



ECOSYS M3145dn
ECOSYS M3145idn
ECOSYS M3645dn
ECOSYS M3645idn
ECOSYS M3655idn
ECOSYS M3660idn

PF-3110

SERVICE MANUAL

Published in March 2018

Rev.1

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

ATTENTION

IL Y A UN RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UN MODÈLE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISÉES SELON LES INSTRUCTIONS DONNÉES.

Il peut être illégal de jeter les batteries dans des eaux d'égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

Notation of products in the manual

For the purpose of this service manual, products are identified by print speed at A4.

Product name	Print speed	Type	FAX	LCD	120V	220-240V
ECOSYS M3145dn	45 ppm	Basic	-	5 Line LCD	-	○
ECOSYS M3145idn		HyPAS Low		7inch TSI	○	○
ECOSYS M3645dn		Basic	FAX	5 Line LCD	-	○
ECOSYS M3645idn		HyPAS Low		7inch TSI	○	○
ECOSYS M3655idn	55 ppm	HyPAS			○	○
ECOSYS M3660idn	60 ppm	High			○	○

Revision history

Revision	Date	Pages	Revised contents
1	20 March 2018	-	Changes due to model addition ECOSYS M3145dn ECOSYS M3145idn ECOSYS M3645dn ECOSYS M3645idn



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 (\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 power 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. 
- Keep the machine away from flammable liquids, gases, and aerosols. A fire or an electric shock might occur. 

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1 Specifications

1 - 1 Specifications

(1) Common function

Item		Description	
		45 ppm	55/60 ppm
Type		Desktop	
Printing Method		Electrophotography by semiconductor laser	
Paper Weight	Cassette	60 to 120 g/m ²	
	Multi Purpose Tray	60 to 220g/m ² , 209.5 g/m ² (Cardstok) 136 to 163g/m ² (Banner sheet)	
Paper Type	Cassette	Plain, Rough, Recycled, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, High Quality, Custom 1 to 8 (Duplex: Same as Simplex)	
	Multi Purpose Tray	Plain, Transparency (OHP film), Rough, Vellum, Labels, Recycled, Preprinted, Bond, Cardstock, Color (Colour), Prepunched, Letterhead, Envelope, Thick, High Quality, Custom 1 to 8	
Paper Size	Cassette	A4, A5, A5 (Landscape)*1, A6*1, B5, B6*1, Letter, Legal, Statement, Statement (Landscape)*1, Executive, Oficio II, Folio, 216 × 340 mm, 16K, B5 (ISO), Envelope DL*1, Envelope C5, Oufuku Hagaki (Return postcard)*1, Custom (ECOSYS M3145idn/ECOSYS M3645idn: 140 × 148 to 216 × 356 mm, ECOSYS M3655idn/ECOSYS M3660idn: 105 × 148 to 216 × 356 mm)	
	Multi Purpose Tray	A4, A5, A5 (Landscape), A6, B5, B6, Folio, 216 × 340 mm, Letter, Legal, Statement, Statement (Landscape), Executive, Oficio II, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Hagaki (Cardstock), Oufuku Hagaki (Return postcard), Youkei 4, Youkei 2, Custom (70 × 148 mm to 216 × 356 mm), Banner sheet (216 × 356.1 mm to 216 × 915 mm)	
Warm-up Time (23°C/73.4°F, 60%)	Power on	(HyPAS) 21 sec or less (Basic) 16 sec or less	25 sec or less
	Low power mode	10 sec or less	
	Sleep	15 sec or less	25 sec or less
Paper Capacity	Cassette	500 sheets (80 g/m ²) *2	
	Multi Purpose Tray	100 sheets (80 g/m ²)	
Output Tray Capacity	Inner tray	250 sheets (80 g/m ²)	500 sheets (80 g/m ²)
Image Write System		Semiconductor laser and electro photography	
Photoconductor		a-Si drum (diameter 30 mm)	
Charging system		Contact charger roller method	
Developer system		Mono component dry developing method Toner replenishing: Automatic from the toner container	
Transfer system		Transfer roller method	
Separation system		Small diameter separation, separation needle	
Cleaning system		Counter blade cleaning + cleaning roller	
Charge erasing system		Exposure by eraser (LED)	
Fusing system		Heat and pressure fusing with the heat roller and the press roller Heat source: halogen heater Abnormally high temperature protection devices: thermostat	
CPU		ARM Contrex-A9 1200MHz + ARM Contrex-M3 100MHz	
Main Memory	Standard	1,024 MB	
	Max	3,072 MB	

Item		Description	
		45 ppm	55/60 ppm
Interface	Standard	USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T) USB Port: 2 (Hi-Speed USB) Fax: 1 (FAX model only)	
	Option	eKUIO: 1	
Operating Environment	Temperature	10 to 32.5°C/50 to 90.5°F	
	Humidity	15 to 80 %	
	Altitude	3,500 m/11,482 ft maximum	
	Brightness	1,500 lux maximum	
Dimension (W × D × H)		475×476×575mm / 18.71" × 18.74" × 22.64"	480 × 495 × 590mm / 18.9" × 19.49" × 23.24"
Weight (Not include toner container)		(HyPAS) Approx. 22.5 kg / Approx. 48.5 lb (Basic) Approx. 22.3kg / Approx. 49.16 lb	Approx. 24.1kg / Approx. 51.4 lb
Space Required (W × D) (Using multi purpose tray)		475×666mm / 18.71" × 26.23"	480 × 685 mm / 18.9" × 26.97"
Rated input		AC120V, 60Hz, 10.0 A AC220-240V, 50/60Hz, 5.6 A	AC 120 V, 60 Hz, 10.0 A AC 220-240 V, 50/60 Hz, 5.6 A

*1 55/60 ppm model only

*2 Up to upper limit height line in the cassette.

(2) Copy function

Item		Description		
		45 ppm	55 ppm	60 ppm
Copy Speed	A4	45 sheets/min	55 sheets/min	60 sheets/min
	Letter	47 sheets/min	57 sheets/min	62 sheets/min
	Legal	38 sheets/min	46 sheets/min	50 sheets/min
	B5	36 sheets/min	44 sheets/min	48 sheets/min
	A5	23 sheets/min	29 sheets/min	32 sheets/min
	A5 (Landscape)	-	55 sheets/min	60 sheets/min
	Statement	-	29 sheets/min	32 sheets/min
	Statement (Landscape)	23 sheets/min	57 sheets/min	62 sheets/min
A6	--	29 sheets/min	32 sheets/min	
First Copy Time (A4, place on the platen, feed from Cassette)		7 seconds or less		
Zoom Level		Manual mode: 25 to 400%, 1% increments Auto mode: Preset Zoom		
Continuous Copying		1 to 999 sheets		
Resolution		600 × 600 dpi		
Supported Original Types		Sheet, Book, 3-dimensional objects (maximum original size: Legal / Folio)		
Original Feed System		Fixed		

(3) Printer function

Item	Description	
	45 ppm	55/60 ppm
Printing Speed	Same as Copying Speed.	
First Print Time (A4, feed from Cassette)	5.9 seconds or less (Excluding time for system stabilization immediately after turning on the main power.)	4.9 seconds or less
Resolution	Fast 1200, Fine 1200, 600 dpi	
Operating System	Windows 7, Windows 8, Windows 8.1, Windows 10, Windows Server 2008/R2, Windows Server 2012/R2, Windows Server 2016 Mac OS 10.5 or later	
Interface	USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T) Optional Interface (Option): 1 (For IB-50/IB-51 mounting) Wireless LAN (Option): 1 (For IB-36 mounting) Parallel Interface (Option):1 (For IB-32B mounting)	
Page Description Language	PRESCRIBE	
Emulation	PCL6 (PCL-XL, PCL5e), KPDL3, XPS, Open XPS, TIFF/JPEG, IBM Proprinter, LQ-850, LinePrint	

(4) Scanner function

Item	Description		
	45 ppm	55/60 ppm	
Resolution	600 dpi, 400 dpi, 300 dpi, 200×400 dpi, 200 dpi, 200×100 dpi		
File Format	TIFF (MMR/JPEG compression), JPEG, PDF (MMR/JPEG compression), XPS, PDF/A, High compressive PDF, Encrypted PDF, OPEN XPS, MS Office*1, Searchable PDF*1*2		
Scanning Speed *3	(A4 landscape, 200 dpi, Image quality: Text/ Photo original)	1-sided B/W 60 Images/min Color 40 Images/min 2-sided B/W 26 Images/min Color 17 Images/min	1-sided B/W 60 Images/min Color 45 Images/min 2-sided B/W 100 Images/min Color 74 Images/min
	(A4 landscape, 300 dpi, Image quality: Text/ Photo original)	1-sided B/W 60 Images/min Color 40 Images/min 2-sided B/W 26 Images/min Color 17 Images/min	1-sided B/W 60 Images/min Color 40 Images/min 2-sided B/W 100 Images/min Color 64 Images/min
Interface	Ethernet (10BASE-T/100BASE-TX/1000BASE-T), USB		
Network protocol	TCP/IP		
Transmission system	SMB, SMTP, FTP, FTP over SSL, USB, TWAIN *4, WIA *4, WSD		

*1 When the optional OCR Scan Activation Kit is installed.

*2 Microsoft Office 2007 or later

*3 When using the document processor (except TWAIN and WIA scanning)

*4 Available Operating System: Windows Server 2008/Windows Server 2008 R2/Windows 7/Windows 8/Windows 8.1/
Windows 10/Windows Server 2012/Windows Server 2012 R2/Windows Server 2016

(5) Document processor

Item	Description	
	45 ppm	55 / 60 ppm
Scanning Method	Automatic 2-Sided	dual scan
Supported Original Types	Sheet originals	
Paper Size	Maximum	216 × 355.6 mm / 8.5" × 14" (Long sized 216 × 915 mm)
	Minimum	105 mm × 148 mm / 4.13" × 5.82"
Paper Weight	1-sided: 50 to 120 g/m ² 2-sided: 50 to 120 g/m ²	
Loading Capacity	75 sheets (50 to 80 g/m ²) maximum*1	100 sheets (50 to 80 g/m ²) maximum *1

*1: Up to upper limit height line in the document processor

(6) Paper Feeder (500-sheet) (Option)

Item	Description
Paper Supply Method	Friction roller feeder (No. Sheets: 500, 80 g/m ²)
Paper Size	A4, A5, A5 (Landscape)*1, B5, B6, Folio, Letter, Legal, Statement, Statement (Landscape)*1, Executive, Oficio II, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Oufuku Hagaki (Return postcard), Youkei 4, Youkei 2, Custom (92 × 162 to 216 × 356 mm)
Supported Paper	Paper weight: 60 to 120 g/m ² Media types: Plain, Rough, Recycled, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, High Quality, Custom 1 to 8
Dimensions (W) × (D) × (H)	380 × 410 × 121 mm / 14.97" × 16.16" × 4.77"
Weight	3.8 kg or less / 8.4 lbs. or less

*1 55/60 ppm model only

(7) Manual Stapler (Option)

Item	Description
Paper Weight	90 g/m ² or less
Number of stapled sheets *1	20 sheets (80 g/m ²) maximum, 15 sheets (90 g/m ² or less) maximum
Dimensions (W) × (D) × (H)	67 × 165 × 135 mm / 2.64" × 6.5" × 5.32"
Weight	0.6 kg or less / 1.4 lbs. or less

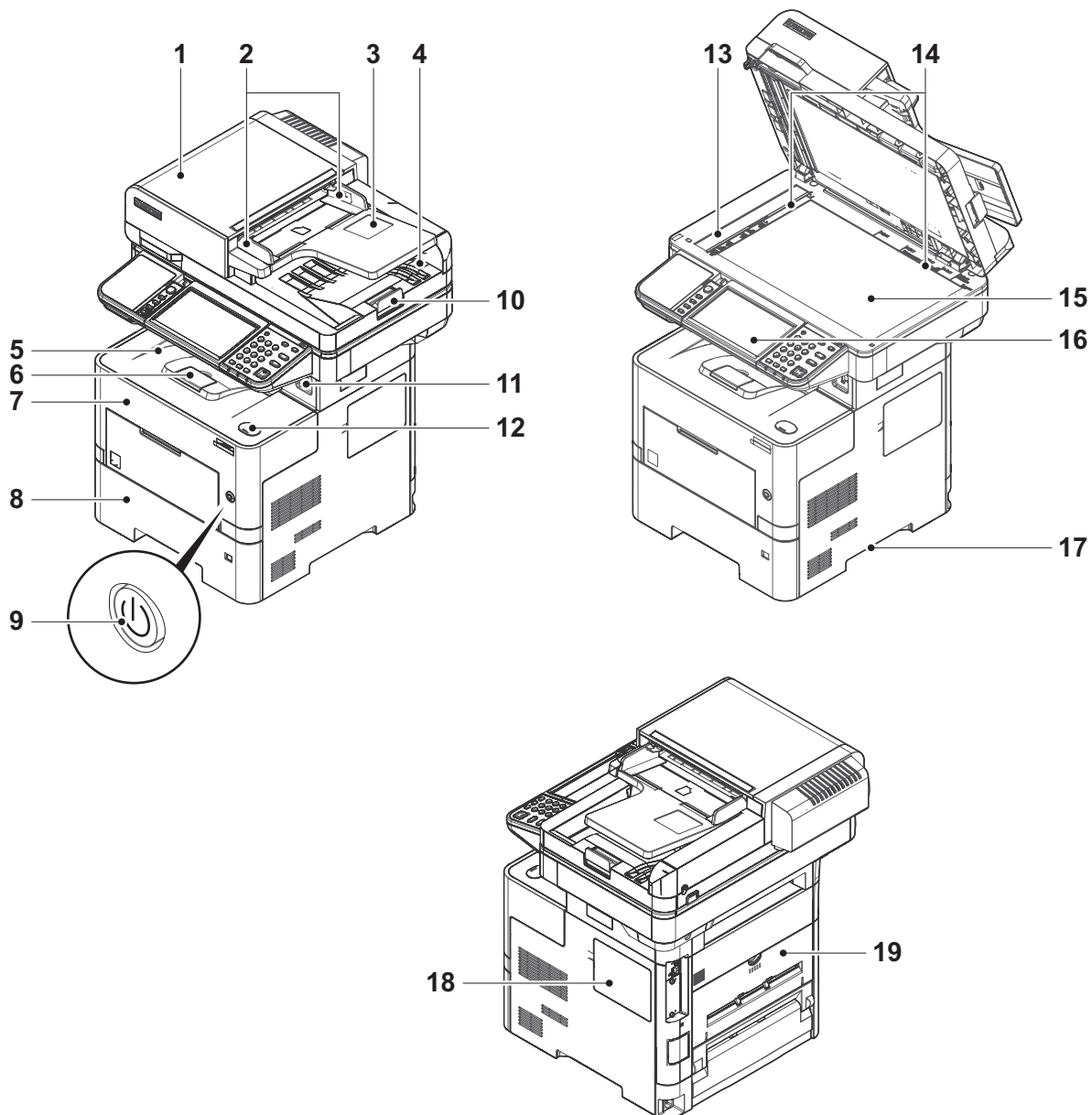
*1: Paper stack up to 2mm thick.

 **Note**

These specifications are subject to change without notice.

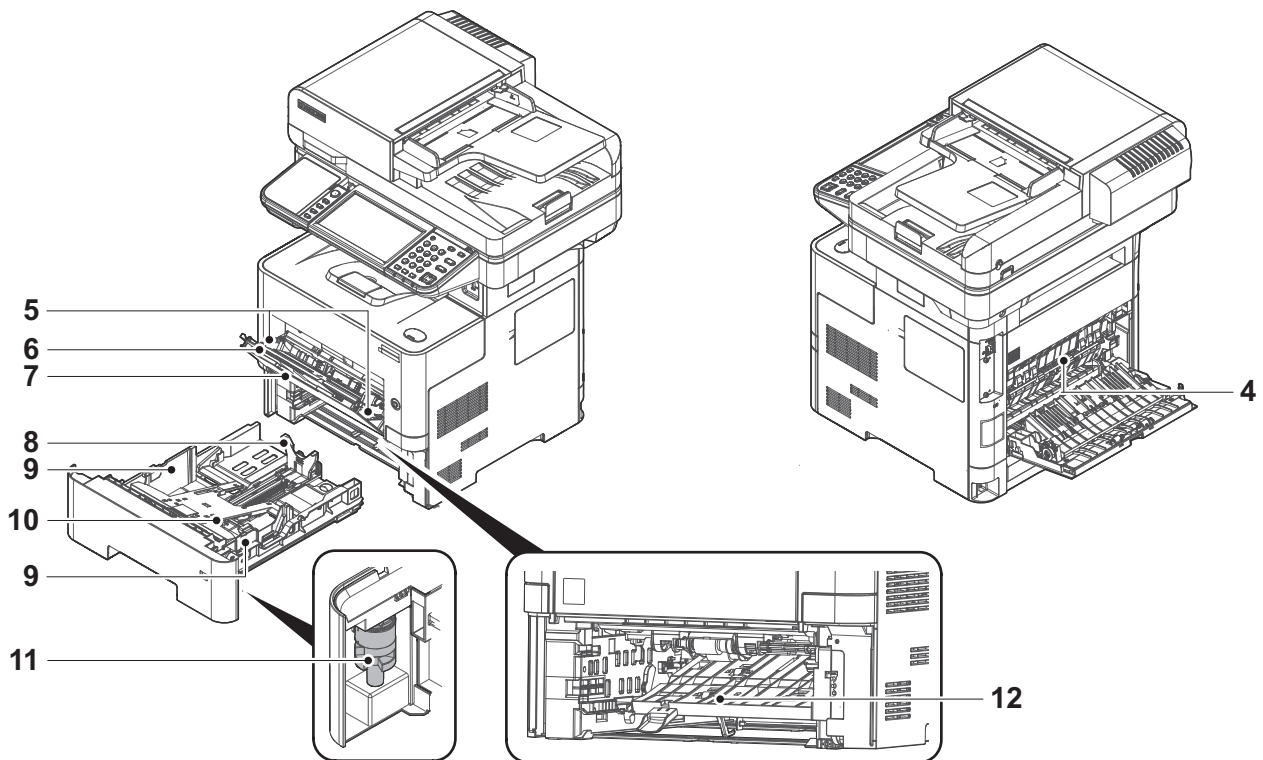
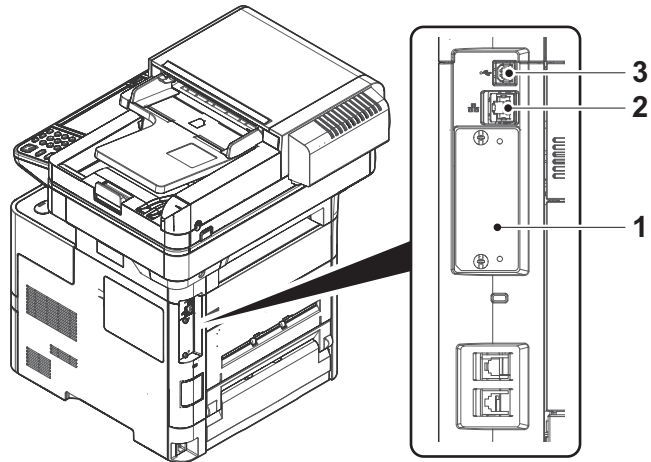
1 - 2 Parts names

(1) Main part appearance

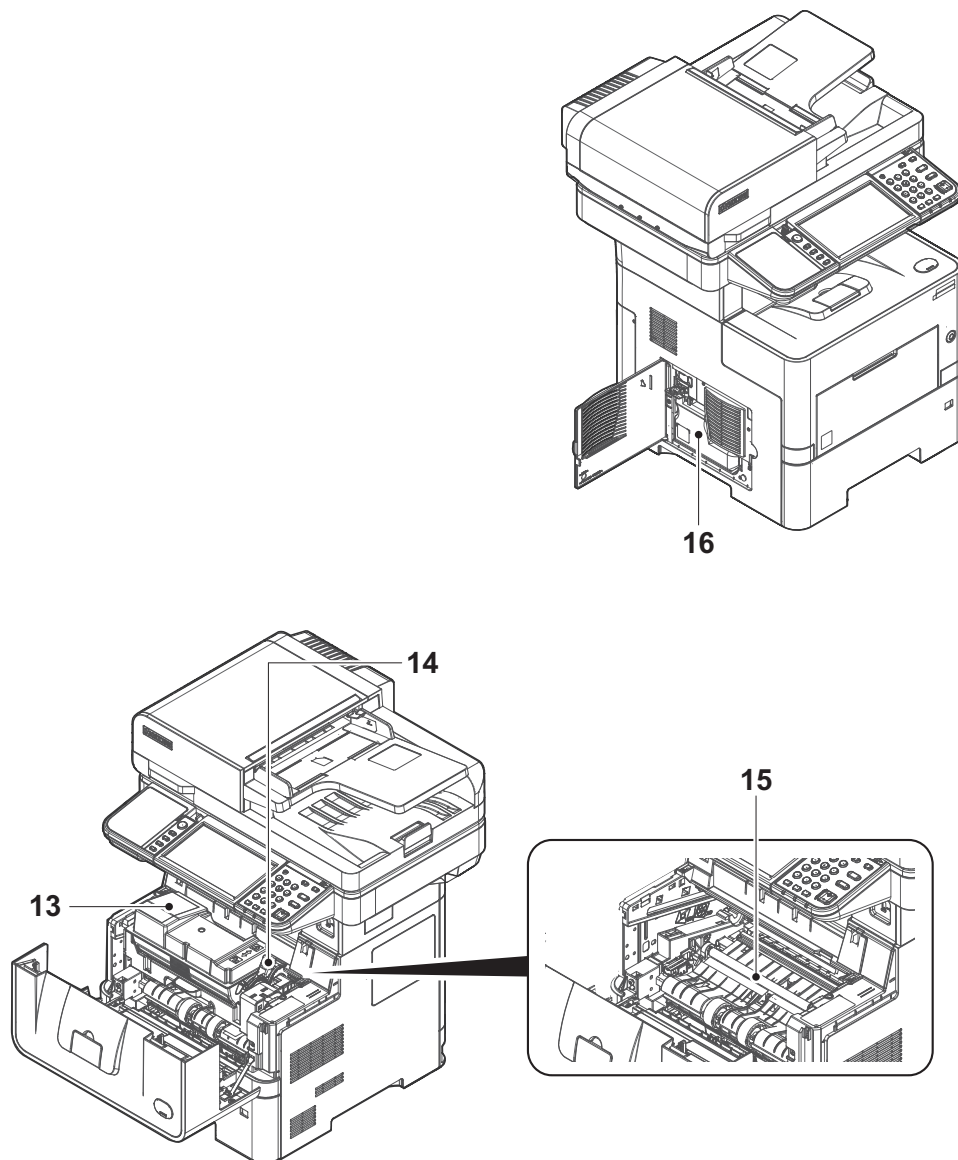


- | | |
|----------------------------------|-----------------------------------|
| 1 Document Processor | 11 USB Memory Slot |
| 2 Original Width Guides | 12 Front Cover Open Button |
| 3 Original Tray | 13 Slit Glass |
| 4 Original Eject Table | 14 Original Size Indicator Plates |
| 5 Inner Tray | 15 Contact Glass |
| 6 Eject Paper stopper | 16 Operation Panel |
| 7 Front Cover | 17 Handles |
| 8 Cassette1 | 18 Controller Cover |
| 9 Power Switch | 19 Rear Cover |
| 10 Original Stopper Compartments | |

(2) A connector and an inside



- | | |
|-------------------------------|----------------------|
| 1 Option Interface Slot | 8 Paper Length Guide |
| 2 Network Interface Connector | 9 Paper Width Guide |
| 3 USB Interface Connector | 10 Bottom Plate |
| 4 Fuser Cover | 11 Cassete Size Dial |
| 5 MP Paper Guides | 12 Duplex Cover |
| 6 MP Sub Tray | |
| 7 MP Tray | |



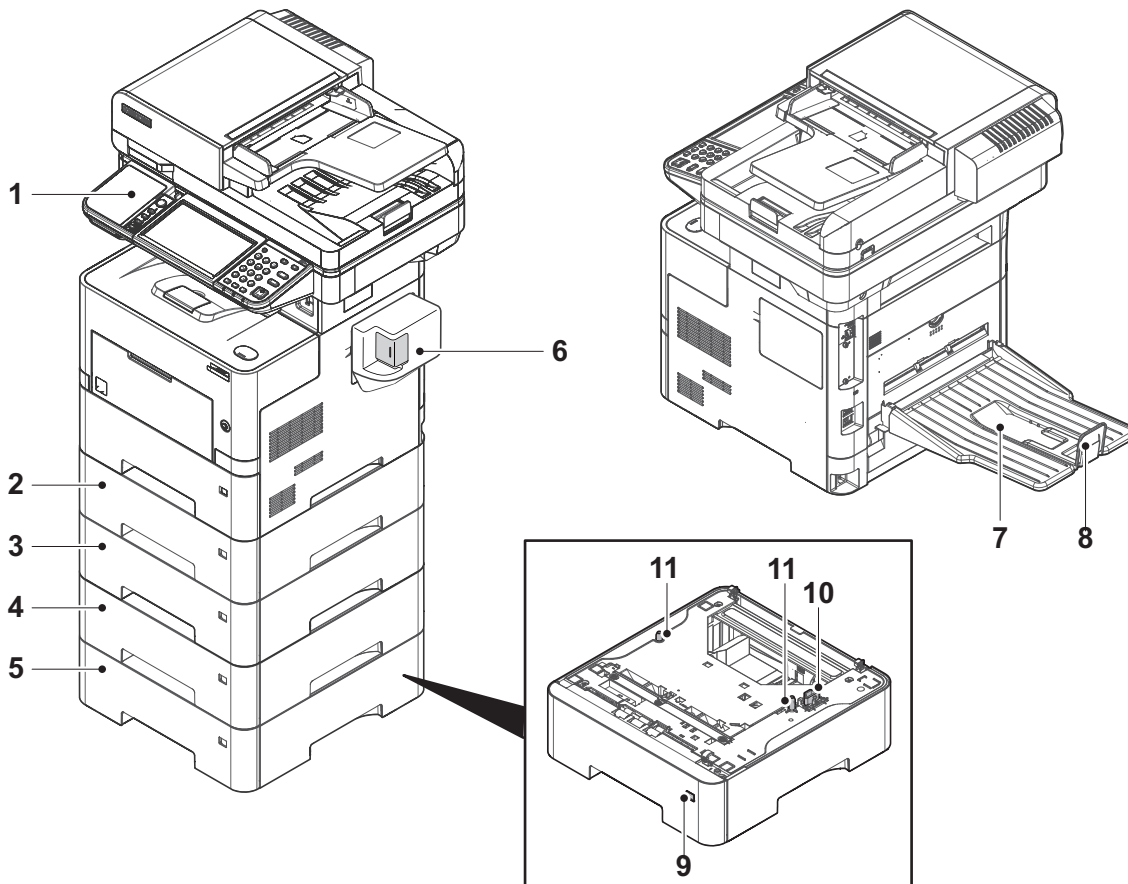
13 Toner Container

14 Toner Container Lock Lever

15 Registration roller

16 Waste Toner Box

(3) Option



- 1 Card Reader *2
- 2 Cassette 2
- 3 Cassette 3
- 4 Cassette 4
- 5 Cassette 5
- 6 Manual stapler *1

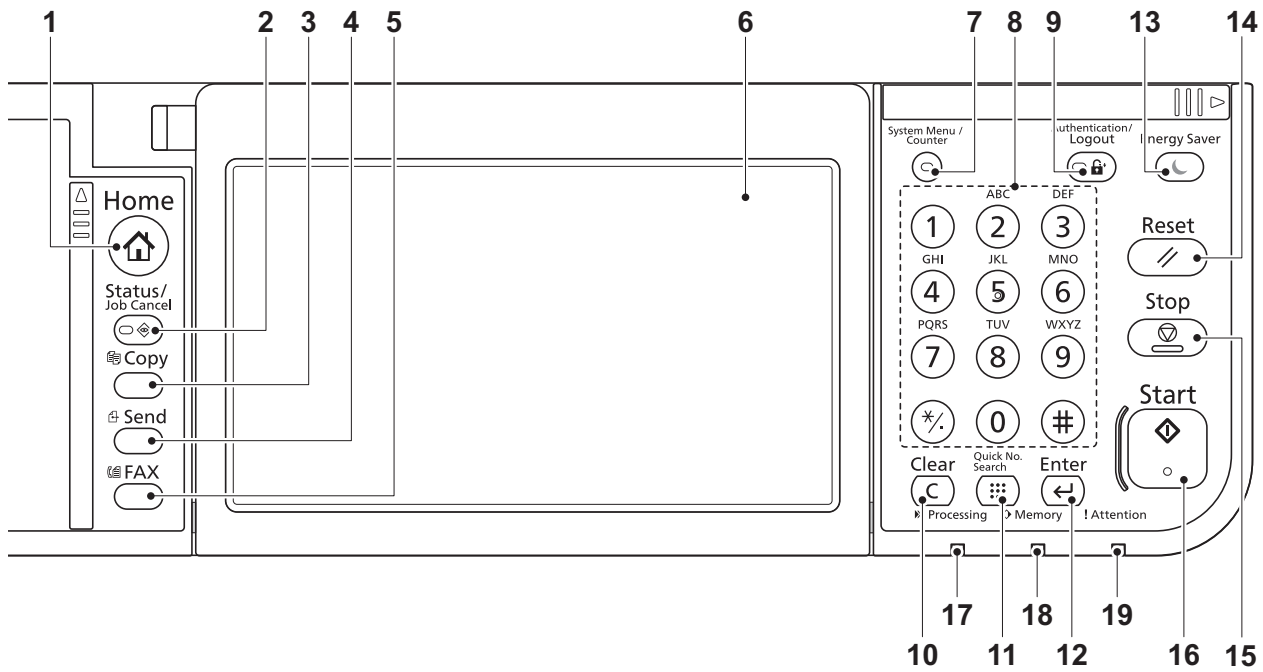
- 7 Faceup tray *1
- 8 Eject Paper Stopper *1
- 9 Paper size window
- 10 Interface connector
- 11 Pins

*1: 55/60 ppm model only

*2: HyPAS model only

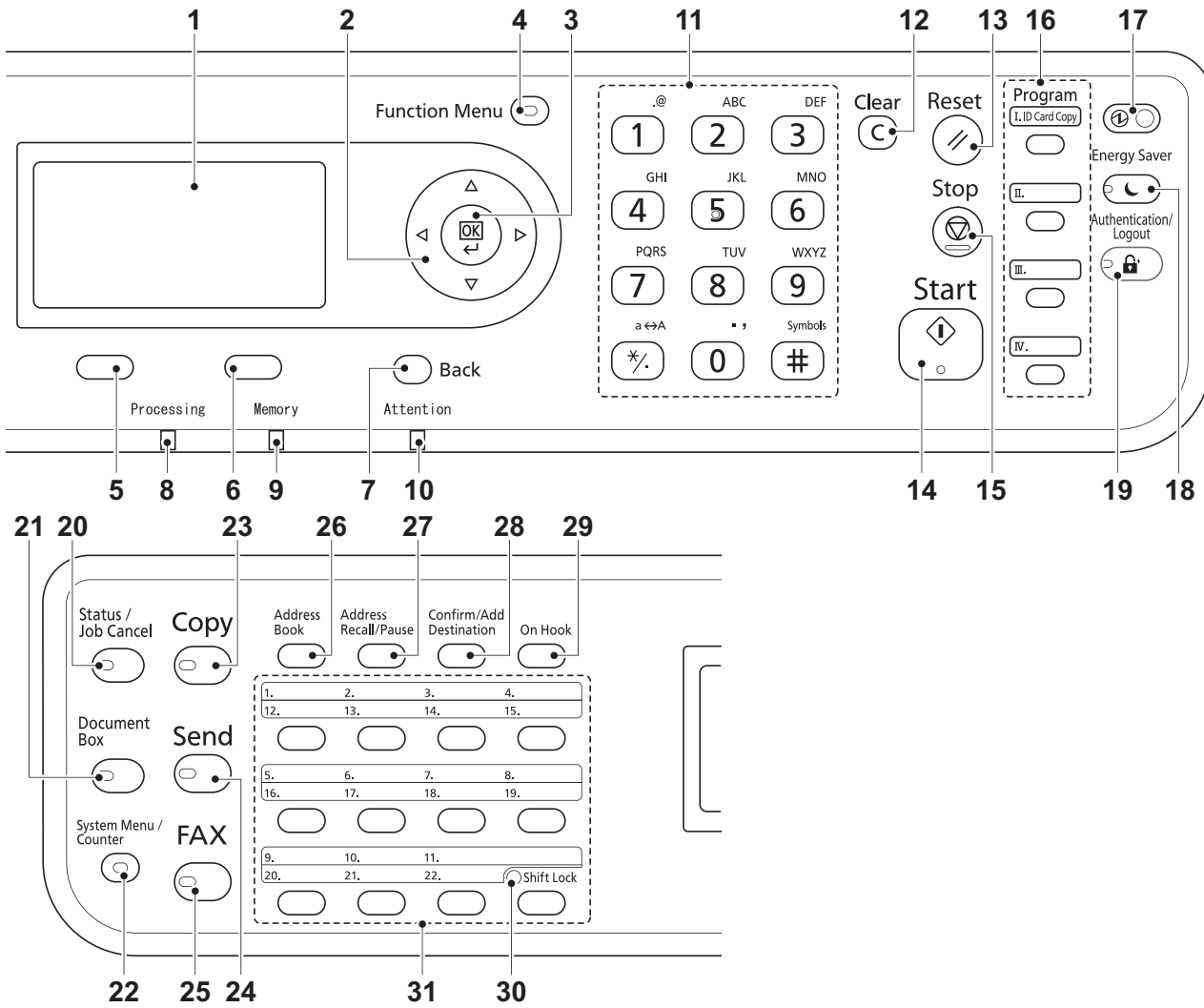
(4) Operation panel

(4-1)HyPAS model (7Inch TSI)



- | | |
|--------------------------------|-------------------------|
| 1 [Home] Key | 11 Quick No. Search key |
| 2 [Status/Job Cancel] key | 12 [Enter] key |
| 3 [Copy] key | 13 [Energy Saver] key |
| 4 [Send] key | 14 [Reset] key |
| 5 [FAX] key | 15 [Stop] key |
| 6 LCD | 16 [Start] key |
| 7 [System Menu/Counter] key | 17 Processing Indicator |
| 8 Numeric keys | 18 Memory Indicator |
| 9 [Authentication /Logout] key | 19 Attention Indicator |
| 10 [Clear] key | |

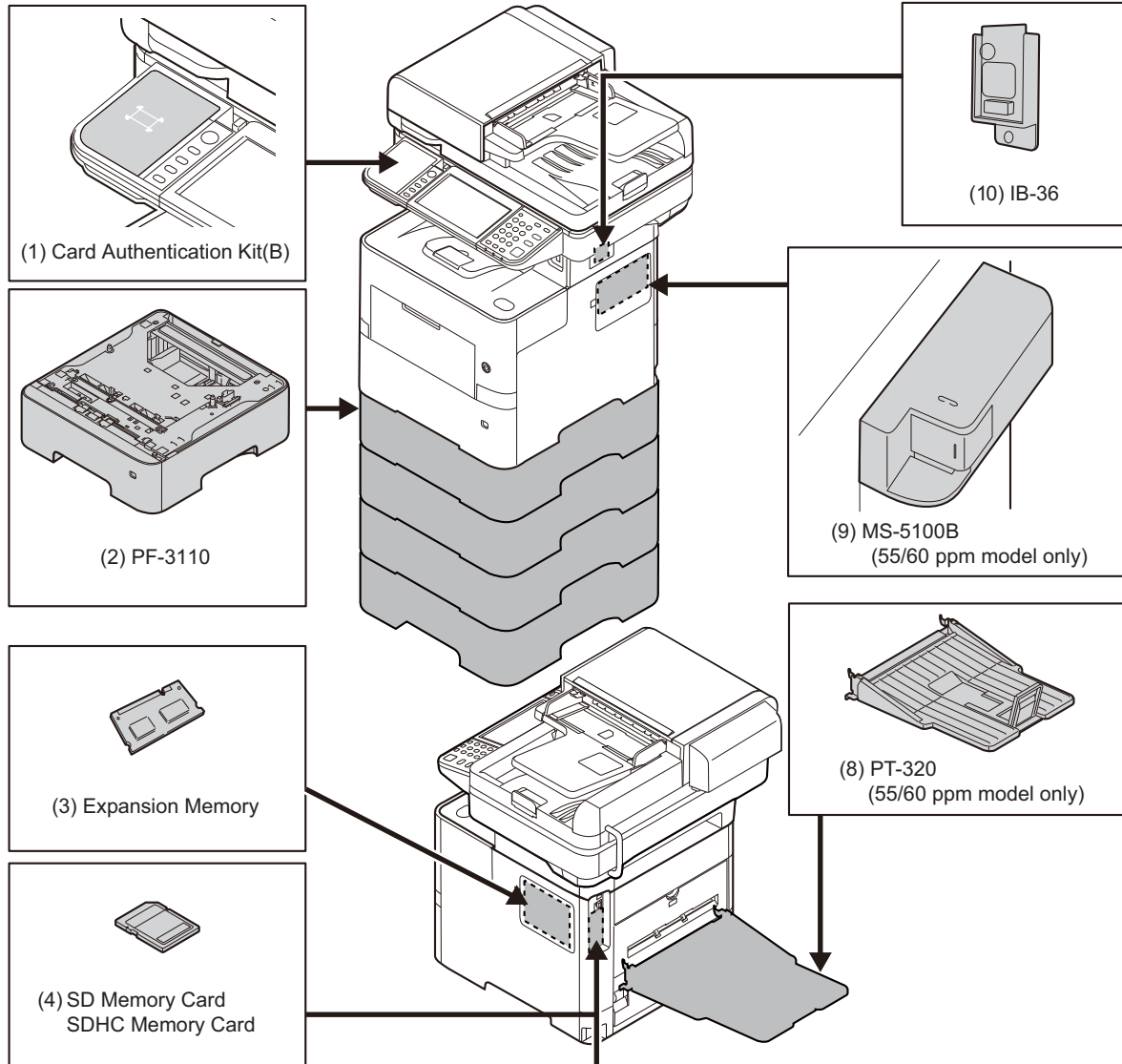
(4-2) Basic model (5 Line LCD)



- | | | |
|------------------------|--------------------------------|----------------------------------|
| 1 LCD | 12 [Clear] key | 23 [Copy]key |
| 2 [Arrow] key | 13 [Reset] key | 24 [Send] key |
| 3 [OK] key | 14 [Start] key | 25 [FAX] key |
| 4 [Function Menu] key | 15 [Stop] key | 26 [Address Book] key |
| 5 Select key(Left) | 16 [Program] key | 27 [Address Recall/Pause] key |
| 6 Select key(Right) | 17 Power Indication | 28 [Confirm/Add Destination] key |
| 7 [Back] key | 18 [Energy Saver] key | 29 [On Hook] key |
| 8 Processing Indicator | 19 [Authentication/Logout] key | 30 [Sift Lock] Indicator |
| 9 Memory Indicator | 20 [Status/Job Cancel] key | 31 One Touch key |
| 10 Attention Indicator | 21 [Document Box] key | |
| 11 Numeric keys | 22 [System Menu/Counter] key | |

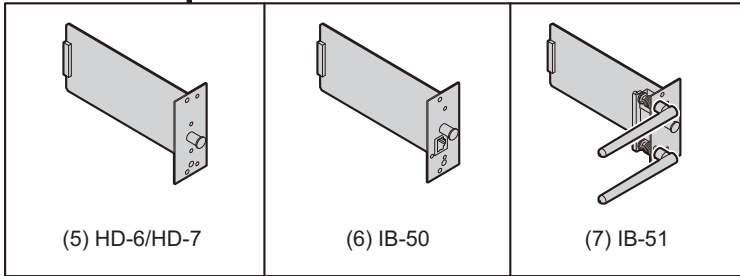
1 - 3 Option composition

The following optional equipment is available for the machine.



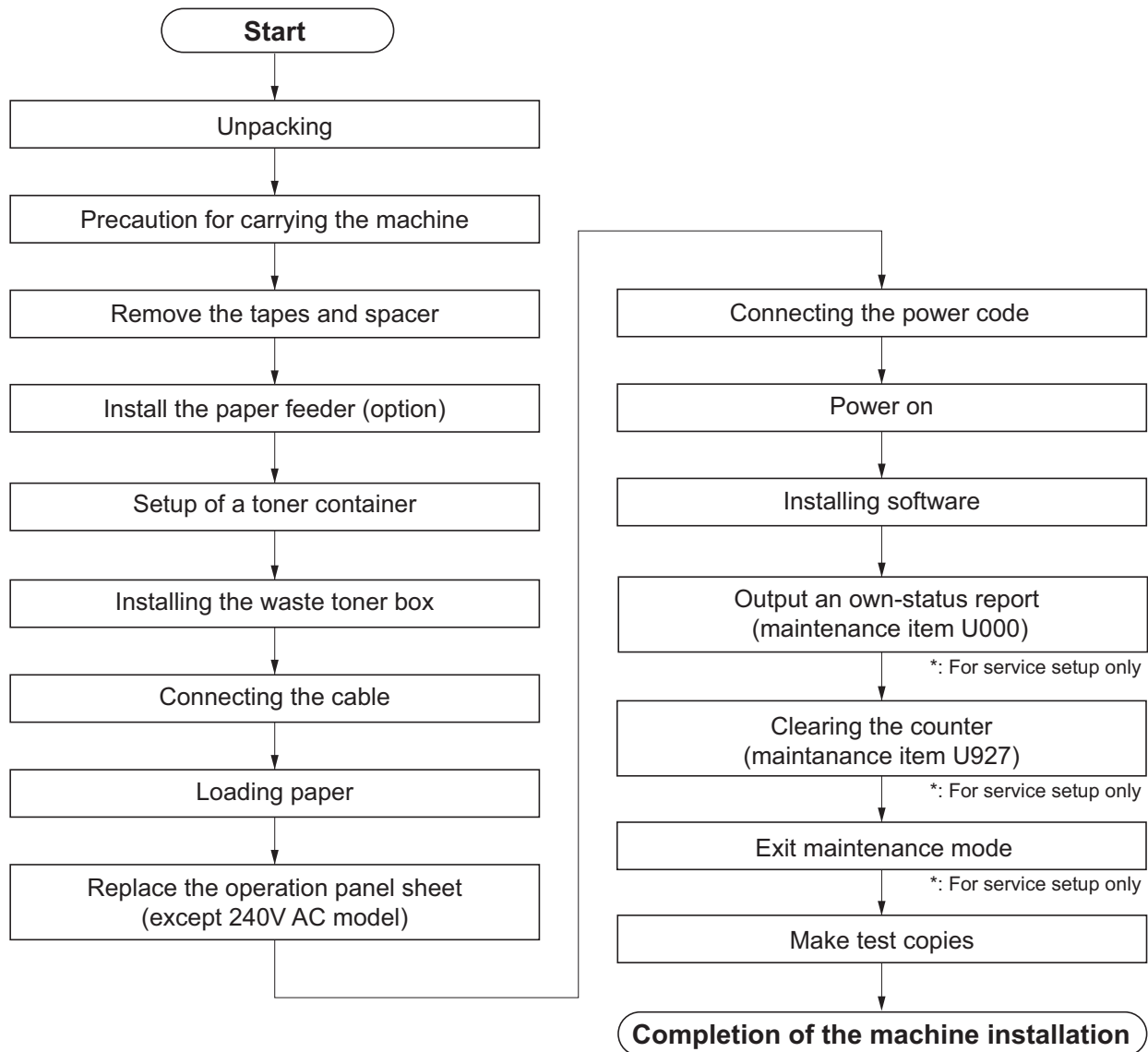
Software option
(11) Data Security Kit(E)
(12) UG-33
(13) Scan extension kit(A) (HyPAS model only)

(14) USB Keyboard

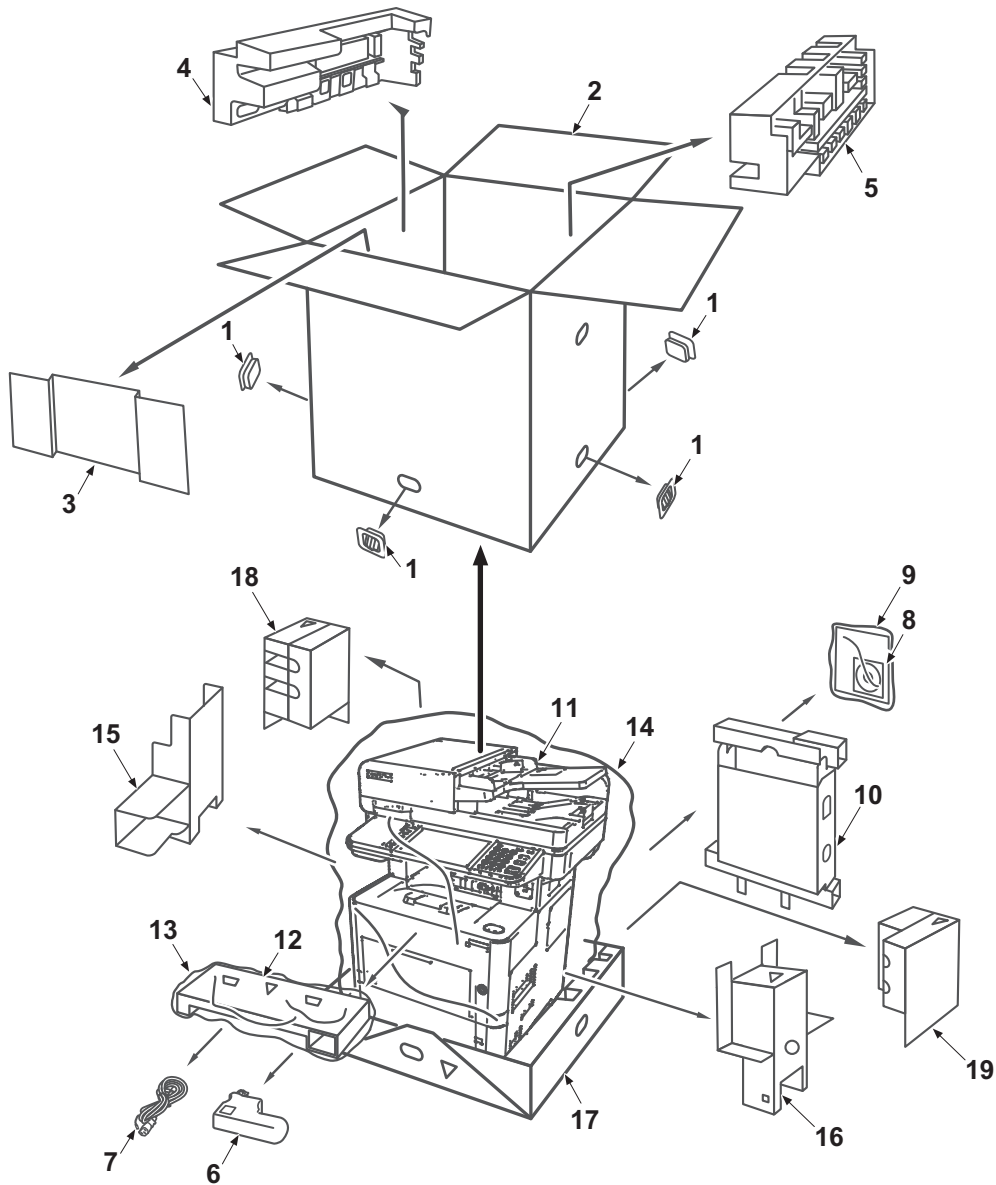


2 - 2 Unpacking and installation

Installation procedure



Unpacking



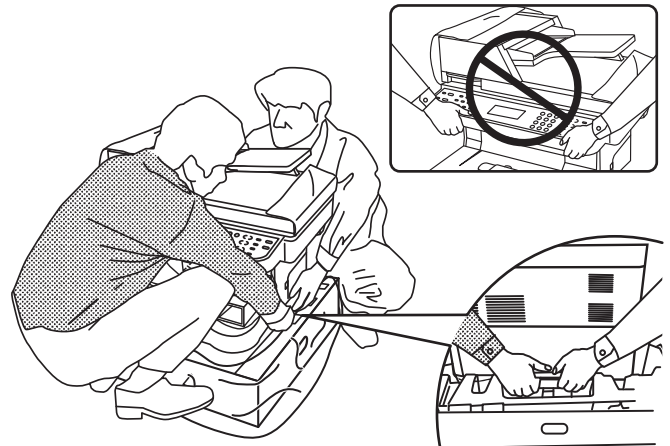
- | | | |
|-------------------|------------------------|--------------------|
| 1 Hinge joints | 8 Operation guide etc. | 15 Lower left pad |
| 2 Outer case | 9 Plastic bag | 16 Lower right pad |
| 3 Upper front pad | 10 Document tray | 17 Bottom case |
| 4 Upper left pad | 11 Main unit | 18 Rear left pad |
| 5 Upper right pad | 12 Inner pad | 19 Rear right pad |
| 6 Waste toner box | 13 Plastic bag | |
| 7 Power code | 14 Plastic bag | |

 **Note**

Place the machine on a level surface.

Precaution for carrying the machine

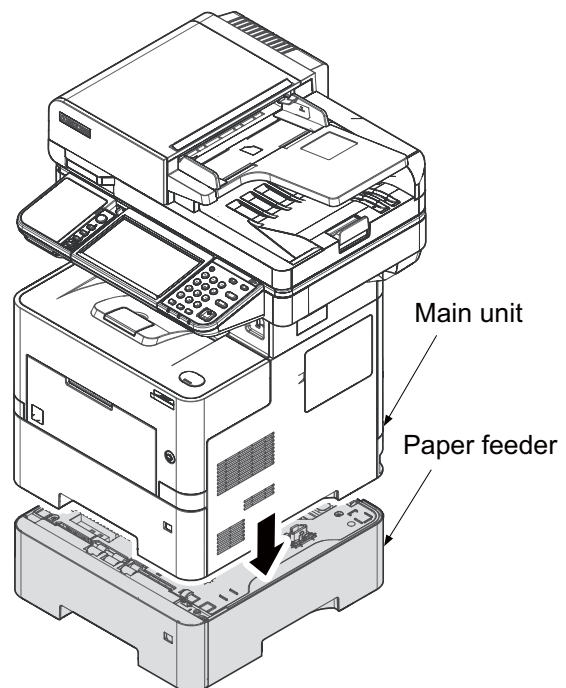
- Be sure to hold the both side of the lower part of the machine by two persons when carrying it, as shown in the figure.
- Don't have the operation panel part, because there is fear of breakage.

**Remove the tapes and spacer**

- Removed the packing components that a fixed tape and shock absorbing material etc. are.

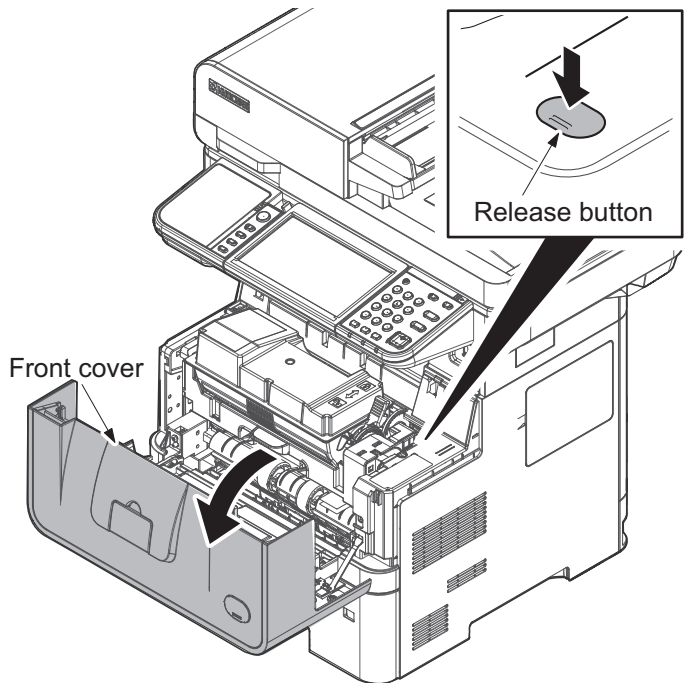
Install the paper feeder (option)

- 1 A main unit is carried on a paper feeder.
- Refer to the installation guide for the details of attachment.

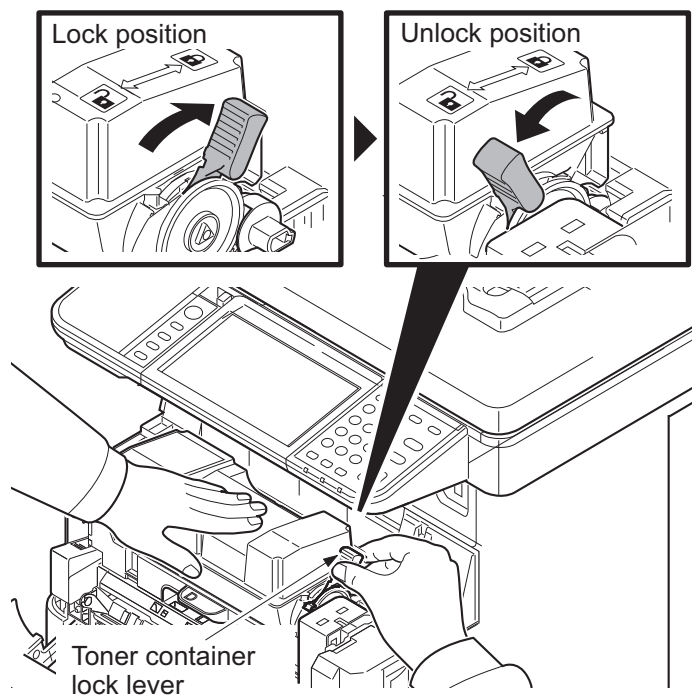


Setup of a toner container

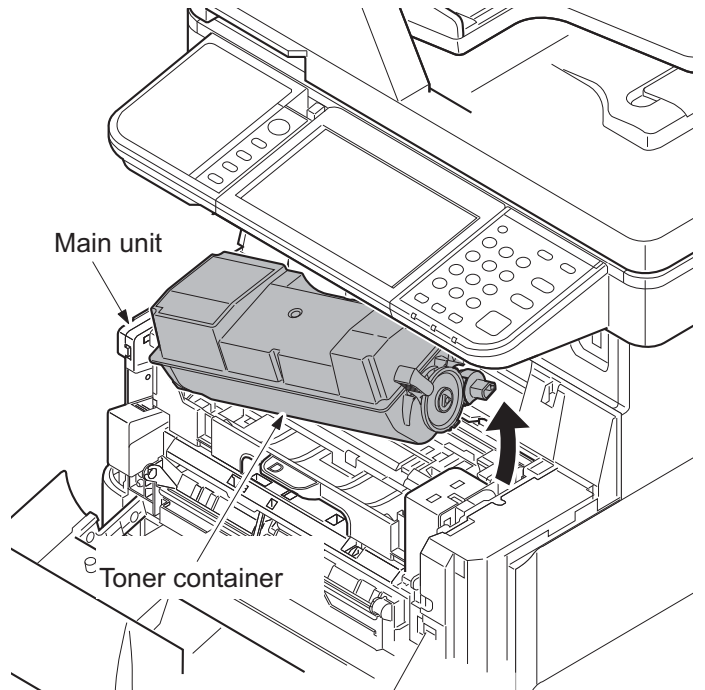
- 1 Push the release button down and open the front cover.



- 2 Rotate the toner container lock lever to the lock position and then the unlock position.

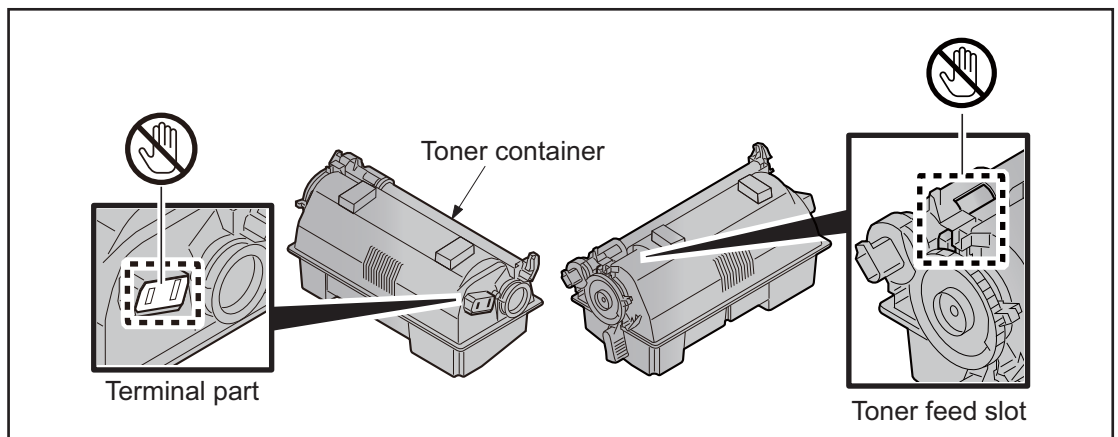
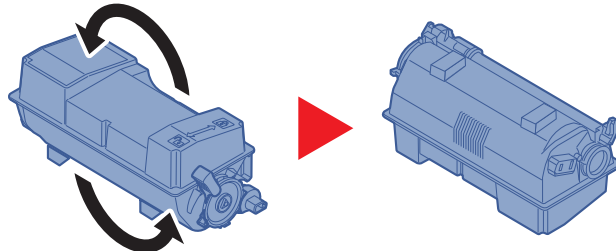


3 Remove the toner container from the main unit.

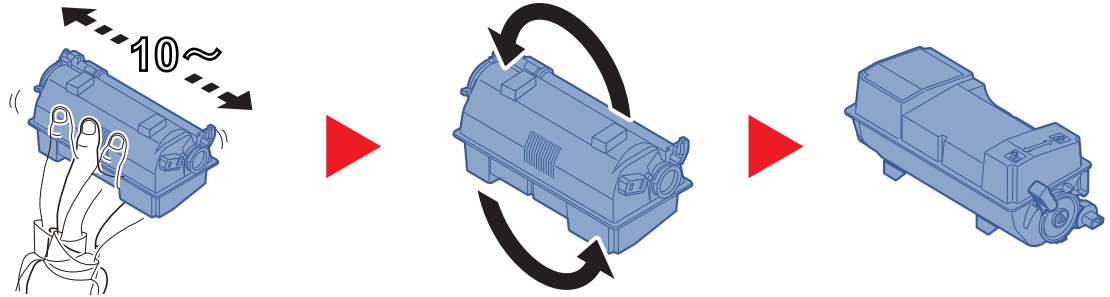


✔ Important

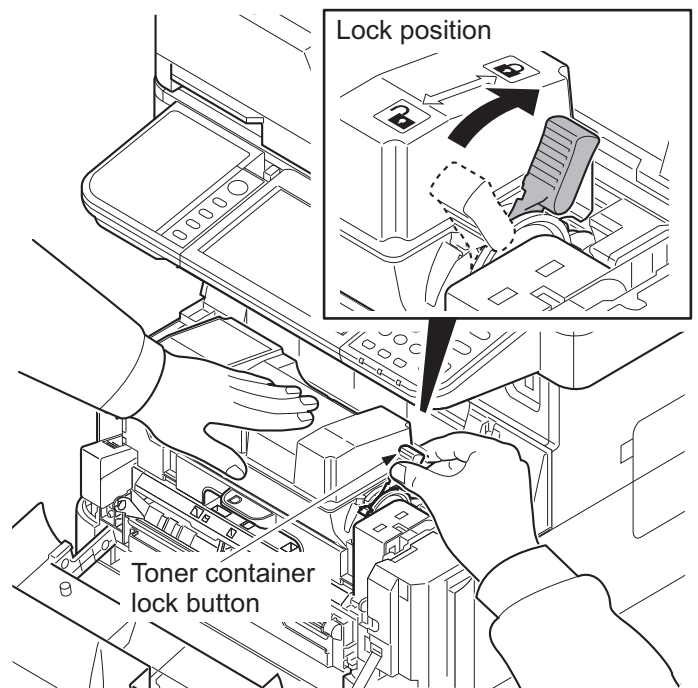
Caution: Do not press too firmly on the center of the toner container or touch the toner feed slot or the terminal parts.



- 4 Shake the turned toner container 10 times or more as shown in the figure in order to distribute the toner evenly inside the container.



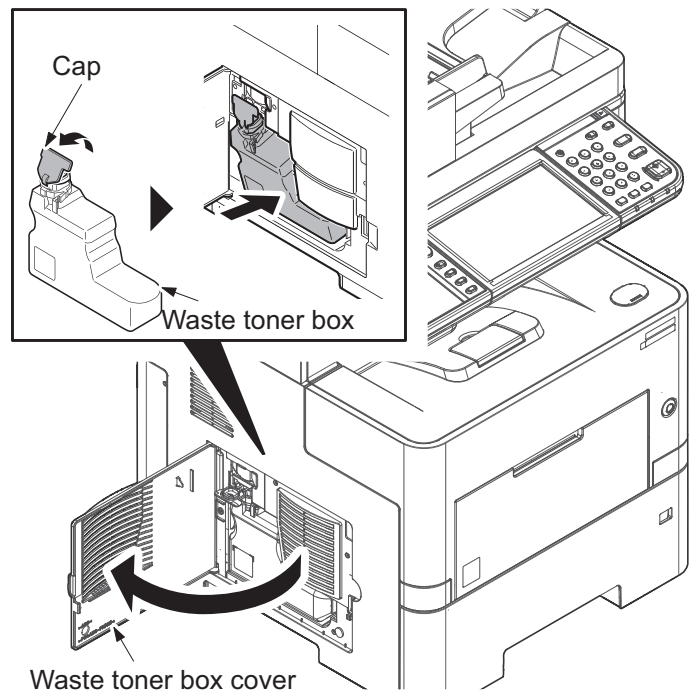
- 5 Set the toner container to the main unit and then turn the toner container lock lever to the lock position.
- 6 Close the front cover.



Installing the waste toner box

- 1 Open the waste toner box cover.
- 2 Open the cap of the waste toner box.

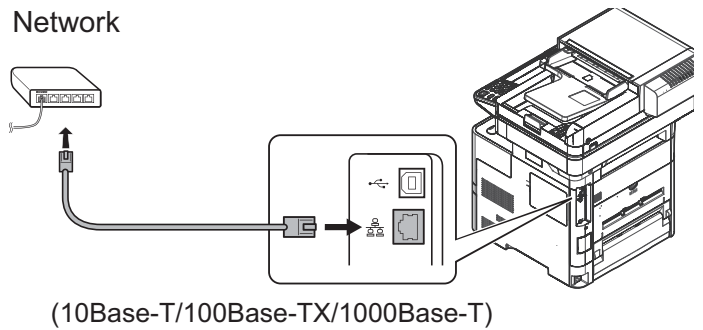
- 3 Install the waste toner box.
- 4 Close the waste toner box cover.



Connecting the cable

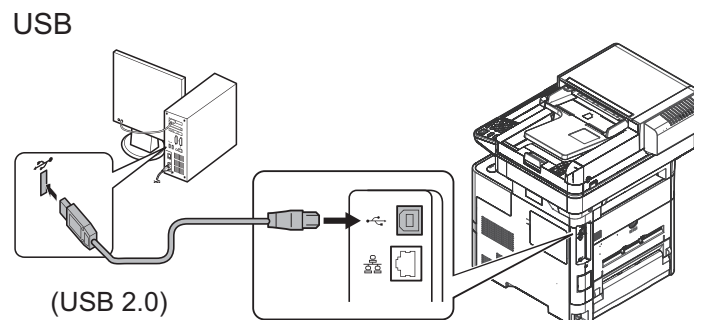
[Connecting at Network]

- 1 Connect the network cable to the network interface connector located on the back side of the main unit.
- 2 Connect the other end of the cable to the network router.



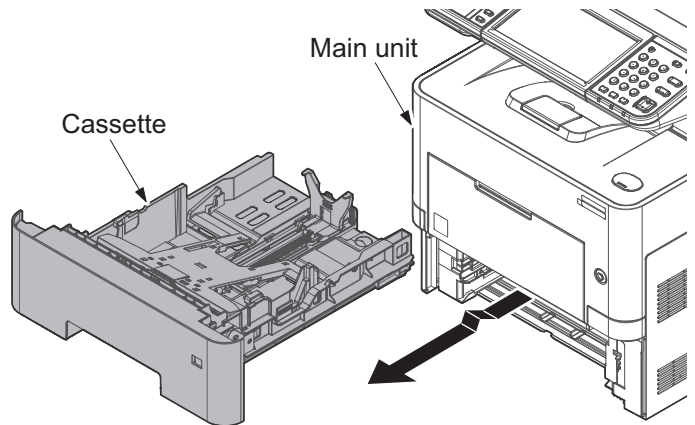
[Connecting at USB]

- 1 Connect the USB cable to the USB interface connector located on the back side of the main unit.
- 2 Connect the other end of the cable to the PC.

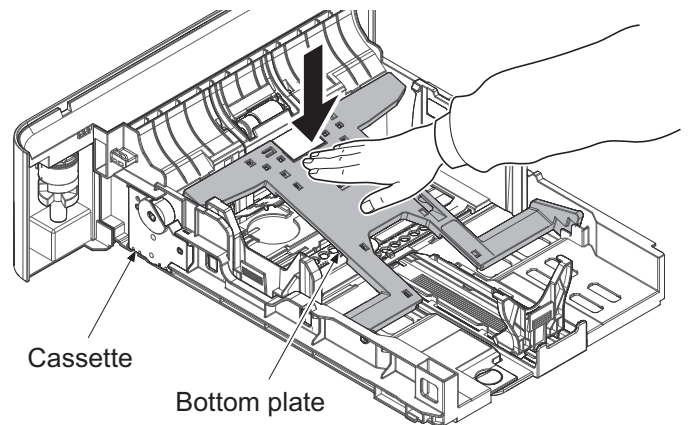


Loading paper

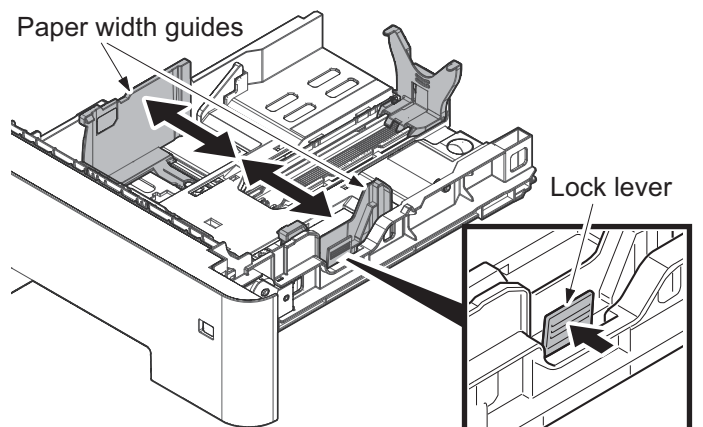
- 1 Pull the cassette from the main unit out.

**Note**

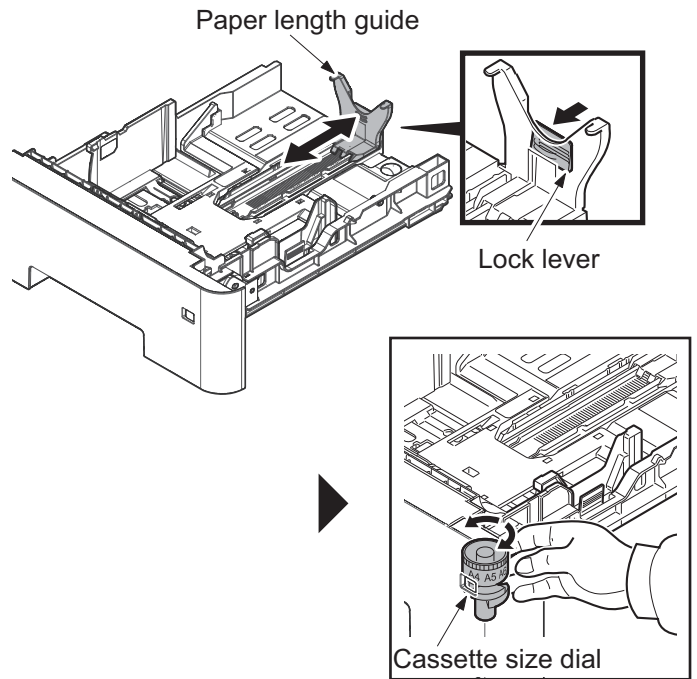
Push the bottom plate down. (45 ppm model only)



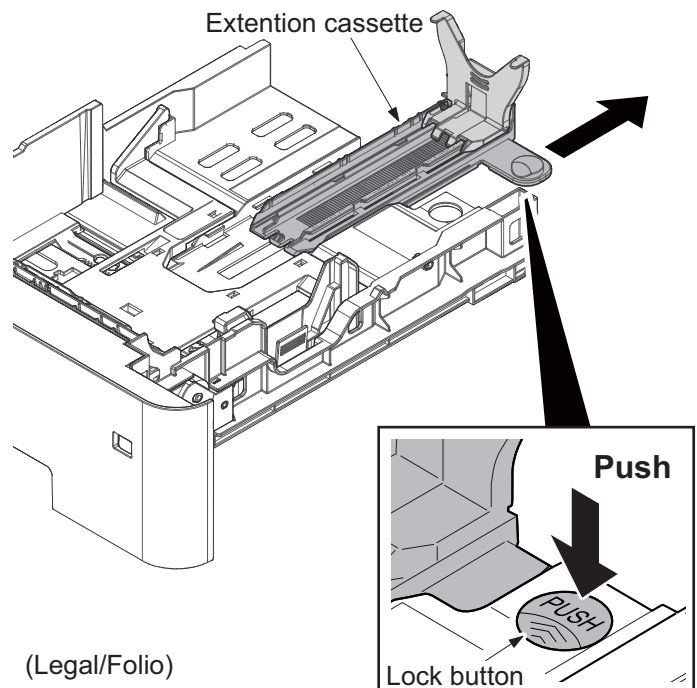
- 2 Push the lock lever on the right side guide and slide to the desired paper size.



- 3 Push the lock lever and slide the paper length guide to the desired paper size.
- 4 Turn the cassette size dial so that the size of the paper you are going to use appears in the cassette size window.

**Note**

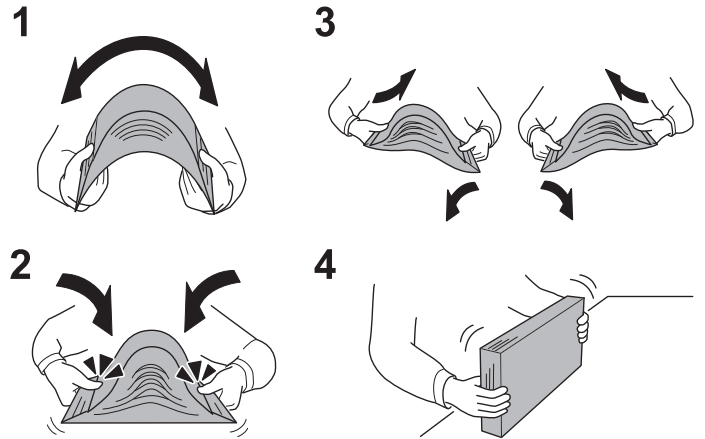
If you are going to set paper that is longer than A4, pull out the extension cassettes pushing the lock button one by one and adjust them to the desired paper size.



Before loading paper

When you open a new package of paper, fan the sheets to separate them slightly prior to loading in the following steps.

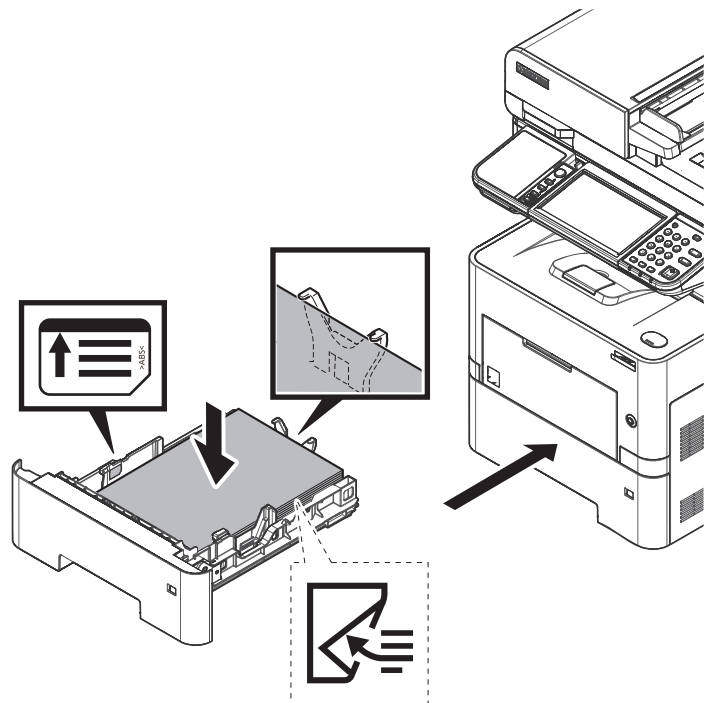
- 1 Bend the whole set of sheets to swell them in the middle.
- 2 Hold the stack at both ends and stretch it while keeping the entire stack swelled.
- 3 Raise the right and left hands alternately to create a gap and feed air between the papers.
- 4 Finally, align the papers on a level, flat table.



✓ Important

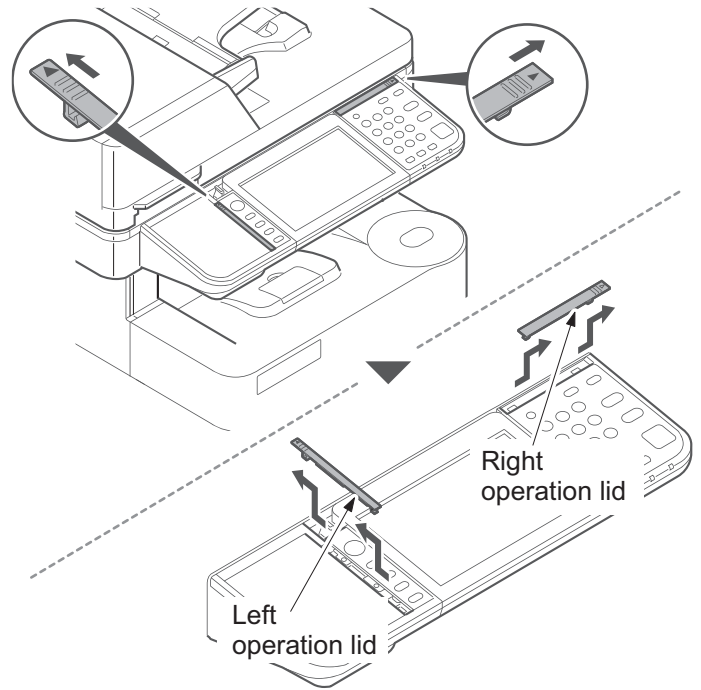
If the paper is curled or folded, straighten it before loading. Paper that is curled or folded may cause a jam.

- 5 Fan the media (paper/transparencies), then tap it on a level surface to avoid media jams or skewed printing.
- 6 Slide the paper into the paper cassette.
- 7 Insert the cassette into the slot in the main unit. Push it straight in as far as it will go.

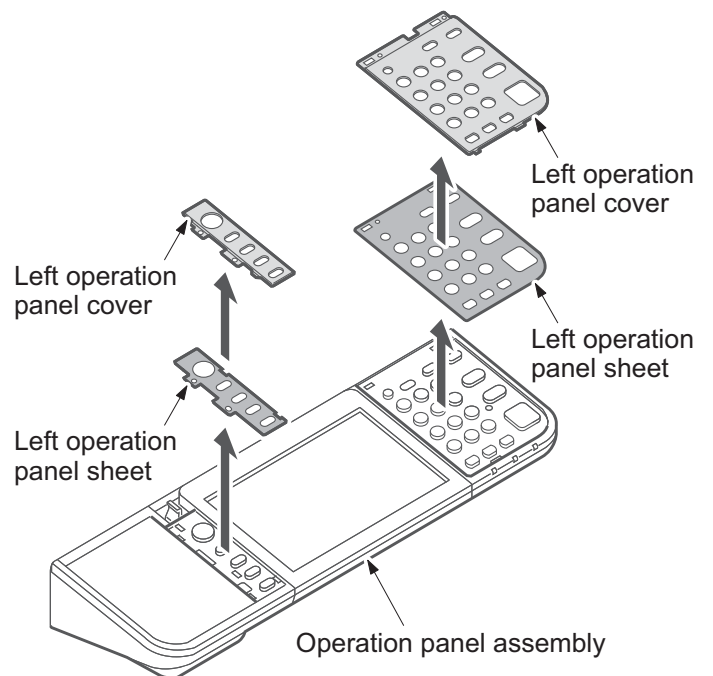


Replace the operation panel sheet (except 240V AC model)

- 1 Slide the right operation lid and the left operation lid.
- 2 Remove the their lids.

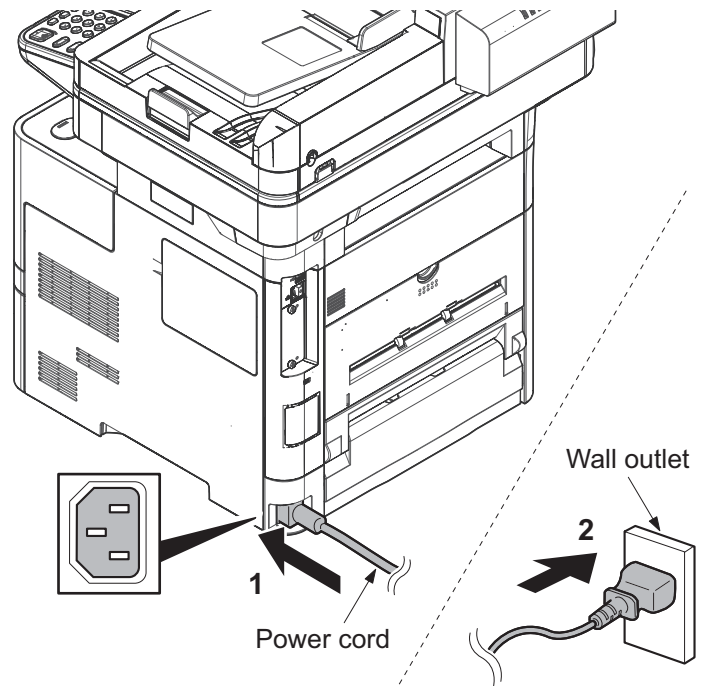


- 3 Remove the operation panel cover.
- 4 Replace it to the operation panel sheet of the corresponding language.
- 5 Refit all the removed parts.



Connecting the power cord

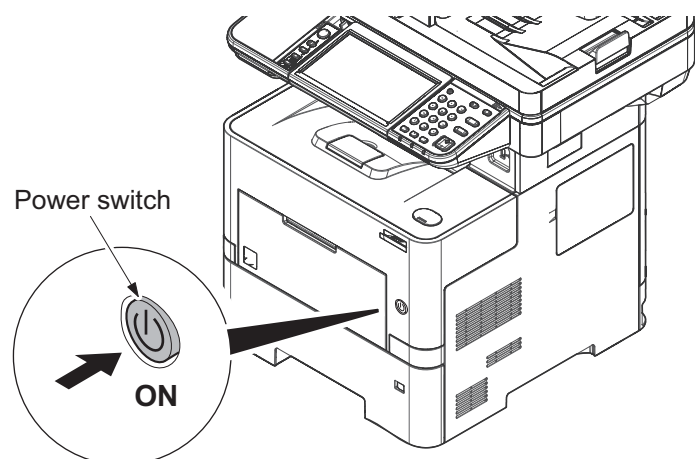
- 1 Connect the power cord to the main unit and the wall outlet.

**Power on**

- 1 Turn the power switch on.

**Note**

When the power is turned on for the first time, the toner installation operation is performed. (About 5 minutes)



2 At the first time when turning on the power switch, the machine runs Startup Wizard to set the following:

- Language
- Date and Time
- Network

Follow the instructions on the operation panel.



Installing software

- 1 Install appropriate software on your PC from the included Product Library disc if you want to use the printer function of this machine or perform TWAIN / WIA transmission from your PC. (Reference of an operation guide)

✓ Important

Perform the high altitude settings when a leakage is developed on images in a high altitude installation such as in Mexico City (see page6-130).

Output an own-status report (maintenance item U000)

- For service setup only

- 1 Enter the maintenance mode by entering 10871087 using the numeric keys.
- 2 Enter 000 using the numeric keys and press the [Start] key.
- 3 Select Maintenance and press the [Start] key to output a list of the current settings of the maintenance items.
- 4 Press the [Stop] key to exit.

Clearing the counter (maintenance item U927)

- For service setup only

- 1 Enter 927 using the numeric keys and press the [Start] key.
- 2 Select [Execute].
- 3 Press the [Start] key. The counter is cleared.
- 4 Press the [Stop] key to exit.

Exit maintenance mode

- For service setup only

- 1 Enter 001 using the numeric keys and press the [Start] key. The machine exits the maintenance mode.

Make test copies

- 1 Place an original and make test copies.

Completion of machine installation

2 - 3 Installing an accessories option

✔ Important

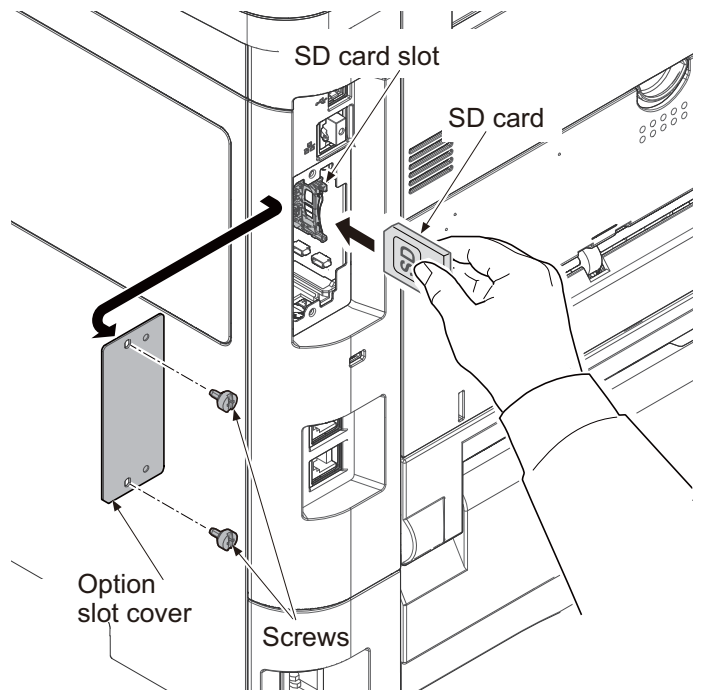
Before replacing the PWB, be sure to take the following procedures.

Otherwise, The PWB may be damaged.

- Disconnect the power cord.
- Press the power switch one second or more to discharge the electric charge inside the main unit.

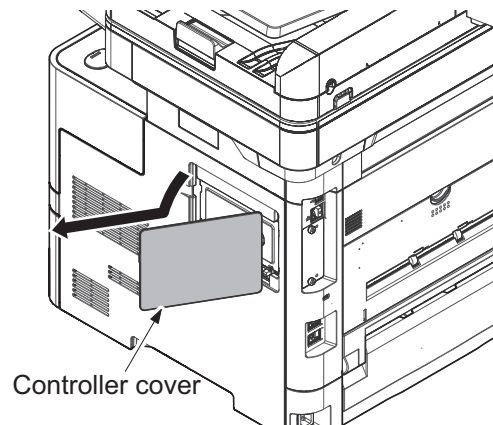
(1) Installing the SD card.

- 1 Remove two screws and the option slot cover.
- 2 Insert the SD card in the SD card slot.
- 3 Refit all the removed parts.

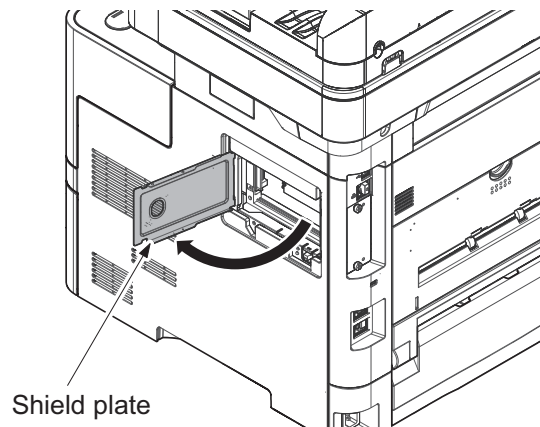


(2) Installing the expansion memory

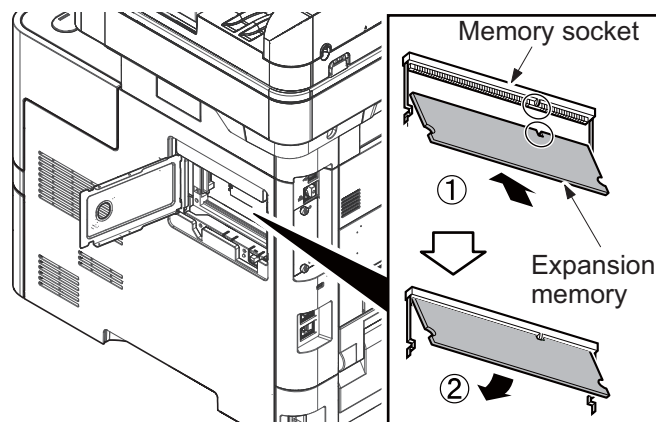
- 1 Remove the controller cover.



- 2 Open the shield plate by rotating.

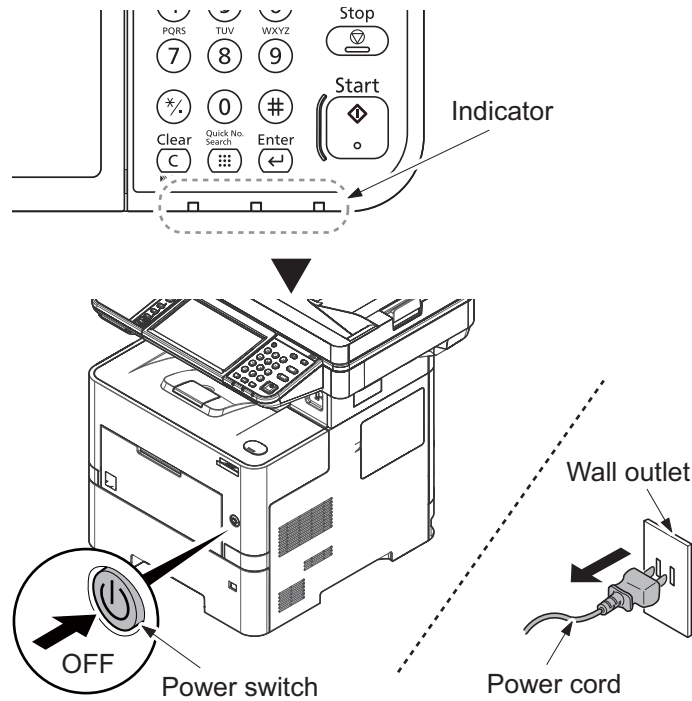


- 3 Insert the expansion memory into the memory socket so that the notches on the memory align with the corresponding protrusions in the slot.
- 4 Close the shield plate.
- 5 Refit the controller cover.

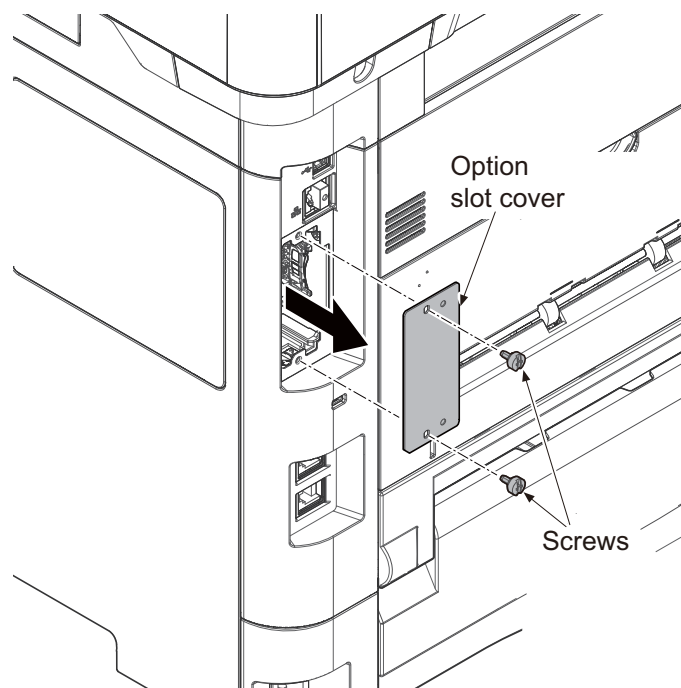


(3) Installing the HD-6/HD-7(SSD)

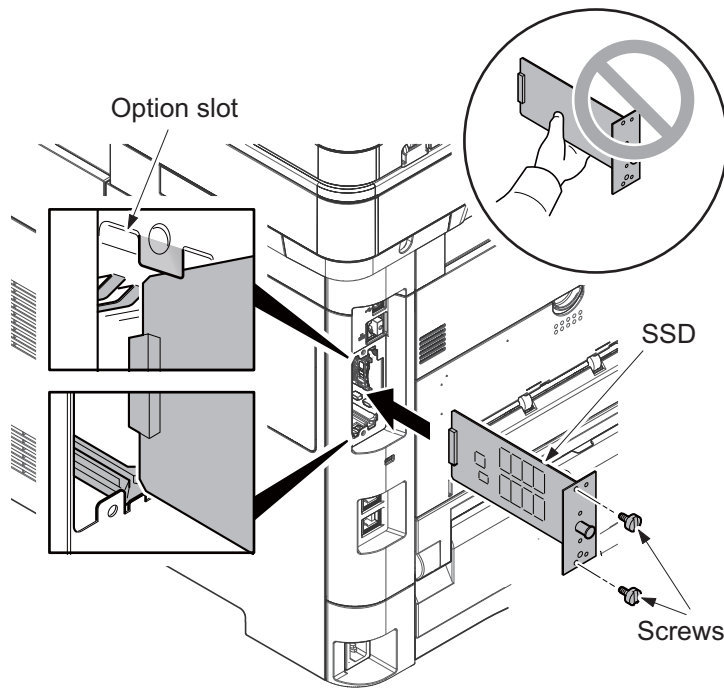
- 1 It checks that the indicator has disappeared.
 - 2 Turn the power switch off.
 - 3 Unplug the power cord from the wall outlet.
- Press the power switch one second or more to discharge the electric charge inside the main unit.



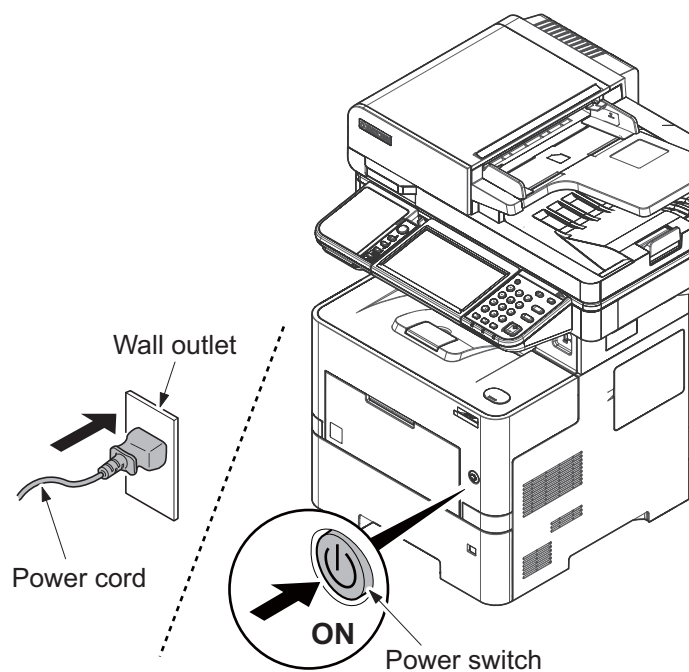
- 4 Remove two screws and the option slot cover.



- 5 Insert the SSD in an option slot.
- 6 Fix the SSD with using two screws to main unit.

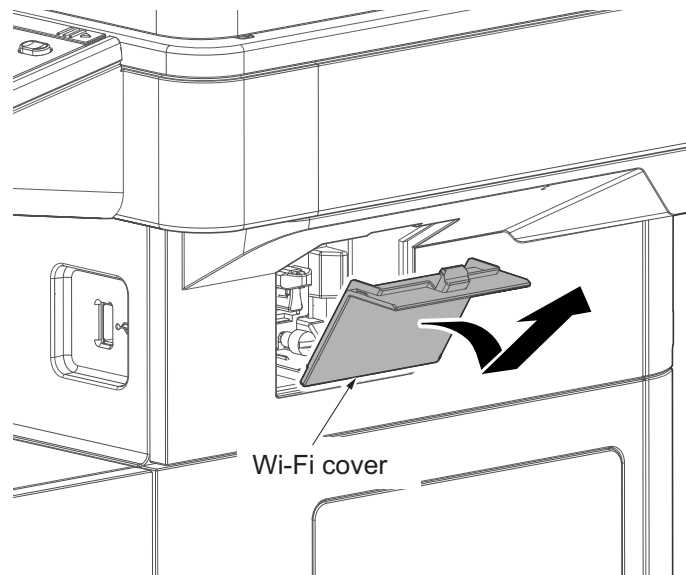


- 7 Connect the plug of the power cord to a wall outlet.
- 8 Turn the power switch on.

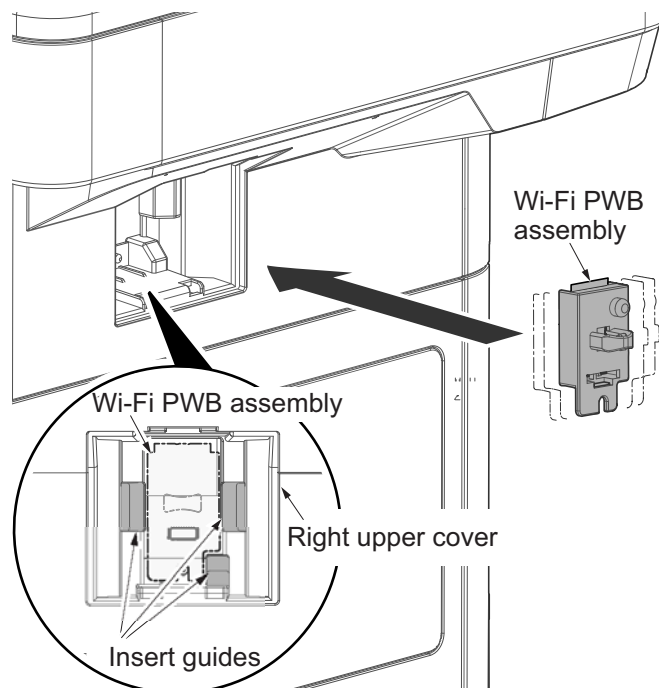


(4) Wireless interface kit (IB-36)

- 1 Unplug the power cable.
 - Press the power switch one second or more to discharge the electric charge inside the main unit.
- 2 After twisting the Wi-Fi cover, remove it.



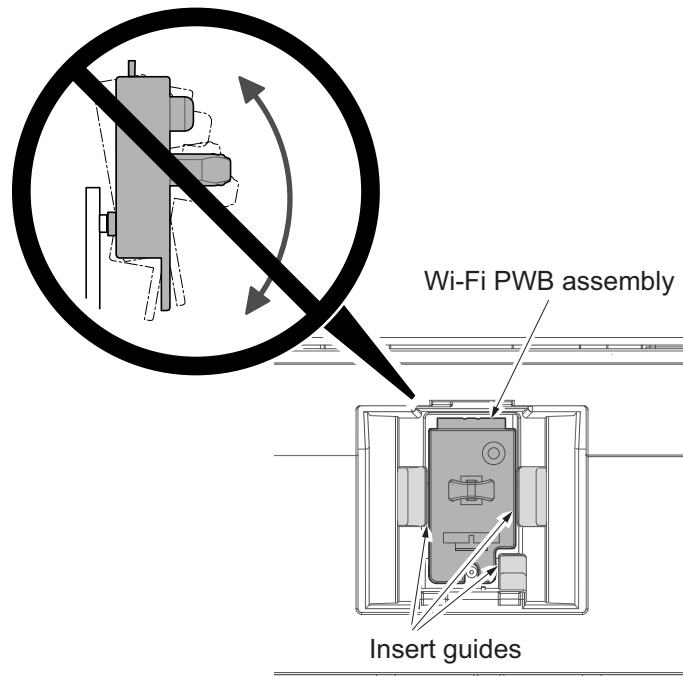
- 3 Insert the connector while aligning the backside connector of the Wi-Fi PWB to the connector of the Main PWB.
- 4 Reattach the Wi-Fi cover in the original position.
- 5 Plug the power cable.



✔ Important

When attaching the WiFi PWB assembly, insert it while aligning it to the guide on the right upper cover.

Also, take care not to twist the WiFi PWB assembly in the vertical direction in order to avoid the damage when attaching and detaching



(5) Installing the Card reader holder

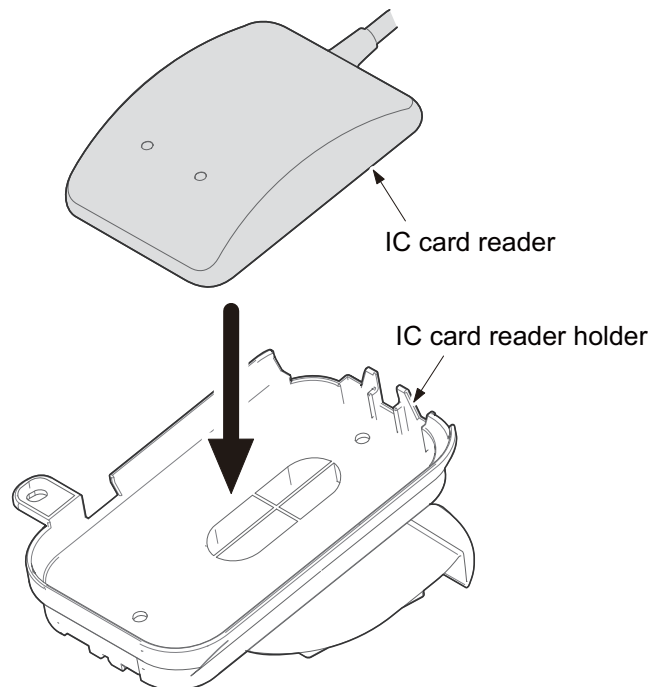
IC card reader holder installation requires the following parts)

Parts	Quantity	Part.No.
Card reader holder 10	1	1702P06UN1

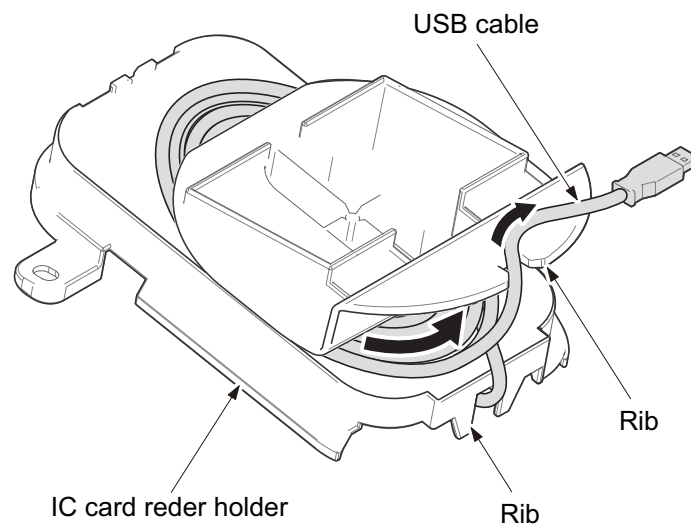
Supplied parts of IC card reader holder 10 (1702P60UN1):

Parts	Quantity	Part.No.
Card reader holder	1	-
Label	1	-
M3 ×8 bind screw	1	-

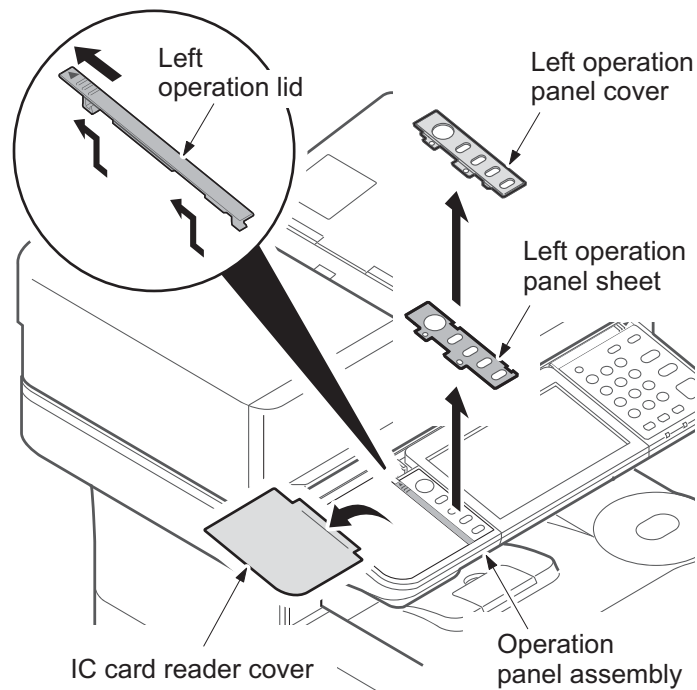
- 1 Mount the card reader to the card reader holder.



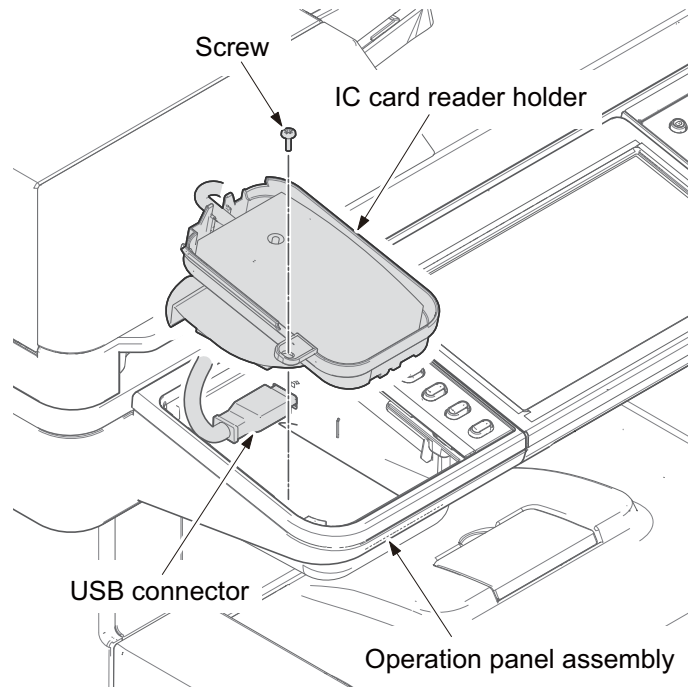
- 2 Route the USB cable from the card reader through the card reader holder ribs, wind around its back and route through another rib.



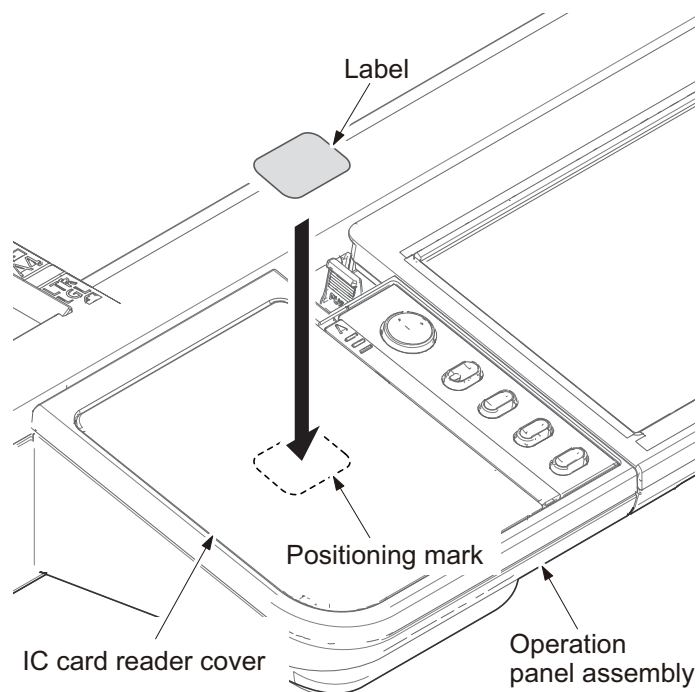
- 3 Slide the left operation lid and then remove it.
- 4 Remove the left operation panel cover and the left operation panel sheet.
- 5 Remove the card reader cover.



- 6 Connect the USB connector to the USB interface slot.
- 7 Fix the card reader holder using a screw.
- 8 Refit all the removed parts.



- 9 Affix a label on the IC card reader cover aligning it with the positioning mark.



Enabling Card Authentication

Important

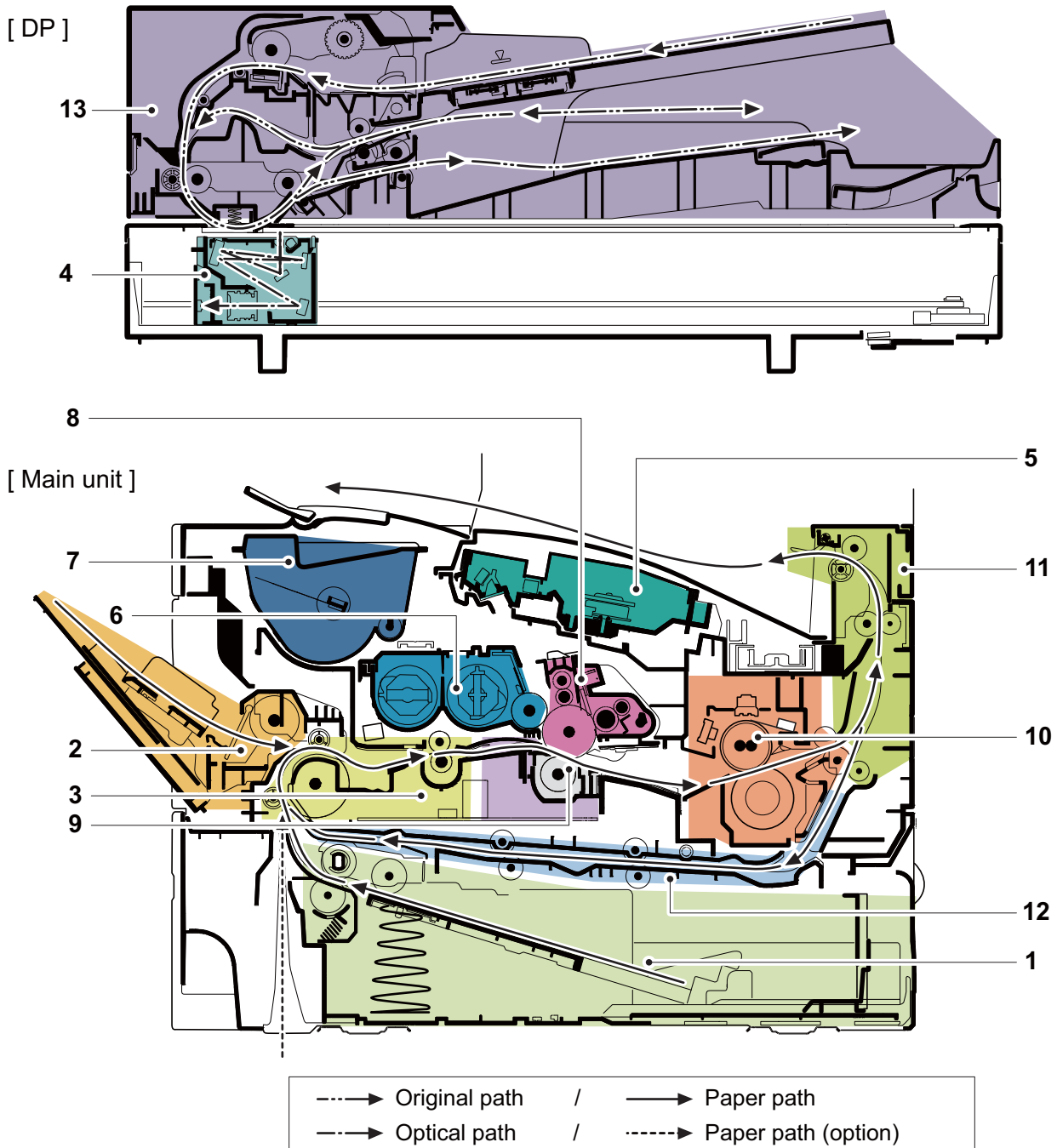
To install the optional function, you need the License Key. Please access the designated website of your dealer or service representative, and register “Machine No.” indicated on your machine and “Product ID” indicated on the License Certificate supplied with the product to issue the License Key.

- 1 Turn the main power switch on.
 - 2 Press the System Menu key and then press [System/Network].
If user login administration is disabled, the user authentication screen appears.
Enter your login user name and password and then press [Login]. For this, you need to log in with administrator privileges.
 - 3 Press [Next] of Optional Function.
 - 4 Select CARD AUTHENTICATION KIT(B) and press [Activate].
 - 5 The License Key entry screen is displayed.
Enter the License Key using the numeric keys and press [Official].
 - 6 Confirm the product name CARD AUTHENTICATION KIT(B) and press [Yes].
 - 7 To use a SSFC card, run maintenance mode U222 and set SSFC.
- When the machine has entered sleep mode with Energy Saver ON, IC cards can not be recognized by the Card reader, since it does not wake from sleep mode. To enable the IC Card Reader in Sleep Mode, refer to the Operation Guide to change the Sleep level to OFF in the Sleep Rules at the Date/Timer/Energy Saver section of the System Menu.
This setting is not necessary when the optional network interface kit is installed.

3Machine Design

3 - 1 Mechanical Configuration

(1) Cross-section view (45 ppm model)



1 Cassette paper feed section

2 MP tray paper feed section

3 Conveying section

4 Image scanner section

5 Laser scanner section

6 Developer section

7 Toner container section

8 Drum section

9 Transfer/Separation section

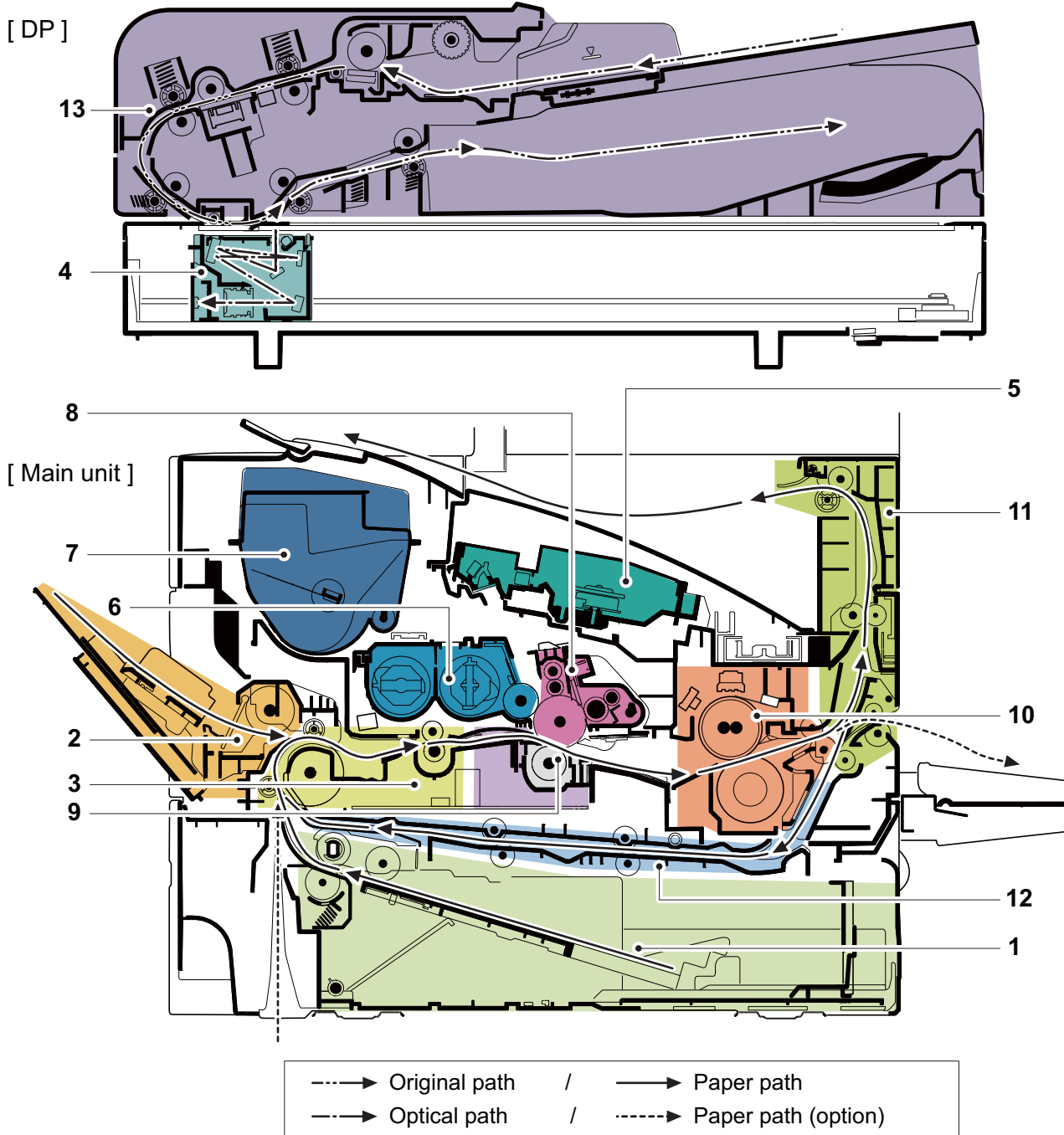
10 Fuser and eject/feed shift section

11 Exit section

12 Duplex conveying section

13 DP section

(2) Cross-section view (55/60 ppm model)

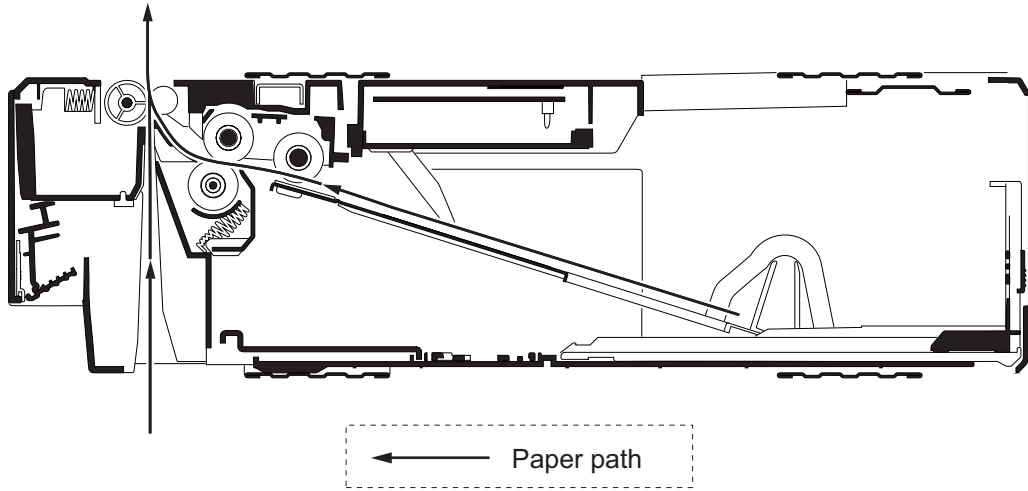


- 1 Cassette paper feed section
- 2 MP tray paper feed section
- 3 Conveying section
- 4 Image scanner section
- 5 Laser scanner section
- 6 Developer section
- 7 Toner container section

- 8 Drum section
- 9 Transfer/Separation section
- 10 Fuser and eject/feed shift section
- 11 Exit section
- 12 Duplex conveying section
- 13 DP section

3 - 2 Extension device construction (option)

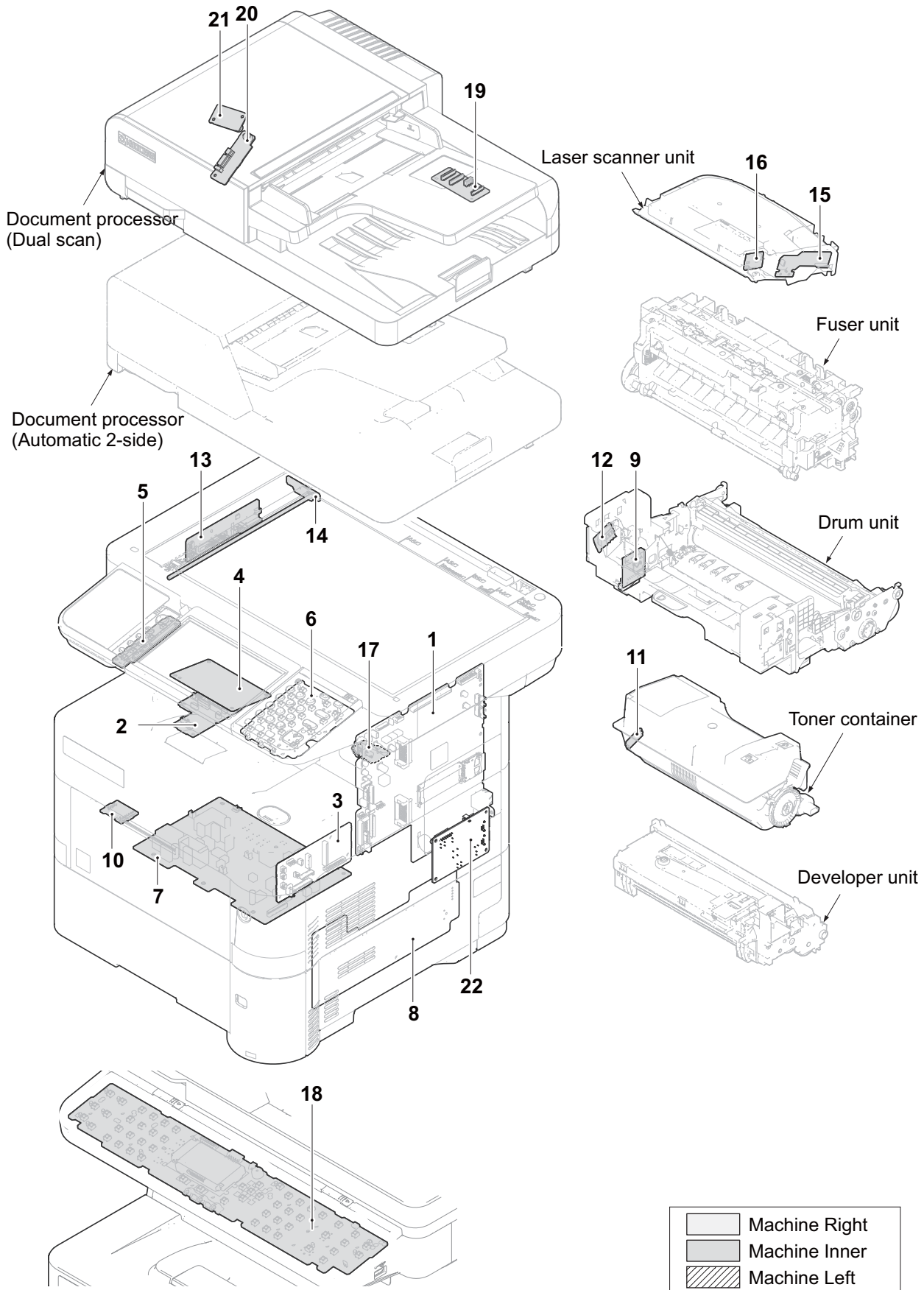
(1) 500-sheet x1 Paper Feeder cross-section view (PF-3110)



3 - 3 Electric parts

(1) PWBs

(1-1) Layout



1. Control PWB	Controls the software such as the print data processing and provides the interface with computers. Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc.
2. Connect -Left PWB	Consists of wiring relay circuit between control PWB and drum connect PWB.
3. Connect-Right PWB	Consists of wiring relay circuit between control PWB and low voltage power source PWB.
4. Operation panel PWB *3	Consists of wiring that relay circuit between control PWB and right/left key PWB and LCD.
5. Panel-Left PWB *3	Consists the LED indicators and key switches.
6. Panel-Right PWB *3	Consists the LED indicators and key switches.
7. High voltage PWB	Generates main charging, developer bias, transfer bias and separation bias.
8. Low voltage power source PWB	After full-wave rectification of AC power source input, switching for converting to 24 V DC for output. Controls the fuser heater.
9. Drum PWB	Relays wirings from electrical components on the drum unit.
10. Drum connect PWB	Consists of wiring relay circuit between connect left PWB and the drum unit.
11. Toner container PWB	Reads the container information.
12. Toner container connect PWB	Consists of wiring relay circuit between control PWB and the toner container.
13. CCD PWB	Reads the image of originals.
14. LED PWB	Controls the LED.
15. APC PWB	Generates and controls the laser beam.
16. PD PWB	Controls horizontal synchronizing timing of laser beam.
17. Thermister connect PWB	Consists of wiring relay circuit between fuser thermistor, fan motor and the control PWB.
18. Operation panel PWB *4	Consists of wiring that relay circuit between control PWB and LCD.
19. CIS connect PWB *1	Consists of wiring relay circuit between control PWB and the CIS.
20. RX PWB *2	Reception the multi conveying check signal of DP original.
21. TX PWB *2	Send the multi conveying check signal of DP original.
22. FAX PWB *5	Transmission control of fax data.

