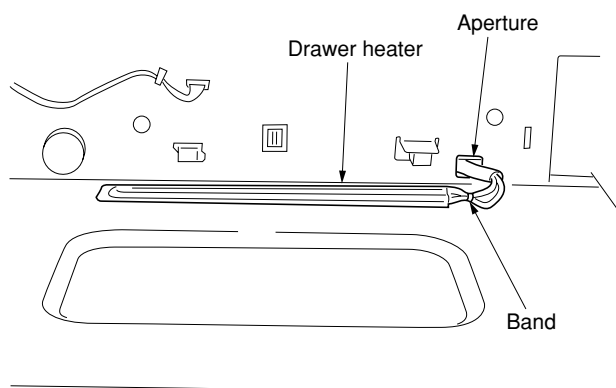


Figure 1-3-15

4. Remove the four screws and the two connectors and then remove the power source unit from the rear side of the machine.

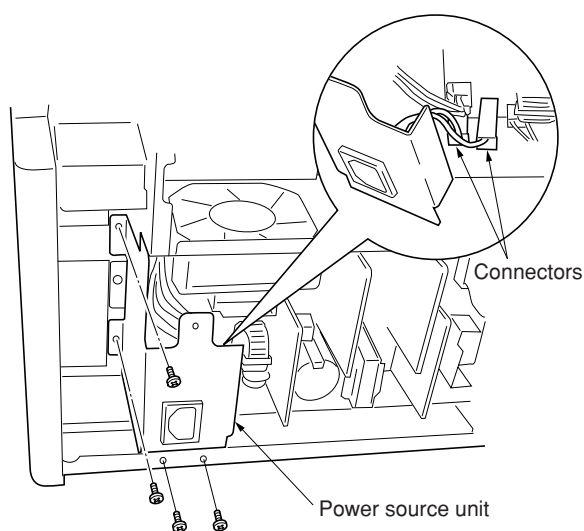


Figure 1-3-16

5. Remove the two screws and pull out the wire of the drawer heater that has been put out of the rear frame while raising the power source PCB unit.
6. Insert the connector of the drawer heater into the connector of the machine.
7. Refit all the removed parts.

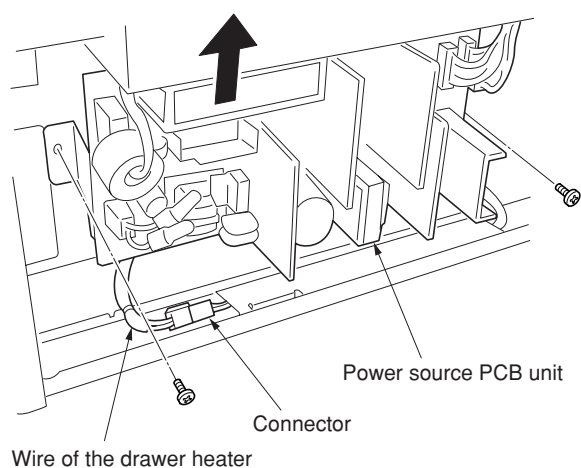


Figure 1-3-17

1-3-6 Installing the paper feed desk (option)

Preparation

1. Remove the lower drawer from the copier.

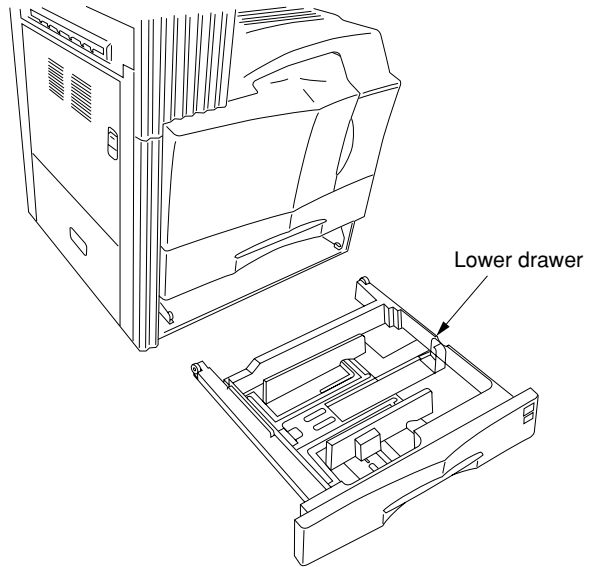


Figure 1-3-18

2. Place the copier on top of the paper feed desk with the positioning pins at the front left and right of the paper feed desk aligned with the holes in the base of the copier.

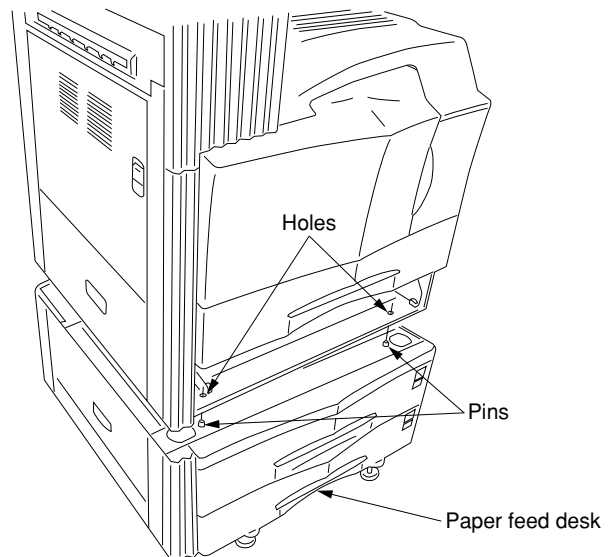


Figure 1-3-19

3. Secure the copier to the paper feed desk using the two pins.
4. Refit the lower drawer to the copier.

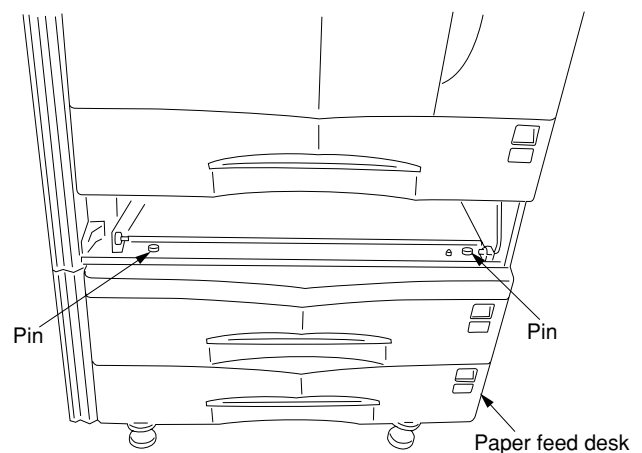


Figure 1-3-20

5. Remove the screw and then the cover from the rear of the paper feed desk.
6. Remove the screw from the copier.

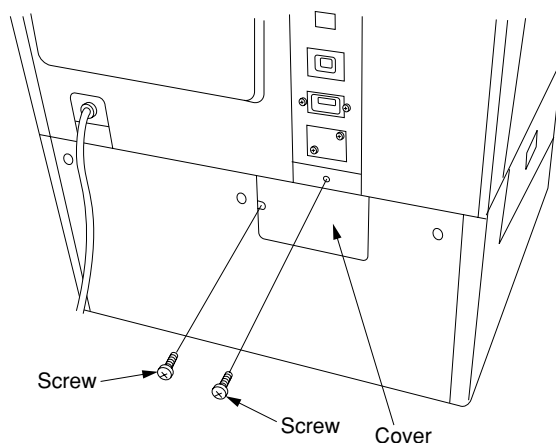


Figure 1-3-21

7. Insert the 12-P connector of the paper feed desk into the connector on the copier.

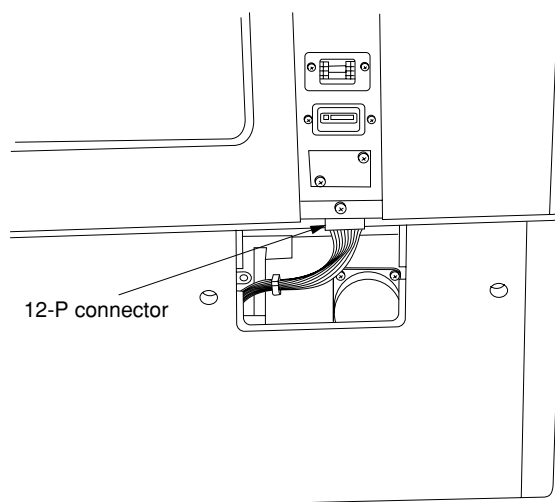


Figure 1-3-22

8. Route the harness through the clamp on the retainer.
9. Fit the retainer using the screw removed in step 6 and the two CVM4 × 06 cross-head chromate binding screws.
10. Refit the cover.

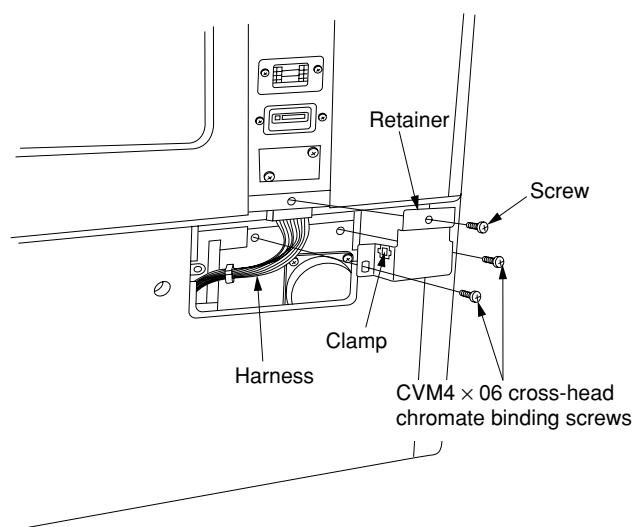


Figure 1-3-23

2DF

11. Turn the four leveling bolts until they reach the floor and adjust them to level the machine.

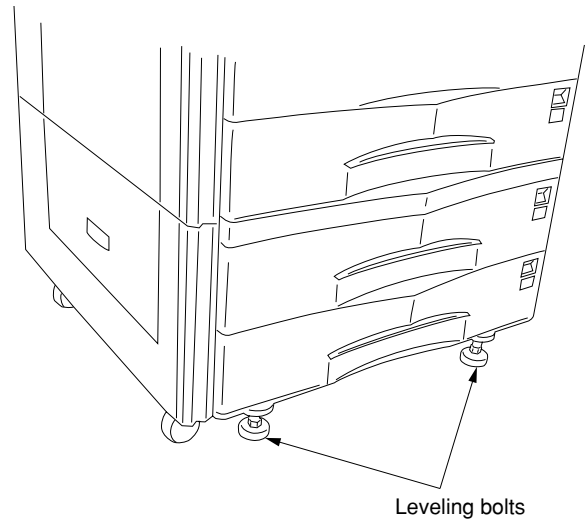


Figure 1-3-24

12. Fit the two stays to the left of the paper feed desk (one toward the front and the other the rear) using the two M4 × 10 chrome TP screws such that they make contact with the floor.

Note: Do not fit the stays if the finisher is to be installed.

13. Connect the copier power plug to the wall outlet and turn the copier main switch on.
14. Load paper into the drawer and make a test copy to check the operation.

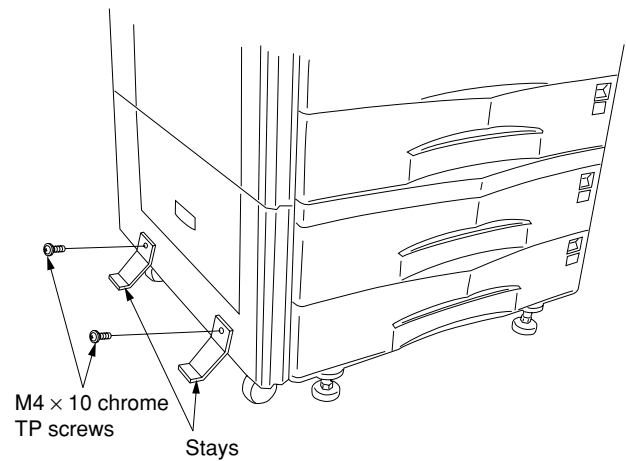


Figure 1-3-25

1-3-7 Installing the large paper deck (option)

Preparation

1. Remove the lower drawer from the copier.

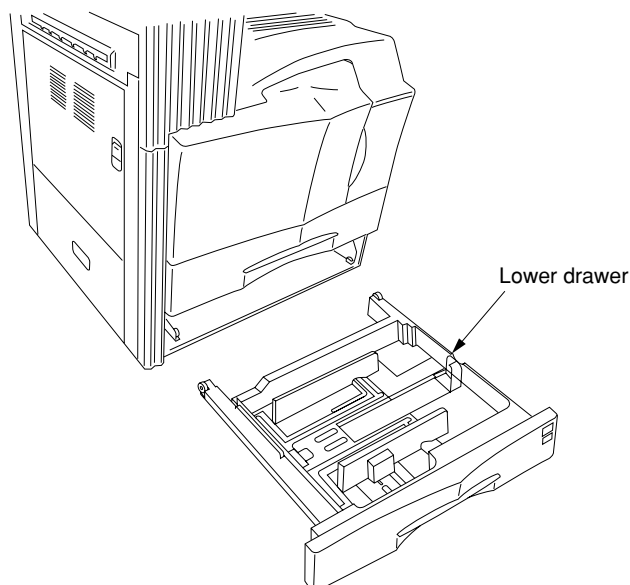


Figure 1-3-26

2. Place the copier on top of the large paper deck with the positioning pins at the front left and right of the large paper deck aligned with the holes in the base of the copier.

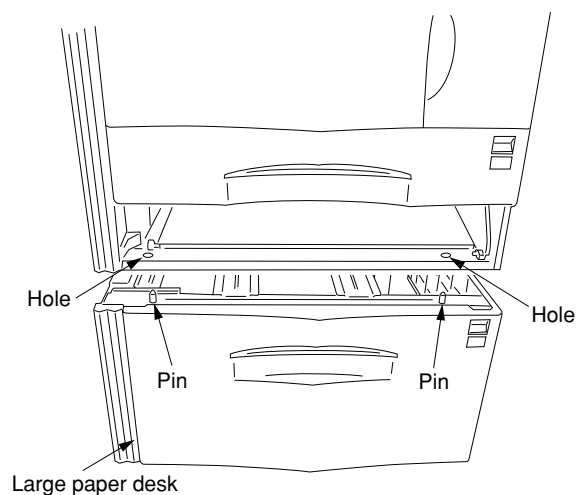


Figure 1-3-27

3. Secure the copier to the large paper deck using the two pins.
4. Refit the lower drawer to the copier.

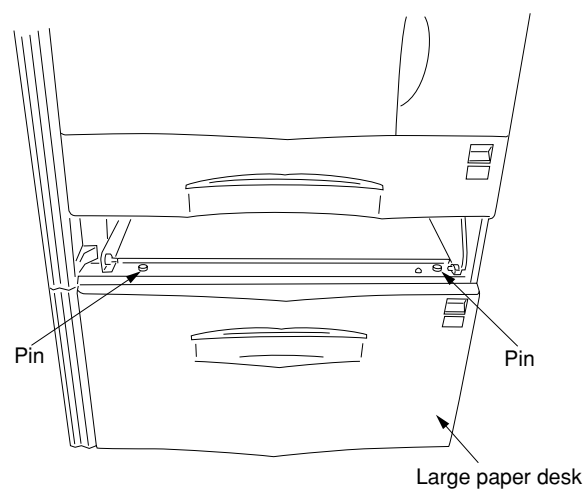


Figure 1-3-28

2DF

5. Remove the screw and then the cover from the rear of the large paper deck.
6. Remove the screw from the rear of the copier.

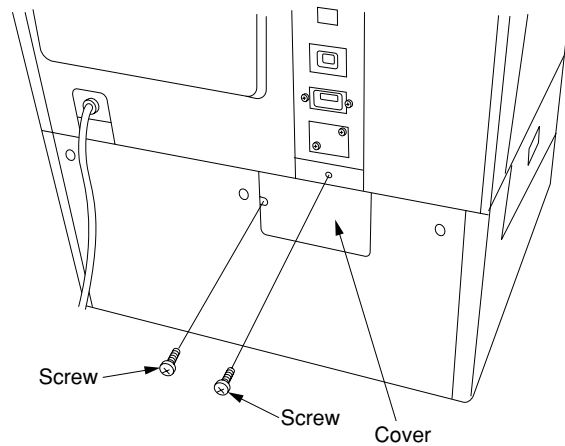


Figure 1-3-29

7. Insert the 12-pin connector of the large paper deck into the connector on the copier.

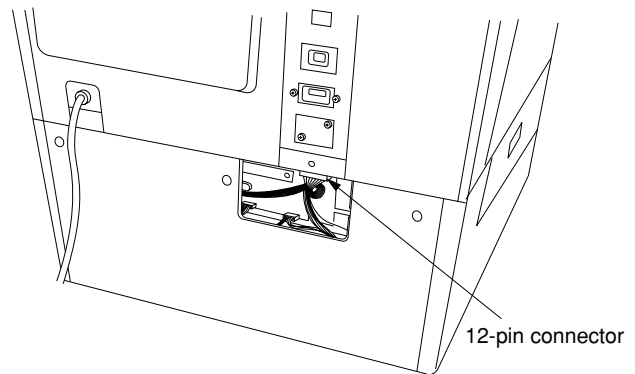


Figure 1-3-30

8. Fit the retainer using the screw removed in step 6 and the two CVM4 × 06 cross-head chromate binding screws.
9. Refit the cover using the screw (see step 5).

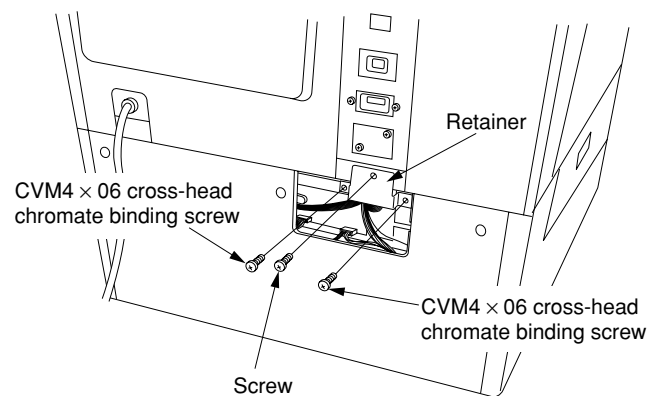


Figure 1-3-31

10. Turn the four leveling bolts until they reach the floor and adjust them to level the machine.

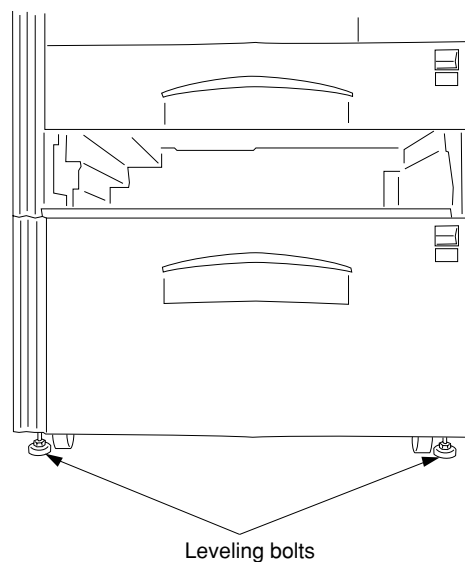


Figure 1-3-32

11. Fit the stay to the lower left of the large paper deck toward the rear using the two M4 × 16 chrome TP screws such that it makes contact with the floor.

Note: Do not fit the stay if the finisher is to be installed.

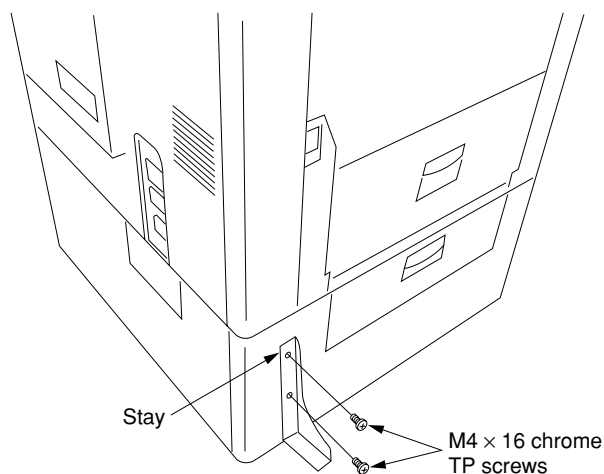


Figure 1-3-33

Setting the paper size

1. Open the large paper deck.
2. Move the sliders at the machine front and rear inward (two at each point).
3. Remove the screw from each of the front and rear lateral size adjusters.

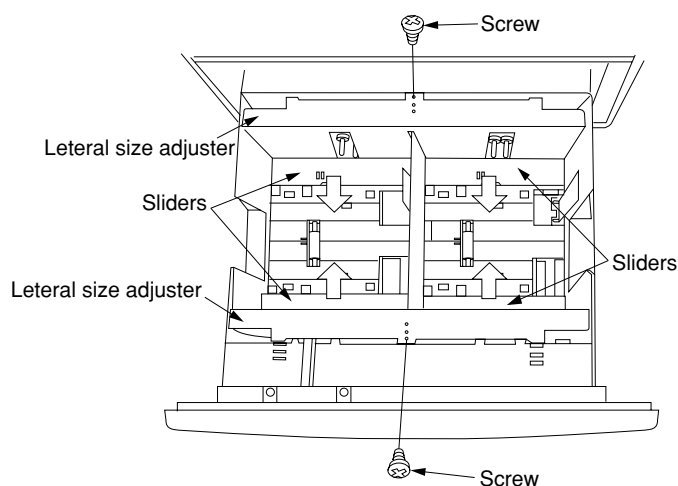


Figure 1-3-34

4. Insert the upper tabs and lower tabs of the front and rear lateral size adjusters into the upper slots and lower slots respectively such that the size indicators point to the size of paper to be used. Secure the lateral size adjusters using the screw for each.
5. Move the front and rear sliders (two at each point) outward until they make contact with the lateral size adjusters.

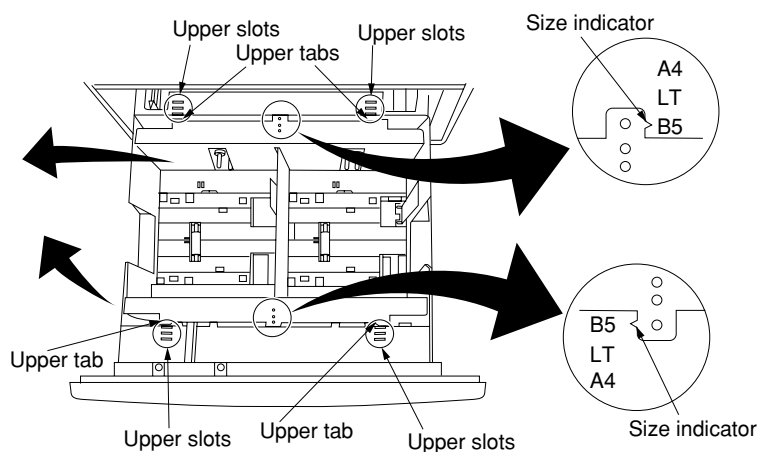
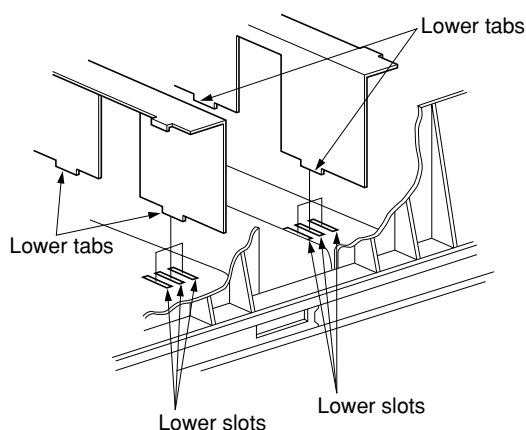


Figure 1-3-35

Steps 6 to 9 are for metric specifications only.

6. Remove the screw from each of the left and right longitudinal size adjusters.
7. Align the pin holes in the left and right longitudinal size adjusters with the A4 pins or B5 pins according to the size of paper to be used. Secure the adjusters using the screw for each.
8. Connect the copier power plug to the wall outlet and turn the copier main switch on.
9. Run maintenance item 208 and set the paper size for the large paper deck (B5/A4).
10. Load paper into the drawer and make a test copy to check the operation.

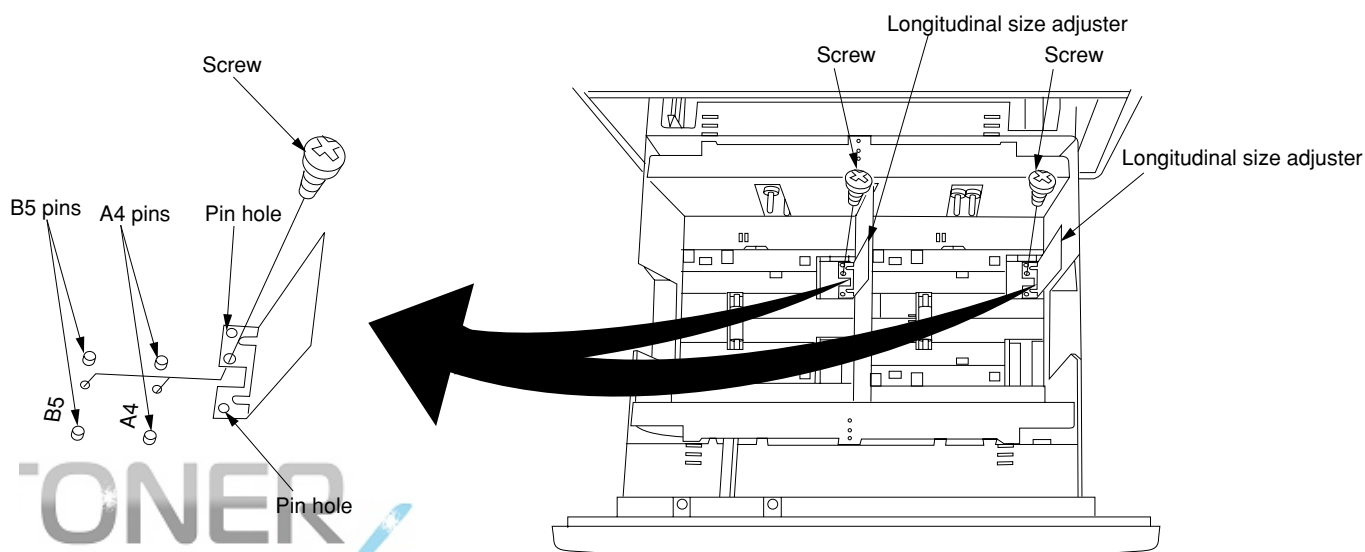


Figure 1-3-36

1-3-8 Installing the saddle finisher/switchback unit (option)

Preparation

1. Open the conveying cover of the copier.
2. Remove the two screws securing the feedshift guide assembly and then the assembly.

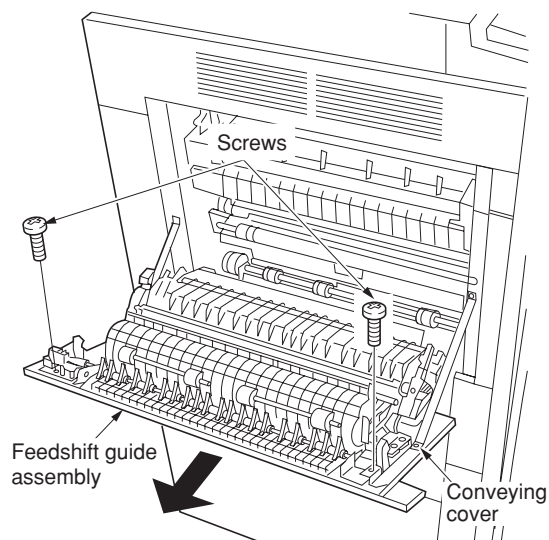


Figure 1-3-37

3. Fit the curl eliminator to the conveying cover such that the projections on the cover fit into the two ends of the curl eliminator.
4. Secure the curl eliminator using the two screws removed in step 2.

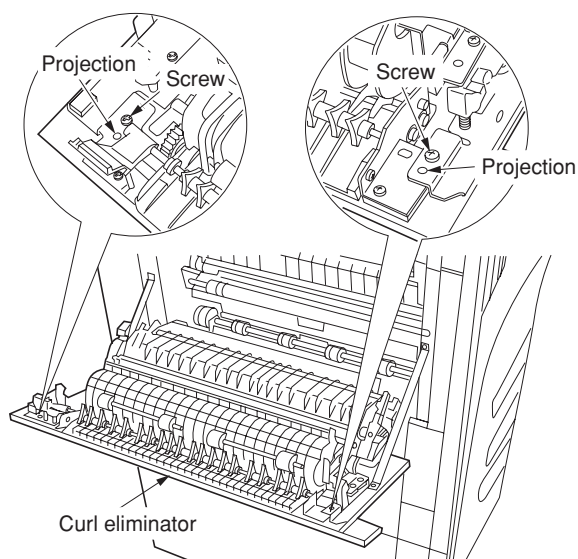


Figure 1-3-38

5. Close the conveying cover.
6. Fit the latch catch to the conveying cover using two M4 × 10 binding screws.

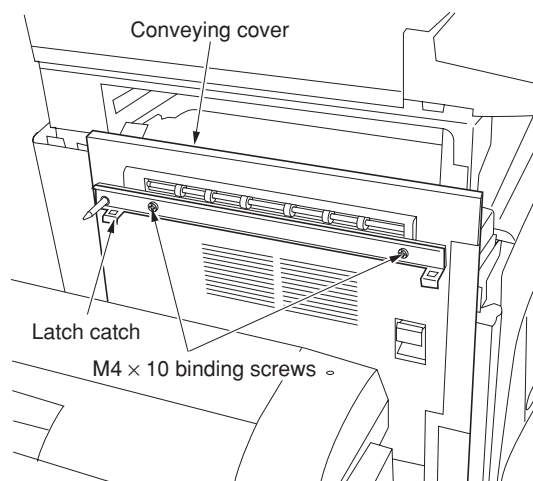


Figure 1-3-39

7. Remove the two screws securing the shield cover and then the cover.

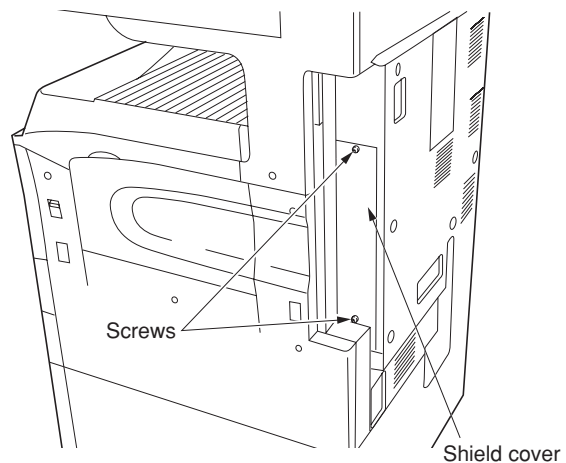


Figure 1-3-40

8. Detach the 10-pin connector (four wires) from CN4 on the main PCB and connect it to J2 on the IPC PCB.

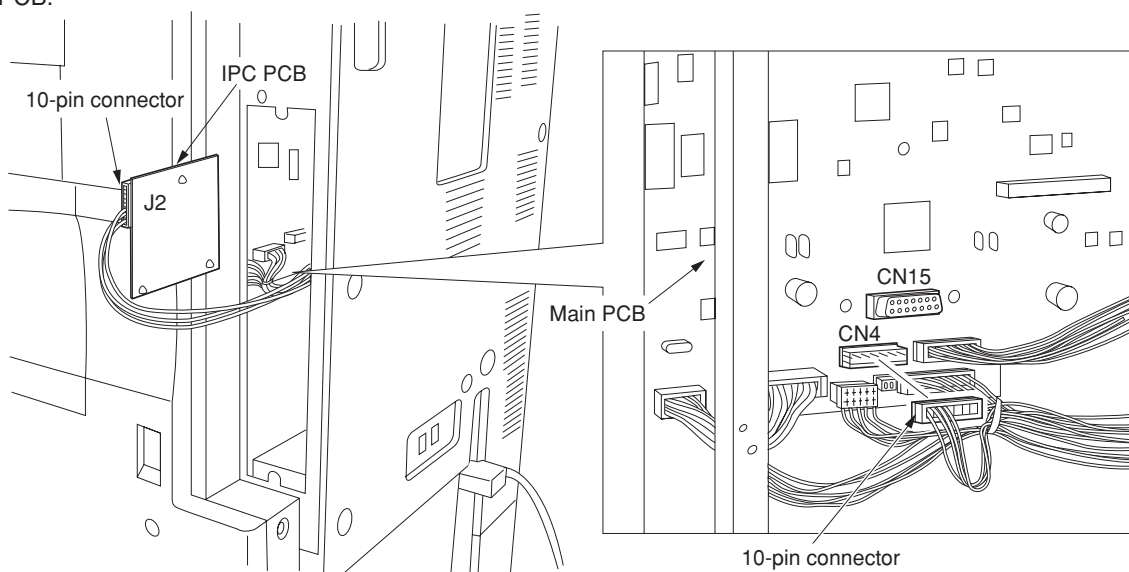


Figure 1-3-41

9. Connect J1 on the IPC PCB to CN15 on the main PCB.
10. Insert the three board supports of the IPC PCB into the main PCB to secure them.
11. Refit the shield cover.

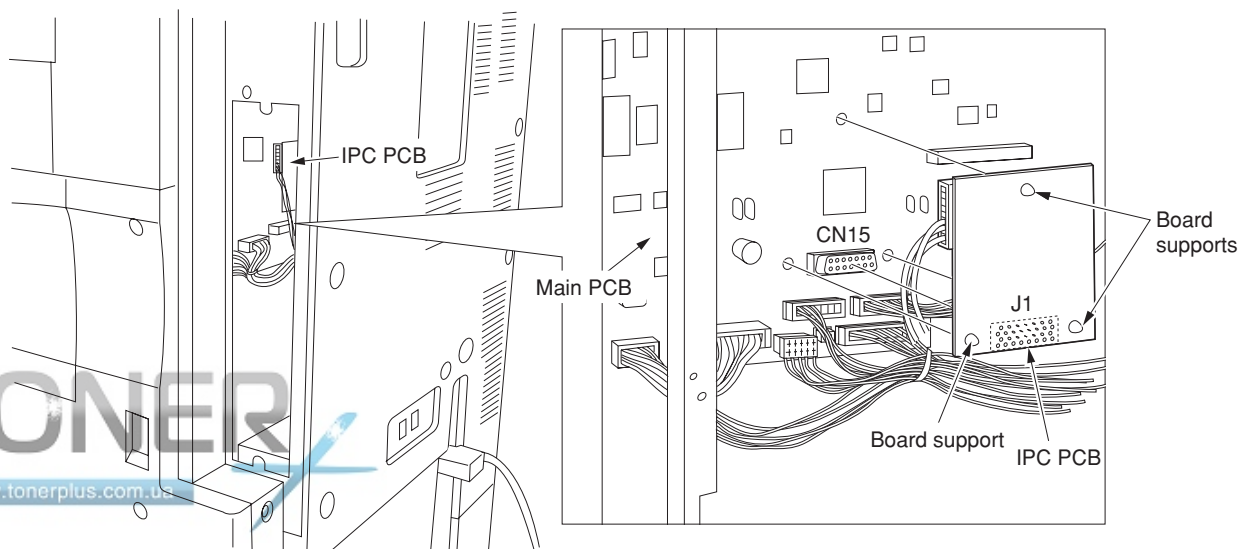


Figure 1-3-42

12. Align the rail retainer with the groove of the guide rail and attach the rail retainer to the guide rail. Make sure that the plate spring of the rail retainer fits into the groove and the edge of the guide rail fits between the pulleys on the reverse side of the rail retainer.

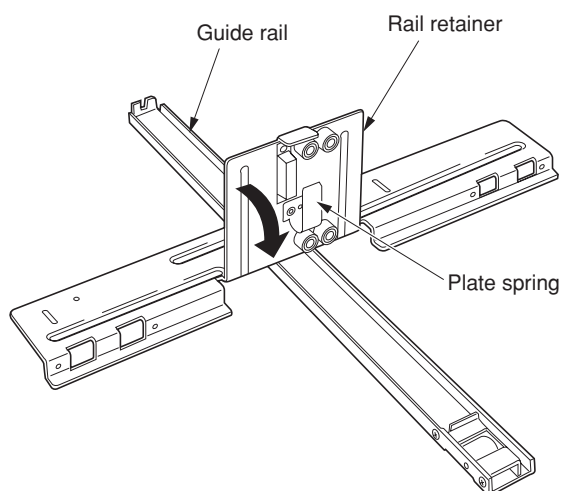


Figure 1-3-43

When the switchback unit is not to be installed

13. Orient the guide rail such that its pulley is positioned toward the copier, and then fit a caster rail to each side of the rail retainer.

When the switchback unit is to be installed

14. Attach a spacer to each end of the rail retainer using two M4 × 6 binding screws for each.
15. Orient the guide rail such that its pulley is positioned toward the copier, and then fit the caster rails to the spacer.

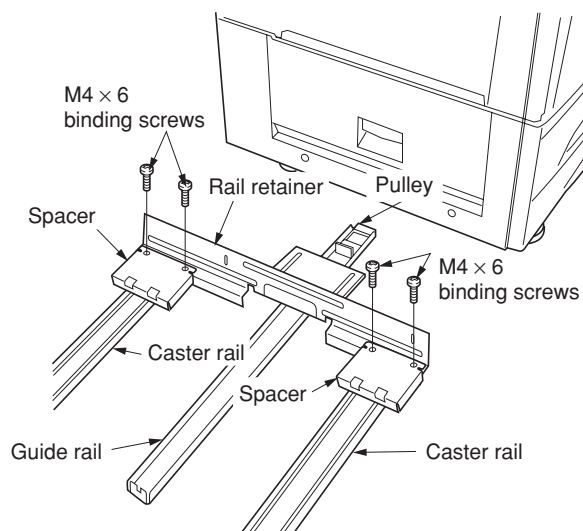
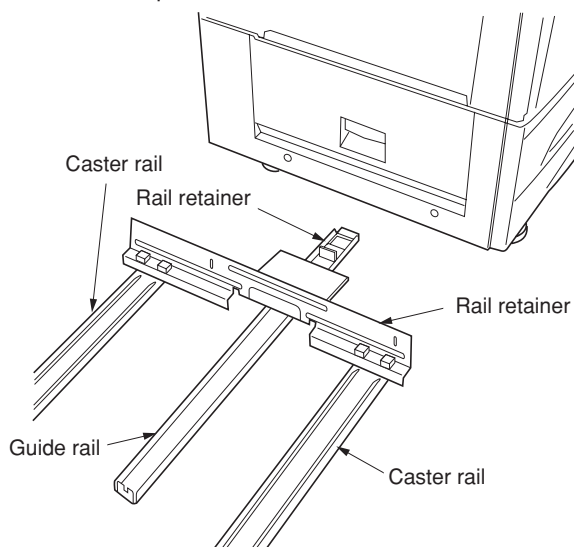


Figure 1-3-44

16. Secure the rail retainer to the copier using two M4 × 10 binding screws such that the front and rear gaps between the floor and rail retainer are approximately 10 mm.

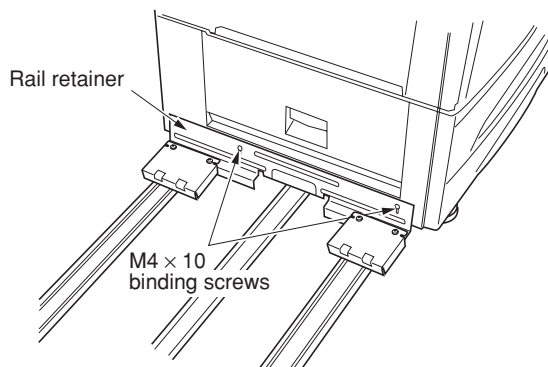
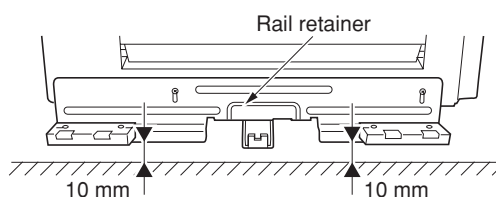


Figure 1-3-45

17. Slightly lift the bottom of the finisher and insert the rail fixing plate into the finisher, and then join them by inserting two M4 × 6 binding screws loosely.

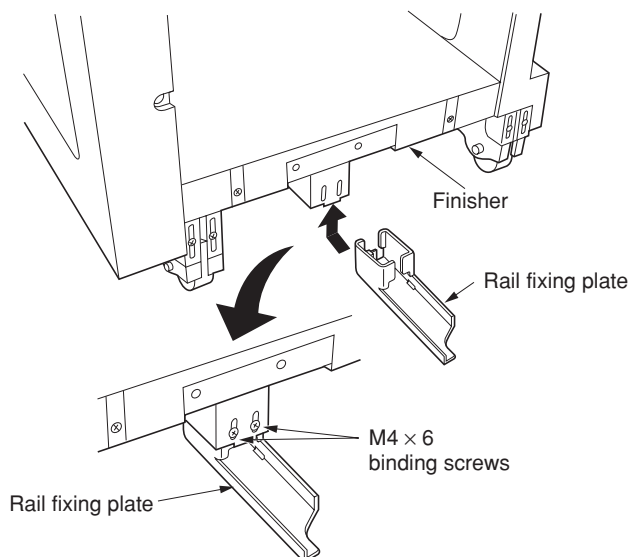


Figure 1-3-46

18. Insert the guide rail into the rail fixing plate and secure it using an M4 × 6 binding screw at the position where the screw hole in it and that in the rail fixing plate meet.

Note: When installing the switchback unit, use screw hole (a) in the guide rail; when not installing the switchback unit, use screw hole (b) in the guide rail.

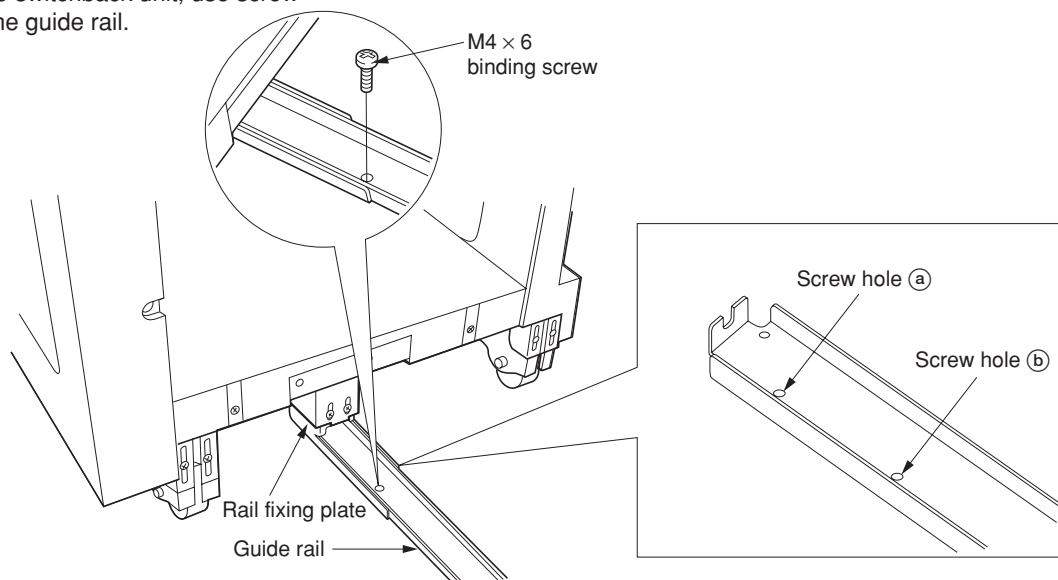


Figure 1-3-47

19. Adjust the position of the rail fixing plate so that the gap between the plate and the floor is approximately 8.0 mm, and then tighten the two loosely fitted M4 × 6 binding screws.

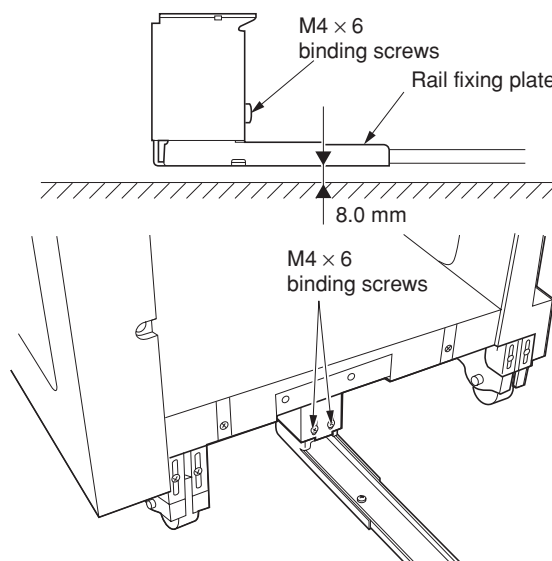


Figure 1-3-48

20. Fit the eject tray to the finisher by hooking the two claws and secure it using two M4 × 6 binding screws.

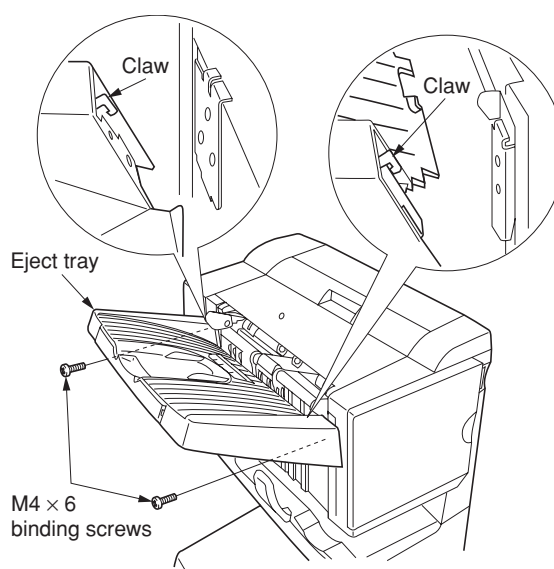


Figure 1-3-49

21. Open the front panel and insert the stapler unit into the finisher.
22. Close the front panel.

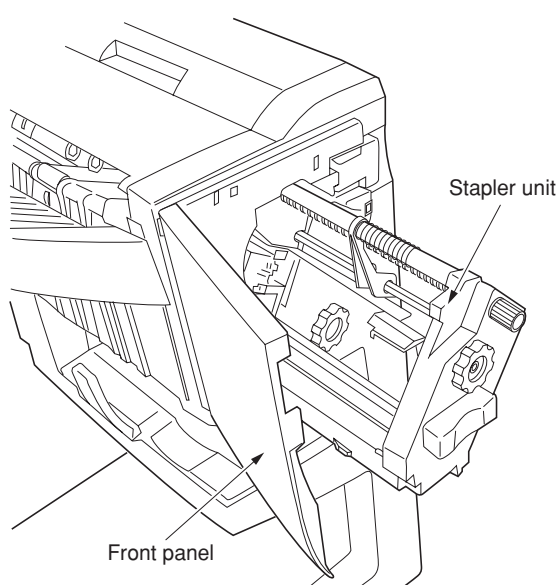


Figure 1-3-50

Installing the switchback unit

1. Remove the two support rubbers on the right of the finisher and loosely fit the two M3 × 8 binding screws in their places.
2. Remove the two screws.

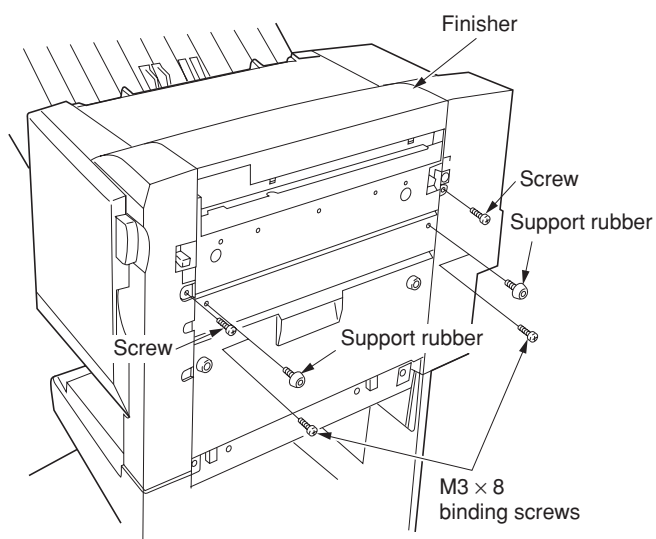


Figure 1-3-51

3. Release the hook of the switchback unit by lifting the release lever.

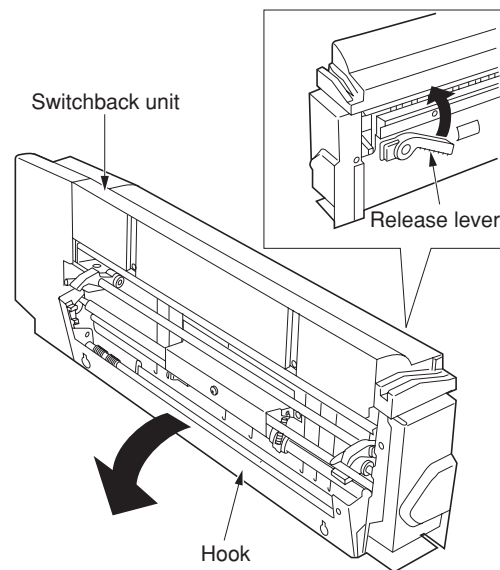


Figure 1-3-52

4. Fit the switchback unit to the finisher by hanging the hook of the switchback unit on the loosely fitted M3 × 8 binding screws.
5. Tighten the loosely fitted M3 × 8 binding screws.
6. Secure the switchback unit using two M4 × 12 TP screws.
7. Close the switchback unit.

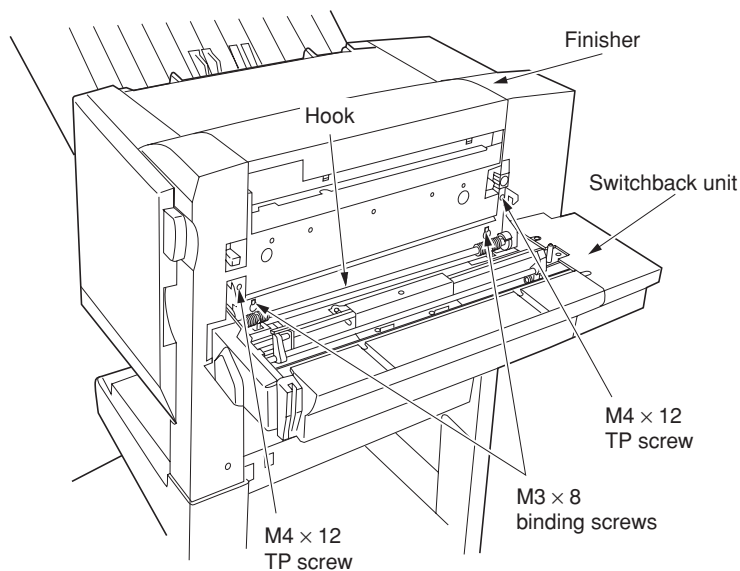


Figure 1-3-53

8. Remove the two screws from the cover of the finisher.

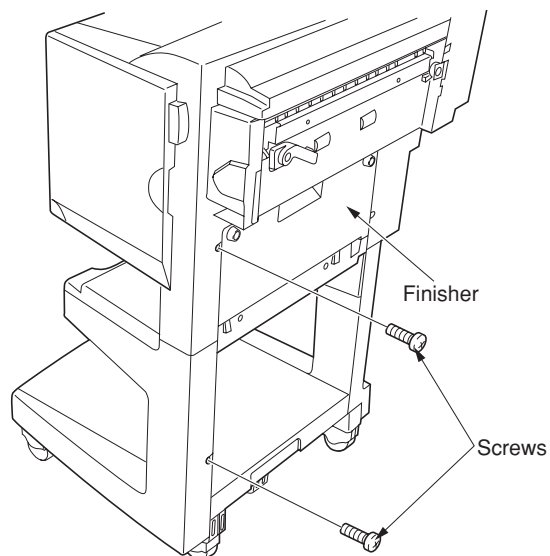


Figure 1-3-54

9. Insert the rib of the front cover into the groove in the top cover of the switchback unit, and then fit the front cover to the finisher.
10. Secure the front cover by fitting an M4 × 12 TP screw and M4 × 16 TP screw into the holes where screws were inserted (see step 8).

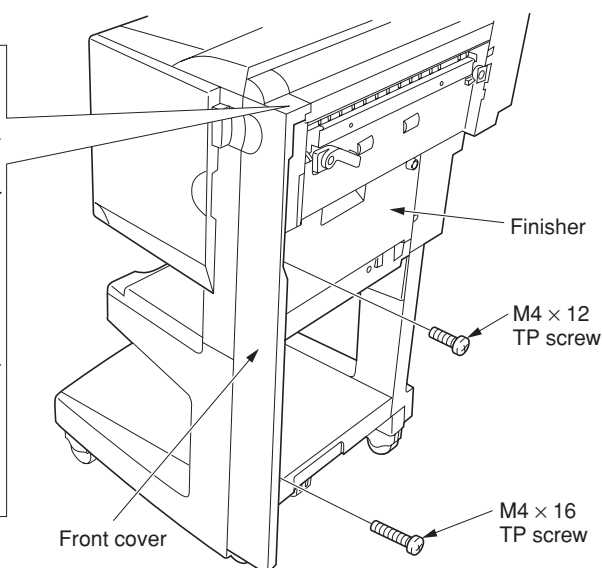
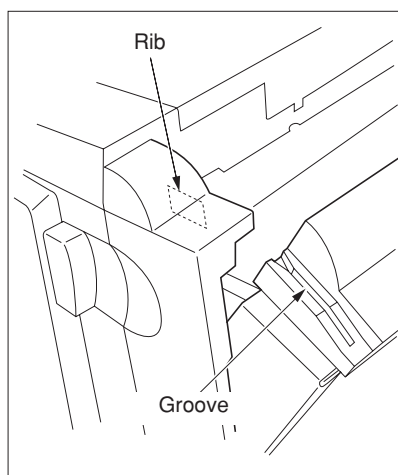


Figure 1-3-55

11. Fit the two support rubbers removed in step 1 to the switchback unit.
12. If the finisher and the copier do not engage securely, perform the following finisher height adjustment.

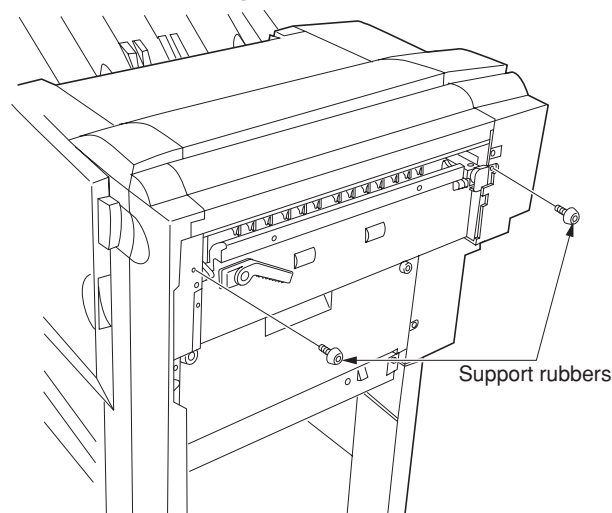


Figure 1-3-56

Adjusting the height of the finisher

1. Remove the two covers from the lower left part of the finisher by removing one screw each.
2. Remove the four caps from above the four casters of the finisher.

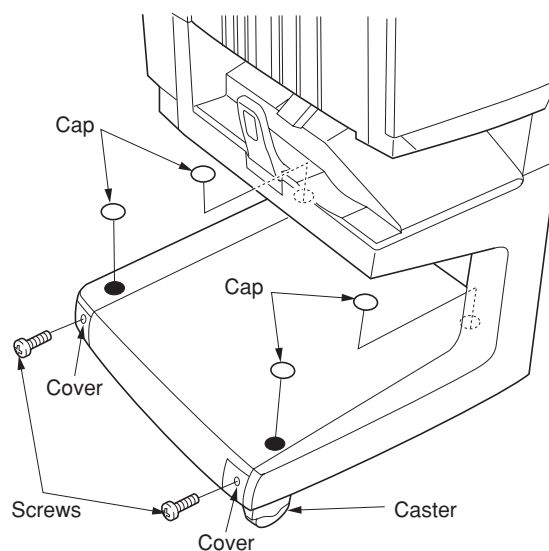


Figure 1-3-57

3. Loosen the two screws on each of the four casters.
4. Adjust the height of the rear right caster by turning its adjustment bolt using a cross-headed screwdriver so that the axis of the pin of the latch catch is aligned with the middle of the three markings on the right of the slot of the finisher or switchback unit when the finisher is joined to the copier (viewed from the machine front).

Note: Turning the adjustment bolts clockwise lowers the finisher, while turning them counterclockwise lifts the finisher.

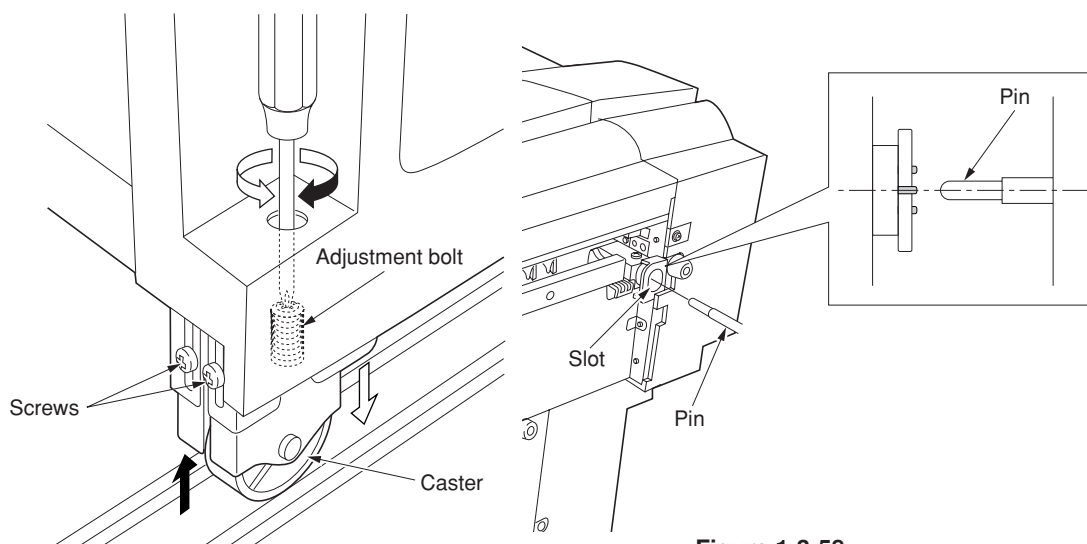


Figure 1-3-58

5. Adjust the height of the front right caster in the same manner as in step 4 so that the axis of the pin of the latch catch is aligned with the marking above the slot and the center of the two hooks on the finisher align with the center of the holes on the latch catch when the finisher is joined to the copier (viewed from above).

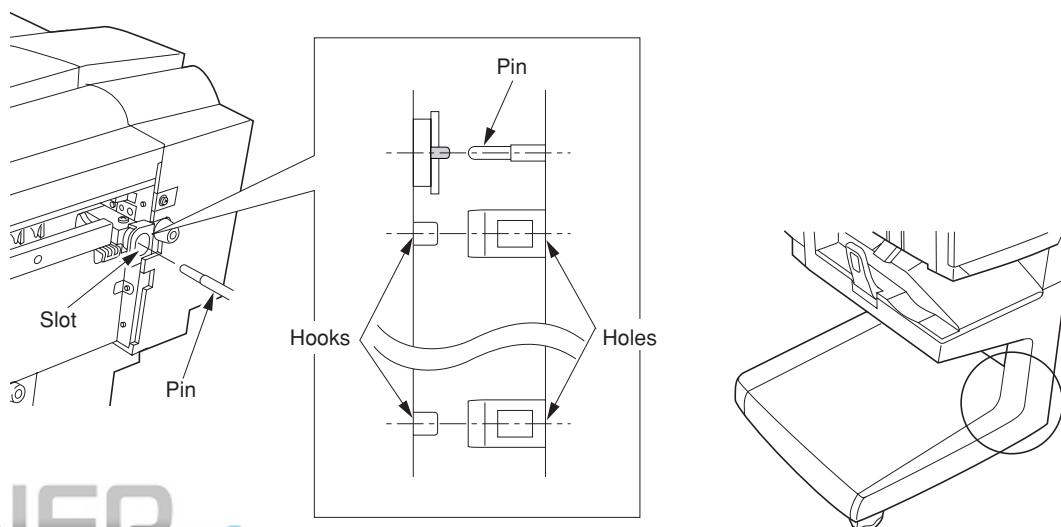


Figure 1-3-59

6. Adjust the height of the left two casters in the same manner as in step 4 so that the top and bottom gaps (A) between the finisher and the copier are the same when the finisher is detached from the copier.
7. Retighten the two screws on each of the four casters.
8. Refit the two covers and four caps.

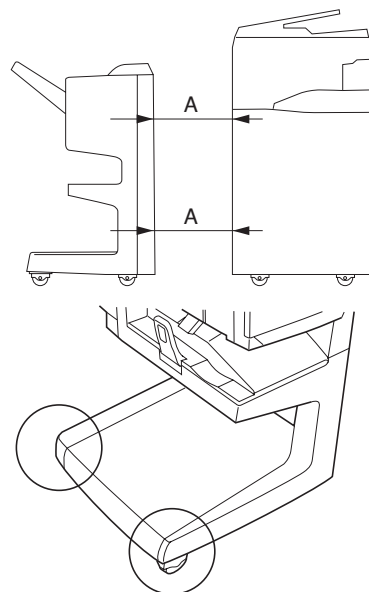


Figure 1-3-60

Connecting the signal cable

1. Connect the signal cable of the finisher to the copier. If the switchback unit has been installed, connect the signal cable of the switchback unit, as well.
2. Insert the copier power plug to the wall outlet and turn the main switch on.
3. Make test copies and check that the finisher and the switchback unit operate correctly.

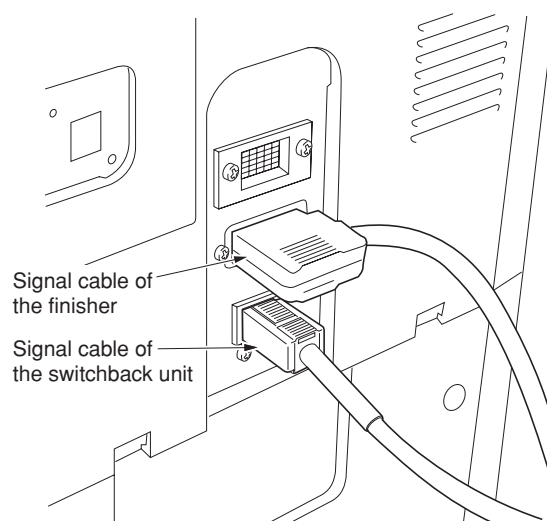


Figure 1-3-61

1-3-9 Installing the sheet-through document holder (option)

Preparation

1. Insert the DF into the copier.

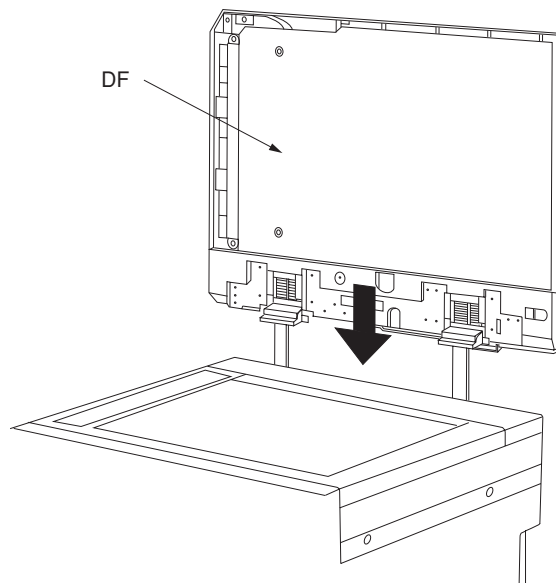


Figure 1-3-62

2. Connect the connector of the DF to the copier.
3. Insert the copier power plug to the wall outlet and turn the main switch on.

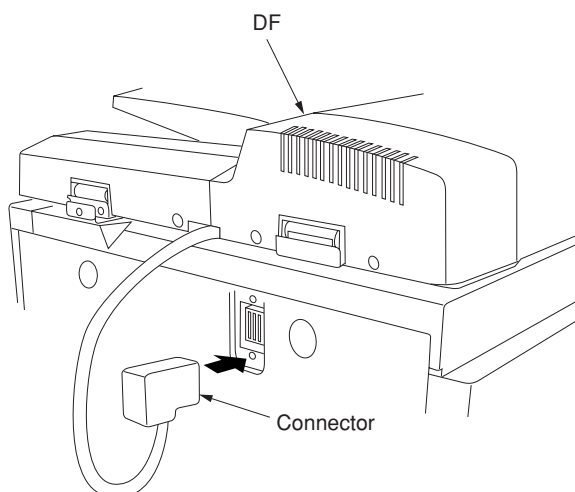


Figure 1-3-63

4. Run maintenance item U211 to set "SADF" (25 cpm copier only).
5. Place the original on the DF and make a test copy. Check the operation and the copy image.
6. If the copy image is different from the original, run the following adjustment.
 - Maintenance item U70 (sub-scan line adjustment)(see page 1-4-15)
 - Maintenance item U71 (leading edge timing adjustment)(see page 1-4-16)
 - Maintenance item U72 (center line adjustment)(see page 1-4-17)

1-3-10 Installing the Facsimile System (option)

Procedure

1. Fit the battery pack into the NCU retainer as shown in the illustration.
2. Fit the speaker onto the two catches on the NCU retainer, and fasten it into place with one M3 × 06 chrome binding screw.
3. Fasten the NCU board to the NCU retainer with four M3 × 06 chrome binding screws.
4. Connect the NCU cable to connector CN1 on the NCU board.

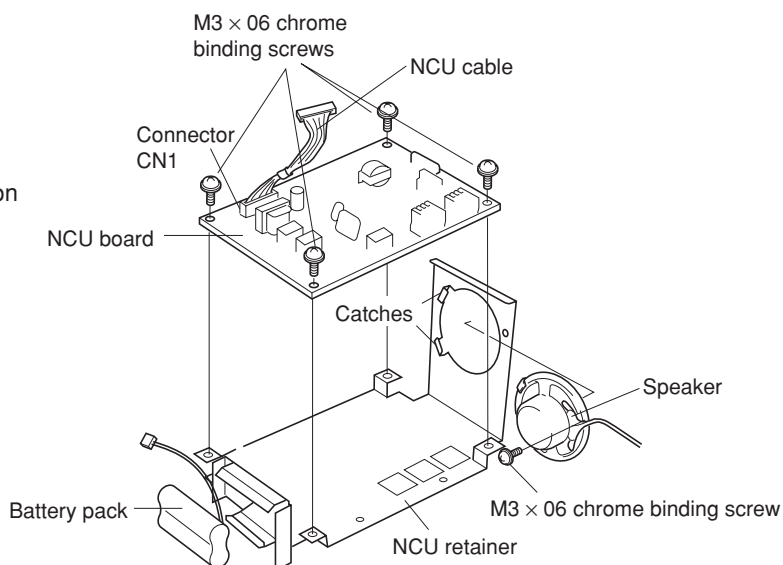


Figure 1-3-64

5. Adhere the lower-sheet to the auxiliary power source retainer.
6. Fasten the auxiliary power source PCB, together with the upper-sheet, to the auxiliary power source retainer, using three M3 × 06 chrome binding screws.
7. Pass the FAX-PCB-Power cable through the cutout in the upper-sheet, and connect it to connector CN1 on the auxiliary power source PCB.

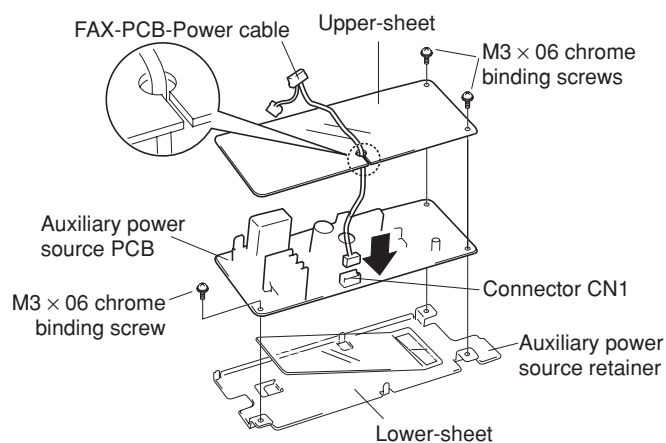


Figure 1-3-65

8. Remove 13 screws and take off the rear cover.

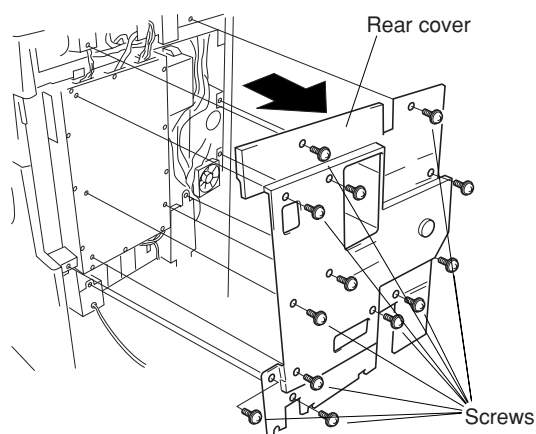


Figure 1-3-66

- If the printing system is installed
9. Remove the 2 screws holding the printer system in place, and pull the printing system out of the shield cover.

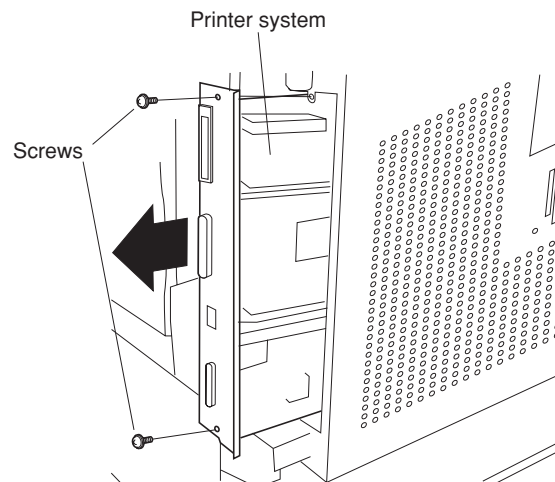


Figure 1-3-67

10. Remove 13 screws and take off the shield cover.

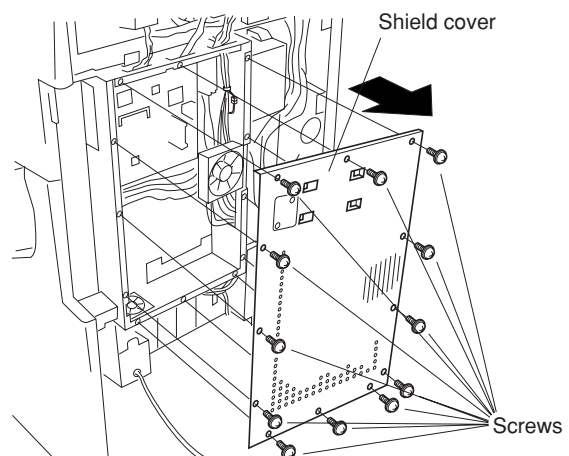


Figure 1-3-68

11. Move the film out of the way to the left, and fasten the fax board into place using six M3 × 06 chrome binding screws.

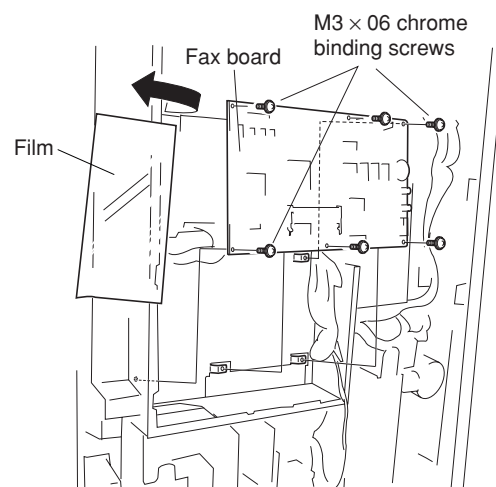


Figure 1-3-69

12. Fasten the NCU unit into place from the bottom with two M3 × 06 chrome binding screws.
13. Connect the three connectors from the NCU board to the corresponding connectors on the fax board, as follows:
 - Speaker 2-pin connector → CN7
 - NCU board connector → CN3
 - Battery connector → CN6

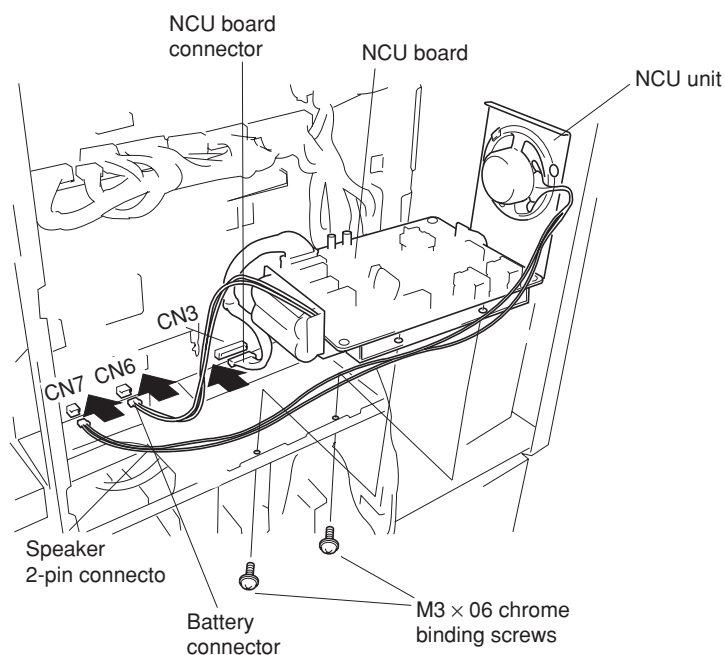


Figure 1-3-70

14. Remove the film that fixes the three positive connectors of the power source PCB from the optional interface mounting plate.

Important: Dispose of the film that has been removed.

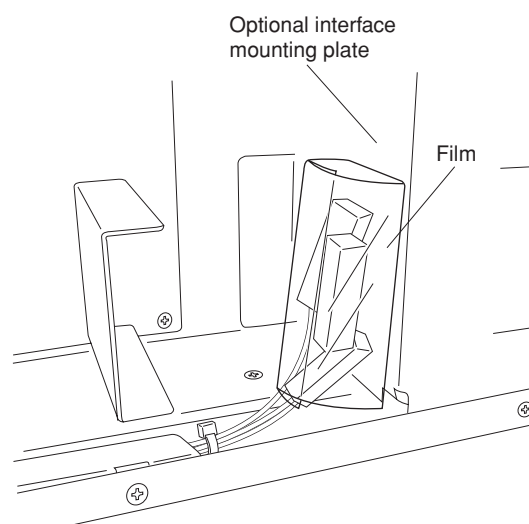


Figure 1-3-70-1

15. Connect the three positive connectors on the power board to the corresponding connectors on the auxiliary power source PCB, as follows.

- White positive connector → TB1 (white)
- Green positive connector → TB2 (green)
- White positive connector → TB3

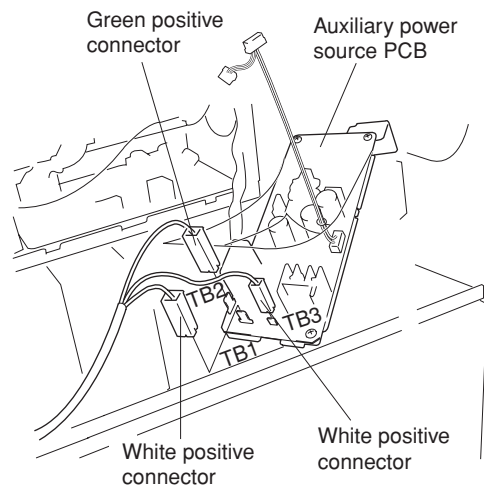


Figure 1-3-71

16. Fit the catch on the auxiliary power unit into the mount hole in the copier, and fasten the auxiliary power unit into place with one M3 × 06 chrome binding screw.

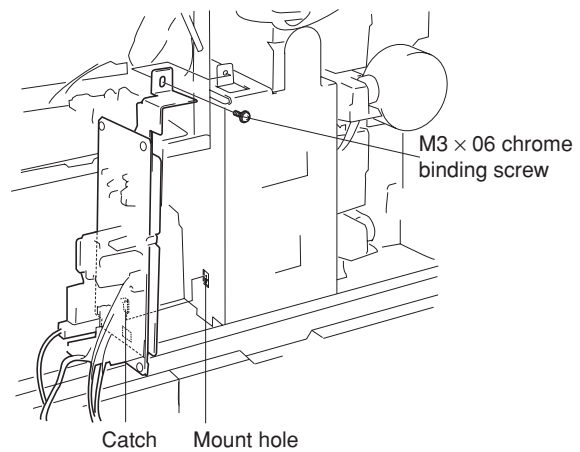


Figure 1-3-72

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17. Through the opening of controller-box above the speaker, connect the FAX-PCB-Power cable on the auxiliary power source PCB to connector CN8 on the fax board.
18. Connect the 2-pin connector to the 2-pin connector with green cable.

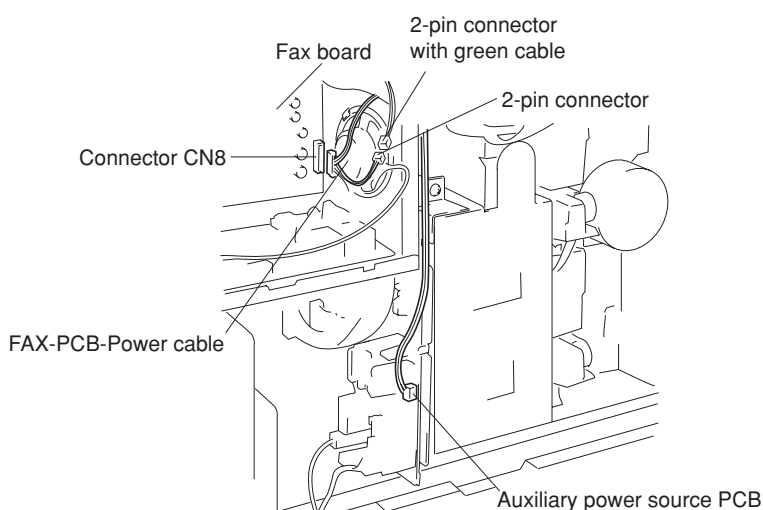


Figure 1-3-73

19. Unlock CN1 on the fax board by pulling its connector housing.
 20. Hold the fax cable with its conductive side facing up, insert it into connector CN1, then push the housing back in to lock the connector.
 21. Hold the other end of the fax cable with its conductive side facing down, and connect it to connector CN44 on the main PCB. (Pull the CN44 housing out to release the connector lock, then insert the cable, and then push the housing back in.)
- Important:** Be sure to push the fax cable all the way in, and be sure that the connection is straight. A poor connection may result in a variety of problems.

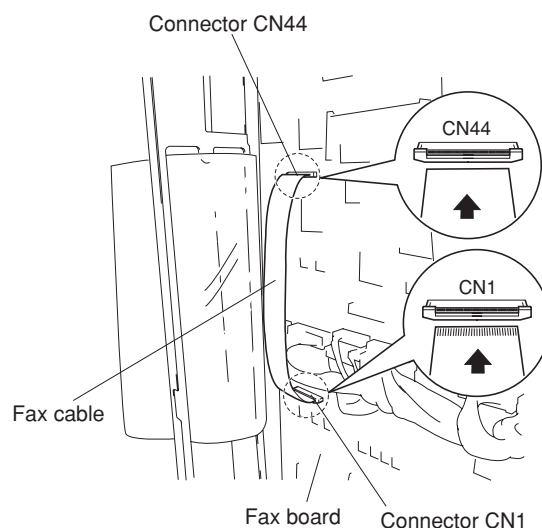


Figure 1-3-74

- Important:** The Memory module DIMM (8MB) must be installed onto the fax board. Please be sure that you do not install it onto the main PCB.
22. Insert the Memory module DIMM (8MB) at an angle into the memory slot on the fax board.
 23. Push the free end of the module down toward the board.

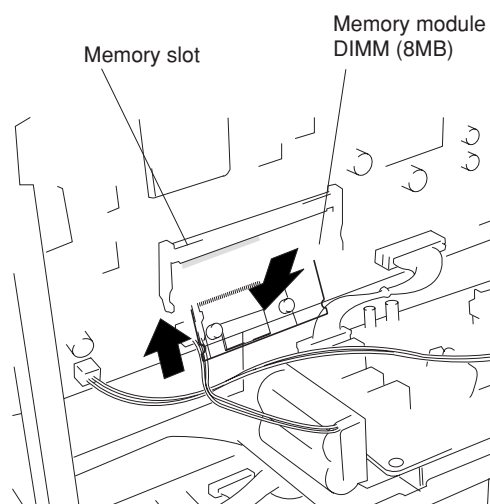


Figure 1-3-75

24. Fasten the shield cover into place with 13 screws.

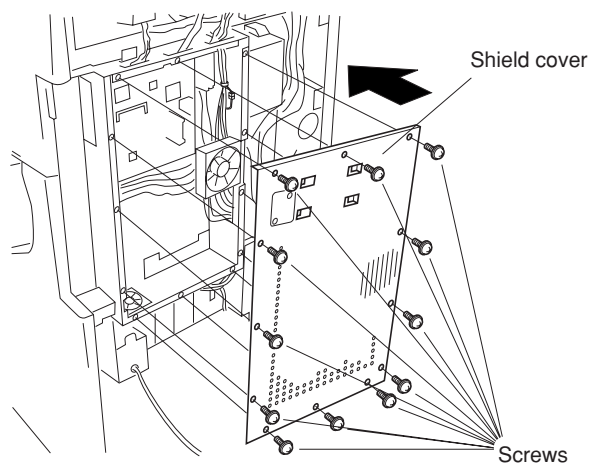


Figure 1-3-76

25. Remove 1 screw and take off the modular cover.

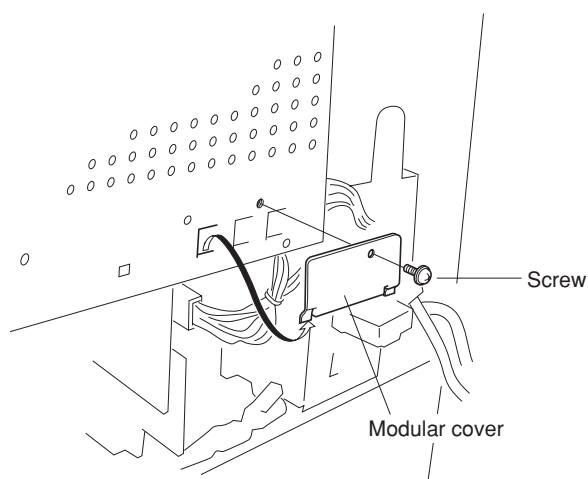


Figure 1-3-77

26. Hang the modular cover onto the holes on the shield cover, and fasten it into place with 1 screw.

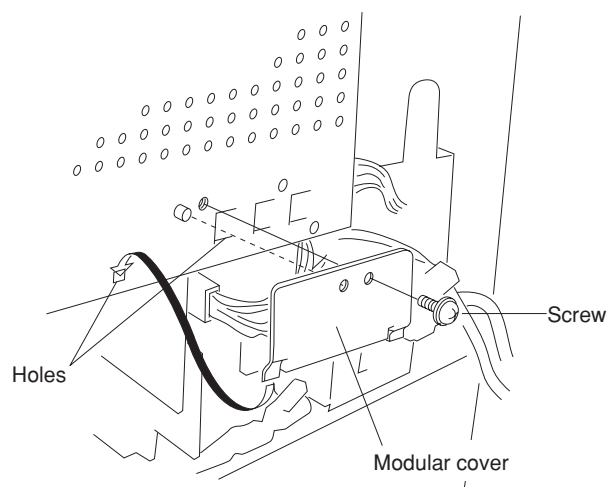


Figure 1-3-78

2DF

- If the printing system was installed
27. Reinstall the printing system into the shield cover, fastening it into place with 2 screws.

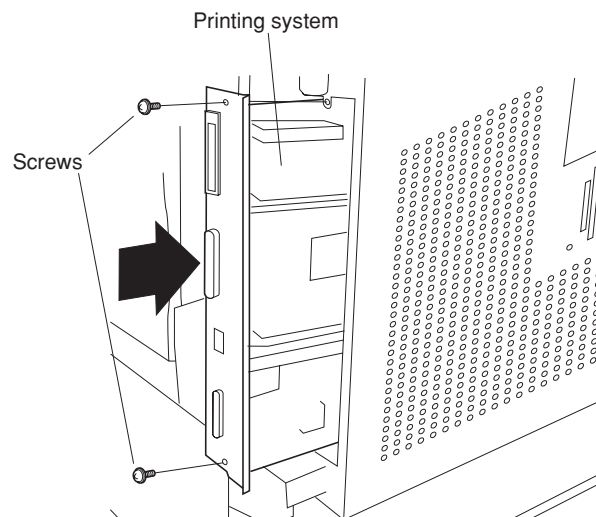


Figure 1-3-79

28. Reattach the rear cover with 13 screws.

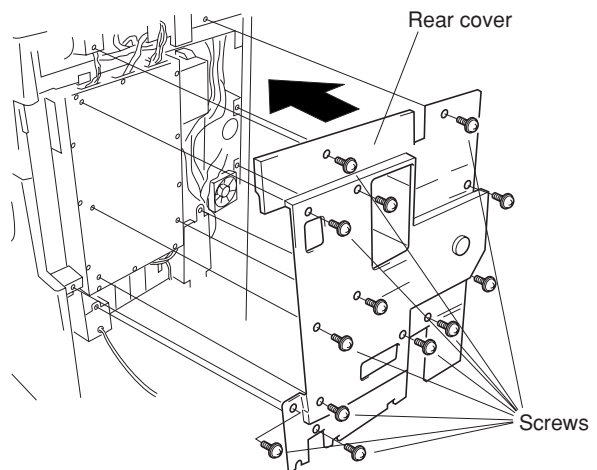


Figure 1-3-80

29. Adhere the certification labels to the rear cover at the locations indicated in the illustration (only 120 V Spac.).

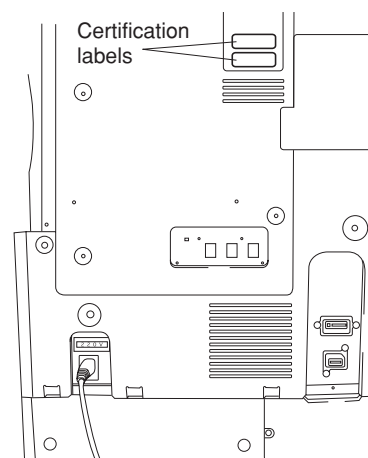


Figure 1-3-81

30. Take the power label from the fax-kit label sheet, and adhere it to the copier directly under the main switch.

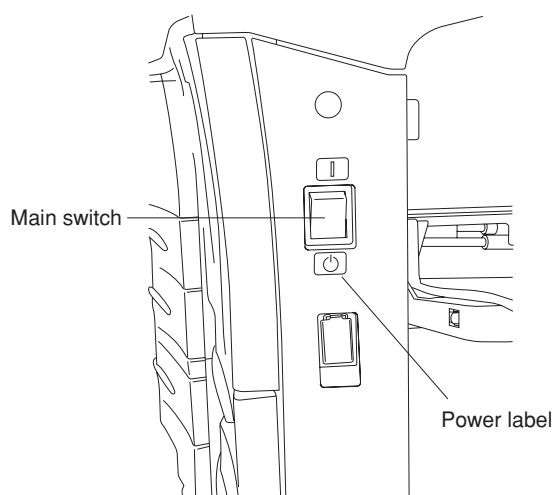


Figure 1-3-82

31. Take the alphabet labels from the fax-kit label sheet, and adhere them above the corresponding numeric keys on the operation panel.
- In Asia, use the "PQRS TUV WXYZ" label, and do not use the "PRS TUV WXZ" and "OPER" labels.

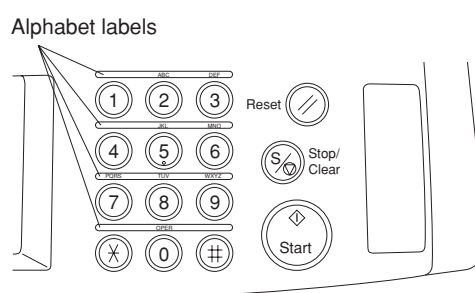


Figure 1-3-83

32. Connect the L terminal to the phone circuit using a modular connector cable.

Important: On 120 V systems, use the included modular connector cable to make the connection.