*1: 55/60 ppm model only

*2: 60 ppm model only

*3: HyPAS model only

*4: Basic model only

*5: FAX model only

(1-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	Control PWB	PARTS PWB ASSY CONTROLLER SP PARTS PWB ASSY CONTROLLER SP EU	302TB9401_ *2 302TA9404_ *3 302TG9402_ *6,7 302V29401_ *1,5 302V39403_ *1,5,7 302TB9402_ *2 302TA9405_ *3 302TF9402_ *6 302TG9403_ *6,7 302V29402_ *1,5 302V39403_ *1,5,7
2	Connect -Left PWB	PARTS PWB ASSY CONNECT-L SP	302T99404_ *1 302T69407_ *4
3	Connect-Right PWB	PARTS PWB ASSY CONNECT-R SP	302V39405_ *1 302TA9410_ *4
4	Operation panel PWB *5	PARTS PWB ASSY H PANEL MAIN SP	302TA9406_ *5
5	Panel-Left PWB *5	PARTS PWB ASSY H PANEL KEY-L SP	302NM9410_ *5
6	Panel-Right PWB *5	PARTS PWB ASSY H PANEL KEY-R SP	302TA9409_ *5
7	High voltage PWB	PARTS HIGH VOLTAGE UNIT SP	302L29403_ *1 302LV9406_ *4
8	Low voltage power source PWB	PARTS UNIT POWER SUPPLY 120 SP PARTS UNIT POWER SUPPLY 230 SP PARTS UNIT LOW VOLTAGE 100V SP PARTS UNIT LOW VOLTAGE 200V SP	302T69410_ *1 302T69411_ *1 302TA9411_ *4 302TA9412_ *4
9	Drum PWB	P.W.BOARD ASSY DRUM (DK-3170(E)) (DK-3180(E)) (DK-3172(U)) (DK-3174(AO)) (DK-3190(E)) (DK-3192(U)) (DK-3194(AO))	- (302T99306_) *1,6 (302V39302_) *1,5 (302T99307_) *1,5 (302U99309_) *1 (302T69303_) *4 (302T69304_) *4 (302T69306_) *4
10	Drum connect PWB	PARTS PWB ASSY DRUM CONNECT SP	302T69408_
11	Toner container PWB	P.W.BOARD ASSY CONTAINER (TK-xxxx)	- -
12	Toner container connect PWB	P.W.BOARD ASSY CONTAINER CONN (DK-3170(E)) (DK-3180(E)) (DK-3172(U)) (DK-3174(AO)) (DK-3190(E)) (DK-3192(U)) (DK-3194(AO))	- (302T99306_) *1,6 (302V39302_) *1,5 (302T99307_) *1,5 (302U99309_) *1 (302T69303_) *4 (302T69304_) *4 (302T69306_) *4
13	CCD PWB	P.W.BOARD ASSY CCD (PARTS ISU ASSY SP)	- (302TA9302_) *5 (302TG9301_) *6
14	LED PWB	P.W.BOARD ASSY LED (PARTS ISU ASSY SP)	- (302TA9302_) *5 (302TG9301_) *6

No.	Name used in service manual	Name used in parts list	Part. No.
15	APC PWB	P.B. BOARD ASSY APC (LK-3260) (LK-3290)	- (302V39301_) *1 (302TA9301_) *4
16	PD PWB	P.B. BOARD ASSY PD (LK-3260) (LK-3290)	- (302V39301_) *1 (302TA9301_) *4
17	Thermister connect PWB	PARTS PWB ASSY TH CONNECT SP	302TP9403_ *1 302LV9422_ *4
18	Operation panel PWB *6	PARTS PWB ASSY B PANEL SP	302TF9403_ *6 302TG9404_ *6,7
19	CIS connect PWB *4	PARTS PWB ASSY CIS CONNECT SP	302V19407_
20	RX PWB *3	PARTS PWB ASSY RX SP	302TA9408_
21	TX PWB *3	PARTS PWB ASSY TX SP	302TA9407_
22	FAX PWB *7	PARTS FAX UNIT E SP PARTS FAX UNIT U SP	303PA9401_ 302R79434_

*1: 45 ppm model only

*2: 55 ppm model only

*3: 60 ppm model only

*4: 55/60 ppm model only

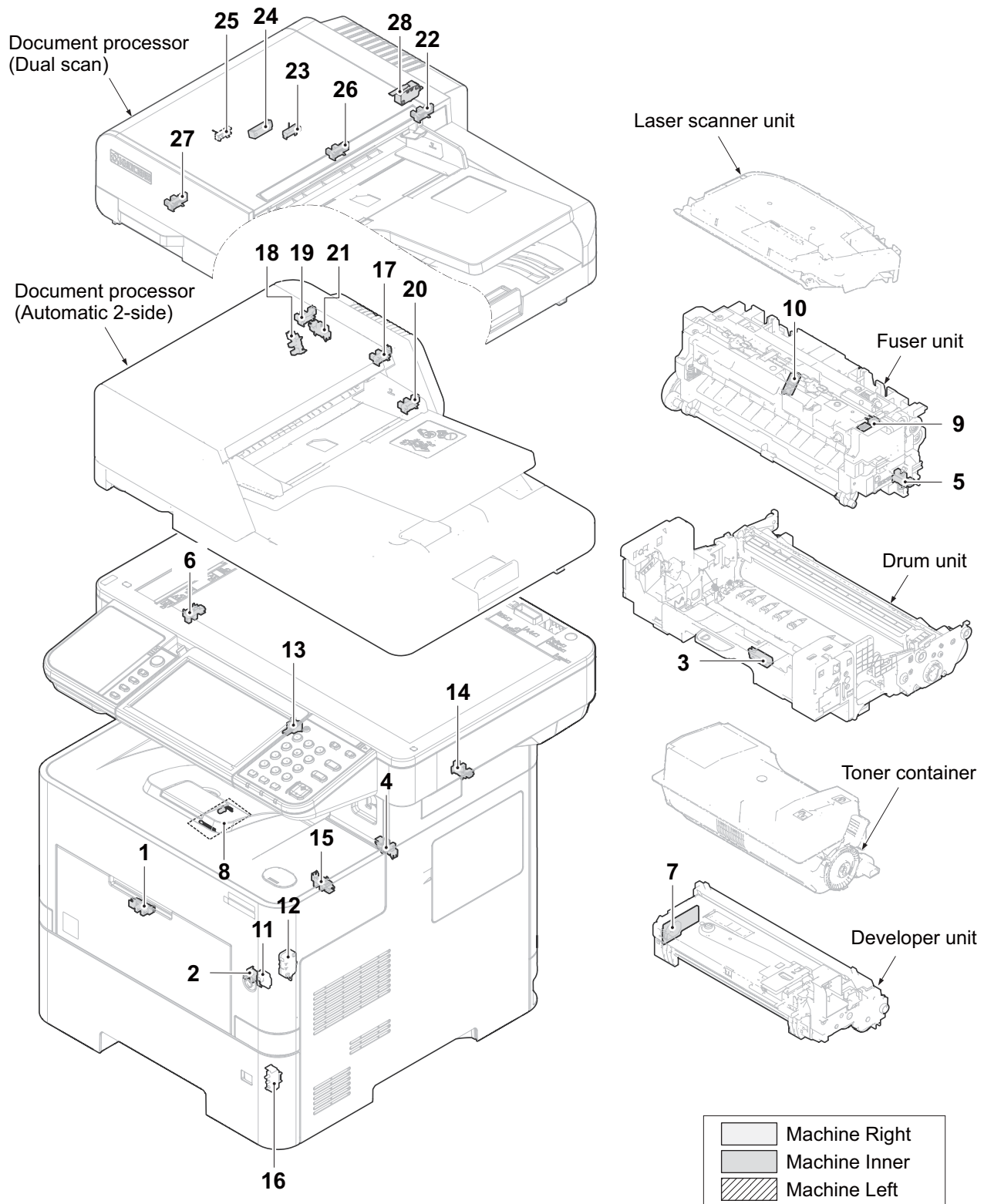
*5: HyPAS model only

*6: Basic model only

*7: FAX model only

(2) Sensors and Switches

(2-1) Layout



1. MP paper sensor	Detects the presence of paper on the MP tray.
2. Lift sensor *2	Detects the top limit of the bottom plate.
3. Registration sensor 2 *2	Controls the secondary paper feed start timing.
4. Duplex sensor 1 *2	Detects a paper jam in the duplex section.
5. Exit sensor	Detects a paper misfeed in the fuser or exit section.
6.Home position sensor	Detects the ISU in the home position.
7.Toner sensor	Detects the amount of toner remaining in the toner container.
8.Waste toner sensor	Detects when the waste toner box is full.
9.Fuser thermistor 1	Detects the heat roller temperature (Edge)
10.Fuser thermistor 2	Detects the heat roller temperature (Center).
11.Power source switch	Change ON/OFF the power supply of a control PWB, an operation PWB, etc.
12.Inter lock switch	Detects the opening and closing of the top cover.
13.Rear cover switch	Detects the opening and closing of the rear cover. Shuts off 24 V DC power line when the right cover is opened.
14.Paper full sensor	Detects the paper full in the main tray (Facedown).
15.Envelope sensor	Detects the change state of pressure in fuser unit.
16.Cassette size switch	Detects the paper size dial setting of the paper setting dial.
17.DP original sensor *1	Detects the presence of an original.
18.DP registration sensor *1	Detects the original conveying timing.
19.DP timing sensor *1	Detects the original scanning timing.
20.DP reverse sensor *1	Detects the position of the shift guide.
21.DP open/close sensor *1	Detects the opening/closing of the DP.
22.DP original sensor *2	Detects the presence of an original.
23.DP original back-side timing sensor*2	The conveying timing of the original of the document processor. (2nd-side)
24.DP registration sensor *2	Detects the original conveying timing.
25.DP original timing sensor*2	The conveying timing of the original of the document processor. (1st-side)
26.DP exit sensor *2	Detects the ejection of the original of document prcessor.
27.DP open/close sensor *2	Detects the opening/closing of the DP.
28.Inter lock switch *2	5V and 24 V power shutdown

*1: 45 ppm model

*2: 55/60 ppm model

(2-2)Part name table

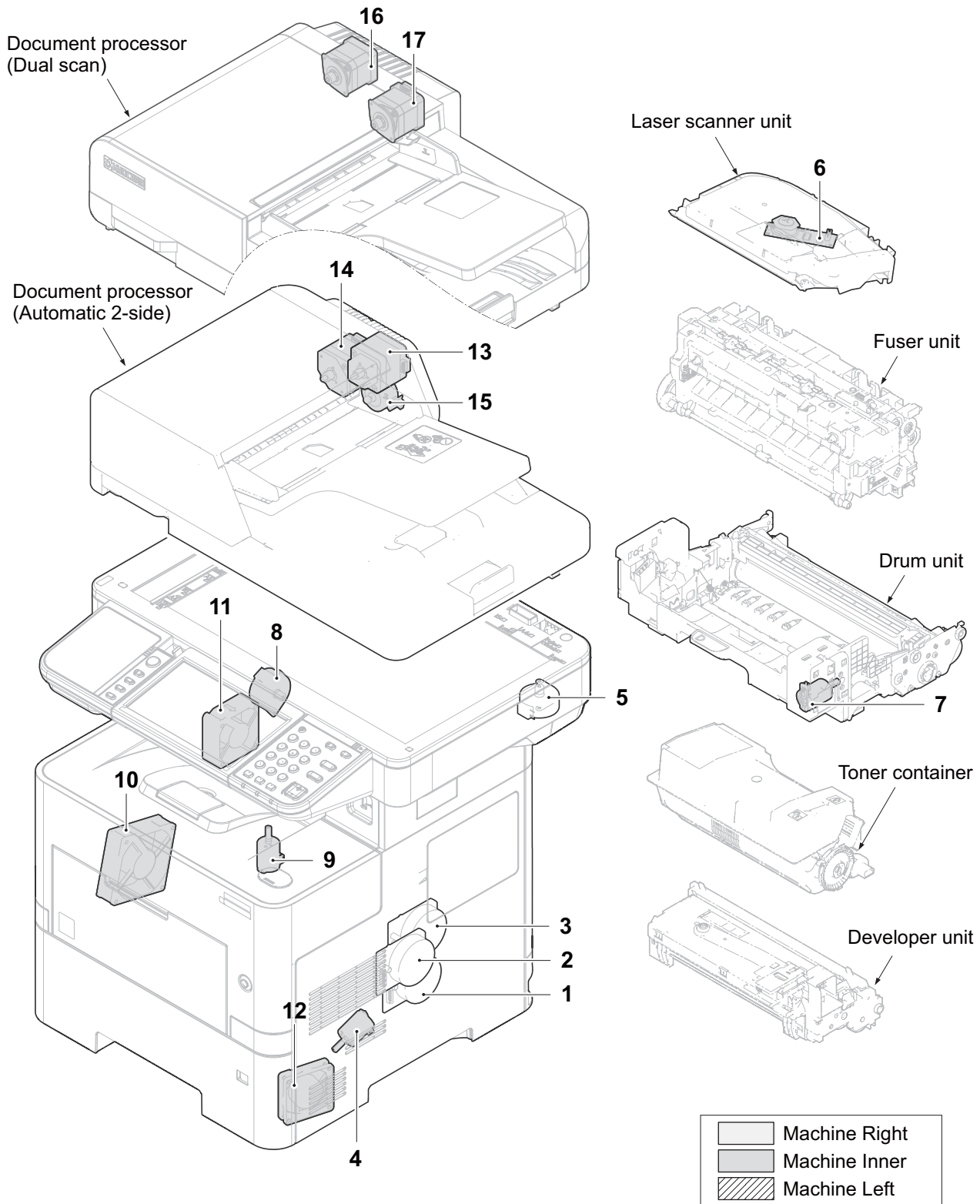
No.	Name used in service manual	Name used in parts list	Part. No.
1	MP paper sensor	PARTS SENSOR OPT SP	303M89426_
2	Lift sensor *2	PARTS SENSOR OPT SP	303M89426_
3	Registration sensor 2 *2	SENSOR OPT.	-
4	Duplex sensor 1 *2	PARTS SENSOR OPT SP	303M89426_
5	Exit sensor	SENSOR OPT. (FK-3200) (FK-3202) (FK-3300) (FK-3302)	- (302V39304_) *1 (302V39306_) *1 (302TA9304_) *2 (302TA9305_) *2
6	Home position sensor	PARTS SENSOR OPT SP	302P79401_
7	Toner sensor	P.W.BOARD ASSY TONER SENSOR (DV-3100)	- (302LV9308_)
8	Waste toner sensor	PARTS TONER FULL DETECT ASSY SP	302LV9412_
9	Fuser thermistor 1	THERMISTOR FUSER (FK-3200) (FK-3202) (FK-3300) (FK-3302)	- (302V39304_) *1 (302V39306_) *1 (302TA9304_) *2 (302TA9305_) *2
10	Fuser thermistor 2	THERMISTOR FUSER (FK-3200) (FK-3202) (FK-3300) (FK-3302)	- (302V39304_) *1 (302V39306_) *1 (302TA9304_) *2 (302TA9305_) *2
11	Power source switch	PARTS PWB ASSY SWITCH SP	302LV9421_
12	Inter lock switch	INTER LOCK SWITCH	2FB2716_
13	Rear cover switch *2	SW.PUSH	7SP01000006+H0_
14	Paper full sensor	PARTS SENSOR OPT SP	302P79401_
15	Envelope sensor	PARTS SENSOR OPT SP	303M89426_
16	Cassette size switch	SW.PUSH	-
17	DP original sensor *1	PARTS SENSOR OPT. SP	302P79401_
18	DP registration sensor *1	PARTS SENSOR OPT. SP (PARTS DRIVE ASSY A SP)	303M89426_ (302NM9423_)
19	DP timing sensor *1	PARTS SENSOR OPT. SP (PARTS DRIVE ASSY A SP)	303M89426_ (302NM9423_)
20	DP reverse sensor *1	PARTS SENSOR OPT SP	303M89426_
21	DP open/close sensor *1	PARTS SENSOR OPT. SP (PARTS DRIVE ASSY A SP)	303M89426_ (302NM9423_)
22	DP original sensor *2	PARTS SENSOR OPT. SP	302P79401_
23	DP original back-side timing sensor *2	PARTS SENSOR OPT. SP	302K99458_
24	DP registration sensor *2	PARTS SENSOR OPT. SP	302K99458_
25	DP original timing sensor *2	PARTS SENSOR OPT. SP	303NW9404_
26	DP exit sensor *2	PARTS SENSOR OPT. SP	302K99458_
27	DP open/close sensor *2	PARTS SENSOR OPT. SP	302K99458_
28	Inter lock switch *2	INTER LOCK SWITCH	2FB2716_

*1: 45 ppm model

*2: 55/60 ppm model

(3) Motors

(3-1)Layout



1. Main motor *4	Drives the paper feed section and conveying section.
2. Main motor *1	Drives the drum unit, transfer roller, paper feed section and conveying section.
3. Drum motor *4	Drives the drum unit and transfer roller.
4. Lift motor *4	Operates the bottom plate in the cassette.
5. Image scanner motor	Drives the ISU.
6. Polygon motor	Drives the polygon mirror.
7. Toner motor	Replenishes toner to the developer unit.
8. Exit motor	Drives the duplex section.
9. Envelope motor	Drives the change mechanism of fixing pressure in fuser unit.
10. Developer fan motor	Cools the developer section.
11. LSU fan motor	Cools the LSU unit.
12. Power source fan motor	Cools the low voltage power source PWB.
13. DP paper feed motor *1	Drives the original feed section.
14. DP paper conveying motor *1	Drives the original conveying section.
15. DP reverse motor *1	Drives the exit roller.
16. DP paper feed motor *4	Drives the original feed section.
17. DP paper conveying motor *4	Drives the original conveying section.

*1: 45 ppm model only

*2: 55 ppm model only

*3: 60 ppm model only

*4: 55/60 ppm model only

*5: HyPAS model only

*6: Basic model only

*7: FAX model only

(3-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	Main motor *1	PARTS MOTOR-BL W30 SP	302K39420_
2	Main motor *4	PARTS MOTOR-BL W30 SP	302K39420_
3	Drum motor *4	PARTS MOTOR-BL W30 SP	302K39420_
4	Lift motor *4	PARTS DC MOTOR ASSY SP	302LV9423_
5	Image scanner motor	PARTS MOTOR ISU SP	302H99427_
6	Polygon motor	MOTOR POLYGON (LK-3260) (LK-3290)	- (302V39301_) *1 (302TA9301_) *4
7	Toner motor	TONER MOTOR ASSY (DK-3170(E)) (DK-3180(E)) (DK-3172(U)) (DK-3174(AO)) (DK-3190(E)) (DK-3192(U)) (DK-3194(AO))	- (302T99306_) *1,6 (302V39302_) *1,5 (302T99307_) *1,5 (302U99309_) *1 (302T69303_) *4 (302T69304_) *4 (302T69306_) *4
8	Exit motor	PARTS MOTOR EJECT SP	303T94401_
9	Envelope motor	PARTS DC MOTOR ASSY SP	302LV9423_
10	Developer fan motor	FAN MOTOR	302HN4401_
11	LSU fan motor	FAN LSU 60-25	302GR4408_
12	Power source fan motor	PARTS,FAN COOLING CONVEYING SP	302FZ9442_
13	DP paper feed motor *1	PARTS MOTOR-HB PAPER FEED SP (PARTS DRIVE ASSY A SP)	302NM9439_ (302NM9423_)
14	DP paper conveying motor *1	PARTS MOTOR-HB PAPER FEED SP (PARTS DRIVE ASSY A SP)	302NM9439_ (302NM9423_)
15	DP reverse motor *1	PARTS MOTOR ROTARY SP (PARTS DRIVE ASSY B SP)	302KY9414_ (302NM9424_)
16	DP paper feed motor *4	PARTS MOTOR PAPER FEED SP	303R49404_
17	DP paper conveying motor *4	PARTS MOTOR PAPER FEED SP	303R49404_

*1: 45 ppm model only

*2: 55 ppm model only

*3: 60 ppm model only

*4: 55/60 ppm model only

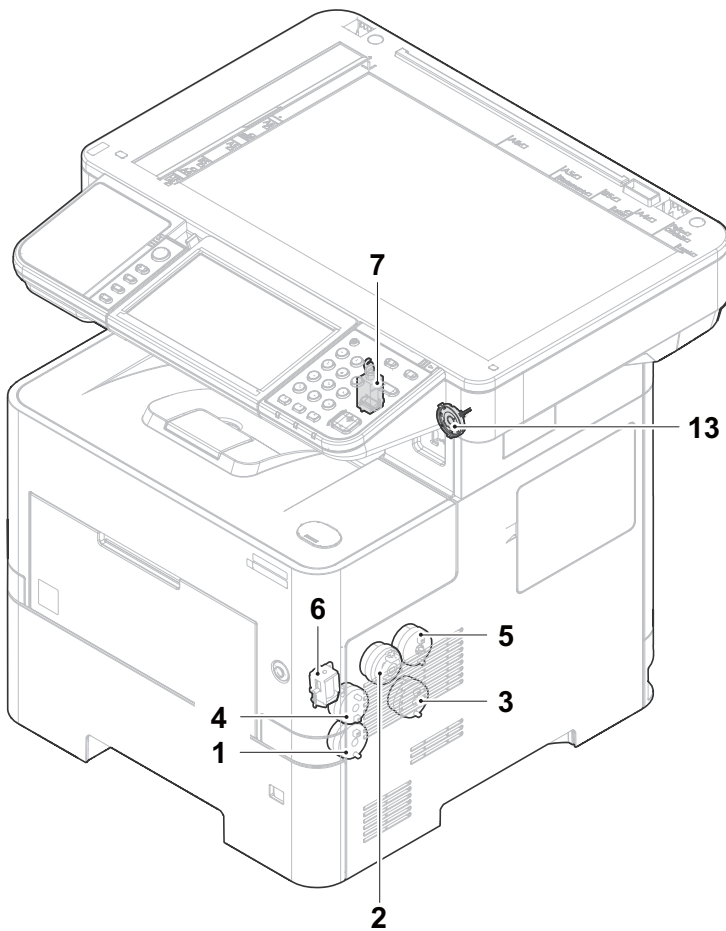
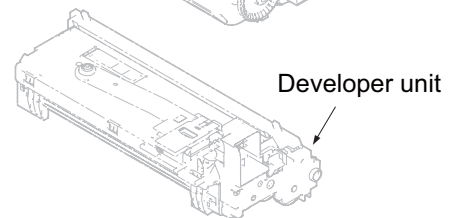
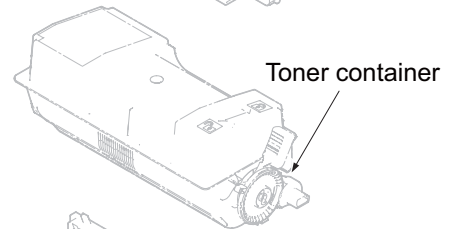
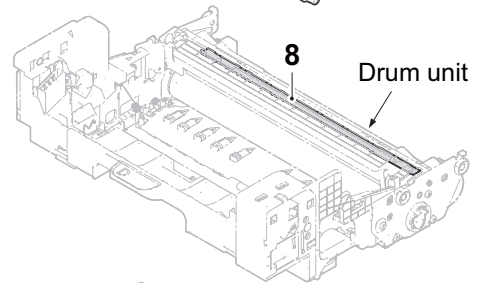
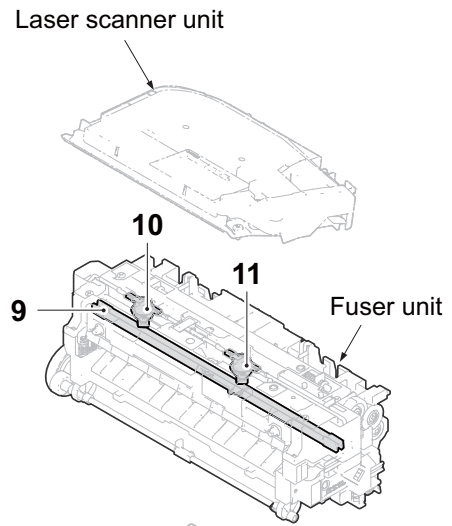
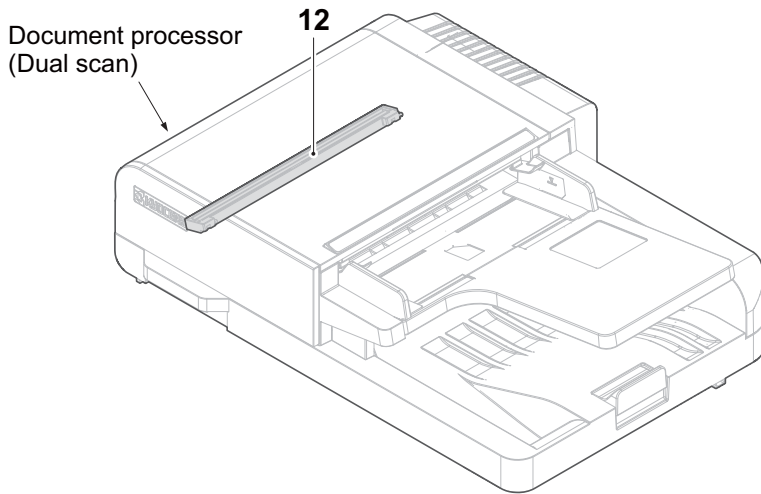
*5: HyPAS model only

*6: Basic model only

*7: FAX model only

(4) Other parts

(4-1)Layout



	Machine Right
	Machine Inner
	Machine Left

1. Paper feed clutch	Primary paper feed from cassette.
2. Registration clutch	Controls the secondary paper feed.
3. Duplex clutch	Controls the drive of the duplex feed roller.
4. Middle clutch	Controls the paper conveying at the conveying section.
5. Developer clutch	Controls the drive of the developer.
6.MP solenoid	Controls the MP bottom plate.
7.Faceup solenoid *4	Operates the feedshift guide.
8.Eraser	Eliminates the residual electrostatic charge on the drum.
9.Fuser heater 1	Heats the heat roller.
10.Fuser thermostat 1	Prevents overheating of the heat roller.
11.Fuser thermostat 2	Prevents overheating of the heat roller.
12.DP CIS *4	Reads the backside image of originals at the document processor.
13.Speaker *7	Occurs the data communication sound in FAX.

*1: 45 ppm model only

*2: 55 ppm model only

*3: 60 ppm model only

*4: 55/60 ppm model only

*5: HyPAS model only

*6: Basic model only

*7: FAX model only

(4-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	Paper feed clutch	CLUTCH 20-2W Z35R (RARTS DRIVE FEED ASSY SP)	302LV9416_ (302LV9425_)
2	Registration clutch	CLUTCH 50 Z35R	302KV4404_
3	Duplex clutch	CLUTCH 20-2W Z35R	302LV9416_
4	Middle clutch	CLUTCH 35 Z35R (RARTS DRIVE FEED ASSY SP)	302NR9401_ (302LV9425_)
5	Developer clutch	CLUTCH 50 Z35R	302KV4404_
6	MP solenoid	SOLENOID MPF (RARTS DRIVE FEED ASSY SP)	- (302LV9425_)
7	Faceup solenoid *4	SOLENOID EXIT	-
8	Eraser	P.W.BOARD ASSY ERASER (DK-3170(E)) (DK-3180(E)) (DK-3172(U)) (DK-3174(AO)) (DK-3190(E)) (DK-3192(U)) (DK-3194(AO))	- (302T99306_) *1,6 (302V39302_) *1,5 (302T99307_) *1,5 (302U99309_) *1 (302T69303_) *4 (302T69304_) *4 (302T69306_) *4
9	Fuser heater	HEATER LAMP 120 (FK-3202) (FK-3302) HEATER LAMP 240 (FK-3200) (FK-3300)	- (302V39306_) *1 (302TA9305_) *4 - (302V39304_) *1 (302TA9304_) *4
10	Fuser thermostat 1	THERMAL-CUTOUT 202 FUSER	-
11	Fuser thermostat 2	(FK-3300) *1 (FK-3302) *2	(302TA9304_) (302TA9305_)
12	DP CIS *4	PARTS CIS SP	303R49405_
13	Speaker *7	PARTS SPEAKER SP	302LC9437_

*1: 45 ppm model only

*2: 55 ppm model only

*3: 60 ppm model only

*4: 55/60 ppm model only

*5: HyPAS model only

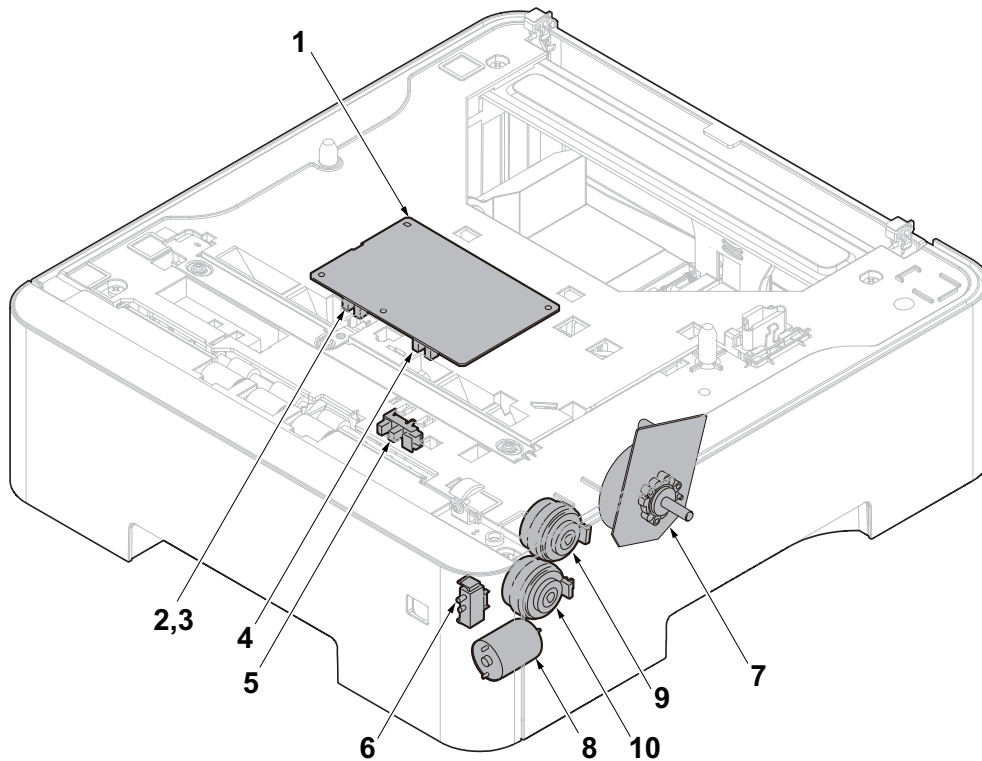
*6: Basic model only

*7: FAX model only

3 - 4 Electric parts (Optional unit)

(1) Paper feeder (PF-3110)

(1-1)Layout



1. PF PWB	Controls electrical components in the paper feeder and communications with the printer.
2. PF paper sensor 1	Detects the paper remaining amount level.
3. PF paper sensor 2	Detects the paper remaining amount level.
4. PF lift sensor	Detects the top limit of the bottom plate.
5. PF conveying sensor	Detects paper jam in the paper feeder
6. PF cassette size switch	Detects the paper size dial setting of the paper setting dial.
7. PF feed motor	Drives the paper feed mechanism in the paper feeder.
8. PF lift motor	Operates the bottom plate in the cassette.
9. PF feed clutch	Controls the paper feed from the cassette.
10. PF conveying clutch	Controls the paper conveying.

3 - 5 Mechanical construction

(1) Paper feed section

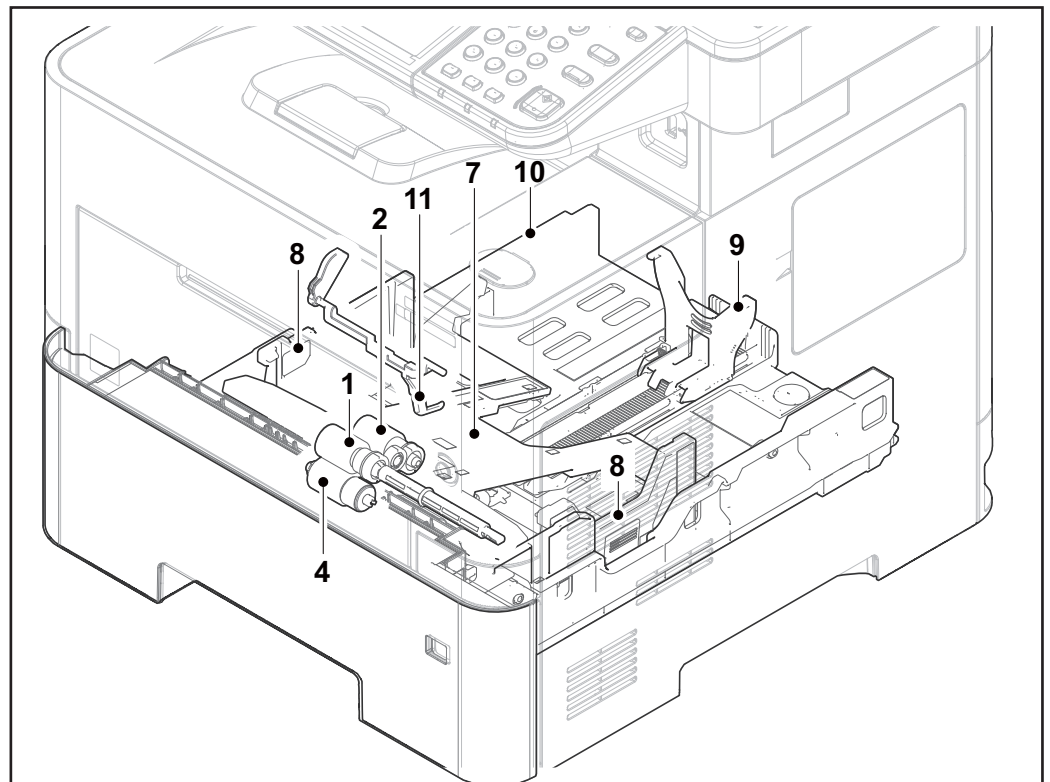
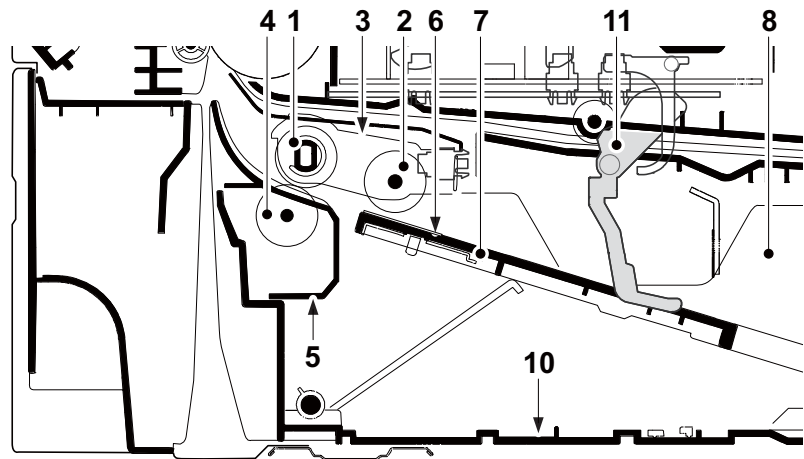
Paper feed section consists of the paper feed unit that feeds paper from the cassette and the MP tray paper feed unit that feeds paper from the MP tray.

(1-1)Cassette paper feed section

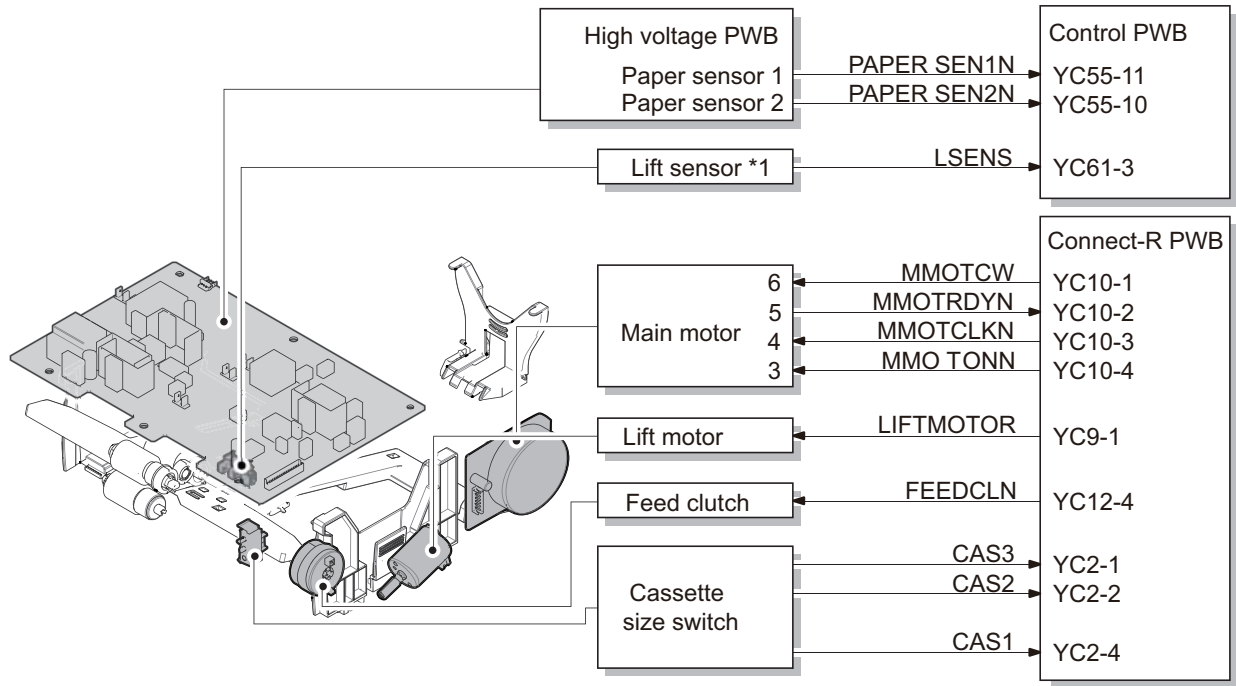
The cassette can contain 500 sheets. The sheet from the cassette is pulled out by rotation of the pickup roller and sent to the paper conveying section by rotation of the paper feed roller. Also the retard roller prevents multiple feeding of paper.

[Component formation]

- 1 Paper feed roller
- 2 Pickup roller
- 3 Feed holder
- 4 Retard roller
- 5 Retard holder
- 6 Friction pad
- 7 Bottom plate
- 8 Paper width guide
- 9 Paper length guide
- 10 Cassette base
- 11 Actuator (paper sensor)



[Control block diagram]



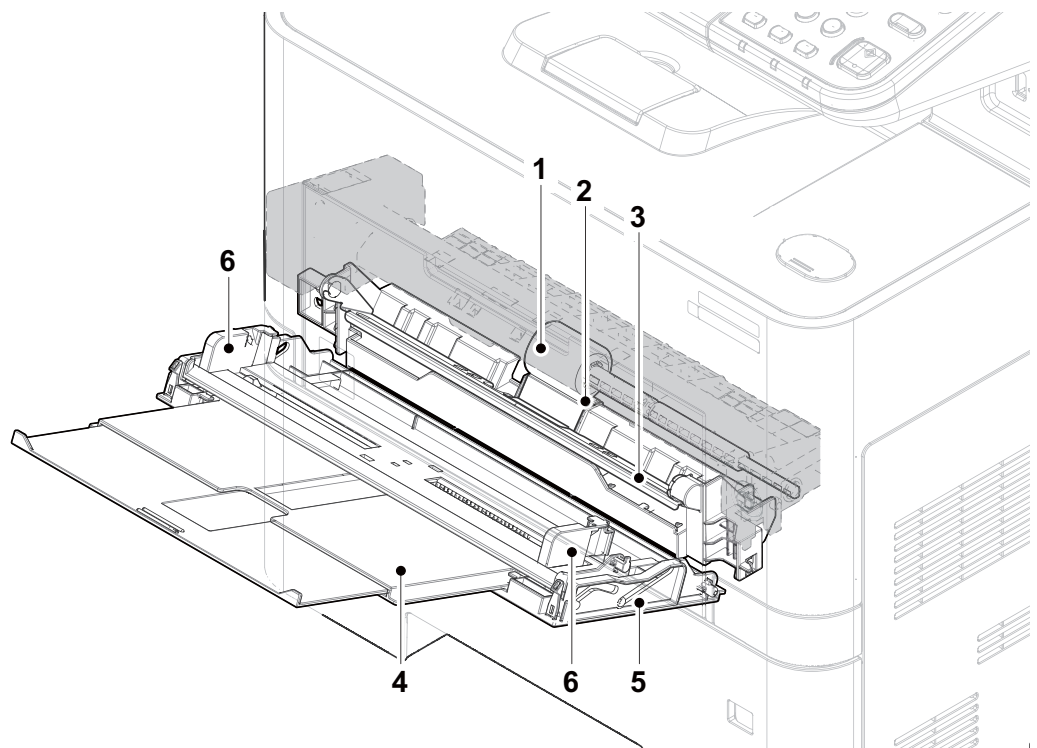
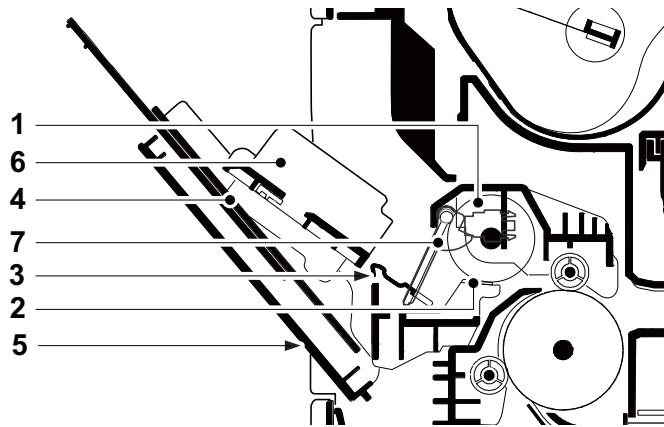
*1: 55/60 ppm model only

(1-2)MP tray paper feed section

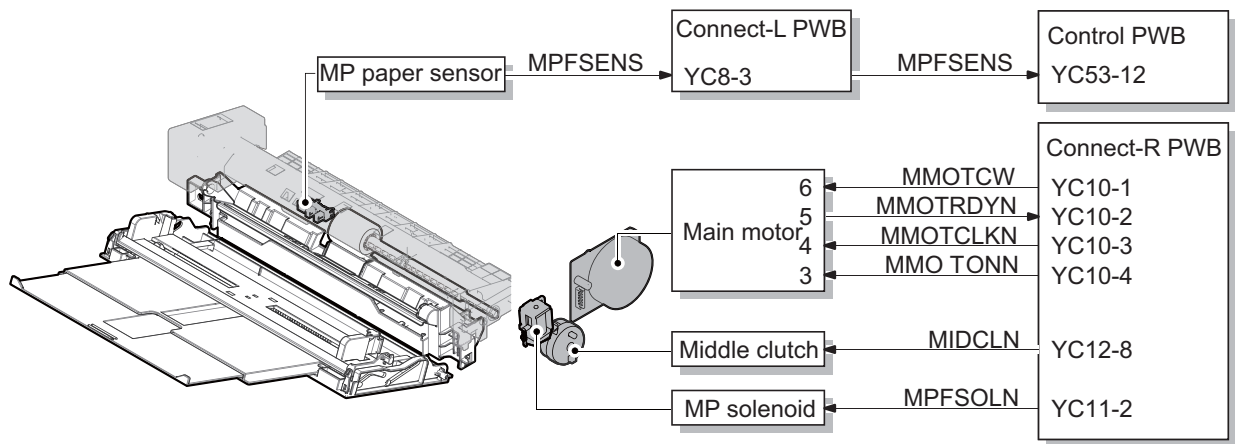
The MP tray can contain 100 sheets. Feeding from the MP tray is performed by the rotation of the MP paper feed roller. Also, function of the MP separation pad prevents paper from multiple feeding.

[Component formation]

- 1 MP paper feed pulley
- 2 MP separation pad
- 3 MP bottom plate
- 4 MP (multi purpose) tray
- 5 MP tray cover
- 6 MP paper width guide
- 7 Actuator (MP paper sensor)



[Control block diagram]



(2) Optical section

The optical section consists of the image scanner section for scanning and the laser scanner section for printing.

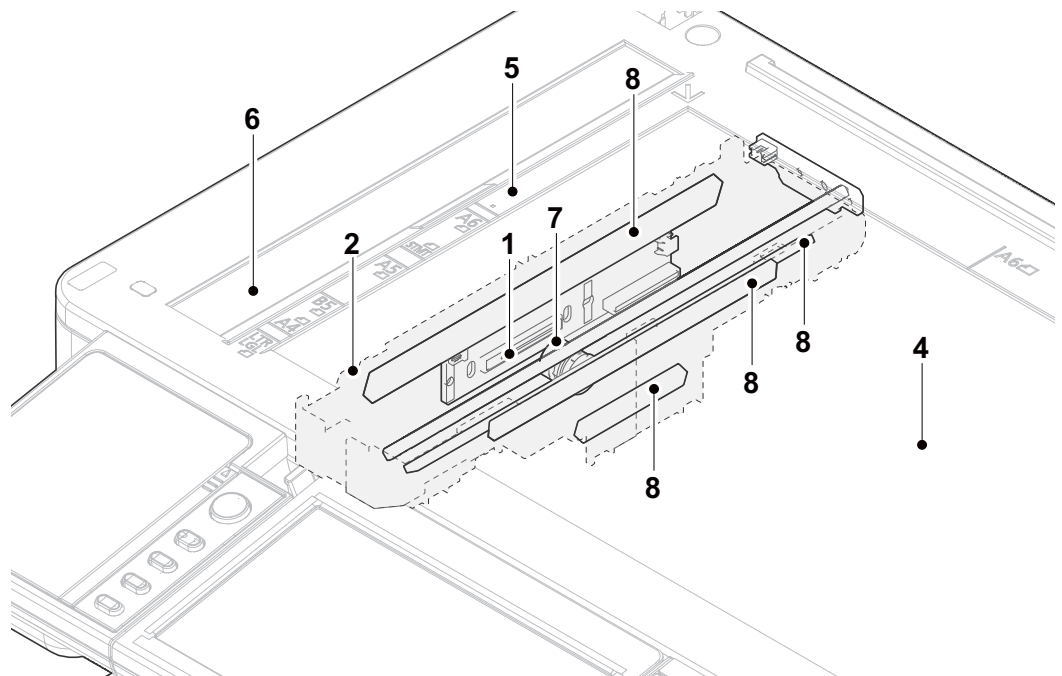
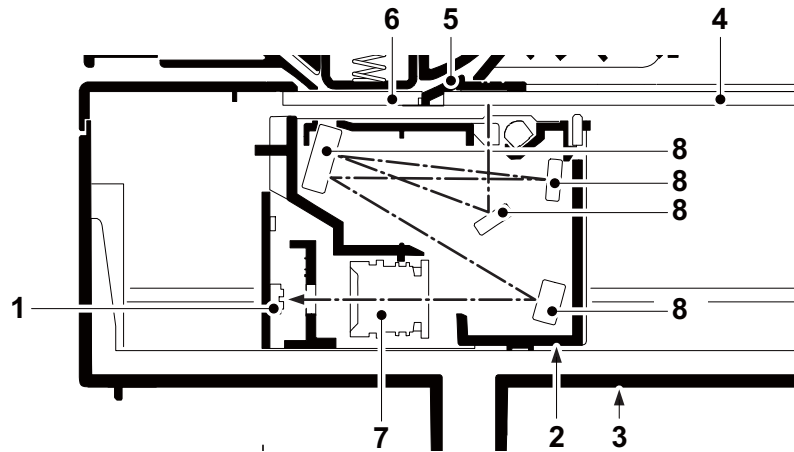
(2-1) Image scanner section

The original image is illuminated by the exposure lamp and scanned by four mirrors and the CCD, the reflected light being converted to an electrical signal.

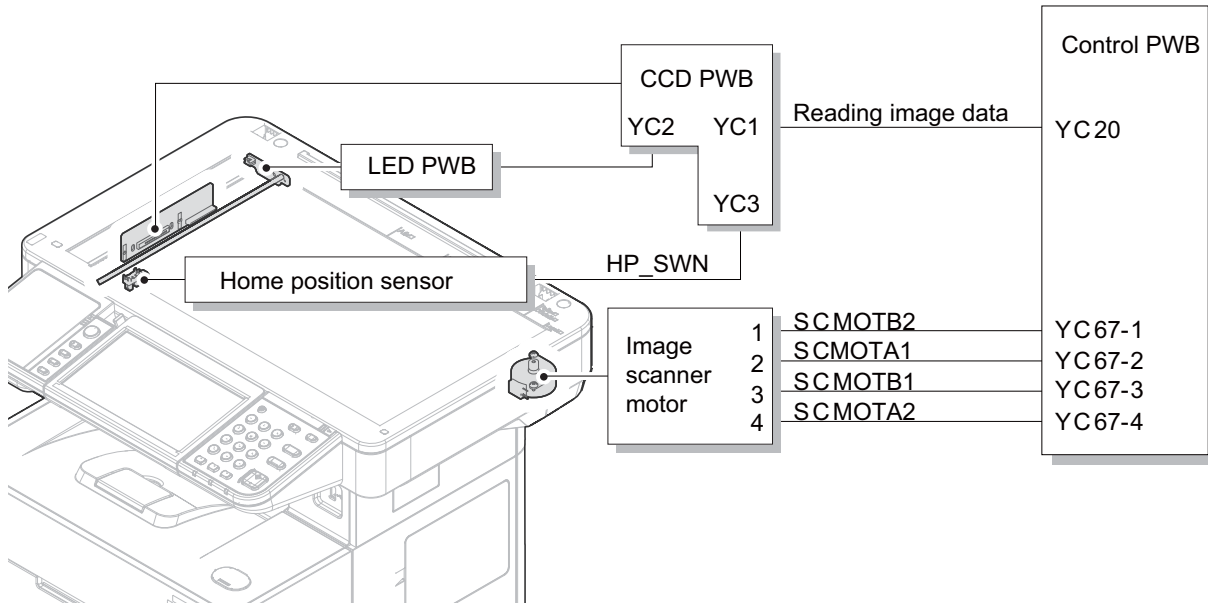
If a document processor is used, the image scanner unit stops at the position of the slit glass and scans sequentially one row of the image on the original in synchronization with the moving timing of the original in the sub scan direction by driving the DP.

[Component formation]

- 1 CCD
- 2 Carriage
- 3 ISU frame
- 4 Contact glass
- 5 Original size indicator plate
- 6 Slit glass
- 7 Lens
- 8 Mirror



[Control block diagram]

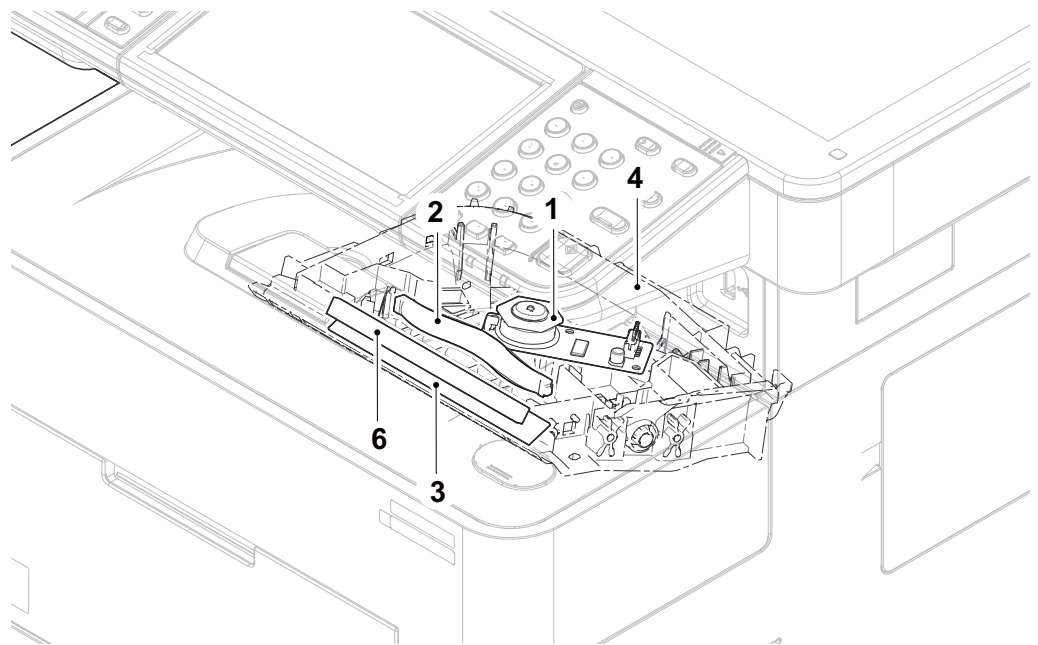
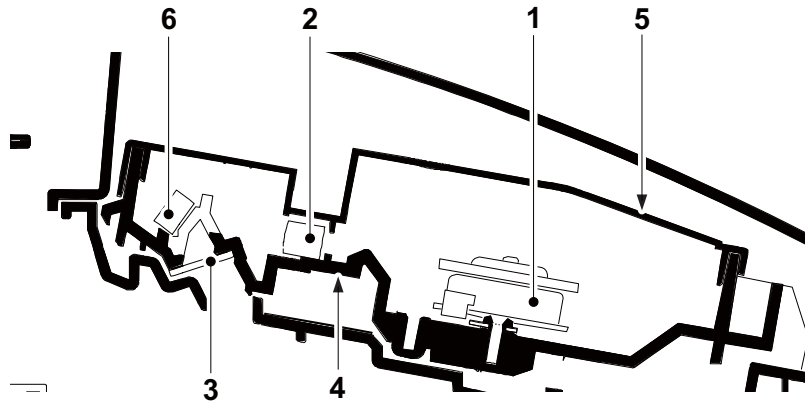


(2-2)Laser scanner section

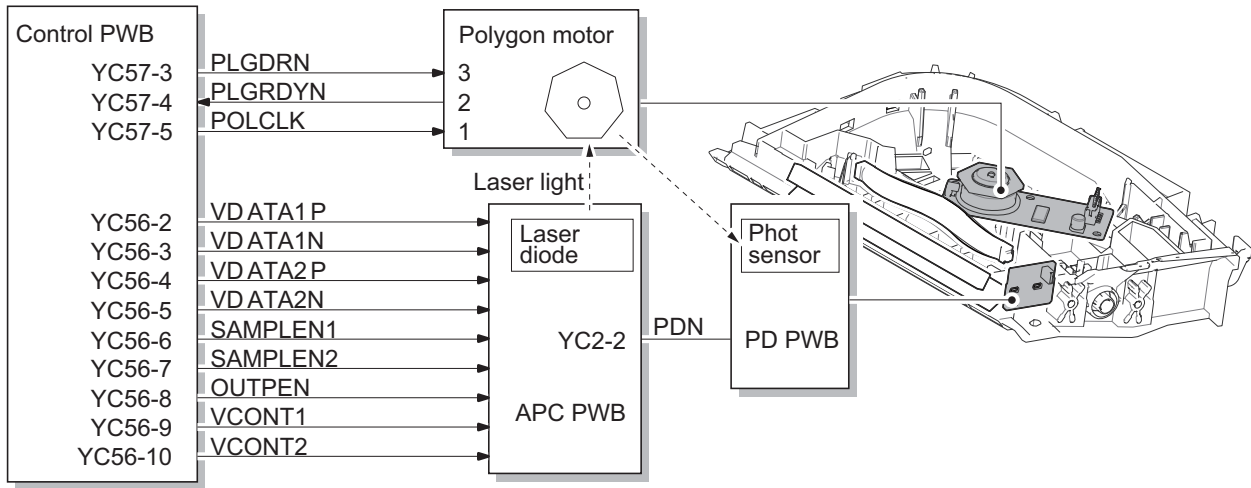
The charged surface of the drum is then scanned by the laser beam from the laser scanner unit. The laser beam is dispersed as the polygon motor revolves to reflect the laser beam over the drum. Various lenses and mirror are housed in the laser scanner unit, adjust the diameter of the laser beam, and focalize it at the drum surface.

[Component formation]

- 1 Polygon motor
- 2 f θ lens
- 3 LSU dust shield glass
- 4 LSU base
- 5 LSU cover
- 6 Mirror



[Control block diagram]



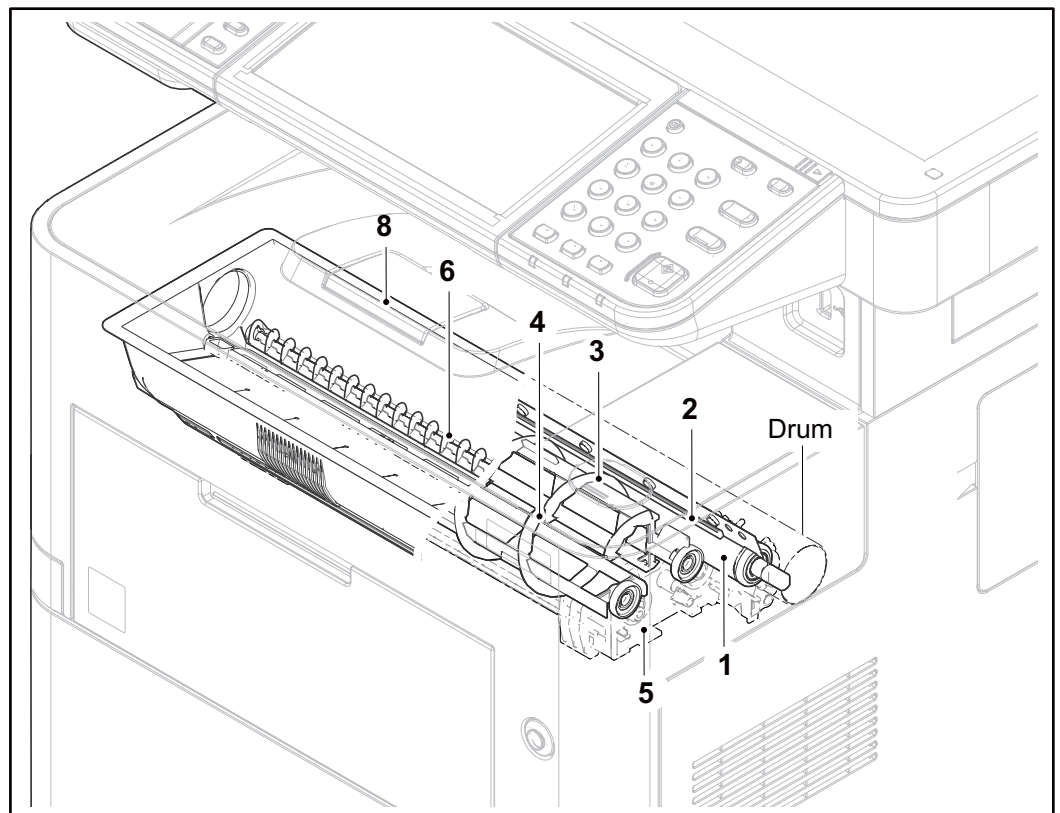
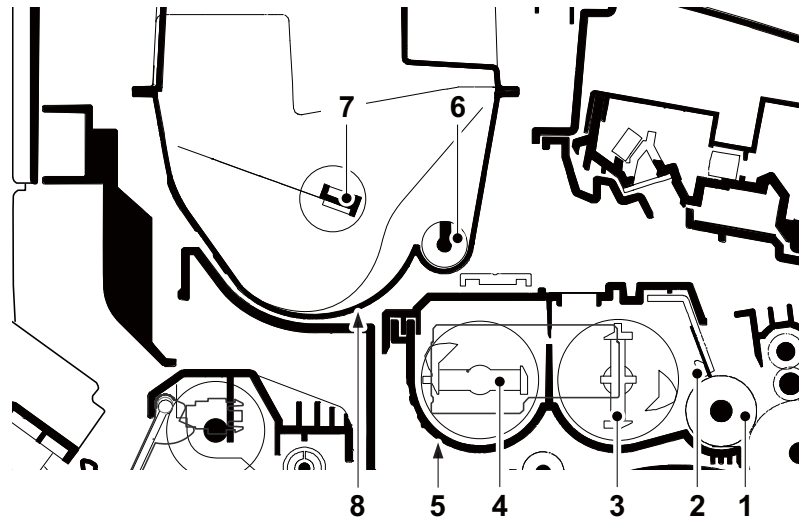
(3) Developer section

(3-1) Developer unit

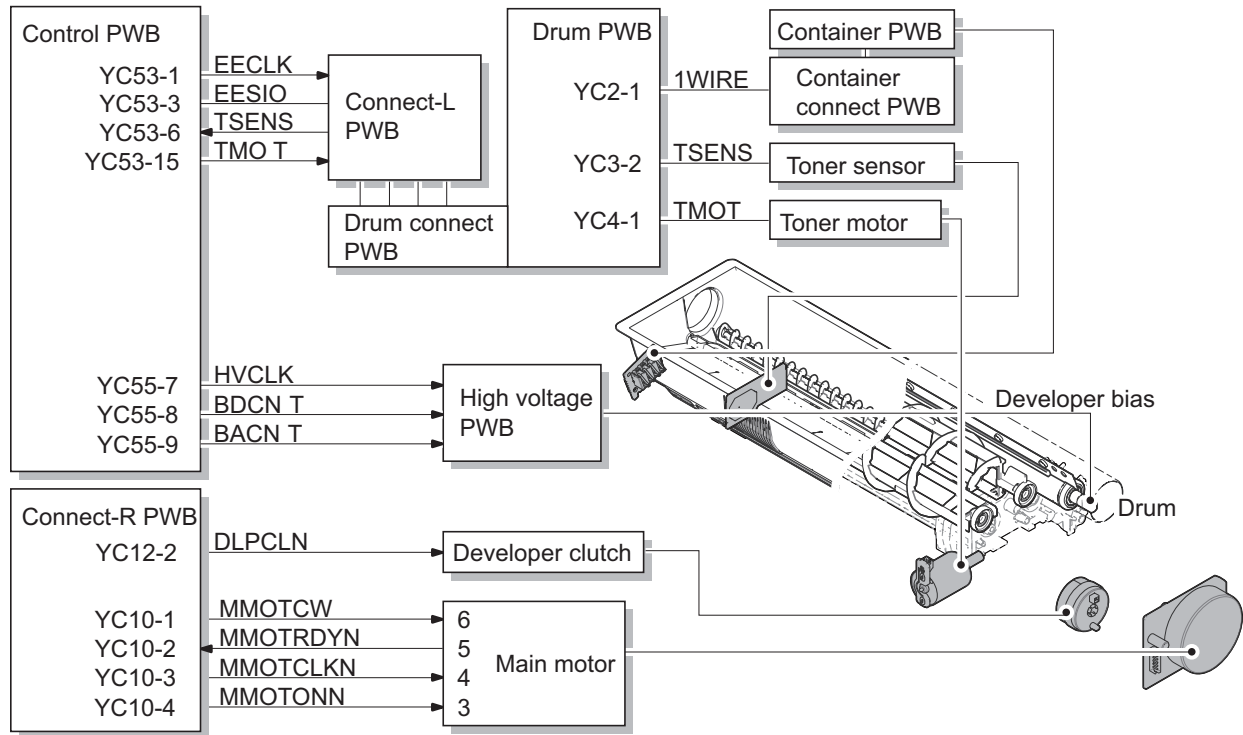
The developer unit consists of the developer roller that forms the toner layer, the developer blade and the developer screws that agitate the toner. Also, the toner sensor checks whether or not toner remains in the developer unit.

[Component formation]

- 1 Developer roller
- 2 Developer blade
- 3 Developer screw A
- 4 Developer screw B
- 5 Developer case
- 6 Toner supply roller
- 7 Toner agitater
- 8 Toner container



[Control block diagram]



(4) Drum section

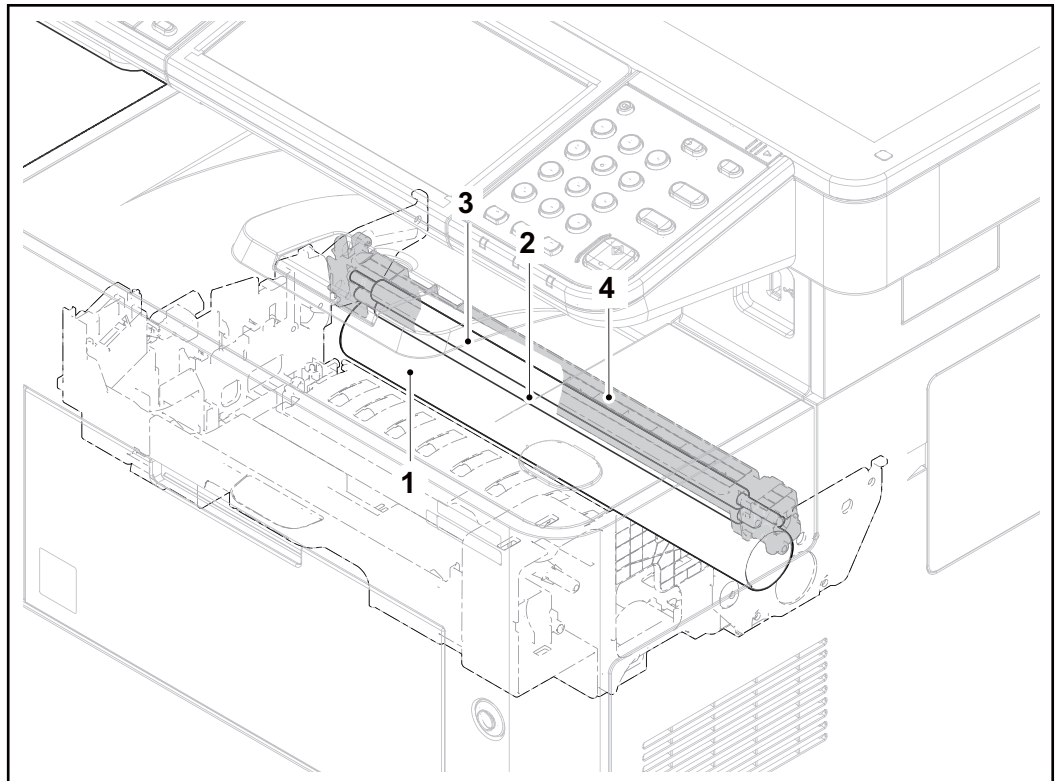
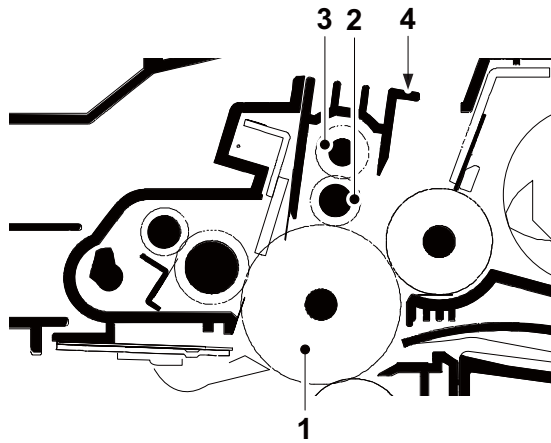
The drum section consists of the drum, the charger roller unit, and the cleaning unit, and the drum surface is uniformly charged in preparation for formation of residual image by laser beam.

(4-1)Charger roller unit

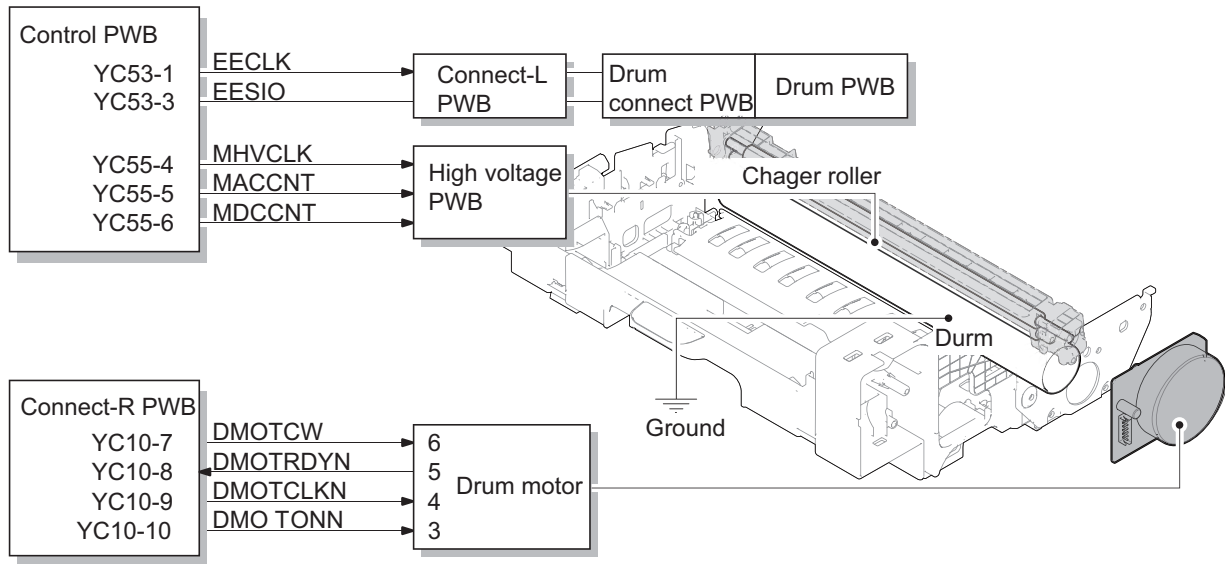
In the main charger section, the main charger roller with the electric charge contacts the drum surface and rotates to charge the drum evenly.

[Component formation]

- 1 Drum
- 2 Charger roller
- 3 Chager cleaning roller
- 4 Charger case



[Control block diagram]

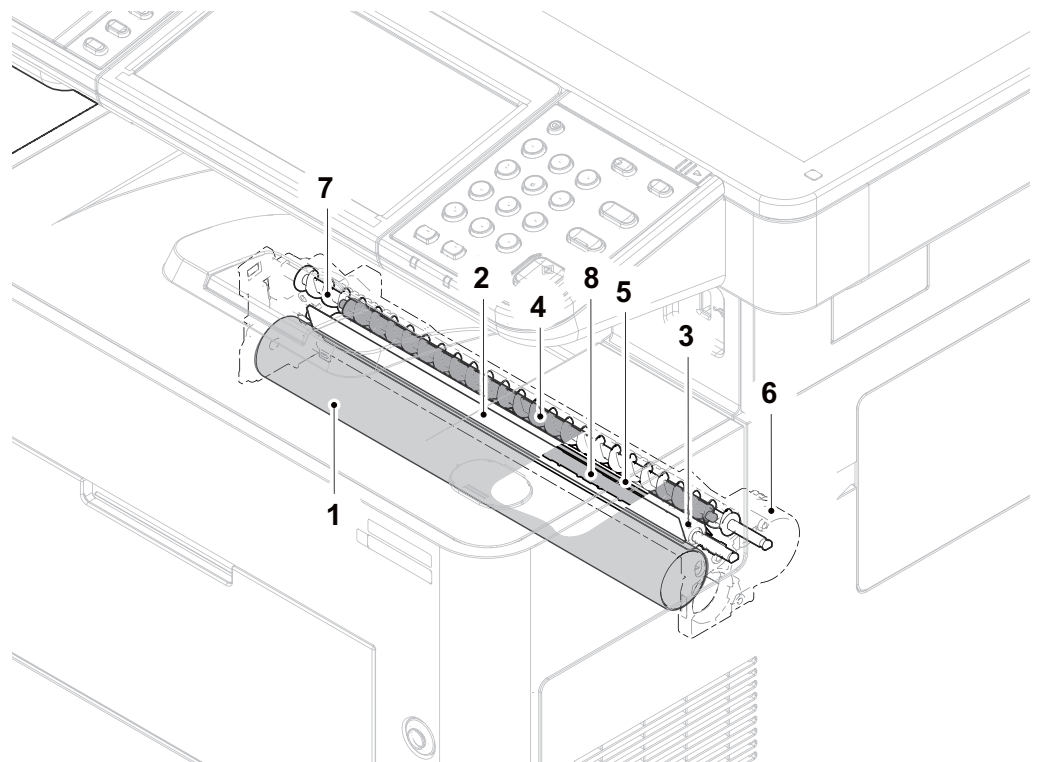
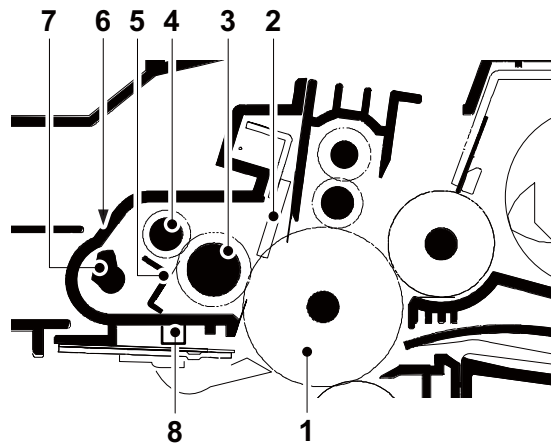


(4-2)Cleaning unit

After transfer is complete, toner remaining on the drum surface is chipped off with the cleaning blade and is collected to the waste toner box with the drum screw. The eraser consists of LEDs and removes residual charge on the drum before main charging.

[Component formation]

- 1 Drum
- 2 Cleaning blade
- 3 Cleaning roller
- 4 Supply roller
- 5 Scraper
- 6 Drum frame
- 7 Exit roller
- 8 Eraser

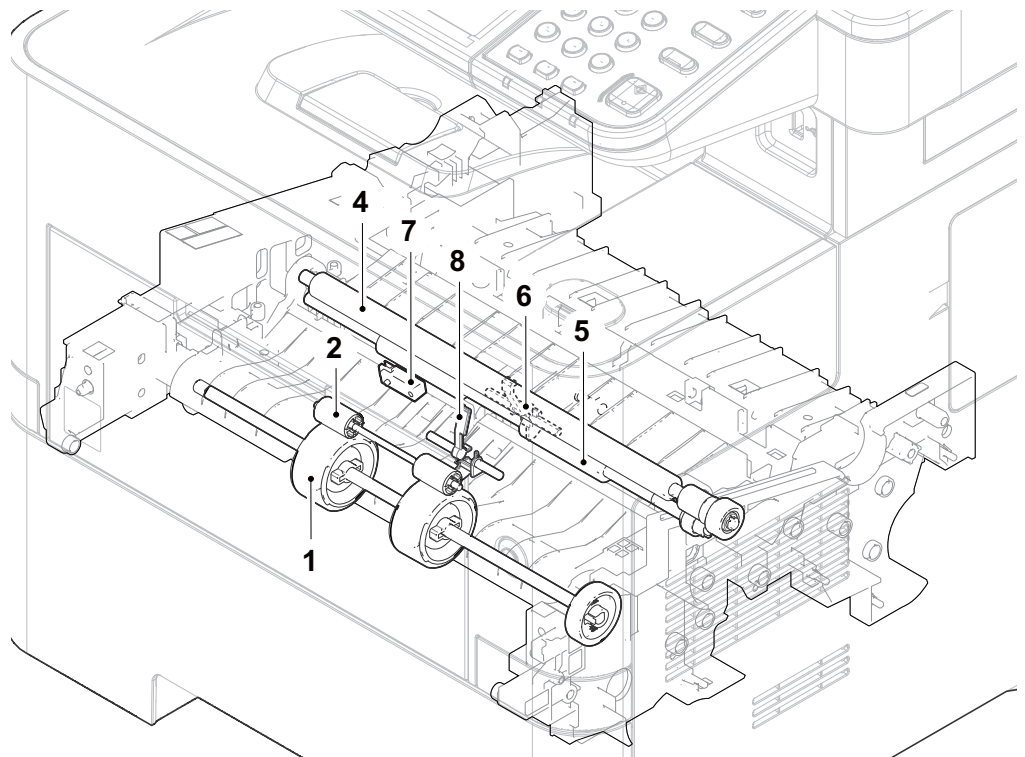
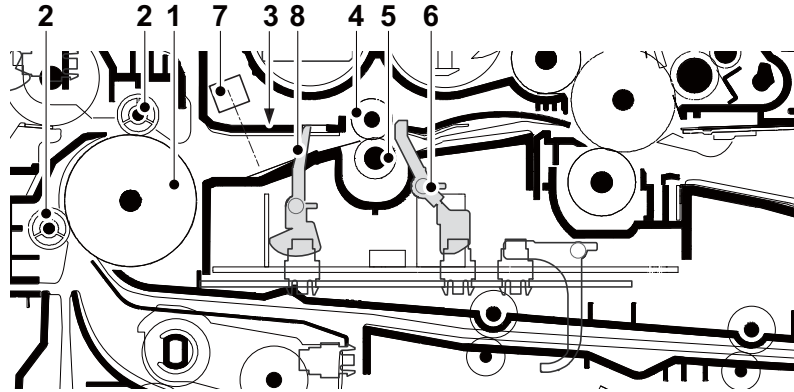


(5) Conveying section

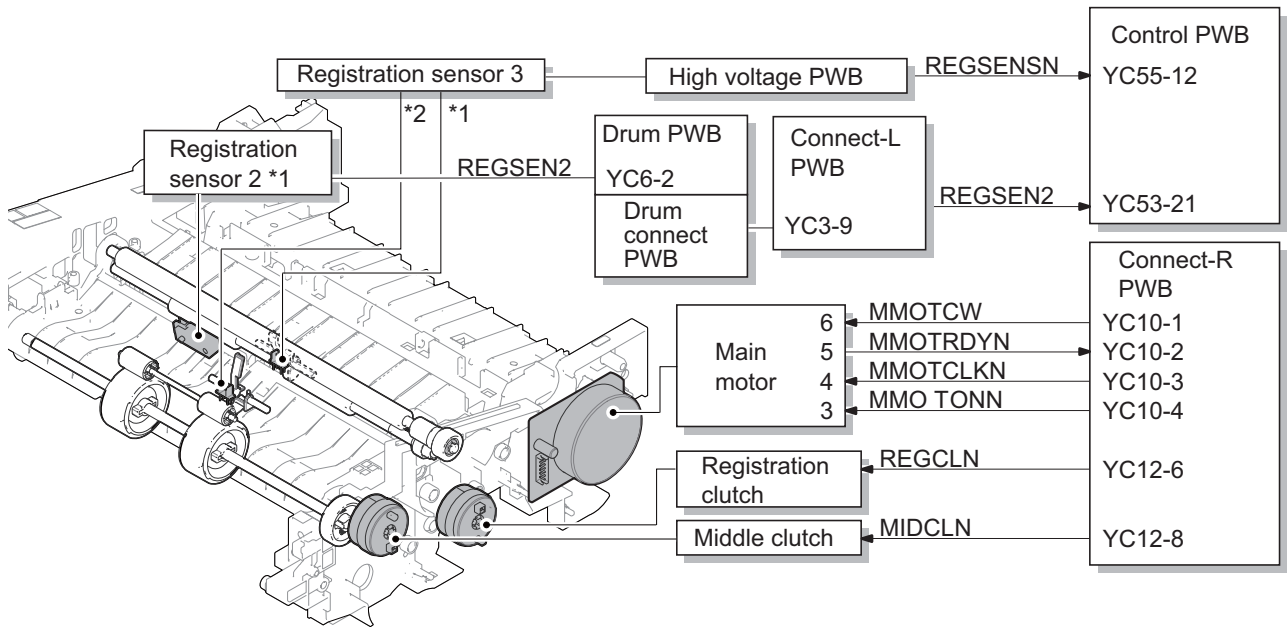
The conveying section conveys paper to the transfer/separation section as paper feeding from the cassette or MP tray, or as paper refeeding for duplex printing. Paper by feeding is conveyed by the paper feed roller to the position where the registration sensor is turned on, and then sent to the transfer/separation section by the upper registration roller and lower registration roller.

[Component formation]

- 1 Middle roller
- 2 Middle pulley
- 3 Upper registration guide
- 4 Upper registration roller
- 5 Lower registration roller
- 6 Actuator
(Registration sensor 3) *1
- 7 Registration sensor2 *1
- 8 Actuator
(Registration sensor 3) *2



[Control block diagram]



*1: 55/60 ppm model only, *2: 45 ppm model only

(6) Transfer/Separation section

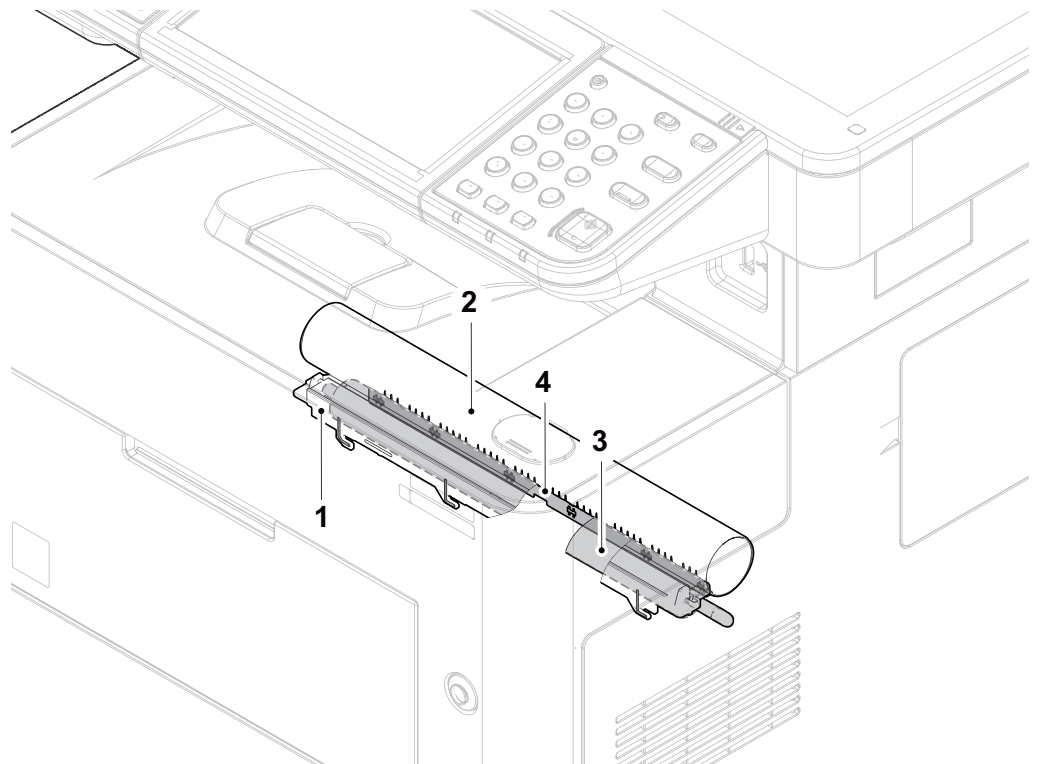
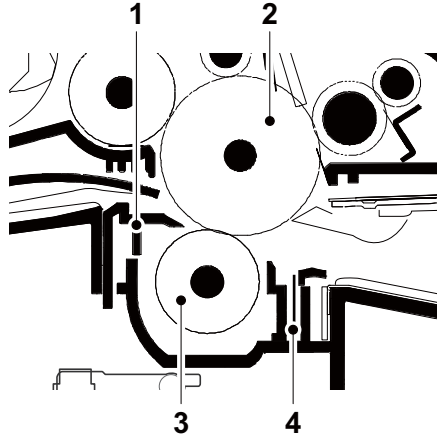
The transfer and separation section consists mainly of the transfer roller, separation electrode and drum separation claws.

A high voltage generated by the high voltage PWB is applied to the transfer roller for transfer charging.

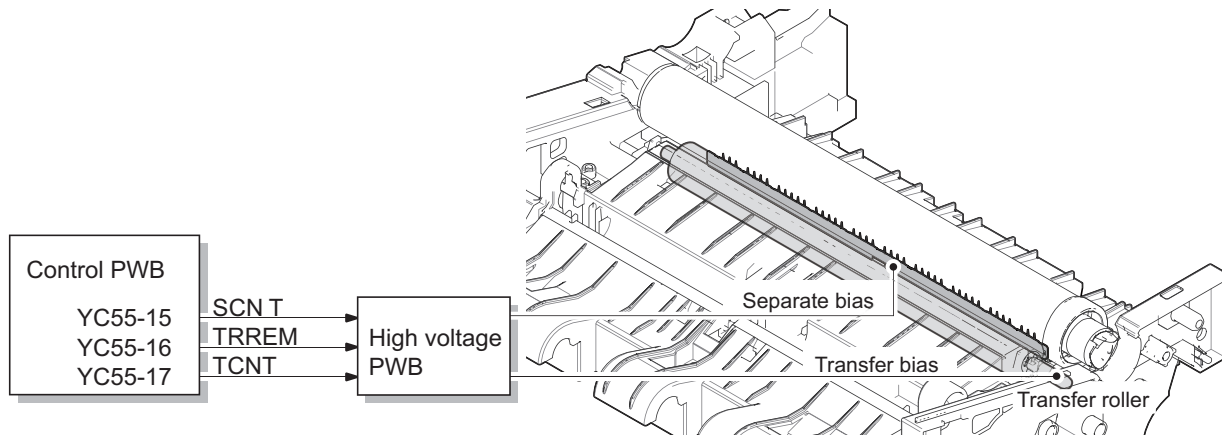
Paper after transfer is separated from the drum by applying separation charging that is output from the high voltage PWB to the separation electrode.

[Component formation]

- 1 Paper chute guide
- 2 Drum
- 3 Transfer roller
- 4 Separation needle



[Control block diagram]



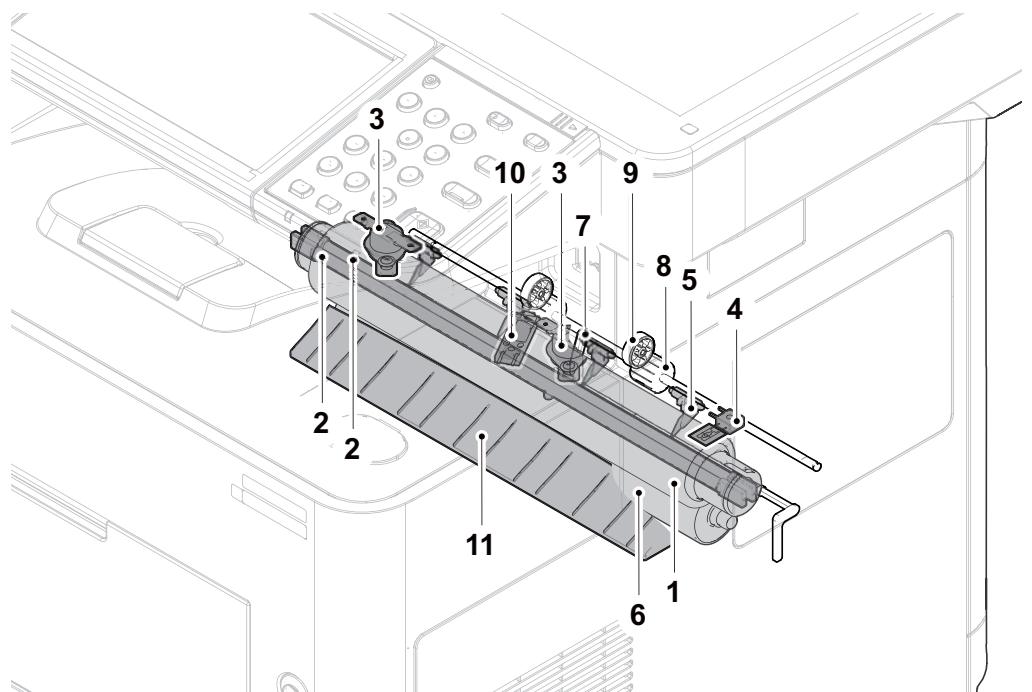
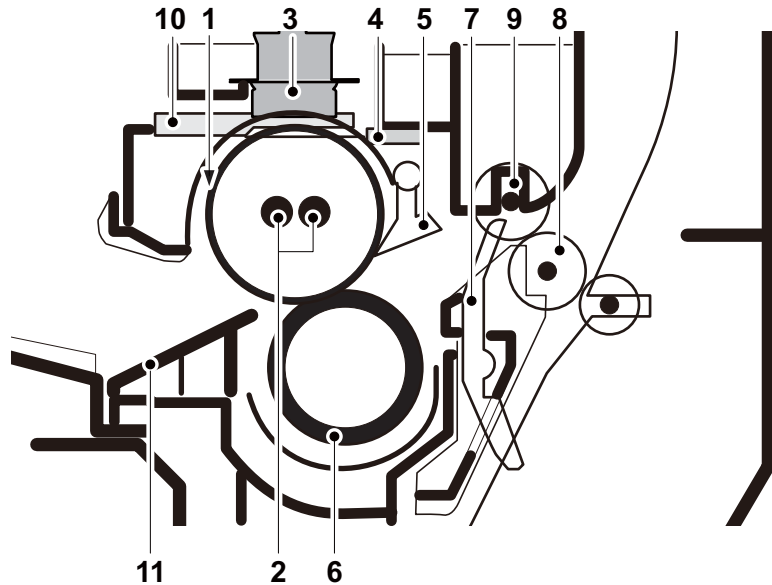
(7) Fuser section

The paper sent from the transfer/separation section is interleaved between the heat roller and the press roller. The heat roller is heated by the fuser heater, and the toner is fused by heat and pressure and fixed onto the paper because the press roller is pressed by the fuser press spring. The surface temperature of heat roller is detected by the fuser thermistor and controlled by the control PWB. If the fuser section shows extremely high temperature, the power line will be shut off and the fuser heater is forced to turn off.

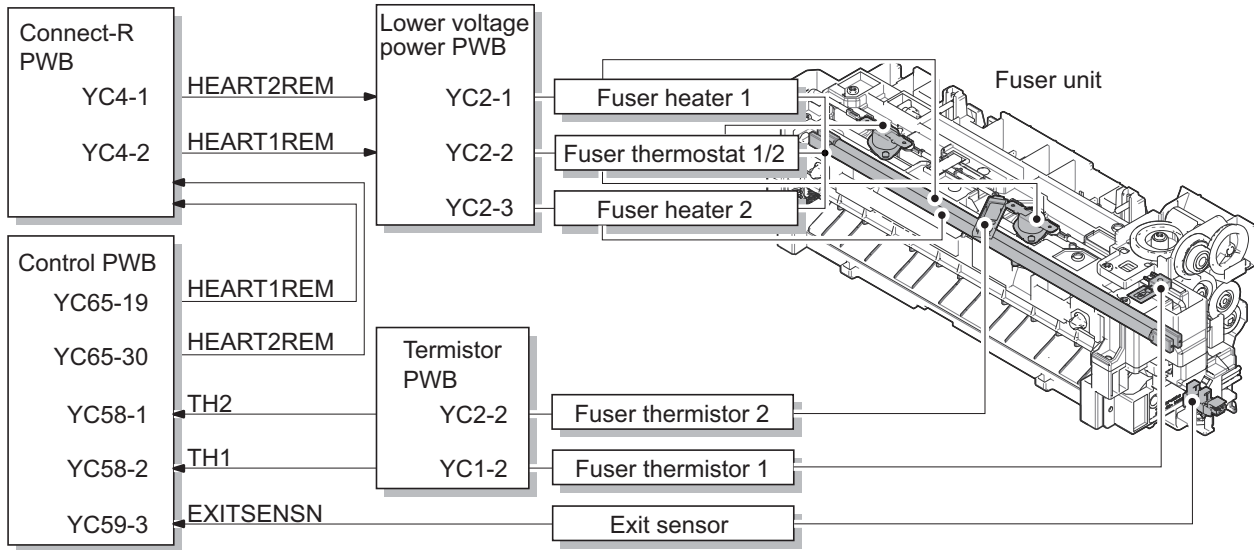
(7-1)45 ppm model

[Component formation]

- 1 Heat roller
- 2 Fuser heater
- 3 Fuser thermostat
- 4 Fuser thermistor 1
- 5 Separators
- 6 Press roller
- 7 actuator
(Exit sensor)
- 8 Fuser exit roller
- 9 Fuser exit pulley
- 10 Fuser thermistor 2
- 11 Fuser pre guide



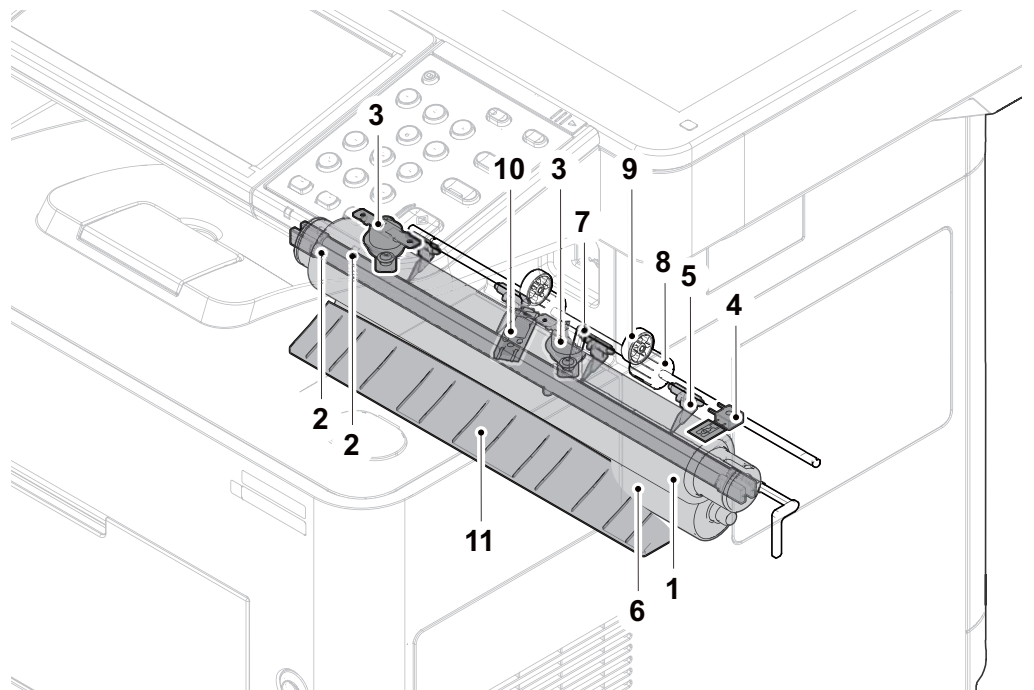
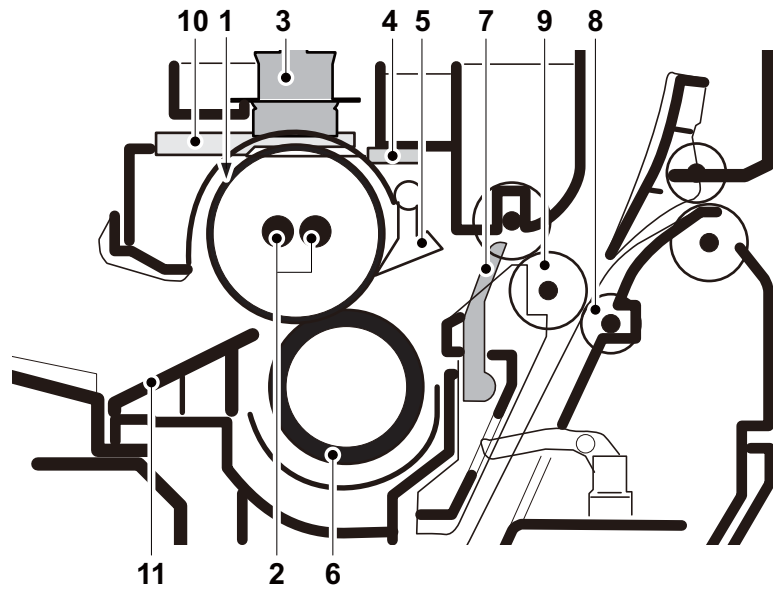
[Control block diagram]



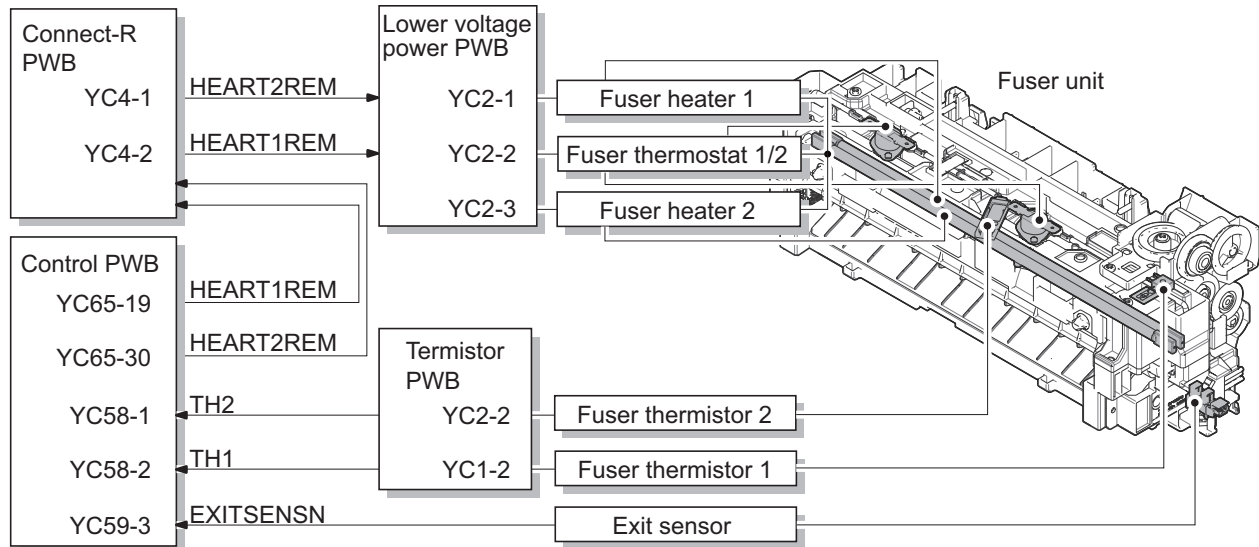
(7-2)55/60 ppm model

[Component formation]

- 1 Heat roller
- 2 Fuser heater
- 3 Fuser thermostat
- 4 Fuser thermistor 1
- 5 Separators
- 6 Press roller
- 7 actuator
(Exit sensor)
- 8 Fuser exit roller
- 9 Fuser exit pulley
- 10 Fuser thermistor 2
- 11 Fuser pre guide



[Control block diagram]

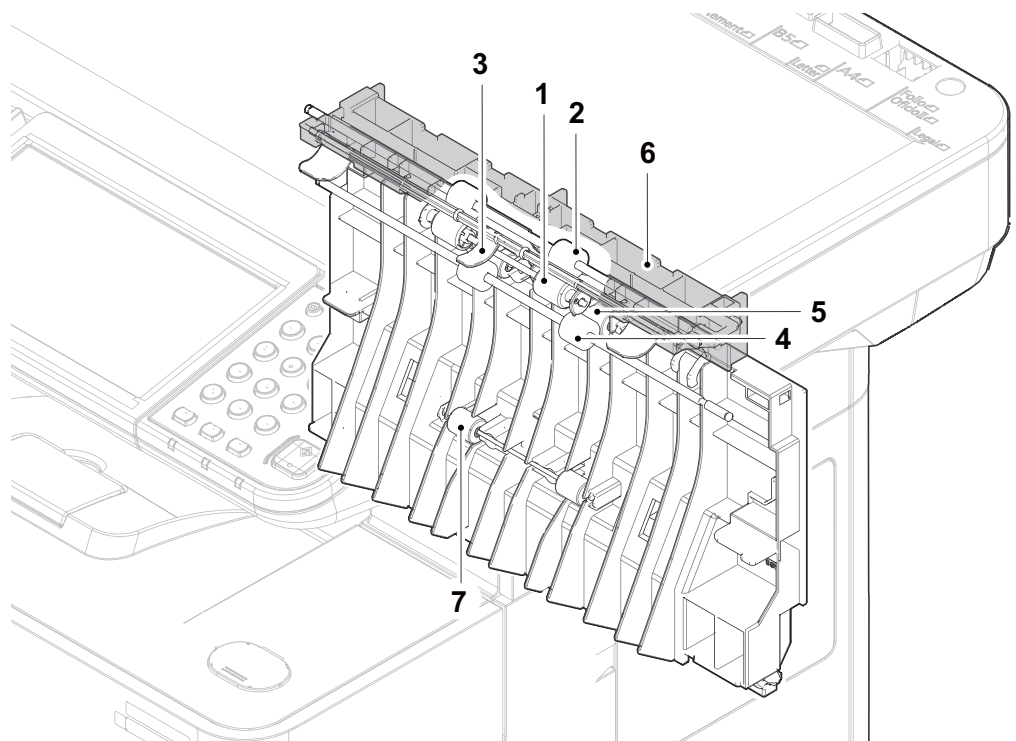
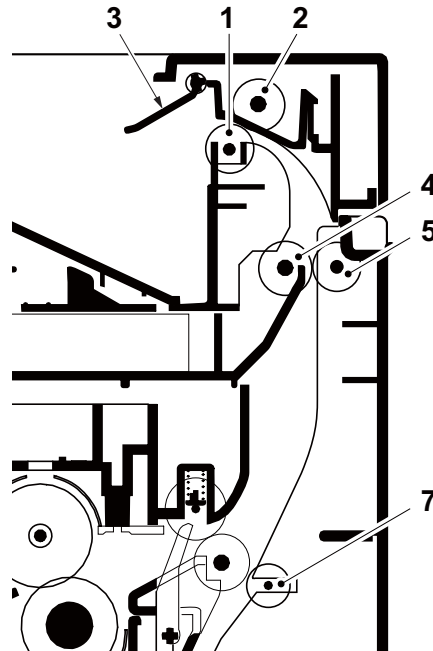


(8) Exit/feed-shift section

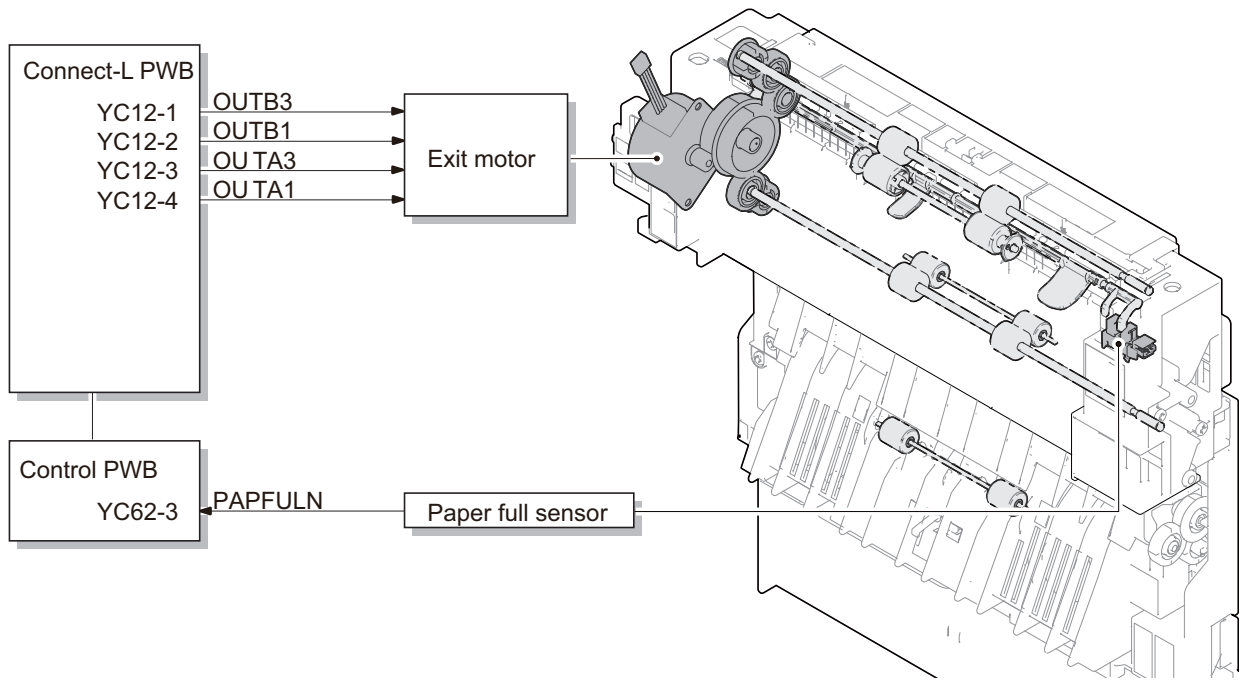
The paper exit/feed-shift section consists of the conveying path which sends the paper that has passed the fuser section to the inner tray, the faceup tray (55/60 ppm model only) or the duplex conveying section.

(8-1)45 ppm model**[Component formation]**

- 1 Upper exit pulley
- 2 Upper exit roller
- 3 actuator
(Paper full sensor)
- 4 Lower exit roller
- 5 Lower exit pulley
- 6 Exit upper cover
- 7 DU feed pulley



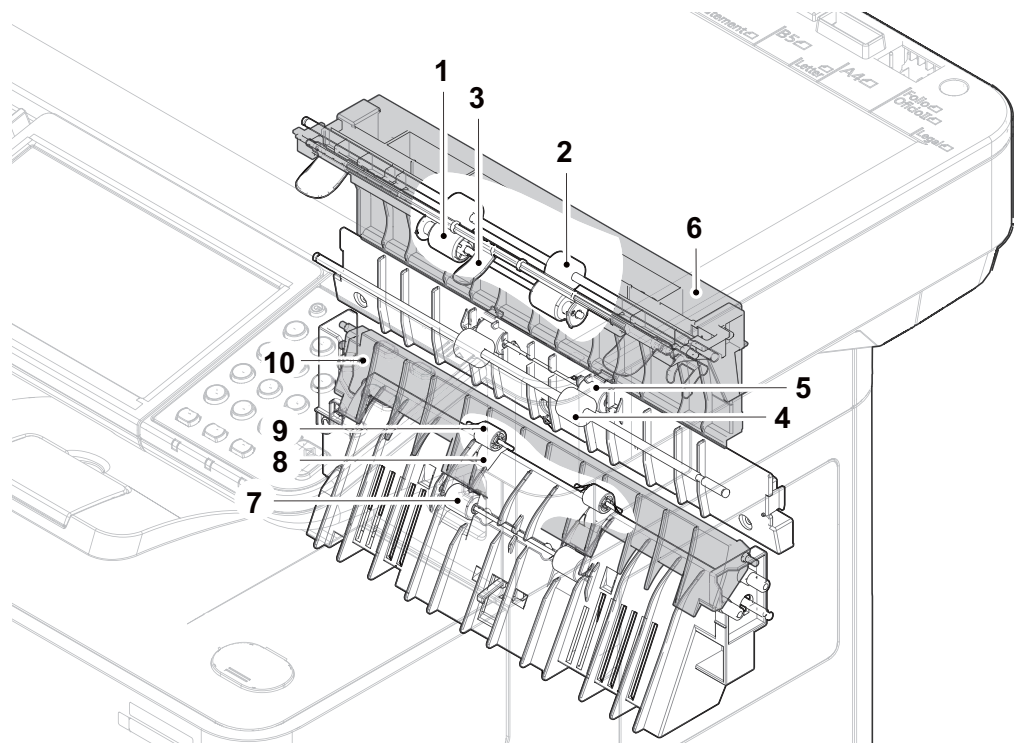
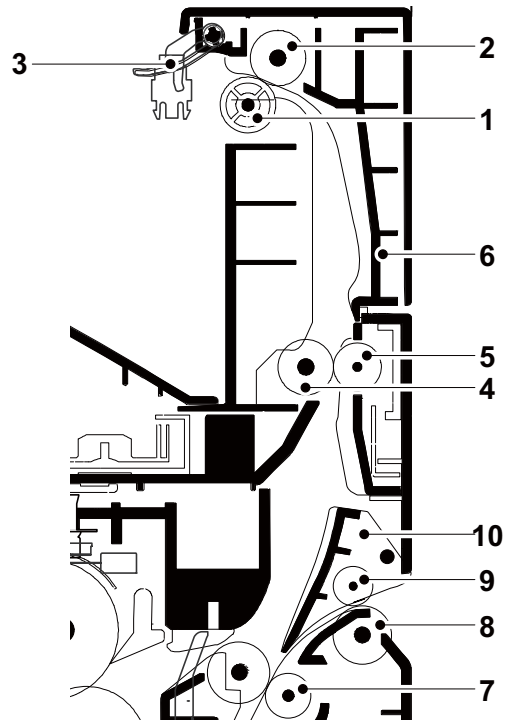
[Control block diagram]



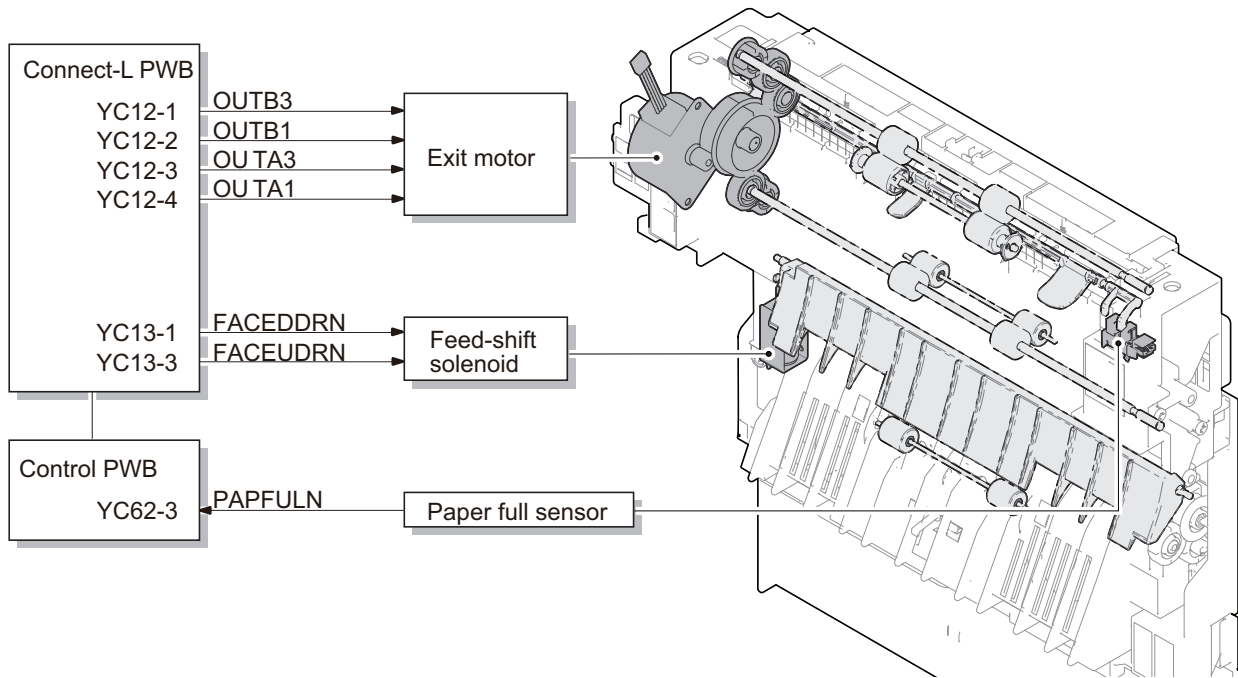
(8-2)55/60 ppm model

[Component formation]

- 1 Upper exit pulley
- 2 Upper exit roller
- 3 actuator
(Paper full sensor)
- 4 LowerExit roller
- 5 Lower exit pulley
- 6 Exit upper cover
- 7 DU feed pulley
- 8 Faceup roller
- 9 Faceup pulley
- 10 Faceup guide



[Control block diagram]

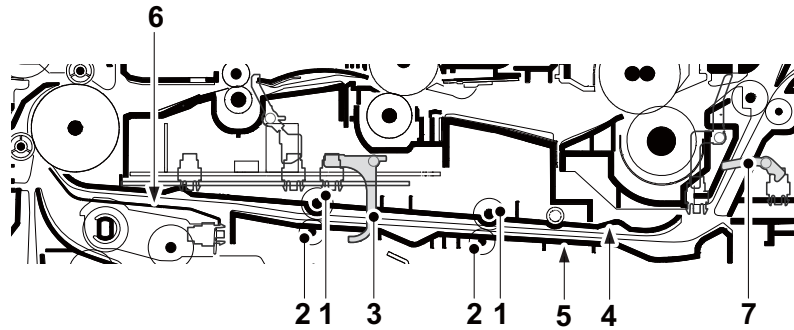


(9) Duplex conveying unit

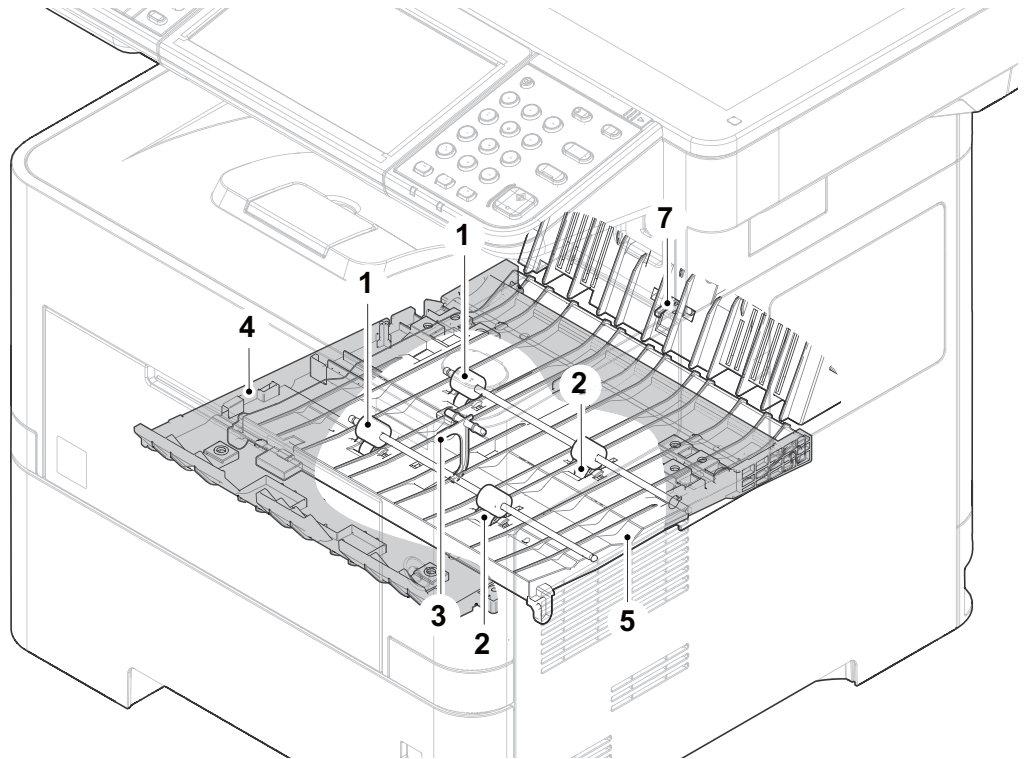
The duplex conveying section consists of conveying path which sends the paper sent from the exit/feed-shift section to the paper feed/conveying section when duplex printing.

[Component formation]

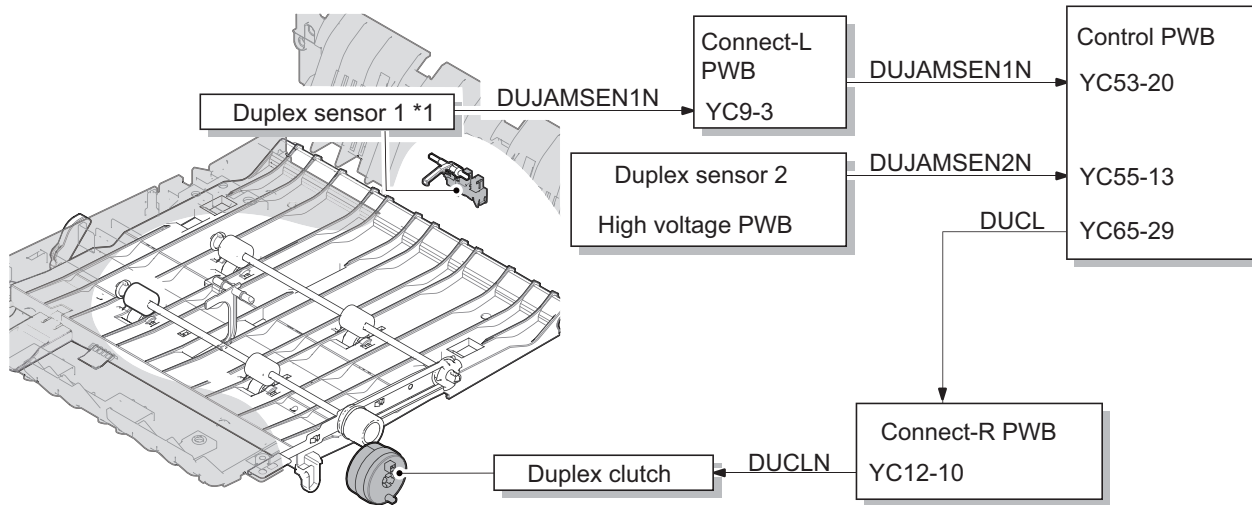
- 1 DU conveying roller
- 2 DU conveying pulley
- 3 Actuator (DU sensor 2)
- 4 DU base
- 5 DU lower guide
- 6 DU feed upper guide
- 7 Actuator (DU sensor 1) *1



*1: 55/60 ppm model only



[Control block diagram]



*1: 55/60 ppm model only

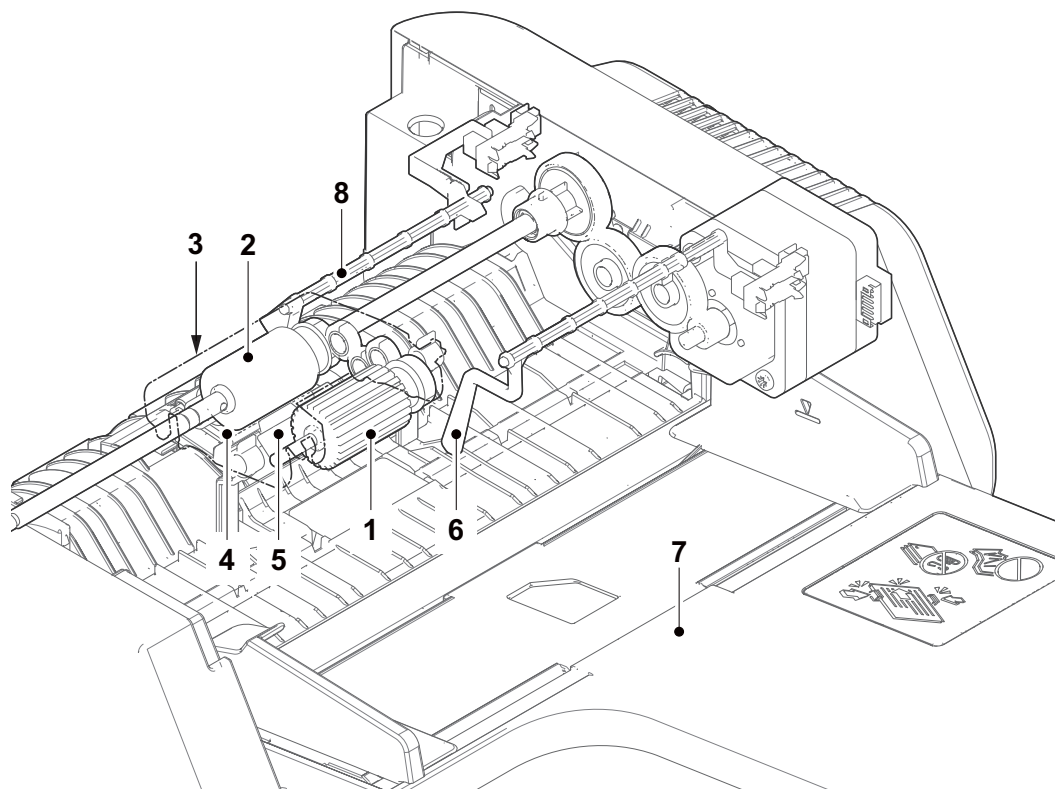
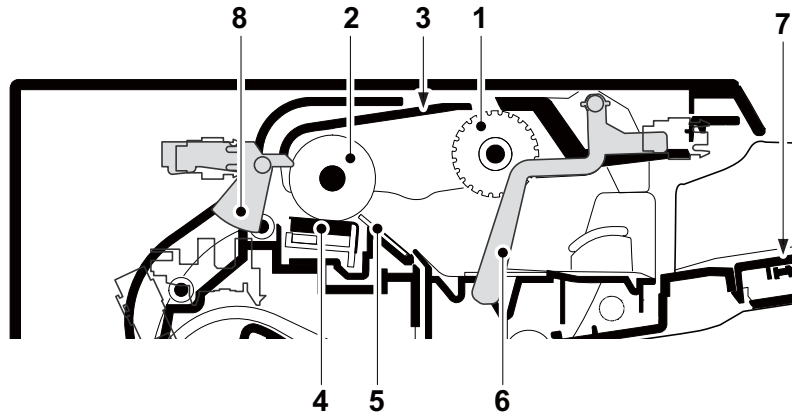
(10) Document processor (45 ppm model)

(10-1) Original feed section

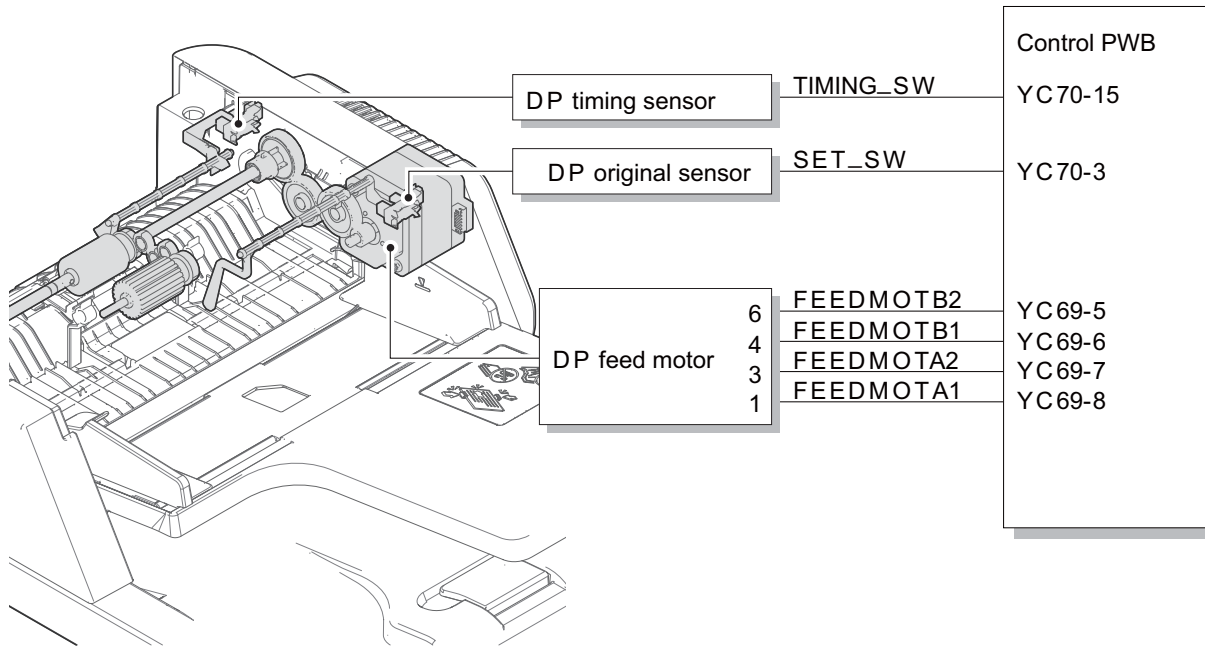
The original feed section consists of the parts shown in figure. An original placed on the original tray is conveyed to the original conveying section. Original is fed by the rotation of the DP forwarding pulley and DP paper feed roller.

[Component formation]

- 1 DP pickup pulley
- 2 DP paper feed roller
- 3 DP feed holder
- 4 DP separation pad
- 5 Pre separation pad
- 6 Acuator
(DP original sensor)
- 7 Original tray
- 8 Acuator
(DP timing sensor)



[Control block diagram]



(10-2)Original conveying section and reverse/exit section

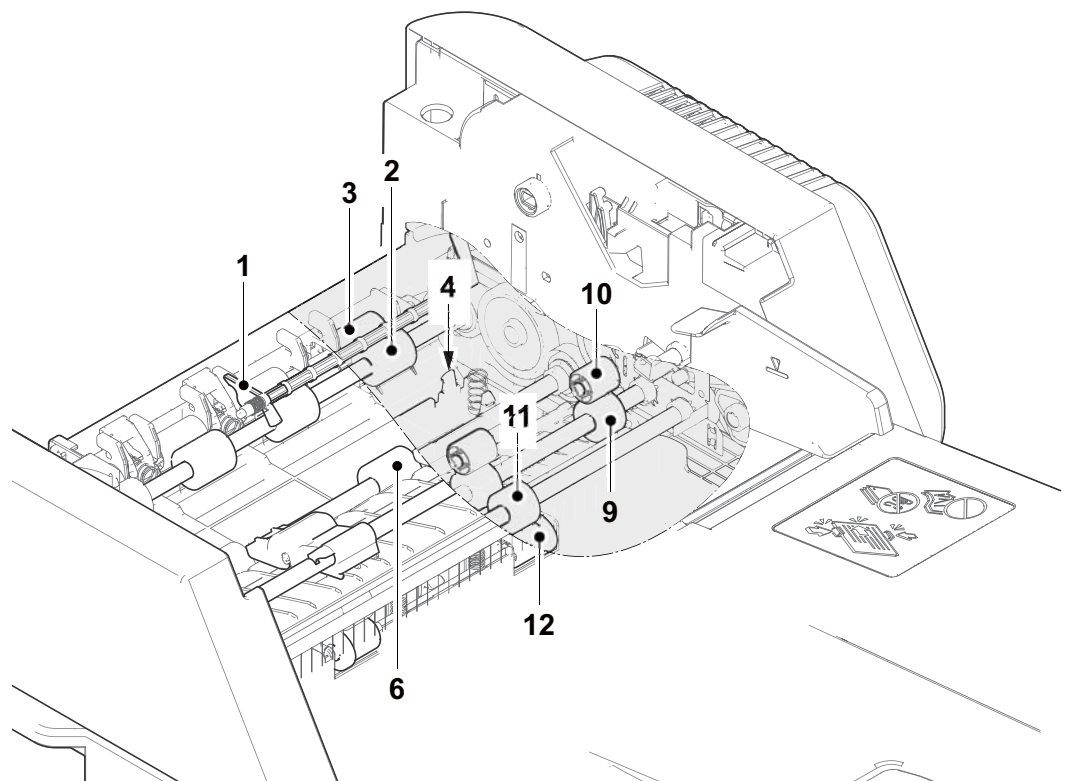
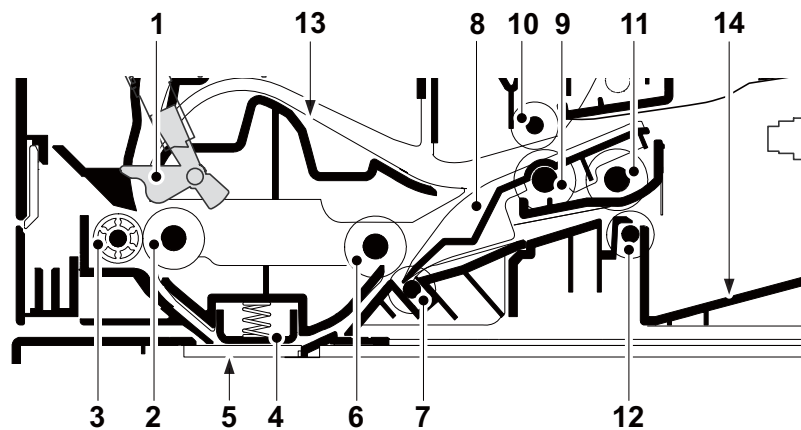
The original conveying section consists of the parts shown in figure. A conveyed original is scanned by the optical section (CCD) of main unit when it passes through the slit glass of main unit.

The original reverse/exit sections consists of the parts shown in figure. An original of which scanning is complete is exited to the original exit table by the exit roller.

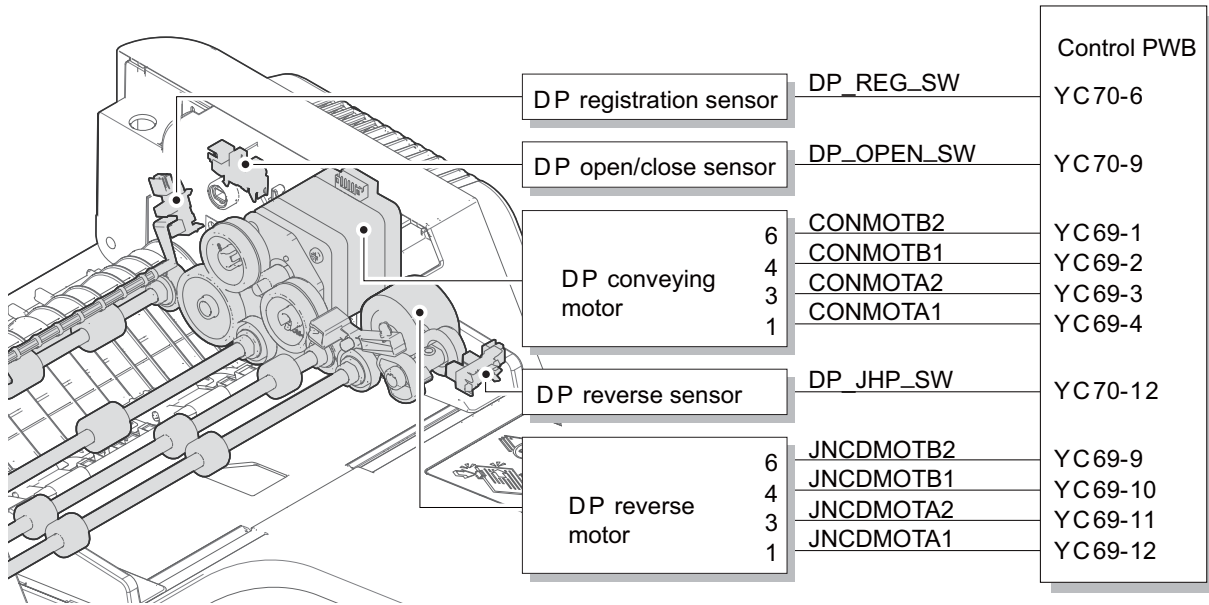
An original is conveyed temporarily to the original exit table and conveyed again to the original conveying section by the reverse roller.

[Component formation]

- 1 Actuator
(DP registration sensor)
- 2 DP registration roller
- 3 DP registration pulley
- 4 Reading guide
- 5 Slit glass
- 6 DP conveying roller
- 7 DP conveying pulley
- 8 reverse guide
- 9 reverse roller
- 10 reverse pulley
- 11 DP exit roller
- 12 DP exit pulley
- 13 reverse guide
- 14 Exit table



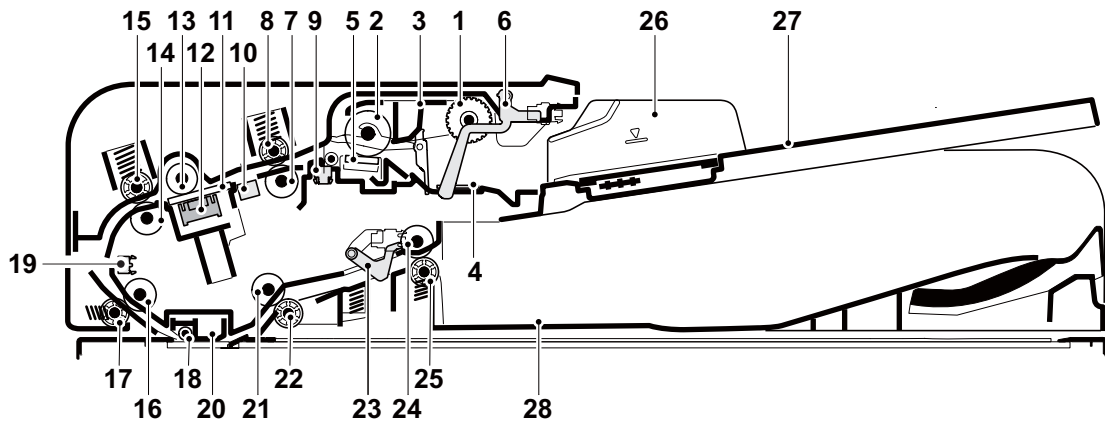
[Control block diagram]



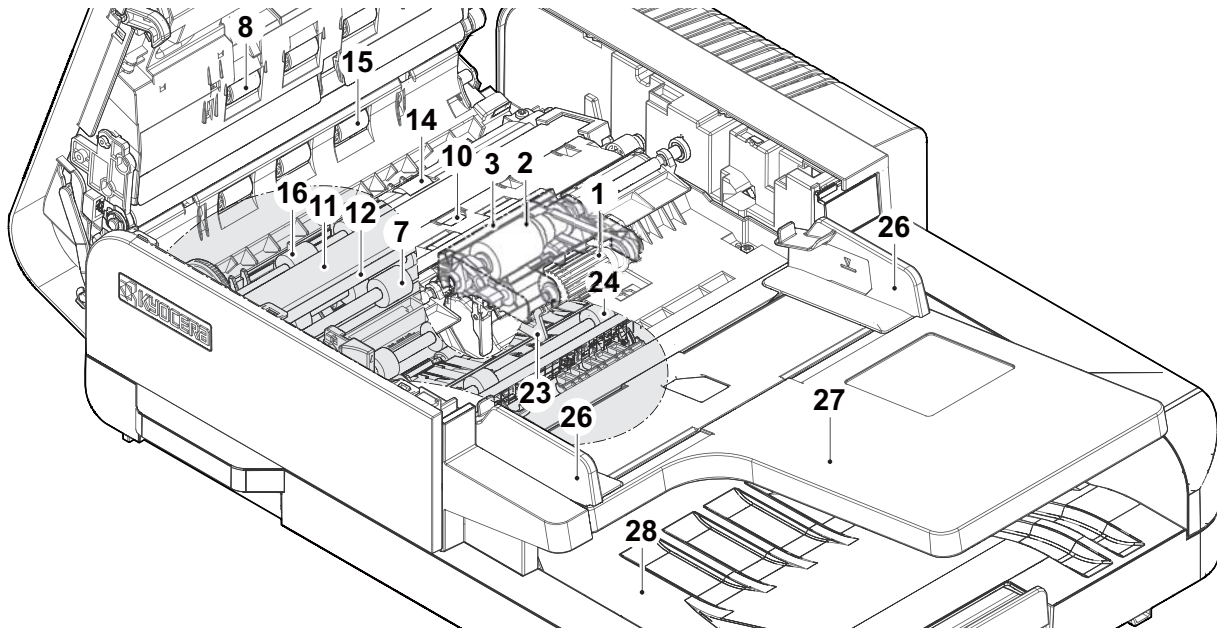
(11) Document processor (55/60 ppm model)

The original feed section consisting of the parts in the figure, feeds and conveys the original on the original tray to the original conveying section by the rotation of the DP forwarding pulley and DP feed roller.

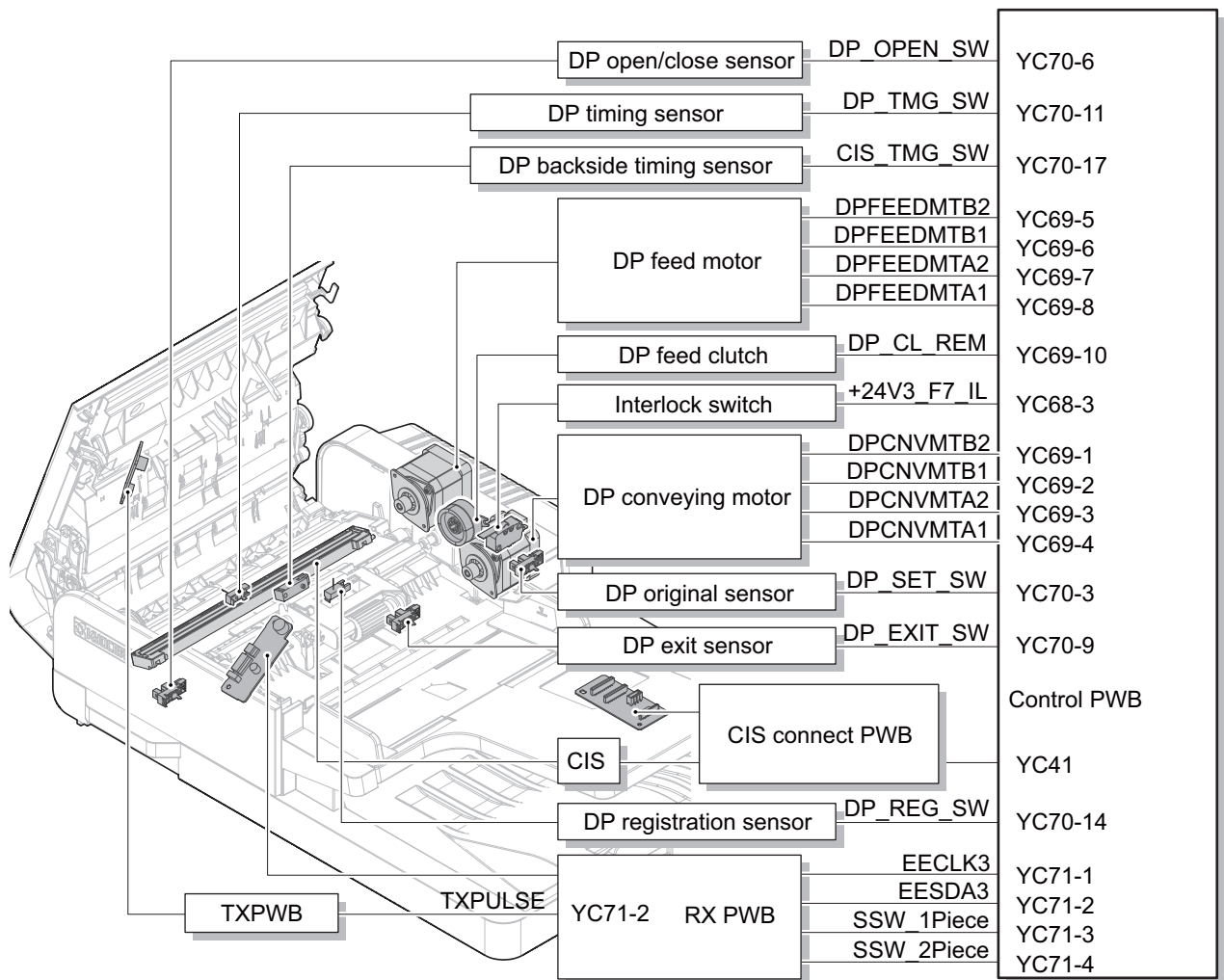
The 2nd side of the conveyed original is scanned when passing the CIS and the 1st side at the optical section (CIS) in the main unit when passing the DP slit glass. The original already scanned is ejected to the original exit tray by the exit roller.

**[Component formation]**

1 DP pickup pulley	15 DP conveying pulley B
2 DP feed roller	16 DP conveying roller C
3 DP pickup holder	17 DP conveying pulley C
4 DP friction pad	18 DP reading pulley
5 DP separation pad	19 DP original timing sensor
6 DP actuator (DP original sensor)	20 DP scanning guide
7 DP registration roller A	21 DP conveying roller D
8 DP registration pulley A	22 DP conveying pulley D
9 DP registration sensor	23 DP actuator (DP exit sensor)
10 DP backside original timing sensor	24 DP exit roller
11 DP CIS contact glass	25 DP exit pulley
12 DP CIS	26 DP original width guide
13 CIS roller	27 DP original tray
14 DP conveying roller B	28 DP exit tray



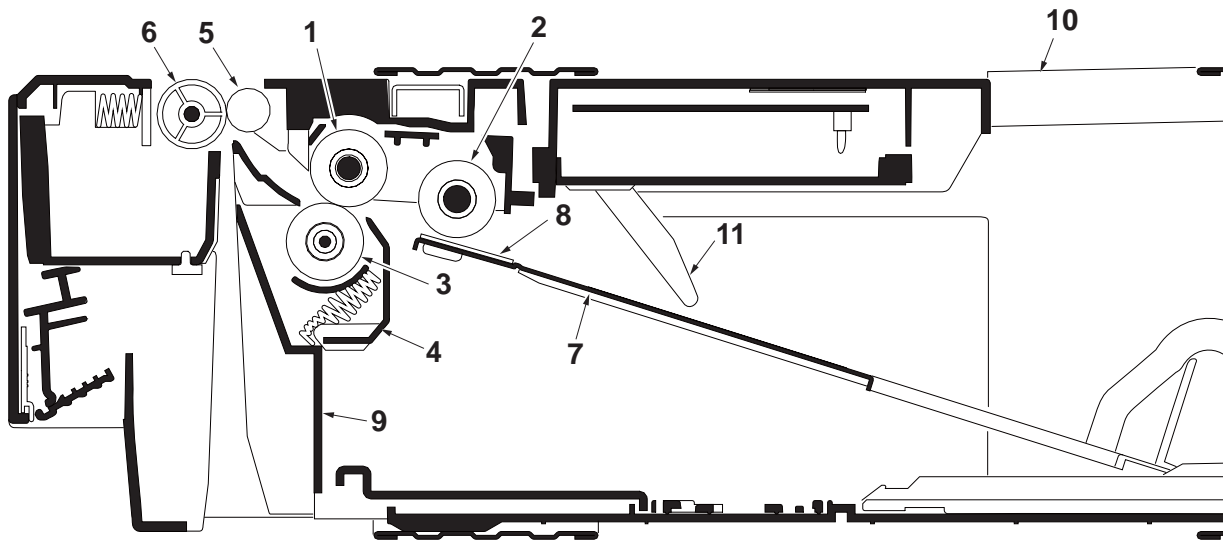
[Control block diagram]



3 - 6 Mechanical construction (option)

(1) Paper feeder (PF-3110)

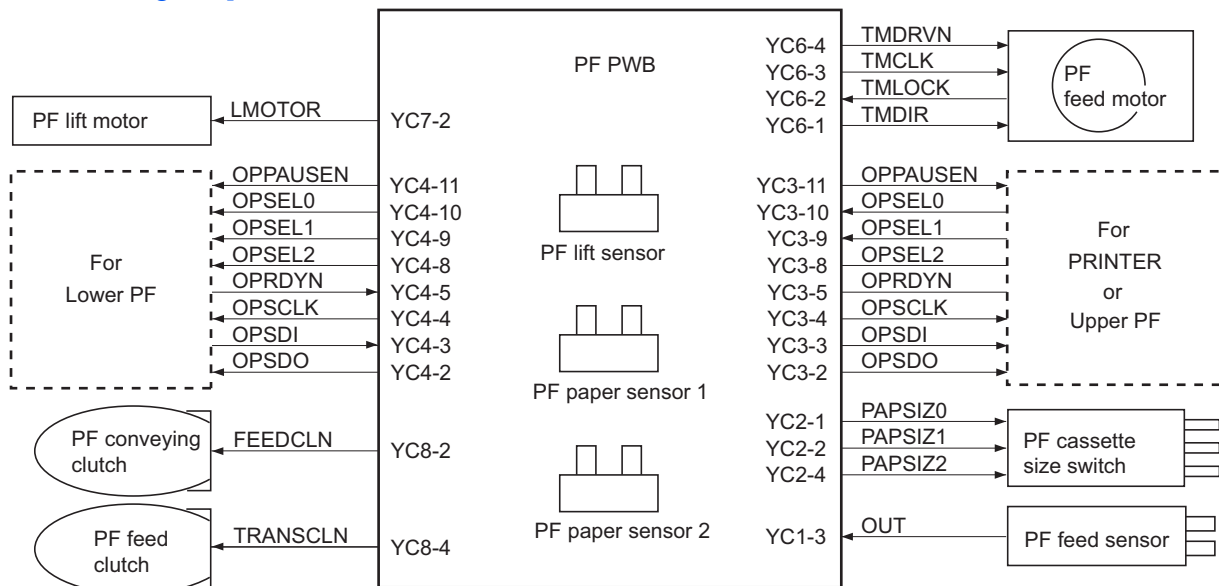
The paper feeder conveys paper from the cassette to the printer. Cassette can hold up to 500 sheets of paper. Paper is fed from the paper feeder by the rotation of the pickup roller and paper feed roller. The retard roller prevents multiple sheets from being fed at one time, via the torque limiter.



[Component formation]

- | | |
|-----------------------|----------------------------------|
| 1 Paper feed roller | 7 Bottom plate |
| 2 Pickup roller | 8 Bottom pad |
| 3 Retard roller | 9 Cassette base |
| 4 Retard roller guide | 10 Upper cover |
| 5 Conveying roller | 11 Paper gauge sensor (actuator) |
| 6 Conveying pulley | |

[Control block diagram]



4Maintenance

4 - 1 Precautions for the maintenance

(1) Precautions

Before disassembling the main unit, press the main power switch to turn the power off. Make sure that the power lamp on the operation panel is off and unplug the power cord from the wall outlet. Then, start the disassembly.

When handling the PWBs (printed wiring boards), do not touch parts with bare hands. Make sure not to damage the PWB.

If ICs are mounted on the PWB, do not touch them by hand or something charged with electrostatic.

Make sure to release the hook before disconnecting the connector with the hook.

Take care not to pinch up the wire and cable.

Use the original screws when reassembling the parts once disassembled.

If the types and the sizes of screws are not sure, refer to the parts list.

(2) Storage and handling of the drum

Note the following when handling and storing the drum.

When detaching the drum unit, never expose the drum surface to strong direct light.

Store in the range of ambient temperature of -20 to 40 degree C(-4°F to 104°F) and ambient humidity of 85% RH or less. Wait more than 5 seconds between the power off and on. Avoid storing the drum unit in the place where the temperature and humidity may suddenly change even if these changes are within the tolerable range.

Avoid exposure to any substance which is harmful or may affect the quality of the drum.

Do not touch the drum surface with any object.

Make sure not to touch the drum surface with bare hands or gloves.

If the drum is touched by hands or stained with oil, clean it.

(3) Storage of the toner container

Store the toner container in a cool, dark place.

Do not place the toner container under direct sunshine or in a damp environment.

(4) Screening of the toner container

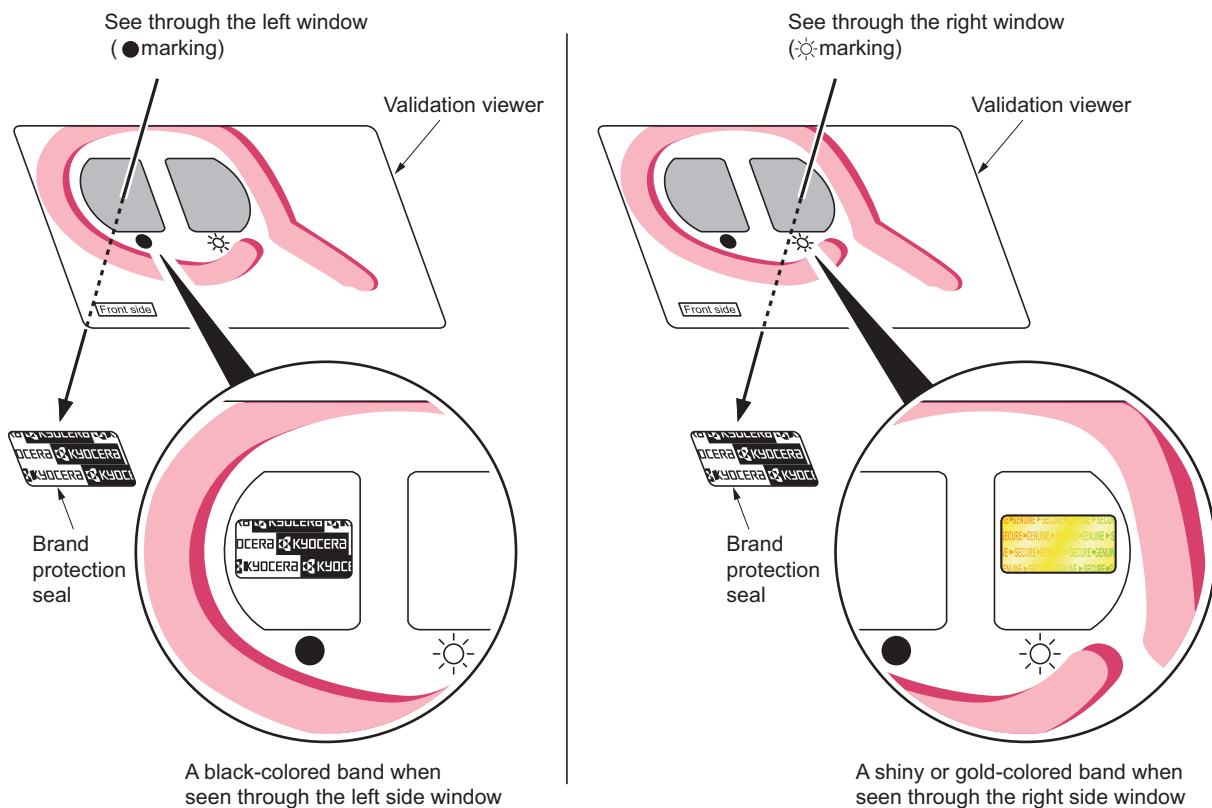
As a means of brand protection, the Kyocera toner container utilizes an optical security technology to enable visual validation. A validation viewer is required to accomplish this.

Hold the validation viewer over the left side part of the brand protection seal on the toner container. Through each window of the validation viewer, the left side part of the seal should be seen as follows:

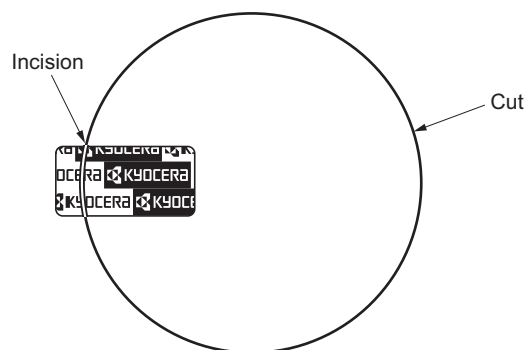
A black-colored band when seen through the left side window (●)

A shiny or gold-colored band when seen through the right side window (☀)

The above will reveal that the toner container is a genuine Kyocera branded toner container, otherwise, it is a counterfeit.



The brand protection seal has an incision as shown below to prohibit reuse.



4 - 2 Maintenance parts

(1) Maintenance kits

(1-1)45 ppm/Basic model

For main unit

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-3260 MK-3264 (300,000 Images)	MK-3260/MAINTENANCE KIT MK-3264/MAINTENANCE KIT	1702TG8NL_ 1702V38AS_

For document processor (Mechanical reverse method)

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-3140 (200,000 Images)	MK-3140/MAINTENANCE KIT	1702P60UN_

(1-2)45 ppm/HyPAS model

For main unit

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-3060 MK-3262 MK-3264 (300,000 Images)	MK-3060/MAINTENANCE KIT MK-3262/MAINTENANCE KIT MK-3264/MAINTENANCE KIT	1702V38NL_ 1702V37US_ 1702V38AS_

For document processor (Mechanical reverse method)

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-3140 (200,000 Images)	MK-3140/MAINTENANCE KIT	1702P60UN_

(1-3)55/60 ppm model

For main unit

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-3300 MK-3302 MK-3304 (500,000 Images)	MK-3300/MAINTENANCE KIT MK-3302/MAINTENANCE KIT MK-3304/MAINTENANCE KIT	1702TA8NL_ 1702TA7US_ 1702TA8AS_

For document processor (Double reading system)

Maintenance parts name		Part No.
Service manual	Name used in parts list	
MK-5200 (200,000 Images)	MK-5200/MAINTENANCE KIT	1703R40UN_

(2) Maintenance parts list

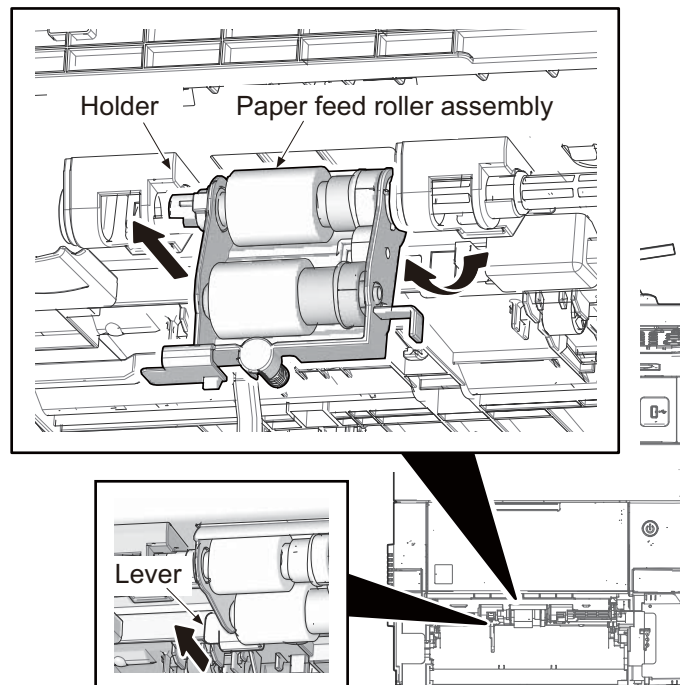
Maintenance parts name		Part No.
Service manual	Name used in parts list	
Feed roller	PULLEY FEED ASSY PARTS PULLEY PICKUP ASSY SP (PARTS HOLDER FEED ASSY SP)	302F90623_ - (302LV9427_)
Retard roller	RETARD ROLLER ASSY (CT-3200) (CT-3230)	302F90917_ (302TT9301_)*1 (302TP9301_)*2
Contact glass Slit glass	CONTACT GLASS CONTACT GLASS DP (PARTS FRAME ISU TOP ASSY SP)	- - (302TA9402_)
CCD LED	P.W.BOARD ASSY CCD P.W.BOARD ASSY LED (PARTS ISU ASSY SP)	- - (302TG9301_)*3 (302TA9302_)*4
MP feed roller	ROLLER M/P ASSY	302HS0826_
MP separation pad	PAD SEPARATION MPF	302F90825_
Upper registration roller	PARTS ROLLER REGIST UP SP	302LV9418_
Lower registration roller	PARTS ROLLER REGIST LOW SP	302TP9404_*1 302LV9417_*2
Transfer roller	PARTS ROLLER TRANSFER SP	302LV9413_
Paper chute guide	PARTS GUIDE PAPER CHUTE SP	302LV9426_
DU conveying roller	PARTS ROLLER DU ASSY SP	302LV9453_
DU conveying pulley	PULLEY PA	302LV2476_
Upper eject roller	ROLLER FD UP	302LV2812_
Upper eject pulley	PULLEY EXIT	302LV2815_
Lower eject roller	ROLLER FD UP	302LV2812_
Lower eject pulley	PULLEY EXIT FUSER	303K32532_
DP pickup roller DP feed roller DP separation pad	PULLEY PICKUP ASSY PULLEY PAPER FEED ASSY (PARTS HOLDER PICKUP ASSY SP) PAD SEPARATION (MK-3140/MAINTENANCE KIT)	- - (303R49401_)*2 - *1 302LW0710_*2 (1702P60UN_)*1

4 - 3 Maintenance parts replacement procedures

(1) Cassette feed section

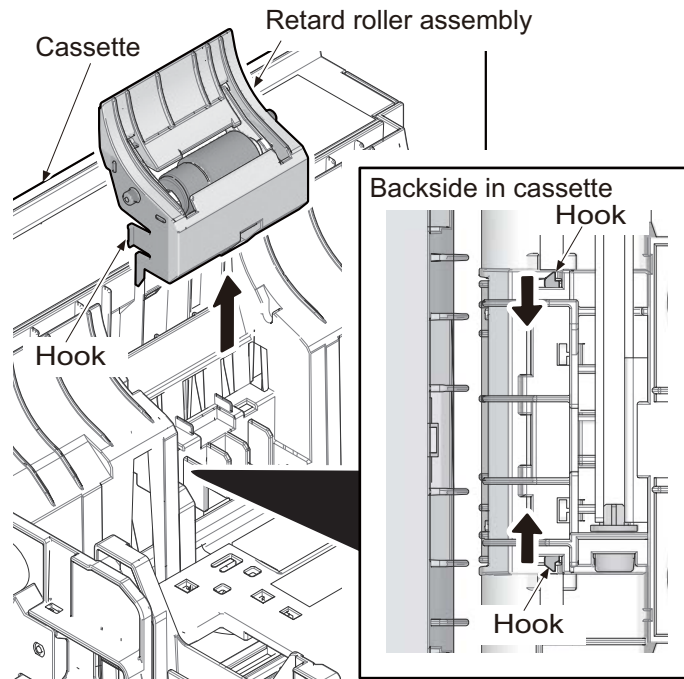
(1-1) Detaching and reattaching the feed roller assembly

- 1 Pull out the cassette.
- 2 Release the lock by pulling the lever.
- 3 Remove the paper feed roller assembly by pulling and raising and then sliding forward.
- 4 Check or replace the paper feed roller and refit all the removed parts.

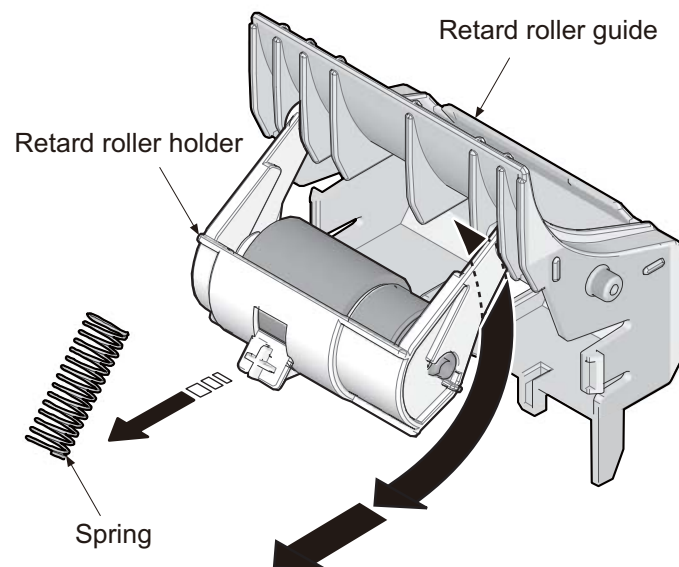


(1-2) Detaching and refitting the retard roller

- 1 Release two hooks in backside of cassette and then remove the retard roller assembly.



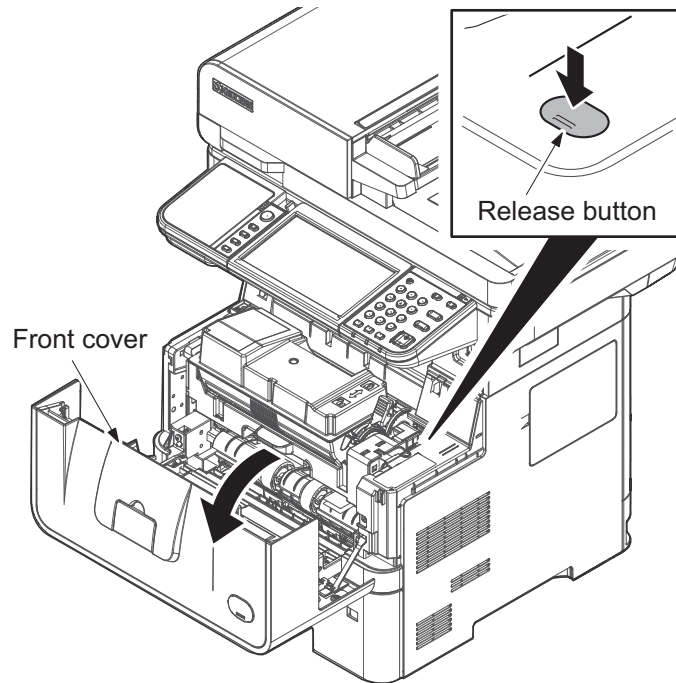
- 2 Remove the spring.
- 3 Remove the retard roller holder by rotating.
- 4 Check or replace the retard roller and refit all the removed parts.



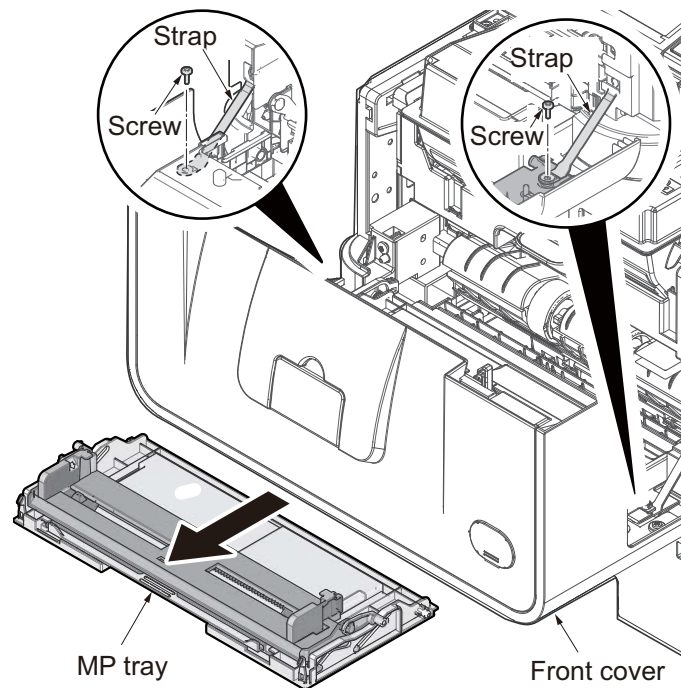
(2) MP tray feed section

(2-1) Detaching and refitting the MP paper feed pulley

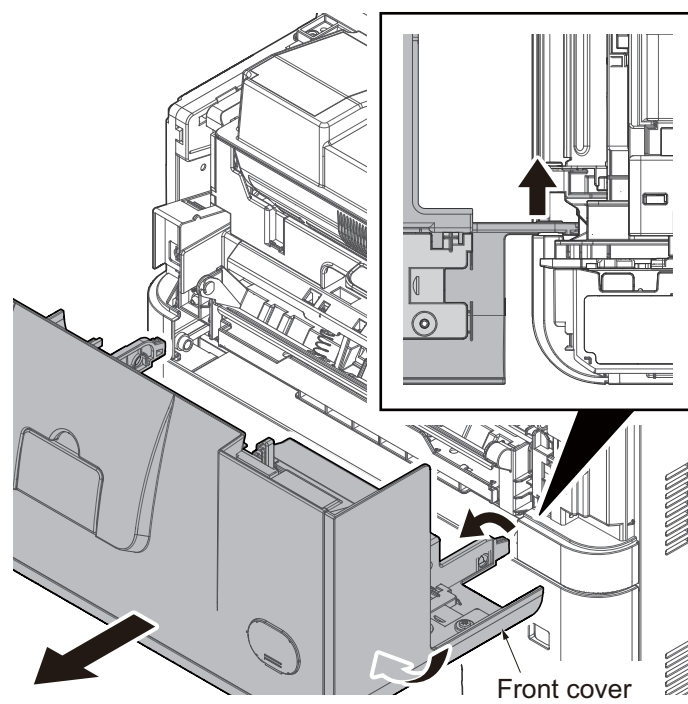
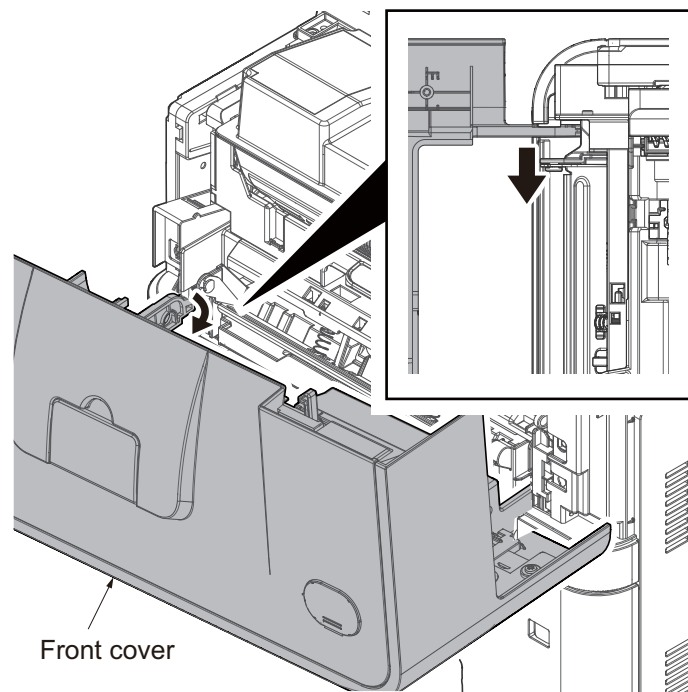
- 1 Push the release button and open the front cover.



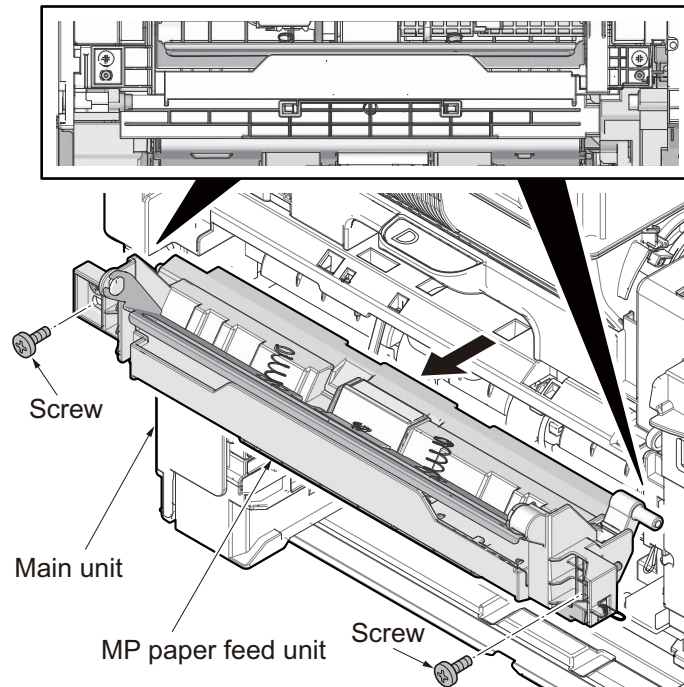
- 2 Remove the MP tray from the printer while bending it.
- 3 Remove two screws and two straps.



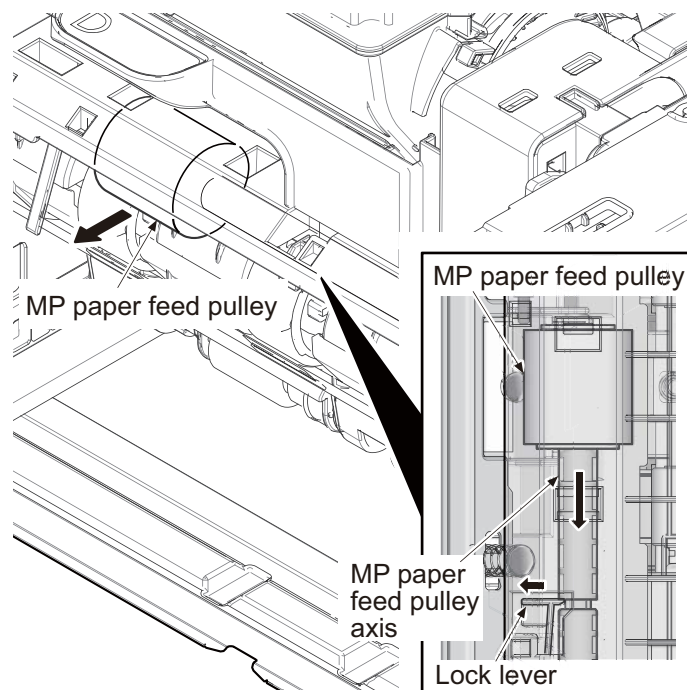
- 4 Remove the fulcrum of left side of the front cover.
- 5 Remove the fulcrum of right side of the front cover.
- 6 Remove the front cover forward.



- 7 Remove two screws on the MP paper feed unit.
- 8 Remove the MP paper feed unit from the main unit.



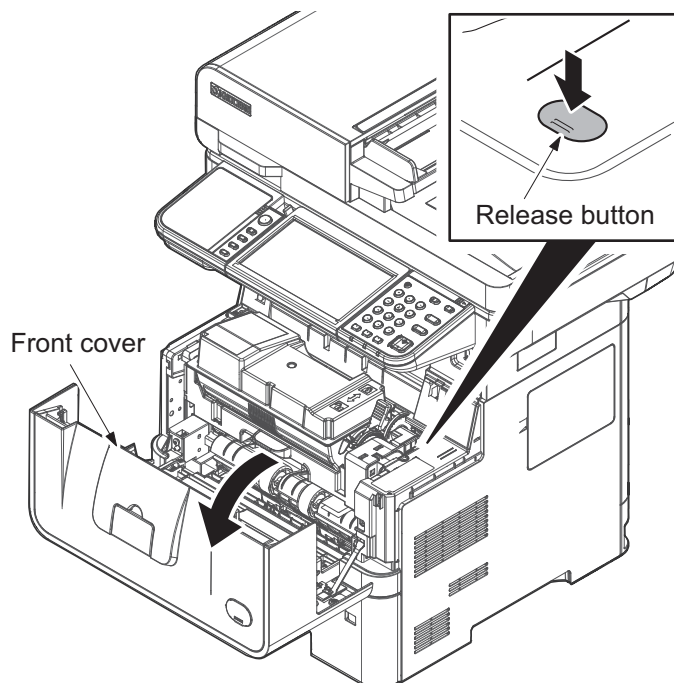
- 9 Release the lock lever and then slide the MP paper feed pulley axis.
- 10 Remove MP paper feed pulley.
- 11 Check or replace the MP paper feed pulley and refit all the removed parts.



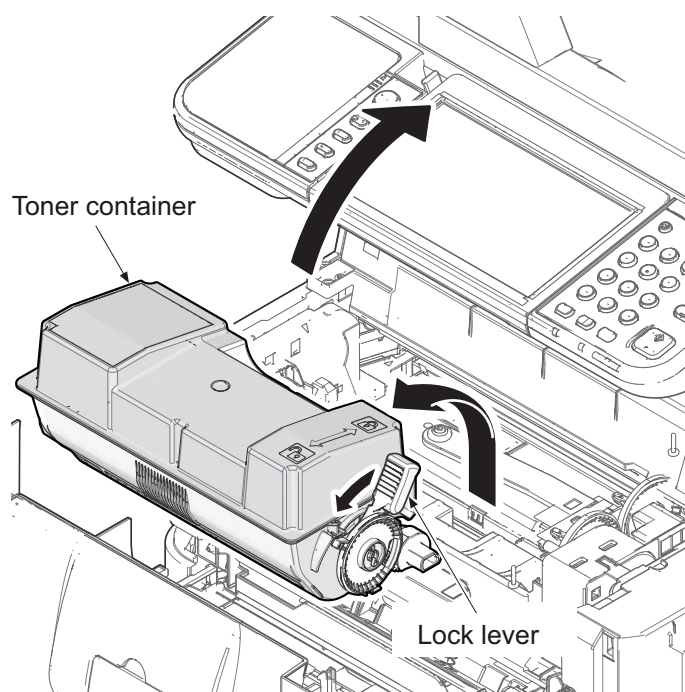
(3) Developer section

(3-1) Detaching and refitting the developer unit

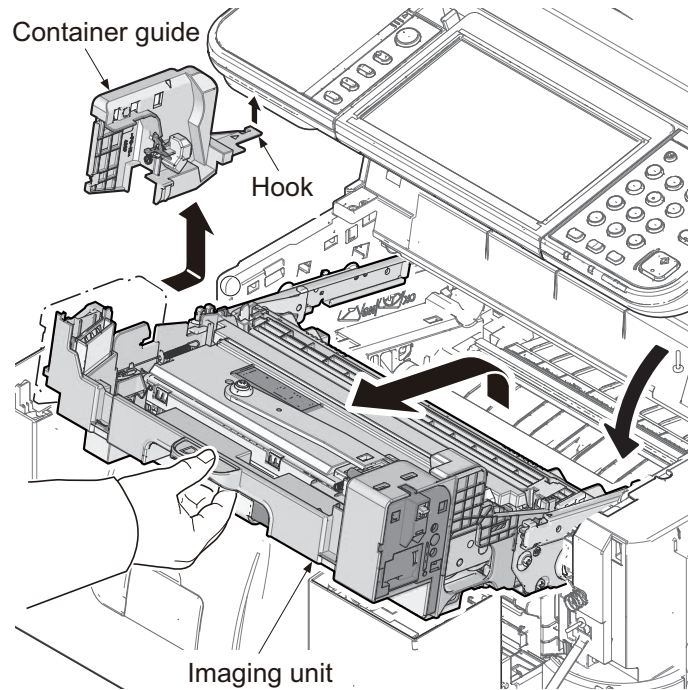
- 1 Push the release button and open the front cover.



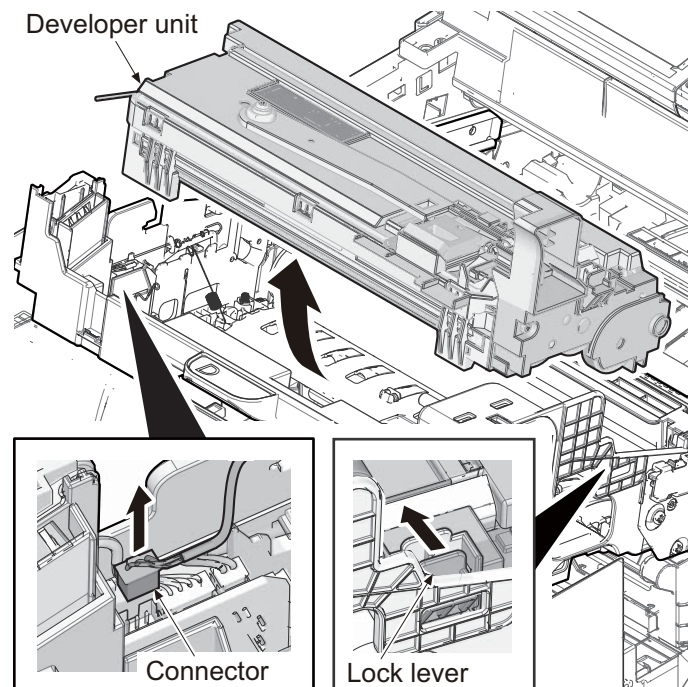
- 2 Release the lock lever by rotating and then remove the toner container.



- 3 Pull the imaging unit forward.
- 4 Release the hook and then remove the container guide by sliding backwards.



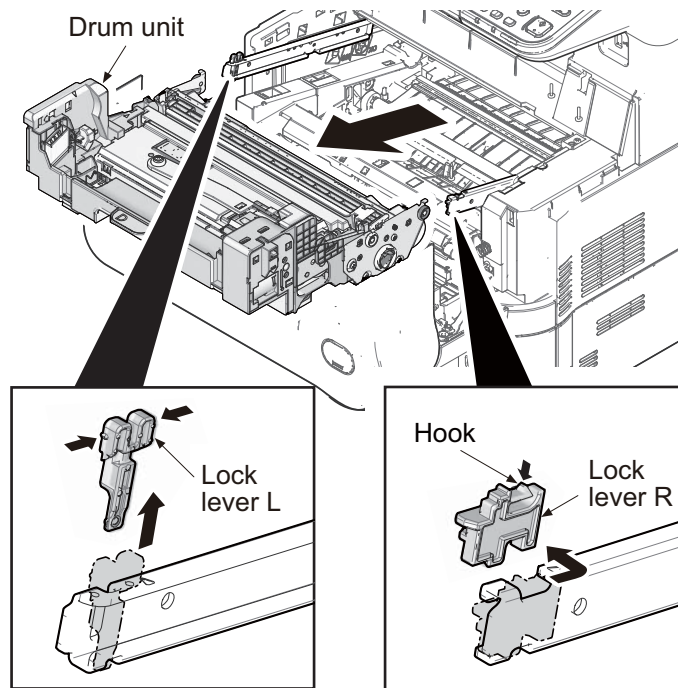
- 5 Pull the connector out.
- 6 Release the lock lever and then remove the developer unit upward.
- 7 Check or replace the developer unit and refit all the removed parts.



(4) Drum section

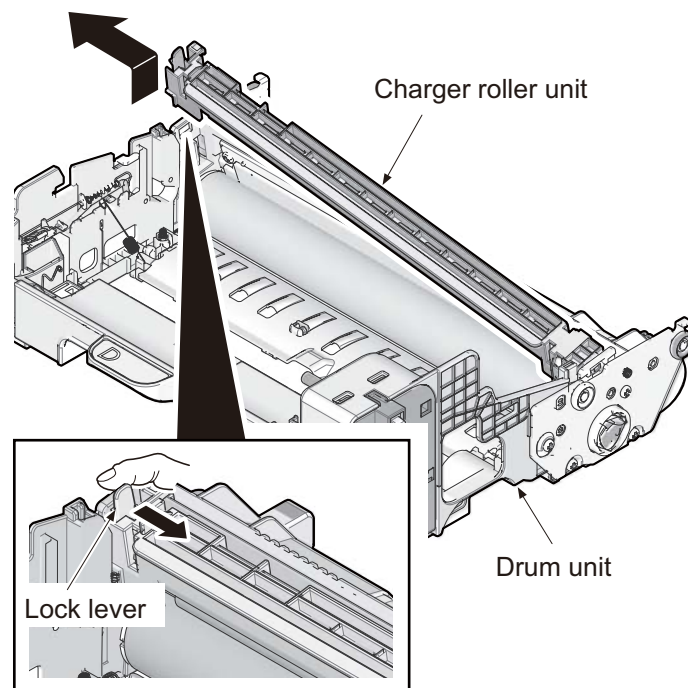
(4-1) Detaching and refitting the drum unit

- 1 Remove the developer unit. (See page 4-10)
- 2 Remove the lock lever L.
- 3 Remove the lock lever R by sliding backward.
- 4 Remove the drum unit by sliding forward.
- 5 Check or replace the drum unit and refit all the removed parts.



(4-2) Detaching and refitting the charger unit

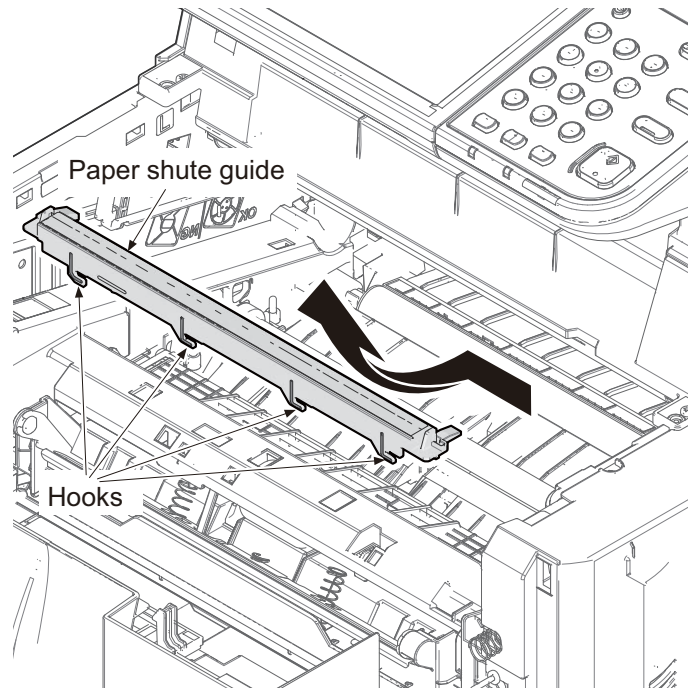
- 1 Release the lock lever and then remove the charger roller unit.
- 2 Check or replace the charger roller unit and refit all the removed parts.



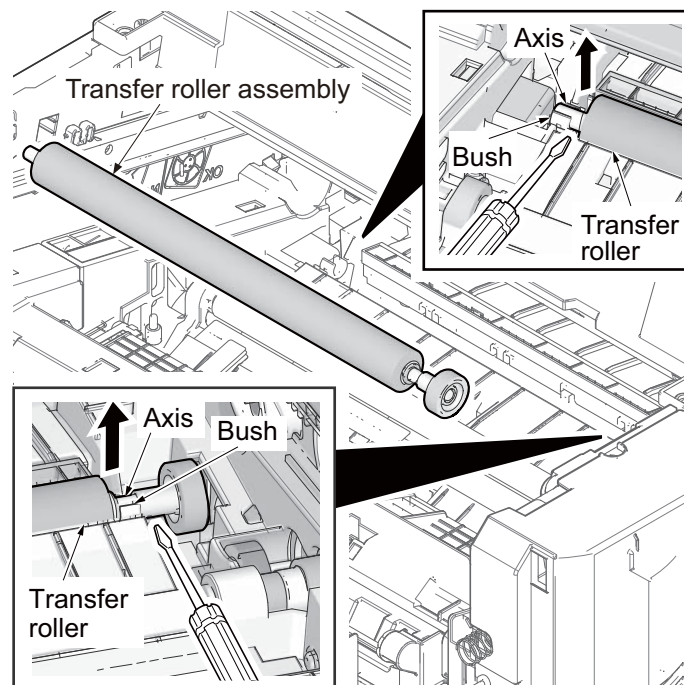
(5) Transfer section

(5-1) Detaching and refitting the transfer roller

- 1 Remove the drum unit. (See page 4-12)
- 2 Release four hooks by sliding to left the paper chute guide.
- 3 Remove the paper chute guide upward.



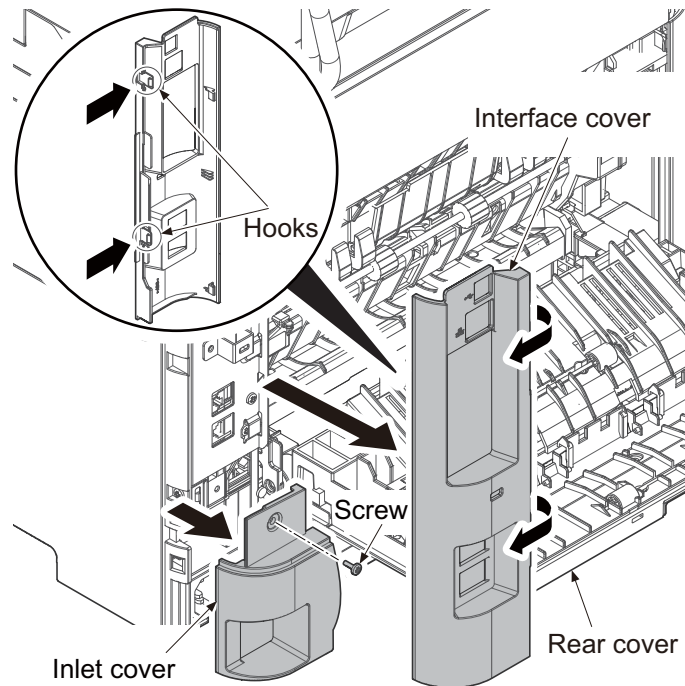
- 4 Remove the axes of transfer roller from each bush.
- 5 Remove the transfer roller assembly upward.
- 6 Check or replace the transfer roller assembly and refit all the removed parts.



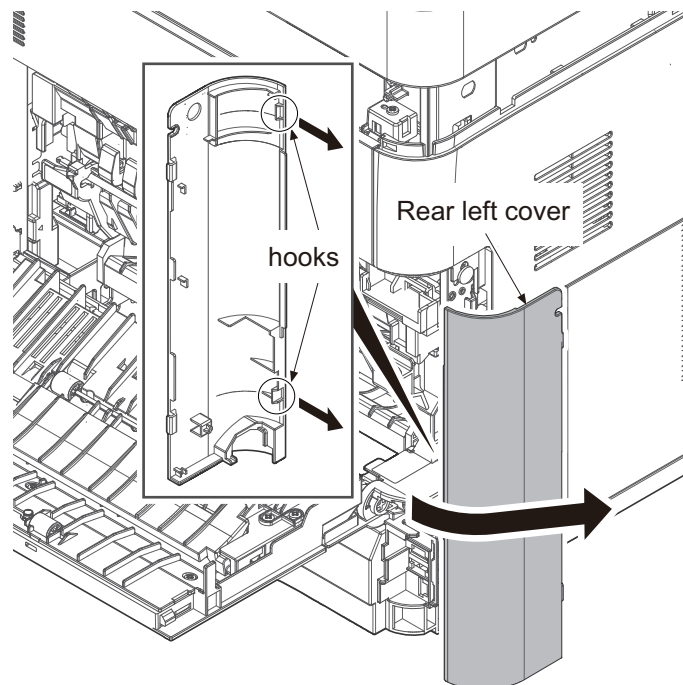
(6) Fuser section

(6-1) Detaching and refitting the fuser unit

- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.

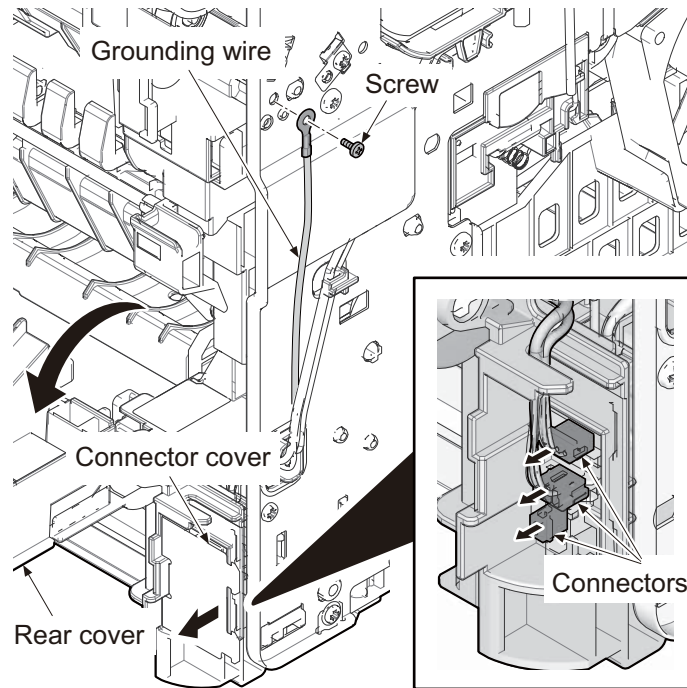


- 4 Release two hooks of the rear left cover while pulling forward.
- 5 Remove the rear left cover by rotating.

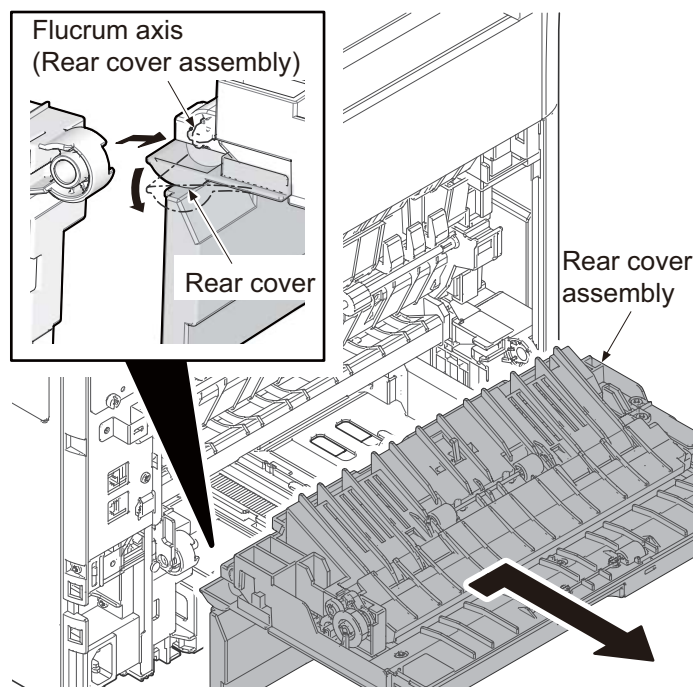


(55/60 ppm model only)

- 6 Remove the screw and then the grounding wire.
- 7 Open the connector cover and then remove three connectors.

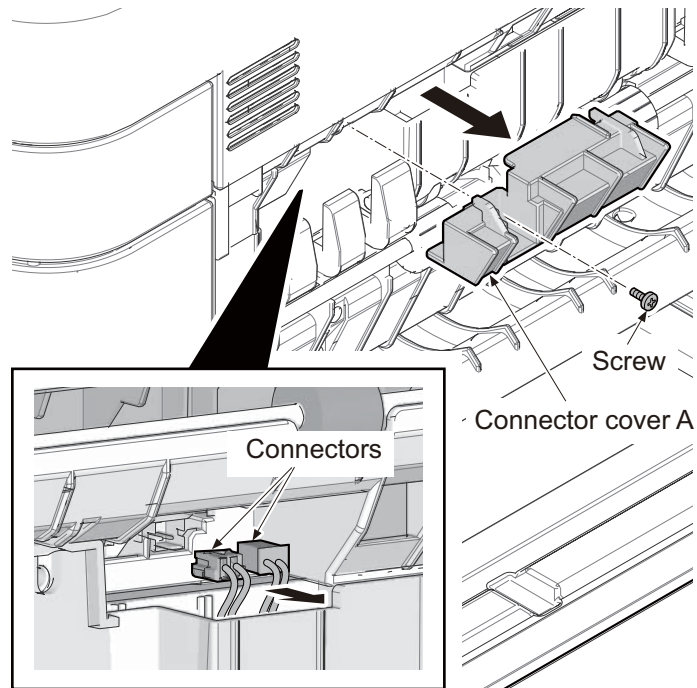


- 8 Remove the fulcrum axis by sliding the rear cover assembly while avoiding rear cover and then remove the rear cover assembly.



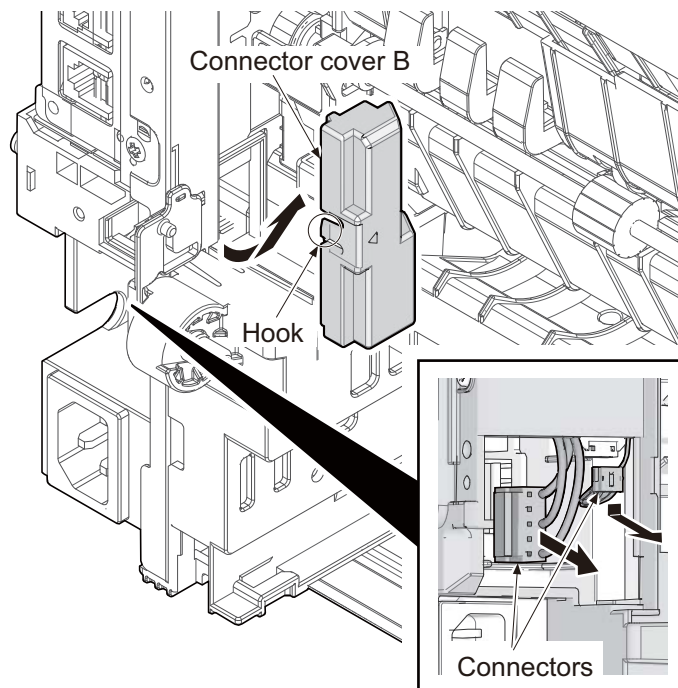
9 Remove the screw and then remove the connector cover A.

10 Pull two connectors out.

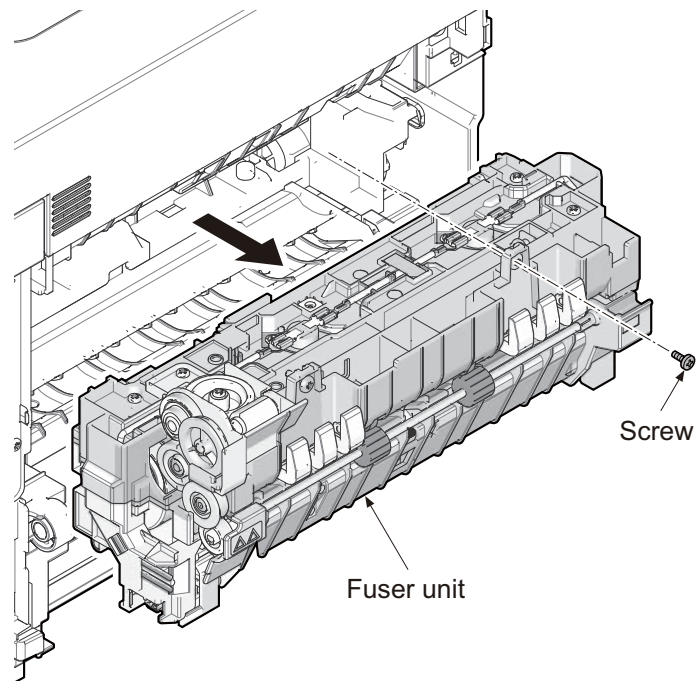


11 Remove the connector cover B by releasing the hook.

12 Pull two connectors out.



- 13 Remove the screw and then remove the fuser unit forward.
- 14 Check or replace the fuser unit and refit all the removed parts.



✔ **Important**

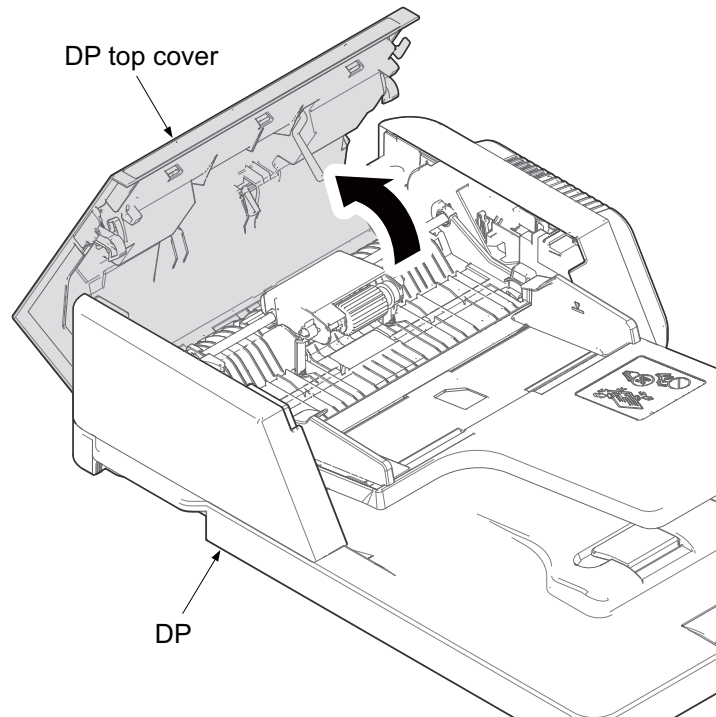
when refitting the fuser unit, perform the following procedures.

- 1 Turn on the power switch while opening the rear cover after removing the fuser unit.
- 2 Turn off the power switch after 5-second or more progress. (release state of fixing pressure)
- 3 Refit the fuser unit.

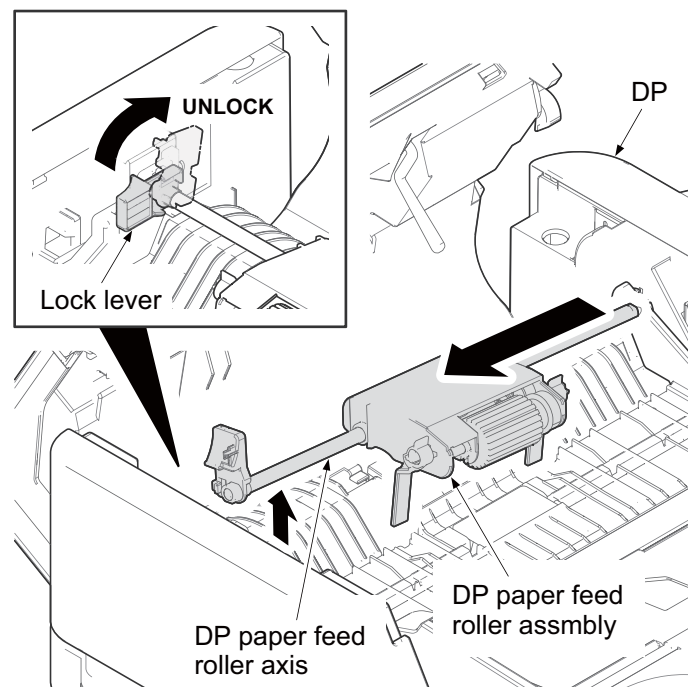
(7) Document processor (45 ppm model)

(7-1) Detaching and refitting DP paper feed roller or DP pickup pulley

- 1 Open the DP top cover.



- 2 Rotate the lock lever to unlock position.
- 3 Pick the frontside of DP paper feed roller axis up and then pull DP paper feed roller assembly out forward.
- 4 Check or replace DP paper feed roller or DP pickup pulley and refit all the removed parts.



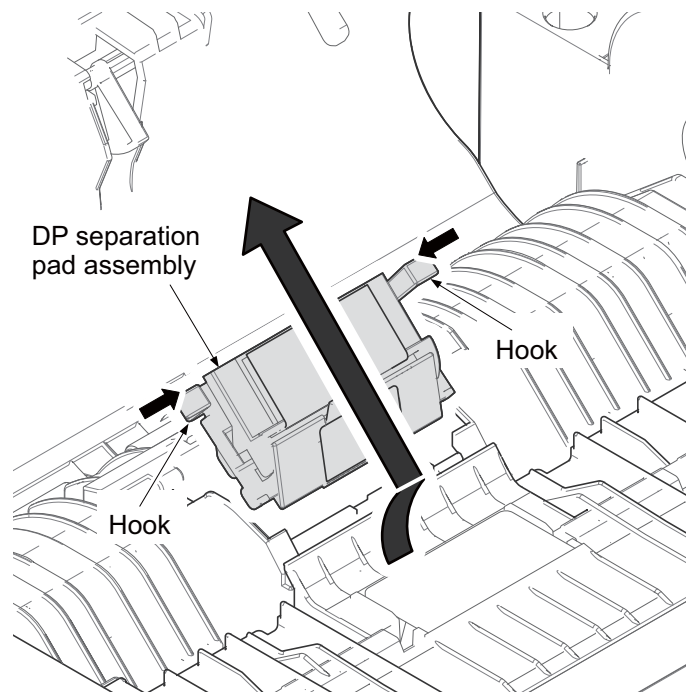
(7-2) Detaching and refitting the DP separation pad

- 1 Push two hooks inside and pull DP separation pad assembly up.
- 2 Check or replace DP separation pad and refit all the removed parts.

✔ Important

When replacing the new DP paper feeding roller assembly or DP separate pad, take care not to touch on the roller and pad surface.

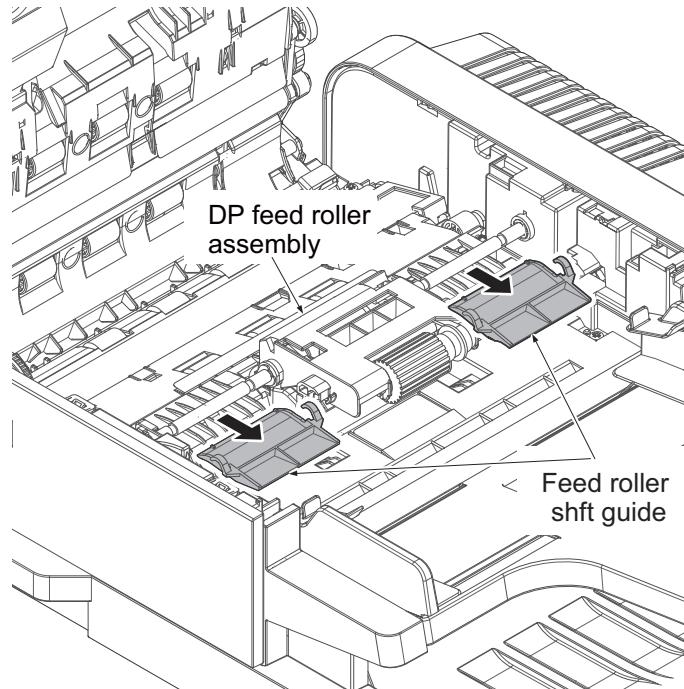
Check whether the pressure spring is contained in the projection.



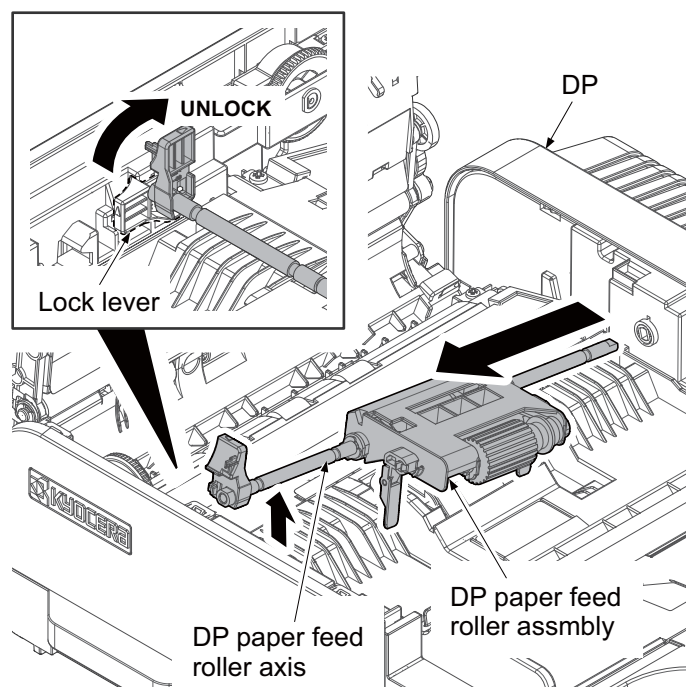
(8) Document processor (55/60 ppm model)

(8-1) Detaching and refitting DP paper feed roller or DP pickup roller

- 1 Open the DP top cover.
- 2 Detach the hook, remove two paper feeder roller shaft guides from the roller shaft in the arrow direction.

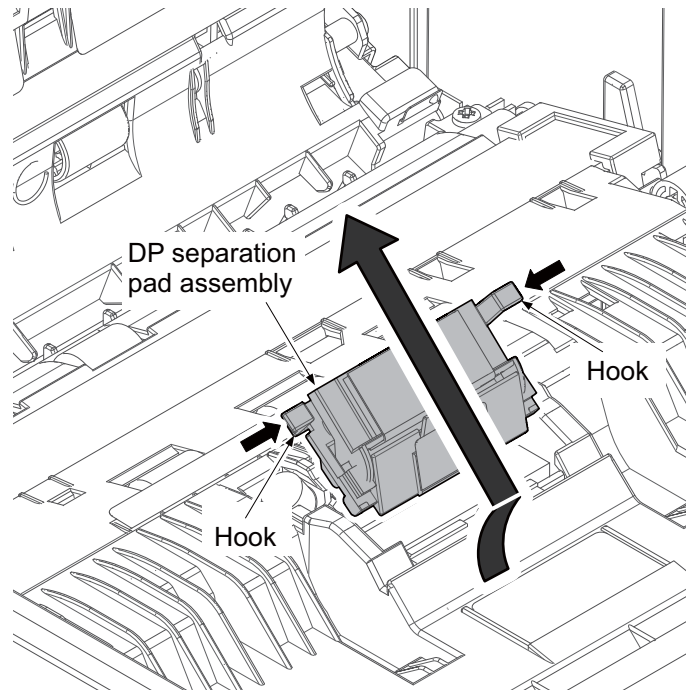


- 3 Rotate the lock lever to unlock position.
- 4 Pick the frontside of DP paper feed roller axis up and then pull DP paper feed roller assembly out forward.
- 5 Check or replace DP paper feed roller or DP pickup roller and refit all the removed parts.



(8-2) Detaching and refitting the DP separation pad

- 1 Push two hooks inside and pull DP separation pad assembly up.
- 2 Check or replace DP separation pad and refit all the removed parts.



Ⓢ Important

When replacing the new DP paper feeding roller assembly or DP separate pad, take care not to touch on the roller and pad surface.

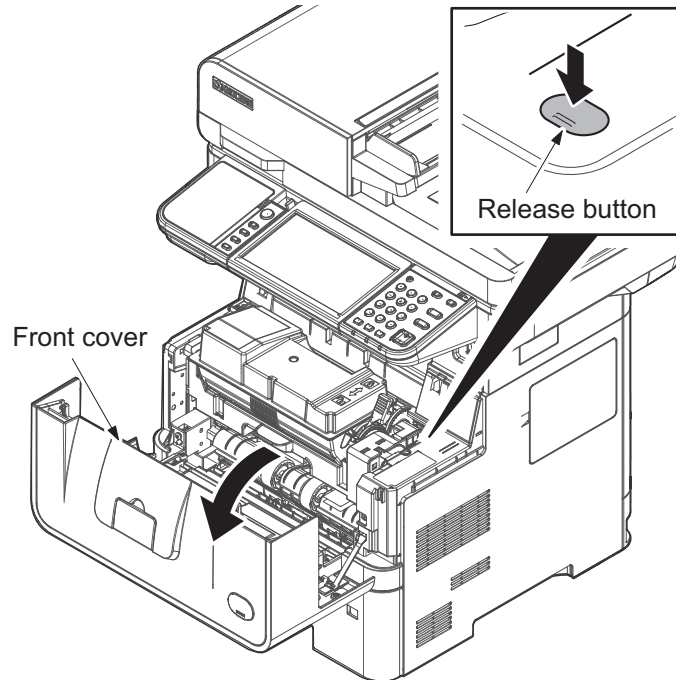
Check whether the pressure spring is contained in the projection.

4 - 4 Disassembly and Reassembly procedures

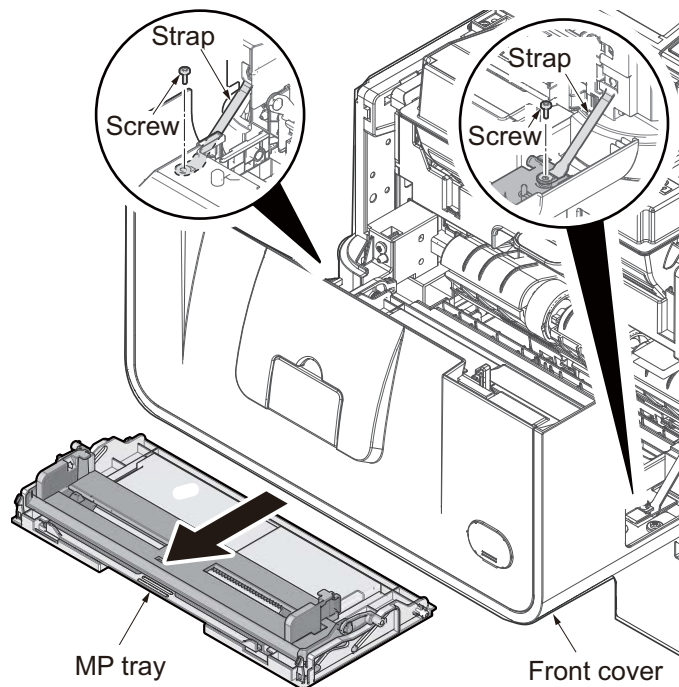
(1) Outer covers

(1-1) Detaching and reattaching the front cover

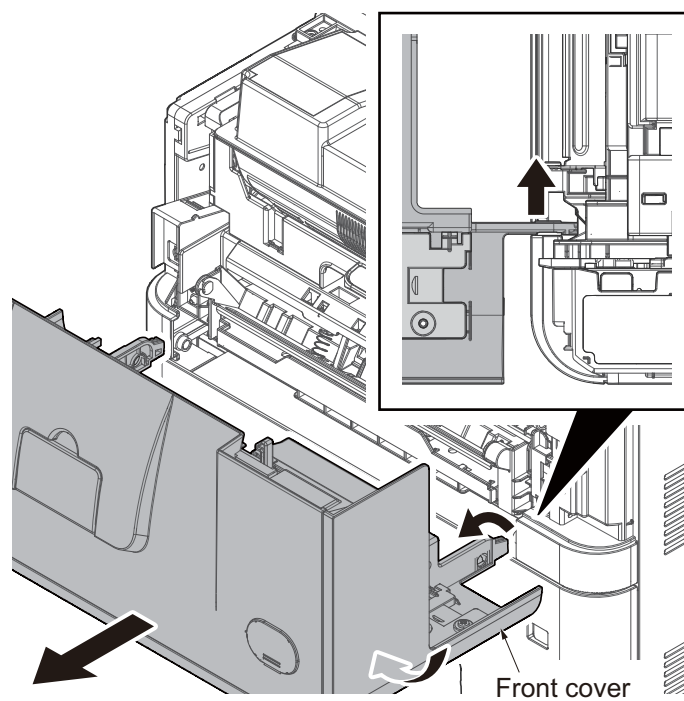
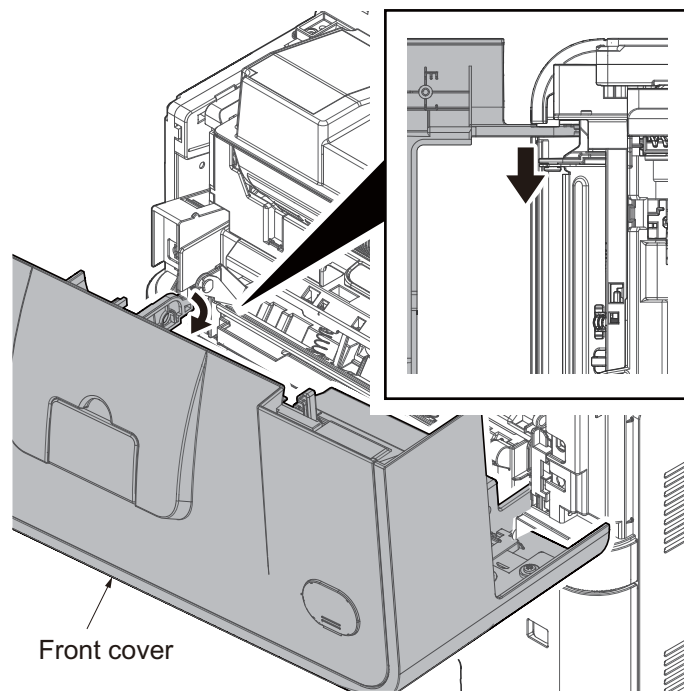
- 1 Push the release button and open the front cover.



- 2 Remove the MP tray from the printer while bending it.
- 3 Remove two screws and two straps.

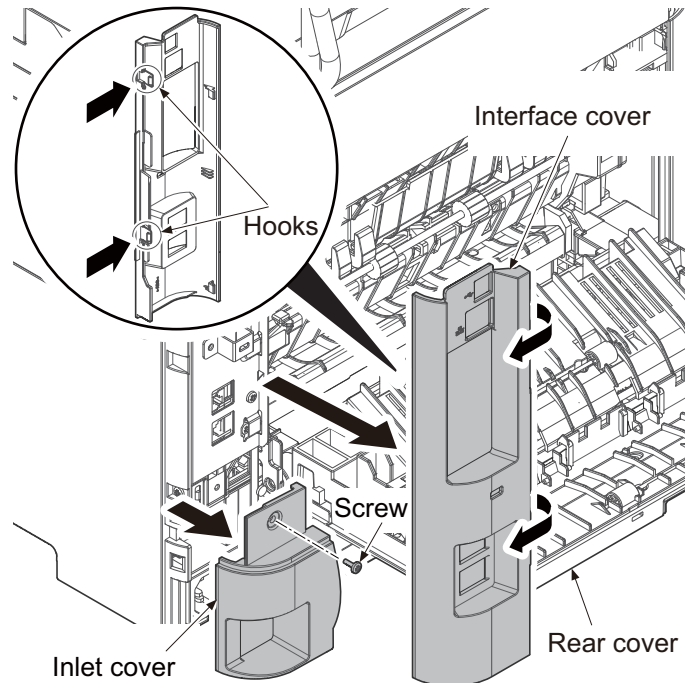


- 4 Remove the fulcrum of left side of front cover.
- 5 Remove the fulcrum of right side of front cover.
- 6 Remove the front cover forward.



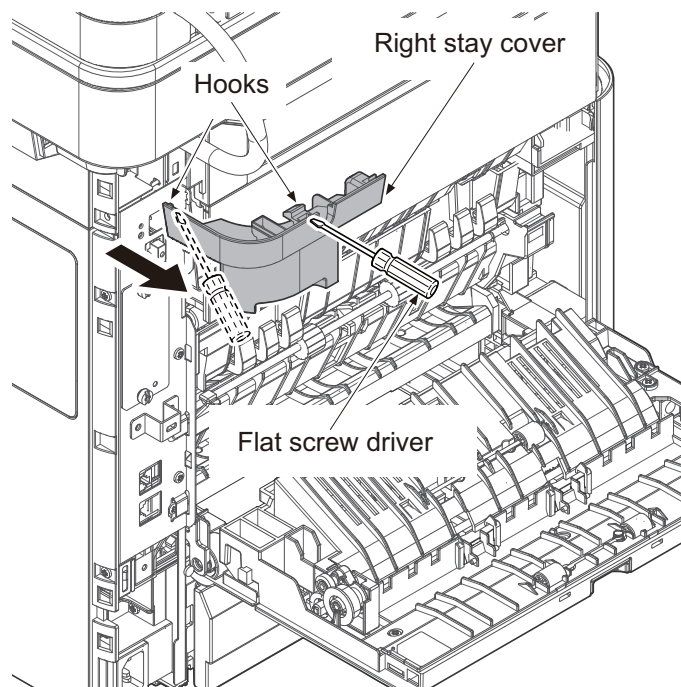
(1-2) Detaching and refitting the inlet cover and the interface slot cover

- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



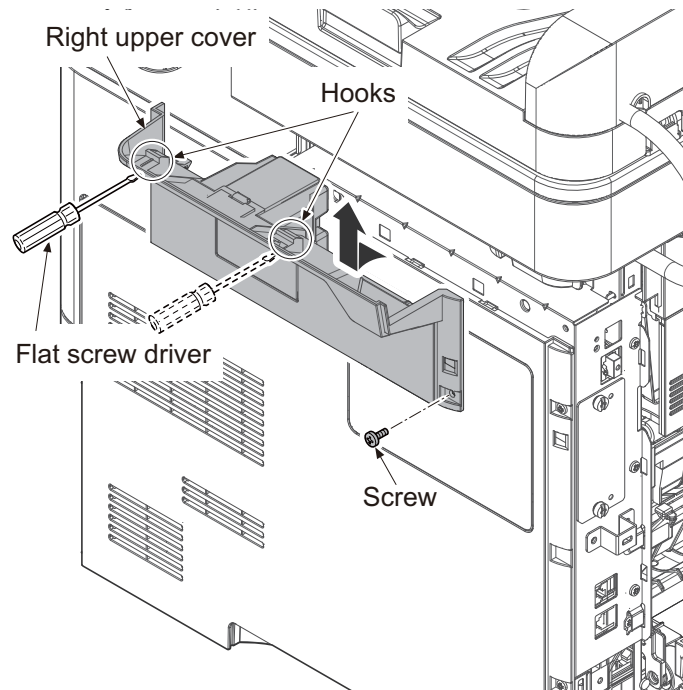
(1-3) Detaching and refitting the right stay cover

- 1 Release two hooks using a flat screw driver and remove the right stay cover.



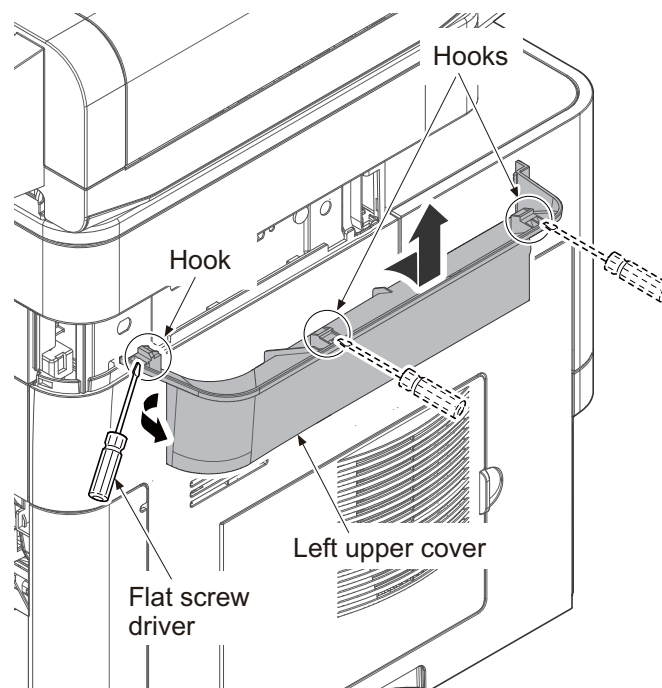
(1-4) Detaching and refitting the right upper cover

- 1 Remove the screw from the right upper cover.
- 2 Release two hooks using a flat screw driver and remove the right upper cover.



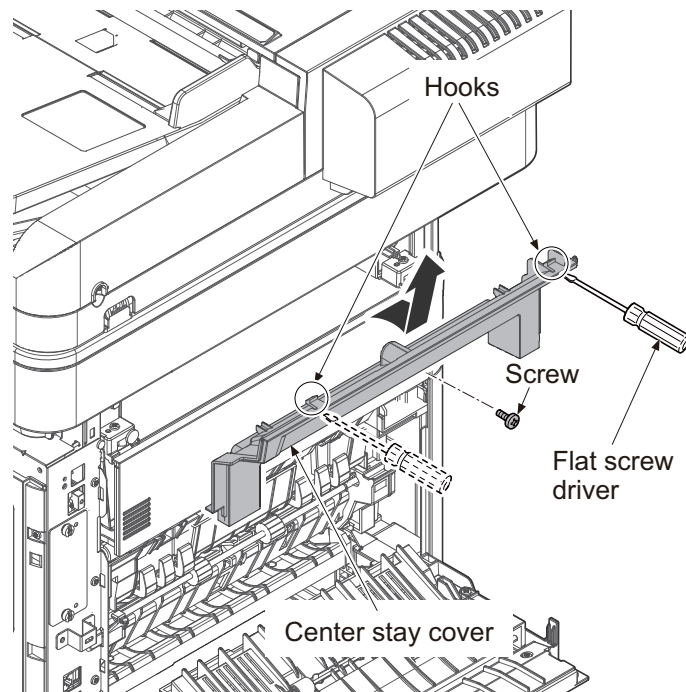
(1-5) Detaching and refitting the left upper cover

- 1 Release three hooks using a flat screw driver and remove the left upper cover.



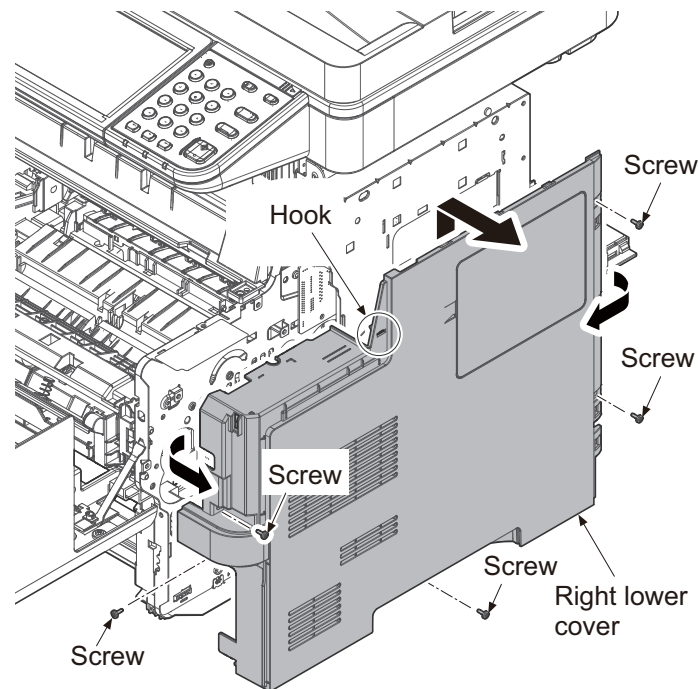
(1-6) Detaching and refitting the center stay cover

- 1 Remove the screw from the center stay cover.
- 2 Release two hooks using a flat screw driver and remove the center stay cover.



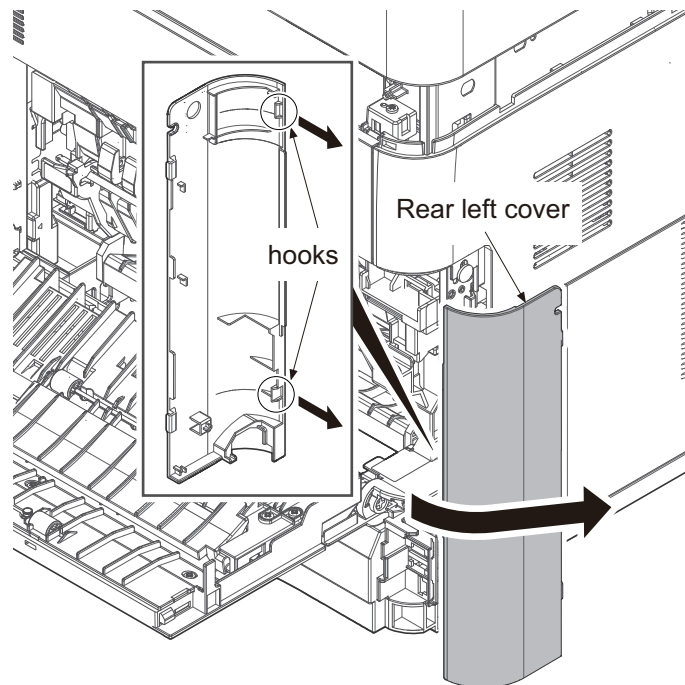
(1-7) Detaching and refitting the right lower cover

- 1 Pull the cassette out.
- 2 Remove five screws.
- 3 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



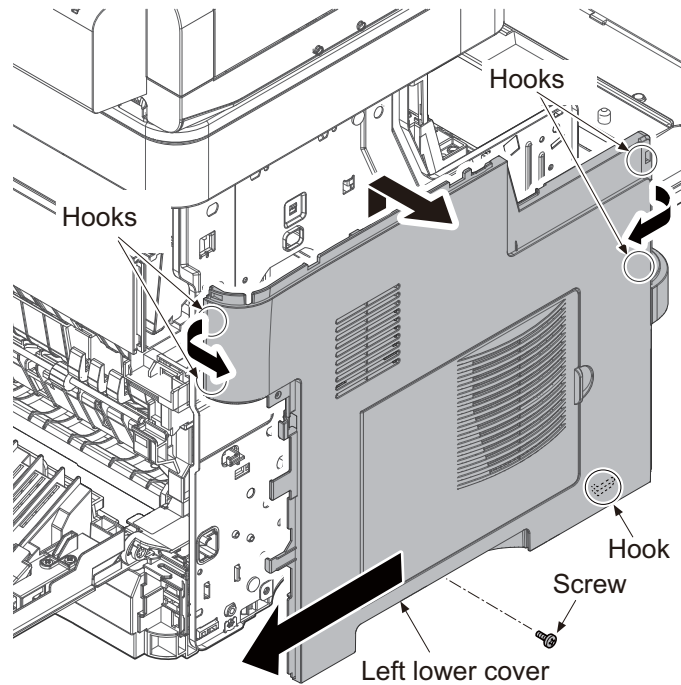
(1-8) Detaching and refitting the rear left cover

- 1 Open the rear cover.
- 2 Release two hooks of the rear left cover while pulling forward.
- 3 Remove the rear left cover by rotating.



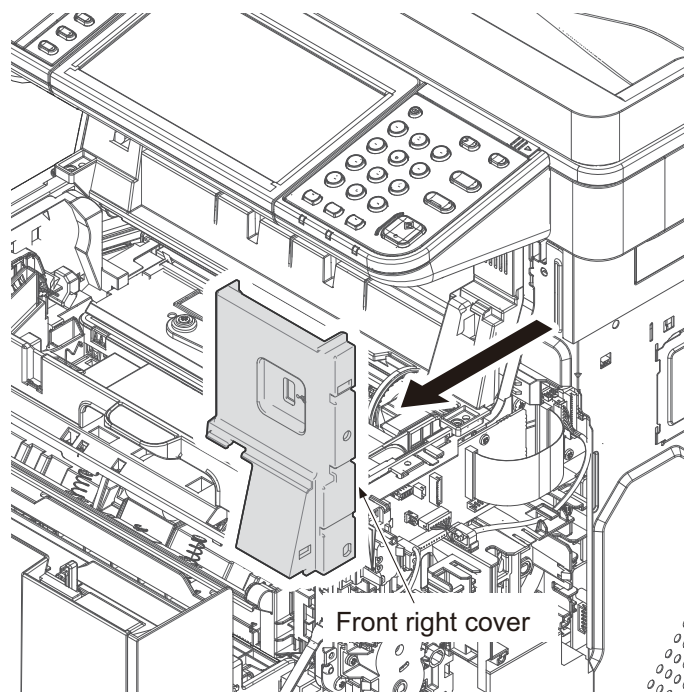
(1-9) Detaching and refitting the left lower cover

- 1 Remove the screw from the left lower cover.
- 2 Release five hooks by bending the left lower cover.
- 3 Release the hook by sliding the left lower cover back direction, remove it.



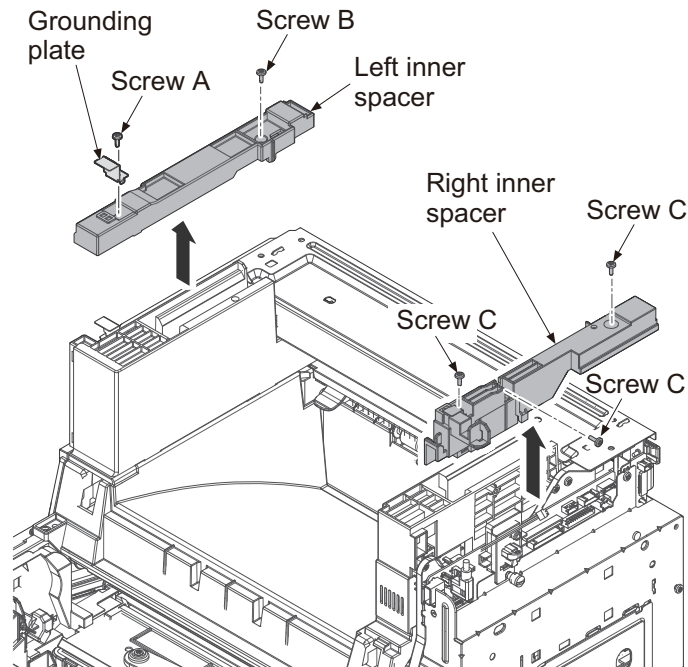
(1-10) Detaching and refitting the front right cover

- 1 Remove the front right cover forward.

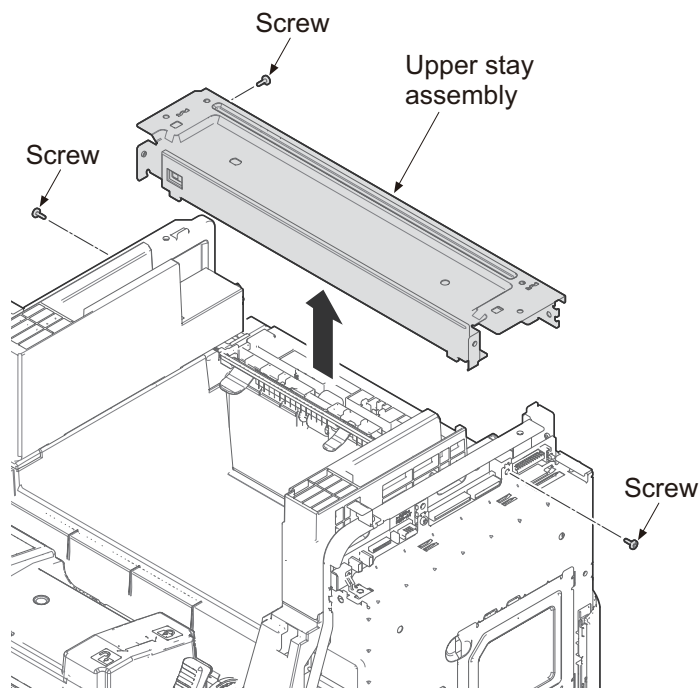


(1-11) Detaching and refitting the top tray cover

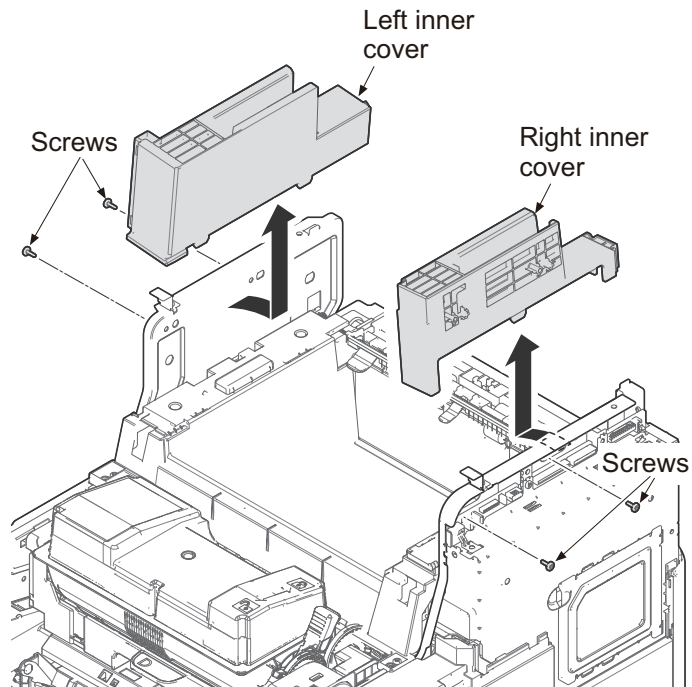
- 1 remove the image scanner unit. (See page 4-41)
- 2 (55/60 ppm model only) Remove the screw A and the grounding plate.
- 3 (55/60 ppm model only) Remove the screw and the left inner spacer upward.
- 4 (55/60 ppm model only) Remove three screws C and the right inner spacer upward.



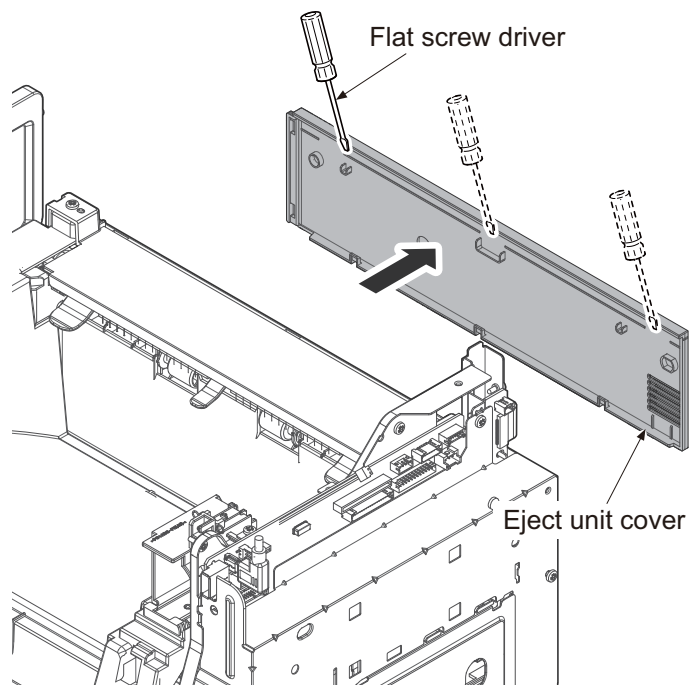
- 5 Remove three screws.
- 6 Remove the upper stay assembly upward.



- 7 Remove two screws and then remove the right inner cover by leaning it inside and lifting it.
- 8 Remove two screws and then remove the left inner cover by leaning it inside and lifting it.

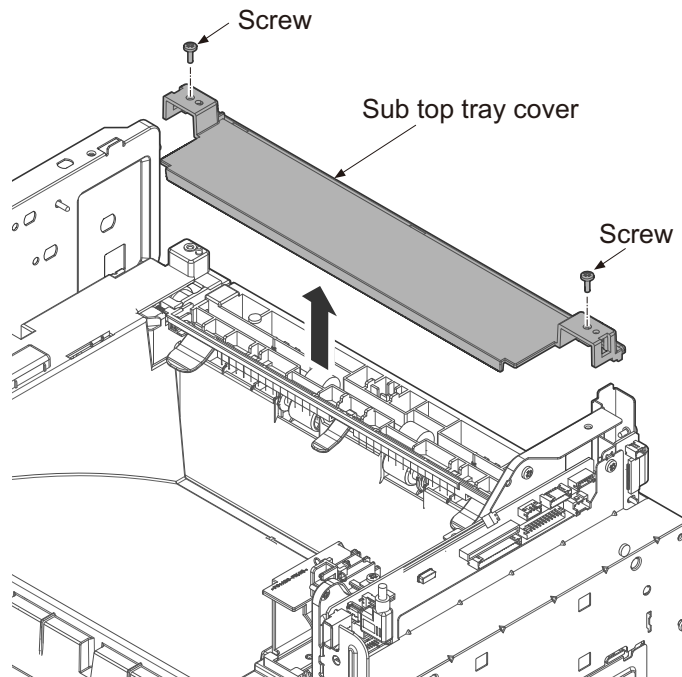


- 9 Remove the eject unit cover using the flat screw driver.



10 Remove two screws.

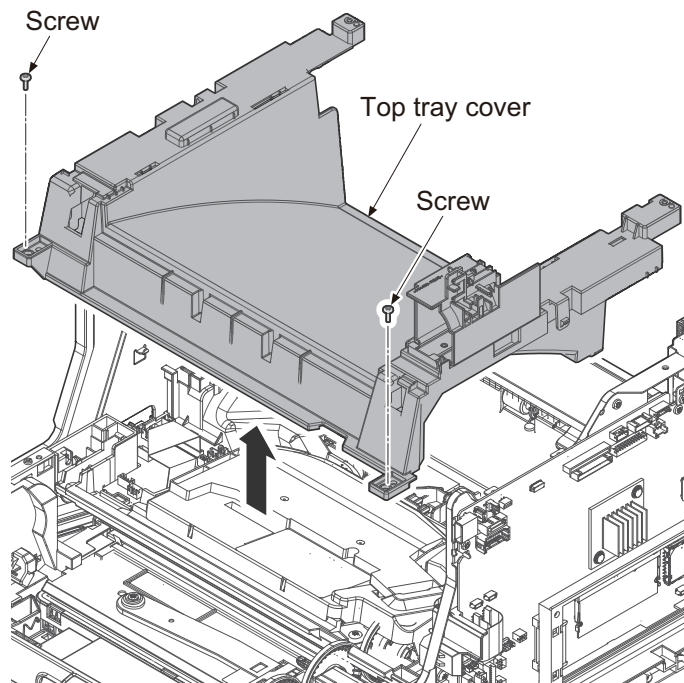
11 Remove the sub top tray cover upward.



12 (FAX model only) Release the wire of the FAX speaker from the hook.

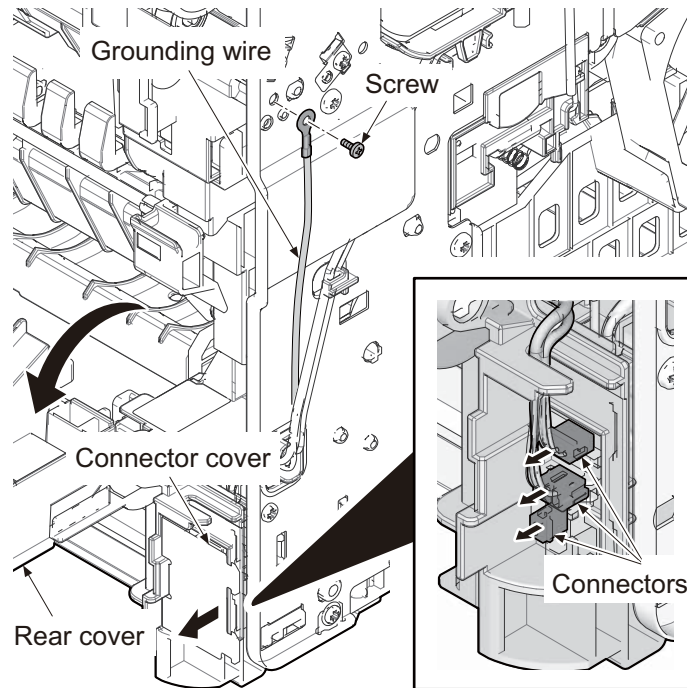
13 Remove two screws.

14 Remove the top tray cover upward.

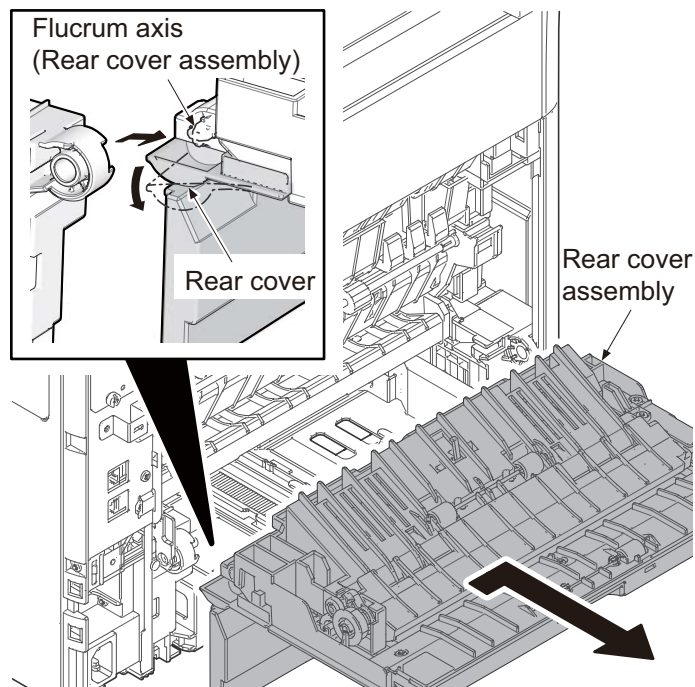


(1-12) Detaching and refitting the rear cover

- 1 Open the rear cover.
- 2 (55/60 ppm model only) Remove the screw and then the grounding wire.
- 3 (55/60 ppm model only) Open the connector cover and then remove three connectors.



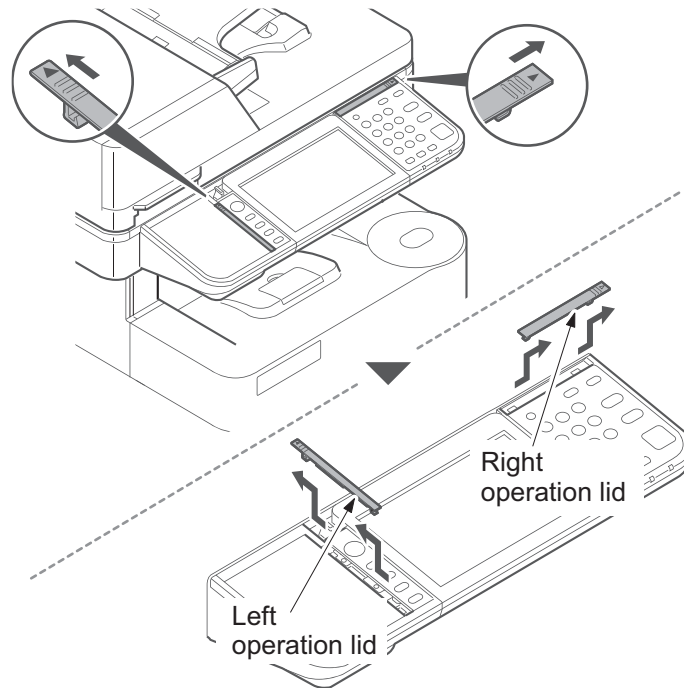
- 4 Remove the fulcrum axis by sliding the rear cover assembly while avoiding rear cover and then remove the rear cover assembly.



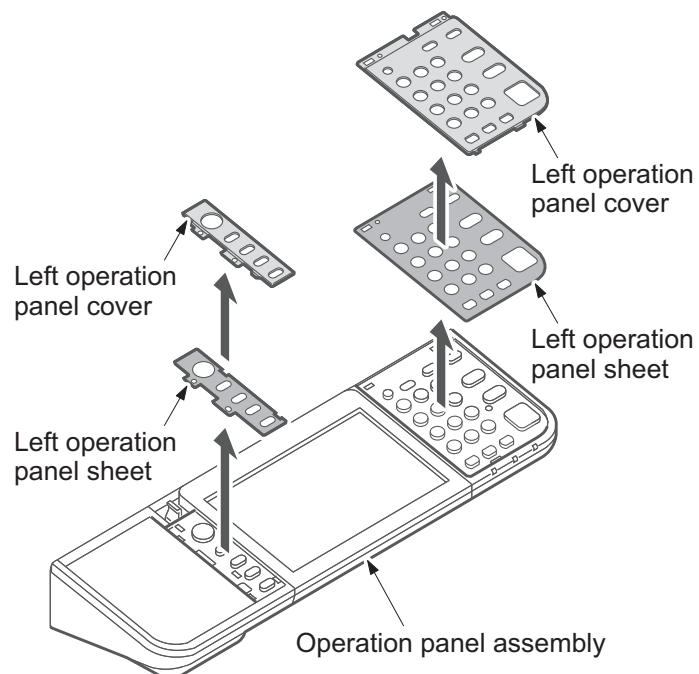
(2) Optical section

(2-1) Detaching and refitting the exposure lamp (7 Inch TSI)

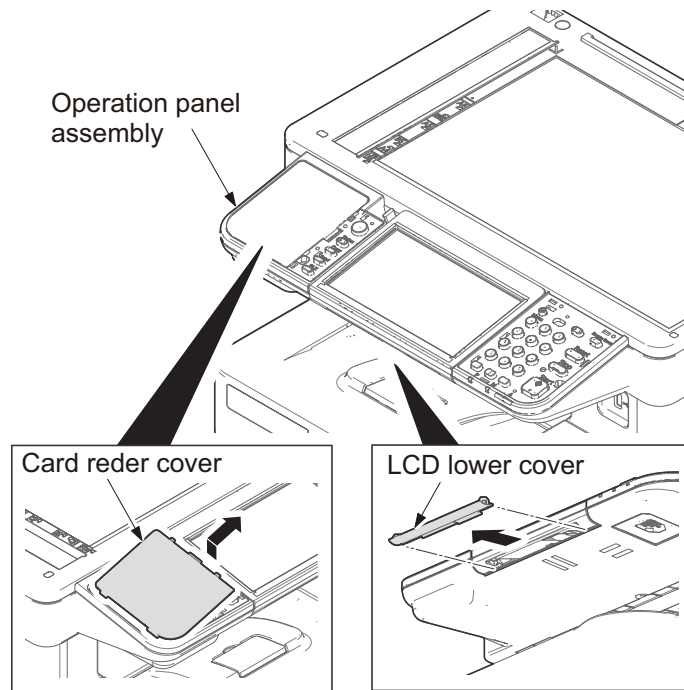
- 1 Slide the right operation lid and left.
- 2 Remove the their lids.



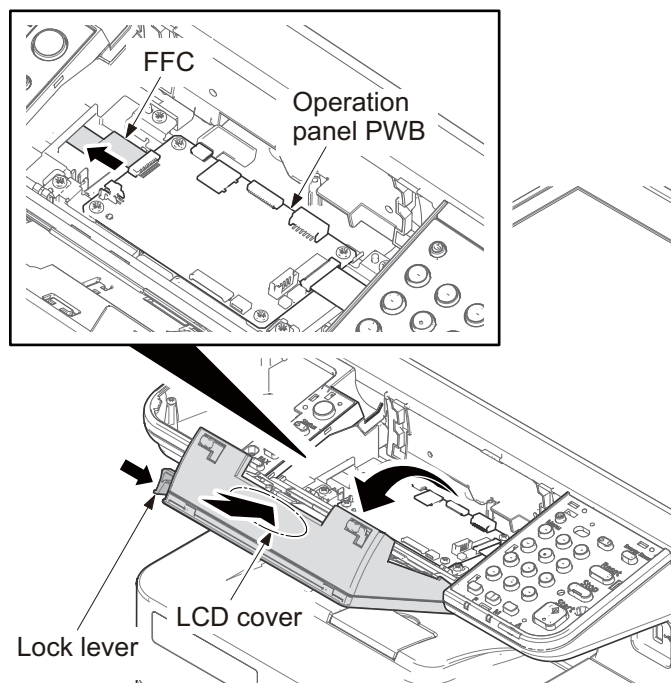
- 3 Remove the operation panel cover.
- 4 Replace it to the operation panel sheet of the corresponding language.



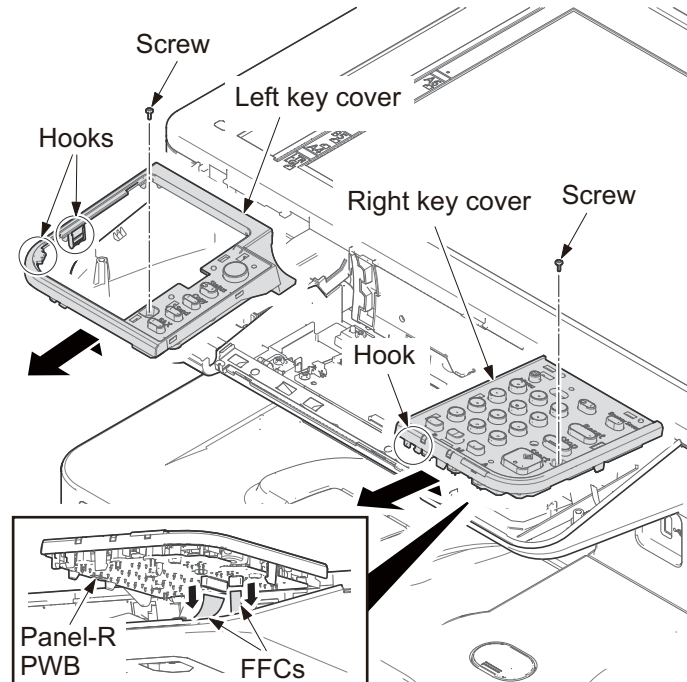
- 5 Remove the card reader cover and LCD lower cover.



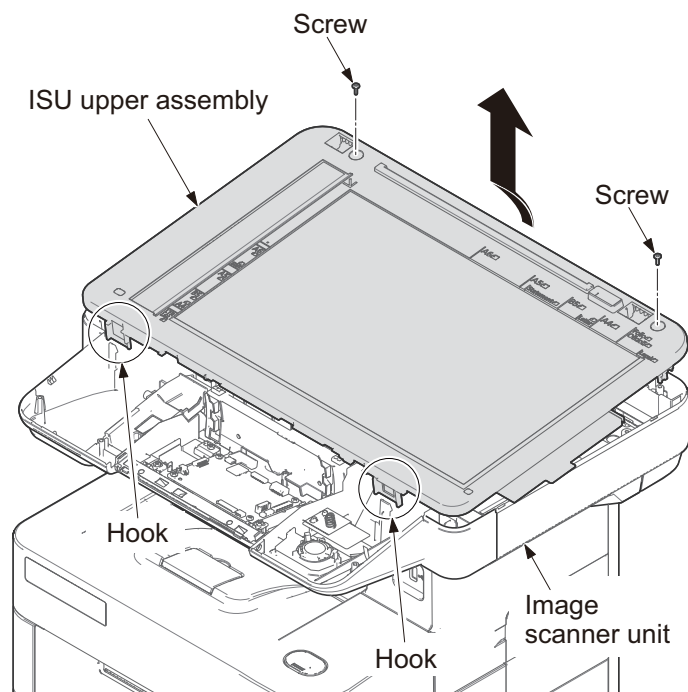
- 6 Pull the LCD up forward during pressing the lock lever and bending the LCD cover.
- 7 Remove the FFC from the operation panel PWB.



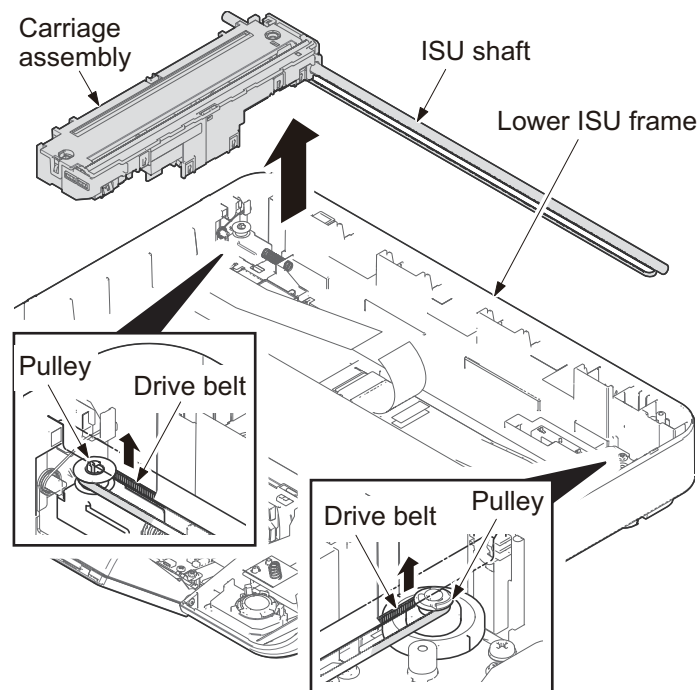
- 8 Remove two screws.
- 9 Release two hooks and remove the left key cover forward.
- 10 Remove two FFCs from the panel-R PWB.
- 11 Release the hook and remove the right key cover forward.



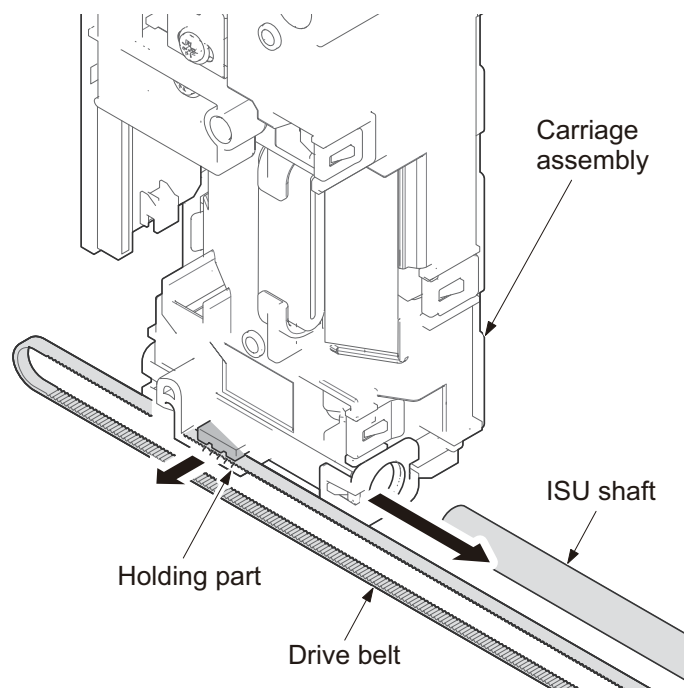
- 12 Remove two screws.
- 13 Release two hooks and remove the ISU upper assembly from the image scanner unit.



- 14 Remove the drive belt from two pulleys.
- 15 Remove the carriage assembly, ISU shaft and the lower ISU frame upward.

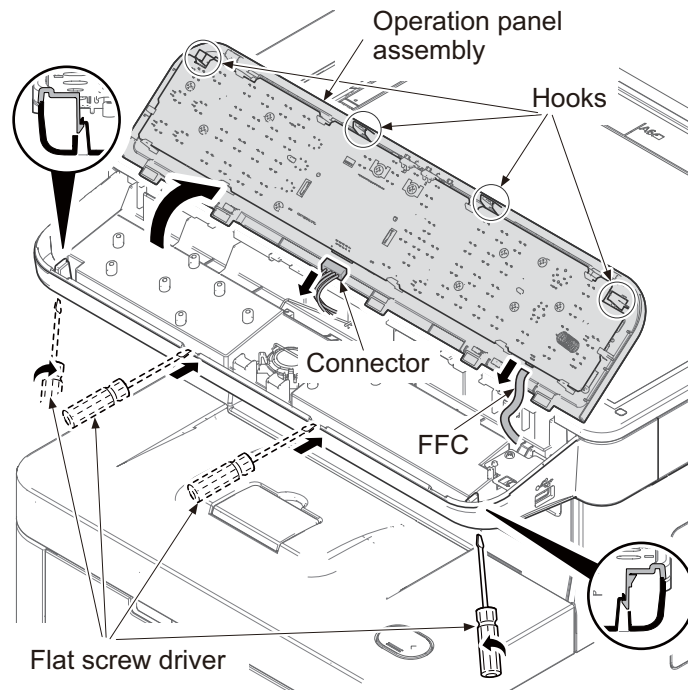


- 16 Pull the ISU shaft out from the carriage assembly.
- 17 Remove the drive belt from the holding part of the carriage assembly.
- 18 Check or replace the exposure lamp and refit all the removed parts.

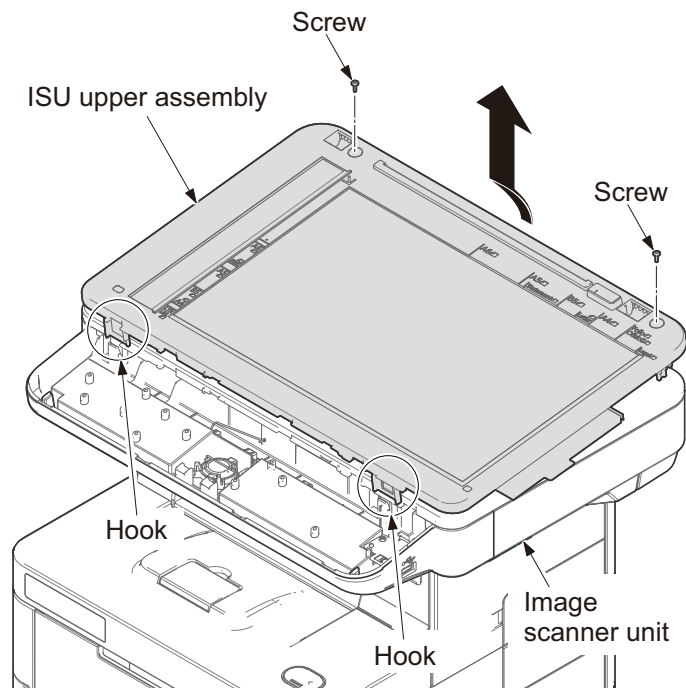


(2-2) Detaching and refitting the exposure lamp (5 Line LCD)

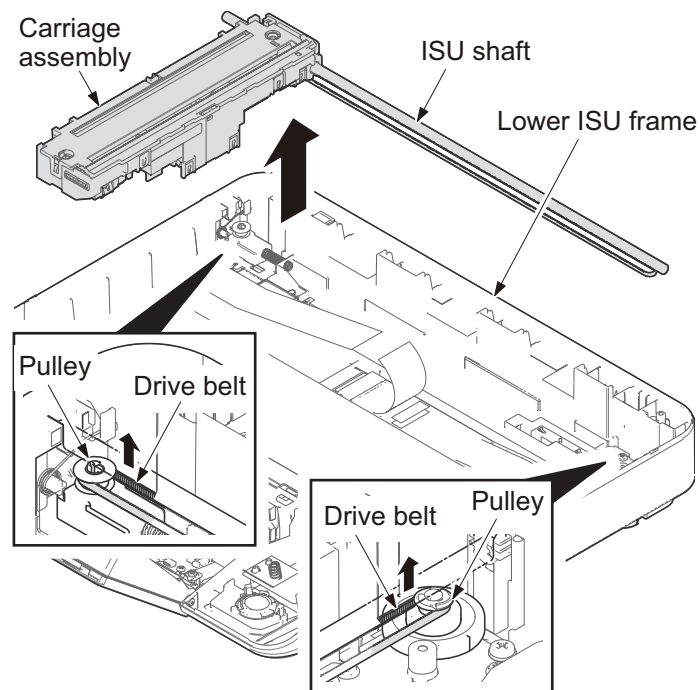
- 1 Raise the operation panel assembly by releasing four hooks using a flat screw driver.
- 2 Remove the connector and FFC from the operation panel PWB.



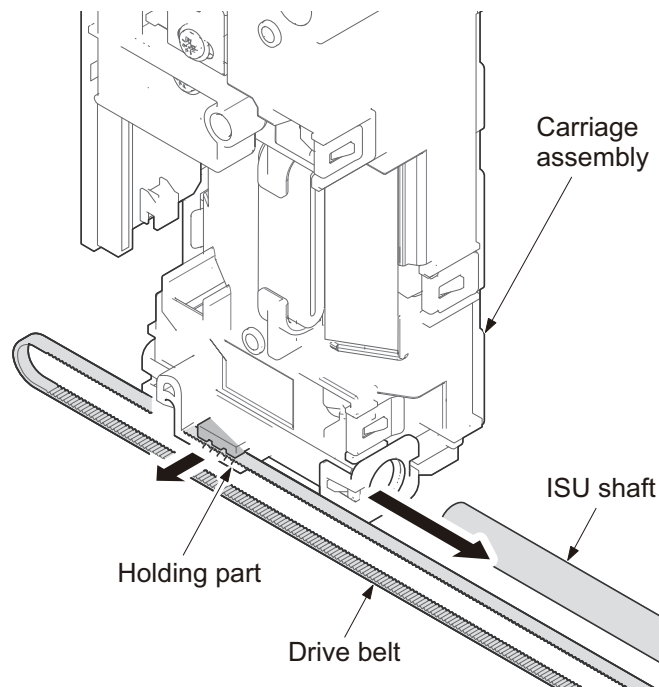
- 3 Remove two screws.
- 4 Release two hooks and remove the ISU upper assembly from the image scanner unit.



- 5 Remove the drive belt from two pulleys.
- 6 Remove the carriage assembly, ISU shaft and the lower ISU frame upward.

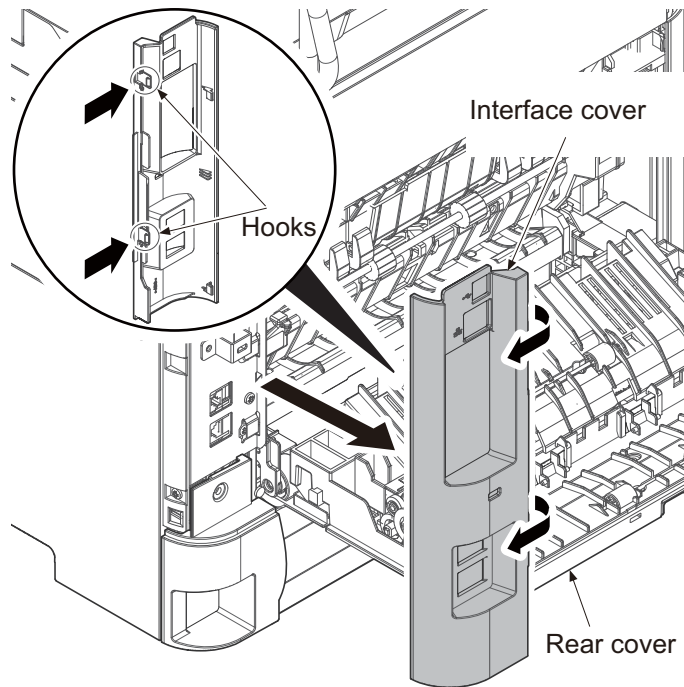


- 7 Pull the ISU shaft out from the carriage assembly.
- 8 Remove the drive belt from the holding part of the carriage assembly.
- 9 Check or replace the exposure lamp and refit all the removed parts.