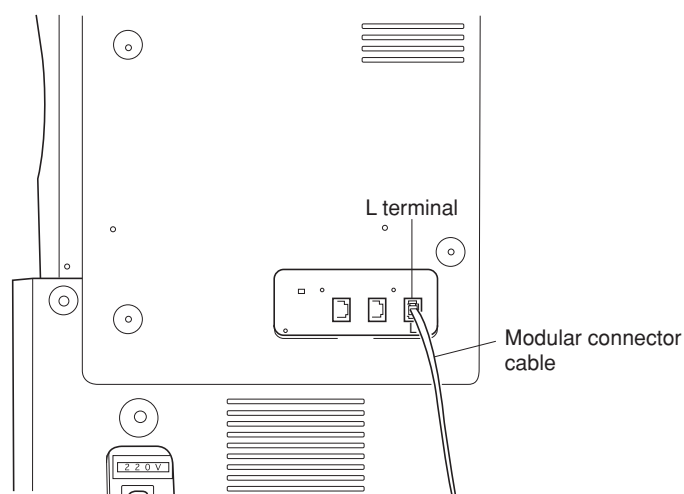


Figure 1-3-84

Initialization procedure after installation of facsimile system

1. Insert the copier power plug to the wall outlet and turn the main switch on.
2. Run maintenance item U601.
3. Enter a destination code using the numeric keys (refer to the destination code list) and then press the start key.

* Enter a destination code with three digits.

Code	Destination	Code	Destination	Code	Destination
000	Japan	159	South Africa	253	Sweden
009	Australia	169	Thailand		France
080	Hong Kong	181	U.S.A.		Austria
084	Indonesia	242	South America		Switzerland
088	Israel	243	Saudi Arabia		Belgium
108	Malaysia	253	CTR21 (European nations)		Denmark
126	New Zealand		Italy		Finland
136	Peru		Germany		Portugal
137	Philippines		Spain		Ireland
152	Middle East		U.K.		Norway
156	Singapore		Netherlands	254	Taiwan

4. Enter the OEM code (000) and then press the start key.
5. Confirm that the display is changed as shown in the illustration.

* At the position of @, the version number of the software is displayed.

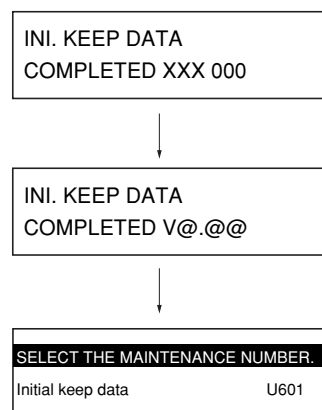


Figure 1-3-85

6. Press the cursor key to change the display to maintenance item U602.
7. Press the start key and confirm that the display is changed as shown in the illustration.

* At the position of @, the version number of the software is displayed.

8. After completing the installation, run a communications test to confirm that the fax system is working correctly.

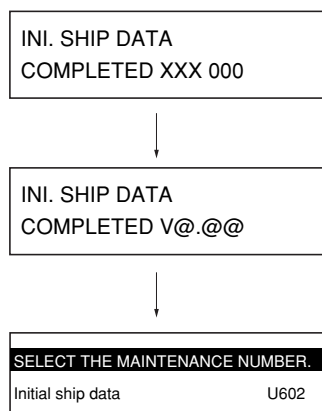


Figure 1-3-86

1-3-11 Installing the Printing System (option)

Procedure

1. Remove 2 screws and take off the cover.

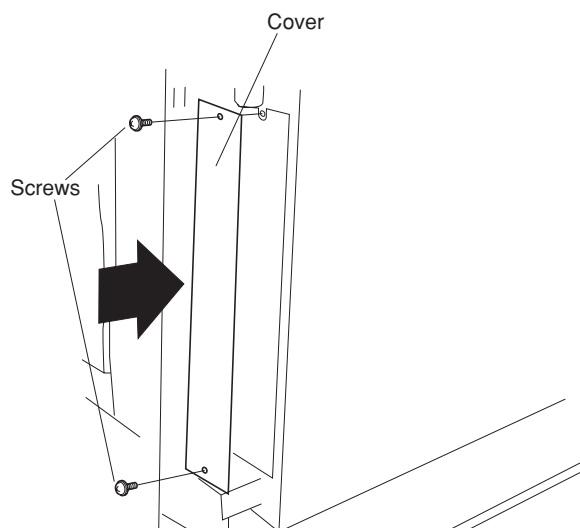


Figure 1-3-87

2. Push the printing system all the way in along the rails, and fasten it with 2 screws.

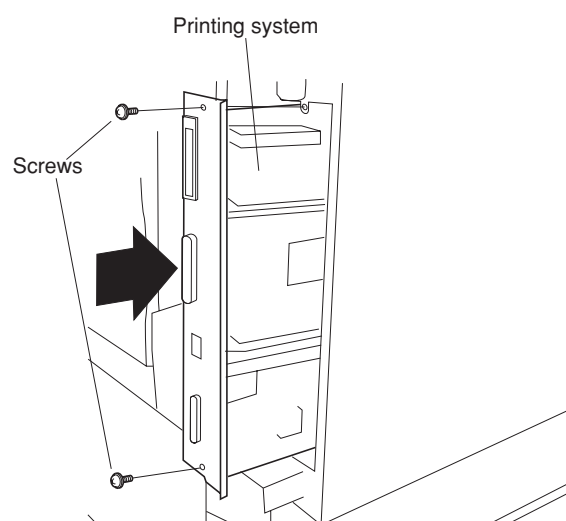


Figure 1-3-88

Install the (optional) network printer board.

3. Remove 2 screws and take off the cover.
4. Push the network printer board all the way in along the rails, and fasten it with 2 screws.

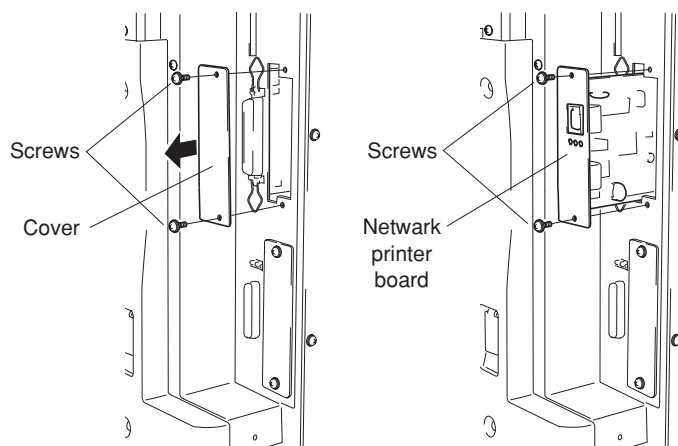
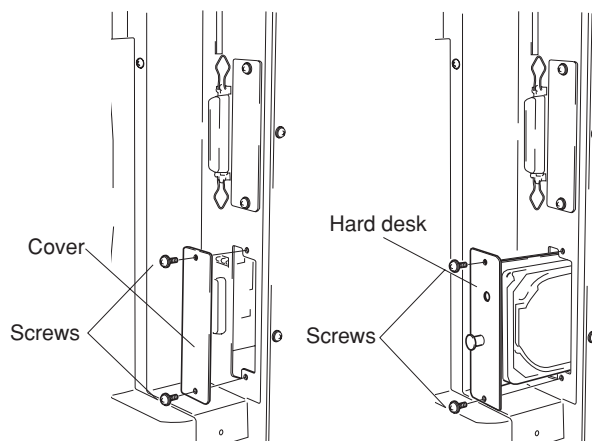


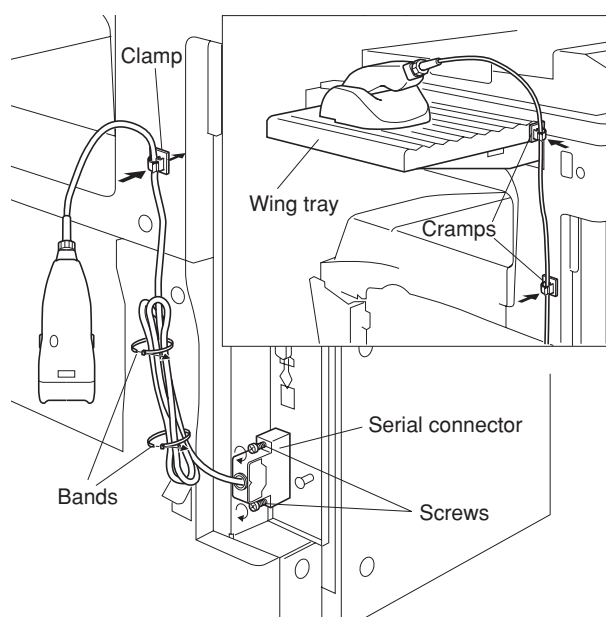
Figure 1-3-89

Install the (optional) hard disk.

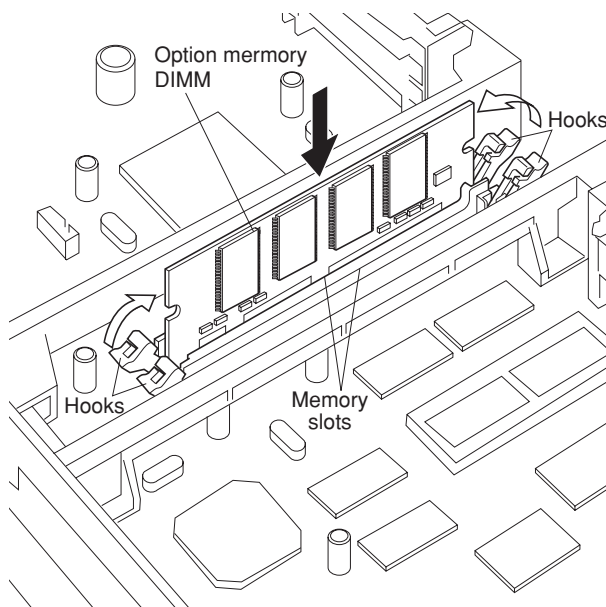
5. Remove 2 screws and take off the cover.
6. Push the hard disk all the way in along the rails, and fasten it with 2 screws.

**Figure 1-3-90****Installing the Optional Bar-Code Reader**

7. Fasten the serial connector in place with 2 screws.
8. Tie the excess cord with the two bands, so that the free cord length comes to about 1 meter.
9. Peel off the backing from one of the clamps, adhere the clamp to the copier at the position shown in the illustration, and pass the wire through the clamp.
 - If a wing tray is installed, attach the other clamp to the wing tray and pass the wire through both clamps.

**Figure 1-3-91****Installing the Optional Memory DIMM**

10. Remove the printing system, and insert the optional memory DIMM firmly into either of the memory slots. Push the DIMM firmly into the slot so that the two hooks (one hook at each end of the slot) snap closed.
- The board provides two DIMM slots, and can accept up to two optional DIMMs. If installing a single DIMM, you can use either slot.

**Figure 1-3-92**

1-3-12 Installing the Scanning System (option)

Procedure

1. Remove 13 screws and take off the rear cover.

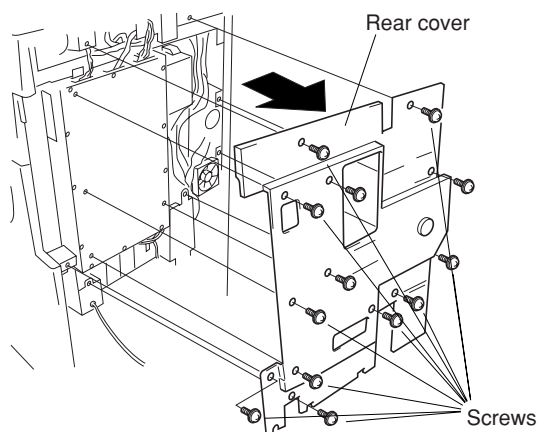


Figure 1-3-93

- If the printing system is installed
2. Remove the 2 screws holding the printer system in place, and pull the printing system out of the shield cover.

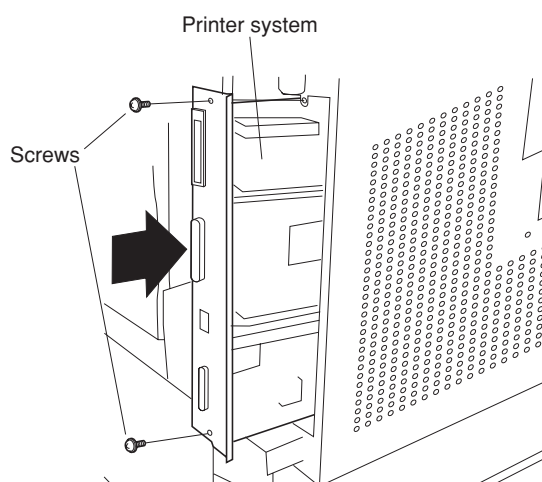


Figure 1-3-94

3. Remove 13 screws and take off the shield cover.

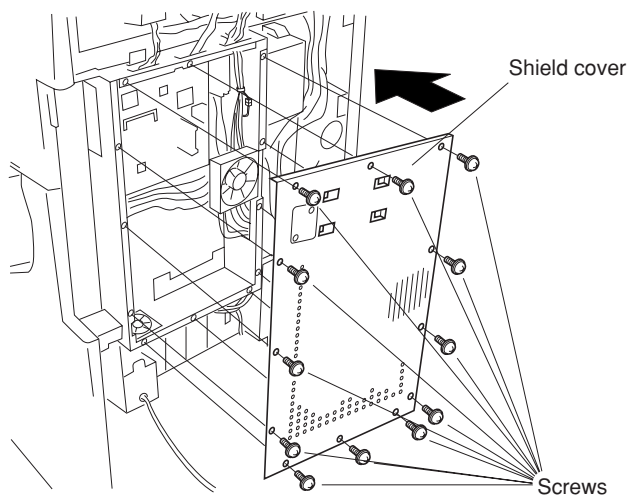


Figure 1-3-95

4. Insert the RTC board at an angle into the RTC board slot on the main PCB.
5. Push the free end of the RTC board down toward the fax board.

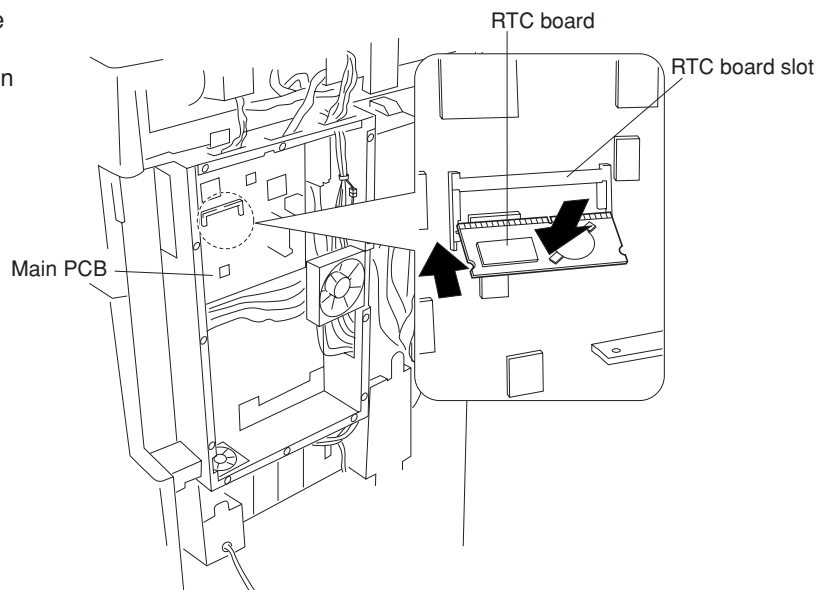


Figure 1-3-96

6. Remove 2 screws, and take off the cover.

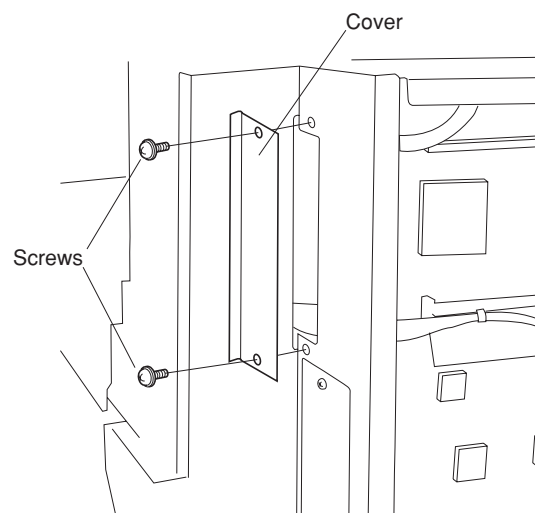


Figure 1-3-97

7. Firmly push connector CN1 on the scanner board all the way into connector CN50 on the main PCB.
8. Fasten the scanner board with 2 screws.

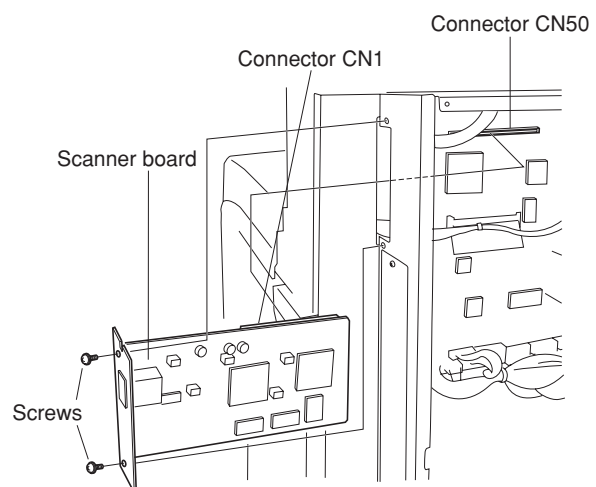


Figure 1-3-98

9. Fasten the shield cover into place with 13 screws.

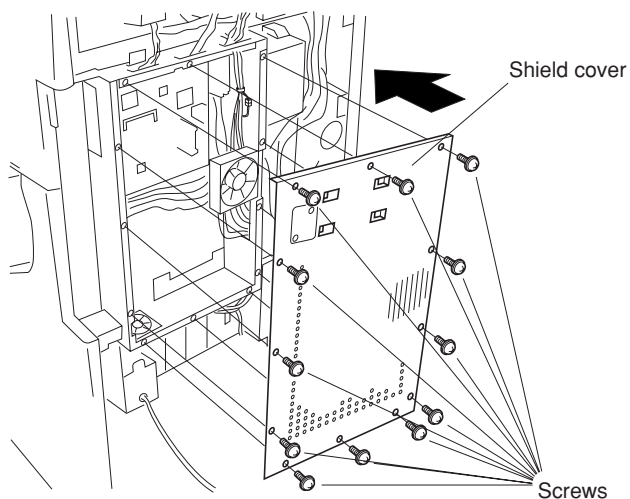


Figure 1-3-99

- If the printing system was installed
10. Reinstall the printing system into the shield cover, fastening it into place with 2 screws.

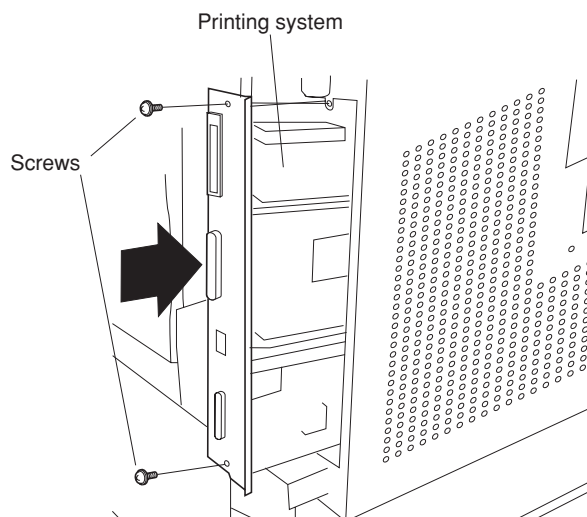


Figure 1-3-100

11. Reattach the rear cover with 13 screws.

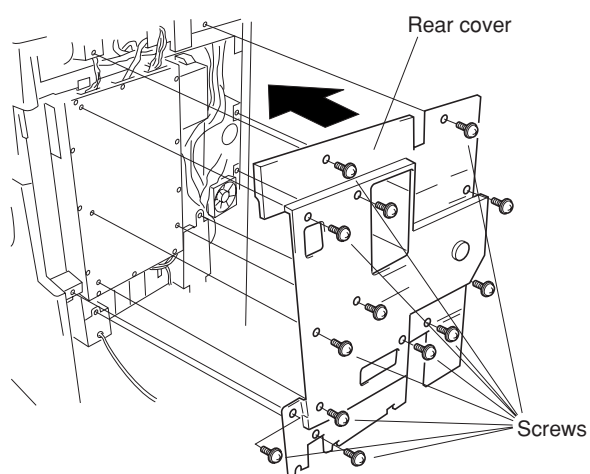


Figure 1-3-101

1-3-13 Installing the duplex unit (option)

Preparation

1. Open the conveying cover.
2. Remove the screw from the front and rear struts respectively to remove the struts and remove the conveying cover in the horizontal direction.

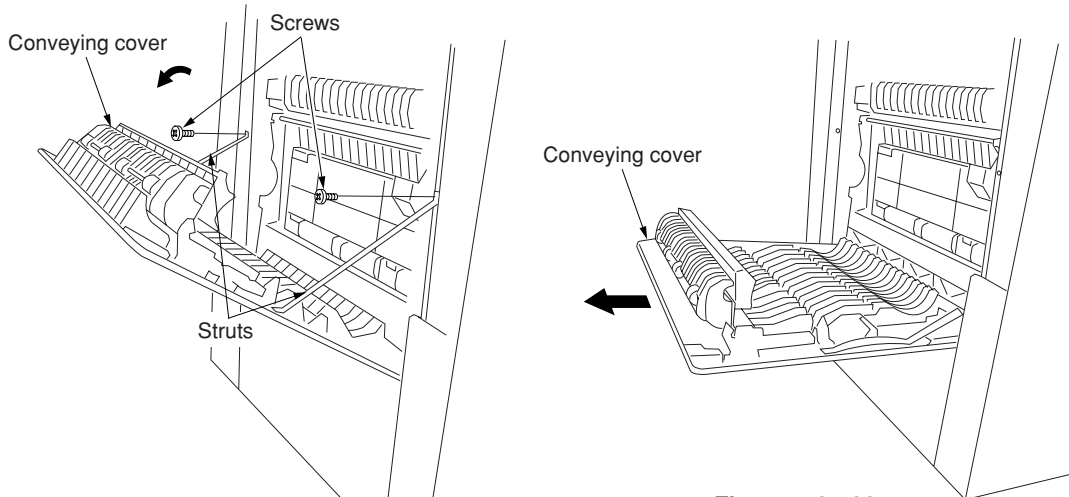


Figure 1-3-102

3. Insert the nut plates into the paper conveying bases.

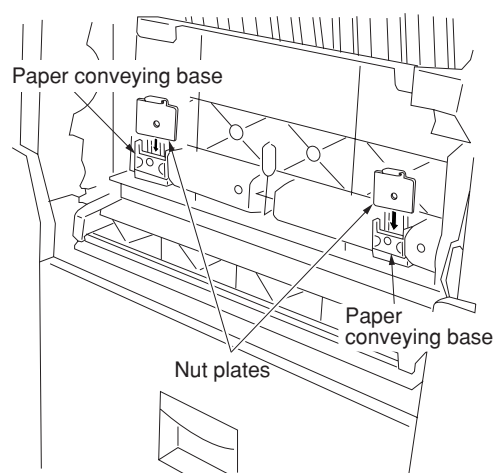


Figure 1-3-103

4. Raise the release lever of the conveying unit, open the conveying unit a little, and hang the hook sections in the front and rear of the duplex unit on the shaft of the conveying unit.
5. Secure the duplex unit using the four M3 × 10 bronze binding screws.

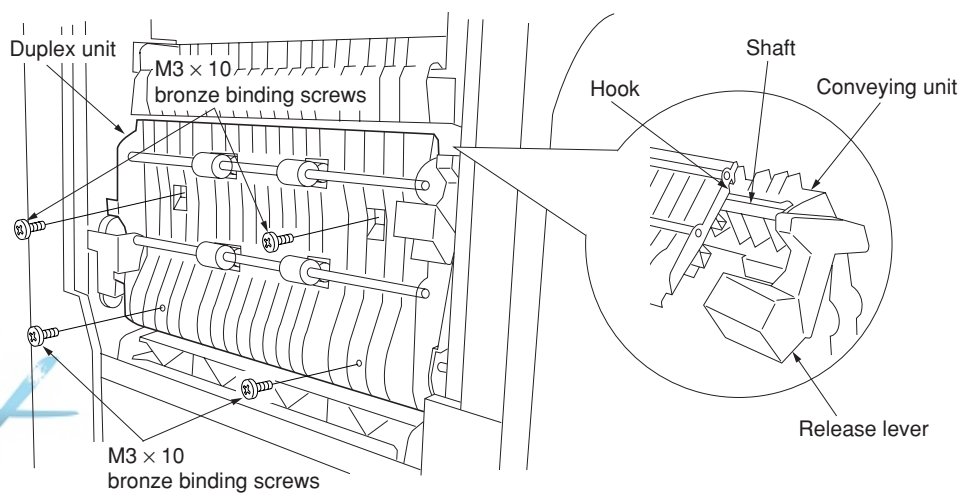


Figure 1-3-104

6. Insert the 8-pin connector of the duplex unit into the groove of the housing and pull out the harness.
7. Connect the 8-pin connector of the duplex unit to the connector of the copier and arrange wiring so that the harness is placed down.

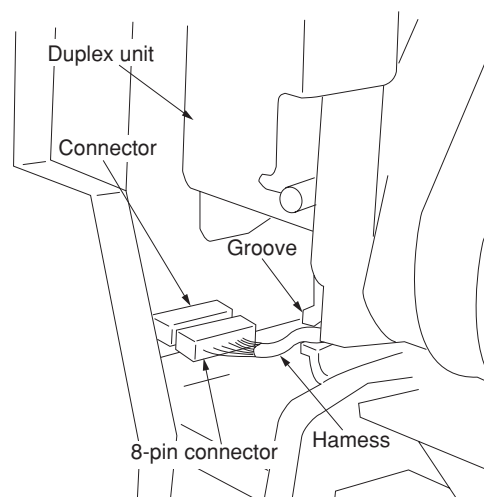


Figure 1-3-105

8. Insert the removed conveying cover in the horizontal direction and reattach the front and rear struts using the screw respectively.
9. Close the conveying cover.

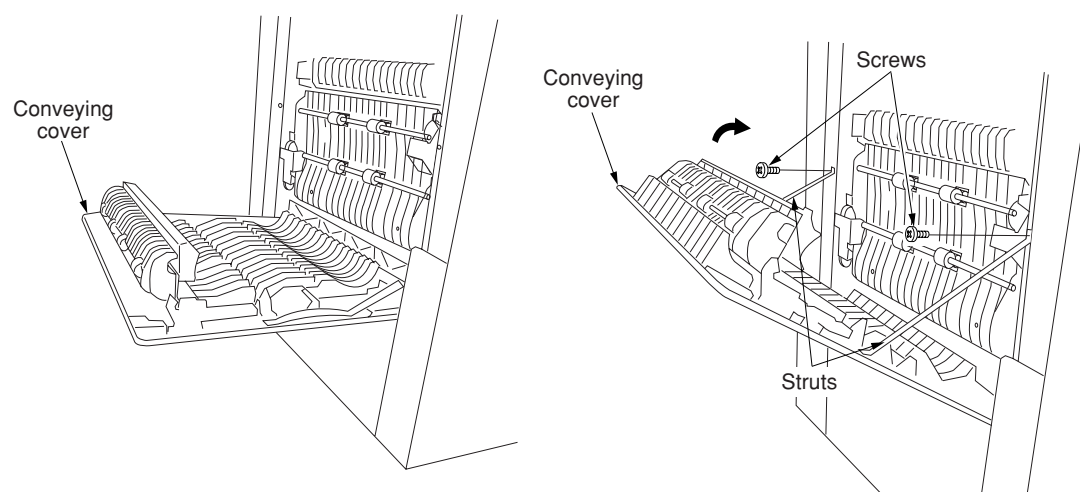


Figure 1-3-106

10. Connect the copier power plug to the wall outlet and turn the copier main switch on.
11. Run maintenance item U034 to adjust the center line for duplex copying (see page 1-6-12).

1-3-14 Installing the built-in finisher (option)

Preparation

Note: When placing the transfer unit on the floor or the like, be sure to place it upside down. If not, the stapler mounting plate may be deformed, resulting in a malfunction.

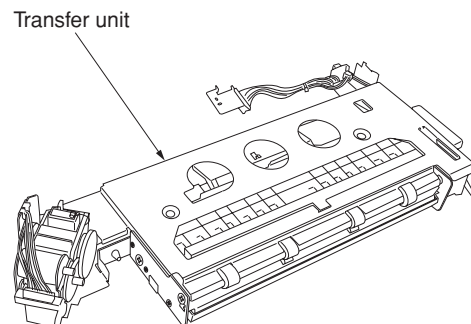


Figure 1-3-106-1

1. Remove the screw and the pin to remove the upper left cover.

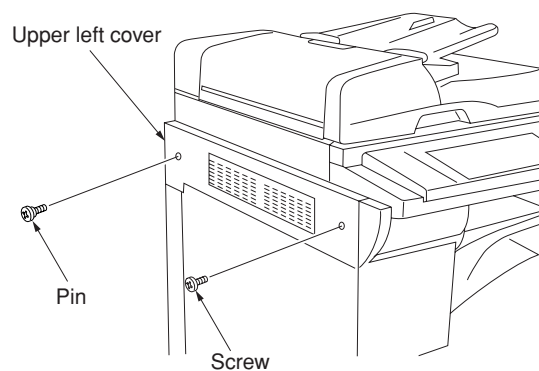


Figure 1-3-107

2. Open the conveying cover and the front cover.
3. Loosen the two screws on the left side and the screw on the front side, open the hook on the right side, and remove the left front cover.

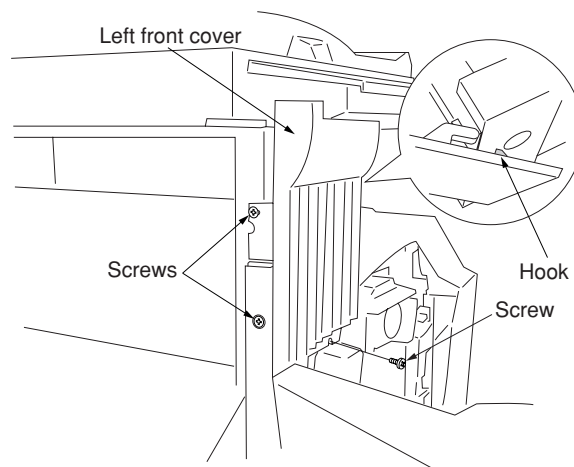


Figure 1-3-108

4. Close the conveying cover and the front cover.
5. Remove the two screws and then remove the ejection cover with the mounting plate.

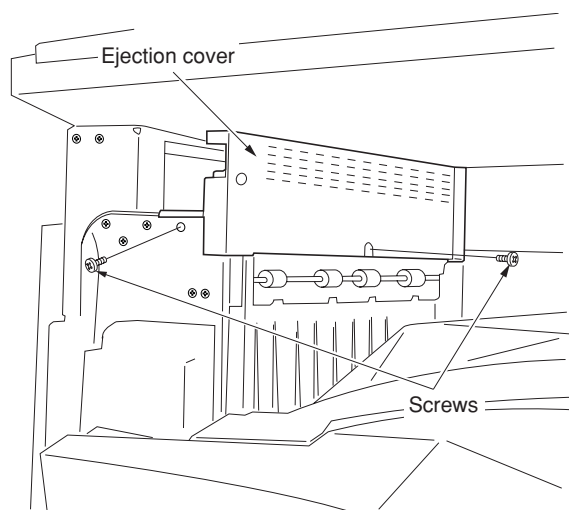


Figure 1-3-109

6. Remove the two screws and then remove the inner ejection cover.

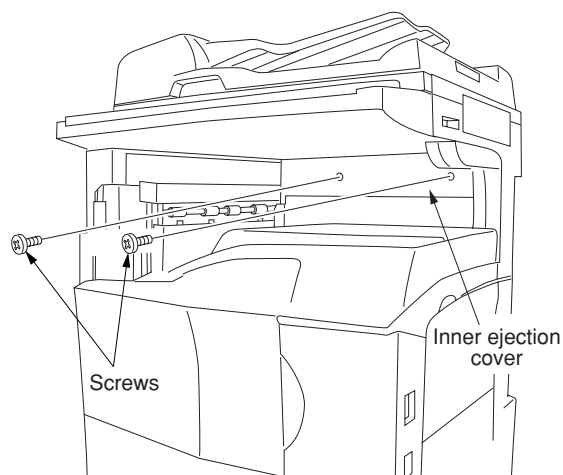


Figure 1-3-110

7. Remove the screw located at the front of the static charge eliminator of the copier, fit the flat spring ejection from the lower side, and secure it with the removed screw.

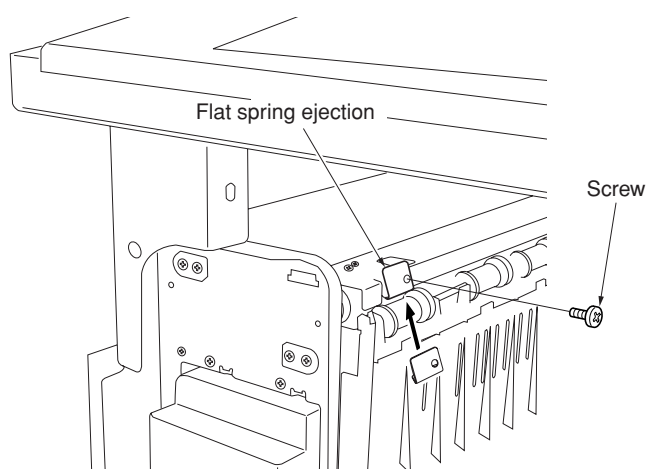


Figure 1-3-110-1

8. Remove the blue screw from the transfer unit and then remove the mounting plate.
9. Remove the securing tape from the 13-pin connector, pass the wire under the stapler motor, and connect the wire with the 13-pin connector.

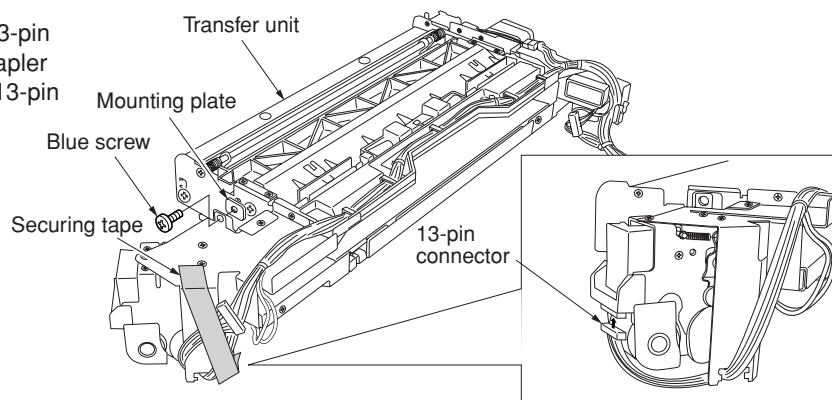


Figure 1-3-110-2

10. Insert the transfer unit into the copier from the front side and slide it to the left. Secure the unit using two +TP-A bronze screws M3 × 05 and the pin that has been fitted to the transfer unit.

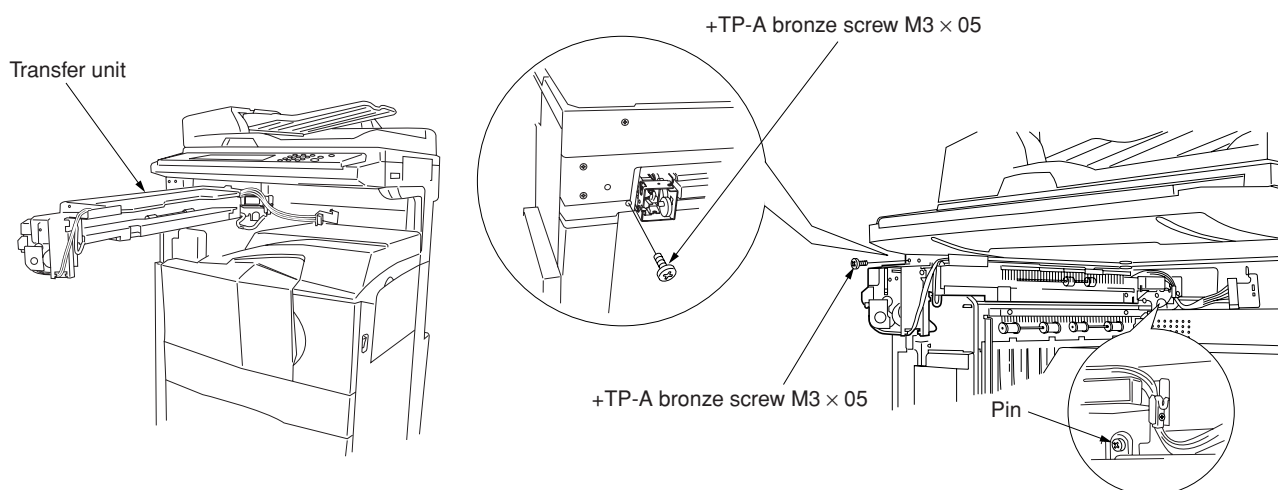


Figure 1-3-111

11. Insert the metal hook of the transfer unit into the oblong hole of the frame of the copier and secure it using a +TP-A bronze screw M3 × 05.
- * Insert the projection of the frame into the hole of the metal hook to position the hook.
- * Arrange the cable to position it under the metal fittings.

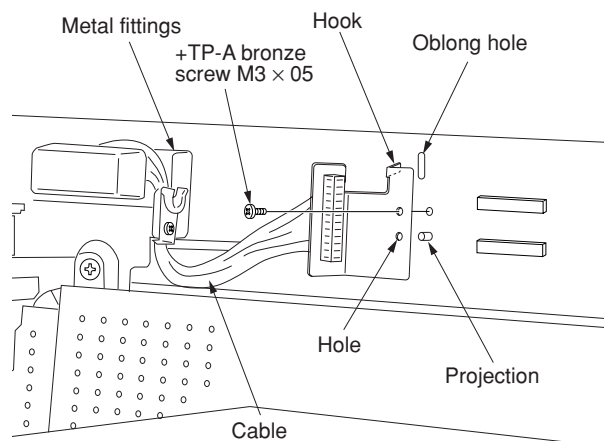


Figure 1-3-112

12. Remove a screw, turn the metal fittings upward, and fit the screw again to the lower hole.

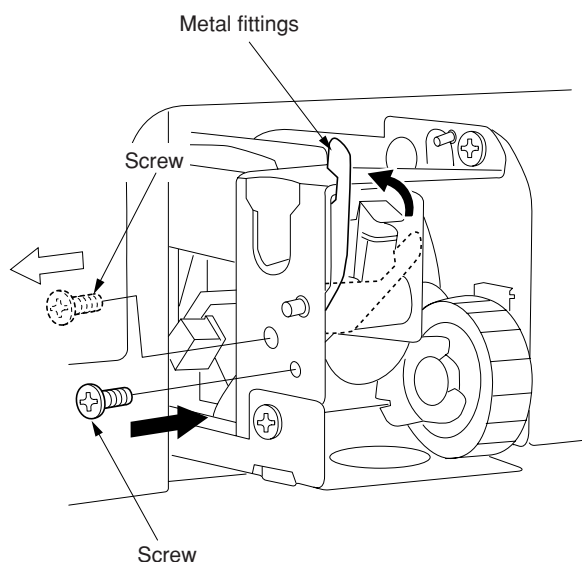


Figure 1-3-113

13. Insert the intermediate tray and connect the connector (white) of the intermediate tray to the transfer unit. Connect the connectors (gray) to the connectors of the copier as shown in the illustration. Connect the gray connector with more pins to the upper connector and the gray connector with less pins to the lower connector.

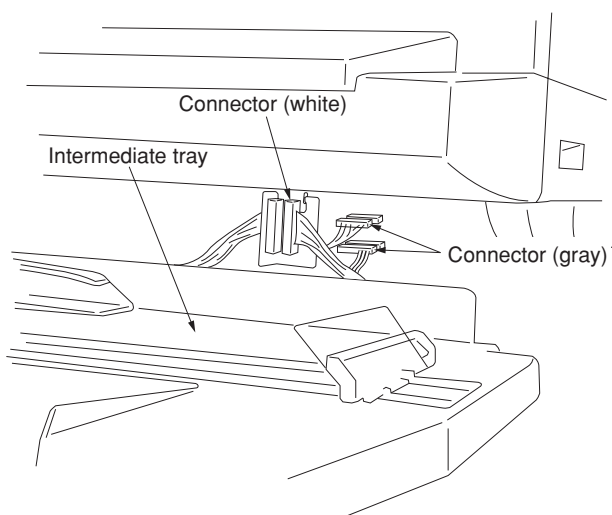


Figure 1-3-114

14. Attach the intermediate tray to the copier as shown in the illustration so that the right and left pins of the intermediate tray are positioned to the recessed portions of the copier and the transfer unit.

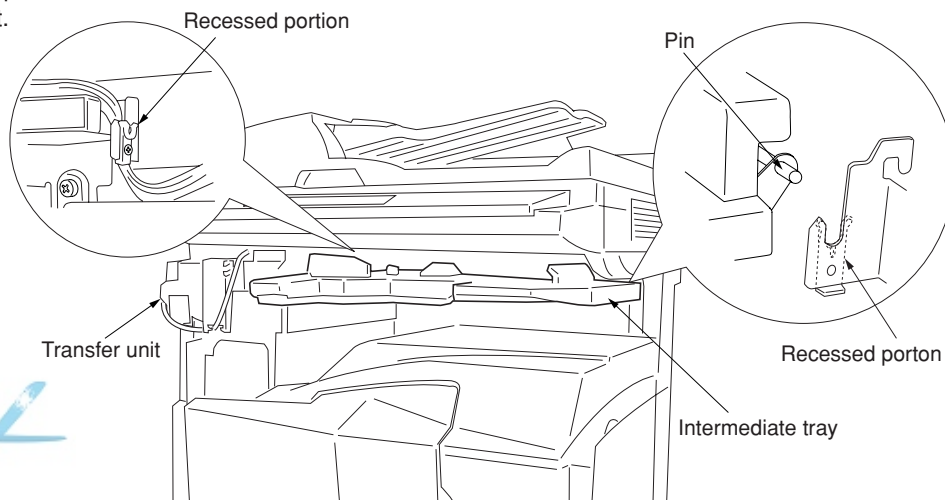


Figure 1-3-115

15. Attach the large ejection cover using the two screws that have secured the upper left cover.

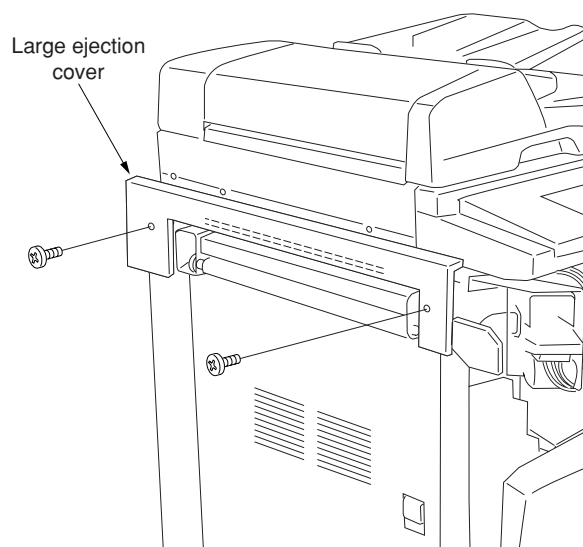


Figure 1-3-116

16. Open the front cover and the conveying cover.
 17. Attach the staple cover.
 * Tighten the two screws on the left side to secure the cover with the copier, secure the front side using the screw that has been removed in step 3, and secure the right side using a +TP-A chrome screw M3 × 05.

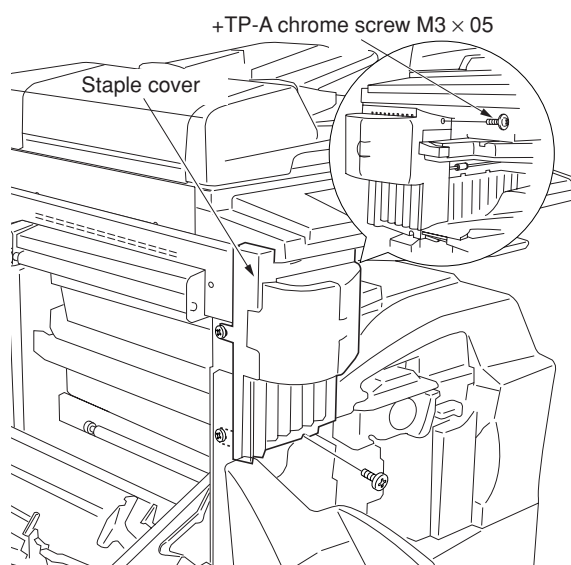


Figure 1-3-117

18. Close the conveying cover and the front cover. Attach the front ejection cover and the rear ejection cover using a +TP-A chrome screw M3 × 05 each.

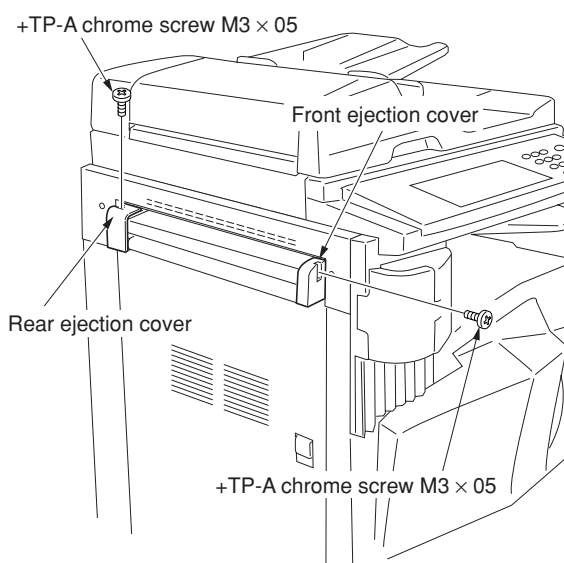


Figure 1-3-118

19. Attach the copy tray.

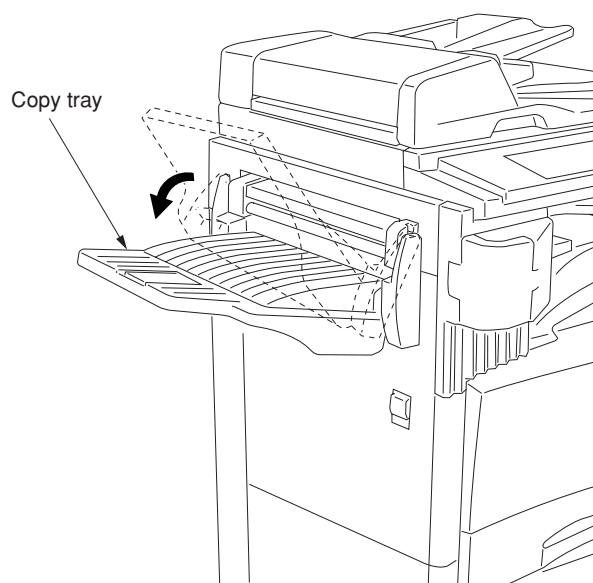


Figure 1-3-119

20. Open the staple cover and insert the staple cartridge into the stapler.
21. Close the staple cover.
22. Insert the power plug of the copier into an outlet and turn the main switch on.
23. Select the staple mode and make a stapled copy to check that stapling is performed properly.

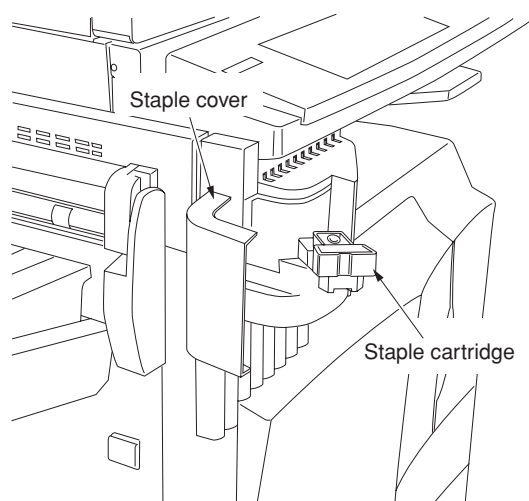


Figure 1-3-120

1-3-15 Installing the job separator (option)

Preparation

1. Insert the LED PCB into the job separator and connect the 2-pin connector of the LED PCB into the 2-pin connector of the job separator.
- * Arrange the wire into the two grooves of the job separator.

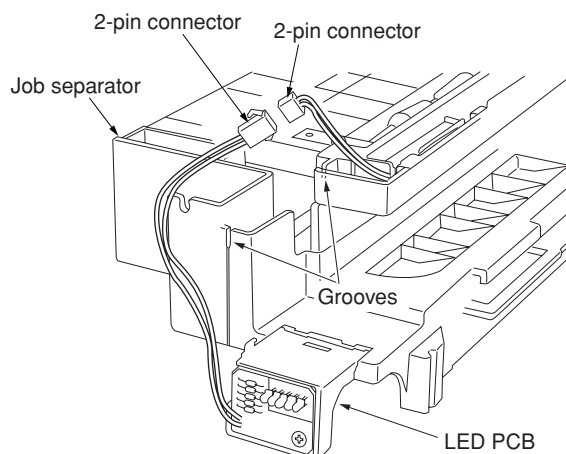


Figure 1-3-120-1

2. Open the conveying cover and the front cover.
3. Loosen the two left screws on the left side, remove the screw on the front side, open the hook on the right side, and remove the left front cover.
4. Close the conveying cover and the front cover.

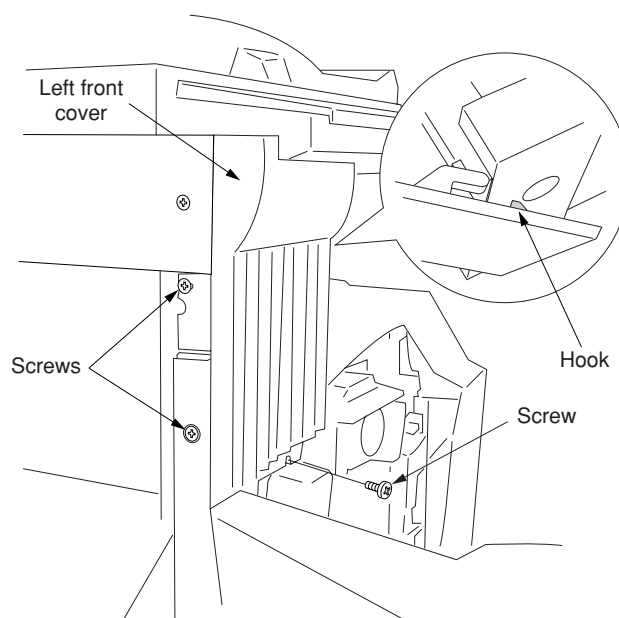


Figure 1-3-121

5. Remove the two screws and remove the ejection cover with the mounting plate.

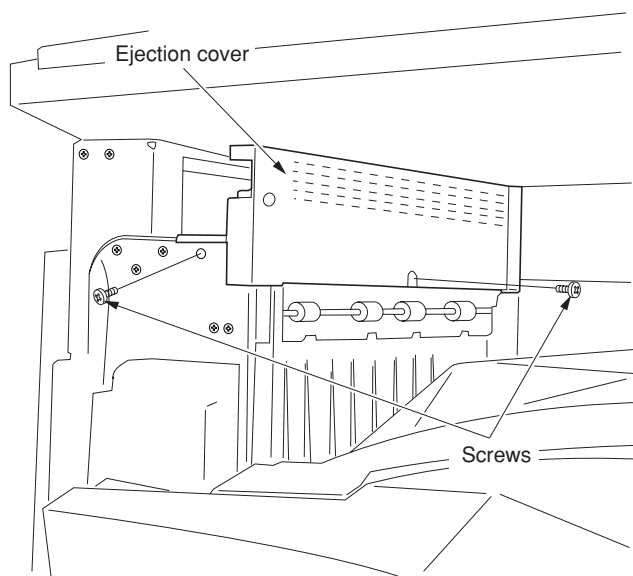


Figure 1-3-122

6. Remove the two screws and then remove the inner ejection cover.

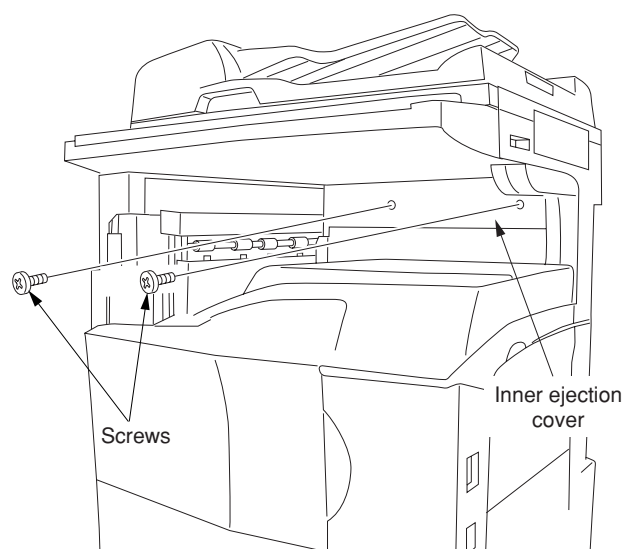


Figure 1-3-123

7. Insert the job separator into the copier from the front side and slide it to the left. Secure the front side using a +TP-A bronze screw M3 × 05 and the rear side using a pin.

* Check to see if the branch pressure lever on the rear side of the job separator has lowered.

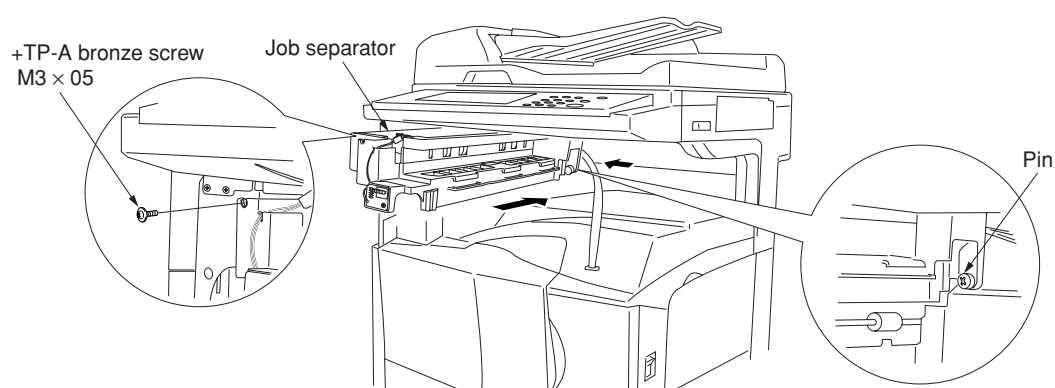


Figure 1-3-124

8. Connect the connector of the job separator to the lower connector of the copier.

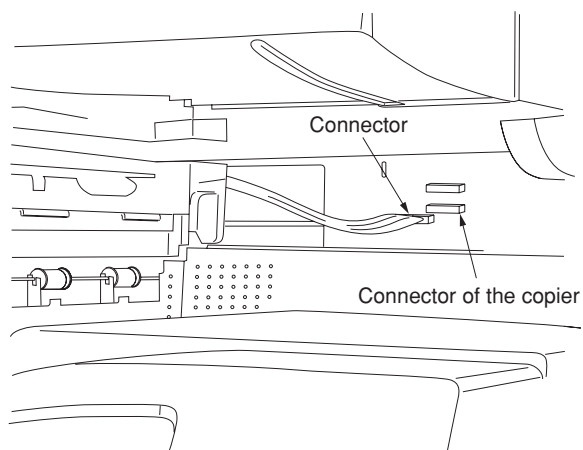


Figure 1-3-125

9. Attach the job separator tray to the rail of the job separator by sliding it from the front side.
 - * Insert the fitting section on the right side of the job separator tray into the recessed portion of the copier.
 - * Put the hook on the right side onto the pin.
10. Open the left transfer cover and the front cover. Fit the left front cover JS to the location to which the upper front cover that has been removed in step 3 was fitted.

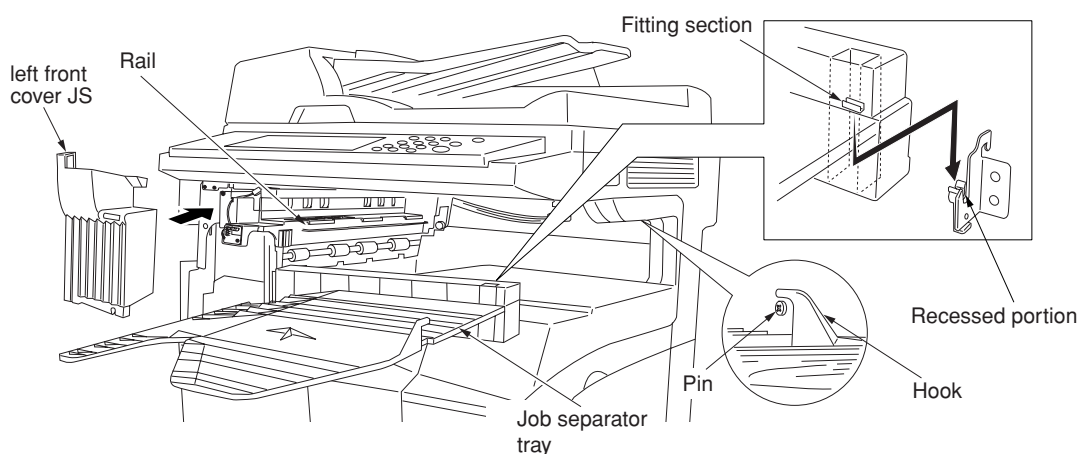


Figure 1-3-126

11. Insert the power plug of the copier into an outlet and turn the main switch on.
12. Set the "copy ejection location" of the machine default settings to job separator.
13. Make a test copy to check that a copy is ejected to the job separator tray.

1-3-16 Installing the Network Facsimile System (option)

Procedure

1. Remove 13 screws and take off the rear cover.

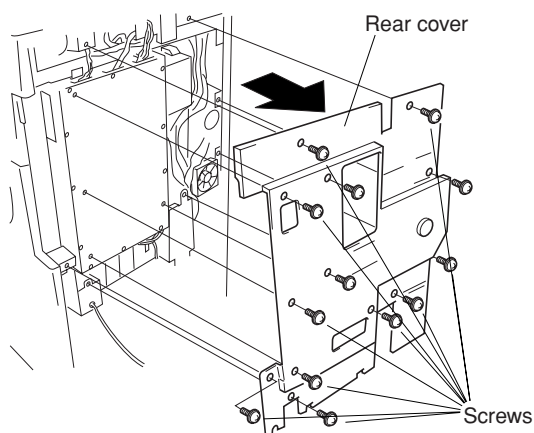


Figure 1-3-127

- If the printing system is installed
2. Remove the 2 screws holding the printer system in place, and pull the printing system out of the shield cover.

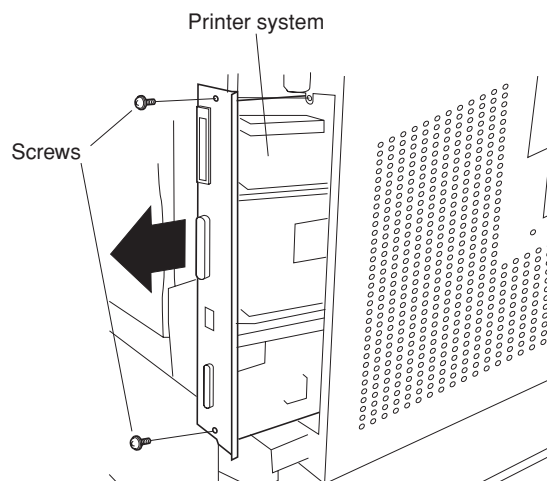


Figure 1-3-128

3. Remove 13 screws and take off the shield cover.

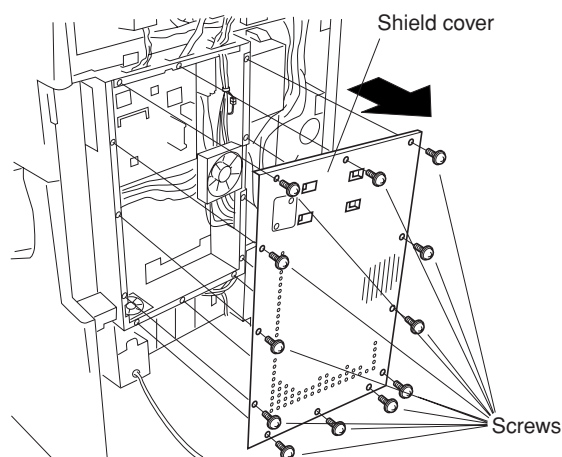


Figure 1-3-129

4. Move the film out of the way to the left, and fasten the fax board into place using four M3 × 06 chrome binding screws.

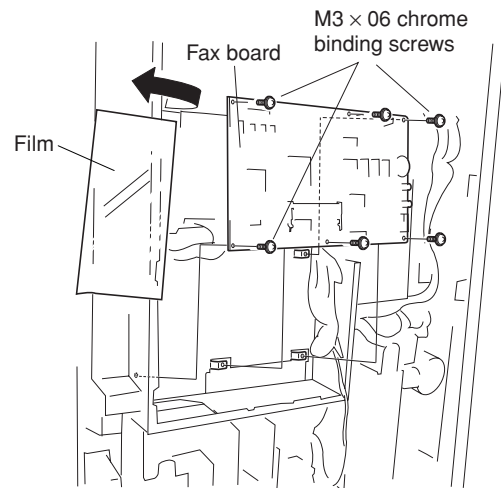


Figure 1-3-130

5. Connect the NCU cable to connector CN1 on the NCU board assembly.

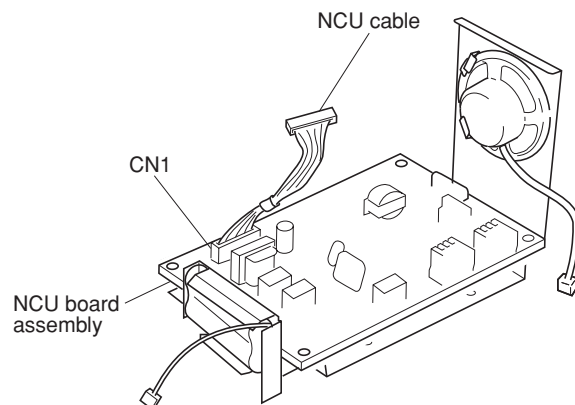


Figure 1-3-131

6. Fasten the NCU board assembly into place from the bottom with two M3 × 06 chrome binding screws.
7. Connect the three connectors from the NCU board assembly to the corresponding connectors on the fax board, as follows:
 - Speaker 2-pin connector → YC7
 - NCU board connector → YC3
 - Battery connector → YC6

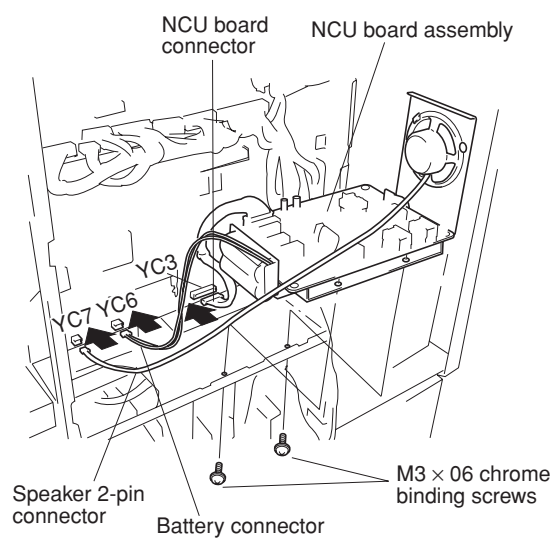


Figure 1-3-132

8. Remove the film that fixes the three positive connectors of the power source PCB from the optional interface mounting plate.

Important: Dispose of the film that has been removed.

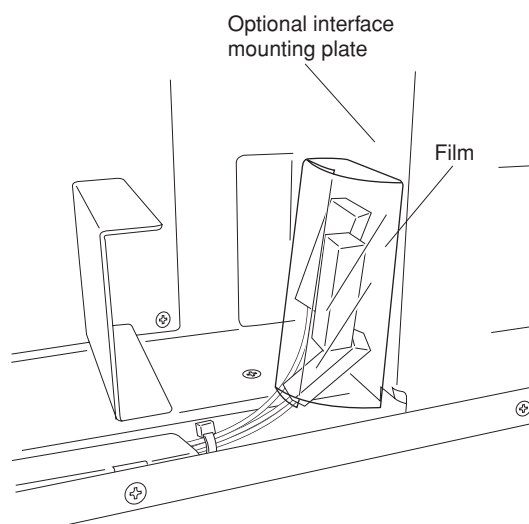


Figure 1-3-133

9. Connect the FAX-PCB-Power cable to connector CN1 on the auxiliary power source PCB assembly.

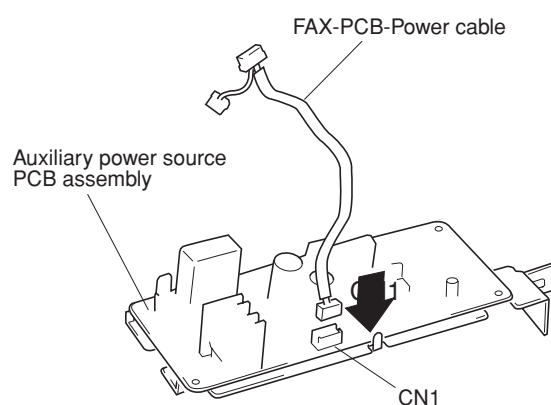


Figure 1-3-134

10. Connect the three positive connectors on the power board to the corresponding connectors on the auxiliary power source PCB assembly, as follows.

- White positive connector → TB1 (white)
- Green positive connector → TB2 (green)
- Small white positive connector → TB3

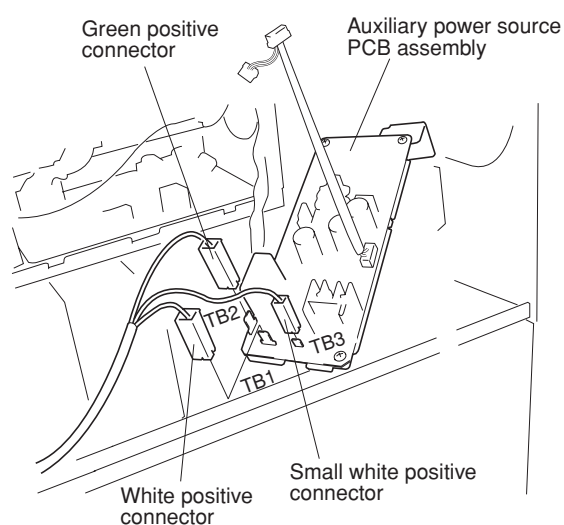


Figure 1-3-135

11. Fit the catch on the auxiliary power unit into the mount hole in the copier, and fasten the auxiliary power unit into place with one M3 × 06 chrome binding screw.

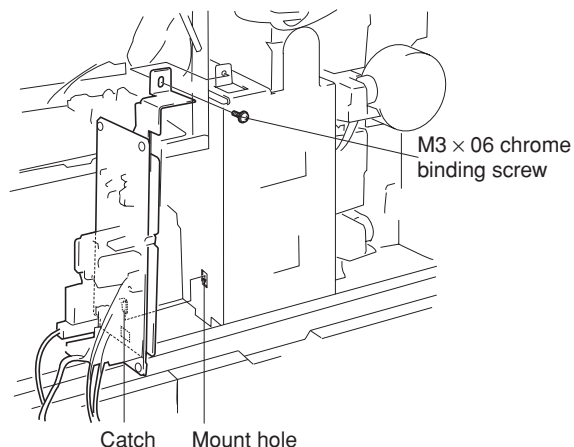


Figure 1-3-136

12. Through the opening of controller-box above the speaker, connect the FAX-PCB-Power cable on the auxiliary power source PCB assembly to connector YC8 on the fax board.
13. Connect the 2-pin connector to the 2-pin connector with green cable.

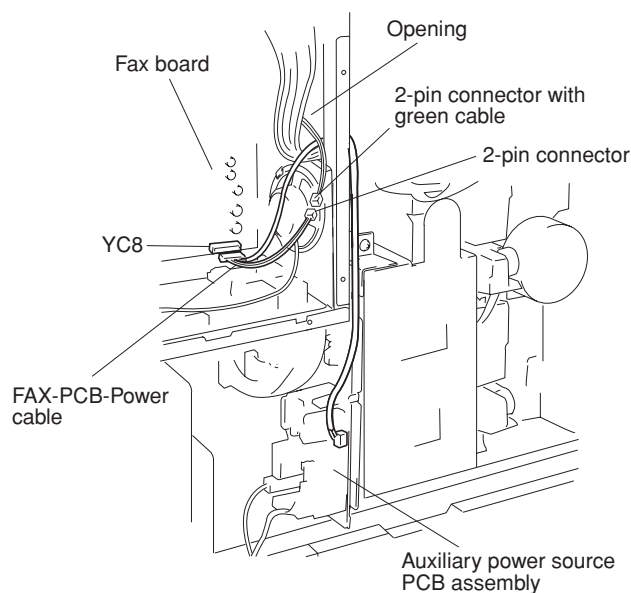


Figure 1-3-137

14. Unlock YC1 on the fax board by pulling its connector housing.
 15. Hold the fax cable with its conductive side facing up, insert it into connector YC1, then push the housing back in to lock the connector.
 16. Hold the other end of the fax cable with its conductive side facing down, and connect it to connector CN44 on the main PCB. (Pull the CN44 housing out to release the connector lock, then insert the cable, and then push the housing back in.)
- Important:** Be sure to push the fax cable all the way in, and be sure that the connection is straight. A poor connection may result in a variety of problems.

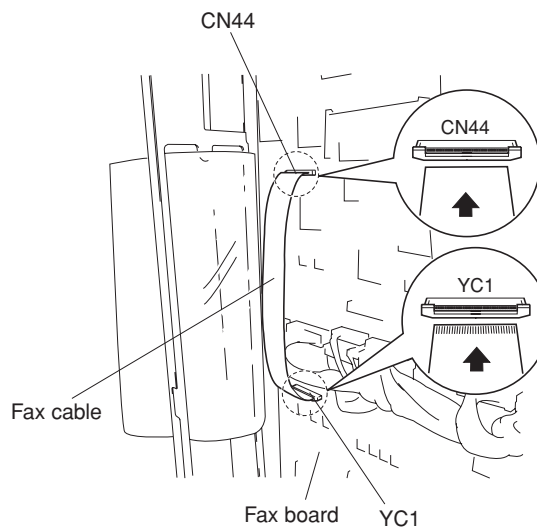


Figure 1-3-138

17. Fasten the shield cover into place with 13 screws.

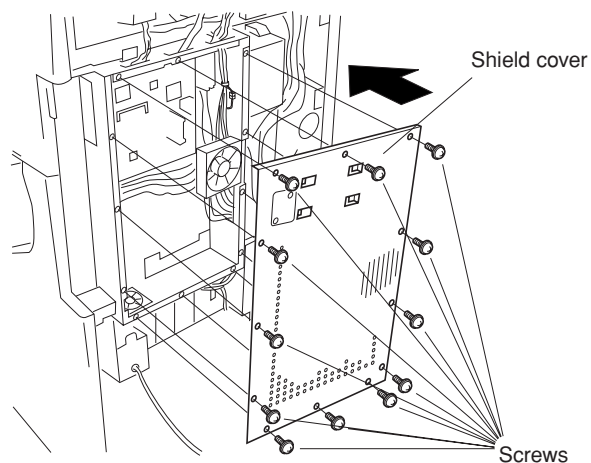


Figure 1-3-139

18. Remove 1 screw and take off the modular cover.

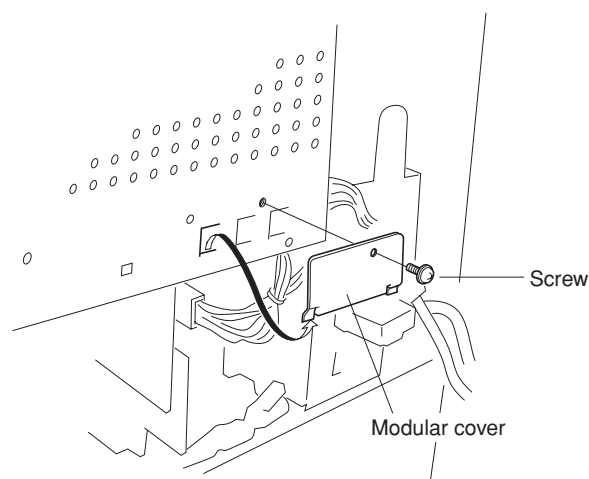


Figure 1-3-140

19. Hang the modular cover onto the holes on the controller-box cover, and fasten it into place with 1 screw.

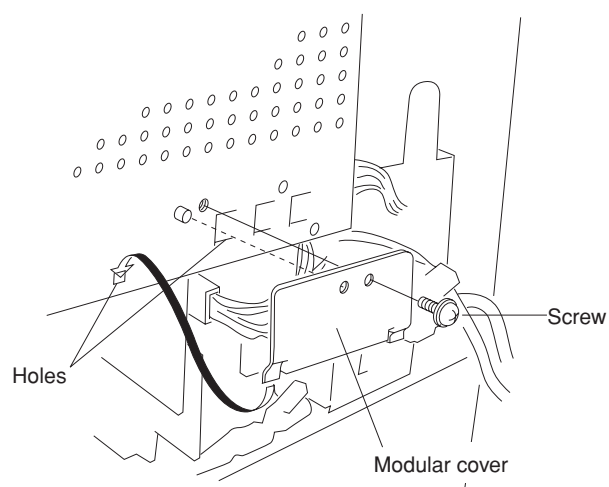


Figure 1-3-141

2DF

- If the printing system was installed
20. Reinstall the printing system into the shield cover, fastening it into place with 2 screws.

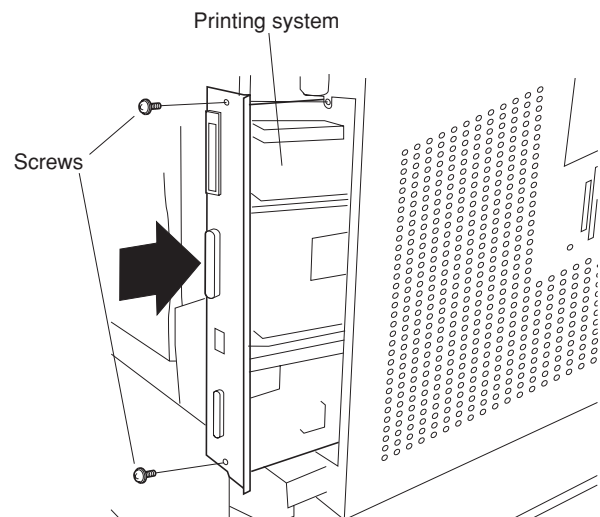


Figure 1-3-142

21. Reattach the rear cover with 13 screws.

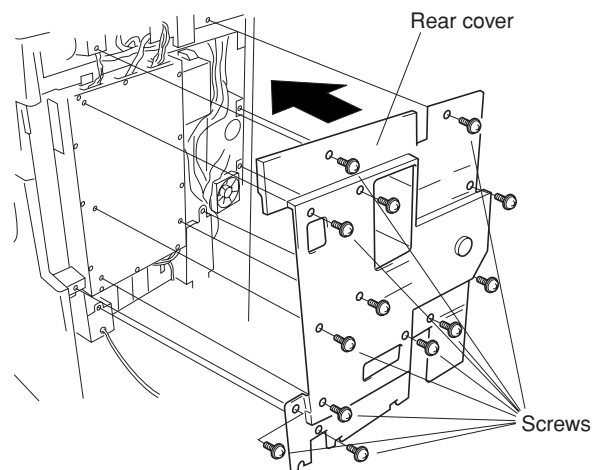


Figure 1-3-143

22. Adhere the certification labels to the rear cover at the locations indicated in the illustration (only 120 V Spac.).

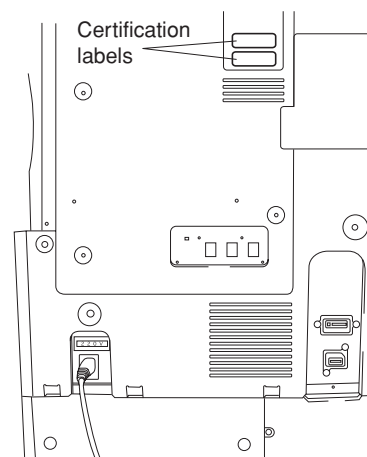


Figure 1-3-144

23. Take the power label from the fax-kit label sheet, and adhere it to the copier directly under the main switch.

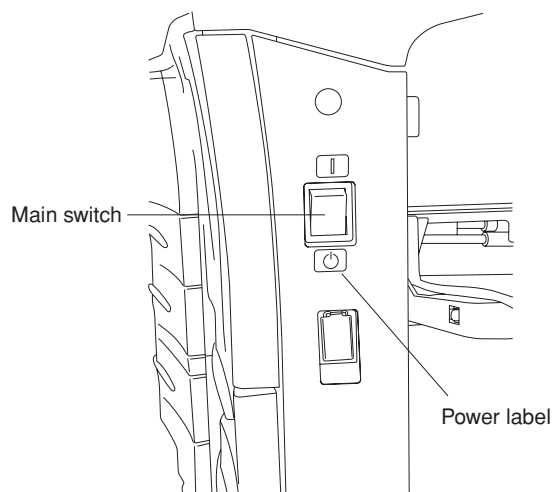


Figure 1-3-145

24. Take the alphabet labels from the fax-lit label sheet, and adhere them above the corresponding numeric keys on the operation panel.
- In Asia, use the "PQRS TUV WXYZ" label, and do not use the "PRS TUV WXZ" and "OPER" labels.

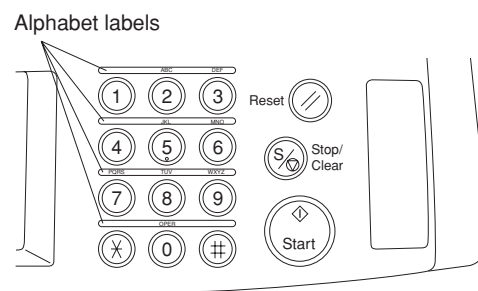


Figure 1-3-146

25. Connect the L terminal to the phone circuit using a modular connector cable.
- Important:** On 120 V systems, use the included modular connector cable to make the connection.
26. After installation is complete, the fax board must be initialized (see the P.1-3-42).

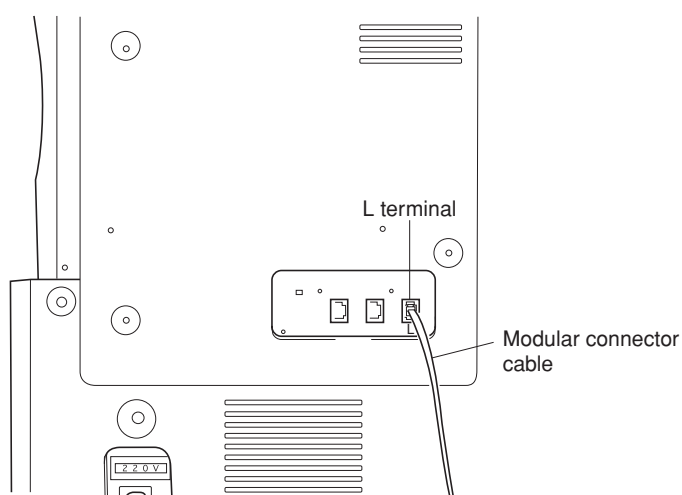
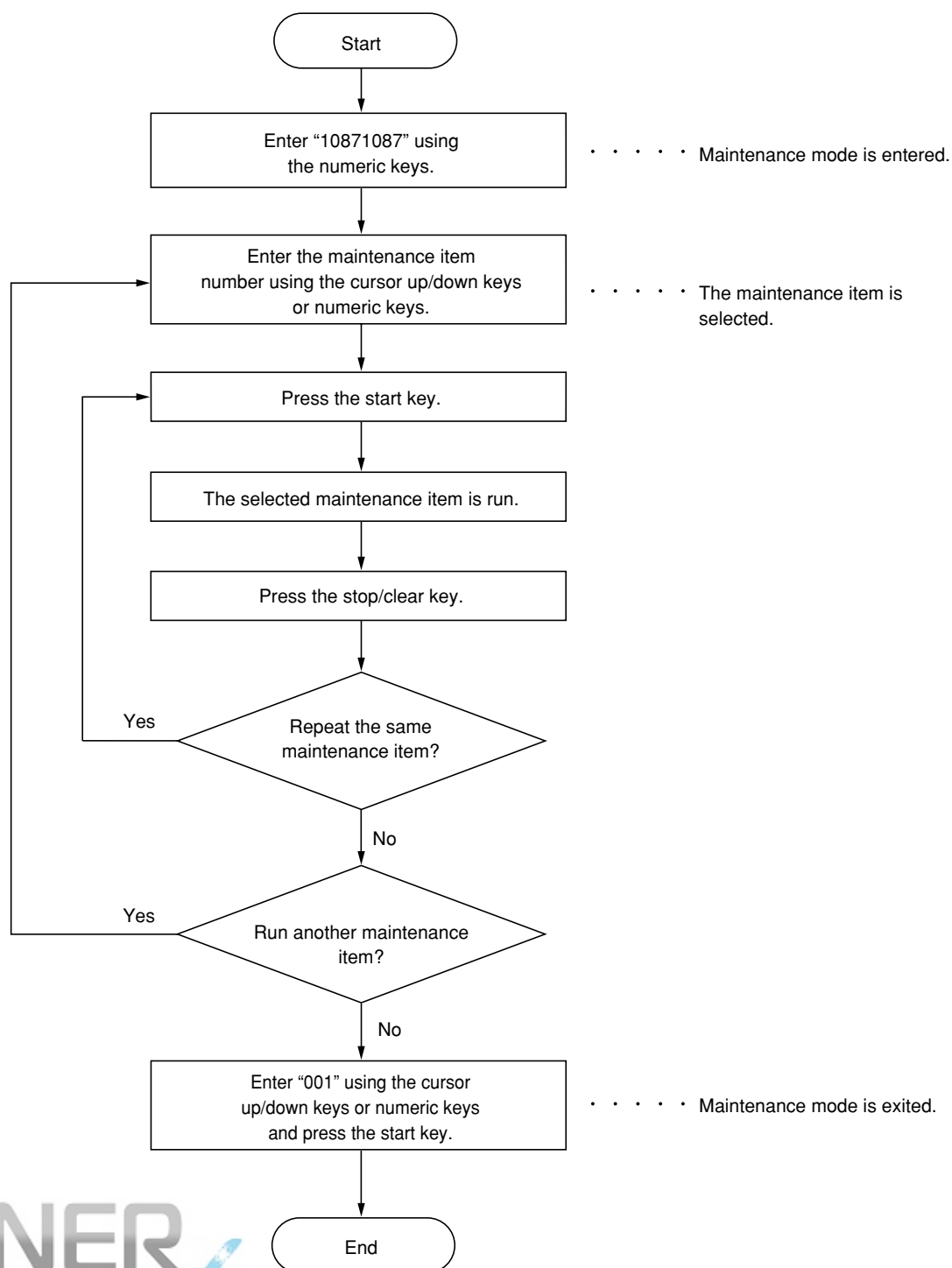


Figure 1-3-147

1-4-1 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	—
	U003	Setting the service telephone number	*****
	U004	Setting the machine number	000000
	U005	Copying without paper	—
	U019	Displaying the ROM version	—
Initialization	U020	Initializing all data	—
	U021	Initializing counters and mode settings	—
	U022	Initializing data for optical system	—
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	Adjusting the print start timing • Adjusting the leading edge registration • Adjusting the center line	0.5/0/-0.1 7.2/0
	U035	Setting folio size • Length/Width • Width	330 210
	U038	Checking the copier cover switch	—
	U051	Adjusting the amount of slack in the paper • Regist data • Feed data	0/0/0 110/20/0/0/0/0
	U053	Performing fine adjustment of the motor speed • Drive motor • Eject motor • Polygon motor	7 9 0
	U060	Adjusting the scanner input properties	11
Optical	U061	Turning the exposure lamp on	—
	U063	Adjusting the shading position	0
	U065	Adjusting the scanner magnification • Main scanning direction/auxiliary scanning direction	0/-2
	U066	Adjusting the leading edge registration for scanning an original on the contact glass	7/0
	U067	Adjusting the center line for scanning an original on the contact glass	-18/0
	U068	Adjusting the scanning position for originals from the DF	0
	U070	Adjusting the DF magnification	-3
	U071	Adjusting the DF scanning timing • DF leading edge registration/DF trailing edge registration	8/0
	U072	Adjusting the DF center line	15
	U073	Checking scanner operation	—
	U074	Adjusting the DF input light luminosity	1
	U087	Turning the DF scanning position adjust mode on/off	On
	U088	Setting the input filter (moiré reduction mode)	Off
	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/text in fax/photo in fax mode	0/0/0/2/3
	U099	Checking and setting the original size detection sensor	—

* Initial setting for executing maintenance item U020

Section	Item No.	Maintenance item contents	Initial setting*
High voltage	U100	Checking the operation of main high voltage	184
	U101	Setting high voltages <ul style="list-style-type: none"> • Developing bias AC component frequency at image formation • Developing bias AC component duty at image formation • Developing shift bias potential at image formation • Transfer control voltage 	0 0 0 120
	U109	Drum type display	—
	U110	Checking/clearing the drum count	—
	U112	Setting toner refresh operation <ul style="list-style-type: none"> • Time of toner refreshment/Developing bias on time 	120/700
	U113	Operating the drum refreshment	—
	U113	Operating the drum refreshment	—
Developing	U130	Initial setting for the developer	—
	U144	Setting toner loading operation	MODE2
	U150	Checking sensors and switches for toner	—
	U157	Checking/clearing the developing drive time	—
	U158	Checking/clearing the developing count	—
Fixing and cleaning	U161	Setting the fixing control temperature <ul style="list-style-type: none"> • Control temperature during copying • Primary stabilization fixing temperature • Secondary stabilization fixing temperature • OFF time of fixing heater M 	165 110 110 12
	U162	Stabilizing fixing forcibly	—
	U163	Resetting the fixing problem data	—
	U165	Checking/clearing fixing counts	—
	U196	Turning the fixing heater on	—
	U199	Checking the fixing temperature	—
Operation panel and support equipmen	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	—
	U206	Setting the presence or absence of the coin vender	—
	U207	Checking the operation panel keys	—
	U208	Setting the paper size for the large paper deck	A4
	U211	Setting DF type	—
	U217	Setting 8 ¹ / ₂ " × 13" paper	—
	U236	Setting the limit for the ejection section of the built-in finisher	—
	U237	Setting finisher stack quantity	—
	U243	Checking the operation of the DF motors, solenoids and clutch	—
	U244	Checking the DF switches	—
	U245	Checking messages	—
	U246	Setting the finisher <ul style="list-style-type: none"> • Amount of slack in the paper • Booklet stapling position adjustment • Side registration cursor stop position 	0 0 0
	U247	Checking the operation of large paper deck and paper feed desk	—
	U249	Checking the paper ejection to optional devices	—
Mode setting	U250	Setting the maintenance cycle	500000 (35/40 cpm) 400000 (25 cpm)
	U251	Checking/clearing the maintenance count	—
	U252	Setting the destination	Japan

* Initial setting for executing maintenance item U020

Section	Item No.	Maintenance item contents	Initial setting*
Mode setting	U253	Switching between double and single counts	Double count
	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 mode, 70
	U260	Changing the copy count timing	After ejection
	U264	Setting the display order of the date	Inch specifications: MONTH-DATE-YEAR Metric specifications: DATE-MONTH-YEAR
	U265	Setting OEM purchaser code	—
	U274	Setting the laser scanner unit type	0
	U329	Default setting Auto rotation copy/Sort copy	On/On
	U330	Setting the number of sheets to enter stacking mode during sort operation	—
	U331	Switching the finisher eject section	OFF
	U332	Setting the size conversion factor	—
	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	—
	U346	Setting the sleep mode operation	MODE0
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
	U500	Setting the limit on data size for e-mail transmission	LITTLE
	U501	Setting image area	ON
	U504	Initializing the scanner NIC	—
	U505	Setting Data Base Assistant	On
	U540	Adjusting the auxiliary scanning magnification	0
Others	U901	Checking/clearing copy counts by paper feed locations	—
	U902	Checking/clearing finisher punch count	20000
	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	—
	U908	Changing the total counter value	—
	U910	Clearing the black ratio data	—
	U911	Checking/clearing copy counts by paper sizes	—
	U937	Model name setting	**30
	U960	Outputting the machine used circumstances list	—
	U968	Shading plate switching setting	—
	U990	Checking/clearing the time for the exposure lamp to light	—
	U991	Checking/clearing the scanner count	—
	U992	Checking or clearing the printer/fax count	—
	U993	Outputting a VTC-PG pattern	—

* Initial setting for executing maintenance item U020

(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>								

Maintenance item No.	Description								
U003	<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>*</td><td>#</td></tr> <tr> <td>(</td><td>)</td></tr> <tr> <td>-</td><td>(Space)</td></tr> <tr> <td>LEFT</td><td>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								
U004	<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"> <tr> <th>Display</th><th>Operation</th></tr> <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> </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).																
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 eight digits of the part number indicating the ROM version are displayed.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <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>NETWORK SCANNER</td><td>Network scanner ROM IC</td></tr> </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	NETWORK SCANNER	Network scanner ROM IC
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																
NETWORK SCANNER	Network scanner ROM IC																

Maintenance item No.	Description
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 Japan specifications are set. 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>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 counters and mode settings</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 Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U022	<p>Initializing data for optical system</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, U088 to 099, U403, U990 and U991) is initialized. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>

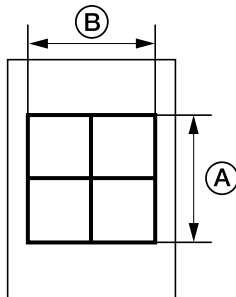
Maintenance item No.	Description																				
U030	<p>Checking motor operation</p> <p>Description Drives each motor.</p> <p>Purpose To check the operation of each motor.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 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>Operation</th></tr> </thead> <tbody> <tr> <td>FEED</td><td>Paper feed motor operates</td></tr> <tr> <td>MAIN</td><td>Drive motor operates</td></tr> <tr> <td>EJECT(FW)</td><td>Eject motor rotates forward</td></tr> <tr> <td>EJECT(REV)</td><td>Eject motor rotates in reverse</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	Operation	FEED	Paper feed motor operates	MAIN	Drive motor operates	EJECT(FW)	Eject motor rotates forward	EJECT(REV)	Eject motor rotates in reverse										
Display	Operation																				
FEED	Paper feed motor operates																				
MAIN	Drive motor operates																				
EJECT(FW)	Eject motor rotates forward																				
EJECT(REV)	Eject motor rotates in reverse																				
U031	<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. <p>When the on-status of a switch is detected, that switch is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th><th>Switches</th></tr> </thead> <tbody> <tr> <td>F1</td><td>Feed switch 1 (FSW1)</td></tr> <tr> <td>F2</td><td>Feed switch 2 (FSW2)</td></tr> <tr> <td>F3</td><td>Feed switch 3 (FSW3)</td></tr> <tr> <td>BYP</td><td>Bypass feed switch (BYPFSW)</td></tr> <tr> <td>RES</td><td>Registration switch (RSW)</td></tr> <tr> <td>EJE</td><td>Eject switch (ESW)</td></tr> <tr> <td>BRA</td><td>Feedshift switch (FSSW)</td></tr> <tr> <td>DUP</td><td>Duplex paper conveying switch (DUPPCSW)*</td></tr> <tr> <td>JOB</td><td>Job separator eject switch (JBESW)*</td></tr> </tbody> </table> <p>*Optional.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	F1	Feed switch 1 (FSW1)	F2	Feed switch 2 (FSW2)	F3	Feed switch 3 (FSW3)	BYP	Bypass feed switch (BYPFSW)	RES	Registration switch (RSW)	EJE	Eject switch (ESW)	BRA	Feedshift switch (FSSW)	DUP	Duplex paper conveying switch (DUPPCSW)*	JOB	Job separator eject switch (JBESW)*
Display	Switches																				
F1	Feed switch 1 (FSW1)																				
F2	Feed switch 2 (FSW2)																				
F3	Feed switch 3 (FSW3)																				
BYP	Bypass feed switch (BYPFSW)																				
RES	Registration switch (RSW)																				
EJE	Eject switch (ESW)																				
BRA	Feedshift switch (FSSW)																				
DUP	Duplex paper conveying switch (DUPPCSW)*																				
JOB	Job separator eject switch (JBESW)*																				

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>PF1</td><td>Upper paper feed clutch (PFCL-U)</td></tr> <tr> <td>PF2</td><td>Lower paper feed clutch (PFCL-L)</td></tr> <tr> <td>PFBYP</td><td>Bypass paper feed clutch (BYPPFCL)</td></tr> <tr> <td>FEED1</td><td>Feed clutch 1 (FCL1)</td></tr> <tr> <td>FEED2</td><td>Feed clutch 2 (FCL2)</td></tr> <tr> <td>FEED3</td><td>Feed clutch 3 (FCL3)</td></tr> <tr> <td>BYPF</td><td>Bypass feed clutch (BYPFCL)</td></tr> <tr> <td>RES</td><td>Registration clutch (RCL)</td></tr> <tr> <td>DUPF</td><td>Duplex feed clutch (DUPFCL)*</td></tr> </tbody> </table> <p>*Optional.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Clutches	PF1	Upper paper feed clutch (PFCL-U)	PF2	Lower paper feed clutch (PFCL-L)	PFBYP	Bypass paper feed clutch (BYPPFCL)	FEED1	Feed clutch 1 (FCL1)	FEED2	Feed clutch 2 (FCL2)	FEED3	Feed clutch 3 (FCL3)	BYPF	Bypass feed clutch (BYPFCL)	RES	Registration clutch (RCL)	DUPF	Duplex feed clutch (DUPFCL)*
Display	Clutches																				
PF1	Upper paper feed clutch (PFCL-U)																				
PF2	Lower paper feed clutch (PFCL-L)																				
PFBYP	Bypass paper feed clutch (BYPPFCL)																				
FEED1	Feed clutch 1 (FCL1)																				
FEED2	Feed clutch 2 (FCL2)																				
FEED3	Feed clutch 3 (FCL3)																				
BYPF	Bypass feed clutch (BYPFCL)																				
RES	Registration clutch (RCL)																				
DUPF	Duplex feed clutch (DUPFCL)*																				
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>TONER SOL</td><td>Toner feed solenoid (TNFSOL)</td></tr> <tr> <td>BRANCH1 SOL</td><td>Feedshift solenoid (FSSOL)</td></tr> <tr> <td>BRANCH2 SOL</td><td>Feedshift solenoid (FSSOL)*</td></tr> <tr> <td>MAIN SW SOL</td><td>Main switch turns on</td></tr> </tbody> </table> <p>*Optional. 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	TONER SOL	Toner feed solenoid (TNFSOL)	BRANCH1 SOL	Feedshift solenoid (FSSOL)	BRANCH2 SOL	Feedshift solenoid (FSSOL)*	MAIN SW SOL	Main switch turns on										
Display	Solenoids																				
TONER SOL	Toner feed solenoid (TNFSOL)																				
BRANCH1 SOL	Feedshift solenoid (FSSOL)																				
BRANCH2 SOL	Feedshift solenoid (FSSOL)*																				
MAIN SW SOL	Main switch turns on																				
U034	<p>Adjusting the print start timing</p> <p>Adjustment See pages 1-6-10 and 12.</p>																				

Maintenance item No.	Description			
U035	Setting folio size			
	Description			
	Changes the image area for copying onto folio size paper.			
	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.			
	Method			
	Press the start key. The screen for selecting an item is displayed.			
	Setting			
	1. Select the item to be set. The selected item is displayed in reverse.			
	2. Change the setting using the cursor up/down keys.			
Display		Setting	Setting range	Initial setting
LENGTH DATA		Length	330 to 356 mm	330
WIDTH DATA		Width	200 to 220 mm	210
3. Press the start key. The value is set.				
Completion				
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.				
U038	Checking the copier cover switch			
	Description			
	Displays the on-off status of each cover switch.			
	Purpose			
	To check if the switches of covers operate correctly.			
	Method			
	1. Press the start key. A list of the switches, the on-off status of which can be checked, are displayed.			
	2. Open and close each cover to check the status of each switch.			
	When the cover is closed, the switch shall be displayed in reverse. When the cover is open, the switch shall be displayed normally.			
	Display		Switches	
INTER LOCK SW		Safty switch 1 and 2 (SSW1 and 2)		
FRONT COVER		Front cover switch (FRCSW)		
LEFT1 COVER		Conveying cover switch (CCSW)		
LEFT2 COVER		Side cover switch (SCSW)		
Completion				
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.				
U051	Adjusting the amount of slack in the paper			
	Adjustment			
See page 1-6-14.				

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Maintenance item No.	Description																
U053	<p>Performing fine adjustment of the motor speed</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 selecting an item 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><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>MAIN MOTOR</td><td>Drive motor speed adjustment</td><td>0 to +14</td><td>7</td></tr><tr><td>EJECT MOTOR</td><td>Eject motor speed adjustment</td><td>0 to +14</td><td>9</td></tr><tr><td>POLYGON MOTOR</td><td>Polygon motor speed adjustment</td><td>-20 to +20</td><td>0</td></tr></table> <p>MAIN MOTOR /EJECT 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> <p>EJECT MOTOR Normally no change is necessary but this can be used as countermeasures against wrinkles (waving) of paper.</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 = 260 ± 1.0 mm</p> <div></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: A: Drive motor speed adjustment B: Polygon motor speed adjustment <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	Setting range	Initial setting	MAIN MOTOR	Drive motor speed adjustment	0 to +14	7	EJECT MOTOR	Eject motor speed adjustment	0 to +14	9	POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0
Display	Description	Setting range	Initial setting														
MAIN MOTOR	Drive motor speed adjustment	0 to +14	7														
EJECT MOTOR	Eject motor speed adjustment	0 to +14	9														
POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0														

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Maintenance item No.	Description						
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 1. Change the setting using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Image scanning density</td><td>0 to +24</td><td>11</td></tr></table> <p>Increasing the setting makes the density lower, and decreasing it makes the density higher.</p> <p>2. Press the start key. The value is set.</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. 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	0 to +24	11
Description	Setting range	Initial setting					
Image scanning density	0 to +24	11					
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 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> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						

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Maintenance item No.	Description								
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 1. Press the start key. The screen for adjustment is displayed. 2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>Shading position</td><td>-5 to +5</td><td>0</td><td>0.17 mm</td></tr></table> <p>Increasing the setting moves the shading position toward the machine right, and decreasing it moves the position toward the machine left.</p> <p>3. Press the start key. The value is set.</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 adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Change in value per step	Shading position	-5 to +5	0	0.17 mm
Description	Setting range	Initial setting	Change in value per step						
Shading position	-5 to +5	0	0.17 mm						
U065	<p>Adjusting the scanner magnification</p> <p>Adjustment See pages 1-6-27 and 28.</p>								
U066	<p>Adjusting the leading edge registration for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-29.</p>								
U067	<p>Adjusting the center line for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-30.</p>								
U068	<p>Adjusting the scanning position for originals from the DF</p> <p>Description Adjusts the position for scanning originals from the DF.</p> <p>Purpose Used when there is a regular error between the leading edges of the original and the copy image when the DF is used.</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting 1. Change the setting using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>Scanning position</td><td>-2 to +3</td><td>0</td><td>0.254 mm</td></tr></table> <p>Increasing the setting moves the image backward, and decreasing it moves the image forward.</p> <p>2. Press the start key. The value is set.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Change in value per step	Scanning position	-2 to +3	0	0.254 mm
Description	Setting range	Initial setting	Change in value per step						
Scanning position	-2 to +3	0	0.254 mm						

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Maintenance item No.	Description								
U070	<p>Adjusting the DF magnification</p> <p>Description Adjusts the DF original scanning speed.</p> <p>Purpose To be executed if the correct magnification is not obtained in the auxiliary scanning direction when the optional DF is used.</p> <p>Caution Before making this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U053 → U065 → U070</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting 1. Change the setting using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>Original conveying motor speed</td><td>−25 to +25</td><td>−3</td><td>0.1%</td></tr></table> <p>Increasing the setting makes the image longer, and decreasing it makes the image shorter.</p> <p>2. Press the start key. The value is set.</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. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Change in value per step	Original conveying motor speed	−25 to +25	−3	0.1%
Description	Setting range	Initial setting	Change in value per step						
Original conveying motor speed	−25 to +25	−3	0.1%						

Maintenance item No.	Description															
U071	<p>Adjusting the DF scanning timing</p> <p>Description Adjusts the DF original scanning timing.</p> <p>Purpose To be executed if there is a regular error between the leading or trailing edges of the original and the copy image when the optional DF is used.</p> <p>Caution Before making this adjustment, ensure that the following adjustments have been made in maintenance mode. U034 → U066 → U071</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 item to be set. The selected item is displayed in reverse.2. Change the setting using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>LEAD EDGE ADJ</td><td>DF leading edge registration</td><td>-20 to +20</td><td>8</td><td>0.17 mm</td></tr><tr><td>TRAIL EDGE ADJ</td><td>DF trailing edge registration</td><td>-10 to +10</td><td>0</td><td>0.17 mm</td></tr></table> <p>Increasing the setting moves the copy image backward, and decreasing it moves the copy image forward.</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>Adjustment</p> <ol style="list-style-type: none">1. In interrupt copy mode, make a copy using the DF.2. Check the copy image and adjust the registration as follows. For copy example 1, increase the setting of LEAD EDGE ADJ. For copy example 2, decrease the setting of LEAD EDGE ADJ. <div><div><p>Original</p></div><div><p>Copy example 1</p></div><div><p>Copy example 2</p></div></div> <p>Figure 1-4-2</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	Setting range	Initial setting	Change in value per step	LEAD EDGE ADJ	DF leading edge registration	-20 to +20	8	0.17 mm	TRAIL EDGE ADJ	DF trailing edge registration	-10 to +10	0	0.17 mm
Display	Description	Setting range	Initial setting	Change in value per step												
LEAD EDGE ADJ	DF leading edge registration	-20 to +20	8	0.17 mm												
TRAIL EDGE ADJ	DF trailing edge registration	-10 to +10	0	0.17 mm												

Maintenance item No.	Description								
U072	<p>Adjusting the DF center line</p> <p>Description Adjusts the scanning start position for the DF original.</p> <p>Purpose To be executed if there is a regular error between the centers of the original and the copy image when the optional DF is used.</p> <p>Caution Before making this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U034 → U067 → U072</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting 1. Change the setting using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>DF center line</td><td>-39 to +39</td><td>15</td><td>0.17 mm</td></tr></table> <p>Increasing the setting moves the image to the right, and decreasing it moves the image to the left.</p> <p>2. Press the start key. The value is set.</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>Adjustment 1. In interrupt copy mode, make a copy using the DF. 2. Check the copy image and adjust the center line as follows. For copy example 1, increase the setting. For copy example 2, decrease the setting.</p> <div><p>Reference</p><p>Original Copy example 1 Copy example 2</p></div> <p>Figure 1-4-3</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>	Description	Setting range	Initial setting	Change in value per step	DF center line	-39 to +39	15	0.17 mm
Description	Setting range	Initial setting	Change in value per step						
DF center line	-39 to +39	15	0.17 mm						

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Maintenance item No.	Description																																												
U073	<p>Checking scanner operation</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><tr><th>Display</th><th>Operating conditions</th><th>Setting range</th></tr><tr><td>ZOOM</td><td>Magnification</td><td>100 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></table> <p>Original sizes for each setting in SIZE</p> <table><tr><th>Setting</th><th>Paper size</th><th>Setting</th><th>Paper size</th></tr><tr><td>8</td><td>A4</td><td>42</td><td>A5R</td></tr><tr><td>9</td><td>B5</td><td>47</td><td>Folio</td></tr><tr><td>24</td><td>11" × 8½"</td><td>52</td><td>11" × 17"</td></tr><tr><td>36</td><td>A3</td><td>53</td><td>11" × 15"</td></tr><tr><td>39</td><td>B4</td><td>55</td><td>8½" × 14"</td></tr><tr><td>40</td><td>A4R</td><td>56</td><td>8½" × 11"</td></tr><tr><td>41</td><td>B5R</td><td>58</td><td>5½" × 8½"</td></tr></table> <ol style="list-style-type: none">4. Press the strat key. The setting is set.5. Press the interrupt key. The copy mode screen is displayed.6. Press the start key. Scanning starts under the selected conditions.7. 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	100 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" × 8½"	52	11" × 17"	36	A3	53	11" × 15"	39	B4	55	8½" × 14"	40	A4R	56	8½" × 11"	41	B5R	58	5½" × 8½"
Display	Operating conditions	Setting range																																											
ZOOM	Magnification	100 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" × 8½"	52	11" × 17"																																										
36	A3	53	11" × 15"																																										
39	B4	55	8½" × 14"																																										
40	A4R	56	8½" × 11"																																										
41	B5R	58	5½" × 8½"																																										
U074	<p>Adjusting the DF input light luminosity</p> <p>Description Adjusts the luminosity of the exposure lamp for scanning originals from the optional DF.</p> <p>Purpose Used if the exposure amount differs significantly between when scanning an original on the contact glass and when scanning an original from the DF.</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting</p> <ol style="list-style-type: none">1. Change the setting using the cursor up/down keys. <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>DF input light luminosity</td><td>0 to 8</td><td>1</td></tr></table> <p>Increasing the setting makes the luminosity higher, and decreasing it makes the luminosity lower.</p> <ol style="list-style-type: none">2. 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>	Description	Setting range	Initial setting	DF input light luminosity	0 to 8	1																																						
Description	Setting range	Initial setting																																											
DF input light luminosity	0 to 8	1																																											

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Maintenance item No.	Description																		
U087	<p>Turning the DF scanning position adjust mode on/off</p> <p>Description</p> <p>Turns on or off the DF scanning position adjust mode, in which the DF original scanning position is adjusted automatically by determining the presence or absence of dust on the slit glass. Also changes the reference data for identifying dust.</p> <p>Reference</p> <p>In the DF original scanning position adjust mode, the presence or absence of dust is determined by comparing the scan data of the original trailing edge and that taken after the original is conveyed past the DF original scanning position. If dust is identified, the DF original scanning position is adjusted for the following originals.</p> <p>Purpose</p> <p>Used to prevent appearance of black lines due to dust adhering in the original scanning position on the slit glass when the DF is used.</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 set and press the start key. <table><tr><th>Display</th><th>Description</th></tr><tr><td>ON/OFF</td><td>Setting the mode on/off</td></tr><tr><td>DATA</td><td>Setting the reference data for identifying dust</td></tr></table> <p>Setting the mode on/off</p> <ol style="list-style-type: none">1. Select ON or OFF. The selected item is displayed in reverse. <table><tr><th>Display</th><th>Description</th></tr><tr><td>ON DF</td><td>scanning position adjust mode on</td></tr><tr><td>OFF DF</td><td>scanning position adjust mode off</td></tr></table> <p>Initial setting: ON</p> <ol style="list-style-type: none">2. Press the start key. The setting is set. The screen for selecting an item is displayed. <p>Setting the reference data for identifying dust</p> <p>Available only when the mode is turned on.</p> <ol style="list-style-type: none">1. Change the setting using the cursor up/down keys. <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Minimum density to be regarded as dust</td><td>10 to 95</td><td>35</td></tr></table> <p>Example</p> <p>The figure indicates the density in 256 levels of gray (0: white, 255: black). When the setting is 35, data of the level of 35 or higher is regarded as dust and data of lower level is regarded as the background (scan data taken when there is no original).</p> <ol style="list-style-type: none">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</p> <p>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	ON/OFF	Setting the mode on/off	DATA	Setting the reference data for identifying dust	Display	Description	ON DF	scanning position adjust mode on	OFF DF	scanning position adjust mode off	Description	Setting range	Initial setting	Minimum density to be regarded as dust	10 to 95	35
Display	Description																		
ON/OFF	Setting the mode on/off																		
DATA	Setting the reference data for identifying dust																		
Display	Description																		
ON DF	scanning position adjust mode on																		
OFF DF	scanning position adjust mode off																		
Description	Setting range	Initial setting																	
Minimum density to be regarded as dust	10 to 95	35																	

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Maintenance item No.	Description															
U088	<p>Setting the input filter (moiré reduction mode)</p> <p>Description Turns moiré reduction mode on and off by switching the input filter on and off.</p> <p>Purpose Used to prevent regular density unevenness (moiré) on halftone image areas of the copy image in text mode and text and photo mode. Such moiré is more likely to appear when an enlargement or reduction copy is made in text mode from an original containing large halftone image areas.</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><tr><th>Display</th><th>Description</th></tr><tr><td>ON</td><td>Moiré reduction mode</td></tr><tr><td>OFF</td><td>Normal copy mode</td></tr></table> <p>Initial setting: OFF If moiré on the copy image is significant, change the setting to ON. Note that when the moiré reduction mode is turned on, the resolution may be slightly reduced.</p> <p>2. Press the start key. The value is set. 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	Moiré reduction mode	OFF	Normal copy mode									
Display	Description															
ON	Moiré reduction mode															
OFF	Normal copy mode															
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 1. Press the start key. 2. Select the MIP-PG pattern to be output.</p> <table><tr><th>Display</th><th>Description</th><th>Adjusting range</th></tr><tr><td>GRAYSCALE</td><td>Gray scale</td><td>—</td></tr><tr><td>MONO-LEVEL</td><td>Mono level</td><td>0 to 255</td></tr><tr><td>256-LEVEL</td><td>256 level</td><td>—</td></tr><tr><td>1dot-LINE</td><td>1 dot level</td><td>—</td></tr></table> <p>3. Press the interrupt key to set the pattern output mode. 4. Press the start key. A MIP-PG pattern is output.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Adjusting range	GRAYSCALE	Gray scale	—	MONO-LEVEL	Mono level	0 to 255	256-LEVEL	256 level	—	1dot-LINE	1 dot level	—
Display	Description	Adjusting range														
GRAYSCALE	Gray scale	—														
MONO-LEVEL	Mono level	0 to 255														
256-LEVEL	256 level	—														
1dot-LINE	1 dot level	—														

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Maintenance item No.	Description						
U091	<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 1-4-4</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								
U092	<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 leading edge registration (U066) • Adjusting scanner magnification in the auxiliary direction (U065) <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 edge registration</td></tr> <tr> <td>SUB SCAN</td><td>Scanner magnification in the auxiliary scanning direction</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 edge registration	SUB SCAN	Scanner magnification in the auxiliary scanning direction
Display	Description								
SCAN CENTER	Scanner center line								
SCAN TIMING	Scanner leading edge registration								
SUB SCAN	Scanner magnification in the auxiliary scanning direction								

Maintenance item No.	Description																																				
U093	<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, text in fax mode, photo in fax mode).</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><tr><th>Display</th><th>Description</th></tr><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><tr><td>FAX TEXT</td><td>Density in the text in fax mode</td></tr><tr><td>FAX PHOTO</td><td>Density in the photo in fax mode</td></tr></table> <p>Setting</p> <ol style="list-style-type: none">1. Select the item to be adjusted. The selected item is displayed in reverse. <table><tr><th>Display</th><th>Description</th></tr><tr><td>DARKER</td><td>Change in density when manual density is set dark</td></tr><tr><td>LIGHTER</td><td>Change in density when manual density is set light</td></tr></table> <ol style="list-style-type: none">2. Adjust the setting using the cursor up/down keys. <table><tr><th>Display</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>MIXED DARKER/MIXED LIGHTER</td><td>0 to 3/0 to 3</td><td>0/0</td></tr><tr><td>TEXT DARKER/TEXT LIGHTER</td><td>0 to 3/0 to 3</td><td>0/0</td></tr><tr><td>PHOTO DARKER/PHOTO LIGHTER</td><td>0 to 3/0 to 3</td><td>0/0</td></tr><tr><td>FAX TEXT DARKER/FAX TEXT LIGHTER</td><td>0 to 4/0 to 9</td><td>2/2</td></tr><tr><td>FAX PHOTO DARKER/FAX PHOTO LIGHTER</td><td>0 to 6/0 to 6</td><td>3/3</td></tr></table> <p>Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.</p> <div></div> <p>Figure 1-4-5 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	FAX TEXT	Density in the text in fax mode	FAX PHOTO	Density in the photo in fax mode	Display	Description	DARKER	Change in density when manual density is set dark	LIGHTER	Change in density when manual density is set light	Display	Setting range	Initial setting	MIXED DARKER/MIXED LIGHTER	0 to 3/0 to 3	0/0	TEXT DARKER/TEXT LIGHTER	0 to 3/0 to 3	0/0	PHOTO DARKER/PHOTO LIGHTER	0 to 3/0 to 3	0/0	FAX TEXT DARKER/FAX TEXT LIGHTER	0 to 4/0 to 9	2/2	FAX PHOTO DARKER/FAX PHOTO LIGHTER	0 to 6/0 to 6	3/3
Display	Description																																				
MIXED	Density in text and photo mode																																				
TEXT	Density in text mode																																				
PHOTO	Density in photo mode																																				
FAX TEXT	Density in the text in fax mode																																				
FAX PHOTO	Density in the photo in fax mode																																				
Display	Description																																				
DARKER	Change in density when manual density is set dark																																				
LIGHTER	Change in density when manual density is set light																																				
Display	Setting range	Initial setting																																			
MIXED DARKER/MIXED LIGHTER	0 to 3/0 to 3	0/0																																			
TEXT DARKER/TEXT LIGHTER	0 to 3/0 to 3	0/0																																			
PHOTO DARKER/PHOTO LIGHTER	0 to 3/0 to 3	0/0																																			
FAX TEXT DARKER/FAX TEXT LIGHTER	0 to 4/0 to 9	2/2																																			
FAX PHOTO DARKER/FAX PHOTO LIGHTER	0 to 6/0 to 6	3/3																																			

Maintenance item No.

U099

Description

Checking and setting the original size detection sensor

Description

Checks the operation of the original size detection sensor and sets the sensing threshold value.

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.

Start

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.

Display	Description
DATA	Displaying detection sensor transmission data
B/W LEVEL	Setting detection sensor threshold value
	Setting original size judgement time

Method to display the data for the sensor

1. Press the start key. The detection sensor transmission data is displayed.

Rear of machine

: 123 123 123

Center of machine

: 123 123 123

Front of machine

: 255 255 255

Figure 1-4-6

2. To return to the screen for selecting an item, press the stop/clear key.

Setting

1. Select an item to be set.

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)	0 to 350	—
SIZE	Detected original size display	0 to 63	—

* Time from activation of the original detection switch (ODSW) to original size judgment

Method to set the detection threshold value

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.

Method to set the original size judgment time

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.

Completion

Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.

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Maintenance item No.	Description																				
U100	<p>Checking the operation of main high voltage</p> <p>Description Performs main charging.</p> <p>Purpose To check main charging.</p> <p>Start Press the start key. The screen for selecting an item is displayed.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>MC ON</td><td>Turning the main charger on</td></tr><tr><td>ON TIME(SEC)</td><td>Turning the main charger on and the laser scanner unit on and off</td></tr></table> <p>Method</p> <ol style="list-style-type: none">1. Select the item to be operated.2. Press the start key. The selected operation starts.3. To stop operation, press the stop/clear key. <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	MC ON	Turning the main charger on	ON TIME(SEC)	Turning the main charger on and the laser scanner unit on and off														
Display	Description																				
MC ON	Turning the main charger on																				
ON TIME(SEC)	Turning the main charger on and the laser scanner unit on and off																				
U101	<p>Setting high voltages</p> <p>Description Changes the developing bias voltage and transfer voltage by changing the developing bias control voltage and transfer control voltage.</p> <p>Purpose To check the developing bias and the transfer voltage or to take measures against drop of image density or background fog.</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 item to be set. The selected item is displayed in reverse.2. Change the setting using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>DEV BIAS</td><td>Developing bias AC component frequency at image formation</td><td>-255 to 255</td><td>0</td></tr><tr><td>DEV DUTY</td><td>Developing bias AC component duty at image formation</td><td>-100 to 100</td><td>0</td></tr><tr><td>DEV SBIAS</td><td>Developing shift bias potential at image formation</td><td>-1 to 1</td><td>0</td></tr><tr><td>TC DATA</td><td>Transfer control voltage</td><td>0 to 255</td><td>120</td></tr></table> <p>Increasing the DEV BIAS setting makes the image lighter; decreasing it makes the image darker. Increasing the DEV DUTY setting makes the image lighter; decreasing it makes the image darker. Increasing the DEV SBIAS setting makes the image darker; decreasing it makes the image lighter. Increasing the TC DATA setting makes the transfer voltage higher, and decreasing it makes the voltage lower.</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. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	DEV BIAS	Developing bias AC component frequency at image formation	-255 to 255	0	DEV DUTY	Developing bias AC component duty at image formation	-100 to 100	0	DEV SBIAS	Developing shift bias potential at image formation	-1 to 1	0	TC DATA	Transfer control voltage	0 to 255	120
Display	Description	Setting range	Initial setting																		
DEV BIAS	Developing bias AC component frequency at image formation	-255 to 255	0																		
DEV DUTY	Developing bias AC component duty at image formation	-100 to 100	0																		
DEV SBIAS	Developing shift bias potential at image formation	-1 to 1	0																		
TC DATA	Transfer control voltage	0 to 255	120																		

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Maintenance item No.	Description												
U109	<p>Drum type display</p> <p>Description Displays the drum surface potential set as EEPROM of the drum unit.</p> <p>Purpose To check the drum surface potential.</p> <p>Method Press the start key. * Drum surface potential (V) is displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
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 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> <p>Setting 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> <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>												
U112	<p>Setting toner refresh operation</p> <p>Description Sets the drum refresh operation time and the developing bias on time at power on and after copying.</p> <p>Purpose To change the drum refresh operation time and the developing bias on time at power on and after copying if image flow level is low.</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting 1. Select the item to be set. The selected item is displayed in reverse. 2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>ON TIME(SEC)</td><td>Toner refresh operation time</td><td>50 to 150 (sec)</td><td>120</td></tr><tr><td>BIAS TIME(MSEC)</td><td>Developing bias on time</td><td>500 to 1000 (msec)</td><td>700</td></tr></table> <p>3. Press the start key. The value is set.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	ON TIME(SEC)	Toner refresh operation time	50 to 150 (sec)	120	BIAS TIME(MSEC)	Developing bias on time	500 to 1000 (msec)	700
Display	Description	Setting range	Initial setting										
ON TIME(SEC)	Toner refresh operation time	50 to 150 (sec)	120										
BIAS TIME(MSEC)	Developing bias on time	500 to 1000 (msec)	700										

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Maintenance item No.	Description								
U113	<p>Performing drum refresh operation</p> <p>Description Executes drum refresh operation.</p> <p>Purpose To operate when image flow occurs.</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. Drum refresh operation starts. (approximately 3 minutes) 3. To stop the 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>								
U130	<p>Initial setting for the developer</p> <p>Description Replenishes toner to the developer unit to a certain level from the toner container that has been installed.</p> <p>Purpose To operate when installing the machine or replacing the developing unit.</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 time that elapses until initialization is complete and whether or not toner remains in the developing unit (0: No, 1: Yes) are displayed. <p>Supplement The following data is also renewed or cleared by performing this maintenance item:</p> <ul style="list-style-type: none"> • 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>								
U144	<p>Setting toner loading operation</p> <p>Description Sets toner loading operation after completion of copying.</p> <p>Purpose To set whether or not toner is loaded on the drum after low density copying. Normally no change is necessary from the initial setting.</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. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>MODE0</td><td>Toner not loaded</td></tr> <tr> <td>MODE1</td><td>Toner not loaded</td></tr> <tr> <td>MODE2</td><td>Toner loaded</td></tr> </tbody> </table> <p>Initial setting: MODE2</p> <ol style="list-style-type: none"> 3. 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	MODE0	Toner not loaded	MODE1	Toner not loaded	MODE2	Toner loaded
Display	Description								
MODE0	Toner not loaded								
MODE1	Toner not loaded								
MODE2	Toner loaded								

Maintenance item No.	Description												
U150	<p>Checking sensors and switches for toner</p> <p>Description Displays the on-off status of each sensor or switch related to toner.</p> <p>Purpose To check if the sensors and switches 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. <p>When the on-status of a switch is detected, that switch is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th><th>Switches</th></tr> </thead> <tbody> <tr> <td>DEVELOPER SENSOR</td><td>Toner sensor (TNS)</td></tr> <tr> <td>CONTAINER SET</td><td>Toner container detection switch (TCDSW)</td></tr> <tr> <td>CONTAINER SENSOR</td><td>Toner container sensor (TCS)</td></tr> <tr> <td>DISPOSAL TANK SET</td><td>Toner disposal tank detection switch (TDDSW)</td></tr> <tr> <td>DISPOSAL TANK SENSOR</td><td>Overflow sensor (OFS)</td></tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	DEVELOPER SENSOR	Toner sensor (TNS)	CONTAINER SET	Toner container detection switch (TCDSW)	CONTAINER SENSOR	Toner container sensor (TCS)	DISPOSAL TANK SET	Toner disposal tank detection switch (TDDSW)	DISPOSAL TANK SENSOR	Overflow sensor (OFS)
Display	Switches												
DEVELOPER SENSOR	Toner sensor (TNS)												
CONTAINER SET	Toner container detection switch (TCDSW)												
CONTAINER SENSOR	Toner container sensor (TCS)												
DISPOSAL TANK SET	Toner disposal tank detection switch (TDDSW)												
DISPOSAL TANK SENSOR	Overflow sensor (OFS)												
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 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 time is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion To exit this maintenance item without changing the time, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												

Maintenance item No.	Description																										
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 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> <p>Setting 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> <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>																										
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 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The screen for executing each item is displayed.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>CONTROL TEMP</td><td>Sets the fixing control temperature.</td></tr><tr><td>CORRECT TEMP</td><td>Sets the fixing correct temperature.</td></tr></table> <p>Setting the fixing control temperature 1. Select the item to be set. The selecting item is displayed in reverse. 2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>CONT TEMP</td><td>Control temperature during copying</td><td>100 to 200 (°C)</td><td>165</td></tr><tr><td>1ST TEMP</td><td>Primary stabilization fixing temperature</td><td>80 to 200 (°C)</td><td>110</td></tr><tr><td>2ND TEMP</td><td>Secondary stabilization fixing temperature</td><td>100 to 200 (°C)</td><td>165</td></tr><tr><td>MH OFF TIME(S)</td><td>OFF time of fixing heater M</td><td>5 to 20</td><td>12</td></tr></table> <p>The respective temperatures are to be set such that 2ND TEMP ≥ 1ST TEMP. If fixing offset occurs due to excessive fixing temperature, you can increase the preset value of MH OFF TIME(S) to increase the OFF time of fixing heater M to solve this problem.</p> <p>3. Press the start key. The value is set.</p>	Display	Description	CONTROL TEMP	Sets the fixing control temperature.	CORRECT TEMP	Sets the fixing correct temperature.	Display	Description	Setting range	Initial setting	CONT TEMP	Control temperature during copying	100 to 200 (°C)	165	1ST TEMP	Primary stabilization fixing temperature	80 to 200 (°C)	110	2ND TEMP	Secondary stabilization fixing temperature	100 to 200 (°C)	165	MH OFF TIME(S)	OFF time of fixing heater M	5 to 20	12
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MH OFF TIME(S)	OFF time of fixing heater M	5 to 20	12																								

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Maintenance item No.	Description			
U161	Setting the fixing correct temperature			
	1. Select the item to be set. The selecting item is displayed in reverse.			
	2. Change the setting using the cursor up/down keys.			
	Display	Description	Setting range	Initial setting
	COPY UP TEMP(L)	Fixing correct temperature for large size copying	-30 to +30 (°C)	5
	COPY UP TEMP(M)	Fixing correct temperature for middle size copying	-30 to +30 (°C)	2
	COPY UP TEMP(S)	Fixing correct temperature for small size copying	-30 to +30 (°C)	0
	L/L UP TEMP	Fixing temperature increase amount at low temperature and low humidity	0 to +20 (°C)	5
	H/H DOWN TEMP	Fixing temperature decrease amount at high temperature and high humidity	0 to +20 (°C)	5
	DUP DOWN TEMP	Fixing temperature decrease amount for duplex copying	0 to +20 (°C)	5
3. Press the start key. The value is set.				
Interrupt copy mode				
While this maintenance item is being performed, copying from an original can be made in interrupt copy mode.				
Completion				
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.				
U162	Stabilizing fixing forcibly			
	Description			
	Stops the stabilization fixing drive forcibly, regardless of fixing temperature.			
	Purpose			
	To forcibly stabilize the machine before the fixing section reaches stabilization temperature.			
	Method			
	1. Press the start key. The screen for executing is displayed.			
	2. 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.			
	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.				
U163	Resetting the fixing problem data			
	Description			
	Resets the detection of a service call code indicating a problem in the fixing section.			
	Purpose			
	To prevent accidents due to an abnormally high fixing temperature.			
	Method			
	1. Press the start key. The screen for executing is displayed.			
	2. Press CANCEL on the touch panel.			
	3. Press the start key. The fixing problem data is initialized.			
	Completion			
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.				

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Maintenance item No.	Description								
U165	<p>Checking/clearing fixing counts</p> <p>Description Displays or clears fixing counts.</p> <p>Purpose To check fixing counts after replacing the fixing unit.</p> <p>Method Press the start key. The fixing counts are 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 four-digit value 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 current value, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
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. The selected heater turns on for 3 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 (FH-M)</td></tr> <tr> <td>SUB</td><td>Fixing heater S (FH-S)</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 (FH-M)	SUB	Fixing heater S (FH-S)		
Display	Description								
MAIN	Fixing heater M (FH-M)								
SUB	Fixing heater S (FH-S)								
U199	<p>Checking the fixing temperature</p> <p>Description Displays the fixing temperature, the ambient temperature and the absolute humidity.</p> <p>Purpose To check the fixing temperature, the ambient temperature and the absolute humidity.</p> <p>Method Press the start key. The fixing temperature and ambient temperature are displayed in centigrade (°C) and the absolute humidity is displayed in percentage (%).</p> <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>FIX TEMP</td><td>Fixing temperature (°C)</td></tr> <tr> <td>SURROUND TEMP</td><td>Ambient temperature (°C)</td></tr> <tr> <td>HUMIDITY</td><td>Absolute humidity (%)</td></tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	FIX TEMP	Fixing temperature (°C)	SURROUND TEMP	Ambient temperature (°C)	HUMIDITY	Absolute humidity (%)
Display	Description								
FIX TEMP	Fixing temperature (°C)								
SURROUND TEMP	Ambient temperature (°C)								
HUMIDITY	Absolute humidity (%)								

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 optional 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.4. Select the magnification using the cursor up/down keys. <table><tr><th>Display</th><th>Operation</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>ADF</td><td>With paper, single-sided original</td><td>50 to 200 (%)</td><td>100</td></tr><tr><td>RADF</td><td>With paper, double-sided original</td><td>50 to 200 (%)</td><td>100</td></tr><tr><td>ADF (NON-P)</td><td>Without paper, single-sided original (continuous operation)</td><td>50 to 200 (%)</td><td>100</td></tr><tr><td>RADF (NON-P)</td><td>Without paper, double-sided original (continuous operation)</td><td>50 to 200 (%)</td><td>100</td></tr></table> <ol style="list-style-type: none">5. Press the start key. The operation starts for the selected magnification.6. 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	Setting range	Initial setting	ADF	With paper, single-sided original	50 to 200 (%)	100	RADF	With paper, double-sided original	50 to 200 (%)	100	ADF (NON-P)	Without paper, single-sided original (continuous operation)	50 to 200 (%)	100	RADF (NON-P)	Without paper, double-sided original (continuous operation)	50 to 200 (%)	100
Display	Operation	Setting range	Initial setting																		
ADF	With paper, single-sided original	50 to 200 (%)	100																		
RADF	With paper, double-sided original	50 to 200 (%)	100																		
ADF (NON-P)	Without paper, single-sided original (continuous operation)	50 to 200 (%)	100																		
RADF (NON-P)	Without paper, double-sided original (continuous operation)	50 to 200 (%)	100																		
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><tr><th>Display</th><th>Description</th></tr><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></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																				

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Maintenance item No.	Description						
U206	Setting the presence or absence of the coin vender 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.						
U207	Checking the operation panel keys Description Checks operation of the operation panel keys. Purpose To check operation of all the keys and LEDs on the operation panel. Method <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. Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.						
U208	Setting the paper size for the large paper deck Description Sets the size of paper used in the optional large paper deck. Note that the setting cannot be changed on inch-specification machines since the paper size for the large paper deck is fixed. Purpose To change the setting when the size of paper used in the large paper deck is changed. Method Press the start key. The screen for selecting an item is displayed. Setting <ol style="list-style-type: none"> 1. Select the paper size (A4 or B5). The selected item is displayed in reverse. Initial setting: A4 2. Press the start key. The setting is set. Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.						
U211	Setting DF type Description Sets the optional DF type (STDF or SRDF). (For 25 cpm copier only) Purpose To set DF type when installing. Method Press the start key. The screen for selecting an item is displayed. Setting <ol style="list-style-type: none"> 1. Select DF type. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>SADF</td><td>Single-sided (STDF)</td></tr> <tr> <td>SRADF</td><td>Double-sided (SRDF)</td></tr> </tbody> </table> 2. Press the start key. The type is set. Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.	Display	Description	SADF	Single-sided (STDF)	SRADF	Double-sided (SRDF)
Display	Description						
SADF	Single-sided (STDF)						
SRADF	Double-sided (SRDF)						

Maintenance item No.	Description						
U217	<p>Setting 8¹/₂" × 13" paper</p> <p>Description Turn on the setting when using 8¹/₂" × 13" paper.</p> <p>Purpose To change the setting as needed.</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"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>ON</td><td>8¹/₂" × 13" paper is used.</td></tr> <tr> <td>OFF</td><td>8¹/₂" × 13" paper is not used.</td></tr> </table> <p>2. Press the start key. The value is set. 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	8 ¹ / ₂ " × 13" paper is used.	OFF	8 ¹ / ₂ " × 13" paper is not used.
Display	Description						
ON	8 ¹ / ₂ " × 13" paper is used.						
OFF	8 ¹ / ₂ " × 13" paper is not used.						
U236	<p>Setting the limit for the ejection section of the built-in finisher</p> <p>Description If the machine is equipped with an optional built-in finisher, this mode sets whether A5/5¹/₂ × 8¹/₂ size paper is output to the machine internal tray or not.</p> <p>Purpose If the machine is equipped with an optional built-in finisher and if paper jams occur due to curling of paper in the built-in ejection section when two-sided copying onto A5/5¹/₂ × 8¹/₂ size paper is performed, this mode is used to change the setting to ON to disable ejection to the machine internal tray.</p> <p>Method Press the start key. The screen for executing is displayed.</p> <p>Setting 1. Select ON or OFF. The selected item is displayed in reverse.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>ON</td><td>Does not eject to the machine internal tray.</td></tr> <tr> <td>OFF</td><td>Eject to the machine internal tray.</td></tr> </table> <p>Initial setting: OFF</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	ON	Does not eject to the machine internal tray.	OFF	Eject to the machine internal tray.
Display	Description						
ON	Does not eject to the machine internal tray.						
OFF	Eject to the machine internal tray.						




























Maintenance item No.	Description																		
U237	<p>Setting finisher stack quantity</p> <p>Description Sets the number of sheets of each stack on the main tray and on the intermediate tray in the optional finisher.</p> <p>Purpose To change the setting when a stack malfunction has occurred.</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 set. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>MAIN TRAY</td><td>Number of sheets of stack on the main tray</td></tr> <tr> <td>MIDDLE TRAY</td><td>Number of sheets of stack on the intermediate tray for sort copying or staple copying</td></tr> </tbody> </table> <p>Setting the number of sheets of stack on the main tray</p> <ol style="list-style-type: none"> 1. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Setting</th><th>Description</th></tr> </thead> <tbody> <tr> <td>0</td><td>3000-sheet finisher: 3000 sheets, built-in finisher: 500 sheets</td></tr> <tr> <td>1</td><td>3000-sheet finisher: 1500 sheets, built-in finisher: 250 sheets</td></tr> </tbody> </table> <p>Initial setting: 0</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set. <p>Setting the number of sheets of stack on the intermediate tray for sort copying or staple copying</p> <ol style="list-style-type: none"> 1. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Setting</th><th>Description</th></tr> </thead> <tbody> <tr> <td>0</td><td>For sort copying: 30 sheets, for staple copying: 50 sheets</td></tr> <tr> <td>1</td><td>For sort copying: 30 sheets, for staple copying: 30 sheets</td></tr> </tbody> </table> <p>Initial setting: 0</p> <ol style="list-style-type: none"> 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>	Display	Description	MAIN TRAY	Number of sheets of stack on the main tray	MIDDLE TRAY	Number of sheets of stack on the intermediate tray for sort copying or staple copying	Setting	Description	0	3000-sheet finisher: 3000 sheets, built-in finisher: 500 sheets	1	3000-sheet finisher: 1500 sheets, built-in finisher: 250 sheets	Setting	Description	0	For sort copying: 30 sheets, for staple copying: 50 sheets	1	For sort copying: 30 sheets, for staple copying: 30 sheets
Display	Description																		
MAIN TRAY	Number of sheets of stack on the main tray																		
MIDDLE TRAY	Number of sheets of stack on the intermediate tray for sort copying or staple copying																		
Setting	Description																		
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Setting	Description																		
0	For sort copying: 30 sheets, for staple copying: 50 sheets																		
1	For sort copying: 30 sheets, for staple copying: 30 sheets																		

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Maintenance item No.	Description																								
U243	<p>Checking the operation of the DF motors, solenoids and clutch</p> <p>Description Turns the motors, solenoids or clutch in the optional 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><tr><th>Display</th><th>Motors, solenoids and clutch</th><th>Operation In operation</th></tr><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>On for 0.5 s</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></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)	On for 0.5 s	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
Display	Motors, solenoids and clutch	Operation In operation																							
F MOT	Original feed motor (OFM)	In operation																							
C MOT	Original paper conveying motor (OCM)	On for 0.5 s																							
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																							
U244	<p>Checking the DF switches</p> <p>Description Displays the status of the respective switches in the optional DF.</p> <p>Purpose To check if respective switches in the optional 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><tr><th>Display</th><th>Type of switches</th></tr><tr><td>SW</td><td>On/off switches</td></tr><tr><td>VR</td><td>Volume switch</td></tr></table> <p>Method for the on/off switches</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><tr><th>Display</th><th>Switches</th></tr><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></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)						
Display	Type of switches																								
SW	On/off switches																								
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SET SW	Original set switch (OSSW)																								
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TMG SW	DF timing switch (DFTSW)																								
SZ A SW	Original size length switch (OSLSW)																								

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Maintenance item No.	Description																														
U244	<p>Method for the volume switch</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><thead><tr><th>Numerical value</th><th colspan="2">Original width to be detected</th></tr></thead><tbody><tr><td>000</td><td rowspan="4"></td><td rowspan="2"></td></tr><tr><td>49.664</td></tr><tr><td>50.176</td><td rowspan="7"></td></tr><tr><td>61.440</td></tr><tr><td>61.952</td><td rowspan="2"></td></tr><tr><td>103.936</td></tr><tr><td>104.448</td><td rowspan="2"></td></tr><tr><td>139.264</td></tr><tr><td>139.776</td><td rowspan="4"></td></tr><tr><td>146.432</td></tr><tr><td>146.994</td></tr><tr><td>197.120</td></tr><tr><td>197.632</td><td rowspan="4"></td><td rowspan="4"></td></tr><tr><td>197.720</td></tr><tr><td>223.232</td></tr><tr><td>256</td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	Numerical value	Original width to be detected		000			49.664	50.176		61.440	61.952		103.936	104.448		139.264	139.776		146.432	146.994	197.120	197.632			197.720	223.232	256			
Numerical value	Original width to be detected																														
000																															
49.664																															
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139.264																															
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146.432																															
146.994																															
197.120																															
197.632																															
197.720																															
223.232																															
256																															
																															

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.

2. To return to the screen for selecting an item, press the stop/clear key.

Completion



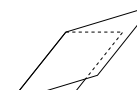





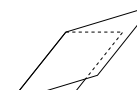





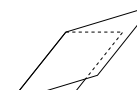



Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

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Maintenance item No.	Description																																		
U245	<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>																																		
U246	<p>Setting the finisher</p> <p>Description Adjusts various items if the machine is equipped with an optional finisher. 3000-sheet finisher: Adjusts the amount of slack in the paper in punch mode. Booklet stitcher: Adjusts the booklet stapling position for each paper size. Built-in finisher: Adjusts the side registration cursor stop position in the staple sort mode.</p> <p>Purpose Adjusts the amount of slack in the paper while in the punch section if, in punch mode, paper jams or is Z-folded frequently due to too much slack in the paper, or, the position of punch holes varies due to too little slack in the paper. Adjusts the booklet stapling position in the stitching mode if the position is not proper. To adjust when registration is not proper or staple position is shifted in the staple sort mode.</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 item to be set and press the start key. The screen for executing each item is displayed. <table><tr><th>Display</th><th>Description</th></tr><tr><td>3000 FINISHER</td><td>Adjustment of the amount of slack in the paper in punch mode</td></tr><tr><td>SADDLE FINISHER</td><td>Adjustment of the booklet stapling position</td></tr><tr><td>INNER FINISHER</td><td>Side registration cursor stop position</td></tr></table> <p>Setting the amount of slack in the paper</p> <ol style="list-style-type: none">1. Change the setting using the cursor up/down keys. <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Amount of slack in the paper</td><td>-15 to +15</td><td>0</td></tr></table> <p>If the position of punch holes varies, increase the setting to make the amount of slack larger. If paper jams or is Z-folded frequently, decrease the setting to make the amount of slack smaller.</p> <ol style="list-style-type: none">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>Setting the booklet stapling position</p> <ol style="list-style-type: none">1. Select the size to be set. The selected item is displayed in reverse.2. Change the setting using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>A4R/LTR</td><td>Adjustment of booklet stapling position for A4R/LTR size</td><td>-125 to +125</td><td>0</td><td>0.25 mm</td></tr><tr><td>B4R</td><td>Adjustment of booklet stapling position for B4R size</td><td>-125 to +125</td><td>0</td><td>0.25 mm</td></tr><tr><td>A3R/LDR</td><td>Adjustment of booklet stapling position for A3R/LDR size</td><td>-125 to +125</td><td>0</td><td>0.25 mm</td></tr></table>	Display	Description	3000 FINISHER	Adjustment of the amount of slack in the paper in punch mode	SADDLE FINISHER	Adjustment of the booklet stapling position	INNER FINISHER	Side registration cursor stop position	Description	Setting range	Initial setting	Amount of slack in the paper	-15 to +15	0	Display	Description	Setting range	Initial setting	Change in value per step	A4R/LTR	Adjustment of booklet stapling position for A4R/LTR size	-125 to +125	0	0.25 mm	B4R	Adjustment of booklet stapling position for B4R size	-125 to +125	0	0.25 mm	A3R/LDR	Adjustment of booklet stapling position for A3R/LDR size	-125 to +125	0	0.25 mm
Display	Description																																		
3000 FINISHER	Adjustment of the amount of slack in the paper in punch mode																																		
SADDLE FINISHER	Adjustment of the booklet stapling position																																		
INNER FINISHER	Side registration cursor stop position																																		
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Display	Description	Setting range	Initial setting	Change in value per step																															
A4R/LTR	Adjustment of booklet stapling position for A4R/LTR size	-125 to +125	0	0.25 mm																															
B4R	Adjustment of booklet stapling position for B4R size	-125 to +125	0	0.25 mm																															
A3R/LDR	Adjustment of booklet stapling position for A3R/LDR size	-125 to +125	0	0.25 mm																															

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Maintenance item No.	Description																												
U246	<table><tr><th>Left stapling</th><th>Right stapling</th><th>Adjustment method</th></tr><tr><td></td><td></td><td>Proper</td></tr><tr><td> Upper side is longer.</td><td> Lower side is longer.</td><td>Decrease the preset value.</td></tr><tr><td> Lower side is longer.</td><td> Upper side is longer.</td><td>Increase the preset value.</td></tr></table> <p>3. Press the start key. The value is set.</p> <p>4. To return to the screen for selecting an item, press the stop/clear key.</p> <p>Setting the side registration cursor stop position</p> <p>1. Select the desired cursor position. The selected item is displayed in reverse.</p> <p>2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>FRONT</td><td>Front side registration cursor stop position</td><td>-4 to +4</td><td>0</td></tr><tr><td>REAR</td><td>Rear side registration cursor stop position</td><td>-4 to +4</td><td>0</td></tr><tr><td>END</td><td>Trailing edge registration cursor stop position</td><td>-4 to +4</td><td>0</td></tr></table> <p>3. Press the start key. The value is set.</p> <p>4. To return to the screen for selecting an item, press the stop/clear key.</p> <p>Completion</p> <p>Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Left stapling	Right stapling	Adjustment method			Proper	 Upper side is longer.	 Lower side is longer.	Decrease the preset value.	 Lower side is longer.	 Upper side is longer.	Increase the preset value.	Display	Description	Setting range	Initial setting	FRONT	Front side registration cursor stop position	-4 to +4	0	REAR	Rear side registration cursor stop position	-4 to +4	0	END	Trailing edge registration cursor stop position	-4 to +4	0
Left stapling	Right stapling	Adjustment method																											
		Proper																											
 Upper side is longer.	 Lower side is longer.	Decrease the preset value.																											
 Lower side is longer.	 Upper side is longer.	Increase the preset value.																											
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FRONT	Front side registration cursor stop position	-4 to +4	0																										
REAR	Rear side registration cursor stop position	-4 to +4	0																										
END	Trailing edge registration cursor stop position	-4 to +4	0																										

Maintenance item No.	Description																																		
U247	<p>Checking the operation of large paper deck and paper feed desk</p> <p>Description Turns on motors and clutches of optional large paper deck or paper feed desk.</p> <p>Purpose To check the operation of motors and clutches of paper feed device.</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 device to be checked. <table><tr><th>Display</th><th>Paper feed device</th></tr><tr><td>3000 DECK 500 × 2 DECK</td><td>Large paer deck Paper feed desk</td></tr></table> <p>Method</p> <ol style="list-style-type: none">1. Select the item to be operated. The selected item is displayed in reverse and operation starts. <p>Large paper deck</p> <table><tr><th>Display</th><th>Motors and clutches</th><th>Operation</th></tr><tr><td>LCF MOT</td><td>Conveying motor (CM)</td><td>On for 5 s</td></tr><tr><td>B CL</td><td>Conveying clutch (CCL)</td><td>On for 1 s</td></tr><tr><td>PCL1</td><td>Paper feed clutch 1 (PFCL1)</td><td>On for 1 s</td></tr><tr><td>PCL2</td><td>Paper feed clutch 2 (PFCL2)</td><td>On for 1 s</td></tr></table> <p>Paper feed desk</p> <table><tr><th>Display</th><th>Motors and clutches</th><th>Operation</th></tr><tr><td>DESK MOT</td><td>Desk Drive motor (DDM)</td><td>On for 5 s</td></tr><tr><td>FEED CL</td><td>Desk feed clutch (DFCL)</td><td>On for 1 s</td></tr><tr><td>UPP CL</td><td>Desk upper paper feed clutch (DPFCL-U)</td><td>On for 1 s</td></tr><tr><td>LOW CL</td><td>Desk lower paper feed clutch (DPFCL-L)</td><td>On for 1 s</td></tr></table> <ol style="list-style-type: none">2. 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	Paper feed device	3000 DECK 500 × 2 DECK	Large paer deck Paper feed desk	Display	Motors and clutches	Operation	LCF MOT	Conveying motor (CM)	On for 5 s	B CL	Conveying clutch (CCL)	On for 1 s	PCL1	Paper feed clutch 1 (PFCL1)	On for 1 s	PCL2	Paper feed clutch 2 (PFCL2)	On for 1 s	Display	Motors and clutches	Operation	DESK MOT	Desk Drive motor (DDM)	On for 5 s	FEED CL	Desk feed clutch (DFCL)	On for 1 s	UPP CL	Desk upper paper feed clutch (DPFCL-U)	On for 1 s	LOW CL	Desk lower paper feed clutch (DPFCL-L)	On for 1 s
Display	Paper feed device																																		
3000 DECK 500 × 2 DECK	Large paer deck Paper feed desk																																		
Display	Motors and clutches	Operation																																	
LCF MOT	Conveying motor (CM)	On for 5 s																																	
B CL	Conveying clutch (CCL)	On for 1 s																																	
PCL1	Paper feed clutch 1 (PFCL1)	On for 1 s																																	
PCL2	Paper feed clutch 2 (PFCL2)	On for 1 s																																	
Display	Motors and clutches	Operation																																	
DESK MOT	Desk Drive motor (DDM)	On for 5 s																																	
FEED CL	Desk feed clutch (DFCL)	On for 1 s																																	
UPP CL	Desk upper paper feed clutch (DPFCL-U)	On for 1 s																																	
LOW CL	Desk lower paper feed clutch (DPFCL-L)	On for 1 s																																	

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Maintenance item No.	Description								
U249	<p>Checking the paper ejection to optional devices</p> <p>Description Ejects paper to an optional mailbox or job separator, or to the ejection slot at the machine left.</p> <p>Purpose To check paper conveying operation to optional paper eject devices or the ejection slot at the machine left.</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 eject location. <table><tr><th>Display</th><th>Paper eject device</th></tr><tr><td>MAIL</td><td>BOX Mailbox</td></tr><tr><td>JOB SEPARATOR</td><td>Job separator</td></tr><tr><td>LEFT BIN OUTPUT</td><td>Ejection slot at the machine left (finisher not installed)</td></tr></table> <ol style="list-style-type: none">3. When selecting the mailbox, specify the mail tray number (1 to 7) to which paper is to be ejected by using the cursor up/down keys. If 0 is selected, paper is ejected to the mail trays in ascending order from mail tray 1 to mail tray 7 repeatedly. <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. The screen for selecting a maintenance item No. is displayed.</p>	Display	Paper eject device	MAIL	BOX Mailbox	JOB SEPARATOR	Job separator	LEFT BIN OUTPUT	Ejection slot at the machine left (finisher not installed)
Display	Paper eject device								
MAIL	BOX Mailbox								
JOB SEPARATOR	Job separator								
LEFT BIN OUTPUT	Ejection slot at the machine left (finisher not installed)								
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 as follows:</p> <p>Setting</p> <ol style="list-style-type: none">1. Change the setting using the numeric keys. <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Maintenance cycle</td><td>0 to 600000</td><td>500000 (35/40 cpm) 400000 (25 cpm)</td></tr></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 (35/40 cpm) 400000 (25 cpm)		
Description	Setting range	Initial setting							
Maintenance cycle	0 to 600000	500000 (35/40 cpm) 400000 (25 cpm)							

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Maintenance item No.	Description																									
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>																									
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">1. Select the destination. The selected item is displayed in reverse. <table><tr><th>Display</th><th>Description</th></tr><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></table> <ol style="list-style-type: none">2. 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 count, 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><tr><th>Maintenance item No.</th><th>Title</th><th>Japan</th><th>Inch</th><th>Europe Metric, Asia Pacific</th></tr><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></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																						

Maintenance item No.	Description						
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 A3/11" × 17" 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 1. Select double or single count. The selected item is displayed in reverse.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>DOUBLE COUNT</td><td>Double count for A3/11" × 17" paper only</td></tr> <tr> <td>SINGLE COUNT</td><td>Single count for all size paper</td></tr> </table> <p>Initial setting: DOUBLE COUNT</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	DOUBLE COUNT	Double count for A3/11" × 17" paper only	SINGLE COUNT	Single count for all size paper
Display	Description						
DOUBLE COUNT	Double count for A3/11" × 17" paper only						
SINGLE COUNT	Single count for all size paper						
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"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>ON</td><td>Auto start function on</td></tr> <tr> <td>OFF</td><td>Auto start function off</td></tr> </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						

Maintenance item No.	Description						
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><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Auto clear time</td><td>0 to 270</td><td>90</td></tr></table> <p>The setting can be changed by 30 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	0 to 270	90
Description	Setting range	Initial setting					
Auto clear time	0 to 270	90					
U256	<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 1. Select ON or OFF. The selected item is displayed in reverse.</p> <table><tr><th>Display</th><th>Description</th></tr><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></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. When the setting is changed from OFF to ON, the auto preheat time is set to the initial setting of 15 minutes.</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 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						

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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>Method Press the start key. The current setting is displayed.</p> <p>Setting 1. Select single or continuous copying. The selected item is displayed in reverse.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>SINGLE</td><td>Enables only single copying.</td></tr><tr><td>CONTINUE</td><td>Enables single and continuous copying.</td></tr></table> <p>Initial setting: SINGLE</p> <p>2. Set the number of copies that can be made using the cursor up/down keys.</p> <table><tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>Number of copies after toner empty detection</td><td>5 to 200 (copies)</td><td>70</td></tr></table> <p>The setting can be changed by 5 copies per step. 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 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	Enables only single copying.	CONTINUE	Enables single and continuous copying.	Description	Setting range	Initial setting	Number of copies after toner empty detection	5 to 200 (copies)	70
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	5 to 200 (copies)	70											
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><tr><th>Display</th><th>Description</th></tr><tr><td>FEED</td><td>When secondary paper feed starts</td></tr><tr><td>EJECT</td><td>When the paper is ejected</td></tr></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												

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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 1. Press the start key. The screen for selecting an item is displayed. 2. Select the desired order.</p> <table><tr><th>Display</th><th>Setting</th></tr><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></table> <p>Initial setting: "MONTH-DATE-YEAR" (for the inch specifications) "DATE-MONTH-YEAR" (for the metric specifications)</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 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 1. Use the numeric keys or cursor up/down keys to adjust the preset value. 2. Press the start key. The count is set , and the screen for selecting a maintenance item 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 is displayed.</p>												
U274	<p>Setting the laser scanner unit type</p> <p>Description Sets the type of the laser scanner unit according to the label stuck on the laser scanner unit. Moreover, changes output power of the laser scanner unit.</p> <p>Purpose To set the type when the laser scanner unit control is changed. Also if reproducibility of half tone is not proper, this mode is used to increase the output power of the laser scanner unit to increase the density.</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. 2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>ADJUST DATA</td><td>Type of the laser scanner unit</td><td>0 to 3</td><td>2</td></tr><tr><td>LASER POWER</td><td>Laser scanner unit output power</td><td>0 to 1</td><td>0</td></tr></table> <p>The setting of LASER POWER is changed into 1 from 0, the output power of LSU is go up and half-tone is come to come out darkly.</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 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	ADJUST DATA	Type of the laser scanner unit	0 to 3	2	LASER POWER	Laser scanner unit output power	0 to 1	0
Display	Description	Setting range	Initial setting										
ADJUST DATA	Type of the laser scanner unit	0 to 3	2										
LASER POWER	Laser scanner unit output power	0 to 1	0										

Maintenance item No.	Description						
U329	<p>Default setting Auto rotation copy/Sort copy</p> <p>Description Sets the initial mode for the Auto rotation copy/Sort copy selected when auto clear is triggered or the reset key is pressed.</p> <p>Purpose To be set as required according to the user.</p> <p>Method 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set.</p> <p>Setting Auto rotation copy 1. Select ON or OFF. Initial setting: ON 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Setting Sort copy 1. Select ON or OFF. Initial setting: ON 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>						
U330	<p>Setting the number of sheets to enter stacking mode during sort operation</p> <p>Description When sort copying is set to perform automatically in the output form setting of the user simulation, sets the number of sheets at which the eject location is switched to the optional finisher (only when the finisher is installed).</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 1. Set the number of sheets (0 to 250) using the numeric keys or cursor up/down keys. 2. Press the start key. The setting is set. 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>						
U331	<p>Switching the finisher eject section</p> <p>Description Sets whether or not copies made by copying from the original table are ejected face up to the auxiliary tray of the optional 3000-sheet finisher or booklet stitcher.</p> <p>Purpose Select ON to eject copies to the auxiliary tray regardless of the ejection section priority.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select FACE UP ON or FACE UP 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>FACE UP ON</td><td>To eject copies to the auxiliary tray face up</td></tr> <tr> <td>FACE UP OFF</td><td>To eject copies to the eject section with the highest priority</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 is displayed.</p>	Display	Description	FACE UP ON	To eject copies to the auxiliary tray face up	FACE UP OFF	To eject copies to the eject section with the highest priority
Display	Description						
FACE UP ON	To eject copies to the auxiliary tray face up						
FACE UP OFF	To eject copies to the eject section with the highest priority						

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Maintenance item No.	Description																																																																																																
U332	<p>Setting the size conversion factor</p> <p>Description Sets the factor for converting each paper size into A4/11" × 8½". The black ratio is converted for the A4/11" × 8½" size using the factor set in this maintenance item. Values set are displayed in the user simulation.</p> <p>Purpose To set the factor to convert the black ratio of each paper size for A4/11" × 8½" size.</p> <p>Method 1. Press the start key. The screen for selecting an item is displayed. 2. Select the paper size. 3. Change the setting using the cursor up/down keys. The size conversion factor can be set separately for the copier mode (COPY), the printer mode (PRI) and the fax mode (FAX) at the screen for setting the size conversion factor.</p> <p>Metric models</p> <table><tr><th rowspan="2">Display</th><th rowspan="2">Description</th><th rowspan="2">Setting</th><th colspan="3">Initial setting</th></tr><tr><th>COPY</th><th>PRI</th><th>FAX</th></tr><tr><td>A3</td><td>Size conversion factor for A3</td><td>0.0 to 3.0</td><td>2.0</td><td>2.0</td><td>2.0</td></tr><tr><td>B4</td><td>Size conversion factor for B4</td><td>0.0 to 3.0</td><td>1.5</td><td>1.5</td><td>1.5</td></tr><tr><td>A4</td><td>Size conversion factor for A4</td><td>0.0 to 3.0</td><td>1.0</td><td>1.0</td><td>1.0</td></tr><tr><td>B5</td><td>Size conversion factor for B5</td><td>0.0 to 3.0</td><td>0.7</td><td>0.7</td><td>0.7</td></tr><tr><td>A5</td><td>Size conversion factor for A5</td><td>0.0 to 3.0</td><td>0.5</td><td>0.5</td><td>0.5</td></tr><tr><td>B6</td><td>Size conversion factor for B6</td><td>0.0 to 3.0</td><td>0.4</td><td>0.4</td><td>0.4</td></tr><tr><td>FOLIO</td><td>Size conversion factor for folio</td><td>0.0 to 3.0</td><td>0.3</td><td>0.3</td><td>0.3</td></tr><tr><td>OTHER</td><td>Size conversion factor for non-standard sizes</td><td>0.0 to 3.0</td><td>1.0</td><td>1.0</td><td>1.0</td></tr></table> <p>Inch models</p> <table><tr><th rowspan="2">Display</th><th rowspan="2">Description</th><th rowspan="2">Setting</th><th colspan="3">Initial setting</th></tr><tr><th>COPY</th><th>PRI</th><th>FAX</th></tr><tr><td>11 × 17</td><td>Size conversion factor for 11" × 17"</td><td>0.0 to 3.0</td><td>2.0</td><td>2.0</td><td>2.0</td></tr><tr><td>8.5 × 14</td><td>Size conversion factor for 8.5" × 14"</td><td>0.0 to 3.0</td><td>1.5</td><td>1.5</td><td>1.5</td></tr><tr><td>8.5 × 11</td><td>Size conversion factor for 8.5" × 11"</td><td>0.0 to 3.0</td><td>1.0</td><td>1.0</td><td>1.0</td></tr><tr><td>5.5 × 8.5</td><td>Size conversion factor for 5.5" × 8.5"</td><td>0.0 to 3.0</td><td>0.7</td><td>0.7</td><td>0.7</td></tr><tr><td>OTHER</td><td>Size conversion factor for non-standard sizes</td><td>0.0 to 3.0</td><td>0.5</td><td>0.5</td><td>0.5</td></tr></table> <p>4. Press the start key. The setting is set.</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 is displayed.</p>	Display	Description	Setting	Initial setting			COPY	PRI	FAX	A3	Size conversion factor for A3	0.0 to 3.0	2.0	2.0	2.0	B4	Size conversion factor for B4	0.0 to 3.0	1.5	1.5	1.5	A4	Size conversion factor for A4	0.0 to 3.0	1.0	1.0	1.0	B5	Size conversion factor for B5	0.0 to 3.0	0.7	0.7	0.7	A5	Size conversion factor for A5	0.0 to 3.0	0.5	0.5	0.5	B6	Size conversion factor for B6	0.0 to 3.0	0.4	0.4	0.4	FOLIO	Size conversion factor for folio	0.0 to 3.0	0.3	0.3	0.3	OTHER	Size conversion factor for non-standard sizes	0.0 to 3.0	1.0	1.0	1.0	Display	Description	Setting	Initial setting			COPY	PRI	FAX	11 × 17	Size conversion factor for 11" × 17"	0.0 to 3.0	2.0	2.0	2.0	8.5 × 14	Size conversion factor for 8.5" × 14"	0.0 to 3.0	1.5	1.5	1.5	8.5 × 11	Size conversion factor for 8.5" × 11"	0.0 to 3.0	1.0	1.0	1.0	5.5 × 8.5	Size conversion factor for 5.5" × 8.5"	0.0 to 3.0	0.7	0.7	0.7	OTHER	Size conversion factor for non-standard sizes	0.0 to 3.0	0.5	0.5	0.5
Display	Description				Setting	Initial setting																																																																																											
		COPY	PRI	FAX																																																																																													
A3	Size conversion factor for A3	0.0 to 3.0	2.0	2.0	2.0																																																																																												
B4	Size conversion factor for B4	0.0 to 3.0	1.5	1.5	1.5																																																																																												
A4	Size conversion factor for A4	0.0 to 3.0	1.0	1.0	1.0																																																																																												
B5	Size conversion factor for B5	0.0 to 3.0	0.7	0.7	0.7																																																																																												
A5	Size conversion factor for A5	0.0 to 3.0	0.5	0.5	0.5																																																																																												
B6	Size conversion factor for B6	0.0 to 3.0	0.4	0.4	0.4																																																																																												
FOLIO	Size conversion factor for folio	0.0 to 3.0	0.3	0.3	0.3																																																																																												
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8.5 × 11	Size conversion factor for 8.5" × 11"	0.0 to 3.0	1.0	1.0	1.0																																																																																												
5.5 × 8.5	Size conversion factor for 5.5" × 8.5"	0.0 to 3.0	0.7	0.7	0.7																																																																																												
OTHER	Size conversion factor for non-standard sizes	0.0 to 3.0	0.5	0.5	0.5																																																																																												
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 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.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>FIRST</td><td>Upper drawer</td></tr><tr><td>SECOND</td><td>Lower drawer</td></tr><tr><td>THIRD</td><td>Optional upper drawer</td></tr><tr><td>FOURTH</td><td>Optional lower drawer</td></tr><tr><td>LCF</td><td>Optional large paper deck</td></tr></table> <p>3. Press the start key. The setting is set.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>	Display	Description	FIRST	Upper drawer	SECOND	Lower drawer	THIRD	Optional upper drawer	FOURTH	Optional lower drawer	LCF	Optional large paper deck																																																																																				
Display	Description																																																																																																
FIRST	Upper drawer																																																																																																
SECOND	Lower drawer																																																																																																
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FOURTH	Optional lower drawer																																																																																																
LCF	Optional large paper deck																																																																																																

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Maintenance item No.	Description														
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 1. Press the start key. The screen for selecting an item is displayed. 2. Select ON or OFF.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <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> </table> <p>Details of restriction (number of sheets to be ejected continuously after the start key is pressed)</p> <table border="1"> <tr> <th>Condition</th><th>Number of sheets</th></tr> <tr> <td>When no optional ejection device is installed</td><td>250</td></tr> <tr> <td>When the job separator or duplex unit is installed</td><td>150</td></tr> <tr> <td>When the finisher is installed</td><td>100</td></tr> </table> <p>3. 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	ON	Sets restriction on the number of sheets	OFF	Cancels restriction on the number of sheets	Condition	Number of sheets	When no optional ejection device is installed	250	When the job separator or duplex unit is installed	150	When the finisher is installed	100
Display	Description														
ON	Sets restriction on the number of sheets														
OFF	Cancels restriction on the number of sheets														
Condition	Number of sheets														
When no optional ejection device is installed	250														
When the job separator or duplex unit is installed	150														
When the finisher is installed	100														
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"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>ON</td><td>Duplex copy</td></tr> <tr> <td>OFF</td><td>Simplex copy</td></tr> </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														

Maintenance item No.	Description								
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"> <tr> <th>Display</th><th>Control in preheat mode</th></tr> <tr> <td>INSTANT READY</td><td>Without decreasing the fixing control temperature, the display on the operation panel is turned off.</td></tr> <tr> <td>ENERGY STAR</td><td>The fixing control temperature is set at 130°C. The copier is forcibly stabilized 30 s after exiting preheat/energy saver mode.</td></tr> <tr> <td>E 2000</td><td>The fixing control temperature is decreased by 70°C.</td></tr> </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 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	Control in preheat mode	INSTANT READY	Without decreasing the fixing control temperature, the display on the operation panel is turned off.	ENERGY STAR	The fixing control temperature is set at 130°C. The copier is forcibly stabilized 30 s after exiting preheat/energy saver mode.	E 2000	The fixing control temperature is decreased by 70°C.
Display	Control in preheat mode								
INSTANT READY	Without decreasing the fixing control temperature, the display on the operation panel is turned off.								
ENERGY STAR	The fixing control temperature is set at 130°C. The copier is forcibly stabilized 30 s after exiting preheat/energy saver mode.								
E 2000	The fixing control temperature is decreased by 70°C.								
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>								
U346	<p>Setting the sleep mode operation</p> <p>Description If the machine is equipped with the facsimile feature, this mode sets whether or not the machine performs finisher initialization when the machine receives a facsimile with the main switch off.</p> <p>Purpose To disable finisher initialization, change the setting value to MODE1. If MODE1 is selected, however, even if the main switch is turned off, control in the sleep mode will be performed and the power supply PCB will not be turned off, resulting in increase of power consumption.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select MODE0 or MODE1. The selected item is displayed in reverse.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>MODE0</td><td>To enable finisher initialization</td></tr> <tr> <td>MODE1</td><td>To disable finisher initialization</td></tr> </table> <p>Initial setting: MODE0</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	MODE0	To enable finisher initialization	MODE1	To disable finisher initialization		
Display	Description								
MODE0	To enable finisher initialization								
MODE1	To disable finisher initialization								
U402	<p>Adjusting margins of image printing</p> <p>Adjustment See page 1-6-13.</p>								
U403	<p>Adjusting margins for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-31.</p>								

Maintenance item No.	Description																									
U404	<p>Adjusting margins for scanning an original from the DF</p> <p>Description Adjusts margins for scanning the original from the DF.</p> <p>Purpose Used if margins are not correct when the optional DF is used.</p> <p>Caution Before making this adjustment, ensure that the following adjustments have been made in maintenance mode. U402 → U403 → U404</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 item to be set. The selected item is displayed in reverse.2. Change the setting using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>A MARGIN</td><td>Left margin</td><td>0 to 10</td><td>2</td><td>0.5 mm</td></tr><tr><td>B MARGIN</td><td>Leading edge margin</td><td>0 to 10</td><td>3</td><td>0.5 mm</td></tr><tr><td>C MARGIN</td><td>Right margin</td><td>0 to 10</td><td>2</td><td>0.5 mm</td></tr><tr><td>D MARGIN</td><td>Trailing edge margin</td><td>0 to 10</td><td>2</td><td>0.5 mm</td></tr></table> <p>Increasing the setting makes the margin wider, and decreasing it makes the margin narrower.</p> <div><div>Ejection direction (reference)</div><div><div>DF left margin (2 ± 1.0 mm)</div><div>DF leading edge margin (3 ± 1.5 mm)</div><div>DF right margin (2 ± 1.0 mm)</div><div>DF trailing edge margin (2 ± 1.0 mm)</div></div></div> <p>Figure 1-4-7 Correct margin amount</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 selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	Change in value per step	A MARGIN	Left margin	0 to 10	2	0.5 mm	B MARGIN	Leading edge margin	0 to 10	3	0.5 mm	C MARGIN	Right margin	0 to 10	2	0.5 mm	D MARGIN	Trailing edge margin	0 to 10	2	0.5 mm
Display	Description	Setting range	Initial setting	Change in value per step																						
A MARGIN	Left margin	0 to 10	2	0.5 mm																						
B MARGIN	Leading edge margin	0 to 10	3	0.5 mm																						
C MARGIN	Right margin	0 to 10	2	0.5 mm																						
D MARGIN	Trailing edge margin	0 to 10	2	0.5 mm																						
U407	<p>Adjusting the leading edge registration for memory image printing</p> <p>Adjustment See page 1-6-11.</p>																									

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Maintenance item No.	Description										
U500	<p>Setting the limit on data size for email transmission</p> <p>Description Sets the limit on the amount of data (number of originals) sent via email from the optional network scanner.</p> <p>Purpose To change the setting according to the network environment.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the desired transmission capacity. The selected item is displayed in reverse.</p> <table border="1"> <thead> <tr> <th>Display</th><th>Setting</th></tr> </thead> <tbody> <tr> <td>LITTLE</td><td>512 K bytes</td></tr> <tr> <td>MEDIUM</td><td>51024 K bytes</td></tr> <tr> <td>LARGE</td><td>2048 K bytes</td></tr> <tr> <td>UNLIMITED</td><td>999 number-of-sheets restrictions</td></tr> </tbody> </table> <p>Initial setting: LITTLE</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>	Display	Setting	LITTLE	512 K bytes	MEDIUM	51024 K bytes	LARGE	2048 K bytes	UNLIMITED	999 number-of-sheets restrictions
Display	Setting										
LITTLE	512 K bytes										
MEDIUM	51024 K bytes										
LARGE	2048 K bytes										
UNLIMITED	999 number-of-sheets restrictions										
U501	<p>Setting image area</p> <p>Description Implements the command to cut the area around the image when sending image data to the optional network scanner.</p> <p>Purpose To disable image cut.</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>Setting</th></tr> </thead> <tbody> <tr> <td>ON</td><td>Cuts the image area (6.5 mm)</td></tr> <tr> <td>OFF</td><td>Does NOT cut the image area</td></tr> </tbody> </table> <p>Initial setting: ON</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>	Display	Setting	ON	Cuts the image area (6.5 mm)	OFF	Does NOT cut the image area				
Display	Setting										
ON	Cuts the image area (6.5 mm)										
OFF	Does NOT cut the image area										

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 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> <p>Completion 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 1. Select ON or OFF. The selected item is displayed in reverse.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>ON</td><td>Database linkage setting is enabled.</td></tr><tr><td>OFF</td><td>Database linkage setting is disabled.</td></tr></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	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.																				
U540	<p>Adjusting the auxiliary scanning magnification</p> <p>Description Changes the magnification ratio in the auxiliary scanning direction when an optional network scanner is used.</p> <p>Purpose When an optional network scanner is used, if stripes appear at regular intervals in the auxiliary scanning direction, this mode allows fine adjustment of the magnification ratio to suppress the stripes.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the resolution. The selected item is displayed in reverse. 2. Change the setting using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>200dpi</td><td>Auxiliary scanning magnification at the time of resolution 200 dpi</td><td>-50 to +50</td><td>0</td></tr><tr><td>300dpi</td><td>Auxiliary scanning magnification at the time of resolution 300 dpi</td><td>-50 to +50</td><td>0</td></tr><tr><td>400dpi</td><td>Auxiliary scanning magnification at the time of resolution 400 dpi</td><td>-50 to +50</td><td>0</td></tr><tr><td>600dpi</td><td>Auxiliary scanning magnification at the time of resolution 600 dpi</td><td>-50 to +50</td><td>0</td></tr></table> <p>3. 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	Setting range	Initial setting	200dpi	Auxiliary scanning magnification at the time of resolution 200 dpi	-50 to +50	0	300dpi	Auxiliary scanning magnification at the time of resolution 300 dpi	-50 to +50	0	400dpi	Auxiliary scanning magnification at the time of resolution 400 dpi	-50 to +50	0	600dpi	Auxiliary scanning magnification at the time of resolution 600 dpi	-50 to +50	0
Display	Description	Setting range	Initial setting																		
200dpi	Auxiliary scanning magnification at the time of resolution 200 dpi	-50 to +50	0																		
300dpi	Auxiliary scanning magnification at the time of resolution 300 dpi	-50 to +50	0																		
400dpi	Auxiliary scanning magnification at the time of resolution 400 dpi	-50 to +50	0																		
600dpi	Auxiliary scanning magnification at the time of resolution 600 dpi	-50 to +50	0																		

Maintenance item No.	Description																
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><tr><th>Display</th><th>Paper feed locations</th></tr><tr><td>BYPASS</td><td>Bypass tray</td></tr><tr><td>FIRST</td><td>Upper drawer</td></tr><tr><td>SECOND</td><td>Lower drawer</td></tr><tr><td>THIRD</td><td>Optional drawer 1</td></tr><tr><td>FORTH</td><td>Optional drawer 2</td></tr><tr><td>LCF</td><td>Optional large paper deck</td></tr><tr><td>DUPLEX</td><td>Optional duplex unit</td></tr></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 ALL on the touch panel.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 current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Paper feed locations	BYPASS	Bypass tray	FIRST	Upper drawer	SECOND	Lower drawer	THIRD	Optional drawer 1	FORTH	Optional drawer 2	LCF	Optional large paper deck	DUPLEX	Optional duplex unit
Display	Paper feed locations																
BYPASS	Bypass tray																
FIRST	Upper drawer																
SECOND	Lower drawer																
THIRD	Optional drawer 1																
FORTH	Optional drawer 2																
LCF	Optional large paper deck																
DUPLEX	Optional duplex unit																
U902	<p>Checking/clearing finisher punch count</p> <p>Description Sets the punch limit and displays and clears the punch-hole scrap count when the optional finisher is attached.</p> <p>Purpose Sets the punch limit to notify the user of the time to collect punch-hole scrap. Also, 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. If punch-hole scrap is collected with the copier power turned off, the punch-hole scrap count is not cleared and consequently this problem occurs.</p> <p>Start</p> <ol style="list-style-type: none">1. Press the start key. The screen for selecting in item is displayed.2. Select the item. The selecting an item is displayed in reverse. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>PUNCH LIMIT</td><td>Punch limit (maximum number of punching times)</td><td>0 to 999000</td><td>20000</td></tr><tr><td>PUNCH COUNT</td><td>Punch-hole scrap count (current number of punching times)</td><td>—</td><td>—</td></tr></table> <p>Setting the punch limit</p> <ol style="list-style-type: none">1. Change the setting using the numeric keys.2. Press the start key. The value is set. <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>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	Setting range	Initial setting	PUNCH LIMIT	Punch limit (maximum number of punching times)	0 to 999000	20000	PUNCH COUNT	Punch-hole scrap count (current number of punching times)	—	—				
Display	Description	Setting range	Initial setting														
PUNCH LIMIT	Punch limit (maximum number of punching times)	0 to 999000	20000														
PUNCH COUNT	Punch-hole scrap count (current number of punching times)	—	—														

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Maintenance item No.	Description
U903	<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>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The jam count is displayed by jam codes. 2. Change the screen using the * or # keys. <p>Clearing</p> <ol style="list-style-type: none"> 1. Press the reset key. Jam counts cannot be cleared individually. 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 current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U904	<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>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The service call count is displayed by service call codes. 2. Change the screen using the * or # keys. <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 all counts, press the reset key. 2. Press the start key. The count is cleared. When all counts are cleared, 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																		
U905	<p>Checking/clearing counts by optional devices</p> <p>Description Displays or clears the counts of the optional DF or finisher.</p> <p>Purpose To check the use of the DF and 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 and press the start key. 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> • Finisher (SORTER) <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> </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. 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
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																		
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. 																		


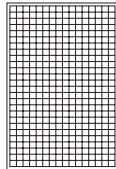


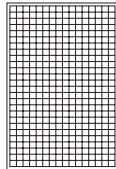


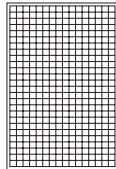

Maintenance item No.	Description						
U908	<p>Changing the total counter value</p> <p>Description Displays, clears and changes the total counter value.</p> <p>Purpose To check the total counter value.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>COUNT (PRINTER)</td><td>The total count value at the time of printer use</td></tr> <tr> <td>COUNT (FAX)</td><td>The total count value at the time of facsimile use</td></tr> </tbody> </table> <p>Clearing 1. Select the count 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> <p>Setting 1. Select the count 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> <p>Completion To exit this maintenance item without changing the current total counter value, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	COUNT (PRINTER)	The total count value at the time of printer use	COUNT (FAX)	The total count value at the time of facsimile use
Display	Description						
COUNT (PRINTER)	The total count value at the time of printer use						
COUNT (FAX)	The total count value at the time of facsimile use						
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 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> <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 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> <p>Completion To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>						

Maintenance item No.	Description
U937	<p>Model name setting</p> <p>Description Sets the product name to be displayed on the printer status screen, etc. when installing a printer board (optional).</p> <p>Purpose To set the name if initialization is performed.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the **30 or **31. The selected item is displayed in reverse. Initial setting: **30 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>
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 1. Select OUTPUT. 2. Press the start key to output the list.</p> <p>Clearing 1. Select COUNT CLEAR. 2. Press the start key to clear the count.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U968	<p>Shading plate switching setting</p> <p>Description Adjusts the reference value for shading correction in accordance with the new or old type of shading plate.</p> <p>Purpose To set the value when the shading plate is replaced.</p> <p>Method Press the start key.</p> <p>Setting 1. Set the preset value in accordance with the new or old type of shading plate. New shading plate (part No.: 2BC12130): 1 Old shading plate (part No.: 35912200): 0 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>

Maintenance item No.	Description						
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>						
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 six-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 current setting, press the stop/clear key. The screen for selecting a maintenance item No. 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						

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Maintenance item No.	Description						
U992	<p>Checking or clearing the printer/fax count</p> <p>Description Displays, clears or changes the print count of the printer or fax when the optional printer board or fax unit is installed.</p> <p>Purpose To check the frequency of use of the printer or fax.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <tr> <th>Display</th><th>Description</th></tr> <tr> <td>PRINTER COUNT</td><td>Print count of the printer</td></tr> <tr> <td>FAX COUNT</td><td>Print count of the fax</td></tr> </table> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the count 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 six-digit count using the numeric keys. To clear the counts for both printer and fax, press the reset key. 3. 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	PRINTER COUNT	Print count of the printer	FAX COUNT	Print count of the fax
Display	Description						
PRINTER COUNT	Print count of the printer						
FAX COUNT	Print count of the fax						

Maintenance item No.	Description												
U993	<p>Outputting a VTC-PG pattern</p> <p>Description Selects and outputs a VTC-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 VTC-PG pattern.</p> <p>Method</p> <div><div>1. Press the start key. The screen for selecting an item is displayed.</div><div>2. Select the VTC-PG pattern to be output.</div></div> <table><tr><th>Display</th><th>PG pattern to be output</th><th>Purpose</th></tr><tr><td>PG1</td><td></td><td><ul style="list-style-type: none">• Center line adjustment</td></tr><tr><td>PG2</td><td></td><td><ul style="list-style-type: none">• Lateral squareness adjustment• Magnification adjustment</td></tr><tr><td>PG3</td><td></td><td>_____</td></tr></table> <div><div>3. Press the interrupt key. The copy mode screen is displayed.</div><div>4. Press the start key. A VTC-PG pattern is output.</div></div> <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	PG pattern to be output	Purpose	PG1		<ul style="list-style-type: none">• Center line adjustment	PG2		<ul style="list-style-type: none">• Lateral squareness adjustment• Magnification adjustment	PG3		_____
Display	PG pattern to be output	Purpose											
PG1		<ul style="list-style-type: none">• Center line adjustment											
PG2		<ul style="list-style-type: none">• Lateral squareness adjustment• Magnification adjustment											
PG3		_____											

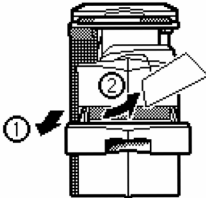
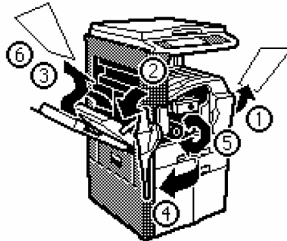
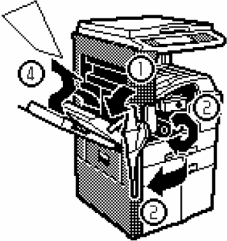
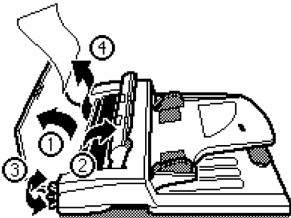
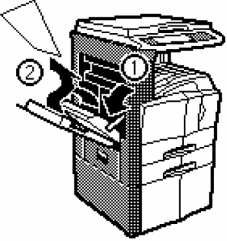
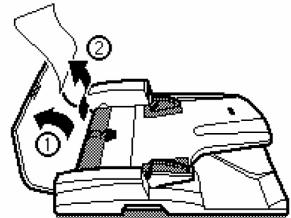
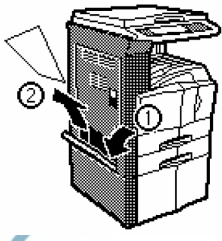
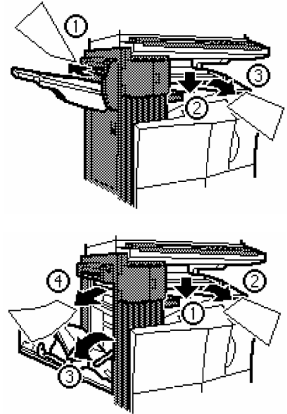
1-5-1 Paper misfeed detection

(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 front cover, conveying cover, side cover or drawer.