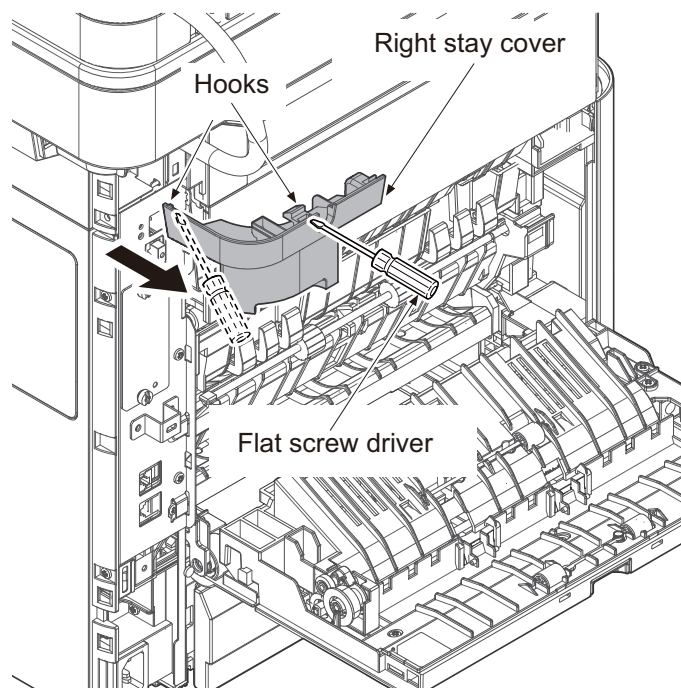


(2-3) Detaching and refitting the image scanner unit

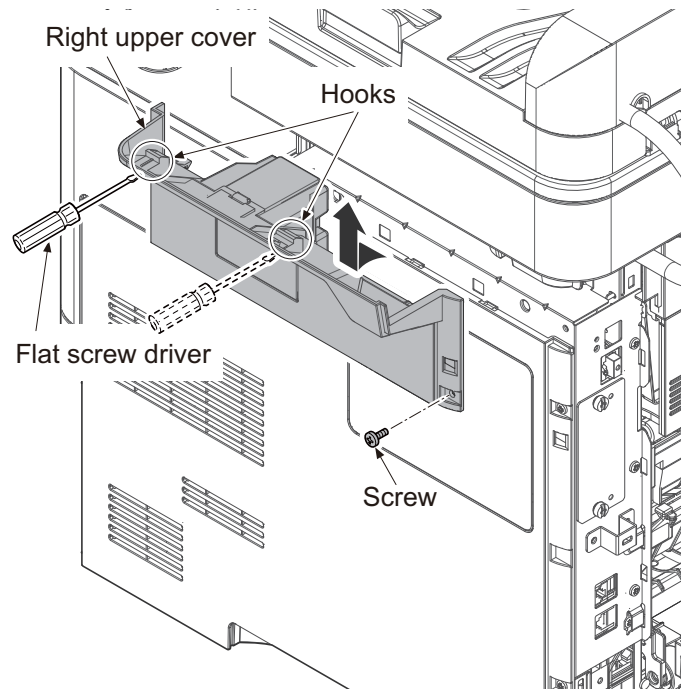
- 1 Open the rear cover.
- 2 Remove the interface cover.



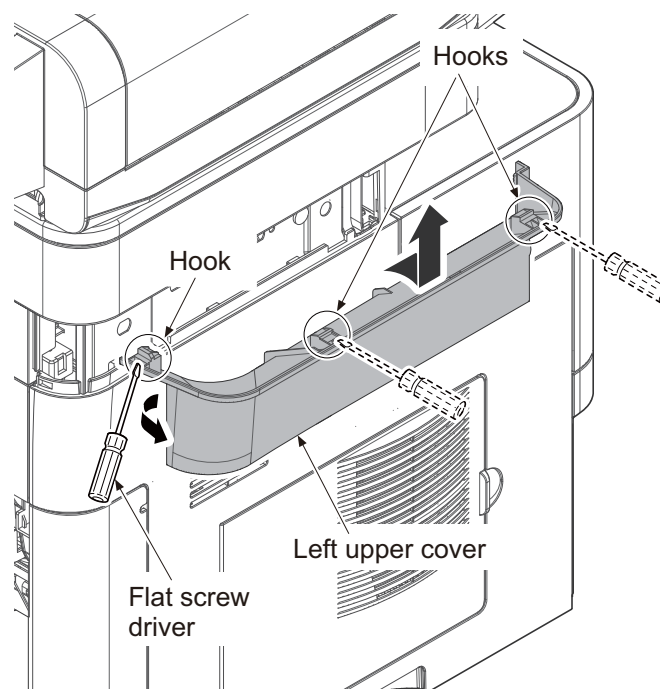
- 3 Release two hooks using a flat screw driver and remove the right stay cover.



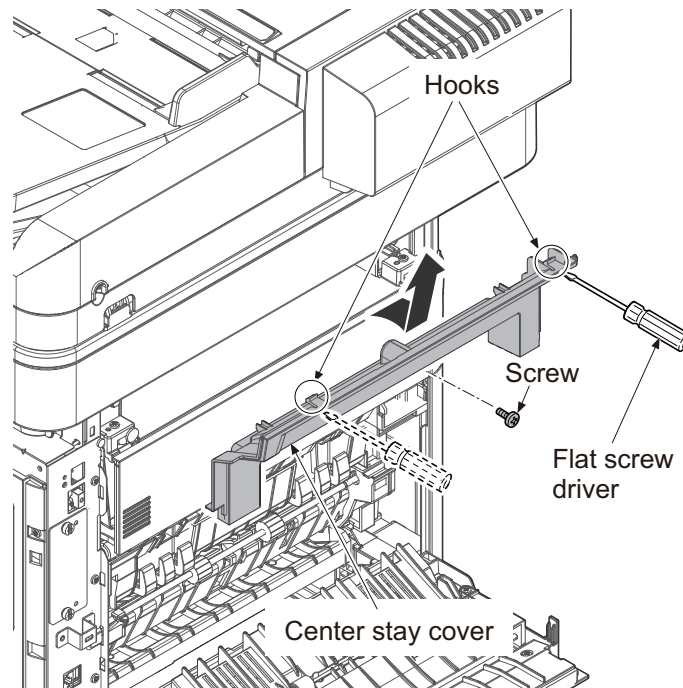
- 4 Open the front cover.
- 5 Remove the screw from the right upper cover.
- 6 Release two hooks using a flat screw driver and remove the right upper cover.



- 7 Release three hooks using a flat screw driver and remove the left upper cover.

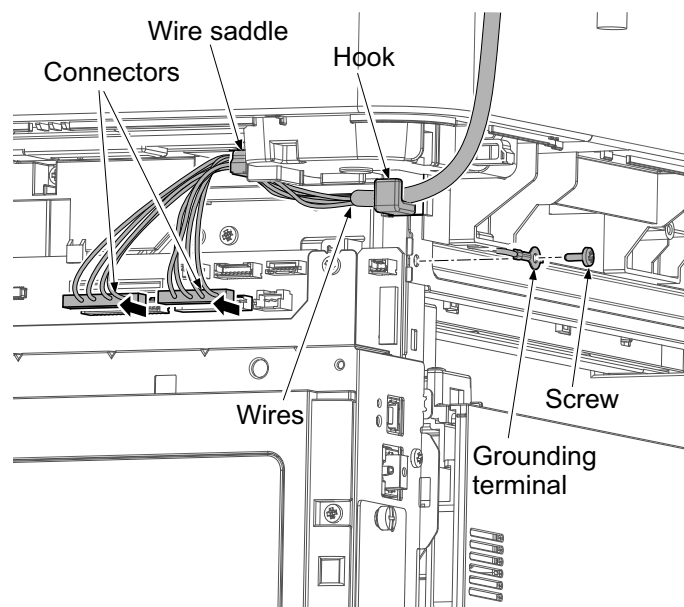


- 8 Remove the screw from the center stay cover.
- 9 Release two hooks using a flat screw driver and remove the center stay cover.

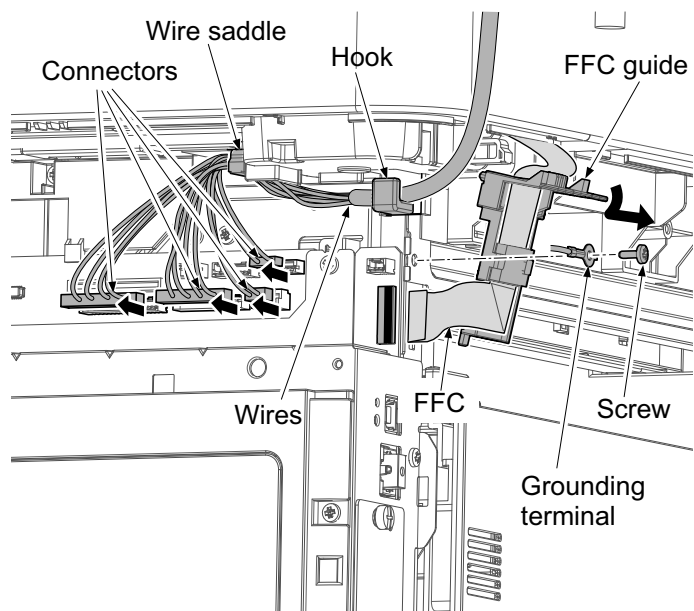


- 10 Release the wires from the hook and the wire saddle.
- 11 (45 ppm model) Remove two connectors.
(55/60 ppm model) Remove four connectors and FFC.
- 12 (55/60 ppm model) Remove the FFC guide in arrow direction and release the FFC.
- 13 Remove the screw and the grounding terminal.

(45 ppm model)

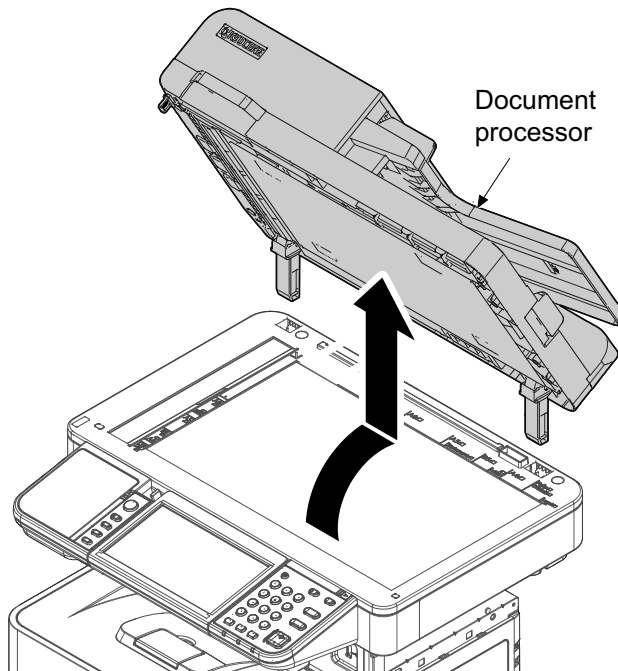


(55/60 ppm model)

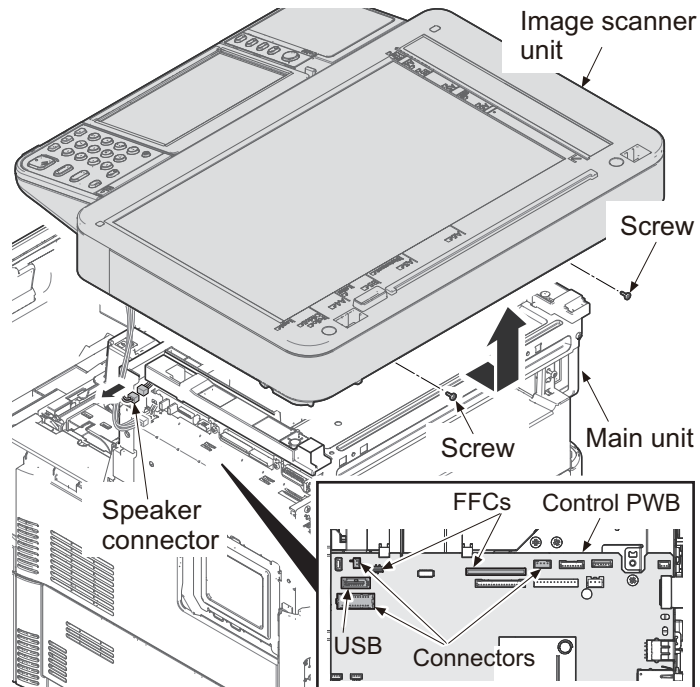


14 Open the document processor.

15 Remove the document processor upward.

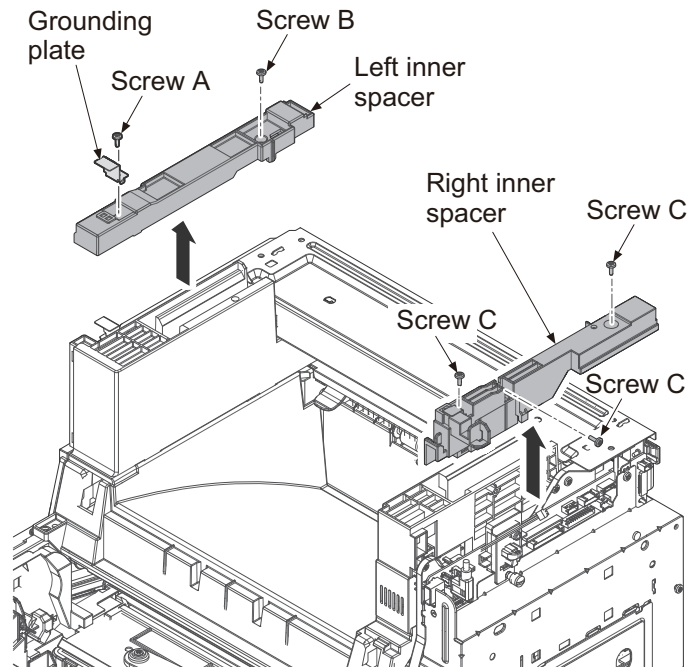


- 16 Remove three connectors, two FFCs and USB connector from the Control PWB.
- 17 (FAX model only) Remove the speaker connector.
- 18 Remove two screws from the image scanner unit.
- 19 Remove the image scanner unit by sliding backward and then upward.

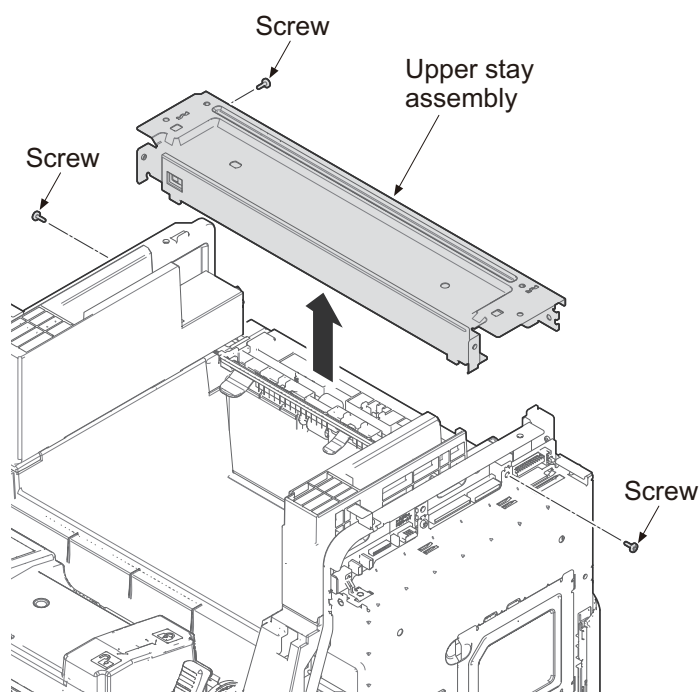


(2-4) Detaching and refitting the laser scanner unit

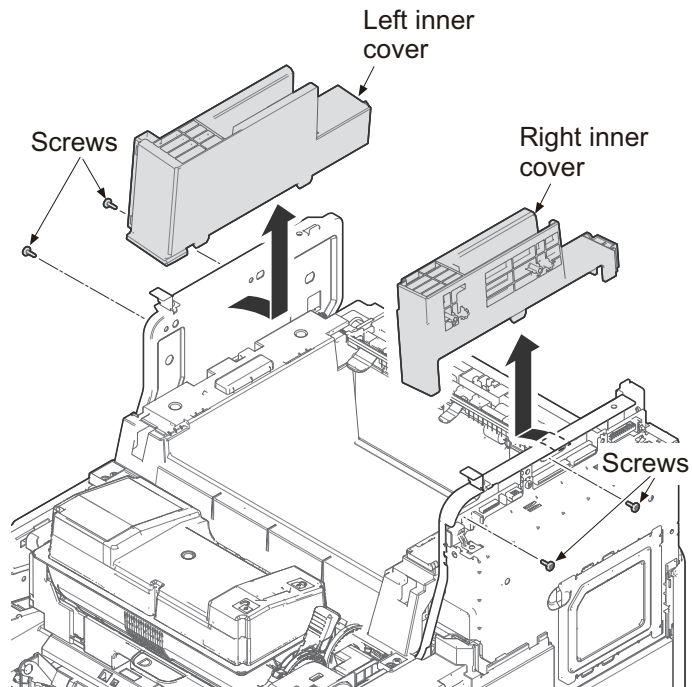
- 1 remove the image scanner unit. (See page 4-41)
- 2 (50/60 ppm model only) Remove the screw A and the grounding plate.
- 3 (50/60 ppm model only) Remove the screw and the left inner spacer upward.
- 4 (50/60 ppm model only) Remove three screws C and the right inner spacer upward.



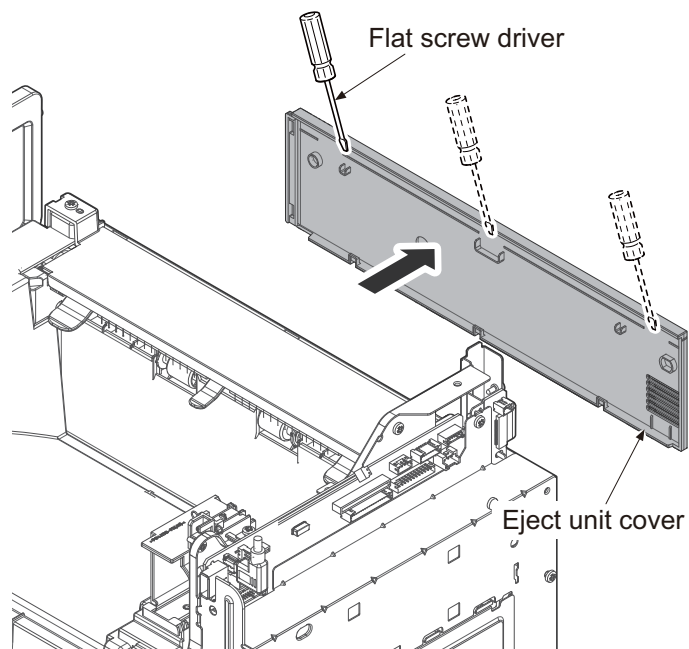
- 5 Remove three screws.
- 6 Remove the upper stay assembly upward.



- 7 Remove two screws and then remove the right inner cover by leaning it inside and lifting it.
- 8 Remove two screws and then remove the left inner cover by leaning it inside and lifting it.

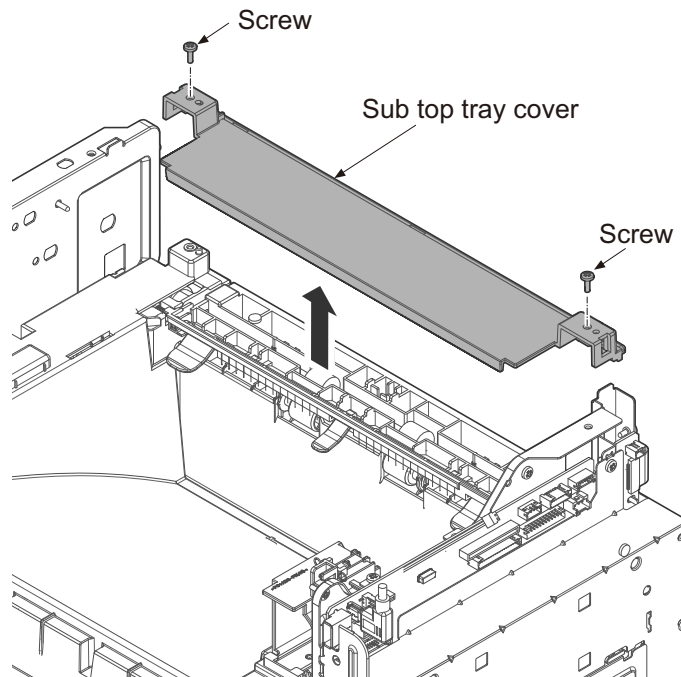


- 9 Remove the eject unit cover using the flat screw driver.



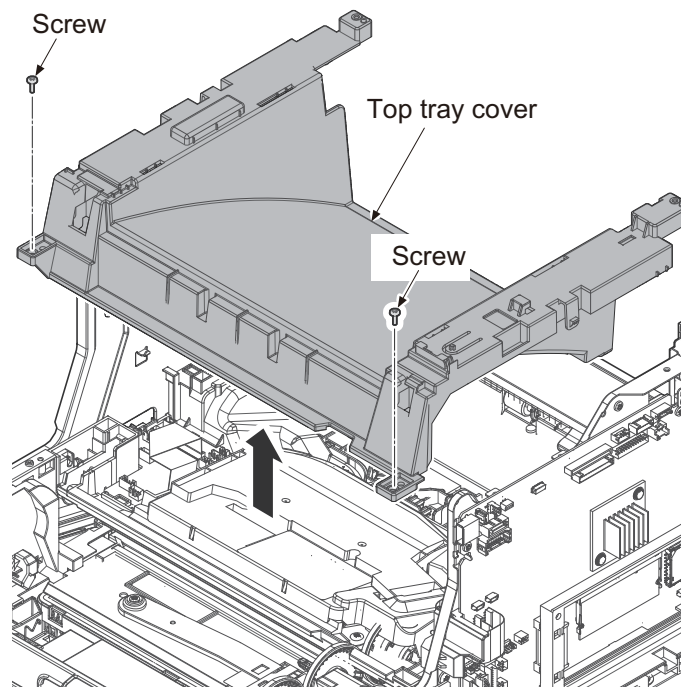
10 Remove two screws.

11 Remove the sub top tray cover upward.

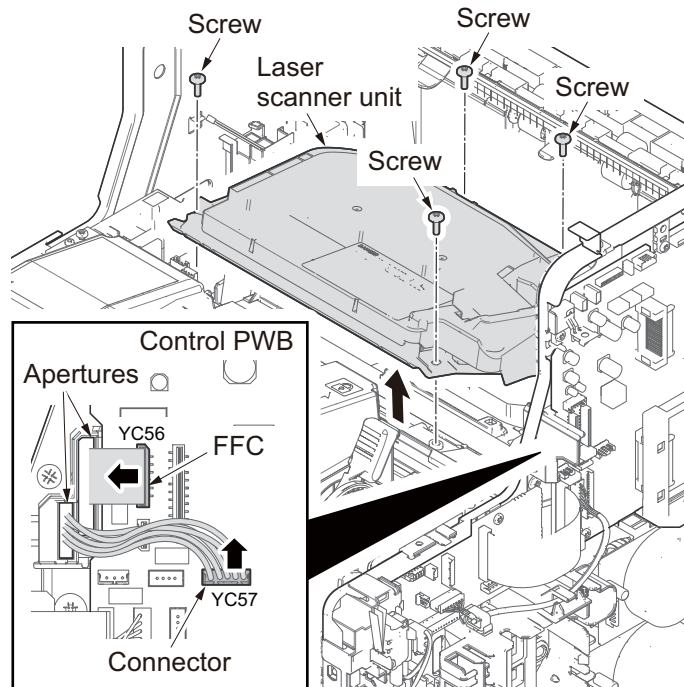


12 Remove two screws.

13 Remove the top tray cover upward.



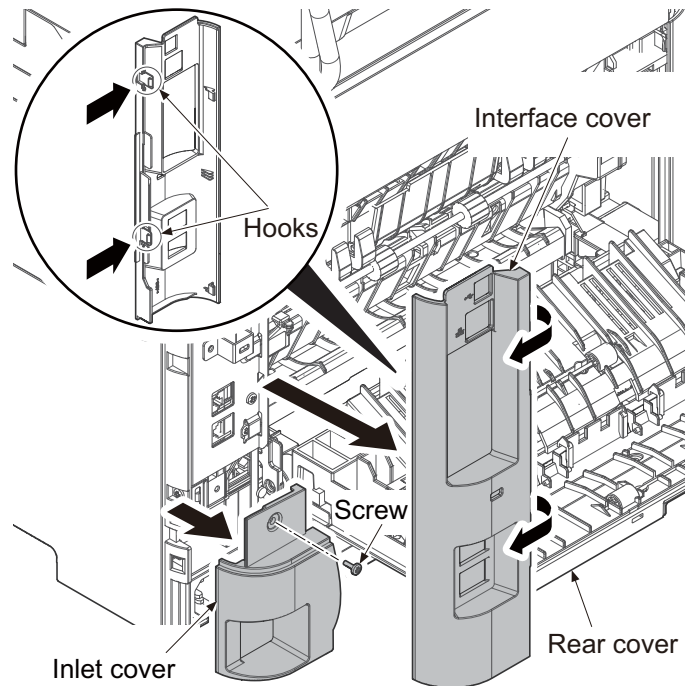
- 14 Pull the connector and FFC from control PWB out.
- 15 Pull the connector and FFC out through the apertures.
- 16 Remove four screws and then remove the laser scanner unit upward.
- 17 Check or replace the laser scanner unit and refit all the removed parts.



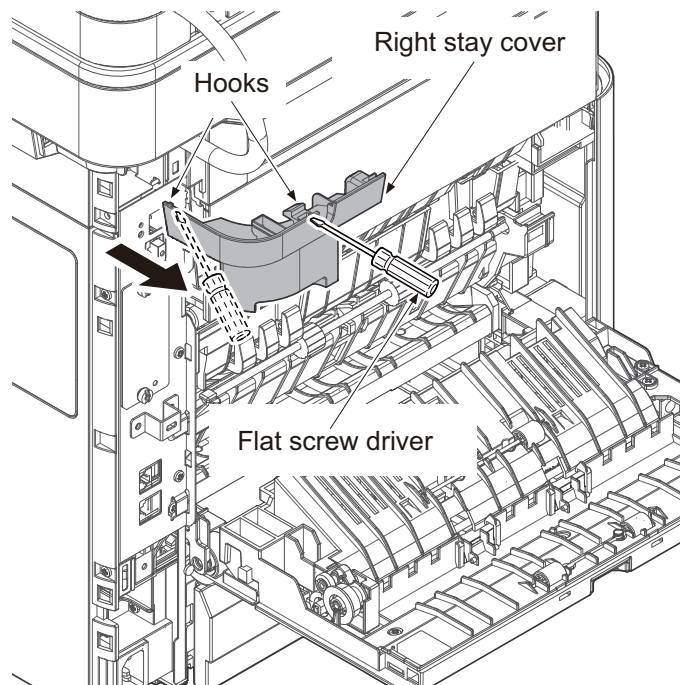
(3) Eject section

(3-1) Detaching and refitting the eject unit

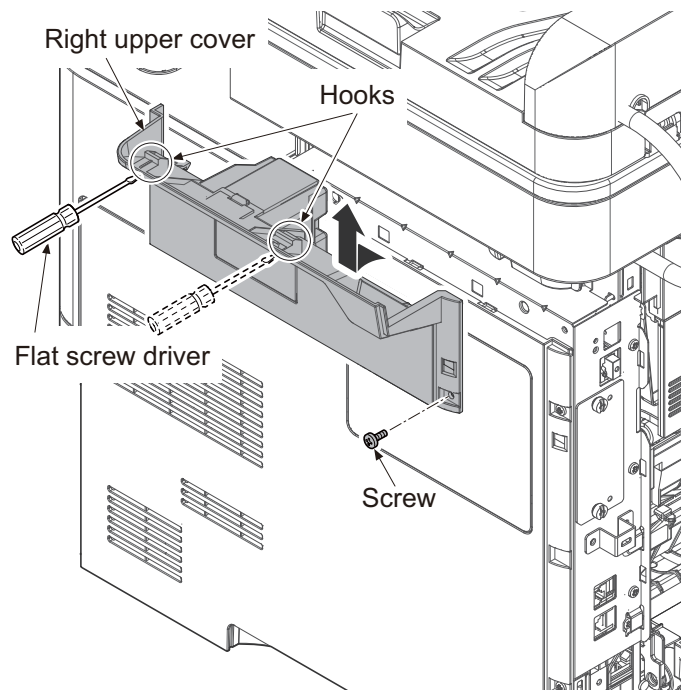
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and then the inlet cover.



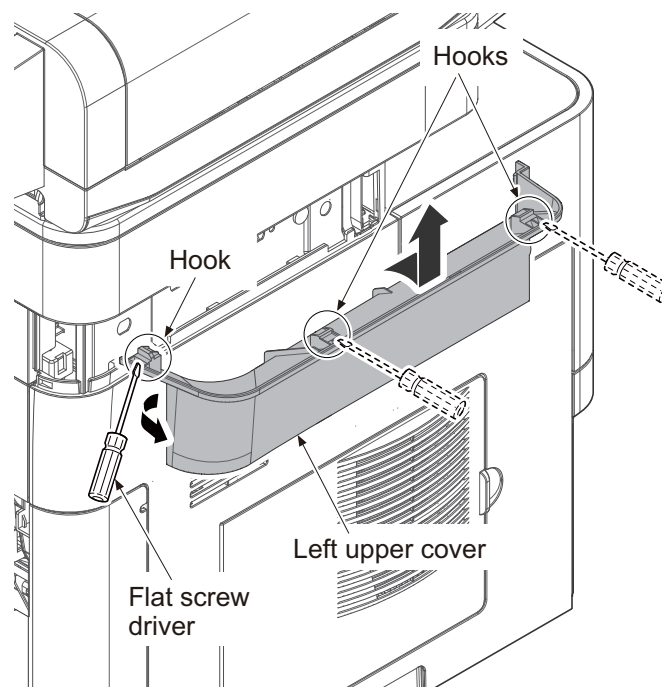
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



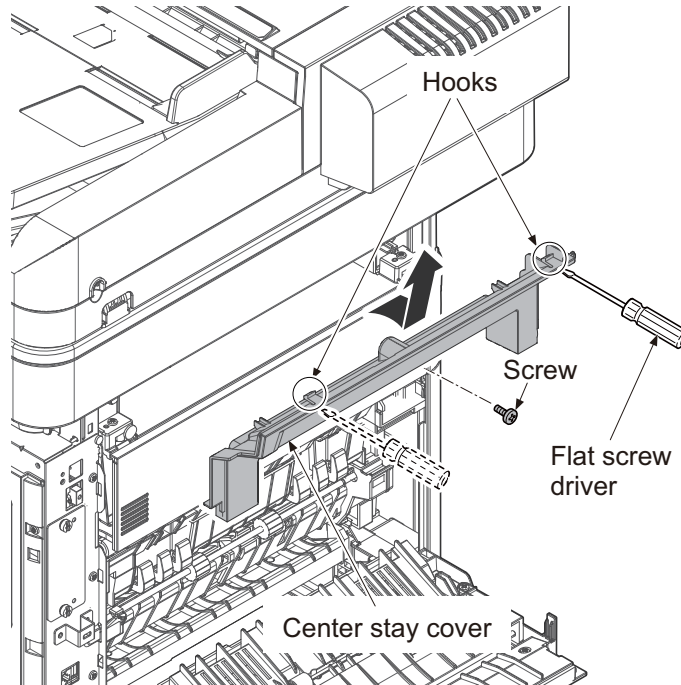
- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.



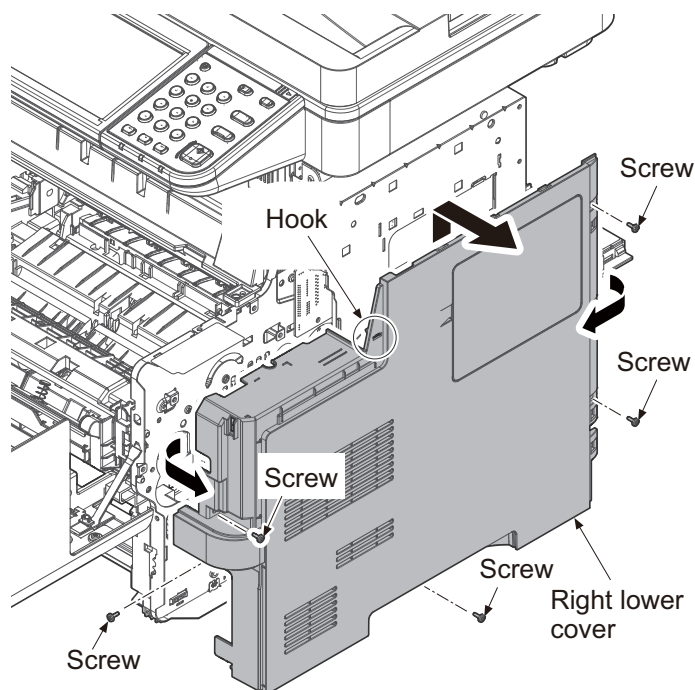
- 8 Release three hooks using a flat screw driver and remove the left upper cover.



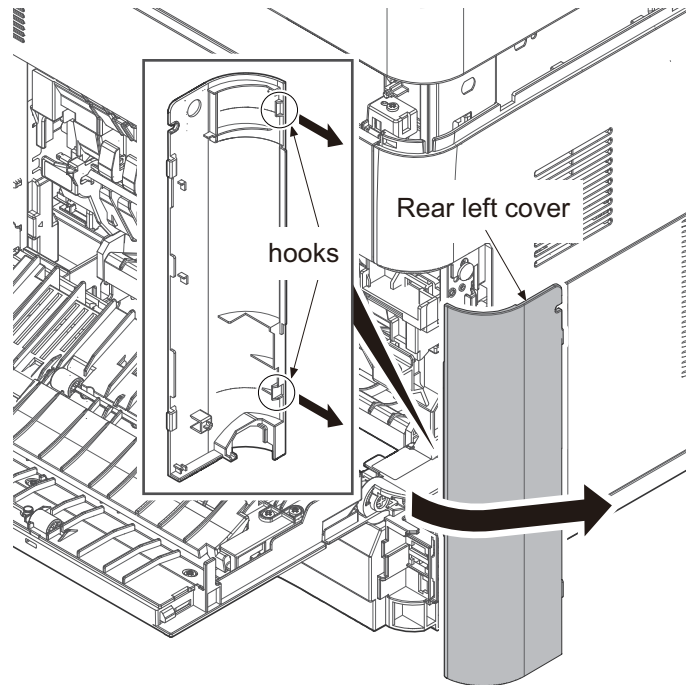
- 9 Remove the screw from the center stay cover.
- 10 Release two hooks using a flat screw driver and remove the center stay cover.



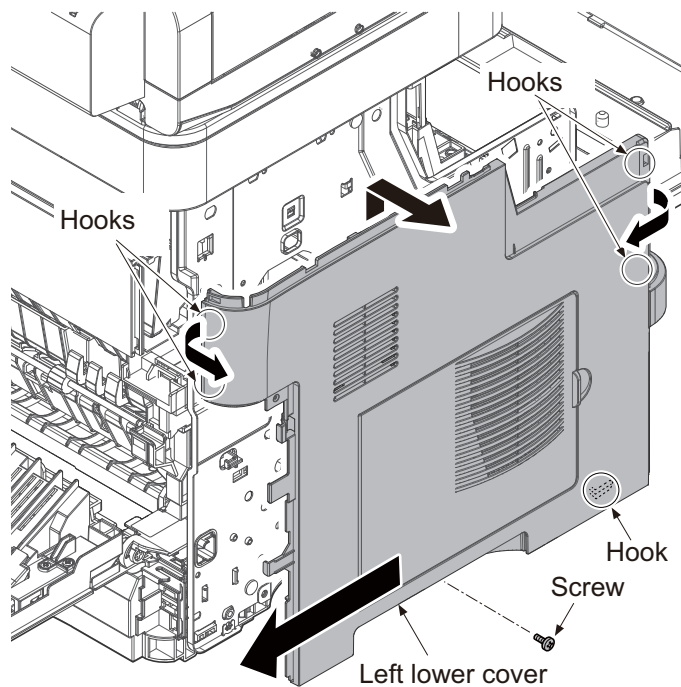
- 11 Remove five screws.
- 12 Release the hook by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



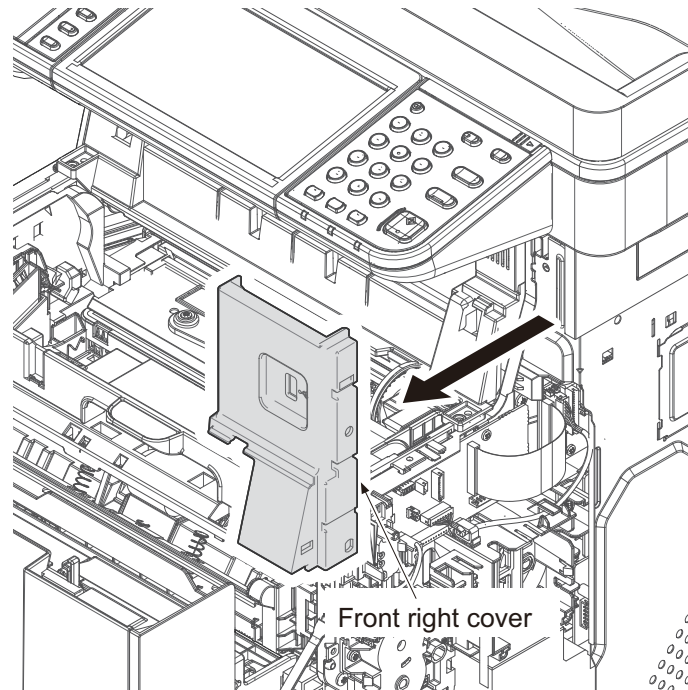
- 13 Release two hooks of the rear left cover while pulling forward.
- 14 Remove the rear left cover by rotating.



- 15 Remove the screw from the left lower cover.
- 16 Release five hooks by bending the left lower cover.
- 17 Release the hook by sliding the left lower cover back direction, remove it.



18 Remove the front right cover forward.

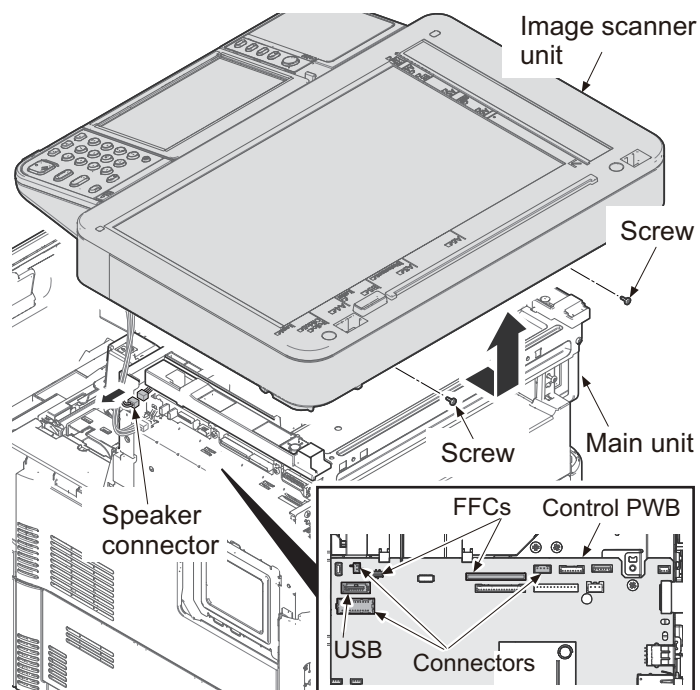


19 Remove three connectors, two FFCs and USB connector from the Control PWB.

20 (FAX model only) Remove the speaker connector.

21 Remove two screws from the image scanner unit.

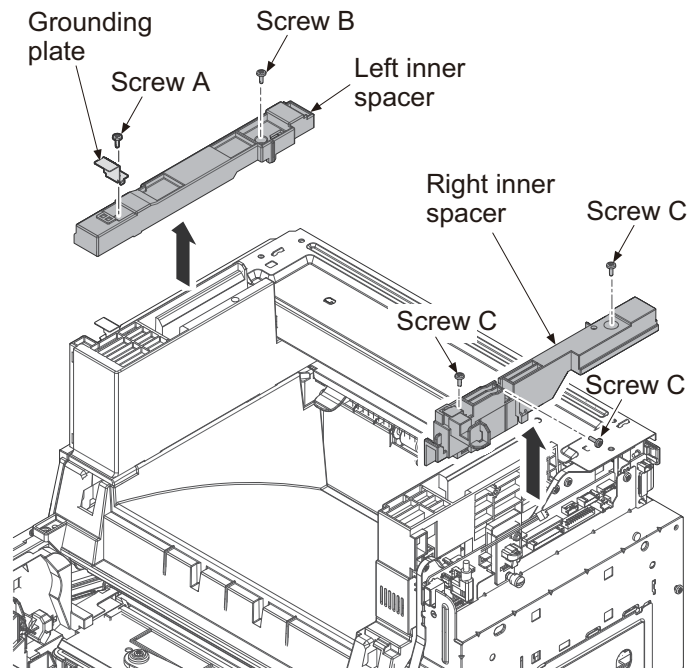
22 Remove the image scanner unit by sliding backward and then upward.



23 (50/60 ppm model only) Remove the screw A and the grounding plate.

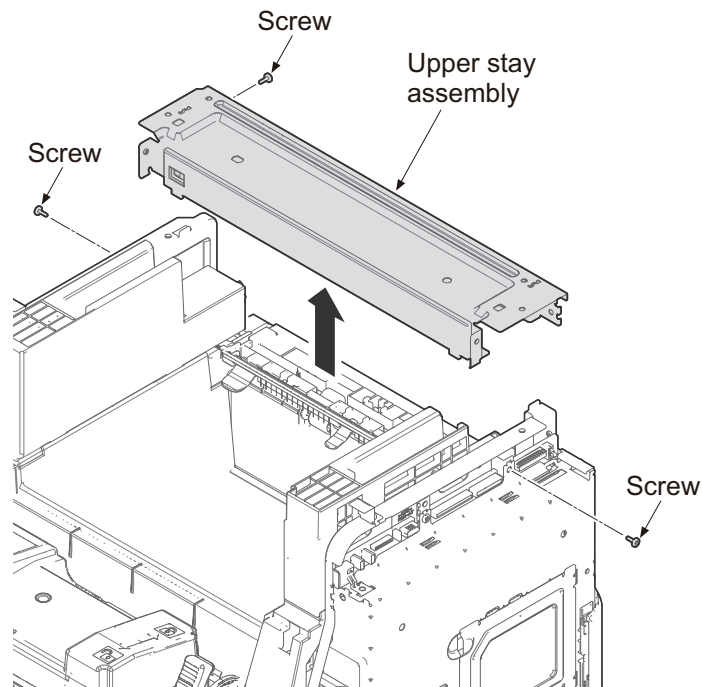
24 (50/60 ppm model only) Remove the screw and the left inner spacer upward.

25 (50/60 ppm model only) Remove three screws C and the right inner spacer upward.



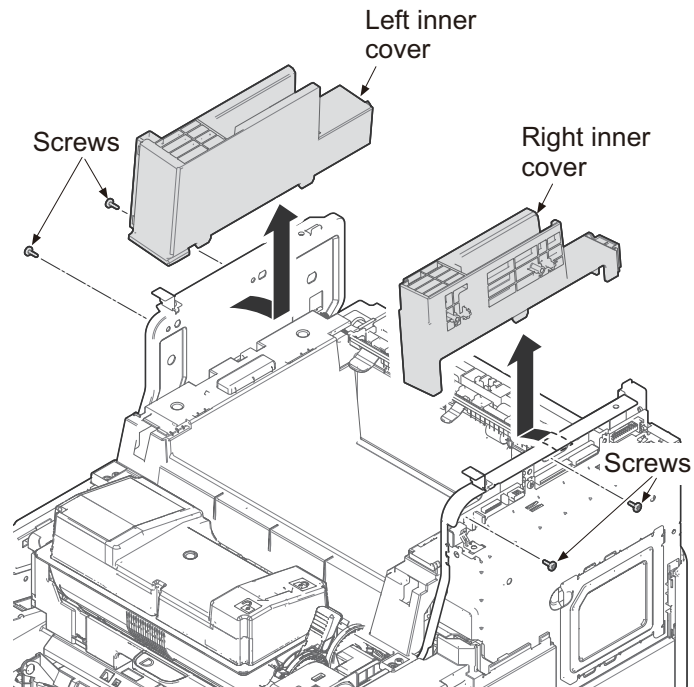
26 Remove three screws.

27 Remove the upper stay assembly upward.

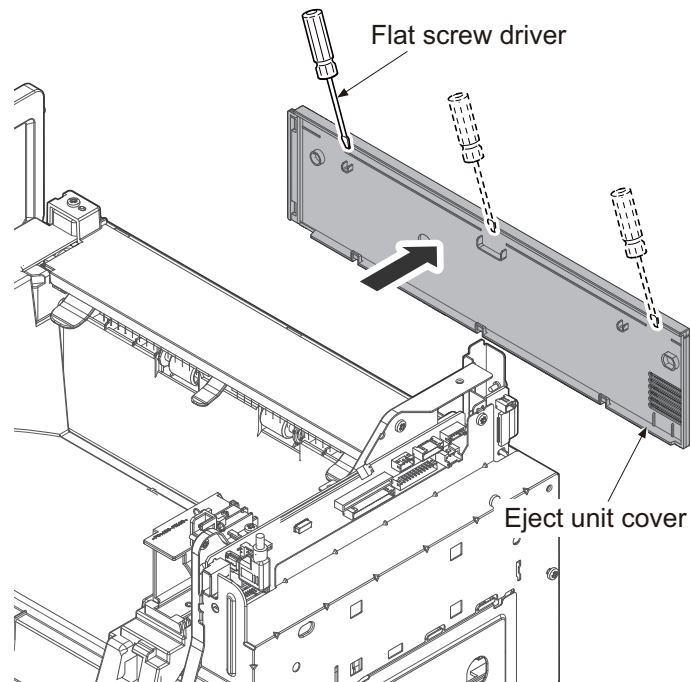


28 Remove two screws and then remove the right inner cover by leaning it inside and lifting it.

29 Remove two screws and then remove the left inner cover by leaning it inside and lifting it.

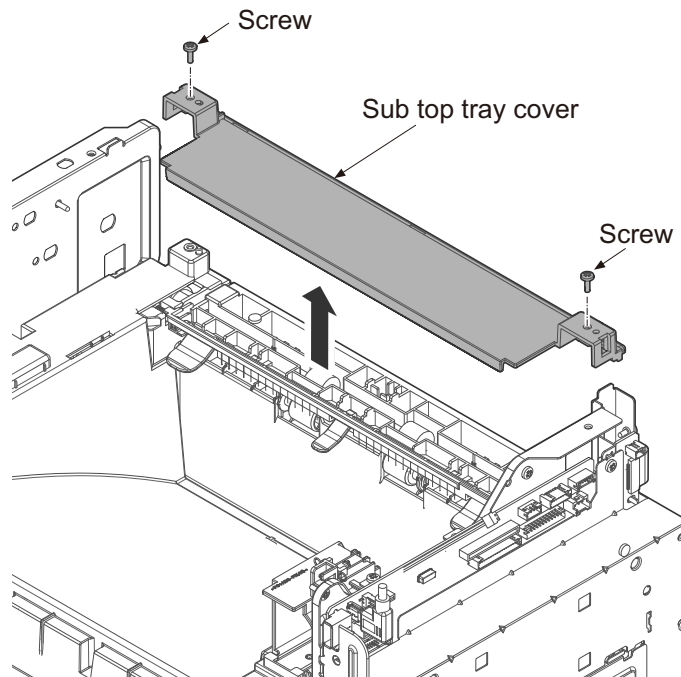


30 Remove the eject unit cover using the flat screw driver.



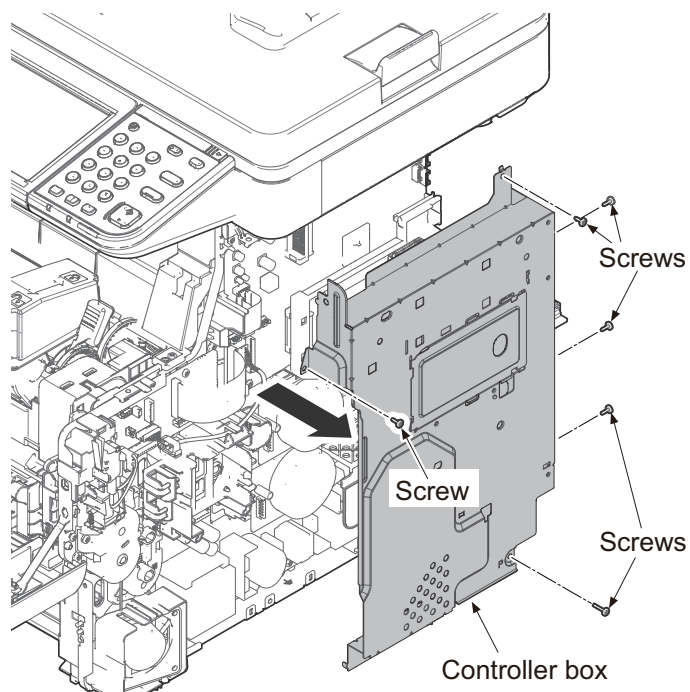
31 Remove two screws.

32 Remove the sub top tray cover upward.



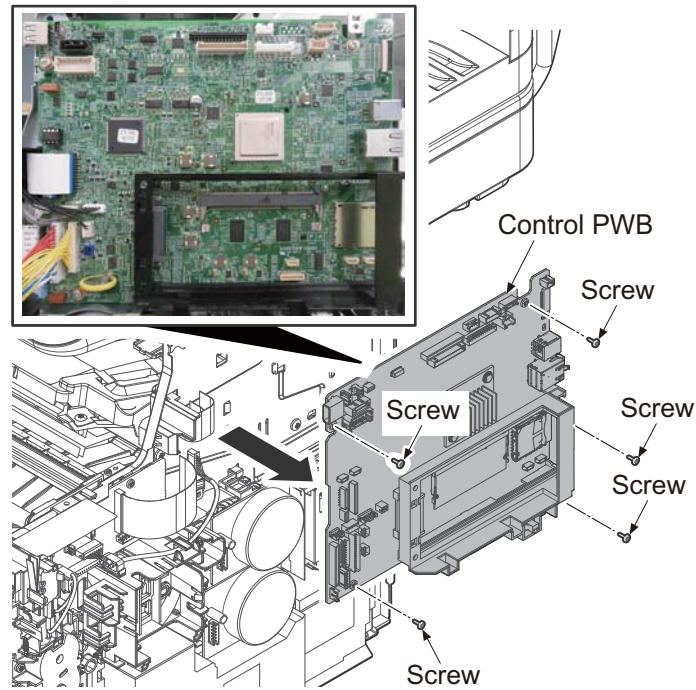
33 Remove six screws.

34 Remove the controller box.



35 Remove all connectors and FFCs from the control PWB.

36 Remove six screws and control PWB from the main unit.



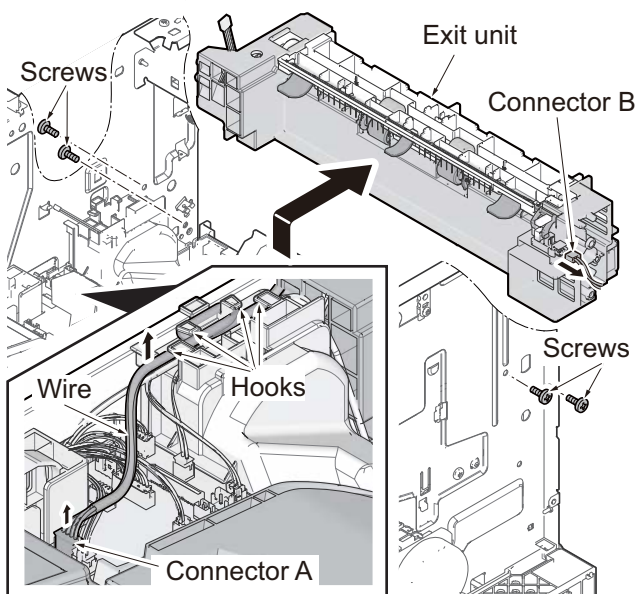
37 Pull the connector A out and then release the wires from Hooks.

38 Remove four screws and then remove the eject unit.

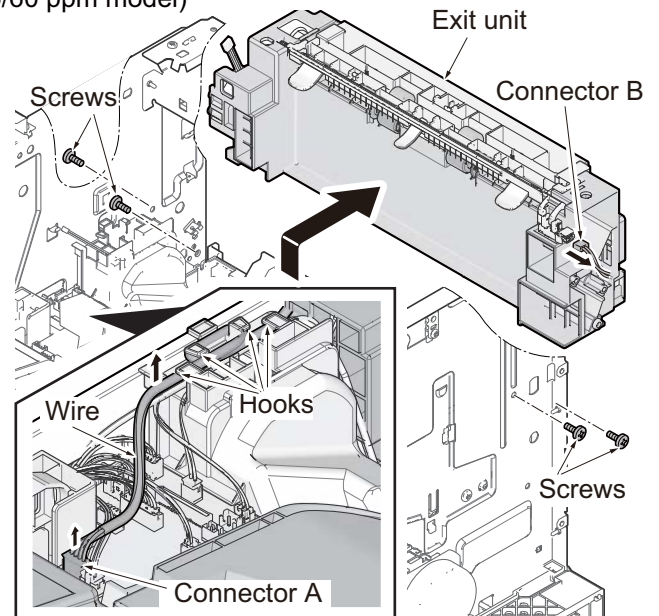
39 Remove the connector B.

40 Check or replace the ejection unit and refit all the removed parts.

(45 ppm model)



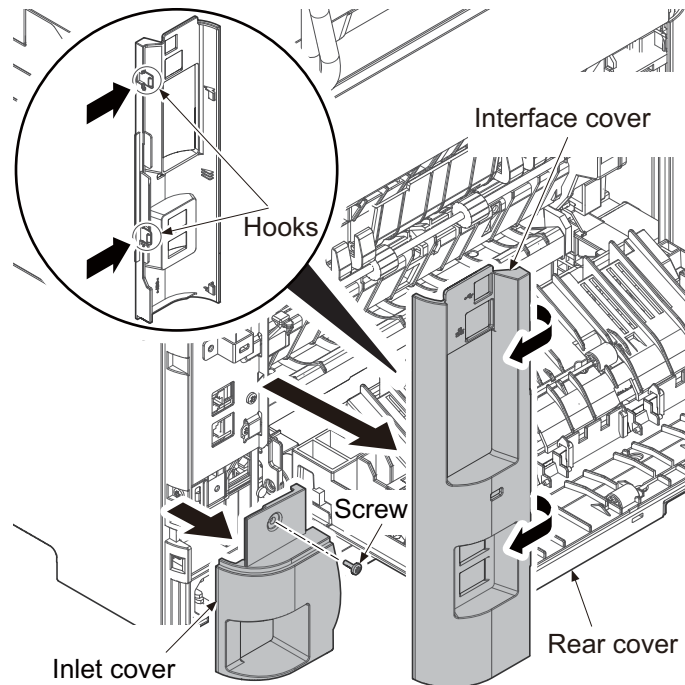
(55/60 ppm model)



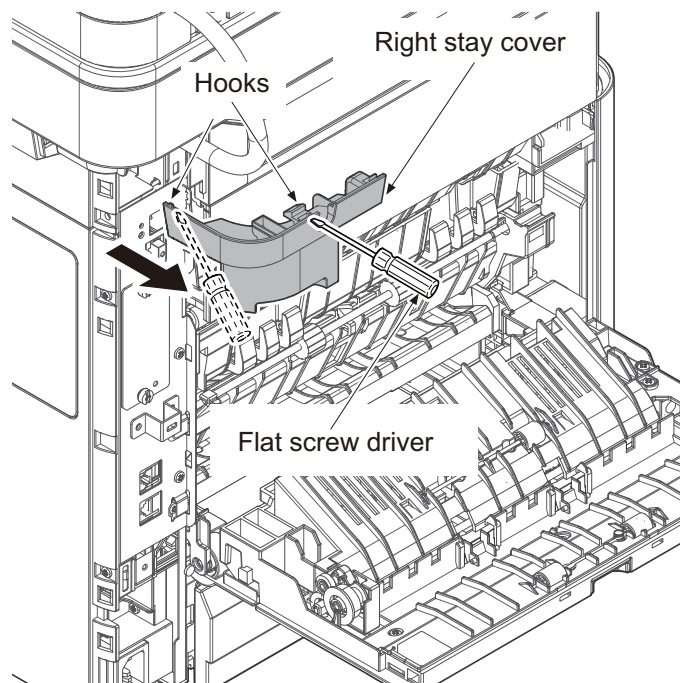
(4) Duplex section

(4-1) Detaching and refitting the duplex conveying unit

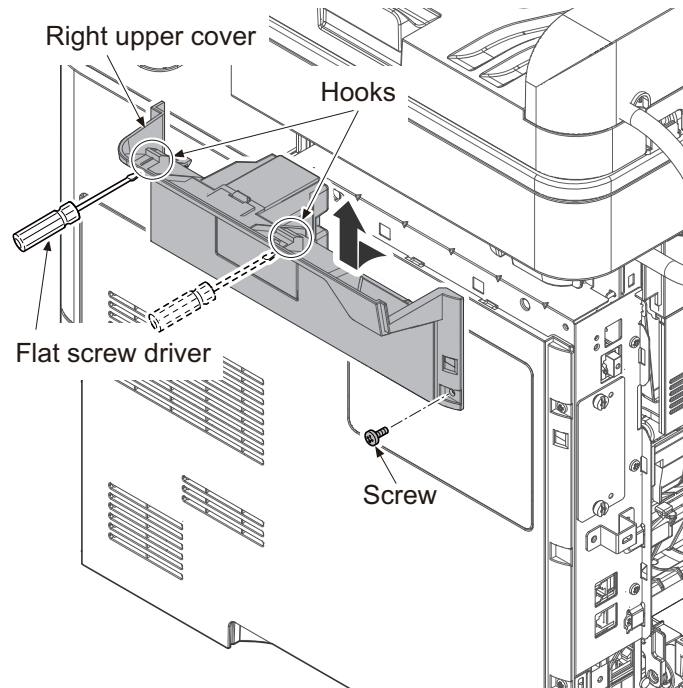
- 1 Remove the developer unit, drum unit and waste toner box. (See page 4-10, 4-12)
- 2 Open the rear cover.
- 3 Remove the interface cover.
- 4 Remove the screw and then the inlet cover.



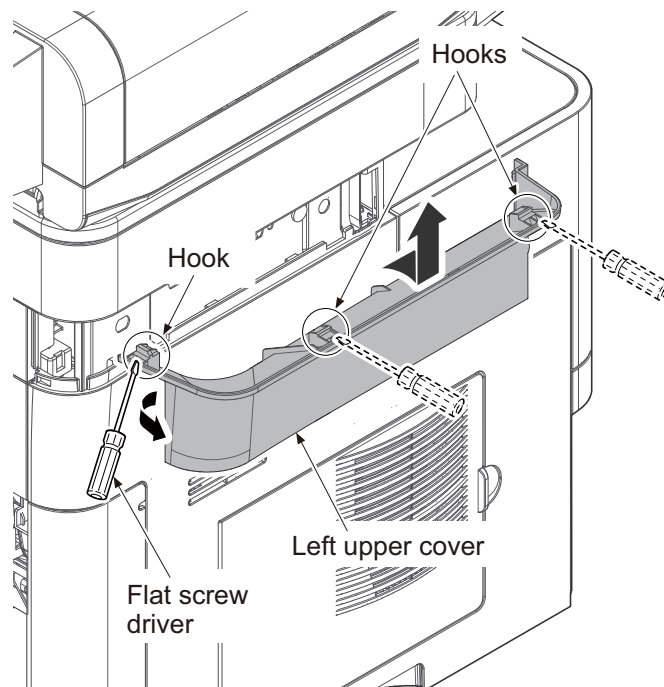
- 5 Release two hooks using a flat screw driver and remove the right stay cover.



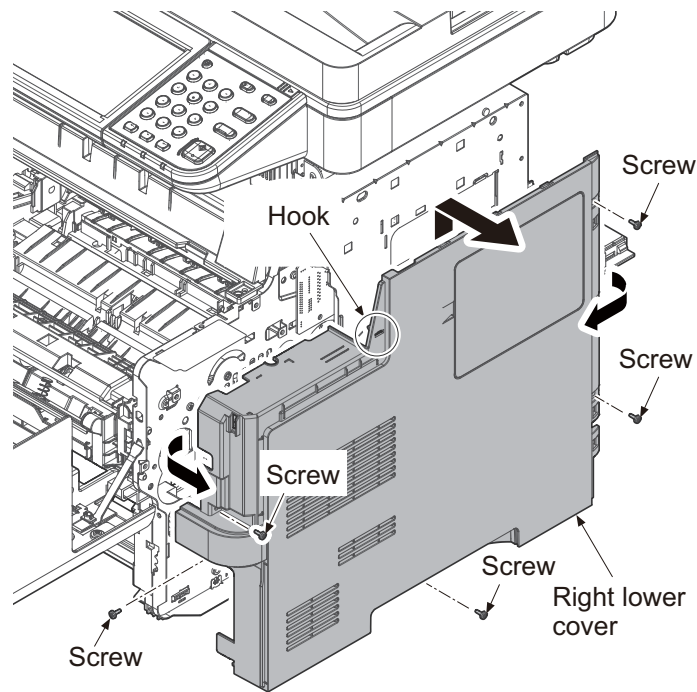
- 6 Open the front cover.
- 7 Remove the screw from the right upper cover.
- 8 Release two hooks using a flat screw driver and remove the right upper cover.



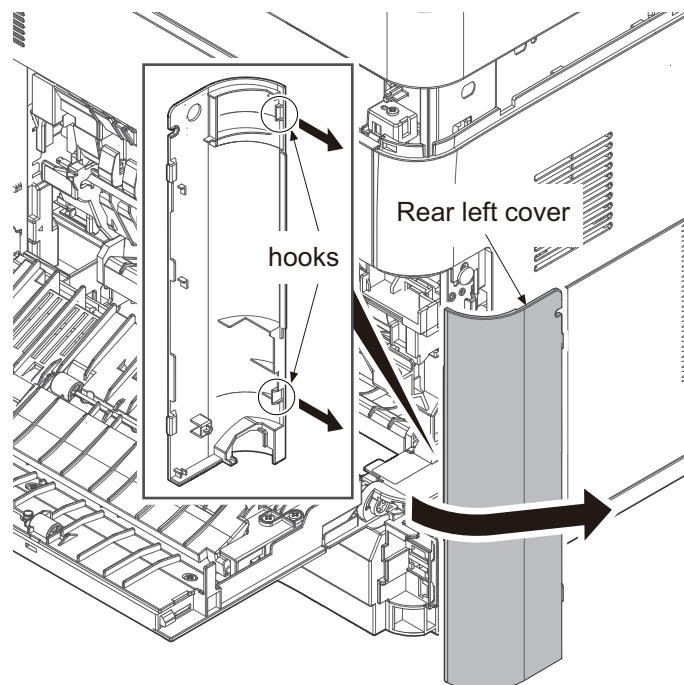
- 9 Release three hooks using a flat screw driver and remove the left upper cover.



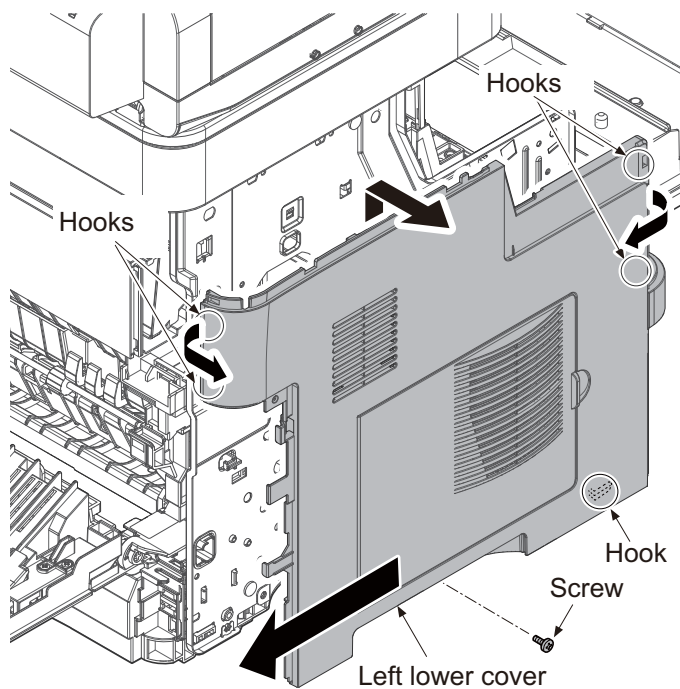
- 10 Pull the cassette out.
- 11 Remove five screws.
- 12 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



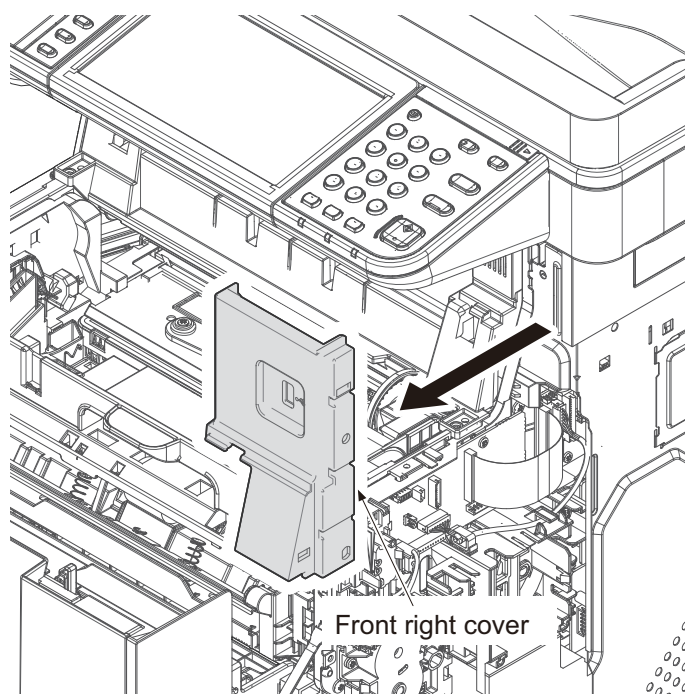
- 13 Release two hooks of the rear left cover while pulling forward.
- 14 Remove the rear left cover by rotating.



- 15 Remove the screw from the left lower cover.
- 16 Release five hooks by bending the left lower cover.
- 17 Release the hook by sliding the left lower cover back direction, remove it.

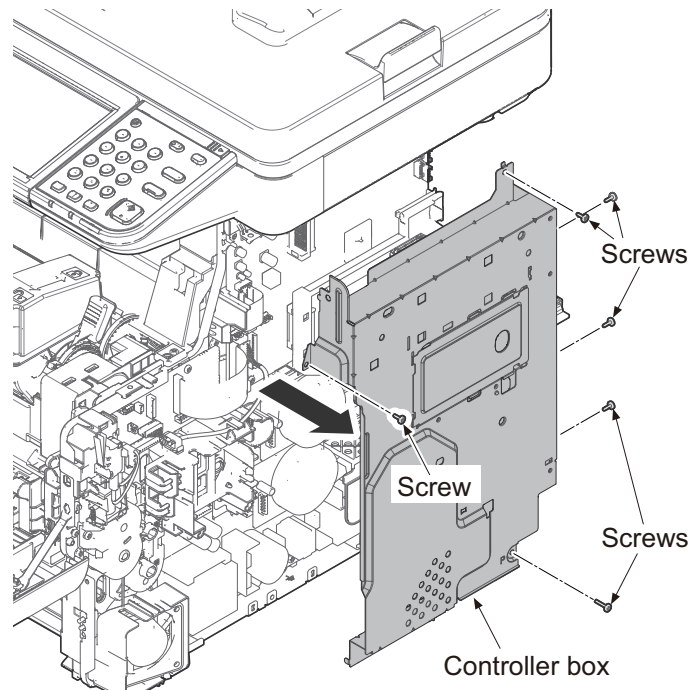


- 18 Remove the front right cover forward.



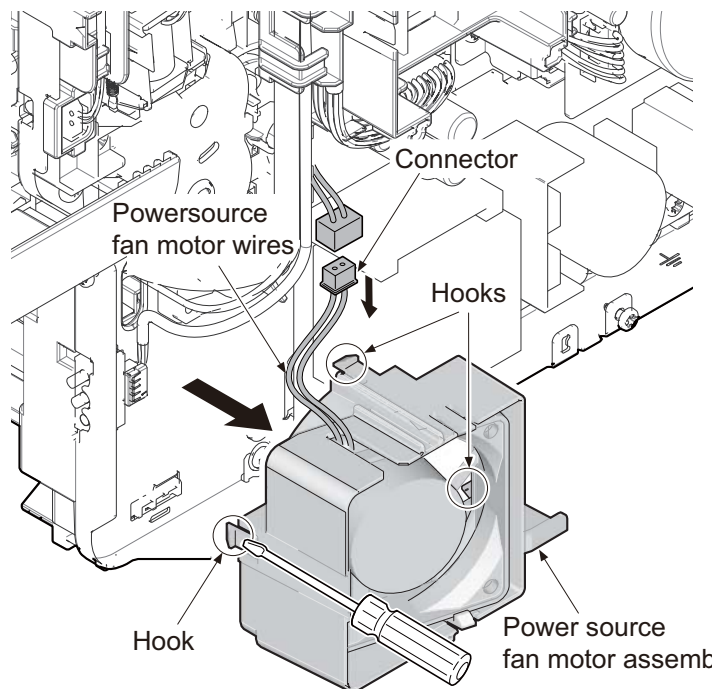
19 Remove six screws.

20 Remove the controller box.



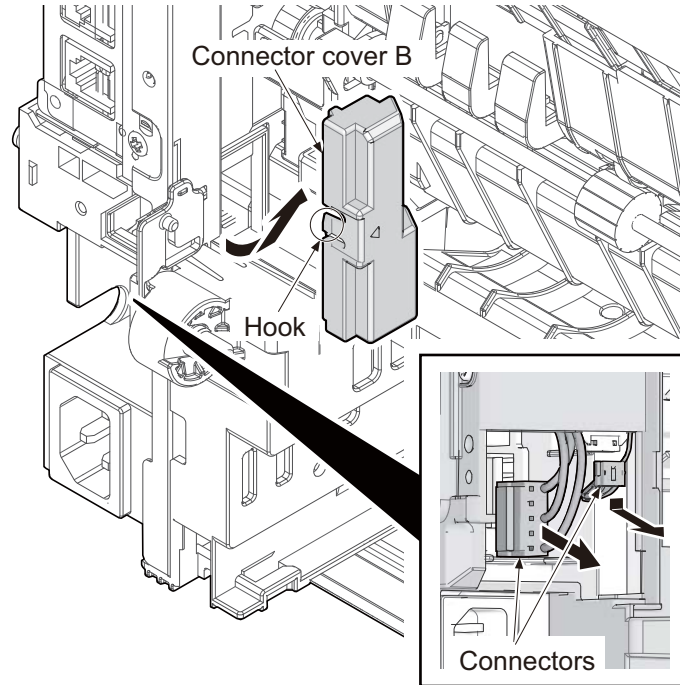
21 Disconnect the connector of power source fan motor.

22 Release three hooks using a flat screw driver and remove the powersource fan motor.



23 Remove the connector cover B by releasing the hook.

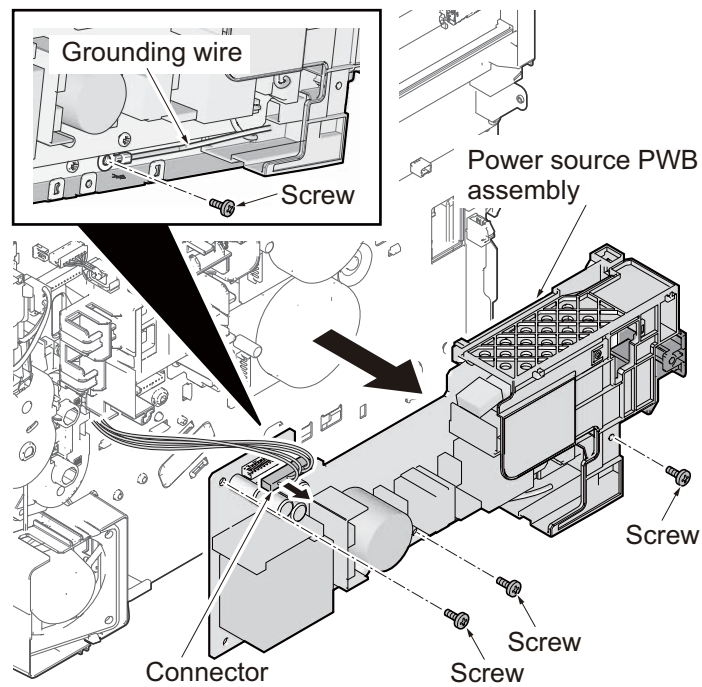
24 Pull two connectors out.



25 Remove the connector from the power source PWB assembly.

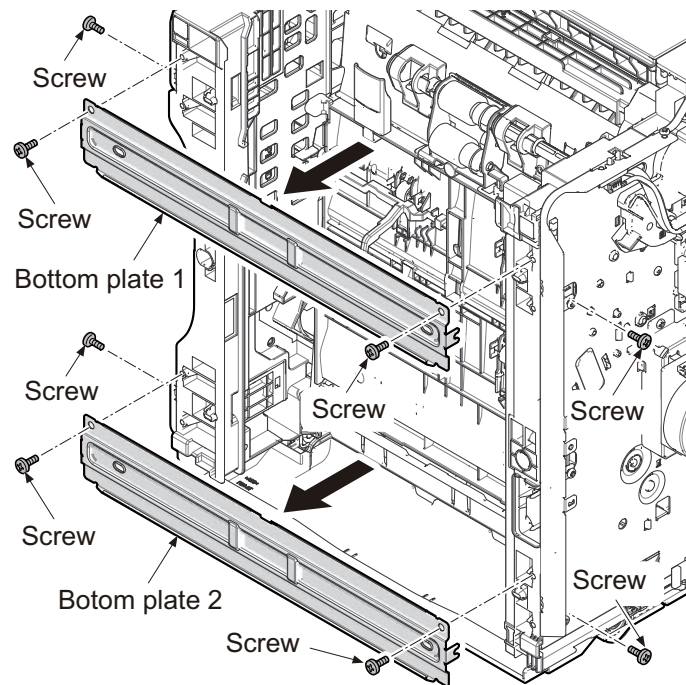
26 Remove the grounding wire by removing the screw.

27 Remove three screws and then remove the power source PWB assembly.



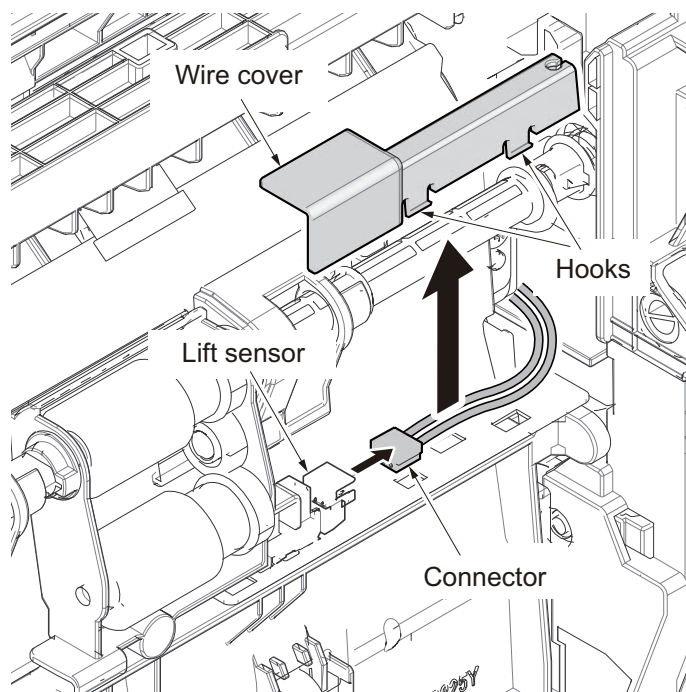
28 Stand the main unit front side up.

29 Remove four screws each and then remove the bottom plate 1 and the bottom plate 2.

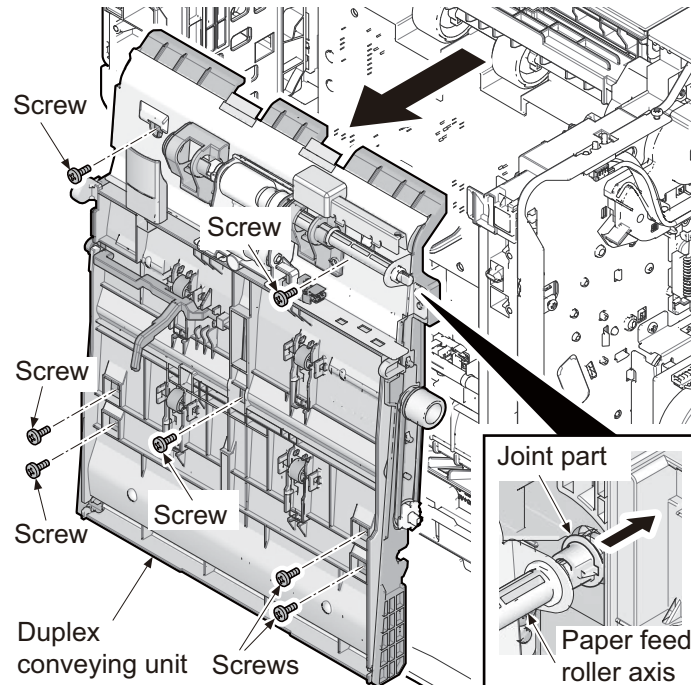


30 (55/60 ppm model only) Release two hooks and then remove the wire cover.

31 (55/60 ppm model only) Pull the connector of lift sensor out.



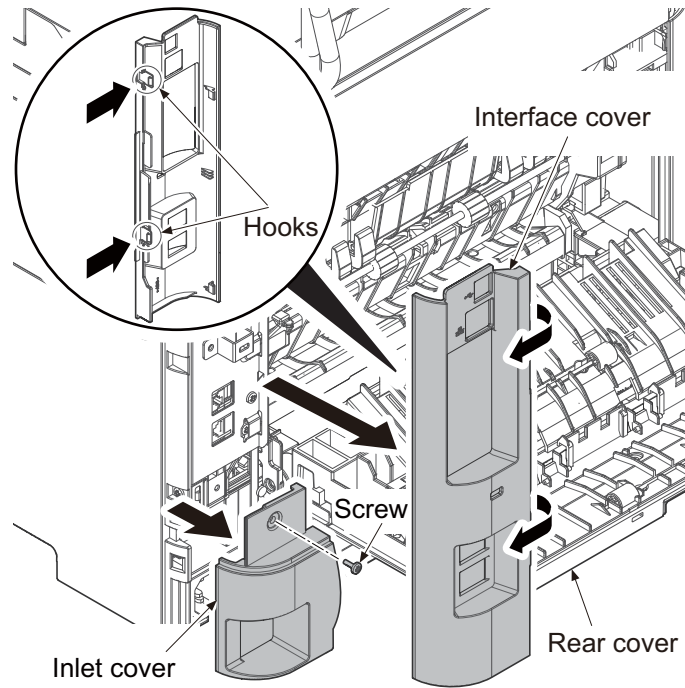
- 32 Remove seven screws.
- 33 Extract the feed roller axis by pushing the joint part.
- 34 Remove the duplex conveying unit to the front.
- 35 Check or replace the duplex conveying unit and refit all the removed parts.



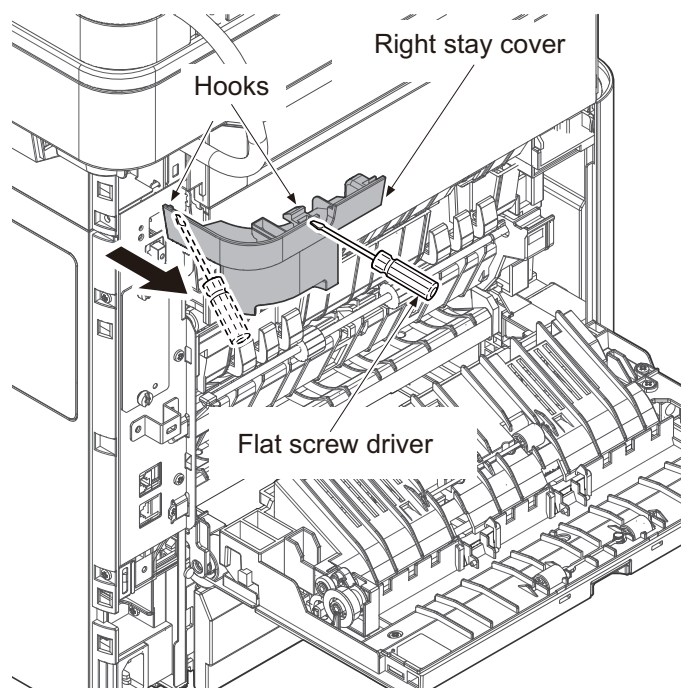
(5) Drive section

(5-1) Detaching and refitting the main driving motor unit

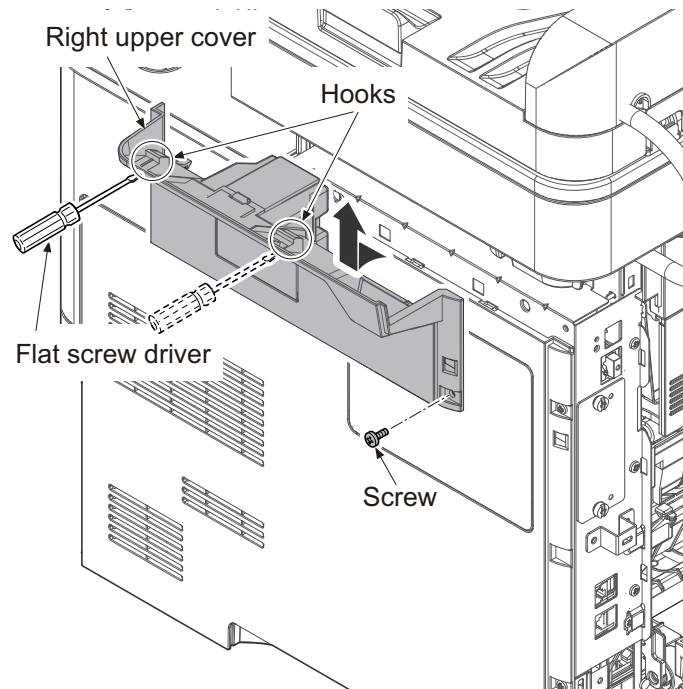
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



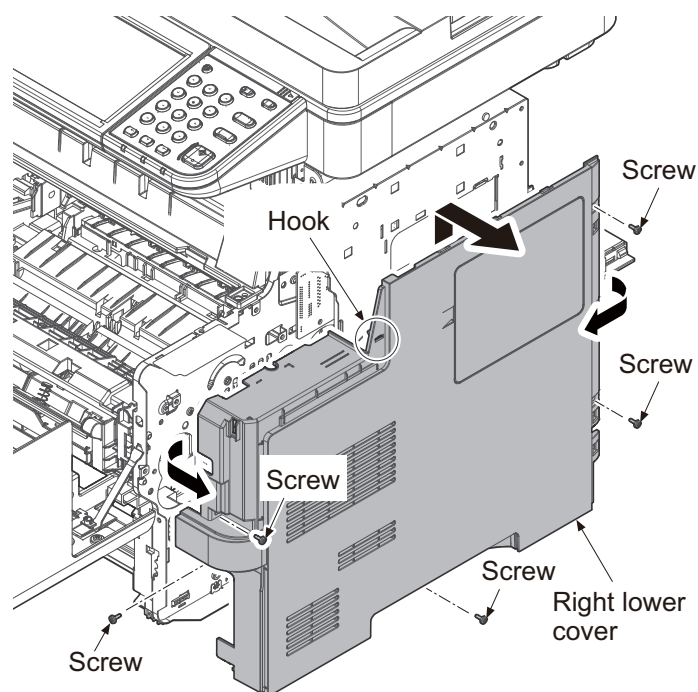
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.

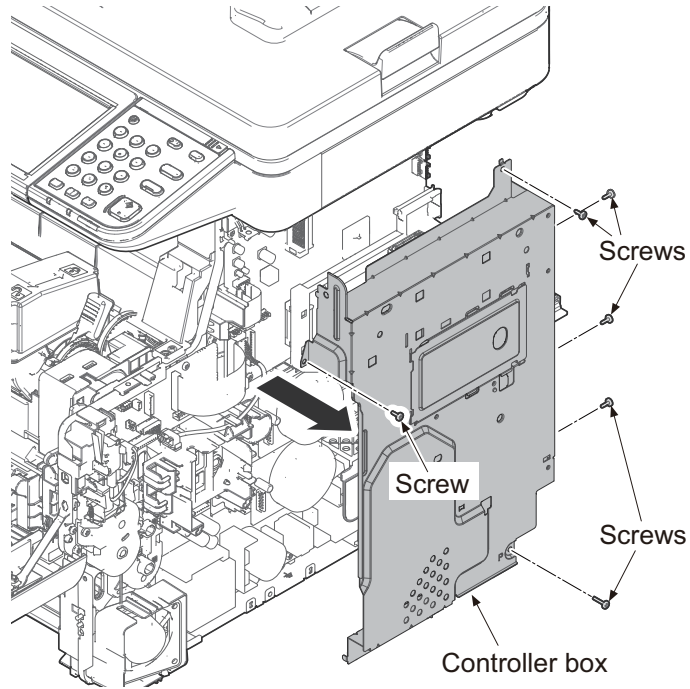


- 8 Pull the cassette out.
- 9 Remove five screws.
- 10 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



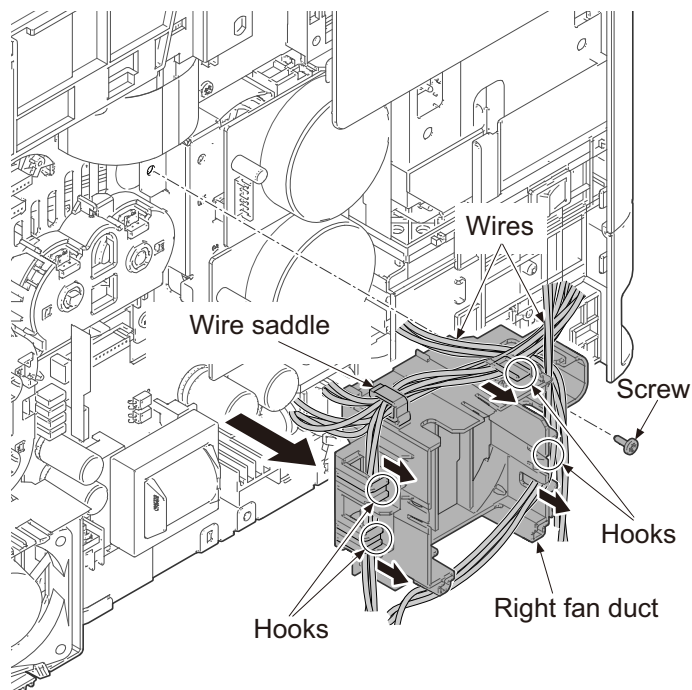
11 Remove six screws.

12 Remove the controller box.



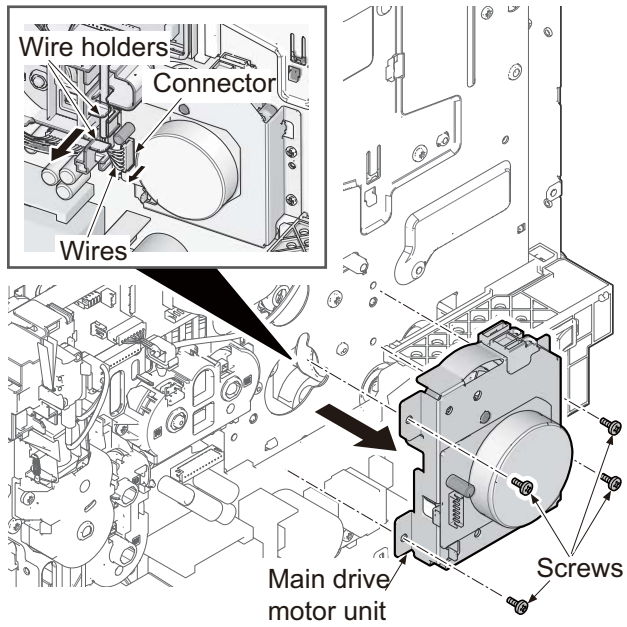
13 Remove the wires from the wire saddle or the hooks.

14 Remove the screw and then the right fan duct.

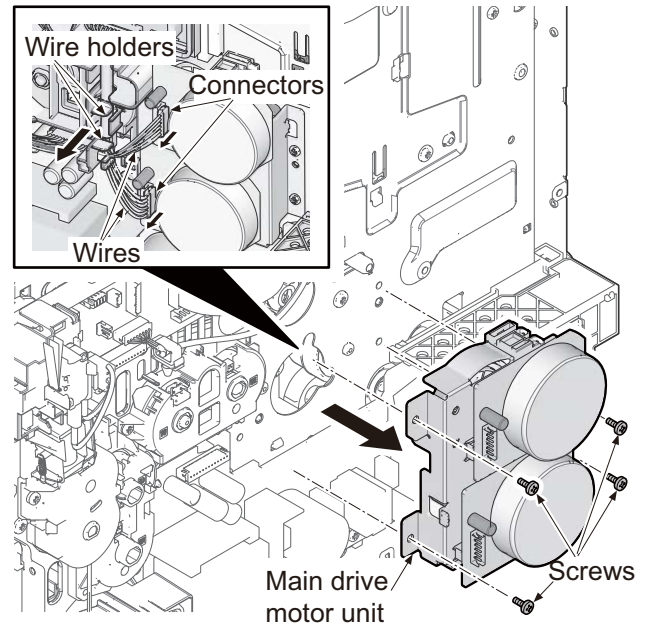


- 15 Pull the connector out from the motor and then release the wires from wire holder.
- 16 Remove four screws and then remove the main driving motor unit.
- 17 Check or replace the main driving motor unit and refit all the removed parts.

(45 ppm model)

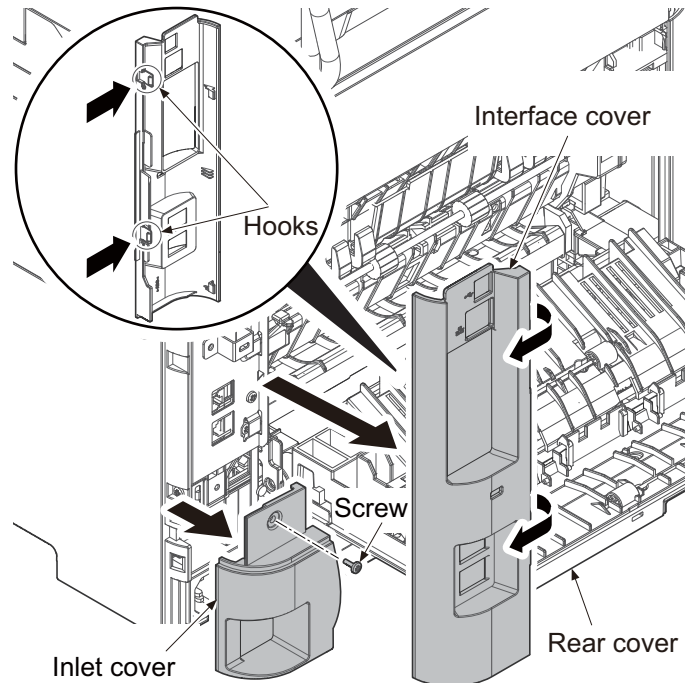


(55/60 ppm model)

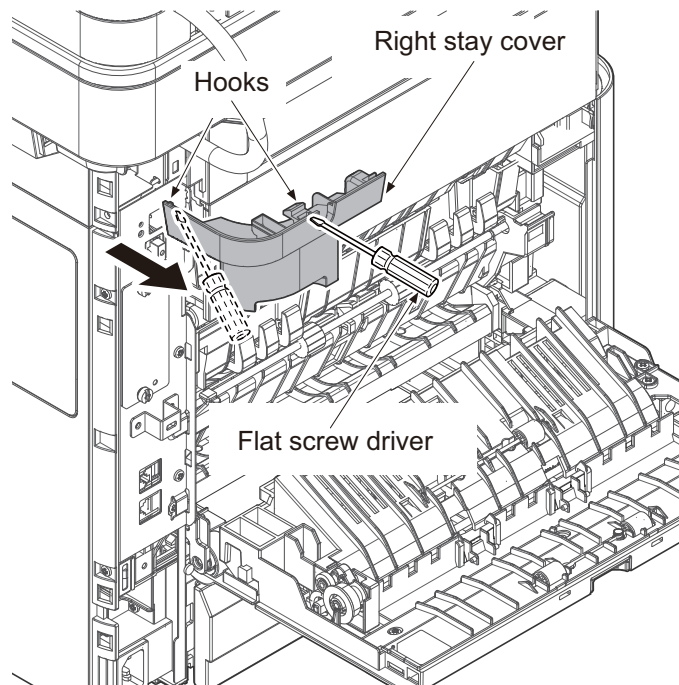


(5-2) Detaching and refitting the feed driving motor unit

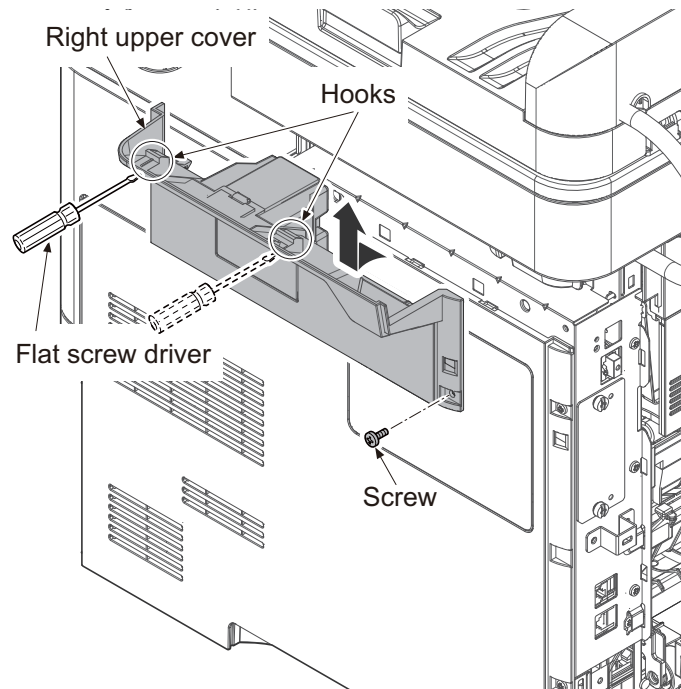
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



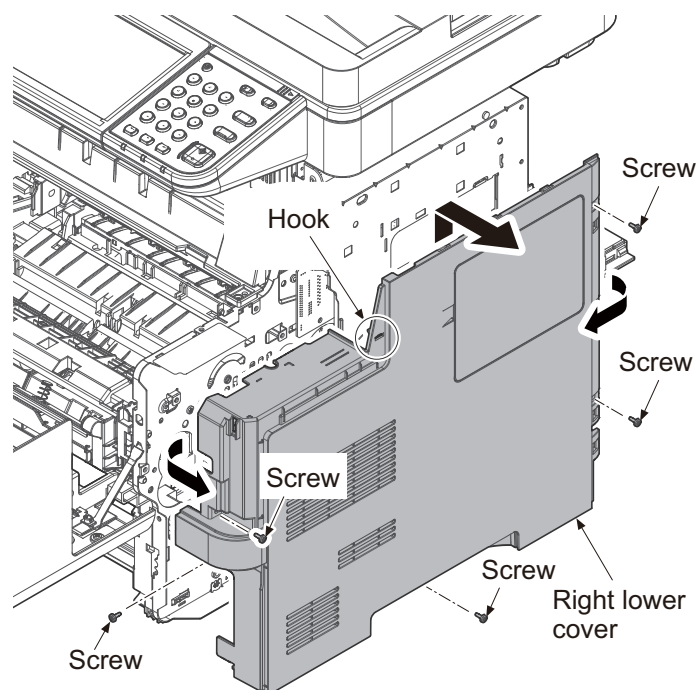
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.

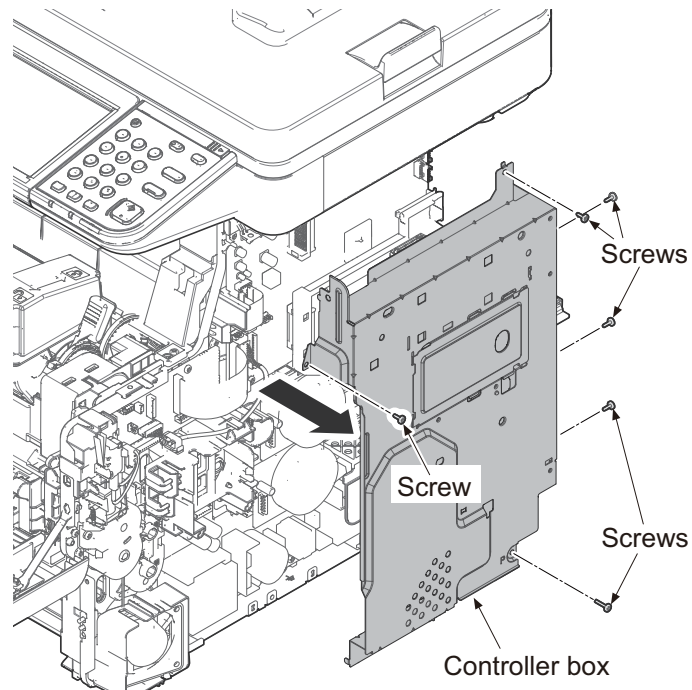


- 8 Pull the cassette out.
- 9 Remove five screws.
- 10 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



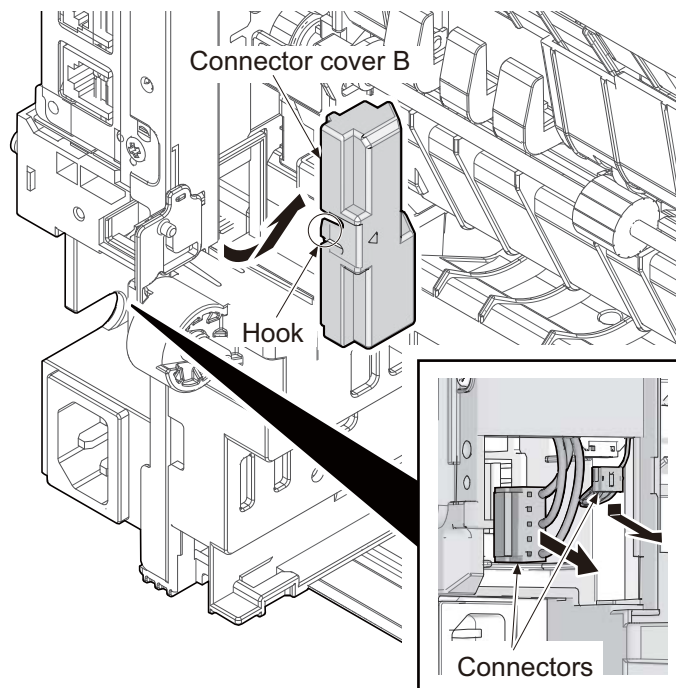
11 Remove six screws.

12 Remove the controller box.

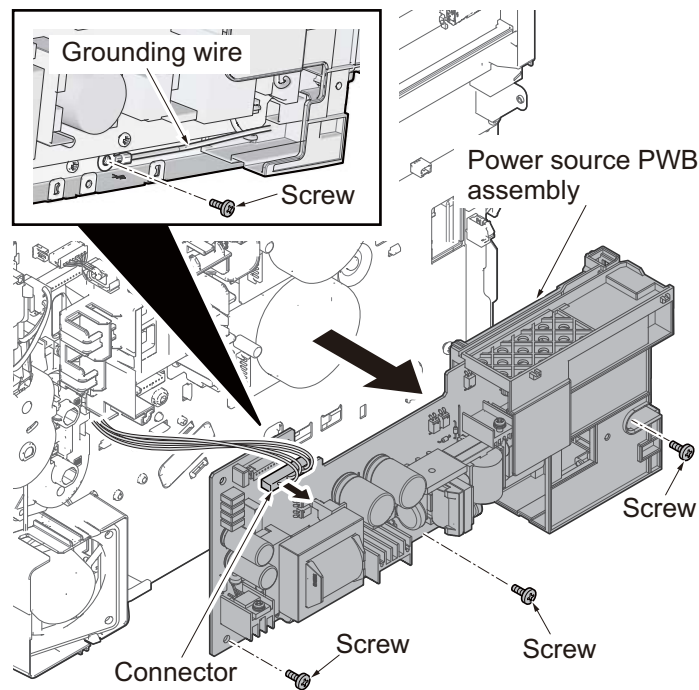


13 Remove the connector cover B by releasing the hook.

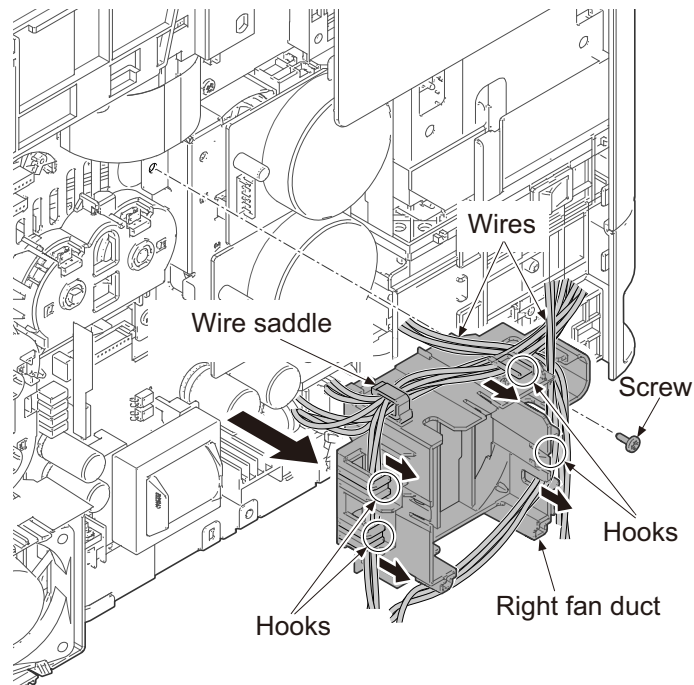
14 Pull two connectors out.



- 15 Remove the grounding wire by removing the screw.
- 16 Remove the connector from the power source PWB.
- 17 Remove three screws and then remove the power source PWB assembly.

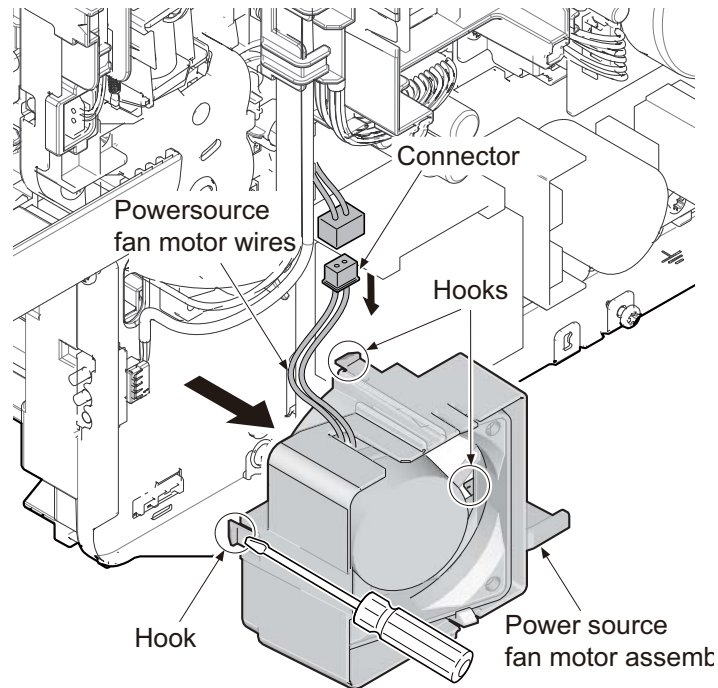


- 18 Remove the wires from the wire saddle or the hooks.
- 19 Remove the screw and then the right fan duct.



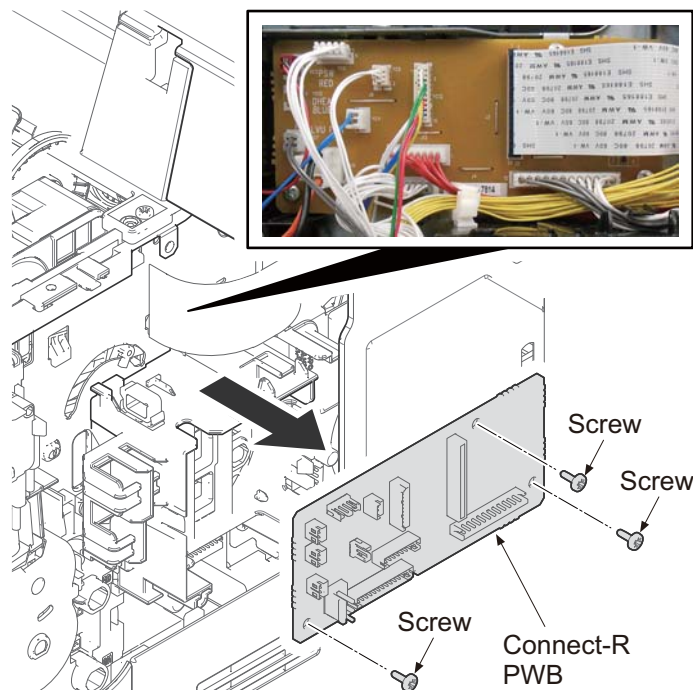
20 Unconnect the connector of power source fan motor.

21 Release three hooks using a flat screw driver and remove the powersource fan motor assembly.

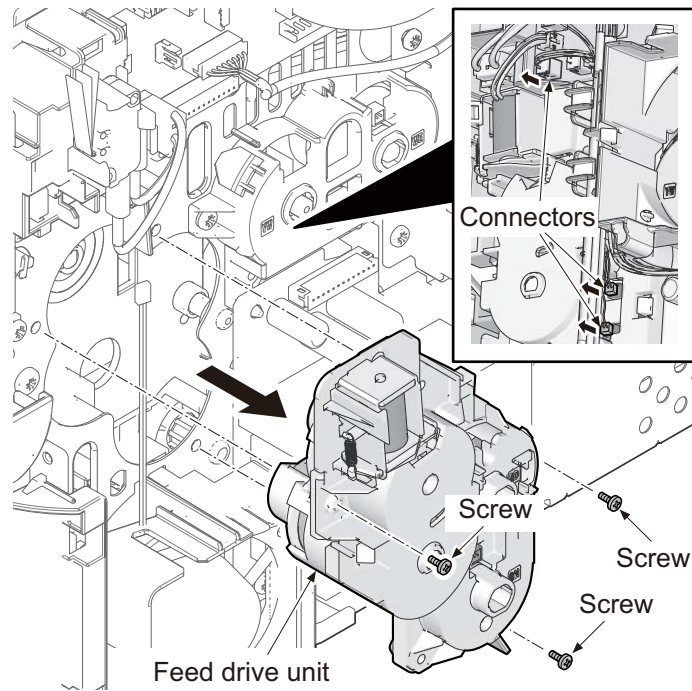


22 Remove all connectors and FFC from the connect-R PWB.

23 Remove three screws and connect-R PWB from the main unit.



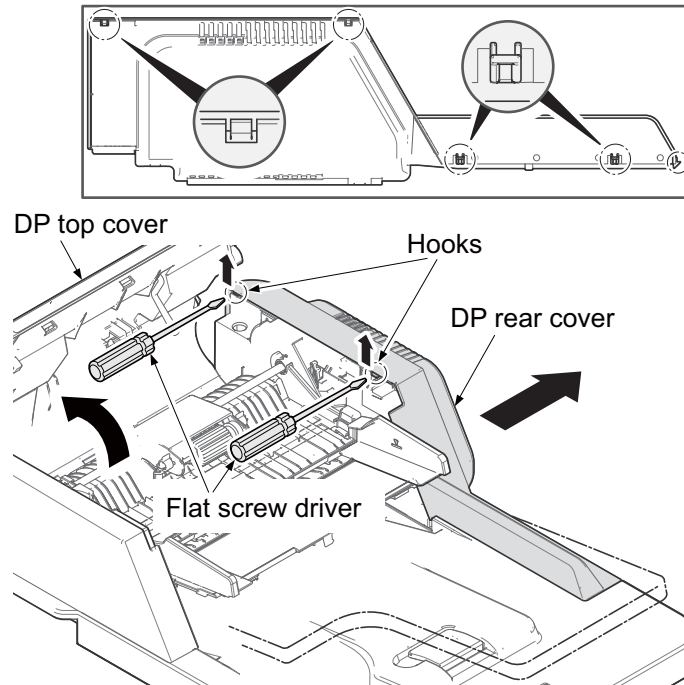
- 24 Pull the connectors of clutches and solenoid out.
- 25 Remove three screws and then remove the paper feed driving motor unit.
- 26 Check or replace the feed driving motor unit and refit all the removed parts.



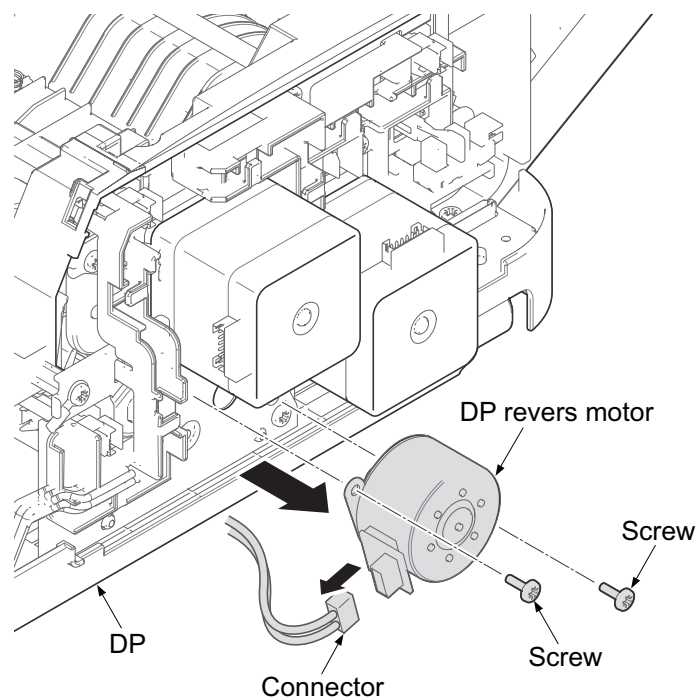
(6) Document processor (45 ppm model)

(6-1) Detaching and refitting the DP revers motor

- 1 Open DP top cover.
- 2 Release two hooks using a flat screw draiver and remove DP rear cover.

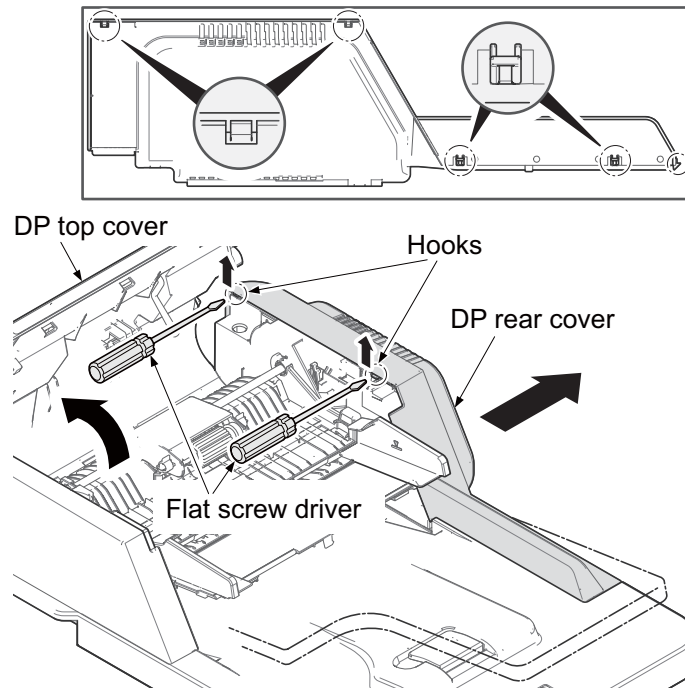


- 3 Remove the connector from DP revers motor.
- 4 Remove two screws and DP revers motor from DP.
- 5 Check or replace the DP revers motor and refit all the removed parts.

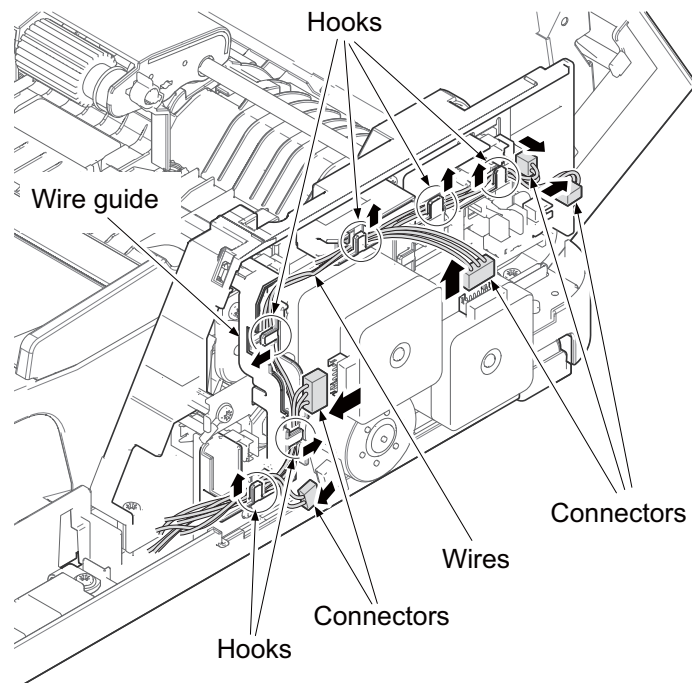


(6-2) Detaching and refitting the DP paper feed motor and the DP conveying motor

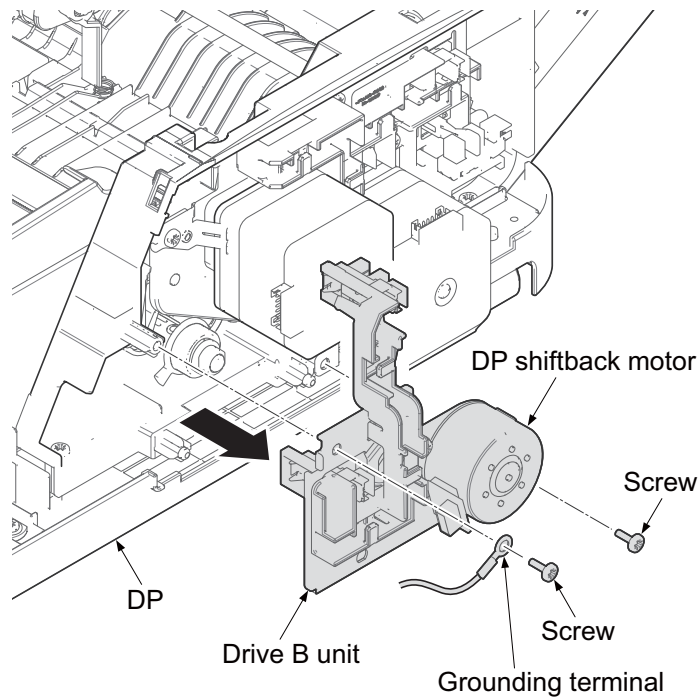
- 1 Open DP top cover.
- 2 Release two hooks using a flat screw driver and remove DP rear cover.



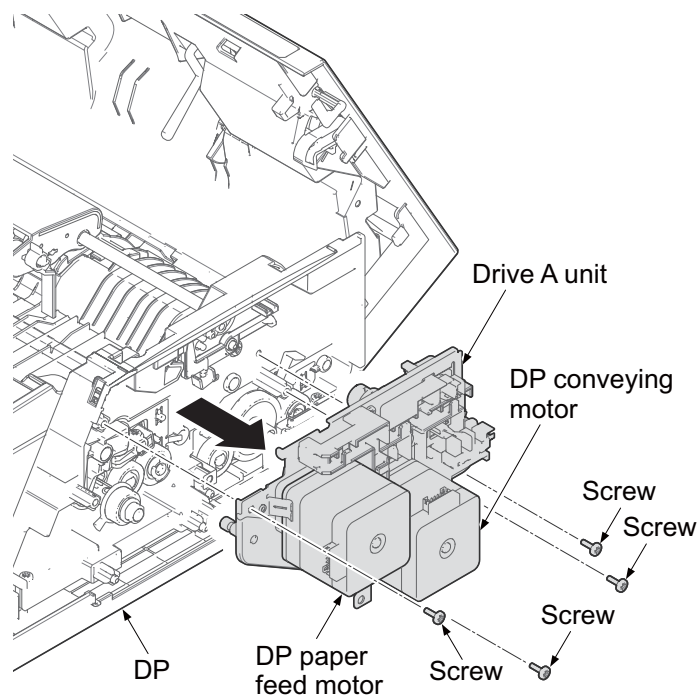
- 3 Remove five connectors from the motor and the sensor.
- 4 Release the wires from six hooks of the wire guide.



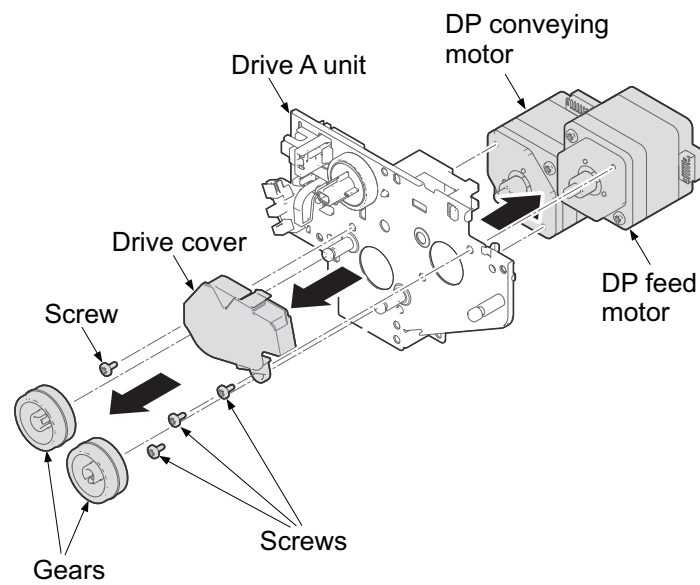
- 5 Remove two screws and the grounding terminal.
- 6 Remove the Drive B unit from DP.



- 7 Remove four screws and then remove Drive A unit.

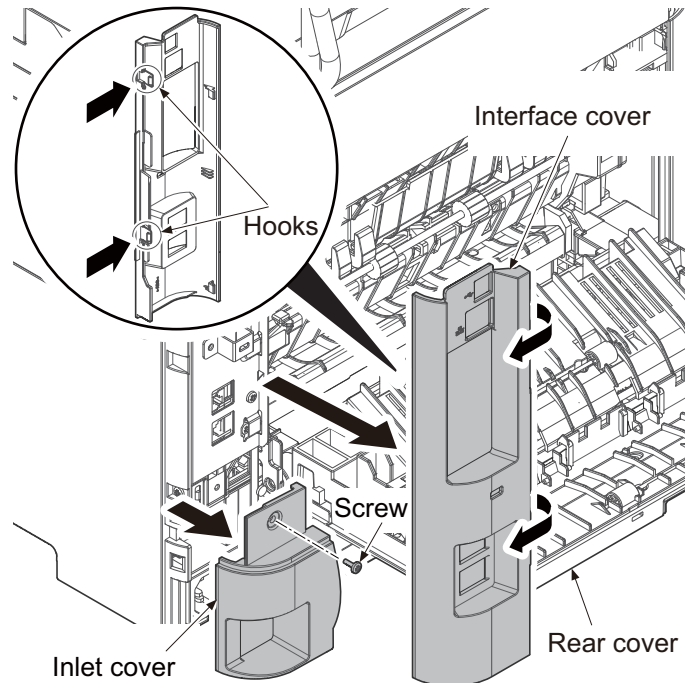


- 8 Remove two gears.
- 9 Remove four screws and drive cover.
- 10 Remove DP feed motor and DP conveying motor.
- 11 Check or replace DP feed motor and DP conveying motor and refit all the removed parts.

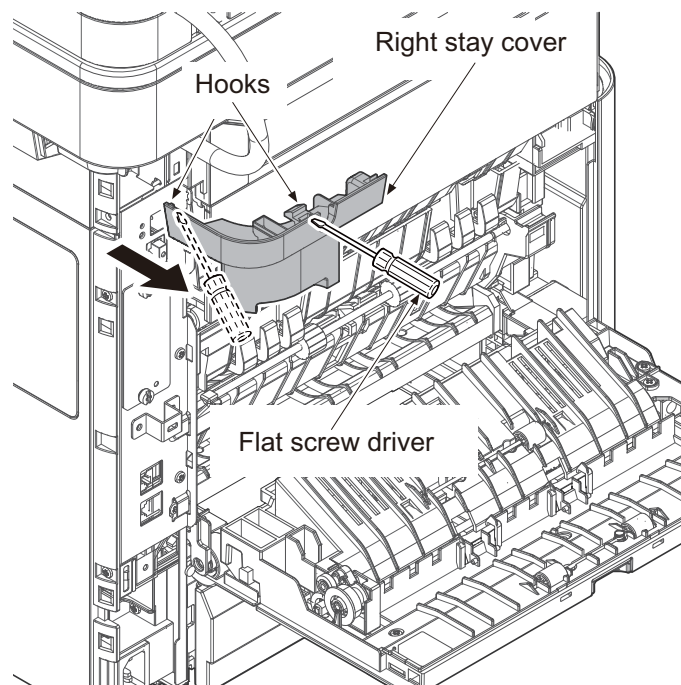


(6-3) Detaching and reattaching the document processor: Including DP electric wire

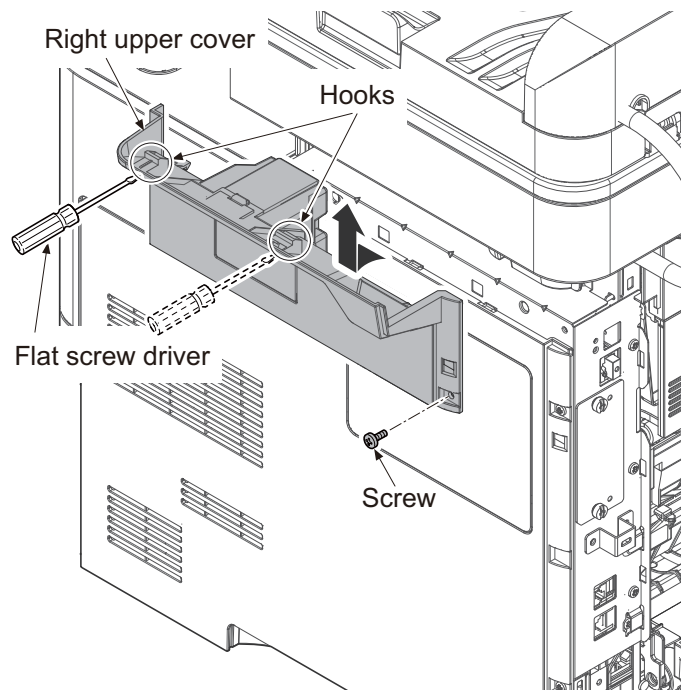
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and then the inlet cover.



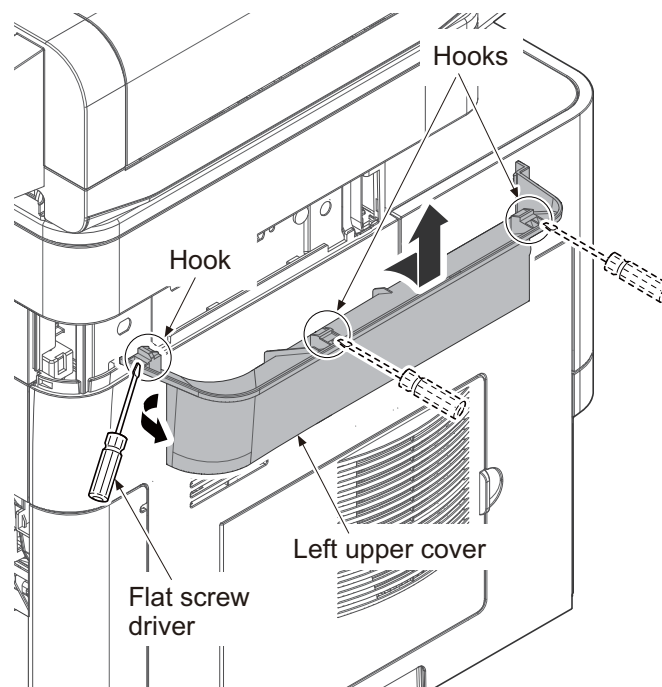
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



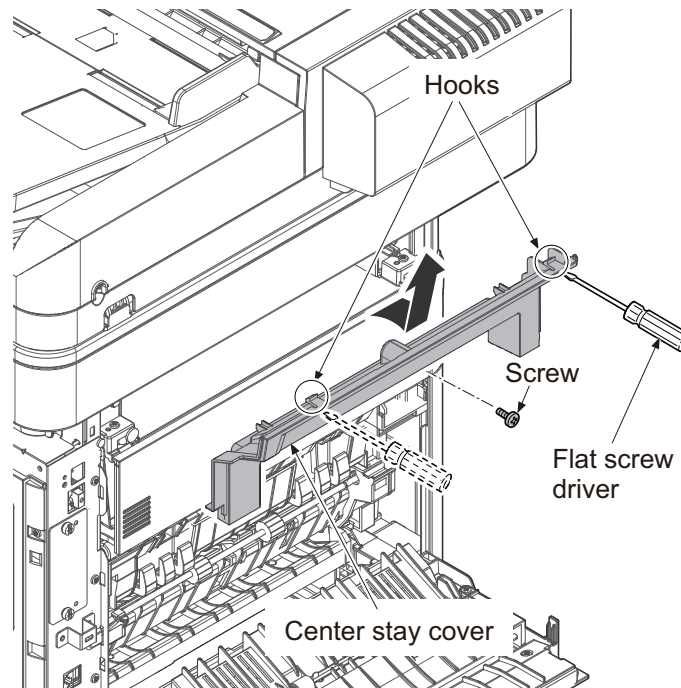
- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.



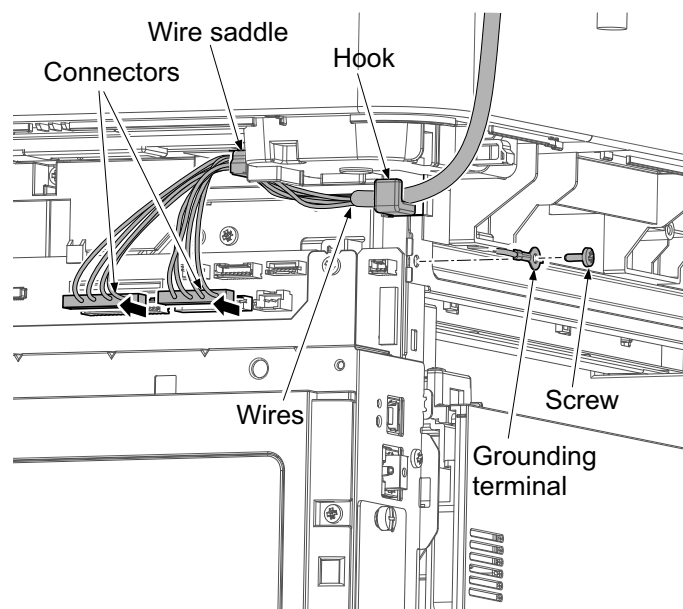
- 8 Release three hooks using a flat screw driver and remove the left upper cover.



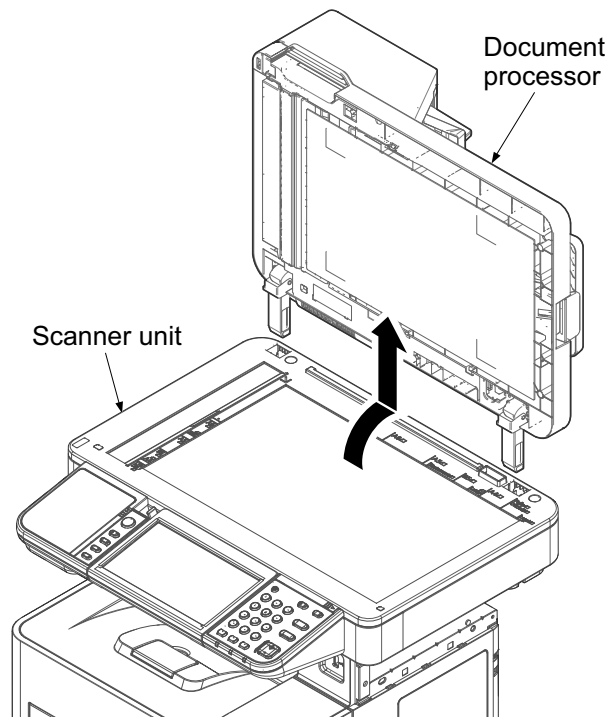
- 9 Remove the screw from the center stay cover.
- 10 Release two hooks using a flat screw driver and remove the center stay cover.



- 11 Release the wires from the hook and the wire saddle.
- 12 Remove two connectors.
- 13 Remove the screw and the grounding terminal.

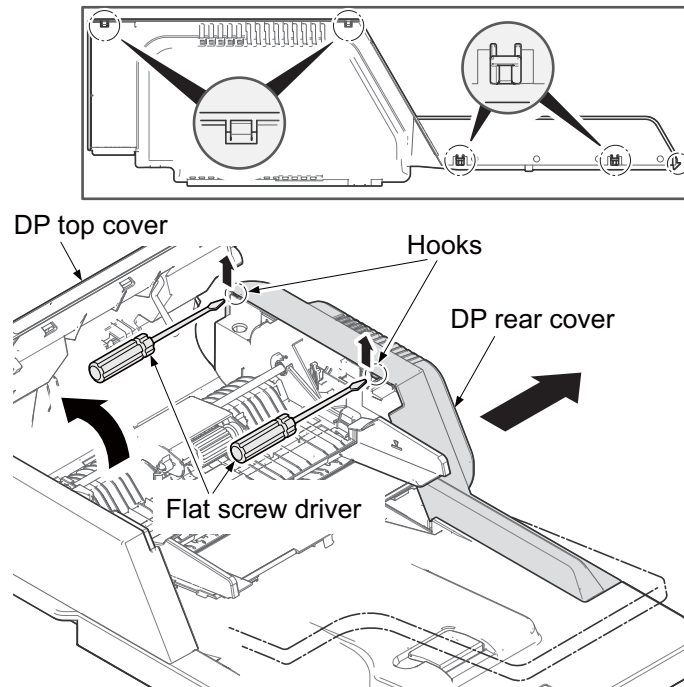


- 14 Open the document processor.
- 15 Remove the document processor upward.

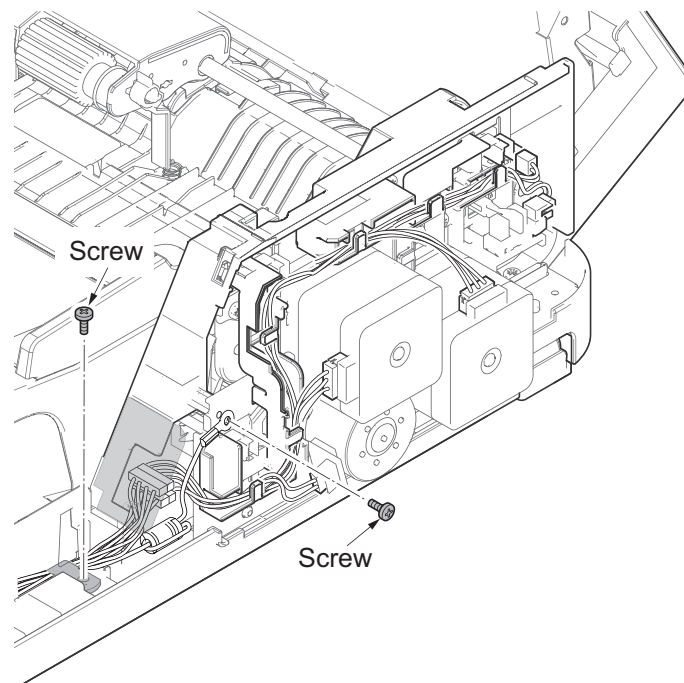


(6-4) Detaching and reattaching the document processor: Except DP electric wire

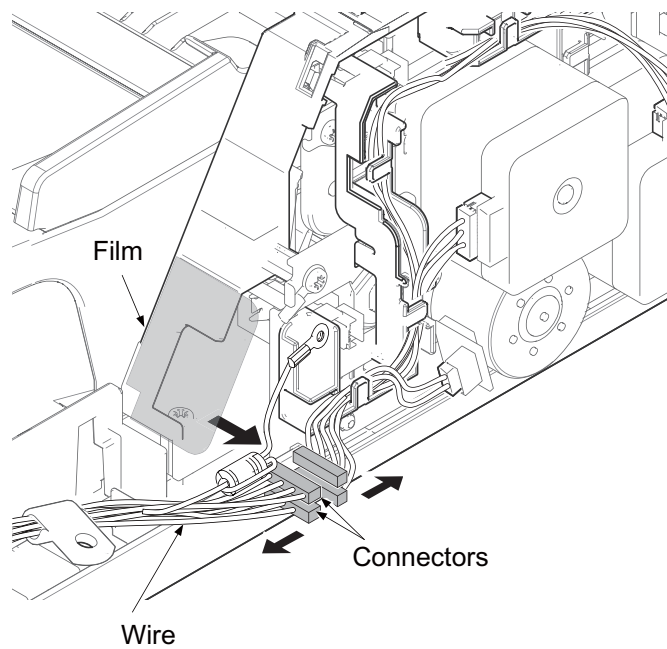
- 1 Open DP top cover.
- 2 Release two hooks using a flat screw driver and remove DP rear cover.



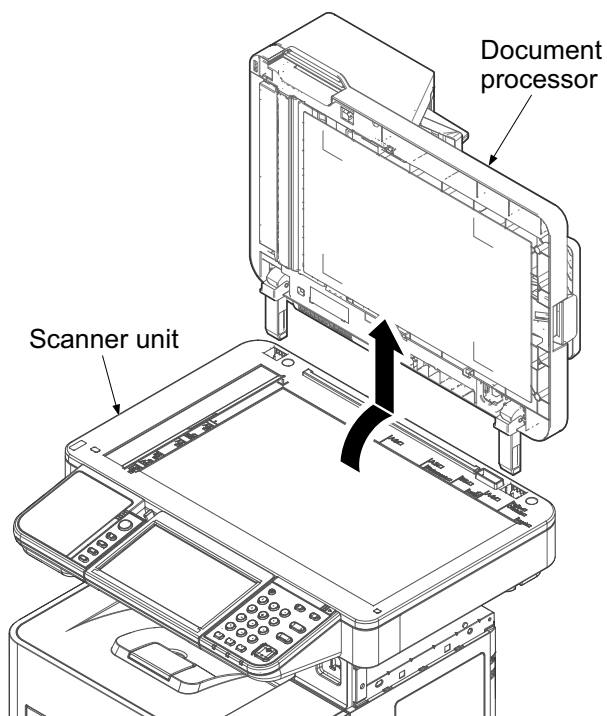
- 3 Remove two screws.



- 4 Pull out the wire from the back of the film.
- 5 Disconnect two connectors.



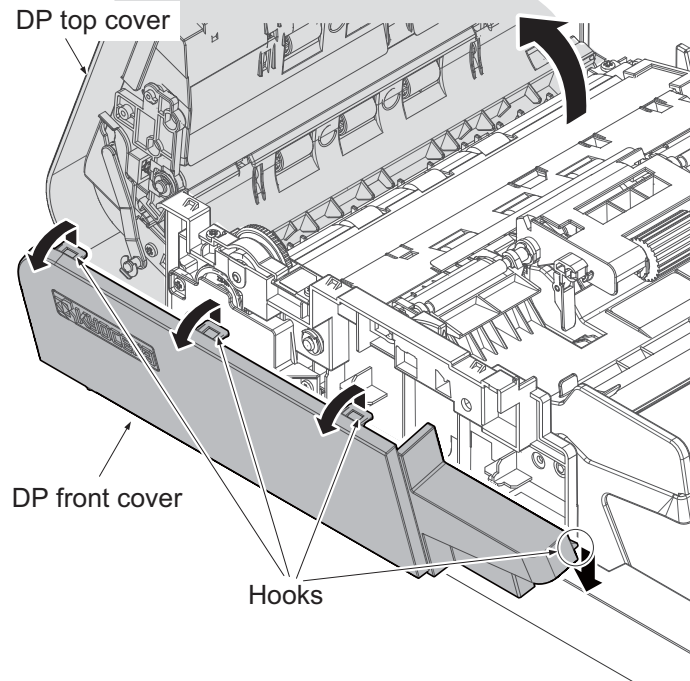
- 6 Open the document processor.
- 7 Remove the document processor upward.



(7) Document processor (55/60 ppm model)

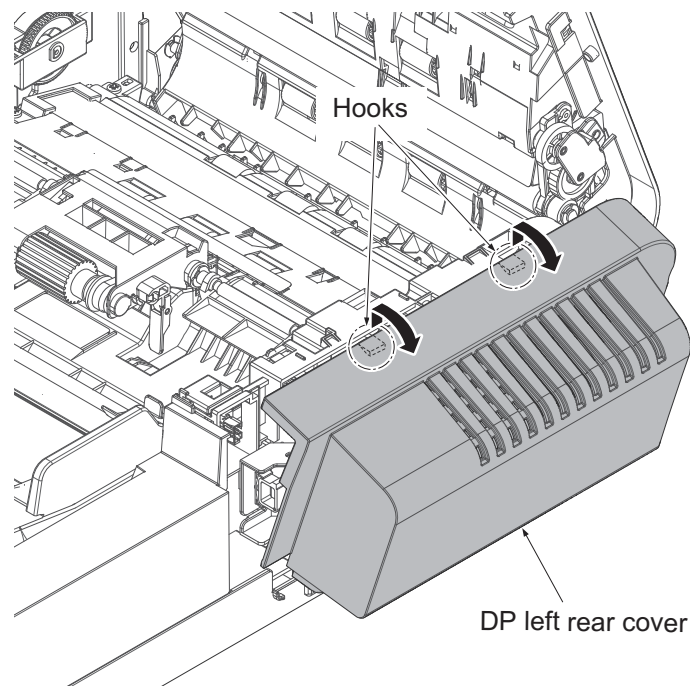
(7-1) Detaching and reattaching the DP front cover

- 1 Open the DP top cover.
- 2 After twisting to release three hooks of the DP front cover, and remove it.



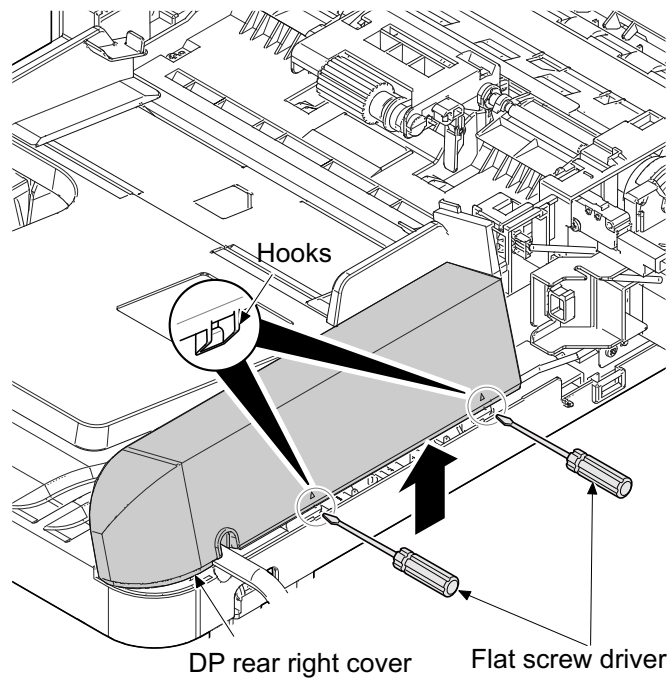
(7-2) Detaching and reattaching the DP left rear cover

- 1 Open the DP top cover.
- 2 After twisting to release two hooks of the DP left rear cover, and remove it.

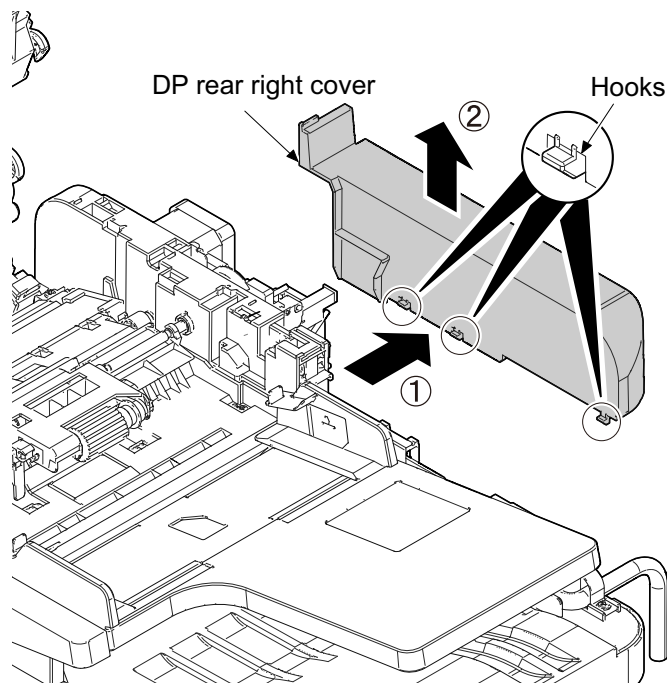


(7-3) Detaching and reattaching the DP rear right cover

- 1 Release two hooks using a flat-blade screwdriver.

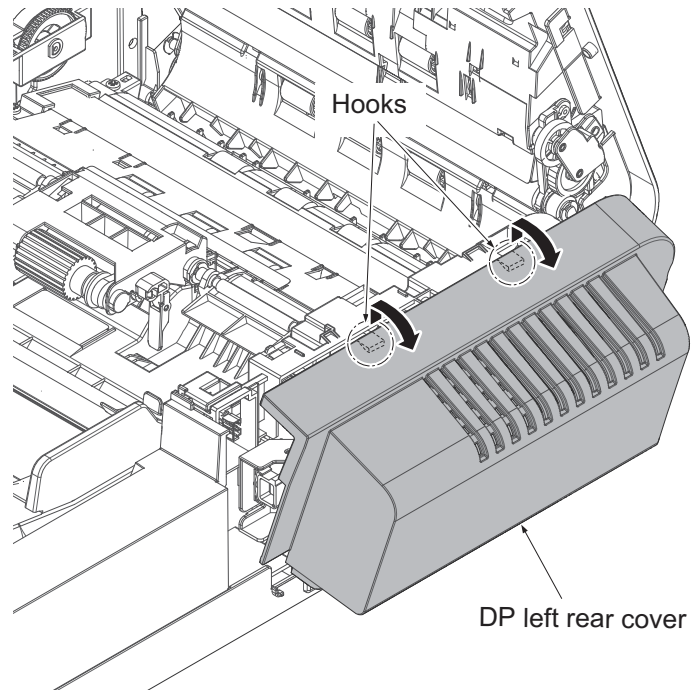


- 2 Release three hooks by pushing the DP rear right cover in the direction of the arrow and detach it.

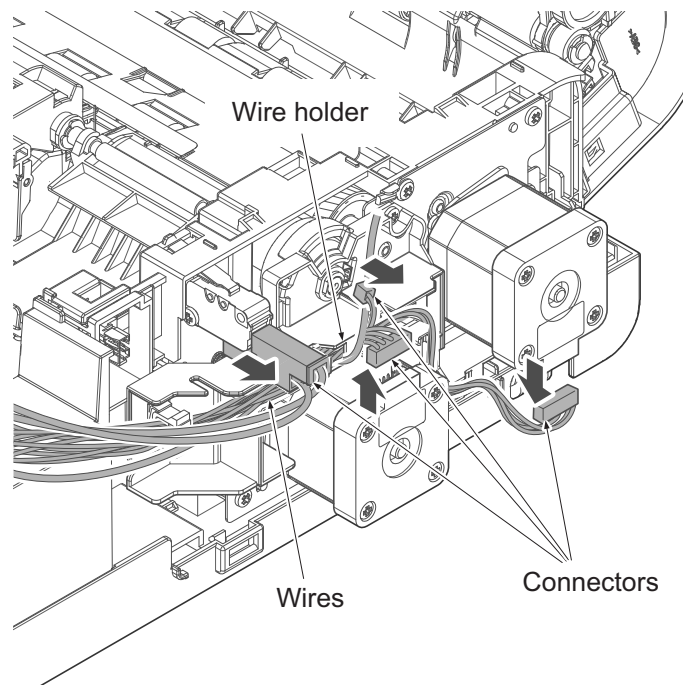


(7-4) Detaching and reattaching the DP drive unit

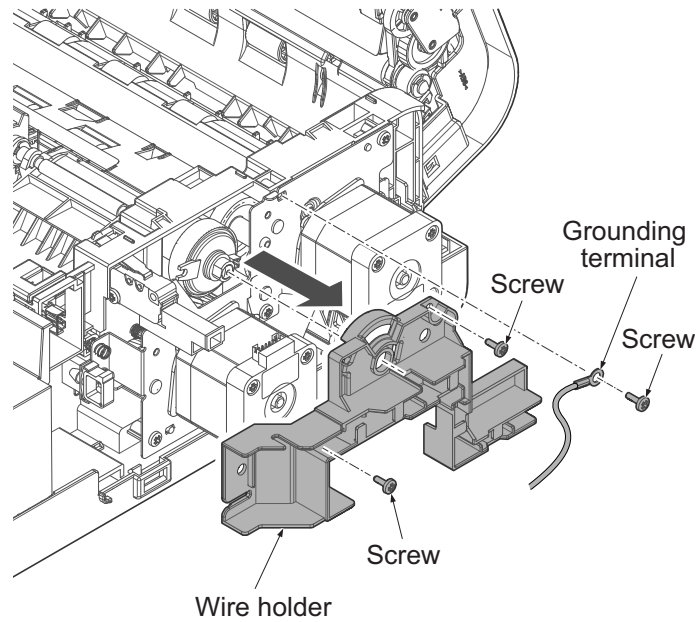
- 1 Open the DP top cover.
- 2 After twisting to release two hooks of the DP rear cover, and remove the DP left rear cover.



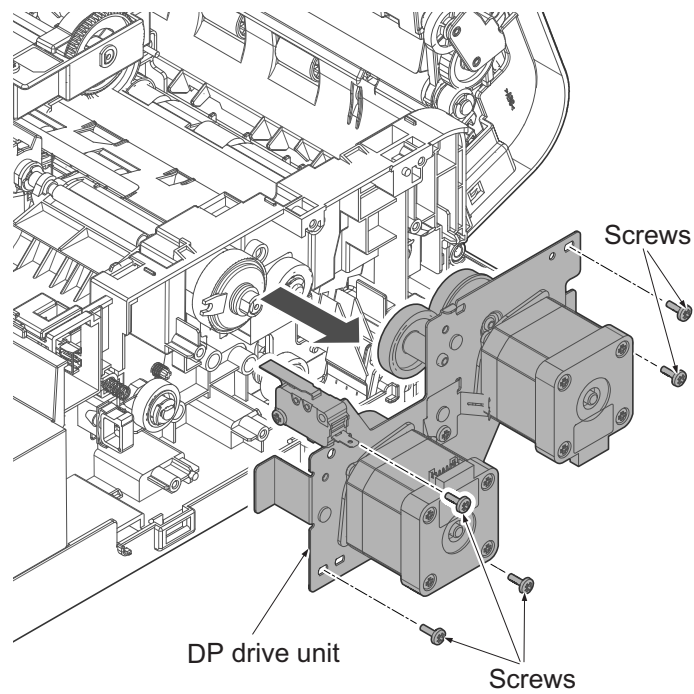
- 3 Unconnect four connectors.
- 4 Remove the wires from wire holder.



- 5 Remove the screw and grounding terminal.
- 6 Remove two screws and wire holder.

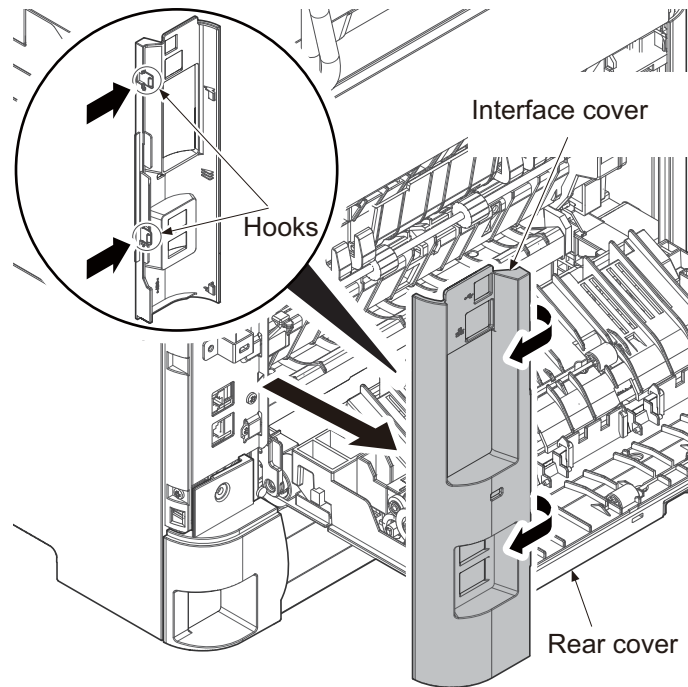


- 7 Remove five screws and DP drive unit.
- 8 Check or replace DP drive unit and refit all the removed parts.

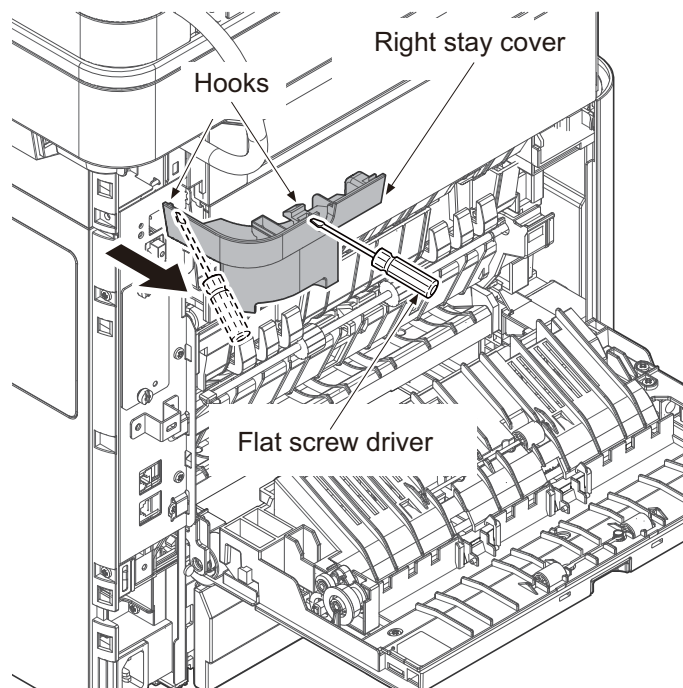


(7-5) Detaching and reattaching the document processor: Including DP electric wire

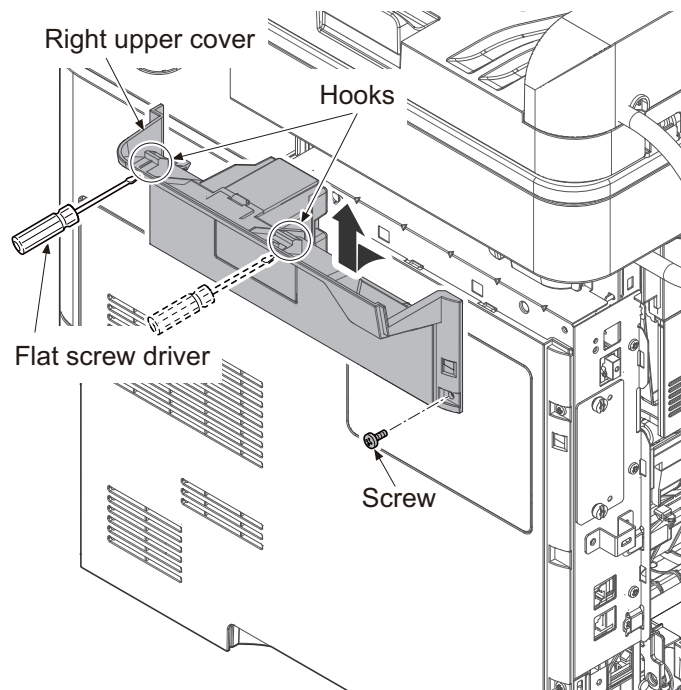
- 1 Open the rear cover.
- 2 Remove the interface cover.



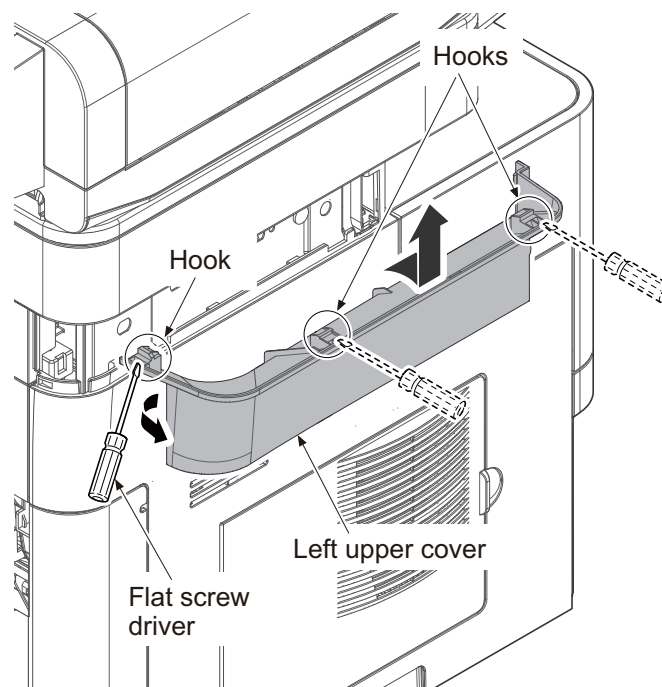
- 3 Release two hooks using a flat screw driver and remove the right stay cover.



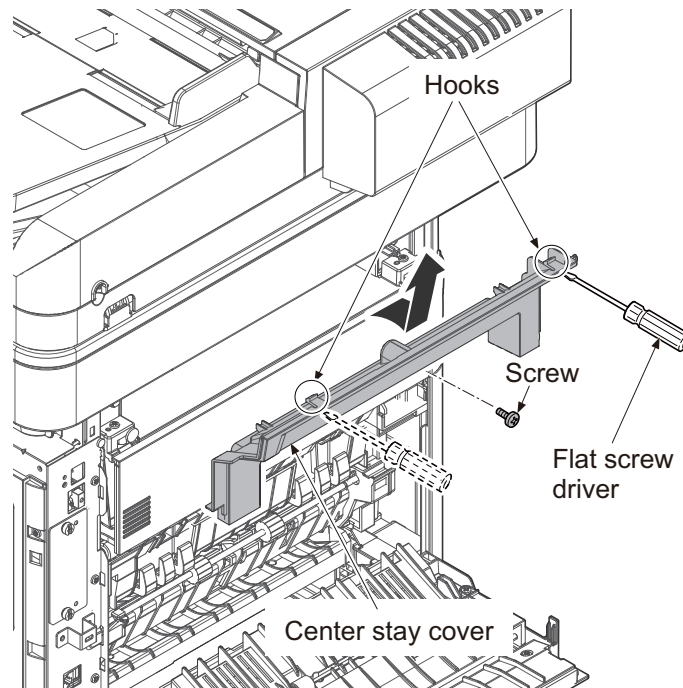
- 4 Open the front cover.
- 5 Remove the screw from the right upper cover.
- 6 Release two hooks using a flat screw driver and remove the right upper cover.



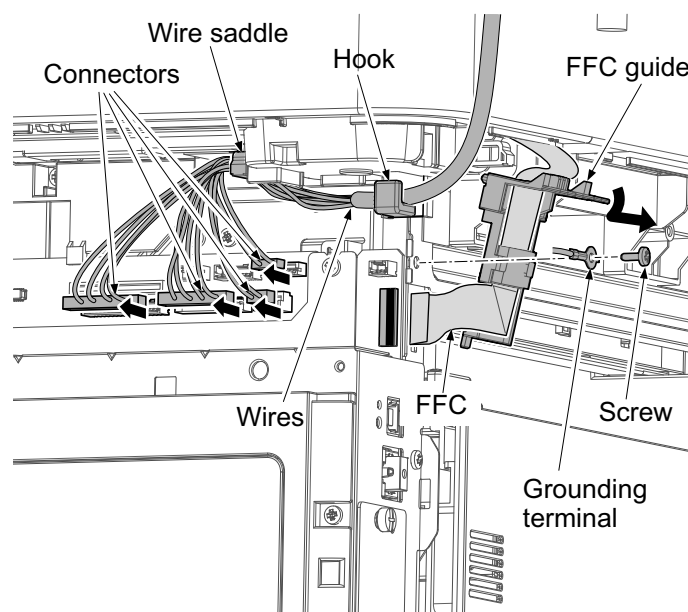
- 7 Release three hooks using a flat screw driver and remove the left upper cover.



- 8 Remove the screw from the center stay cover.
- 9 Release two hooks using a flat screw driver and remove the center stay cover.

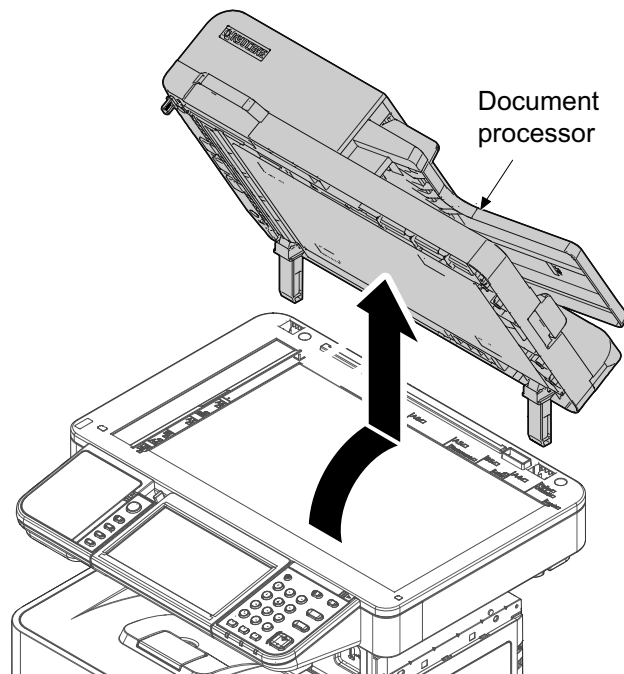


- 10 Touch the main body metal part to let the charge in your body escape.
- 11 Release the wires from the hook and the wire saddle.
- 12 Remove FFC and then four connectors.
- 13 Remove the FFC guide in arrow direction and release the FFC.
- 14 Remove the screw and the grounding terminal.



15 Open the document processor.

16 Remove the document processor upward.



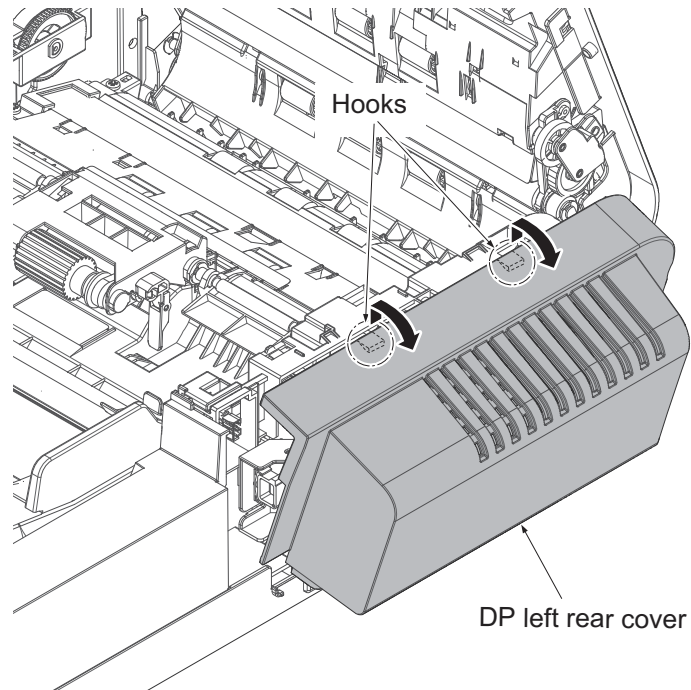
✔ **Important**

To prevent breakage of the CIS, connect the connectors in the following order when installing the DP.

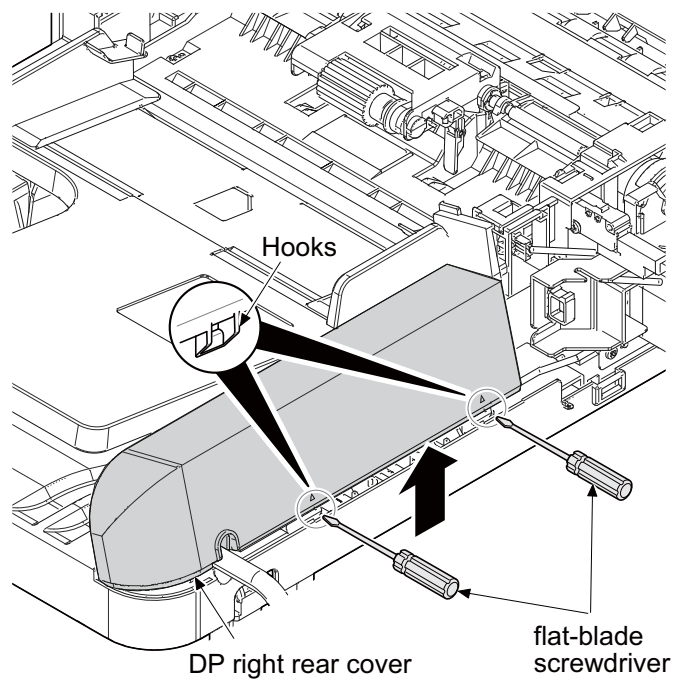
- 1 Touch the ground terminal of the DP electric wire to remove static electricity.
- 2 Contact the ground terminal with the metal part of the main body.
- 3 Grounding terminal
- 4 connectors
- 5 FFC

(7-6) Detaching and reattaching the DP drive unit: Except DP electric wire

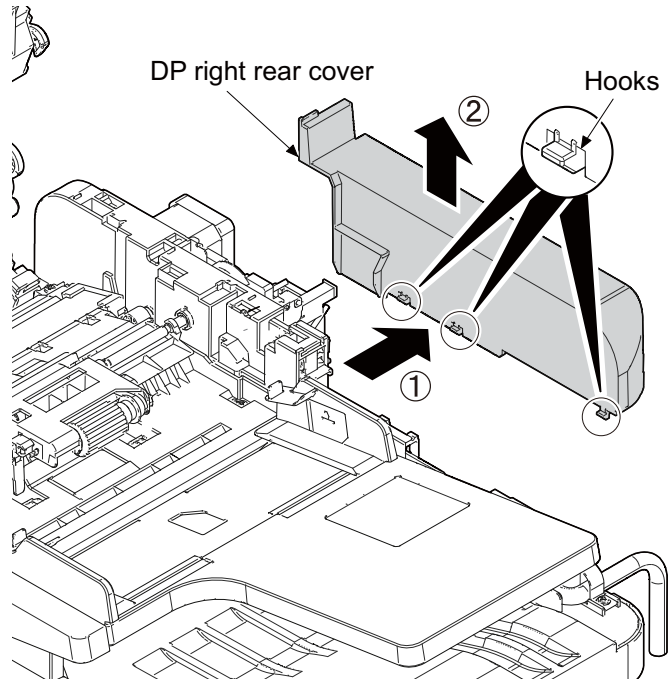
- 1 Open the DP top cover.
- 2 After twisting to release two hooks of the DP rear cover, and remove the DP left rear cover.



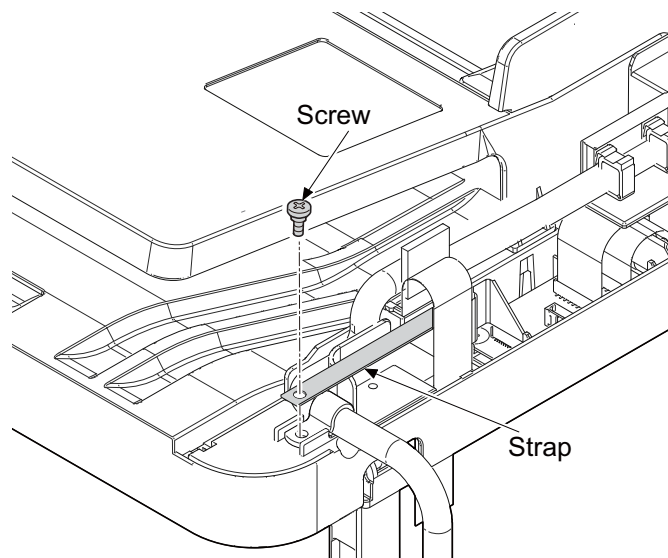
- 3 Release two hooks (b) using a flat-blade screwdriver (a).



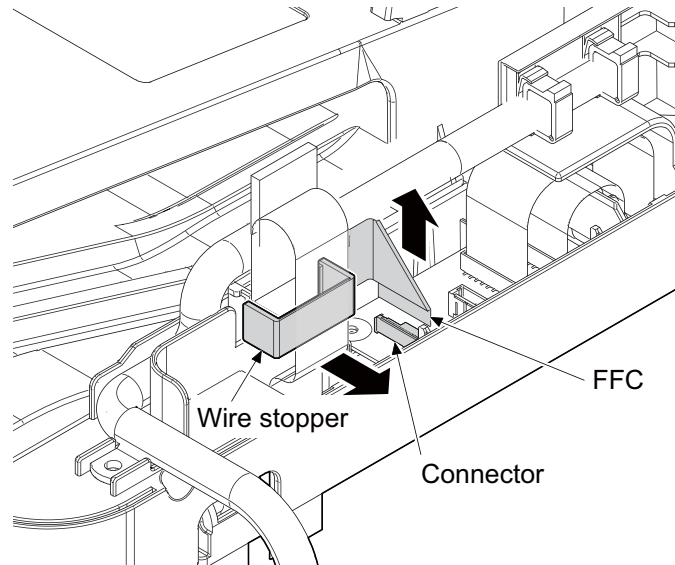
- 4 Release three hooks by pushing the DP right rear cover in the direction of the arrow and detach it.



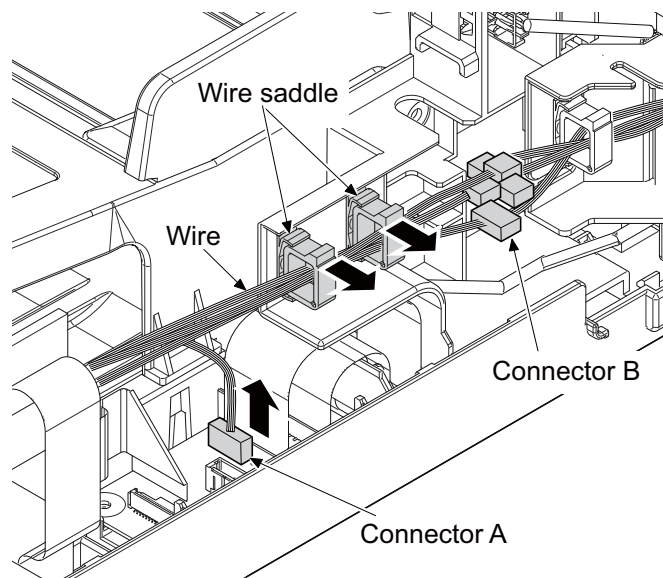
- 5 Remove the screw and detach the strap.



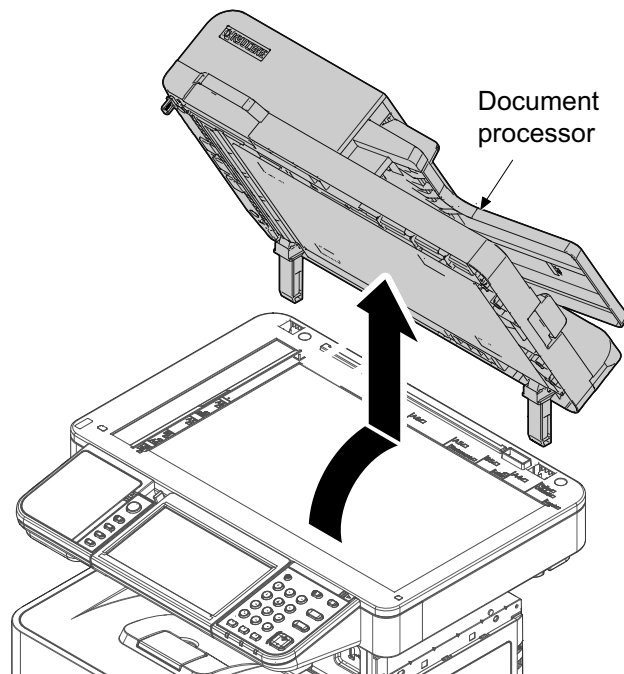
- 6 Detach the wire stopper and then disconnect the FFC from the connector.



- 7 Disconnect five connectors B.
- 8 Disconnect the connector A from the PWB.
- 9 Release two wire saddle and remove the wire.



- 10 Open the document processor.
- 11 Remove the document processor upward.



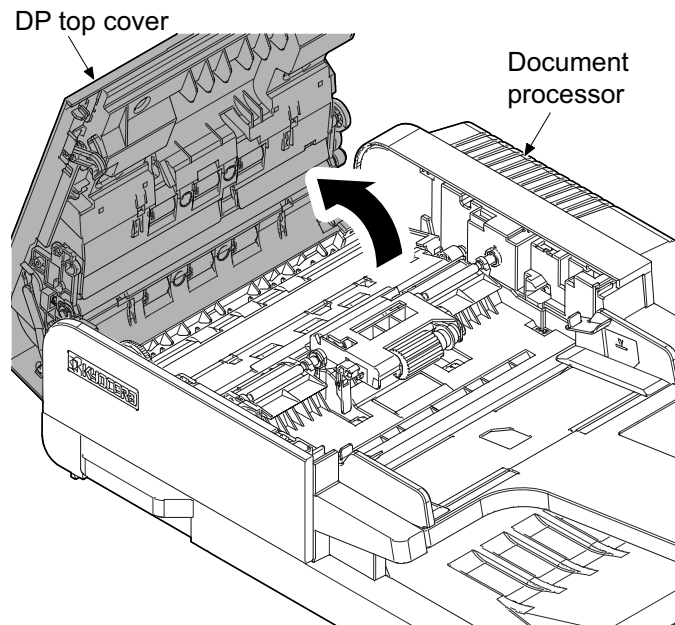
✔ **Important**

To prevent breakage of the CIS, connect the connectors in the following order when installing the DP.

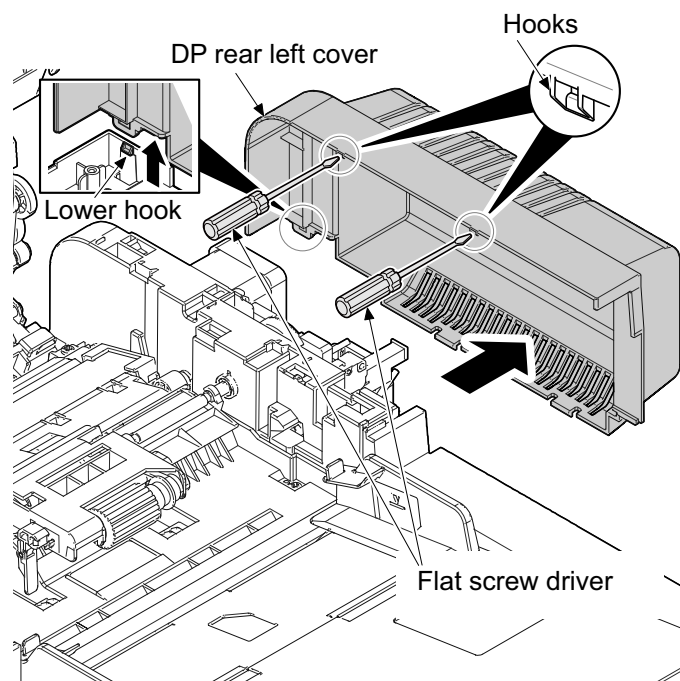
- 1 Connector A
- 2 Connector B
- 3 FFC

(7-7) Detaching and reattaching the CIS

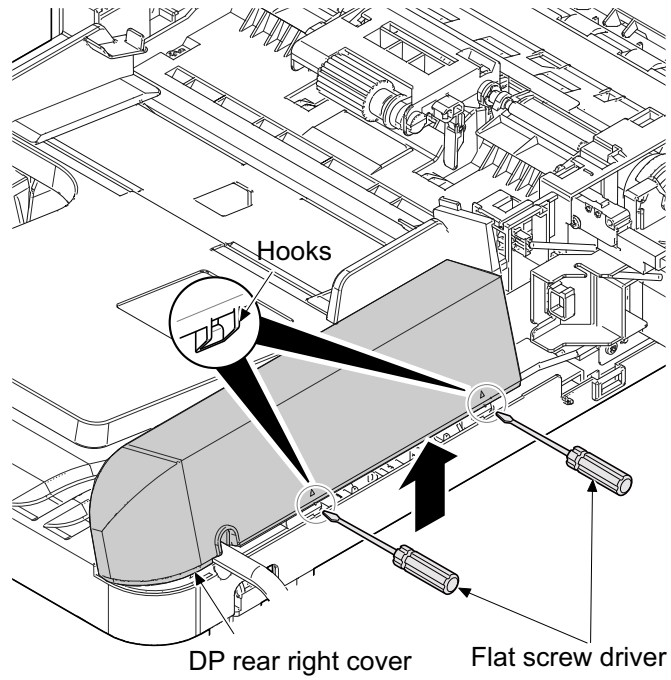
- 1 Open the DP top cover of the document processor.



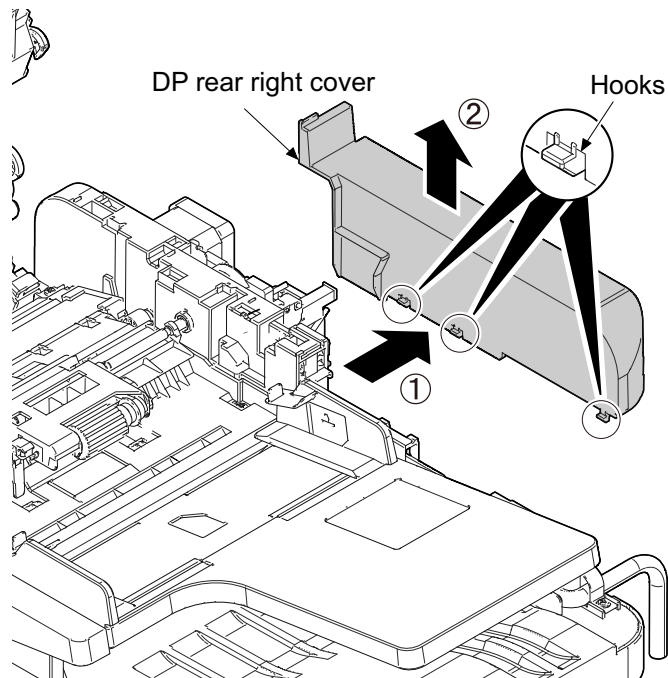
- 2 Release two hooks using a flat-blade screwdriver.
- 3 Release the lower hook and remove the DP rear left cover.



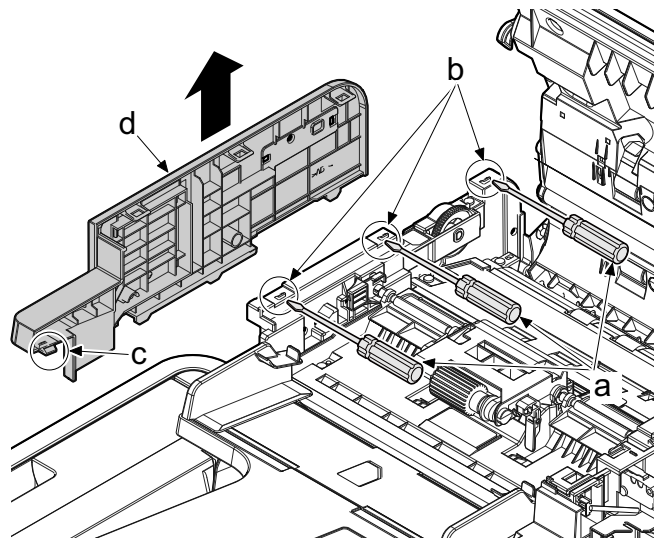
- 4 Release two hooks using a flat screw driver.



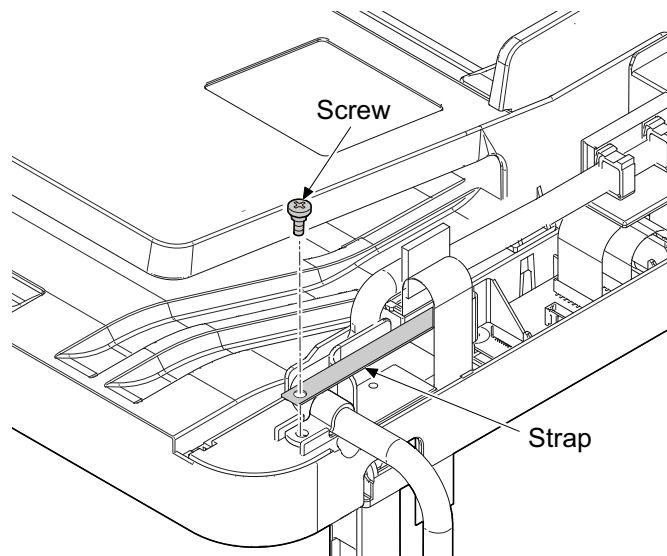
- 5 Release three hooks by pushing the DP rear right cover in the direction of the arrow and detach it.



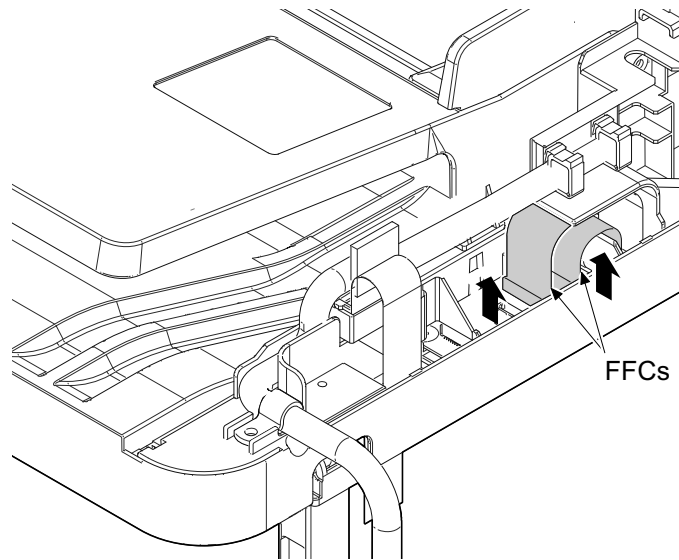
- 6 Release three hooks using a flat-blade screwdriver.
- 7 Release the hook and remove the DP front cover.



- 8 Remove the screw and detach the strap.

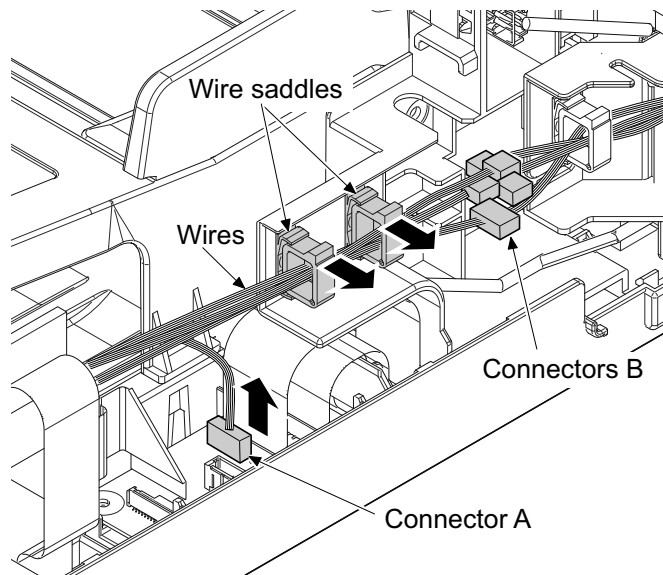


- 9 Remove two FFCs.

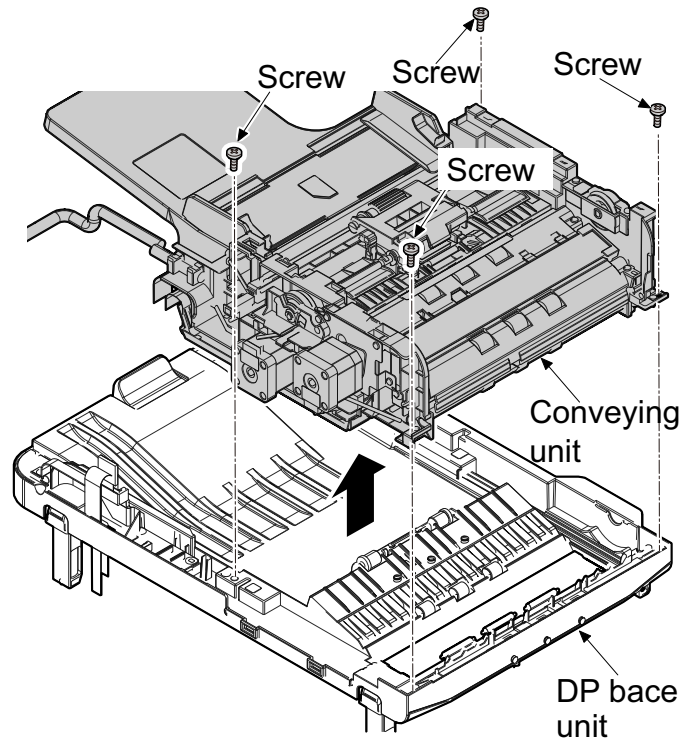


- 10 Disconnect the connector A from the PWB. Disconnect five connectors B.

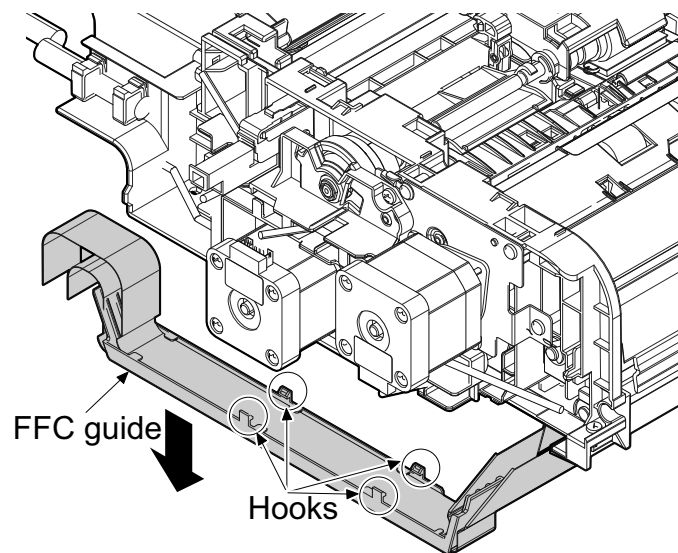
- 11 Release two wire saddle and remove the wire.



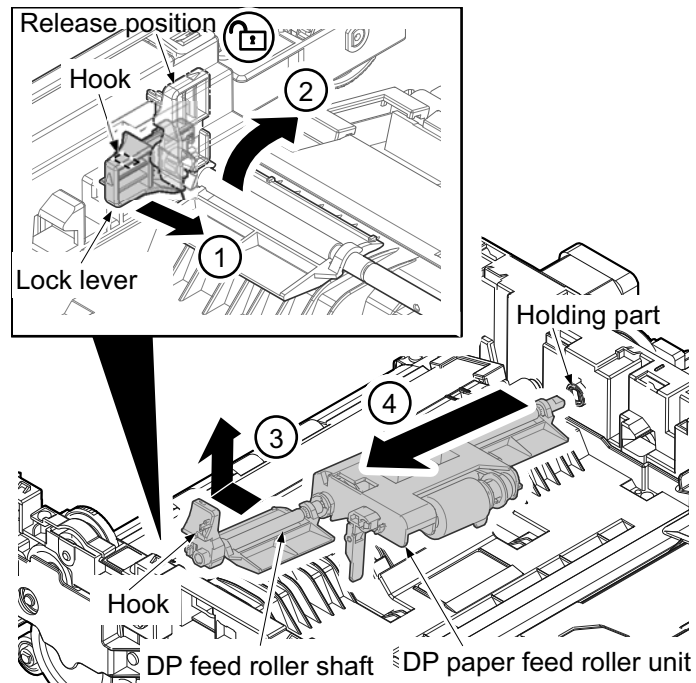
12 Remove four screws detach the DP conveying unit from the DP base unit.



13 Remove four hooks and then remove the FFC guide.

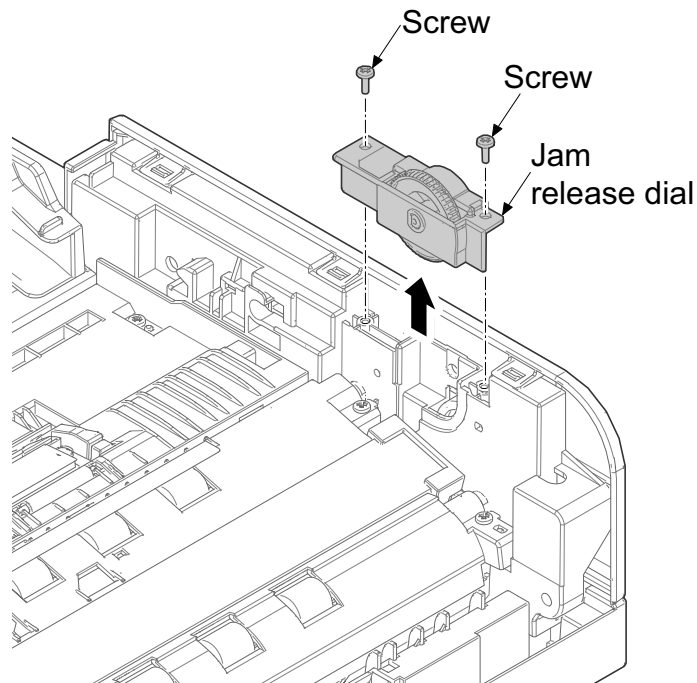


- 14 Push the lock lever toward the machine rear side.
- 15 Release the hook.
- 16 Rotate the lock lever to the release position.
- 17 Shift the machine front side of the DP feed roller shaft toward the machine left side to remove it from the holding part.
- 18 Then, lift the shaft and pull the DP paper feed roller unit out toward the machine front side.



19 Remove two screws.

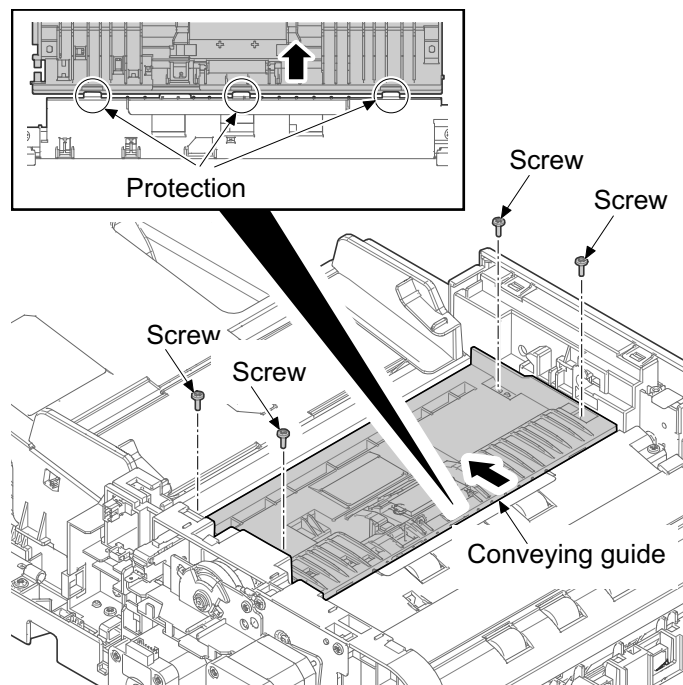
20 Detach the jam release dial.



21 Remove four screws .

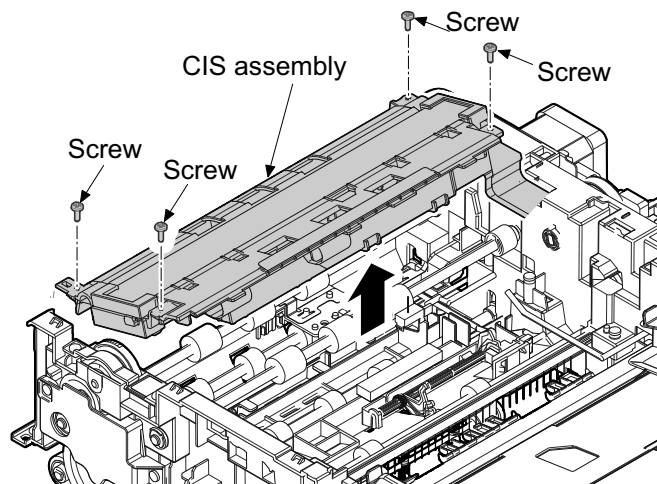
22 Slide the conveying guide in the direction of the arrow by the gap.

23 Release the protrusion of the CIS guide.

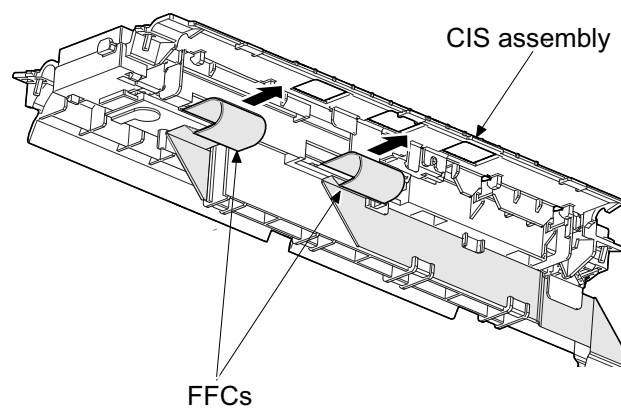


24 Remove four screws.

25 Detach the CIS assembly in the direction of the arrow.



26 Release two FFCs from the CIS assembly.



27 Release each two hooks of the front and rear glass holder in the direction of the arrow and detach them.

28 Detach the CIS glass and the front and rear spacers from the CIS assembly.

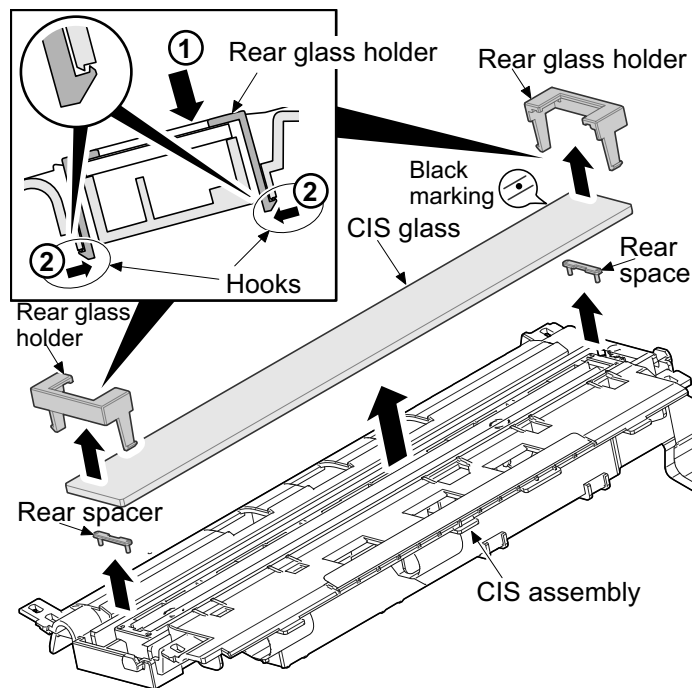
- Since the front and rear spacers are not fixed, take care not to lose them.

✔ **Important**

Check the position of black marking for distinction of the surface / back side of the glass.

Also, make sure not to touch the glass surface.

If it is dirty, wipe it off with a dry cloth.



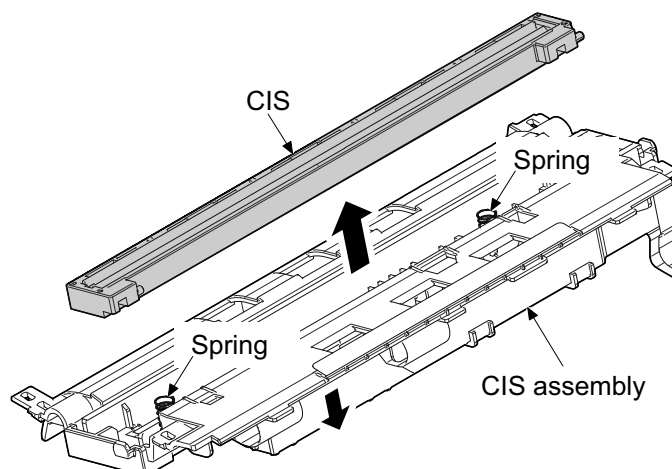
29 Detach the CIS in the direction of the arrow.

- Take care not to lose two springs.

30 Check or replace the CIS, and then reattach the parts in the original position.

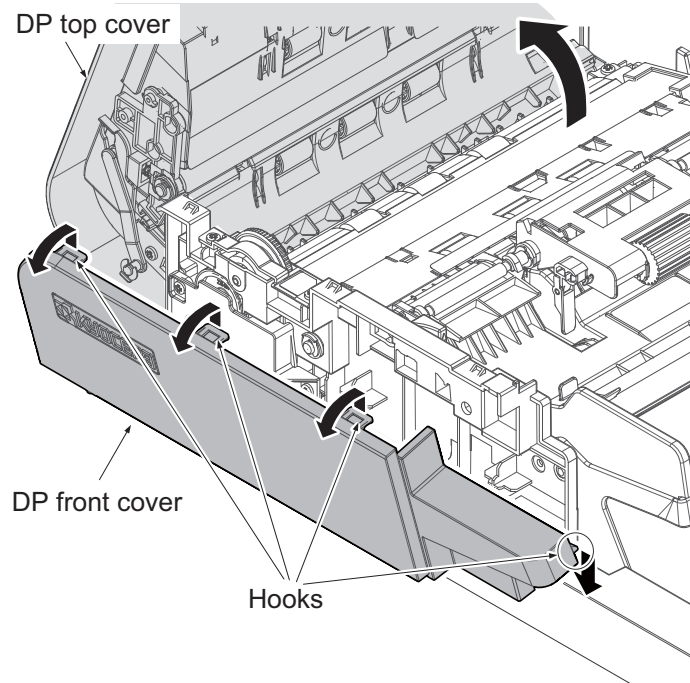
✔ **Important**

When reassembling, check that the spring is inserted on the boss of the CIS assembly.

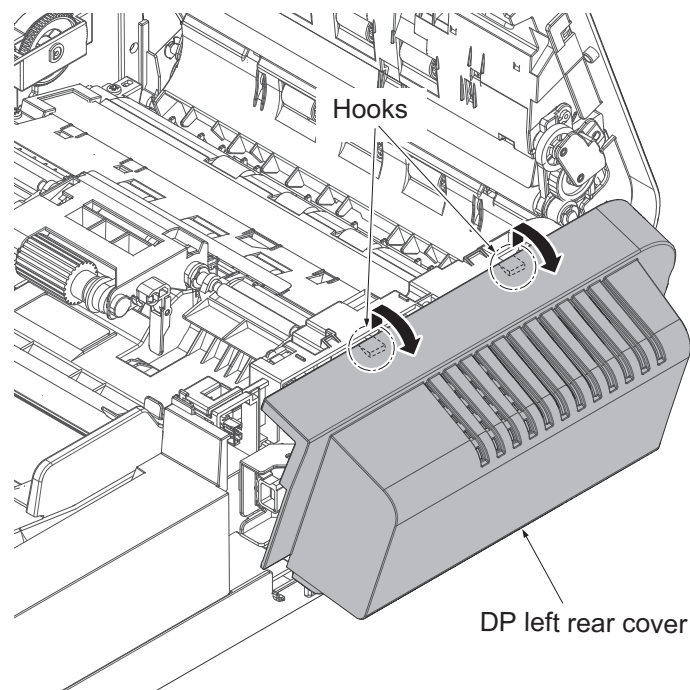


(7-8) Detaching and reattaching the TX PWB

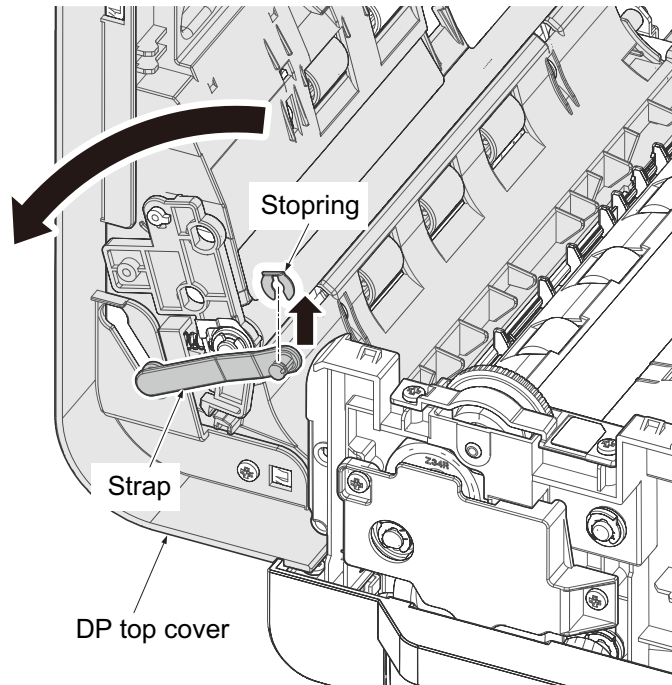
- 1 Open the DP top cover.
- 2 After twisting to release three hooks of the DP front cover, and remove it.



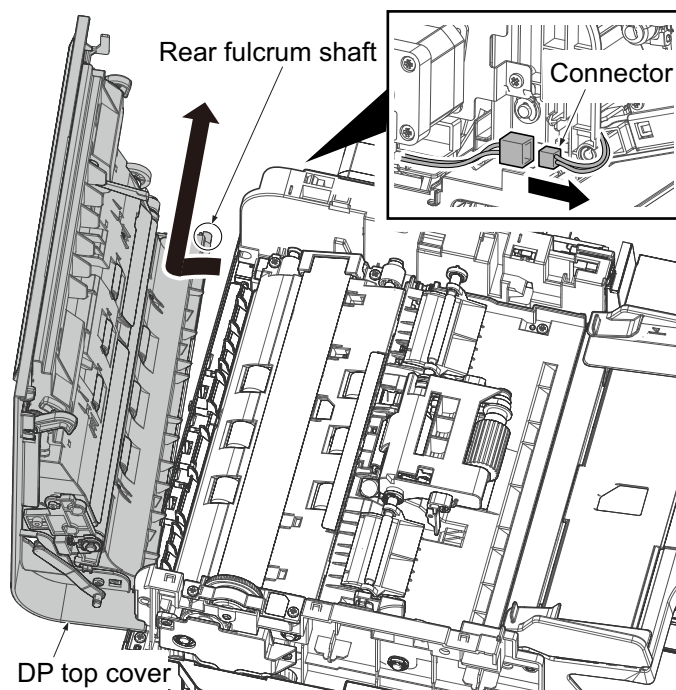
- 3 After twisting to release two hooks of the DP left rear cover, and remove it.



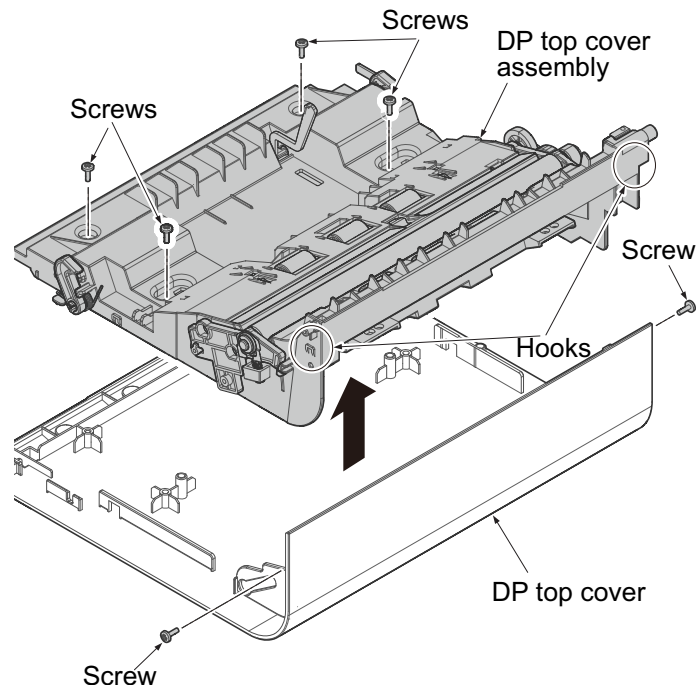
- 4 Release the strap of DP top cover by removing the stopring.
- 5 Open the DP top cover further.



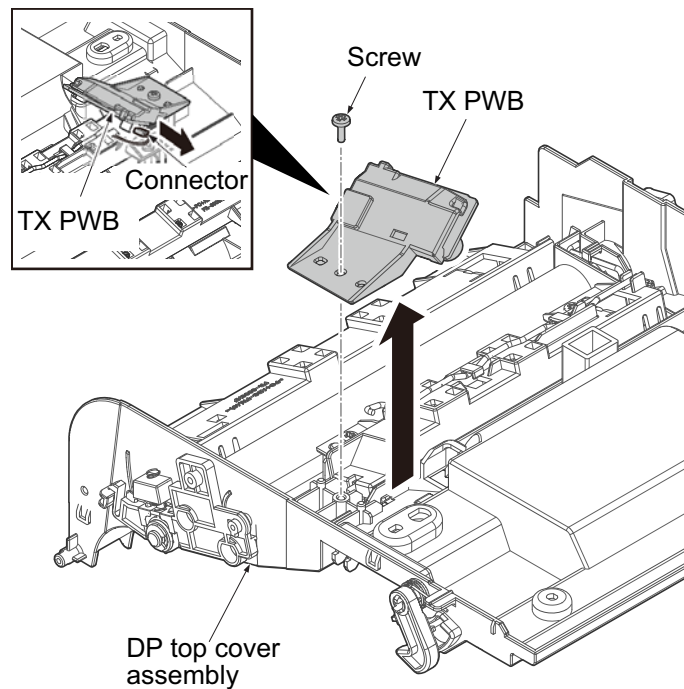
- 6 Remove the connector of TX PWB.
- 7 Remove the rear fulcrum shaft and then the front fulcrum shaft arrow direction.



- 8 Remove six screws from the DP top cover.
- 9 Release two hooks and then remove the DP top cover.

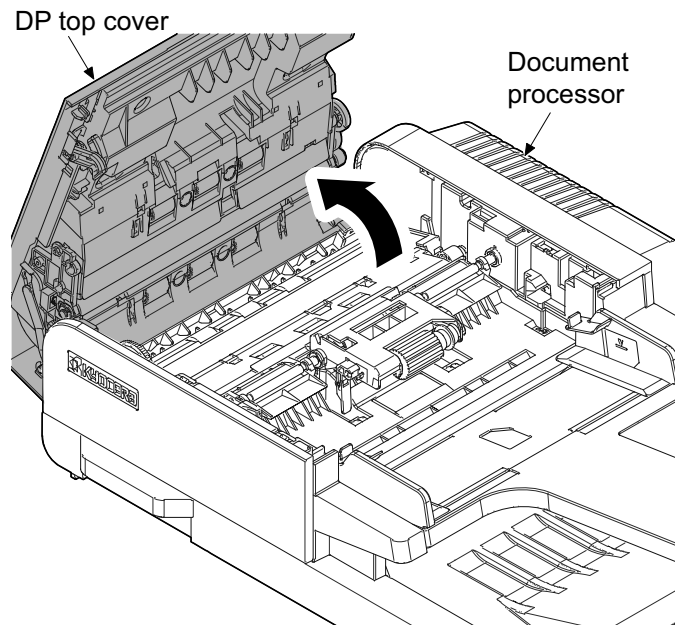


- 10 Remove the connector from TX PWB.
- 11 Remove the screw and then TX PWB.
- 12 Check or replace TX PWB and refit all the removed parts.

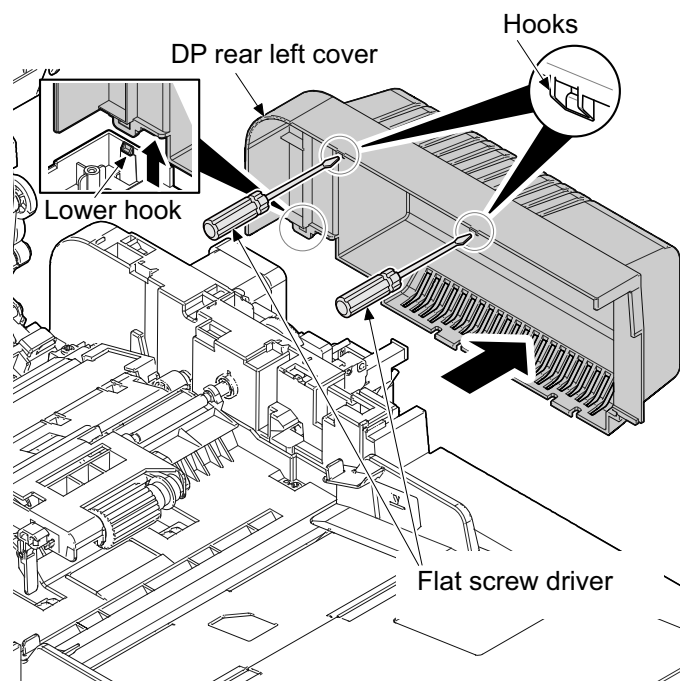


(7-9) Detaching and reattaching the RX PWB

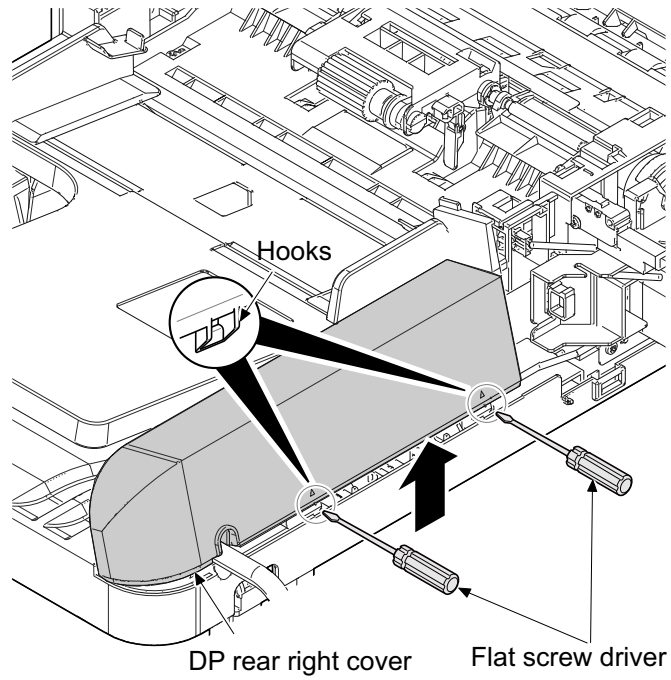
- 1 Open the DP top cover of the document processor.



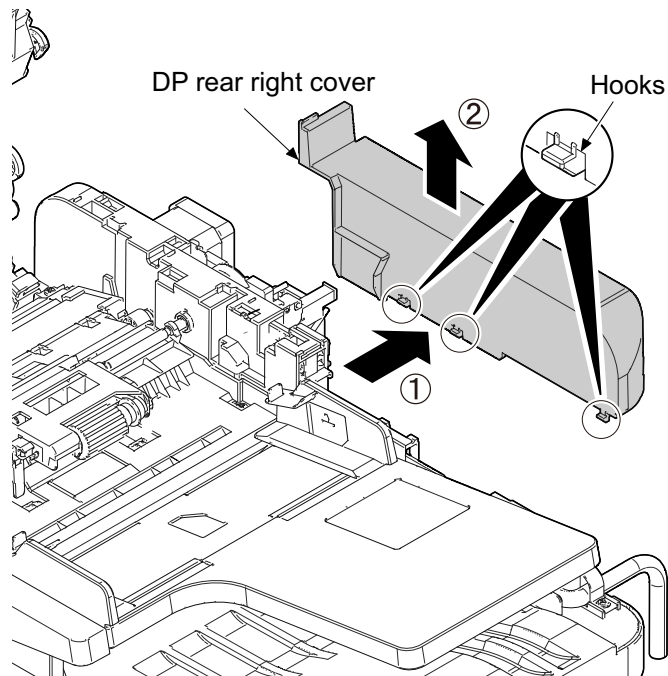
- 2 Release two hooks using a flat-blade screwdriver.
- 3 Release the lower hook and remove the DP rear left cover.



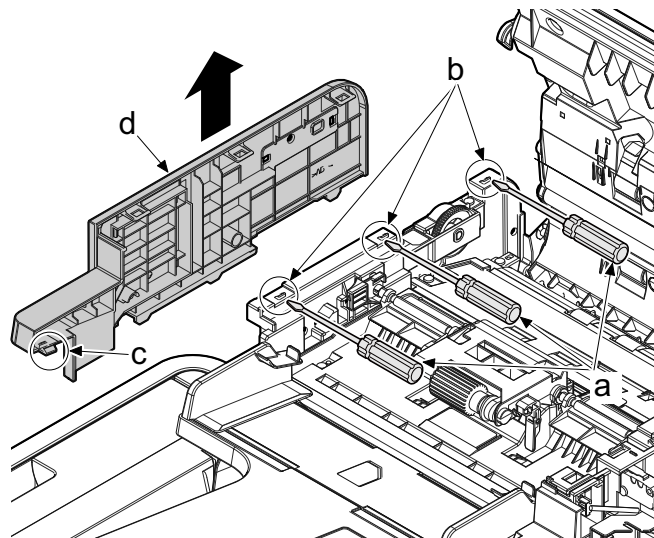
- 4 Release two hooks using a flat screw driver.



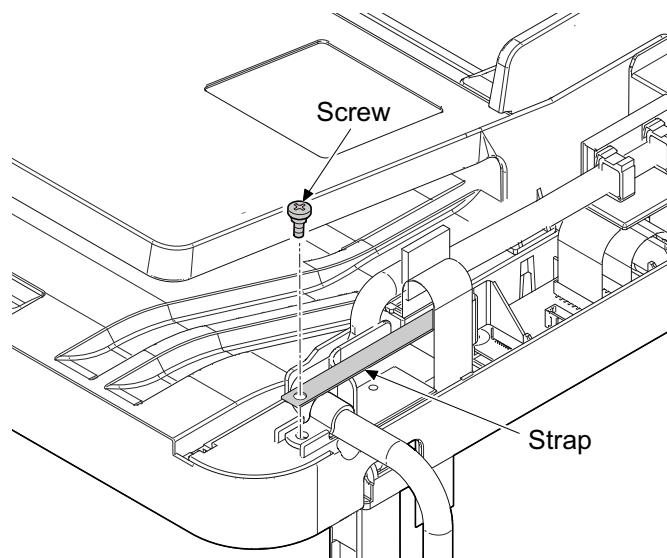
- 5 Release three hooks by pushing the DP rear right cover in the direction of the arrow and detach it.



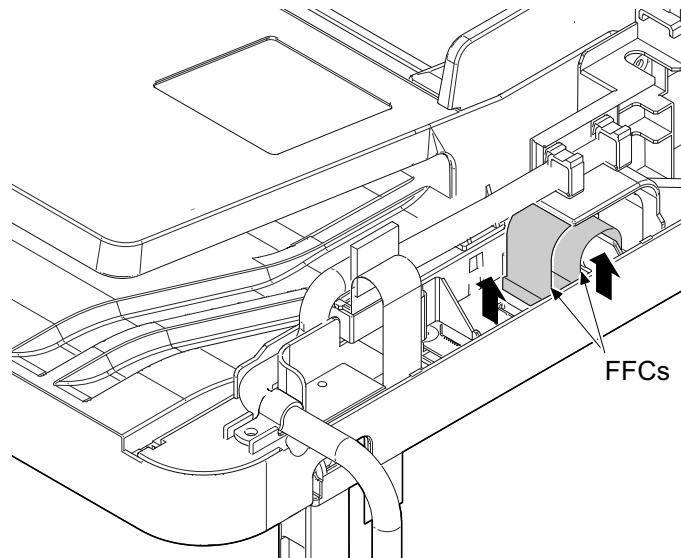
- 6 Release three hooks using a flat-blade screwdriver.
- 7 Release the hook and remove the DP front cover.



- 8 Remove the screw and detach the strap.

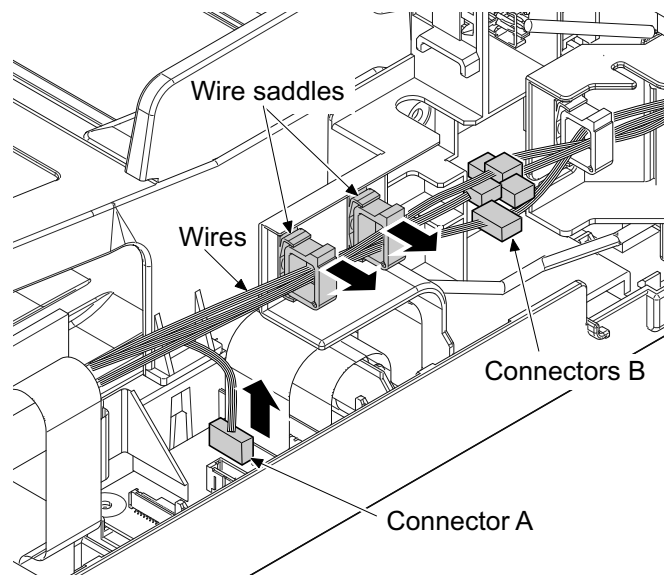


- 9 Remove two FFCs.

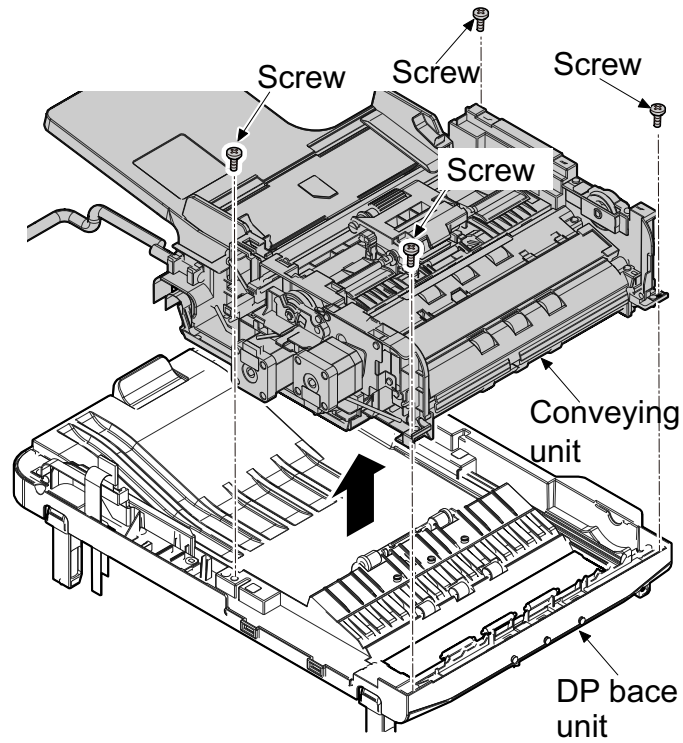


- 10 Disconnect the connector A from the PWB. Disconnect five connectors B.

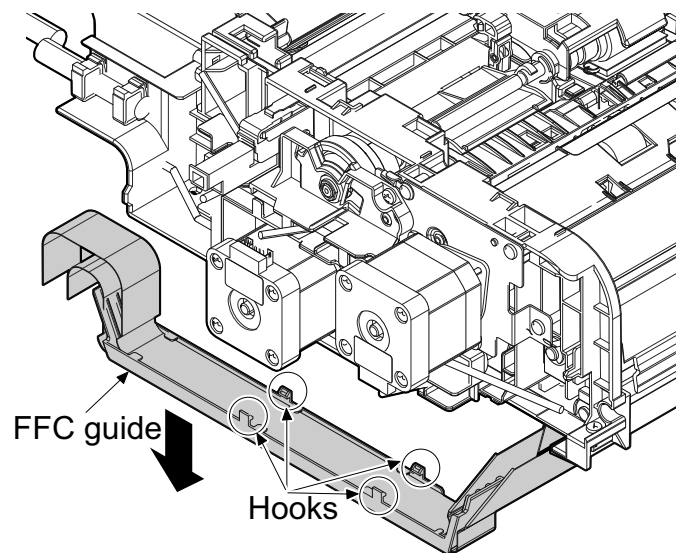
- 11 Release two wire saddle and remove the wire.



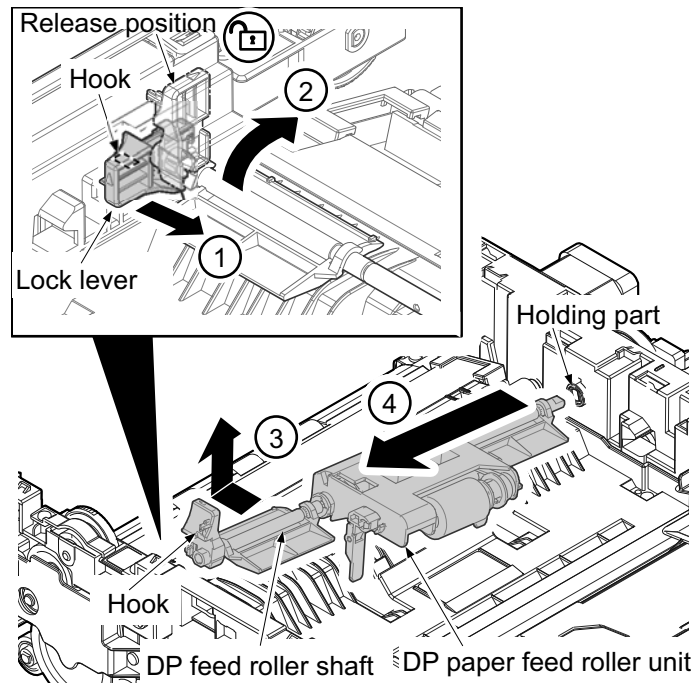
12 Remove four screws detach the DP conveying unit from the DP base unit.



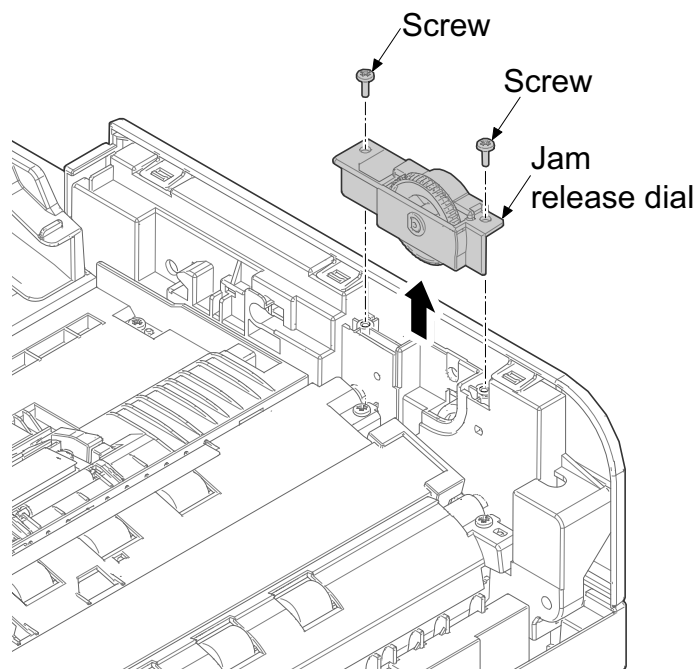
13 Remove four hooks and then remove the FFC guide.



- 14 Push the lock lever toward the machine rear side.
- 15 Release the hook.
- 16 Rotate the lock lever to the release position.
- 17 Shift the machine front side of the DP feed roller shaft toward the machine left side to remove it from the holding part.
- 18 Then, lift the shaft and pull the DP paper feed roller unit out toward the machine front side.

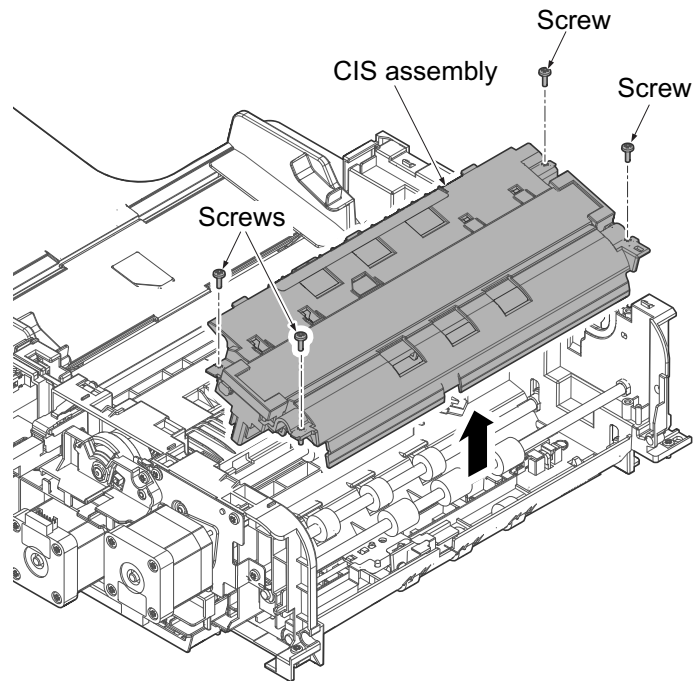


- 19 Remove two screws.
- 20 Detach the jam release dial.



21 Remove four screws.

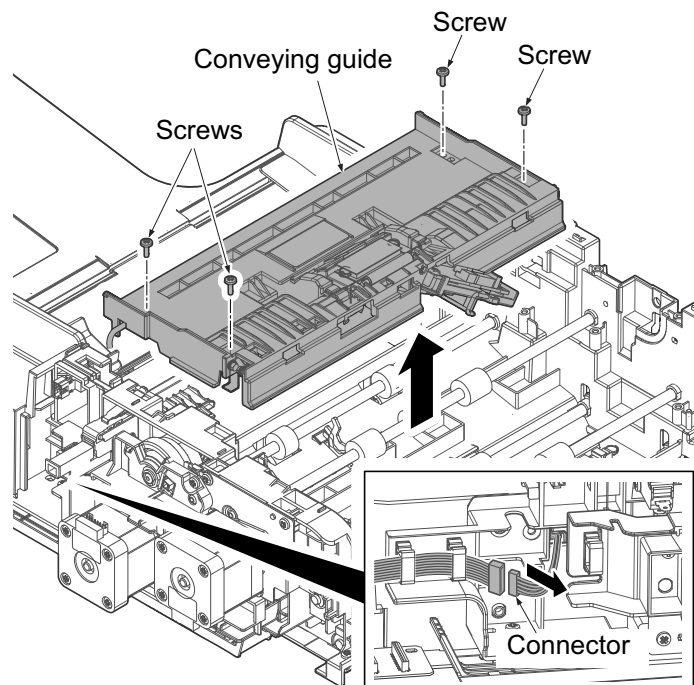
22 Detach the CIS assembly in the direction of the arrow.



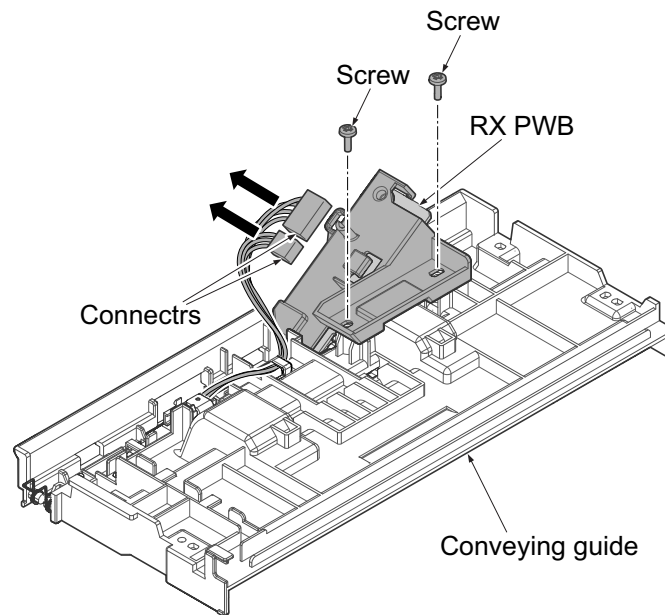
23 Remove four screws.

24 Release the connector of the relay wires of RX PWB.

25 Release the conveying guide in arrow direction.



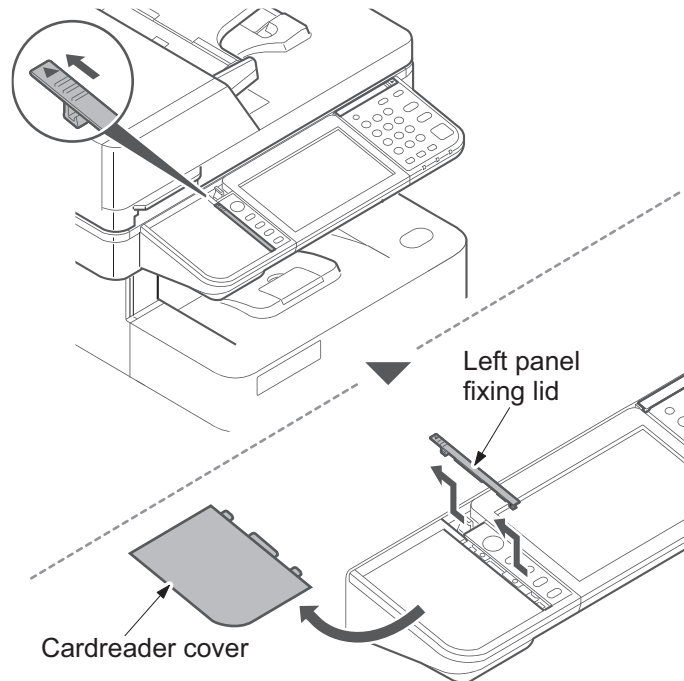
- 26 Remove two connectors of the relay wires from RX PWB.
- 27 Remove two screws.
- 28 Remove the RX PWB from the conveying guide.
- 29 Check or replace RX PWB and refit all the removed parts.



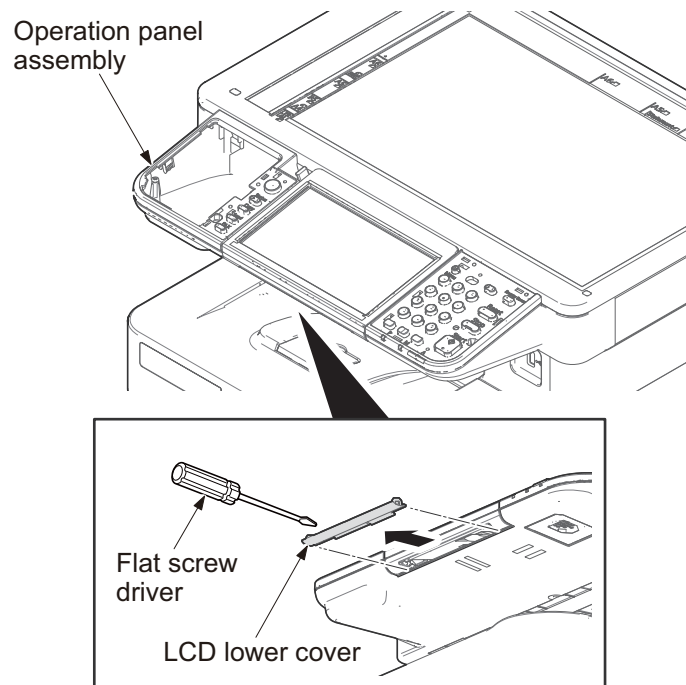
(8) Other parts

(8-1) Detaching and refitting the LCD

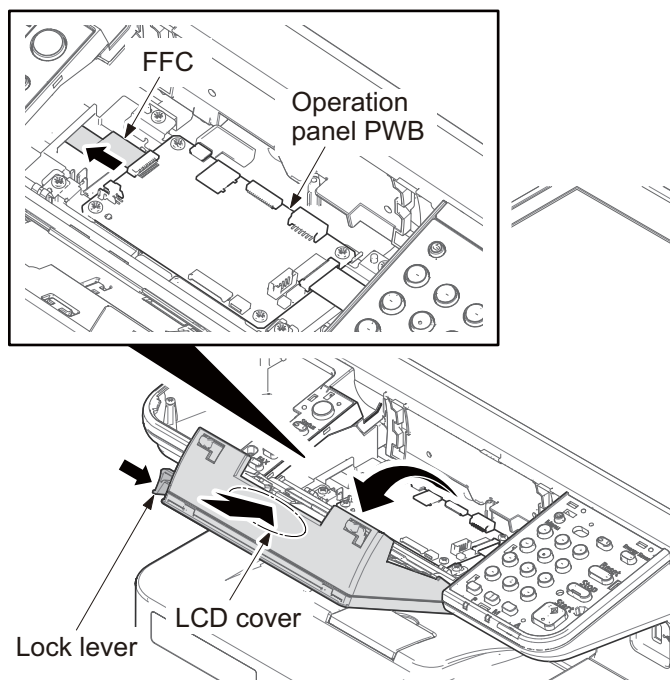
- 1 Remove the left panel fixing lid by sliding it.
- 2 Remove the card reader cover.



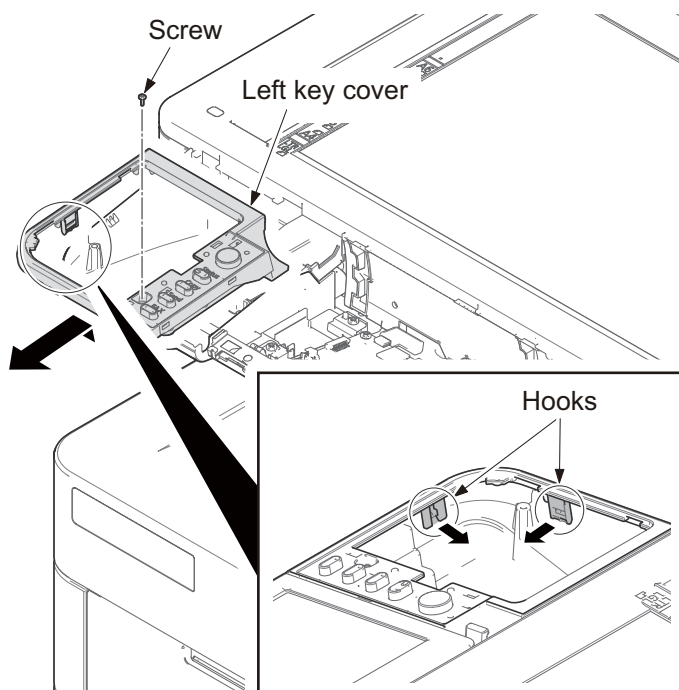
- 3 Remove the LCD lower cover by bending using a flat screw driver.



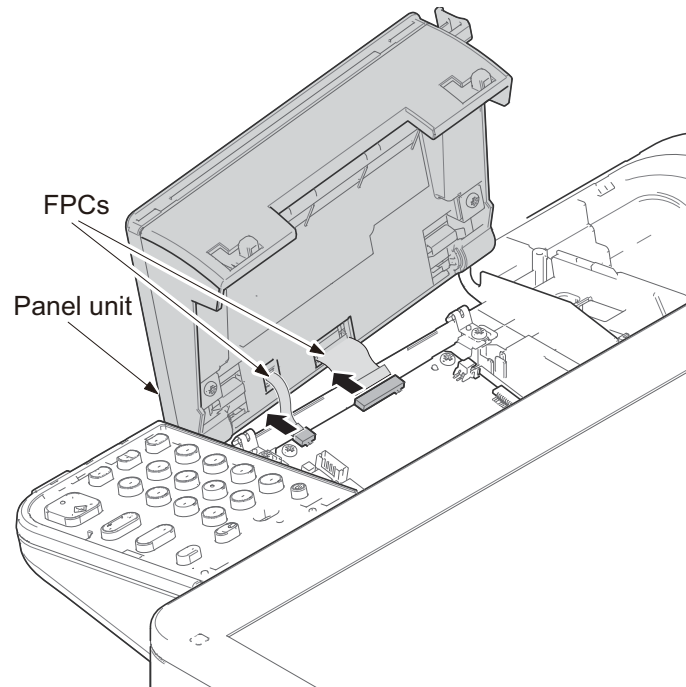
- 4 Pull the LCD up forward during pressing the lock lever and bending the LCD cover.
- 5 Remove the FFC from the operation panel PWB.



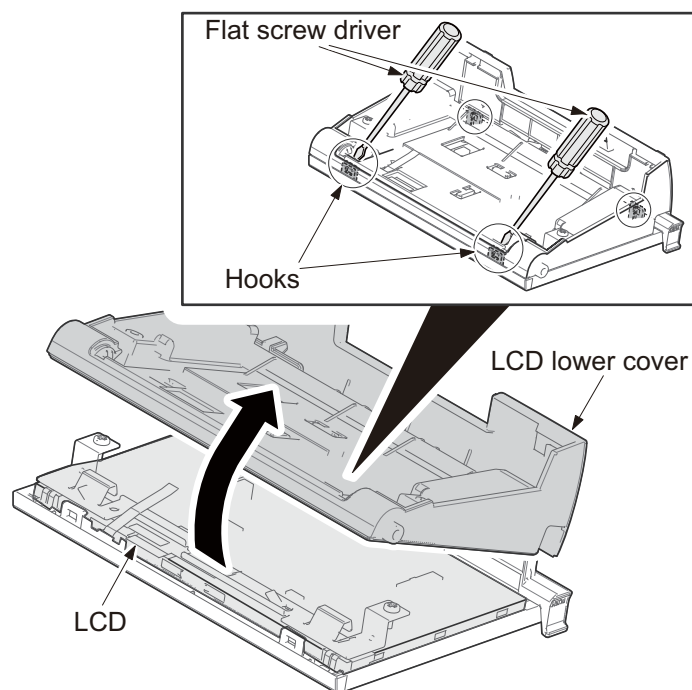
- 6 Remove the screw.
- 7 Release two hooks and remove the left key cover forwards.



- 8 Remove two FPCs.
- 9 Remove the panel unit by lifting up.

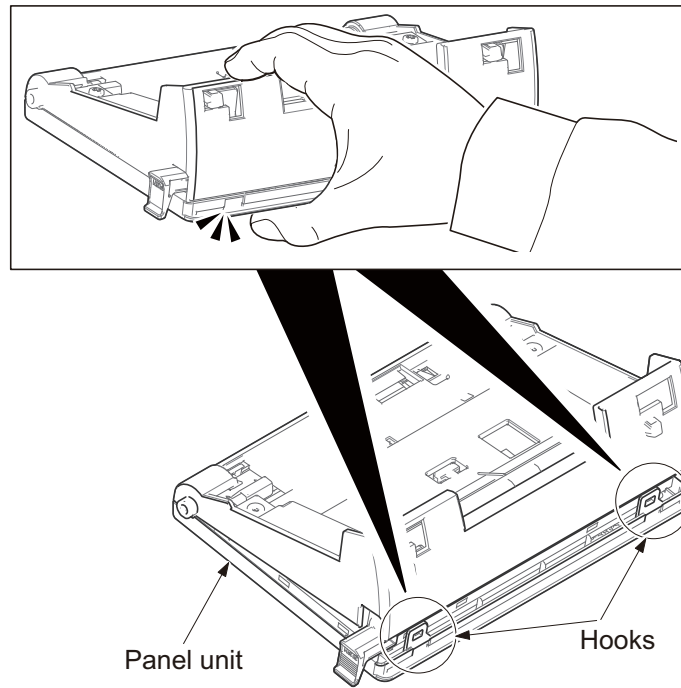


- 10 Release two hooks using flat screw driver.
- 11 Remove the LCD lower cover.
- 12 Check or replace the LCD and refit all the removed parts.



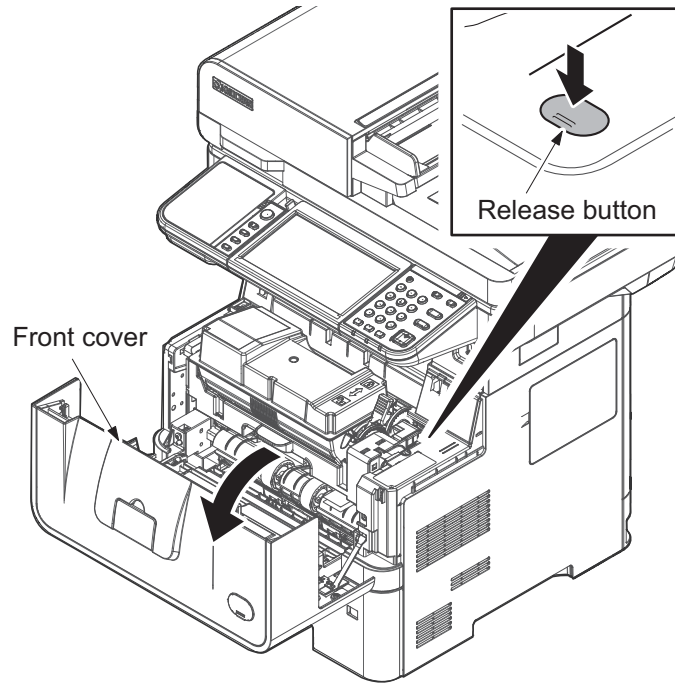
(Note for reassembly)

Check if two hooks are surely fastened.

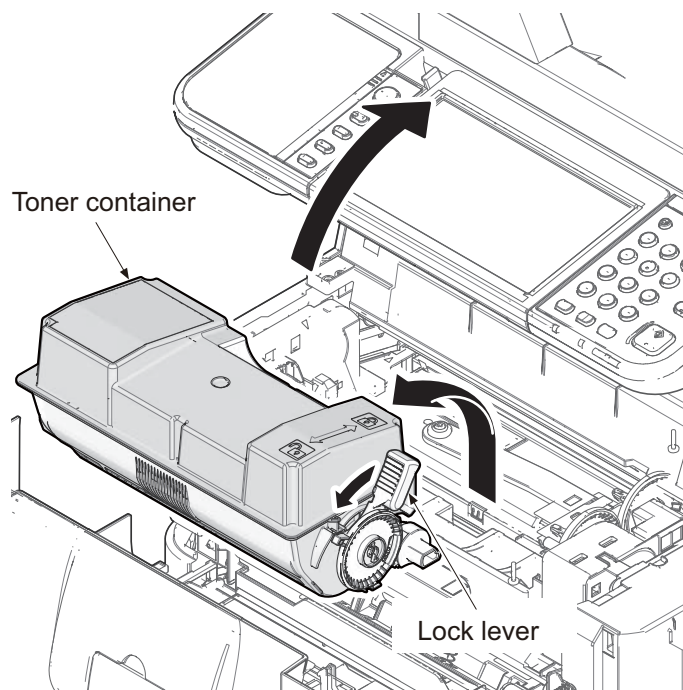


(8-2) Detaching and refitting the transfer roller

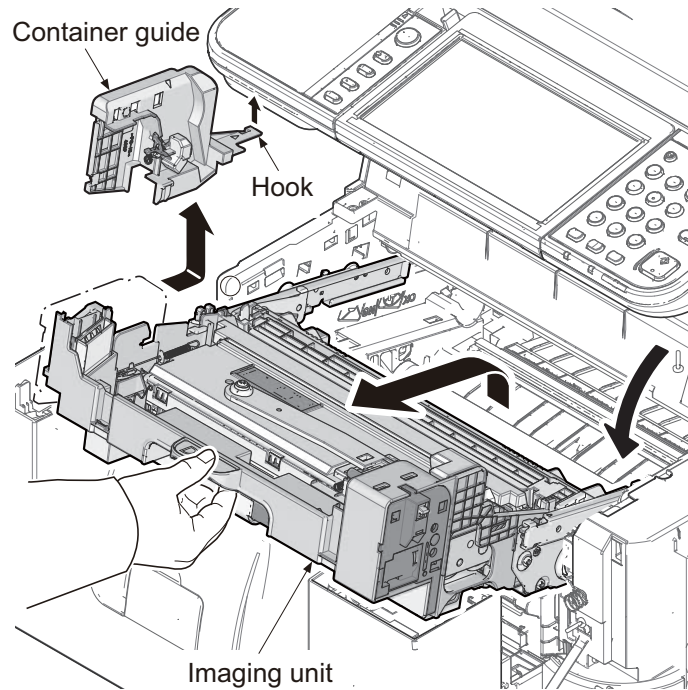
- 1 Push the release button and open the front cover.



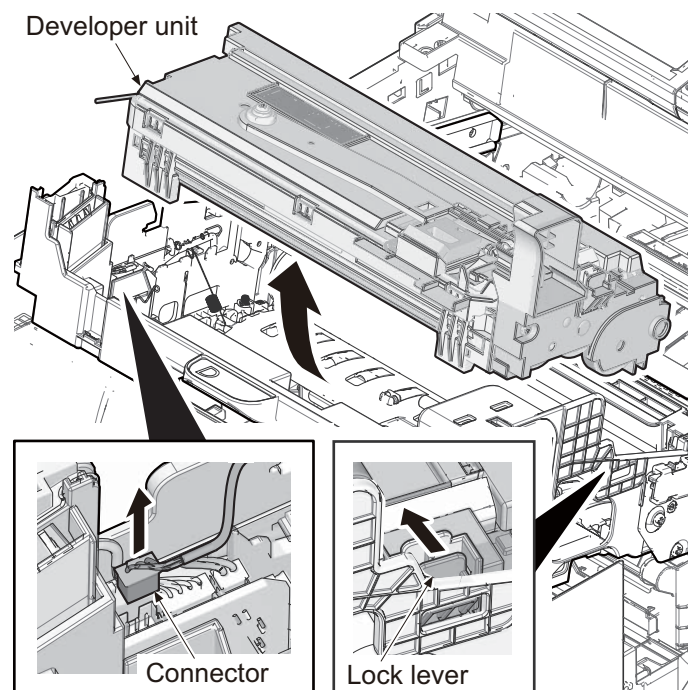
- 2 Release the lock lever by rotating and then remove the toner container.



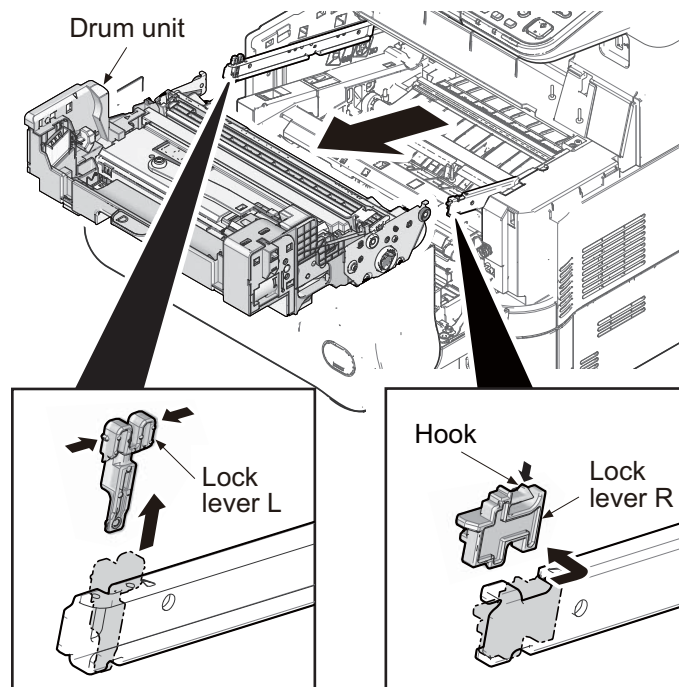
- 3 Pull the imaging unit forward.
- 4 Release the hook and then remove the container guide by sliding backwards.



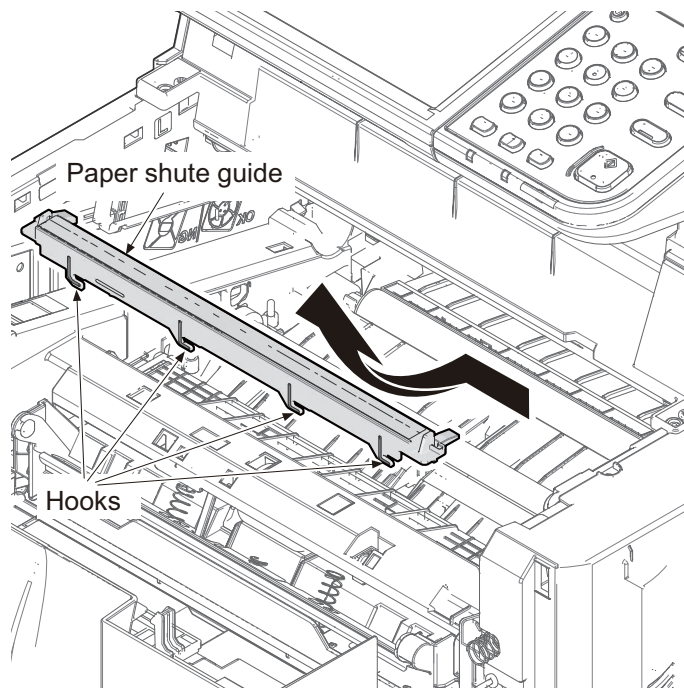
- 5 Pull the connector out.
- 6 Release the lock lever and then remove the developer unit upward.



- 7 Remove the lock lever L.
- 8 Remove the lock lever R by sliding backward.
- 9 Remove the drum unit by sliding forward.

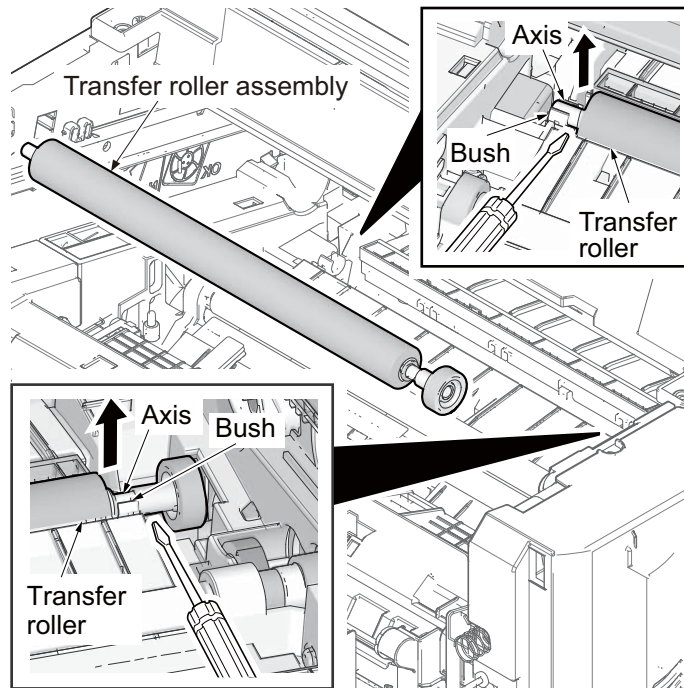


- 10 Release four hooks by sliding to left the paper chute guide.
- 11 Remove the paper chute guide upward.



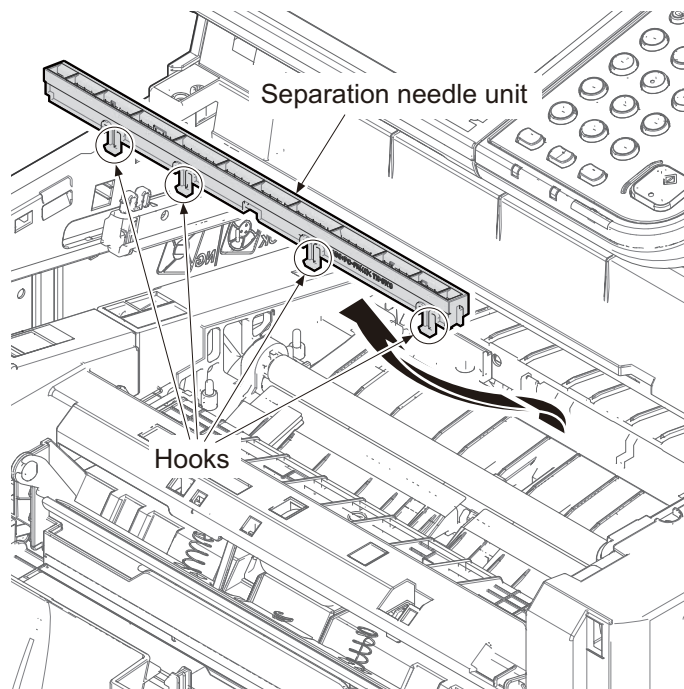
12 Remove the axes of transfer roller from each bush.

13 Remove the transfer roller assembly upward.



14 Release four hooks of separation needle unit by rotating and then remove the separation needle unit upward.

15 Check or replace the separation needle unit and refit all the removed parts.

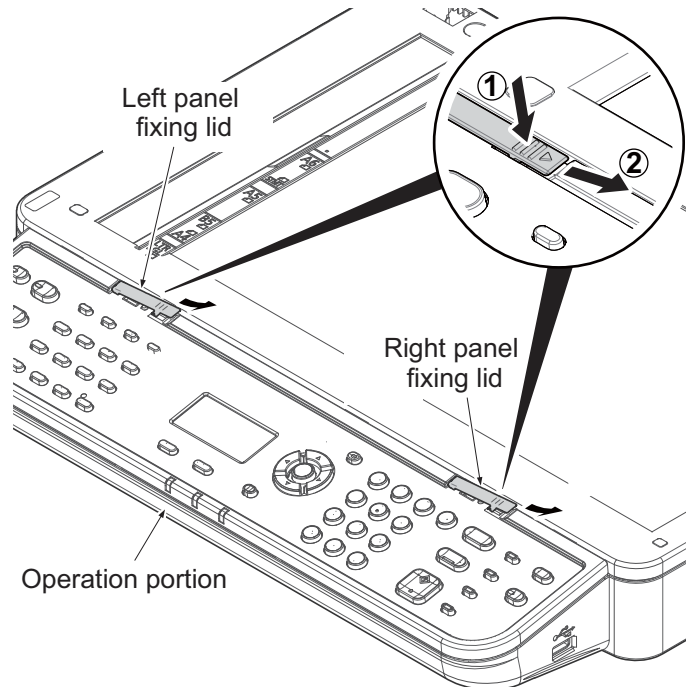


✔ **Important**

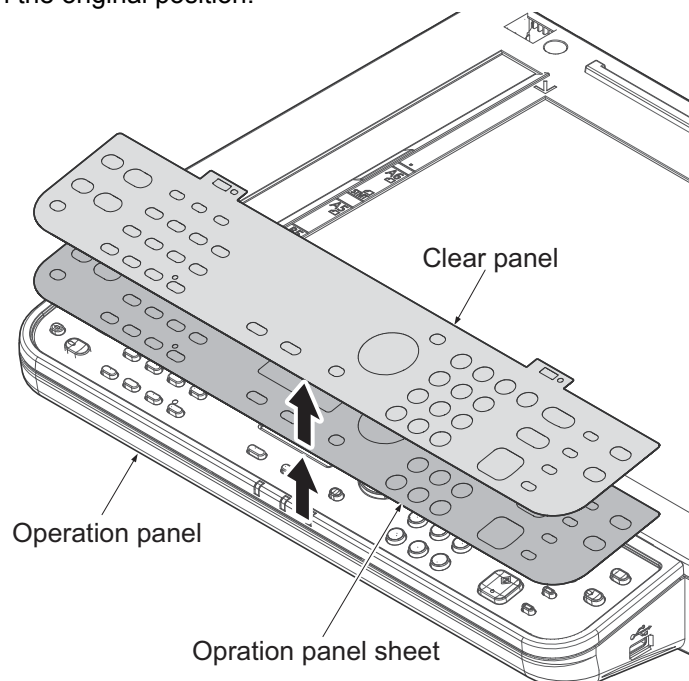
Check certainly being fixed at the time of attachment.