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

<ul style="list-style-type: none"> • Misfeed in drawer <p>Jam code 10 Jam code 12 Jam code 13 Jam code 15 Jam code 16 Jam code 17</p> 	<ul style="list-style-type: none"> • Misfeed in bypass <p>Jam code 14 Jam code 20 Jam code 23</p> 
<ul style="list-style-type: none"> • Misfeed inside conveying cover <p>Jam code 18 Jam code 21 Jam code 22</p> 	<ul style="list-style-type: none"> • Misfeed in SRDF* <p>Jam code 70 Jam code 71 Jam code 72 Jam code 73 Jam code 74 Jam code 75 Jam code 76</p> 
<ul style="list-style-type: none"> • Misfeed in conveying cover <p>Jam code 30 Jam code 35 Jam code 40 Jam code 50 Jam code 51 Jam code 52 Jam code 60 Jam code 61</p> 	<ul style="list-style-type: none"> • Misfeed in STDF* <p>Jam code 70 Jam code 71 Jam code 72 Jam code 73</p> 
<ul style="list-style-type: none"> • Misfeed in side cover <p>Jam code 19</p> 	<ul style="list-style-type: none"> • Misfeed in built-in finisher* <p>Jam code 81 Jam code 82 Jam code 83 Jam code 84</p> 

Jam code	Contents	See page
10	No paper feed from the upper drawer	P.1-5-4
11	No paper feed from the lower drawer	P.1-5-4
12	No paper feed from large paper deck*/paper feed desk* upper drawer	P.1-5-4
13	No paper feed from paper feed desk* lower drawer	P.1-5-4
14	No paper feed from bypass	P.1-5-5
15	Jam in large paper deck* horizontal paper conveying section	P.1-5-5
16	Jam in large paper deck* horizontal paper conveying section	P.1-5-5
17	Jam in large paper deck* horizontal paper conveying section	P.1-5-5
18	Misfeed in copier vertical paper conveying section	P.1-5-5
19	Misfeed in paper feed desk* vertical paper conveying section	P.1-5-6
20	Misfeed in bypass* vertical paper conveying section	P.1-5-6
21	Multiple sheets in copier paper feed section	P.1-5-6
22	Multiple sheets in copier vertical conveying section	P.1-5-8
23	Multiple sheets in bypass vertical conveying section	P.1-5-8
30	Misfeed in registration/transfer section	P.1-5-9
35	Secondary paper feed does not start	P.1-5-9
40	Misfeed in fixing section	P.1-5-9
50	Misfeed in eject section	P.1-5-10
51	Misfeed in job separator* eject section	P.1-5-10
52	Misfeed in feedshift section	P.1-5-11
53	Misfeed in switchback section (switchback unit*)	P.1-5-11
60	Duplex paper conveying section 1 (duplex unit*)	P.1-5-12
61	Duplex paper conveying section 2 (duplex unit*)	P.1-5-12
70	No original feed (SRDF*)	P.1-5-13
71	An original jam in the original feed/conveying section (SRDF*)	P.1-5-13
72	An original jam in the original feed section (SRDF*)	P.1-5-13
73	An original jam in the original conveying section (SRDF*)	P.1-5-14
74	An original jam remaining after retries (SRDF*)	P.1-5-14
75	An original jam in the switchback section 1 (SRDF*)	P.1-5-14
76	An original jam in the switchback section 2 (SRDF*)	P.1-5-15
81	Jam between the finisher and copier (built-in finisher*)	P.1-5-15
82	Intake jam (built-in finisher*)	P.1-5-15
83	Jam during paper conveying for batch ejection 1 (built-in finisher*)	P.1-5-15
84	Jam during paper conveying for batch ejection 2 (built-in finisher*)	P.1-5-15

*Optional.

(2) Paper misfeed detection conditions

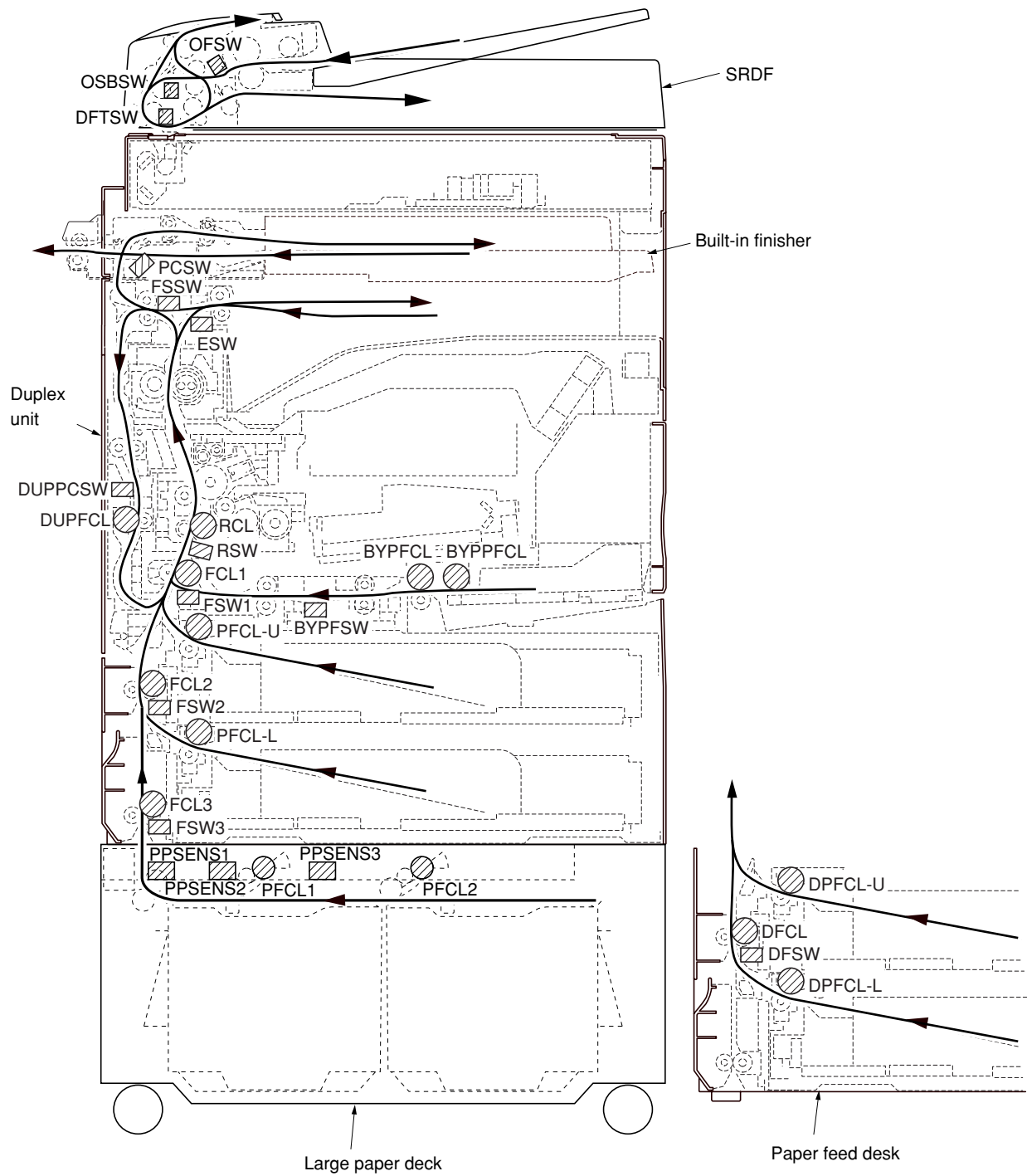
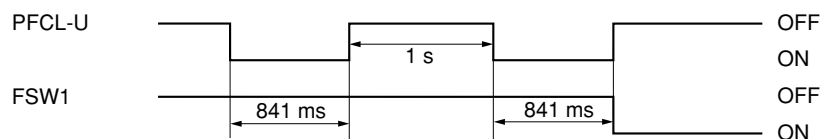


Figure 1-5-1

1. Paper feed section

- No paper feed from the upper drawer (jam code 10)

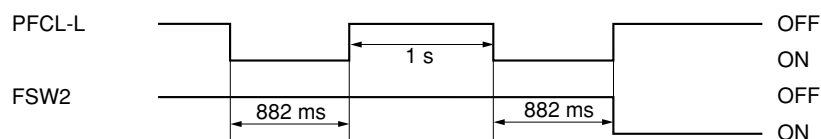
Feed switch 1 (FSW1) does not turn on within 841 ms of the upper paper feed clutch (PFCL-U) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within 841 ms.



Timing chart 1-5-1

- No paper feed from the lower drawer (jam code 11)

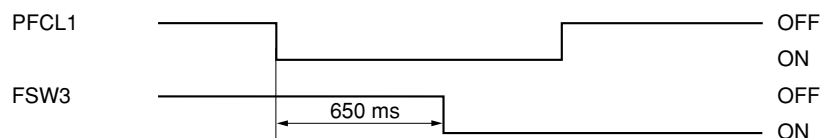
Feed switch 2 (FSW2) does not turn on within 882 ms of the lower paper feed clutch (PFCL-L) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within 882 ms.



Timing chart 1-5-2

- No paper feed from large paper deck* (jam code 12)

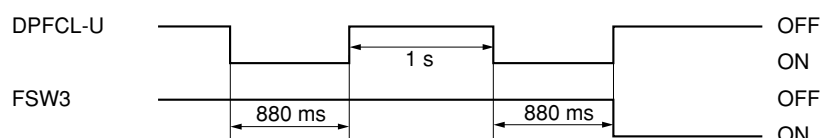
Feed switch 3 (FSW3) does not turn on within 650 ms of paper feed clutch 1 (PFCL1) turning on.



Timing chart 1-5-3

- No paper feed from paper feed desk* upper drawer (jam code 12)

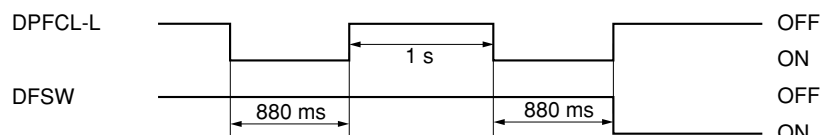
Feed switch 3 (FSW3) does not turn on within 880 ms of the desk upper paper feed clutch (DPFCL-U) turning on; the clutch is then successively held off for 1 s and turned back on, but the switch again fails to turn on within 880 ms.



Timing chart 1-5-4

- No paper feed from paper feed desk* lower drawer (jam code 13)

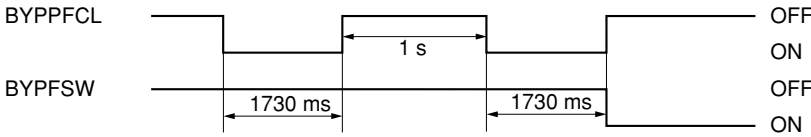
Desk feed switch (DFSW) does not turn on within 880 ms of the desk lower paper feed clutch (DPFCL-L) turning on; the clutch is then successively held off for 1 s and turned back on, but the switch again fails to turn on within 880 ms.



Timing chart 1-5-5

- No paper feed from bypass (jam code 14)

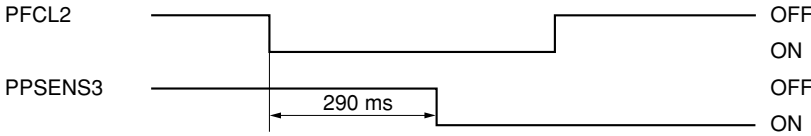
The bypass feed switch (BYPFSW) does not turn on within 1730 ms of the bypass paper feed clutch (BYPPFCL) turning on; the clutch is then successively held off for 1 s and turned back on, but the switch again fails to turn on within 1730 ms.



Timing chart 1-5-6

- Jam in large paper deck* horizontal paper conveying section (jam code 15)

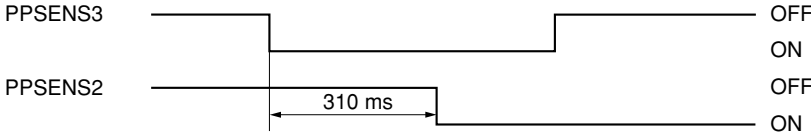
Paper path sensor 3 (PPSENS3) does not turn on within 290 ms of the paper feed clutch 2 (PFCL2) turning on.



Timing chart 1-5-7

- Jam in large paper deck* horizontal paper conveying section (jam code 16)

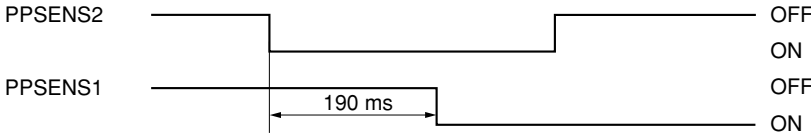
Paper path sensor 2 (PPSENS2) does not turn on within 310 ms of the paper path sensor 3 (PPSENS3) turning on.



Timing chart 1-5-8

- Jam in large paper deck* horizontal paper conveying section (jam code 17)

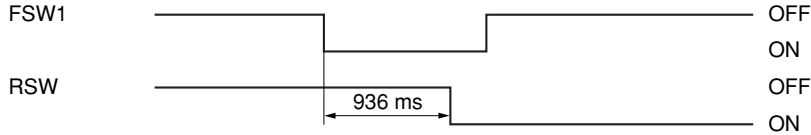
Paper path sensor 1 (PPSENS1) does not turn on within 190 ms of the paper path sensor 2 (PPSENS2) turning on.



Timing chart 1-5-9

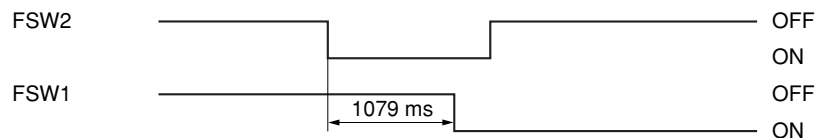
- Misfeed in copier vertical paper conveying section (jam code 18)

The registration switch (RSW) does not turn on within 936 ms of feed switch 1 (FSW1) turning on.



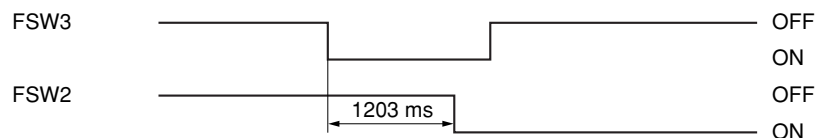
Timing chart 1-5-10

Feed switch 1 (FSW1) does not turn on within 1079 ms of feed switch 2 (FSW2) turning on.



Timing chart 1-5-11

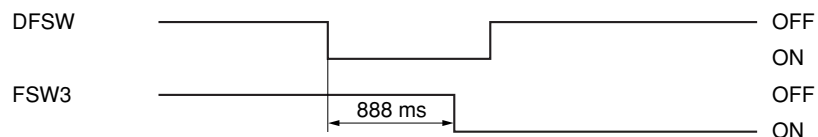
Feed switch 2 (FSW2) does not turn on within 1203 ms of feed switch 3 (FSW3) turning on.



Timing chart 1-5-12

• Misfeed in paper feed desk* vertical paper conveying section (jam code 19)

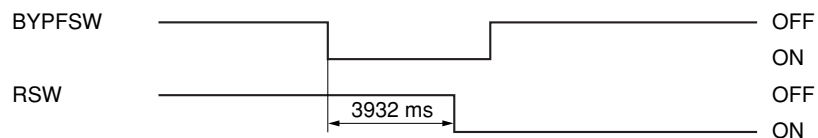
Feed switch 3 (FSW3) does not turn on within 888 ms of the desk feed switch (DFSW) turning on.



Timing chart 1-5-13

• Misfeed in bypass* vertical paper conveying section (jam code 20)

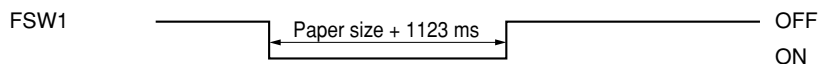
The registration switch (RSW) does not turn on within 3932 ms of the bypass feed switch (BYPFSW) turning on.



Timing chart 1-5-14

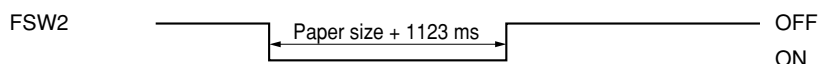
• Multiple sheets in copier paper feed section (jam code 21)

Feed switch 1 (FSW1) does not turn off within the time required to convey the length of the used paper size plus 1123 ms of turning on.



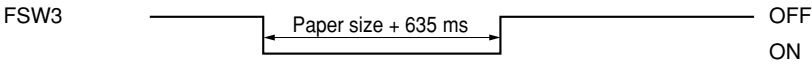
Timing chart 1-5-15

Feed switch 2 (FSW2) does not turn off within the time required to convey the length of the used paper size plus 1123 ms of turning on.



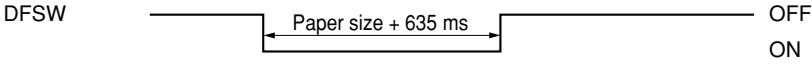
Timing chart 1-5-16

Feed switch 3 (FSW3) does not turn off within the time required to convey the length of the used paper size plus 635 ms of turning on.



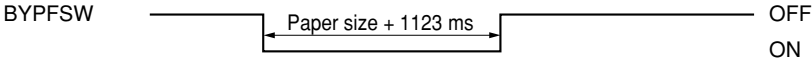
Timing chart 1-5-17

The desk feed switch (DFSW) does not turn off within the time required to convey the length of the used paper size plus 635 ms of turning on.



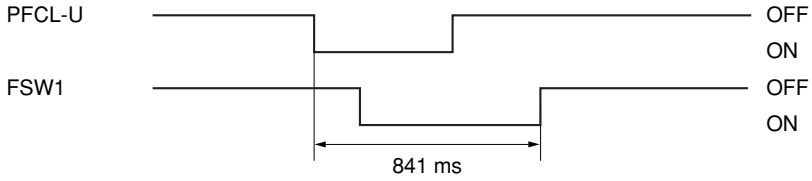
Timing chart 1-5-18

The bypass feed switch (BYPFSW) does not turn off within the time required to convey the length of the used paper size plus 1123 ms of turning on.



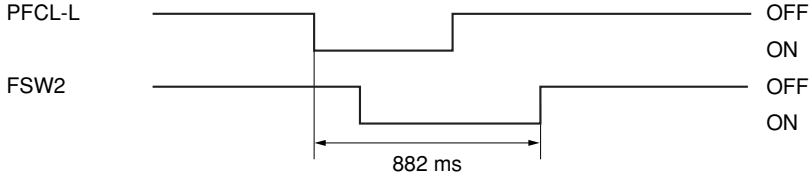
Timing chart 1-5-19

Feed switch 1 (FSW1) does not turn off within 841 ms of the upper paper feed clutch (PFCL-U) turning on.



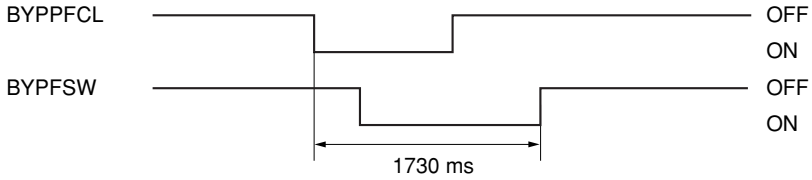
Timing chart 1-5-20

Feed switch 2 (FSW2) does not turn off within 882 ms of the lower paper feed clutch (PFCL-L) turning on.



Timing chart 1-5-21

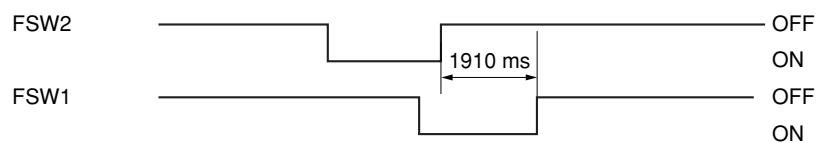
The bypass feed switch (BYPFSW) does not turn off within 1730 ms of the bypass paper feed clutch (BYPPFCL) turning on.



Timing chart 1-5-22

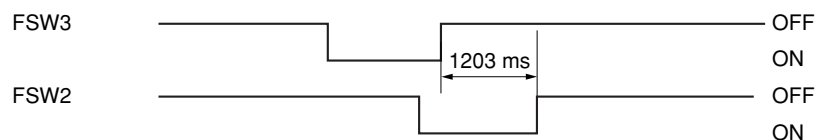
- Multiple sheets in copier vertical conveying section (jam code 22)

Feed switch 1 (FSW1) does not turn off within 1910 ms of feed switch 2 (FSW2) turning off.



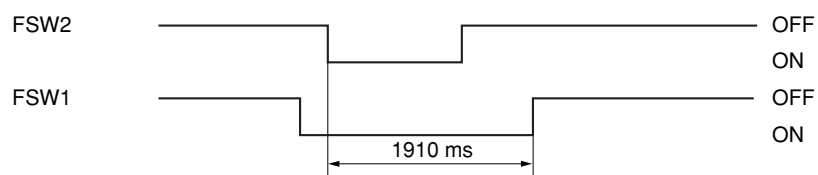
Timing chart 1-5-23

Feed switch 2 (FSW2) does not turn off within 1203 ms of feed switch 3 (FSW3) turning off.



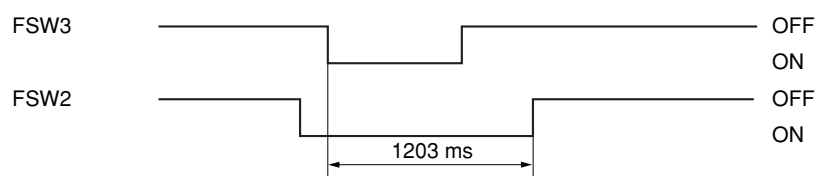
Timing chart 1-5-24

Feed switch 1 (FSW1) does not turn off within 1910 ms of feed switch 2 (FSW2) turning on.



Timing chart 1-5-25

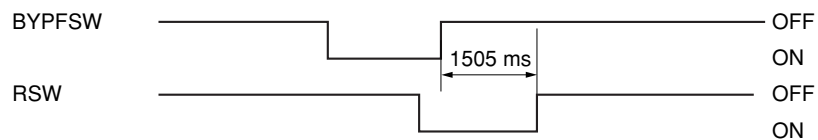
Feed switch 2 (FSW2) does not turn off within 1203 ms of feed switch 3 (FSW3) turning on.



Timing chart 1-5-26

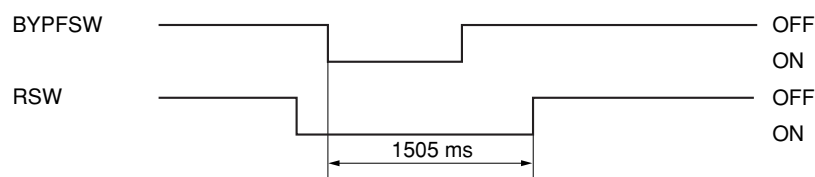
- Multiple sheets in bypass vertical conveying section (jam code 23)

The registration switch (RSW) does not turn off within 1510 ms of the bypass feed switch (BYPFSW) turning off.



Timing chart 1-5-27

The registration switch (RSW) does not turn off within 1505 ms of the bypass feed switch (BYPFSW) turning on.

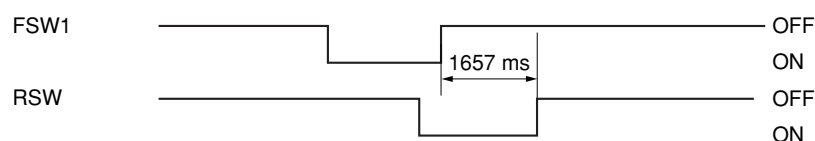


Timing chart 1-5-28

2. Paper conveying section

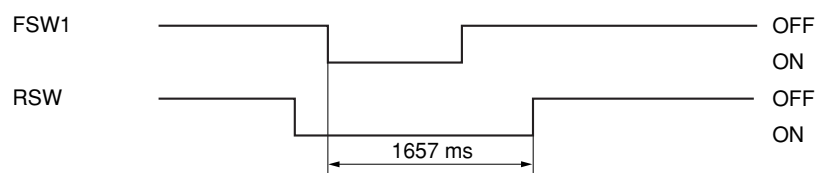
- Misfeed in registration/transfer section (jam code 30)

The registration switch (RSW) does not turn off within 1657 ms of feed switch 1 (FSW1) turning off.



Timing chart 1-5-29

The registration switch (RSW) does not turn off within 1657 ms of feed switch 1 (FSW1) turning on.



Timing chart 1-5-30

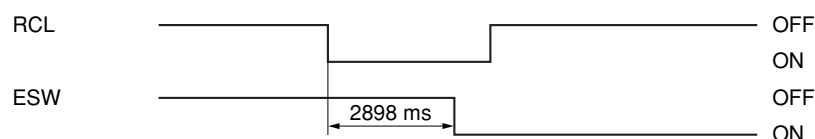
- Secondary paper feed does not start. (jam code 35)

Secondary paper feed does not start within 30 s of arrival of paper at the registration section.

3. Fixing section

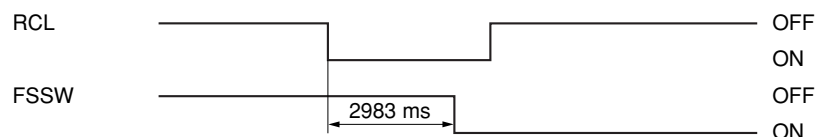
- Misfeed in fixing section (jam code 40)

The eject switch (ESW) does not turn on within 2898 ms of the registration clutch (RCL) turning on.



Timing chart 1-5-31

The feedshift switch (FSSW) does not turn on within 2983 ms of the registration clutch (RCL) turning on.

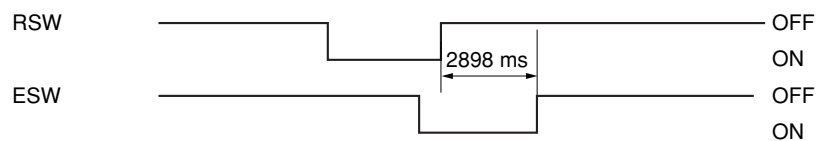


Timing chart 1-5-32

4. Eject section

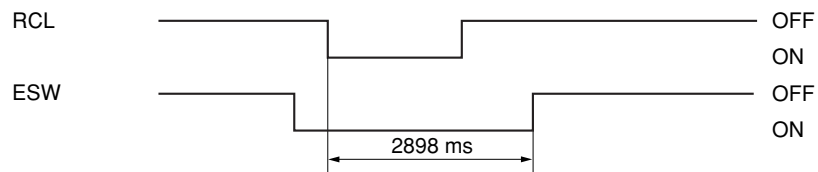
- Misfeed in eject section (jam code 50)

The eject switch (ESW) does not turn off within 2898 ms of the registration switch (RSW) turning off.



Timing chart 1-5-33

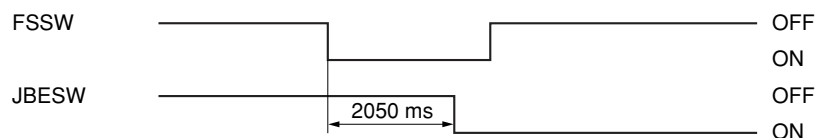
The eject switch (ESW) does not turn off within 2898 ms of the registration clutch (RCL) turning on.



Timing chart 1-5-34

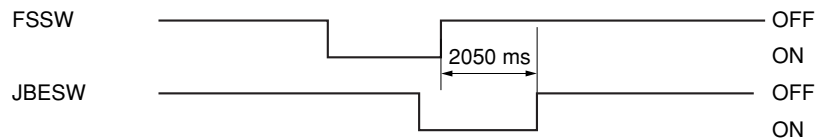
- Misfeed in job separator* eject section (jam code 51)

The job separator eject switch (JBESW) does not turn on within 2050 ms of the feedshift switch (FSSW) turning on.



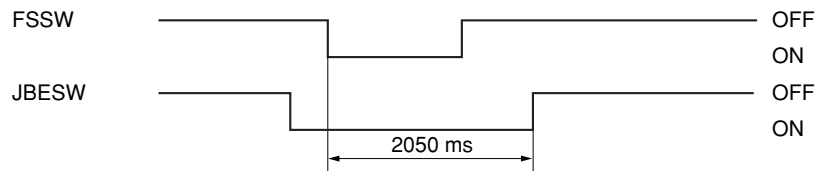
Timing chart 1-5-35

The job separator eject switch (JBESW) does not turn off within 2050 ms of the feedshift switch (FSSW) turning off.



Timing chart 1-5-36

The job separator eject switch (JBESW) does not turn off within 2050 ms of the feedshift switch (FSSW) turning on.

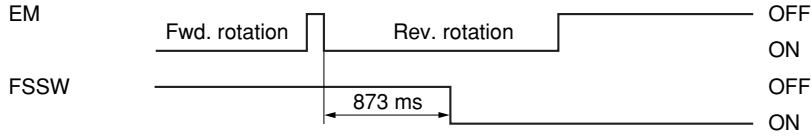


Timing chart 1-5-37

5. Feedshift section

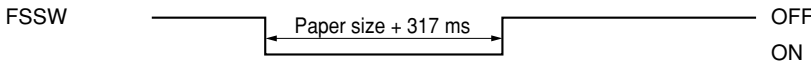
- Misfeed in feedshift section (jam code 52)

The feedshift switch (FSSW) does not turn on within 873 ms of the start of eject motor (EM) reverse rotation.



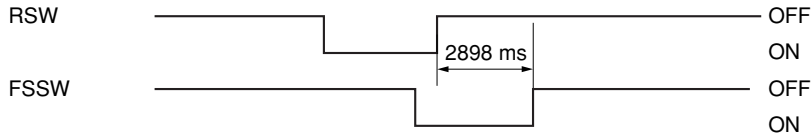
Timing chart 1-5-38

During paper switchback operation, the feedshift switch (FSSW) does not turn off within the time required to convey the length of the used paper size plus 317 ms of turning on.



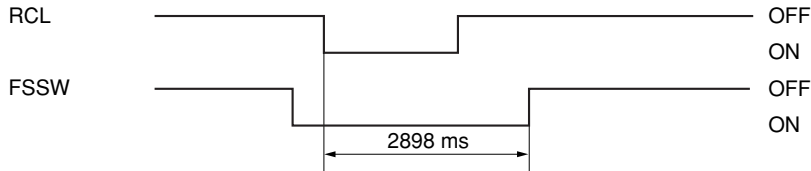
Timing chart 1-5-39

The feedshift switch (FSSW) does not turn off within 2898 ms of the registration switch (RSW) turning off.



Timing chart 1-5-40

The feedshift switch (FSSW) does not turn off within 2898 ms of the registration clutch (RCL) turning on.

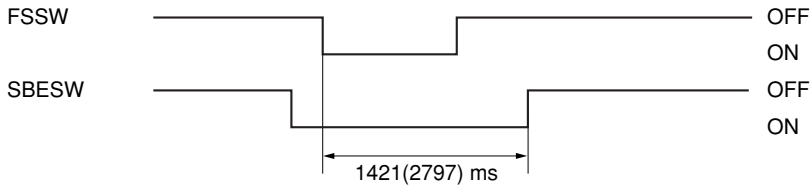


Timing chart 1-5-41

6. Switchback unit*

- Misfeed in switchback section (jam code 53)

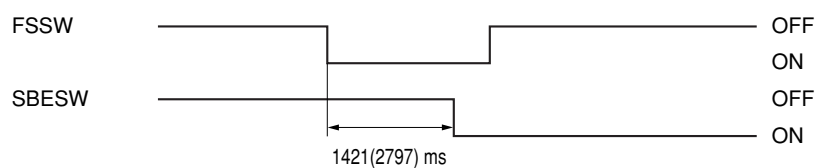
The switchback eject switch (SBESW) does not turn off within 1421 ms (2797 ms) of the feedshift switch (FSSW) turning on.



The value in the parentheses indicates the value in switchback operation.

Timing chart 1-5-42

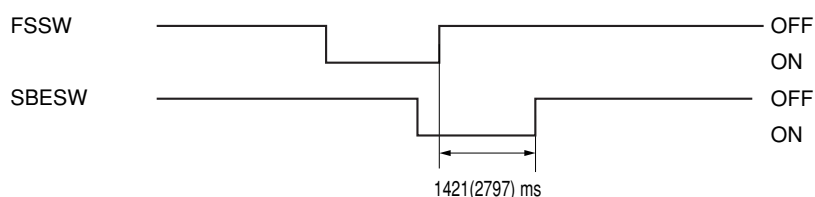
The switchback eject switch (SBESW) does not turn on within 1421 ms (2797 ms) of the feedshift switch (FSSW) turning on.



The value in the parentheses indicates the value in switchback operation.

Timing chart 1-5-43

The switchback eject switch (SBESW) does not turn off within 1421 ms (2797 ms) of the feedshift switch (FSSW) turning off.



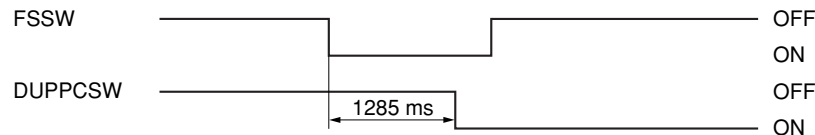
The value in the parentheses indicates the value in switchback operation.

Timing chart 1-5-44

7. Duplex section*

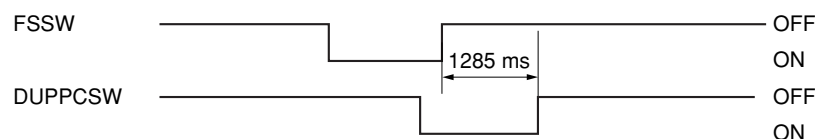
- Duplex paper conveying section 1 (jam code 60)

The duplex paper conveying switch (DUPPCSW) does not turn on within 1285 ms of the feedshift switch (FSSW) turning on.



Timing chart 1-5-45

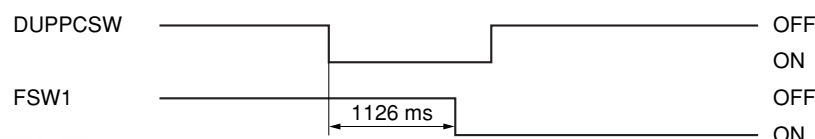
The duplex paper conveying switch (DUPPCSW) does not turn off within 1285 ms of the feedshift switch (FSSW) turning off.



Timing chart 1-5-46

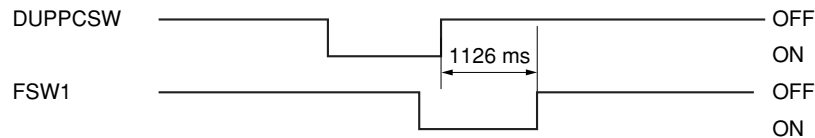
- Duplex paper conveying section 2 (jam code 61)

Feed switch 1 (FSW1) does not turn on within 1126 ms of the duplex paper conveying switch (DUPPCSW) turning on.



Timing chart 1-5-47

Feed switch 1 (FSW1) does not turn off within 1126 ms of the duplex paper conveying switch (DUPPCSW) turning off.



Timing chart 1-5-48

8. SRDF*

- No original feed (jam code 70)

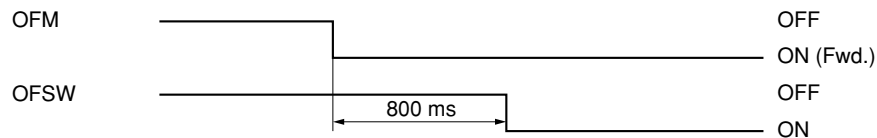
When the DF START signal is received, switches other than the original set switch (OSSW) and original size length switch (OSLSW) on the contact glass are on.

- No original feed (jam code 70)

During the primary feed of the first original in the single-sided or double-sided original mode, the original feed switch (OFSW) does not turn on within 800 ms of the original feed motor (OFM) turning on.

- No original feed (jam code 70)

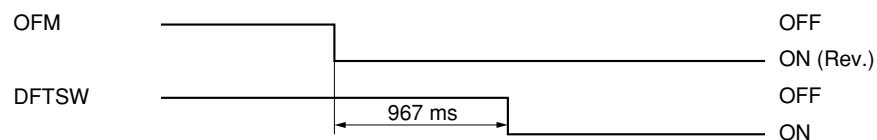
During the primary feed of the second or later original in the single-sided or double-sided original mode, the original feed switch (OFSW) does not turn on within 800 ms of the start of forward rotation of the original feed motor (OFM).



Timing chart 1-5-49

- An original jam in the original feed/conveying section (jam code 71)

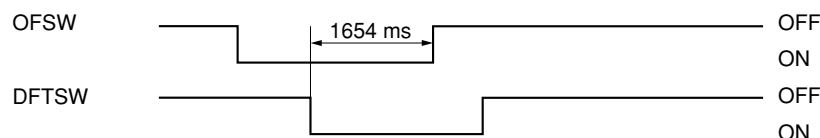
During the secondary original feed in the single-sided original mode, the DF timing switch (DFTSW) does not turn on within 967 ms of the start of reverse rotation of the original feed motor (OFM). Alternatively, during continuous original feed in single-sided original mode, the DF timing switch (DFTSW) does not turn on for the second time under the above conditions.



Timing chart 1-5-50

- An original jam in the original feed section (jam code 72)

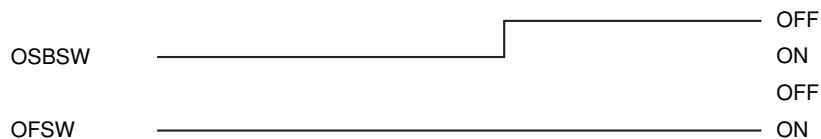
During the secondary original feed in the single-sided original mode, the original feed switch (OFSW) does not turn off within 1654 ms of the DF timing switch (DFTSW) turning on.



Timing chart 1-5-51

- An original jam in the original feed section (jam code 72)

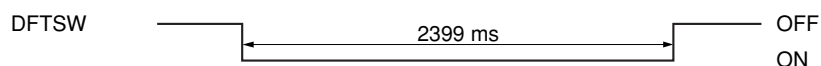
During original switchback operation in the double-sided original mode, the original feed switch (OFSW) remains on when the original switchback switch (OSBSW) turns off.



Timing chart 1-5-52

- An original jam in the original conveying section (jam code 73)

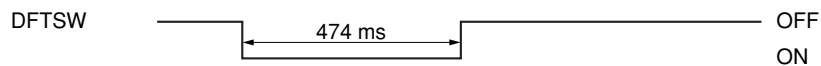
During the secondary original feed in the single-sided or double-sided original mode, the DF timing switch (DFTSW) does not turn off within 2399 ms of turning on.



Timing chart 1-5-53

- An original jam in the original conveying section (jam code 73)

In the single-sided or double-sided original mode, the DF timing switch (DFTSW) turns off within 474 ms of turning on.



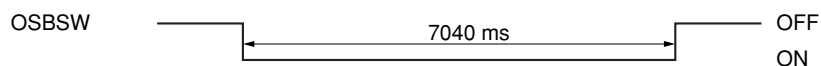
Timing chart 1-5-54

- An original jam remaining after retries (jam code 74)

In the single-sided or double-sided original mode, secondary original feed does not start after 5 retries.

- An original jam in the switchback section 1 (jam code 75)

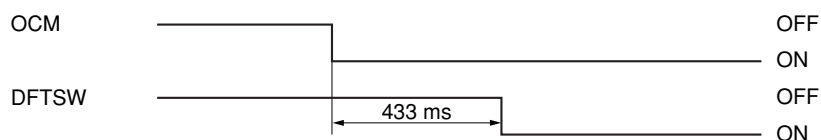
During the switchback operation of an original in the double-sided original mode, the original switchback switch (OSBSW) does not turn off within 7040 ms of turning on.



Timing chart 1-5-55

- An original jam in the switchback section 1 (jam code 75)

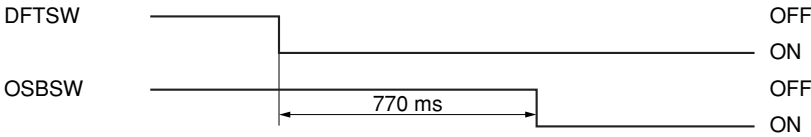
During the secondary original feed in the double-sided original mode, the DF timing switch (DFTSW) does not turn on within 433 ms of the original conveying motor (OCM) turning on.



Timing chart 1-5-56

- An original jam in the switchback section 2 (jam code 76)

While scanning the first face (reverse face) of the original in the double-sided original mode, the original switchback switch (OSBSW) does not turn on within 770 ms of the DF timing switch (DFTSW) turning on.



Timing chart 1-5-57

- An original jam in the original switchback section 2 (jam code 76)

During the switchback operation of the second or later original in the double-sided original mode, the original switchback switch (OSBSW) remains off when the trailing edge of the preceding original turns the DF timing switch (DFTSW) off.

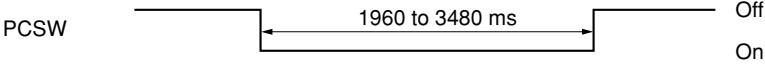
9. Built-in finisher*

- Jam between the finisher and copier (jam code 81)

The paper conveying switch does not turn on within 1550 ms of the signal requesting paper ejection is output from the copier.

- Intake jam (jam code 82)

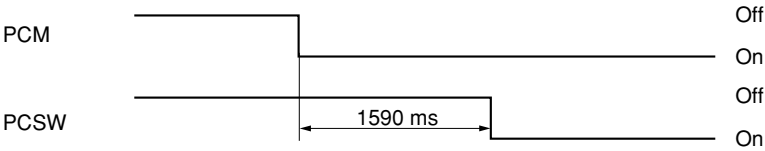
During paper intake from the copier, the paper conveying switch (PCSW) does not turn off within 1960 to 3480 ms (depending on paper size) of paper conveying switch (PCSW) turning on.



Timing chart 1-5-58

- Jam during paper conveying for batch ejection 1 (jam code 83)

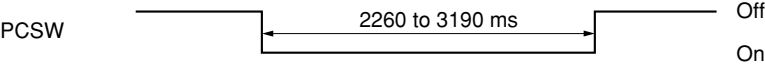
When ejection a stack of paper, the paper conveying switch (PCSW) does not turn on within 1590 ms of the paper conveying motor (PCM) turning on.



Timing chart 1-5-59

- Jam during paper conveying for batch ejection 2 (jam code 84)

When ejection a stack of paper, the paper conveying switch (PCSW) does not turn off within 2260 to 3190 ms (varies depending on the paper size) of the paper conveying motor (PCM) turning on.



Timing chart 1-5-60

(3) Paper misfeeds

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 feed switch 1/2/3, registration switch, eject switch or feedshift switch.	Check visually and remove it, if any.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective eject switch.	Run maintenance item U031 and turn the eject switch on and off manually. Replace the eject switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feedshift switch.	Run maintenance item U031 and turn the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from upper drawer). Jam code 10	Paper in the upper drawer is extremely curled.	Change the paper.
	Check if the upper paper feed pulley, separation pulley or forwarding pulley of the upper drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the operation 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 operation 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 1-5-53).

Problem	Causes/check procedures	Corrective measures
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from lower drawer). Jam code 11	Paper in the lower drawer is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, separation pulley or forwarding pulley of the lower drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the operation 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 operation 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 1-5-53).
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from large paper deck*). Jam code 12	Paper in the large paper deck is extremely curled.	Change the paper.
	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if paper feed clutch 1 and 2 malfunctions.	Run maintenance item U247 and select paper feed clutch 1 or 2 on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed clutch 1 and 2.	Check.
	Check if the deck feed clutch malfunctions.	Run maintenance item U247 and select the deck feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the deck feed clutch.	Check.
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from paper feed desk* upper drawer). Jam code 12	Paper in the paper feed desk upper drawer is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the paper feed desk upper drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.

*Optional.

Problem	Causes/check procedures	Corrective measures
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from paper feed desk* upper drawer). Jam code 12	Check if the desk upper paper feed clutch malfunctions.	Run maintenance item U247 and select the desk upper paper feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the desk upper paper feed clutch.	Check.
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from paper feed desk* lower drawer). Jam code 13	Paper in the paper feed desk lower drawer is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the paper feed desk lower drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken desk feed switch actuator.	Check visually and replace desk feed switch if its actuator is broken.
	Defective desk feed switch.	With 5 V DC present at CN2-8 on the desk main PCB, check if CN2-7 on the desk main PCB remains low when the desk feed switch is turned on and off. If it does, replace the desk feed switch.
	Check if the desk lower paper feed clutch malfunctions.	Run maintenance item U247 and select the desk lower paper feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the desk lower paper feed clutch.	Check.
(7) A paper jam in the paper feed section is indicated during copying (no paper feed from bypass). Jam code 14	Paper on the bypass table is extremely curled.	Change the paper.
	Check if the bypass paper feed pulley, separation pulley or forwarding pulley of the bypass are deformed.	Check visually and replace any deformed pulleys.
	Broken bypass feed switch actuator.	Check visually and replace bypass feed switch if its actuator is broken.
	Defective bypass feed switch.	Run maintenance item U031 and turn the bypass feed switch on and off manually. Replace the bypass feed switch if indication of the corresponding switch on the operation 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 operation 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 1-5-54).

*Optional.

Problem	Causes/check procedures	Corrective measures
(8) A paper jam in the paper feed section is indicated during copying (jam in large paper deck* horizontal paper conveying section). Jam code 15	Paper in the large paper deck is extremely curled.	Change the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 3.	With 5 V DC present at CN6-12 on the deck main PCB, check if CN6-11 on the deck main PCB remains low when paper path sensor 3 is turned on and off. If it does, replace paper path sensor 3.
	Check if paper feed clutch 2 malfunctions.	Run maintenance item U247 and select paper feed clutch 2 on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed clutch 2.	Check.
(9) A paper jam in the paper feed section is indicated during copying (jam in large paper deck* horizontal paper conveying section). Jam code 16	Paper in the large paper deck is extremely curled.	Change the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 2.	With 5 V DC present at CN6-9 on the deck main PCB, check if CN6-8 on the deck main PCB remains low when paper path sensor 2 is turned on and off. If it does, replace paper path sensor 2.
	Check if paper feed clutch 1 malfunctions.	Run maintenance item U247 and select paper feed clutch 1 on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed clutch 1.	Check.
(10) A paper jam in the paper feed section is indicated during copying (jam in large paper deck* horizontal paper conveying section). Jam code 17	Paper in the large paper deck is extremely curled.	Change the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 1.	With 5 V DC present at CN6-6 on the deck main PCB, check if CN6-5 on the deck main PCB remains low when paper path sensor 1 is turned on and off. If it does, replace paper path sensor 1.
	Check if the deck feed clutch malfunctions.	Run maintenance item U247 and select the deck feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the deck feed clutch.	Check.
(11) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section). Jam code 18	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.

*Optional.

Problem	Causes/check procedures	Corrective measures
(11) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section). Jam code 18	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if the feed pulleys and feed roller are deformed.	Check and repair if necessary.
(12) A paper jam in the paper feed section is indicated during copying (jam in paper feed desk* vertical conveying section). Jam code 19	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken desk feed switch actuator.	Check visually and replace desk feed switch if its actuator is broken.
	Defective desk feed switch.	With 5 V DC present at CN2-8 on the desk main PCB, check if CN2-7 on the desk main PCB remains low when the desk feed switch is turned on and off. If it does, replace the desk feed switch.
(13) A paper jam in the paper feed section is indicated during copying (jam in bypass conveying section). Jam code 20	Broken bypass feed switch actuator.	Check visually and replace the bypass feed switch if its actuator is broken.
	Defective bypass feed switch.	Run maintenance item U031 and turn the bypass feed switch on and off manually. Replace the bypass feed switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(14) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier paper feed section). Jam code 21	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.

*Optional.

Problem	Causes/check procedures	Corrective measures
(14) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier paper feed section). Jam code 21	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken desk feed switch* actuator.	Check visually and replace the desk feed switch if its actuator is broken.
	Defective desk feed switch*.	With 5 V DC present at CN2-8 on the desk main PCB, check if CN2-7 on the desk main PCB remains low when the desk feed switch is turned on and off. If it does, replace the desk feed switch.
	Broken bypass feed switch actuator.	Check visually and replace the bypass feed switch if its actuator is broken.
	Defective bypass feed switch.	Run maintenance item U031 and turn the bypass feed switch on and off manually. Replace the bypass feed switch if indication of the corresponding switch on the operation 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 operation 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 1-5-53).
	Check if the lower paper feed clutch malfunctions.	Run maintenance item U032 and select the lower paper feed clutch on the operation 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 1-5-53).
	Check if the bypass paper feed clutch malfunctions.	Run maintenance item U032 and select the bypass feed clutch on the operation 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 1-5-54).
	Check if the feed pulleys and feed roller are deformed.	Check and repair if necessary.
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier vertical conveying section). Jam code 22	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.

*Optional.

Problem	Causes/check procedures	Corrective measures
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier vertical conveying section). Jam code 22	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if the feed pulleys and feed roller are deformed.	Check and repair if necessary.
(16) A paper jam in the paper feed section is indicated during copying (multiple sheets in bypass conveying section). Jam code 23	Broken bypass feed switch actuator.	Check visually and replace the bypass feed switch if its actuator is broken.
	Defective bypass feed switch.	Run maintenance item U031 and turn the bypass feed switch on and off manually. Replace the bypass feed switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(17) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 30	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(18) A paper jam in the paper conveying section is indicated during copying Jam code 35	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-54).
(19) A paper jam in the fixing section is indicated during copying (jam in fixing section). Jam code 40	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 the eject switch on and off manually. Replace the eject switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	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 the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding switch on the operation panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(19) A paper jam in the fixing section is indicated during copying (jam in fixing section). Jam code 40	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-54).
(20) A paper jam in the eject section is indicated during copying (jam in eject section). Jam code 50	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 the eject switch on and off manually. Replace the eject switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(21) A paper jam in the eject section is indicated during copying (jam in job separator* eject section). Jam code 51	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 the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken job separator eject switch actuator.	Check visually and replace the job separator eject switch if its actuator is broken.
	Defective job separator eject switch.	Run maintenance item U031 and turn the job separator eject switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(22) A paper jam in the feedshift section is indicated during copying (jam in feedshift section). Jam code 52	Check if the feedshift solenoid malfunctions.	Run maintenance item U033 and select the feedshift solenoid on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the feedshift solenoid.	Check (see page 1-5-54).
	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 the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-54).

*Optional.

Problem	Causes/check procedures	Corrective measures
(23) A paper jam in the switchback section is indicated during copying (jam in switchback unit*). Jam code 53	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 the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken switchback eject switch actuator.	Check visually and replace the switchback eject switch if its actuator is broken.
	Defective switchback eject switch.	With 5 V DC present at CN5-2 on the switchback unit main PCB, check if CN5-4 on the switchback unit main PCB remains low when the switchback eject switch is turned on and off. If it does, replace the switchback eject switch.
(24) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 1*). Jam code 60	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 the feedshift switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken duplex paper conveying switch actuator.	Check visually and replace the duplex paper conveying switch if its actuator is broken.
	Defective duplex paper conveying switch.	Run maintenance item U031 and turn the duplex paper conveying switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(25) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 2*). Jam code 61	Broken duplex paper conveying switch actuator.	Check visually and replace the duplex paper conveying switch if its actuator is broken.
	Defective duplex conveying switch.	Run maintenance item U031 and turn the duplex paper conveying switch on and off manually. Replace the duplex paper conveying switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(26) An original jams in the SRDF* 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 switch if indication of the corresponding switch on the operation 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 operation panel to be turned on and off. Check the status and remedy if necessary.

*Optional.

Problem	Causes/check procedures	Corrective measures
(27) An original jams in the SRDF* is indicated during copying (a jam in the original feed/conveying section). Jam code 71	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the switch if indication of the corresponding switch on the operation 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 operation panel to be turned on and off. Check the status and remedy if necessary.
(28) An original jams in the SRDF* is indicated during copying (a jam in the original feed section). Jam code 72	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the switch if indication of the corresponding switch on the operation 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 switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(29) An original jams in the SRDF* is indicated during copying (a jam in the original conveying section). Jam code 73	Defective DF timing switch.	Run maintenance item U244 and turn the DF timing switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
(30) An original jams in the SRDF* is indicated during copying (a jam in the original switchback section 1). Jam code 75	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the operation 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 switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Check if the original conveying motor malfunctions.	Run maintenance item U243 and select the original conveying motor on the operation panel to be turned on and off. Check the status and remedy if necessary.
(31) An original jams in the SRDF* is indicated during copying (a jam in the original switchback section 2). Jam code 76	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.

*Optional.

Problem	Causes/check procedures	Corrective measures
(32) Paper jams in the built-in finisher* during copying (intake jam). Jam code 82	Defective paper conveying switch.	With 5 V DC present at CN4-9 on the finisher main PCB, check if CN4-10 on the finisher main PCB remains high or low when the paper conveying switch is turned on and off. If it does, replace the paper conveying switch.
	Check if the feedshift roller or feedshift pulley is deformed.	Check visually and replace the pulley or roller if deformed.
(33) Paper jams in the built-in finisher* during copying (jam during paper conveying for batch ejection 1). Jam code 83	Defective paper conveying switch.	With 5 V DC present at CN4-9 on the finisher main PCB, check if CN4-10 on the finisher main PCB remains high or low when the paper conveying switch is turned on and off. If it does, replace the paper conveying switch.
	Check if the feedshift roller or press roller is deformed.	Check visually and replace the pulley or roller if deformed.
(34) Paper jams in the built-in finisher* during copying (jam during paper conveying for batch ejection 2). Jam code 84	Defective paper conveying switch.	With 5 V DC present at CN4-9 on the finisher main PCB, check if CN4-10 on the finisher main PCB remains high or low when the paper conveying switch is turned on and off. If it does, replace the paper conveying switch.
	Check if the eject roller or eject pulley is deformed.	Check visually and replace the pulley or roller if deformed.

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 0030 and 8500, 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 or 2 off and back on.



Figure 1-5-2 Service call code display

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0030	Fax board* problem • Problems with data from fax board.	Defective fax board.	Replace the fax board 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 1 off and back on and run maintenance item U020 to set the contents of the backup memory data again.
		Defective backup RAM.	If the C011 is displayed after re-setting the backup memory contents, replace the backup RAM.
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 CN36, CN42 on the main PCB and CN1, CN2 and CN3 on the operation unit PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB or operation unit PCB.	Replace the main PCB or operation unit PCB and check for correct operation.
C0240	Printer board* communication problem • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connector CN43 on the main PCB and the connector on the printer board. Repair or replace if necessary.
		Defective main PCB or printer board.	Replace the main PCB or printer board and check for correct operation.
C0250	Scanner network board* communication problem • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connector CN46 on the main PCB and the connector on the memory PCB. Repair or replace if necessary.
		Defective main PCB or scanner network board.	Replace the main PCB or scanner network board and check for correct operation.
C0280	Fax board* communication problem • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connector CN44 on the main PCB and the connector on the memory PCB. Repair or replace if necessary.
		Defective main PCB or fax board.	Replace the main PCB or fax board and check for correct operation.
C0420	Large paper deck*/paper feed desk* communication problem • 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 CN3 on the main PCB and the connector on the deck main PCB/desk main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective deck main PCB/desk main PCB.	Replace the deck main PCB/desk 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 CN4, CN5 on the main PCB and CN2 on the finisher main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C0450	Mailbox* 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 CN3 on the main PCB and CN1 on the mailbox main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective mailbox main PCB.	Replace the mailbox main PCB and check for correct operation.
C0470	Switchback unit* 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 CN3 on the main PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective switchback unit main PCB.	Replace the switchback unit main PCB and check for correct operation.
C0600	DIMM problem The DIMM on the memory PCB does not operate correctly.	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.
C0610	Bitmap 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.
C0620	Memory input interface problem Reading-in of an image does not complete within 10 s of the start of image transmission.	Defective main PCB.	Replace the main PCB 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.

*: Optional

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1010	Upper lift motor problem <ul style="list-style-type: none"> When the upper drawer is inserted, the upper lift limit switch does not turn on within 6 s of the upper lift motor turning on and the upper lift limit switch does not turn on by turning off the upper lift motor for 200 ms and retrying twice. 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 CN13-B9 on the main PCB goes low when the upper lift limit switch is turned off. If not, replace the upper lift limit switch.
		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.
C1020	Lower lift motor problem <ul style="list-style-type: none"> When the lower drawer is inserted, the lower lift limit switch does not turn on within 6 s of the lower lift motor turning on and the lower lift limit switch does not turn on by turning off the lower lift motor for 200 ms and retrying twice. 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 CN13-B15 on the main 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.
C1030	Desk upper lift motor problem <ul style="list-style-type: none"> When the upper drawer of the paper feed desk* is inserted, the desk upper lift limit switch does not turn on within 6 s of the desk upper lift motor turning on and the desk upper lift limit switch does not turn on by turning off the desk upper lift motor for 200 ms and retrying twice. During copying, the desk upper lift limit switch does not turn on within 200 ms of the desk upper lift motor turning on. 	Broken gears or couplings of the desk upper lift motor.	Replace the desk upper lift motor.
		Defective desk upper lift motor.	Check for continuity across the coil. If none, replace the desk upper lift motor.
		Poor contact of the desk upper lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective desk upper lift limit switch.	Check if CN1-5 on the desk main PCB goes low when the desk upper lift limit switch is turned off. If not, replace the desk upper lift limit switch.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1030	Desk upper lift motor problem <ul style="list-style-type: none"> When the upper drawer of the paper feed desk* is inserted, the desk upper lift limit switch does not turn on within 6 s of the desk upper lift motor turning on and the desk upper lift limit switch does not turn on by turning off the desk upper lift motor for 200 ms and retrying twice. During copying, the desk upper lift limit switch does not turn on within 200 ms of the desk upper lift motor turning on. 	Poor contact of the desk 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	Desk lower lift motor problem <ul style="list-style-type: none"> When the lower drawer of the paper feed desk* is inserted, the desk lower lift limit switch does not turn on within 6 s of the desk lower lift motor turning on and the desk lower lift limit switch does not turn on by turning off the desk lower lift motor for 200 ms and retrying twice. During copying, the desk lower lift limit switch does not turn on within 200 ms of the desk lower lift motor turning on. 	Broken gears of couplings of the desk lower lift motor.	Replace the desk lower lift motor.
		Defective desk lower lift motor.	Check for continuity across the coil. If none, replace the desk lower lift motor.
		Poor contact of the desk lower lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective desk lower lift limit switch.	Check if CN1-7 on the desk main PCB goes low when the desk lower lift limit switch is turned off. If not, replace the desk lower lift limit switch.
		Poor contact of the desk lower lift limit switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1100	Paper deck motor 1* problem <ul style="list-style-type: none"> A motor over-current signal is detected continuously for 1 s or longer. 	Paper deck motor 1 does not rotate correctly (the motor is overloaded).	Check the gears and remedy if necessary.
		Paper deck motor 1 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1110	Paper deck motor 2* problem <ul style="list-style-type: none"> A motor over-current signal is detected continuously for 1 s or longer. 	Paper deck motor 2 does not rotate correctly (the motor is overloaded).	Check the gears and remedy if necessary.
		Paper deck motor 2 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1120	Deck right lift* position problem <ul style="list-style-type: none"> Deck level switch 2 does not turn on within 30 s of paper deck motor 2 turning on. 	Defective deck level switch 2.	Check if CN5-4 on the desk main PCB goes low when desk level switch 2 is turned off. If not, replace desk level switch 2.
		Poor contact of deck level switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective paper deck motor 2.	Check for continuity across the coil. If none, replace paper desk motor 2.
		Poor contact of paper deck motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		The deck right lift does not rise properly.	Check the gears and belts, and remedy if necessary.
C1130	Deck left lift* position problem <ul style="list-style-type: none"> Deck level switch 2 does not turn on within 30 s of paper deck motor 2 turning on. 	Defective deck level switch 1.	Check if CN5-7 on the desk main PCB goes low when desk level switch 1 is turned off. If not, replace desk level switch 1.
		Poor contact of deck level switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective paper deck motor 1.	Check for continuity across the coil. If none, replace paper desk motor 1.
		Poor contact of paper deck motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		The deck left lift does not rise properly.	Check the gears and belts, and remedy if necessary.
C1160	Large paper deck*/paper feed desk* sequence problem	Operation start request is sent from the copier to the large paper deck/paper feed desk while paper feed is disabled.	Turn the power off and back on (reset request is sent from the copier to the large paper deck/paper feed desk to cancel operation start request).
		Paper feed request is sent from the copier to the large paper deck/paper feed desk before operation start request.	Turn the power off and back on (reset request is sent from the copier to the large paper deck/paper feed desk to cancel operation start request).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1170	Large paper deck* (paper feed desk*) incorrect type problem	Deck/desk for the printer is installed.	Replace the deck/desk for the copier.
C2000	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.
C2500	Paper feed motor problem • LOCK ALM 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.
C2600	Deck conveying motor*/desk drive motor* problem • No pulse is input within 500 ms of the start-up. • No pulse is input within 100 ms of the previous pulse input.	Defective deck conveying motor PCB/desk drive motor PCB.	Replace the deck conveying motor PCB/desk drive motor PCB and check for correct operation.
		Deck conveying motor /desk drive motor does not rotate correctly (the motor is overloaded).	Check the gears and remedy if necessary.
		Poor contact in the deck conveying motor/desk drive motor 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
C3100	Scanner carriage problem • The home position is not correct when the power is turned on or at the start of copying using the bypass table.	Poor contact in the connector terminals.	Check the connection of connector CN37 on the main 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 main PCB or scanner drive PCB.	Replace the main PCB or scanner drive PCB and check for correct operation.
		Defective scanner motor.	Replace the scanner motor.
C3200	Exposure lamp problem • Check the CCD input value for the lighting status of the exposure lamp 100 ms after the exposure lamp is lit and the carriage is moved to the shading position. If the exposure lamp does not light, turn off the lamp. After 500 ms, light the lamp again and, a further 500 ms later, check the CCD input. The exposure lamp does not light after 5 retries.	Poor contact of the connector terminals.	Check the connection of connectors CN34 and CN37 on the main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective exposure lamp.	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 switch.
C3300	Optical system problem • After AGC, correct input is not obtained at CCD.	Poor contact of the connector terminals.	Check the connection of connector CN34 on the main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C4000	Polygon motor synchronization problem • When the polygon motor starts, the motor does not become stable even after 20 s.	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 (see page 1-6-20).
		Defective power source PCB.	Check if 24 V DC is supplied to CN2-1 on the main PCB. If not, replace the power source PCB.
		Defective main PCB.	Check if 24 V DC is output from CN8-10 on the main PCB. If not, replace the main PCB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C4010	Polygon motor steady-state problem <ul style="list-style-type: none"> When high-speed rotation from low-speed rotation is requested, the motor does not become stable even after 20 s. 	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 (see page 1-6-20).
		Defective power source PCB.	Check if 24 V DC is supplied to CN2-1 on the main PCB. If not, replace the power source PCB.
		Defective main PCB.	Check if 24 V DC is output from CN8-10 on the main PCB. If not, replace the main PCB.
C4200	BD steady-state problem <ul style="list-style-type: none"> The VTC detects a BD error for 600 ms after the polygon motor rotation has been stabilized. 	Defective laser diode.	Replace the LSU (see page 1-6-20).
		Defective polygon motor.	Replace the LSU (see page 1-6-20).
		Defective main PCB.	Replace the main PCB and check for correct operation.
C5300	Broken cleaning lamp wire While the cleaning lamp is on, the broken cleaning lamp wire detection signal is detected for 2 s continuously.	Defective cleaning lamp.	Replace the cleaning lamp.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C6000	Broken fixing heater wire <ul style="list-style-type: none"> After secondary stabilization, detected temperature of the fixing thermistor is lower than 100 °C/212 °F When the fixing heater is turned on, the output voltage of terminal CN2-1 of the power supply PCB is lower than 0.2 V. 7 s after the fixing heater is turned on, the output voltage of terminal CN2-1 of the power supply PCB is lower than 0.2 V. When the output voltage of terminal CN 2-1 of the power supply PCB is checked every 45 s during continuous copying, the voltage becomes lower than 0.2 V. When the fixing temperature becomes lower than 140 °C/284 °F during copying, the output voltage of terminal CN 2-1 of the power supply PCB is checked and the voltage is lower than 0.2 V. 	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN10 on the main 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 unit heater M or S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing unit heater M or S wire.	Check for continuity. If none, replace the fixing unit heater M or S (see page 1-6-38).
C6020	Abnormally high fixing unit thermistor temperature <ul style="list-style-type: none"> The fixing thermistor detects temperature 240 °C/464 °F or higher. 	Shorted fixing unit thermistor.	Measure the resistance. If it is 0 Ω, replace the fixing unit thermistor.
		Broken fixing unit heater control circuit on the power source PCB.	Replace the power source PCB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6050	Abnormally low fixing unit thermistor temperature <ul style="list-style-type: none"> The fixing thermistor detects temperature lower than 100 °C/212 °F for 10 s. When fixing heater M is on, the temperature of the fixing thermistor is lower than 40 °C/104 °F and continues to drop for 24 s. (If the temperature in the copier is 10 °C/50 °F or less when power is turned on.) When fixing heater M is on, the temperature of the fixing thermistor is lower than 40 °C/104 °F and continues to drop for 14 s. (If the temperature in the copier is higher than 10 °C/50 °F when power is turned on.) 	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN10 on the main 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 unit heater M or S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing unit heater M or S wire.	Check for continuity. If none, replace the fixing unit heater M or S.
C6410	Fixing unit connector insertion problem <ul style="list-style-type: none"> Absence of the fixing unit is detected continuously for 1500 ms while there is no error on the copier. 	Fixing unit connector inserted incorrectly.	Reinsert the fixing unit connector if necessary.
		Defective fixing unit connector.	Replace the fixing unit.
C6420	Broken fixing unit thermistor wire <ul style="list-style-type: none"> 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 CN10 on the main 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.
C7300	Toner sensor problem <ul style="list-style-type: none"> While the toner container sensor is on, the toner sensor in the developing unit does not turn on after the toner sensor turns off and toner is replenished from the toner container. 	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 toner container sensor.	Replace the toner container sensor.
		Defective toner container.	Replace the toner container.
C7400	Image formation unit connector insertion problem <ul style="list-style-type: none"> Absence of the image formation unit is detected continuously for 1500 ms while there is no error on the copier. 	Image formation unit connector inserted incorrectly.	Reinsert the image formation unit connector if necessary.
		Defective image formation unit connector.	Replace the image formation unit.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7410	Drum unit connector insertion problem <ul style="list-style-type: none"> Absence of the drum unit is detected continuously for 1500 ms while there is no error on the copier. 	Drum unit connector inserted incorrectly.	Reinsert the drum unit connector if necessary.
		Defective drum unit connector.	Replace the drum unit.
C7800	Broken external temperature thermistor wire <ul style="list-style-type: none"> The input voltage is above 4.5 V. 	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.
C7810	Short-circuited external temperature thermistor <ul style="list-style-type: none"> The input voltage is below 1.0 V. 	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.
C8010	Finisher* paper conveying motor problem <ul style="list-style-type: none"> The paper conveying motor lockup signal is detected for 0.5 s or longer. 	Poor contact in the paper conveying motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The paper conveying motor malfunctions.	Replace the paper conveying motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8030	Finisher* paper conveying belt problem <ul style="list-style-type: none"> An on-to-off or off-to-on state change of the paper conveying belt home position sensor is not detected within 2 s of the paper conveying belt clutch turning on. 	The paper conveying belt is out of phase.	Adjust the paper conveying belt so that it is in phase and check for correct operation.
		The paper conveying belt clutch malfunctions.	Replace the paper conveying belt clutch and check for correct operation.
		The paper conveying belt home position sensor malfunctions.	Replace the paper conveying belt home position sensor and check for correct operation.
		The paper conveying belt home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The internal tray is incorrectly inserted.	Check whether the internal tray unit or front cover catches are damaged.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8140	Finisher* tray elevation motor problem <ul style="list-style-type: none"> The sort tray is not detected in the home position within 30 s of the start of the tray elevation motor rotation. 	Poor contact in the tray elevation motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The tray elevation motor malfunctions.	Replace the tray elevation motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8170	Finisher* front side registration motor problem <ul style="list-style-type: none"> If the front side registration home position sensor is on in initialization, the sensor does not turn off within 570 ms of starting initialization. If the front side registration home position sensor is off in initialization, the sensor does not turn on within 3180 ms of starting initialization. 	The front side registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front side registration motor malfunctions.	Replace the front side registration motor and check for correct operation.
		The front side registration home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front side registration home position sensor malfunctions.	Replace the front side registration home position sensor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8180	Finisher* rear side registration motor problem <ul style="list-style-type: none"> If the rear side registration home position sensor is on in initialization, the sensor does not turn off within 570 ms of starting initialization. If the rear side registration home position sensor is off in initialization, the sensor does not turn on within 2880 ms of starting initialization. 	The rear side registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear side registration motor malfunctions.	Replace the rear side registration motor and check for correct operation.
		The rear side registration home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear side registration home position sensor malfunctions.	Replace the rear side registration home position sensor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8190	Finisher* trailing edge registration motor problem <ul style="list-style-type: none"> If the trailing edge registration home position sensor is on in initialization, the sensor does not turn off within 570 ms of starting initialization. If the trailing edge registration home position sensor is off in initialization, the sensor does not turn on within 4550 ms of starting initialization. 	The trailing edge registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The trailing edge registration motor malfunctions.	Replace the trailing edge registration motor and check for correct operation.
		The trailing edge registration home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The trailing edge registration home position sensor malfunctions.	Replace the trailing edge registration home position sensor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8210	Finisher* front stapler problem <ul style="list-style-type: none"> The front stapler home position sensor does not change state from non-detection to detection within 200 ms of the start of front stapler motor counterclockwise (forward) rotation. During initialization, the front stapler home position sensor does not change state from non-detection to detection within 600 ms of the start of front stapler motor clockwise (reverse) rotation. 	The front stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front stapler malfunctions. a) The front stapler is blocked with a staple. b) The front stapler is broken.	a) Remove the front stapler cartridge, and check the cartridge and the stapling section of the stapler. b) Replace the front stapler and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8220	Finisher* rear stapler problem <ul style="list-style-type: none"> The rear stapler home position sensor does not change state from non-detection to detection within 200 ms of the start of rear stapler motor counterclockwise (forward) rotation. During initialization, the rear stapler home position sensor does not change state from non-detection to detection within 600 ms of the start of rear stapler motor clockwise (reverse) rotation. 	The rear stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear stapler malfunctions. a) The rear stapler is blocked with a staple. b) The rear stapler is broken.	a) Remove the front stapler cartridge, and check the cartridge and the stapling section of the stapler. b) Replace the front stapler and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8300	Booklet stitcher* paper ejection motor problem	A problem is detected with the paper ejection motor.	See the booklet stitcher service manual.
C8310	Booklet stitcher* elevation motor problem	A problem is detected with the elevation motor.	See the booklet stitcher service manual.

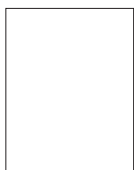
*: Optional

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8320	Booklet stitcher* rear jog motor problem	A problem is detected with the rear jog motor.	See the booklet stitcher service manual.
C8330	Booklet stitcher* front jog motor problem	A problem is detected with the front jog motor.	See the booklet stitcher service manual.
C8340	Booklet stitcher* staple motor problem	A problem is detected with the staple motor.	See the booklet stitcher service manual.
C8350	Booklet stitcher* batch processing motor problem	A problem is detected with the batch processing motor.	See the booklet stitcher service manual.
C8360	Booklet stitcher* stapler shift motor problem	A problem is detected with the stapler shift motor.	See the booklet stitcher service manual.
C8370	Booklet stitcher* paddle motor problem	A problem is detected with the paddle motor.	See the booklet stitcher service manual.
C8380	Booklet stitcher* folding problem	A problem is detected with the folding sensor.	See the booklet stitcher service manual.
C8390	Booklet stitcher* backup RAM data problem	A backup RAM data error is detected.	See the booklet stitcher service manual.
C8400	Booklet stitcher* incorrect type problem	An incorrect type error is detected.	See the booklet stitcher service manual.
C8410	Booklet stitcher* punch motor problem	A problem is detected with the punch motor.	See the booklet stitcher service manual.
C8420	Booklet stitcher* shift motor problem	A problem is detected with the shift motor.	See the booklet stitcher service manual.
C8430	Booklet stitcher* punch communication problem	A problem is detected with the punch communication.	See the booklet stitcher service manual.
C8440	Booklet stitcher* punch sensor problem	A problem is detected with the punch sensor.	See the booklet stitcher service manual.
C8450	Booklet stitcher* side punch sensor problem	A problem is detected with the side punch sensor.	See the booklet stitcher service manual.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8460	Booklet stitcher* punch backup RAM data problem	A problem is detected with the punch backup RAM data.	See the booklet stitcher service manual.
C8470	Booklet stitcher* punch dust sensor problem	A problem is detected with the punch dust sensor.	See the booklet stitcher service manual.
C8480	Booklet stitcher* broken punch power source wire problem	A broken punch power source wire problem is detected.	See the booklet stitcher service manual.
C8500	Mailbox* drive motor problem <ul style="list-style-type: none"> While the mailbox drive motor is driving, synchronization signals do not synchronize continually for 464 ms (motor lockup). 	Defective mailbox drive motor or mailbox main PCB.	Run a simulation of the mailbox (communication test mode, see page 3-2-2 of the mailbox service manual). If there is any problem with the communication, replace the mailbox drive motor or the mailbox main PCB and check for correct operation.

1-5-3 Image formation problems

- (1) No image appears (entirely white).



See page 1-5-43

- (2) No image appears (entirely black).



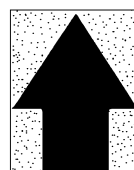
See page 1-5-44

- (3) Image is too light.



See page 1-5-45

- (4) Background is visible.



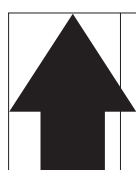
See page 1-5-45

- (5) A white line appears longitudinally.



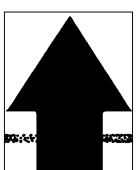
See page 1-5-45

- (6) A black line appears longitudinally.



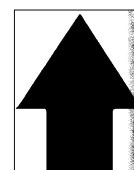
See page 1-5-46

- (7) A black line appears laterally.



See page 1-5-46

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



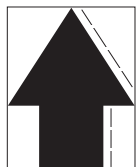
See page 1-5-46

- (9) Black dots appear on the image.



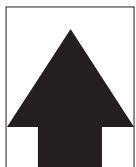
See page 1-5-47

- (10) Image is blurred.



See page 1-5-47

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



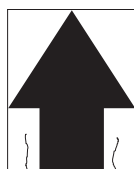
See page 1-5-47

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



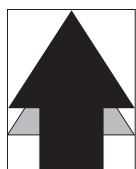
See page 1-5-48

- (13) Paper creases.



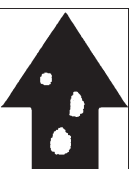
See page 1-5-48

- (14) Offset occurs.



See page 1-5-48

- (15) Image is partly missing.



See page 1-5-49

- (16) Fixing is poor.



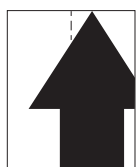
See page 1-5-49

- (17) Image is out of focus.



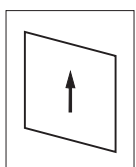
See page 1-5-49

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



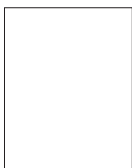
See page 1-5-50

- (19) Image is not square.



See page 1-5-50

(1) No image appears
(entirely white).



Causes

1. No transfer charging.
2. No LSU laser is output.
3. No developing bias is output.

Causes	Check procedures/corrective measures
1. No transfer charging.	
A. 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.
B. Defective main PCB.	Check if CN7-10 on the main PCB goes low when maintenance item U101 is run. If not, replace the main PCB.
C. Defective high-voltage transformer PCB.	Check if transfer charging takes place when CN1-10 on the high-voltage transformer PCB goes low while maintenance item U101 is run. If not, replace the high-voltage transformer PCB.
2. No LSU laser is output.	
A. Defective laser scanner unit.	Replace the laser scanner unit.
B. Defective main PCB.	Check if CN8-4 on the main PCB goes low when maintenance item U101 is run. If not, replace the main PCB.
3. No developing bias is output.	
A. Defective main PCB.	Check if CN7-1 on the main PCB goes low when maintenance item U101 is run. If not, replace the main PCB.
B. Defective high-voltage transformer PCB.	Check if developing bias voltage is output when the main PCB is normal while maintenance item U101 is run. If not, replace the high-voltage transformer 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 main charger unit.
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 CN7-3 on the main PCB goes low when maintenance item U100 is run. If not, replace the main PCB.
E. Defective high-voltage transformer PCB.	Check if main charging takes place when CN1-3 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 CN1-1 and 1-2 on the inverter PCB go low while maintenance item U061 is run. If not, replace the inverter PCB.
C. Defective scanner drive PCB.	Check if the exposure lamp lights when CN1-3 on the scanner drive PCB goes low while maintenance item U061 is run. If not, replace the scanner drive PCB.
D. Defective main PCB.	Check if CN37-3 on the main PCB goes low when maintenance item U061 is run. If not, replace the main PCB.

- (3) Image is too light.



Causes

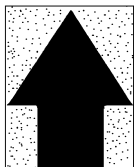
1. Insufficient toner.
2. Deteriorated toner.
3. The transfer voltage is not output properly.
4. Dirty main charger wire.

Causes	Check procedures/corrective measures
1. Insufficient toner.	If the display shows the message requesting toner replenishment, replace the cartridge.
2. Deteriorated toner.	Perform the drum refresh operation.
3. The transfer voltage is not output properly.	Clean or check the transfer roller.
4. Dirty main charger.	Clean the main charger or, if it is extremely dirty, replace it.

- (4) Background is visible.

Causes

1. Deteriorated toner.
2. Dirty main charger.



Causes	Check procedures/corrective measures
1. Deteriorated toner.	Perform the drum refresh operation.
2. Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it.

- (5) A white line appears longitudinally.

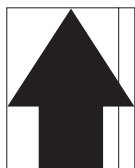
Causes

1. Foreign matter in the developing unit.
2. Dirty shading plate.



Causes	Check procedures/corrective measures
1. Foreign matter in the developing unit.	Check if the magnetic brush is formed uniformly. Replace the developing unit if any foreign matter.
2. Dirty shading plate.	Clean the shading plate.

- (6) A black line appears longitudinally.

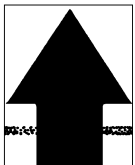


Causes

1. Dirty contact glass.
2. Dirty or flawed drum.
3. Deformed or worn cleaning blade.
4. Dirty scanner mirror.
5. Dirty main charger wire.

Causes	Check procedures/corrective measures
1. Dirty contact glass.	Clean the contact glass.
2. Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit.
3. Deformed or worn cleaning blade.	Replace the cleaning blade.
4. Dirty scanner mirror.	Clean the scanner mirror.
5. Dirty main charger wire.	Clean the main charger wire or, if it is extremely dirty, replace it.

- (7) A black line appears laterally.

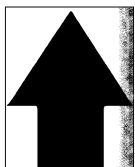


Causes

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

Causes	Check procedures/corrective measures
1. Flawed drum.	Replace the drum unit.
2. Dirty developing section.	Clean any part contaminated with toner in the developing section.
3. Leaking main charger housing.	Clean the main charger wire, grid and shield.
4. Leaking separation electrode.	Clean the separation electrode.

- (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 1-6-25).

- (9) Black dots appear on the image.



Causes

1. Dirty or flawed drum.
2. Dirty contact glass.
3. Deformed or worn cleaning blade.
4. Dirty drum separation claws.
5. Dirty heat roller separation claws.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit.
2. Dirty contact glass.	Clean the contact glass.
3. Deformed or worn cleaning blade.	Replace the cleaning blade.
4. Dirty drum separation claws.	Clean the drum separation claws.
5. Dirty the heat roller separation claws.	Clean the heat roller separation claws.

- (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 1-6-63).
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.
2. Misadjusted scanner leading edge registration.

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

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

Causes

1. Feed clutch, paper feed clutch, bypass paper feed clutch or registration clutch installed or operating incorrectly.

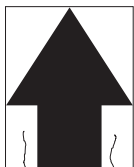


Causes	Check procedures/corrective measures
1. Feed clutch, paper feed clutch, bypass paper feed clutch or registration clutch installed or operating incorrectly.	Check the installation position and operation of the feed clutch, paper feed clutch, bypass paper feed clutch and registration clutch. If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

- (13) Paper creases.

Causes

1. Paper curled.
2. Paper damp.
3. Defective pressure springs.
4. Defective separation.
5. Defective fans.

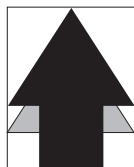


Causes	Check procedures/corrective measures
1. Paper curled.	Check the paper storage conditions.
2. Paper damp.	Check the paper storage conditions.
3. Defective pressure springs.	Replace the pressure springs.
4. Defective separation.	Check the drum separation claws and heat roller separation claws.
5. Defective fans.	Replace the fans.

- (14) Offset occurs.

Causes

1. Defective cleaning blade.
2. Defective fixing section.



Causes	Check procedures/corrective measures
1. Defective cleaning blade.	Replace the cleaning blade (see page 1-6-46).
2. Defective fixing section.	Replace the heat roller and press roller.

(15) Image is partly missing.

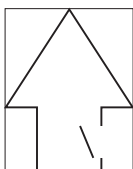


Causes

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.	Perform the drum refresh operation.
4. Flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit.

(16) Fixing is poor.



Causes

1. Wrong paper.
2. Defective pressure springs.
3. Flawed press roller.
4. Defective fixing heater S.

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 1-6-63).
4. Defective fixing heater S.	Replace the fixing heater S (see page 1-6-63).

(17) Image is out of focus.



Causes

1. Defective image scanning unit.
2. Drum condensation.

Causes	Check procedures/corrective measures
1. Defective image scanning unit.	Replace the image scanning unit (see page 1-6-30).
2. Drum condensation.	Perform the drum refresh operation.

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

Causes

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

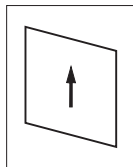


Causes	Check procedures/corrective measures
1. Misadjusted center line of image printing.	Readjust the center line of image printing (see page 1-6-19).
2. Misadjusted scanner center line.	Readjust the scanner center line (see page 1-6-37).
3. Original placed incorrectly.	Place the original correctly.

- (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 1-6-30).
2. Image scanning unit positioned incorrectly.	Adjust the installation position of the image scanning unit (see page 1-6-30).

1-5-4 Electrical problems

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 cover, conveying cover and/or side cover are/is not closed completely.	Check the front cover, conveying cover and side cover.
	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 or 2.	Check for continuity across the contacts of each switch. If none, replace the switch.
(2) The drive motor does not operate (C2000).	Defective power source PCB.	With AC present, check for 24 V DC at CN1-1 and 5 V DC at CN1-5 on the power source PCB. If none, replace the power source PCB.
	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 CN11-9 on the main PCB goes low. If not, replace the drive motor.
(3) The paper feed motor does not operate (C2500).	Defective main PCB.	Run maintenance item U030 and check if CN11-9 on the main PCB goes low. If not, replace the main PCB.
	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 CN11-10 on the main PCB goes low. If not, replace the paper feed motor.
(4) The eject motor does not operate.	Defective main PCB.	Run maintenance item U030 and check if CN11-10 on the main PCB goes low. If not, replace the main PCB.
	Poor contact in the eject motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken eject motor gear.	Check visually and replace the eject motor if necessary.
	Defective eject motor.	Run maintenance item U030 and check if the eject motor operates when CN16-B11, CN16-B12, CN16-B13 and CN16-B14 on the main PCB go low. If not, replace the eject motor.
	Defective eject switch.	Run maintenance item U031 and turn the eject switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.

Problem	Causes	Check procedures/corrective measures
(4) The eject motor does not operate.	Defective main PCB.	Run maintenance item U030 and check if CN16-B11, CN16-B12, CN16-B13 and CN16-B14 on the main PCB go low. If not, replace the main PCB.
(5) The upper lift motor does not operate (C1010).	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 main PCB.	Check if 24 V DC is output across CN13-A17 on the main PCB right after the upper drawer is installed. If not, replace the main PCB.
(6) The lower lift motor does not operate (C1020).	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 main PCB.	Check if 24 V DC is output across CN13-B7 on the main PCB right after the lower drawer is installed. If not, replace the main PCB.
(7) The scanner motor does not operate.	Broken scanner motor coil.	Check for continuity across the coil. If none, replace the scanner motor.
	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.
(8) Cooling fan motor 1 does not operate.	Broken cooling fan motor 1 coil.	Check for continuity across the coil. If none, replace cooling fan motor 1.
	Poor contact in the cooling fan motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(9) Cooling fan motor 2 does not operate.	Broken cooling fan motor 2 coil.	Check for continuity across the coil. If none, replace cooling fan motor 2.
	Poor contact in the cooling fan motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(10) Cooling fan motor 3 does not operate.	Broken cooling fan motor 3 coil.	Check for continuity across the coil. If none, replace cooling fan motor 3.
	Poor contact in the cooling fan motor 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(11) Cooling fan motor 4 does not operate.	Broken cooling fan motor 4 coil.	Check for continuity across the coil. If none, replace cooling fan motor 4.
	Poor contact in the cooling fan motor 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.

Problem	Causes	Check procedures/corrective measures
(12) Cooling fan motor 5 does not operate.	Broken cooling fan motor 5 coil.	Check for continuity across the coil. If none, replace cooling fan motor 5.
	Poor contact in the cooling fan motor 5 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(13) Cooling fan motor 6 does not operate.	Broken cooling fan motor 6 coil.	Check for continuity across the coil. If none, replace cooling fan motor 6.
	Poor contact in the cooling fan motor 6 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(14) Cooling fan motor 7 does not operate.	Broken cooling fan motor 7 coil.	Check for continuity across the coil. If none, replace cooling fan motor 7.
	Poor contact in the cooling fan motor 7 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(15) Cooling fan motor 8 does not operate.	Broken cooling fan motor 8 coil.	Check for continuity across the coil. If none, replace cooling fan motor 8.
	Poor contact in the cooling fan motor 8 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(16) Cooling fan motor 9 does not operate.	Broken cooling fan motor 9 coil.	Check for continuity across the coil. If none, replace cooling fan motor 9.
	Poor contact in the cooling fan motor 9 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
(17) 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 main PCB.	Run maintenance item U032 and check if CN16-B1 on the main PCB goes low. If not, replace the main PCB.
(18) 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 main PCB.	Run maintenance item U032 and check if CN16-B4 on the main PCB goes low. If not, replace the main PCB.
(19) 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 main PCB.	Run maintenance item U032 and check if CN11-14 on the main PCB goes low. If not, replace the main PCB.

Problem	Causes	Check procedures/corrective measures
(20) 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.
	Defective main PCB.	Run maintenance item U032 and check if CN13-A12 on the main PCB goes low. If not, replace the main PCB.
(21) 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 main PCB.	Run maintenance item U032 and check if CN13-A5 on the main PCB goes low. If not, replace the main PCB.
(22) 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 main PCB.	Run maintenance item U032 and check if CN6-A9 on the main PCB goes low. If not, replace the main PCB.
(23) The bypass feed clutch does not operate.	Broken bypass feed clutch coil.	Check for continuity across the coil. If none, replace the bypass feed clutch.
	Poor contact in the bypass feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective main PCB.	Run maintenance item U032 and check if CN6-A11 on the main PCB goes low. If not, replace the main PCB.
(24) 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 main PCB.	Run maintenance item U032 and check if CN10-A2 on the main PCB goes low. If not, replace the main PCB.
(25) 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.
	Defective main PCB.	Run maintenance item U033 and check if CN16-A1 and CN16-A2 on the main PCB go low. If not, replace the main PCB.
(26) The toner feed solenoid does not operate.	Broken toner feed solenoid coil.	Check for continuity across the coil. If none, replace the toner feed solenoid.
	Poor contact in the toner feed solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective main PCB.	Run maintenance item U033 and check if CN9-B2 on the main PCB goes low. If not, replace the main PCB.

Problem	Causes	Check procedures/corrective measures
(27) 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 main PCB.	If the cleaning lamp turns on when CN9-B7 on the main PCB is held low, replace the main PCB.
(28) 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.	Run maintenance item U061 and check if the exposure lamp turns on with CN1-1 and CN1-2 on the inverter PCB go low. If not, replace the inverter PCB.
	Defective scanner drive PCB.	Run maintenance item U061 and check if the exposure lamp turns on with CN1-3 on the scanner drive PCB goes low. If not, replace the scanner drive PCB.
	Defective main PCB.	Run maintenance item U061 and check if CN37-3 on the main PCB goes low. If not, replace the main PCB.
(29) The exposure lamp does not turn off.	Defective inverter PCB.	If the exposure lamp does not turn off with CN1-1 and CN1-2 on the inverter PCB high, replace the inverter PCB.
	Defective scanner drive PCB.	If CN1-3 on the scanner drive PCB are always low, replace the scanner drive PCB.
(30) The fixing heater does not turn on (C6000).	Broken wire in fixing heater M or S.	Check for continuity across each heater. If none, replace the heater M or S.
	Fixing unit thermostat triggered.	Check for continuity across thermostat. If none, remove the cause and replace the thermostat.
(31) The fixing heater does not turn off.	Broken fixing unit thermistor wire.	Measure the resistance. If it is $\infty \Omega$, replace the fixing unit thermistor.
	Dirty sensor part of the fixing unit thermistor.	Check visually and clean the thermistor sensor parts.
(32) Main charging is not performed.	Broken main charger wire.	See page 1-5-44.
	Leaking main charger housing.	
	Poor contact in the high-voltage transformer PCB connector terminals.	
	Defective main PCB.	
	Defective high-voltage transformer PCB.	
(33) Transfer charging is not performed.	Poor contact in the high-voltage transformer PCB connector terminals.	See page 1-5-43.
	Defective main PCB.	
	Defective high-voltage transformer PCB.	

Problem	Causes	Check procedures/corrective measures
(34) No developing bias is output.	Defective main PCB.	See page 1-5-43.
	Defective high-voltage transformer PCB.	
(35) The original size is not detected.	Defective original detection switch.	If the level of CN5-2 on the scanner drive PCB does not change when the original detection switch is turned on and off, replace the original detection switch.
(36) 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 sensor 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.	Check if sensor operates correctly. If not, replace it.
(37) 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 PCB.
(38) The message requesting paper to be loaded is shown when paper is present in the upper drawer.	Poor contact in the upper paper switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective upper paper switch.	Check if CN13-B12 on the main PCB goes low when the upper paper switch is turned on with 5 V DC present at CN13-B13 on the main PCB. If not, replace the upper paper switch.
(39) The message requesting paper to be loaded is shown when paper is present in the lower drawer.	Poor contact in the lower paper switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lower paper switch.	Check if CN13-B18 on the main PCB goes low when the upper paper switch is turned on with 5 V DC present at CN13-B19 on the main PCB. If not, replace the lower paper switch.
(40) The message requesting paper to be loaded is shown when paper is present on the bypass tray.	Poor contact in the bypass paper switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass paper switch.	Check if CN6-A6 on the main PCB goes low when the bypass paper switch is turned on with 5 V DC present at CN6-A5 on the main PCB. If not, replace the bypass paper switch.
(41) The size of paper in the upper drawer is not displayed correctly.	Poor contact in the upper paper length switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective upper paper length switch.	Check if CN13-B2 on the main 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.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective upper paper width switch.	Check if the levels of CN12-3, CN12-4 and CN12-5 on the main PCB change alternately when the width guide in the upper drawer is moved. If not, replace the upper paper width switch.