(8-3) Detaching and refitting the language sheets (5 Line LCD)

- 1 After lifting the edge of left panel fixing cover and slide in the direction of the arrow.
- 2 Detach the left panel fixing cover from the operation panel.
- 3 In a similar way detach the right panel fixing cover from the operation portion.

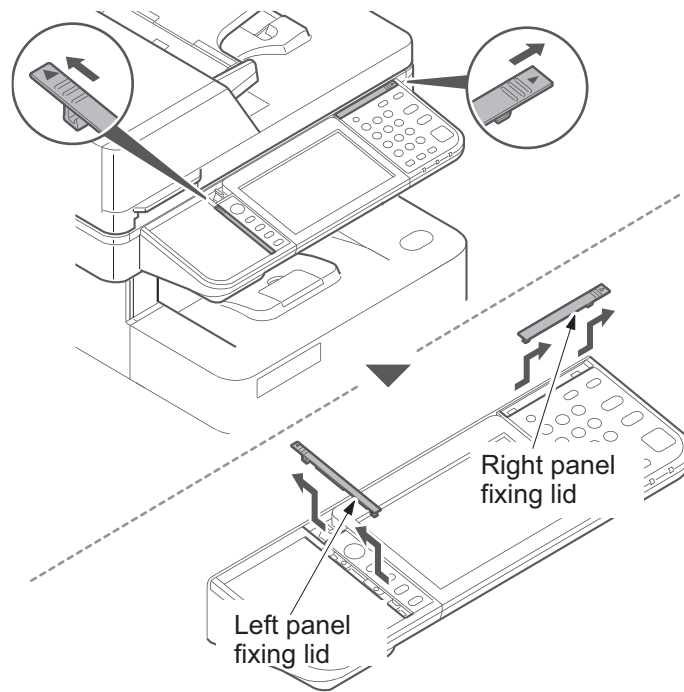


- 4 Detach the clear panel from the operation panel.
- 5 Next remove the operation panel.
- 6 Replace the operation panel sheet of the applicable language.
- 7 Reattach the parts in the original position.

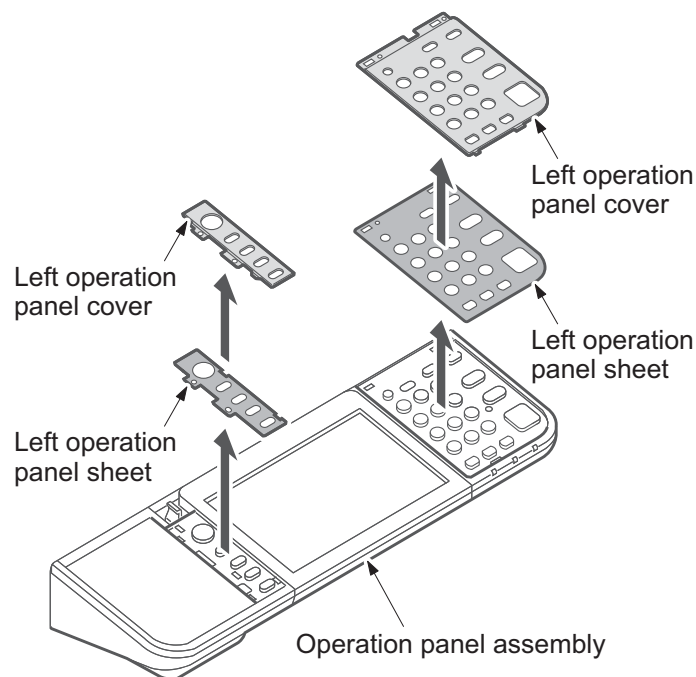


(8-4) Detaching and refitting the language sheets (7 Inch TSI)

- 1 Slide the right panel fixing lid and left.
- 2 Remove the their lids.

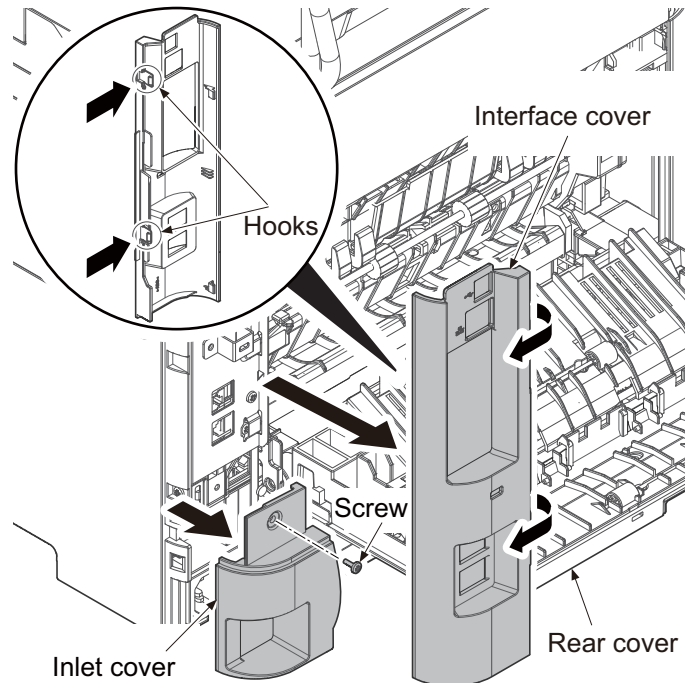


- 3 Remove the operation panel cover.
- 4 Replace it to the operation panel sheet of the corresponding language.
- 5 Refit all the removed parts.

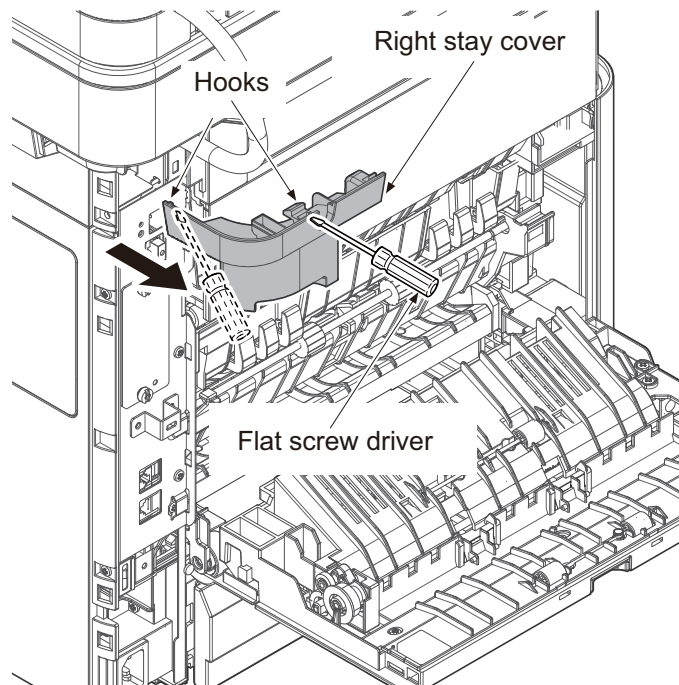


(8-5) Detaching and refitting the power source fan motor

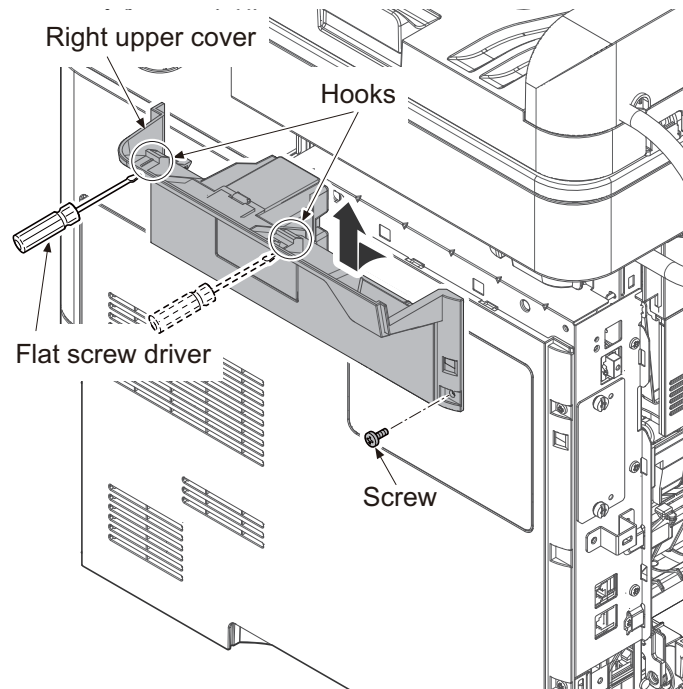
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



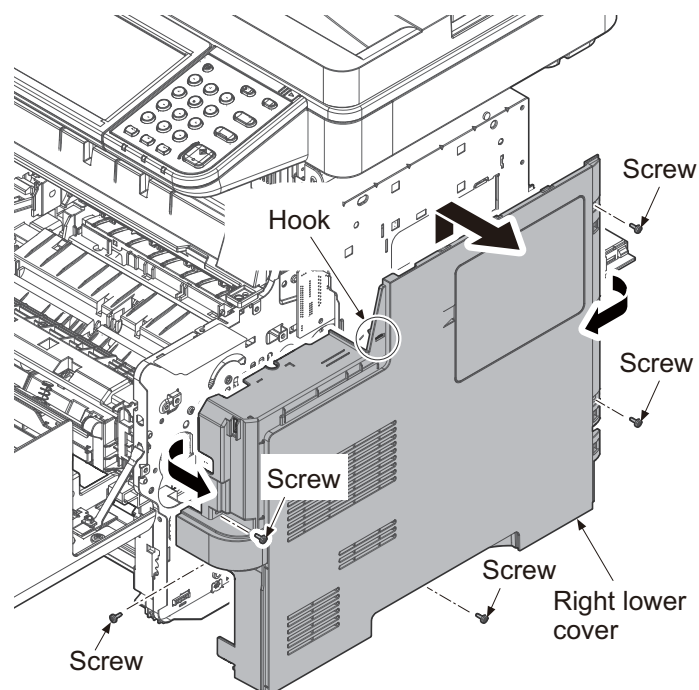
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



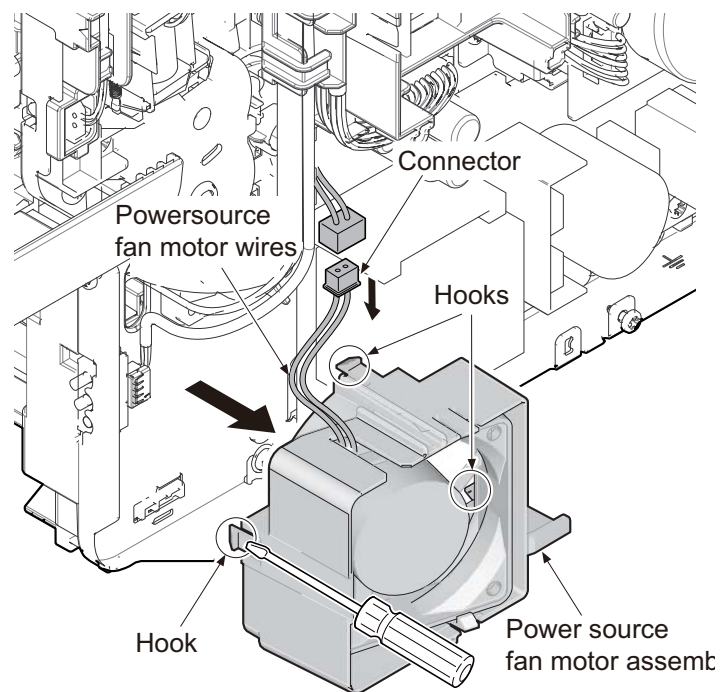
- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.



- 8 Pull the cassette out.
- 9 Remove five screws.
- 10 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.

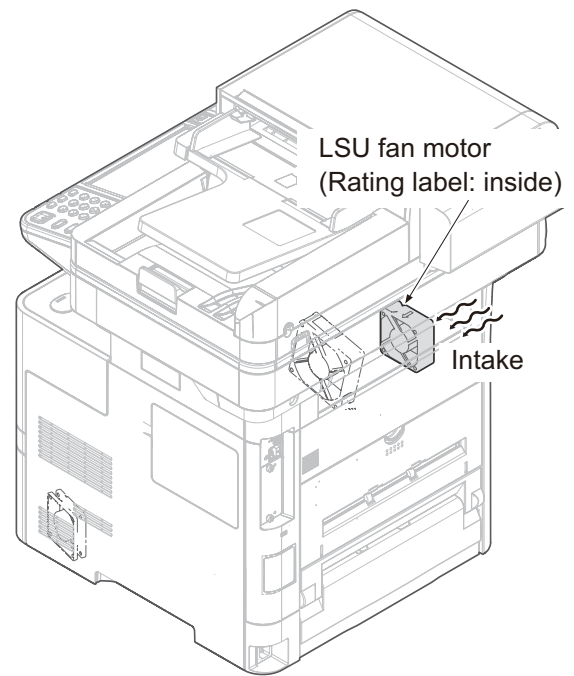
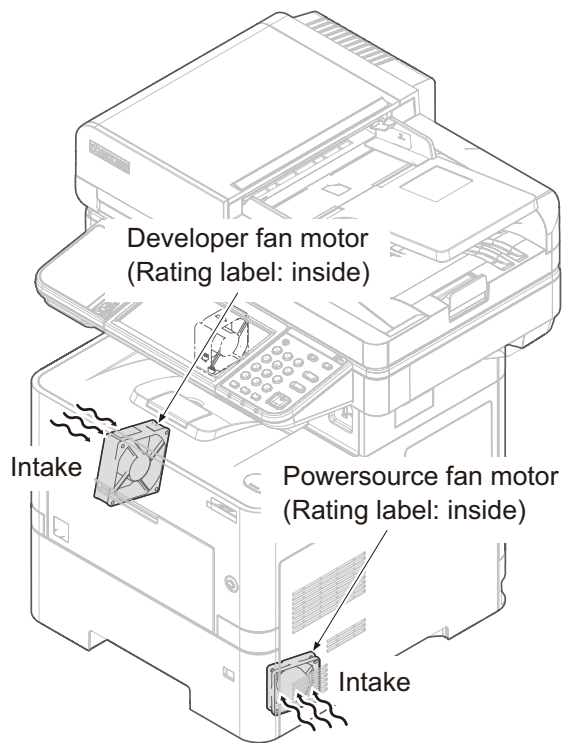


- 11 Unconnect the connector of power source fan motor.
- 12 Release three hooks using a flat screw driver and remove the powersource fan motor.
- 13 Check or replace the power source fan motor and refit all the removed parts.



(8-6) Direction of installing the principal fan motors

When detaching or refitting the fan motor, be careful of the airflow direction (intake or exhaust).



(9) PWBs

ⓧ Important

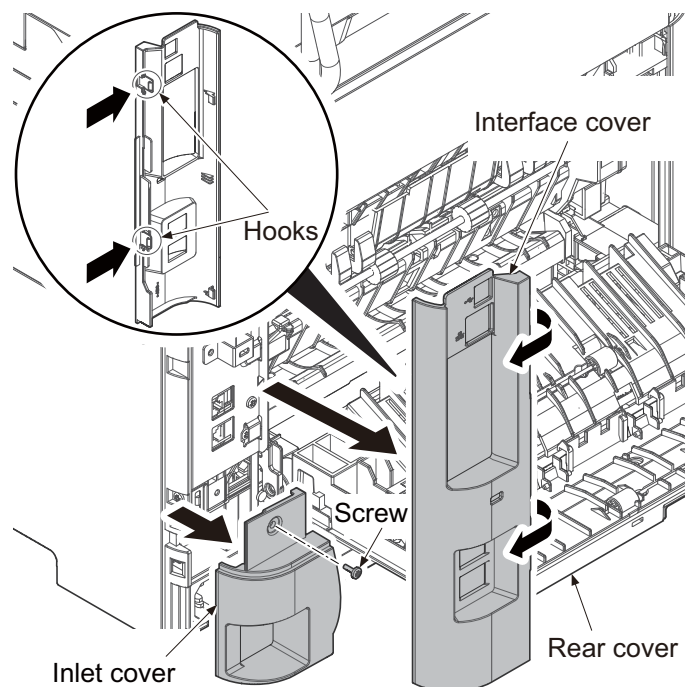
Before replacing the PWB, be sure to take the following procedures.

Otherwise, The PWB may be damaged.

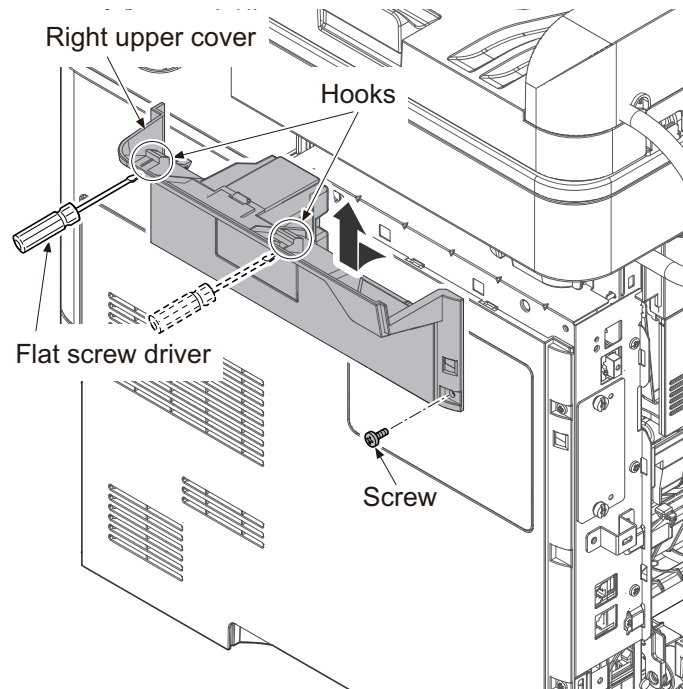
- Disconnect the power cord.
- Press the power switch one second or more to discharge the electric charge inside the main unit.

(9-1) Detaching and refitting the Control PWB.

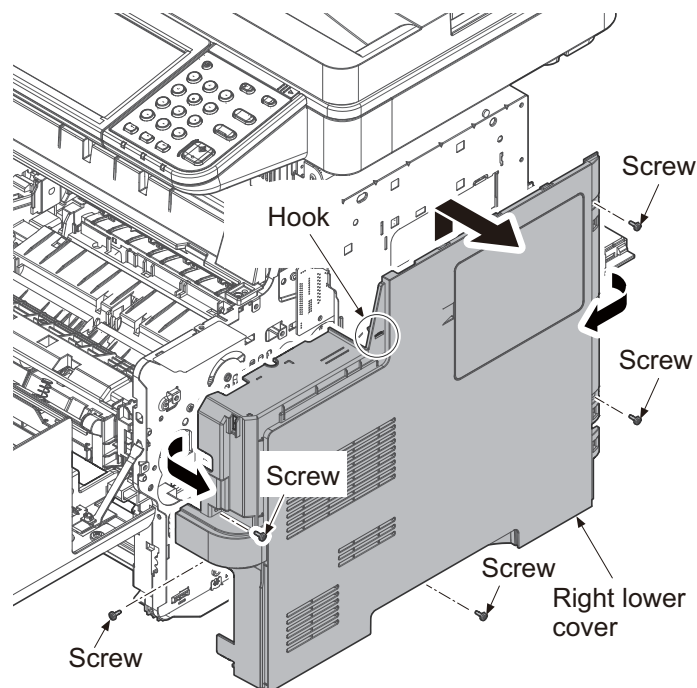
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



- 4 Open the front cover.
- 5 Remove the screw from the right upper cover.
- 6 Release two hooks using a flat screw driver and remove the right upper cover.

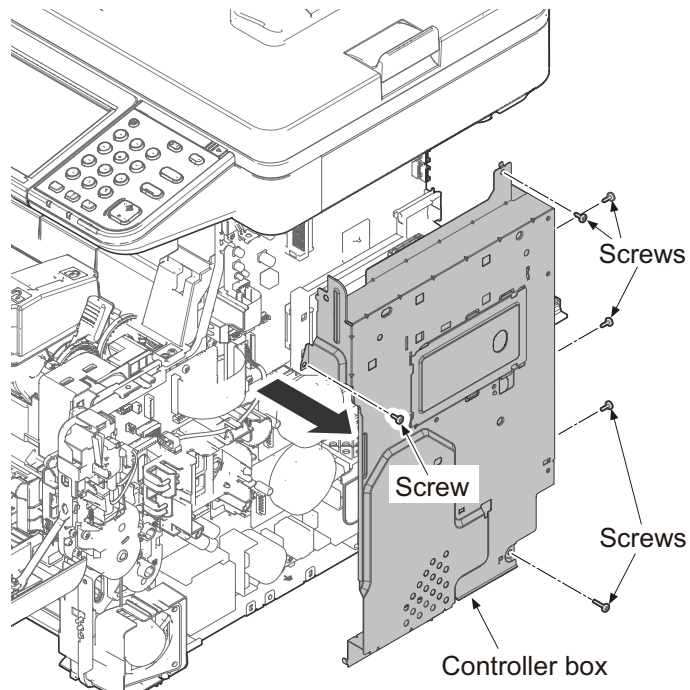


- 7 Pull the cassette out.
- 8 Remove five screws.
- 9 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



10 Remove six screws.

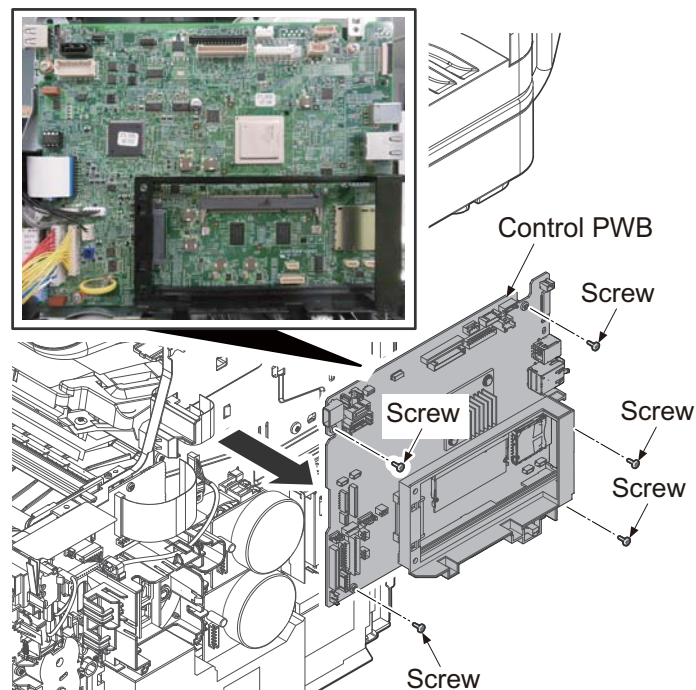
11 Remove the controller box.



12 Remove all connectors and FFCs from the control PWB.

13 Remove six screws and control PWB from the main unit.

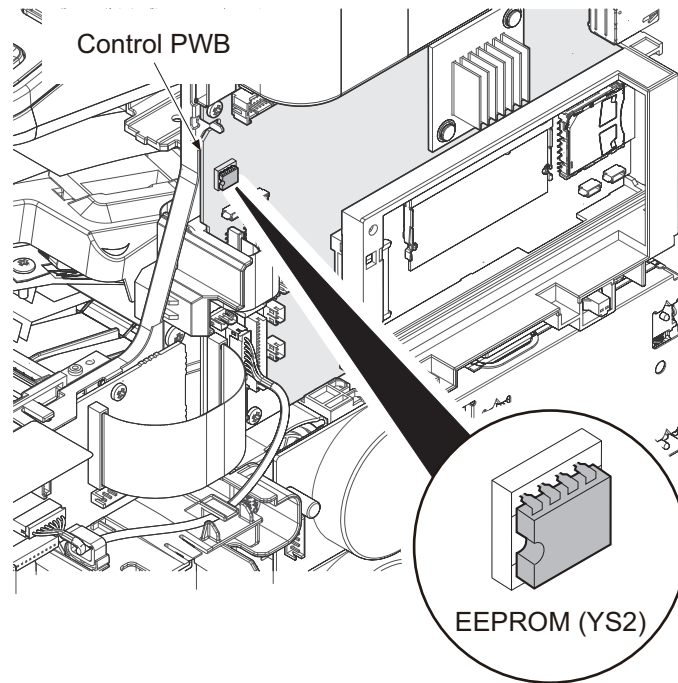
14 Check or replace the control PWB and refit all the removed parts.



Remarks on Control PWB replacement

✔ Important

When replacing the PWB, remove the EEPROM (YS2) from the control PWB and then reattach it to the new PWB.



The following operations are required when replacing the control PWB.

- 1 Execute maintenance mode U004 to resolve machine number mismatch that appears after replacing the main PWB.
- 2 Update the firmware of control PWB.
 - Check the latest firmware and upgrade it.
- 3 Execute maintenance mode U600 (Init All Data) to setting the country code. (FAX model only)
 - 1 Press the [Start] key.
 - 2 Select [Execute].
 - 3 Select [Country Code] and enter a destination code using the numeric keys.
 - 4 Press the [Start] key to set the setting value.

Data initialization starts.

The firmware version is displayed after the data initialization.

Code	Destination	Code	Destination
000	Japan	007	South America*3
156	Asian nations*1	253	European nations*4
254	Taiwan	250	Russia
097	Korea	009	Australia
038	China	126	New Zealand*5
181	North America*2		

*1: Applied for Sales company competent Singapore, India, Thailand, Hong Kong.

*2: Applied for Sales company competent USA, Canada.

*3: Applied for Sales company competent Bolivia, Chile, Peru, Argentina, Brazil.

*4: Applied for Sales company competent Italy, Germany, Spain, U.K., Netherlands, Sweden, France,

Austria, Switzerland, Belgium, Denmark, Finland, Portugal, Ireland, Norway, Saudi Arabia, Turkey.

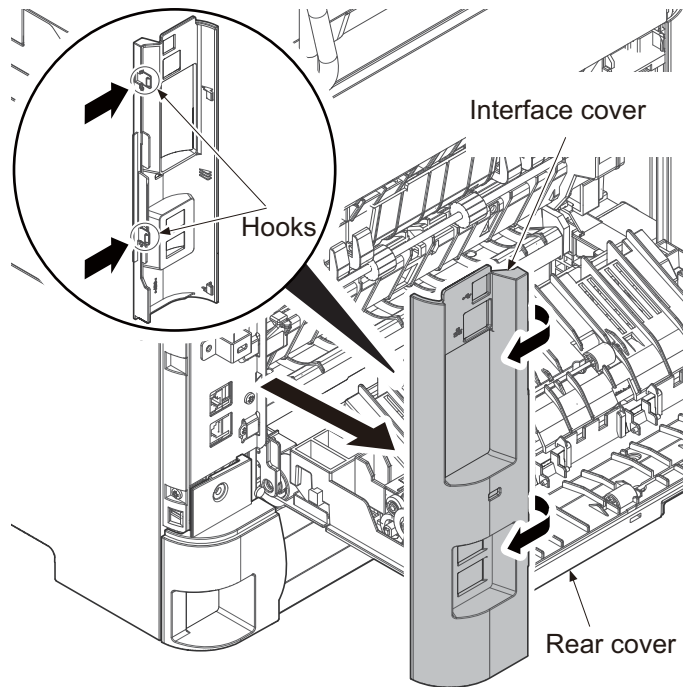
*5: Change the country code when selling in New Zealand. The country code to input is 126.

- 4 Adjust the scanner image.
 - 1 Execute the maintenance mode U411 with the auto scanner adjustment chart.
 - 2 Execute [Halftone adjustment] from the system menu
- 5 Re-activate the license if optional licensed product is installed.
 - 1 Card Authentication Kit (B)
 - When using the SSFC card, execute maintenance mode U222 and set [SSFC].
 - 2 UG-33 (ThinPrint)
 - 3 Data Security Kit (E)
 - Re-input four-digit encrypted code that was input at setup.
- 6 Import data if any was exported from the machine before replacing the main board by using the maintenance mode U917. (The export and import is also available via KM-Net Viewer)
- 7 Register the initial user settings and FAX settings from the system menu or command center.
- 8 Execute the maintenance mode as below if necessary.

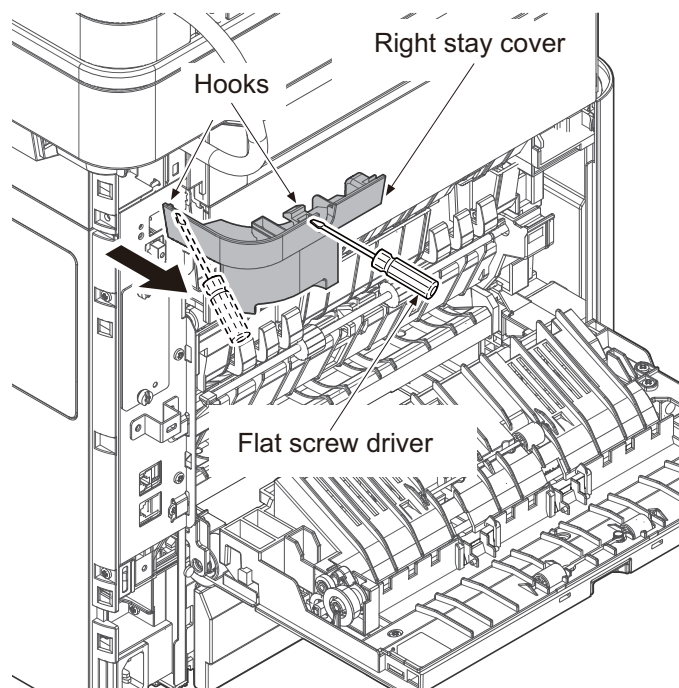
No.	Main machine related maintenance modes	No.	Fax related maintenance modes
U250	Checking/clearing the maintenance cycle	U603	Setting user data 1
U251	Checking/clearing the maintenance counter	U604	Setting user data 2
U253	Switching between double and single counts	U610	Setting system 1
U260	Selecting the timing for copy counting	U611	Setting system 2
U345	Setting the value for maintenance due indication	U612	Setting system 3
U402	Adjusting margins of image printing	U625	Setting the transmission system 1
U403	Adjusting margins for scanning an original on the contact glass	U695	FAX function customize
U404	Adjusting margins for scanning an original from the DP		
U425	Setting the target		
U091	Set White Line Correction		

(9-2) Detaching and refitting the connect-L PWB.

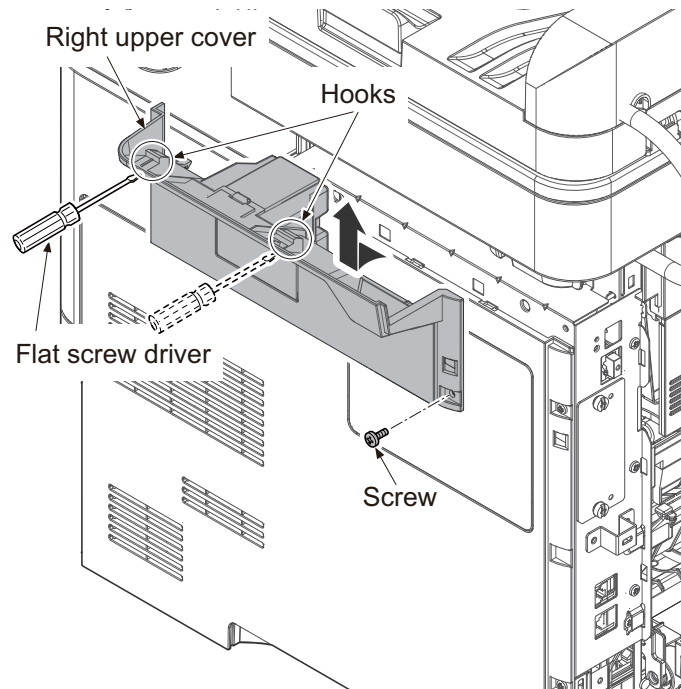
- 1 Open the rear cover.
- 2 Remove the interface cover.



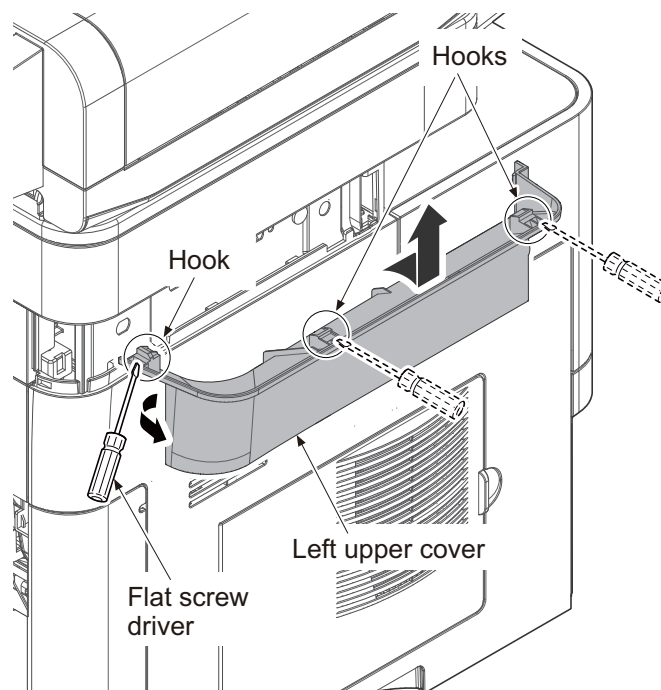
- 3 Release two hooks using a flat screw driver and remove the right stay cover.



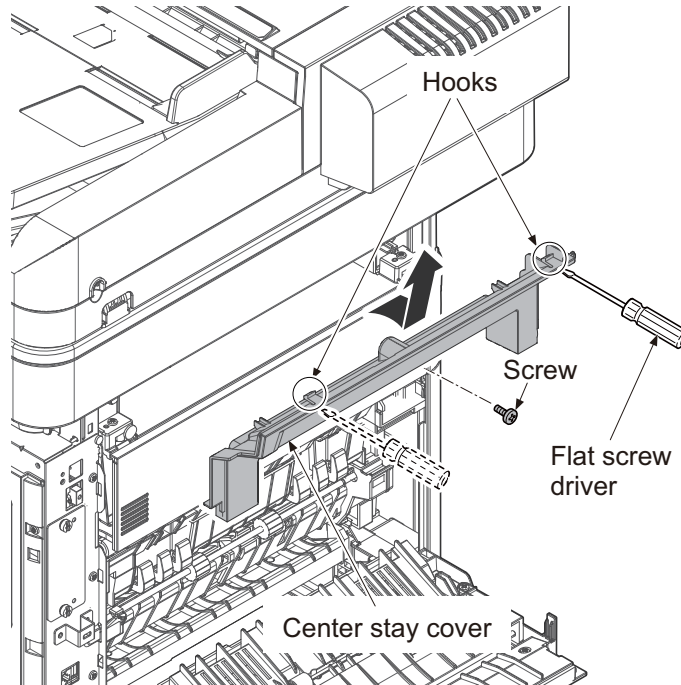
- 4 Open the front cover.
- 5 Remove the screw from the right upper cover.
- 6 Release two hooks using a flat screw driver and remove the right upper cover.



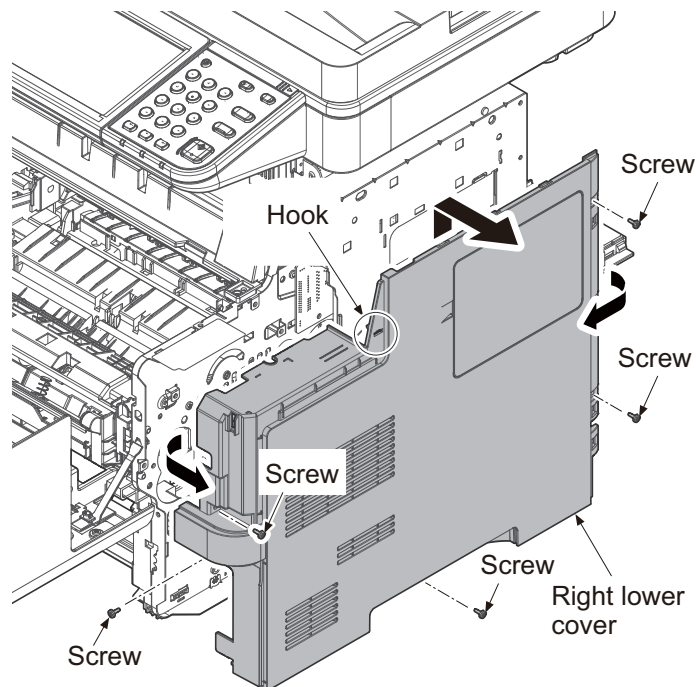
- 7 Release three hooks using a flat screw driver and remove the left upper cover.



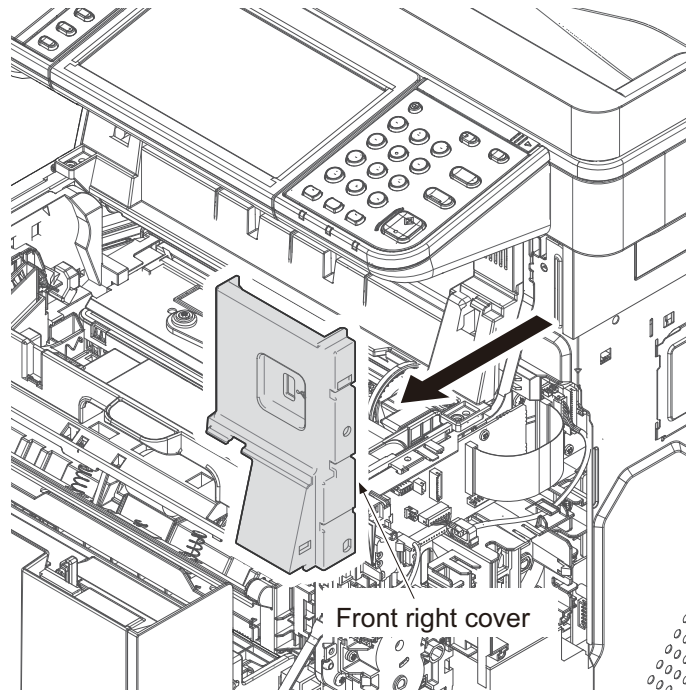
- 8 Remove the screw from the center stay cover.
- 9 Release two hooks using a flat screw driver and remove the center stay cover.



- 10 Pull the cassette out.
- 11 Remove five screws.
- 12 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



- 13 Remove the front right cover forward.



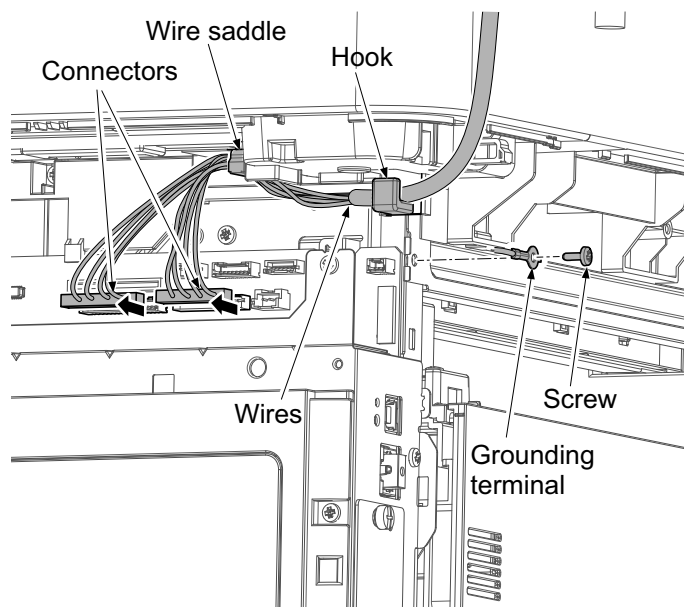
- 14 Release the wires from the hook and the wire saddle.

- 15 (45 ppm model) Remove two connectors.
(55/60 ppm model) Remove four connectors and FFC.

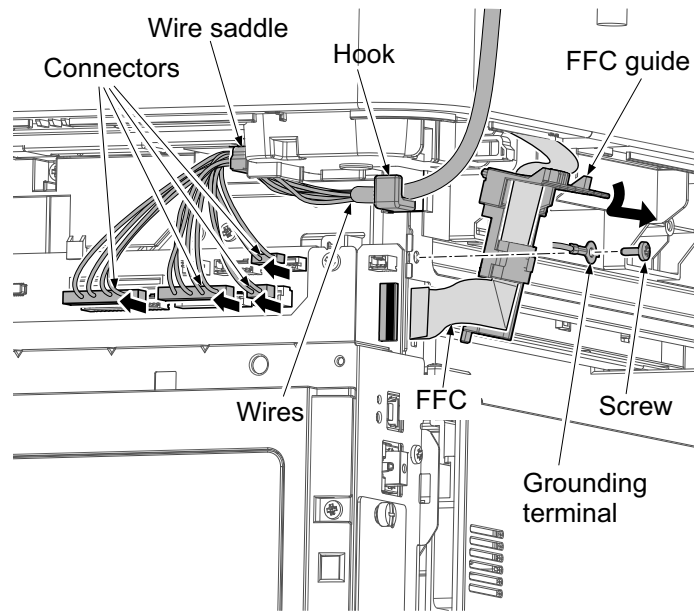
- 16 (55/60 ppm model) Remove the FFC guide in arrow direction and release the FFC.

- 17 Remove the screw and the grounding terminal.

(45 ppm model)

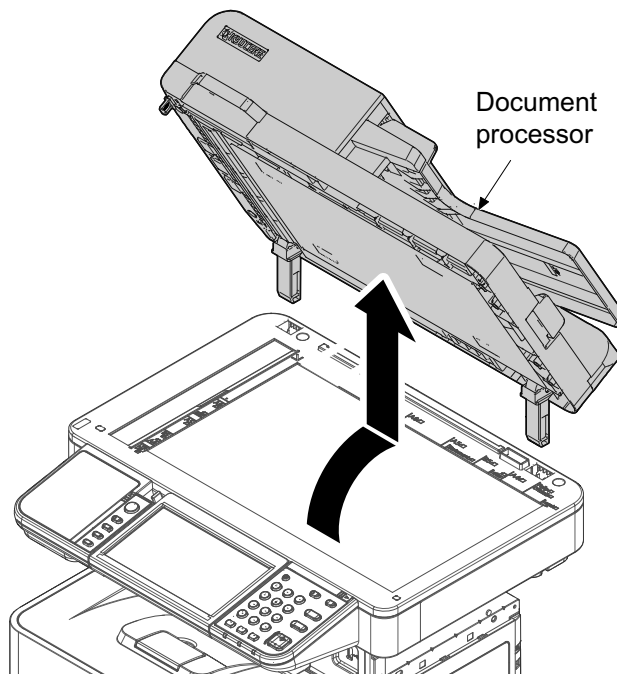


(55/60 ppm model)

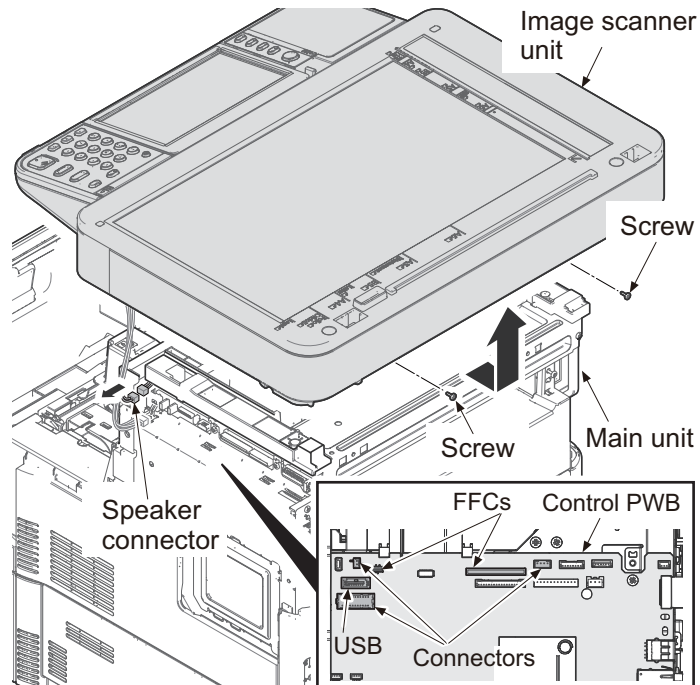


18 Open the document processor.

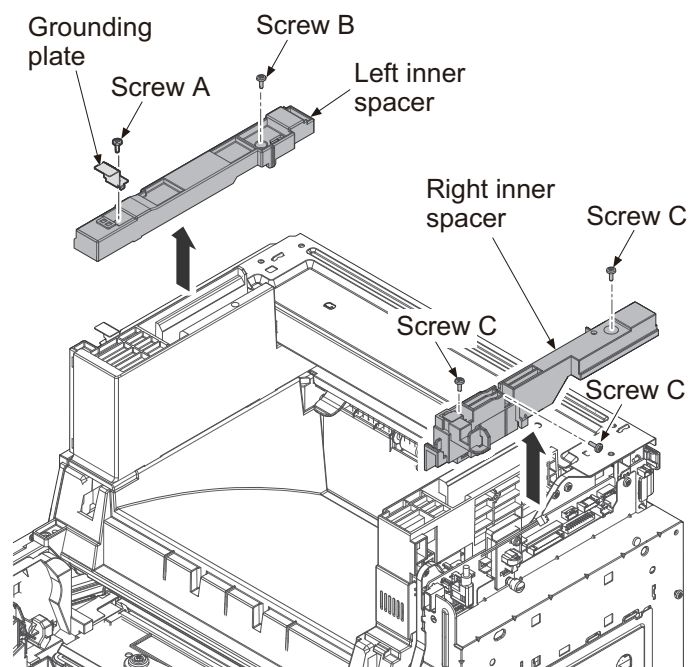
19 Remove the document processor upward.



- 20 Remove three connectors, two FFCs and USB connector from the Control PWB.
- 21 (FAX model only) Remove the speaker connector.
- 22 Remove two screws from the image scanner unit.
- 23 Remove the image scanner unit by sliding backward and then upward.

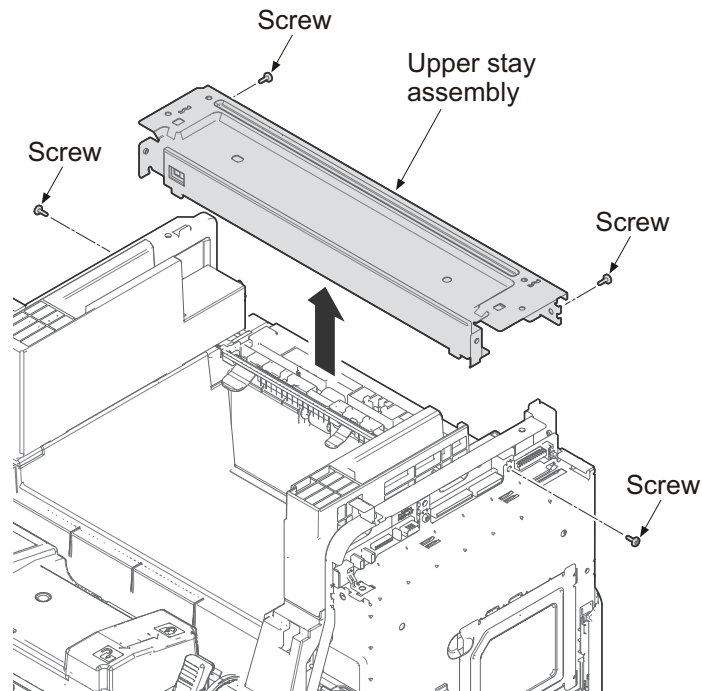


- 24 (55/60 ppm model only) Remove the screw A and the grounding plate.
- 25 (55/60 ppm model only) Remove the screw and the left inner spacer upward.
- 26 (55/60 ppm model only) Remove three screws C and the right inner spacer upward.



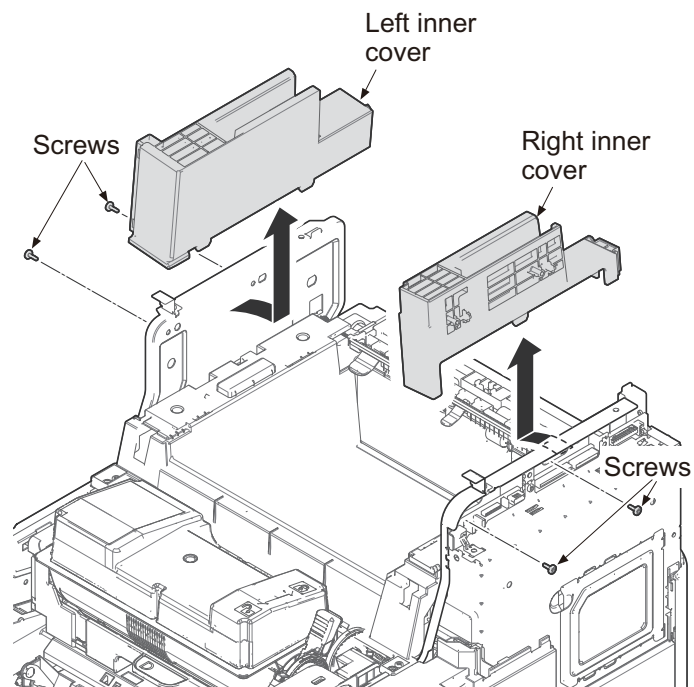
27 Remove three screws.

28 Remove the upper stay assembly upward.

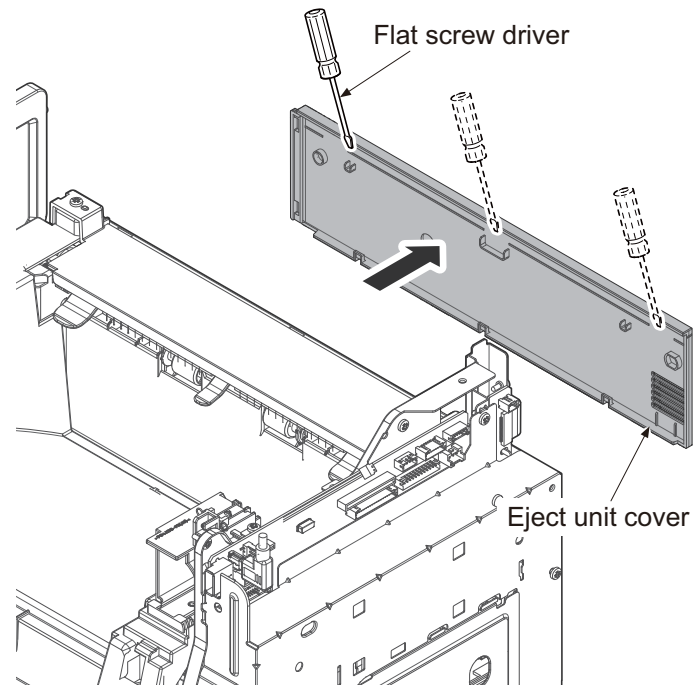


29 Remove two screws and then remove the right inner cover by leaning it inside and lifting it.

30 Remove two screws and then remove the left inner cover by leaning it inside and lifting it.

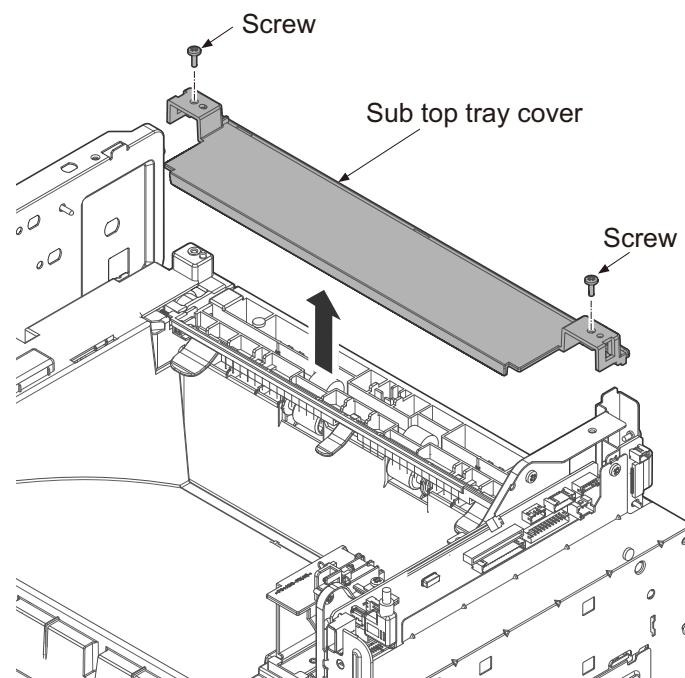


31 Remove the center stay cover.



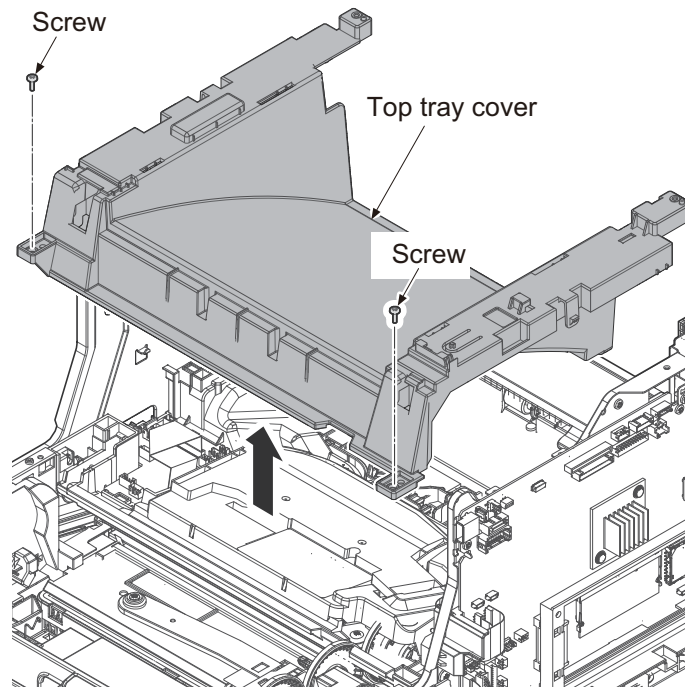
32 Remove two screws.

33 Remove the sub top tray cover upward.



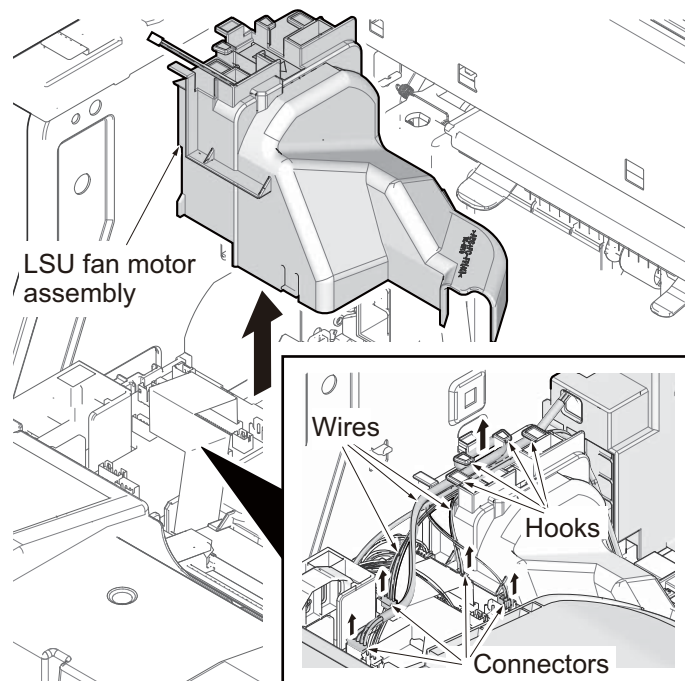
34 Remove two screws.

35 Remove the top tray cover upward.



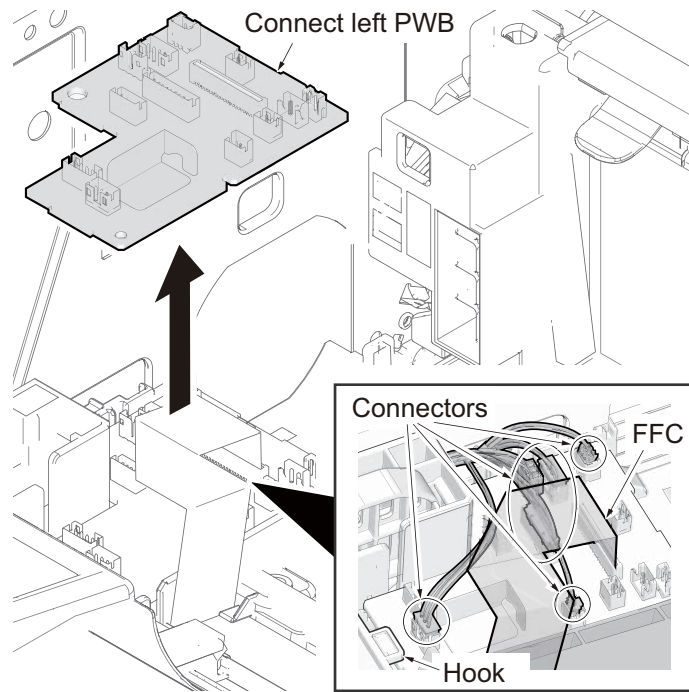
36 Remove the connectors from the connect left PWB and then release the wires from the hooks.

37 Remove the LSU fan motor assembly upward.



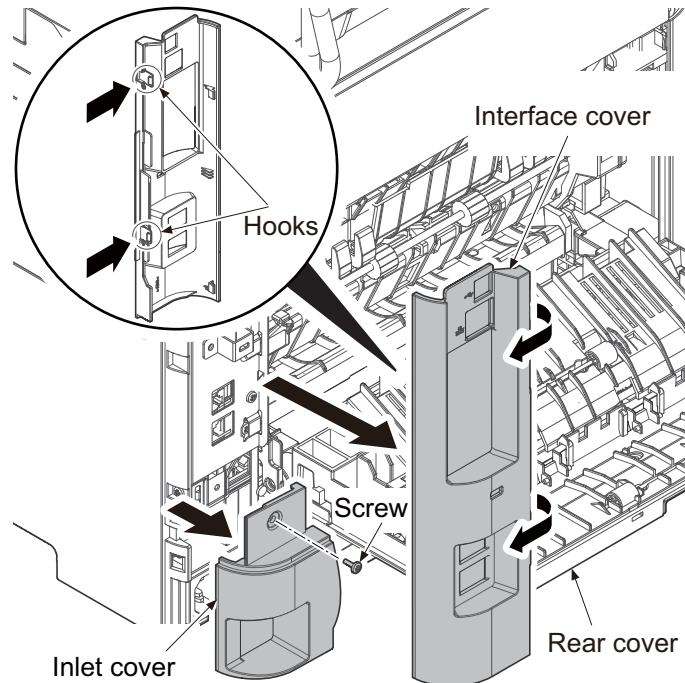
38 Remove the connectors and FFC and then remove the connect left PWB.

39 Check or replace the connect left PWB and refit all the removed parts.

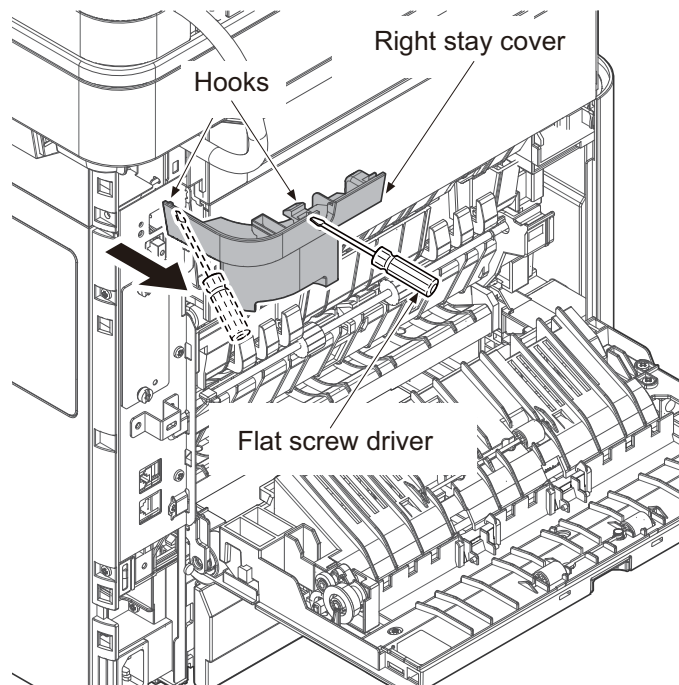


(9-3) Detaching and refitting the connect-R PWB.

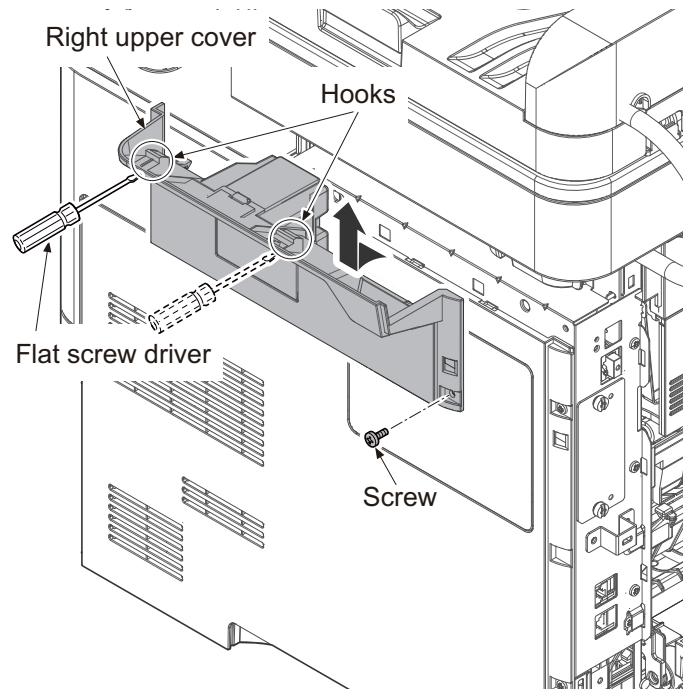
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



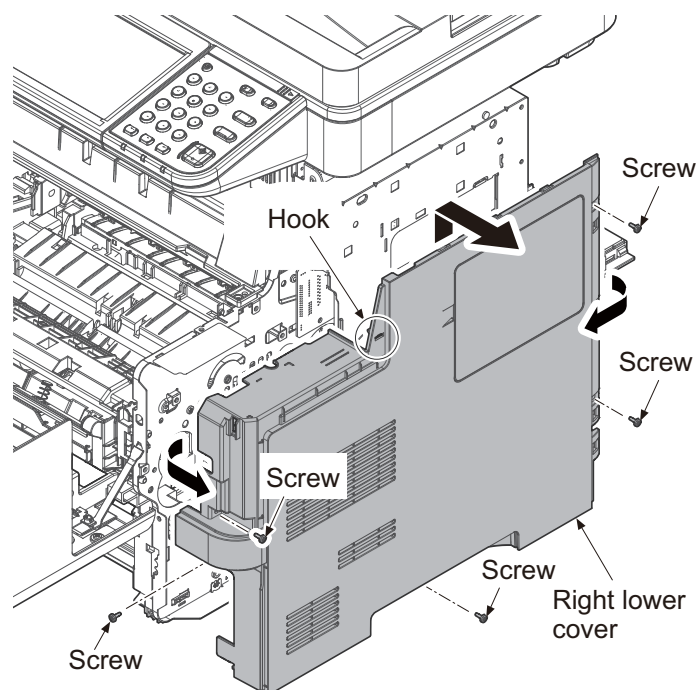
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



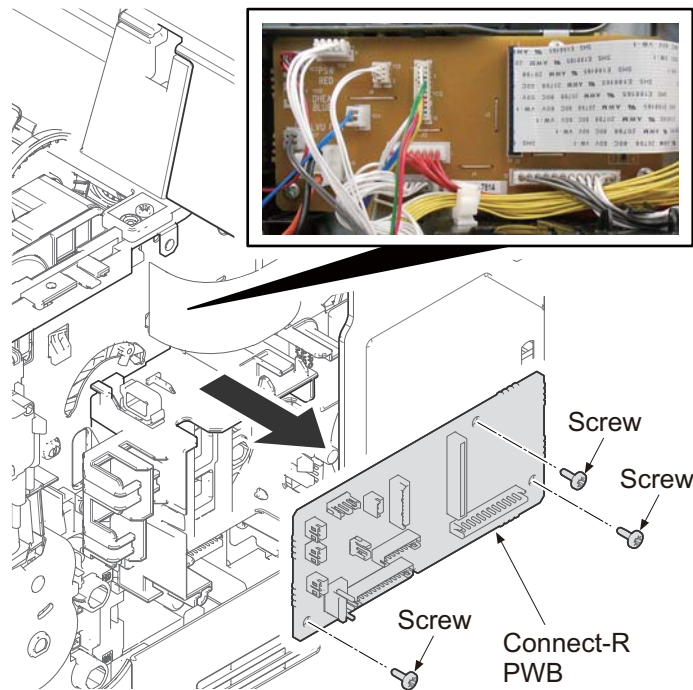
- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.



- 8 Pull the cassette out.
- 9 Remove five screws.
- 10 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.

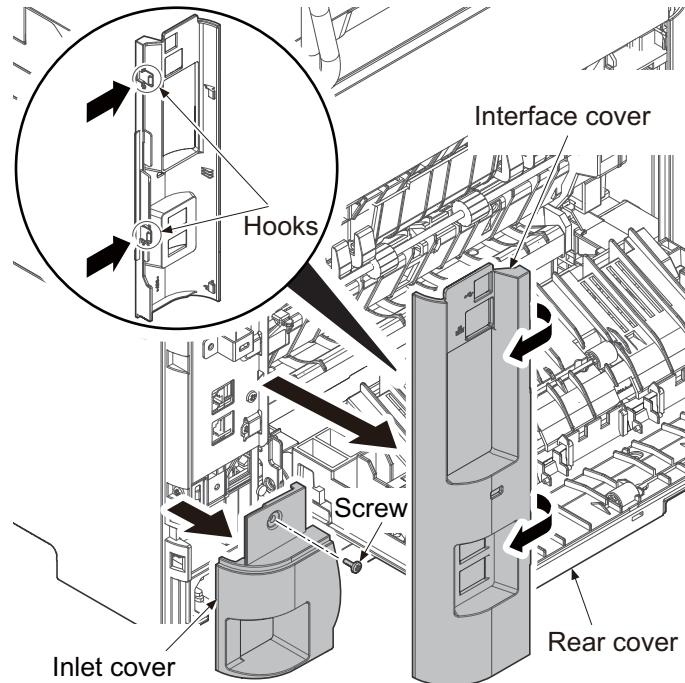


- 11 Remove all connectors and FFC from the connect-R PWB.
- 12 Remove three screws and connect-R PWB from the main unit.
- 13 Check or replace the connect-R PWB and refit all the removed parts.

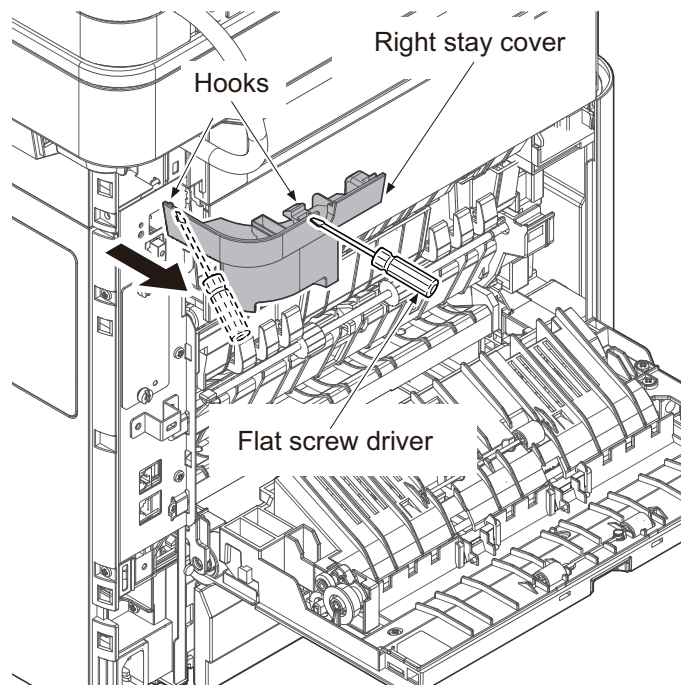


(9-4) Detaching and refitting the high voltage PWB.

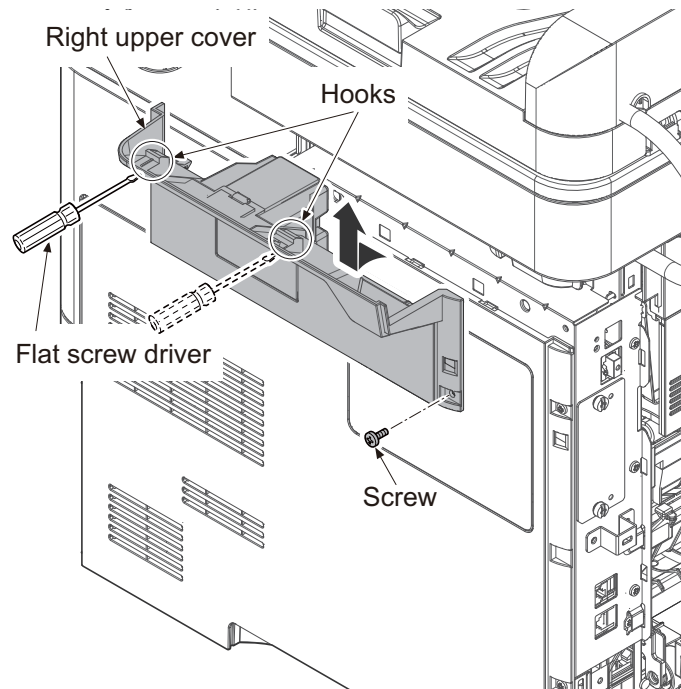
- 1 Remove the developer unit, drum unit and waste toner box. (See page 4-10, 4-12)
- 2 Open the rear cover.
- 3 Remove the interface cover.
- 4 Remove the screw and the inlet cover.



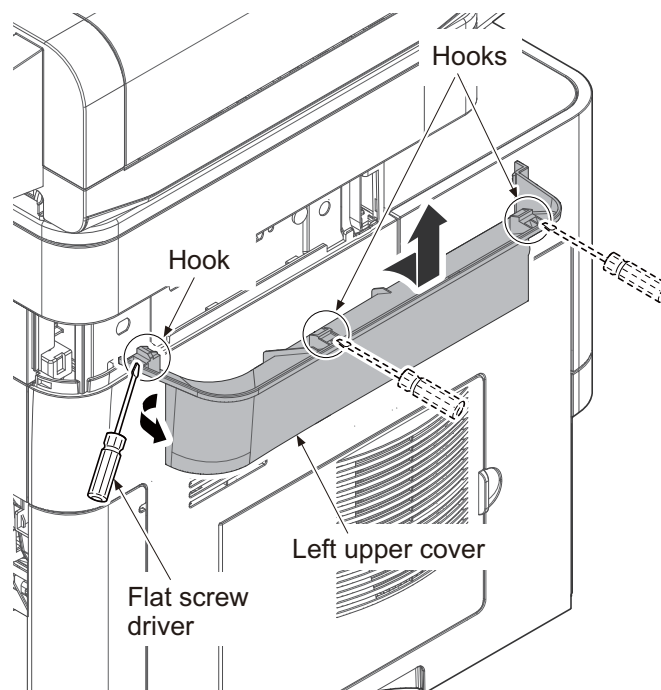
- 5 Release two hooks using a flat screw driver and remove the right stay cover.



- 6 Open the front cover.
- 7 Remove the screw from the right upper cover.
- 8 Release two hooks using a flat screw driver and remove the right upper cover.

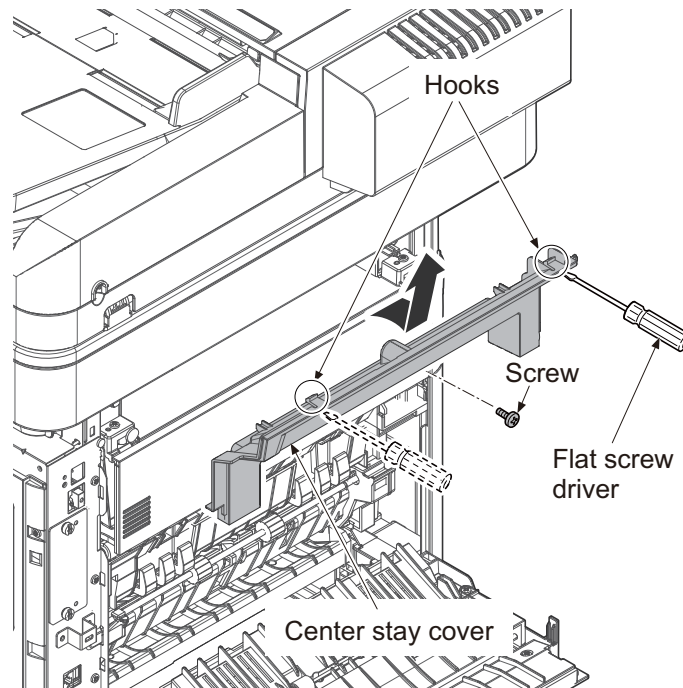


- 9 Release three hooks using a flat screw driver and remove the left upper cover.



10 Remove the screw from the center stay cover.

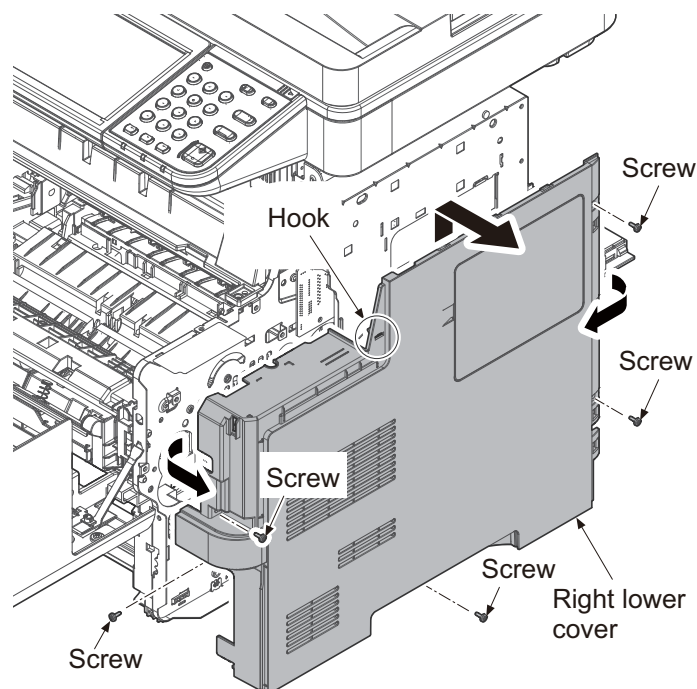
11 Release two hooks using a flat screw driver and remove the center stay cover.



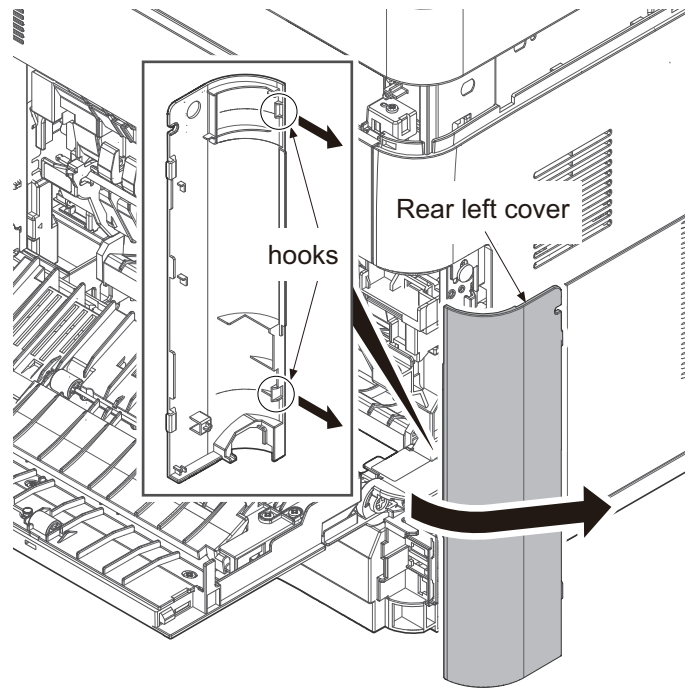
12 Pull the cassette out.

13 Remove five screws.

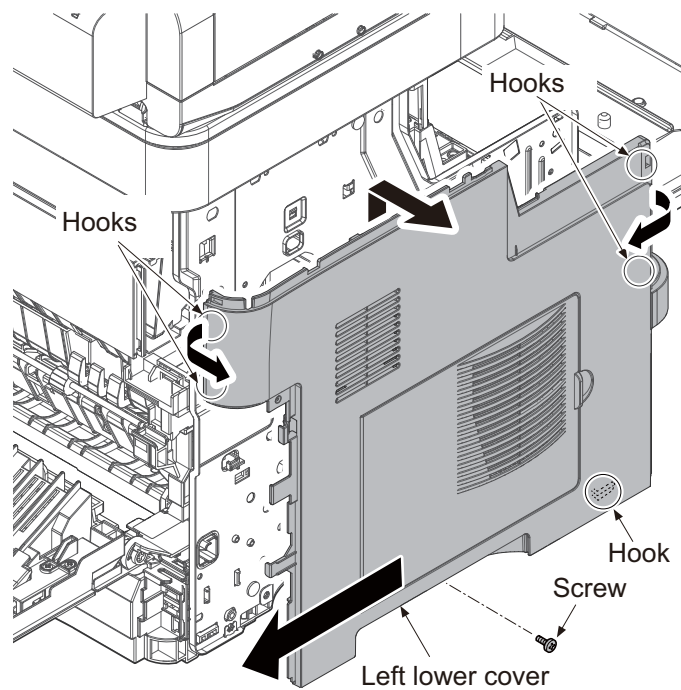
14 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



- 15 Release two hooks of the rear left cover while pulling forward.
- 16 Remove the rear left cover by rotating.

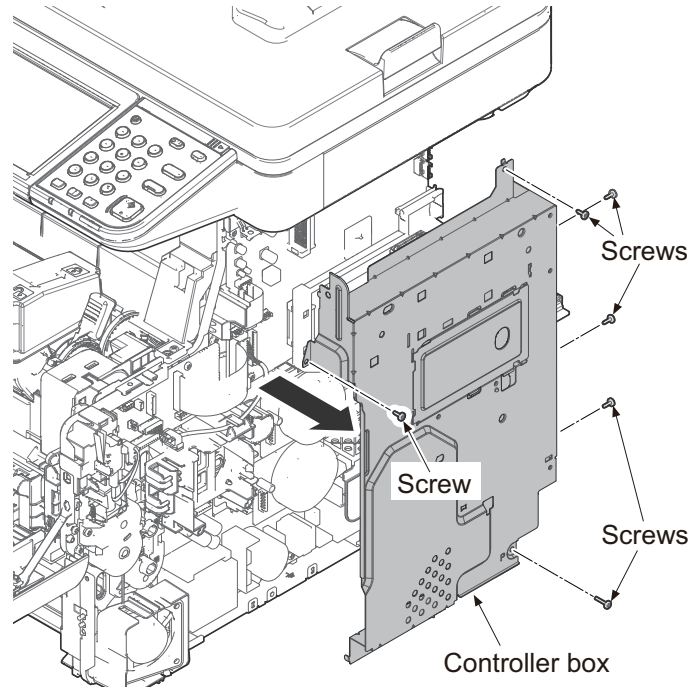


- 17 Remove the screw from the left lower cover.
- 18 Release five hooks by bending the left lower cover.
- 19 Release the hook by sliding the left lower cover back direction, remove it.



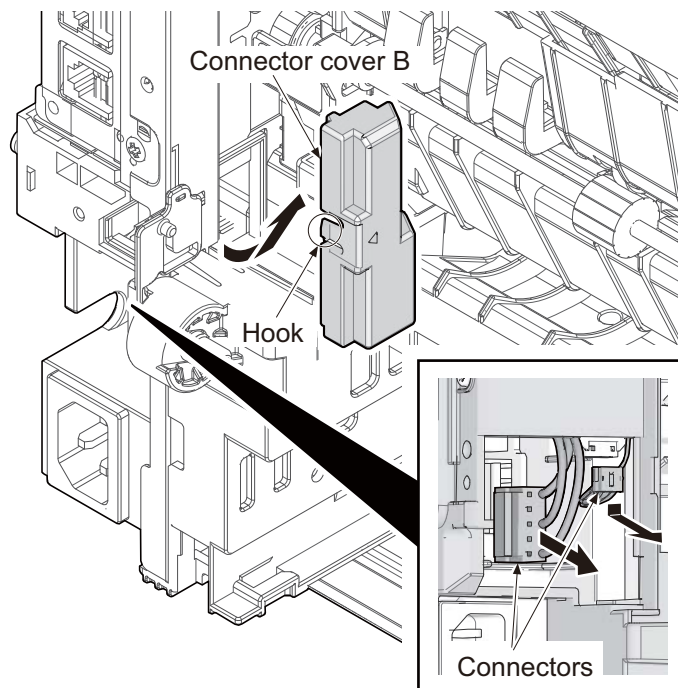
20 Remove six screws.

21 Remove the controller box.

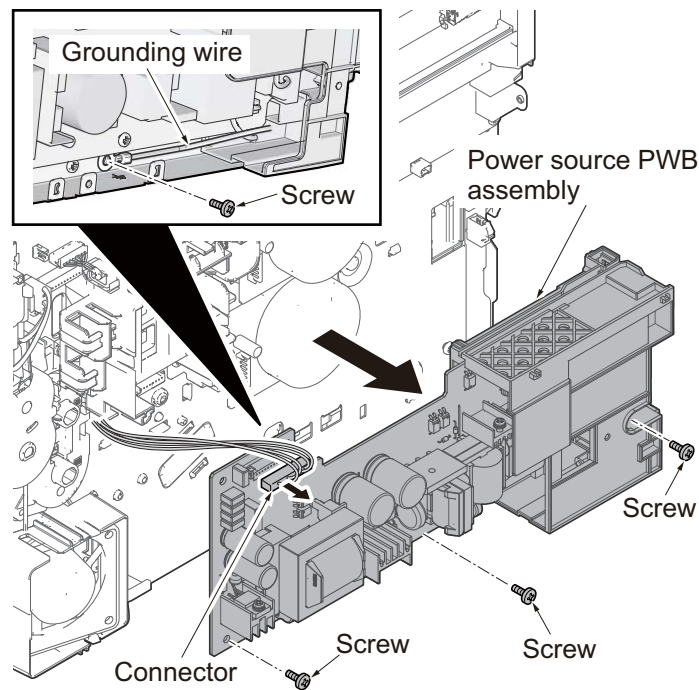


22 Remove the connector cover B by releasing the hook.

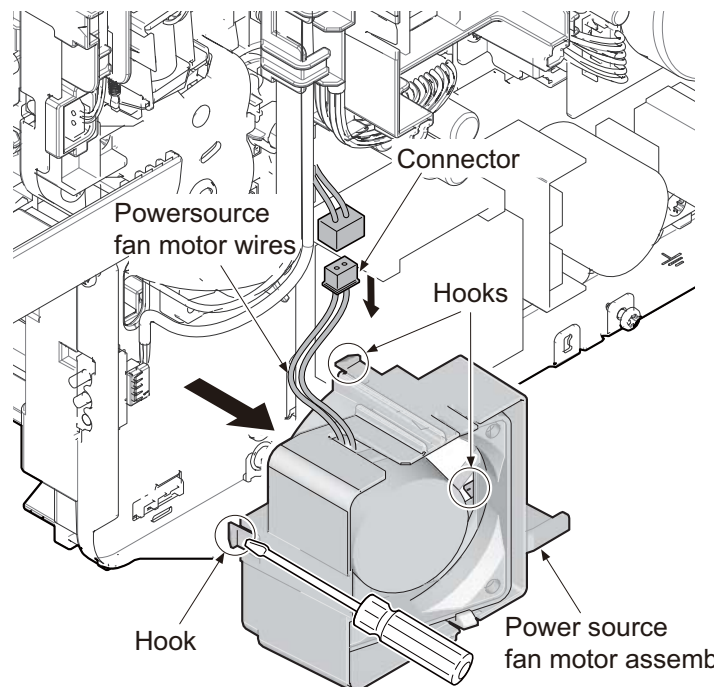
23 Pull two connectors out.



- 24 Remove the grounding wire by removing the screw.
- 25 Remove the connector from the power source PWB.
- 26 Remove three screws and then remove the power source PWB assembly.

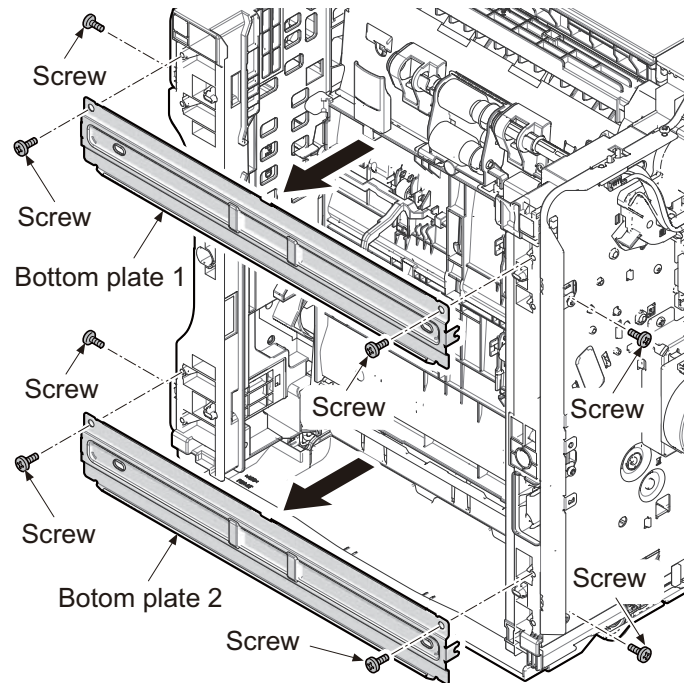


- 27 Disconnect the connector of power source fan motor.
- 28 Release three hooks using a flat screw driver and remove the powersource fan motor assembly.



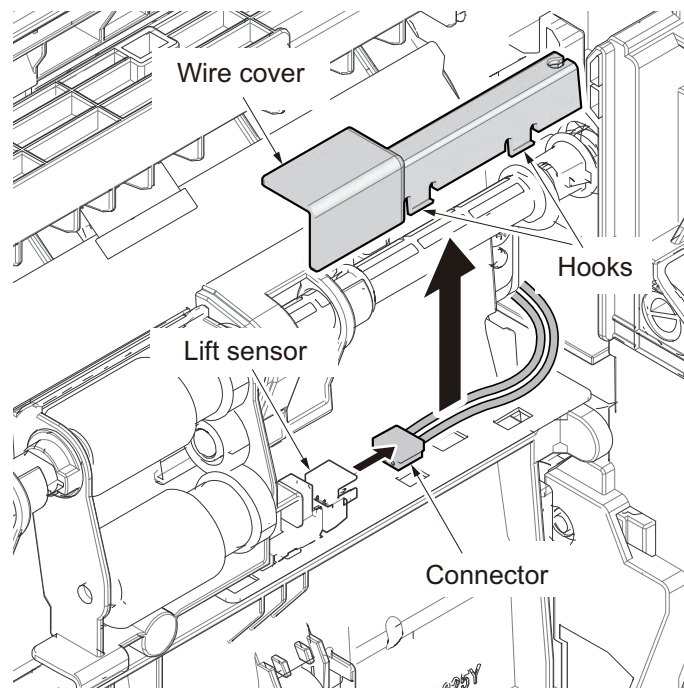
29 Stand the main unit front side up.

30 Remove four screws each and then remove the bottom plate 1 and the bottom plate 2.

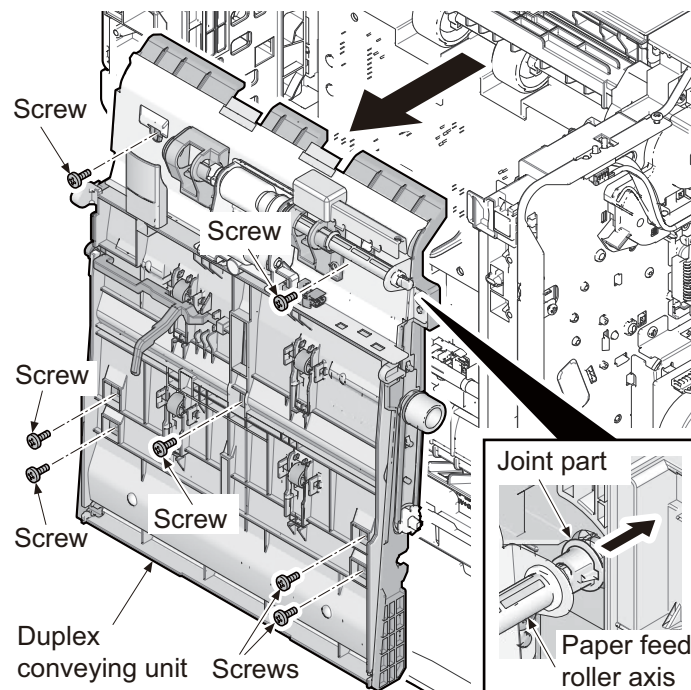


31 (55/60 ppm model only) Release two hooks and then remove the wire cover.

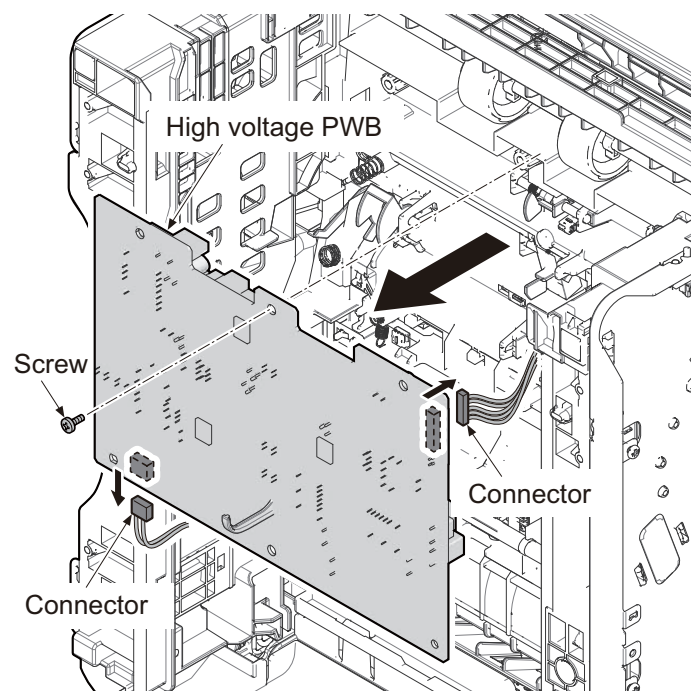
32 (55/60 ppm model only) Pull the connector of lift sensor out.



- 33 Remove seven screws.
- 34 Extract the feed roller axis by pushing the joint part.
- 35 Remove the duplex conveying unit to the front.

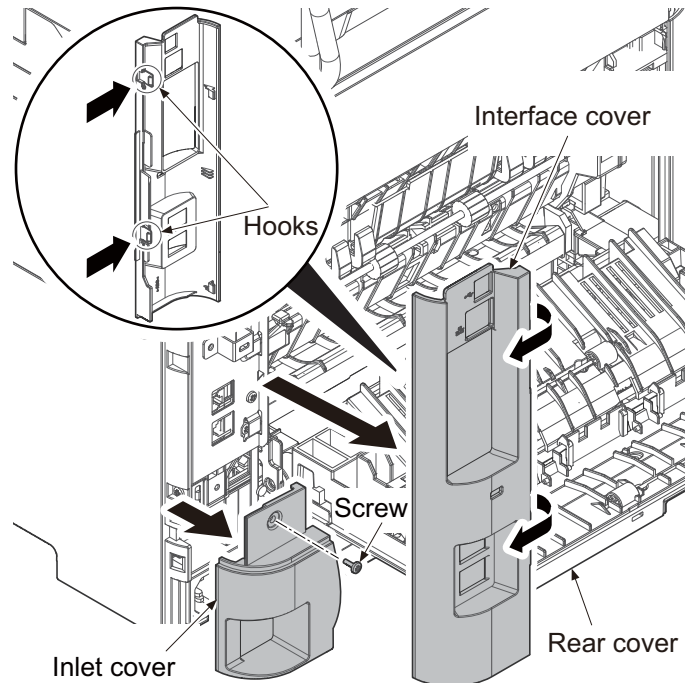


- 36 Remove the screw.
- 37 Pull two connectors out and then remove the high voltage PWB.
- 38 Check or replace the high voltage PWB and refit all the removed parts.

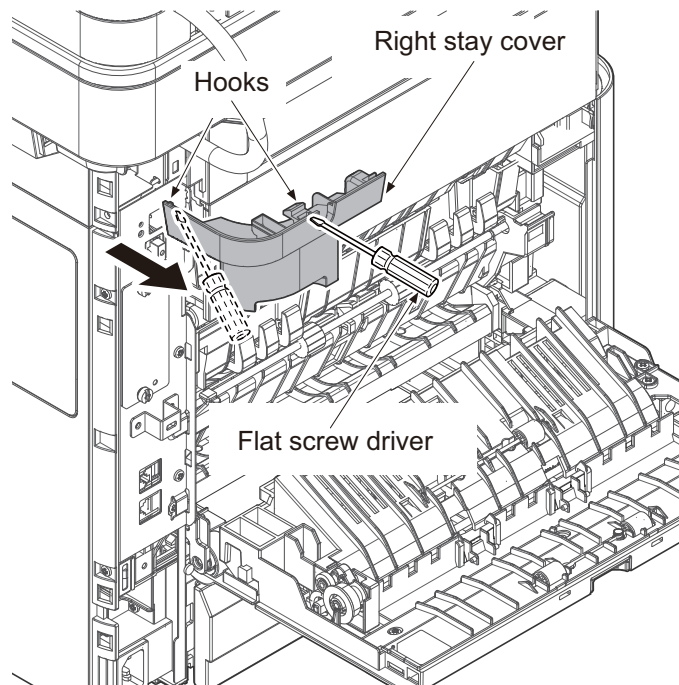


(9-5) Detaching and refitting the power source PWB

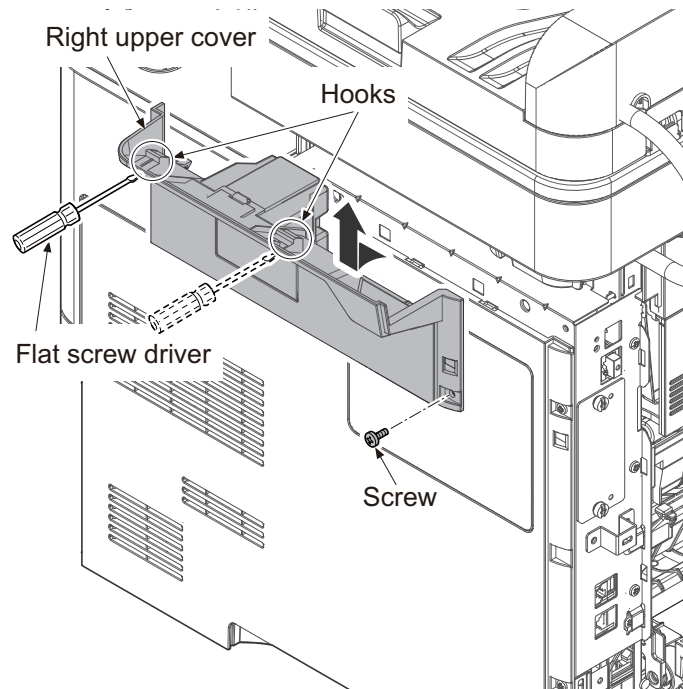
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and then the inlet cover.



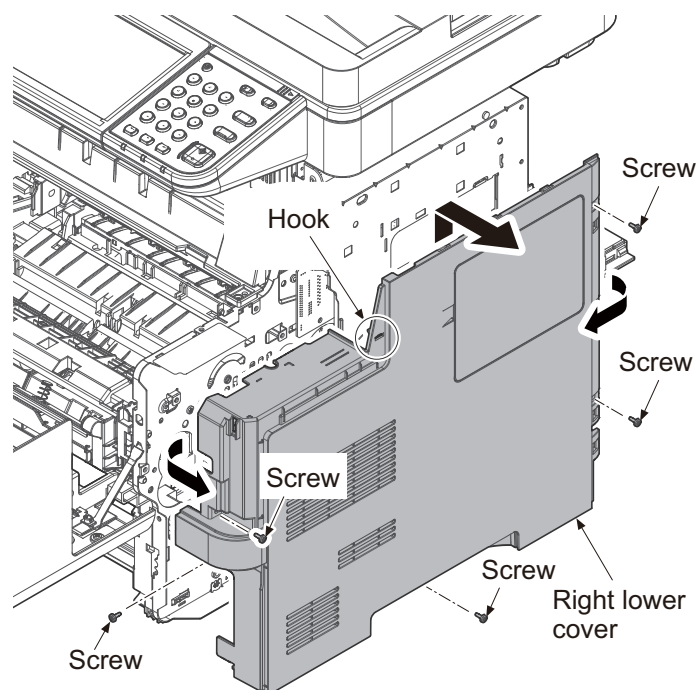
- 4 Release two hooks using a flat screw driver and remove the right stay cover.



- 5 Open the front cover.
- 6 Remove the screw from the right upper cover.
- 7 Release two hooks using a flat screw driver and remove the right upper cover.

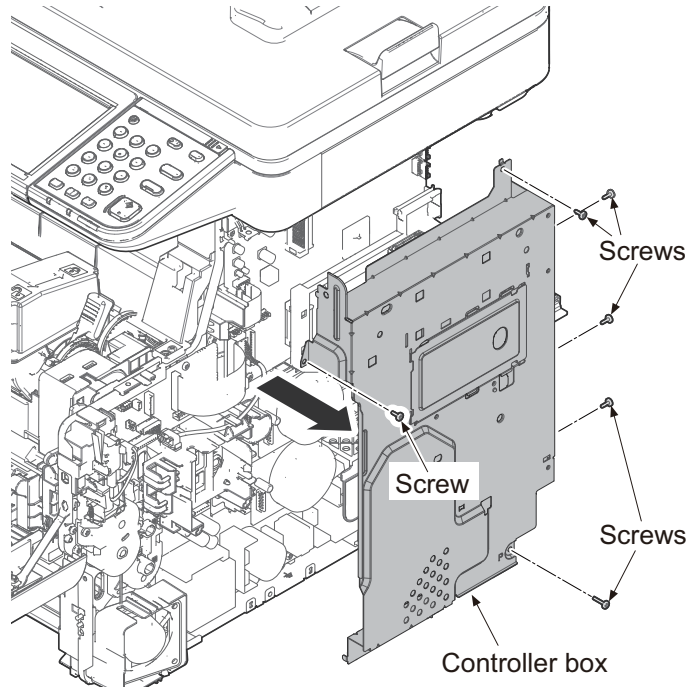


- 8 Pull the cassette out.
- 9 Remove five screws.
- 10 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



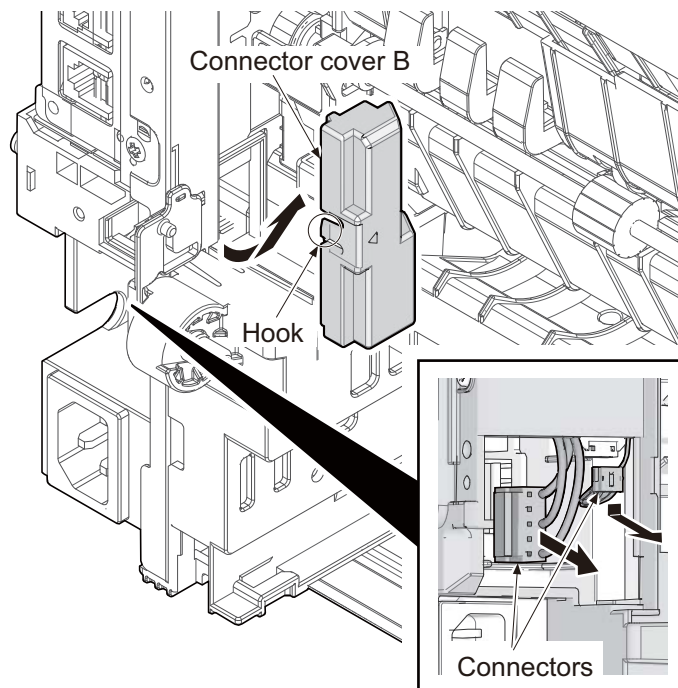
11 Remove six screws.

12 Remove the controller box.

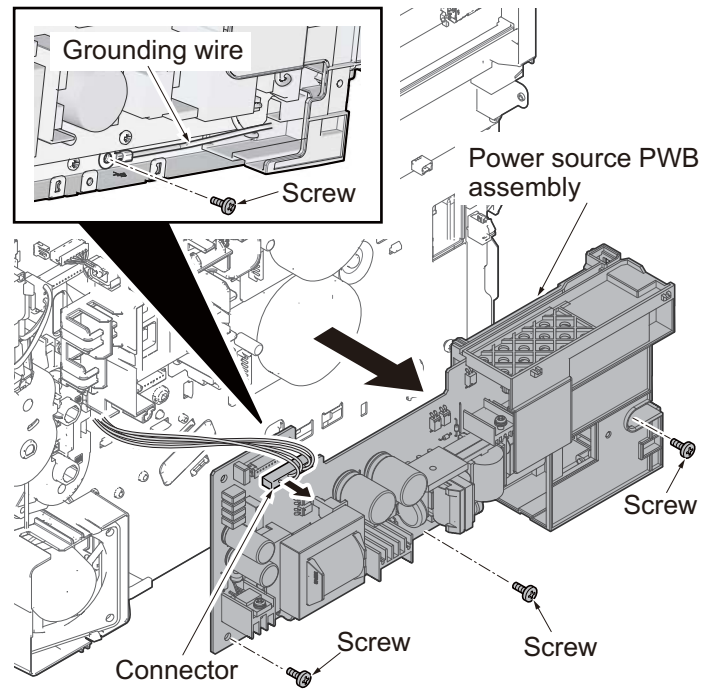


13 Remove the connector cover B by releasing the hook.

14 Pull two connectors out.

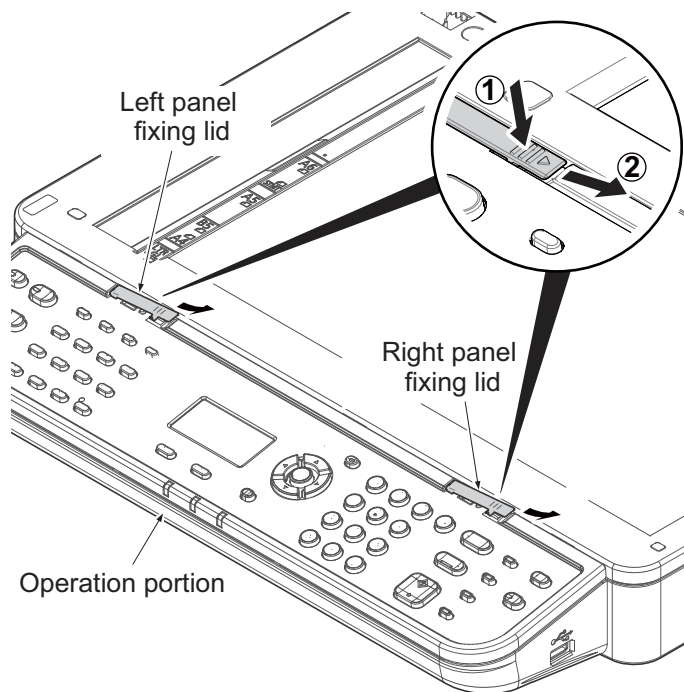


- 15 Remove the grounding wire by removing the screw.
- 16 Remove the connector from the power source PWB.
- 17 Remove three screws and then remove the power source PWB assembly.
- 18 Check or replace the power source PWB and refit all the removed parts.

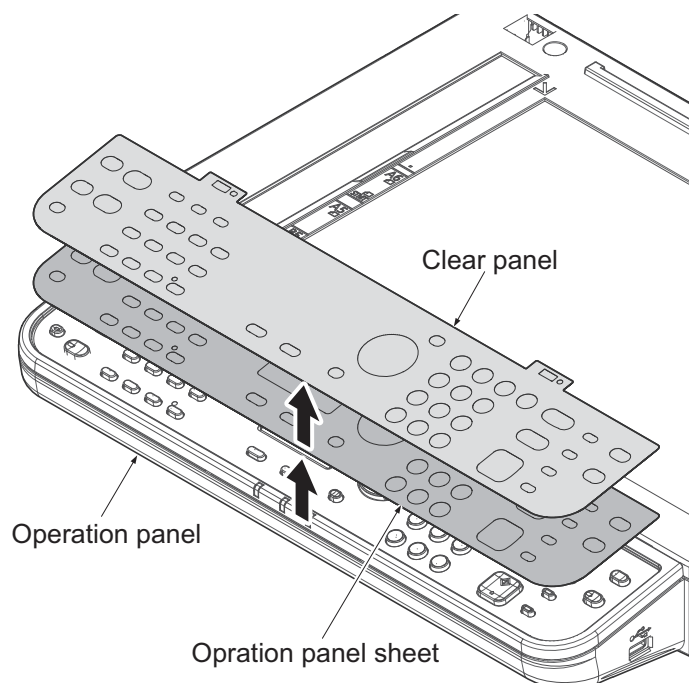


(9-6) Detaching and refitting the operation panel PWB. (5 Line LCD)

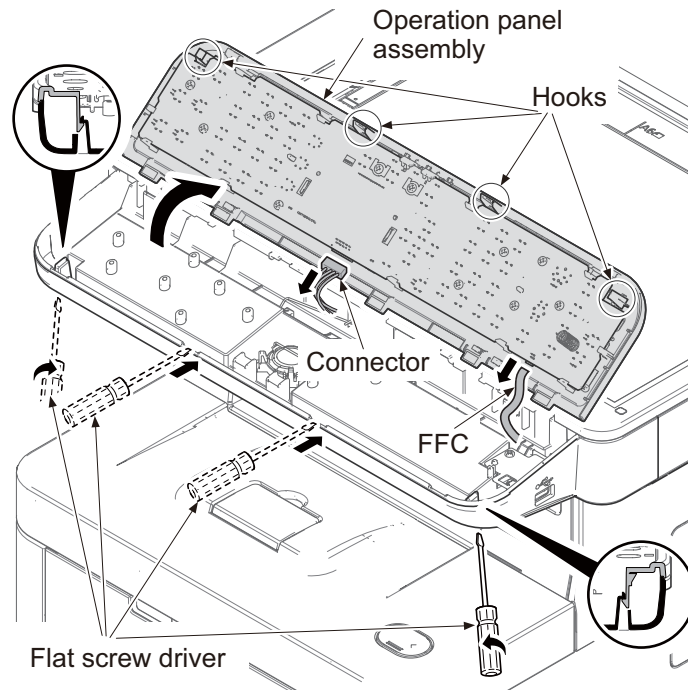
- 1 After lifting the edge of left panel fixing cover and slide in the direction of the arrow.
- 2 Detach the left panel fixing cover from the operation panel.
- 3 In a similar way detach the right panel fixing cover from the operation portion.



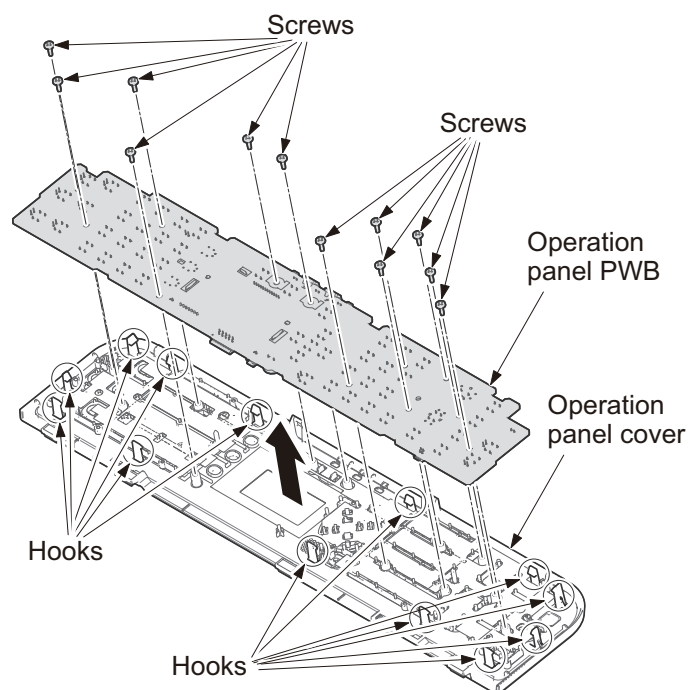
- 4 Detach the clear panel from the operation panel.
- 5 Next remove the operation panel.



- 6 Raise the operation panel assembly by releasing four hooks using a flat screw driver.
- 7 Remove the connector and FFC from the operation panel PWB.

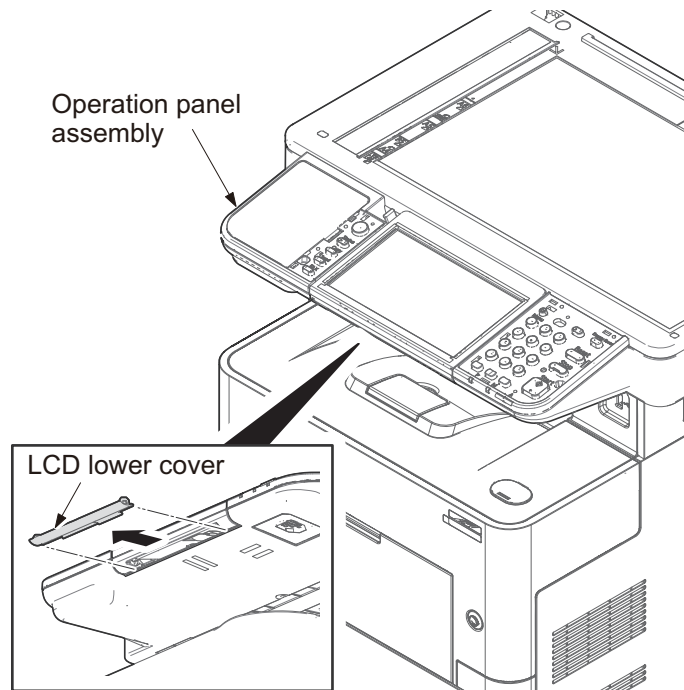


- 8 Remove twelve screws.
- 9 Release thirteen hooks and then remove the operation panel PWB.
- 10 Check or replace the operation panel PWB and refit all the removed parts.
- 11 Be careful not to lose a spring.

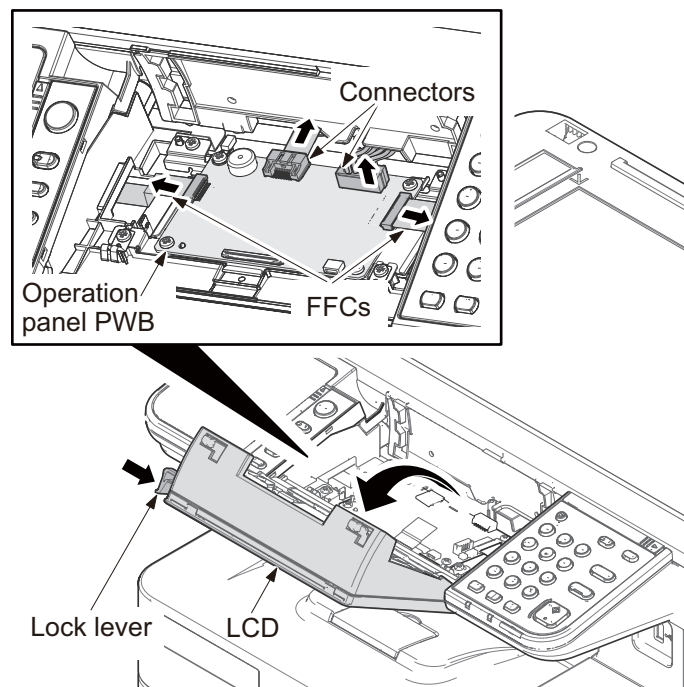


(9-7) Detaching and refitting the operation panel PWB. (7 Inch TSI)

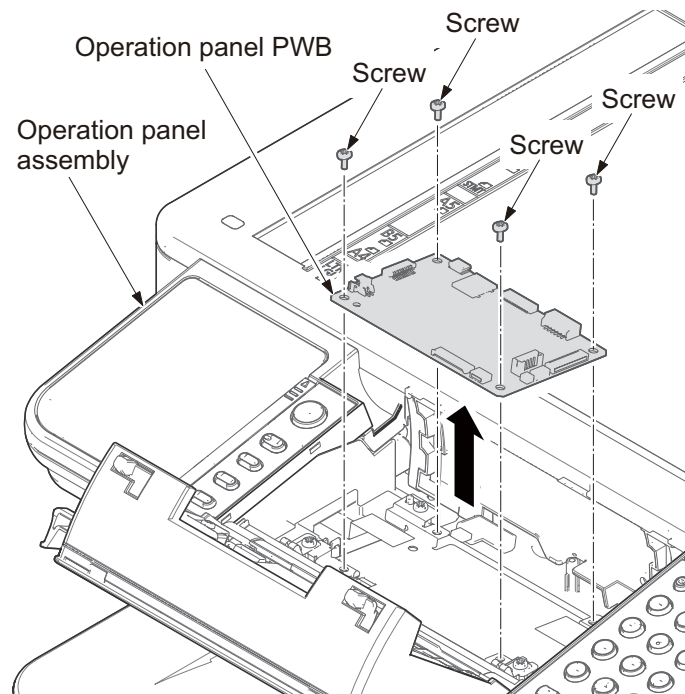
- 1 Remove the LCD lower cover from the operation panel assembly.



- 2 Raise the LCD forward during pushing the lock lever.
- 3 Remove two FFCs and two connectors from the operation panel PWB.

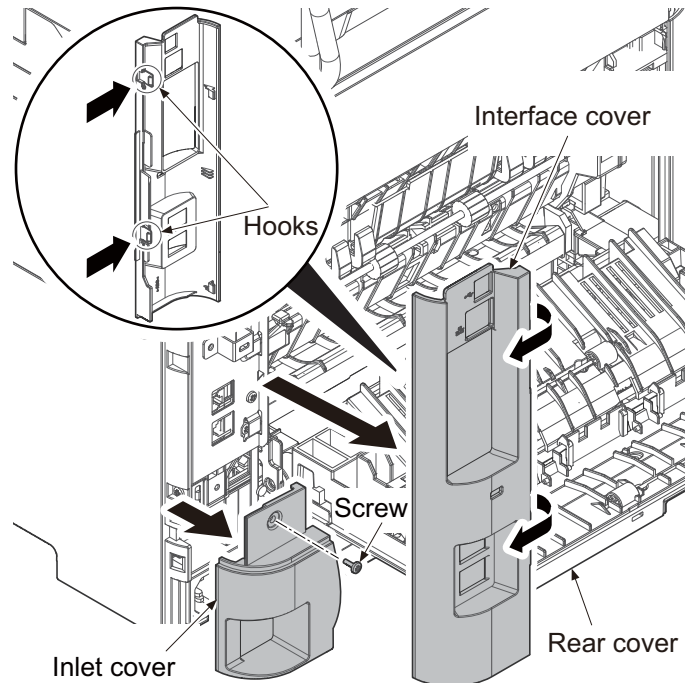


- 4 Remove four screws and the operation panel PWB.
- 5 Check or replace the operation panel PWB and refit all the removed parts.

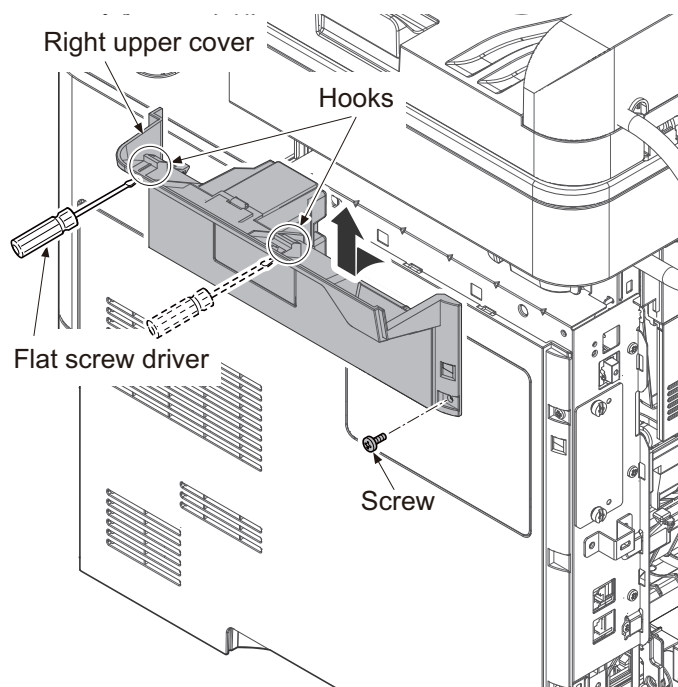


(9-8) Detaching and refitting the FAX assembly (FAX model only)

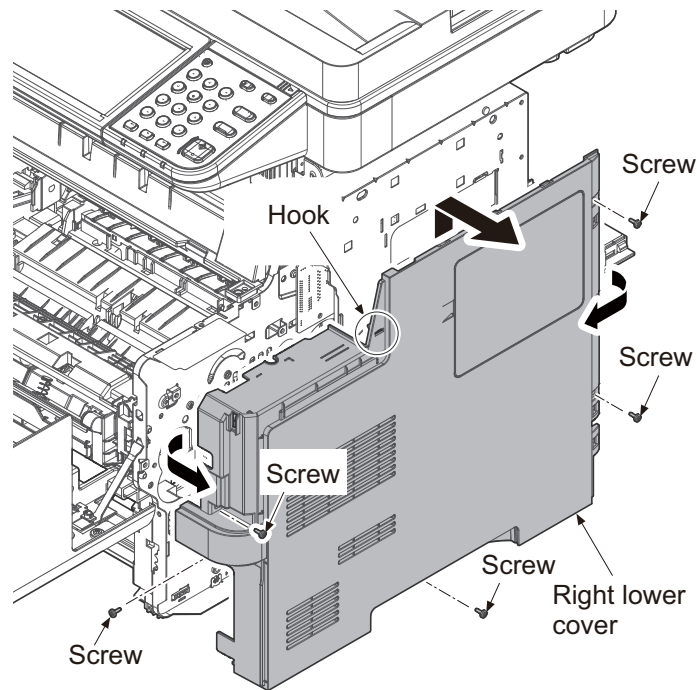
- 1 Open the rear cover.
- 2 Remove the interface cover.
- 3 Remove the screw and the inlet cover.



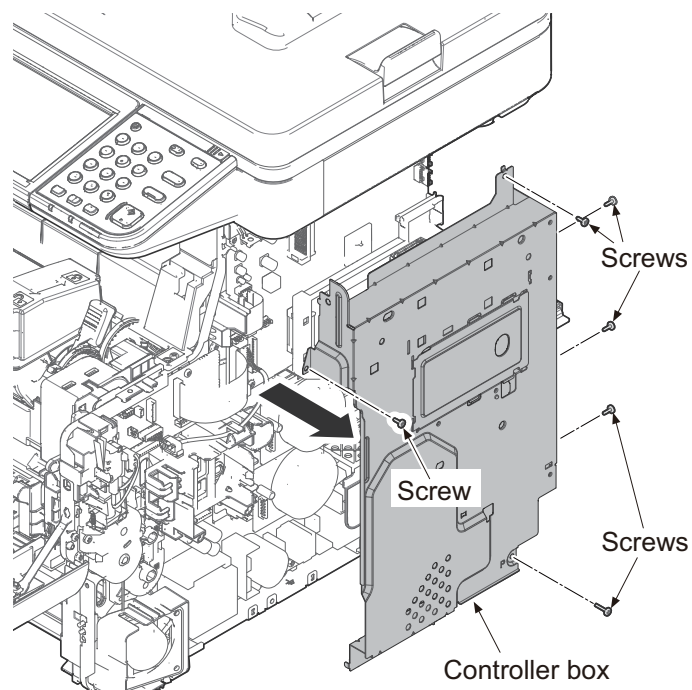
- 4 Open the front cover.
- 5 Remove the screw from the right upper cover.
- 6 Release two hooks using a flat screw driver and remove the right upper cover.



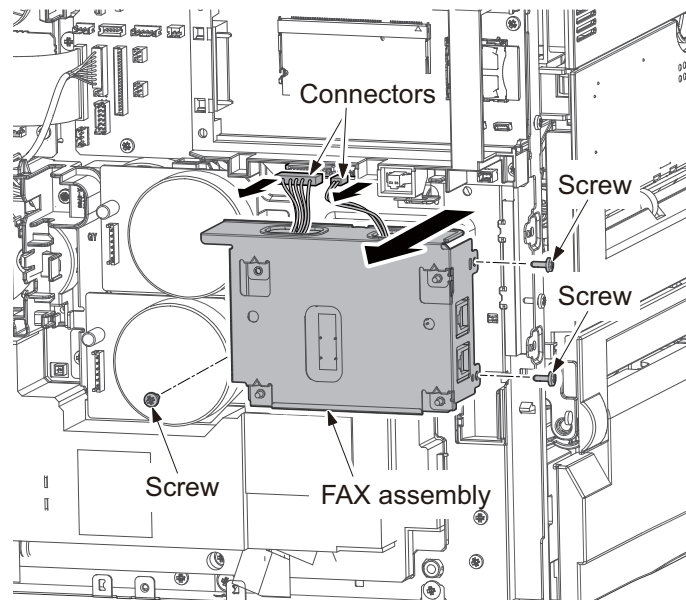
- 7 Pull the cassette out.
- 8 Remove five screws.
- 9 Release the hooks by bending both-side of the right lower cover and then remove it by pulling and lifting up forward.



- 10 Remove six screws.
- 11 Remove the controller box.



- 12 Remove two connectors
- 13 Remove three screws and the FAX assembly.
- 14 Check or replace the FAX assembly and refit all the removed parts.



5 Firmware

5 - 1 Firmware update (7 Inch TSI)

Execute the following to update the firmware below.

- The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

UPDATE step	Target	Master file name	Message
1	Controller firmware	DL_PKG_CTRL.2TA DL_PKG_CTRL.2V2 *1	CPKG
2	Option Language Data	DL_OPT_xx.2TA *2	OPTXX *2
3	Option Language Data (Erase)	DL_OPT_ER.2TA	-
4	Panel data	DL_PANL.2TA	PNL
5	Browser	DL_BRWS.2TA	BLWS
6	OCR data	DL_OCR.2P1	OCR

*1: Without HyPAS/Fax

*2: The numbers 01 to 99 different for each language in xx are inserted.

[GROUP2 UPDATE]: No applicable firmware is available.

[GROUP3 UPDATE]

UPDATE step	Target	Master file name	Message
1	Engine firmware	DL_ENGN.2TA	ENGN
2	Paper feeder	DL_03NY.2LV	PF1 to 4

[GROUP4 UPDATE]

UPDATE step	Target	Master file name	Message
1	Sub panel board data	DL_SPNL.2V1	SPNL

[GROUP5 UPDATE]: No applicable firmware is available.

Verify the signature at firmware update

Verify the signature of the update file to prevent the firmware update with illegally falsified data.

File names of the signature and firmware certificate

Target	Signature file name	Firmware certificate file name
Controller data	2TA_PKG_CTRL_sign.bin 2V2_PKG_CTRL_sign.bin *1	2TA_PKG_CTRL_cert.pem 2V2_PKG_CTRL_cert.pem *1
Option Language Data *1	2TA_OPT_xx_sign.bin *2	2TA_OPT_xx_cert.pem *2
Option Language Data (Erase)	2TA_OPT_ER_sign.bin	2TA_OPT_ER_cert.pem

Target	Signature file name	Firmware certificate file name
Panel data	2TA_PANL_sign.bin	2TA_PANL_cert.pem
Browser data	2TA_BRWS_sign.bin	2TA_BRWS_cert.pem
OCR data	2P1_OCR_sign.bin	2P1_OCR_cert.pem
Enhine board	2TA_ENGN_sign.bin	2TA_ENGN_cert.pem
Paper feeder	2LV_03NY_sign.bin	2LV_03NY_cert.pem
Sub panel board data	2V1_SPNL_sign.bin	2V1_SPNL_cert.pem

*1: Without HyPAS/Fax

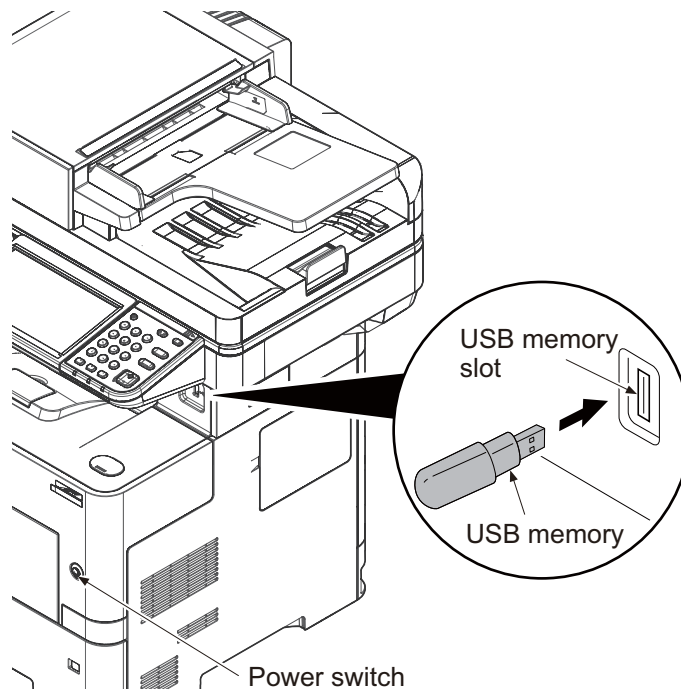
*2: The numbers 01 to 99 different for each language in xx are inserted.