Problem	Causes	Check procedures/corrective measures
(42) The size of paper in the lower drawer is not displayed correctly.	Poor contact in the lower paper length switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lower paper length switch.	Check if CN13-A19 on the main 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.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lower paper width switch.	Check if the levels of CN12-9, CN12-10 and CN12-11 on the main PCB change alternately when the width guide in the lower drawer is moved. If not, replace the lower paper width switch.
(43) The printing width of the paper on the bypass tray is not detected 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 CN6-B11 on the main 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 CN6-A1, CN6-A2 and CN6-A3 on the main PCB change alternately when the insert guide on the bypass table is moved. If not, replace the bypass paper width switch.
(44) A paper jam in the paper feed, paper conveying or fixing section is indicated when the main switch is turned on.	A piece of paper torn from copy paper is caught around feed switch 1/2/3, registration switch, feedshift switch or eject switch.	Check and remove if any.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective eject switch.	Run maintenance item U031 and turn the eject switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.
	Defective feedshift switch.	Run maintenance item U031 and turn the feedshift switch on and off manually. Replace the switch if indication of the corresponding switch on the operation panel is not displayed in reverse.

Problem	Causes	Check procedures/corrective measures
(45) The message requesting covers to be closed is displayed when the front cover and conveying cover are closed.	Poor contact in the connector terminals of safety switch 1 or 2.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective safety switch 1 or 2.	Check for continuity across each switch. If there is no continuity when the switch is on, replace it.
(46) Others.	Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.
	Noise.	Locate the source of noise and remove.

1-5-5 Mechanical problems

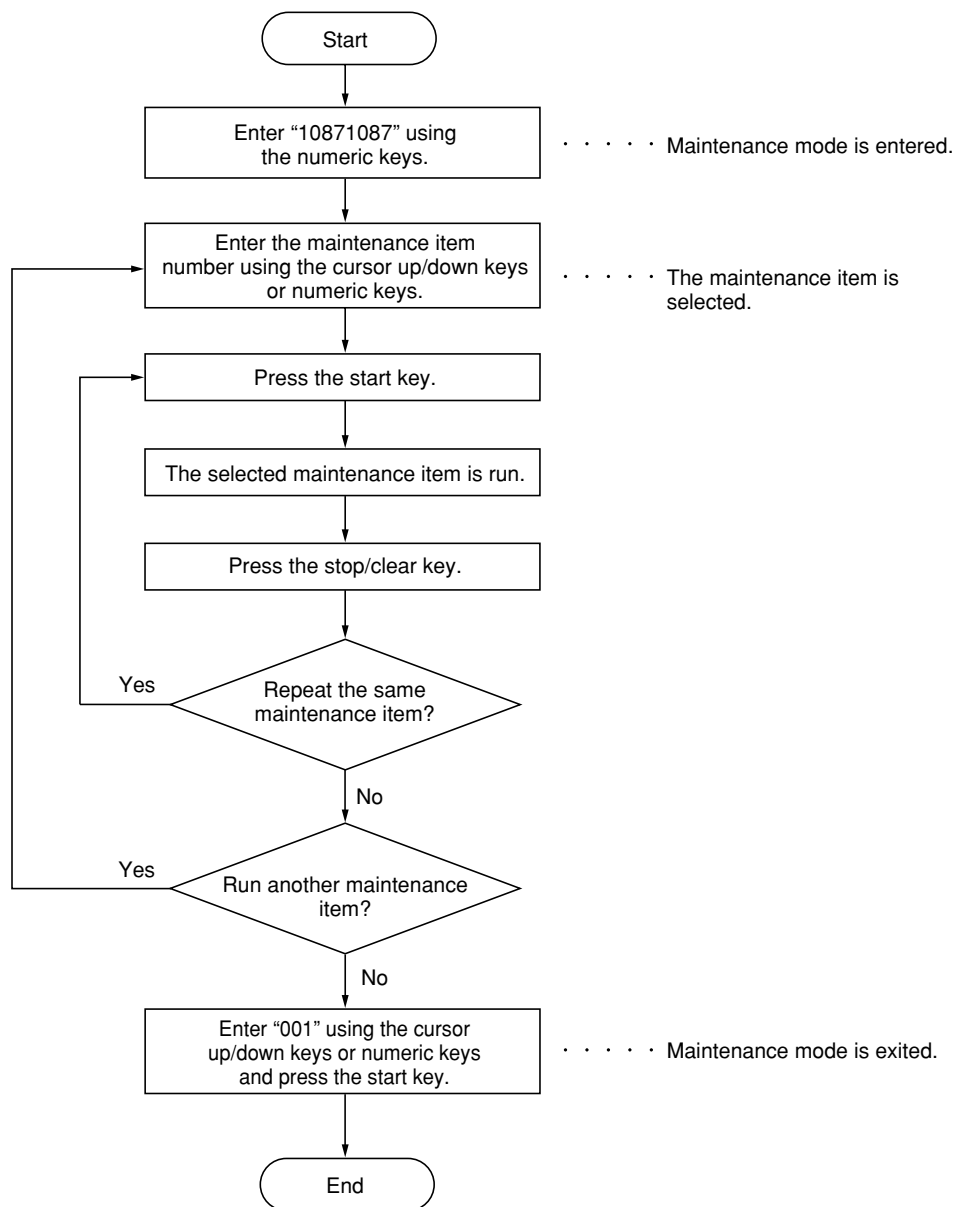
Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the following rollers or pulleys are dirty with paper powder: upper/lower forwarding pulleys, upper/lower paper feed pulleys, upper/lower separation pulleys, feed rollers, registration rollers, bypass forwarding pulleys, bypass paper feed pulleys and bypass separation pulleys.	Clean with isopropyl alcohol.
	Check if the upper/lower forwarding pulleys, upper/lower paper feed pulleys or upper/lower separation pulleys 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, bypass paper feed clutch and bypass feed clutch.	See pages 1-5-53 and 54.
(2) No secondary paper feed.	Check if the surfaces of the right and left registration rollers are dirty with paper powder.	Clean with isopropyl alcohol.
	Electrical problem with the registration clutch.	See page 1-5-54.
(3) Skewed paper feed.	Width guide in a drawer installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a drawer.	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 1-6-16).
	The scanner motor malfunctions.	See page 1-5-52.
(5) Multiple sheets of paper are fed at one time.	Check if the upper or lower separation pulley is worn.	Replace the upper or lower separation pulley if it is worn (see page 1-6-3).
	Check if the paper is curled.	Change the paper.
(6) 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 right and left registration rollers is correct.	Check visually and remedy if necessary.
	Check if the contact between the feed roller and feed pulley is correct.	Check visually and remedy if necessary.
	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 1-5-54.

Problem	Causes/check procedures	Corrective measures
(7) Toner drops on the paper conveying path.	Check if the developing unit is extremely dirty.	Clean the developing unit.
(8) 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, bypass paper feed clutch and bypass feed clutch.	Correct.

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*
 - Fuke 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, paper feed and separation pulleys

Follow the procedure below to replace the forwarding, paper feed and separation pulleys.

Procedure

- Removing the primary paper feed units
 1. Open the front cover and pull out the upper and lower drawers.
 2. Remove the one screw from each of the primary paper feed units and then the units.

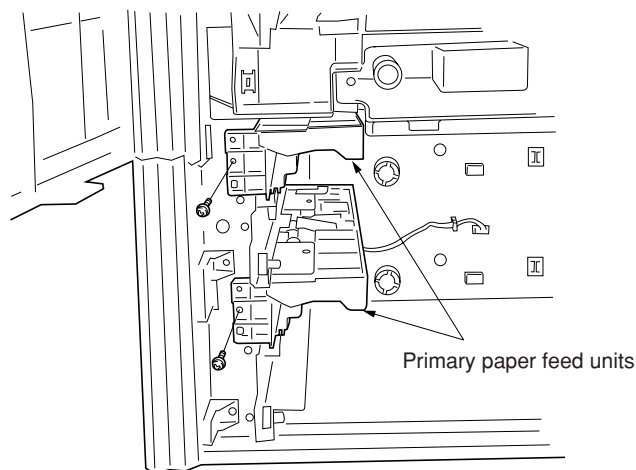


Figure 1-6-1

- Removing the forwarding pulley
 3. Remove the stopper.
 4. Raise the forwarding pulley retainer in the direction the arrow, and remove from the primary paper feed unit.

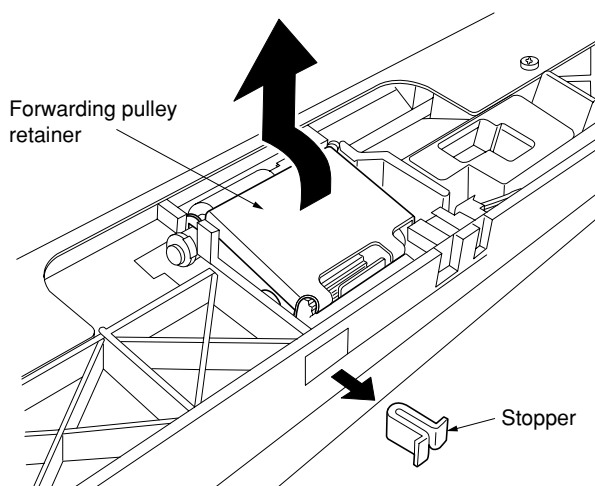


Figure 1-6-2

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

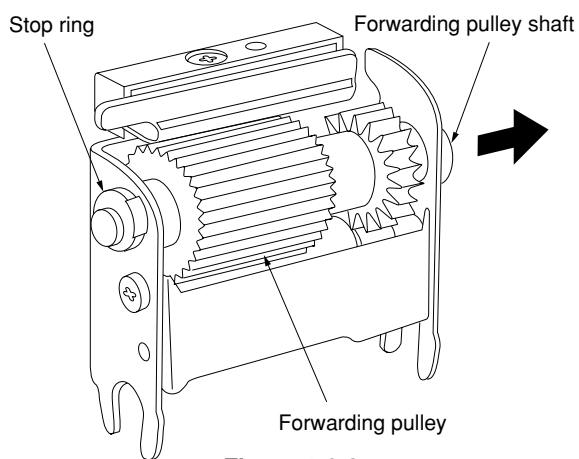


Figure 1-6-3

2DF

- Removing the paper feed pulley
6. Remove the two stop rings.
 7. Pull the paper feed shaft toward the rear of the primary paper feed unit (in the direction of the arrow) and remove the paper feed pulley.

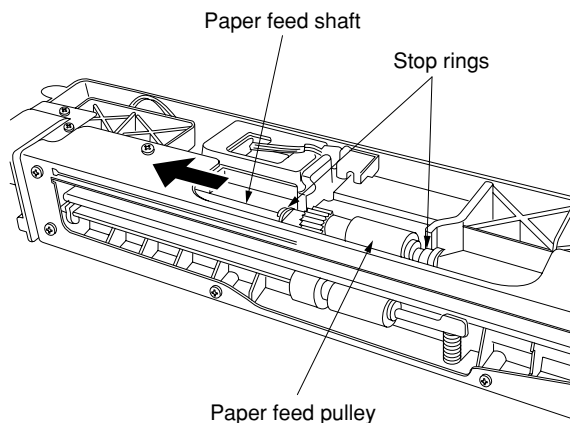


Figure 1-6-4

- Removing the separation pulley
8. Remove the stop ring on the rear of the primary paper feed unit.
 9. Pull the separation shaft toward the machine rear (in the direction of the arrow) and remove the separation pulley.

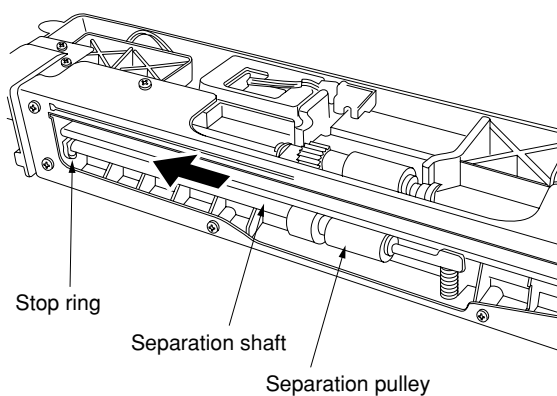


Figure 1-6-5

10. Replace the forwarding, paper feed and separation pulleys.

Caution:

- When fitting the forwarding pulley, orient it correctly as shown in Figure 1-6-6.
- When fitting the separation pulley, keep the blue end of the separation toward the machine rear.

11. Refit all removed parts.

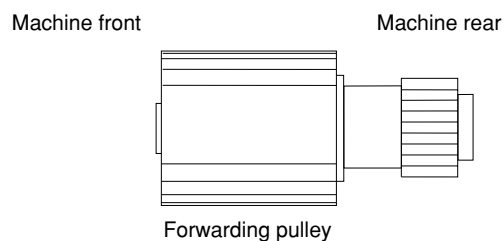


Figure 1-6-6

(2) Detaching and refitting the bypass separation, bypass paper feed and bypass forwarding pulleys

Follow the procedure below to replace the bypass separation, bypass paper feed and bypass forwarding pulleys.

Procedure

• Removing the bypass unit

1. Remove the four screws holding the lower right cover and then the cover.

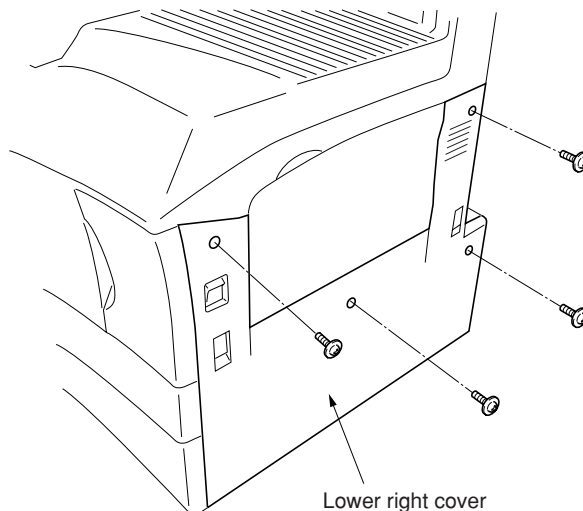


Figure 1-6-7

2. Remove the two screws holding the bypass unit and disconnect the two connectors, and then remove the unit.

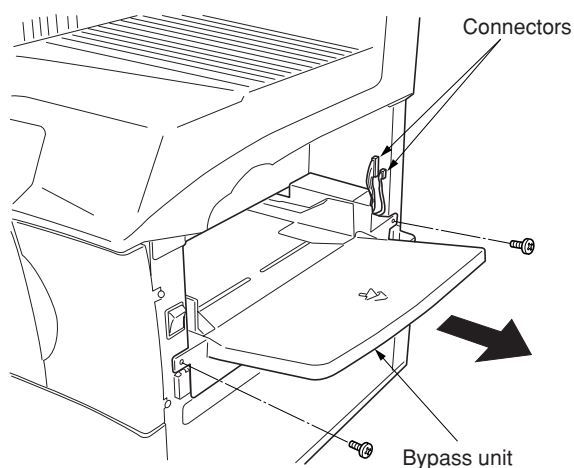


Figure 1-6-8

• Removing the bypass separation pulley

3. Reverse the bypass unit and remove the spring and stop ring from the bypass separation pulley and move the bushing inside.

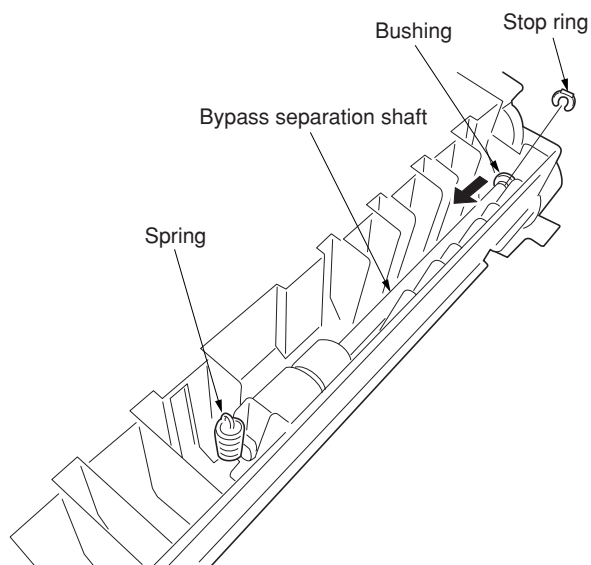


Figure 1-6-9

4. Raise the bypass separation shaft as shown in the diagram, remove the holder plate and the bushing, and then remove the bypass separation pulley.

* Take care not to remove the spring pin of the gear at the rear of the bypass separation shaft. If it is removed, refit it to its original position.

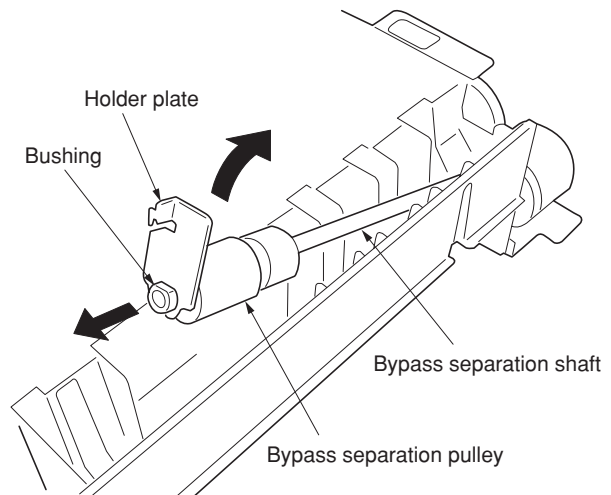


Figure 1-6-10

• Removing the bypass paper feed pulley

5. Detach the connector of the bypass paper switch and remove the wire from the three clamps.
6. Remove the screw holding the bypass unit cover and then the cover.

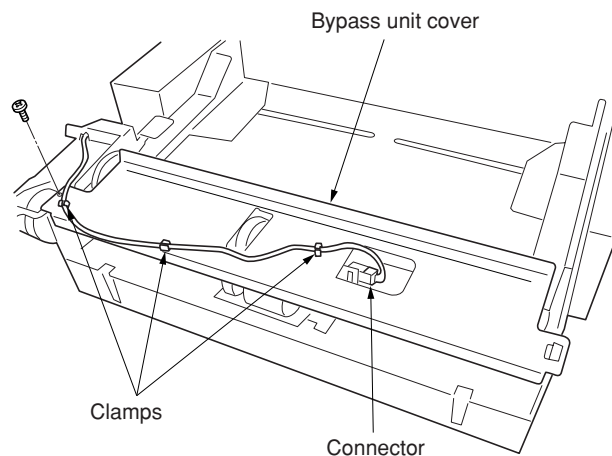


Figure 1-6-11

7. Remove the stop ring and bushing on the front of the bypass paper feed shaft.

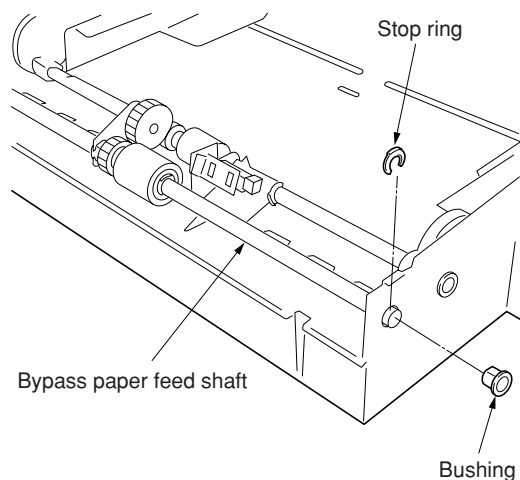


Figure 1-6-12

8. Raise the bypass paper feed shaft as shown in the illustration, remove the stop ring, and then remove the bypass paper feed pulley.

Caution:

- When fitting the bypass paper feed pulley, keep the blue end of the paper feed toward the machine rear.

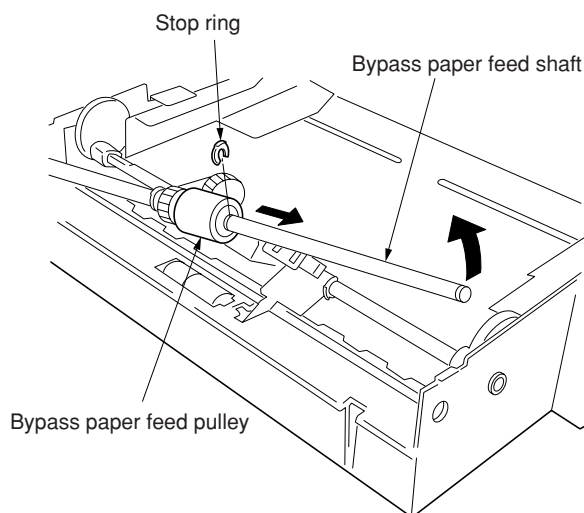


Figure 1-6-13

- Removing the bypass forwarding pulley
9. Remove the wire of the bypass paper feed clutch from the clamp.
 10. Remove the stop ring and bypass paper feed clutch.
- When refitting, insert the cutout in the bypass paper feed clutch over the stopper on the copier.

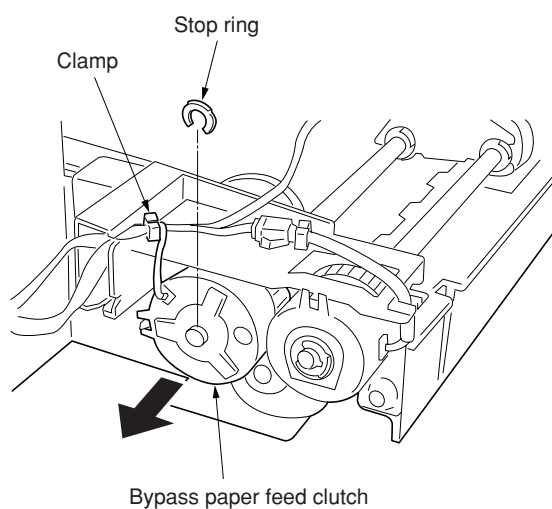


Figure 1-6-14

11. Remove the screw from the cam at the rear of the bypass forwarding pulley shaft and move the cam and the bushing toward the inner side.

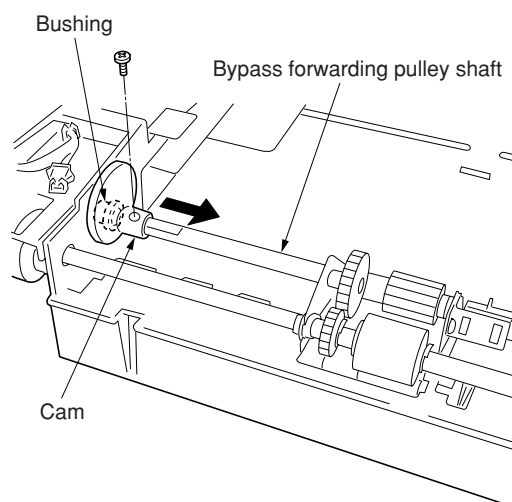


Figure 1-6-15

12. Remove the stop ring of the bypass paper feed shaft and slide the bushing in the direction of the arrow.

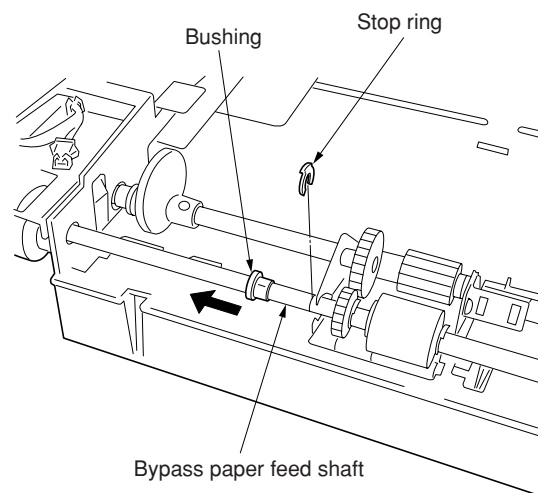


Figure 1-6-16

13. Slide the bypass forwarding pulley shaft temporarily toward the rear side and then raise it to remove from the bypass unit.
 * Remove the shaft while raising the actuator of the bypass paper switch.

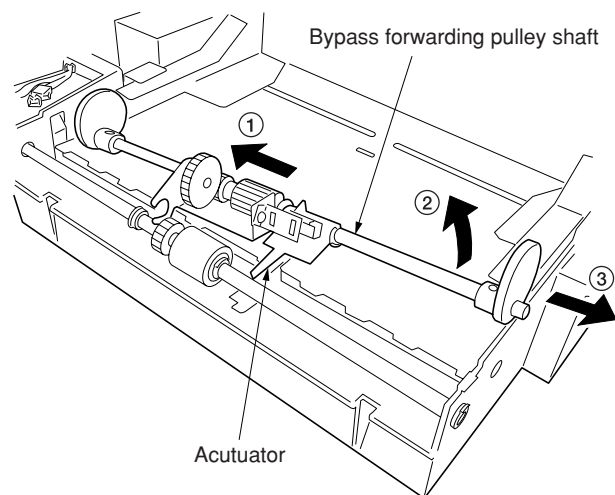


Figure 1-6-17

14. Remove the bushing and cam on the rear of the bypass forwarding pulley shaft.

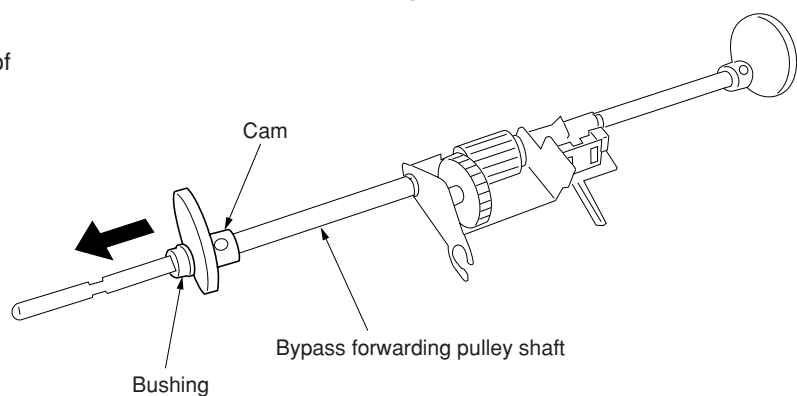


Figure 1-6-18

15. Remove the stop ring and slide the bypass forwarding pulley with the forwarding pulley retainer from the shaft to remove it.
16. Replace the bypass separation, bypass paper feed and bypass forwarding pulleys.

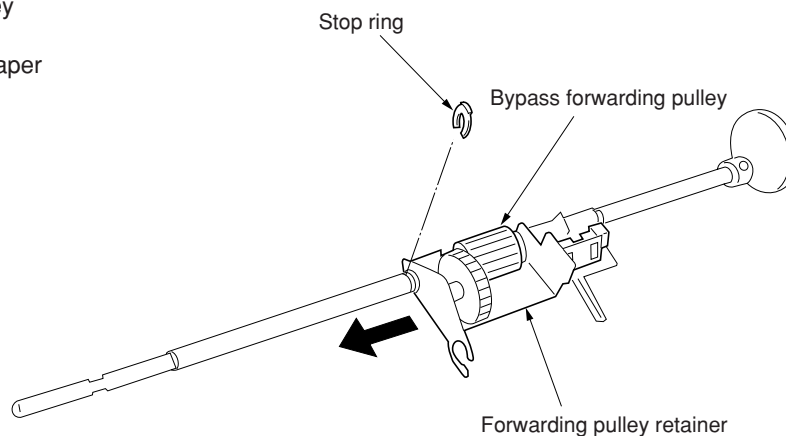


Figure 1-6-19

17. Refit all removed parts.
 * Fit the bypass unit cover so that the film on the cover is positioned under the bypass paper feed shaft.

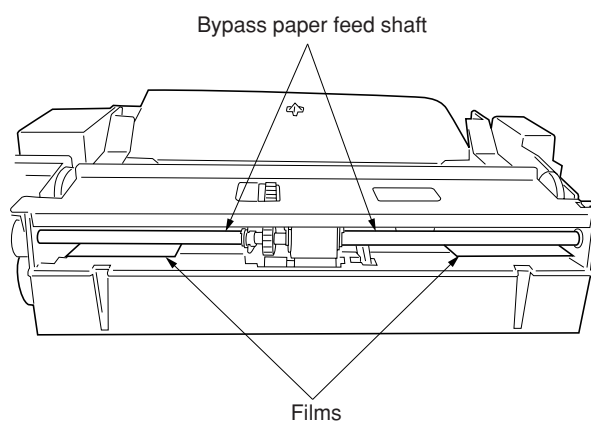


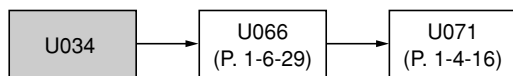
Figure 1-6-20

(3) Adjustment after roller and clutch replacement

Perform the following adjustment after refitting rollers and clutches.

(3-1) Adjusting the leading edge registration of image printing

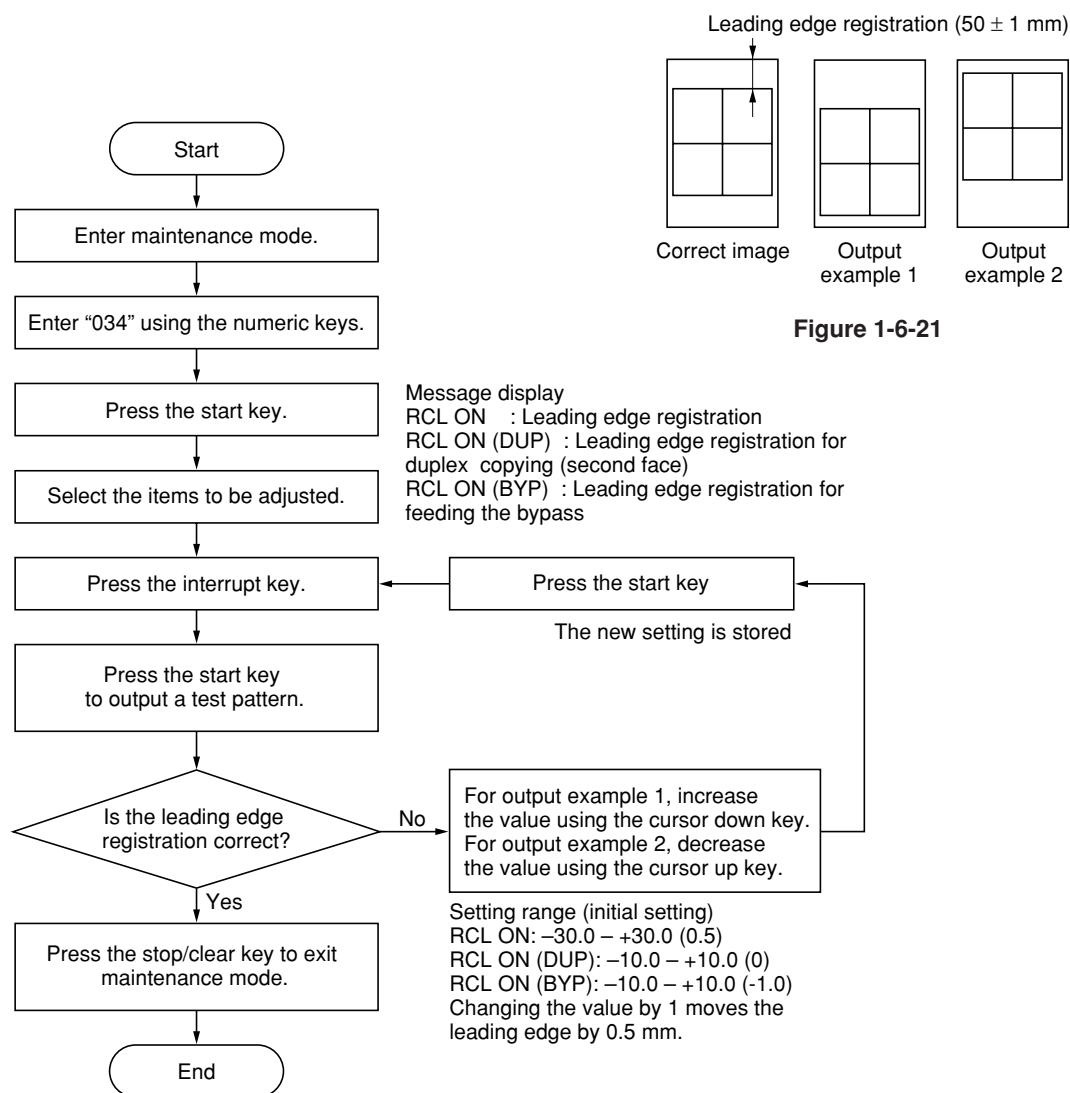
Make the following adjustment if there is a regular error between the leading edges of the copy image and original.



Caution:

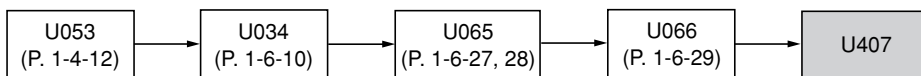
Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

Procedure



(3-2) Adjusting the leading edge registration for memory image printing

Make the following adjustment if there is a regular error between the leading edge of the copy image and the leading edge of the original during memory copying.



Caution:

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

Procedure

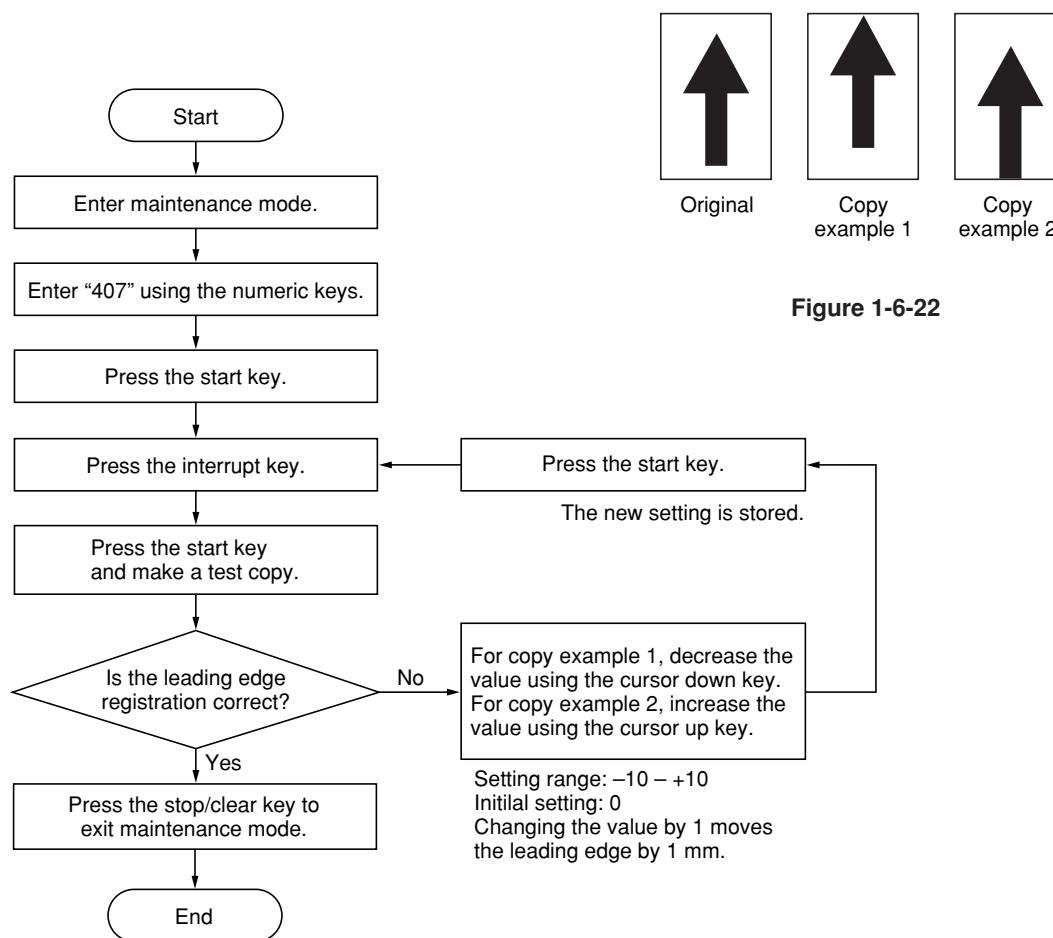
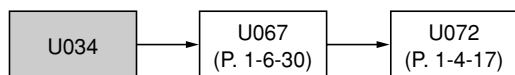


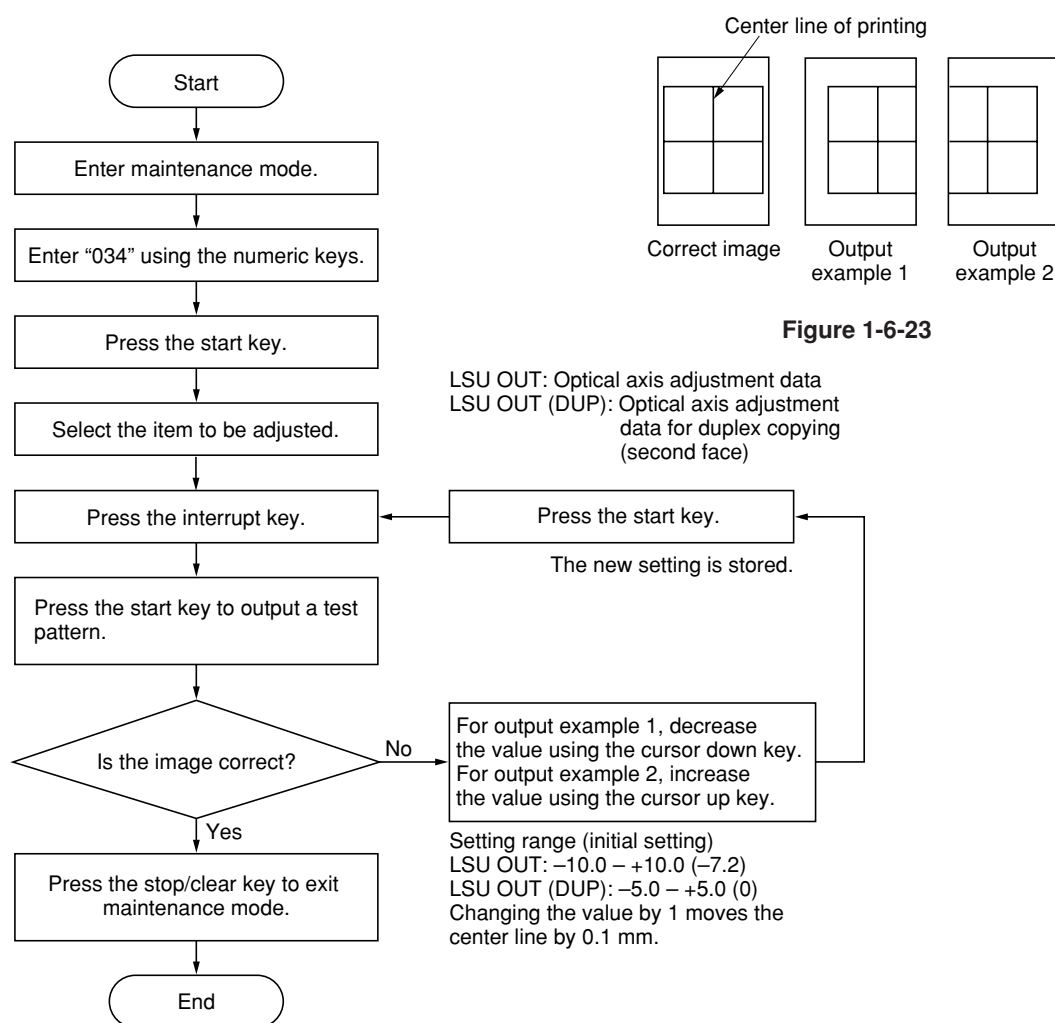
Figure 1-6-22

(3-3) 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.

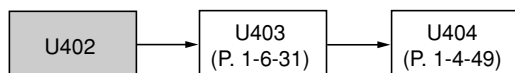
**Caution:**

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

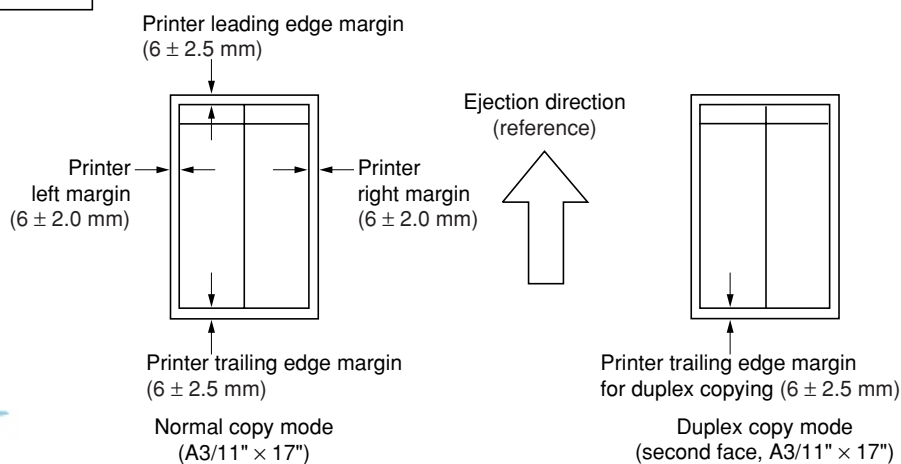
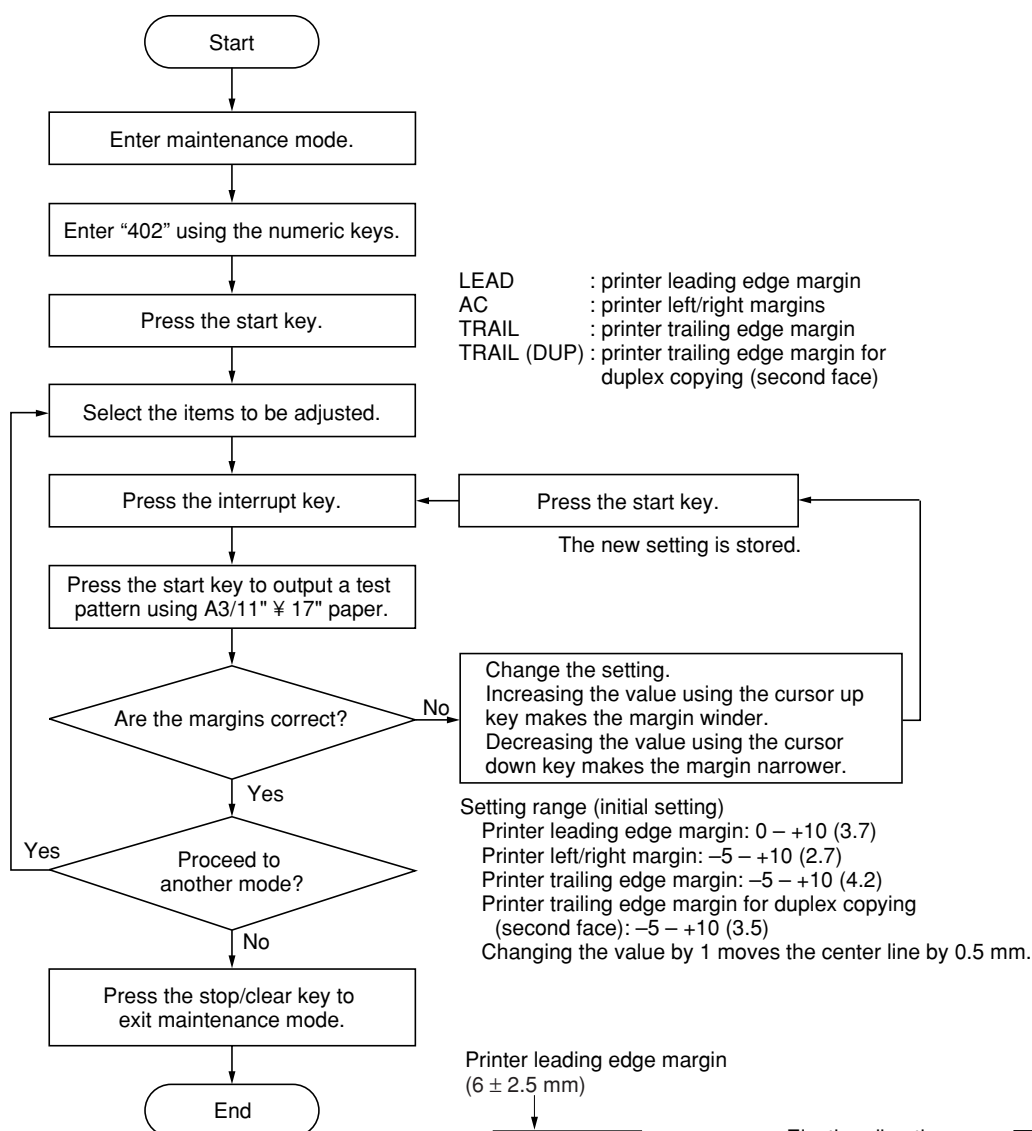
Procedure

(3-4) Adjusting the margins for printing

Make the following adjustment if the margins are not correct.

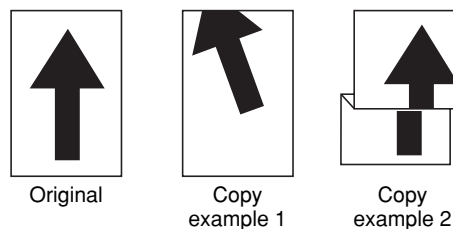
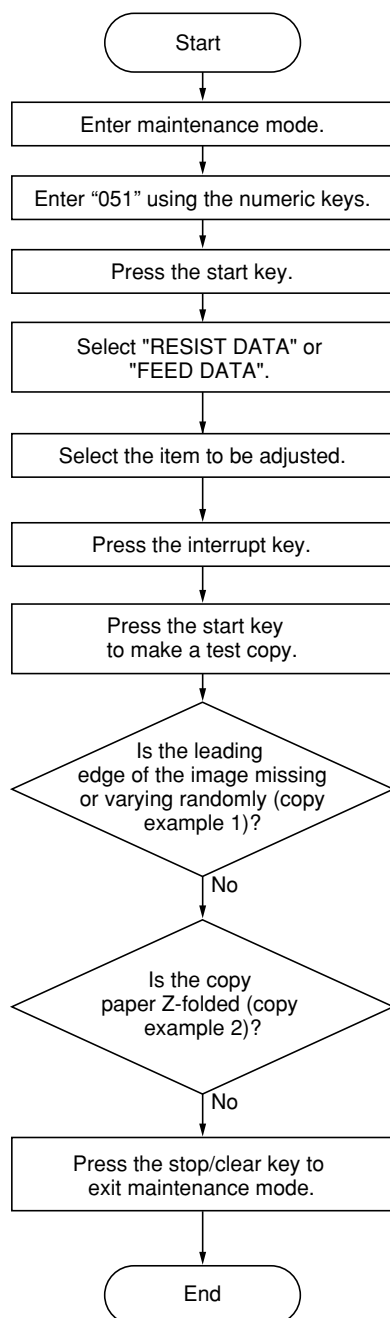
**Caution:**

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

Procedure**Figure 1-6-24**

(3-5) Adjusting the amount of slack in the paper

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 1-6-25**

- Amount of slack in the paper at the registration roller
DECK DATA : Drawers
BYPASS DATA : Bypass tray
DUPLEX DATA : Duplex copying (second face)

- Amount of slack in the paper at the paper feed roller
BYPASS : Bypass tray
1ST DECK : Upper drawer
2ND DECK : Lower drawer
3RD DECK : Optional drawer 1
4TH DECK : Optional drawer 2
LCF : Optional large paper deck

- Setting range (initial setting)
- Amount of slack in the paper at the registration roller
DECK DATA : -30 - +20 (0)
BYPASS DATA : -30 - +20 (0)
DUPLEX DATA : -30 - +20 (0)

- Amount of slack in the paper at the paper feed roller
BYPASS : 0 - +255 (110)
1ST DECK : 0 - +255 (20)
2ND DECK : 0 - +255 (0)
3RD DECK : 0 - +255 (0)
4TH DECK : 0 - +255 (0)
LCF : 0 - +255 (0)

The greater the value,
the larger the amount of slack;
the smaller the value, the smaller
the amount of slack.

1-6-3 Optical section

(1) Detaching and refitting the exposure lamp

Replace the exposure lamp as follows.

Procedure

1. Remove the original cover or the DF.
2. Remove the upper right cover, upper front cover, upper rear cover and contact glass.

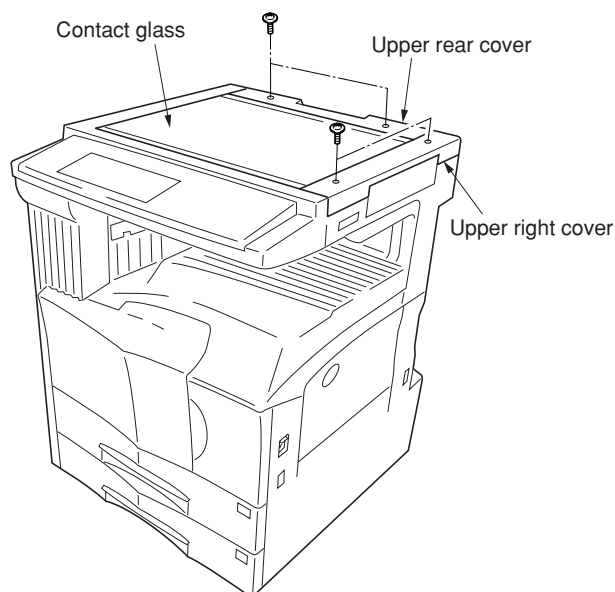


Figure 1-6-26

3. Move the mirror 1 frame to the cutouts of the machine.

Caution: When moving the mirror 1 frame, do not touch the exposure lamp nor the inverter PCB.

4. Remove the two screws holding the metal plate on the rear of the machine and then the plate.

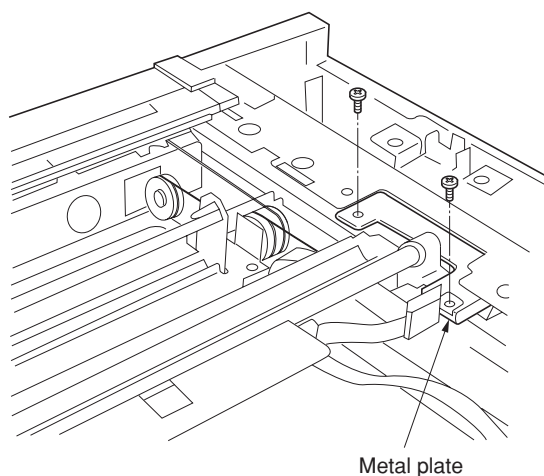


Figure 1-6-27

5. Detach the exposure lamp connector from the inverter PCB.
6. Remove the two screws holding the exposure lamp and then the lamp.
7. Replace the exposure lamp and refit all the removed parts.

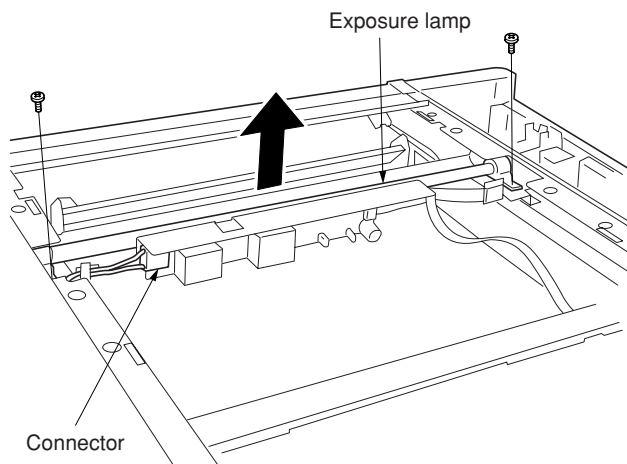


Figure 1-6-28

(2) Detaching and refitting the scanner wires

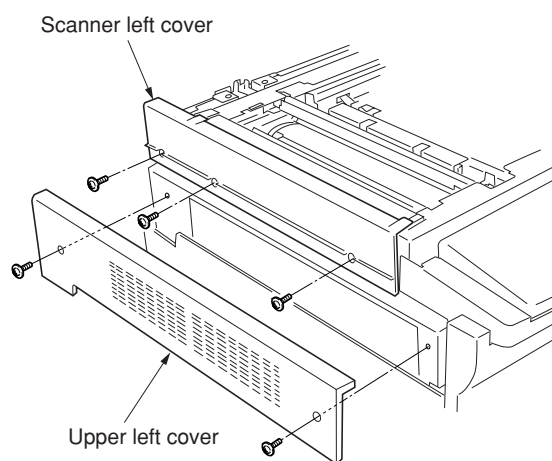
Take the following procedure when the scanner wires are broken or to be replaced.

Caution:

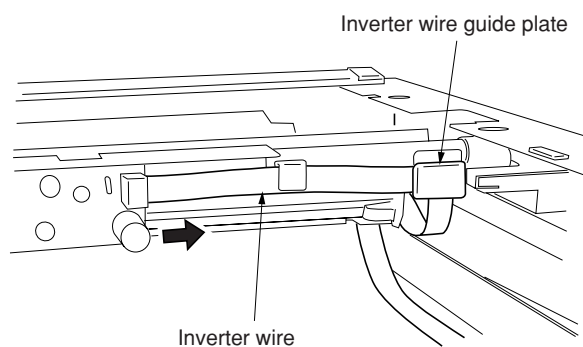
After replacing the scanner wire, make a test copy and check the copy image. If the image is incorrect, perform the adjustments (see pages 1-6-25 to 31).

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

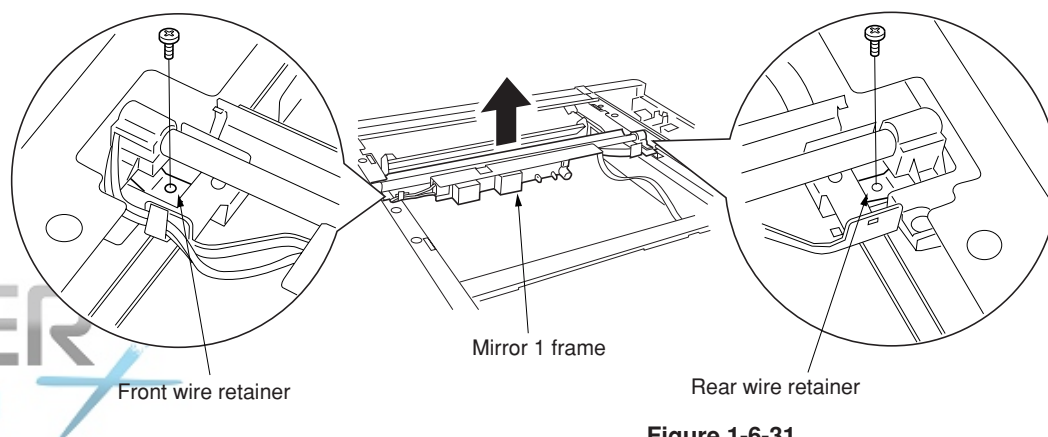
1. Remove the exposure lamp (see page 1-6-19).
2. Remove the upper left cover and scanner left cover.

**Figure 1-6-29**

3. Remove the inverter wire guide plate and then the wire from the inverter PCB.

**Figure 1-6-30**

4. Remove the screw holding each of the front and rear wire retainers and then remove the mirror 1 frame from the scanner unit.

**Figure 1-6-31**

5. Unhook the round terminal of the scanner wire from the scanner tension spring on the left side of the scanner unit.
6. Remove the scanner wire.

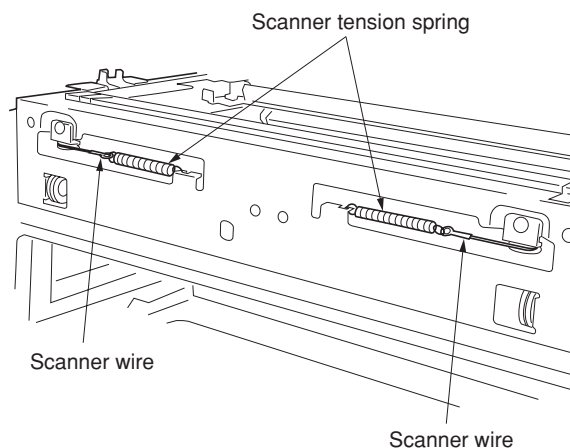


Figure 1-6-32

(2-2) Fitting the scanner wires

Caution:

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

Machine front: P/N 2AV1219 (black)

Machine rear: P/N 2AV1220 (gray)

Fitting requires the following tools:

Two frame securing tools (P/N 2AV6808)

Two scanner wire stoppers (P/N 3596811)

Procedure

1. Insert the locating ball on each of the scanner wires into the hole in the respective scanner wire drum and wind the scanner wire three turns inward and four turns outward.
 - With the locating ball as the reference point, wind the shorter end of each of the wires inward.
2. Secure the scanner wires using the scanner wire stoppers.

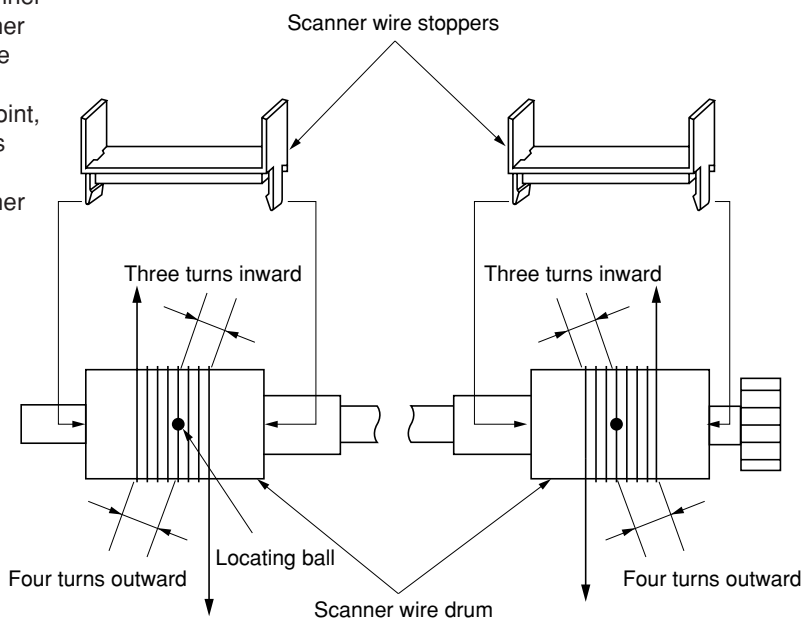


Figure 1-6-29

3. 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.

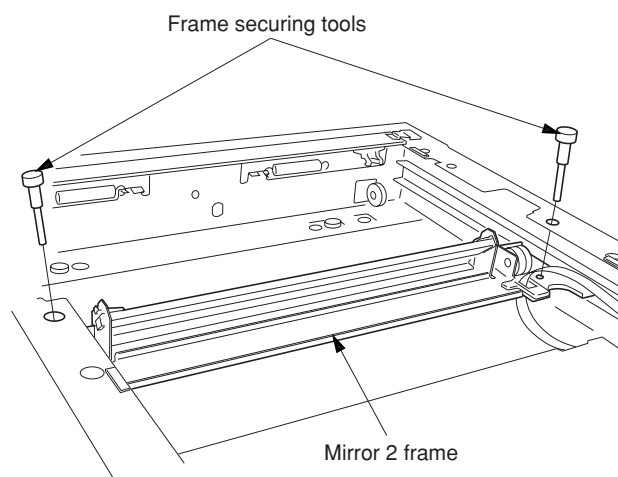


Figure 1-6-34

4. Loop the inner ends of the scanner wires around the grooves in the pulleys at the right of the scanner unit, winding from below to above. ①
5. Loop the scanner wires around the inner grooves in the pulleys on the mirror 2 frame, winding from above to below. ②
6. Hook the round terminals onto the catches inside the scanner unit. ③

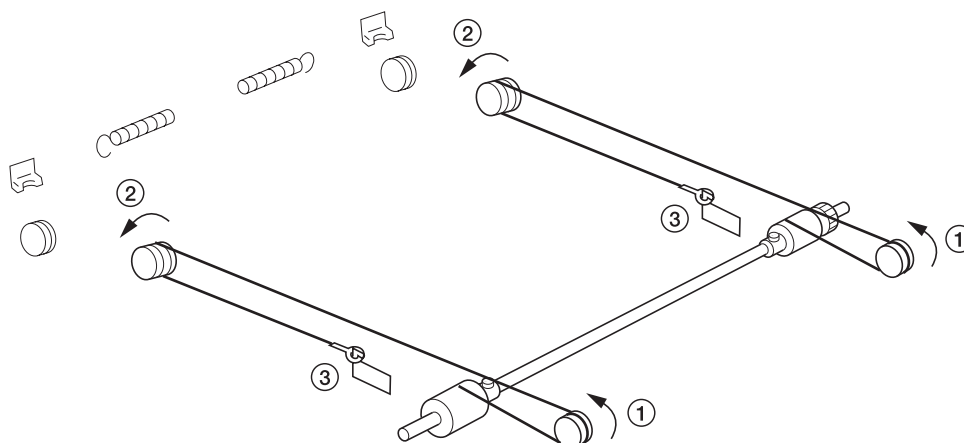


Figure 1-6-35

7. Loop the outer ends of the scanner wires around the grooves in the scanner wire pulleys at the left of the scanner unit, winding from below to above. ④
8. Loop the scanner wires around the outer grooves in the pulleys on the mirror 2 frame, winding from below to above. ⑤
9. Wind the scanner wires around the grooves in the scanner wire guides at the left of the scanner unit. ⑥
10. Hook the round terminals onto the scanner tension springs. ⑦

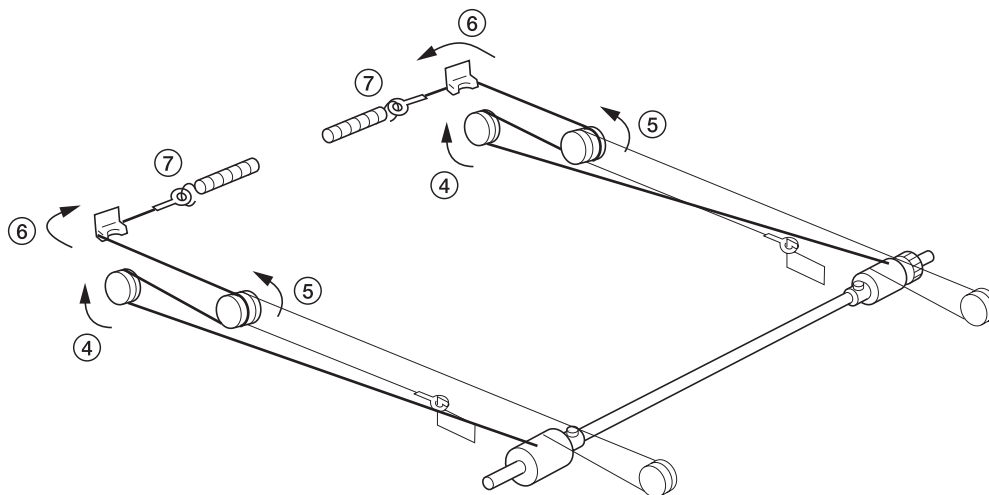


Figure 1-6-36

11. Remove the scanner wire stoppers and frame securing tools.
12. Gather the scanner wires toward the locating balls.
13. Move the mirror 2 frame from side to side to correctly locate the wires in position.
14. Put the mirror 1 frame on the scanner rail and move it toward the left side of the machine.
15. Insert the frame securing tools into the positioning holes (leftmost holes) at the front and the rear of the scanner unit and screw the mirror 1 frame while securing both the mirror 1 frame and the mirror 2 frame.
16. Remove the two frame securing tools
17. Refit all the removed parts.

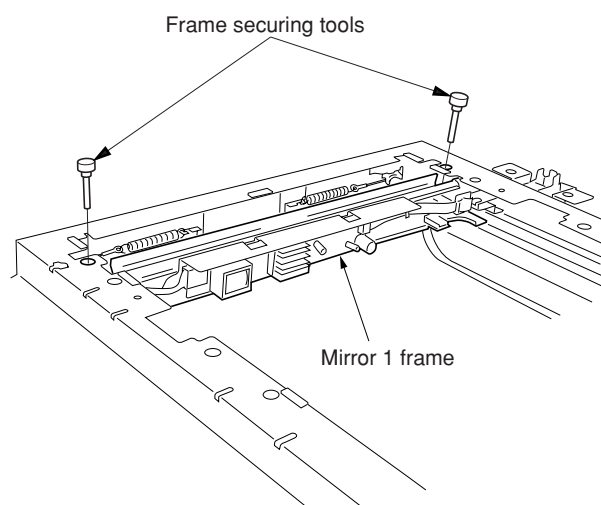


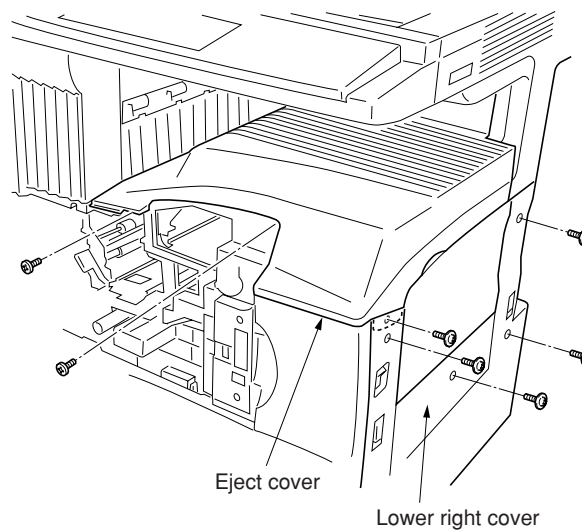
Figure 1-6-37

(3) Detaching and refitting the laser scanner unit

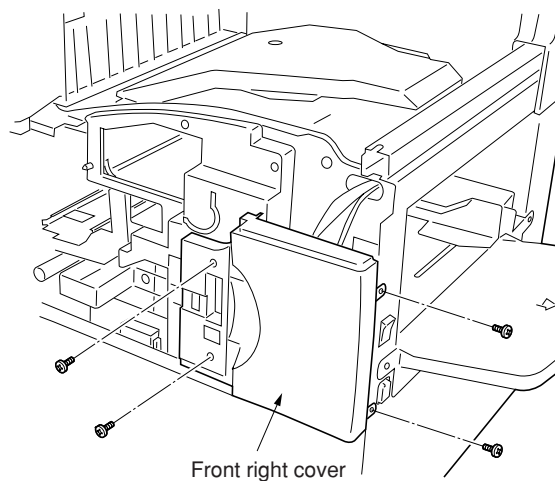
Take the following procedure when the laser scanner unit is to be checked or replaced.

Procedure

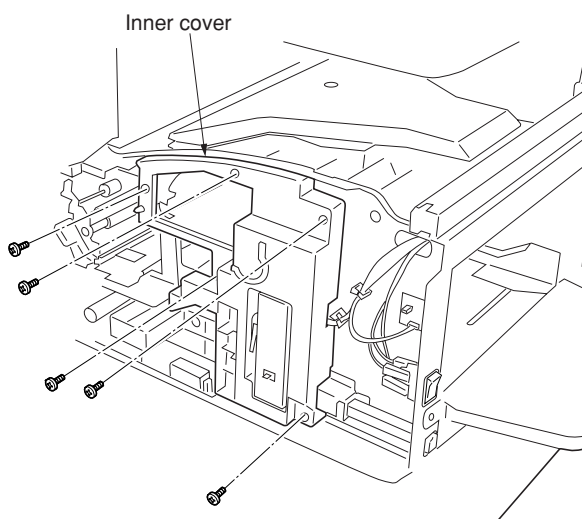
1. Remove the developing unit and drum unit (see pages 1-6-32 and 34).
2. Remove the four screws holding the lower right cover and then the cover.
Remove the three screws holding the eject cover and then the cover.

**Figure 1-6-38**

3. Remove the four screws holding the front right cover and then the cover.

**Figure 1-6-39**

4. Remove the five screws holding the inner cover and then the cover.

**Figure 1-6-40**

5. Remove the two screws and detach the connector and then remove the fan duct.

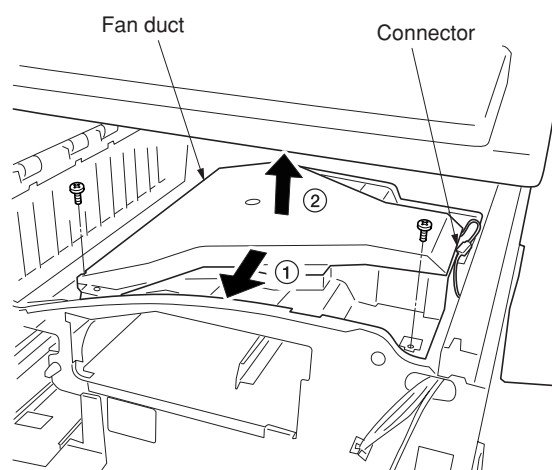


Figure 1-6-41

6. Remove the six screws holding the toner container retainer and then the retainer.

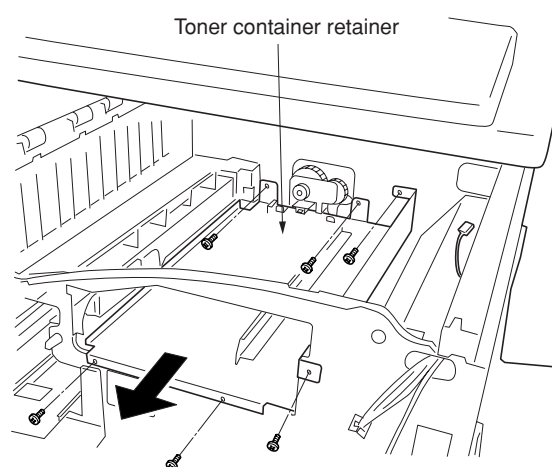


Figure 1-6-42

7. Remove the four screws and detach the connector and then remove the laser scanner unit.
8. Replace the laser scanner unit and refit all the removed parts.

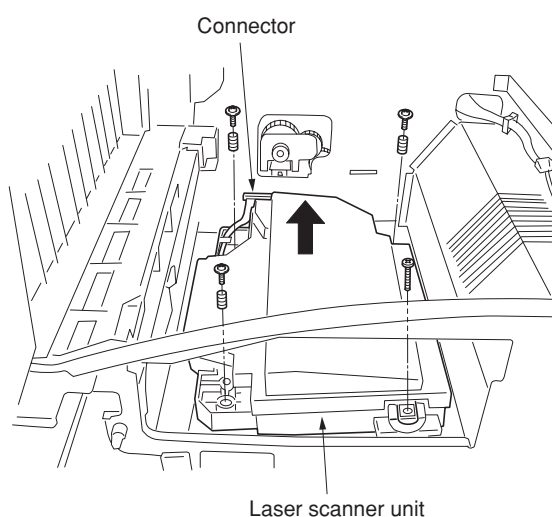


Figure 1-6-43

(4) Adjusting the skew of the laser scanner unit (reference)

Perform the following adjustment if the leading and trailing edges of the copy image are laterally skewed (lateral squareness not obtained).

Caution:

- After adjusting the skew of the laser scanner unit, make a test copy and check the copy image. If lateral squareness is still not obtained, perform "(6) Adjusting the position of the ISU" (see page 1-6-25).

Procedure

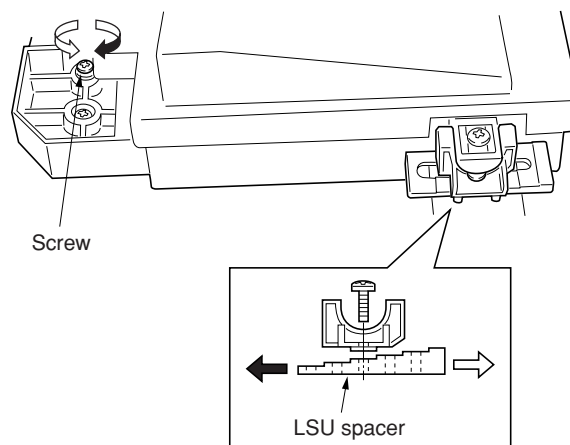
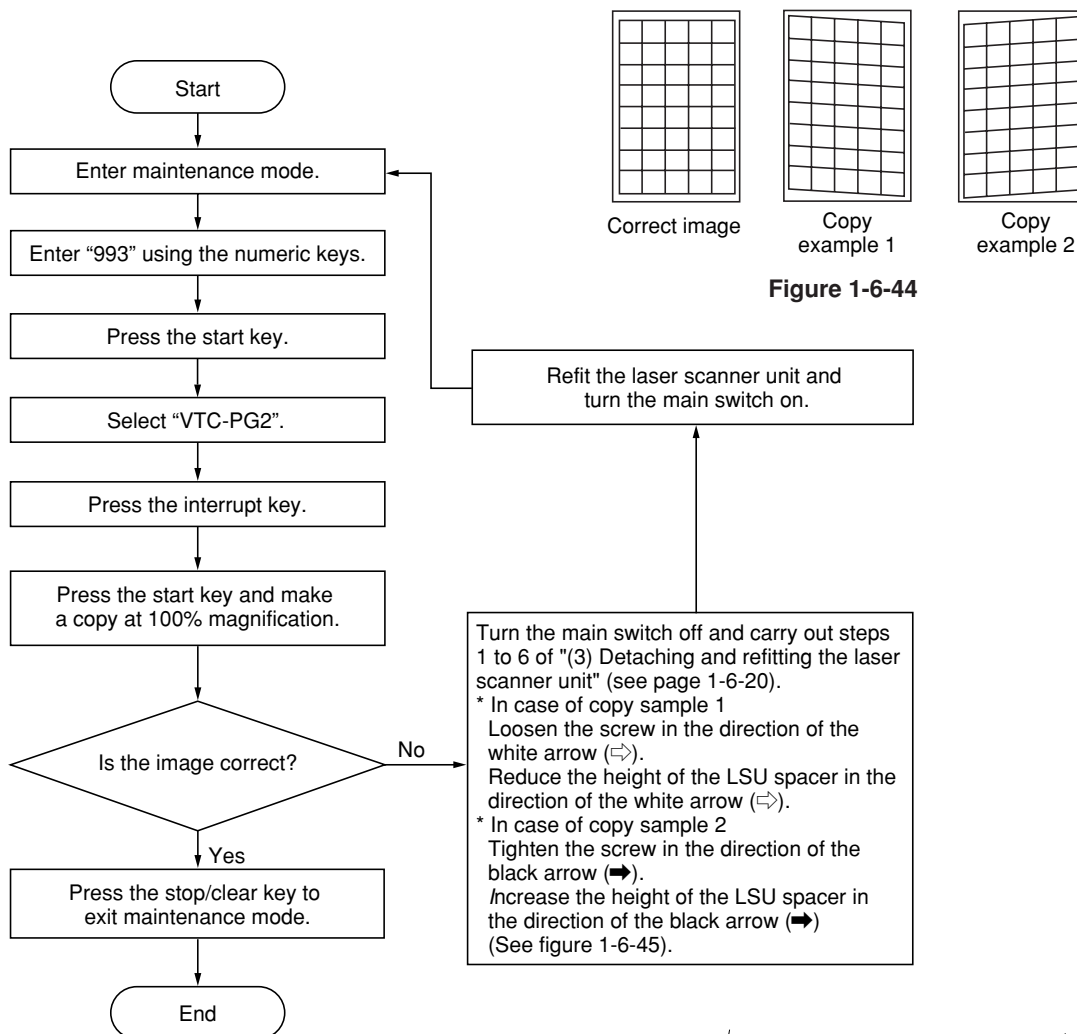


Figure 1-6-45

(5) Detaching and refitting the ISU (reference)

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

Caution:

After replacing the ISU, make a test copy and check the copy image. If the image is incorrect, perform the adjustments (see pages 1-6-25 to 31).

ISU installation requires the following tools:

Two positioning pins (P/N 1856812)

Procedure

• Detaching the ISU

1. Remove the contact glass (see page 1-6-19).
2. Remove the rear and shield covers and detach connector CN34 on the main PCB.

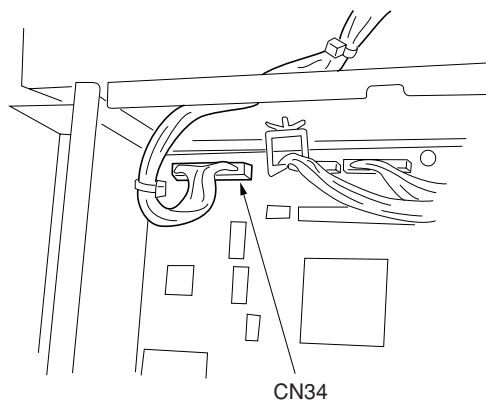


Figure 1-6-46

3. Remove the eight screws holding the ISU cover and then the cover.

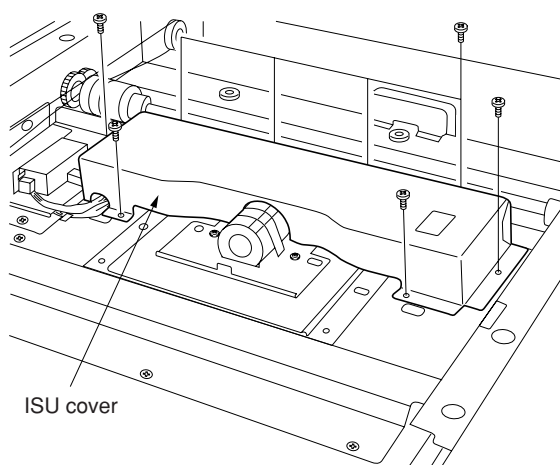


Figure 1-6-47

4. Remove the two screws holding the original size detection sensor retainer and then the retainer.
5. Remove the four screws holding the ISU and then the ISU.
6. Check or replace the ISU.

Original size detection sensor retainer

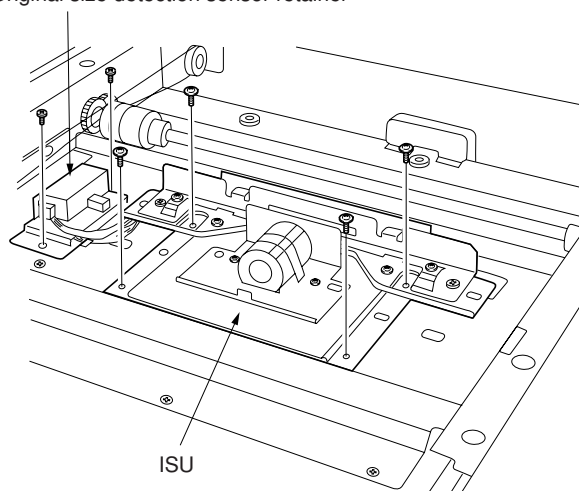


Figure 1-6-48

2DF

- Refitting the ISU

1. Fit the ISU using the two positioning pins.
2. Secure the ISU using the four screws.
3. Remove the two positioning pins and refit all the removed parts.

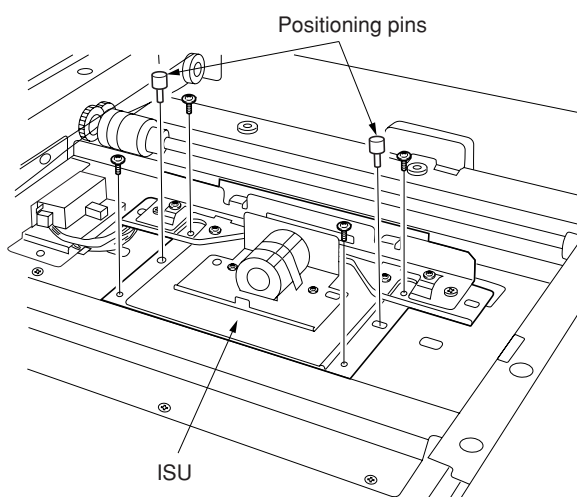


Figure 1-6-49

(6) Adjusting the position of the ISU (reference)

Perform the following adjustment if the leading and trailing edges of the copy image are laterally skewed (lateral squareness not obtained).

Caution:

- Be sure to perform “(4-1) Adjusting the skew of the laser scanner unit” (page 1-6-22) first.
- Before making the following adjustment, output a VTC-PG2 pattern in maintenance item U993 to use as the original for the adjustment.

Procedure

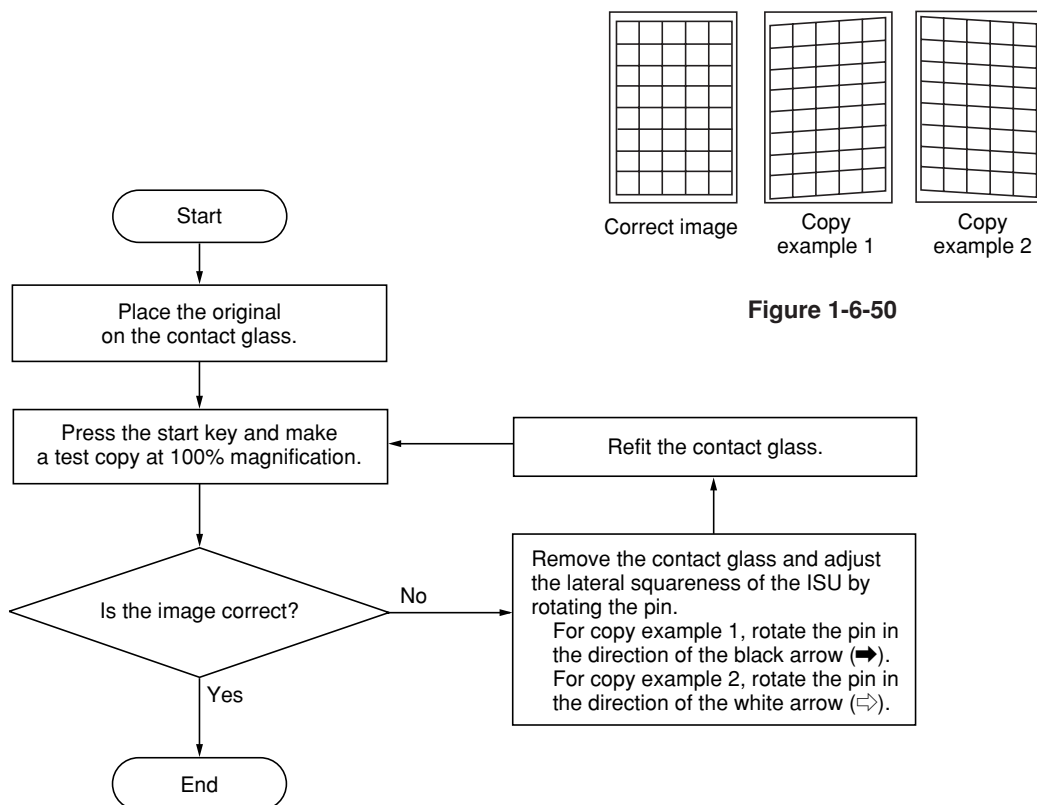


Figure 1-6-50

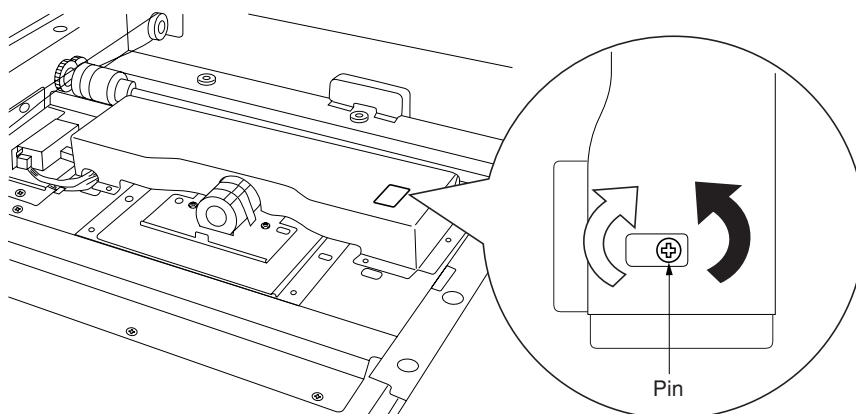


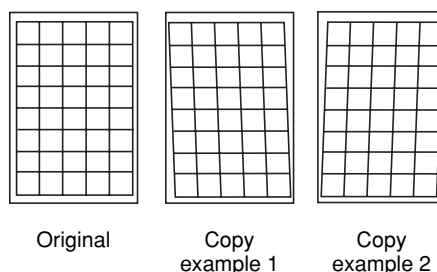
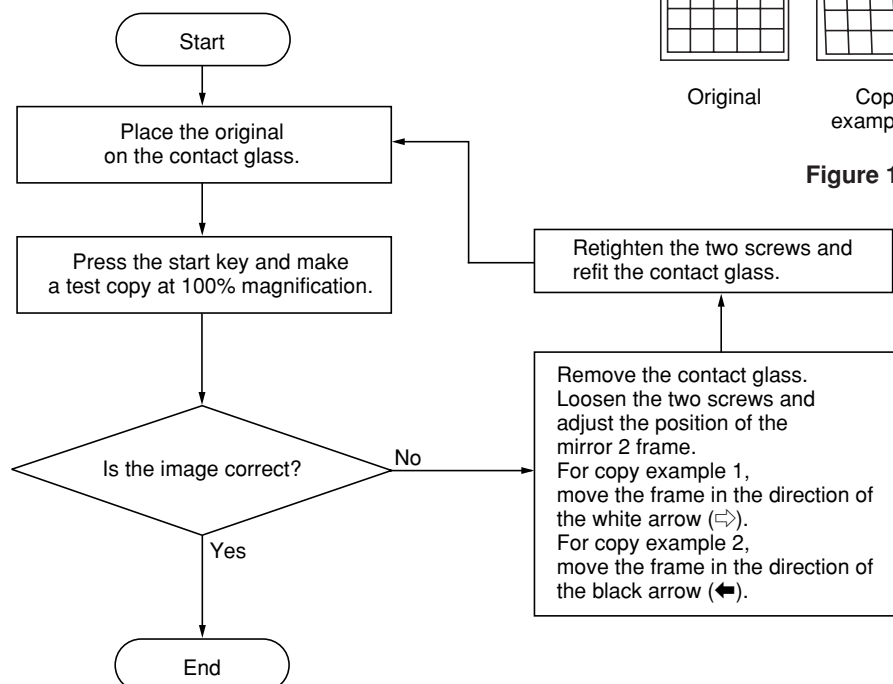
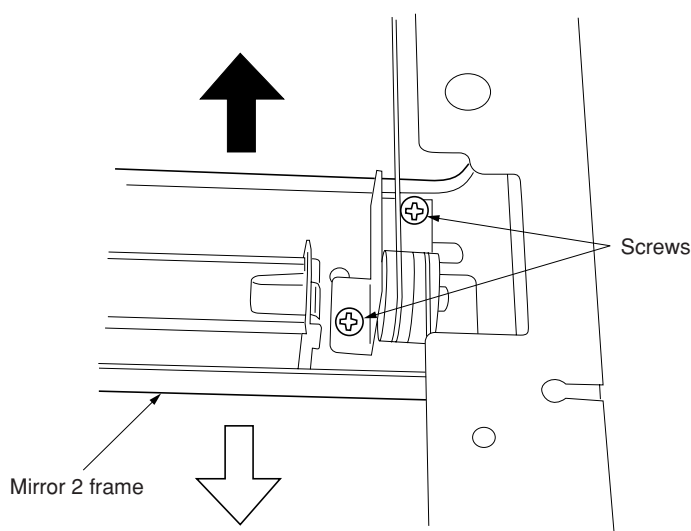
Figure 1-6-51

(7) Adjusting the longitudinal squareness (reference)

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

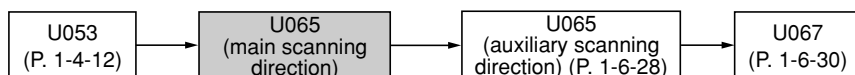
Caution:

- Adjust the amount of slack in the paper (page 1-6-14) first. Check for the longitudinal squareness of the copy image, and if it is not obtained, perform the longitudinal squareness adjustment.
- Before making the following adjustment, output a VTC-PG2 pattern in maintenance item U993 to use as the original for the adjustment.

Procedure**Figure 1-6-52****Figure 1-6-53**

(8) 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:

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode. Also, perform “(9) Adjusting magnification of the scanner in the auxiliary scanning direction” (page 1-6-28) and “(11) Adjusting the scanner center line” (page 1-6-30) after this adjustment.

Procedure

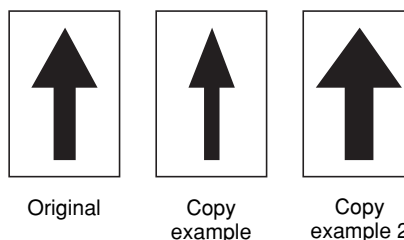
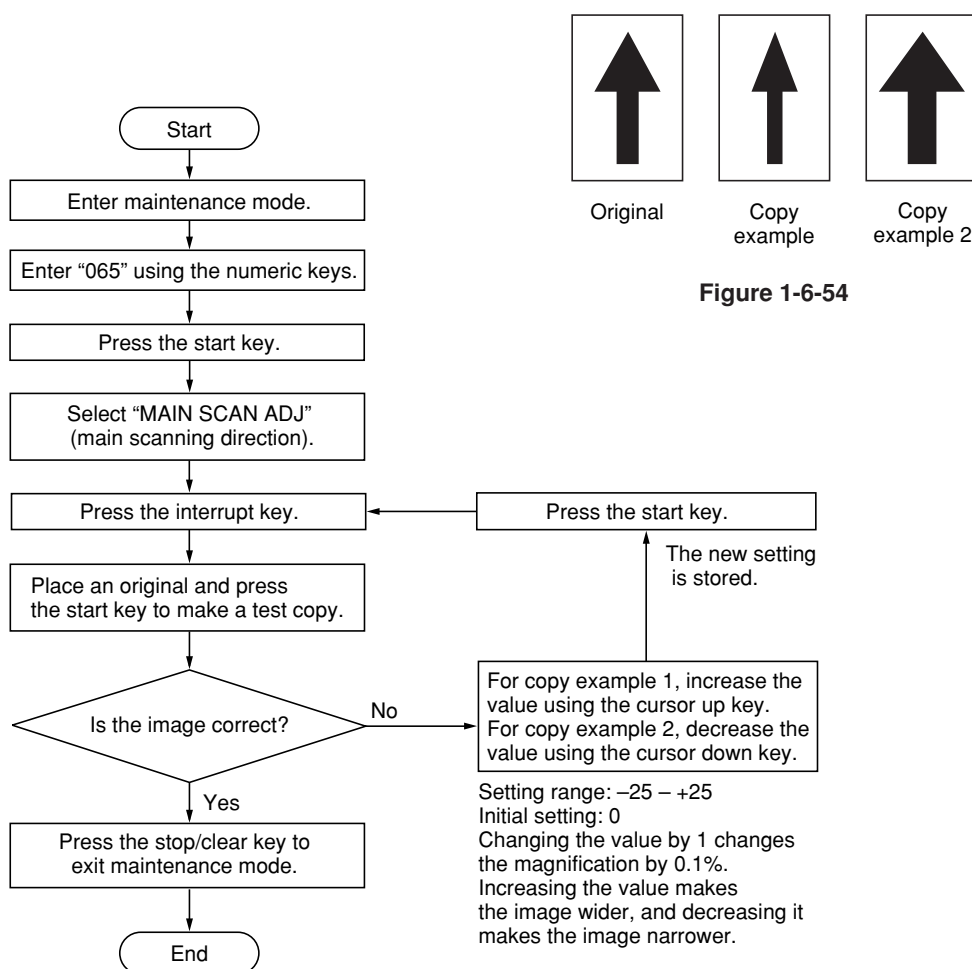


Figure 1-6-54

(9) 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

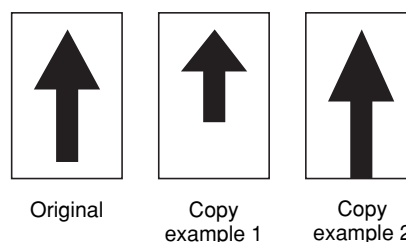
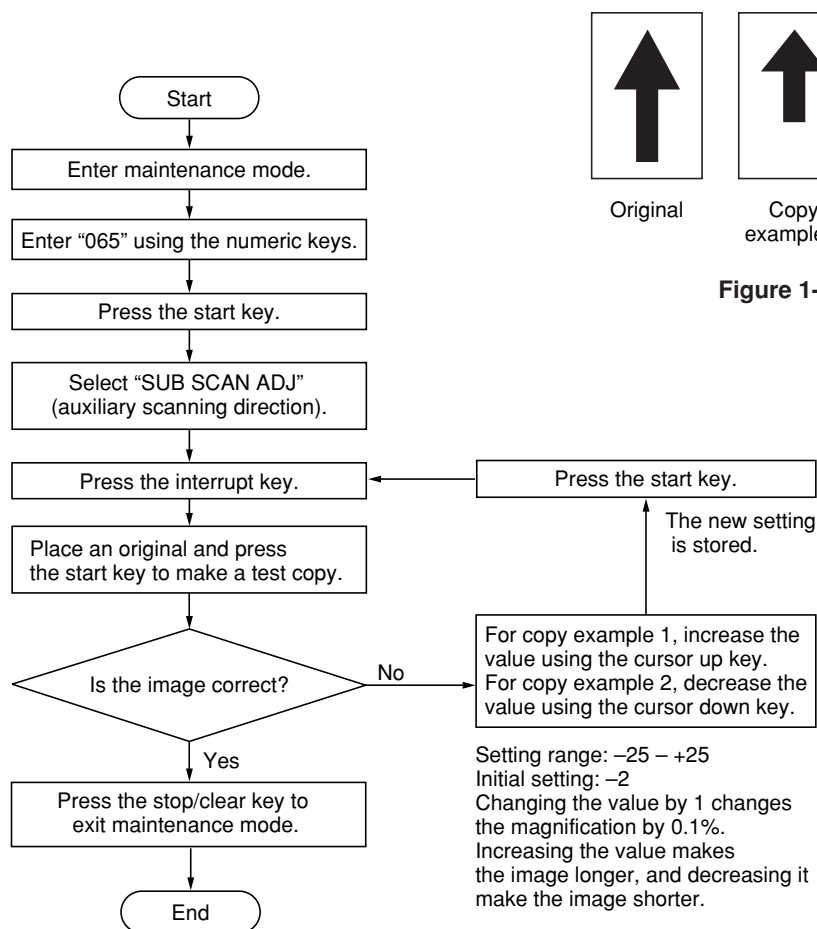
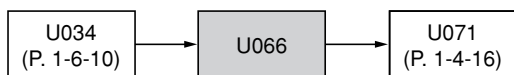


Figure 1-6-55

(10) Adjusting the scanner leading edge registration

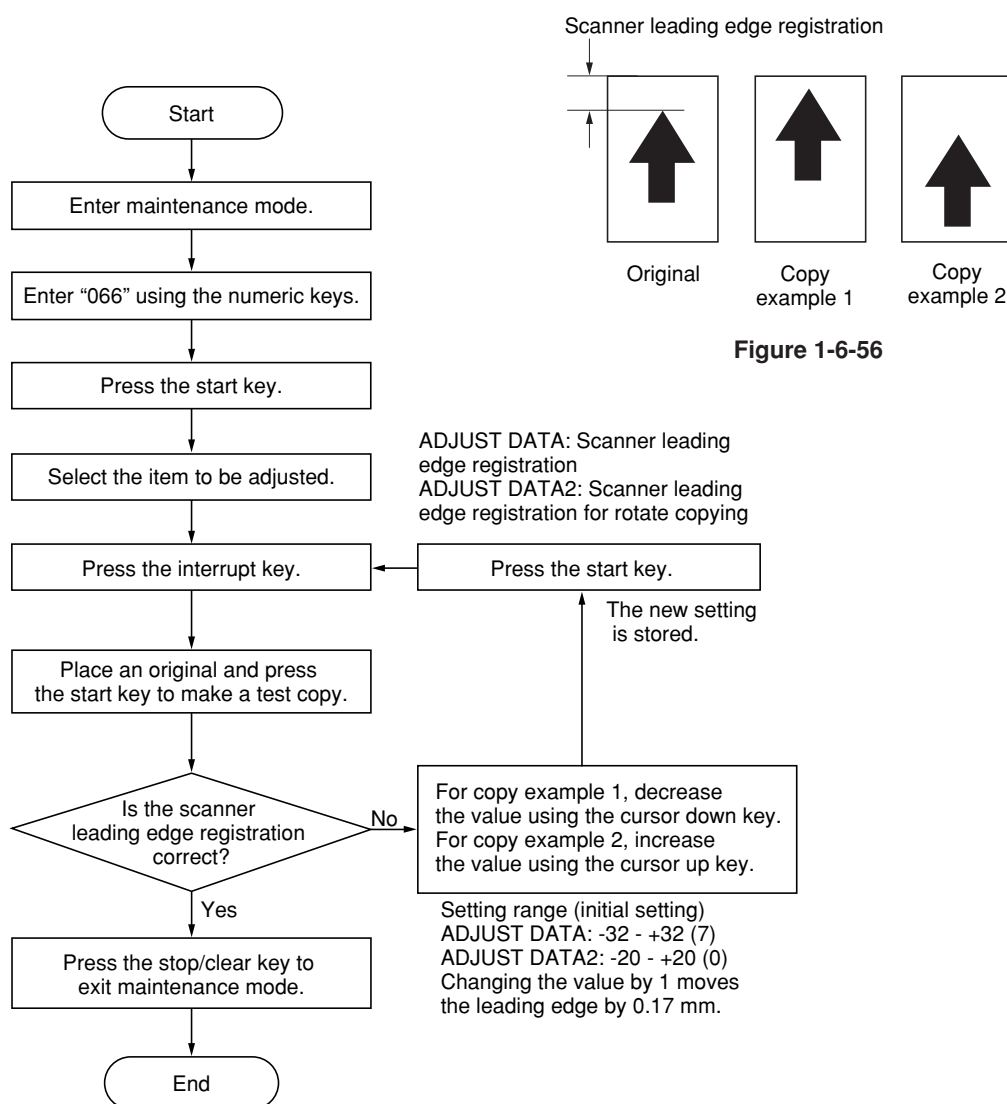
Perform the following adjustment if there is regular error between the leading edges of the copy image and original.



Caution:

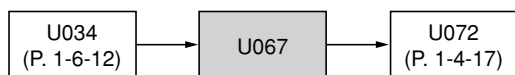
Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure

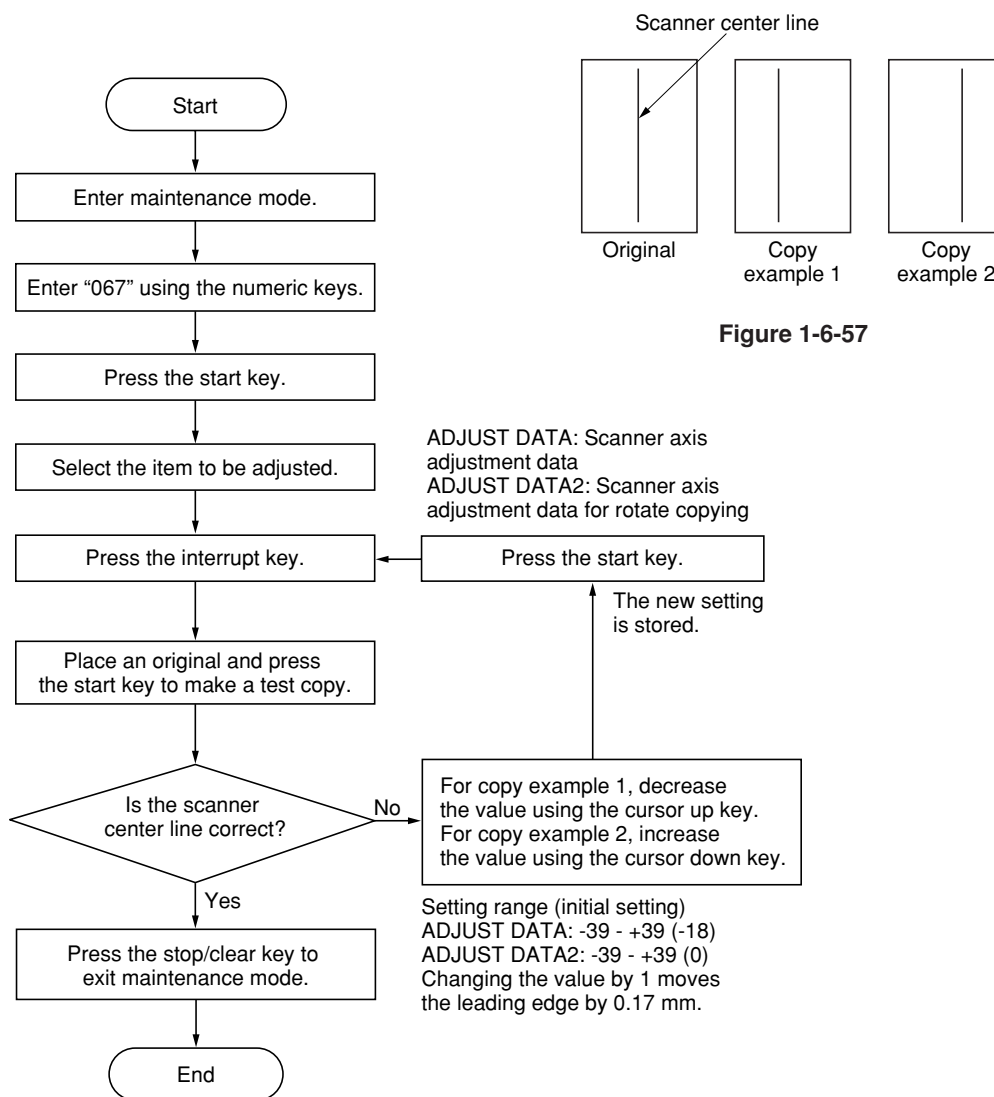


(11) Adjusting the scanner center line

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

(12) 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

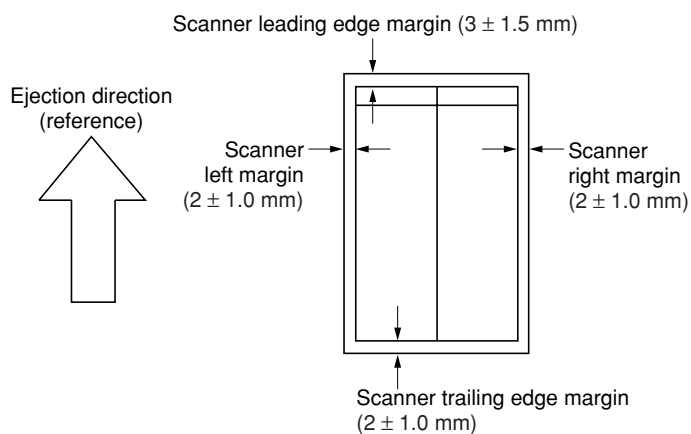
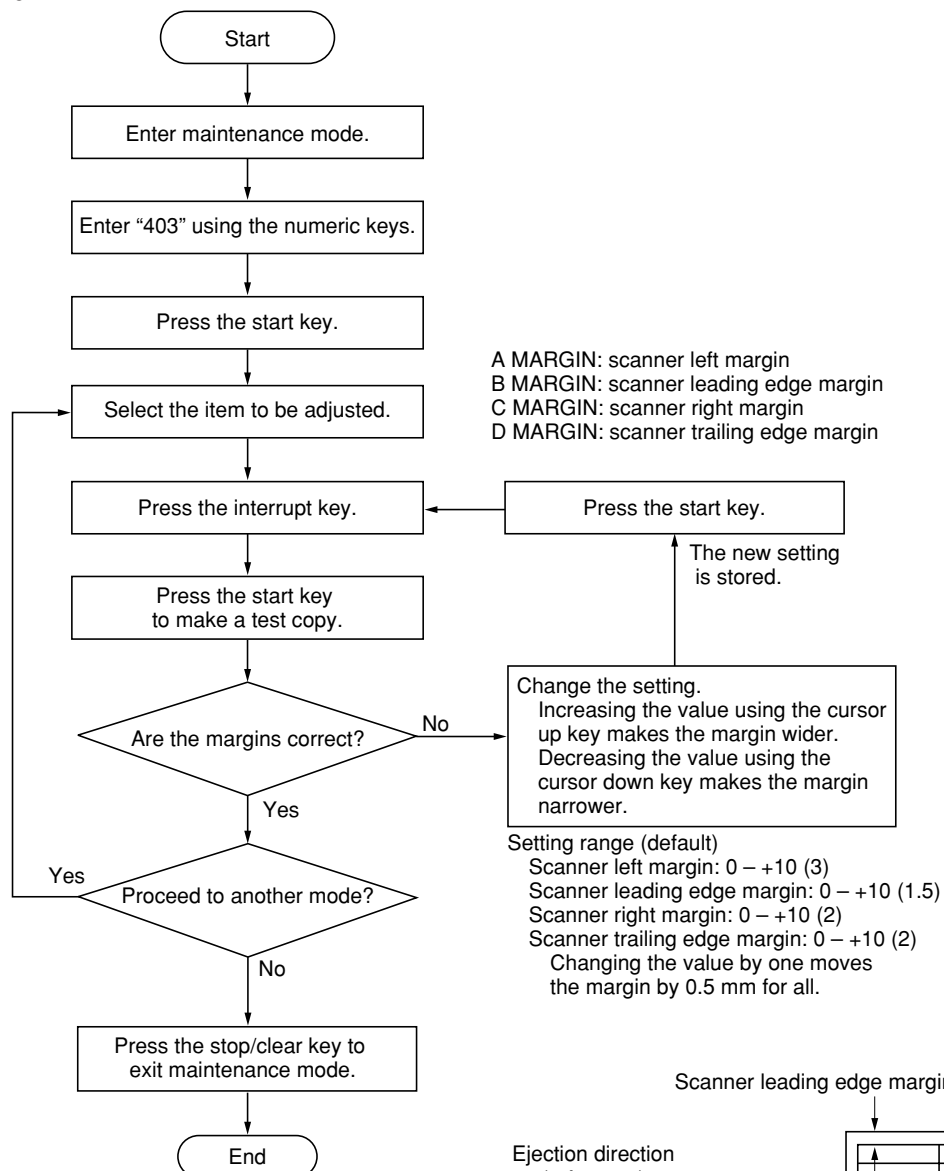


Figure 1-6-58

1-6-4 Drum section

(1) Detaching and refitting the drum unit

Follow the procedure below to replace the drum unit.

Cautions:

- Avoid direct sunlight or strong light when detaching and refitting the drum unit.
- Never touch the drum surface when holding the drum unit.

Procedure

1. Open the conveying cover and remove the developing unit (see page 1-6-34).
2. Remove the screws holding the drum unit and then the unit.
3. Replace the drum unit and refit all the removed parts.

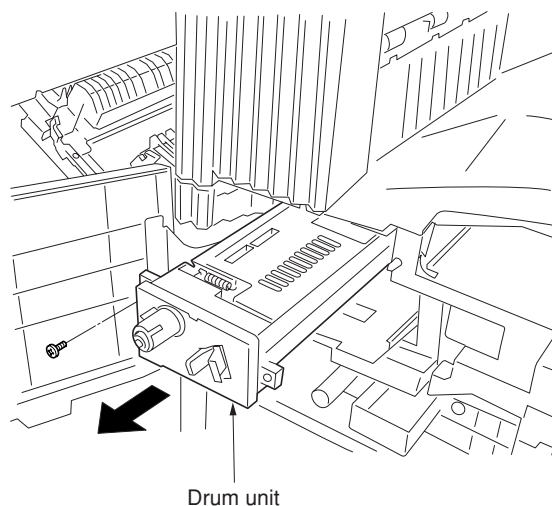


Figure 1-6-59

(2) Detaching and refitting the main charger unit

Follow the procedure below to replace the main charger unit.

Procedure

1. Open the front cover.
2. Pull out the main charger unit holding the knob.
3. While pushing the hole with a sharp-pointed object, remove the main charger unit.
4. Replace the main charger unit and refit all the removed parts.

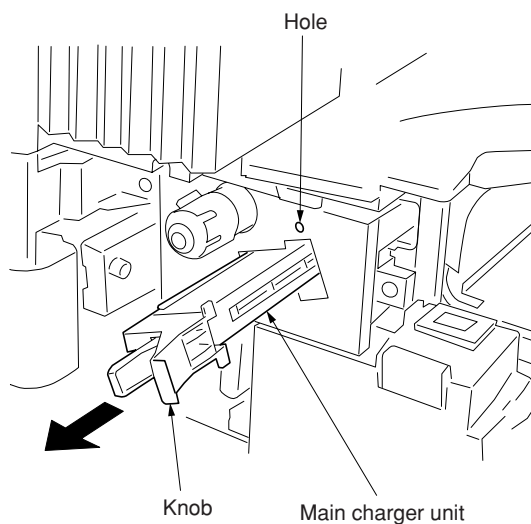


Figure 1-6-60

(3) Detaching and refitting the drum separation claw assemblies

Follow the procedure below to replace the drum separation claw assemblies.

Procedure

1. Remove the drum unit (see page 1-6-32).
2. Push the drum separation claw assemblies with the minus driver from the top of the corner hole and remove the claw assemblies.
3. Replace the drum separation claw assemblies and refit all the removed parts.

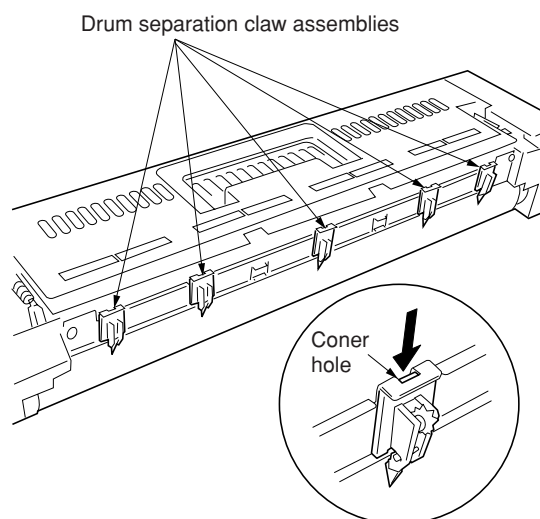


Figure 1-6-61

1-6-5 Developing section

(1) Detaching and refitting the developing unit

Follow the procedure below to replace the developing unit.

Procedure

1. Open the front cover.
2. Remove the toner container and toner disposal tank.
3. Remove the screw and turn the developing release lever in the direction of the arrow.

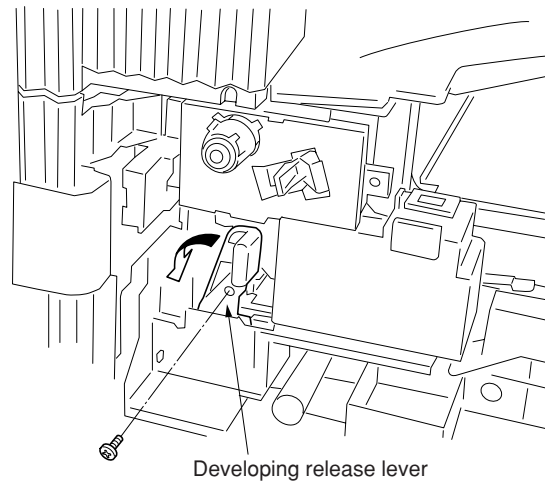


Figure 1-6-62

4. Remove the developing unit.
5. Replace the developing unit and refit all the removed parts.

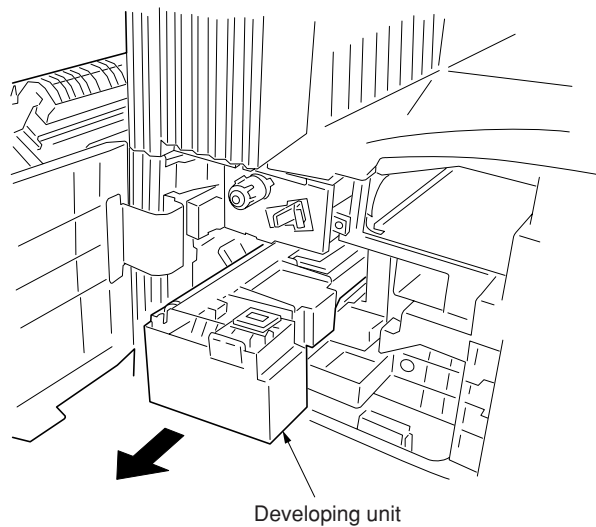


Figure 1-6-63

1-6-6 Transfer section

(1) Detaching and refitting the transfer roller assembly

Follow the procedure below to replace the transfer roller assembly.

Procedure

1. Open the conveying cover.
2. While holding down the projection, slide the transfer roller assembly toward the front to remove it.
3. Replace the transfer roller assembly and refit all the removed parts.

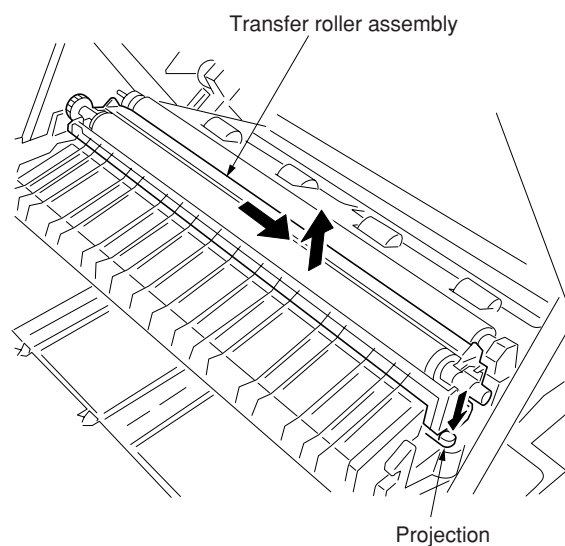


Figure 1-6-64

1-6-7 Fixing section

(1) Detaching and refitting the fixing unit

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

Procedure

1. Open the front cover and conveying cover.
2. Remove the three screws holding the front left cover and then the cover.

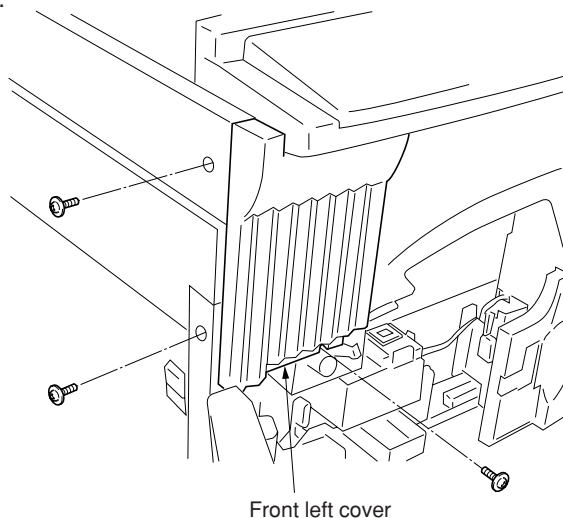


Figure 1-6-65

3. Remove the screw holding the fixing unit and then the unit.
4. Check or replace the transfer roller assembly and refit all the removed parts.

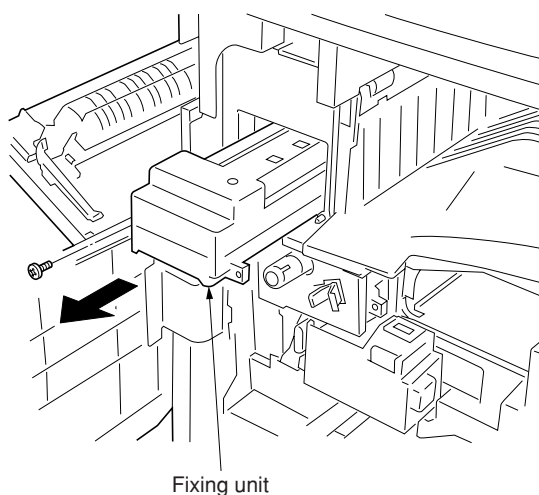


Figure 1-6-66

(2) Detaching and refitting the heat roller separation claws

Follow the procedure below to replace the heat roller separation claws.

Procedure

1. Remove the fixing unit.
2. Remove the two screws and detach the upper fixing cover while holding the four claws.

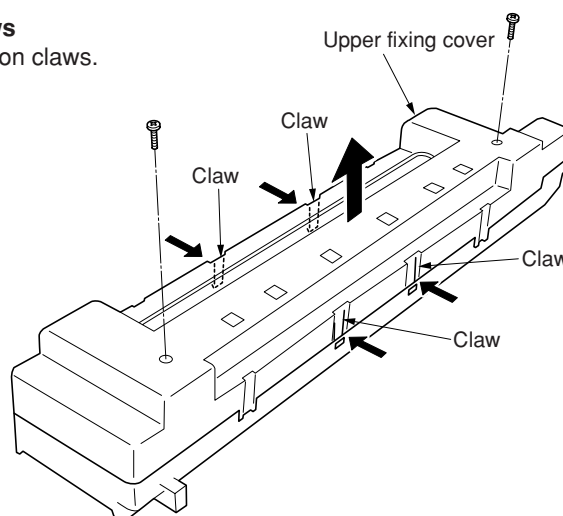


Figure 1-6-67

3. Remove the heat roller separation claws from the upper fixing cover.
4. Replace the heat roller separation claws and refit all the removed parts.

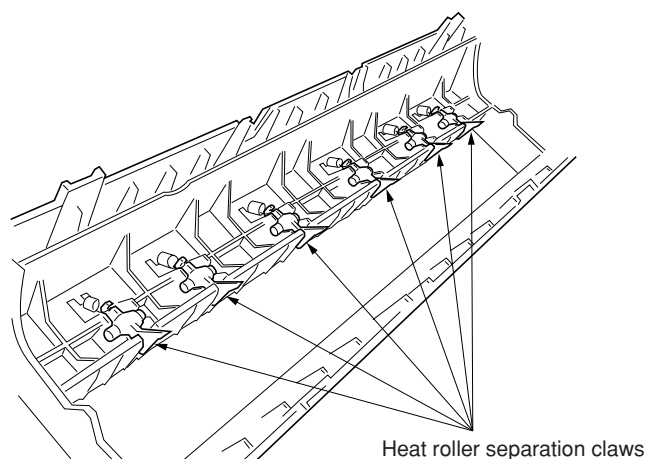


Figure 1-6-68

(3) Detaching and refitting the press roller

Follow the procedure below to replace the press roller.

Procedure

1. Remove the fixing unit (see page 1-6-36).
2. Remove the upper fixing cover (see page 1-6-36).
3. Remove the front and rear press springs.

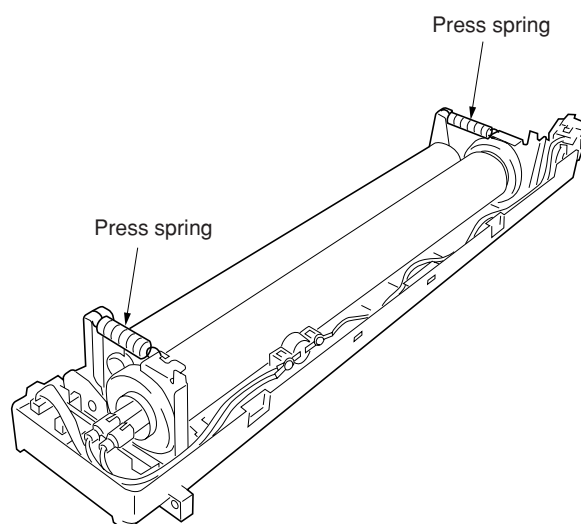


Figure 1-6-69

4. Detach the press roller from the fixing unit and remove the front and rear bearings.
5. Replace the press roller and refit all the removed parts.

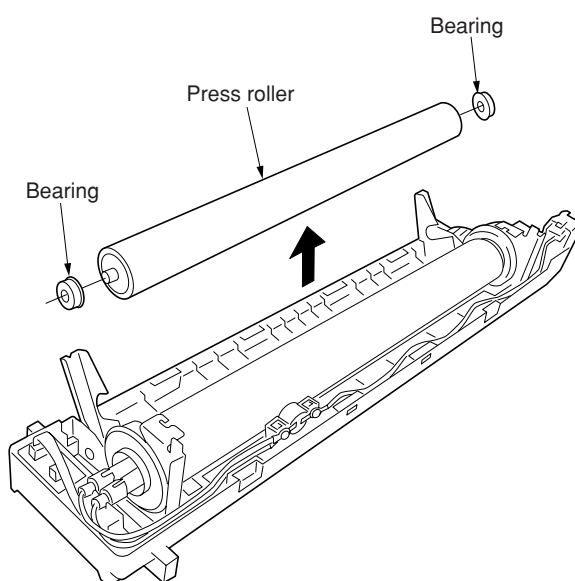


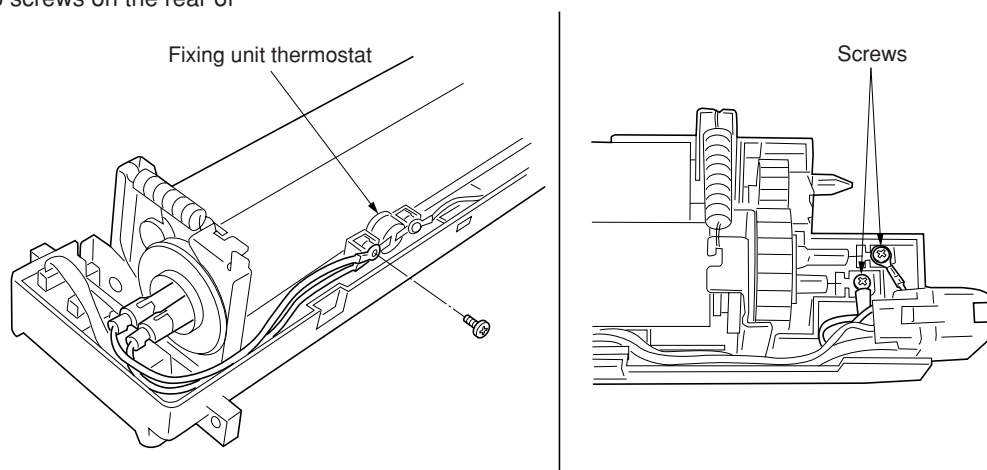
Figure 1-6-70

(4) Detaching and refitting the fixing heater M and S

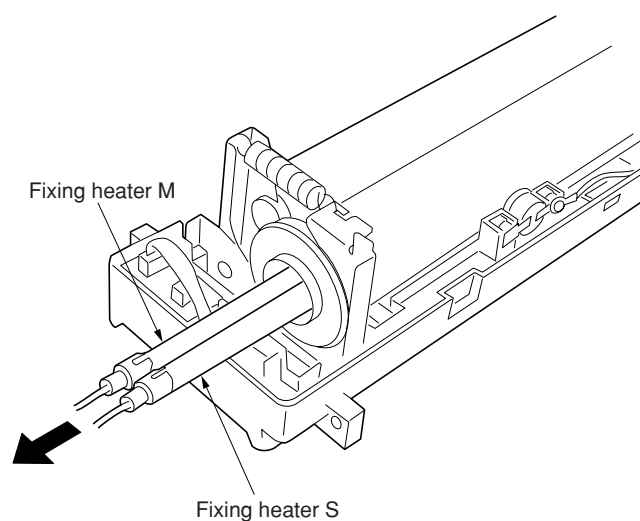
Follow the procedure below to replace the fixing heater M and S.

Procedure

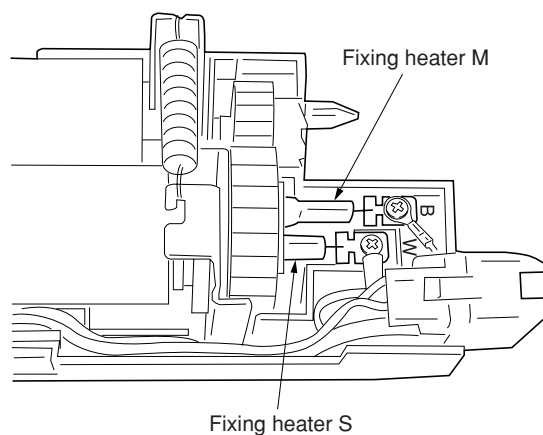
1. Remove the fixing unit (see page 1-6-36).
2. Remove the upper fixing cover (see page 1-6-36).
3. Remove the screw on the front of the fixing unit thermostat and two screws on the rear of the fixing unit.

**Figure 1-6-71**

4. Pull out the fixing heater M and S from the fixing unit.

**Figure 1-6-72**

5. Replace the fixing heater M and S, and refit all the removed parts.
 * When refitting the fixing heaters, take care not to refit fixing heaters M and S to wrong positions. Refit fixing heater M (black wire) to the fixing unit housing with mark B and fixing heater S (white wire) to the housing with mark W.

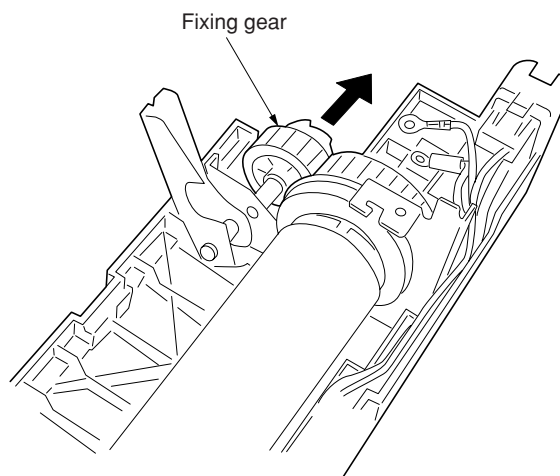
**Figure 1-6-73**

(5) Detaching and refitting the heat roller

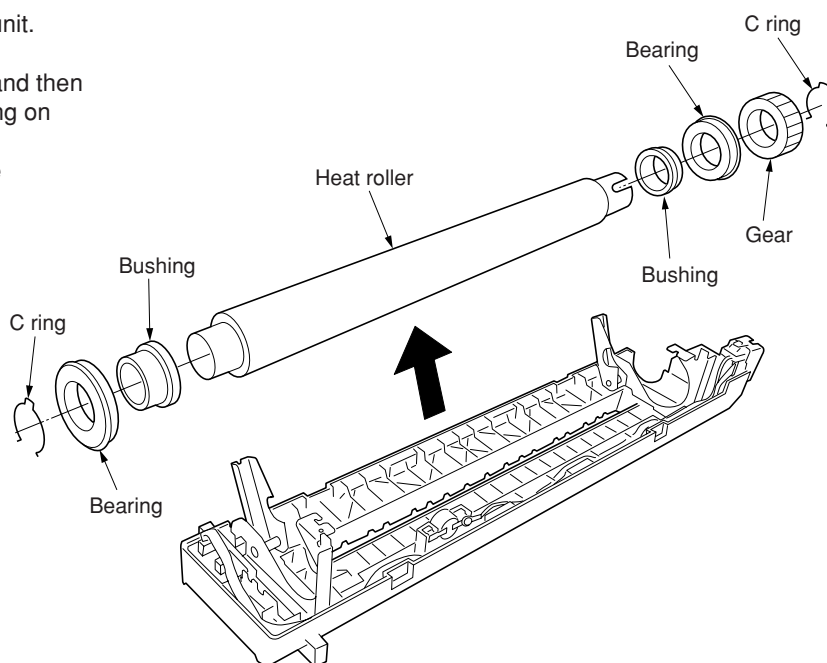
Follow the procedure below to replace the heat roller.

Procedure

1. Remove the fixing unit (see page 1-6-36).
2. Remove the upper fixing cover (see page 1-6-36).
3. Remove the press roller and fixing heater M and S (see pages 1-6-37 and 38).
4. Remove the fixing gear.

**Figure 1-6-74**

5. Detach the heat roller from the fixing unit.
Remove the C ring, gear, bearing and bushing on the rear of the heat roller and then remove the C ring, bearing and bushing on the front.
6. Replace the heat roller and refit all the removed parts.

**Figure 1-6-75**

(6) Detaching and refitting the fixing unit thermistor

Follow the procedure below to replace the fixing unit thermistor.

Procedure

1. Remove the fixing unit (see page 1-6-36).
2. Remove the upper fixing cover (see page 1-6-36).
3. Disconnect the connector of the fixing unit thermistor.

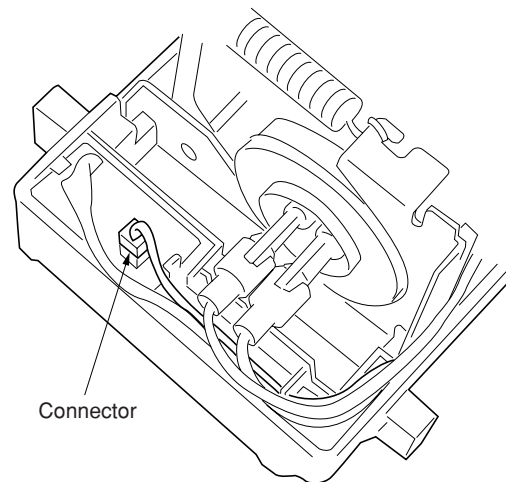


Figure 1-6-76

4. Remove the heat roller (see page 1-6-39).
5. Turn the fixing unit over and remove the screw to remove the fixing unit thermistor.

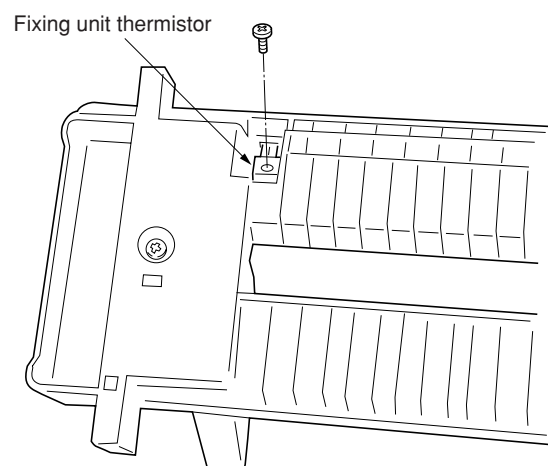


Figure 1-6-77

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 middle right cover.
Insert it with its rear side toward the front side of the machine.
3. Insert Compact Flash in a notch hole of the copier.
4. Insert the power plug and turn the main switch on. 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 middle right cover.
8. Insert the power plug and turn the main switch on.

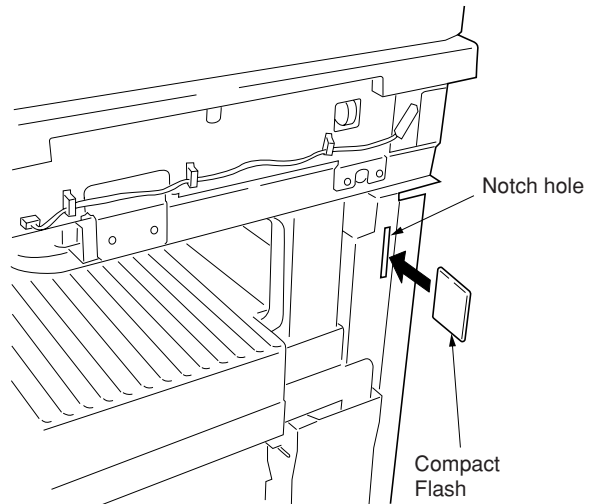


Figure 1-7-1

1-7-2 Replacing the backup ROM

Replacing the backup ROM requires the following tools:
ROM replacing tool

Procedure

1. Insert the claw of the ROM replacing tool into the groove of the backup ROM.
2. Press the ROM replacing tool from both the right and the left sides. The backup ROM is removed.
3. Replace the backup ROM.

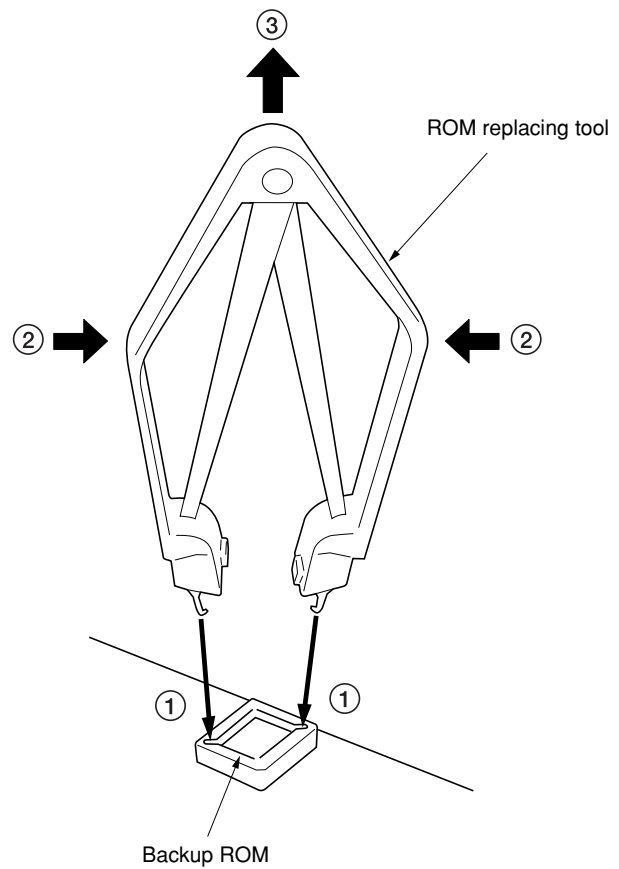


Figure 1-7-3

1-7-3 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: VR42, VR201, VR204, VR205
- Inverter PCB: VR1, VR2

2-1-1 Paper feed section

The paper feed section consists of the primary feed and secondary feed subsections. Primary feed conveys paper from the upper drawer, lower drawer or bypass tray to the left and right registration rollers, at which point secondary feed takes place and the paper travels to the transfer section in sync with the printing timing.

Each drawer consists of a lift driven by the lift motor and other components. Each drawer can hold up to 500 sheets of paper. Paper is fed from the drawer by the rotation of the forwarding pulley and paper feed pulley. The separation pulley prevents multiple sheets from being fed at one time, via the torque limiter.

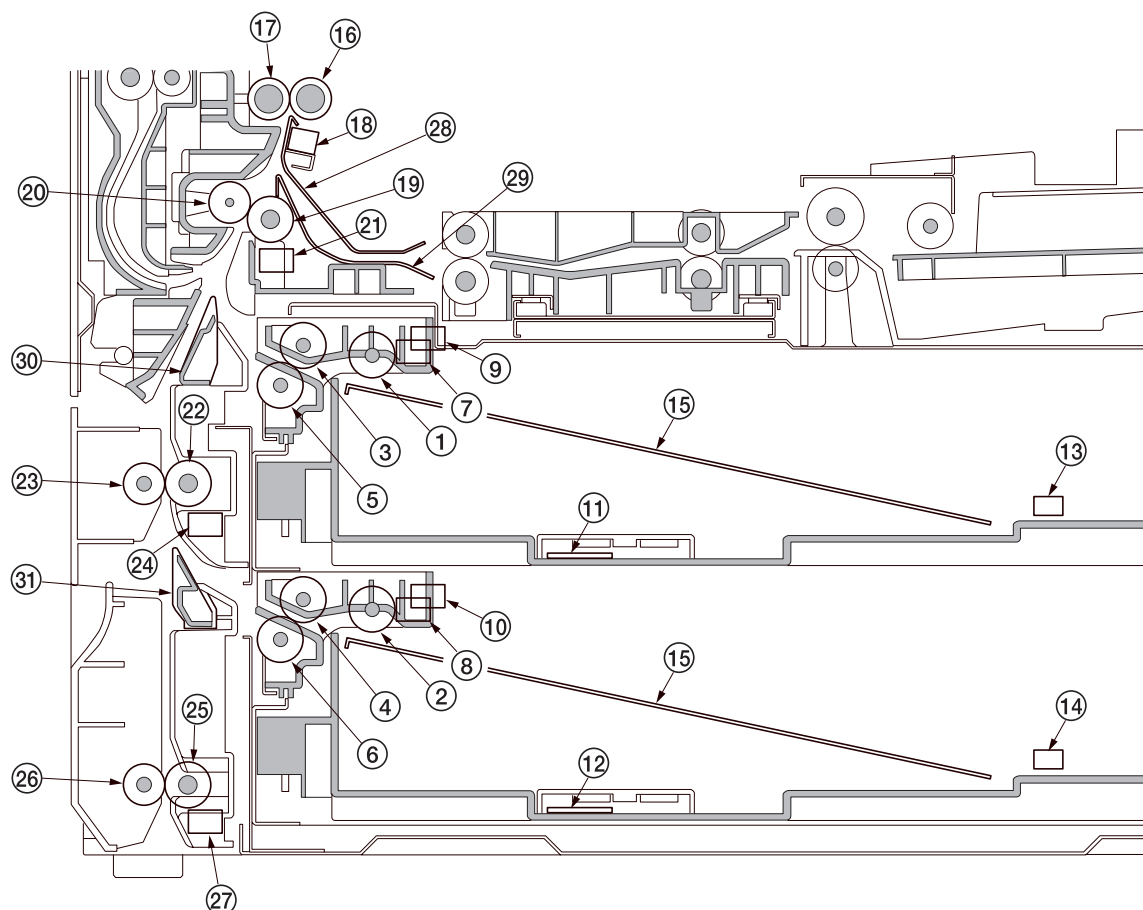


Figure 2-1-1 Paper feed from the upper and lower drawers

- | | |
|--------------------------------------|-------------------------------------|
| ① Upper forwarding pulley | ①⑦ Left registration roller |
| ② Lower forwarding pulley | ①⑧ Registration switch (RSW) |
| ③ Upper paper feed pulley | ①⑨ Feed roller 1 |
| ④ Lower paper feed pulley | ①⑩ Feed pulley |
| ⑤ Upper separation pulley | ①⑪ Feed switch 1 (FSW1) |
| ⑥ Lower separation pulley | ①⑫ Feed roller 2 |
| ⑦ Upper paper switch (PSW-U) | ①⑬ Feed pulley |
| ⑧ Lower paper switch (PSW-L) | ①⑭ Feed switch 2 (FSW2) |
| ⑨ Upper lift limit switch (LICSW-U) | ①⑮ Feed roller 3 |
| ⑩ Lower lift limit switch (LICSW-L) | ①⑯ Feed pulley |
| ⑪ Upper paper width switch (PWSW-U) | ①⑰ Feed switch 3 (FSW3) |
| ⑫ Lower paper width switch (PWSW-L) | ①⑱ Front registration guide |
| ⑬ Upper paper length switch (PLSW-U) | ①⑲ Paper conveying guide |
| ⑭ Lower paper length switch (PLSW-L) | ①⑳ Vertical paper conveying guide 1 |
| ⑮ Drawer lift | ①㉑ Vertical paper conveying guide 2 |
| ⑯ Right registration roller | |

The bypass table can hold up to 200 sheets of paper at one time. Paper is fed from the bypass table by the rotation of the bypass forwarding pulley and bypass paper feed pulley. Also during paper feed, the bypass separation pulley prevents multiple sheets from being fed at one time by the torque limiter.

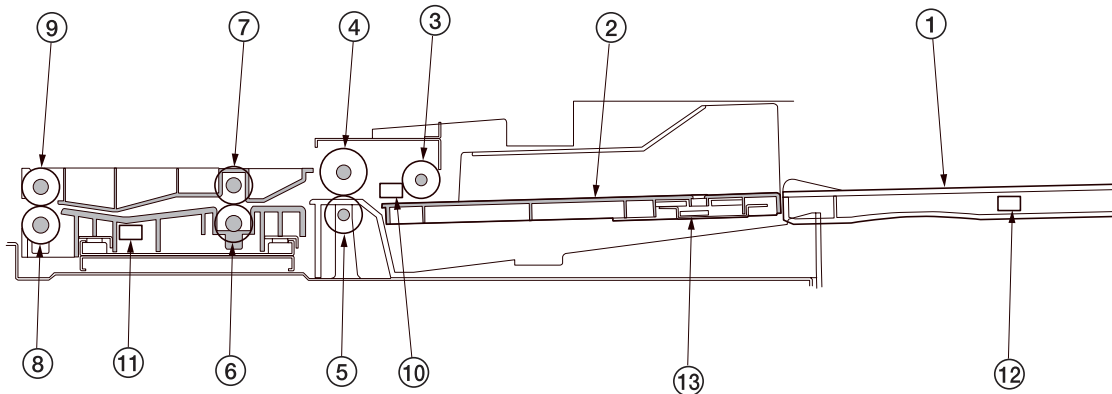


Figure 2-1-2 Paper feed from the bypass table

- ① Bypass table
- ② Bypass lift guide
- ③ Bypass forwarding pulley
- ④ Bypass paper feed pulley
- ⑤ Bypass separation pulley
- ⑥ Bypass feed roller 1
- ⑦ Bypass feed pulley
- ⑧ Bypass feed roller 2
- ⑨ Bypass feed pulley
- ⑩ Bypass paper switch (BYPPSW)
- ⑪ Bypass feed switch (BYPFSW)
- ⑫ Bypass paper length switch (BYPPLSW)
- ⑬ Bypass paper width switch (BYPPWSW)

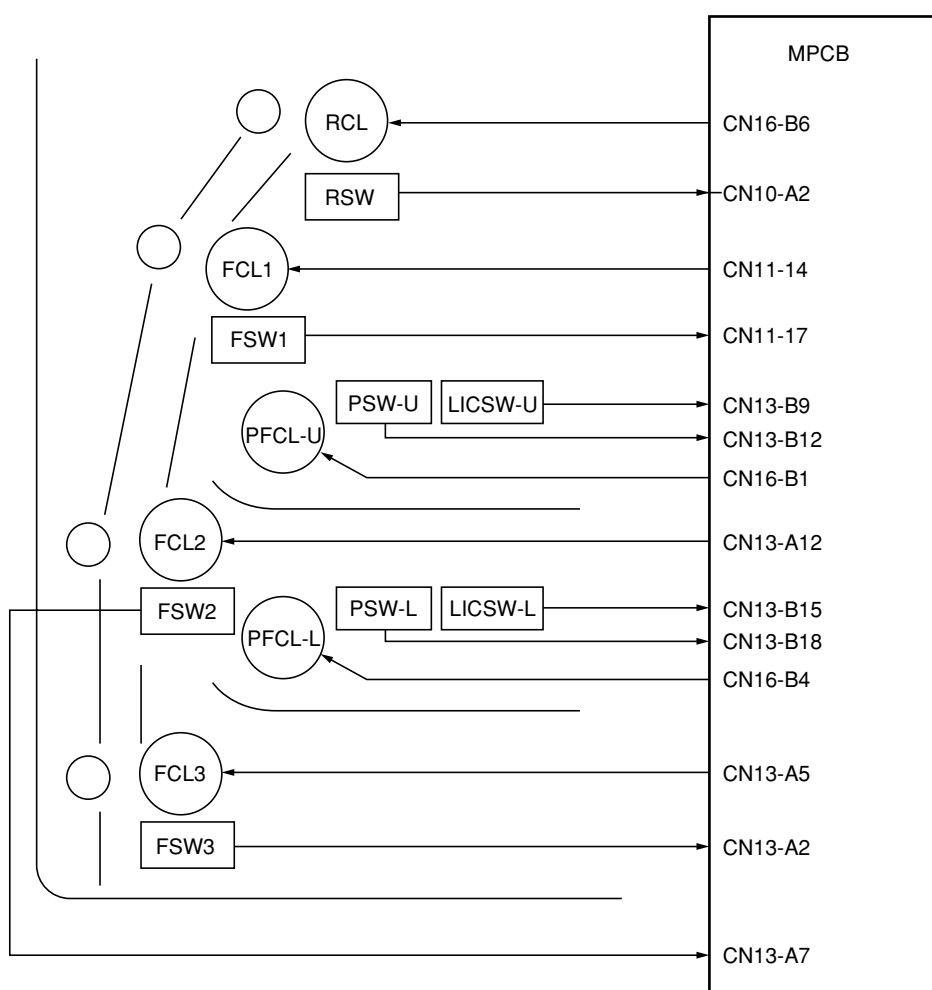


Figure 2-1-3 Paper feed section block diagram (upper and lower drawers)

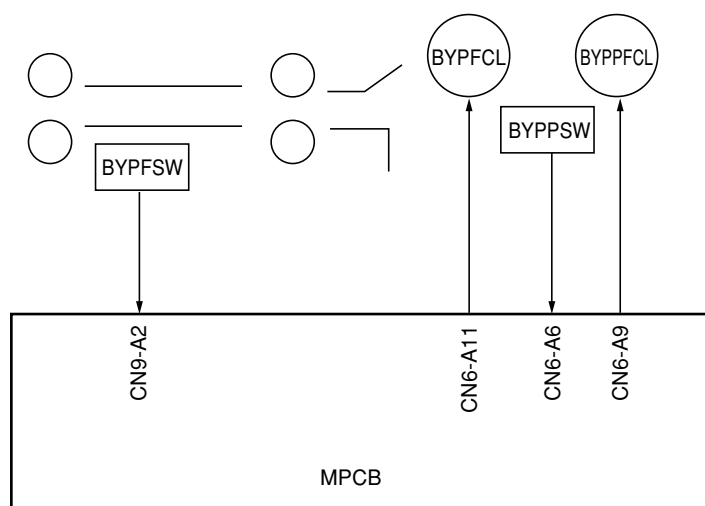
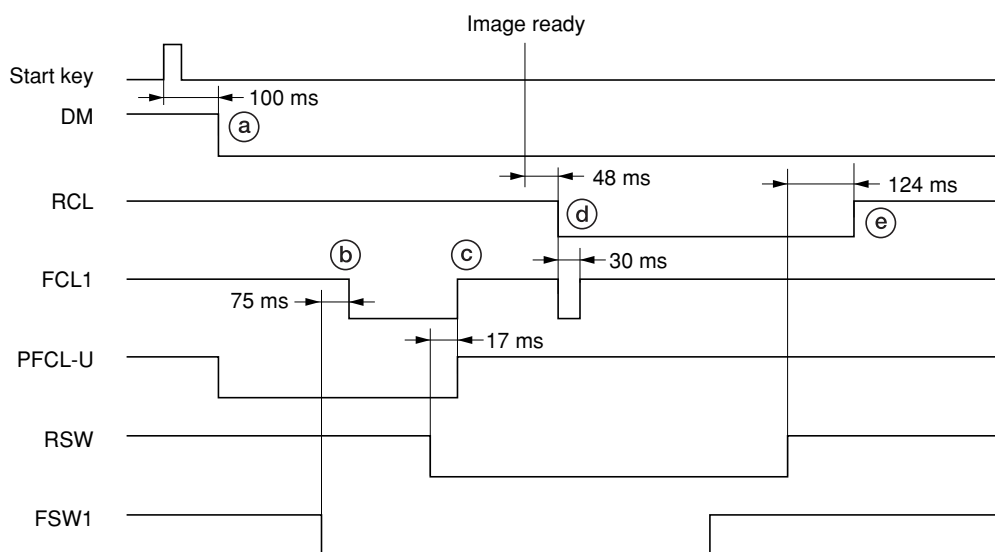
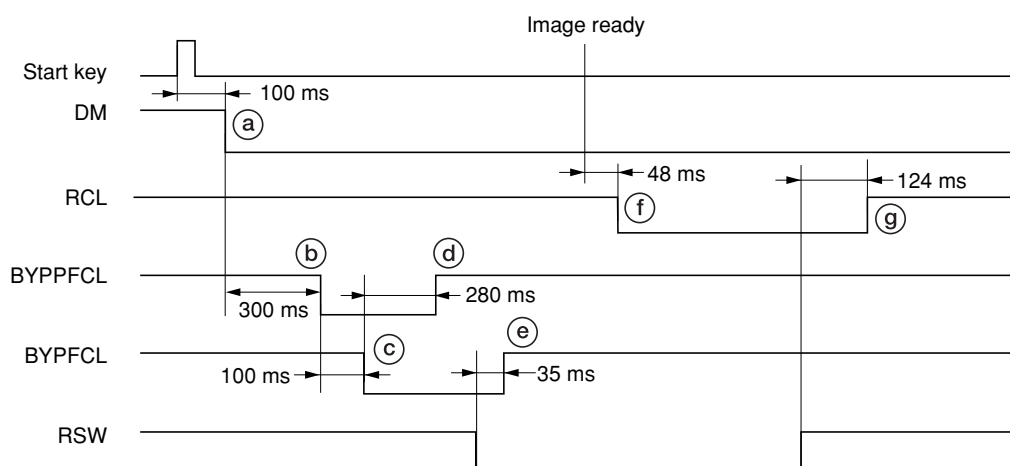


Figure 2-1-4 Paper feed section block diagram (bypass table)



Timing chart 2-1-1 Paper feed from the upper drawer

- Ⓐ: 100 ms after the start key is pressed, the drive motor (DM) turns on to start the drive for the paper feed section. At the same time, the upper paper feed clutch (PFCL-U) turns on, and the forwarding and paper feed pulleys rotate to start primary paper feed.
- Ⓑ: 75 ms after the leading edge of the paper turns the feed switch 1 (FSW1) on, the feed clutch 1 (FCL1) turns on and the feed roller 1 rotates.
- Ⓒ: 17 ms after the leading edge of the paper turns the registration switch (RSW) on, the upper paper feed clutch (PFCL-U) and feed clutch 1 (FCL1) turn off.
- Ⓓ: 48 ms after image ready signal turns on, the registration clutch (RCL) turns on, and the right registration roller rotates to start secondary paper feed. At the same time, feed clutch 1 (FCL1) turns on for 30 ms.
- Ⓔ: 124 ms after the trailing edge of the paper turns the registration switch (RSW) off, the registration clutch (RCL) turns off.



Timing chart 2-1-2 Paper feed from the bypass tray

- Ⓐ: 100 ms after the start key is pressed, the drive motor (DM) turns on to start the drive for the paper feed section.
- Ⓑ: 300 ms after the drive motor (DM) turns on, the bypass paper feed clutch (BYPPFCL) turns on.
- Ⓒ: 100 ms after the bypass paper feed clutch (BYPPFCL) turns on, the bypass feed clutch (BYPFCL) turns on.
- Ⓓ: 280 ms after the bypass feed clutch (BYPFCL) turns on, the bypass paper feed clutch (BYPPFCL) turns off.
- Ⓔ: 35 ms after the registration switch (RSW) turns on, the bypass feed clutch (BYPFCL) turns off.
- Ⓕ: 48 ms after image ready signal turns on, the registration clutch (RCL) turns on, and the right registration roller rotates to start secondary paper feed.
- Ⓖ: 124 ms after the trailing edge of the paper turns the registration switch (RSW) off, the registration clutch (RCL) turns off.

2-1-2 Main charging section

The main charging section consists of the main charger assembly, drum and so on. The drum is electrically charged uniformly (500 μ A) by means of a grid to form a latent image on the surface.

The main charger unit charges the drum so that a latent image is formed on the surface, the shield grid ensuring the charge is applied uniformly.

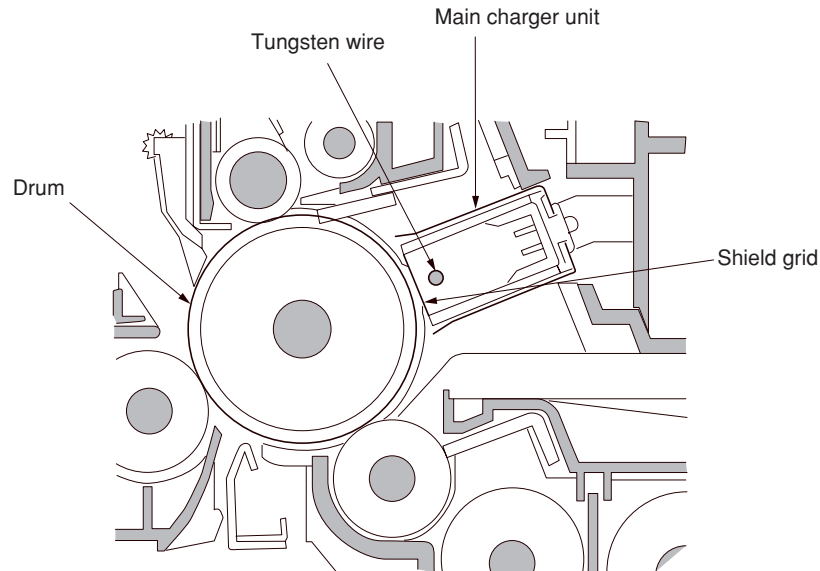


Figure 2-1-5 Main charging section

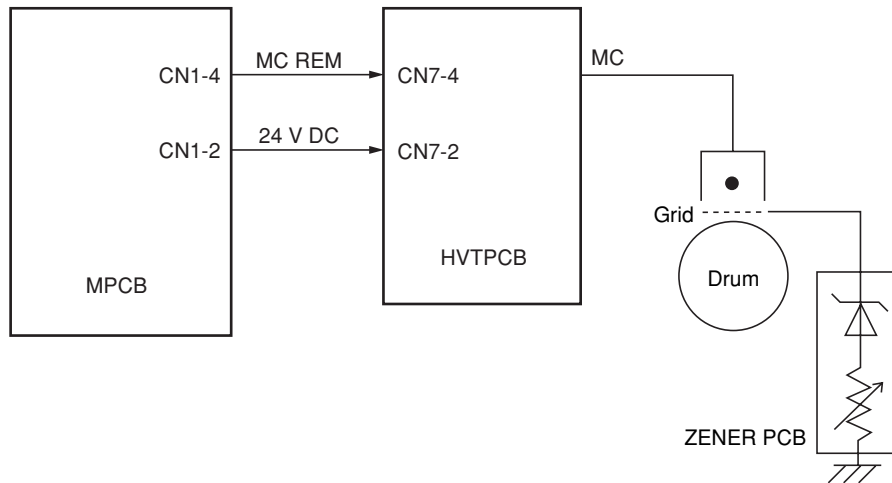
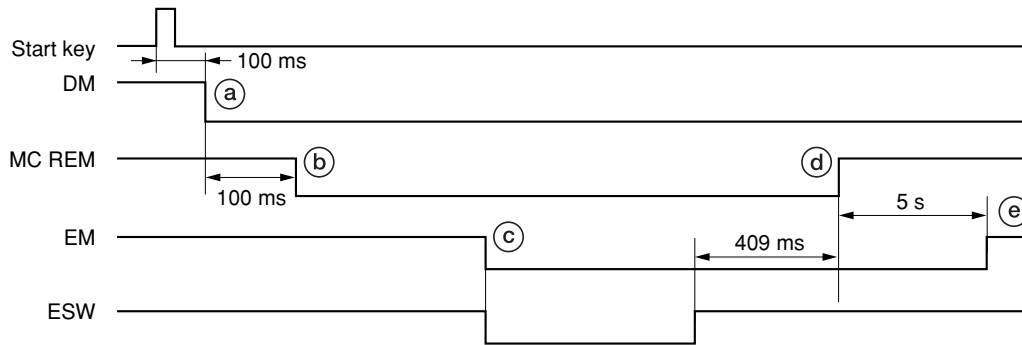


Figure 2-1-6 Main charging section block diagram



Timing chart 2-1-3 Main charging section operation

- Ⓐ: 100 ms after the start key is pressed, the drive motor (DM) turns on.
- Ⓑ: 100 ms after the drive motor (DM) turns on, main charging (MC REM) starts.
- Ⓒ: The leading edge of the paper turns on the eject switch (ESW), and at the same time the eject motor (EM) turns on.
- Ⓓ: 409 ms after the paper is ejected and the eject switch (ESW) turns off, main charging (MC REM) ends.
- Ⓔ: 5 s after the end of main charging (MC REM), the eject motor (EM) 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.

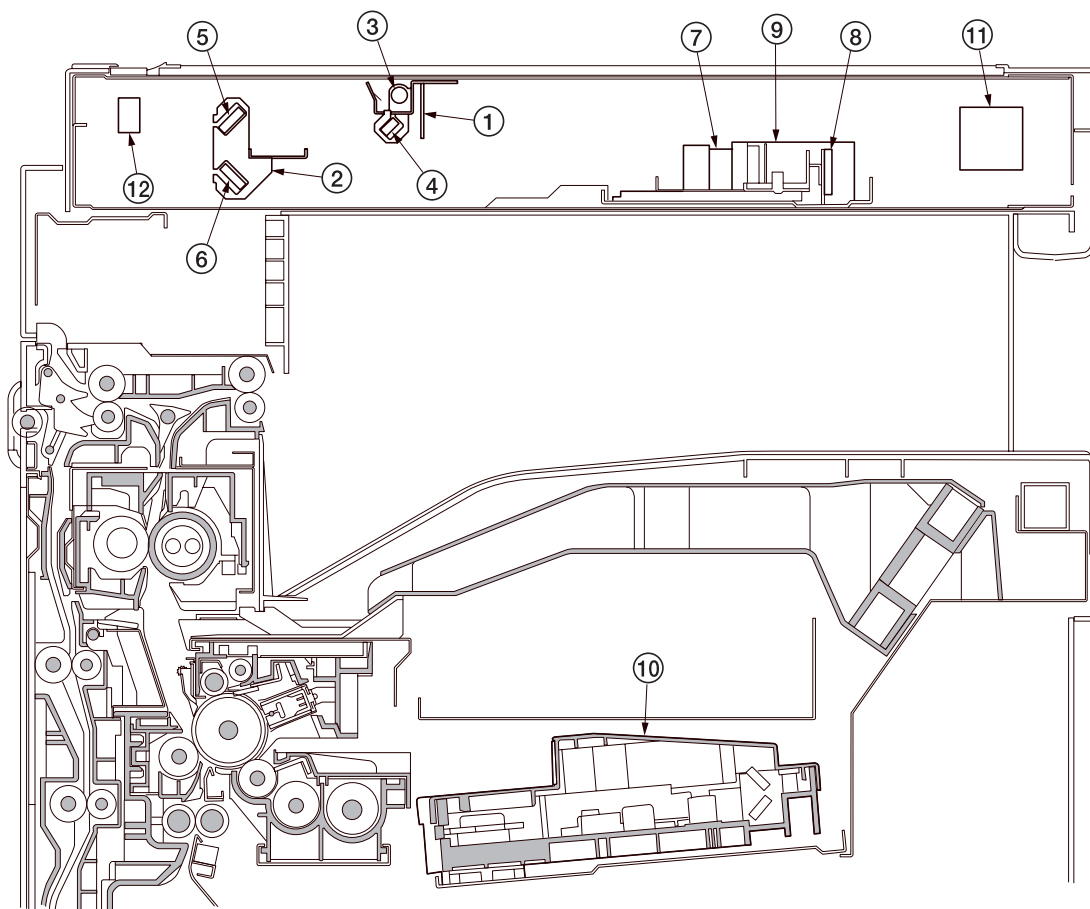


Figure 2-1-7 Optical section

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

(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 frames 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 frames is half the speed of the scanner.

When the DF* is used, the scanner and mirror frames stop at the DF original scanning position to start scanning.

* Optional.

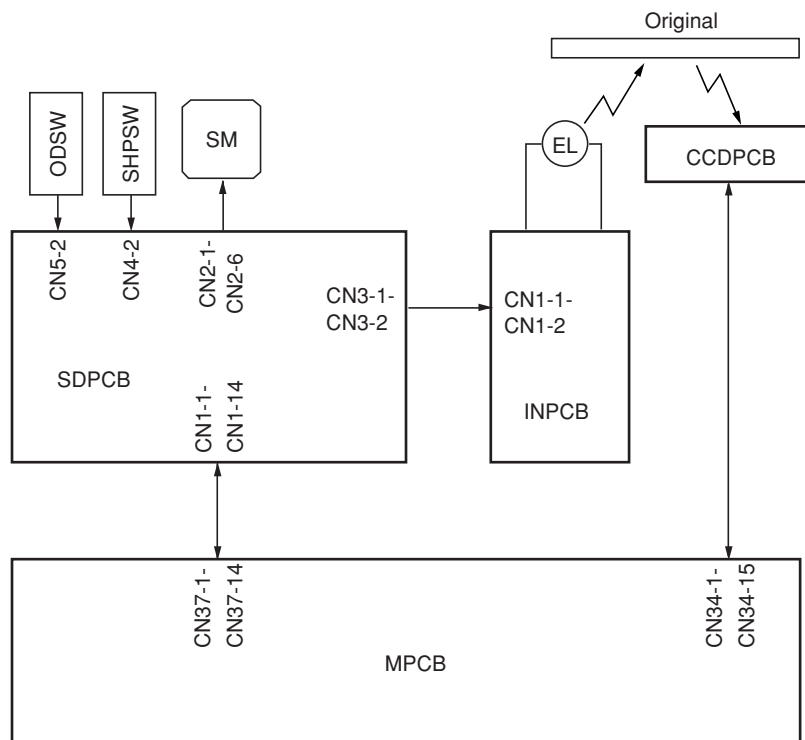
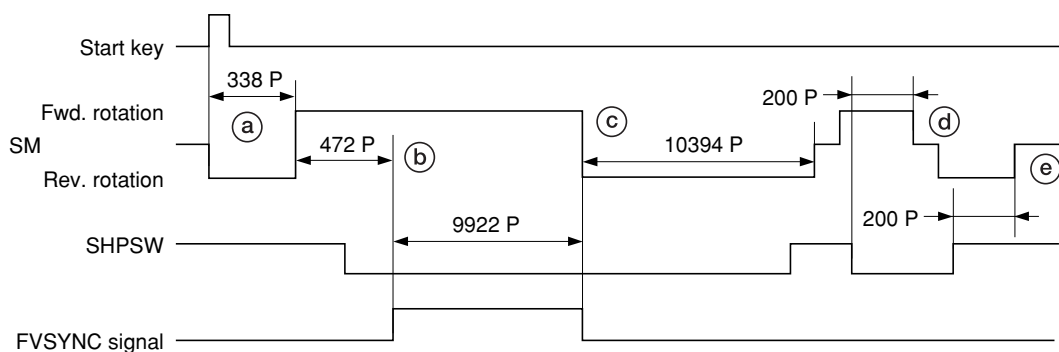


Figure 2-1-8 Optional section block diagram



Timing chart 2-1-4 Scanner operation

- Ⓐ: When the start key is pressed, the scanner motor (SM) reverses for 338 pulses and then rotates forward.
- Ⓑ: 472 pulses after the scanner motor (SM) starts rotating forward, the FVSYNC signal turns on for 9922 pulses for scanning.
- Ⓒ: The scanner motor (SM) reverses for 10394 pulses and then rotates forward.
- Ⓓ: 200 pulses after the scanner home position switch (SHPSW) turns on, the scanner motor (SM) reverses.
- Ⓔ: 200 pulses after the scanner home position switch (SHPSW) turns off, 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.

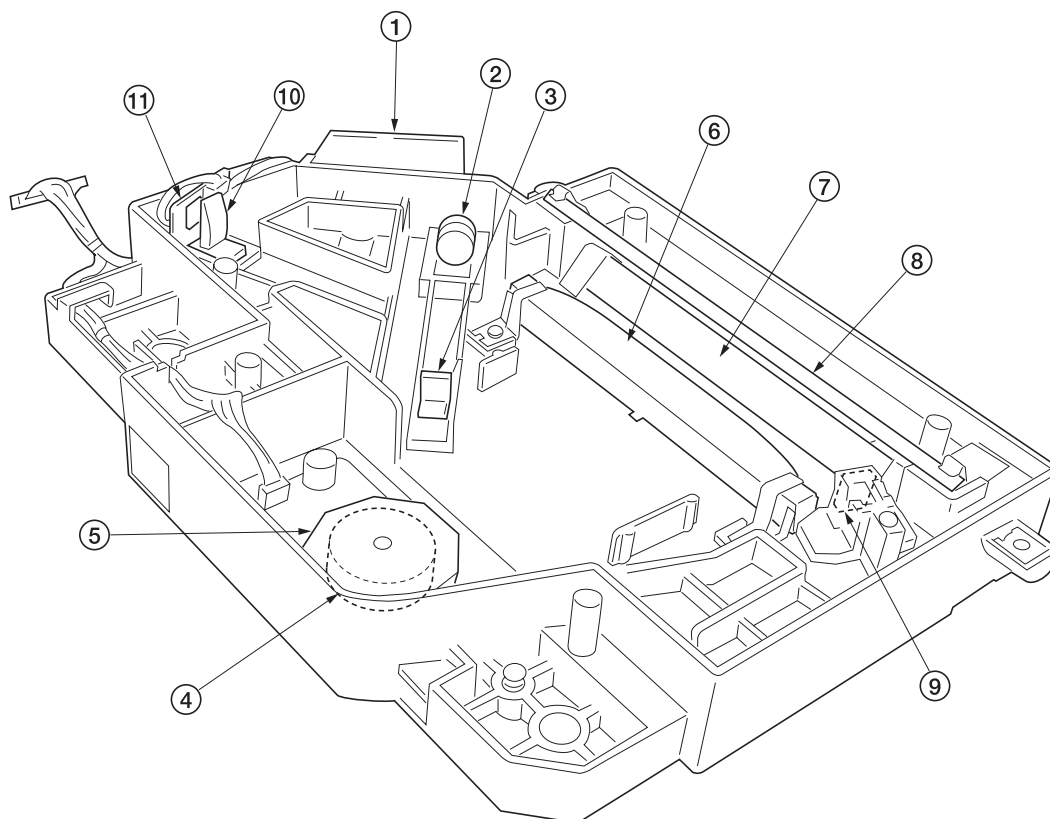


Figure 2-1-9 Laser scanner unit (1)

- ① Laser diode PCB (LDPCB)
- ② Collimator lens
- ③ Cylindrical lens
- ④ Polygon motor (PM)
- ⑤ Polygon mirror
- ⑥ f θ lens
- ⑦ Mirror
- ⑧ Mirror
- ⑨ BD sensor mirror
- ⑩ Cylindrical correcting lens
- ⑪ BD sensor

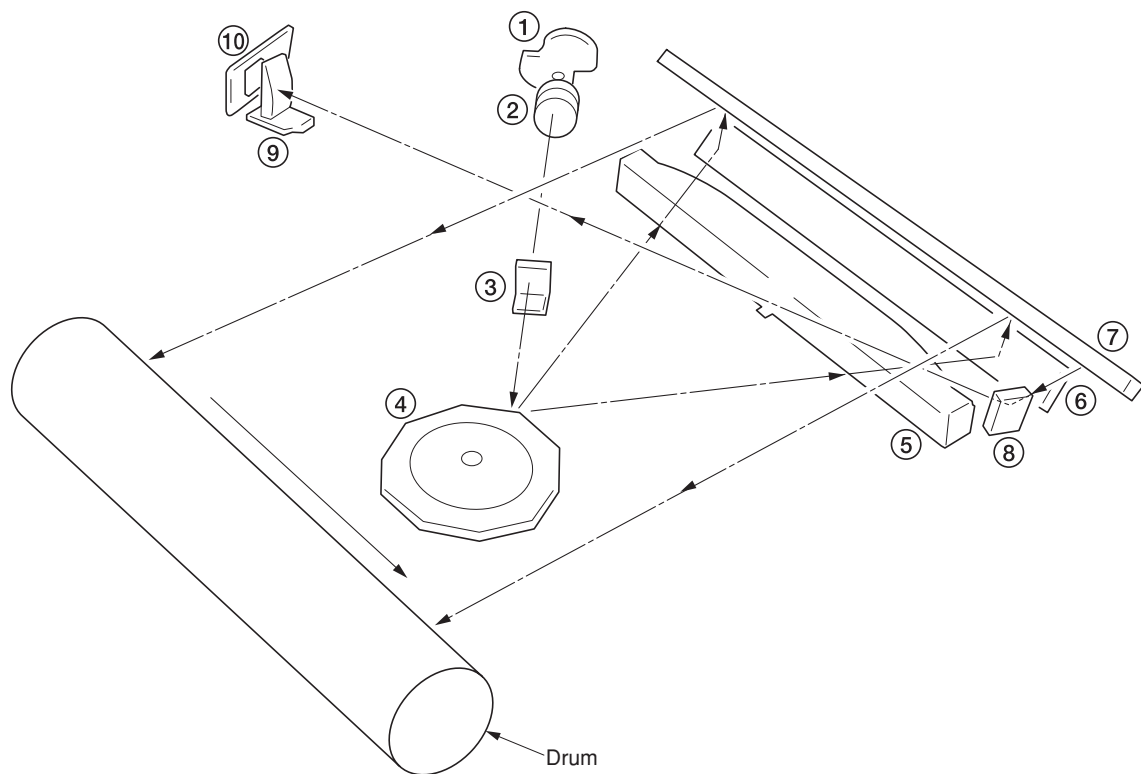


Figure 2-1-10 Laser scanner unit (2)

- ① Laser diode: Generates the laser beam which forms a latent image on the drum.
- ② Collimator lens: Collimates the diffused laser beam emitted from the laser diode to convert it into a cylindrical beam.
- ③ Cylindrical lens: Shapes the collimated laser beam to suit the printing resolution.
- ④ Polygon mirror: Six-facet mirror that rotates at approximately 28031 rpm with each face reflecting the laser beam toward the drum for one main-direction scan.
- ⑤ fθ lens: Corrects for non-linearity of the laser beam scanning speed on the drum surface, keeps the beam diameter constant and corrects for the vertical alignment of the polygon mirror to ensure that the focal plane of the laser beam is on the drum surface.
- ⑥ Mirror: Reflects the laser beam and changes the irradiation direction.
- ⑦ Mirror: Reflects the laser beam and changes the irradiation direction.
- ⑧ BD sensor mirror: Reflects the laser beam to the BD sensor to generate the main-direction (horizontal) sync signal.
- ⑨ Cylindrical correcting lens: Corrects for the deviation of the laser beam reflected by the BD sensor mirror to the BD sensor.
- ⑩ BD sensor: Detects the beam reflected by the BD sensor mirror, outputting a signal to the main PCB (MPCB) to provide timing for the main-direction sync signal.

The dimensions of the laser beam are as shown in Figure 2-1-11.

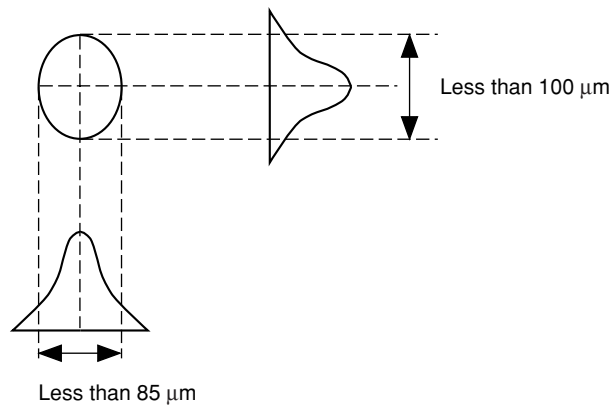


Figure 2-1-11

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 2-1-12. 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.

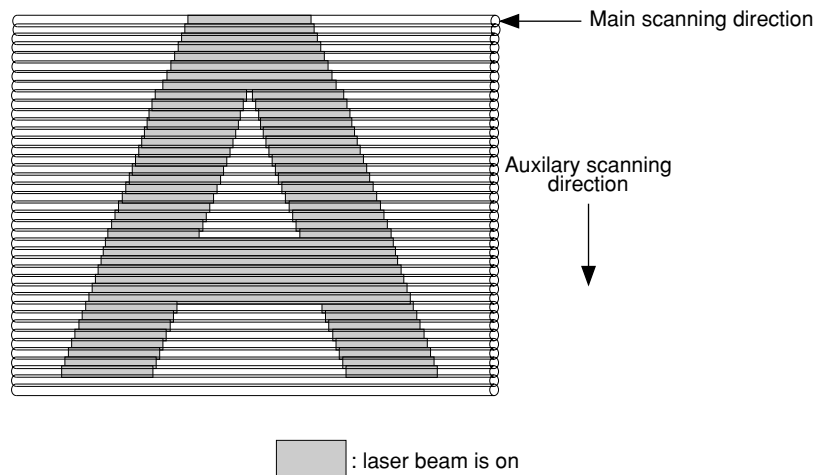


Figure 2-1-12

2-1-4 Developing section

The developing section consists of the developing unit and the toner container.

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

When the toner sensor (TNS) detects a low toner level in the developing unit, the toner replenishment signal is output to the main PCB (MPCB). The main PCB (MPCB) that has received the signal turns on the toner replenishment solenoid (TNFSOL) and replenishes toner from the toner container to the developing unit.

Also, the toner container sensor (TCS) checks whether or not toner remains in the toner container.

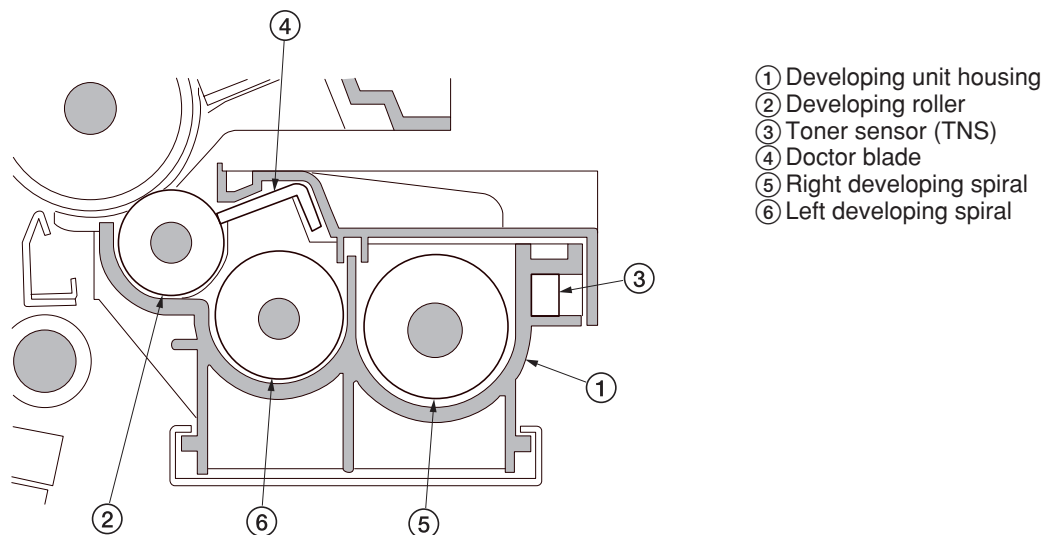


Figure 2-1-13 Developing section

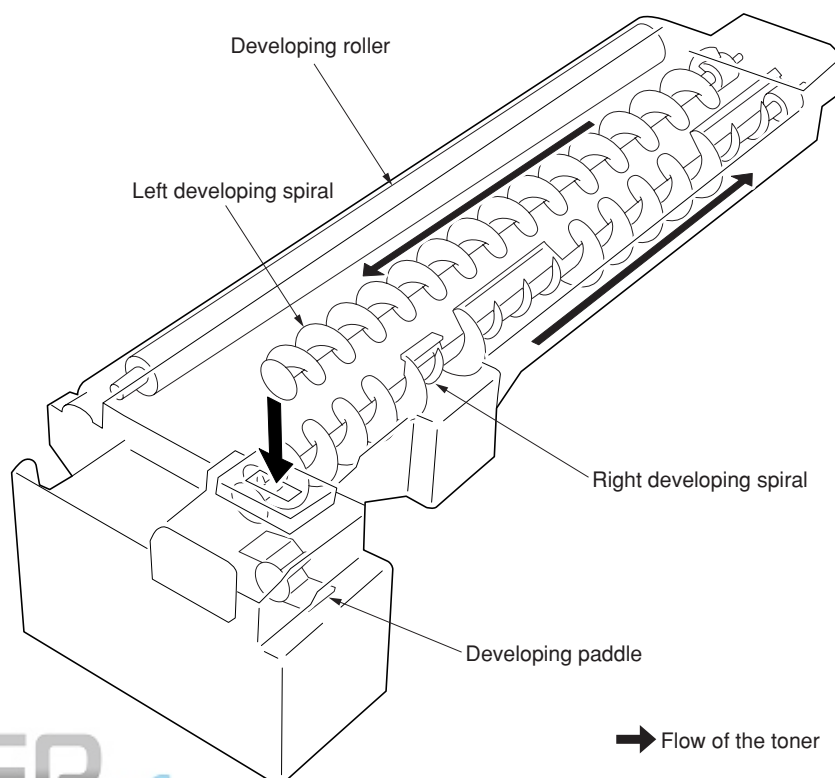


Figure 2-1-14 Flow of the toner

(1) Formation of magnetic brush

The developing roller consists of a magnet roller with four poles and a sleeve roller. Rotation of the sleeve roller around the magnet roller entrains toner, which in turn forms a magnetic brush at pole N1 on the magnet roller. The height of the magnetic 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 PCB (HVTPCB) is applied to the developing roller to provide image contrast.