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in [FWUP_02TA] folder *1 or [FWUP_02V2] folder *2 of the root folder of the USB memory.

*1: for 55/60 ppm model, *2: for 45 ppm model

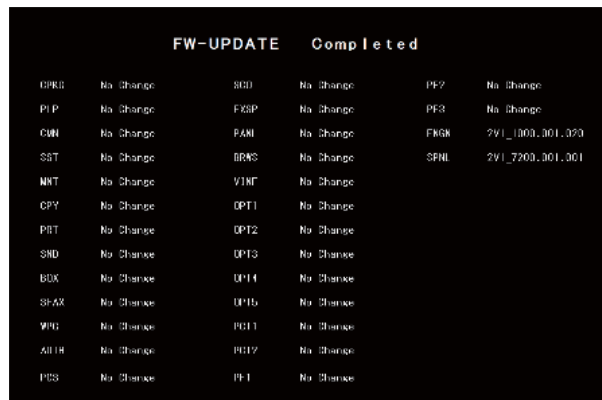
- If the high-speed master file exists, the same version firmware update is skipped.
 - 1 After turning the power switch on and the screen is properly displayed, turn the power switch off.
 - 2 Insert the USB memory with the firmware into the USB memory slot.
 - 3 Turn the power switch on.



- 4 [FW-UPDATE] and the progress indicator are displayed.
- Several kinds of firmware updates are processed simultaneously.



- 5 When [Completed] is displayed, the firmware update is completed.
- 6 Check if the new firmware versions are displayed.



- *: When there is no corresponding master file, "No Change" is displayed.
* is displayed after the firmware version update that has been skipped.
- *: -----is displayed when the FAX PWB, the option equipment, etc. is not installed.

In case of the error completion

In case of occurring the error during the firmware update, interrupt the process immediately, display the error message and the error code.



Error cod

Code	Error contents	Code	Error contents
0000	Others	S000	Other signature verification error *1
0100	No master file name	S001	Official signature verification file is short.
0200	The version discrepancy of master file name	N001	Can not connect to the internet *2 (There is no target under the update.)
03xx *4	There is no download file(No.xx).		
04xx *4	File(No.xx) check sum discrepancy	N002	Can not connect to the internet *3 (There is the target under the update.)
05xx *4	File(No.xx) ready failure		
06xx *4	File(No.xx) size excess		
08xx *4	File(No.xx) writing failure		

*1: It includes the expired FM certificate.

*2: As the normal startup is possible next time, restart automatically and start normally.

*3: As the normal startup is not possible next time, not restart automatically, move to the USB update mode.

*4: The identifier applicable of code XX is as following.

Update target	Code	Identifier
Controller data	01	BOOT
	02	KERNEL
	03	FDTBIN
	04	ROOTFS
	05	APPLI
Panel data	01	BOOT
	02	KERNEL
	03	INTRD
	04	LOGO
	05	APPLI
	06	T.B.D
	07	DIC
	08	BRWS
Optional language data	01	M_OPT_ALL
	02	P_OPT_MSG
Dictionary data	01	DIC
Browser	01	BRWS
Engine PWB	01	ENGN

The code of each master file is "00".

The display of the signature verification result

Official signature verification file	Indicate the result
Both certificate and signature files exist and verification is successful.	Version number

Official signature verification file	Indicate the result
Both certificate and signature files exist but verification is unsuccessful.	S000
Neither certificate nor signature files exist. Or either of them does not exist.	S001

- 7 Unplug the power cord and disconnect the USB memory.
- 8 Plug in the power cord and turn the power switch on.
- 9 Check that the "Home" screen is displayed and then turn the power switch off.

**Caution**

Never turn the power switch off or disconnect the USB memory during the firmware update.

Safe-Update

When the firmware update was interrupted by power shut-off or disconnecting the USB memory during the firmware update, the firmware update is retried at the next power-on.

Turn the main power on again while the USB memory is installed.

- The firmware update that was already completed before power shut-down is skipped.

5 - 2 Firmware update (5 Line LCD)

Execute the following to update the firmware below.

- The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

UPDATE step	Target	Master file name	Message
1	Controller firmware	DL_PKG_CTRL.2TG DL_PKG_CTRL.2TF *1	CPKG
2	Option Language Data	DL_OPT_xx.2TG *2	OPTXX *2
3	Option Language Data (Erase)	DL_OPT_ER.2TG	-

*1: Basic/With Fax only

*2: The numbers 01 to 99 different for each language in xx are inserted.

[GROUP2 UPDATE]: No applicable firmware is available.

[GROUP3 UPDATE]

UPDATE step	Target	Master file name	Message
1	Engine firmware	DL_ENGN.2TA	ENGN
2	Paper feeder	DL_03NY.2LV	PF1 to 4

[GROUP4 UPDATE]: No applicable firmware is available.

[GROUP5 UPDATE]: No applicable firmware is available.

Verify the signature at firmware update

Verify the signature of the update file to prevent the firmware update with illegally falsified data.

File names of the signature and firmware certificate

Target	Signature file name	Firmware certificate file name
Controller data	2TG_PKG_CTRL_sign.bin 2TF_PKG_CTRL_sign.bin *1	2TG_PKG_CTRL_cert.pem 2TF_PKG_CTRL_cert.pem *1
Option Language Data *1	2TG_OPT_xx_sign.bin *2	2TG_OPT_xx_cert.pem *2
Option Language Data (Erase)	2TG_OPT_ER_sign.bin	2TG_OPT_ER_cert.pem
Enhine board	2TA_ENGN_sign.bin	2TA_ENGN_cert.pem
Paper feeder	2LV_03NY_sign.bin	2LV_03NY_cert.pem

*1: Basic/With Fax only

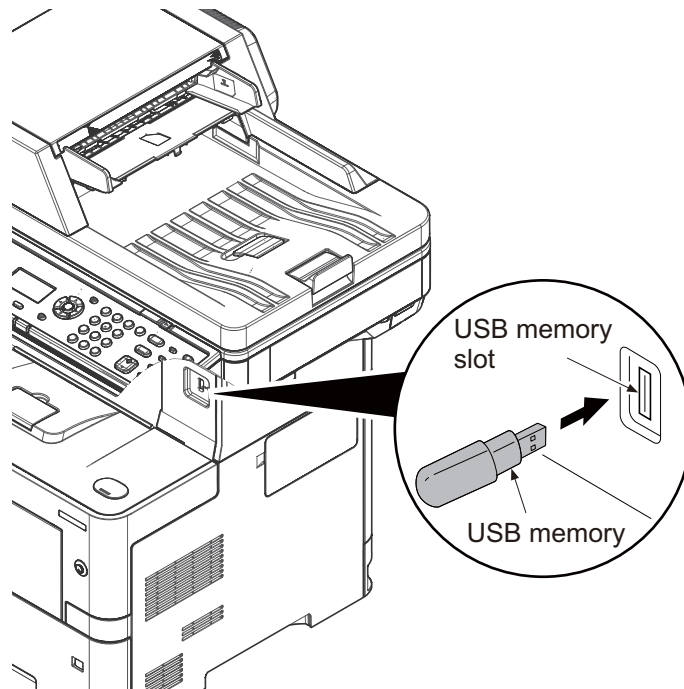
*2: The numbers 01 to 99 different for each language in xx are inserted.

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in [FWUP_02TF] folder *1 or [FWUP_02TG] folder *2 of the root folder of the USB memory.

*1: for without FAX model, *2: for with FAX model

- If the high-speed master file exists, the same version firmware update is skipped.
- 1 After turning the power switch on and the screen is properly displayed, turn the power switch off.
 - 2 Insert the USB memory with the firmware into the USB memory slot.
 - 3 Turn the power switch on.
 - 4 [FW-UPDATE] and the progress indicator are displayed.
- Several kinds of firmware updates are processed simultaneously.



- 5 While the firmware is updated, the target name and the progress status are expressed by the progress bar.

(Display sample)

The first line: Display "FW-Update"

The second line: The progress bar is indicated the update progress status.



- 6 When the firmware update completes normally, the completion message is displayed in the first page, the character string subject to update and the updated version is displayed in the second and subsequent page.

(The first page)

The first line: "FW-Update"

FW-Update	1/10 ▾
Completed	

Display the page number, total page numbers and up and down key icon.

The second line: "Completed" (Completion message)

(The second and subsequent page)

The first line: "CTRL", (The character string applicable to UPDATE target)

[CTRL]	2/10 ⇅
2TG_2000.001.005	

Display the page number, total page numbers and up and down key icon.

The second line: (updated version)

- When there is no corresponding master file, "No Change" is displayed.

[ENGN]	9/10 ▲
No Change	

- "*" is displayed after the update target name when it has been skipped.

[CTRL] *	2/10 ⇅
2TG_2000.001.005	

- 7 Check if the new firmware versions are displayed.
- 8 Unplug the power cord and disconnect the USB memory.
- 9 Insert the power cord, check if " Can make a copy" is displayed and turn the power switch off.

When any errors (the error that can not read a file) occurs during FW-UPDATE, interrupt the process immediately, and the completion displays without the subsequent FW-UPDATE.

(The first page)

The first line: "FW-Update"

FW-Update	1/10 ▾
Error	

Display the page number, total page numbers and up and down key icon.

The second line: "Error"

(The second and subsequent page)

The first line: "ENGN", (The character string applicable to UPDATE target)

[ENGN]	10/10 ▲
Error	0100

Display the page number, total page numbers and up and down key icon.

The second line: "Error", error code

Error code

Code	Error contents	Code	Error contents
0000	Others	S000	Other signature verification error *1
0100	No master file name	S001	Official signature verification file is short.
0200	The version discrepancy of master file name	N001	Can not connect to the internet *2 (There is no target under the update.)
03xx *4	There is no download file(No.xx).		
04xx *4	File(No.xx) check sum discrepancy	N002	Can not connect to the internet *3 (There is the target under the update.)
05xx *4	File(No.xx) ready failure		
06xx *4	File(No.xx) size excess		
08xx *4	File(No.xx) writing failure		

*1: It includes the expired FM certificate.

*2: As the normal startup is possible next time, restart automatically and start normally.

*3: As the normal startup is not possible next time, not restart automatically, move to the USB update mode.

*4: The identifier applicable of code XX is as following.

Update target	Code	Identifier
Controller data	01	BOOT
	02	KERNEL
	03	FDTBIN
	04	ROOTFS
	05	APPLI
Optional language data	01	M_OPT_ALL
Engine PWB	01	ENGN

The display of the signature verification result

Official signature verification file	Indicate the result
Both certificate and signature files exist and verification is successful.	Version number
Both certificate and signature files exist but verification is unsuccessful.	S000
Neither certificate nor signature files exist. Or either of them does not exist.	S001

10 Unplug the power cord and disconnect the USB memory.

11 Plug in the power cord and turn the power switch on.

12 Check that the "Home" screen is displayed and then turn the power switch off.



Caution

Never turn the power switch off or disconnect the USB memory during the firmware update.

Safe-Update

When the firmware update was interrupted by power shut-off or disconnecting the USB memory during the firmware update, the firmware update is retried at the next power-on.

Turn the main power on again while the USB memory is installed.

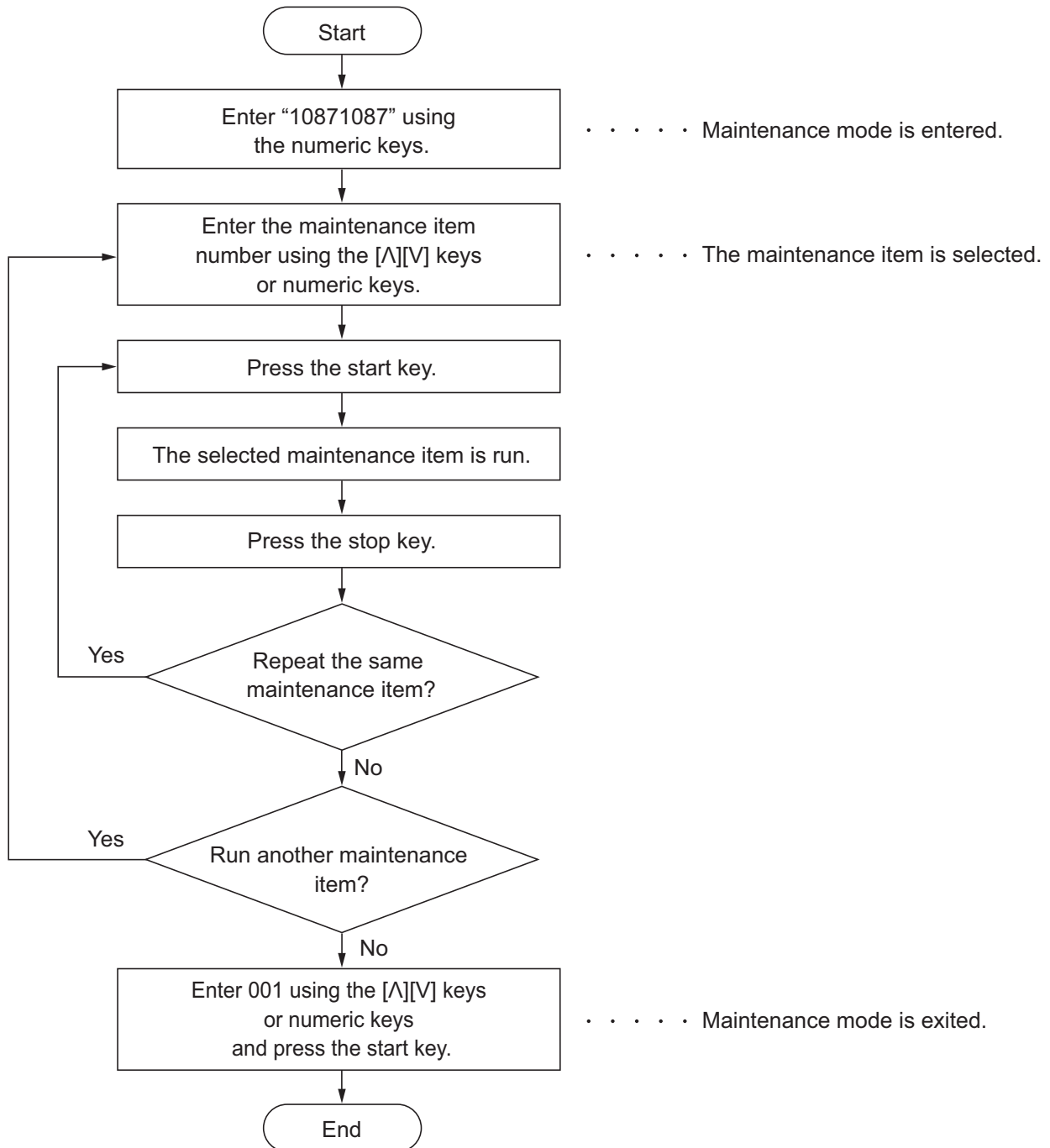
- The firmware update that was already completed before power shut-down is skipped.

6 Maintenance mode

6 - 1 Maintenance mode

This model is equipped with the service mode for the main unit maintenance and correction.

(1) Executing the maintenance mode



Operational caution

There is a difference of a way of selecting each item by operational section type(7 Inch TSI or 5 Line LCD mode). Read "Select xxx item" in each procedure as follows.

7 Inch TSI model: Touching the item on the screen and select it.

5 Line LCD model: Using the [^] or [V] key, select the item.

(In order to move to the adjustment screen, Press the [OK] key or [START] key.)

(2) Maintenance modes list

Section	No.	Maintenance item	Outline
General	U000	Printing Maintenance Report	Printing the reports and exporting them to a USB memory
	U001	Exit Mainte	Exiting from the maintenance mode
	U002	Set Factory Def	Restore machine to shipping status
	U004	Machine Number	Display of the machine serial number and setting
	U010	Set Mainte ID	Setting the maintenance mode ID
	U019	Firm Version	Displays the firmware version of the PWB
Initializatio	U021	Init memory	Initializing the backup RAM
	U025	Firm Update(S)	Updates the firmware
Drive Paper feed Conveying Cooling	U034	Adj Paper Timing	Adjusting the leading edge timing and the center line
	U037	Fan motor operation check	Drive each fan motor.
Optical	U065	Adj Scn	Adjusting the magnification for table scanning
	U066	Table Timing	Adjusting the leading edge timing for table scanning
	U067	Table Center	Adjusting the center line for table scanning
	U068	DP Scn Start Pos	Adjusting the starting position for DP scanning
	U070	Adj DP Motor	Adjusting the magnification for DP scanning
	U071	DP Timing	Adjusting the DP scanning timing
	U072	DP Center	Adjusting the center line for DP scanning
	U091	Set White Line Correction	Set the white lines detection threshold
High voltage system	U110	Drum counter	Displays/sets the drum counter
	U111	Drum drive time	Display the drum drive time that is used for the high-voltage time correction
	U117	Drum unit number	Displays the drum number
Developer system	U130	Set Toner Install	Installation of a toner is performed.
	U135	Checking the toner motor operation	Drive the toner motor
	U136	Toner level detection setting	Sets the number of pages printable at toner near end
	U147	Set Toner Apply	Sets the overcharge toner removal mode
	U157	Developer drive time	Displays/sets the developer drive time
	U158	Developer counter	Displays/sets the developer counter
Fuser	U198	Fuser phase control setting	Switch the stationary phase control
Operation section / Support equipment	U201	Init Touch Panel	Correct the X and Y axis position of the touch panel
	U203	Chk DP Ope	Checking the DP paper conveying operation with the DP alone
	U207	Chk Panel Key	(For HyPAS model) Check the operation panel key operation
	U207	Chk Panel Key	(For Basic model) Check the operation panel key operation
	U222	Set IC Card Type	Sets the ID card type
Mode Setting	U250	Mnt Cnt Pre-set	Changes the preset value
	U251	Clr Mnt Cnt	Displaying/clearing/changing the counter value
	U252	Set Dest	Sets the machine operation and indication depending on the specification of the destination
	U253	Sel D/S Count	Sets the counter by color mode
	U260	Set Count Mode	Setting the count-up timing
	U265	Set Model Dest	Sets the OEM code
	U271	Setting the page count unit	Set the counting unit of the long size paper

Section	No.	Maintenance item	Outline
Mode Setting	U278	Delivery date setting	Register Delivery Date
	U285	Set Service Status Page	Setting the print coverage report output
	U287	Automatic recovery function	Sets whether to automatically recover after error
	U290	Application storage drive setting	Set the HyPAS application storage drive.
	U326	Black line cleaning display setting	Switch the black line cleaning guidance indication
	U332	Adj Calc Rate	Setting the coefficient of the custom size
	U339	Chk Drum Heater	Set the drum heater
	U345	Set Mnt Time Disp	Setting the maintenance timing display
	U346	Slct Sleep Mode	Setting the BAM related sleep mode
Image processing	U402	Adjust Margin	Adjusts the scan image margins
	U403	Scan Margin Tbl	Adjusts the margin for scanning originals
	U404	Scan Margin DP	Adjusts the margin for scanning originals
	U411	Auto Adj Scn	Adjusting the scanner and DP automatically
	U425	Set Target	Inputs the Lab value printed on an adjustment original
	U460	Adj conveying	Correct threshold of multi feed detection
Network	U520	Set TDRS	Checking/setting the TDRS
FAX	U600	Init All Data	Initializes all data and image memory.
	U601	Init Keep Data	Initializing the software switches of other than the machine data
	U603	User Data 1	Makes user settings to enable the use as a FAX
	U604	User Data 2	Makes user settings to enable the use as a FAX
	U605	Clr Data	Initializing the FAX communication data
	U610	System Setting 1	Set the number of lines to be ignored when receiving a FAX at 100% magnification and in the auto reduction mode.
	U611	System Setting 2	Number of adjustment lines for automatic reduction.
	U612	System Setting 3	Setting regarding the FAX communication operation
	U620	FAX System	Sets the signal detection method for remote switching
	U625	Set Comm	Sets the auto redialing interval and the number of times of auto redialing
	U630	Comm Ctrl 1	Setting the FAX communication
	U631	Comm Ctrl 2	Sets the FAX communication
	U632	Comm Ctrl 3	Setting the FAX communication
	U633	Comm Ctrl 4	Setting the FAX communication
	U634	Comm Ctrl 5	Set the acceptable error when judging the received TCF signal
	U640	Comm Time 1	Setting the detection time by remote switching mode
	U641	Comm Time 2	Sets the time-out time for the fax communication
	U650	Modem 1	Sets the G3 transmission cable equalizer
	U651	Modem 2	Sets the modem output level
	U660	Set Calls	Setting the NCU (network control unit)
	U670	Output List	Outputting the list of the fax communication data
	U695	Custom FAX Func	FAX batch transmission is set up.
	U699	Set Soft SW	Sets the software switches individually
Others	U901	Clr Paper FD Cnt	Displays/clears the counters by paper source
	U903	Clearing the jam counter	Displays/clears number of occurrence by jam trigger code
	U904	Clearing the service call error counter	Displays/clears the service call error and system error counts
	U905	Optional counter	Displaying the optional count
	U906	Resetting the partial operation	Reset the partial operation
	U908	Total counter	Displays the total count
	U910	Clr Coverage Dat	Clearing the print coverage data and its period

Section	No.	Maintenance item	Outline
Others	U911	Counter by media type	Displays/clears the counts by media type
	U917	Read/Write Backup Data	Reading/writing the backup data to a USB memory
	U920	Chg Cnt	Displays the billing count
	U927	Clr Chg/Life Cnt	Clearing the billing count and machine life count
	U928	Life Cnt	Displays the machine life count
	U964	(none)	Transfer the log files save in the SSD to a USB memory.
	U969	Toner Area Code	The area code for toner container discernment set up for every machine is referred to.
	U977	Data capture mode	Stores the data sent to the main unit into a USB memory
	U991	Scanner counter	Displays the scanner count

(3) Contents of the maintenance mode items

U000 **Printing Maintenance Report****Contents**

Prints the list of the current settings of the maintenance items, paper jam and service call error occurrences. Output the event log and service status page. Also, sends output data to a USB memory.

Purpose

Checks the current settings of the maintenance items, paper jam and service call error occurrences. Before initializing or replacing the backup memory, print the list of the current settings of the maintenance items to reenter the settings after initialization or replacement.

Method

- 1 Press the [Start] key.
- 2 Select the item to output.

Items	Output list
Maintenance	Maintenance mode setting list
User Status	Output User Status Page
Svc Status	Output Service Status Page
Event	Output the event log report
NW Status	Output Network Status Page
Fax Sys Conf *1	Prints the list of local telephone number, confidential boxes and firmware versions.
Fax Act List *1	Prints the list of the error logs and communication lines.
Fax Self Sts *1	Maintenance mode setting, Fax communication setting output
Fax Pcl List *1	Outputs a list of communication procedures.
Fax Err List *1	Output the error list.
LLU Report	Output LLU report
All	All reports output

*1: FAX installation only

- 3 Press the [Start] key to output the list.
 - If A4 paper is available, it is output with this size. If A4 paper is unavailable, select the paper source. Output status is displayed.

Method: when sending output data to a USB memory

- 1 Press the [Start] key.
- 2 Insert a USB memory into the USB memory slot.
- 3 Select the item to send.
- 4 Select [USB(Text)] or [USB(HTML)].

Items	Output list
Print	A report is printed.
USB(Text)	Destination: send to USB memory (text format)
USB(HTML)	Destination: send to USB memory (HTML format)

- 5 Press the [Start] key.
The output data is sent to the USB memory.

**Note**

LLU Report can not save USB memory.

Completion

- 1 Press the [Stop] key.
The screen for selecting a maintenance item No. is displayed.

Detail of event log

Event Log



MFP
ECOSYS 3660idn

XXXXXXXXXXXXXXXXXX

(2) 2017/03/19 15:15

(1) Firmware version 2TA_2000.001.133 2017.02.02

[XXXXXXXX] [XXXXXXXX] [XXXXXXXX]

(3) (4) (5)

(6) Machine No.:Z2C5Y00100

(7) Life Count:100000

(8) Paper Jam Log

#	Count.	Event Descriptions	Date and Time
12	5555555	0501.01.08.01.00	2014/02/12 17:30
11	4444444	4002.01.08.01.00	2014/02/12 17:30
10	3333333	0501.01.08.01.00	2014/02/12 17:30
9	2222222	4002.01.08.01.00	2014/02/12 17:30
8	1111111	0501.01.08.01.00	2014/02/12 17:30
7	9999999	4002.01.08.01.00	2014/02/12 17:30
6	8888888	0501.01.08.01.00	2014/02/12 17:30
5	7777777	0501.01.08.01.00	2014/02/12 17:30
4	6666666	0501.01.08.01.00	2014/02/12 17:30
3	5555555	0501.01.08.01.00	2014/02/12 17:30
2	4444444	0501.01.08.01.00	2014/02/12 17:30
1	1	4002.01.08.01.00	2014/02/12 17:30

0501.01.08.01.00
(a) (b) (c) (d) (e)

(10) Maintenance Log

#	Count.	Item.	Data and Time
2	444444	02.01	2014/02/12 17:30
1	222222	02.02	2014/02/12 17:30

(9) Service Call Log

#	Count.	Service Code	Data and Time
8	1111111	01.00.6000	2014/02/12 17:30
7	9999999	01.01.2100	2014/02/12 17:30
6	8888888	01.01.0000	2014/02/12 17:30
5	7777777	01.00.6000	2014/02/12 17:30
4	6666666	01.00.2100	2014/02/12 17:30
3	5555555	01.01.4000	2014/02/12 17:30
2	4444444	01.00.6000	2014/02/12 17:30
1	1	01.00.2100	2014/02/12 17:30

(11) Unknown toner Log

#	Count.	Item.	Serial Number	Data and Time
5	1111111	01.00	0123456789ABCDEF	2014/02/12 17:30
4	9999999	01.00	0123456789ABCDEF	2014/02/12 17:30
3	8888888	01.00	0123456789ABCDEF	2014/02/12 17:30
2	7777777	01.00	0123456789ABCDEF	2014/02/12 17:30
1	6666666	01.00	0123456789ABCDEF	2014/02/12 17:30

Event Log

MFP
ECOSYS 3660idn

Firmware version 2TA_2000.001.133 2017.02.02



XXXXXXXXXXXXXXXXXXXX

2017/03/19 15:15

[XXXXXXXXXX] [XXXXXXXXXX] [XXXXXXXXXX]

Machine No.:Z2C5Y00100

Life Count:100000

(12) Counter Log

(f) J0000:	0	J4302:	0
J0100:	1	J4303:	1
J0101:	11	J4304:	11
J0104:	222	J4309:	2
J0105:	1	J9000:	1
J0106:	1	J9004:	0
J0107:	1	J9010:	1
J0110:	1	J9060:	1
J0111:	1	J9061:	2
J0211:	1	J9062:	1
J0212:	1	J9110:	1
J0213:	999	J9120:	0
J0501:	1	J9200:	1
J0502:	1	J9210:	1
J0503:	1	J9220:	2
J0504:	1		
J0508:	1	(g) C0000:	0
J0509:	1	C0001:	1
J0511:	1	C0002:	2
J0512:	1	C0003:	3
J0513:	1	C0004:	4
J0514:	1	C0005:	5
J0518:	1	C0006:	6
J0519:	1	C0007:	7
J1403:	1	C0008:	8
J1404:	1	C0009:	9
J1413:	1	C0010:	10
J1414:	1	CF245:	11(0)
J1604:	1	CF248:	12(0)
J1614:	1	CF345:	13(0)
J4002:	1	(h) T00:	10
J4003:	1	M00:	20
J4004:	1	M01:	30
J4009:	1		
J4012:	1		
J4013:	1		
J4014:	1		
J4019:	1		
J4201:	1		
J4202:	0		
J4203:	1		
J4204:	1		
J4208:	0		
J4209:	1		
J4211:	11		
J4212:	222		
J4213:	1		
J4214:	2		
J4218:	1		

Description of event log

No.	Contents			
(1)	System version			
(2)	System date			
(3)	Enginee firmware version			
(4)	Enginee boot version			
(5)	Operation panel firmware version			
(6)	Machine serial number			
(7)	Life counter			
(8)	Paper Jam Log			
#	Count.	Event Descriptions	Date and Time	
Remembers 1 to 16 of occurrence. If the past paper jam occurrence is less than 16, all of them are indicated. The oldest log is deleted when exceeding 16 events.	The total page count at the time of a paper jam.	Log code (5 types in hexadecimal) (a) Cause of paper jam (b) Paper source (c) Paper size (d) Paper type (e) Paper eject	Date and time of occurrence	
(a) Detail of Cause of paper jam (Hexadecimal)				
Refer to "7-3 Paper Misfeed Detection",for the detail of Cause of paper jam. (See page 7-46)				
(b) Detail of paper source (Hexadecimal)				
00: MP tray 01: Cassette 1 02: Cassette 2 (paper feeder) 03: Cassette 3 (paper feeder) 04: Cassette 4 (paper feeder) 05 to 09: Reserved				
(c) Detail of paper size (Hexadecimal)				
00: Not specified 01: Monarch 02: Business 03: International DL 04: International C5 05: Executive 06: Letter-R 86: Letter-E 07: Legal 08: A4R 88: A4E 09: B5R 89: B5E 0A: A3	0B: B4 0C: Ledger 0D: A5R 8D: A5E 0E: A6 0F: B6 10: Commercial #9 11: Commercial #6 12: ISO B5 13: Custom size 1E: C4 1F: Hagaki 20: Oufuku Hagaki 21: Oficio II	22: Special 1 24: Special 2 24: A3 Wide 25: Ledger Wide 26: Full bleed paper(12 x 8) 27: 8K 28: 16K-R A8: 16K-E 32: Statement-R B2: Statement-E 33: Folio 34: Youkei type 2 35: Youkei type 4		

No.	Contents			
(8) cont.	Paper Jam Log			
	(d) Detail of paper type (Hexadecimal)			
01: Plain 02: Transparency 03: Preprinted 04: Labels 05: Bond 06: Recycled 07: Vellum 08: Rough 09: Letterhead	0A: Color 0B: Prepunched 0C: Envelope 0D: Cardstock 0E: Coated 0F: 2nd side 10: Media 16 11: High quality 12: INDEX	15: Custom 1 16: Custom 2 14: Custom 3 18: Custom 4 19: Custom 5 1A: Custom 6 1B: Custom 7 1C: Custom 8		
(9)	Service Call Log			
	#	Count.	Service Code	Date and Time
Remembers 1 to 8 th of occurrence of self diagnostics error. If the occurrence of the previous self-diagnostic error is 8 or less, all of the diagnostics errors are logged.	The total page count at the time of the self diagnostic error.	The first two digits (identification) 01: Service call / System error 02: Unit replacement Next two digits (Auto reboot information) 00: Without auto reboot 01: Auto reboot execution Last four digits Self diagnostic error code (See page 7-61) (Example) 01.00.6000 01 indicates Self diagnostic error, 00 without auto beboot and 6000 Self diagnostic error code. U287 sets the auto reboot function	Date and time of occurrence	
(10)	Maintenance Log			
	#	Count.	item	Date and Time
Remembers 1 to 8 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 8, all of the unknown toner detection are logged.	Total page count at the time of the replacement of the maintenance item. The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted.	Maintenance item code (1-byte value to indicate 2 items) First byte (Replacing item) 02: Maintenance kit Second 1 byte (replacement item type) 01: MK-3060/3262/3264 02: MK-3140/MK-5200	Date and time of occurrence	

No.	Contents			
(11)	Toner Log			
	#	Count.	Item. Serial Number	Date and Time
	Remembers 1 to 32 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 32, all of the unknown toner detection are logged.	The total page count at the time of the request of toner container replacement.	log code First 1byte(Replacing item) 01: Genuine product 02: Non-genuine product Next 1byte (type of replacement item) 00: Black Last 16 digits Displays the serial number of the toner container.	Date and time of occurrence
(12)	Counter Log			
	(f) Paper jam	(g) Self diagnostic error	(h) Maintenance replacement item	
	Indicates the log counter of paper jams depending on location. Refer to Paper Jam Log. All instances including those not having occurred are displayed.	Indicates the log counter of self diagnostics errors depending on cause. The number of auto reboot is also displayed at the service call/system error. (Example) CF245: 4(2) System Error 245 occurred last four times and then executed the auto reboot twice.	Indicates the log counter depending on the maintenance replacing item. T: Toner container 00: Black M: Maintenance kit 01: MK-3060/3262/3264 02: MK-3140/MK-5200 Example: T00: 1 The toner container (Black) has been replaced once. The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted.	Counter Log Consist of three log counters of paper jams, self diagnostics errors, and maintenance replacement items.

Detail of service status page

Service Status Page

MFP
ECOSYS 3660idn



(2) ZKG6400006

(3) 01/08/2016 14:30

(4)(5) [2.1.6] [2TA_F000.001.008]

(1) Firmware Version 2TA_Q000.001.146 2016.08.01

(6)(7)(8) [2TA_1000.001.020] [2TA_1100.001.001] [2TA_7000.001.216]

Controller Information

Memory Status

Standard Size 1.0 GB

Option Slot 0 MB

(9) Total Size 1.0 GB

Time

(10) Local Time Zone

GMT Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London

(11) Date and Time 04/08/2016 01:46

(12) Time Server

Installed Options

(13) Paper Feeder 1 Cassette (500 x 1)
 (14) Paper Feeder 2 Cassette (500 x 1)
 (15) Paper Feeder 3 Cassette (500 x 1)
 (16) Paper Feeder 4 Cassette (500 x 1)
 (17) SD Card Not Installed
 (18) SSD Not Installed
 (19) Card Authentication Kit (B) Not Installed
 (20) Data Security Kit (E) Not Installed
 (21) UG-33 Not Installed
 (22) USB Keyboard Not Connected
 (23) USB Keyboard Type US-English

(24) **Print Coverage**

Average (%)	/ Usage Page(A4/Letter Conversion)
(25) Total	K: 0.00 / 0.00
(26) Copy	K: 0.00 / 0.00
(27) Printer	K: 0.00 / 0.00
(28) FAX	K: 0.00 / 0.00
(29) Period	(- 04/08/2016 01:46)
(30) Last Page (%)	0.00
(31) Last Job (%)	0.00

(32) FRPO Status

Reserved	B0	00
Default Pattern Switch	B8	00
Page Orientation	C1	00
Default Font Number	C5*10000+C2*100+C3	00000
Reserved	C6	00
PCL Font Switch	C8	00
Print density	D4	03
Reserved	D6	03
Host Buffer Size	H8	05
FF Time Out	H9	06
Reserved	I5	01
Reserved	I6	00
Zoom	J0	00
Text wrap mode	J7	00
Horizontal user offset	K0+K1/100	0.00
Vertical user offset	K2+K3/100	0.00
Default KANJI number	K4	00
KANJI code switch	K6	00
Reserved	K9	00
KIR Mode	N0	02
Duplex mode	N4	00
Sleep Timer	N5	120

EcoPrint Mode	N6	00
Reserved	N7	00
Print Resolution	N8	01
Default Emulation	P1	06
CR/LF Action	P2/P3	1/1
AES Mode	P4	00
AES Option 1/2	P7	10
Command Recognition	P9	82
Default Paper Output	R0	01
Default Paper Size	R2	00
Reserved	R3	00
Default Paper Source	R4	01
Override A4/LT	S4	01
Host Buffer Size Rate	S5	01
RAM Disk Size	S6	128
RAM Disk Mode	S7	01
Wide A4	T6	00
Default Line Spacing	U0+U1/100	6.00
Default Character Spacing	U2+U3/100	10.00
Reserved U4 01		
Country Code/Symbol Set	U6/U7	41/53
Default Pitch	U8+U9/100	10.00
Default Font Height	V0*100+V1+V2/100	12.00
Default Font Name	V3	Courier
Default KANJI Font Size	V4*100+V5+V6/100	10.00
Default KANJI Font Name	V7	MTHSMINCHO-W3
Courier/LetterGothic	V9	05
MP Tray Paper Type	X0	01
Cassette 1 Paper Type	X1	01
Cassette 2 Paper Type	X2	01
Cassette 3 Paper Type	X3	01
PCL Paper Source	X9	00
Auto Error Clear	Y0	00
Error Clear Timer	Y1	06
Finishing error	Y3	127
Special Type Act Mode	Y4	00
PDF mode	Y5	00
e-MPS error control	Y6	03

RP Code

(33) 0008 01E2 3177
 (34) 0008 027A C873
 (35) FFFF FFFF FFFF
 (36) 0008 01E2 31F5

Service Status Page

MFP
ECOSYS 3660idn



ZKG6400006

01/08/2016 14:30

[2.1.6] [2TA_F000.001.008]

Firmware Version 2TA_Q000.001.146 2016.08.01

[2TA_1000.001.020] [2TA_1100.001.001] [2TA_7000.001.216]

Controller Information

Print Settings

(37) MP Tray Priority Off

(38) Altitude Adjustment

Status Normal

(39) System Firmware(Details)

2P1_Q000.001.146
2P1_QA00.001.146
2P1_R000.001.146
2P1_R100.001.146
2P1_R200.001.146
2P1_R300.001.146
2P1_R400.001.146
2P1_R500.001.146
2P1_R600.001.146
2P1_R700.001.146
2P1_R800.001.146
2P1_R900.001.146
2P1_RB00.001.146
2P1_RD00.001.146
2P1_S100.001.146

Engine Information

(40) NVRAM Version _Cb26630_Cb26630

(41) FAX Slot1

FAX BOOT Version 2GR_5000.001.001

FAX APL Version 2GR_5100.001.001

FAX IPL Version 2GR_5200.001.001

(42) MAC Address 00:17:C8:16:84:04

(43) DP Counters
Total 0

Service Status Page

MFP
ECOSYS 3660idn



ZKG6400006

01/08/2016 14:30

[2.1.6] [2TA_F000.001.008]

(1) Firmware Version 2TA_Q000.001.146 2016.08.01

[2TA_1000.001.020] [2TA_1100.001.001] [2TA_7000.001.216]

```
(44)(45) 1/1
(46) 600/600
(47) 0/0/0/0/0/
(48) 0/0/0/0/0/
(49) 0/50/0/50/
(50) 0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000/
(51) 0000000//0000000/0000000//0000000/
(52) 0000000/
F00/U00/0/1/1/1/25/25/50/0/0/0/0/0/5/2/0/1/ (53)(54)(55)(56)(57)(58)(59)(60)(61)(62)(63)(64)(65)(66)(67)(68)(69)(70)(71)
(72) 2010/9000/4010/5000/3010/2010/4000/4010/3010/2010/5000/6000/
5010/2010/2010/2010/2010/2010/2010/2010/2010/2010/
(73) 00000000/00000000/0000000000000000000000000000000000000000000000000000/0000/00/00
(74)(75) /0/
(76) [3NN_9000.002.001]
(77) [2P1_81DK.001.003][2P1_81SE.001.003][2P1_81NO.001.003][2P1_81BR.001.003][2P1_81TR.001.003]
(78) 0258000000/0258000000/0000-----/-----/-----00/000000002E/C3694B6-----/-----/-----0000000/
0-----/-----/-----/-----0/0000000-----/-----/-----/-----00A00A8/
C00360000-/-----/-----/-----/-----/-----0000000/0-----/-----/-----00000/000-----/
---96AF961/43C14-----/---000493E/0-----0/0000000000/249F0000249F0000249F/0000000000-/-----000/0000000000/
0000000000/000000000-/0202-----/-----/-----/-----/-----/-----/-----/
-----/-----/-----/-----/-----/-----/-----000/000000
(79) 0/
(80)(81) -/-/
(82)(83) 0/5/
(84) 1/
1/0/1/ (85)(86)(87)
(88) EZJ00Z400033/
(89) EZK00Z400016/
```

No.	Items	Contents
(1)	Firmware Version	-
(2)	Machine serial number	-
(3)	System date	-
(4)	API version of the HyPAS application	-
(5)	Browser version	-
(6)	Enginee firmware version	-
(7)	Enginee boot version	-
(8)	Operation panel firmware version	-
(9)	Total memory size	-
(10)	Local time zone	-
(11)	Report output date	Day/Month/Year hour: minute
(12)	NTP server name	-
(13)	Whether the paper feeder 1 is installed or not	Cassette(500 sheets×1) / Not Installed
(14)	Whether the paper feeder 2 is installed or not	Cassette(500 sheets×1) / Not Installed
(15)	Whether the paper feeder 3 is installed or not	Cassette(500 sheets×1) / Not Installed
(16)	Whether the paper feeder 4 is installed or not	Cassette(500 sheets×1) / Not Installed
(17)	Availability of the SD memory card	Installed/Not Installed
(18)	Whether the SSD	Installed/Not Installed
(19)	Availability of the ID Card Authentication Kit	Introduced/ before introduction/trial
(20)	Availability of the Security Kit(E)	Installed/Not Installed
(21)	Availability of UG-33	Introduced/ before introduction/trial
(22)	USB keyboard connection status	Connected/Not connected
(23)	Type of the USB keyboard	US-English/US-English with Euro symbol/German/French
(24)	Page count converted to the A4/Letter size	Print Coverage provides a close-matching reference of toner consumption and will not match the actual toner consumption.
(25)	Entire average coverage	Black
(26)	Average coverage for copy	Black
(27)	Average printer coverage	Black/
(28)	Average coverage for FAX	Black
(29)	Cleared date and output date	-
(30)	Coverage on the last output page	-
(31)	Last job coverage information	-
(32)	FRPO setting	-

No.	Items	Contents
(33)	RP code	Coding the Enginee firmware version and the date of the previous update.
(34)	RP code	Code the main software version and the date of the latest update.
(35)	RP code	Coding the Enginee firmware version and the date of the previous update.
(36)	RP code	Code the main software version and the date of the previous update.
(37)	MP tray priority setting	Off : No setting Auto : Auto paper feed Always : All times
(38)	High altitude adjustment set data	Normal/1001-2000m/2001-3000m/3001-3500m
(39)	System Firmware (detail)	-
(40)	NVRAM version	_ 1F3 1225 _ 1F3 1225 (a)(b)(c)(d)(e)(f) (a) Consistency of the current firmware version and the database _ (underscore): OK * (Asterisk): NG (b) Database version (c) The oldest time stamp of database version (d) Consistency of the present software version and the ME firmware version _ (underscore): OK * (Asterisk): NG (e) ME firmware version (f) The oldest time stamp of the ME firmware version Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).
(41)	FAX firmware version	-
(42)	Mac address	-
(43)	DP counter	The number of times of DP feeding
(44)	Destination information	-
(45)	Area information	-
(46)	Margin setting	Top margin/Left margin
(47)	Top offset	-
(48)	Left offset	-
(49)	L parameters	Top margin integer part/Top margin decimal part/Left margin integer part /Left margin decimal part
(50)	Life counter (1st stage)	Machine life/MP tray/Cassette/Paper feeder 1/Paper feeder 2/Paper feeder 3/Paper feeder 4/Duplex
(51)	Life counter (2nd stage)	Drum unit/Transfer unit/MC roller/Fuser unit
(52)	Life counter (3rd stage)	Maintenance kits

No.	Items	Contents
(53)	Panel lock information	F00: OFF F01: Partial lock1 F02: Partial lock2 F03: Partial lock3 F04: Full lock
(54)	USB information	U00: Not Connected U01: Full speed U02: Hi speed
(55)	Paper handling information	0: Paper source select 1: Paper source fixed
(56)	Auto cassette change	0: OFF 1: ON (Default)
(57)	Black and white printing double count mode	0: All single counts 1: A3 (Less than 420 mm length), Single counts 2: Legal (Less than 356mm length), Single counts 3: Folio (Less than 330 mm length), Single counts
(58)	Billing counts timing	0: When secondary paper feed starts 1: When completing output
(59)	Temperature (machine inside)	-
(60)	Temperature (machine outside)	-
(61)	Relative humidity (machine outside)	-
(62)	Absolute humidity (machine outside)	-
(63)	Machine inside humidity	-
(64)	LSU1 humidity information	-
(65)	LSU2 humidity information	-
(66)	DRT information	-
(67)	Asset Number	-
(68)	Job end judgment time-out time	-
(69)	Job end detection mode	0: Detects as one job, even if contained multiple jobs 1: Detects as individual job, dividing multiple jobs at a break in job
(70)	Prescribe environment reset	0: Off 1: On
(71)	Scan to SMB mode setting	0: Off 1: On
(72)	Media type attributes 1 to 28 (Not used: 18, 19, 20) For details on settings, refer to MDAT command in "Prescribe Commands Reference Manual".	Weight settings Fuser settings 0: Light 0: High 1: Normal 1 1: Middle 2: Normal 2 2: Low 3: Normal 3 3: Vellum 4: Heavy 1 5: Heavy 2 Duplex settings 6: Heavy 3 0: Disable 7: Heavy 4 1: Enable 8: Heavy 5 9: Extra Heavy

No.	Items	Contents
(73)	RFID information	-
(74)	RFID reader/writer version	-
(75)	Toner install mode information	0: Off 1: On
(76)	Cassette2 software version	-
(77)	Option message version	-
(78)	Maintenance information	-
(79)	MC correction	1 to 7
(80)	Low coverage setting	0.1 to 100.0
(81)	Middle coverage setting	0.1 to 100.0
(82)	Toner low setting	0: Disabled 1: Enabled
(83)	Toner low detection level	0 to 100 (%)
(84)	Shift regulation for a single original	0: disable (shift regulation off) 1: enable (shift regulation on)
(85)	ErP applied mode setting	0: ErP non-applied mode 1: ErP applied mode
(86)	Full-page print mode	0: Normal mode (Factory setting) 1: Full-page mode
(87)	Wake-up mode	0: Off (Don't wake up) 1: On (Do wake up)
(88)	Drum serial number	-
(89)	Developer serial number	-

U001	Exit Mainte
------	-------------

Contents

Exits the maintenance mode and returns to the normal copy mode.

Purpose

To exit the maintenance mode.

Method

- 1 Press the [Start] key.
 - The normal copy mode is entered.

U002	Set Factory Def
------	-----------------

Contents

Restore machine to shipping status.

Purpose

To move the mirror frame of the scanner to the position for transport.

Method

- 1 Press the [Start] key.
- 2 Select [Mode1(All)].
- 3 Press the [Start] key.
 - It brings near by a left end so that the carriage of Scanner can be fixed.

Items	Contents
Mode1(All)	Sets the machine initial setting values to the factory default

- 4 Press the [Start] key.
 - An error code is displayed in case of the initialization error.
When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U002.
Wait more than 5 seconds between the power off and on.

Error codes

Codes	Contents
0002	Setting information initialization failure
0003	Address book information initialization failure
0004	Job accounting information initialization failure
0005	Event log/Fax log/Job log information initialization failure
0006	Fax memory forward/panel program information initialization failure
0007	Short-cut key information initialization failure
0008	Fax reserve information initialization failure
0009	Account information initialization failure
0010	RP code backup execution failure
0011	Event log counter information/Accounting/Maintenance category initialization failure
0012	Coverage counter information initialization failure
0013	Life counter information initialization failure
0014	Enginee information initialization failure
0015	Scanner information initialization failure
0016	Log audit (inspection log) initialization failure
0017	Device information initialization failure
0018	Device information initialization failure

- The operation is terminated abnormally and it is necessary to execute it once more after turning the power off.

U004	Machine Number
------	----------------

Contents

Sets or displays the machine serial number.

Purpose

Checks the machine serial number

After the main/Enginee PWB replacement, execute if the "C0180 machine number mismatch" occurs.

Method

- 1 Press the [Start] key.

If the machine serial number of engine PWB matches with that of main PWB.

Items	Contents
Machine No.	Displays the machine serial number.

If the machine serial number of engine PWB does not match with that of main PWB.

Items	Contents
Machine No.(Main)	Displays the machine serial number in the main PWB.
Machine No.(Eng)	Displays the machine serial number in the Enginee PWB.

If the machine serial number of engine PWB does not match with serial number of engine sub PWB.

Items	Contents
Machine No.(Eng)	Displays the machine serial number of engine.

Setting

Carry out if the machine serial number does not match.

- 1 Select [Execute].
- 2 Press the [Start] key. Writing of serial No. starts.
- 3 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U010	Set Mainte ID
------	---------------

Contents

Sets the maintenance mode ID.

Purpose

Modify maintenance mode ID for more security.

Method

- 1 Press the [Start] key.
- 2 Select [Change] or [Initialize].

Items	Contents
Change	Changes the maintenance mode ID at the market.
Initialize	Initializes the maintenance mode ID at the market.

Setting: Change

- 1 Select [New ID].
- 2 Enter a new 8-digit ID on ten keys (0 – 9, *, #). * and # are mandatory to contain.
- 3 Select [New ID(Reconfirm)].
- 4 Enter a new 8-digit ID on ten keys (0 – 9, *, #).
- 5 Select [Execute].
- 6 Press the [Start] key. The setting is set.

Items	Contents
New ID	Enter a new 8-digit ID
New ID(Reconfirm)	Enter a new 8-digit ID (to confirm)
Execute	Changes the maintenance mode ID

Method: Initialize

- 1 Select [Initialize].
- 2 Press the [Start] key. ID is initialized.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U019	Firm Version
------	--------------

Contents

Displays the part number of the ROM fitted to each board.

Purpose

To check the part number or to decide, if the newest version of ROM is installed.

Method

- 1 Press the [Start] key. The ROM version are displayed.
- 2 Change the screen using the [Λ] [V] keys.

Items	Contents
Controller	Main firmware
CNM App	CMN App firmware
SST App	SST App firmware
MNT App	MNT App firmware
CPY App	CPY App firmware
PRT App	PRT App firmware
SND App	SND App firmware
BOX App	BOX App firmware
FAX App *1	FAX App firmware
WPG App	WPG App firmware
AUTH App	AUTH App firmware
PCS App	PCS App firmware
SCO App	SCO App firmware
PLP	PLP firmware
EXSP	EXSP firmware
Version Info	Version Info firmware
MMI	Panel firmware
Browser *4	Browser firmware
Option Language1	Option Language1 firmware
Option Language2	Option Language2 firmware
Option Language3	Option Language3 firmware
Option Language4	Option Language4 firmware
Option Language5	Option Language5 firmware
OCR *2	OCR firmware
Sub MMI *4	Panel firmware
Sub MMI Boot *4	Panel boot
Engine	Engine firmware
Engine Boot	Engine boot
DP SSW	DP SSW
Cass2 *3	Cassette2 firmware

Items	Contents
Cass2 Boot *3	Cassette2 boot
Cass3 *3	Cassette3 firmware
Cass3 Boot *3	Cassette3 boot
Cass4 *3	Cassette4 firmware
Cass4 Boot *3	Cassette4 boot
Cass5 *3	Cassette5 firmware
Cass5 Boot *3	Cassette5 boot
HyPAS EMB API *4	HyPAS EMB API firmware
Application Name1 *4	Application1 firmware
Application Name2 *4	Application2 firmware
Application Name3 *4	Application3 firmware
Application Name4 *4	Application4 firmware
Application Name5 *4	Application5 firmware
Application Name6 *4	Application6 firmware
Application Name7 *4	Application7 firmware
Application Name8 *4	Application8 firmware
Application Name9 *4	Application9 firmware
Application Name10 *4	Application10 firmware
Application Name11 *4	Application11 firmware
Application Name12 *4	Application12 firmware
Application Name13 *4	Application13 firmware
Application Name14 *4	Application14 firmware
Application Name15 *4	Application15 firmware
Application Name16 *4	Application16 firmware

*1:FAX model only, *2:OCR model only, *3:PF model only,

*4: Only when HyPAS application is installed

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U021	Init memory
------	-------------

Contents

Initializes all settings, except those pertinent to the type of machine, namely each counter, service call history and mode setting. Also initializes backup RAM according to region specification selected in maintenance item U252 Setting the destination.

Purpose

To return the machine settings to their factory default.

Method

- 1 Press the [Start] key.
- 2 Select [Execute].

Items	Contents
Execute	Data is initialized according to destination information.

- 3 Press the [Start] key.
 - All data other than that for adjustments due to variations between machines is initialized based on the destination setting.
- 4 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.
 - An error code is displayed in case of an initialization error.
When errors occurred, turn main power switch off then on, and execute initialization using maintenance item U021.

Error codes

Items	Contents
0002	Setting information initialization failure
0003	Address book information initialization failure
0004	Job accounting information initialization failure
0005	Event log/Fax log/Job log information initialization failure
0006	Fax memory forward/panel program information initialization failure
0007	Short-cut key information initialization failure
0008	Fax reserve information initialization failure
0009	Account information initialization failure
0010	RP code backup execution failure
0011	Event log counter information/Accounting/Maintenance category initialization failure
0012	Coverage counter information initialization failure
0013	Life counter information initialization failure
0014	Engineer information initialization failure
0015	Scanner information initialization failure
0016	Log audit (inspection log) initialization failure
0017	Device information initialization failure
0018	Device information initialization failure

- The operation is terminated abnormally and it is necessary to execute it once more after turning the power off.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U025	Firm Update(S)
------	----------------

Contents

Used to execute FW-Update from the USB flash device while Very High is selected in the Security Level settings under the System Menu.

Purpose

Firmware upgrading is initiated by a service person to conduct U025 while a USB flash device is inserted.

Method

- 1 Press the [Start] key.
- 2 Press [Execute].

Items	Contents
Execute	Executes the firmware-update.

- 3 Press the [Start] key. This is not executable when a USB has not been installed.
- 4 After normal completion of operation, turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U034	Adj Paper Timing
------	------------------

Contents

Adjusts the leading edge registration or center line.

Purpose

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

Method

- 1 Press the [Start] key.
- 2 Select the item to be adjusted.

Items	Contents
LSU Out Top	Leading edge registration adjustment
LSU Out Left	Center line adjustment

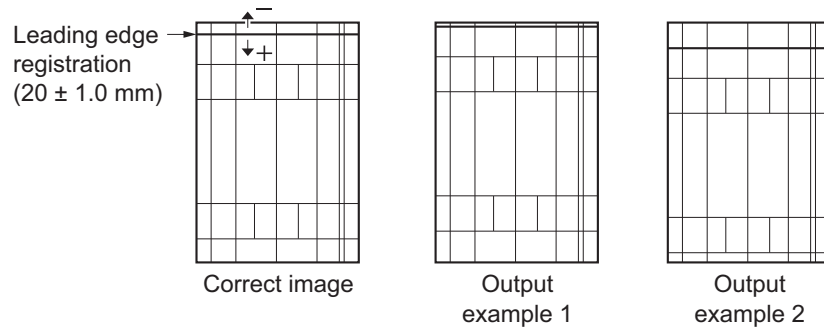
Adjustment: LSU Out Top

- 1 Press the system menu key.
- 2 Press the [Start] key to output a test pattern.
- 3 Press the system menu key.
- 4 Select the item to be adjusted.

[LSU Out Top]

Items	Contents	Setting range	Initial setting	Data variation
Top	The standard value of leading edge	0 to 1180	625	1 dot
MPT	Paper feed from MP tray.	-70 to 70	-25	1 dot
Cass	Paper feed from cassette.	-70 to 70	0	1 dot
Duplex	Duplex mode. (second)	-70 to 70	-25	1 dot

- 5 Change the setting value using the [<] [>] keys or numeric keys.
For output example 1, increase the value. For output example 2, decrease the value



1. Press the [Start] key. The value is set.

✓ Important

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

U034 ----- U066 (P.6-32) ----- U071 (P.6-36)

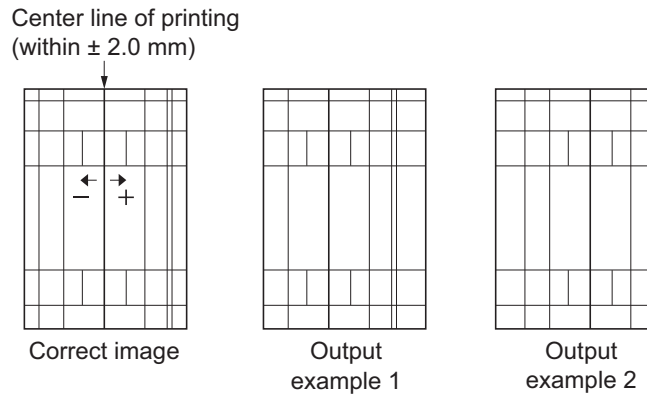
Adjustment: LSU Out Left

- 1 Press the system menu key.
- 2 Press the [Start] key to output a test pattern.
- 3 Press the system menu key.
- 4 Select the item to be adjusted.

[LSU Out Left]

Items	Contents	Setting range	Initial setting	Data variation
Left	The standard value of Center line	0 to 1180	600	1 dot
MPT	Paper feed from MP tray.	-70 to 70	0	1 dot
Cass1	Paper feed from cassette1.	-70 to 70	0	1 dot
Cass2	Paper feed from optional cassette2.	-70 to 70	0	1 dot
Cass3	Paper feed from optional cassette3.	-70 to 70	0	1 dot
Cass4	Paper feed from optional cassette4.	-70 to 70	0	1 dot
Cass5	Paper feed from optional cassette5.	-70 to 70	0	1 dot
Duplex	Duplex mode. (second)	-70 to 70	0	1 dot

- 5 Change the setting value using the [<] [>] keys or numeric keys.
For output example 1, increase the value. For output example 2, decrease the value.



- 6 Press the [Start] key. The value is set.

 **Important**

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

U034 ----- U067 (P.6-33) ----- U072 (P.6-38)

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U037	Fan motor operation check
------	---------------------------

Contents

Drive each fan motor.

Purpose

Execute to check each fan motor's operation.

Method

- 1 Press the [Start] key.
- 2 Select the fan motor to operate.
- 3 Press the [Start] key.

Each operation starts.

Items	Contents
LSU/Other	Operate the LSU fan motor and other fan motors
Low Power	Operate the power source fan motor

- To stop the operation, press the [Stop] key.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U065	Adj Scn
------	---------

Contents

Adjusts the magnification of the original scanning.

Purpose

Make the adjustment if the magnification in the main scanning direction is incorrect.

Make the adjustment if the magnification in the auxiliary scanning direction is incorrect.

 **Important**

The magnification adjustment along the main scanning direction could cause black streaks depending on the content of the original document.

Adjust the magnification of the scanner in the following order.

U065 (main scan) (P.6-30) ----- U065 (sub scan) (P.6-30)

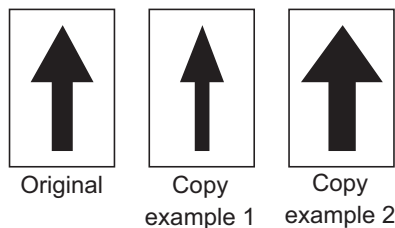
Method

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Main Scan	Scanner magnification in the main scanning direction.	-15 to 15	0	0.10%
Sub Scan	Scanner magnification in the auxiliary scanning direction.	-25 to 25	0	0.10%

Adjustment: Main Scan

- 1 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the setting enlarges the image and decreasing it narrows the image



- 2 Press the [Start] key. The value is set.

Adjustment: Sub Scan

- 1 Change the setting value using the [←] [→] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the value makes the image longer, while decreasing the value makes the image shorter.



Original

Copy
example 1Copy
example 2

- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U066	Table Timing
------	--------------

Contents

Adjusts the scanner leading edge registration of the original scanning.

Purpose

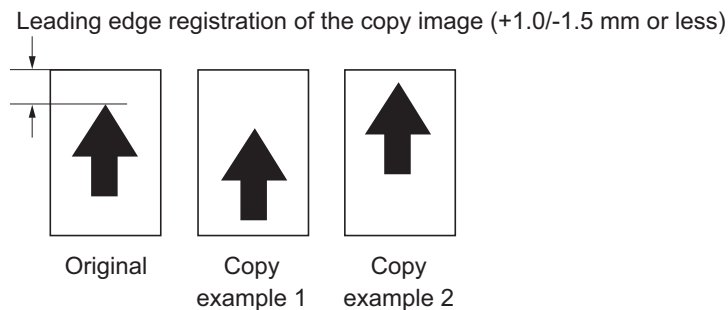
Make the adjustment if there is a regular error between the leading edges of the copy image and original.

Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Front	Scanner leading edge registration.	-45 to 45	0	0.085 mm

- 6 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the value moves the image forward and decreasing the value moves the image backward.



- 7 Press the [Start] key. The value is set.

 **Important**

If the above adjustment does not optimize the leading edge registration, proceed with the following maintenance modes.

U034 (P.6-26) ----- U065 (P.6-30) ----- U066

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U067	Table Center
------	--------------

Contents

Adjusts the scanner center line of the original scanning.

Purpose

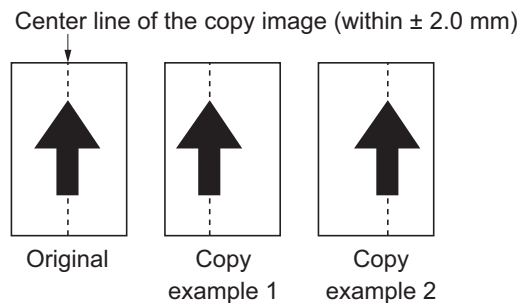
Make the adjustment if there is a regular error between the center lines of the copy image and original.

Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Front	Scanner center line	-40 to 40	0	0.085 mm

- 6 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the value moves the image rightward and decreasing it moves the image leftward.



- 7 Press the [Start] key. The value is set.

 **Important**

If the above adjustment does not optimize the center line, proceed with the following maintenance modes.

U034 (P.6-26) ----- U065 (P.6-30) ----- U067

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U068	DP Scn Start Pos
------	------------------

Contents

Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.

Purpose

Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.

Method

- 1 Press the [Start] key.
- 2 Select the item to be adjust.

Items	Contents	Setting range	Initial setting	Data variation
DP Read	Starting position adjustment for scanning originals.	-33 to 33	0	0.085 mm
Black Line	Scanning position for the test copy originals.	0 to 3	0	-

Adjustment: DP Read

- 1 Select [DP Read].
- 2 Change the setting using the [<] [>] keys or numeric keys.
When the setting value is increased, the scanning position moves to the left and it moves to the right when the setting value is decreased.
The moving direction in reverse side adjustment is reversed.
- 3 Press the [Start] key. The value is set.

Adjustment: Black line

- 1 Select [Black Line].
- 2 Change the setting using the [<] [>] keys or numeric keys.
- 3 Press the [Start] key. The value is set.
- 4 Set the original (the one which density is known) in the DP and press the system menu key.
- 5 Press the [Start] key. Test copy is executed.
- 6 Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U070	Adj DP Motor
------	--------------

Contents

Adjusts the DP original scanning speed.

Purpose

Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used.

Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original on the DP and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select [Convey Speed].

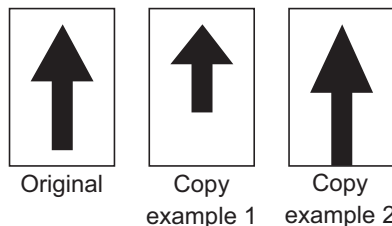
Items	Contents	Setting range	Initial setting	Data variation
Sub Scan(F)	Adjust the back page magnification in the sub scanning direction at duplex scan	-25 to 25	0	0.1 %
Sub Scan(B) *1	Adjust the back page magnification in the sub scanning direction at duplex scan	-25 to 25	0	0.1 %
Main Scan(CIS) *2	Adjust the back page magnification in the main scanning direction at duplex scan (DPCIS)	-25 to 25	0	0.1 %
Sub Scan(CIS) *2	Adjust the back page magnification in the sub scanning direction at duplex scan (DPCIS)	-25 to 25	-3	0.1 %

*1: 45 ppm model only, *2: 55/60 ppm model only

 **Important**

Adjust the back side after the front side.

- 6 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the value makes the image longer, while decreasing the value makes the image shorter.



- 7 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U071	DP Timing
------	-----------

Contents

Adjusts the DP original scanning timing.

Purpose

Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used.

Method

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original on the DP and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Front Head	Front page leading edge registration	-32 to 32	0	0.245mm *1 0.264mm *2
Front Tail	Front page trailing edge registration	-32 to 32	0	0.245mm *1 0.264mm *2
Back Head *1	Back page leading edge registration	-32 to 32	0	0.245mm
Back Tail *1	Back page trailing edge registration	-32 to 32	0	0.245mm
CIS Head *2	Adjust the leading edge timing for the CIS scanning	-32 to 32	0	0.266mm
CIS Tail *2	Adjust the trailing edge timing for the CIS scanning	-32 to 32	0	0.266mm

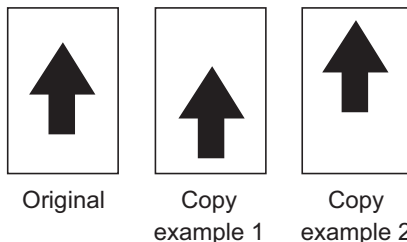
*1: 45 ppm model only, *2: 55/60 ppm model only

 **Important**

Adjust the trailing edge registration after the leading edge registration.

Adjustment: Front Head/Back Head/CIS Head

- 1 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.
Increasing the value moves the image forward and decreasing the value moves the image backward.
The moving direction in reverse side adjustment is reversed.



- 2 Press the [Start] key. The value is set.

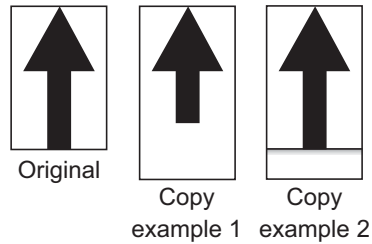
✔ Important

If the first side is adjusted, check the second side and if adjustment is required, carry out the adjustment. If the above adjustment does not optimize the leading edge registration, proceed with the following maintenance modes.

U034 (P.6-26) ----- U071

Adjustment: Front Tail/Back Tail/CIS Tail

- 1 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.



- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U072	DP Center
------	-----------

Contents

Adjusts the scanning start position for the DP original.

Purpose

Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used.

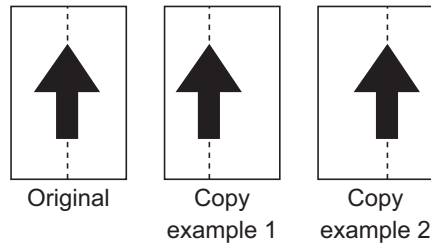
Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original on the DP and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Front	Adjust DP front page center line	-40 to 40	0	0.085 mm
Back *1	Adjust DP back page center line	-40 to 40	0	0.085 mm
CIS *2	Adjust the DPCIS center line	-20 to 20	0	0.085 mm

*1: 45 ppm model only, *2: 55/60ppm model only

- 6 Change the setting value using the [<] [>] keys or numeric keys.
For copy example 1, decrease the value. For copy example 2, increase the value.
Increasing the value moves the image leftward and decreasing it moves the image rightward.
The moving direction in reverse side adjustment is reversed.



- 7 Press the [Start] key. The value is set.

 **Important**

If the first side is adjusted, check the second side and if adjustment is required, carry out the adjustment.
If the above adjustment does not optimize the center line, proceed with the following maintenance modes.

U034 (P.6-26) ----- U065 (P.6-30) ----- U067 (P.6-33) ----- U072

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U091	Set White Line Correction
------	---------------------------

Contents

Set the error detection threshold for white lines correction and display the abnormal pixel count.

Purpose

Execute when replacing the DP CIS, Control PWB or DP CIS roller.

Setting

- 1 Press the [Start] key.
- 2 Select the item to be set.
- 3 Change the setting value using the [<] [>] keys or numeric keys.

Items	Contents	Setting range	Initial setting	Data variation
Coeffi(R)	Display the red pixel error counts	0 to 8191	-	-
Coeffi(G)	Display the green pixel error counts	0 to 8191	-	-
Coeffi(B)	Display the Blue pixel error counts	0 to 8191	-	-
Threshold	Set the error detection threshold	0 to 255	112	-
Threshold(Ab)	Set the abnormal pixel threshold setting	0 to 8191	75	-
Mode	Set the white lines correction mode	0: No correction 1: Correction 2: Test mode	0	-
Execute	Execute retaining the white reference data	-	-	-

- Normally do not change the threshold from the initial value of 112.
Increase the value if white lines appear while the CIS roller/glass is not dirty.
Reduce the set value if thin lines disappear depending on the original to use.
Set in the range of 50 to 200. (In the case of out of range, it may affect the image output)

- 4 Press the [Start] key and confirm the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U110	Drum counter
------	--------------

Contents

Displays the drum counter values.

Purpose

Execute to check the drum usage status.

Method

- 1 Press the [Start] key.

The drum counter is displayed.

Items	Contents
K	Displays the drum counter

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U111	Drum drive time
------	-----------------

Contents

Display the drum drive time that is used for the high-voltage time correction.

Purpose

Execute to check the drum usage status.

Method

- 1 Press the [Start] key.

Displays the drum drive time.

Items	Contents
K	Displays the drum drive time

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U117	Drum unit number
------	------------------

Contents

Displays the drum number.

Purpose

Execute to check the drum number.

Method

- 1 Press the [Start] key.
Displays the drum number.

Items	Contents
K	Displays the black drum number

Completion

Press the [Stop] key.

The screen for selecting a maintenance item No. is displayed.

U130	Set Toner Install
------	-------------------

Contents

To set ON/OFF of the toner installation mode.

Purpose

Toner installation is performed at the time of a machine setup.

Setting

- 1 Press the [Start] key.
- 2 Select [Mode].
- 3 Set at On or Off.
- 4 Press the [Start] key.

Items	Contents
Mode	Setting a toner installation mode.

0:Off / 1:On

- The toner installation is performed when power is turned on and off.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U135 Checking the toner motor operation**Contents**

Drives the toner motor.

Purpose

Execute to check the toner motor operation.

Note

If driven for a long time or several times repeatedly, the developer unit will be full of toner inside and it may lock up.

Method

- 1 Press the [Start] key.
- 2 Select the item to operate.
- 3 Press the [Start] key. Start the operation

Items	Contents
Toner	Drive the toner motor

- To stop the operation, press the [Stop] key.

Completion

Press the [Stop] key.

Return back to maintenance mode number selection screen.

U136	Toner level detection setting
------	-------------------------------

Contents

Execute the level setting of printable pages between toner near end and toner empty.

Purpose

Change the timing of detecting toner near end earlier than the current setting if the interval between toner near end and toner empty is too short.

Setting

- 1 Press the [Start] key.
- 2 By using the [<] [>] keys or the numeric keys, change the setting value.

Items	Contents	Setting range	Initial setting	Data variation
K	Setting the black toner level	0 to 9	3	-

- If the set value is increased, the time interval from the toner near end to the toner empty becomes longer.
- If the set value is reduced, the time interval from toner near end to toner empty becomes shorter.
- 0: no toner near end detection

- 3 Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

The screen for selecting a maintenance item No. is displayed.

U147	Set Toner Apply
------	-----------------

Contents

T7 control: toner loading operation) mode for removing the charged up toner in the developing unit.

Purpose

Basically, you do not need to change the setting. However, when outputting a large amount of documents (reference: less than 2%) with a low coverage rate at all times, change the mode.

- When the charge-up toner stays in the developing unit, the density decreases.

Method

- 1 Press the [Start] key.
- 2 Select items to set.

Items	Contents
Drum T7	Set the toner loading width in cleaning mode
Dev T7	Do not set to perform toner loading operation in normal amount

Setting: Drum T7

- 1 Change the setting value by using the [<] [>] keys or the numeric keys.

Items	Contents	Setting range	Initial setting	Data variation
Value	Setting the toner loading width in the cleaning mode	0 to 5	-	-

- 2 Press the [Start] key and confirm the setting value.

Setting: Dev T7

- 1 Change the setting value by using the [<] [>] keys or the numeric keys.

Items	Contents	Setting range	Initial setting	Data variation
Value	Set the upper limit printing ratio of toner loading amount in each operation mode	0 to 30	-	-

- 2 Press the [Start] key and confirm the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U157	Developer drive time
------	----------------------

Contents

Displays the developer drive time to be a reference for the toner density control correction.

Purpose

Execute to check the developer drive time since replacing the developer unit.

Method

- 1 Press the [Start] key.

Displays the developer drive time.

Items	Contents
K	Displays the Black developer unit drive time.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U158	Developer counter
------	-------------------

Contents

Displays the developer counter

Purpose

Execute to check the developer unit usage status.

Method

- 1 Press the [Start] key.

The developer count is displayed.

Items	Contents
K	Displays the black developer counter.

Completion

Press the [Stop] key.

The screen for selecting a maintenance item No. is displayed.

U198	Fuser phase control setting
------	-----------------------------

Contents

Switch to fixed phase control.

Purpose

Used to switch to fixed phase control.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Flicker	Setting the flicker countermeasure mode

Setting

- 1 Select the item to be set.

Items	Contents
On	Flicker countermeasure mode On
Off	Flicker countermeasure mode Off

- 2 Press the [Start] key and confirm the setting value.

Completion

Press the [Stop] key.

The screen for selecting a maintenance item No. is displayed.

U201	Init Touch Panel
------	------------------

Contents

Adjust touch panel detecting positions.

Purpose

When the panel PWB or the operation panel is replaced or if the detecting positions are not aligned, perform this simulation to correct and confirm.

Method

- 1 Press the [Start] key.
- 2 Select [Initialize] or [Check].

Items	Contents
Initialize	Executes the correction of the touch panel display position.
Check	Confirms the display position of touch panel.

Method: [Initialize]

- 1 Press the center of the + keys. Be sure to press three + keys displayed in order.
The touch panel is adjusted automatically.
- 2 Press the indicated three + keys, and then check the display.
 - After complete setting, move to the [Check] screen automatically.

Method: [Check]

- 1 Press the indicated three + keys, and then check the display.
When adjusting the display, press [Initialize] to execute the adjustment automatically.
- 2 Press the [Stop] key.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U203	Chk DP Ope
------	------------

Contents

Simulates the original conveying operation separately in the DP.

Purpose

To check the DP operation.

Method

- 1 Press the [Start] key.
- 2 Place an original in the DP if running this simulation with paper.
- 3 Select the speed to be operated.

Items	Contents
Normal Speed	Normal reading
High Speed	High-speed reading

Method:Normal Speed/High Speed

- 1 Select the item to be operated.

Items	Contents
CCD ADP	With paper, execute feed operation of single sided original through CCD
CCD RADP *1	With paper, execute feed operation of back page through CCD
CIS *2	With paper, execute feed operation of back page through CIS
CCD ADP(Non-P)	With paper, execute feed operation (continuous feed) of single sided original through CCD
CCD RADP(Non-P) *1	Without paper, execute feed operation (continuous operation) of back page through CCD
CIS(Non-P) *2	Without paper, execute feed operation (continuous operation) of back page through CIS

*1: 45 ppm model only, *2: 55/60 ppm model only

- 2 Press the [Start] key. Start the operation
- 3 To stop the operation, press the [Stop] key.

Completion

Press the [Stop] key.

Return back to maintenance mode number selection screen.

U207	Chk Panel Key
------	---------------

(For HyPAS model)

Contents

Checks operation of the operation panel keys.

Purpose

To check operation of all the keys on the operation panel.

Method

- 1 Press the [Start] key. The screen for executing is displayed.
- 2 [Count0] is displayed and the left most LED on the operation panel lights.

Items	Contents
Cnt	Keypress counter.

- 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.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U207	Chk Panel Key
------	---------------

(For Basic model)

Contents

Check an operation of the hard key on the operation parts.

Purpose

Check if the hard key on the operation part is recognized without fail.

Method

- 1 Press the [Start] key to display execution window.
- 2 [Count 0] appears and the job separator LED is turned on.
- 3 When pressing the keys on the operation panel from the left upper side and each row in order, the count is counted up by one.
- 4 If pressing all the keys, all the LEDs are lit.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U222	Set IC Card Type
------	------------------

(When IC card is installed)

Contents

Sets the type of IC card.

Purpose

To change the type of IC card.

Setting

- 1 Press the [Start] key.
- 2 Select the item.

Items	Contents
Other	The type of IC card is not SSFC
SSFC	The type of IC card is SSFC

Initial setting: Other

- 3 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U250	Mnt Cnt Pre-set
------	-----------------

Contents

Changes preset values for maintenance cycle.

Purpose

Provides changing the time when the message to acknowledge to conduct maintenance adjustment is periodically displayed.

Setting

- 1 Press the [Start] key.
- 2 Select the item to be set.
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range
M.Cnt A	Preset values for maintenance cycle A.	0 to 9999999
Clear	A value is cleared.	0

- 4 Press the [Start] key. The value is set.

Clearing

- 1 Select [Clear].
- 2 Press the [Start] key. The setting value is cleared.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U251	Clr Mnt Cnt
------	-------------

Contents

Displays and clears or changes the maintenance count.

Purpose

To verify the maintenance counter count.

Also to clear the count during maintenance service.

Setting

- 1 Press the [Start] key.
- 2 Select the item to be changed.
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range
M.Cnt A	Count value for maintenance cycle A.	0 to 9999999
Clear	A value is cleared.	0

Clearing

- 1 Select [Clear].
- 2 Press the [Start] key. The setting value is cleared.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U252	Set Dest
------	----------

Contents

Switches the operations and screens of the machine according to the destination.

Purpose

To be executed after initializing the backup RAM, in order to return the setting to the value before replacement or initialization.

Method

- 1 Press the [Start] key.
- 2 Select the destination.

Items	Contents
Japan Metric *1	Metric (Japan) specifications.
Inch *2	Inch (North America) specifications.
Europe Metric *2	Metric (Europe) specifications.
Asia Pacific *2	Metric (Asia Pacific) specifications.
Australia *2	Australia specifications.
China *2	China specifications.
Korea *2	Korea specifications.

*1: 100 V model only, *2: Without 100 V model

- 3 Press the [Start] key.
- 4 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.
 - An error code is displayed in case of an initialization error.
When errors occurred, turn main power switch off then on, and execute initialization using maintenance item U252.

Error codes

Items	Contents
0001	Controller (Entity Error)
0002	Controller (Counter Error)
0020	Engine
0040	Scanner

U253	Sel D/S Count
------	---------------

Contents

Switches the count system for the total counter and other counters.

Purpose

Used to select, according to the preference of the user (copy service provider), if folio size paper is to be counted as one sheet (single count) or two sheets (double count).

Setting

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
SGL(All)	Single count for all size paper.
DBL(A3/Ledger)	Set A3 (420mm) less than single count
DBL(Legal)	Single count for Legal size or shorter
DBL(Folio)	Double count for Folio size or larger.

Initial setting: DBL(Legal)

2. Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

- When the double count is set for the paper other than the sizes of A4, B5, A5, Folio, Legal, Letter, and Statement, the counter value is indicated as "Other 1" in the status page. When in the same way, the single count is set, the counter value is indicated as "Other 2". In the operation panel, the counter values are indicated as "Other(Double)" or "Other(Single)".

U260	Set Count Mode
------	----------------

Contents

Changes the copy count timing for the total counter and other counters.

Purpose

To be set according to user request.

Setting

- 1 Press the [Start] key.
- 2 Select the copy count timing.

Items	Contents
Feed	When secondary paper feed starts.
Eject	When the paper is ejected

Initial setting: Eject

- 3 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U265	Set Model Dest
------	----------------

Contents

Sets the OEM purchaser code.

Purpose

Sets the code when replacing the main board and the like.

Setting

- 1 Press the [Start] key.
- 2 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents
No.	Sets the OEM purchaser code.

- 3 Press the [Start] key. The setting is set.
- 4 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U271	Setting the page count unit
------	-----------------------------

Contents

Execute the long paper count setting.

Purpose

Execute to change the long paper count.

- If double count is set in U253, the value multiplied with this is the long paper count.

Setting

- 1 Press the [Start] key.
- 2 Select items to set.
- 3 Change the setting value by using the [<] [>] keys or the numeric keys.

Items	Contents	Setting range	Initial setting	Data variation
Banner A	Count setting of Long Paper A (470.1mm to 915mm/18.51" to 36")	2 to 30	2	-

- 4 Press the [Start] key and confirm the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U278	Delivery date setting
------	-----------------------

Contents

Register the date when the machine was installed.

Purpose

Execute when installing the machine. Execute to check the installation date of the machine.

Procedure

- 1 Press the [Start] key.
- 2 Select [Today].
- 3 Press the [Start] key.
 - Set the installation date of the machine.

Clearing

- 1 Select [Clear].
- 2 Press the [Start] key.
 - Clear the installation date of the machine.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U285	Set Service Status Page
------	-------------------------

Contents

Determines whether to display the digital dot coverage report on the report print.

Purpose

Change the setting according to the user's request

Setting

- 1 Press the [Start] key.
- 2 Select the item to set.
- 3 Change the setting value by using the [<] [>] keys or the numeric keys.

Items	Contents	Setting range	Initial setting	Data variation
Coverage	Print setting of coverage count information	On/Off	On	-
Rep Permit	Report output permit setting for service	On/Off	On	-

- 4 Press the [Start] key. Set the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U287	Automatic recovery function
------	-----------------------------

Contents

Sets whether to enable the automatic recovery function after the service call error

Purpose

Sets whether to enable the automatic recovery function after the service call error or system error

Setting

- 1 Press the [Start] key.
- 2 Select the item to set.
- 3 By using the[<] [>] keys change the setting value.

Items	Contents
C0XXX	Sets whether to enable the automatic recovery function after the service call error
C1XXX	Sets whether to enable the automatic recovery function after the C1xxx code service call error
C2XXX	Sets whether to enable the automatic recovery function after the C2xxx code service call error
C3XXX	Sets whether to enable the automatic recovery function after the C3xxx code service call error
C4XXX	Sets whether to enable the automatic recovery function after the C4xxx code service call error
C5XXX	Sets whether to enable the automatic recovery function after the C5xxx code service call error
C6XXX	Sets whether to enable the automatic recovery function after the C6xxx code service call error
C7XXX	Sets whether to enable the automatic recovery function after the C7xxx code service call error
C8XXX	Sets whether to enable the automatic recovery function after the C8xxx code service call error
C9XXX	Sets whether to enable the automatic recovery function after the C9xxx code service call error
CFXXX	Sets whether to enable the automatic recovery function after the CF code service call error

- 4 Press the [Start] key. Set the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U290	Application storage drive setting
------	-----------------------------------

Contents

Set the HyPAS application storage drive.

Purpose

Set to save in the SD card or optional SSD.

Setting

- 1 Press the [Start] key.
- 2 Select the item to set.

Items	Contents
SD Card	Set to the SD card.
SSD	Set to the SSD card.

- 3 Press the [Start] key. Set the setting value.
- 4 Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U326	Black line cleaning display setting
------	-------------------------------------

Contents

Sets whether to indicate the black lines cleaning guidance when detecting black lines.

Purpose

Displays the cleaning guidance to reduce the service call with the black lines by dust on the contact glass when scanning from the document processor.

Method

- 1 Press the [Start] key.
- 2 Select the item to set.

The screen for setting is displayed.

Items	Contents
Black Line Mode	Sets On/Off of the black line cleaning guidance indication

Setting: Black Line Mode

- 1 Select the item to set.

Items	Contents
On	Indicate the black lines cleaning guidance
Off	Black line cleaning guidance is not indicated

Initial setting: On

- 2 Press the [Start] key. Set the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U332	Adj Calc Rate
------	---------------

Contents

Sets the coefficient of nonstandard sizes in relation to the A4/Letter size. The coefficient set here is used to convert the black ratio in relation to the A4/Letter size and to display the result in user simulation.

Purpose

To set the coefficient for converting the black ratio for nonstandard sizes in relation to the A4/Letter size.

Setting

- 1 Press the [Start] key.
- 2 Change the setting using [<] [>] keys or numeric keys.

Items	Contents	Setting range	Initial setting
Rate	Size parameter.	0.1 to 3.0	1.0

- 3 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U339	Chk Drum Heater
------	-----------------

Contents

The change of a system menu display of a drum heater setup is set up.

- This function is available only Asia area.

Purpose

A setup of a drum heater is performed at the time of the change of a display on a system menu.

- 1 Press the [Start] key.
- 2 Select [On] or [Off].

Items	Contents
On	A drum heater setup of a system menu is set to On.
Off	A drum heater setup of a system menu is set to Off.

Initial setting: Off

- If a preset value is changed into "Off", a drum heater setup will be set as "Off."

- 3 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U345	Set Mnt Time Disp
------	-------------------

Contents

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.

Purpose

To change the time for maintenance due indication.

Setting

- 1 Press the [Start] key.
- 2 Select the item to be changed.
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range	Initial setting
Cnt	Time for maintenance due indication (Remaining number of copies that can be made before the current maintenance cycle ends)	0 to 9999	0

- 4 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U346	Slt Sleep Mode
------	----------------

Contents

A sleep mode-related setting change is performed.

Purpose

It uses in order to perform a sleep mode-related setting change.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Timer/Sleep Level	BAM conformity country setup
Auto sleep	An On/Off setup of an AutoSleep function

Setting: Timer/Sleep Level

- 1 Select [More Energy Save] or [Less Energy Save].

Items	Contents
More Energy Save	BAM conformity setup On
Less Energy Save	BAM conformity setup Off

Initial setting: More Energy Save

- 2 Press the [Start] key. The setting is set.
- 3 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Setting: Auto sleep

- 1 Select [On] or [Off].

Items	Contents
On	Auto Sleep setup On
Off	Auto Sleep setup Off

Initial setting: On

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U402	Adjust Margin
------	---------------

Contents

Adjusts margins for image printing.

Purpose

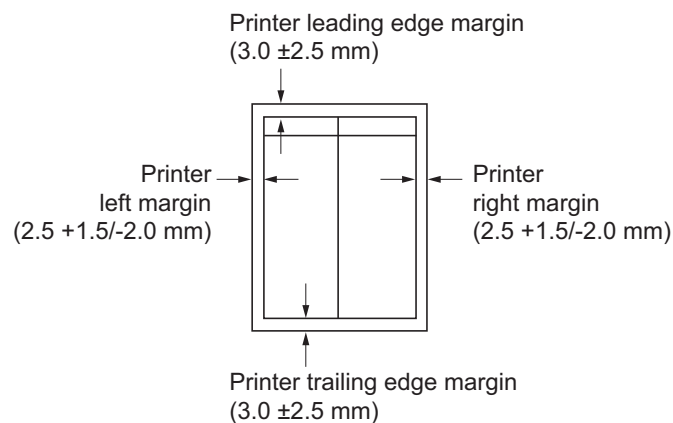
Make the adjustment if margins are incorrect.

Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Press the [Start] key to output a test pattern.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
Lead	Printer leading edge margin.	0.0 to 10.0	4.0	0.1 mm
A Margin	Printer left margin.	0.0 to 10.0	3.0	0.1 mm
C Margin	Printer right margin.	0.0 to 10.0	3.0	0.1 mm
Trail	Printer trailing edge margin.	0.0 to 10.0	3.9	0.1 mm

- 6 Change the setting value using the [<] [>] keys or numeric keys.
Increasing the value makes the margin wider, and decreasing it makes the margin narrower..



- 7 Press the [Start] key. The value is set.

 **Important**

If the above adjustment does not optimize the margins, perform the following maintenance modes.

U034 (P.6-26) ----- U402

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U403	Scan Margin Tbl
------	-----------------

Contents

Adjusts margins for scanning the original on the contact glass.

Purpose

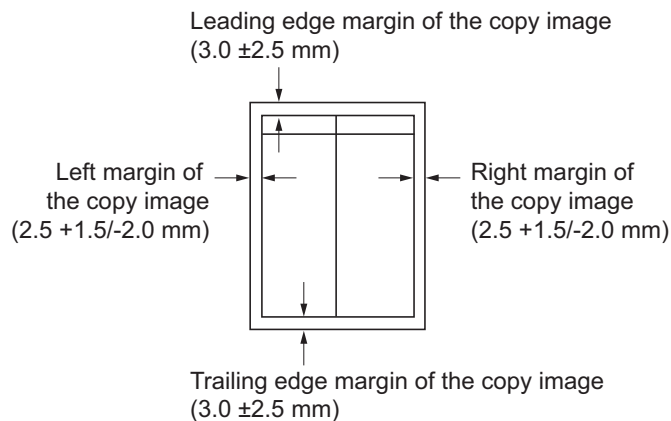
Make the adjustment if margins are incorrect.

Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
A Margin	Scanner left margin.	0.0 to 10.0	2.0	0.5mm
B Margin	Scanner leading edge margin.	0.0 to 10.0	2.0	0.5mm
C Margin	Scanner right margin.	0.0 to 10.0	2.0	0.5mm
D Margin	Scanner trailing edge margin.	0.0 to 10.0	2.0	0.5mm

- 6 Change the setting value using change the [<] [>] keys or numeric keys.
Increasing the value makes the margin wider, and decreasing it makes the margin narrower.



- 7 Press the [Start] key. The value is set.

 **Important**

If the above adjustment does not optimize the margins, perform the following maintenance modes.

U034 (P.6-26) ----- U402 (P.6-66) ----- U403

Completion

Press the [Stop] key. The indication for selecting a maintenance item No. appears.

U404	Scan Margin DP
------	----------------

Contents

Adjusts margins for scanning the original from the DP.

Purpose

Make the adjustment if margins are incorrect.

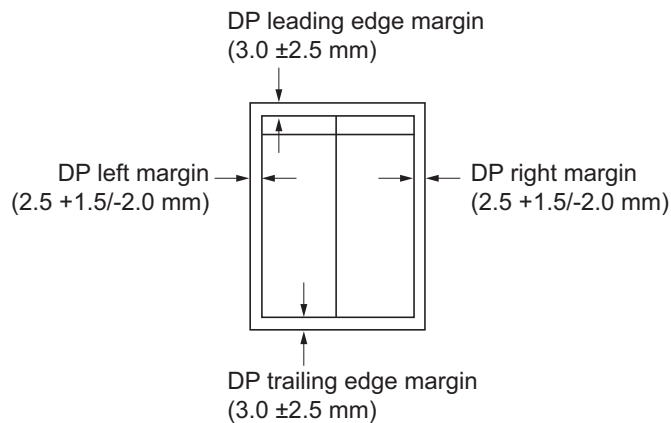
Adjustment

- 1 Press the [Start] key.
- 2 Press the system menu key.
- 3 Place an original on the DP and press the [Start] key to make a test copy.
- 4 Press the system menu key.
- 5 Select the item to be adjusted.

Items	Contents	Setting range	Initial setting	Data variation
A Margin	DP left margin	0.0 to 10.0	3.0	0.5mm
B Margin	DP leading edge margin	0.0 to 10.0	2.5	0.5mm
C Margin	DP right margin	0.0 to 10.0	3.0	0.5mm
D Margin	DP trailing edge margin	0.0 to 10.0	4.0	0.5mm

- 6 Change the setting value using change the [<] [>] keys or numeric keys.

- Increasing the value makes the margin wider, and decreasing it makes the margin narrower.



- 7 Press the [Start] key. The value is set.

 **Important**

If the above adjustment does not optimize the margins, perform the following maintenance modes.

U034 (P.6-26)	-----	U402 (P.6-66)	-----	U403 (P.6-67)	-----	U404
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Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U411	Auto Adj Scn
------	--------------

Contents

Uses a specified original and automatically adjusts the following items in the scanner and the DP scanning sections.

Scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in monochrome mode and matrix.


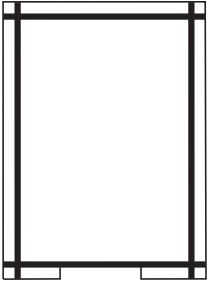
DP scanning section: Original size magnification, leading edge timing, center line.

Purpose

To perform automatic adjustment of various items in the scanner and the DP scanning sections.

Method

- 1 Press the [Start] key.
- 2 Select the item. The screen for executing is displayed.

Items	Contents	Original for adjustment (P/N)
Table(CharA)	Execute automatic adjusts the table scanning. Magnification in the sub scanning direction / Leading edge timing Center line / chromatic aberration MTF correction gamma in color mode / color correction matrix Input gamma in monochrome mode	302NM94340 
DP FU(CharA) DP FD(CharA) *1	Execute DP front page scan automatic adjustment Execute DP back page scan automatic adjustment Main scanning chromatic aberration MTF correction gamma in color mode / color correction matrix	
DP FU(CharB) DP FD(CharB) *1	Execute DP front page scan automatic adjustment Execute DP back page scan automatic adjustment Magnification in the sub-scanning direction Leading edge timing Center line	302NM94330 
Target	Set-up for obtaining the target value	302NM94340
Debug *2	Setting the type of debug mode Log/Result (Log/Ret): Perform auto adjust, output log and react adjust values (Default *1). Image/Log/Result (Img/Log/Ret): Perform auto adjust, output log, image and react adjust values. Image/Log (Img/Log): Perform auto adjust and output log and image. Image (Img): Output image.	

*1: 55/60 ppm model only, *2: When USB installed (For trouble shooting)

Method: Table (Chart A)**Automatic input of the target value**

- Usually, it adjusts here.
 - 1 Set the specified original (P/N: 302NM94340) on the table.
 - 2 Enter maintenance item U411.
 - 3 Select [Target].
 - 4 Select [Auto].
 - 5 Press the [Start] key.
 - 6 Select [Table(ChartA)].
 - 7 Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
- When automatic adjustment has normally completed, [OK] is displayed.

When the error code "1e" or "1f" is displayed during the automatic adjustment in the table scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

- 1 Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
- 2 Set the specified original (P/N: 302NM94340) on the table.
- 3 Enter maintenance item U411.
- 4 Select [Target].
- 5 Select [U425].
- 6 Press the [Start] key.
- 7 Select [Table(ChartA)].
- 8 Press the [Start] key to start Auto adjustment.
- 9 When automatic adjustment has normally completed, [OK] is displayed.

If the image position is shifted largely at the DP adjustment below, an error might occur when adjusting it with ChartA. First, use ChartB (image position) to adjust it and then use ChartA (color).

Method: DP FU (Chart A)**Automatic input of the target value**

- Usually, it adjusts here.
 - 1 Set the specified original (P/N: 302NM94340) face-up on the DP.
 - 2 Enter maintenance item U411.
 - 3 Select [Target].
 - 4 Select [Auto].
 - 5 Press the [Start] key.

- 6 Select [DP FU(ChartA)].
- 7 Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
- 8 When automatic adjustment has normally completed, [OK] is displayed.
When the error code "1e" or "1f" is displayed during the automatic adjustment in the DP scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

- 1 Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
- 2 Set the specified original (P/N: 302NM94340) face-up on the DP.
- 3 Enter maintenance item U411.
- 4 Select [Target].
- 5 Select [U425].
- 6 Press the [Start] key.
- 7 Select [DP FU(ChartA)].
- 8 Press the [Start] key to start Auto adjustment.
- 9 When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FD (Chart A)

Automatic input of the target value

- Usually, it adjusts here.
 - 1 Set the specified original (P/N: 302NM94340) face-down on the DP.
 - 2 Enter maintenance mode U411.
 - 3 Select [Target].
 - 4 Select [Auto].
 - 5 Press the [Start] key.
 - 6 Select [DP FD(ChartA)].
 - 7 Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
 - 8 When automatic adjustment has completed properly, [OK] will be displayed.
When the error code "1e" or "1f" is displayed during the automatic adjustment in the DP scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

- 1 Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
- 2 Set the specified original (P/N: 302NM94340) face-down on the DP.
- 3 Enter maintenance mode U411.
- 4 Select [Target].
- 5 Select [U425].
- 6 Press the [Start] key.
- 7 Select [DP FD(ChartA)].
- 8 Press the [Start] key to start Auto adjustment.
- 9 When automatic adjustment has completed properly, [OK] will be displayed.
When automatic adjustment has completed properly, [OK] will be displayed. If an error occurs during auto adjustment, error code "NGXX" is displayed and operation stops. In this case, check the error and execute the automatic adjustment again.

Method: DP FU (Chart B)

- 1 Set the specified original (P/N: 302NM94330) face-up on the DP.
- 2 Enter maintenance mode U411.
- 3 Select [DP FU(ChartB)].
- 4 Press the [Start] key to start Auto adjustment.
- 5 When automatic adjustment has completed properly, [OK] will be displayed.

Method: DP FD (Chart B)

- 1 Set the specified original (P/N: 302AC68243) face-down on the DP.
- 2 Enter maintenance mode U411.
- 3 Select [DP FD(ChartB)].
- 4 Press the [Start] key to start Auto adjustment.
- 5 When automatic adjustment has completed properly, [OK] will be displayed.
When automatic adjustment has completed properly, [OK] will be displayed. If an error occurs during auto adjustment, error code "NGXX" is displayed and operation stops. In this case, check the error and execute the automatic adjustment again.

Error Codes

Codes	Contents	Corrective Action
00	Automatic adjustment success	-
01	Black band detection error (scanner auxiliary scanning direction leading edge skew)	1 The original is set correctly and performed again.
04	Black band is not detected (scanner auxiliary scanning direction leading edge)	2 Check a lighting of the lamp or replace.
05	Black band is not detected (scanner main scanning direction far end)	
06	Black band is not detected (scanner main scanning direction near end)	
07	Black band is not detected (scanner auxiliary scanning direction trailing edge)	
08	Black band is not detected (DP main scanning direction far end)	1 Check the attachment position of DP.
09	Black band is not detected (DP main scanning direction near end)	2 Check a lighting of the lamp or replace.
0a	Black band is not detected (DP auxiliary scanning direction leading edge)	3 Check the back and front of an adjustment original.
0b	Black band is not detected (DP auxiliary scanning direction leading edge original check)	
0c	Black band is not detected (DP auxiliary scanning direction trailing edge)	
0d	White band is not detected (DP auxiliary scanning direction trailing edge)	
0e	DMA time out	Turn the power supply OFF/ON and performed again.
0f	Auxiliary scanning direction magnification error	1 Turn the power supply OFF/ON and performed again.
10	Auxiliary scanning direction leading edge error	2 Adjust the below items in manual operation. (U065 to U067, U070 to U072)
11	Auxiliary scanning direction trailing edge error	
12	DP uxiliary scanning direction skew error	
13	Maintenance request error	Turn the power supply OFF/ON and performed again.
14	Main scanning direction center line error	1 Turn the power supply OFF/ON and performed again.
15	DP main scanning direction skew error	Adjust the below items in manual operation.
16	Main scanning direction magnification error	(U065 to U067, U070 to U072)
17	Service call error	Turn the power supply OFF/ON and performed again.
18	DP paper misfeed error	Set the original correctly and perform again.
19	PWB replacement error	-

Codes	Contents	Corrective Action
1a	Original error	1 Clean the contact glass and slit glass. 2 Exchange the adjustment original.
1b 1c 1d	Input gamma adjustment original error Matrix adjustment original error Original for the white reference compensation coefficient error	Set the original correctly and perform again.
1e	Lab value searching error	Check the following and perform again. - Isn't the bar code dirty? - Is the position of a original right? - Is a bar code position right?
1f	Lab value comparing error	Check the following and perform again. - Is the acquired bar code the same? - Is the position of a original right? - Is a bar code position right?
20 21 30	Input gamma correction coefficient error Color correction matrix coefficient error Chromatic aberration adjustment original error	Set the original correctly and perform again.
63	Completed to obtain a test RAW	-

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U425	Set Target
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Contents

Enters the lab values that is indicated on the back of the chart (P/N: 302NM94340) used for adjustment.

Purpose

Performs data input in order to correct for differences in originals during automatic adjustment.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
ChartA	Setting the value of ChartA
ChartB	Setting the value of ChartB

Method: ChartA

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
White	Setting the white patch for the original for adjustment
Black	Setting the black patch for the original for adjustment
Gray1	Setting the Gray1 patch for the original for adjustment
Gray2	Setting the Gray2 patch for the original for adjustment
Gray3	Setting the Gray3 patch for the original for adjustment
C	Setting the cyan patch for the original for adjustment
M	Setting the magenta patch for the original for adjustment
Y	Setting the yellow patch for the original for adjustment
R	Setting the red patch for the original for adjustment
G	Setting the green patch for the original for adjustment
B	Setting the blue patch for the original for adjustment
Adjust Original	Setting the main and auxiliary scanning directions

- 3 Select the item to be set.

Items	Contents	Setting range	Initial setting
L	Setting the L value	0.0 to 100.0	93.6/10.6/76.2/25.2/51.3 72.6/48.1/86.2/46.7/67.8/38.8
a	Setting the a value	-200.0 to 200.0	0.9/-0.2/-0.2/-0.2/-0.3 -32.8/69.9/-18.6/54.2/-51.3/25.3
b	Setting the b value	-200.0 to 200.0	-0.4/-0.7/1.2/-0.2/0.3 -11.5/-6.1/81.7/38.6/48.9/-22.8

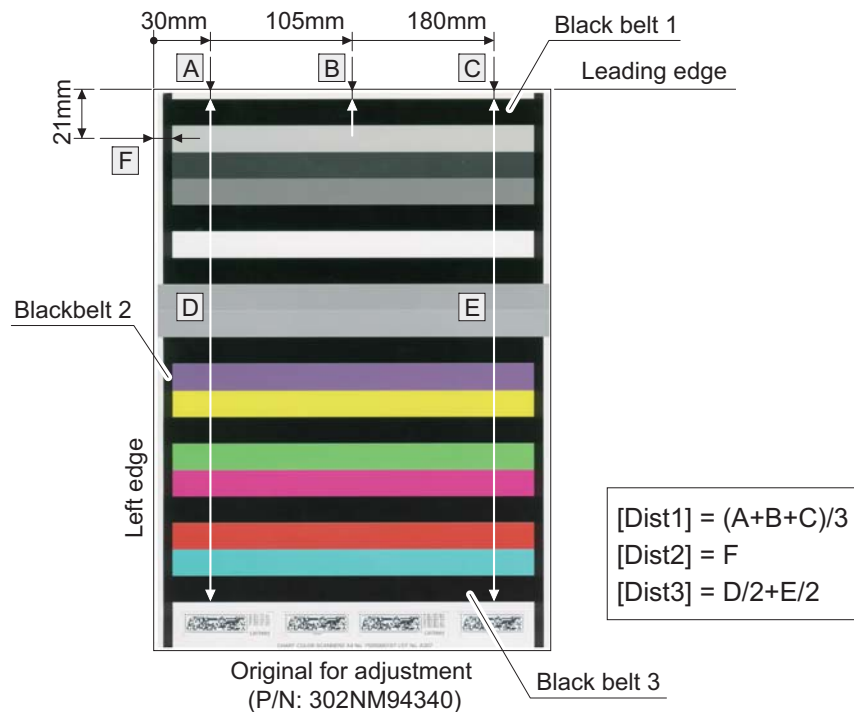
- 4 Enters the value that is indicated on the face of the chart using the [<] [>] keys or numeric keys.
- 5 Press the [Start] key. The value is set.

Setting: [Adjust Original]

- This setting is usually unnecessary.

Items	Contents	Setting range	Initial setting
Dist1	Sets the adjustment value of a leading edge.	4.0 to 6.0	5.0
Dist2	Sets the adjustment value of a left edge.	9.0 to 11.0	10.0
Dist3	Sets the adjustment value of a trailing edge.	265.0 to 267.0	266.0

- 1 Measure the distance from the leading edge to the top of black belt 1 of the original at A, B and C.
Measurement procedure
 - 1) Measure the distance from the leading edge to the top of black belt 1 of the original at A (30 mm from the left edge), B (105 mm from the left edge) and C (180 mm from the left edge), respectively.
 - 2) Apply the following formula for the values obtained: $((A + B + C) / 3)$
- 2 Enter the values solved using the [<] [>] keys or numeric keys in [Dist1].
- 3 Press the [Start] key. The value is set.
- 4 Measure the distance from the left edge to the right edge black belt 2 of the original at F.
Measurement procedure
 - 1) Measure the distance from the left edge to the right edge black belt 2 of the original at F (21 mm from the top edge of black belt 1).
- 5 Enter the values using the [<] [>] keys or numeric keys in [Dist2].
- 6 Press the [Start] key. The value is set.
- 7 Measure the distance from the top edge of black belt 1 to the bottom of black belt 3 of the original at D and E.
Measurement procedure
 - 1) Measure the distance from the top edge of black belt 1 to the bottom of black belt 3 of the original at D (30 mm from the left edge) and E (180 mm from the left edge), respectively.
 - 2) Apply the following formula for the values obtained: $(D/2 + E/2)$
- 8 Enter the measured value using the [<] [>] keys or numeric keys in [Dist3].
- 9 Press the [Start] key. The value is set.

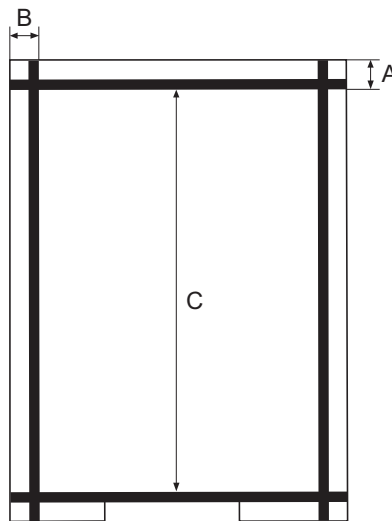


Setting: ChartB

- This setting is usually unnecessary.

Items	Contents	Setting range	Initial setting
Lead	A value of length of detecting the leading edge.	14.0 to 16.0	15.0
Main Scan	A value of width of main scan.	14.0 to 16.0	15.0
Sub Scan	A value of length of sub scan.	265.0 to 269.0	267.0

- 1 Measure the distance from the leading edge to the black belt (inside) of the original at A.
- 2 Enter the measured value using the [<] [>] keys or numeric keys in [Lead].
- 3 Measure the distance from the left edge to the black belt (inside) of the original at B.
- 4 Enter the measured value using the [<] [>] keys or numeric keys in [Main Scan].
- 5 Measure the distance from the black belt of leading edge (inside) to the black belt of trailing edge (inside) of the original at C.
- 6 Enter the measured value using the [<] [>] keys or numeric keys in [Sub Scan].
- 7 Press the [Start] key. The value is set.



Original for adjustment (P/N: 302NM94330)

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U460	Adj conveying
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Contents

To compensate for original multi-feed detection threshold.

Purpose

When original multi-feed frequently occurs, a threshold according to the environment is set.

Method

- 1 Press the [Start] key.
- 2 Select the DP and press the [OK] key.

Items	Contents
DP	Adjusts/sets DP conveying sensor

Setting

- 1 Select the item to be set.
- 2 Press the [Start] key.
 - The screen for setting is displayed.

Items	Contents
Conveying Sensor	Sets the threshold value of DP conveying sensor.
On/Off Config	Sets the Enable / Disable of DP conveying sensor.

Setting:Conveying Sensor

- 1 Setting the [ON] or [OFF].

Items	Contents	Setting range	Initial setting	Data variation
Threshold(S)	Conerying threshold (Single)	0 to 255		-
Threshold(M)	Convering threshold (Muiti)	0 to 255		-

- 2 Press the [Start] key to set the setting value.

Setting: On/Off Config

- 1 Setting the [ON] or [OFF].

Items	Contents
On	Enable original multi-feed detection (0)
Off	Disable original multi-feed detection (1)

Initial setting: On

- 2 Press the [Start] key to set the setting value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U520	Set TDRS
------	----------

Contents

Perform TDRS settings and information views.

Purpose

Perform TDRS settings and information views.

Method

- 1 Press the [Start] key.
- 2 Select the item.

Items	Contents
On/Off Config	Transition to the TDRS features dialog

Setting: [On/Off Config]

- 1 Select the item to be set.

Items	Contents
On	Enable TDRS
Off	Disable TDRS

Initial value: Off

- 2 Press the [Start] key to set the setting value.
- 3 Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U600	Init All Data
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Contents

Initializes software switches and all data in the backup data on the FAX control board, according to the destination and OEM.

Executes the check of the file system, when abnormality of the file system is detected, initializes the file system, communication past record and register setting contents.

Purpose

To initialize the FAX control board.

Method

- 1 Press the [Start] key.
The screen for entering the destination code and OEM code is displayed.
- 2 Select [Country Code] and enter a destination code using the numeric keys (refer to the destination code list on following for the destination code).

Items	Contents
Country Code	Country code.
OEM Code	OEM code.
Execute	Data initialization starts.

- OEM code is no operation necessary.
- 3 Select [Excute] and press the [Start] key.
Data initialization starts. To cancel data initialization, press the [Stop] key.
 - 4 After data initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, boot, and IPL.
- When initialization is successful, "Completed" during 1 second is displayed.
 - Where an irregular value is inputted, when it initializes, the following error displays are performed.

Kind of error
Unknown Country (When Country Code is unknown)
Unknown OEM (When OEM Code is unknown)
Unknown Country (When both are unknown)

Destination code list

Code	Destination	Code	Destination
000	Japan	007	South America*3
156	Asian nations*1	253	European nations*4
254	Taiwan	250	Russia
097	Korea	009	Australia
038	China	126	New Zealand*5
181	North America*2		

- *1: Applied for Sales company competent Singapore, India, Thailand, Hong Kong.
- *2: Applied for Sales company competent USA, Canada.
- *3: Applied for Sales company competent Bolivia, Chile, Peru, Argentina, Brazil.
- *4: Applied for Sales company competent Italy, Germany, Spain, U.K., Netherlands, Sweden, France, Austria, Switzerland, Belgium, Denmark, Finland, Portugal, Ireland, Norway, Saudi Arabia, Turkey.
- *5: Change the country code when selling in New Zealand. The country code to input is 126.

Completion

Press the [Stop] key.

- * :The screen for selecting a maintenance item No. is displayed.

U601	Init Keep Data
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Contents

Initializes software switches on the FAX control board according to the destination and OEM.

Purpose

To initialize the FAX control board without changing user registration data.

- 1 Press the [Start] key.
The screen for entering the destination code and OEM code is displayed.
- 2 Select [Country Code] and enter a destination code using the numeric keys (refer to the destination code list on P.6-81 for the destination code).

Items	Contents
Country Code	Country code.
OEM Code	OEM code.
Execute	Data initialization starts.

- OEM code is no operation necessary.
- 3 Select [Execute] and press the [Start] key.
Data initialization starts. To cancel data initialization, press the back key.
 - 4 After data initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, boot, and IPL.

U603	User Data 1
------	-------------

Contents

Makes user settings to enable the use of the machine as a fax.

Purpose

To be executed as required.

Method

- 1 Press the [Start] key.
- 2 Select [Line Type] and press the [Start] key.

Items	Contents
Line Type	Line Type

- 3 Select the item to be set.

Items	Contents
DTMF	DTMF
10PPS	10PPS
20PPS	20PPS

Initial setting: DTMF

- 4 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U604	User Data 2
------	-------------

Contents

Makes user settings to enable the use of the machine as a fax.

Purpose

Use this if the user wishes to adjust the number of rings that occur before the unit switches into fax receiving mode when fax/telephone auto-select is enabled.

Method

- 1 Press the [Start] key.
- 2 Select [Rings(F/P)#].
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range	Initial setting
Rings(F/T)	Number of fax/telephone rings	0 to 15	-

- If you set this to 0, the unit will start fax reception without any ringing.

- 4 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U605	Clr Data
------	----------

Contents

Initializes data related to the fax transmission such as transmission history.

Purpose

To clear the transmission history.

Method

- 1 Press the [Start] key.
- 2 Select [Comm Rec].

Items	Contents
Comm Rec	To clear the transmission history.

- 3 Press the [Start] key. Initialization processing starts. When processing is finished, [Completed] is displayed.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U610	System Setting 1
------	------------------

Contents

Makes settings for fax reception regarding the sizes of the fax paper and received images and automatic printing of the protocol list.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Cut Line:A4	Sets the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode.
Cut Line:100%	Sets the number of lines to be ignored when receiving a fax at 100% magnification.
Cut Line:Auto	Sets the number of lines to be ignored when receiving a fax in the auto reduction mode.

Setting the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or LetterR paper under the conditions below. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving a fax (A4R, letter) in the auto reduction mode	0 to 22	0	16 lines

- Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.

- 2 Press the [Start] key. The value is set.

Setting the number of lines to be ignored when receiving a fax at 100% magnification

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when recording the data at 100% magnification. If the number of excess lines is below the setting, those lines are ignored. If over the setting, they are recorded on the next page.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving at 100%	0 to 22	3	16 lines

- Increase the setting if a blank second page is output, and decrease it if the received image does not include the entire transmitted data.

- 2 Press the [Start] key. The value is set.

Setting the number of lines to be ignored when receiving a fax in the auto reduction mode

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving in the auto reduction mode	0 to 22	0	16 lines

- Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.

- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U611	System Setting 2
------	------------------

Contents

Sets the number of adjustment lines for automatic reduction.

Purpose

It carries out to set up the number of adjustment lines of automatic reduction.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
ADJ LINES	Sets the number of adjustment lines for automatic reduction.
ADJ LINES(A4)	Sets the number of adjustment lines for automatic reduction when A4 paper is set.
ADJ LINES(LT)	Sets the number of adjustment lines for automatic reduction when letter size paper is set.

Setting: ADJ LINES

Sets the number of adjustment lines for automatic reduction.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Contents	Setting range	Initial setting
Number of adjustment lines for automatic reduction	0 to 22	7

- 2 Press the [Start] key. The value is set.

Setting: ADJ LINES(A4)

Sets the number of adjustment lines for automatic reduction when A4 paper is set.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Contents	Setting range	Initial setting
Number of adjustment lines for automatic reduction when A4 paper is set	0 to 22	22

- 2 Press the [Start] key. The value is set.

Setting: ADJ LINES(LT)

Sets the number of adjustment lines for automatic reduction when letter size paper is set.

- 1 Change the setting using the [<] [>] keys or numeric keys.

Contents	Setting range	Initial setting
Number of adjustment lines for automatic reduction when letter size paper is set	0 to 22	22

- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U612	System Setting 3
------	------------------

Contents

Makes settings for fax transmission regarding operation and automatic printing of the protocol list.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Auto Reduct	Selects if auto reduction in the auxiliary direction is to be performed.
Protocol List	Sets the automatic printing of the protocol list.

Selecting if auto reduction in the auxiliary direction is to be performed

Sets whether to receive a long document by automatically reducing it in the auxiliary direction or at 100% magnification.

- 1 Select the setting using the [<] [>] keys.

Items	Contents
On	Auto reduction is performed if the received document is longer than the fax paper.
Off	Auto reduction is not performed.

- Initial setting: On

- 1 Press the [Start] key. The setting is set.

Setting the automatic printing of the protocol list

Sets if the protocol list is automatically printed out.

- 1 Select the setting using the [<] [>] keys.

Items	Contents
Err	The protocol list is automatically printed out after communication only if a communication error occurs.
On	The protocol list is automatically printed out after communication.
Off	The protocol list is not printed out automatically.

- Initial setting: Off

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U620	FAX System
------	------------

Contents

Sets the signal detection method for remote switching. Be sure to change the setting according to the type of telephone connected to the machine.

Purpose

The decision system of a remote change is set up to compensate for a user's telephone classification, peculiarity.

Setting

- 1 Press the [Start] key.
- 2 Select [Remort Mode] and press the [Start] key.

Items	Contents
Remort Mode	setting the mode

- 3 Select the item to be set.

Items	Contents
One	One-shot detection
Cont	Continuous detection

- Initial setting: One

- 4 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U625	Set Comm
------	----------

Contents

Makes settings for the auto redialing interval and the number of times of auto redialing.

Purpose

Change the setting to prevent the following problems:

fax transmission is not possible due to too short redial interval, or fax transmission takes too much time to complete due to too long redial interval.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Interval	Setting the auto redialing interval
Times	Setting the number of times of auto redialing

Setting: interval

- 1 Change the setting using the [<] [>] keys.

Description	Setting range	Initial setting
Redialing interval	1 to 9 (min.)	3 (120 V)/ 2 (220-240 V)

- 2 Press the [Start] key. The value is set.

Setting: times

- 1 Change the setting using the [<] [>] keys or numeric keys.

Description	Setting range	Initial setting
Number of redialing	0 to 15	2 (120 V)/ 3 (220-240 V)

- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U630	Comm Ctrl 1
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Contents

Makes settings for fax transmission regarding the communication.

Purpose

The event of a request for user.

Reduce transmission time and the reception of accuracy when using poor quality line.

Improve the accuracy of communication at international communication.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
TX Speed	Sets the communication starting speed.
RX Speed	Sets the reception speed.
TX Echo	Sets the waiting period to prevent echo problems at the sender.
RX Echo	Sets the waiting period to prevent echo problems at the receiver.

Setting the communication starting speed

Sets the initial communication speed when starting transmission. When the destination unit has V.34 capability, V.34 is selected for transmission, regardless of this setting.

- 1 Select the setting.

Items	Contents
14400bps/V17	V.17 14400bps
9600bps/V29	V.29 9600bps
4800bps/V27ter	V.27ter 4800bps
2400bps/V27ter	V.27ter 2400bps

Initial setting: 14400bps/V17

- 2 Press the [Start] key. The setting is set.

Setting the reception speed

Sets the reception speed that the sender is informed of using the DIS or NSF signal. When the destination unit has V.34 capability, V.34 is selected, regardless of the setting.

- 1 Select the setting.

Items	Contents
14400bps	V.17, V.33, V.29, V.27ter
9600bps	V.29, V.27ter
4800bps	V.27ter
2400bps	V.27ter (fallback only)

Initial setting: 14400bps

- 2 Press the [Start] key. The setting is set.

Setting the waiting period to prevent echo problems at the sender

Sets the period before a DCS signal is sent after a DIS signal is received. Used when problems occur due to echoes at the sender.

- 1 Select the setting.

Items	Contents
500	Sends a DCS 500 ms after receiving a DIS.
300	Sends a DCS 300 ms after receiving a DIS.

Initial setting: 300

- 2 Press the [Start] key. The setting is set.

Setting the waiting period to prevent echo problems at the receiver

Sets the period before an NSF, CSI or DIS signal is sent after a CED signal is received. Used when problems occur due to echoes at the receiver.

- 1 Select the setting.

Items	Contents
500	Sends an NSF, CSI or DIS 500 ms after receiving a CED.
75	Sends an NSF, CSI or DIS 75 ms after receiving a CED.

Initial setting: 75

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U631	Comm Ctrl 2
------	-------------

Contents

Makes settings regarding fax transmission.

Purpose

Transmission and reception of ECM are set up.

The frequency of CED is set up.

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
ECM TX	Sets ECM transmission.
ECM RX	Sets ECM reception.
CED Freq.	Sets the frequency of the CED signal.

Setting: ECM TX

To be set to OFF when reduction of transmission costs is of higher priority than image quality.

This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.

- 1 Select the setting.

Items	Contents
On	ECM transmission is enabled.
Off	ECM transmission is disabled.

Initial setting: ON

- 2 Press the [Start] key. The setting is set.

Setting: ECM RX

To be set to OFF when reduction of transmission costs is of higher priority than image quality.

This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.

- 1 Select the setting.

Items	Contents
On	ECM reception is enabled.
Off	ECM reception is disabled.

Initial setting: ON

- 2 Press the [Start] key. The setting is set.

Setting: Freq.

Sets the frequency of the CED signal. Used as one of the measures to improve transmission performance for international communications.

- 1 Select the setting.

Items	Contents
2100	2100Hz
1100	1100Hz

Initial setting: 2100

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U632	Comm Ctrl 3
------	-------------

Contents

Makes settings for fax transmission regarding the communication.

Purpose

Reduction of error communication when a low quality circuit is used.
When changing a FAX/TEL automatic change.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
DIS 4Byte	Sets the DIS signal to 4 bytes.
Num OF CNG(F/T)	Sets the CNG detection times in the fax/telephone auto select mode.

Setting: DIS 4 byte

Sets if bit 33 and later bits of the DIS/DTC signal are sent.

- 1 Select the setting.

Items	Contents
On	Bit 33 and later bits of the DIS/DTC signal are not sent.
Off	Bit 33 and later bits of the DIS/DTC signal are sent.

Initial setting: Off

- 2 Press the [Start] key. The setting is set.

Setting: Num CNG detection times in the fax/telephone auto select mode

Sets the CNG detection times in the fax/telephone auto select mode.

- 1 Select the setting.

Items	Contents
1Time	Detects CNG once.
2Time	Detects CNG twice.

Initial setting: 1times

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U633	Comm Ctrl 4
------	-------------

Contents

Makes settings for fax transmission regarding the communication.

Purpose

To reduce transmission errors when a low quality line is used.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
V.34	Enables or disables V.34 communication.
V.34-3429Hz	Sets the V.34 symbol speed (3429 Hz).
DIS 2Res	Sets the number of times of DIS signal reception.
RTN Check	Sets the reference for RTN signal output.

Enabling/disabling V.34 communication

Sets whether V.34 communication is enabled/disabled for transmission and reception.

- 1 Select the setting.

Items	Contents
On	V.34 communication is enabled for both transmission and reception.
TX	V.34 communication is enabled for transmission only.
RX	V.34 communication is enabled for reception only.
Off	V.34 communication is disabled for both transmission and reception.

Initial setting: ON

- 2 Press the [Start] key. The setting is set.

Setting the V.34 symbol speed (3429 Hz)

Sets if the V.34 symbol speed 3429 Hz is used.

- 1 Select the setting.

Items	Contents
On	V.34 symbol speed 3429 Hz is used.
Off	V.34 symbol speed 3429 Hz is not used.

Initial setting: ON

- 2 Press the [Start] key. The setting is set.

Setting the number of times of DIS signal reception

Sets the number of times to receive the DIS signal to once or twice. Used as one of the correction measures for transmission errors and other problems.

- 1 Select the setting.

Items	Contents
Once	Responds to the first signal.
Twice	Responds to the second signal.

Initial setting: ONCE

- 2 Press the [Start] key. The setting is set.

Setting the reference for RTN signal output

Sets the error line rate as the reference for RTN signal output. If transmission errors occur frequently due to the quality of the line, they can be reduced by lowering this setting.

- 1 Select the setting.

Items	Contents
5%	Error line rate of 5%
10%	Error line rate of 10
15%	Error line rate of 15%
20%	Error line rate of 20%

Initial setting: 15%

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U634	Comm Ctrl 5
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Contents

Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Used as a measure to ease transmission conditions if transmission errors occur.

Purpose

Do to alleviate the communication conditions.

Setting

- 1 Press the [Start] key.
- 2 Select [TCF Check].
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range
TCF Check	Number of allowed error bytes when detecting TCF	1 to 255

- 4 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U640	Comm Time 1
------	-------------

Contents

Sets the detection time when one-shot detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)

Sets the detection time when continuous detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)

Purpose

The decision system of a remote change is set up to compensate for a user's telephone classification, peculiarity, etc.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.
- 3 Change the setting using the [<] [>] keys.

Items	Contents	Setting range	Initial setting
Time(One)	Sets the one-shot detection time for remote switching.	0 to 255	7
Time(Cont)	Sets the continuous detection time for remote switching.	0 to 255	80

- 4 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U641	Comm Time 2
------	-------------

Contents

Sets the time-out time for fax transmission.

Purpose

To improve transmission performance for international communications mainly.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
T0 TIME OUT	Sets the T0 time-out time.
T1 TIME OUT	Sets the T1 time-out time.
T2 TIME OUT	Sets the T2 time-out time.
Ta TIME OUT	Sets the Ta time-out time.
Tb1 TIME OUT	Sets the Tb1 time-out time.
Tb2 TIME OUT	Sets the Tb2 time-out time.
Tc TIME OUT	Sets the Tc time-out time.
Td TIME OUT	Sets the Td time-out time.

Setting: T0 time out

Sets the time before detecting a CED or DIS signal after a dialing signal is sent.

Depending on the quality of the exchange, or when the auto select function is selected at the destination unit, a line can be disconnected. Change the setting to prevent this problem.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
T0 time-out time	30 to 90 s	56

- 2 Press the [Start] key. The value is set.

Setting: T1 time out

Sets the time before receiving the correct signal after call reception. No change is necessary for this maintenance item.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
T1 time-out time	30 to 90 s	36

- 2 Press the [Start] key. The value is set.

Setting: T2 time out

The T2 time-out time decides the following.

From CFR signal output to image data reception

From image data reception to the next signal reception

In ECM, from RNR signal detection to the next signal reception

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
T2 time-out time	1 to 255	69

- 2 Press the [Start] key. The value is set.

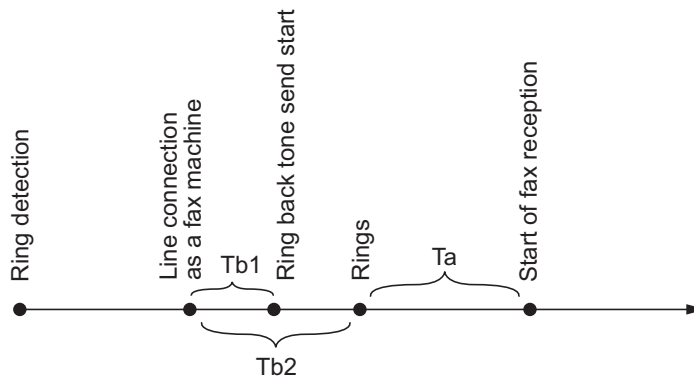
Setting: Ta time out

In the fax/telephone auto select mode, sets the time to continue ringing an operator through the connected telephone after receiving a call as a fax machine (see figure). A fax signal is received within the Ta set time, or the fax mode is selected automatically when the time elapses. In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
Ta time-out time	1 to 255	30

- 2 Press the [Start] key. The value is set

**Setting: Tb1 time out**

In the fax/telephone auto select mode, sets the time to start sending the ring back tone after receiving a call as a fax machine (see figure). In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
Tb1 time-out time	1 to 255	20

- 2 Press the [Start] key. The value is set.

Setting: Tb2 time out

In the fax/telephone auto select mode, sets the time to start ringing an operator through the connected telephone after receiving a call as a fax machine (see figure). In the fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
Tb2 time-out time	1 to 255	100 ms

- 2 Press the [Start] key. The value is set.

Setting: Tc time out

In the TAD mode, set the time to check if there are any triggers for shifting to fax reception after a connected telephone receives a call. Only the telephone function is available if shifting is not made within the set Tc time.

In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
Tc time-out time	1 to 255	60

- 2 Press the [Start] key. The value is set.

Setting: Td time out

Sets the length of the time required to determine silent status (fax), one of the triggers for Tc time check. In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. Be sure not to set it too short; otherwise, the mode may be shifted to fax while the unit is being used as a telephone.

- 1 Change the setting using the [<] [>] keys.

Contents	Setting range	Initial setting
Td time-out time	1 to 255	30

- 2 Press the [Start] key. The value is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U650	Modem 1
------	---------

Contents

Sets the G3 cable equalizer. Sets the modem detection level.

Purpose

Perform the following adjustment to make the equalizer compatible with the line characteristics. To improve the transmission performance when a low quality line is used.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Reg G3 TX Eqr	Sets the G3 transmission cable equalizer.
Reg G3 RX Eqr	Sets the G3 reception cable equalizer.
RX Mdm Level	Sets the modem detection level.

Setting: Reg G3 TX Eqr

- 1 Select [0dB], [4dB], [8dB] or [12dB].
Initial setting: 0dB
- 2 Press the [Start] key. The setting is set.

Setting: Reg G3 RX Eqr

- 1 Select [0dB], [4dB], [8dB] or [12dB].
Initial setting: 0dB
- 2 Press the [Start] key. The setting is set.

Setting: RX Mdm Level

- 1 Select [33dBm], [38dBm], [43dBm] or [48dBm].
Initial setting: 43dBm
- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U651	Modem 2
------	---------

Contents

Sets the modem output level.

Sets the DTMF output level of a push-button dial telephone.

Purpose

Used if problems occur when sending a signal with a push-button dial telephone.