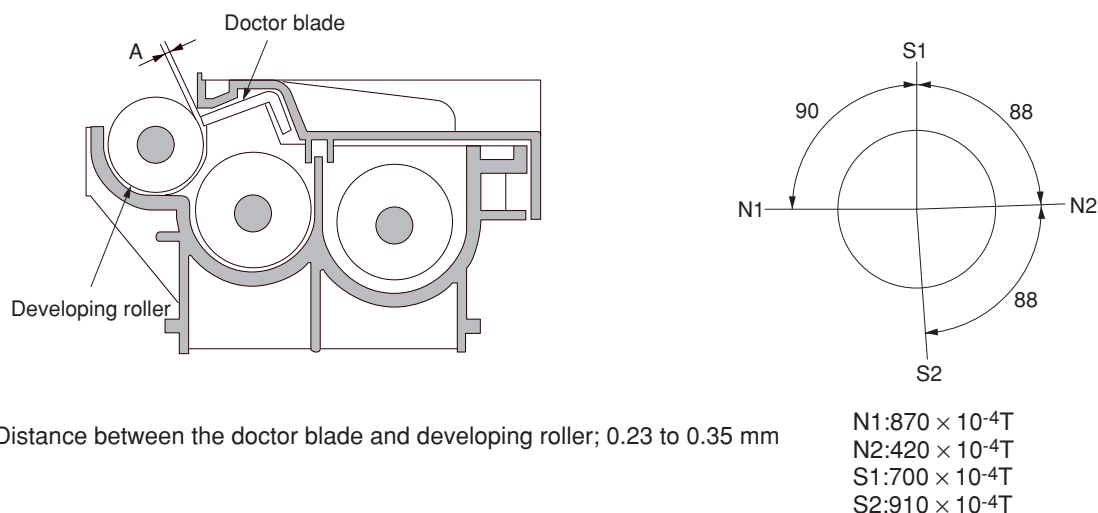


Figure 2-1-15 Forming a magnetic brush

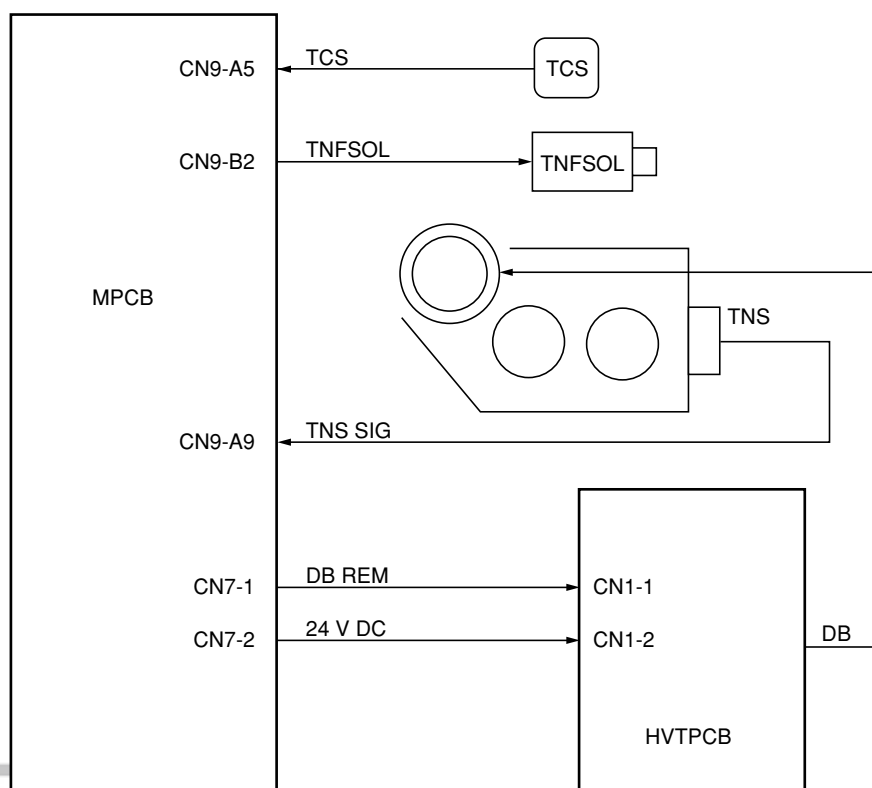


Figure 2-1-16 Developing section block diagram

(2) Computing the absolute humidity

The humidity sensor (HUMSENS) converts the relative humidity detected by the humidity sensing element into a voltage and sends it to the main PCB (MPCB). The main PCB (MPCB) computes the absolute humidity based on this HUMSENS signal and the temperature (ETTH signal) detected by the external temperature thermistor (ETTH).

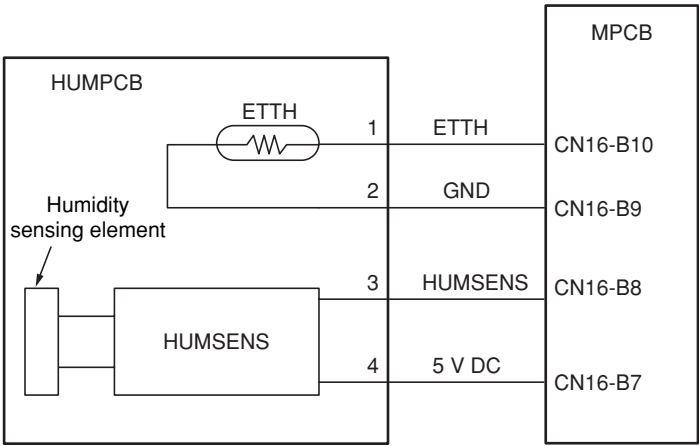


Figure 2-1-17 Absolute humidity computation block diagram

(3) Single component developing system

This machine uses the single component developing system, and reversal processing is performed with a + charged drum (a-Si) and a + charged magnetic toner.

With the single component developing system, toner is electrically charged by friction with the developing sleeve and + charged when it passes through the magnetic doctor blade. The toner that has passed through the magnetic doctor blade forms a uniform layer on the developing sleeve. When the toner layer comes to the location where the developing sleeve is the nearest to the drum, toner moves between the drum and the developing sleeve by an electric field of the magnetic pole. Then, when the developing sleeve rotates and passes through the nearest location to the drum, on the portion of the drum that has been exposed to light, toner is attracted toward the drum by potential difference between the developing bias and the drum surface and development is performed. On the other hand, on the portion of the drum that has not been exposed to light, toner is attracted toward the sleeve and development is not performed. When toner comes to an area where the gap between the drum and the developing sleeve is large, an electric field disappears and toner does not leave the developing sleeve. Development is complete.

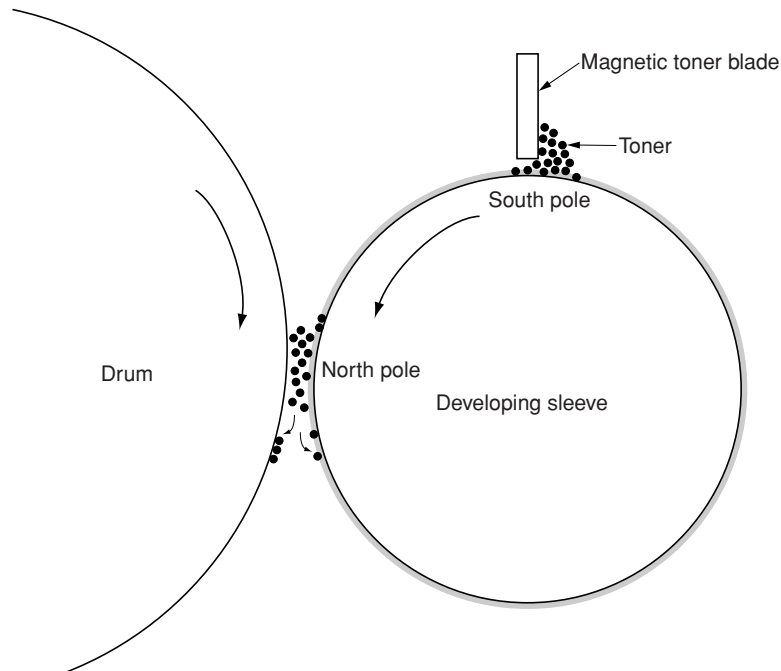


Figure 2-1-17-1 Single component developing system

Developing bias parameters

For the bias to the developing sleeve, an alternating current (AC) is applied. Parameters for the developing bias are shown below.

Vp-p: Difference between the maximum and the minimum of applied voltage

1.72 kV (fixed)

Vf: Frequency

Typically 2.6 kHz. This value varies depending on the preset value of the drum surface potential and the environmental correction. (Can be adjusted with the maintenance item U101.)

Duty: Ratio of time where + voltage is applied in a cycle

Typically 45%. This value varies depending on the preset value of the drum surface potential and the environmental correction. (Can be adjusted with the maintenance item U101.)

Vde: Developing shift bias potential

160 V (Can be changed to 180 V with the maintenance item U101)

Supplementation

V0: Drum surface potential on non-image area (area not exposed to light)

VL: Drum surface potential on image area (area exposed to light)

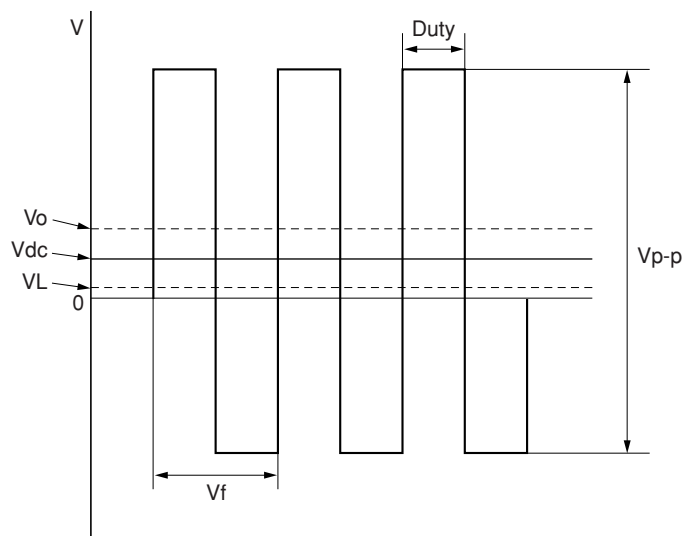


Figure 2-1-17-2 Developing bias waveform

2-1-5 Transfer and separation sections

The transfer and separation section consists mainly of the transfer roller, separation electrode and drum separation claws.

A high voltage generated by the high-voltage transformer PCB (HVTPCB) is applied to the transfer roller for transfer charging ($100\text{ }\mu\text{A}$).

After transfer is separated from the drum by applying separation bias that is output from the high-voltage transformer PCB (HVTPCB) to the separation electrode ($60\text{ or }10\text{ }\mu\text{A}$ depending on the paper).

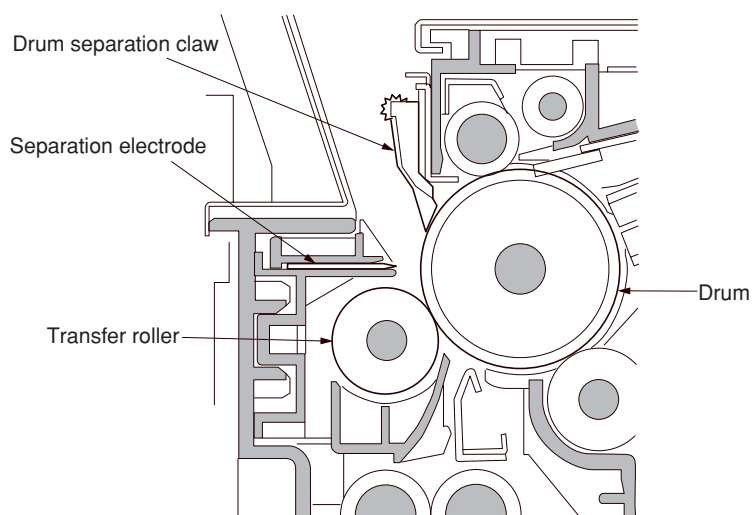


Figure 2-1-18 Transfer and separation sections

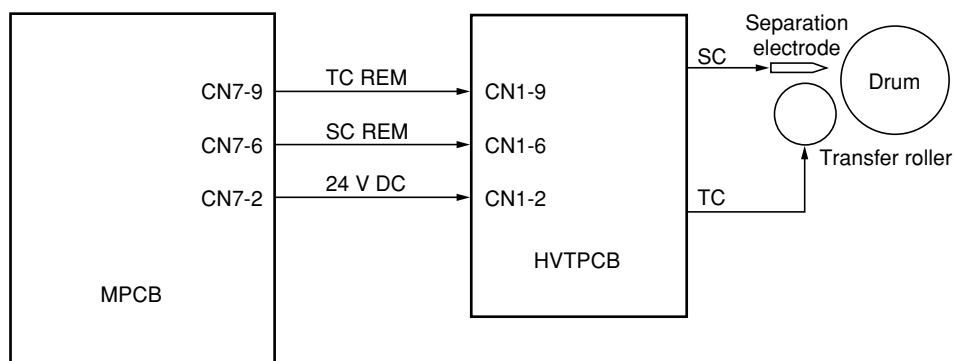
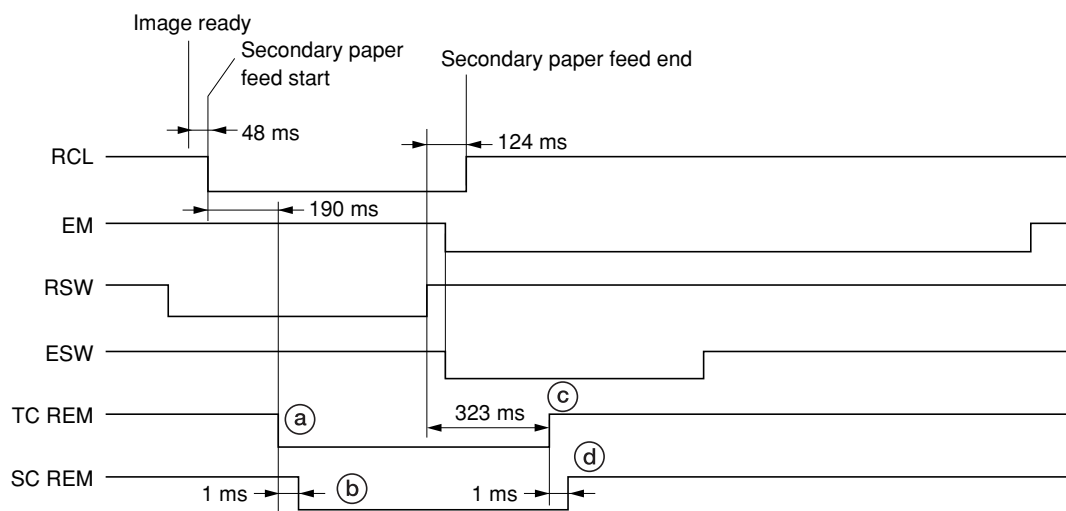


Figure 2-1-19 Transfer and separation sections block diagram



Timing chart 2-1-5 Transfer and separation sections operation

- Ⓐ: 190 ms after the registration clutch (RCL) turns on to start secondary paper feed, transfer charging (TC REM) starts.
- Ⓑ: 1 ms after transfer charging (TC REM) starts, separation bias (SC REM) turns on.
- Ⓒ: 323 ms after the trailing edge of the paper turns the registration switch (RSW) off, transfer charging (TC REM) ends.
- Ⓓ: 1 ms after transfer charging (TC REM) ends, separation bias (SC REM) turns off.

2-1-6 Cleaning and charge erasing sections

The cleaning section consists of the cleaning blade that removes residual toner from the drum surface after the transfer process, and the cleaning spiral that carries the residual toner back to the waste toner tank.

The cleaning lamp (CL) consists of LEDs and removes residual charge on the drum before main charging. Also the toner quantity in the waste toner tank is sensed with the overflow sensor (OFS).

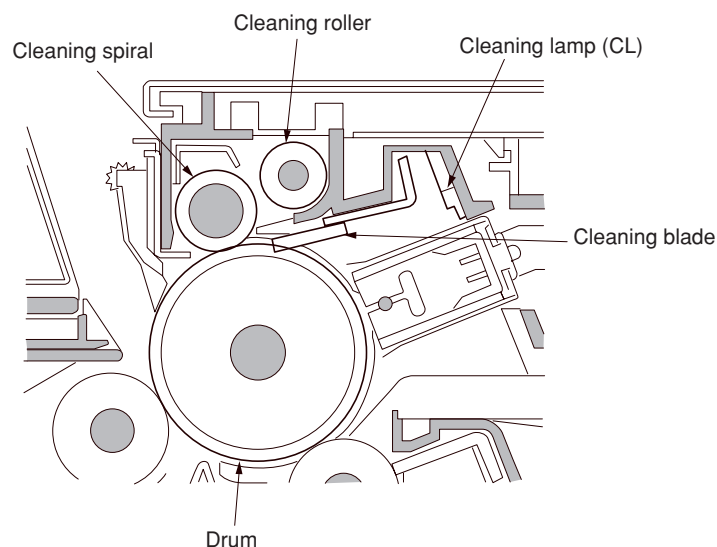


Figure 2-1-20 Cleaning and charge erasing sections

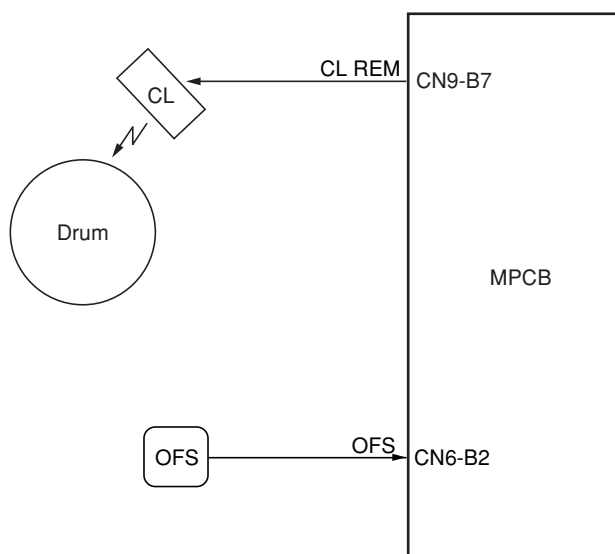


Figure 2-1-21 Cleaning and charge erasing sections block diagram

2-1-7 Fixing section

The fixing section consists of the parts shown in Figure 2-1-22. When paper reaches the fixing section after the transfer process, it passes between the press roller and heat roller, which is heated by fixing heaters M or S (FH-M or FH-S). Pressure is applied by the fixing unit pressure springs so that the toner on the paper is melted, fused and fixed onto the paper. The heat roller is heated by fixing heaters M or S (FH-M or FH-S) inside it; its surface temperature is detected by the fixing unit thermistor (FTH) and is regulated by the fixing heaters turning on and off.

If the fixing section becomes abnormally hot, fixing unit thermostat (FTS) operates shutting the power to the fixing heaters off. When the fixing process is completed, the paper is separated from the heat roller by its separation claws and is conveyed from the copier to eject and switchback section.

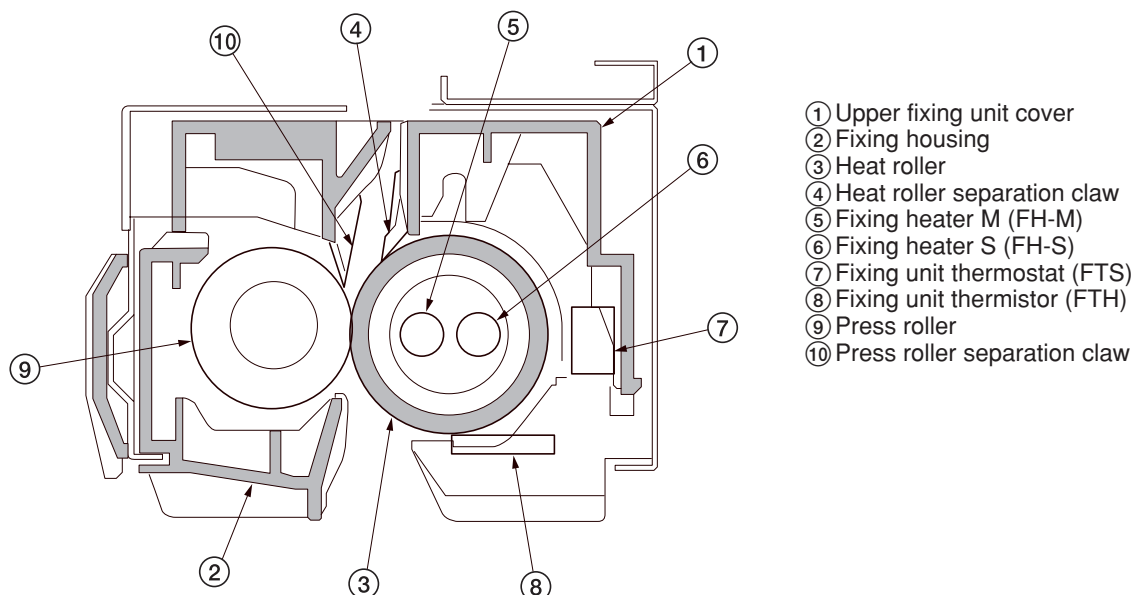


Figure 2-1-22 Fixing section

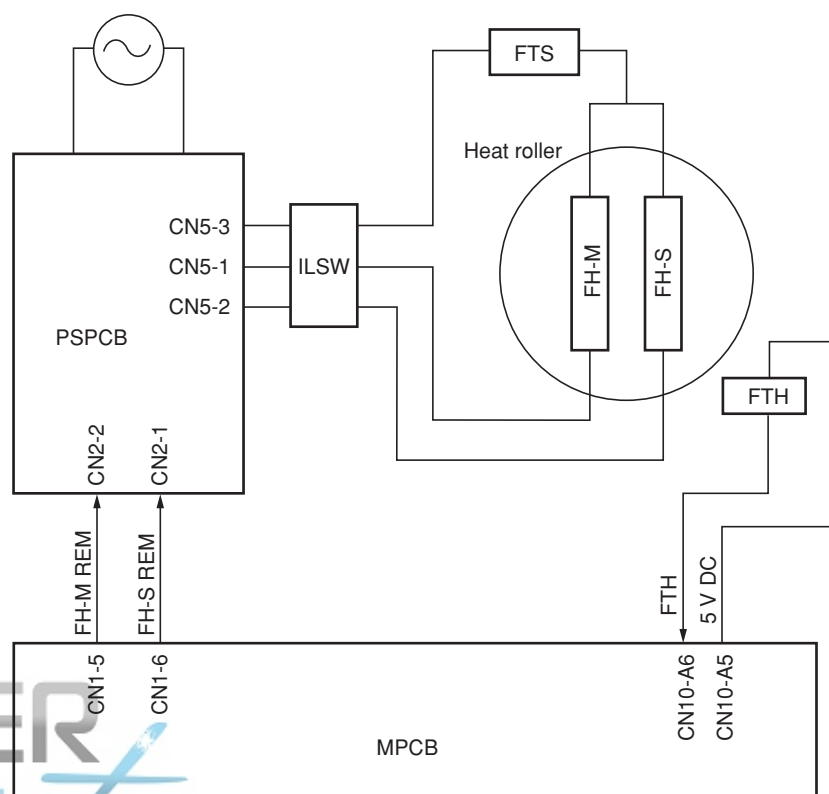
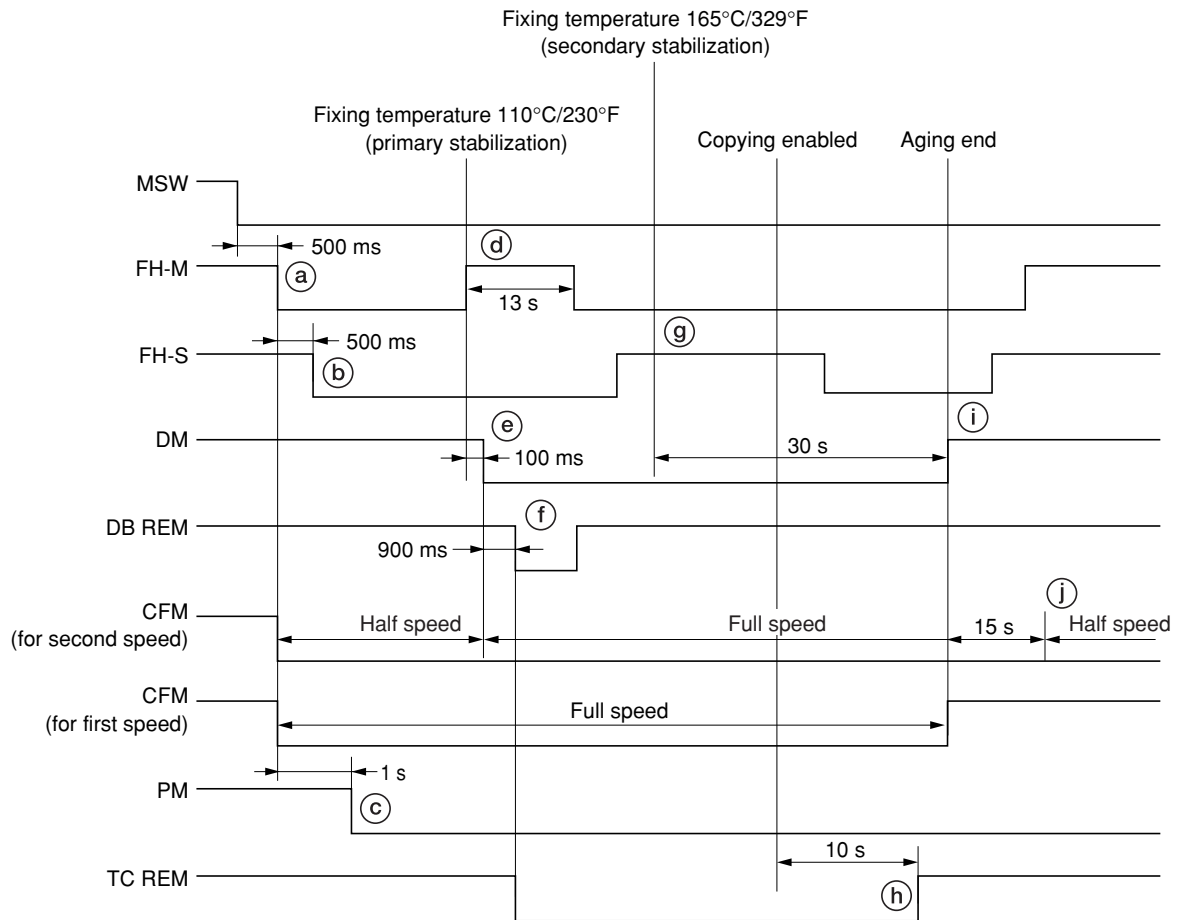


Figure 2-1-23 Fixing section block diagram



Timing chart 2-1-6 Fixing section operation

- Ⓐ: 500 ms after the main switch (MSW) is turned on, fixing heater M (FH-M) turns on to heat the heat roller. At the same time, cooling fan motor (CFM) turns on.
 * The fan motor for second speed rotates at half speed and the motor for first speed rotates at full speed.
- Ⓑ: 500 ms after fixing heater M (FH-M) turns on, fixing heater S (FH-S) turns on.
- Ⓒ: 1 s after fixing heater M (FH-M) turns on, the polygon motor (PM) of the laser scanner unit turns on.
- Ⓓ: When the fixing temperature reaches 110°C/230°F, the copier enters primary stabilization, and fixing heater M (FH-M) turns off temporarily and turns on again after 13 s.
- Ⓔ: 100 ms after the primary stabilization, the drive motor (DM) turns on. Also the cooling fan motor (for second speed) switches to full speed rotation.
- Ⓕ: 900 ms after the drive motor (DM) turns on, the developing bias (DB REM) turns on and at the same time transfer charging (TC REM) starts.
- Ⓖ: When the fixing temperature reaches 165°C/329°F, the copier enters secondary stabilization. Fixing heaters M and S (FH-M and FH-S) are turned on and off to keep the fixing temperature at 165°C/329°F and aging starts.
- Ⓗ: 10 s after copying is enabled, transfer charging (TC REM) ends.
- Ⓘ: 30 s after the secondary stabilization, the drive motor (DM) turns off and the aging ends.
- Ⓙ: 15 s after the drive motor (DM) turns off, the cooling fan motor (for second speed) switches to half speed rotation.

2-1-8 Eject and switchback sections

The eject and switchback sections eject paper on which fixing has ended with the eject roller that is rotated by forward rotation of the eject motor.

In duplex copying, paper is turned over by reverse rotation of the eject motor. When paper is transferred to the job separator or the internal finisher, the feedshift solenoid (FSSOL) is turned on to activate the feedshift guide to switch the paper transfer path.

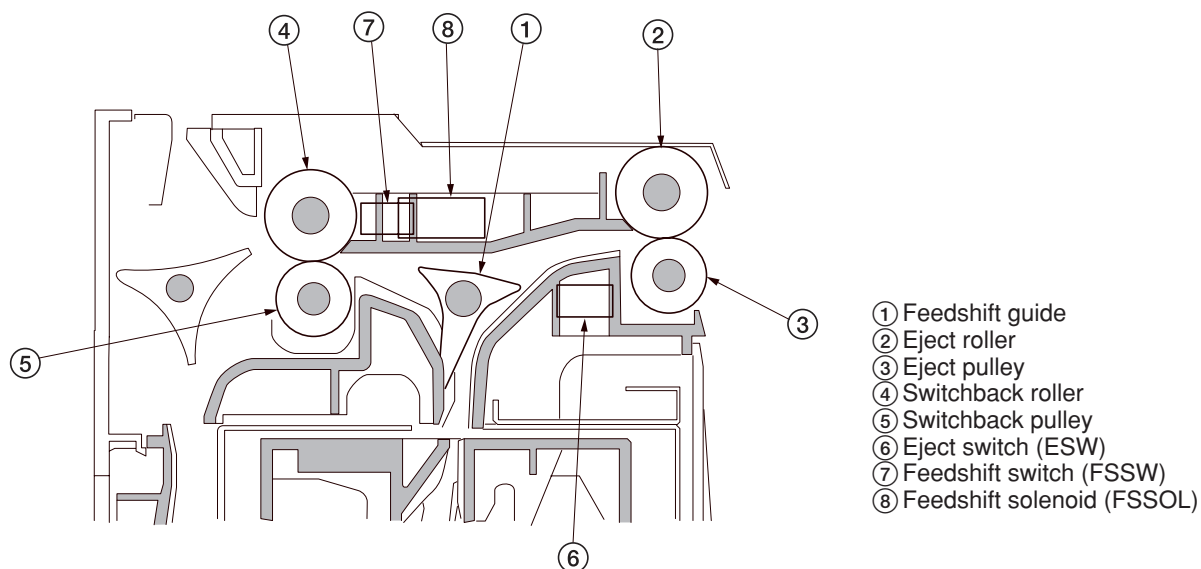


Figure 2-1-24 Eject and switchback sections

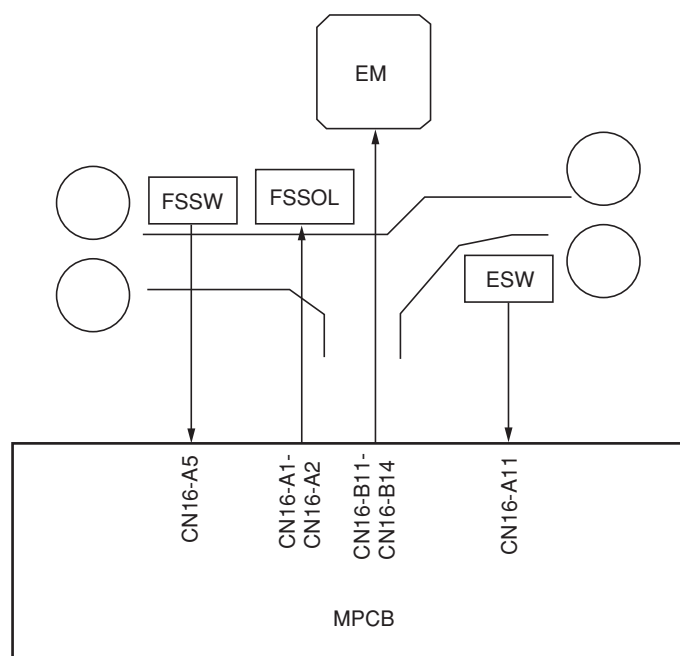
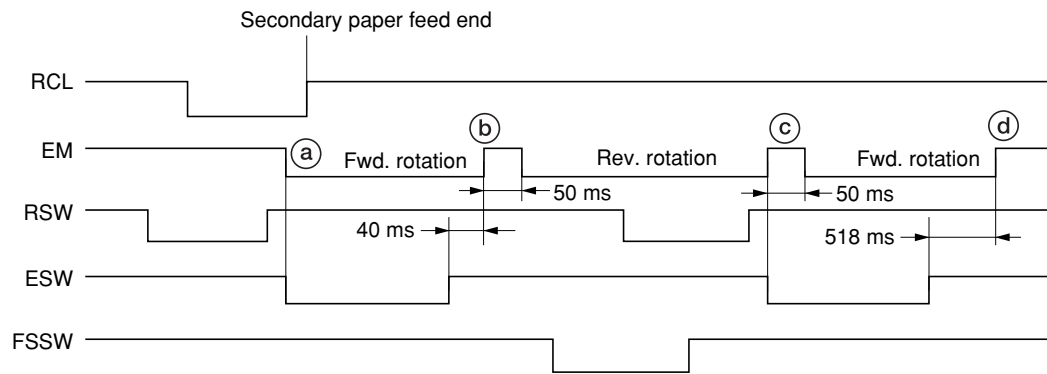


Figure 2-1-25 Eject and switchback sections block diagram



Timing chart 2-1-7 Eject and switchback sections operation

- Ⓐ: The leading edge of paper (front face) turns on the eject switch (ESW), and at the same time the eject motor (EM) starts forward rotation.
- Ⓑ: 40 ms after passing of the trailing edge of paper turns off the eject switch (ESW), the eject motor (EM) turns off for 50 ms and then starts reverse rotation.
- Ⓒ: The leading edge of paper (reverse face) turns on the eject switch (ESW), and at the same time the eject motor (EM) turns off for 50 ms and then starts forward rotation.
- Ⓓ: 518 ms after passing of the trailing edge of the paper turns off the eject switch (ESW), the eject motor (EM) turns off.

2-2-1 Electrical parts layout

(1) PCBs

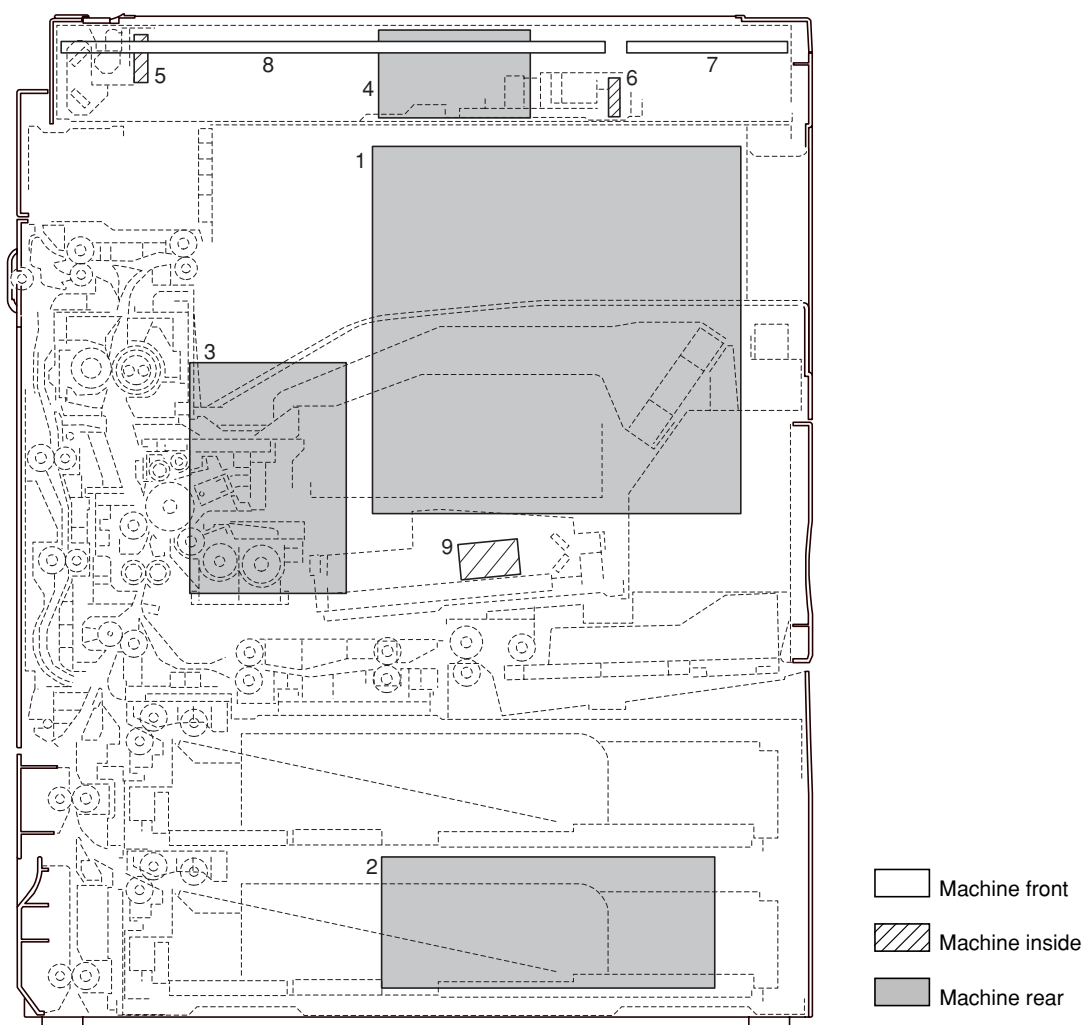


Figure 2-2-1 PCBs

- | | |
|--|--|
| 1. Main PCB (MPCB) | Controls the other PCBs, electrical components and optional devices. |
| 2. Power source PCB (PSPCB) | Generates +24 V DC, 12 V DC and 5V DC; controls the fixing heater. |
| 3. High-voltage transformer PCB (HVTPCB) | Main charging. Generates developing bias and high voltages for transfer. |
| 4. Scanner drive PCB (SDPCB) | Controls the scanning section. |
| 5. Inverter PCB (INPCB) | Controls the exposure lamp. |
| 6. CCD PCB (CCDPCB) | Reads the image off originals. |
| 7. Right operation unit PCB (OPCB-R) | Consists of the operation keys and display LEDs. |
| 8. Left operation unit PCB (OPCB-L) | Controls touch panel and LCD indication. |
| 9. Laser diode PCB (LDPCB) | Generates and controls the laser light. |

(2) Switches and sensors

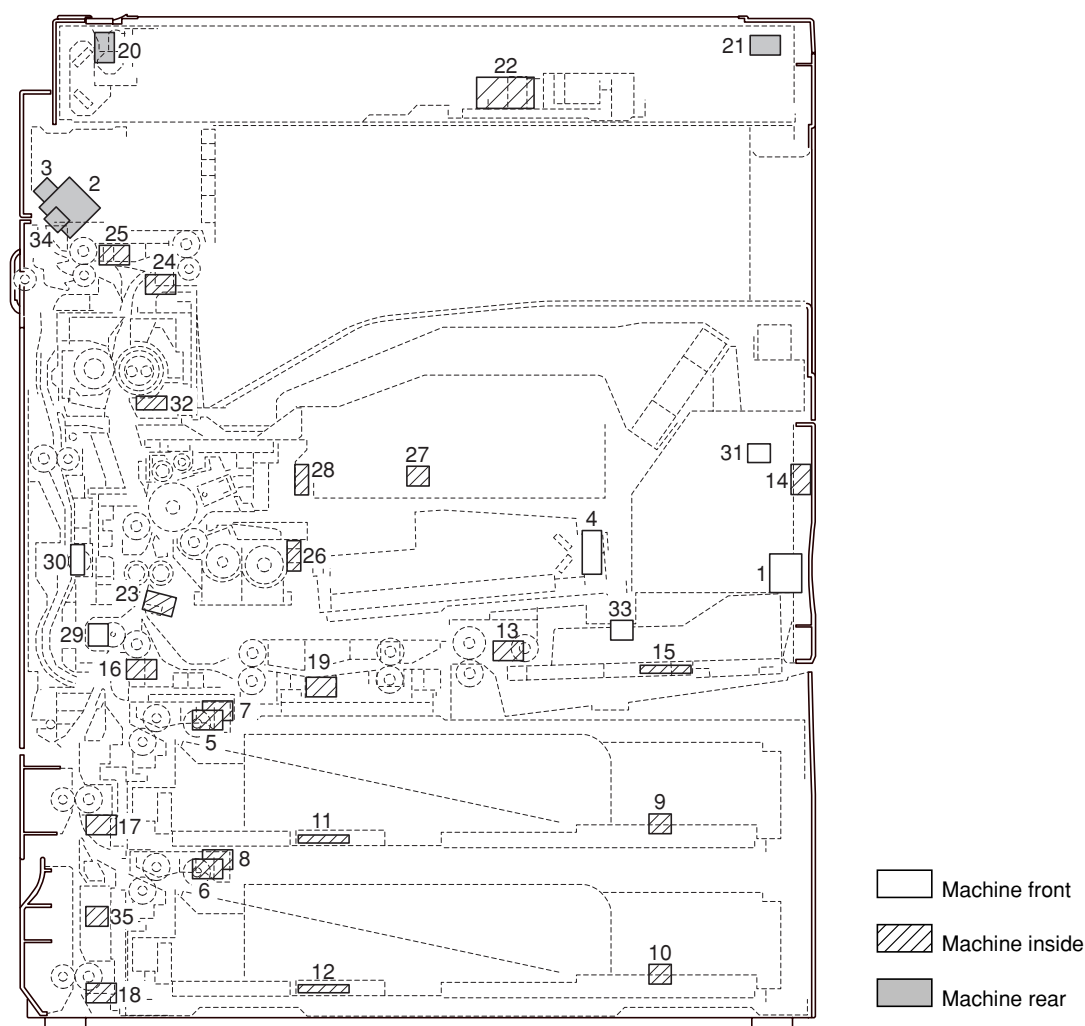
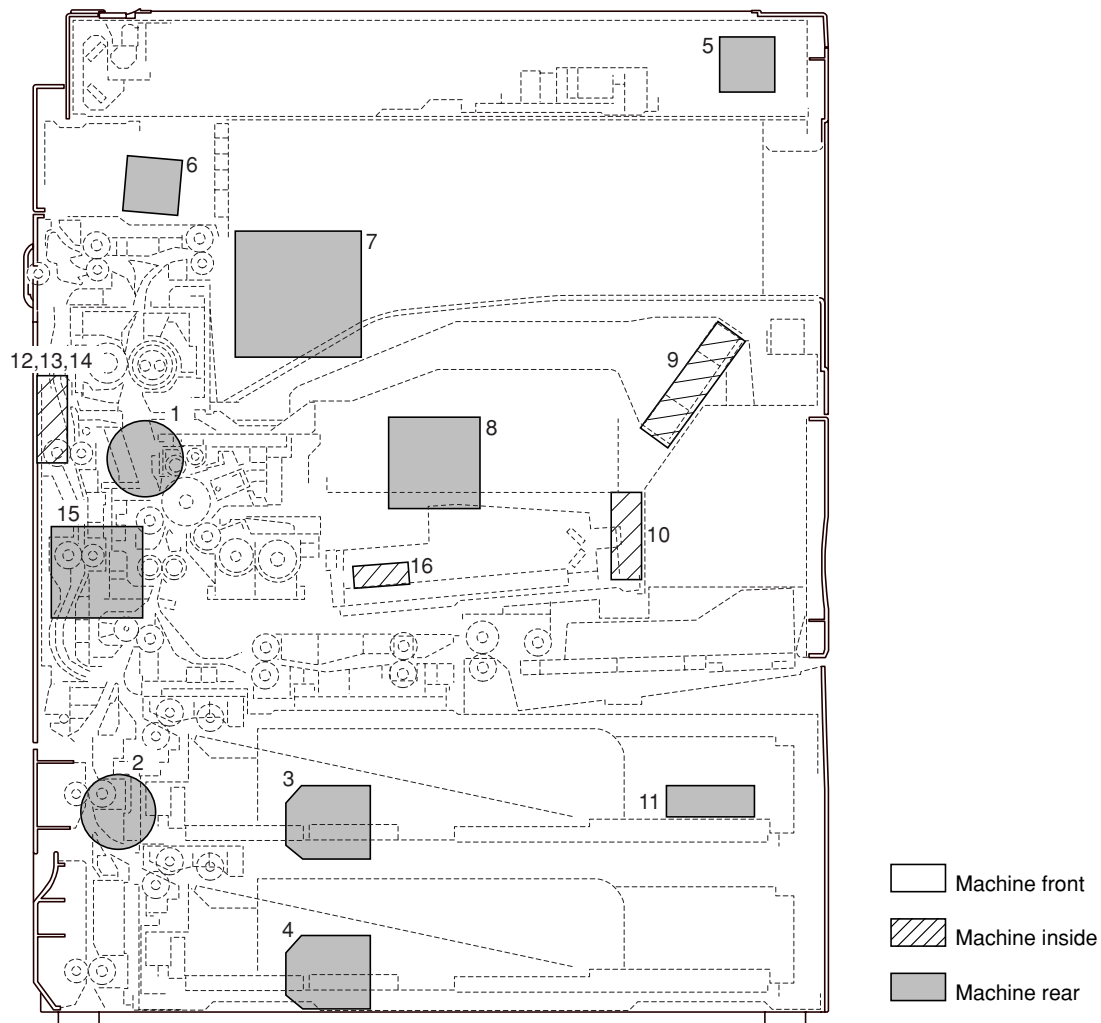


Figure 2-2-2 Switches and sensors

- | | |
|--|--|
| 1. Main switch (MSW) | Turns the AC power on and off. |
| 2. Interlock switch (ILSW) | Turns the AC power for the fixing heater on and off. |
| 3. Safety switch 1 (SSW1) | Breaks the safety circuit when the front cover is opened. |
| 4. Safety switch 2 (SSW2) | Breaks the safety circuit when the conveying unit is opened. |
| 5. Upper paper switch (PSW-U) | Detects the presence of paper in the upper drawer. |
| 6. Lower paper switch (PSW-L) | Detects the presence of paper in the lower drawer. |
| 7. Upper lift limit switch (LICSW-U) | Detects the upper drawer lift reaching the upper limit. |
| 8. Lower lift limit switch (LICSW-L) | Detects the lower drawer lift reaching the upper limit. |
| 9. Upper paper size length switch (PLSW-U) | Detects the length of paper in the upper drawer. |
| 10. Lower paper size length switch (PLSW-L) | Detects the length of paper in the lower drawer. |
| 11. Upper paper size width switch (PWSW-U) | Detects the width of paper in the upper drawer. |
| 12. Lower paper size width switch (PWSW-L) | Detects the width of paper in the lower drawer. |
| 13. Bypass paper switch (BYPPSW) | Detects the presence of paper on the bypass tray. |
| 14. Bypass paper size length switch (BYPLSW) | Detects the length of paper on the bypass tray. |

15. Bypass paper size width switch
(BYPPWSW) Detects the width of paper on the bypass tray.
16. Feed switch 1 (FSW1) Controls feed clutch 1 drive timing.
17. Feed switch 2 (FSW2) Controls feed clutch 2 drive timing
18. Feed switch 3 (FSW3) Controls feed clutch 3 drive timing
19. Bypass feed switch (BYPFSW) Controls bypass feed clutch drive timing
20. Scanner home position switch (SHPSW) Detects the optical system in the home position.
21. Original detection switch (ODSW) Operates the original size detection sensor.
22. Original size detection sensor (OSDS) Detects the size of the original.
23. Registration switch (RSW) Controls the secondary paper feed start timing.
24. Eject switch (ESW) Detects a paper misfeed in the fixing section.
25. Feedshift switch (FSSW) Detects a paper misfeed in the switchback section in a duplex copy.
26. Toner sensor (TNS) Detects the toner density in the developing unit.
27. Toner container detection switch
(TCDSW) Detects the presence of the toner container.
28. Toner container sensor (TCS) Detects the quantity of toner in a toner container.
29. Toner disposal tank detection switch
(TDDSW) Detects the presence of the toner disposal tank.
30. Overflow sensor (OFS) Detects when the toner disposal tank is full.
31. Humidity sensor (HUMSENS) Detects absolute humidity.
32. Fixing unit thermistor (FTH) Detects the heat roller temperature.
33. Front cover switch (FRCSW) Detects the opening and closing of the front cover.
34. Conveying cover switch (CCSW) Detects the opening and closing of the conveying cover.
35. Side cover switch (SCSW) Detects the opening and closing of the side cover.

(3) Motors**Figure 2-2-3 Motors**

- | | |
|--------------------------------|--|
| 1. Drive motor (DM) | Drives the machine. |
| 2. Paper feed motor (PFM) | Drives paper feed section. |
| 3. Upper lift motor (LM-U) | Drives upper drawer lift. |
| 4. Lower lift motor (LM-L) | Drives lower drawer lift. |
| 5. Scanner motor (SM) | Drives the optical system. |
| 6. Eject motor (EM) | Drives the eject section. |
| 7. Cooling fan motor 1 (CFM1) | Cools the machine interior. |
| 8. Cooling fan motor 2 (CFM2) | Cools the machine interior. |
| 9. Cooling fan motor 3 (CFM3) | Cools the machine interior. |
| 10. Cooling fan motor 4 (CFM4) | Cools the machine interior (LSU). |
| 11. Cooling fan motor 5 (CFM5) | Cools the machine interior (around the power supply unit). |
| 12. Cooling fan motor 6 (CFM6) | Cools the machine interior and supports paper transfer for duplex copying. |
| 13. Cooling fan motor 7 (CFM7) | Cools the machine interior and supports paper transfer for duplex copying. |
| 14. Cooling fan motor 8 (CFM8) | Cools the machine interior and supports paper transfer for duplex copying. |
| 15. Cooling fan motor 9 (CFM9) | Cools the machine interior. |
| 16. Polygon motor (PM) | Drives the polygon mirror. |

(4) Other electrical components

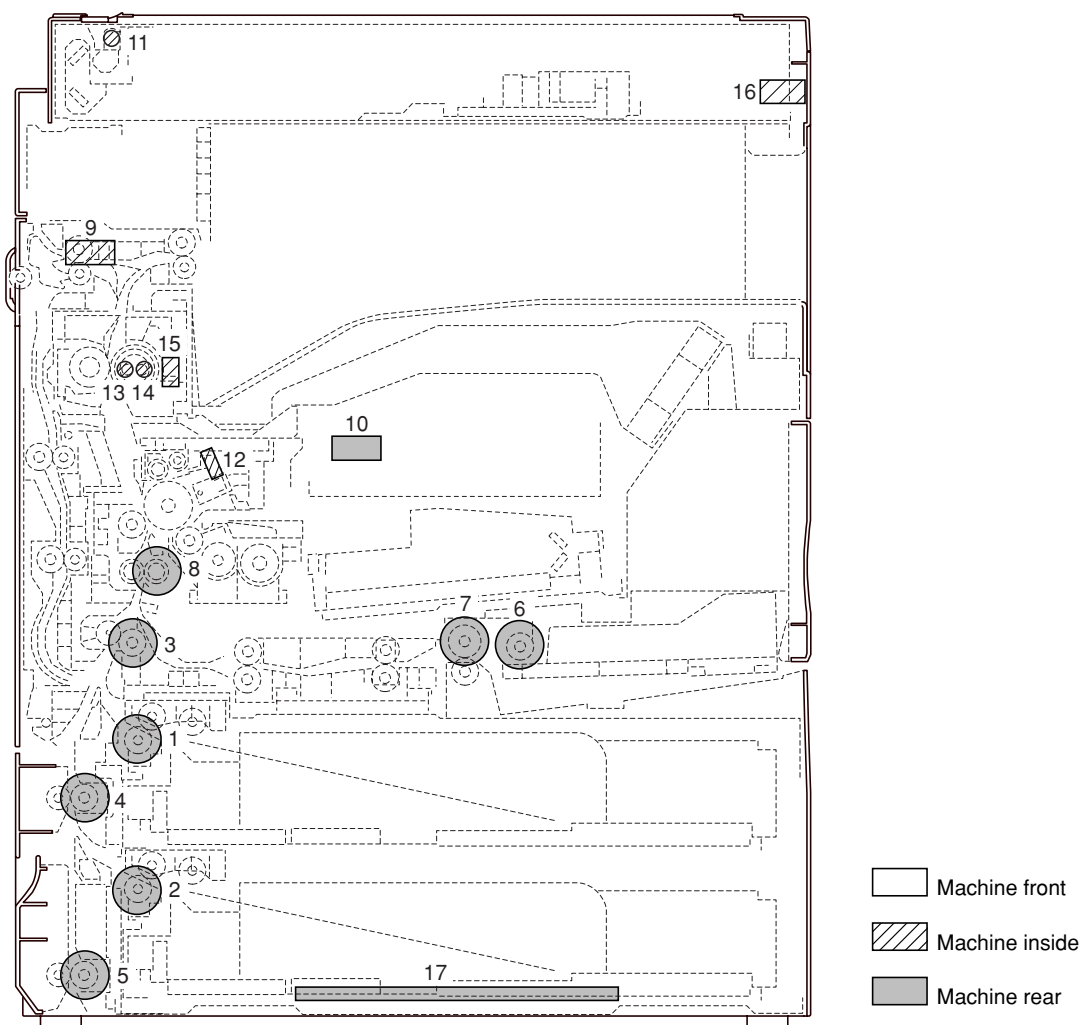


Figure 2-2-4 Other electrical components

- | | |
|---|--|
| 1. Upper paper feed clutch (PFCL-U) | Primary paper feed from the upper drawer. |
| 2. Lower paper feed clutch (PFCL-L) | Primary paper feed from the lower drawer. |
| 3. Feed clutch 1 (FCL1) | Controls the drive of feed roller. |
| 4. Feed clutch 2 (FCL2) | Controls the drive of feed roller. |
| 5. Feed clutch 3 (FCL3) | Controls the drive of feed roller. |
| 6. Bypass paper feed clutch (BYPPFCL) | Primary paper feed from the bypass tray. |
| 7. Bypass feed clutch (BYPFCL) | Controls the drive of bypass feed roller. |
| 8. Registration clutch (RCL) | Secondary paper feed. |
| 9. Feedshift solenoid (FSSOL) | Operates the feedshift guide. |
| 10. Toner feed solenoid (TNFSOL) | Replenishes toner. |
| 11. Exposure lamp (EL) | Exposes originals. |
| 12. Cleaning lamp (CL) | Removes residual charge from the drum surface. |
| 13. Fixing heater M (FH-M) | Heats the heat roller. |
| 14. Fixing heater S (FH-S) | Heats the heat roller. |
| 15. Fixing unit thermostat (FTS) | Prevents overheating in the fixing section. |
| 16. Total counter (TC) | Displays the total number of copies produced. |
| 17. Drawer heater (DH) | Dehumidifies the drawer section. |

2-3-1 Power source PCB

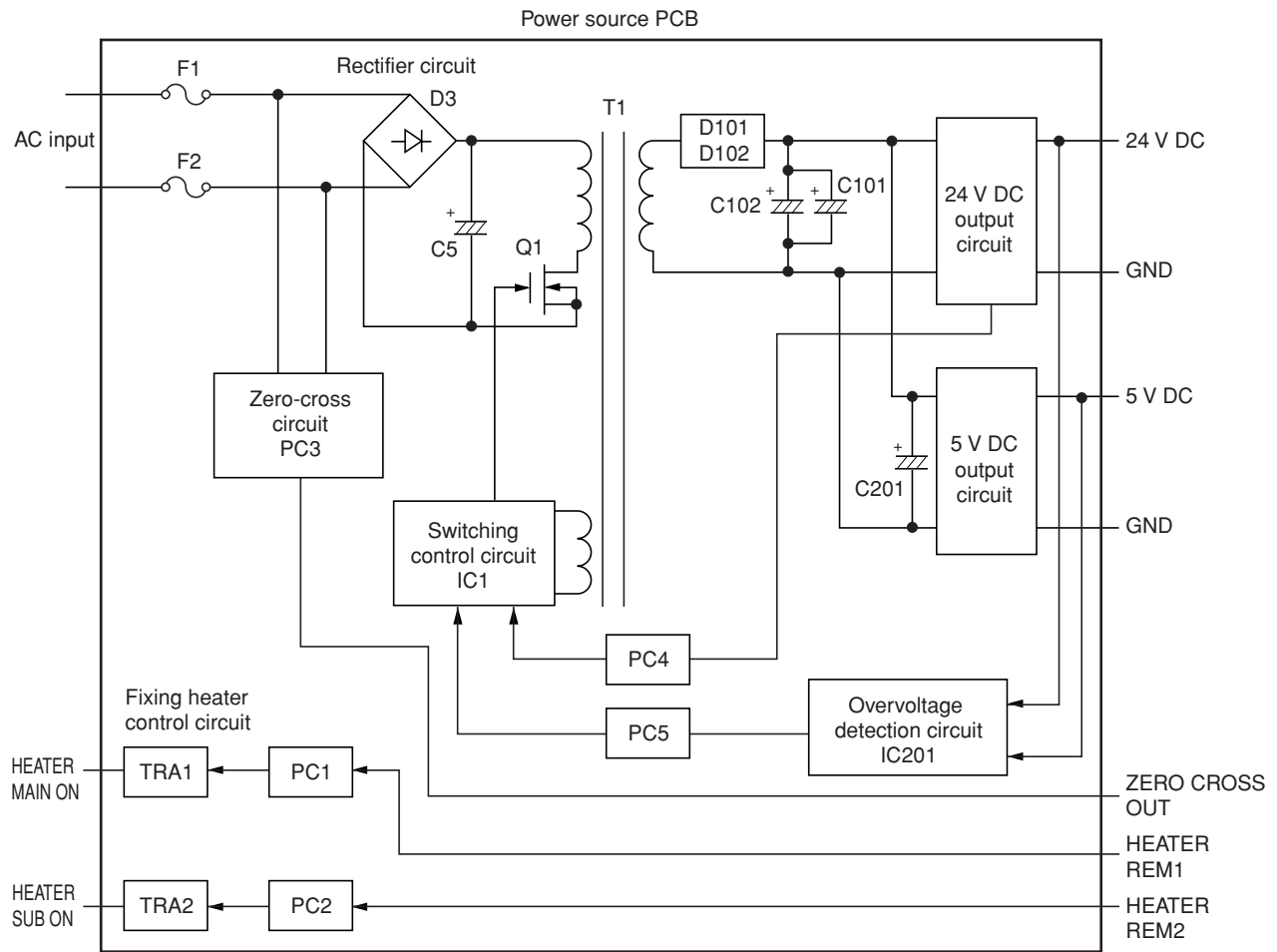


Figure 2-3-1 Power source PCB block diagram

The power source PCB (PSPCB) is a switching regulator that converts an AC input to generate 24 V DC and 5 V DC. It includes a rectifier circuit, a switching regulator circuit, a 24 V DC output circuit, a 5 V DC output circuit and a fixing heater control circuit.

The rectifier circuit full-wave rectifies the AC input using the diode bridge D3. The smoothing capacitor C5 smoothes out the pulsed current from the diode bridge.

In the switching control circuit, PWM controller IC1 turns the power MOSFET Q1 on and off to switch the current induced in the primary coil of the transformer T1.

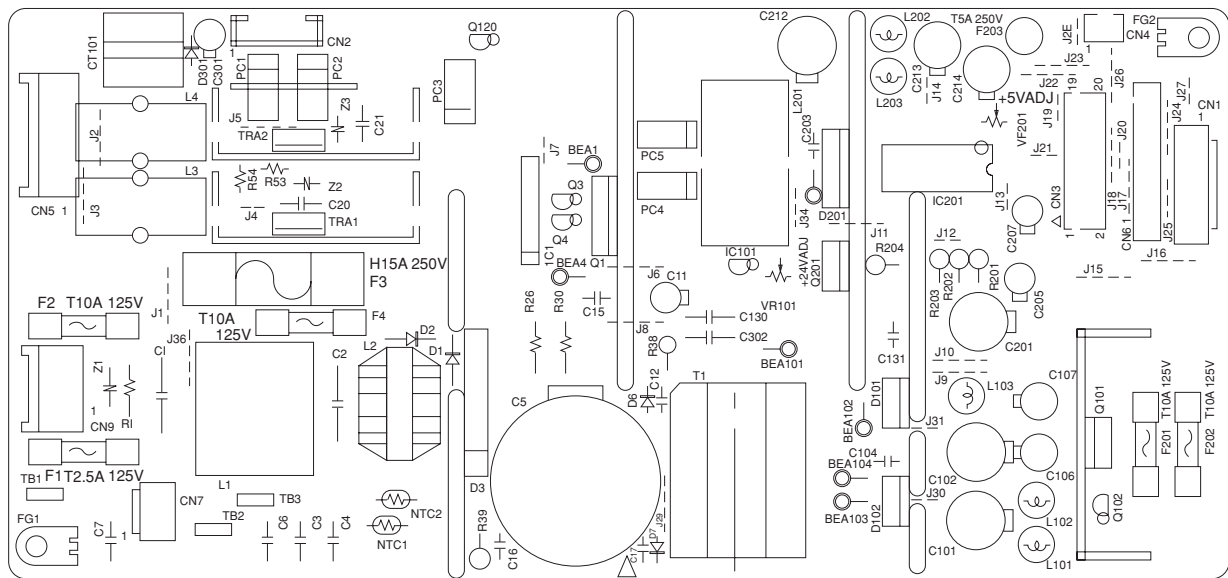
The 24 V DC output circuit smoothes the current induced in the secondary coil of the transformer T1 via diodes D101 and D102 and smoothing capacitors C101 and C102, and the output is controlled by the overvoltage detection circuit IC201 and the power MOSFET Q201. For 24 V DC output, the PWM controller IC (IC1) of the switching control circuit changes the duty of the switching pulse width of the power MOSFET Q1 via a photo coupler PC4 based on the output voltage status to adjust the 24 V DC output.

The 5 V DC output circuit smoothes the current induced in the secondary coil of the transformer T1 via diodes D101 and D102 and smoothing capacitors C101 and C102, and the output is controlled by the overvoltage detection circuit IC201 and the power MOSFET Q201. For 5 V DC output, the PWM controller IC (IC1) of the switching control circuit changes the duty of the switching pulse width of the power MOSFET Q1 via a photo coupler PC5 based on the output voltage status to adjust the 5 V DC output.

The overvoltage detection circuit IC201 monitors the overvoltage status of 24 V DC and 5 V DC, and when it detects an abnormal status, it gives immediately feedback to the PWM controller IC (IC1) via a photocoupler PC5 to stop control operation and moves the power source to a standby condition.

The fixing heater control circuit sends a waveform of which zero-cross is detected to the main PCB (MPCB), which controls the timing of HEATER REM 1 and 2 based on it to turn on the phototriacs PC1 and PC2. When the phototriacs PC1 and PC2 turn on, AC current flows through the triacs TRA1 and TRA2 to turn the fixing heaters M and S on.

100V



200V

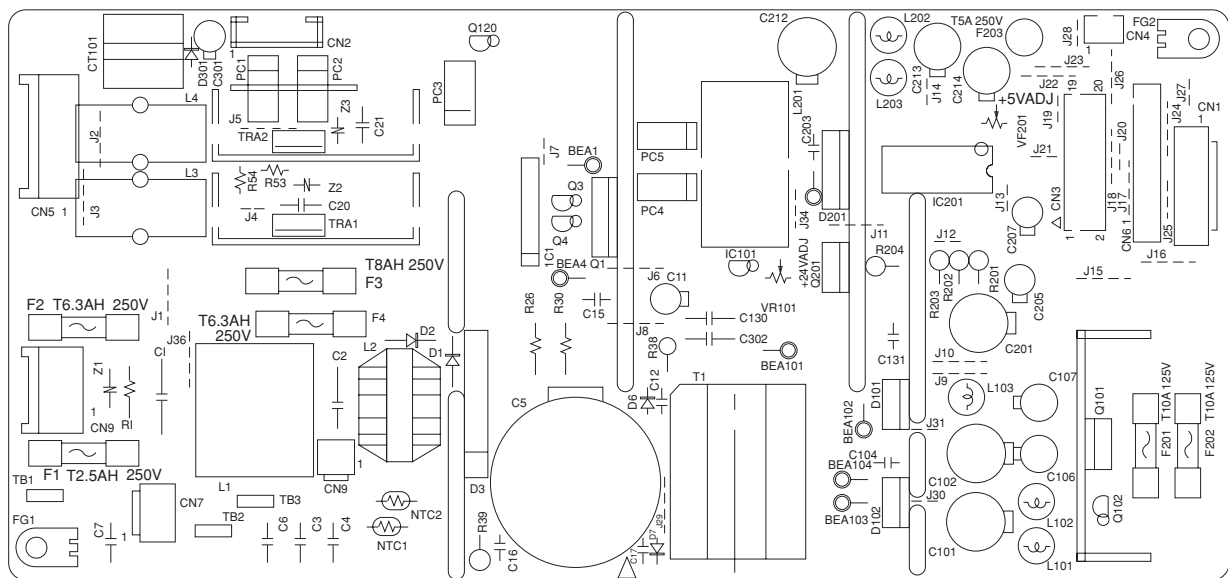


Figure 2-3-2 Power source PCB silk-screen diagram

Terminals (CN)		Voltage	Remarks
TB-1	TB-2	120V AC	120 V AC supply, input
TB-1	TB-2	220-240 V AC	220-240 V AC supply, input
1-1	1-2	24 V DC	24 V DC supply for SSW1, output
1-5	1-2	5 V DC	5 V DC supply for MPCB, output
1-6	1-2	24 V DC	24 V DC supply for MPCB, output
2-1	2-2	0 - 5 V DC	Heater current monitor signal, output
2-3	2-2	0/5 V DC	FH-S on/off, input
2-4	2-2	0/5 V DC	FH-M on/off, input
2-5	2-2	5 V DC	5 V DC supply from MPCB, input
2-6	2-2	0/5 V DC (pulse)	Zero-cross signal, input
2-7	2-2	0/5 V DC	CFM5 remote signal, input
2-8	2-2	0/5 V DC	SLEEP signal, input
3-1	3-5	24 V DC	24 V DC supply for finisher*, output
3-2	3-6	24 V DC	24 V DC supply for finisher*, output
3-3	3-7	24 V DC	24 V DC supply for finisher*, output
3-4	3-8	24 V DC	24 V DC supply for finisher*, output
3-9	3-10	5 V DC	5 V DC supply for finisher*, output
3-11	3-12	5 V DC	5 V DC supply for large paper deck*/paper feed desk*, output
3-14	3-13	24 V DC	24 V DC supply for large paper deck*/paper feed desk*, output
3-15	3-18	24 V DC	24 V DC supply for mailbox*, output
3-16	3-19	24 V DC	24 V DC supply for mailbox*, output
3-17	3-20	5 V DC	5 V DC supply for mailbox*, output
4-1	6-1	0/24 V DC	CFM5 on/off, output
4-2	6-1	24 V DC	24 V DC supply for CFM5, output
5-1	5-3	120/0 V AC	FH-M on/off, output
5-1	5-3	220-240/0 V AC	FH-M on/off, output
5-2	5-3	120/0 V AC	FH-S on/off, output
5-2	5-3	220-240/0 V AC	FH-S on/off, output
6-2	6-1	24 V DC	24 V DC supply for SDPCB, output
6-4	6-3	5 V DC	5 V DC supply for SDPCB, output
6-5	6-7	24 V DC	24 V DC supply for STDF*/SRDF*, output
6-6	6-8	24 V DC	24 V DC supply for STDF*/SRDF*, output
6-9	6-11	5 V DC	5 V DC supply for STDF*/SRDF*, output
6-10	6-12	5 V DC	5 V DC supply for STDF*/SRDF*, output
9-1	TB-2	120 V AC	120 V AC supply for MSW, output
9-1	TB-2	220-240 V AC	220-240 V AC supply for MSW, output

*Optional.

2-3-2 Main PCB

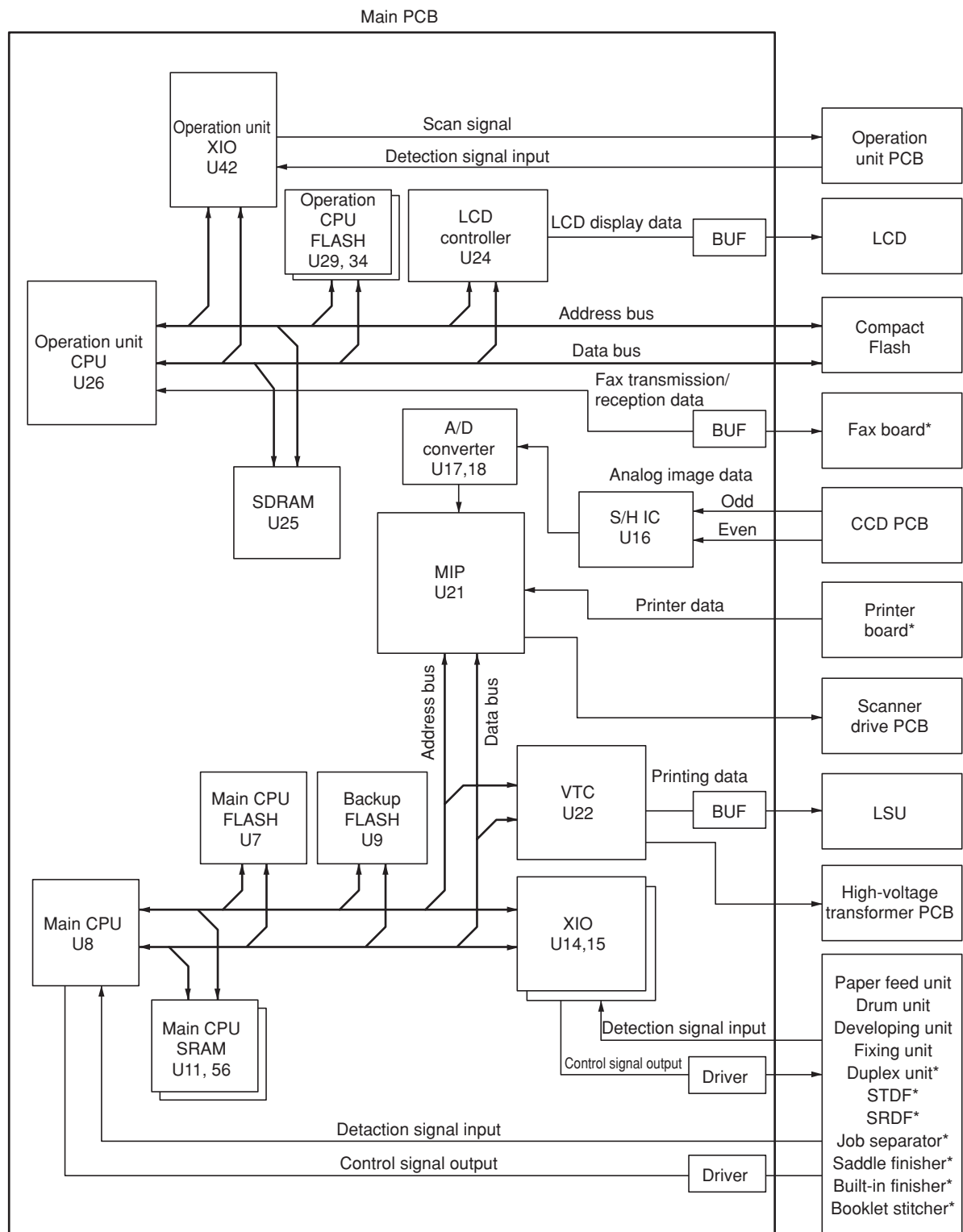


Figure 2-3-3 Main PCB block diagram

The main PCB (MPCB) consists of the main CPU and operation unit CPU. The main CPU U8 communicates with other PCBs, the image processing system and the engine drive system. The operation unit CPU U26 controls the LCD display and the entire operation section.

The main CPU U8 operates on an 8-bit bus. It uses the SRAM U11 and U56 for work memory and FLASH U9 for backup memory. In accordance with the control program in the main CPU FLASH U7, the main CPU U8 communicates with the operation unit CPU and optional devices via the serial communication function in the CPU and XIO U14 and U15. The main CPU U8 controls the CCD PCB (CCDPCB), which is for image input control, and the LSU, which is for image output control via the image processing ASIC MIP U21, and drives the machine, conveys paper and detects abnormalities via XIO U14, U15 and U22.

The operation unit CPU U26 operates on a 32-bit bus. It uses the SRAM U25 for work memory. In accordance with the control program in the main CPU FLASH U29, which also contains LCD display fonts, the operation unit CPU U26 controls key switches and LEDs on the operation unit PCB (OPCB) and controls the LCD display via the LCD controller U24.

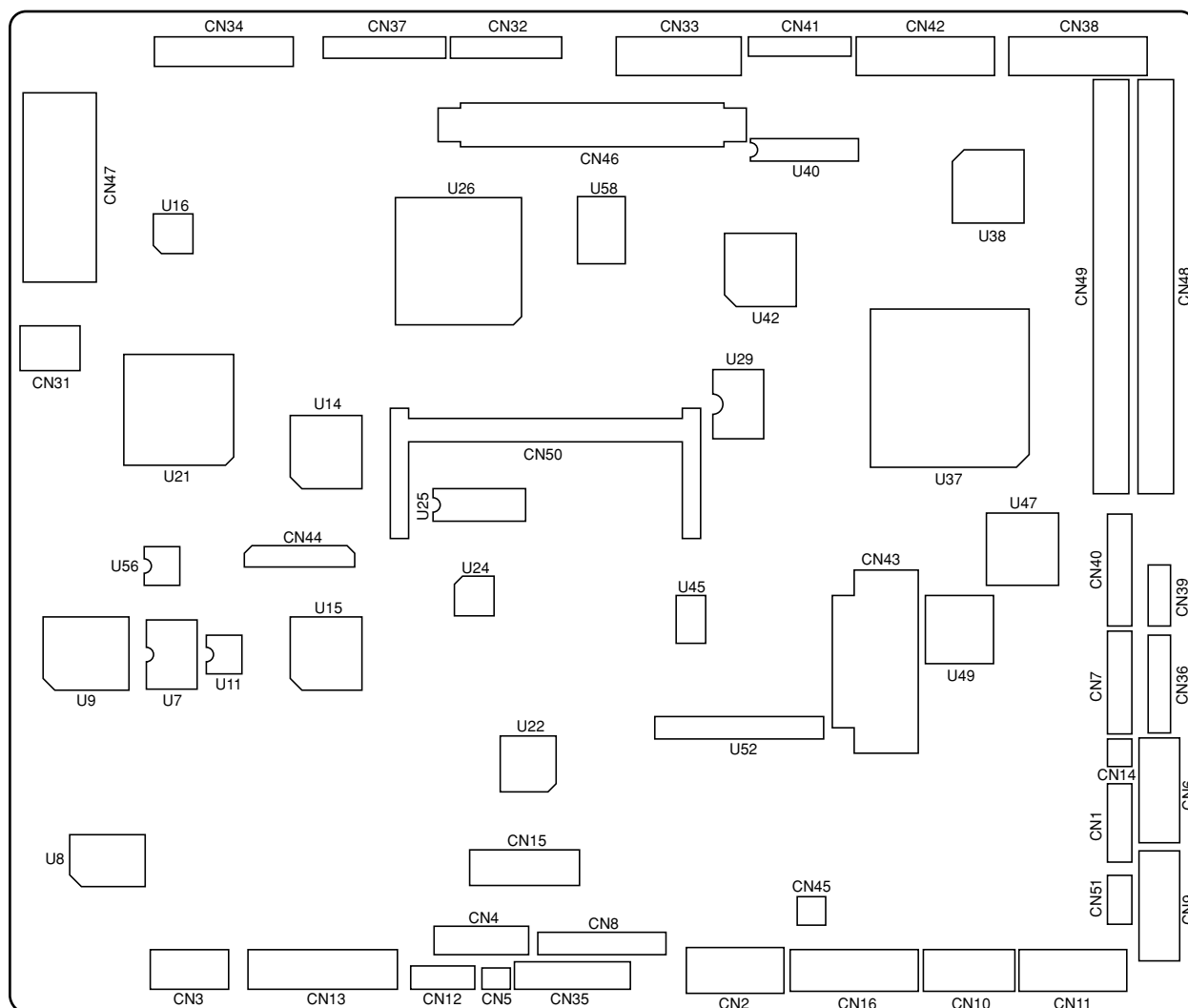


Figure 2-3-4 Main PCB silk-screen diagram

Terminals (CN)		Voltage	Remarks
1-1	1-7	0/5 V DC	SLEEP signal, output
1-2	1-7	0/5 V DC	CFM5 remote signal, output
1-3	1-7	0/5 V DC (pulse)	Zero-cross signal, input
1-4	1-7	5 V DC	5V DC supply for PSPCB, output
1-5	1-7	0/5 V DC	FH-M on/off, output
1-6	1-7	0/5 V DC	FH-S on/off, output
1-8	1-7	0 - 5 V DC	Heater current monitor signal, input
2-1	2-2	24 V DC	24 V DC supply from SSW2, input
2-5	2-2	5 V DC	5 V DC supply from PSPCB, input
2-6	2-2	24 V DC	24 V DC supply from PSPCB, input
3-A1	3-A2	0/5 V DC (pulse)	Serial signal for mailbox*, input
3-A3	3-A4	0/5 V DC (pulse)	Serial signal from mailbox*, output
3-A5	3-A4	0/5 V DC	Mailbox* connection signal, input
3-A6	3-A4	0/5 V DC	RESET signal for mailbox*, output
3-B1	3-B2	0/5 V DC (pulse)	Serial signal for large paper deck*/paper feed desk*, output
3-B3	3-B4	0/5 V DC (pulse)	Serial signal from large paper deck*/paper feed desk*, input
3-B5	3-B4	0/5 V DC	FSW on/off signal from large paper deck*/paper feed desk*, input
3-B6	3-B4	0/5 V DC	RESET signal for large paper deck*/paper feed desk*, output
4-1	4-2	0/5 V DC (pulse)	Serial signal from finisher*, input
4-3	4-4	0/5 V DC (pulse)	Serial signal for finisher*, output
5-1	4-4	0/5 V DC	RESET signal for finisher*, output
5-2	4-4	0/5 V DC	Finisher* connection signal, input
6-A1	6-A4	0/5 V DC	BYPPWSW paper width detection signal, input
6-A2	6-A4	0/5 V DC	BYPPWSW paper width detection signal, input
6-A3	6-A4	0/5 V DC	BYPPWSW paper width detection signal, input
6-A5	6-A4	5 V DC	5 V DC supply for BYPPSW, output
6-A6	6-A4	0/5 V DC	BYPPSW on/off, input
6-A8	6-A7	24 V DC	24 V DC supply for BYPPFCL, output
6-A9	6-A7	0/24 V DC	BYPPFCL on/off, output
6-A10	6-A7	24 V DC	24 V DC supply for BYPFCL, output
6-A11	6-A7	0/24 V DC	BYPFCL on/off, output
6-B1	6-B3	5 V DC	5 V DC supply for OFS, output
6-B2	6-B3	0/5 V DC	OFS on/off, input
6-B4	6-B5	0/5 V DC	TDDSW on/off, input
6-B6	6-B7	0/5 V DC	FRCSW on/off, input
6-B8	6-B9	0/24V DC	CFM3 on/off, output
6-B10	6-B12	5 V DC	5 V DC supply for BYPPLSW, output
6-B11	6-B12	0/5 V DC	BYPPLSW on/off, input
7-1	7-3	0 - 5 V DC	Developing bias control voltage, output
7-2	7-3	24 V DC	24 V DC supply for HVT PCB, output
7-4	7-3	0/5 V DC	Main charging on/off, output
7-5	7-3	0/5 V DC (pulse)	Developing bias CLOCK signal, output
7-6	7-3	0/5 V DC	Separation charging on/off, output
7-7	7-3	0 - 5 V DC	Separation charging control voltage, output
7-8	7-3	0 - 5 V DC	Transfer charging control voltage, output
7-9	7-3	0 - 5 V DC	Transfer limit voltage, output
7-10	7-3	0/5 V DC	Transfer charging on/off, output
7-11	7-3	0/5 V DC	Transfer reverse bias remote signal, output
7-12	7-3	0/5 V DC	Transfer forward bias remote signal, output
7-13	7-3	0/5 V DC	Transfer current detection signal, input
7-14	7-3	0/5 V DC	Transfer current detection signal, input
8-1	8-7	5 V DC	5 V DC supply for LSU, output
8-2	8-7	0/5 V DC	LSU SAMPLE signal, output
8-3	8-7	0/5 V DC	LSU POWCONT signal, output
8-4	8-7	0/5 V DC	LSU LASER signal, output
8-5	8-7	0/5 V DC	LSU VIDEO + signal, output

*Optional.

Terminals (CN)		Voltage	Remarks
8-6	8-7	0/5 V DC	LSU VIDEO - signal, output
8-8	8-9	0/5 V DC	LSU PD signal, input
8-10	8-11	24 V DC	24 V DC supply for PM, output
8-12	8-11	0/24 V DC	PM SCAN signal, output
8-13	8-9	0/5 V DC	PM READY signal, input
8-14	8-11	0/5 V DC (pulse)	PM CLOCK signal, output
9-A2	9-A1	0/5 V DC	BYPFSW on/off, input
9-A3	9-A1	5 V DC	5 V DC supply for BYPFSW, output
9-A4	9-A6	5 V DC	5 V DC supply for TCS, output
9-A5	9-A6	0/5 V DC	TCS on/off, input
9-A8	9-A10	5 V DC	5 V DC supply for TNS, output
9-A9	9-A10	0/5 V DC	TNS on/off, input
9-A11	9-A10	0/5 V DC	Developing unit detection signal, input
9-A12	9-A10	0/5 V DC	Developing unit FUSE CUT signal, output
9-B2	9-B1	0/24 V DC	TNFSOL on/off, output
9-B3	9-B4	0/5 V DC	TCDSW on/off, input
9-B7	9-B6	0/5 V DC	CL on/off, output
9-B8	9-B6	0/5 V DC	Drum unit DATA signal, output
9-B9	9-B6	0/5 V DC	Drum unit CLOCK signal, output
9-B11	9-B10	0/5 V DC	Drum unit detection signal, input
9-B12	9-10	5 V DC	5 V DC supply for drum unit, output
10-A2	10-A1	0/5 V DC	RSW on/off, input
10-A3	10-A1	5 V DC	5 V DC supply for RSW, output
10-A5	10-A8	5 V DC	5 V DC supply for FTH, output
10-A6	10-A8	0 - 5 V DC	FTH detection voltage, input
10-A7	10-A8	0/5 V DC	FTH FUSE CUT signal, input
10-B1	10-B3	24 V DC	24 V DC supply for DUPFCL*, output
10-B2	10-B3	0/24 V DC	DUPFCL* on/off, output
10-B4	10-B3	0/5 V DC	DUPPCSW* on/off, input
10-B5	10-B3	5 V DC	5 V DC supply for DUPPCSW*, output
10-B7	10-B6	0/5 V DC	Duplex unit* connection signal, input
11-1	11-3	24 V DC	24 V DC supply for DM, output
11-2	11-4	24 V DC	24 V DC supply for PFM, output
11-5	11-7	5 V DC	24 V DC supply for DM, input
11-9	11-3	0/24 V DC	DM S/S signal, output
11-10	11-4	0/24 V DC	PFM S/S signal, output
11-11	11-3	0/24 V DC	DM L/D signal, input
11-12	11-4	0/24 V DC	PFM L/D signal, input
11-13	11-7	0/5 V DC (pulse)	DM CLOCK signal, output
11-14	11-4	0/24 V DC	FCL1 on/off, output
11-15	11-4	24 V DC	24 V DC supply for FCL1, output
11-17	11-16	0/5 V DC	FSW1 on/off, input
11-18	11-16	5 V DC	5 V DC supply for FSW, output
12-1	12-6	24 V DC	24 V DC supply for PWSW-U, output
12-2	12-6	24 V DC	24 V DC supply from PWSW-U, input
12-3	12-6	0/24 V DC	PWSW-U paper width detection signal, input
12-4	12-6	0/24 V DC	PWSW-U paper width detection signal, input
12-5	12-6	0/24 V DC	PWSW-U paper width detection signal, input
12-7	12-12	24 V DC	24 V DC supply for PWSW-L, output
12-8	12-12	24 V DC	24 V DC supply from PWSW-L, input
12-9	12-12	0/24 V DC	PWSW-L paper width detection signal, input
12-10	12-12	0/24 V DC	PWSW-L paper width detection signal, input
12-11	12-12	0/24 V DC	PWSW-L paper width detection signal, input
13-A2	13-A1	0/5 V DC	FSW3 on/off, input
13-A3	13-A1	5 V DC	5 V DC supply for FSW3, output
13-A4	13-A16	24 V DC	24 V DC supply for FCL3, output

*Optional.

Terminals (CN)		Voltage	Remarks
13-A5	13-A16	0/24 V DC	FCL3 on/off, output
13-A7	13-A6	0/5 V DC	FSW2 on/off, input
13-A8	13-A6	5 V DC	5 V DC supply for FSW2, output
13-A10	13-A9	0/5 V DC	SCSW on/off, input
13-A11	13-A16	24 V DC	24 V DC supply for FCL2, output
13-A12	13-A16	0/24 V DC	FCL2 on/off, output
13-A13	13-A14	0/5 V DC	LM-U paper level detection switch on/off, input
13-A15	13-A14	0/5 V DC	LM-U paper level detection switch on/off, input
13-A17	13-A16	0/24 V DC	LM-U on/off, output
13-A19	13-A18	0/5 V DC	PLSW-L on/off, inout
13-B2	13-B1	0/5 V DC	PLSW-U on/off, inout
13-B3	13-B4	0/5 V DC	LM-L paper level detection switch on/off, input
13-B5	13-B4	0/5 V DC	LM-L paper level detection switch on/off, input
13-B7	13-B6	0/24 V DC	LM-L on/off, output
13-B9	13-B8	0/5 V DC	LICSW-U on/off, input
13-B10	13-B8	5 V DC	5 V DC supply for LICSW-U, output
13-B12	13-B11	0/5 V DC	PSW-U on/off, input
13-B13	13-B11	5 V DC	5 V DC supply for PSW-U, output
13-B15	13-B14	0/5 V DC	LICSW-L on/off, input
13-B16	13-B14	5 V DC	5 V DC supply for LICSW-L, output
13-B18	13-B17	0/5 V DC	PSW-L on/off, input
13-B19	13-B17	5 V DC	5 V DC supply for PSW-L, output
16-A1	16-A14	0/24 V DC	FSSOL release signal, output
16-A2	16-A14	0/24 V DC	FSSOL acutuate signal, output
16-A3	16-A14	24 V DC	24 V DC supply for FSSOL, output
16-A5	16-A4	0/5 V DC	FSSW on/off, input
16-A6	16-A4	5 V DC	5 V DC supply for FSSW, input
16-A11	16-A10	0/5 V DC	ESW on/off, input
16-A12	16-A10	5 V DC	5 V DC supply for ESW, output
16-A13	16-A14	0/24 V DC	CFM1 on/off, output
16-A16	16-A15	0/5 V DC	CCSW on/off, input
16-B1	16-A14	0/24 V DC	PFCL-U on/off, output
16-B2	16-A14	24 V DC	24 V DC supply for PFCL-U, output
16-B3	16-A14	24 V DC	24 V DC supply for PFCL-L, output
16-B4	16-A14	0/24 V DC	PFCL-L on/off, output
16-B5	16-A14	24 V DC	24 V DC supply for RCL, output
16-B6	16-A14	0/24 V DC	RCL on/off, output
16-B7	16-B9	5 V DC	5 V DC supply for HUMSENS, output
16-B8	16-B9	0 - 5 V DC	HUMSENS detection voltage, input
16-B10	16-B9	0 - 5 V DC	ETTH detection voltage, input
16-B11	16-A14	0/24 V DC (pulse)	EM coil energization pulse, output (B̄)
16-B12	16-A14	0/24 V DC (pulse)	EM coil energization pulse, output (B)
16-B13	16-A14	0/24 V DC (pulse)	EM coil energization pulse, output (Ā)
16-B14	16-A14	0/24 V DC (pulse)	EM coil energization pulse, output (A)
16-B15	16-A14	24 V DC	24 V DC supply for CFM4, output
16-B16	16-A14	0/24 V DC	CFM4 on/off, output
31-1	2-2	24 V DC	24 V DC supply from MSW, input
31-2	2-2	0/5 V DC	MSW on/off, output
31-3	2-2	24 V DC	24 V DC supply for TC, output
31-4	2-2	0/5 V DC	TC count signal, output
31-8	31-7	0/5 V DC	Key counter* connection signal, input
31-9	2-2	24 V DC	24V DC supply for key counter*, output
31-10	2-2	0/5 V DC	Key counter* count signal, output
32-1	2-2	0/5 V DC	OFM* RET signal, output
32-2	2-2	0/5 V DC (pulse)	OFM* CLOCK signal, output
32-3	2-2	0/5 V DC	OFM* CWB signal, output

*Optional.

Terminals (CN)		Voltage	Remarks
32-4	2-2	0/5 V DC	OCM* ENABLE signal, output
32-5	2-2	0/5 V DC	OCM* RET signal, output
32-6	2-2	0/5 V DC (pulse)	OCM* CLOCK signal, output
32-7	2-2	0/5 V DC	OCM* CWB signal, output
32-8	2-2		OCM* current control voltage Vref, output
32-9	2-2	0/5 V DC	OCM* drive control signal M3, output
32-10	2-2	0/5 V DC	OCM* drive control signal M2, output
32-11	2-2	0/5 V DC	OCM* drive control signal M1, output
33-A2	2-2	0/5 V DC	OSBSW* on/off, input
33-A3	2-2	0/5 V DC	OFSW* on/off, input
33-A4	2-2	0/5 V DC	OSSW* on/off, input
33-A7	2-2	0/5 V DC	SRDF* connection signal, input
33-A8	2-2	0/5 V DC	OSWSW* on/off, input
33-A9	2-2	0/5 V DC	DFSSW2* on/off, input
33-A10	2-2	0/5 V DC	DFSSW1* on/off, input
33-A11	2-2	0/5 V DC	OSLSW* on/off, input
33-A12	2-2	0/5 V DC	DFTSW* on/off, input
33-B1	2-2	0/5 V DC	OSLED* (red) on/off, output
33-B2	2-2	0/5 V DC	OSLED* (green) on/off, output
33-B3	2-2	0/24 V DC	SBPSOL* release signal, output
33-B4	2-2	0/24 V DC	SBPSOL* actuate signal, output
33-B5	2-2	0/24 V DC	OFCL* on/off, output
33-B6	2-2	0/24 V DC	EFSSOL* on/off, output
33-B8	2-2	0/24 V DC	SBFSSOL* on/off, output
33-B9	2-2	0/24 V DC	OFSOL* release signal, output
33-B10	2-2	0/24 V DC	OFSOL* actuate signal, output
33-B11	2-2	0/5 V DC	OFM* ENABLE signal, input
33-B12	2-2	0/5 V DC	OFM* ENABLE signal, input
34-2	34-1	4.5 V DC (pulse)	CCDPCB ODD signal, input (analog)
34-4	34-3	4.5 V DC (pulse)	CCDPCB EVEN signal, input (analog)
34-5	34-7	12 V DC	12 V DC supply for CCDPCB, output
34-6	34-7	5 V DC	5 V DC supply for CCDPCB, output
34-8	34-9	0/5 V DC (pulse)	CCDPCB CLP signal, output
34-10	34-11	0/5 V DC (pulse)	CCDPCB SHIFT signal, output
34-12	34-11	0/5 V DC (pulse)	CCDPCB CLOCK + signal, output
34-13	34-11	0/5 V DC (pulse)	CCDPCB CLOCK - signal, output
34-14	34-11	0/5 V DC (pulse)	CCDPCB RS + signal, output
34-15	34-11	0/5 V DC (pulse)	CCDPCB RS - signal, output
35-1	35-3	0/5 V DC	JBESW* on/off, input
35-2	35-3	5 V DC	5 V DC supply for JBESW*, output
35-5	35-4	0/5 V DC	Job separator* connection signal, input
35-7	35-6	0/5 V DC	EPDSW* on/off, input
35-8	35-6	5 V DC	5 V DC supply for EPDSW*, output
35-9	35-4	0/5 V DC	LED (JOB)* on/off, output
35-10	35-4	5 V DC	5 V DC supply for LED (JOB)*, output
35-11	35-4	0/24 V DC	FSSOL (JOB)* release signal, output
35-12	35-4	0/24 V DC	FSSOL (JOB)* actuate signal, output
35-13	35-4	24 V DC	24 V DC supply for FSSOL (JOB)*, output
36-1	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED6 signal, output
36-2	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED5 signal, output
36-3	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED4 signal, output
36-4	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED3 signal, output
36-5	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED2 signal, output
36-6	42-B4	0/5 V DC (pulse)	OPCB-L DIGLED1 signal, output
36-7	42-B4	0/5 V DC (pulse)	OPCB-L SCAN4 signal, output
36-8	42-B4	0/5 V DC (pulse)	OPCB-L SCAN3 signal, output

*Optional.

Terminals (CN)		Voltage	Remarks
36-9	42-B4	0/5 V DC (pulse)	OPCB-L SCAN2 signal, output
36-10	42-B4	0/5 V DC (pulse)	OPCB-L SCAN1 signal, output
36-11	42-B4	0/5 V DC	OPCB-L DIGKEY3 signal, input
36-12	42-B4	0/5 V DC	OPCB-L DIGKEY2 signal, input
36-13	42-B4	0/5 V DC	OPCB-L DIGKEY1 signal, input
37-2	37-1	0/5 V DC	SHPSW on/off, input
37-3	37-1	0/5 V DC	EL on/off, output
37-4	37-1	0/5 V DC	SM ENABLE signal, output
37-5	37-1	0/5 V DC	SM RET signal, output
37-6	37-1	0/5 V DC	SM CWB signal, output
37-7	37-1	0/5 V DC (pulse)	SM CLOCK signal, output
37-8	37-1	0/5 V DC	SM drive control signal M5, output
37-9	37-1	0/5 V DC	SM drive control signal M4, output
37-10	37-1	0/5 V DC	SM drive control signal M3, output
37-11	37-1	0/5 V DC	SM drive control signal M2, output
37-12	37-1	0/5 V DC	SM drive control signal M1, output
37-13	37-1		SM current control voltage Vref, output
37-14	37-1	0/5 V DC	ODSW on/off, input
37-16	37-15	0/5 V DC	OSDS on/off, input
37-17	37-15	5 V DC	5 V DC supply for OSDS, output
42-A1	42-B4	0/5 V DC	OPCB-L BUZZER signal, output
42-A2	42-B4	0/5 V DC (pulse)	Touch panel detection voltage X1, input
42-A3	42-B4	0/5 V DC (pulse)	Touch panel detection voltage Y1, input
42-A4	42-B4	0/5 V DC (pulse)	Touch panel detection voltage X2, output
42-A5	42-B4	0/5 V DC (pulse)	Touch panel detection voltage Y2, output
42-A6	42-B4	0/5 V DC (pulse)	LCD FRAME signal, output
42-A7	42-B4	0/5 V DC (pulse)	LCD LOAD signal, output
42-A8	42-B4	0/5 V DC (pulse)	LCD CP signal, output
42-A9	42-B4	GND	LCD VSS signal, output
42-A10	42-B4	5 V DC	LCD VDD signal, output
42-A11	42-B4	GND	LCD VSS signal, output
42-A12	42-B4	0/5 V DC	LCD DISPLAY signal, output
42-A13	42-B4	0/5 V DC (pulse)	LCD D0 data, output
42-A14	42-B4	0/5 V DC (pulse)	LCD D1 data, output
42-A15	42-B4	0/5 V DC (pulse)	LCD D2 data, output
42-A16	42-B4	0/5 V DC (pulse)	LCD D3 data, output
42-A17	42-B4	0/5 V DC (pulse)	LCD VEE signal, output
42-B2	42-B1	24 V DC	24 V DC supply for OPCB-R, output
42-B3	42-B4	0/5 V DC	OPCB-R LAMP OFF signal, output
42-B5	42-B4	5 V DC	5 V DC supply for OPCB-R, output
42-B6	42-B4	0/5 V DC (pulse)	OPCB-R DIGLED8 signal, output
42-B7	42-B4	0/5 V DC (pulse)	OPCB-R DIGLED7 signal, output
42-B8	42-B4	0/5 V DC (pulse)	OPCB-R SCAN8 signal, output
42-B9	42-B4	0/5 V DC (pulse)	OPCB-R SCAN7 signal, output
42-B10	42-B4	0/5 V DC (pulse)	OPCB-R SCAN6 signal, output
42-B11	42-B4	0/5 V DC (pulse)	OPCB-R SCAN5 signal, output
42-B12	42-B4	0/5 V DC	OPCB-R DIGKEY9 signal, input
42-B13	42-B4	0/5 V DC	OPCB-R DIGKEY8 signal, input
42-B14	42-B4	0/5 V DC	OPCB-R DIGKEY7 signal, input
42-B15	42-B4	0/5 V DC	OPCB-R DIGKEY6 signal, input
42-B16	42-B4	0/5 V DC	OPCB-R DIGKEY5 signal, input
42-B17	42-B4	0/5 V DC	OPCB-R DIGKEY4 signal, input
43-A1	43-A2	5/0 V DC (pulse)	Printer board* PRINTN signal, output
43-A3	43-A2	5/0 V DC (pulse)	Printer board* SI signal, output
43-A4	43-A2	5/0 V DC (pulse)	Printer board* SCLK signal, input
43-A5	43-A2	5/0 V DC (pulse)	Printer board* SBSY signal, output

*Optional.

Terminals (CN)		Voltage	Remarks
43-A6	43-A2	5/0 V DC (pulse)	Printer board* SO signal, input
43-A7	43-A2	5/0 V DC (pulse)	Printer board* RESET signal, output
43-A8	43-A2	5/0 V DC (pulse)	Printer board* PDOUT signal, output
43-A10	43-A2	5/0 V DC (pulse)	Printer board* VDATAP signal, input
43-A12	43-A2	5/0 V DC (pulse)	Printer board* VDATAN signal, input
43-A14	43-A2	5/0 V DC (pulse)	Printer board* FPCLKsignal, output
43-A15	43-A2	5/0 V DC (pulse)	Printer board* FPDAT signal, input
43-A17	43-A2	5/0 V DC (pulse)	Printer board* VDATA signal, input
43-B1	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B2	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B3	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B4	43-A2	5/0 V DC (pulse)	Printer board* SDIR signal, output
43-B5	43-A2	5/0 V DC (pulse)	Printer board* ESGIR signal, output
43-B6	43-A2	5/0 V DC (pulse)	Printer board* VDFON signal, output
43-B7	43-A2	5/0 V DC (pulse)	Printer board* VSREQN signal, output
43-B12	43-A2	5/0 V DC (pulse)	Printer board* FPDIR signal, output
43-B13	43-A2	5/0 V DC (pulse)	Printer board* FPPOWER signal, output
43-B15	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B16	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B17	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B18	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B19	43-A2	5 V DC	Printer board* 5 V DC supply, output
43-B20	43-A2	5 V DC	Printer board* 5 V DC supply, output
44-1	44-2	3.3 V DC	Fax board* 3.3 V DC supply, output
44-3	44-4	5/0 V DC (pulse)	Fax board* FPVCLK signal, output
44-5	44-6	5/0 V DC (pulse)	Fax board* FVCLK signal, input
44-7	44-8	5/0 V DC (pulse)	Fax board* FMRE signal, input
44-9	44-10	5/0 V DC (pulse)	Fax board* /FPVD signal, input
44-11	44-12	5/0 V DC (pulse)	Fax board* /FPHSYNC signal, output
44-13	44-14	5/0 V DC (pulse)	Fax board* /FPVSYNC signal, output
44-15	44-16	5/0 V DC (pulse)	Fax board* /FOVSYNC signal, output
44-17	44-18	5/0 V DC (pulse)	Fax board* /FOHSTHIN signal, output
44-19	44-20	5/0 V DC (pulse)	Fax board* FMIPOUTO signal, output
44-21	44-22	5/0 V DC (pulse)	Fax board* FMREOUT signal, output
44-23	44-24	5/0 V DC (pulse)	Fax board* FFOCLK signal, output
44-25	44-26	5/0 V DC (pulse)	Fax board* /MMISTS signal, output
44-27	44-28	Analog	Fax board* FMMI_TXD2 signal, output
44-29	44-30	Analog	Fax board* FMMI_RXD2 signal, input
44-31	44-30	5/0 V DC (pulse)	Fax board* /FAXRESET signal, output
44-32	44-30	5/0 V DC (pulse)	Fax board* /FAXREADY signal, input
44-33	44-30	5/0 V DC (pulse)	Fax board* /PREQ signal, input
44-34	44-30	5/0 V DC (pulse)	Fax board* /SREQ signal, input
44-35	44-30	5/0 V DC (pulse)	Fax board* /SETFAX signal, input
44-36	44-30	5/0 V DC (pulse)	Fax board* /MAINSTS signal, output
44-38	44-37	Analog	Fax board* FMAIN_TXD0 signal, output
44-40	44-39	Analog	Fax board* FMAIN_RXD0 signal, input

2-3-3 Operation unit PCB

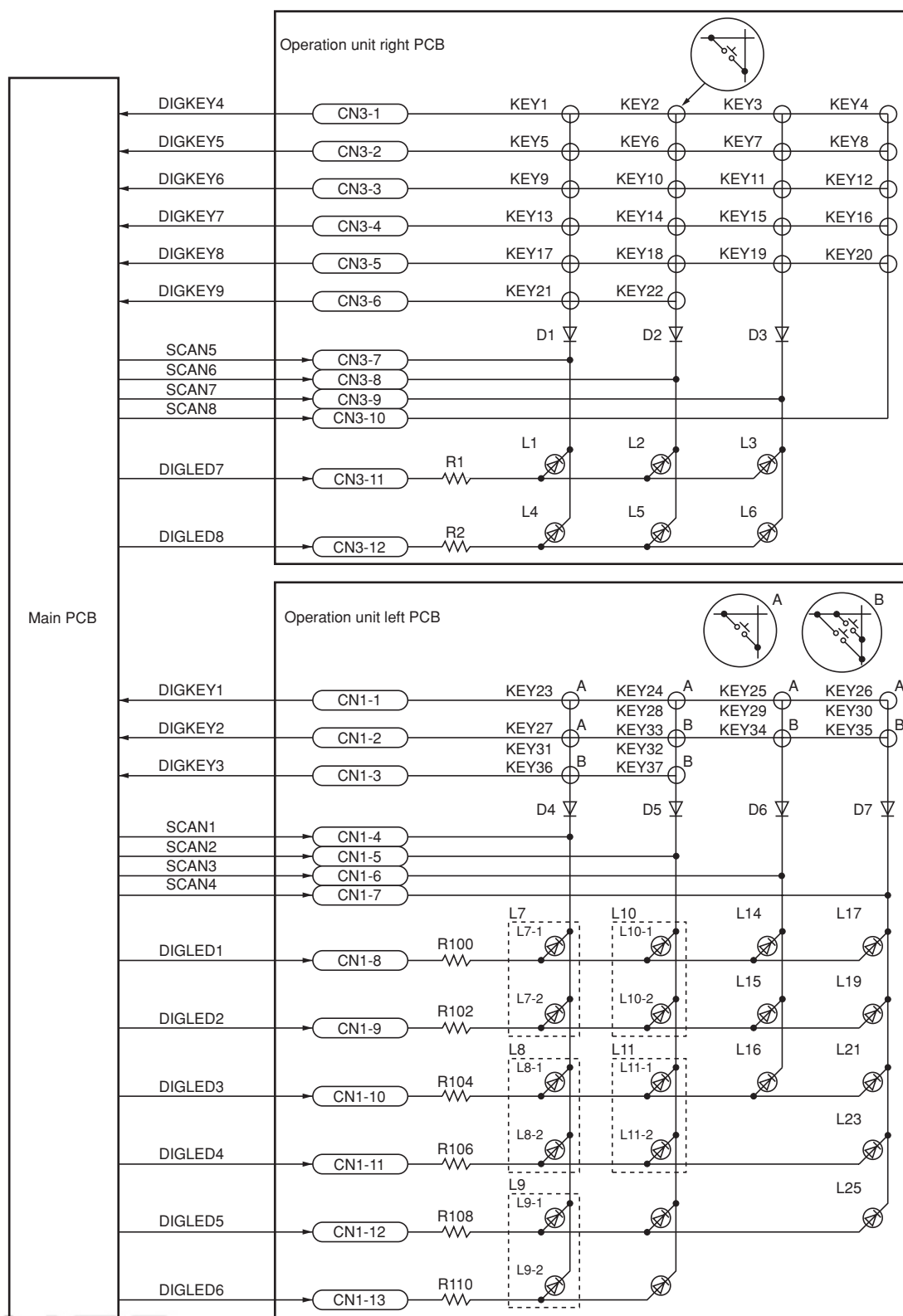


Figure 2-3-5 Operation unit PCB block diagram

The operation unit PCB (OPCB) consists of the operation unit left PCB (OPCB-L) and the operation unit right PCB (OPCB-R).

The operation unit right PCB (OPCB-R) consists of key switches and LEDs. The lighting of LEDs is determined by scan signals (SCAN5 to SCAN8) and LED lighting selection signals (DIGLED7 to DIGLED8) from the main PCB (MPCB). The key switches operated are identified by the scan signals (SCAN5 to SCAN8) and the return signals (DIGKEY4 to DIGKEY9).

As an example, to light LED 1 (L1), the LED lighting selection signal (DIGLED7) should be driven low in synchronization with a low level on the scan signal (SCAN5). LEDs can be lit dynamically by repeating such operations.

As another example, if KEY 1 is pressed, the corresponding key switch is turned on feeding the low level of the scan signal (SCAN5) back to the main PCB (MPCB) via the return signal (DIGKEY4). The main PCB (MPCB) locates the position where the line outputting the scan signal and the line inputting the return signal cross, and thereby determines which key switch was operated.

The operation unit left PCB (OPCB-L) consists of key switches and LEDs. The lighting of LEDs is determined by scan signals (SCAN1 to SCAN4) and LED lighting selection signals (DIGLED1 to DIGLED6) from the main PCB (MPCB). The key switches operated are identified by the scan signals (SCAN1 to SCAN4) and the return signals (DIGKEY1 to DIGKEY3).

As an example, to light LED 7 (L7), the LED lighting selection signal (DIGLED1) should be driven low in synchronization with a low level on the scan signal (SCAN1). LEDs can be lit dynamically by repeating such operations.

As another example, if KEY 23 is pressed, the corresponding key switch is turned on feeding the low level of the scan signal (SCAN1) back to the main PCB (MPCB) via the return signal (DIGKEY1). The main PCB (MPCB) locates the position where the line outputting the scan signal and the line inputting the return signal cross, and thereby determines which key switch was operated.

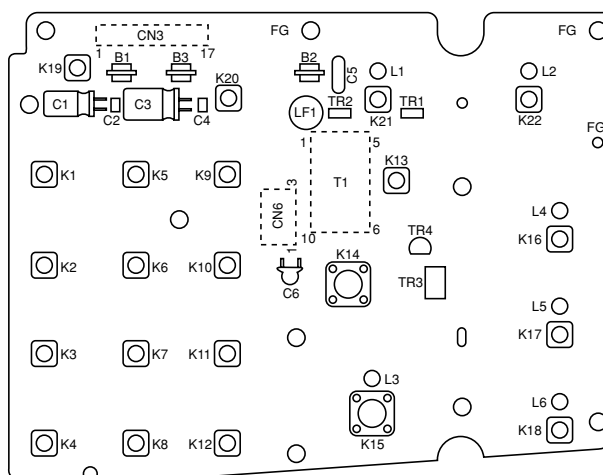


Figure 2-3-6 Operation unit right PCB silk-screen diagram

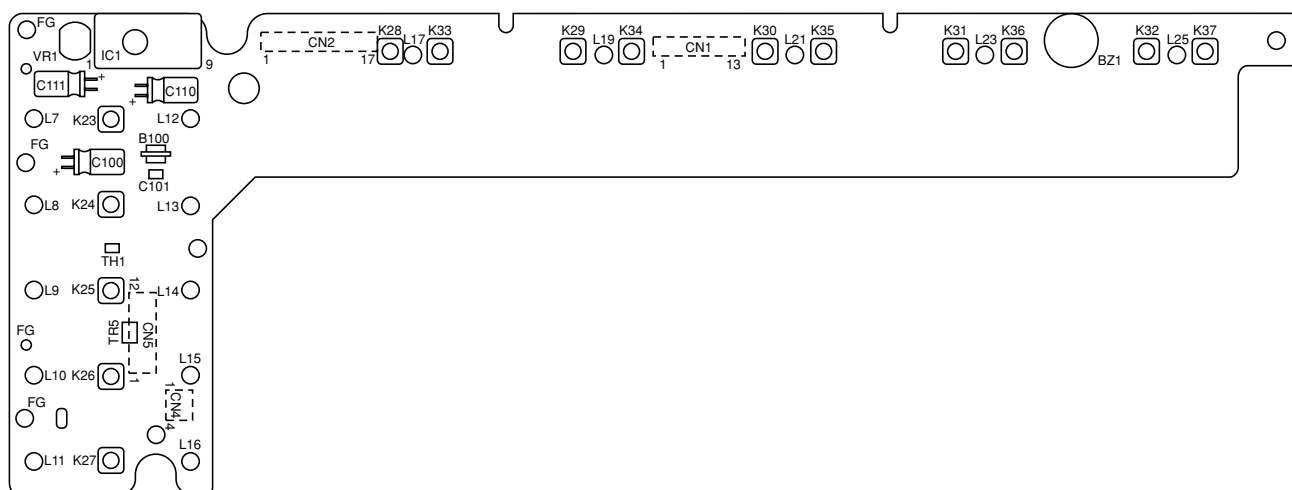


Figure 2-3-7 Operation unit left PCB silk-screen diagram

Terminals (CN)		Voltage	Remarks
1-1	3-14	0/5 V DC	OPCB-L DIGKEY1 signal, output
1-2	3-14	0/5 V DC	OPCB-L DIGKEY2 signal, output
1-3	3-14	0/5 V DC	OPCB-L DIGKEY3 signal, output
1-4	3-14	0/5 V DC (pulse)	OPCB-L SCAN1 signal, input
1-5	3-14	0/5 V DC (pulse)	OPCB-L SCAN2 signal, input
1-6	3-14	0/5 V DC (pulse)	OPCB-L SCAN3 signal, input
1-7	3-14	0/5 V DC (pulse)	OPCB-L SCAN4 signal, input
1-8	3-14	0/5 V DC (pulse)	OPCB-L DIGLED1 signal, input
1-9	3-14	0/5 V DC (pulse)	OPCB-L DIGLED2 signal, input
1-10	3-14	0/5 V DC (pulse)	OPCB-L DIGLED3 signal, input
1-11	3-14	0/5 V DC (pulse)	OPCB-L DIGLED4 signal, input
1-12	3-14	0/5 V DC (pulse)	OPCB-L DIGLED5 signal, input
1-13	3-14	0/5 V DC (pulse)	OPCB-L DIGLED6 signal, input
2-1	3-14	0/5 V DC	LCD VEE signal, input
2-2	3-14	0/5 V DC (pulse)	LCD D3 data, input
2-3	3-14	0/5 V DC (pulse)	LCD D2 data, input
2-4	3-14	0/5 V DC (pulse)	LCD D1 data, input
2-5	3-14	0/5 V DC (pulse)	LCD D0 data, input
2-6	3-14	0/5 V DC	LCD DISPLAY signal, input
2-7	3-14	GND	LCD VSS signal, input
2-8	3-14	5 V DC	LCD VDD signal, input
2-9	3-14	GND	LCD VSS signal, input
2-10	3-14	0/5 V DC (pulse)	LCD CP signal, input
2-11	3-14	0/5 V DC (pulse)	LCD LOAD signal, input
2-12	3-14	0/5 V DC (pulse)	LCD FRAME signal, input
2-13	3-14	0/5 V DC (pulse)	Touch panel detection voltage Y2, input
2-14	3-14	0/5 V DC (pulse)	Touch panel detection voltage X2, input
2-15	3-14	0/5 V DC (pulse)	Touch panel detection voltage Y1, output
2-16	3-14	0/5 V DC (pulse)	Touch panel detection voltage X1, output
2-17	3-14	0/5 V DC (pulse)	OPCB-L BUZZER signal, input
3-1	3-14	0/5 V DC	OPCB-R DIGKEY4 signal, output
3-2	3-14	0/5 V DC	OPCB-R DIGKEY5 signal, output
3-3	3-14	0/5 V DC	OPCB-R DIGKEY6 signal, output
3-4	3-14	0/5 V DC	OPCB-R DIGKEY7 signal, output
3-5	3-14	0/5 V DC	OPCB-R DIGKEY8 signal, output
3-6	3-14	0/5 V DC	OPCB-R DIGKEY9 signal, output
3-7	3-14	0/5 V DC (pulse)	OPCB-R SCAN5 signal, input
3-8	3-14	0/5 V DC (pulse)	OPCB-R SCAN6 signal, input
3-9	3-14	0/5 V DC (pulse)	OPCB-R SCAN7 signal, input
3-10	3-14	0/5 V DC (pulse)	OPCB-R SCAN8 signal, input
3-11	3-14	0/5 V DC (pulse)	OPCB-R DIGLED7 signal, input
3-12	3-14	0/5 V DC (pulse)	OPCB-R DIGLED8 signal, input
3-13	3-14	5 V DC	5 V DC supply for OPCB-R, input
3-15	3-14	0/5 V DC	OPCB-R LAMP OFF signal, input
3-16	3-17	24 V DC	24 V DC supply for OPCB-R, input
4-1	3-14	0/5 V DC (pulse)	Touch panel detection voltage Y2, output
4-2	3-14	0/5 V DC (pulse)	Touch panel detection voltage X2, output
4-3	3-14	0/5 V DC (pulse)	Touch panel detection voltage Y1, input
4-4	3-14	0/5 V DC (pulse)	Touch panel detection voltage X1, input
5-1	3-14	0/5 V DC (pulse)	LCD FRAME signal, output
5-2	3-14	0/5 V DC (pulse)	LCD LOAD signal, output
5-3	3-14	0/5 V DC (pulse)	LCD CP signal, output
5-4	3-14	GND	LCD VSS signal, output
5-5	3-14	5 V DC	LCD VDD signal, output
5-6	3-14	GND	LCD VSS signal, output
5-7	3-14	Analog	LCD control signal, output

Terminals (CN)		Voltage	Remarks
5-8	3-14	0/5 V DC	LCD DISPLAY signal, output
5-9	3-14	0/5 V DC (pulse)	LCD D0 data, output
5-10	3-14	0/5 V DC (pulse)	LCD D1 data, output
5-11	3-14	0/5 V DC (pulse)	LCD D2 data, output
5-12	3-14	0/5 V DC (pulse)	LCD D3 data, output
6-1	3-14	Analog	LCD BACK LIGHT control signal, output
6-3	3-14	GND	LCD BACK LIGHT control signal, output

2-3-4 Scanner drive PCB

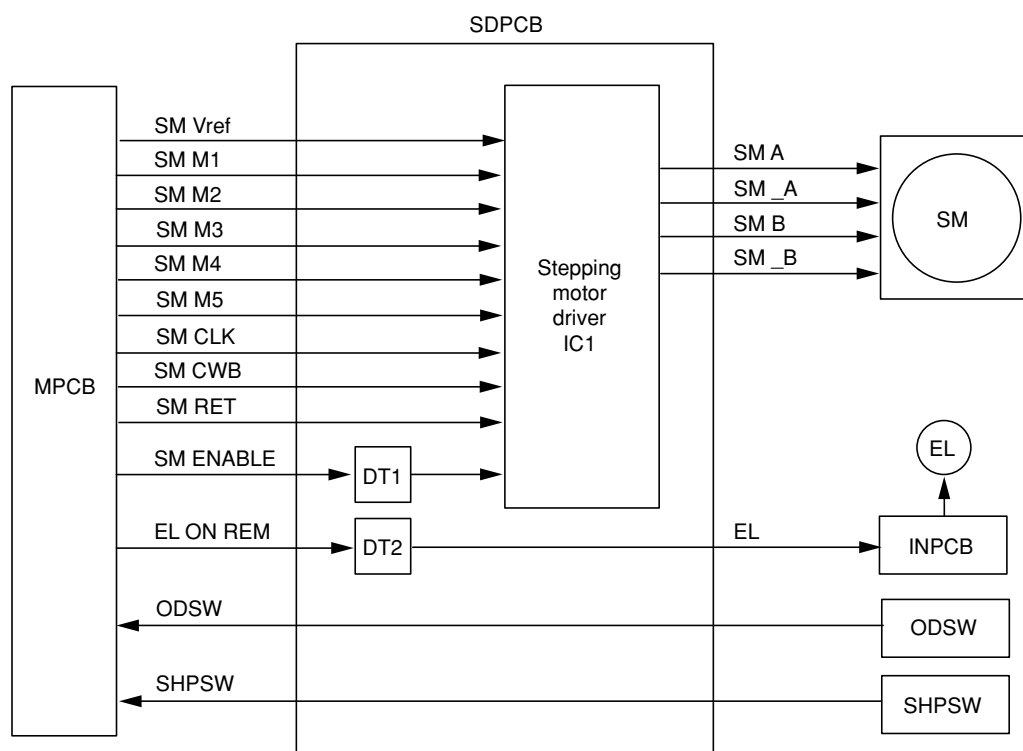


Figure 2-3-8 Scanner drive PCB block diagram

The scanner drive PCB (SDPCB) consists of a stepping motor driver IC (IC1) as the center, digital transistors DT1 and DT2, etc.

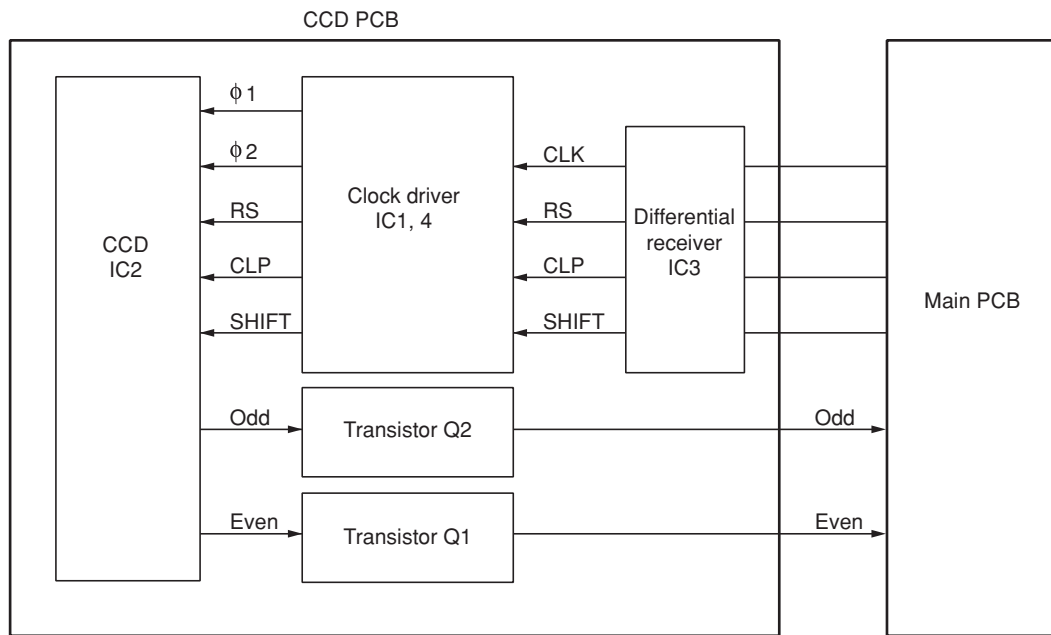
Drive of the scanner motor (SM) is controlled by the current setting voltage (SM Vref) that is output from the main PCB (MPCB), the mode signals (SM M1 to M5, SM CWB), the phase switchover clock signal (SM CLK), and the drive/stop signal (SM ENABLE).

Also the main PCB (MPCB) outputs a control signal (EL) through a digital transistor (DT2) to the inverter PCB (INPCB) to turn on or off the exposure lamp (EL).

Also the scanner drive PCB (SDPCB) acts as an interchange circuit of signals for the original detection switch (ODSW) and the scanner home position switch (SHPSW).



Terminals (CN)		Voltage	Remarks
1-2	1-1	0/5 V DC	SHPSW on/off, output
1-3	1-1	0/5 V DC	EL on/off, input
1-4	1-1	0/5 V DC	SM ENABLE signal, input
1-5	1-1	0/5 V DC	SM RET signal, input
1-6	1-1	0/5 V DC	SM CWB signal, input
1-7	1-1	0/5 V DC (pulse)	SM CLOCK signal, input
1-8	1-1	0/5 V DC	SM drive control voltage M5, input
1-9	1-1	0/5 V DC	SM drive control voltage M4, input
1-10	1-1	0/5 V DC	SM drive control voltage M3, input
1-11	1-1	0/5 V DC	SM drive control voltage M2, input
1-12	1-1	0/5 V DC	SM drive control voltage M1, input
1-13	1-1		SM current control voltage Vref, input
1-14	1-1	0/5 V DC	ODSW on/off, input
2-1	3-6	0/24 V DC (pulse)	SM coil energization pulse, output (_B)
2-2	3-6	24 V DC	24 V DC supply for SM, output
2-3	3-6	0/24 V DC (pulse)	SM coil energization pulse, output (B)
2-4	3-6	0/24 V DC (pulse)	SM coil energization pulse, output (A)
2-5	3-6	24 V DC	24 V DC supply for SM, output
2-6	3-6	0/24 V DC (pulse)	SM coil energization pulse, output (_A)
3-1	3-5	0/5 V DC	EL on/off, output
3-2	3-5	0/5 V DC	EL on/off, output
3-3	3-5	24 V DC	24 V DC supply for INPCB, output
3-4	3-5	24 V DC	24 V DC supply for INPCB, output
4-1	4-3	5 V DC	5 V DC supply for SHPSW, output
4-2	4-3	0/5 V DC	SHPSW on/off, output
5-1	5-3	5 V DC	5 V DC supply for ODSW, output
5-2	5-3	0/5 V DC	ODSW on/off, output
6-2	6-1	24 V DC	24 V DC supply from PSPCB, input
6-4	6-3	5 V DC	5 V DC supply from PSPCB, input

2-3-5 CCD PCB**Figure 2-3-10 CCD PCB block diagram**

The CCD PCB (CCDPCB) is equipped with a CCD sensor IC2 for original scanning.

The clock signals (CLK, RS, CLP, and SHIFT) for driving the CCD sensor (IC2) are sent as differential signals from the main PCB (MPCB), reconstructed to normal signals by the differential receiver (IC3), and then input to the CCD sensor (IC2) via the clock driver (IC1 and IC4).

Image signals are analog signals. Even- and odd-numbered pixels are output separately. These analog image signals are amplified by emitter followers in the transistors Q1 and Q2 and then transmitted to the analog signal processing circuit in the main PCB (MPCB).

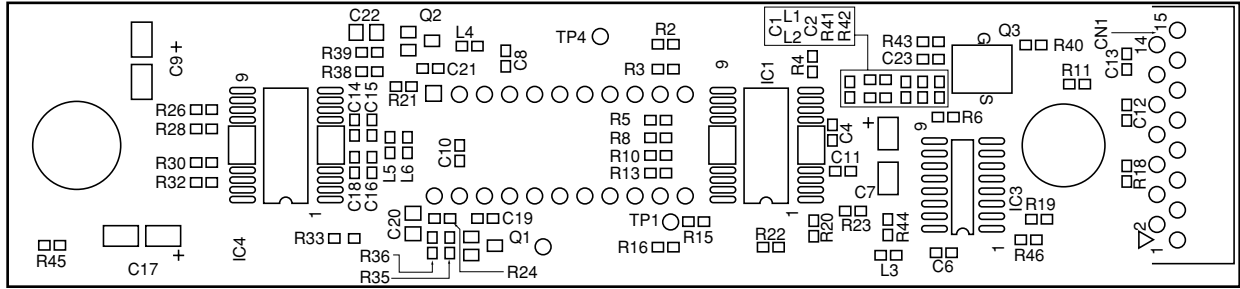
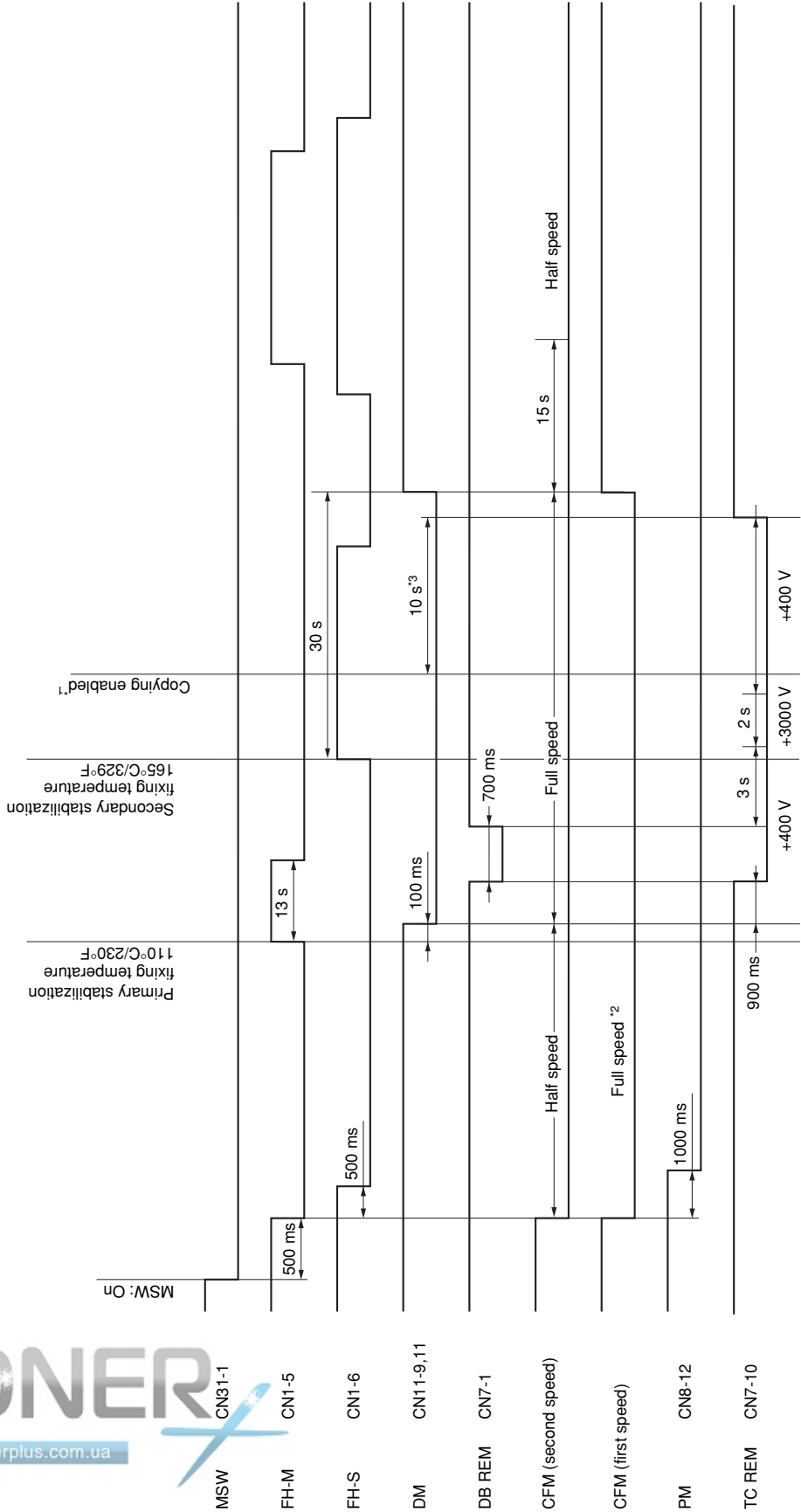


Figure 2-3-11 CCD PCB silk-screen diagram

Terminals (CN)		Voltage	Remarks
1-1	1-5	0/5 V DC (pulse)	CCDPCB RS – signal, input
1-2	1-5	0/5 V DC (pulse)	CCDPCB RS + signal, input
1-3	1-5	0/5 V DC (pulse)	CCDPCB CLOCK – signal, input
1-4	1-5	0/5 V DC (pulse)	CCDPCB CLOCK + signal, input
1-6	1-5	0/5 V DC (pulse)	CCDPCB SHIFT signal, input
1-8	1-7	0/5 V DC (pulse)	CCDPCB CLP signal, input
1-10	1-9	5 V DC	5 V DC supply from CCDPCB, input
1-11	1-9	12 V DC	12 V DC supply from CCDPCB, input
1-12	1-13	4.5 V DC (pulse)	CCDPCB EVEN signal, output (analog)
1-14	1-15	4.5 V DC (pulse)	CCDPCB ODD signal, output (analog)

Timing chart No. 1 From the main switch turned on to machine stabilization



*1: Copying is enabled as follows:

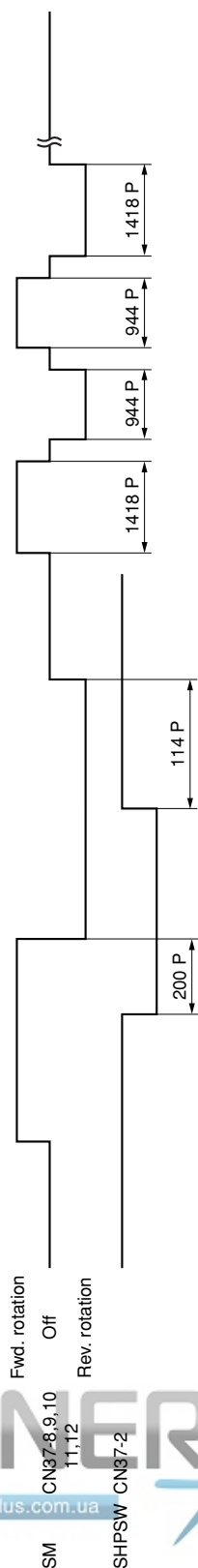
1. When fixing temperature at the main switch turning on is 100°C/212°F or lower
Absolute humidity is 15 g/m³ or higher:
Copying is enabled 120 s after fixing heater M (FH-M) turning on.
2. When fixing temperature at the main switch turning on is 100°C/212°F or lower
The fixing temperature at the main switch turning on is 13°C/55.4°F or higher and the ambient temperature is 18°C/64.4°F or higher:
Copying is enabled at the earlier timing of either 41 s after fixing heater M (FH-M) turning on or when the copier enters secondary stabilization.
Other than the above:
Copying is enabled at the later timing of either 69 s after fixing heater M (FH-M) turning on or when the copier enters secondary stabilization.
3. Other conditions than 1 and 2
Copying is enabled when the copier enters secondary stabilization.

*2: Rotates for 180 s at full speed when the fixing temperature at the main switch turning on is 100°C/212°F or lower, and the absolute humidity is 15 g/m³ or higher.

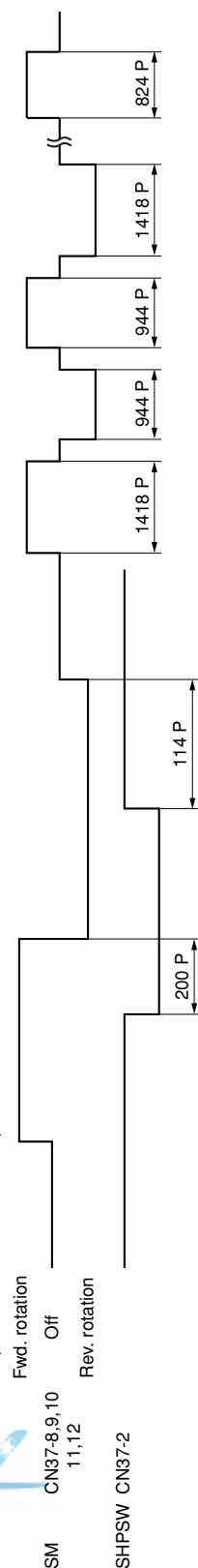
*3: 60 s when the fixing temperature at main switch turning on is 100°C/212°F or lower, and the absolute humidity is 15 g/m³ or higher.

Timing chart No. 2 Scanner initialization

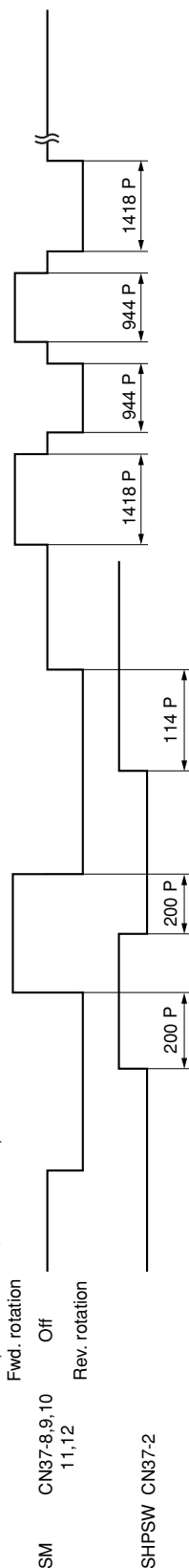
Scanner initialization (SHPSW: ON, ODSW: ON)



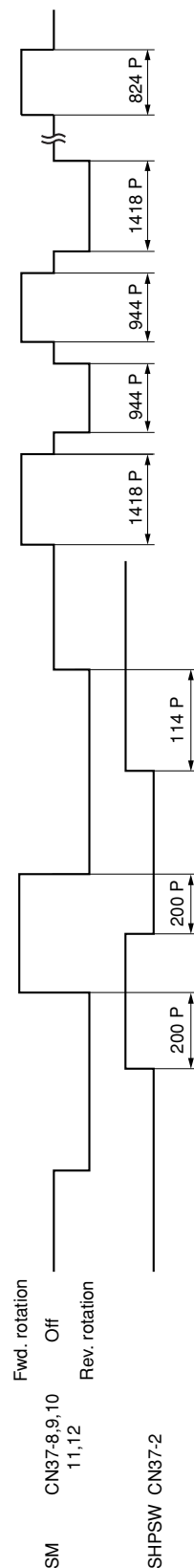
Scanner initialization (SHPSW: ON, ODSW: OFF)



Scanner initialization (SHPSW: OFF, ODSW: ON)

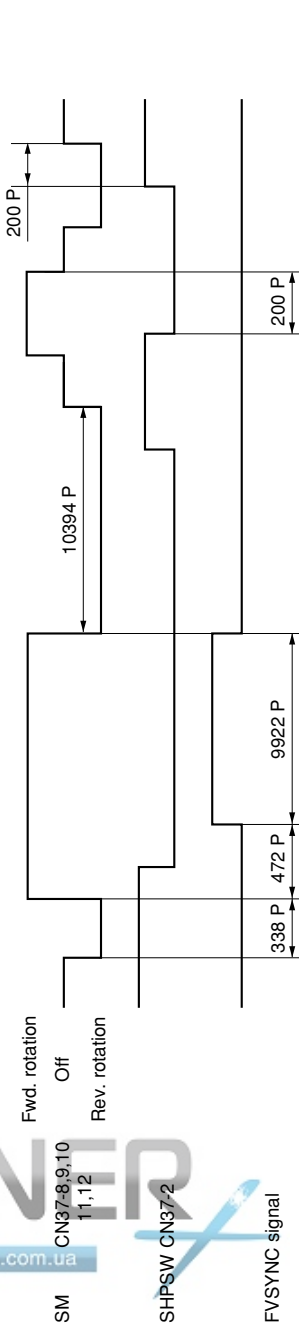


Scanner initialization (SHPSW: OFF, ODSW: OFF)

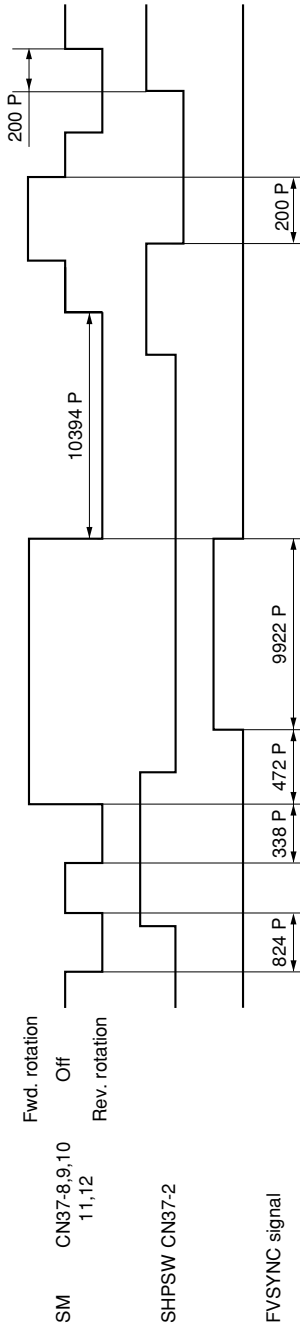


Timing chart No. 3 Original scanning operation

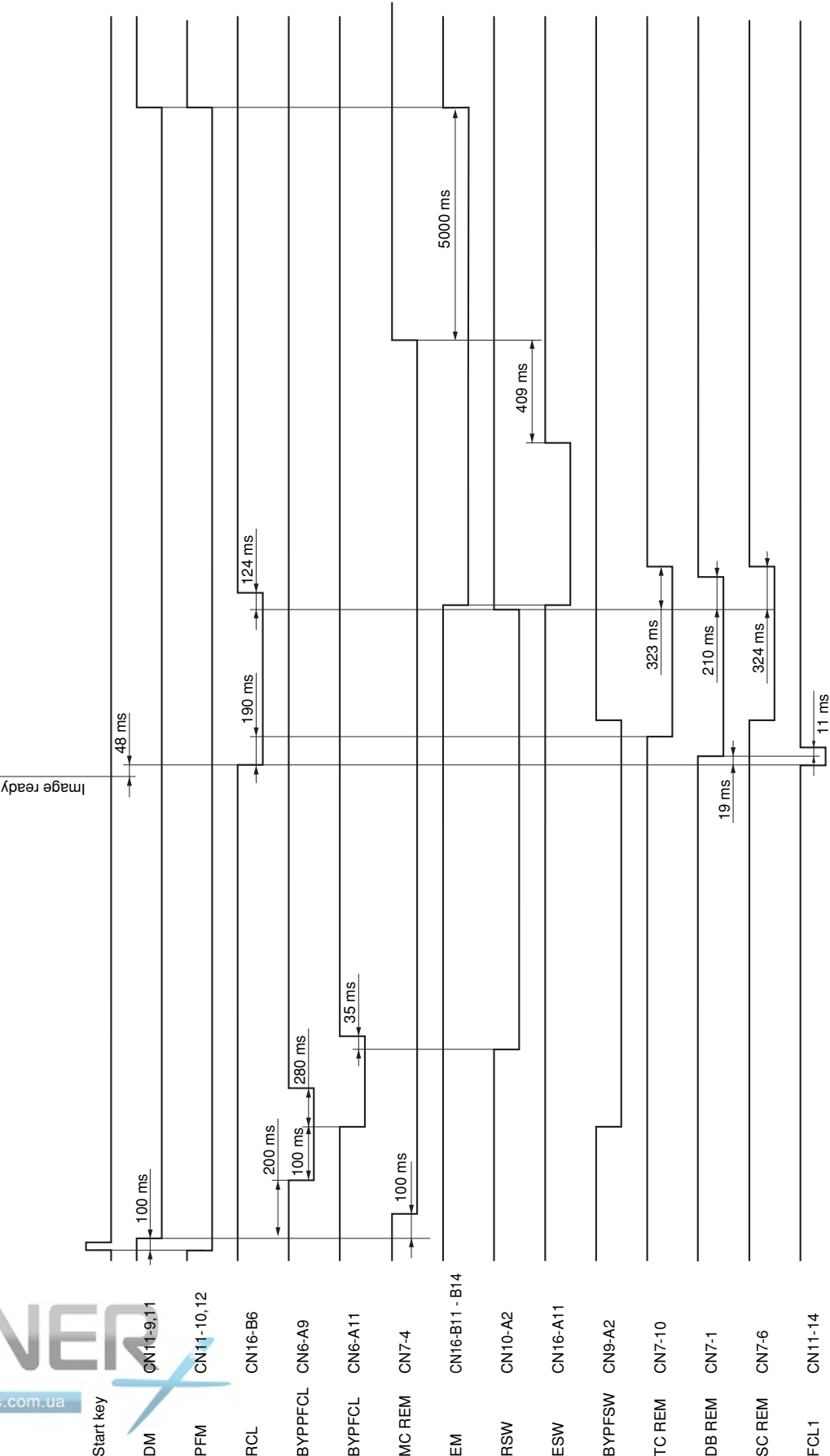
Scanning an A3/11" × 17" original, magnification ratio 100% (ODSW: ON)



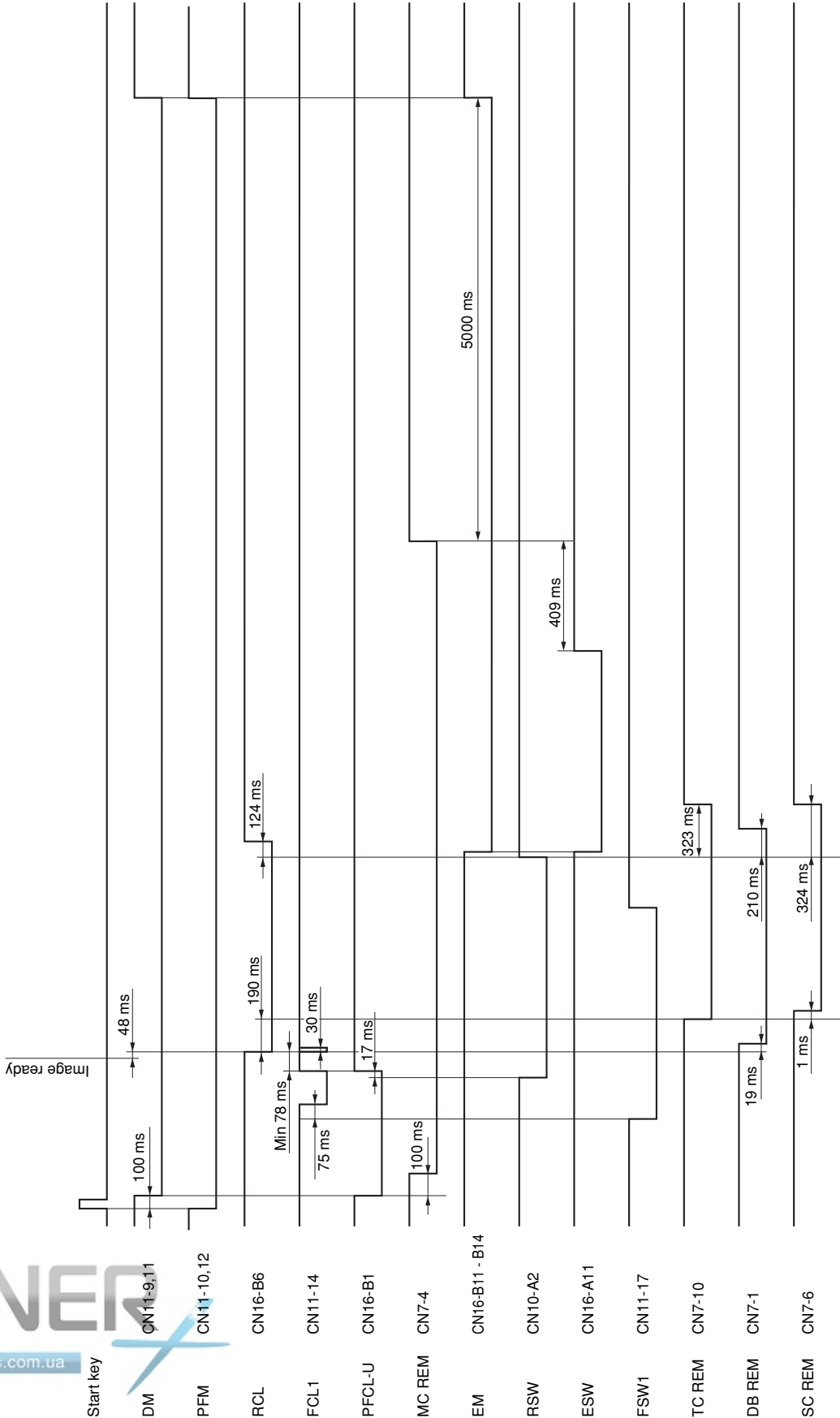
Scanning an A3/11" × 17" original, magnification ratio 100% (ODSW: OFF)



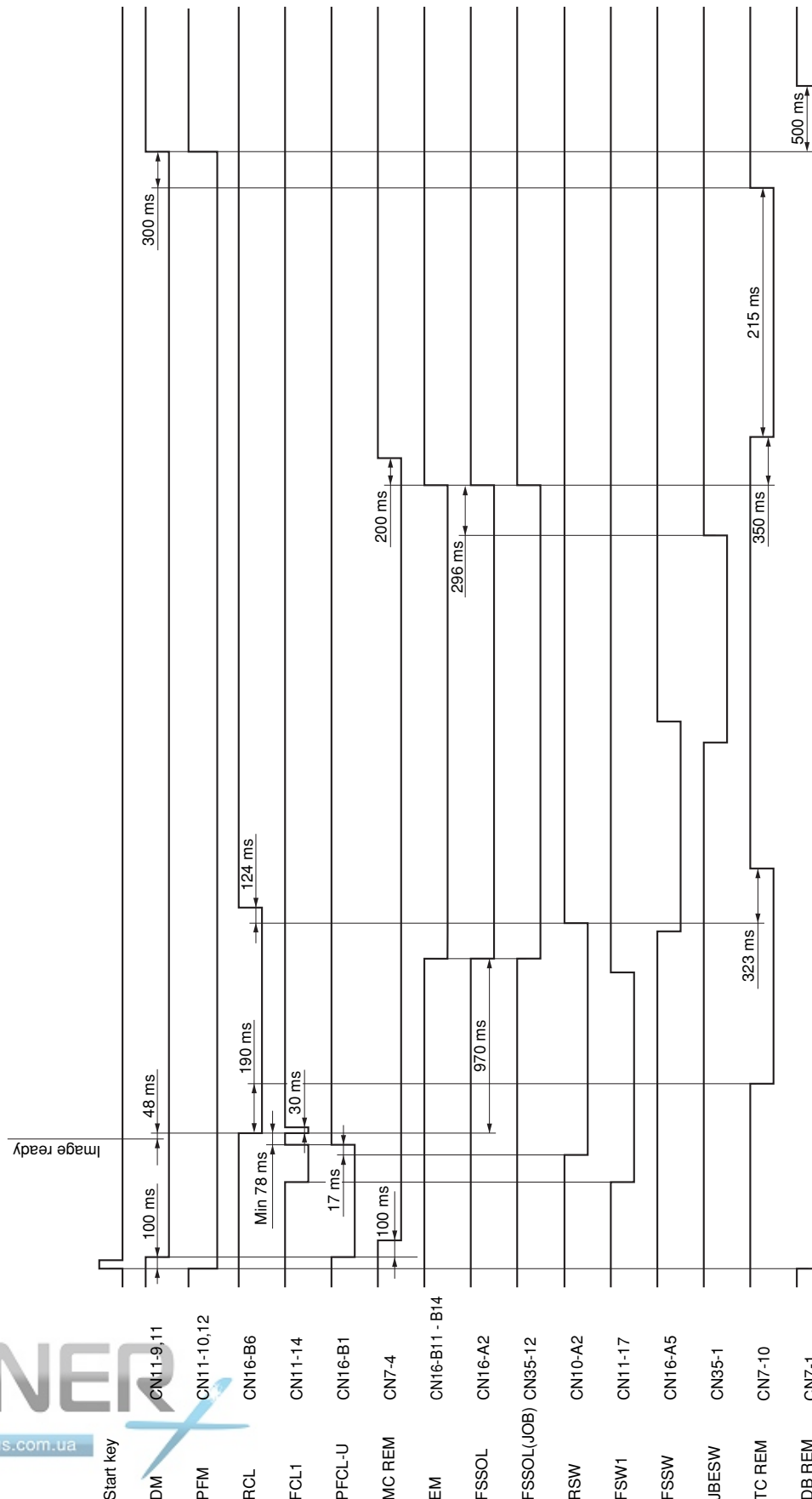
Timing chart No. 4 Copying an A3/11"x17" original onto an A5R/5 1/2"x8 1/2" copy paper from the bypass table, magnification ratio 25%, manual copy density control



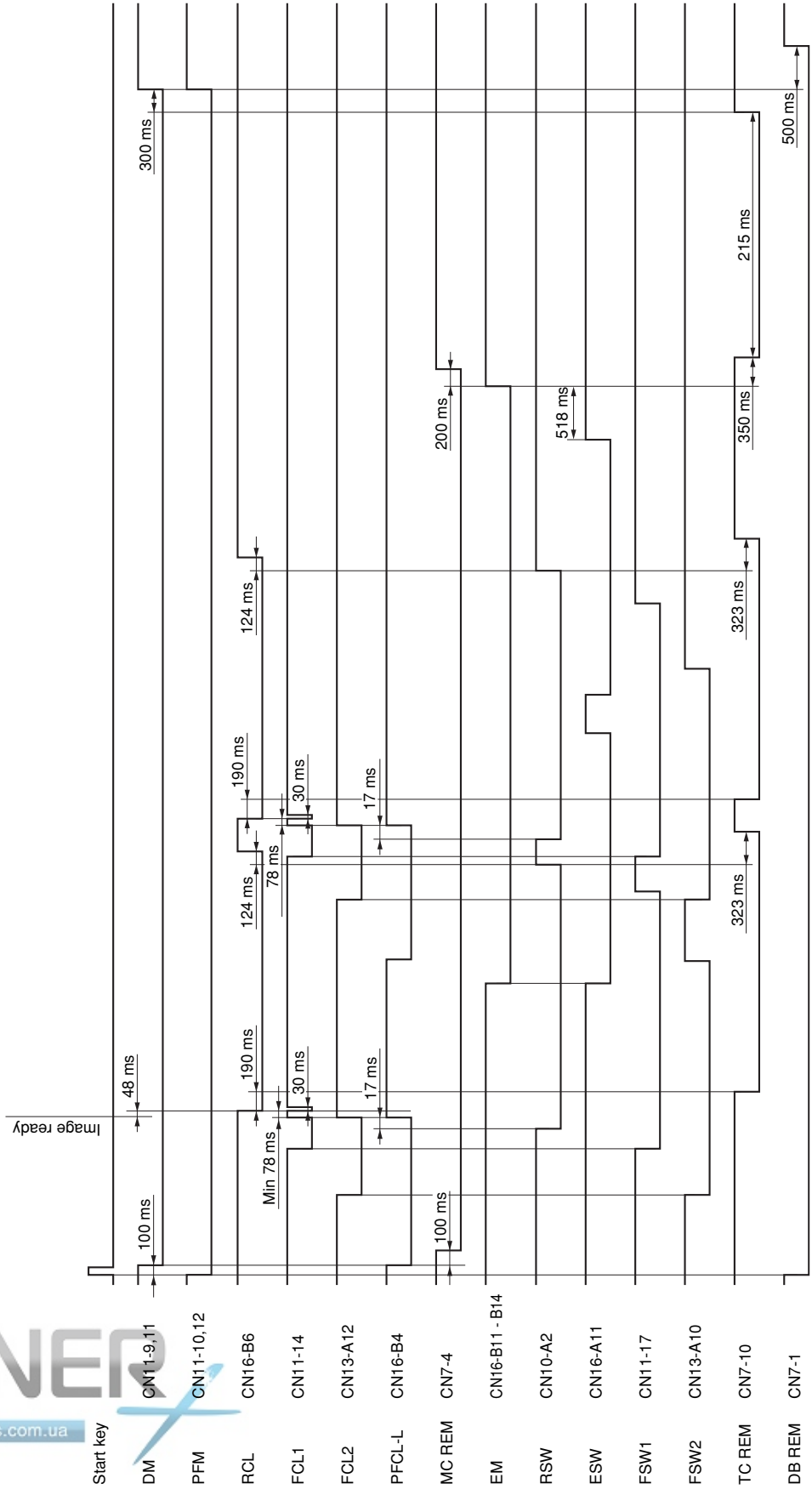
Timing chart No. 5 Copying an A4/11"x8¹/₂" original onto an A4/11"x8¹/₂" copy paper from the copier upper drawer, magnification ratio 100%, auto copy density control



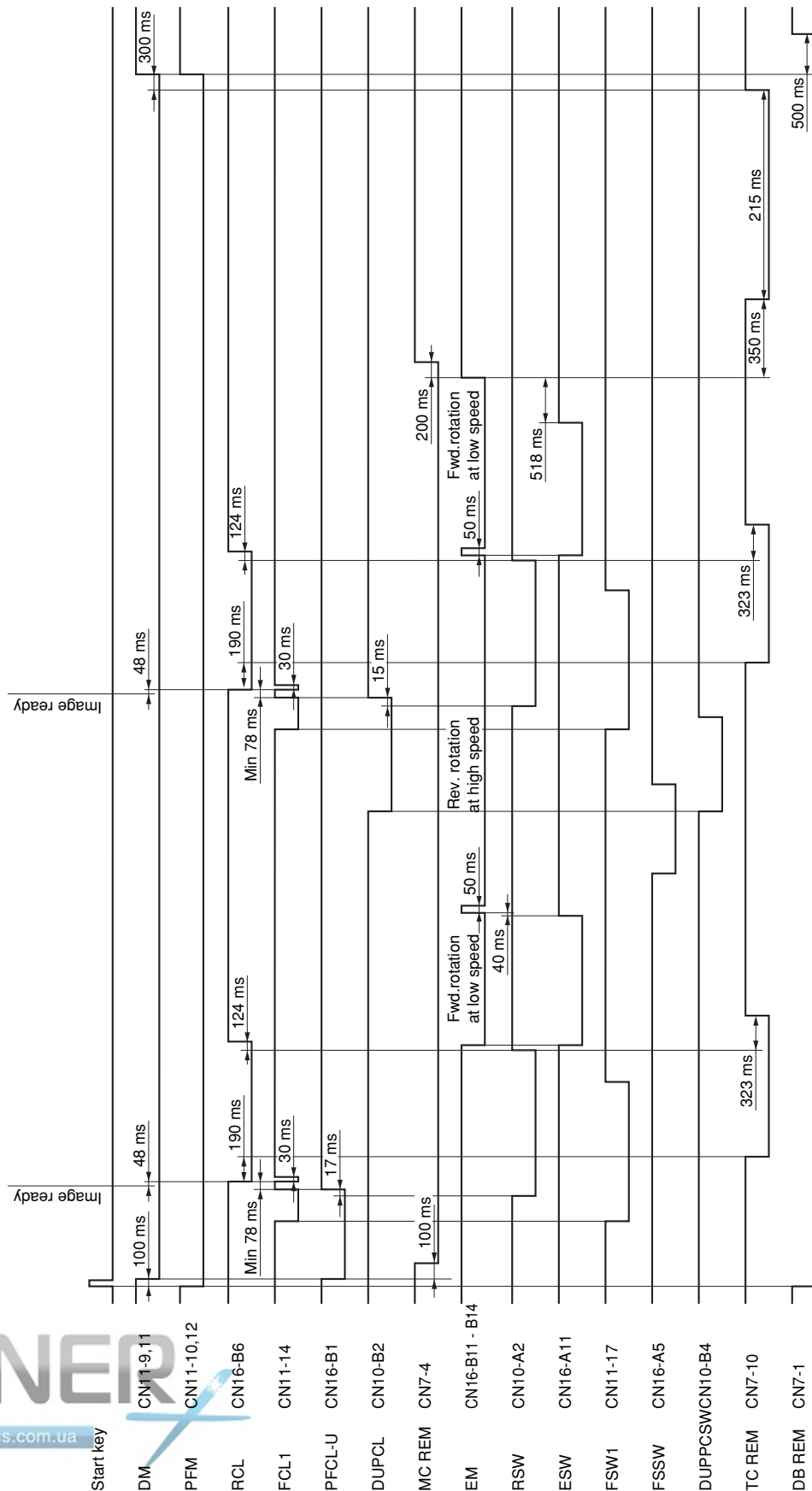
Timing chart No. 6 Copying an A4/11"x8¹/₂" original onto an A4/11"x8¹/₂" copy paper from the copier upper drawer, magnification ratio 100%, auto copy density control, ejection to the job separator



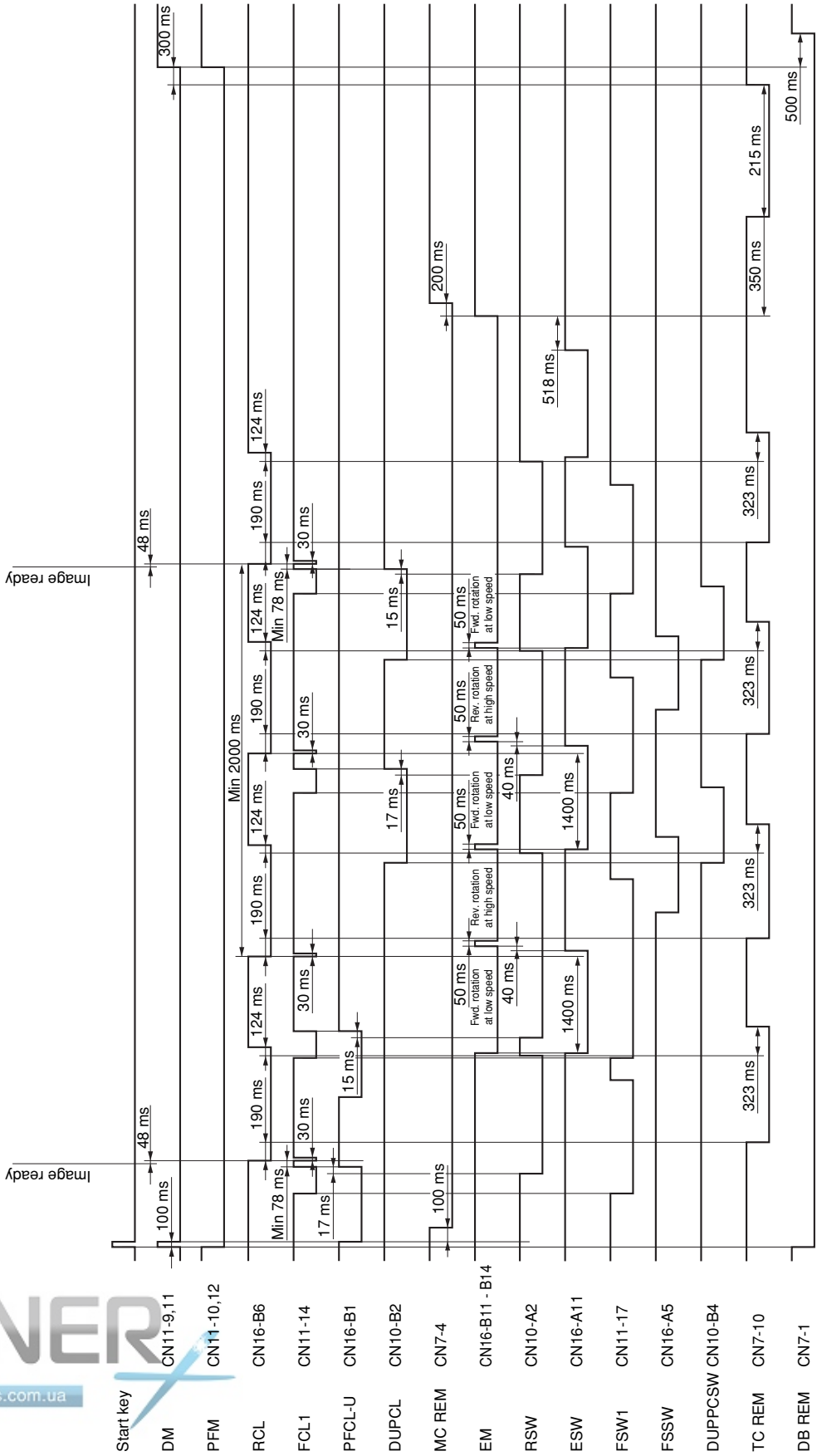
Timing chart No. 7 Continuous copying of an A5R/5¹/₂"x8¹/₂" original onto two sheets of A3/11"x17" copy paper from the copier lower drawer, magnification ratio 400%, manual copy density control



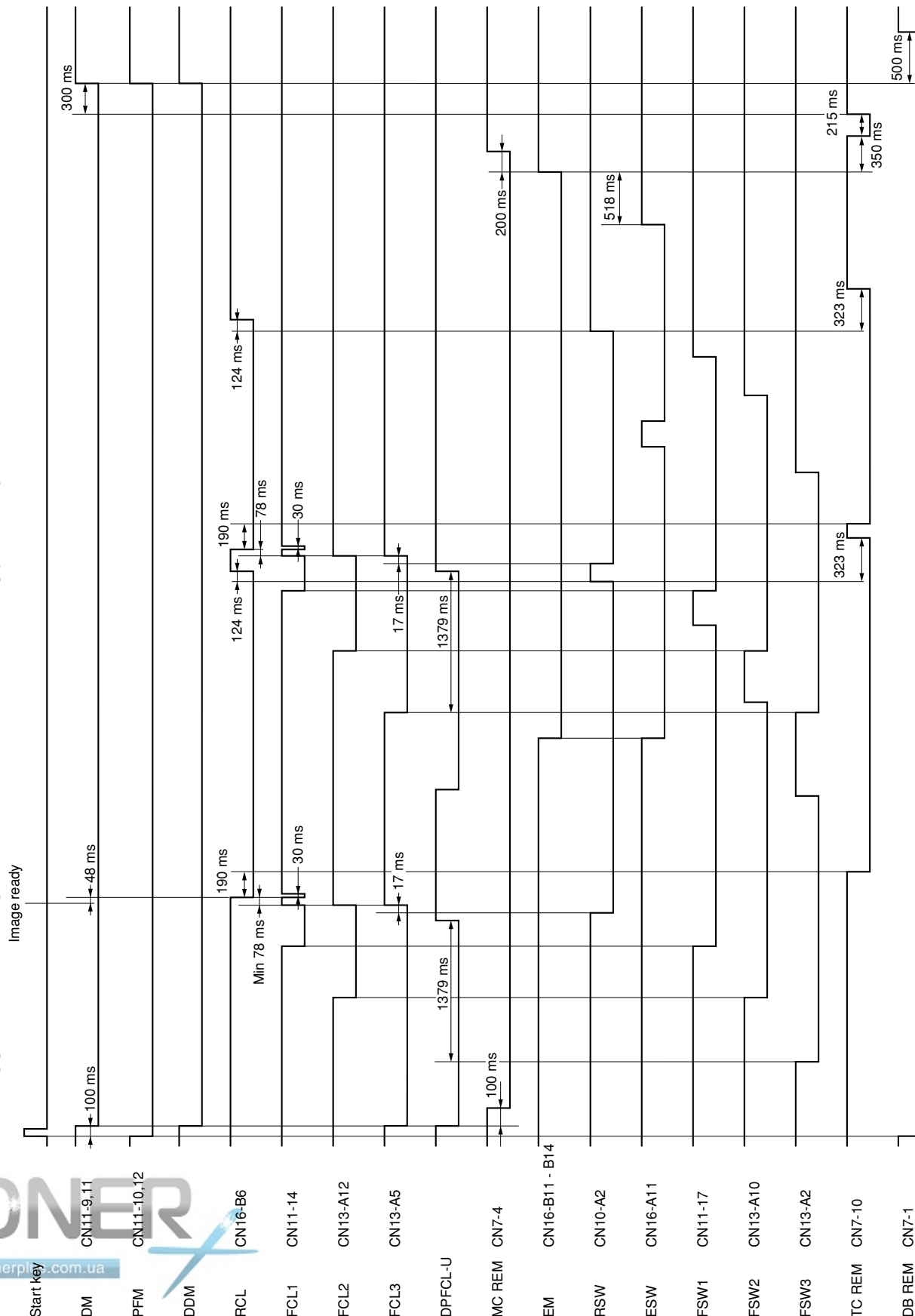
Timing chart No. 8 Duplex copying of an A3/11"x17" book original onto one duplex A4/11"x8¹/₂" copy from the copier upper drawer, magnification ratio 100%, auto copy density control



Timing chart No. 9 Continuous, duplex copying of two single-sided A4/11"x8¹/₂" originals onto two duplex A4/11"x8¹/₂" copies from the copier upper drawer, magnification ratio 100%, auto copy density control



Timing chart No. 10 Continuous copying an A3/11"x17" original onto two sheets of A3/11"x17" copy paper from the paper feed desk upper drawer, magnification ratio 100%, auto copy density control



Timing chart No. 11 Copying an A4/11"x8¹/₂" original onto an A4/11"x8¹/₂" copy paper from the paper feed desk lower drawer, magnification ratio 100%, manual copy density control

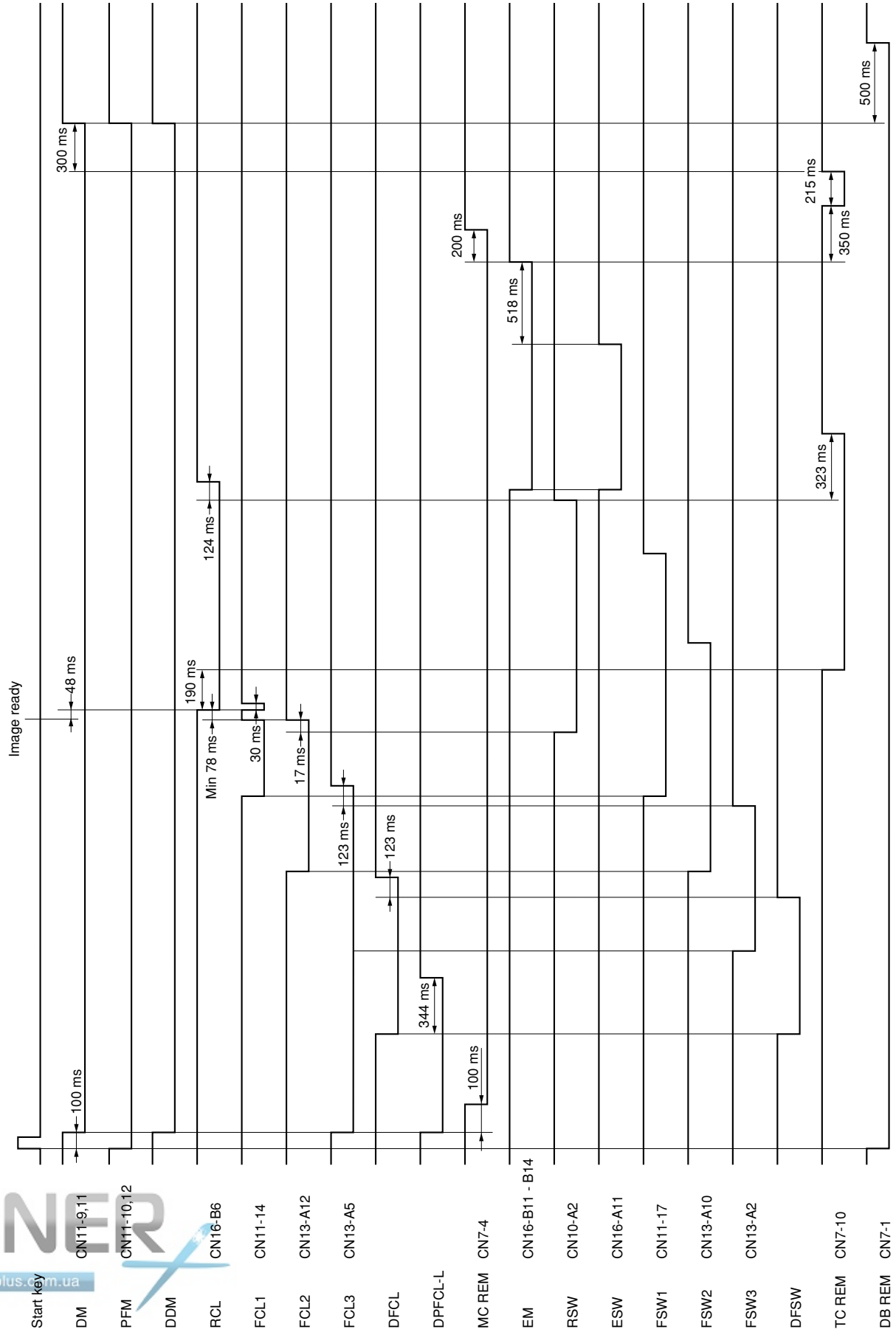
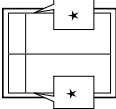
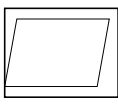
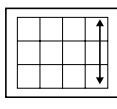
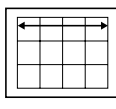
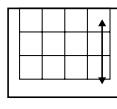
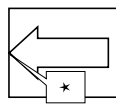
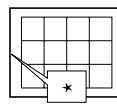
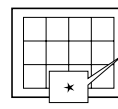
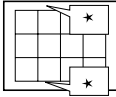


Chart of image adjustment procedures

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
①	Adjusting the lateral squareness (printing adjustment)		Adjusting the skew of the laser scanner unit (printing adjustment)	—	—	U993 (PG2) Test chart	1-6-22	
②	Adjusting the magnification in the main scanning direction (printing adjustment)		Polygon motor speed adjustment	U053	POLYGON MOTOR	U053 test pattern	1-4-12	
③	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Drive motor speed adjustment	U053	MAIN MOTOR	U053 test pattern	1-4-12	
④	Adjusting the center line of the bypass table (printing adjustment)		Adjusting the LSU print start timing	U034	LSUOUT	U034 test pattern	1-6-12	The center line of the bypass table is used as the reference in the adjustment of the center lines for other paper sources.
⑤	Adjusting the center line of the drawers and large paper deck (printing adjustment)		Adjusting the position of the rack adjuster	—	—	U034 test pattern	—	Adjusts the position of each paper source.
⑥	Adjusting the leading edge registration (printing adjustment)		Registration clutch turning on timing (secondary paper feed start timing)	U034	RCL ON	U034 test pattern	1-6-10	To make an adjustment for duplex copying, select "RCL ON (DUP)".
⑦	Adjusting the leading edge margin (printing adjustment)		LSU illumination start timing	U402	LEAD	U402 test pattern	1-6-13	
⑧	Adjusting the trailing edge margin (printing adjustment)		LSU illumination end timing	U402	TRAIL	U402 test pattern	1-6-13	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	AC	U402 test pattern	1-6-13	
⑩	Adjusting the lateral squareness (scanning adjustment)		Adjusting the position of the LSU (scanning adjustment)	—	—	Test chart	1-6-25	
⑪	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	MAIN SCAN ADJ	Test chart	1-6-27	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 ADJUST DATA	Test chart	1-6-28 1-4-15	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 ADJUST DATA	Test chart	1-6-30 1-4-17	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	1-6-29 1-4-16	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	1-6-31 1-4-49	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	1-6-31 1-4-49	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	AC MARGIN	Test chart	1-6-31 1-4-49	U403: For copying an original placed on the contact glass. U404: For copying originals from the DF.
				U404	AC MARGIN			

When maintenance item U092 (Adjusting the scanner automatically) is run using the specified original (P/N 2A068020), the following adjustments are automatically made:

- Adjusting the scanner center line (U067)
- Adjusting the scanner leading edge registration (U066)
- Adjusting the scanner magnification in the main scanning direction (U065)
- Adjusting the scanner magnification in the auxiliary scanning direction (U065)

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: $2.0^{+2.0}_{-1.9}$ mm B: 3.0 ± 2.5 mm C: $2.0^{+2.0}_{-1.9}$ mm D: 3.0 ± 2.5 mm
Margins (printer mode)	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	Drawer: ± 2.5 mm Bypass: ± 2.5 mm
Skewed paper feed (left-right difference)	Duplex copying: ± 2.5 mm Drawer: 1.5 mm or less Bypass: 1.5 mm or less
Lateral image shifting	Duplex copying: 2.0 mm or less Drawer: ± 2.0 mm or less Bypass: ± 2.0 mm or less
Curling	Duplex copying: ± 3.0 mm or less Drawer: ± 3.0 mm or less Bypass: 10.0 mm or less Duplex copying: 10.0 mm or less

Maintenance parts list

Maintenance part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
Upper/lower paper feed pulley	PULLEY, PAPER FEED	2AR07220	4	4
Upper/lower separation pulley	PULLEY, SEPARATION	2AR07230	4	5
Upper/lower forwarding pulley	PULLEY, LEADING FEED	2AR07240	4	6
Bypass paper feed pulley	UPPER PULLEY, BYPASS	61706770	10	29
Bypass separation pulley	PULLEY, SEPARATION	2AR07230	10	20
Bypass forwarding pulley	PULLEY, LEADING FEED	2AR07240	10	34
Bypass feed roller 1	ROLLER2 BYPASSFEED	2BL06540	11	11
Bypass feed roller 2	ROLLER4 BYPASSFEED	2BL06560	11	12
Left registration roller	ROLLER REGIST L	2BL16021	7	11
Right registration roller	RIGHT ROLLER REGIST	2BL06270	5	51
Feed pulley	PULLEY FEED	2BL16080	6,7	37,8
Feed roller 1	PULLEY FEED	2BL06930	5	59
Feed roller 2	ROLLER B FEED	2BL06080	5	5
Feed roller 3	ROLLER C FEED	2BL06090	5	6
Registration switch	SWITCH REGISTRATION	2BL27420	5	32
Contact glass	CONTACT GLASS	35912010	9	46
Slit glass	CONTACT GLASS, ADF	2AV12250	9	19
Mirror 1	MIRROR A	2AV12150	9	9
Mirror 2 and mirror 3	MIRROR B	2AV12160	9	10
Exposure lamp	LAMP, SCANNER	2AV12100	9	4
Original size detection switch	SENSOR, ORIGINAL	35927290	9	53
Transfer roller unit	TR-700 TRANSFER ASS'Y	5PLPXHLAPKX	7	25
Developing unit	DEVELOPER ASS'Y	2BJ93010	13	1
Drum unit	DRUM ASS'Y	2BJ93020	15	1
Main charger unit	MC ASS'Y	2BL93090	15	48
Fixing unit	FIXING ASS'Y 120	2BJ93040	14	-
	FIXING ASS'Y 230	2BJ93050	14	-
Press roller separation claw	CLAW, PRESS ROLLER	2BL20350	6	8
Eject roller	ROLLER EXIT	2BL21020	8	4
Switchback roller	ROLLER FEED SHIFT	2BL21030	8	3
Eject pulley	PULLEY EXIT B	2BL21520	8	37
Switchback pulley	PULLEY FEED SHIFT	2BL21330	6	2

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	Upper/lower paper feed pulley	Replace	Every service	Replace.	1-6-3
	Upper/lower separation pulley	Replace	Every service	Replace.	1-6-3
	Upper/lower forwarding pulley	Replace	Every service	Replace.	1-6-3
	Bypass paper feed pulley	Replace	Every service	Replace.	1-6-5
	Bypass separation pulley	Replace	Every service	Replace.	1-6-5
	Bypass forwarding pulley	Replace	Every service	Replace.	1-6-5
	Bypass feed roller 1	Clean	Every service	Clean with alcohol or a dry cloth.	
	Bypass feed roller 2	Clean	Every service	Clean with alcohol or a dry cloth.	
	Left registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Right registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Feed pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	Feed roller 1	Clean	Every service	Clean with alcohol or a dry cloth.	
	Feed roller 2	Clean	Every service	Clean with alcohol or a dry cloth.	
	Feed roller 3	Clean	Every service	Clean with alcohol or a dry cloth.	
	Registration switch	Clean	Every service	Clean with 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.	
	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 only if vertical black lines appear on the copy image.	
	Mirror 2 and mirror 3	Clean	Every service	Clean with alcohol and then a dry cloth only if vertical black lines appear on the copy image.	
	Lens	Clean	Every service	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Reflector	Clean	Every service	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Exposure lamp	Clean or replace	Every service	Replace if an image problem occurs.	
	Optical rail	Grease	Every service	Check noise and shifting and then apply scanner rail grease PG671.	
	Original size detection sensor	Clean	Every service	Clean the sensor emitter and receiver with alcohol or a dry cloth only if there is a problem.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Transfer/separation section	Transfer roller unit	Replace	Every service	Replace.	1-6-35



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Developing section	Developing unit	Replace	Every service	Replace.	1-6-34



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Main charging/drum section	Drum unit	Replace	Every service	Replace.	1-6-32



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Fixing section	Fixing unit Press roller separation claw	Replace Check, replace and clean	Every service Every service	Replace. Check and replace if it is deformed. Clean with alcohol after feeding 500,000 sheets.	1-6-36



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Eject section	Eject roller Eject pulley Switchback roller Switchback pulley	Clean Clean Clean Clean	Every service Every service Every service Every service	Clean with alcohol or a dry cloth. Clean with alcohol or a dry cloth. Clean with alcohol or a dry cloth. Clean with alcohol or a dry cloth.	



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

Paper feed desk

Name used in service manual	Name used in installation guide	Part No.
Retainer	Retainer	3AT02150
Pin	Pin	74315200
CVM4 × 06 cross-head chromate binding screw	Cross-head chromate binding screw, CVM4 × 06	B1004060
Stay	Stay	3AT02250
M4 × 10 chrome TP screw	Chrome TP screw, M4 × 10	B4104100

Facsimile System

Name used in service manual	Name used in installation guide	Part No.
Fax board	Fax board	3CM01020
Auxiliary power source PCB (100 V)	Auxiliary power source PCB (100 V)	3CM01030
Auxiliary power source PCB (200 V)	Auxiliary power source PCB (200 V)	3CM01040
Fax kit label sheet	Fax kit label sheet	3CM05010
Certification label (120 V only)	FCC68 label sheet (120 V only)	3CM05040
Certification label (120 V only)	LINE IC label sheet (120 V only)	3CM05030
NCU retainer	NCU retainer	3CM26010
Auxiliary power source retainer	Auxiliary power source retainer	3CM26020
Fax cable	Fax cable	3CM27010
Fax-PCB-Power cable	Fax-PCB-Power cable	3CM27040
NCU board (N.A.)	NCU board (N.A.)	3CM01030
NCU board (CTR)	NCU board (CTR)	3CM01040
NCU board (EUG)	NCU board (EUG)	3CM01050
NCU cable	NCU cable	2AW27020
Battery pack	Battery pack	2AW27070
Speaker	Speaker	35427120
Modular connector cable (120 V only)	"B" Modular connector cable (120 V only)	76727300
M3 × 06 chrome binding screw	+TP-A chrome binding screw M3 × 06	B4103060
Upper-sheet	Upper-sheet	3CM26030
Lower-sheet	Lower-sheet	3CM26040

Network facsimile System

Name used in service manual	Name used in installation guide	Part No.
Fax board	Fax board	3DB01010
Auxiliary power source PCB assembly (100 V)	Auxiliary power source PCB assembly (100 V)	3CM01030
Auxiliary power source PCB assembly (200 V)	Auxiliary power source PCB assembly (200 V)	3CM01040
Fax kit label sheet	Fax kit label sheet	3CM05010
Certification label (120 V only)	FCC68 label sheet (120 V only)	3CM05040
Certification label (120 V only)	LINE IC label sheet (120 V only)	3CM05030
Modular connector cable (120 V only)	"B" Modular connector cable (120 V only)	76727300
M3 × 06 chrome binding screw	+TP-A chrome binding screw M3 × 06	B4103060
Fax cable	Fax cable	3CM27010
Fax-PCB-Power cable	Fax-PCB-Power cable	3CM27040
NCU board assembly (N.A.)	NCU board assembly (N.A.)	3B101030
NCU board assembly (CTR)	NCU board assembly (CTR)	3B101040
NCU cable	NCU cable	2AW27020

Printing System

Name used in service manual	Name used in installation guide	Part No.
Clamp	Clamp, CKN-05	M2105890
Band	Band	M2307010

Scanning System

Name used in service manual	Name used in installation guide	Part No.
RTC board	RTC board	3CS01010
Scanner board	Scanner board	3B301010
CD-ROM (scanner)	CD-ROM (scanner)	3B327010
CD-ROM (document processing)	CD-ROM (document processing)	3BJ27060

Duplex unit

Name used in service manual	Name used in installation guide	Part No.
Nut plate	Nut plate	2BL07120
M3 × 10 bronze binding screw	M3 × 10 bronze binding screw	B1303100

Built-in finisher

Name used in service manual	Name used in installation guide	Part No.
Large ejection cover	Large ejection cover	3B504020
Front ejection cover	Front ejection cover	3B504080
Rear ejection cover	Rear ejection cover	3B504090
Flat spring ejection	Flat spring ejection	3B502050
+TP-A chrome screw M3 × 05	+TP-A chrome screw M3 × 05	B4103050
+TP-A bronze screw M3 × 05	+TP-A bronze screw M3 × 05	B4303050

Job separator

Name used in service manual	Name used in installation guide	Part No.
Job separator tray	Job separator tray	3B620030
Left front cover JS	Left front cover JS	3B604010
+TP-A bronze screw M3 × 05	+TP-A bronze screw M3 × 05	B4303050



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