Setting

- 1 Press the [Start] key.
- 2 Select the item to be set.
- 3 Change the setting using the [<] [>] keys or numeric keys.

Items	Contents	Setting range	Initial value
Sgl LV Mdm	Modem output level	-15 to 0	-
DTMF LV(C)	DTMF output level (main value)	-15 to 0	-
DTMF LEV(D)	DTMF output level (level difference)	0 to 5.5	-

- 4 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U660	Set Calls
------	-----------

Contents

Makes setting regarding the network control unit (NCU).

Purpose

To be executed as required.

Method

- 1 Press the [Start] key.
- 2 Select the item to be set.

Items	Contents
Exchange	Sets the connection to PBX/PSTN.
Dial Tone	Sets PSTN dial tone detection.
Busy Tone	Sets busy tone detection.
PBX Setting	Setting for a PBX.
DC Loop	Sets the loop current detection before dialing.

Setting: Exchange

Selects if a fax is to be connected to either a PBX or public switched telephone network.

- 1 Select the setting.

Items	Contents
PSTN	Connected to the public switched telephone network.
PBX	Connected to a PBX.

Initial setting: PSTN

- 2 Press the [Start] key. The setting is set.

Setting: Dial Tone

Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.

- 1 Select the setting.

Items	Contents
On	Detects the dial tone.
Off	Does not detect the dial tone.

Initial setting: On

- 2 Press the [Start] key. The setting is set.

Setting: Busy tone

When a fax signal is sent, sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time.

Fax transmission may fail due to incorrect busy tone detection. When set to 2, this problem may be prevented. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.

- 1 Select the setting.

Items	Contents
On	Detects busy tone.
Off	Does not detect busy tone.

Initial setting: On

- 2 Press the [Start] key. The setting is set.

Setting: PBX Setting

Selects the mode to connect an outside call when connected to a PBX.

According to the type of the PBX connected, select the mode to connect an outside call.

- 1 Select the setting.

Items	Contents
Flash	Flashing mode
Loop	Code number mode

Initial setting: Loop

- 2 Press the [Start] key. The setting is set.

Setting: DC loop

Sets if the loop current detection is performed before dialing.

- 1 Select the setting.

Items	Contents
On	Performs loop current detection before dialing.
Off	Does not perform loop current detection before dialing.

Initial setting: On

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U670	Output List
------	-------------

Contents

Outputs a list of data regarding fax transmissions.

Printing a list is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.

Purpose

To check conditions of use, settings and transmission procedures of the fax.

Method

- 1 Press the [Start] key.
- 2 Select the item to be output.
- 3 Press the [Start] key. The selected list is output.

Items	Contents
Sys Conf Report	Outputs a list of software switches, self telephone number, confidential boxes, ROM versions and other information.
Action List	Outputs a list of error history, transmission line details and other information.
Self Sts Report	Outputs a list of settings in maintenance mode (own-status report) regarding fax transmission only.
Protocol List	Outputs a list of transmission procedures.
Error List	Outputs a list of error.
Addr List(No.)	Outputs address book in order IDs were added
Addr List(Idx)	Outputs address book in order of names
One-touch List	Outputs a list of one-touch.
Group List	Outputs a list of group.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U695	Custom FAX Func
------	-----------------

Contents

Sets fax batch transmission ON/OFF. Also changes the print size priority at the time of small size reception.

Purpose

To be executed as required.

Setting

- 1 Select the setting.

Items	Contents
FAX Bulk TX	fax batch transmission On/Off
A5 Pt Pri Chg	Change of print size priority at the time of small size reception

Setting: [FAX Bulk TX]

- 1 Select [On] or [Off] using the [<] [>] keys.

Items	Contents
On	Fax batch transmission is enabled.
Off	Fax batch transmission is disabled.

Initial setting: On

- 2 Press the [Start] key. The setting is set.

Setting: [A5 Pt Pri Chg]

- 1 Select [On] or [Off] using the [<] [>] keys.

Items	Contents
On	At the time of A5 size reception: A5 > B5 > A4 > B4 > A3
Off	At the time of A5 size reception: A5 > A4 > B5 > A3 > B4

Initial setting: Off

- 2 Press the [Start] key. The setting is set.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U699	Set Soft SW
------	-------------

Contents

Sets the software switches on the FAX control board individually.

Purpose

To change the setting when a problem such as split output of received originals occurs.

Since the communication performance is largely affected, normally this setting need not be changed.

Method

- 1 Press the [Start] key.
- 2 Press [SW No.].
- 3 Enter the desired software switch number (3 digits) using the numeric keys and press the enter key.

Items	Contents
SW No.	SW No.

- 4 Use numeric keys 7 to 0 to switch each bit between 0 and 1.

Items	Contents
Bit	Set the soft switch.

- 5 Press the [Start] key to set the value.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

List of Software Switches of Which the Setting Can Be Changed**<Communication control procedure>**

No.	bit	Contents
36	7654	Coding format in transmission
	3210	Coding format in reception
37	5	33600bps/V34
	4	31200bps/V34
	3	28800bps/V34
	2	26400bps/V34
	1	24000bps/V34
	0	21600bps/V34
38	7	19200bps/V34
	6	16800bps/V34
	5	14400bps/V34
	4	12000bps/V34
	3	9600bps/V34
	2	7200bps/V34
	1	4800bps/V34
	0	2400bps/V34

No.	bit	Contents
41	3	FSK detection in V.8
42	4	4800 bps when low-speed setting is active
	2	FIF length in transmission of more than 4 times of DIS/DTC signal

<Communication time setting>

No.	bit	Contents
53	76543210	T3 timeout setting
54	76543210	T4 timeout setting (automatic equipment)
55	76543210	T5 timeout setting
60	76543210	Time before transmission of CNG (1100 Hz) signal
63	76543210	T0 timeout setting (manual equipment)
64	7	Phase C timeout in ECM reception
66	76543210	Timeout 1 in countermeasures against echo
68	76543210	Timeout for FSK detection start in V.8

<Modem setting>

No.	bit	Contents
89	76543	RX gain adjust

<NCU setting>

No.	bit	Contents
121	7654	Dial tone/busy tone detection pattern
122	7654	Busy tone detection pattern
	1	Busy tone detection in automatic FAX/TEL switching
125	76543210	Access code registration for connection to PSTN
126	7654	FAX/TEL automatic switching ringback tone ON/OFF cycle

<Calling time setting>

No.	bit	Contents
133	76543210	DTMF signal transmission time
134	76543210	DTMF signal pause time
141	76543210	Ringer detection cycle (minimum)
142	76543210	Ringer detection cycle (maximum)
143	76543210	Ringer ON time detection
144	76543210	Ringer OFF time detection
145	76543210	Ringer OFF non-detection time
147	76543210	Dial tone detection time (continuous tone)
148	76543210	Description
149	76543210	Allowable dial tone interruption time
151	76543210	Time for transmitting selection signal after closing the DC circuit

U901	Clr Paper FD Cnt
------	------------------

Contents

Displays copy counts by paper feed locations.

Purpose

To check the time to replace consumable parts.

Method

- 1 Press the [Start] key. The counts by paper feed locations are displayed.

Items	Contents
MPT	MP tray
Cass1	Cassette 1
Cass2	Cassette 2 (paper feeder)
Cass3	Cassette 3 (paper feeder)
Cass4	Cassette 4 (paper feeder)
Cass5	Cassette 5 (paper feeder)
Dup	Duplex unit

- When an optional paper feed unit is not installed, the corresponding count is not displayed.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U903	Clearing the jam counter
------	--------------------------

Contents

Displays/clears the jam counter by paper jam type.

Purpose

Execute to check the paper jam status. Executes to clear counters when replacing the maintenance parts.

Method

- 1 Press the [Start] key.
- 2 Select the item to execute.

Items	Contents
Cnt	Displaying/clearing the jam counts
Total Cnt	Displaying the accumulate jam counts

Method: Cnt

- 1 Select [Cnt].
Number of occurrence is displayed by jam code.
Code of no occurrence is not indicated.
- 2 Select [Clear] to clear the jam counts.
Individual counters cannot be cleared.
- 3 Press the [Start] key to clear the counter value.

Method: Total Cnt

- 1 Select [Total Cnt].
Accumulate number of occurrence is displayed by jam code.
- 2 Change the screen using the [Λ] [V] key.
Unable to clear the accumulated jam counter values.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U904	Clearing the service call error counter
------	---

Contents

Displays/clears the number of times of service call errors by service call error type.

Purpose

Executes to check the service call error. Executes to clear counters when replacing the maintenance parts.

Method

- 1 Press the [Start] key.
- 2 Select the item to execute.

Items	Contents
Cnt	Displays/clears the service call counter.
Total Cnt	Displays accumulate service call error counts.

Method: Cnt

- 1 Select [Cnt].
Number of occurrence is displayed by service call error.
Code of no occurrence is not indicated.
- 2 Select [Clear] to clear the service call error counter.
Individual counters cannot be cleared.
- 3 Press the [Start] key to clear the counter value.

Method: Total Cnt

- 1 Select [Total Cnt].
Accumulate number of occurrence is displayed by service call error.
Unable to clear the accumulated service call error counter values.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U905	Optional counter
------	------------------

Contents

Displays the counter values of the document processor and finisher.

Purpose

Execute to check the usage status of the document processor and finisher.

Method

- 1 Press the [Start] key.
- 2 Select the device to check.
Switched to the counter screen.

Items	Contents
DP	Displays the document processor count.

Method: DP

Each counter is displayed.

Items	Contents
ADP	Simplex original count is displayed.
RADP *2	Duplex original count is displayed
CIS *1	Display the counter value of simultaneous duplex scanning
Clear	Clears all counters

*1: 55/60 ppm model only, *2: 45 ppm model only

Clearing

- 1 Select [Clear].
- 2 Press the [Start] key. All counters are cleared.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U906	Resetting the partial operation
------	---------------------------------

Contents

Release the service call error with partial operation.

Purpose

If the partial operation is executed with a broken document processor etc., make sure to execute it after repairing the parts.

Method

- 1 Press the [Start] key.
- 2 Select [Execute].

Items	Contents
Execute	Reset the partial operation.

- 3 Press the [Start] key to release the partial operation.
- 4 Turn the power switch off then on. Please wait at least 5 seconds or more between power off and on

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U908	Total counter
------	---------------

Contents

Displays the total counter.

Purpose

Execute to check the usage status of the main unit.

Method

- 1 Press the [Start] key.
Counter is displayed.

Items	Contents
Total Cnt	Displays the total count

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U910	Clr Coverage Dat
------	------------------

Contents

Clears the accumulated data for the print coverage per A4 size paper and its period of time (as shown on the service status report).

Purpose

To clear data as required at times such as during maintenance service.

Method

- 1 Press the [Start] key.
- 2 Select [Execute].

Items	Contents
Execute	The print coverage data is cleared.

- 3 Press the [Start] key. The print coverage data is cleared.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U911	Counter by media type
------	-----------------------

Contents

Display the counts to confirm when replacing the maintenance parts.

Purpose

Displays the counts to confirm when replacing the maintenance parts.

Method

- 1 Press the [Start] key.
Displays the paper feed counts by paper size.

Items	Contents
A4 *1	Displays A4 feed counts
B5 *1	Displays B5 feed counts
A5 *1	Displays A5 feed counts
Folio *1	Displays Folio feed counts
Legal *2	Displays Legal feed counts
Letter *2	Displays Letter feed counts
Statement *2	Displays Statement feed counts
ETC	Displays Other paper feed counts

*1: *1: metric specification, *2: inch specification

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U917	Read/Write Backup Data
------	------------------------

Contents

Retrieves the backup data to a USB memory from the machine; or writes the data from the USB memory to the machine.

Purpose

Machine information is backed up and restored.

Method

- 1 Press the power key on the operation panel, and after verifying the power indicator has gone off, switch off the main power switch.
- 2 Insert USB memory in USB memory slot.
- 3 Turn the main power switch on.
Wait for 10 seconds to allow the machine to recognize the USB memory.
- 4 Enter maintenance item U917.
- 5 Select [Export] or [Import] and press the [Start] key

Items	Contents
Import	Writing data from the USB memory to the machine
Export	Retrieving from the machine to a USB memory

- 6 Select the item to setting.

Items	Contents	Depending data
Address	Address book	-
Job AcCnt	Job accounting	-
One Touch	Information on one-touch key	Address Book
User	User managements	Job Account
Document	Document box information	Job Account, User
Shortcut *2	Shortcut information	Job Account, User, Document Box
Fax Fwd *1	FAX transfer information	Job Account, User, Document Box
System	System information	-
Network	Network information	-
Job Set	Job Setting information	-
Printer	Printer information	-
Fax Set *1	Fax Setting information	-
Program	Program information	Address Book, Job Account, User, Document Box, Fax Forward, Fax Setting
Panel Set	Panel Setting information	Address Book, Job Account, User, Document Box, Fax Forward, Fax Setting, Program

*1: FAX model only, *2: HyPAS model only

- Since data are dependent with each other, data other than those assigned are also retrieved or written in.

- 7 Select [On] using the [<] [>] keys.
- 8 Press the [Start] key. Starts reading or writing.
The progress of selected item is displayed in %.
When an error occurs, the operation is canceled and an error code is displayed.
- 9 When normally completed, [Fin] is displayed.
- 10 Turn the main power switch off and on after completing writing when selecting [Import].

Error Codes

Codes	Contents
e000	Unspecified error
e0001	Parameter error
e0002	Failed to generate a Dummy file
e0003	The target XML file to import does not exist
e0004	The exported file does not exist
e0100 to e01ff	Error in handling the address book
e0200 to e02ff	Error in handling One-touch
e0300 to e03ff	Error in handling user management
e0400 to e04ff	Error in handling panel-program data
e0500 to e05ff	Error in handling forwarding Fax data
e0600 to e06ff	Error in handling system configurations
e0700 to e07ff	Error in handling network parameters
e0800 to e08ff	Error in handling job accounting
e0900 to e09ff	Error in handling short-cuts
e0a00 to e0aff	Error in handling job information
e0b00 to e0bff	Error in handling Fax data
e0c00 to e0cff	Error in handling printer data
e0d00 to e0dff	Error in handling panel data
e0e00 to e0eff	Error in handling document boxes
e1000 to e1fff	Error in handling device-related information
e2000 to e2fff	Error in handling SOAP IF
e3000 to e3fff	Error in handling KM-WSDL IF
e4000 to e4fff	A file mandatory for importing is missing (e4002)/Invalid file header (e4008)
e5000 to e5fff	Error in handling rewriting SOAP data

[Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U920	Chg Cnt
------	---------

Contents

Displays the billing count.

Purpose

Execute to check the current billing counts

Method

- 1 Press the [Start] key.
- 2 Select the item to display.

The charge counts are displayed.

Items	Contents
B/W Copy	B/W copy count is displayed.
B/W Prn	B/W print count is displayed
B/W Fax *1	FAX count
Simplex	Simplex print count is displayed
Duplex	Duplex print count is displayed
Comb(Off)	Combine print counts (Off) is displayed
Comb(2in1)	Combine print counts (2in1) is displayed
Comb(4in1)	Combine print counts (4in1) is displayed

*1: FAX model only

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U927	Clr Chg/Life Cnt
------	------------------

Contents

Resets all of the counts back to zero.

Purpose

The total account counter and the machine life counter can be cleared only once if all count values are 1000 or less.

Method

- 1 Press the [Start] key.
- 2 Select [Execute].

Items	Contents
Execute	All copy counts and machine life counts are cleared.

- 3 Press the [Start] key. All copy counts and machine life counts are cleared.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U928	Life Cnt
------	----------

Contents

Displays the machine life counts.

Purpose

To check the machine life counts.

Method

- 1 Press the [Start] key. The current machine life counts is displayed

Items	Contents
Cnt	Machine life counts

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U964	(none)
------	--------

Contents

Transfer the log files save in the SSD to a USB memory.

Transfer the log and screenshot at the log retrieval.

Purpose

Transfer the log file saved in the SSD to a USB memory for investigation when a failure occurs.

Method

- 1 Check the LED display is off and turn the power switch off.
- 2 Insert a USB memory into the USB memory slot.
- 3 Turn the power switch on.
- 4 Enter maintenance item U964.
- 5 Select [Execute].

Items	Contents
Execute	Transfer the log file.

- 6 Press the [Start] key.
Starts transferring the log files saved in the SSD to a USB memory.
[Processing] is displayed. (About 3 to 5 minutes)
- 7 [Completed] appears after normal completion.
- 8 Turn the power switch off then on. Wait more than 5 seconds between the power off and on.
An error code appears when there is an error.



Note

How to retrieve the log when the operation panel freezes

Start retrieving the log when pressing and holding three keys on the operation panel (Status/Job Cancel + System Menu/Counter + Stop) for 3 to 6 seconds.

The memory lamp is blinking during retrieving and turns on when completed.

The log retrieved this way can be saved in a USB memory.

Error codes

Items	Contents
No USB Storage	The USB memory is not installed
No File	No file
Mount Error	USB memory mount error
File Delete Error	Failed to delete existing files in the USB memory
Copy Error	SSD to USB memory copy failure
Unmount Error	USB memory unmount error
Other Error	Other error

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U969	Toner Area Code
------	-----------------

Contents

Displays the toner area code.

Purpose

Execute to check current setting of toner area code and model code.

Method

- 1 Press the [Start] key.

Display the toner area code and model code.

Items	Contents
Area Code	Toner container area code
Model Code	Model code

Completion

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

U977	Data capture mode
------	-------------------

Contents

Store the print data sent to the machine into USB memory.

Purpose

In case to occur the error at printing, check the print data sent to the machine.

Method

- 1 Press the power switch and turn the power off.
- 2 Insert USB memory in USB memory slot.
- 3 Turn the main power switch on.
- 4 Enter maintenance item U977.
- 5 Select [Execute].

Items	Contents
Execute	Data capture mode

- 6 Press the [Start] key.
- 7 Send the print data to the machine.
Once the print data is stored into USB memory, [Finish] will be displayed.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

U991	Scanner counter
------	-----------------

Contents

Displays the scanner operation counts.

Purpose

Display the number of scanner operation to check the usage status.

Method

- 1 Press the [Start] key.
Current number of operation is displayed.

Items	Contents
Copy Scan	Displays times of copy and scan operations.
Fax Scan	Displays times of FAX scan operations.
Other Scan	Displays times of other scan operations.

Completion

Press the [Stop] key. The screen for selecting a maintenance item No. is displayed.

6 - 2 Service mode

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

(1) Executing a service mode

[Message Display]

Ready to copy

1. Press the System Menu /Counter Key.

System Menu:
Quick Setup Wisard
Language
Report
Counter

Cassette/MP Tray Setting
Common Setting
Home
Copy

Send
Document Box
FAX
Application

Inter net
Address Book/One touch
User Login/Job Accounting
Printer

System/Network
Date/Timer/Energy Saver
Adjustment/Maintenance

2. Select [Adjustment/Maintenance] using the [^] [V] keys.

3. Select [Service Setting] using the [^] [V] keys.

Adjustment/Maintenance:
Auto Drum Refresh
Service Setting

4. Select the item to be set.

Service Setting:
Test Page
Developer
FAX Country Code
FAX Call Settings

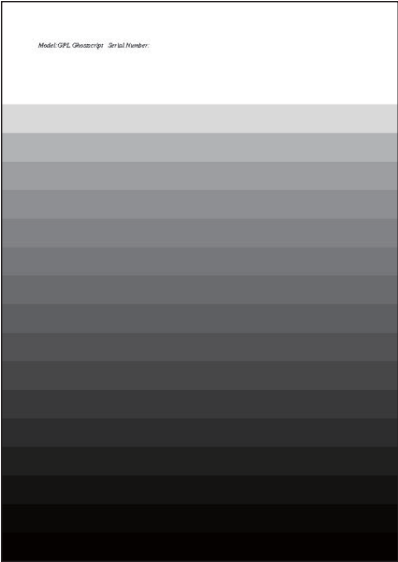
Alutitude Adjustment
MC
Memory Diagnostics
Transfer Adjustment

Fuser Adjustment

Service setting

Items	Contents	Page
Test page	The test page is printed with halftones.	P.6-126
Developer	Installs the toner to the developer unit.	P.6-127
FAX Country Code	Initializes software switches and all data.	P.6-128
FAX Call Settings	Sets FAX for connection.	P.6-129
Alutitude Adjustment	Sets the altitude adjustment mode.	P.6-130
MC	Sets the main charger output.	P.6-130
Memory Diagnostics	Diagnose memory at power up (whether reading and writing are executable).	P.6-131
Transfer Adjustment	Sets the transfer adjustment mode.	P.6-131
Fuser Adjustment	Sets the fuser adjustment mode.	P.6-132

(2) Description of service mode

Items	Contents
Test Page	<p data-bbox="327 241 603 280">Printing a test page</p> <p data-bbox="327 331 443 360">Contents</p> <p data-bbox="327 365 1023 394">The halftones of sixteen different levels are printed for test.</p> <p data-bbox="327 398 435 427">Purpose</p> <p data-bbox="327 432 1493 499">The developmental time of image error, the test print is performed for judgement of the engine-side or the scanner-side.</p> <p data-bbox="327 539 424 568">Method</p> <ol data-bbox="403 600 1129 808" style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [Test Page]. 3 Press the [Start] key. 4 Press [Yes] (the Left Select key). Test page will be printed. <div data-bbox="557 864 691 931" style="display: inline-block; vertical-align: middle;"> <p>Gray scale (16 levels)</p> </div>  <p data-bbox="327 1464 475 1494">Completion</p> <p data-bbox="327 1498 571 1527">Press the [Stop] key.</p>

Items	Contents
Developer	<p data-bbox="327 194 1018 230">Initializing the developer unit (toner install mode)</p> <p data-bbox="327 286 443 315">Contents</p> <p data-bbox="327 320 1497 477">The new developer unit is shipped from the factory with no toner contained. The developer unit can be automatically replete with toner when a toner container is installed onto it and the printer is turned on. However, because the toner reservoir in the developer unit has a large capacity, it requires a lengthy period of time until a substantial amount of toner has been fed to get the machine ready.</p> <p data-bbox="327 481 435 510">Purpose</p> <p data-bbox="327 515 994 544">To execute when the developing unit has been replaced.</p> <p data-bbox="327 577 424 607">Method</p> <ol data-bbox="403 640 927 875" style="list-style-type: none"><li data-bbox="403 640 818 672">1 Enter the Service Setting menu.<li data-bbox="403 701 727 732">2 Select [New Developer].<li data-bbox="403 761 655 792">3 Press the OK key.<li data-bbox="403 822 927 875">4 Select the [YES] using the left select key. [Accepted] is displayed. <p data-bbox="440 880 1241 909">The toner installation is performed when power is turned on and off.</p> <p data-bbox="355 913 1241 943">NOTE: Toner supply is stopped when toner installation mode is performing.</p> <p data-bbox="327 981 475 1010">Completion</p> <p data-bbox="327 1014 571 1043">Press the [Stop] key.</p>

Items	Contents																												
FAX country code	<p data-bbox="325 197 595 230">FAX Country Code</p> <p data-bbox="325 286 443 315">Contents</p> <p data-bbox="325 320 1485 383">Initializes software switches and all data in the backup data on the FAX control PWB, according to the destination.</p> <p data-bbox="325 389 435 418">Purpose</p> <p data-bbox="325 423 722 452">To initialize the FAX control PWB.</p> <p data-bbox="325 495 424 524">Method</p> <ol data-bbox="403 555 1018 875" style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [FAX Country Code]. 3 Press the [Start] key. 4 Enter a destination code using the numeric keys. 5 Press the [Start] key. The setting is set. 6 Press the [Start] key. Data initialization starts. <p data-bbox="325 896 588 925">Destination code list</p> <table border="1" data-bbox="373 936 1331 1216"> <thead> <tr> <th>Code</th> <th>Destination</th> <th>Code</th> <th>Destination</th> </tr> </thead> <tbody> <tr> <td>000</td> <td>Japan</td> <td>007</td> <td>South America*3</td> </tr> <tr> <td>156</td> <td>Asian nations*1</td> <td>253</td> <td>European nations*4</td> </tr> <tr> <td>254</td> <td>Taiwan</td> <td>250</td> <td>Russia</td> </tr> <tr> <td>097</td> <td>Korea</td> <td>009</td> <td>Australia</td> </tr> <tr> <td>038</td> <td>China</td> <td>126</td> <td>New Zealand*5</td> </tr> <tr> <td>181</td> <td>North America*2</td> <td></td> <td></td> </tr> </tbody> </table> <p data-bbox="362 1245 1331 1274">*1: Applied for Sales company competent Singapore, India, Thailand, Hong Kong.</p> <p data-bbox="362 1279 1031 1308">*2: Applied for Sales company competent USA, Canada.</p> <p data-bbox="362 1312 1305 1341">*3: Applied for Sales company competent Bolivia, Chile, Peru, Argentina, Brazil.</p> <p data-bbox="362 1346 1497 1464">*4: Applied for Sales company competent Italy, Germany, Spain, U.K., Netherlands, Sweden, France, Austria, Switzerland, Belgium, Denmark, Finland, Portugal, Ireland, Norway, Saudi Arabia, Turkey.</p> <p data-bbox="362 1469 1453 1498">*5: Change the country code when selling in New Zealand. The country code to input is 126.</p> <p data-bbox="325 1534 475 1563">Completion</p> <p data-bbox="325 1568 571 1597">Press the [Stop] key.</p>	Code	Destination	Code	Destination	000	Japan	007	South America*3	156	Asian nations*1	253	European nations*4	254	Taiwan	250	Russia	097	Korea	009	Australia	038	China	126	New Zealand*5	181	North America*2		
Code	Destination	Code	Destination																										
000	Japan	007	South America*3																										
156	Asian nations*1	253	European nations*4																										
254	Taiwan	250	Russia																										
097	Korea	009	Australia																										
038	China	126	New Zealand*5																										
181	North America*2																												

Items	Contents								
FAX call Setting	<p data-bbox="327 194 555 230">FAX call Setting</p> <p data-bbox="327 286 443 315">Contents</p> <p data-bbox="327 320 1366 349">Selects if a fax is to be connected to either a PBX or public switched telephone network.</p> <p data-bbox="327 353 1166 383">Selects the mode to connect an outside call when connected to a PBX.</p> <p data-bbox="327 387 911 416">Access code registration for connection to PSTN.</p> <p data-bbox="327 421 435 450">Purpose</p> <p data-bbox="327 454 657 483">To be executed as required.</p> <p data-bbox="327 524 424 553">Method</p> <ol data-bbox="403 589 817 734" style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [FAX Call Set.]. 3 Press the [Start] key. <table border="1" data-bbox="375 745 1324 934"> <thead> <tr> <th data-bbox="379 752 641 792">Items</th> <th data-bbox="644 752 1319 792">Contents</th> </tr> </thead> <tbody> <tr> <td data-bbox="379 797 641 837">Exchange Select.</td> <td data-bbox="644 797 1319 837">Setting the connection to PBX/PSTN</td> </tr> <tr> <td data-bbox="379 842 641 882">PBX Setting</td> <td data-bbox="644 842 1319 882">Setting for a PBX</td> </tr> <tr> <td data-bbox="379 887 641 927">Dial No. to PSTN</td> <td data-bbox="644 887 1319 927">Setting access code to PSTN</td> </tr> </tbody> </table> <p data-bbox="327 983 791 1012">Setting the connection to PBX/PSTN</p> <ol data-bbox="403 1048 903 1249" style="list-style-type: none"> 1 Select [Exchange Select.]. 2 Press the [Start] key. 3 Select [PBX] or [PSTN]. 4 Press the [Start] key. The setting is set. <p data-bbox="327 1285 525 1314">Setting for PBX</p> <ol data-bbox="403 1350 903 1552" style="list-style-type: none"> 1 Select [PBX Setting]. 2 Press the [Start] key. 3 Select [Loop], [Flash] or [Earth]. 4 Press the [Start] key. The setting is set. <p data-bbox="327 1588 695 1617">Setting access code to PSTN</p> <ol data-bbox="403 1653 1153 1854" style="list-style-type: none"> 1 Select [Dial No. to PSTN]. 2 Press the [Start] key. 3 Enter access code using the numeric keys. (0 to 9, 00 to 99) 4 Press the [Start] key. The setting is set. <p data-bbox="327 1890 475 1919">Completion</p> <p data-bbox="327 1924 572 1953">Press the [Stop] key.</p>	Items	Contents	Exchange Select.	Setting the connection to PBX/PSTN	PBX Setting	Setting for a PBX	Dial No. to PSTN	Setting access code to PSTN
Items	Contents								
Exchange Select.	Setting the connection to PBX/PSTN								
PBX Setting	Setting for a PBX								
Dial No. to PSTN	Setting access code to PSTN								

Items	Contents
Altitude adjustment	<p>Setting altitude adjustment</p> <p>Contents Sets the altitude adjustment mode.</p> <p>Purpose Used when print quality deteriorates in an installation at the altitude of 1,500 meters or higher.</p> <p>Method</p> <ol style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [Altitude Adj.]. 3 Press the OK key. 4 Select [Normal], [1001 m to 2000 m], [2001 m to 3000 m] or [3001 m to 3500 m]. 5 Press the OK key. The setting is set. <p>Completion Press the [Stop] key.</p>
MC	<p>Setting main charger output</p> <p>Contents Sets the main charger output. Execution is possible only when the altitude adjustment mode is set to [Normal].</p> <p>Purpose Execute when the image density declines, dirt of a background or an offset has occurred.</p> <p>Method</p> <ol style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [MC]. 3 Press the OK key. 4 Select [1] to [7]. 5 Press the OK key. The setting is set. <p>Completion Press the [Stop] key.</p>

Items	Contents
Memory Diagnostics	<p>Perform a memory diagnostic</p> <p>Contents Diagnose memory at power up (whether reading and writing are executable).</p> <p>Purpose Execute memory check in purpose of rectifying a defective memory device which may possibly cause an unresolvable F call, locking, or abnormal images.</p> <p>Method</p> <ol style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [Memory Diagnostics]. 3 Press [Start]. 4 Turn the main power switch off and on. Allow more than 5 seconds between Off and On. <p>Completion Press the [Stop] key.</p>
Transfer Adjustment	<p>Setting transfer adjustment</p> <p>Contents Set the transfer current (when the carrier leaking occurs).</p> <p>Purpose If you select line text priority, the transfer current is set high and the carrier leaking is improved.</p> <p>Method</p> <ol style="list-style-type: none"> 1 Enter the Service Setting menu. 2 Select [Transfer Adjustment]. 3 Press [Standard] or [Line text priority]. <p>Completion Press the [Stop] key.</p>

Items	Contents
Fuser Adjustment	<p data-bbox="328 194 676 230">Setting fuser adjustment</p> <p data-bbox="328 286 443 315">Contents</p> <p data-bbox="328 320 651 349">Change fixing temperature.</p> <p data-bbox="328 353 435 383">Purpose</p> <p data-bbox="328 387 919 416">Increase fixing temperature when fixability is poor.</p> <p data-bbox="328 421 424 450">Method</p> <ol data-bbox="403 483 1043 678" style="list-style-type: none"><li data-bbox="403 483 818 512">1 Enter the Service Setting menu.<li data-bbox="403 539 754 568">2 Select [Fuser Adjustment].<li data-bbox="403 595 624 624">3 Press [1] or [2].<ul data-bbox="403 645 1043 678" style="list-style-type: none"><li data-bbox="403 645 1043 678">• 2 is selected, the fixing temperature becomes high. <p data-bbox="328 714 475 743">Completion</p> <p data-bbox="328 748 572 777">Press the [Stop] key.</p>

7 Troubleshooting

7 - 1 Image formation problems

(1) Isolate the place of image failure

How to isolate the cause

Print a test page and check whether an image defect happens.

(System Menu > Adjustment/Maintenance > Service setting)

YES: Main unit as the cause of defect

NO: Scanner as the cause of defect

Perform enlarged or reduced copying and verify if the defective images are enlarged or reduced, accordingly.

YES: Scanner as the cause of defect

1 Scanner as the cause of defect:

If the defect occurs with copying or sending, refer to P.7-2.

(Defects caused by a reading error that occurs at the original (glass) LED lamp to CCD.)

Isolate the problem at the location that the originals are scanned.

a. DP (read by CCD)

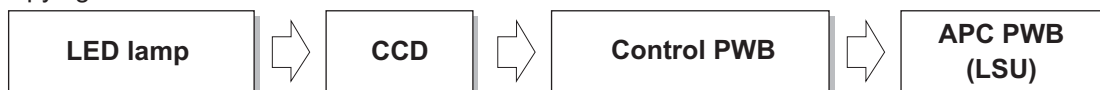
b. On the contact glass (read by CCD)

2 Main unit as the cause of defect: refer to P.7-25.

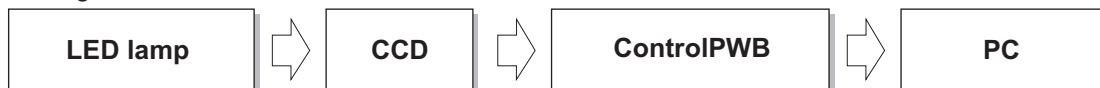
(A defect of image forming occurs from the rendering process that involves charging, drum, LSU, developer, and transferr.)

<Flow of image data>

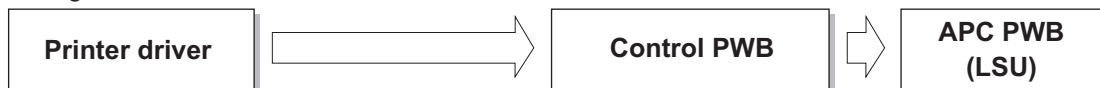
Copying :



Sending :

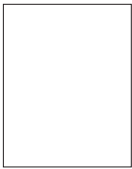


Printing data from PC :



(2) Poor image (due to DP and scanner reading)

(2-1) No image appears (entirely white).



See page7-3

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



See page7-4

(2-3) Image is too light.



See page7-5

(2-4) The background is colored.



See page7-7

(2-5) White streaks are printed vertically.



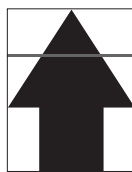
See page7-9

(2-6) Black streaks appear longitudinally.



See page7-10

(2-7) Streaks are printed horizontally.



See page7-12

(2-8) One side of the print image is darker or brighter than the other.



See page7-13

(2-9) Black dots appear on the image.



See page7-15

(2-10) Image is blurred.



See page7-9

(2-11) The leading edge of the image is consistently misaligned with the original.



See page7-17

(2-12) Part of image is missing.



See page7-18

(2-13) Image is out of focus.



See page7-19

(2-14) Image center does not align with the original center.



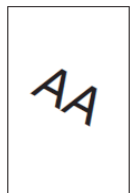
See page7-21

(2-15) Moires



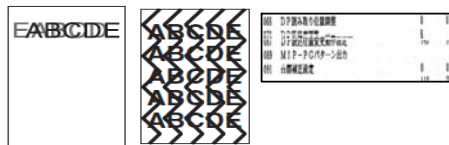
See page7-21

(2-16) Skewed image



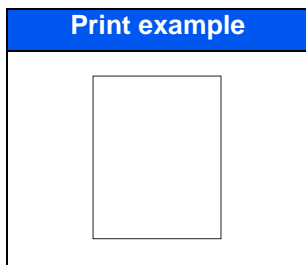
See page7-22

(2-17) Abnormal image



See page7-23

(2-1)No image appears (entirely white).



1. Table scanning

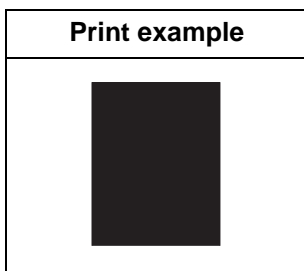
	Defective part	Check description	Corrective Action
1	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
2	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if it its connection is loose. Or, if conduction is lot, replace the wire.
3	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
4	Scanner drive belt	Check that the scanner drive belt is loosely mounted.	If the scanner drive belt is loosely mounted, secure the screws.
5	Scanner drive gear	Check that the scanner drive gear is loosely mounted.	If the scanner drive gear loosely mounted, secure the screw.
6	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
7	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Verify the sides of the original document.	If the sides of the original document are reversed, place the original document properly.
2	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
3	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if it its connection is loose. Or, if conduction is lot, replace the wire.
4	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
5	Scanner drive belt	Check that the scanner drive belt is loosely mounted.	If the scanner drive belt is loosely mounted, secure the screws.
6	Scanner drive gear	Check that the scanner drive gear is loosely mounted.	If the scanner drive gear loosely mounted, secure the screw.
7	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
8	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
9	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

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



1. Table scanning

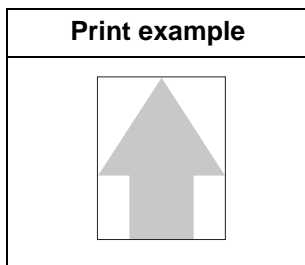
	Defective part	Check description	Corrective Action
1	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
2	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
3	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Scanning position of the DP	Confirm the value using maintenance mode U068, DP Read.	If a large value is observed in maintenance mode U068, DP Read, perform adjustment.(see page 6-34)
2	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
3	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
4	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
5	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-3)Image is too light.



1. Table scanning

	Defective part	Check description	Corrective Action
1	The settings of the adjustment of density	Check the settings of the adjustment of density.	<ol style="list-style-type: none"> 1. Deactivate EcoPrint if it is activated. Or, if the density is too low, chose an image quality that suits the original docuemt in type. 2. Increase density. 3. Perform the background color adjustment using the system menu.
2	Settings of anti-offset	Check the settings of anti-offset.	If anti-offset is set to on, set it to off.
3	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, table(Char1)_All. (see page 6-69)
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.

	Defective part	Check description	Corrective Action
5	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
6	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
7	Lamp unit	Check the location the lamp unit is mounted.	Re-mount the lamp unit if it is hanged off.
8	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the ISU and perform U411.
9	CCD PWB	CCD PWB is defective.	Replace the ISU and perform U411.
10	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

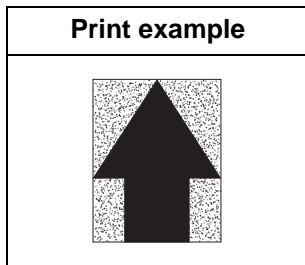
2. DP-scanning

	Defective part	Check description	Corrective Action
1	The settings of the adjustment of density	Check the settings of the adjustment of density.	<ol style="list-style-type: none"> 1. Deactivate EcoPrint if it is activated. Or, if the density is too low, chose an image quality that suits the original docuemnt in type. 2. Increase density. 3. Perform the background color adjustment using the system menu.
2	Settings of anti-offset	Check the settings of anti-offset.	If anti-offset is set to on, set it to off.
3	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, table(Chart1)_All. (see page 6-69)
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
5	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
6	Scanning position of the DP	Check whether the scanning position of the DP is wrong.	If the scanning position of the DP is shifted, perform maintenance mode U068, DP Read.(see page 6-34)
7	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
8	Lamp unit	Check the location the lamp unit is mounted.	Re-mount the lamp unit if it is hanged off.
9	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the ISU and perform U411.

	Defective part	Check description	Corrective Action
10	CCD PWB	CCD PWB is defective.	Replace the ISU and perform U411.
11	Reattaching the DPCIS *1	The DPCIS is not properly attached.	Reattach the DPCIS.
12	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
13	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-4)The background is colored.



1. Table scanning

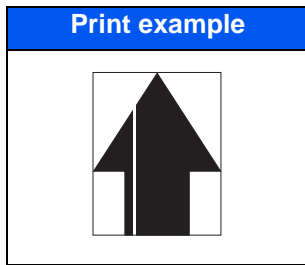
	Defective part	Check description	Corrective Action
1	Original document	1. Check if the background density of the original document is too dense. 2. Check if the original document is floated during scanning.	1. If the background density of the original document is too dense, perform automatic background adjustment.Or, adjust density with background adjustment. 2. If the original document is floated during scanning, press down the original document.
2	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, table(Chart1)_All. (see page 6-69)
3	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
4	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if is hanged off.
5	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
6	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
7	Lamp unit	Check the location the lamp unit is mounted.	Re-mount the lamp unit if it is hanged off.

	Defective part	Check description	Corrective Action
8	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the ISU and perform U411.
9	CCD PWB	CCD PWB is defective.	Replace the ISU and perform U411.
10	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	<ol style="list-style-type: none"> 1. Check if the background density of the original document is too dense. 2. Check if the original document is floated during scanning. 	<ol style="list-style-type: none"> 1. If the background density of the original document is too dense, perform automatic background adjustment.Or, adjust density with background adjustment. 2. If the original document is floated during scanning, press down the original document.
2	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, DP FD(CharA). (see page 6-69)
3	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
4	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if is hanged off.
5	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
6	Installing DP	Check whether the DP frame is distorted or the hinges are damaged.	Replace the DP.
7	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
8	Lamp unit	Check the location the lamp unit is mounted.	Re-mount the lamp unit if it is hanged off.
9	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the ISU and perform U411.
10	CCD PWB	CCD PWB is defective.	Replace the ISU and perform U411.
11	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

(2-5)White streaks are printed vertically.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
3	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.
4	Lamp unit	Check that the lamp unit is contaminated with dusts.	If dusts are observed on the lamp unit, remove the dusts in the light paths.
5	ISU	Check whether the lens cover is hanged off.	Re-mount the lens cover if it is hanged off.
6	Shading plate	Check whether the shading plate is dirty.	If the shading plate is dirty, perform maintenance mode U091 to modify the shading position. If it does not cure, replace the contact glass assembly. (see page 6-39)
7	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
8	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

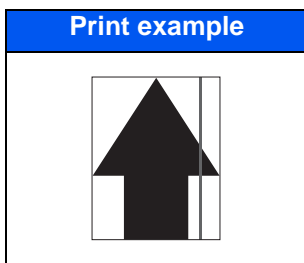
2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Slit glass	Check whether the slit glass is dirty.	If the slit glass is dirty, clean the slit glass, and the bottom part of the shading plate.
3	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.
4	Lamp unit	Check that the lamp unit is contaminated with dusts.	If dusts are observed on the lamp unit, remove the dusts in the light paths.
5	Cleaning the DPCIS glass and the DP conveying guide *1	The DPCIS glass is dirty.	Clean the DPCIS glass and the DP conveying guide.

	Defective part	Check description	Corrective Action
6	ISU	Check whether the lens cover is hanged off.	Re-mount the lens cover if it is hanged off.
7	Shading plate	Check whether the shading plate is dirty.	If the shading plate is dirty, perform maintenance mode U091 to modify the shading position. If it does not cure, replace the contact glass assembly. (see page 6-39)
8	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
9	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
10	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-6)Black streaks appear longitudinally.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Original document	Check if the size of the original document and its reference size match.	If the size of the original document and its reference size do not match, set the correct document size or activate border erasure.
3	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
4	Adjustment of the scanner	Check whether the outer areas of the original document have streaks or lines.	1. Perform maintenance mode U067, Front.(see page 6-33) 2. Perform maintenance mode U411, table (Chart1)_Input. (see page 6-69)
5	Contact glass	Check whether the outer areas of the original document have streaks or lines.	If the contact glass is dirty, clean.
6	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.

	Defective part	Check description	Corrective Action
7	Lamp unit	Check that the lamp unit is contaminated with dusts.	If dusts are observed on the lamp unit, remove the dusts in the light paths.
8	Shading plate	Check whether the shading plate is dirty.	If the shading plate is dirty, perform maintenance mode U091 to modify the shading position. If it does not cure, replace the contact glass assembly. (see page 6-39)
9	CCD sensor	Check that the CCD sensor glass is contaminated with dusts.	If dusts are observed on the CCD sensor glass, remove the dusts by an air blower.
10	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
11	Control PWB	The control PWB is defective.	Replace the control PWB. (see page 4-133)

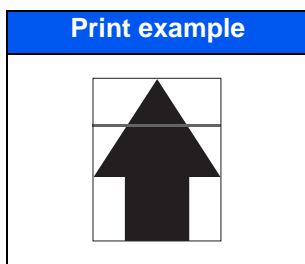
2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Original document	Check if the size of the original document and its reference size match.	If the size of the original document and its reference size do not match, set the correct document size or activate border erasure.
3	Scanning position of the DP	Check whether the scanning position of the DP is wrong.	If the scanning position of the DP is shifted, perform maintenance mode U068, DP Read. (see page 6-34)
4	Adjustment of the scanner	Check whether the outer areas of the original document have streaks or lines.	1. Perform maintenance mode U067, Front. (see page 6-33) 2. Perform maintenance mode U411, table (Chart1)_Input. (see page 6-69)
5	Slit glass, Contact glass	Check whether the slit glass and contact glass are dirty.	If the slit glass and contact glass are dirty, clean the contact glass, the slit glass, the bottom part of the shading plate, and the conveying guide.
6	Cleaning the DPCIS glass *1	The DPCIS glass is dirty.	Clean the DPCIS glass.
7	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.
8	Lamp unit	Check that the lamp unit is contaminated with dusts.	If dusts are observed on the lamp unit, remove the dusts in the light paths.
9	Shading plate	Check whether the shading plate is dirty.	If the shading plate is dirty, perform maintenance mode U091 to modify the shading position. If it does not cure, replace the contact glass assembly. (see page 6-39)
10	CCD sensor	Check that the CCD sensor glass is contaminated with dusts.	If dusts are observed on the CCD sensor glass, remove the dusts by an air blower.

	Defective part	Check description	Corrective Action
11	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
12	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
13	Control PWB	The control PWB is defective.	Replace the control PWB.(see page4-133)

*1: 55/60 ppm model only

(2-7)Streaks are printed horizontally.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
3	Ajusting scanner	Check that the image at the back of the size indicator has been rendered.	1. If the image at the back of the size indicator, has been rendered perform maintenance mode U066, Front. (see page 6-32) 2. Perform maintenance mode U411, Table(Chart1)_Input.(see page 6-69)
4	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
5	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the LED PWB and perform U411.
6	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

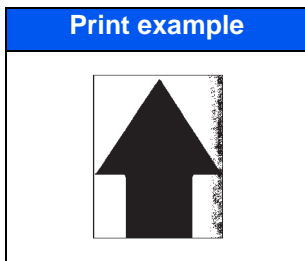
2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.

	Defective part	Check description	Corrective Action
2	Slit glass	Check whether the slit glass is dirty.	If the slit glass is dirty, clean the slit glass, and the bottom part of the shading plate.
3	Cleaning the DPCIS glass and the DP conveying guide *1	The DPCIS glass is dirty.	Clean the DPCIS glass and the DP conveying guide.
4	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
5	LED PWB	Check that the LED is lit.	If the LED is not lit, replace the LED PWB and perform U411.
6	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
7	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-8)One side of the print image is darker or brighter than the other.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Original document	Check if the original document has creases or foldings or wrinkles.	If the original document has foldings or creases, remove them.
3	Position of the mat of the platen	Check whether the position of the mat of the DP or the platen is wrong.	If the position of the mat of the DP or the platen is shifted, re-mount.
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
5	Contact glass assy	Check the location the contact glass is mounted.	If the light guide panel has been fallen off of the mounting position, fix it properly.
6	Lamp unit	Check the position at which the light guide panel is mounted.	If the contact part of the lamp unit and the rail is distorted, replace the lamp unit.

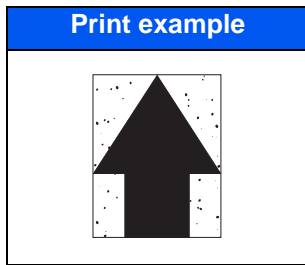
	Defective part	Check description	Corrective Action
7	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.
8	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
9	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Original document	Check if the original document has creases or foldings or wrinkles.	If the original document has foldings or creases, remove them.
3	DP scanning guide	Check that the scanning guide is smoothly operative.	If the scanning guide does not rotate smoothly, re-install.
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
5	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
6	Lamp unit	Check the position at which the light guide panel is mounted.	If the contact part of the lamp unit and the rail is distorted, replace the lamp unit.
7	Mirror	Check whether the mirrors are dirty.	If the mirrors are dirty, clean the four mirrors.
8	Cleaning the DPCIS glass and the DP conveying guide *1	The DPCIS glass is dirty.	Clean the DPCIS glass and the DP conveying guide.
9	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
10	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
11	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-9)Black dots appear on the image.



1. Table scanning

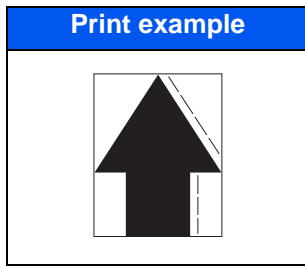
	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
3	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
4	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is dirty.	If the original document is dirty, replace.
2	Slit glass	Check whether the slit glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
3	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
4	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
5	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-10)Image is blurred.



1. Table scanning

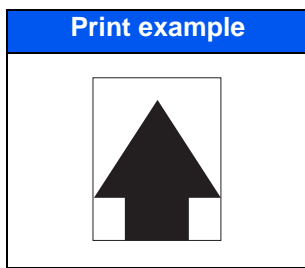
	Defective part	Check description	Corrective Action
1	Rail	Check that the carriage is smoothly operative.	If the carriage does not travel smoothly, remove foreign objects on the front and back optical rails.
2	Lamp unit	Check that the carriage is smoothly operative.	If the carriage does not travel smoothly because the lamp unit contacts with the frame, rectify.
3	Scanner drive belt	Confirm that a foreign object exists between the drive belt and the scanner drive pulleys.	If a foreign object exists, remove.
4	Drive belt	Confirm that the drive belt has a foreign object stuck or has a scuff.	If a foreign object exists on the drive belt, remove the foreign object. Or, if it is damaged, replace.

2. DP-scanning

	Defective part	Check description	Corrective Action
1	DP conveying pulley	Check that the conveying pulley is smoothly operative.	If the conveying pulley does not rotate smoothly, re-assemble the conveying roller and springs.
2	Install DP	Check how DP is mounted on the main unit.	If mounting to the main unit is improper, check positioning and secure the screws.
3	DP hinge	Check that the DP hinge is operative in both ascending and descending directions and kept open.	If the DP is not operative smoothly or is not held stably open, replace the hinges.
4	DP document mat	Check the location the document mat of the DP is mounted.	Re-mount the document mat of the DP if it is hanged off.
5	Original document	Check that the leading edge of the original document is dog-eared.	If the leading edge of the original document is dog-eared, straighten.
6	Scanning guide	Check if the scanning guide is distorted.	If the scanning guide deformed, replace.
7	Scopper guide	Check that the scopper guide is smoothly operative.	If the scopper guide does not rotate smoothly, re-install.
8	Conveying roller (before and after of scanning)	Check whether the conveying roller is dirty.	If the conveying roller is dirty, clean.
9	Reattaching the DPCIS *1	The originals are away from the DPCIS glass.	Reattach the DPCIS.

*1: 55/60 ppm model only

(2-11)The leading edge of the image is consistently misaligned with the original.



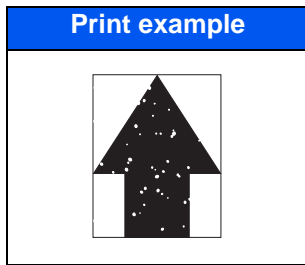
1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is loaded correctly on the contact glass.	If the original document is not properly placed on the contact glass, place it correctly.
2	Adjustment of the scanner	Check the scanning adjustment of the scanner.	1. Perform maintenance mode U066, Front. (see page 6-32) 2. Perform maintenance mode U411, table(Char1)_Input. (see page 6-69)
3	Home position sensor	Check the location the home position sensor is mounted.	Re-mount the home position sensor if it is hanged off.
4	Drive belt	Check if the tension of the drive belt is insufficient.	If the tension of the drive belt is insufficient, tense the belt.
5	Scanner drive pulley	Check if the scanner drive pulley is loosely fixed.	If the scanner drive pulley is loosely fixed, secure the screws.

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Adjustment of the scanner	Check the scanning adjustment of DP scanning.	1. Perform maintenance mode U071, CCD Head. (see page 6-36) 2. Perform maintenance mode U411, DP FD (ChartB). (see page 6-69)
2	Original conveying roller	Check if the conveyer roller is contaminated or worn.	If the conveying roller is dirty, clean the conveying roller and its axles.If the roller is worn out, replace.
3	DP drive motor	Check whether the DP drive motor is fluctuated in rotation.	If the DP motor is fluctuated in rotation, apply grease with the drive gear. If no improvement is observed, replace the motor.

(2-12)Part of image is missing.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is loaded correctly on the contact glass.	If the original document is not properly placed on the contact glass, place it correctly.
2	Original document	1. Check that the size of the original document and the paper size match on the panel. 2. Check that the copying position has been automatically rotated.	1. If the sizes of the original document and the paper size do not match, manually set the proper paper size for the original document. 2. Check the paper size automatic detection switch and replace if faulty. 3. If the copying position is automatically rotated, deactivate automatic image rotation by the system menu.
3	Settings of Border removal	Check the value of border removal.	If a large value is given to bordere erasure, change it to a smaller value.
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean the contact glass, and the bottom part of the shading plate.
5	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
6	FFC cable CCD	Check the FFC cable between the CCD sensor and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
7	Lamp unit	Check the location the lamp unit is mounted.	Re-mount the lamp unit if it is hanged off.
8	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
9	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

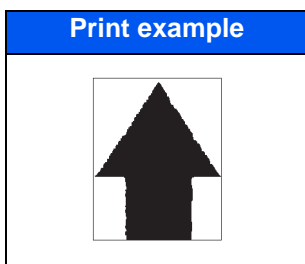
2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is loaded correctly in the DP.	If the original document is not properly placed in the DP, place it correctly.

	Defective part	Check description	Corrective Action
2	Original document	1. Check that the size of the original document and the paper size match on the panel. 2. Check that the copying position has been automatically rotated.	1. If the sizes of the original document and the paper size do not match, manually set the proper paper size for the original document. 2. Check the paper size automatic detection switch and replace if faulty. 3. If the copying position is automatically rotated, deactivate automatic image rotation by the system menu.
3	Settings of Border removal	Check the value of border removal.	If a large value is given to bordere erasure, change it to a smaller value.
4	Slit glass	Check whether the slit glass is dirty.	If the slit glass is dirty, clean the slit glass, and the bottom part of the shading plate.
5	FFC cable CCD	Check the FFC cable between the CCD sensor and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
6	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
7	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
8	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-13)Image is out of focus.



1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is wavy.	If the original document is wavy, straighten.Or, replace the original document.
2	Contact glass	Check whether the contact glass is dew condensed.	If the contact glass is dew condensed, remove the dew.
3	Mirror	Check whether the mirror is dew condensed.	If the mirrors are dew-condensed, remove the dew.
4	Lens	Check whether the lens is dew condensed.	If the lens is dew condensed, remove the dew.

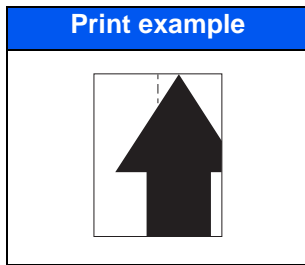
	Defective part	Check description	Corrective Action
5	CCD sensor	Check whether the CCD sensor glass is dew condensed.	If the CCD sensor glass is dew condensed, remove the dew.
6	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, table(Chart1)_All. (see page 6-69)
7	ISU	Confirm the position of the lens and the CCD sensor.	If the lenses and the CCD sensor are misaligned, replace the ISU and perform U411. (see page 6-69)
8	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check whether the original document is wavy.	If the original document is wavy, straighten.Or, replace the original document.
2	Slit glass	Check whether the slit glass is dew condensed.	If the slit glass is dew condensed, remove the dew.
3	Mirror	Check whether the mirror is dew condensed.	If the mirrors are dew-condensed, remove the dew.
4	Lens	Check whether the lens is dew condensed.	If the lens is dew condensed, remove the dew.
5	CCD sensor	Check whether the CCD sensor glass is dew condensed.	If the CCD sensor glass is dew condensed, remove the dew.
6	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, table(Chart1)_All. (see page 6-69)
7	ISU	Confirm the position of the lens and the CCD sensor.	If the lenses and the CCD sensor are misaligned, replace the ISU and perform U411. (see page 6-69)
8	Cleaning the DPCIS glass and the DP conveying guide *1	Cleaning the DPCIS glass and the DP conveying guide	Clean the DPCIS glass and the DP conveying guide.
9	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
10	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(2-14)Image center does not align with the original center.



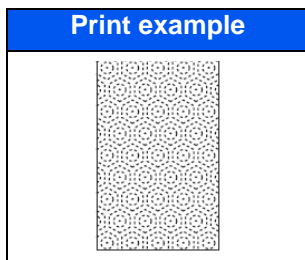
1. Table scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is loaded correctly on the contact glass.	If the original document is not properly placed on the contact glass, place it correctly.
2	Contact glass assy	Check the location the contact glass is mounted.	Re-mount the contact glass if it is hanged off.
3	Adjustment of the scanner	Check the scanning adjustment of the scanner.	1. Perform maintenance mode U067, Front.(see page 6-33) 2. Perform maintenance mode U411, Table(Char1)_Input. (see page 6-69)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is loaded correctly in the DP.	If the original document is not properly placed in the DP, place it correctly.
2	Adjustment of the scanner	Check the scanning adjustment of DP scanning.	1. Perform maintenance mode U072. 2. Perform maintenance mode U411, DP FaceUp(Char2)_Input. (see page 6-69)

(2-15)Moires



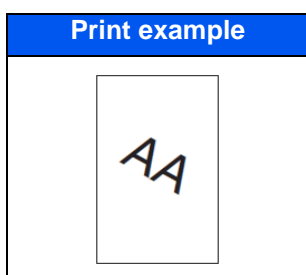
1. Table scanning

	Defective part	Check description	Corrective Action
1	Settings of print quality mode	Confirm whether the moire varies depending on print quality mode.	Switch print quality mode if the moire varies depending on print quality mode. 1. Execute printing in photo mode. 2. Reduce the sharpness (to minus).
2	Original document	Check if moire is observed along the direction of scanning of the original document.	If moire is observed, place the original document after rotating it 90-degree.
3	Scaling factor	Happens with the zoom ratio of 100%.	Reduce the real-size ratio of the main scan direction by U065. (see page 6-30)
4	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, Table(Chart1)_All. (see page 6-69)

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Settings of print quality mode	Confirm whether the moire varies depending on print quality mode.	Switch print quality mode if the moire varies depending on print quality mode. 1. Execute printing in photo mode. 2. Reduce the sharpness (to minus).
2	Adjustment of the scanner	Check the automatic adjustment of the scanner.	Perform maintenance mode U411, Table(Chart1)_All. (see page 6-69)

(2-16)Skewed image



1. Table scanning

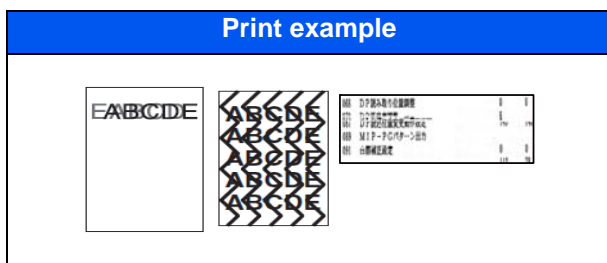
	Defective part	Check description	Corrective Action
1	Original document	Check if the original document is fed askew.	If the original document is not placed askew on the contact glass, place it correctly.
2	Adjustment of height of main unit and scanner unit	Check the scanner unit is quite level.	If the scanner unit is not quite level, perform the height adjustment of the entire scanner unit.

2. DP-scanning

	Defective part	Check description	Corrective Action
1	Original document	Check if the original document has creases or foldings or wrinkles.	If the original document has foldings or creases, remove them.
2	DP paper feed	Check if the original document is fed askew.	If the original document is fed askew, set the width guides correctly.
3	DP feed roller	Check whether the feed roller is dirty.	If the feed roller is dirty, clean.Or, if not cured, replace the feed roller.
4	DP regist roller	Check whether the DP regist roller is dirty.	If the DP regist roller is dirty, clean.
5	DP regist pulley	Check that the DP regist pulley is smoothly operative.	If the DP regist pulley does not rotate smoothly, re-install.
6	Original document setting	Check that the cursor fits with the original document.	Align the cursor to fit with the original document, if necessary.
7	Adjustment positions of the hinge	Check the front and back adjustment positions of the right hinge.	If the front and back adjustment positions of the right hinge are improper, perform adjustment.
8	Reattaching the DPCIS *1	The DPCIS is not properly attached.	Reattach the DPCIS.

*1: 55/60 ppm model only

(2-17)Abnormal image



1. Table scanning

	Defective part	Check description	Corrective Action
1	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
2	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
3	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

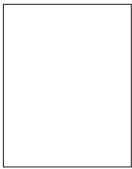
2. DP-scanning

	Defective part	Check description	Corrective Action
1	FFC cable CCD	Check the FFC cable between the CCD and control PWB is properly connected. Or, verify conduction of the wire.	Reinsert the connector if its connection is loose. Or, if conduction is lot, replace the wire.
2	CCD PWB	The CCD PWB is defective.	Replace the ISU and perform U411. (see page 6-69)
3	Replacing the DPCIS *1	The DPCIS is faulty.	Replace the DPCIS and execute U411.
4	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

*1: 55/60 ppm model only

(3) Poor image (Image rendering problems: printer engine)

(3-1) No image appears (entirely white).



See page7-27

(3-2) No image appears (entirely black).



See page7-27

(3-3) Image is too light.



See page7-28

(3-4) The background is colored.



See page7-29

(3-5) White streaks are printed vertically.



See page7-30

(3-6) Black streaks appear longitudinally.



See page7-31

(3-7) Black or white streaks appear horizontally.



See page7-31

(3-8) Uneven density longitudinally.



See page7-32

(3-9) Uneven density horizontally.



See page7-33

(3-10) Black dots appear on the image.



See page7-34

(3-11) Offset occurs.



See page7-35

(3-12) Image is partly missing.



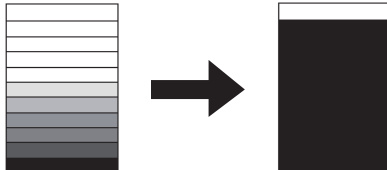
See page7-35

(3-13) Image is out of focus.



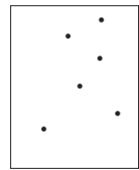
See page7-36

(3-14) Poor grayscale reproducibility.



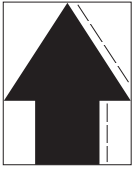
See page7-37

(3-15) Unevenly repeating horizontal streaks in the printed objects. Spots in the printed objects.



See page7-37

(3-16) Image is blurred (Shifted transferring).



See page7-37

(3-17) The leading edge of the image is consistently misaligned with the original.



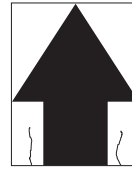
See page7-38

(3-18) The leading edge of the image is sporadically misaligned with the original.



See page7-39

(3-19) Paper is wrinkled.



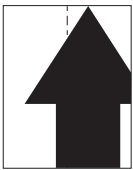
See page7-39

(3-20) Fusing is loose.



See page7-40

(3-21) Image center does not align with the original center.



See page7-40

(3-22) Dirty paper edges with toner.



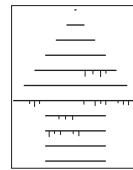
See page7-41

(3-23) Dirty reverse side of paper.



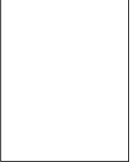
See page7-41

(3-24) Carrier leaking occurs.




See page7-42

(3-1)No image appears (entirely white).

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. No or defective developing bias output. 2. Failure of the rotation of the developing roller. 3. Defective transfer. 4. Laser is not dispersed from the laser scanner unit (LSU).


	Defective part	Check description	Corrective Action
1	Developing unit	Generate PGs by service mode and check the following : Check whether the developer drive gear is damaged. Check the developing roller is rotated by hand. Check contamination and deformation on the terminals of developer unit or the high-voltage PWB1.	If the gear is damaged, replace the developer unit. If the developer unit is in fault, replace the developer unit. (see page 4-10) If the connecting terminals are dirty, clean. If the connecting terminals are deformed, correct for a proper conduction.
2	High voltage PWB	Check the connection of the connector(s) and the high voltage PWB. Or, verify conduction of the wires.	Reinsert the connector if it its connection is loose. Replace the cable if it has no conduction. High voltage PWB (YC101) and control PWB (YC19)
3	Laser scanner unit (LSU)	Check the connection of the connectors. Or, verify conduction of the wires.	<ol style="list-style-type: none"> 1. Reinsert the FFC wire if it its connection is loose. Replace the cable if it has no conduction. 2. Replace the LSU (see page 4-46).
4	Control PWB	A control signal is not derived from the control PWB.	Replace the control PWB. (see page 4-133)

(3-2)No image appears (entirely black).

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. No main charging. 2. The laser from the LSU is activated simultaneously.

	Defective part	Check description	Corrective Action
1	Charging roller	Check whether the charging roller is properly mounted.	If the charging roller is not fixed properly, fix the roller properly.
		Check whether the connecting terminals of the charging roller and high-voltage PWB are deformed.	If the connecting terminals are deformed, correct for a proper conduction.
2	High voltage PWB	Check the connection of the connectors. Or, verify conduction of the wires.	Reinsert the connector if its connection is loose. Replace the cable if it has no conduction. High voltage PWB (YC101) and control PWB (YC19) :Charger
		Main charging current supplied by the high voltage PWB is faulty.	Replace the high voltage PWB. (see page 4-151)
3	Laser scanner unit (LSU)	Switching on and off the laser diode on the LSU PWB is out of control.	Replace the LSU. (see page 4-46)
4	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)

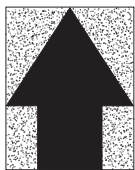
(3-3)Image is too light.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Variance in environments (dew formation). 2. Toner is under supplied, or deteriorated in quality.(Under charged) 3. The volatage of the developing bias is too low. 4. The volatage of the transfer current is too low. 5. The power of LSU laser is too low. 6. The surface potential of the drum is too high. 7. The contact pressure at the trasnfer roller and the drum is too low.

	Defective part	Check description	Corrective Action
1	Paper	Check that the paper has moisture absorbed. Check that the paper has stored in a humid place.	If the paper is damp, replace.Choose a dry place to store paper.
2	Drum unit	Check that the drum has dew condensation.	If a dew condensation is observed, perform drum refreshing. (System Menu >Adjustment / Maintenance)
		<ol style="list-style-type: none"> 1. Check if the discharging lamp is dirty. 2. Check whether it is lit. 	<ol style="list-style-type: none"> 1. If the discharging lamp is dirty, clean. 2. If not cured, or it does not light, replace the drum unit (see page 4-12).

	Defective part	Check description	Corrective Action
3	Developer unit	1. Generate PGs by service mode and check the following	If the connecting terminals are deformed, correct for a proper conduction.
		2. Check if the connecting terminals for developer bias are deformed.	
4	Toner container	Shake the toner container up and down approx. 10 times, and check the following: 1. Check remaining toner by the indicator. 2. Check whether the toner supply inlet is open.	If the message prompting toner replenishing is shown, the toner inlet is not open, replace the toner container.
5	High voltage PWB		Replace the high voltage PWB (see page 4-151).
6	Transfer roller unit	1. Check whether the connecting terminals.	1. If the connecting terminals are deformed, correct for a proper conduction. 2. Replace transfer roller unit.
		2. Check if the contact between the transfer roller and drum is correct.	Re-mount the transfer roller.
7	LSU	1. The laser diode on the LSU APC PWB is out of control. 2. Check whether the internal mirrors are contaminated.	Replace the LSU. (see page 4-46)
8	Control PWB	The control PWB is defective.	Replace the control PWB.(see page 4-133)


(3-4)The background is colored.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Toner is deteriorated in quality (under-charged). 2. Toner is over-supplied. 3. Developing bias is too high. 4. The layer of toner is too thick on the developing roller (too much toner). 5. The surface potential of the drum is too low (under low temperature environment).

	Defective part	Check description	Corrective Action
1	Developer unit	Generate PGs by service mode and check the following	If the connecting terminals for developer bias are dirty, clean.If the connecting terminals are deformed, correct for a proper conduction.
		1. Check contamination and deformation on the connecting terminals for developer bias.	

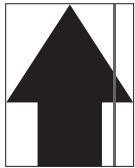
	Defective part	Check description	Corrective Action
2	Toner supply motor	Check the toner supply motor is continuously rotating. Check wires for shortcircuiting.	If the harnesses are short-circuited and the toner motor is continuously rotating, replace the toner supply motor.
3	Drum unit	1. Check that the ground terminal is not contaminated or the conductive grease is not applied with the connecting terminals.	If the connecting terminals are dirty, clean. If the amount of the grease applied is too small, apply conductive grease to the bearing on the receiver side of the drum drive axle. Replace the drum unit. (Performs U119)
		2. Check if the charging roller is dirty.	If the charging roller is dirty, clean. Or replace it.
4	High voltage PWB	The developing bias and charging current supplied by the high voltage PWB is faulty.	Replace the high voltage PWB. (see page 4-151)
5	Control PWB	The control PWB is defective.	Replace the control PWB. (see page 4-133)

(3-5) White streaks are printed vertically.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Dirty LSU slit glass. 2. Foreign objects inside the developer unit. 3. Internal contamination 4. Dirty drum inside.


	Defective part	Check description	Corrective Action
1	Developer unit	Generate PGs by service mode.	Replace the developer unit. (see page 4-10)
2	Light path between the LSU and the drum	Check if there are dusts, dirt, or toner obstructing the light paths.	If a foreign object exists on the frame or the sealings between the developer unit and the charger unit, remove.
3	Drum unit	Check if the charging roller is dirty.	If the charging roller is dirty, clean. Or replace it.
		Check if the discharging lamp is dirty.	If the discharging lamp is dirty, clean.
4	LSU	Check if the LSU slit glass is dirty.	If the LSU slit glass is dirty, perform cleaning it.

(3-6)Black streaks appear longitudinally.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Dirty charging roller 2. Flawed or dirty drum unit 3. Damaged or paper dust bitten cleaning blade


	Defective part	Check description	Corrective Action
1	Drum unit	Check if drum is dirty on its surface. <ol style="list-style-type: none"> 1. Check if the drum has scratches. 2. Check whether the edge of the cleaning blade is damaged. 3. Check whether it is abraded or paper dusts are accumulated. 4. Check whether toner is accumulated in the cleaning section. 	Execute drum refreshing. (System Menu >Adjustment / Maintenance) Replace the drum unit. (see page 4-12)
2	Charging roller unit	Check if there is no toner streaks on the surface of the charging roller.	If the charging roller has streaks on its surface, clean the charging roller. Replace the charging roller, if necessary.
3	Fuser unit	<ol style="list-style-type: none"> 1. Check if the fuser roller is contaminated with toner. 2. Check the device is adjusted for a correct paper weight that matches the paper in use. 	If the paper separation puddle is dirty, clean the paper separation puddle. If the settings for paper weight and the paper being used do not match, make a proper configuration.
4	Eject guide	The Rib is contaminated with toner.	If it is duty,clean.

(3-7)Black or white streaks appear horizontally.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Dirty developer unit or terminals 2. Flawed or dirty drum unit Improper grounding 3. Dirty transfer roller terminals


	Defective part	Check description	Corrective Action
1	Developer unit	<ol style="list-style-type: none"> 1. Check the print image on paper has a problem at an interval equivalent to the circumference of the developing roller. 2. Check that the developing roller is dirty at its ends or at the developing bias tab. 	<ol style="list-style-type: none"> 1. If the ends of the developing roller and the connecting terminals for developer bias are dirty, clean. 2. Replace the developer unit. (see page 4-10)
2	Drum unit	1. Check the print image on paper has a problem at an interval equivalent to the circumference of the drum .	Execute drum refreshing. (System Menu >Adjustment / Maintenance)
		2. Check if the drum has scratches.	Replace the drum unit. (see page 4-12)
		3. Check the grounding tab of the drum or the drum drive shaft.	<ol style="list-style-type: none"> 1. Check how the drive unit is mounted, and correct, if necessary. 2. Replace the drum unit. (see page 4-12)
3	Transfer roller unit	1. Check the print image that implies dirt, deformation, or scratches on the transfer roller, which will be appearing at an interval equal to its circumference .	If the print image has a problem, clean the transfer roller by a soft cloth.
		2. Check contamination and deformation on the terminals .	<ol style="list-style-type: none"> 1. If the connecting terminals are deformed, correct for a proper conduction 2. Replace transfer roller unit.(see page 4-14)
4	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	If the fuser roller is dirty, cleaning the fuser roller or replace the fuser unit. (see page 4-15)
5	High voltage PWB	The bias voltage output supplied by the high voltage PWB is not even.	Replace the high voltage PWB. (see page 4-151)

(3-8)Uneven density longitudinally.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Dirty LSU inside 2. The transfer roller is not pressed against the drum properly. 3. Drum condensation.

	Defective part	Check description	Corrective Action
1	Transfer roller unit	Check that the transfer roller unit is properly fit.	1. If it is not fixed properly, fix it properly. 2. Replace the transfer roller unit. (see page 4-14)
2	Drum unit	1. Check toner is evenly layered on its surface. 2. Check whether the device has been operated under a highly humid environment.	1. Execute drum refreshing. 2. Install a cassette heater. 3. Replace the drum unit. (see page 4-12)
3	Developer unit	Check that toner is evenly layered on the developer roller.	Replace the developer unit.. (see page 4-10)
4	LSU	The emission of laser dispersed from the LSU is not even. (Mirror is dropped off inside.)	Replace the LSU. (see page 4-46)

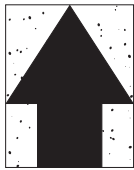
(3-9)Uneven density horizontally.

Print example	Cause of trouble
	<ol style="list-style-type: none"> Defective laser scanner unit. Improper charging roller rotation Improper contact on the developer unit terminals

	Defective part	Check description	Corrective Action
1	LSU	Check the emission of laser is even.	Replace the LSU. (see page 4-46)
2	Charging roller	Check if the charging roller is improperly mounted.	1. Fix the charging roller properly. 2. Replace the charging roller. (see page 4-13)
3	Developer unit	Check If the connecting terminals of the developer bias is contaminated by toner.	1. If the connecting terminals is dirty. 2. Replace the developer unit. (see page 4-10)
4	Transfer roller unit.	1. Check if the transfer roller is contaminated on its surface or damaged.	1. Replace the transfer roller unit.
		2. Check if the connecting terminals of high voltage are dirty or deformed.	1. If the connector or terminals are dirty, clean.If the connecting terminals are deformed, correct for a proper conduction. 2. Replace the high voltage PWB.

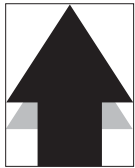
	Defective part	Check description	Corrective Action
5	Fuser unit	Check that the roller, its driving unit, or the fusing pressure release mechanism is deformed, abraded, or damaged.	If the roller, its driving unit, or the fusing pressure release mechanism is deformed, abraded, or damaged, replace the fuser unit.

(3-10)Black dots appear on the image.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Dirty charging roller 2. Flawed or dirty drum unit 3. Damaged or paper dust bitten cleaning blade


	Defective part	Check description	Corrective Action
1	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94.2mm).	If the drum has scratches, replace the drum unit. (see page 4-12)
2	Charging roller	Check the print image on paper has a problem at an interval equivalent to the circumference of the charging roller (29.9mm).	A problem is observed at a constant interval of the charging roller (29.9 mm), replace the charging roller. (see page 4-13)
3	Developer unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the developing roller (44.9mm).	<ol style="list-style-type: none"> 1. If the print image on paper has a problem at an interval equivalent to the circumference of the developer roller, clean the developer unit. 2. Replace the developer unit. (see page 4-10)
4	Transfer roller unit.	1. Check if the transfer roller is contaminated on its surface or damaged.	Replace the transfer roller unit.
5	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	<ol style="list-style-type: none"> 1. If the print image has a problem, clean the fuser roller. 2. If cleaning does not help improve the symptom, replace the fuser unit.
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Change the setting value to 2.

(3-11)Offset occurs.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Flawed or dirty drum unit 2. Developing bias leakage.


	Defective part	Check description	Corrective Action
1	Paper	Check that the type of the paper used falls within the range of specifications. Check the settings of the type and weight of the paper.	<ol style="list-style-type: none"> 1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94.2 mm).	If the print image on paper has a problem at an interval equivalent to the circumference of the drum, replace the drum unit. (see page 4-12)
3	Developer unit	Check if offsets are observed at a constant interval of 44.9 mm, which is equivalent to the circumference of the developing roller.	If offsets are observed at a constant interval of 39 mm, which is equivalent to the circumference of the developing roller, replace the developer unit. (Waste toner is not properly swept from the developing roller.) (see page 4-10)
4	Transfer roller unit	Check if offsets are occurred at a pitch of the outer circumference of the transfer roller. (58mm)	If an offset happens at a pitch of the outer circumference, clean the transfer roller.
5	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	If the fuser unit roller is dirty, replace the unit.
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Change the setting value to 2.

(3-12)Image is partly missing.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Flawed or dirty drum unit. 2. Deformed or dirty transfer roller on its surface.

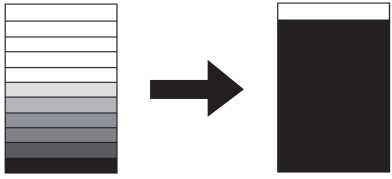
	Defective part	Check description	Corrective Action
1	Paper	<ol style="list-style-type: none"> 1. Check that the paper has moisture absorbed. 2. Check that the paper has stored in a humid place. 	If the paper is damp, replace. Choose a dry place to store paper.
2	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94mm)	If the print image on paper has a problem at an interval equivalent to the circumference of the drum, execute drum refreshing (System Menu > Adjustment/Maintenance).
3	Transfer roller unit	Check if the transfer roller is deformed or contaminated on its surface.	If the transfer roller unit is deformed or contaminated, replace the transfer roller unit.

(3-13)Image is out of focus.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Drum condensation. 2. Dirty LSU slit glass.


	Defective part	Check description	Corrective Action
1	Paper	<ol style="list-style-type: none"> 1. Check that the paper has moisture absorbed. 2. Check that the paper has stored in a humid place. 	If the paper is damp, replace. Choose a dry place to store paper.
2	Drum unit	Check that the surface of the drum has dew condensation.	Execute Drum refreshing. System Menu > Adjustment/Maintenance
3	LSU	Check whether the LSU slit glass is contaminated in its entirety.	<ol style="list-style-type: none"> 1. If the LSU slit glass is dirty, execute Laser scanner cleaning. 2. Replace the LSU. (see page 4-46)

(3-14)Poor grayscale reproducibility.

Print example	Cause of trouble
	<p>1. Poor image adjustment.</p>


	Defective part	Check description	Corrective Action
1	Image adjustmen	Check if halftone adjustment is insufficient.	

(3-15)Unevenly repeating horizontal streaks in the printed objects. Spots in the printed objects.

Print example	Cause of trouble
	<p>1. Installation at a high altitude. 2. Using the paper with high surface resistance.</p>

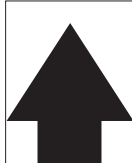
	Defective part	Check description	Corrective Action
1	Developer unit	The device is installed in an altitude higher than 1500 m sea level.	If the device is installed in an altitude greater than 1500 m sea level, perform altitude setting. (System menu > Adjustment/Maintenance)
2	Paper	Check if paper is of high surface resistance.	Change the paper to another.

(3-16)Image is blurred (Shifted transferring).

Print example	Cause of trouble
	<p>1. The paper used does not conform to the requirement. 2. Imbalanced fuser unit pressures.</p>

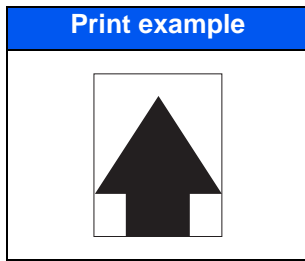
	Defective part	Check description	Corrective Action
1	Paper	<ol style="list-style-type: none"> 1. Check that the type of the paper used falls within the range of specifications. 2. Check the settings of the type and weight of the paper. 	<ol style="list-style-type: none"> 1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Fuser unit	<ol style="list-style-type: none"> 1. Check the fuser pressure balance. 2. Check if the fuser paper-inserting guide is deformed. 	<ol style="list-style-type: none"> 1. If the pressures at the front and rear are unbalanced, replace the fuser unit. (see page 4-15) 2. If the fuser unit is deformed, replace. (see page 4-15)
3	Paper conveying motor	Check to see if the driving mechanism for paper conveying is operative without a hinderance.	If the drive does not operate normally, apply grease.
4	Paper conveying guide	The paper conveying guide is deformed.	If the paper conveying guide is deformed, replace the paper conveying guide.

(3-17)The leading edge of the image is consistently misaligned with the original.

Print example	Cause of trouble
	<ol style="list-style-type: none"> 1. Improperly adjusted leading edge timing. 2. Improper amount of slack of the original document in front of the registration.

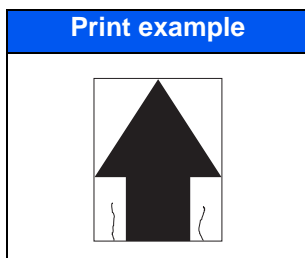
	Defective part	Check description	Corrective Action
1	Regist roller	Check whether the leading-edge timing is adequately adjusted.	If the adjustment is not sufficient, execute U034 to adjust the leading edge timing. (see page 6-26)

(3-18)The leading edge of the image is sporadically misaligned with the original.



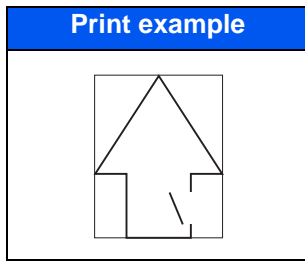
	Defective part	Check description	Corrective Action
1	Paper feed clutch, Registration clutch	Check that the clutches are properly fit. Or, check they are operative without a hinderance.	1. If it is not fixed properly, fix it properly. 2. If it does not operate without a hinderance, replace the clutch.

(3-19)Paper is wrinkled.



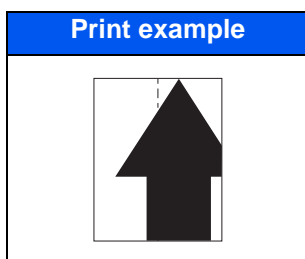
	Defective part	Check description	Corrective Action
1	Paper-width guides	Check the paper-width guides are flush with the paper.	If the width adjuster cursors are not flush with paper, set them correctly.
2	Paper	1. Check if paper is curled or wavy. 2. Check if paper is stored in a humid place.	1. If the paper is curled or wavy, replace. 2. Choose a dry place to store paper.
3	Registration roller	The pressures at the right and left springs are unbalanced.	Replace the spring with the one having a correct pressure.
4	Fuser unit	The pressuring spring of the fuser unit is defective.	Replace the fuser unit. (see page 4-15)

(3-20)Fusing is loose.




	Defective part	Check description	Corrective Action
1	Paper	1. Check that the type of the paper used falls within the range of specifications. 2. Check the settings of the type and weight of the paper.	1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Paper weight setting	Check If the weight of the paper is correctly set.	If the weight of the paper is not correctly set, choose the correct weight that matches the paper being used.
3	Fuser unit	Check the fuser pressure setting.	Replace the fuser unit. (see page 4-15)
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Change the setting value to 2.

(3-21)Image center does not align with the original center.



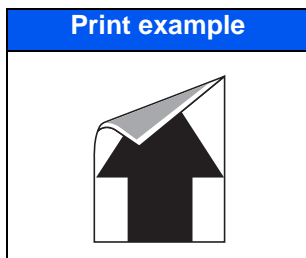
	Defective part	Check description	Corrective Action
1	Paper setting	Check if paper is set correctly.	Reload paper if the paper was not loaded correctly.
2	Image position adjustment	Excute U034 to check the center alignment during writing images.	Perform adjustment if the value of U034 Center Line Adjustment is inadequate. (see page 6-26)

(3-22)paper edges with toner.

Print example	Cause of trouble
	<p>1. Toner scattering due to an internal temperature increase.(Developer unit)</p>

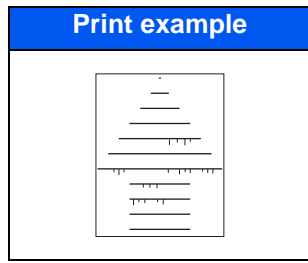
	Defective part	Check description	Corrective Action
1	Conveying guide	Check if the conveying guide is dirty with toner.	If the conveying guide is dirty with toner, clean the conveying guide, the developer unit and the cooling ducts.
2	Internal temperature increase (Developer unit)	Check the device has been used for printing a large amount of data or for printing in duplex mode with a high density.	If the device has been used for printing a large amount of data or for printing in duplex mode with a high density, clean the developer unit.

(3-23)reverse side of paper.



	Defective part	Check description	Corrective Action
1	Conveying guide	Check if the conveying guide is dirty with toner.	If the conveying guide is dirty with toner, clean the conveying guide, the developer unit and the cooling ducts.
2	Fuser pressure roller	Check that a foreign object is stuck on the fuser pressure roller.	<ol style="list-style-type: none"> 1. If a foreign object exists, clean the fuser pressure roller. 2. If the paper and the paper weight setting do not match, choose the proper paper weight setting.
3	Transfer roller unit	Check if the transfer roller is dirty with toner on its surface.	Clean the transfer roller.

(3-24)Carrier leaking occurs.



	Defective part	Check description	Corrective Action
1	Paper creased.	Check the state of the paper.	Replace the paper.
		Check the transfer current.	Change transfer setting with service setting (System Menu > Adjustment/Maintenance > Service setting > Transfer adjustment). Select the [line text priority].

7 - 2 Feeding/Conveying Failures

(1) First check items

If the paper is fed askew, jammed, curled, or leading-edge dog-eared, first perform to check the following items.

Check items	Check description	Corrective measures
Paper	<ol style="list-style-type: none"> 1. Check the paper delivered is dog-eared, skewed or ruffled. 2. Check how paper is loaded in the cassette (paper feeder). Check that the paper has been properly aligned with width adjuster cursor and the rear guide; it has been loaded without skewing; or it is not damaged. (Crumpled paper, main unit jam) 3. Check how paper is loaded. Check if the cutting edge of the paper bundle inside is crumpled or bent. 4. Check the paper is damp, wavy, or curled. 5. Check if the paper loaded was stored in a continuously humid place. 6. Check if the paper conforms to the requirements. 	<p>If a dog-ear has happened, check there are no objects existing in the conveying paths and, if any, fix. If the paper is fed askew or crumpled, perform the following No.2.</p> <p>Adjust the cursors to the size of the paper.</p> <p>If the cutting edge of the paper bundle is crumpled, fan the paper before loading. If the paper is folded, stretch before loading in the cassette</p> <ol style="list-style-type: none"> 1. Load the paper bundle in the cassette upside down. 2. Load the paper bundle after rotating it 180° and reload. 3. Change the paper. <p>Instruct the user to store paper in a dry, less humid place.</p> <p>Isolate the cause of the problem by replacing the paper with the recommended paper. (see page 1-1)</p>
Settings/Detection	<ol style="list-style-type: none"> 1. Check if the margin is 4.0±2.5mm from the leading edge of paper. 	<p>If the check line is not situated at 20mm±1mm from the leading edge, adjust the leading margin by U402. (see page 6-66)</p>
	<ol style="list-style-type: none"> 2. Check the panel if the paper size is correctly detected and the cassette size is not fixed.(Paper jam caused by continuously fed paper) Perform U000 to obtain a Event Log to check if the paper size and the size of the paper loaded are met when jam has occurred and if the size of the original document and the paper size are met. see page 6-5) 	<p>If the paper size is incorrectly displayed, adjust the positions of the paper set guide cursors in accordance with the paper size, making sure that the paper is not askew to activate the size detector switch.</p>
	<ol style="list-style-type: none"> 3. Check that paper settings are made in accordance with the paper being used. (Jam caused by faulty separation) 	<p>Select Original/ Paper settings under common settings in the system menu to set media type and weight of paper.</p>

Check items	Check description	Corrective measures
Rear cover	Check the rear cover of the main unit are slightly strained and closed.	To open, first open the rear cover and close firmly. (Check the position of the safety switch)
Conveying guide, approaching guide, feed-shift guide	<ol style="list-style-type: none"> 1. Check that the foreign objects including scrips, paper clips, etc., do not exist in the paper conveying paths. 2. Check that the paper conveying guide and the separation needles are not contaminated with toner, paper dusts, etc. 3. Check that the paper conveying guide has no bars, deformations, or abrasions; and it is properly mounted without being floated. 4. Check that the guide. Check that the guide is smoothly operative when manipulated. 5. Check the action of the guide. 	<p>If foreign objects such as scrips, etc., remain in the paper conveying path, remove.</p> <p>If dirty, clean the guide, ribs (by a cloth), and the separation needles (by a cleaning brush). If the ribs of the conveying guides were broken or deposited with toner, replace.</p> <p>Clean the conveying guide or the paper approaching guide. Remove any protrusions including bars. If floated, fix it properly. If deformation or abrasion is observed, replace.</p> <p>If the guide is inoperative or won't operate smoothly, replace the guide or the unit.</p> <p>If the guide is inoperative or won't operate smoothly, re-assemble the guide or replace the solenoid or the unit.</p>
Conveying roller, feed roller	1. Check the conveying rollers have no paper dusts, toner, or foreign objects stuck. Check a variation of the external diameter of the roller or abrasion is not observed with the conveying roller.	Clean the conveying rollers or the pulleys. If variation in the external diameter or abrasion is observed, replace.
	2. Turn the cover safety switch and check the motor and the clutch are operated normally.	If the conveying motor or the clutch is inoperative, replace. If stained, replace the clutch. If the clutch is kept turned on due to a tensioned wire, reroute wires.
	3. Check the conveying roller rotates without overloading. Check the axle holder or the roller shaft are not contaminated. Check that the spring has not fallen off and is mounted so that it is properly applying pressure against the rollers or pulleys.	Clean the roller axle or the axle holder. Re-assemble it while checking the pressure of the spring.

Check items	Check description	Corrective measures
Sensor	1. Check if it does not operate with smoothness due to an abnormal move or dropping off of the actuator of the conveying switch.	Re-assemble the actuator or the return spring.
	2. Check that the surface of the sensor and the receptor black felt pieces are not contaminated with toner, paper dusts, etc.	If dirty, clean the sensor or the black felt piece.
	3. Check the sensors are operated normally.	If the sensor is inoperative, replace the switch.
Static	Check if the location is susceptible to build static discharge at the conveying guide during printing.	Re-assemble and re-wire the static discharge sheet at the ejection unit or the metal guide at the transfer unit so that they are properly grounded.

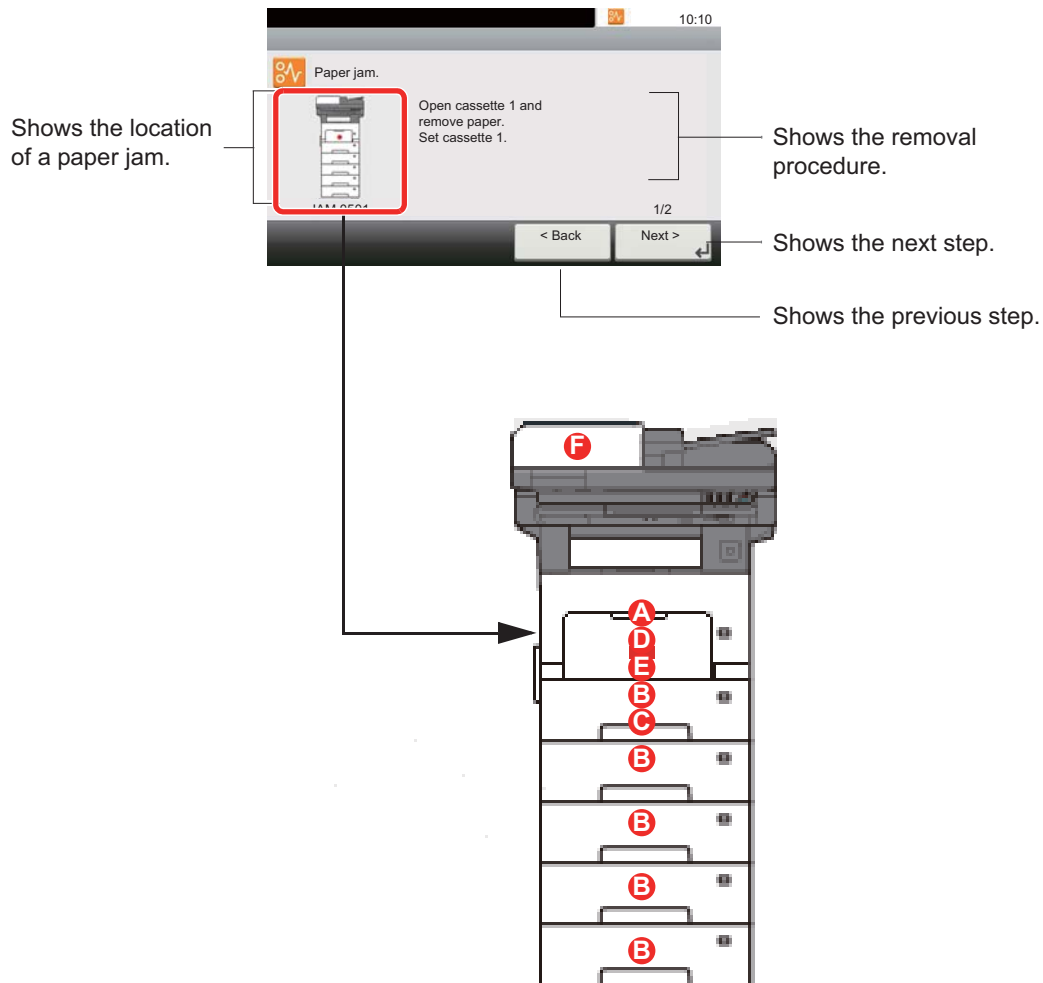
7 - 3 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the machine immediately stops printing and displays the paper misfeed message on the operation panel. To remove paper misfed in the machine, pull out the cassette, open the paper conveying unit or paper conveying cover.

The positions are displayed on the operation panel when a paper jam has occurred.

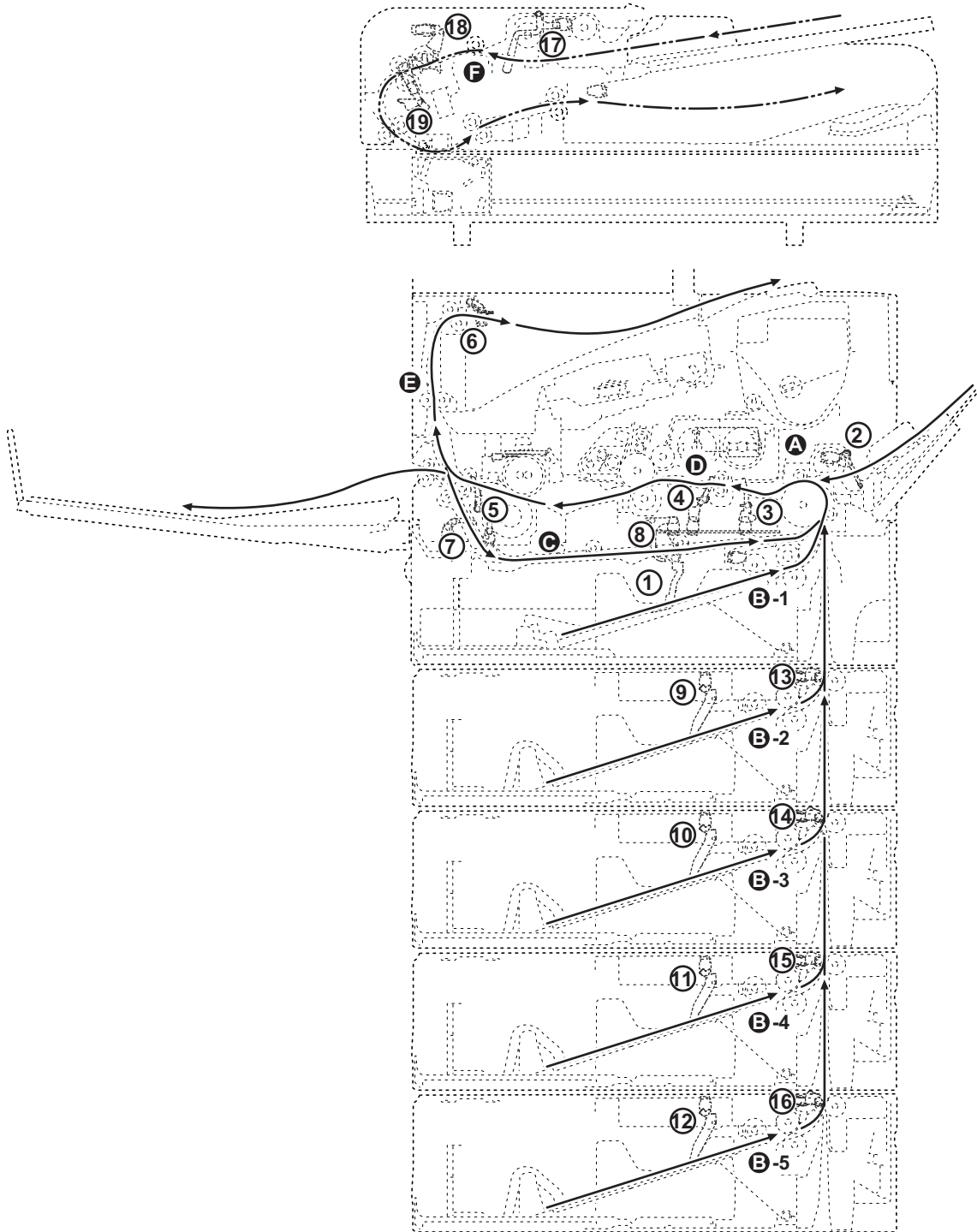
Jam location indicators



- A Misfeed in MP tray
- B Misfeed in the cassette 1 to 5
- C Misfeed in the duplex unit
- D Misfeed inside the machine
- E Misfeed inside the rear cover or the inner tray
- F Misfeed in the document processor

(2) Paper misfeed detection condition

Machine + PF (Option)



Sensor name

- | | | |
|----------------------------|--------------------------|---------------------------|
| 1 Paper sensor | 8 Duplex sensor 2 | 15 PF conveying sensor 3 |
| 2 MP paper sensor | 9 PF paper sensor 1 | 16 PF conveying sensor 4 |
| 3 Registration sensor 3 | 10 PF paper sensor 2 | 17 DP original sensor |
| 4 Registration sensor 2 *1 | 11 PF paper sensor 3 | 18 DP timing sensor |
| 5 Exit sensor | 12 PF paper sensor 4 | 19 DP registration sensor |
| 6 Ppaer full sensor | 13 PF conveying sensor 1 | |
| 7 Duplex sensor 1 | 14 PF conveying sensor 2 | |

*1: 55/60 ppm model only

List of JAM Code

Code	Contents	Conditions	Jam location*
0000	Initial jam	The power is turned on when a sensor in the conveying system is on.	-
0100	Secondary feeding timeout	Secondary paper feed request given by the controller is unreachable.	D
0101	Wait for ready of print-process package	Process package won't become ready.	D
0104	Wait for ready of conveying package	Conveying package won't become ready.	D
0105	Driving prevention	A drive does not stop.	D
0106	Paper feeding request for duplex printing time out	Paper feeding request for duplex printing given by the controller is unreachable.	C
0107	Wait for ready of fuser package	Fuser package won't become ready.	D
0110	Rear cover open	The rear cover is opened during printing.	-
0111	Top cover open	The top cover is opened during printing.	-
0120	Receiving a duplex paper feeding request while paper is empty	Paper feed request was received from the duplex section despite the absence of paper in the duplex section.	C
0121	Exceeding number of duplex pages circulated	The controller issued the duplex section a request for more pages than the duplex print cycle contains.	C
0501	No paper feed jam	The registration sensor 1 or sensor 3 does not turn on during paper feed from cassette 1.	B-1
0502		PF conveying sensor 1 does not turn on during paper feed from cassette 2.	B-2
0503		PF conveying sensor2 does not turn on during paper feed from cassette 3.	B-3
0504		PF conveying sensor 3 does not turn on during paper feed from cassette 4.	B-4
0505		PF conveying sensor 4 does not turn on during paper feed from cassette 5.	B-5
0508		The registration sensor 1 or sensor 3 does not turn on during paper feed from duplex section.	C
0509		The registration sensor 1 or sensor 3 does not turn on during paper feed from MP tray.	A

Code	Contents	Conditions	Jam location*
0511	Multiple sheets jam	The registration sensor 1 *or registration sensor 3 does not turn off during paper feed from cassette 1.	D
0512		PF conveying sensor 1 does not turn off during paper feed from cassette 2.	B-2
0513		PF conveying sensor 2 does not turn off during paper feed from cassette 3.	B-3
0514		PF conveying sensor 3 does not turn off during paper feed from cassette 4.	B-4
0515		PF conveying sensor 4 does not turn off during paper feed from cassette 5.	B-5
0518		The registration sensor 1 or registration sensor 3 does not turn off during paper feed from duplex section.	D
0519		The registration sensor 1 or registration sensor 3 does not turn off during paper feed from MP tray.	D
1403	PF feed sensor 2 non arrival jam	PF conveying sensor 2 does not turn on during paper feed from cassette 3.	B-3
1404		PF conveying sensor 2 does not turn on during paper feed from cassette 4.	B-4
1405		PF conveying sensor 2 does not turn on during paper feed from cassette 5.	B-5
1413	PF feed sensor 2 stay jam	PF conveying sensor 2 does not turn off during paper feed from cassette 3.	B-2
1414		PF conveying sensor 2 does not turn off during paper feed from cassette 4.	B-2
1415		PF conveying sensor 2 does not turn off during paper feed from cassette 5.	B-2
1604	PF feed sensor 3 non arrival jam	PF conveying sensor 3 does not turn on during paper feed from cassette 4.	B-4
1605		PF conveying sensor 3 does not turn on during paper feed from cassette 5.	B-5
1614	PF feed sensor 3 stay jam	PF conveying sensor 3 does not turn off during paper feed from cassette 4.	B-3
1615		PF conveying sensor 3 does not turn off during paper feed from cassette 5.	B-3
1805	PF feed sensor 4 non arrival jam	PF conveying sensor 4 does not turn on during paper feed from cassette 5.	B-5
1815	PF feed sensor 4 stay jam	PF conveying sensor 4 does not turn off during paper feed from cassette 5.	B-4

Code	Contents	Conditions	Jam location*
4002	Registration sensor 1 or 3 non arrival jam	The registration sensor 1 or registration sensor 3 does not turn on during paper feed from cassette 2.	B-1
4003		The registration sensor 1 or registration sensor 3 does not turn on during paper feed from cassette 3.	B-1
4004		The registration sensor 1 or registration sensor 3 does not turn on during paper feed from cassette 4.	B-1
4005		The registration sensor 1 or registration sensor 3 does not turn on during paper feed from cassette 5.	B-1
4012	Registration sensor 1 or 3 stay jam	The registration sensor 1 or registration sensor 3 does not turn off during paper feed from cassette 2.	D
4013		The registration sensor 1 or registration sensor 3 does not turn off during paper feed from cassette 3.	D
4014		The registration sensor 1 or registration sensor 3 does not turn off during paper feed from cassette 4.	D
4015		The registration sensor 1 or registration sensor 3 does not turn off during paper feed from cassette 5.	D
4101	Registration sensor 2 non arrival jam *2	The registration sensor 2 does not turn on during paper feed from cassette 1.	D
4102		The registration sensor 2 does not turn on during paper feed from cassette 2.	D
4103		The registration sensor 2 does not turn on during paper feed from cassette 3.	D
4104		The registration sensor 2 does not turn on during paper feed from cassette 4.	D
4105		The registration sensor 2 does not turn on during paper feed from cassette 5.	D
4108		The registration sensor 2 does not turn on during paper feed from duplex section.	D
4109		The registration sensor 2 does not turn on during paper feed from MP tray.	D
4111	Registration sensor 2 stay jam *2	The registration sensor 2 does not turn off during paper feed from cassette 1.	D
4112		The registration sensor 2 does not turn off during paper feed from cassette 2.	D
4113		The registration sensor 2 does not turn off during paper feed from cassette 3.	D
4114		The registration sensor 2 does not turn off during paper feed from cassette 4.	D
4115		The registration sensor 2 does not turn off during paper feed from cassette 5.	D
4118		The registration sensor 2 does not turn off during paper feed from duplex section.	D
4119		The registration sensor 2 does not turn off during paper feed from MP tray.	D

Code	Contents	Conditions	Jam location*
4201	Eject sensor non arrival jam	The eject sensor does not turn on during paper feed from cassette 1.	D
4202		The eject sensor does not turn on during paper feed from cassette 2.	D
4203		The eject sensor does not turn on during paper feed from cassette 3.	D
4204		The eject sensor does not turn on during paper feed from cassette 4.	D
4205		The eject sensor does not turn on during paper feed from cassette 5.	D
4208		The eject sensor does not turn on during paper feed from duplex section.	D
4209		The eject sensor does not turn on during paper feed from MP tray.	D
4211	Eject sensor stay jam	The eject sensor does not turn off during paper feed from cassette 1.	E
4212		The eject sensor does not turn off during paper feed from cassette 2.	E
4213		The eject sensor does not turn off during paper feed from cassette 3.	E
4214		The eject sensor does not turn off during paper feed from cassette 4.	E
4215		The eject sensor does not turn off during paper feed from cassette 5.	E
4218		The eject sensor does not turn off during paper feed from duplex section.	E
4219		The eject sensor does not turn off during paper feed from MP tray.	E
4301	Duplex sensor 1 non arrival jam	The duplex sensor 1 does not turn on during paper feed from cassette 1.	E
4302		The duplex sensor 1 does not turn on during paper feed from cassette 2.	E
4303		The duplex sensor 1 does not turn on during paper feed from cassette 3.	E
4304		The duplex sensor 1 does not turn on during paper feed from cassette 4.	E
4305		The duplex sensor 1 does not turn on during paper feed from cassette 5.	E
4309		The duplex sensor 1 does not turn on during paper feed from MP tray or bulk feeder.	E

Code	Contents	Conditions	Jam location*
4401	Duplex sensor 2 non arrival jam	The duplex sensor 2 does not turn on during paper feed from cassette 1.	C
4402		The duplex sensor 2 does not turn on during paper feed from cassette 2.	C
4403		The duplex sensor 2 does not turn on during paper feed from cassette 3.	C
4404		The duplex sensor 2 does not turn on during paper feed from cassette 4.	C
4405		The duplex sensor 2 does not turn on during paper feed from cassette 5.	C
4409		The duplex sensor 2 does not turn on during paper feed from MP tray.	C
4418	Duplex sensor 2 stay jam	The duplex sensor 2 does not turn off during paper feed from duplex section.	C
9000	DP original timing sensor ON undetected	DP feed sensor does not turn on within specified time during the first sheet feeding (Retry 5 times).	F
9001	DP small size original jam *2	Right after the DP timing sensor turned on, the DP timing sensor turned off.	F
9002	Jam detected when starting the original conveying *2	The unspecified DP conveying sensor turns on when starting conveying.	F
9004	DP registration sensor nonarrival jam during the original reversing *1	The DP registration sensor does not turn on after passing the specific pulse since the reverse operation started.	F
9010	DP unit open	Document processor is opened during original feeding.	F
9030	DP multi feed detection JAM*2	Multiple feed of document was detected during document feed. No display of JAM number on the panel.	F
9031	Multi feed detection sensor error JAM*2	At the start of document conveyance, the multi feed detection sensor detected the presence of paper. No display of JAM number on the panel.	F
9060	DP feed motor rotation error *1	The DP feed motor keeps rotating. Or, the firmware does not properly operate.	F
9061	DP conveying motor rotation error *1	The DP conveying motor rotates continuously. Or, the firmware does not operate correctly.	F
9062	DP reversing motor rotation error *1	The DP reverse motor rotates continuously. Or, the firmware does not operate correctly.	F
9110	DP original timing sensor OFF undetected	DP original timing sensor does not turn off within specified time of DP registration sensor turning on.	F
9120	Initial jam of DP timing sensor *1	When DP reading is begun in the state where the manuscript remains in the conveyance way	F
9200	DP registration sensor ON undetected *1	DP registration sensor does not turn on within specified time of DP timing sensor turning on.	F
9210	DP registration sensor stay jam *1	DP registration sensor does not turn off within specified time of DP timing sensor turning off.	F

Code	Contents	Conditions	Jam location*
9220	Initial jam of DP registration sensor *1	When DP reading is begun in the state where the manuscript remains in the conveyance way	F
9300	DP backside timing sensor non-arrival jam *2	The DP back side timing sensor does not turn on even a certain pulse has passed after the DP original sensor turns on.	F
9310	DP backside timing sensor stay jam *2	The DP back side timing sensor does not turn off even a certain pulse has passed after the DP original sensor turns off.	F
9400	DP timing sensor non-arrival jam *2	The DP timing sensor does not turn on even a certain pulse has passed after the DP original sensor or the DP registration sensor turns on.	F
9410	DP timing sensor stay jam *2	The DP timing sensor does not turn off even a certain pulse has passed after the DP original sensor or the DP registration sensor turns off.	F
9600	DP exit sensor non-arrival jam *2	The DP exit sensor does not turn on after passing the specific pulse since the DP timing sensor turned on.	F
9610	DP exit sensor stay jam *2	The DP exit sensor does not turn off after passing the specific pulse since the DP timing sensor turned off.	F

*1: 45 ppm model only, *2: 55/60 ppm model only

*: Refer to 7-3 Paper misfeed indication (see page 7-46).

(3) Items and corrective actions relating to the device that will cause paper jam

Jam types	Check description	Corrective measures
No-paper-feed jam or the leading edge of paper is curled back at the position of the roller (J0501, J0502, J0503, J0504, J0505, J0509)	1. Check if the jammed paper or the printed paper has a tear caused by the roller at its leading edge.	Replace the paper feed roller.(Service life of rubber roller is 300000 images *1) Increase the spring pressure to pinch the separation rollers if the component is undue to its expected life.Replace the spring.
	2. Check abrasion and paper dusts on the feed roller and forward rollers.	Clean the paper feed roller and the pickup roller. Or, if not amended, replace.
	3. Check the pickup roller and paper feed roller are rotating.	If disconnected or or stained, replace the primary paper feed clutch.
	4. Check that the conveying force of the pickup roller is sufficient.	Increase the conveying force during paper pickup by increasing the spring load of the pickup roller.

*1: 45 ppm model (Service life of 55/60 ppm model is 500000 images.)

Jam types	Check description	Corrective measures
Multiple-feed Jam (J0511, J0512, J0513, J0514, J0515, J0519)	1 Check if the cutting edge of the paper bundle is crumpled or the cassette is loaded with multiple times of replenishing paper.	If the cutting edge of the paper bundle is crumpled or the cassette is loaded with multiple times of replenishing paper, load new paper.
	2 Checking paper size. Check that the size of the loaded paper and the paper size chosen on the operator panel are met.	If the paper size does not agree. 1 If the cassette cursors are open against the paper, set it properly. 2 Insert the cassette until the cassette size detector switch is turned on. If the size is not detectable while automatic sizing is enabled, replace the size detection switch.
		If the paper size agrees 1 If paper other than complying the requirements such as coated paper, inkjet paper, etc., is used, replace the paper. 2 RE-assemble the retard roller in the primary paper feed unit if it is mounted to the opposite direction. 3 Check if the retard spring has not been fallen off of the mounting position. • If the retard spring is not dropped off of the mount position, decrease the spring pressure that is applied to the separation rollers. 4 Replace the primary paper feed unit.
	3 Check if paper dusts and abrasion are observed on the paper fanning roller and retard roller.	If the paper fanning roller is dirty, clean. If abrasion is observed, replace.
4 Check the clutch that are rotating following the other component when the motor is turned on.	If the clutch rotates following the other component and its stain is observed, replace the clutch.	
Duplex No-paper-feed Jam (J0508)/Duplex Multiple-feed Jam (J0518)	Check if the registration sensor is detected.	1 Clean the sensor and paper dust on the opposite side. 2 If the registration sensor is not working, replace the registration sensor.

Jam types	Check description	Corrective measures
PF conveying sensor stay jam (J1413, J1414, J1415, J1614, J1615, J1815)	1 Check to see if the actuator is operative without hinderance.	If it won't operate without hinderance, re-assemble or replace the actuator's return spring.
	2 Check the operation of the sensor.	If the sensor is inoperative, replace.
	3 Check if the PF paper feed clutch rotates following the other component.	If stained, replace the clutch.Re-assmeble the clutch so that it is not continuously energized. (Change of wirings, etc.)
	4 Check if the conveying guide is twisted to be mounted.(If the mounting parts of the guide is floated, the actuator won't protrude sufficiently.)	If the bracket is twisted to be mounted, remove the screw fixing the conveying guide and properly mount the bracket in the right position and fix again.
	5 Check no wrinkles are observed at the sluck of paper during paper feeding.	Adjust the cursors to the size of the paper.
PF conveying sensor non arrival jam (J1403/J1404, J1405, J1604, J1605, J1805)	1 Check to see if the actuator is operative without hinderance.	Re-assemble or replace the actuator's return spring.
	2 Check the operation of the motor. Check the transmission of the gear drive . * : Check the conveying roller rotates and is movable in the direction of thrust without hinderance.	If the roller won't rotate without hinderance, loosen the screws for adjusting the position (at the gear train bracket) to mount the driving gears, and tighten so that a gap between the gears and frame is eliminated.
Fuser eject sensor stay jam (J421X)	1 If paper jam occurs at the feedshift guide in the rear cover assembly, check if the guide is operative without hinderance.	If the distance between the housing and the feedshift guide is too small for the guide to move without hinderance, replace the rear cover assembly.
	2 Check if the eject sensor does not show a false detection.	Replace the defective eject sensor or the fuserunit.

(4) Paper jam at feeding from cassette 1

Electrical parts that could cause paper jam during paper travelling at the primary feeding (to regist roller)

Timing of detection

Jam code
J0501, J0511, J4101, J4111 *1

Measures

Related parts	
Registration sensor	Control PWB
Paper feed clutch	Drum PWB *1
Main motor	Connect right PWB

Checking procedure at the occurrence of J0501/J502 J4101/J4111 *1	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	Registration sensor: Conduct connectivity check, mounting location check, operation check	CONPWB YC55-12 D-RPWB YC6-2
3	Control PWB: Replace	
4	Drum PWB: Replace *1	
5	Paper feed clutch: Operation check	C-RPWB YC12-4
6	Main motor: Operation check	C-RPWB YC10-1/2/3/4
7	Connect right PWB: Replace	

*1: 55/60 ppm model only

(5) Paper jam at feeding from cassette 2 (paper feeder)

Electrical parts that could cause paper jam during paper travelling at the primary feeding (to regist roller)

Timing of detection

Jam code
J0502, J0512, J4002, J4012, J4102 *1, J4112 *1

Corrective Action

Related parts	
PF paper feed sensor	PF PWB
PF paper feed clutch	Control PWB
PF paper feed motor	Drum PWB
	Connect right PWB

Checking procedure at the occurrence of J0502/J0512	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	PF Feed sensor 1: Conduct connectivity check, mounting location check, operation check	PF PWB YC5-6
3	PF paper feed clutch: Operation check	PF PWB 2 YC4-1
4	PF paper feed motor: Operation check	PF PWB YC4-3(RDY), 5(REM)
5	PF PWB: Replace	

Checking procedure at the occurrence of J4002/J4012 J4102/J4112	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	registration sensor: Conduct connectivity check, mounting location check, operation check	CONPWB YC55-12 DRPWB YC6-2
3	Control PWB: Replace	
4	Drum PWB: Replace *1	
5	Paper feed clutch: Operation check	C-RPWB YC12-4
6	Main motor: Operation check	C-RPWB YC10-1/2/3/4
7	Connect right PWB: Replace	

*1: 55/60 ppm model only

(6) Paper jam at feeding from multi paper feed

Electrical parts that could cause paper jam during paper travelling at the primary feeding (to regist roller)

Timing of detection

Jam code
J0509,J0519

Corrective Action

Related parts	
Registration sensor	Control PWB
MP solenoid	Connect right PWB
Main motor	

Checking procedure at the occurrence of J0509/J0519	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	Registration sensor: Conduct connectivity check, mounting location check, operation check	CONPWB YC55-12
3	MP solenoid: Operation check	C-RPWB YC11-2
4	Main motor : Operation check	C-RPWB YC10-1/2/3/4
5	Control PWB: Replace	

(7) Paper jam at the duplex re-feeding part

Electrical parts that could cause paper jam during paper travelling at the primary feeding (to regist roller)

Timing of detection

Jam code
J0508,J0518

Corrective Action

Related parts	
Registration sensor	Control PWB
Duplex clutch *1	Connect right PWB
Middle clutch *1	
Main motor	

Checking procedure at the occurrence of J0508/J0518	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	Registration sensor: Conduct connectivity check, mounting location check, operation check	CONPWB YC55-12
3	Control PWB: Replace	
4	Duplex clutch: Operation check	C-RPWB YC12-10 *1
5	Middle clutch: Operation check	C-RPWB YC12-8 *1
6	Main motor: Operation check	C-RPWB YC10-1/2/3/4
7	Connect right PWB: Replace	

*1: 55/60 ppm model only

(8) Electrical parts that could cause paper jam at the transfer, the fuser and the eject parts

Timing of detection

Jam code
J4201,J4211

Corrective Action

Related parts	
Eject sensor	Control PWB
Registration clutch	Connect right PWB
Main motor	Connect left PWB
Eject motor	

Checking procedure at the occurrence of J4201/J4211	Corrective action at the occurrence	On/Off control signal output connector (terminal), point of checking connection
1	Items for Initial Checks	See page 7-43
2	Eject sensor: Conduct connectivity check, mounting location check, operation check	CONPWB YC59-3
3	Control PWB: Replace	
4	Registration clutch: Operation check (U032)	C-RPWB YC12-6
5	Main motor: Operation check	C-RPWB YC10-1/2/3/4
6	Connect right PWB: Replace	
7	Eject motor: Operation check	C-LPWB YC12-1/2/3/4
8	Connect left PWB: Replace	

7 - 4 Self-diagnostic function

(1) Self-diagnostic function

This machine is equipped with self-diagnostic function. When a problem is detected, the machine stops printing and display an error message on the operation panel. An error message consists of a message prompting a contact to service personnel and a four-digit error code indicating the type of the error.

(2) Self diagnostic codes

If the part causing the problem was not supplied, use the unit including the part for replacement

Caution:

Before attempting to check the power supply and the fuser unit and PWB, be sure to turn the power switch off and unplug the machine from power.

After disconnect the power cord, press the power switch one second or more to discharge the electric charge inside the main unit.

Code	Contents	Related parts	Check procedures/ corrective measures
0100	Backup memory device error	EEPROM (Control PWB)	<ol style="list-style-type: none"> 1. Turn the main power switch off and after 5 seconds, then turn power on. 2. Check that the EEPROM on the main circuit PWB is properly installed on the main circuit PWB and, if not, re-install it. 3. Replace the control PWB and check for correct operation (see page 4-133).
0120	MAC address data error For data in which the MAC address is invalid.	EEPROM (Control PWB)	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Check the MAC address on the network status page. 3 If it is blank, obtain an EEPROM with its MAC address written from the service support and install. 4 Replace the control PWB and check for correct operation (see page 4-133).
0130	Backup memory read/write error (main NAND)	Flash memory (Control PWB)	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Replace the control PWB and check for correct operation (see page 4-133).
0140	Backup memory data error (main NAND)	Flash memory (Control PWB)	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
0150	<p>Backup memory read/write error (control PWB) No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from 2 locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.</p>	EEPROM (Control PWB)	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Check that the EEPROM is properly installed on the control PWB and re-install it. 3 Replace the control PWB and check for correct operation (see page 4-133). 4 Check the EEPROM and if the data are corrupted, contact the service support.
0160	<p>Backup memory data error (control PWB) Reading data from EEPROM is abnormal.</p>	EEPROM	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Execute U021 - memory initializing.(see page 6-24) 3 If the EEPROM data are corrupted, contact the service support.
0170	<p>Billing counting error The values on the main circuit PWB and on the engine do not match for any of charging counter, life counter, and scanner counter.</p>	EEPROM	<ol style="list-style-type: none"> 1 Check that the EEPROMs installed in the control PWB are correct and, if not, use the correct EEPROM for the model. 2 If the EEPROM data are corrupted, contact the service support.
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
0190	<p>Backup memory device error (control PWB)</p>	Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
0800	<p>Image processing error JAM010X is detected twice.</p>	Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
0840	<p>Faults of RTC ("Time for maintenance T" is displayed) [Check at power up] The RTC setting has reverted to a previous state. The machine has not been powered for 5 years (compared to the settings stored periodically in the EEPROM). The RTC setting is older than 00:01 on January 1, 2000. [Checked periodically (in 5-minute interval) after powered up] The RTC setting has reverted to a state older than the last time it was checked. 10 minutes have been passed since the previous check.</p>	Battery (Control PWB)	<ol style="list-style-type: none"> 1 Make sure that the back-up batteries on the control PWB are not short-circuited. 2 If the same C call is displayed when power is switched on and off, replace the back up battery. 3 If communication error (due to a noise, etc.) is present with the RTC on the control PWB, check the PWB is properly grounded.
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
1010 *2 After cassette 1 is inserted, lift sensor does not turn on within 10 s. This error is detected five times successively.	Lift motor error	Bottom plate elevation mechanism in the cassette	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Lift motor and connect right PWB (YC9) Connect right PWB and control PWB (YC65)
		Drive transmission system of the lift motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Lift motor	Replace the lift motor.
		Connect right PWB	Replace the connect right PWB (see page 4-148).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
1020 After cassette 2 is inserted, PF lift sensor 1 does not turn on. This error is detected five times successively.	PF lift motor 1 error (paper feeder)	Bottom plate elevation mechanism in the cassette	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 1 and PF PWB (YC7)
		Drive transmission system of the PF lift motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 1.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
1030 After cassette 3 is inserted, PF lift sensor 2 does not turn on. This error is detected five times successively.	PF lift motor 2 error (paper feeder)	Bottom plate elevation mechanism in the cassette	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 2 and PF PWB (YC7)
		Drive transmission system of the PF lift motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 2.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).

Code	Contents	Related parts	Check procedures/ corrective measures
1040	PF lift motor 3 error (paper feeder) After cassette 4 is inserted, PF lift sensor 3 does not turn on. This error is detected five times successively.	Bottom plate elevation mechanism in the cassette	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 3 and PF PWB (YC7)
		Drive transmission system of the PF lift motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 3.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
1050	PF lift motor 4 error (paper feeder) After cassette 5 is inserted, PF lift sensor 4 does not turn on. This error is detected five times successively.	Bottom plate elevation mechanism in the cassette	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 4 and PF PWB (YC7)
		Drive transmission system of the PF lift motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 4.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
1800	Paper feeder 1 communication error A communication error is detected 10 times in succession.	Paper feeder	Follow installation instruction carefully again.
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF PWB (YC3) and control PWB (YC64)
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
1810	Paper feeder 2 communication error A communication error from paper feeder is detected 10 times in succession.	Paper feeder	Check the wiring connection status with the main unit and, if necessary, try connecting it again.
		PF PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. PF PWB (YC1) and control PWB (YC64) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the PF PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
1820	Paper feeder 3 communication error A communication error from paper feeder is detected 10 times in succession.	Paper feeder	Check the wiring connection status with paper feeder unit 2 and, if necessary, try connecting it again.
		PF PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. PF PWB (YC1) and PF PWB (YC64). 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the PF PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
1830	Paper feeder 4 communication error A communication error from paper feeder is detected 10 times in succession.	Paper feeder	Check the wiring connection status with paper feeder unit 3 and, if necessary, try connecting it again.
		PF PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. PF PWB (YC1) and PF PWB (YC64). 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the PF PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
1900	Paper feeder 1 EEPROM error When writing the data, read and write data does not match 4 times in succession.	PF PWB (EEPROM)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. 2 Replace the PF PWB.
1910	Paper feeder 2 EEPROM error When writing the data, read and write data does not match 4 times in succession.	PF PWB (EEPROM)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Replace the PF PWB.
1920	Paper feeder 3 EEPROM error When writing the data, read and write data does not match 4 times in succession.	PF PWB (EEPROM)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. 2 Replace the PF PWB.
1930	Paper feeder 4 EEPROM error When writing the data, read and write data does not match 4 times in succession.	PF PWB (EEPROM)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. 2 Replace the PF PWB.

Code	Contents	Related parts	Check procedures/ corrective measures
2000	Main motor startup error Main motor is not stabilized within 2 s since the motor is activated.	Main motor	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Main motor and connect right PWB (YC10) Connect right PWB and control PWB (YC65) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the main motor (see page 4-66).
		Connect right PWB	Replace the connect right PWB (see page 4-119).
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
2010	Main motor steady-state error After main motor is stabilized, the ready signal is not ready for 2 s continuously.	Main motor	1 Check the drive gear can rotate or they are not unusually loaded and, if necessary, replace. 2 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Main motor and connect right PWB (YC10) Connect right PWB and control PWB (YC65) 3 If the wiring is disconnected, shorted or grounded, replace the wiring. 4 Replace the main motor (see page 4-66).
		Connect right PWB	Replace the connect right PWB (see page 4-148).
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
2200 *2	Drum motor drive error The drum motor is not stabilized within 2 s after driving starts.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum motor and connect right PWB (YC10) Connect right PWB and control PWB (YC65)
		Drive transmission system of the drum motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Drum motor	Replace the drum motor.
		Connect right PWB	Replace the connect right PWB (see page 4-148).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
2210 *2	Drum motor steady-state error Stable OFF is detected for 2 s continuously after drum motor stabilized.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum motor and connect right PWB (YC10) Connect right PWB and control PWB (YC65)
		Drive transmission system of the drum motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Drum motor	Replace the drum motor.
		Connect right PWB	Replace the connect right PWB (see page 4-148).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
2330	Envelope motor error (Over-current) The over-current detection signal of the motor is detected continuously twenty times.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Envelope motor and connect left PWB (YC11) Connect left PWB and control PWB (YC53)
		Drive transmission system of the envelope motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Envelope motor	Replace the envelope motor.
		Connect left PWB.	Replace the connect left PWB (See Page 4-138).
		Control PWB	Replace the control PWB and check for correct operation (See Page 4-133).
2340	Envelope motor error (Timeout) The position detection sensor is not detected continuously for 30 s.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Envelope motor and connect left PWB (YC11) Connect left PWB and control PWB (YC53)
		Drive transmission system of the envelope motor	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Envelope motor	Replace the envelope motor.
		Connect left PWB	Replace the connect left PWB (See Page 4-138).
		Control PWB	Replace the control PWB and check for correct operation (See Page 4-133).
2600	PF drive motor 1 error (paper feeder 1) When the PF drive motor is driven, error signal is detected continuously for 2 s.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 1 and PF PWB (YC6)
		Drive transmission system of the PF drive motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		DPF drive motor	Replace the PF drive motor 1.
		DPF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).

Code	Contents	Related parts	Check procedures/ corrective measures
2610 PF drive motor 2 error (paper feeder 2) When the PF drive motor is driven, error signal is detected continuously for 2 s.		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 2 and PF PWB (YC6)
		Drive transmission system of the PF drive motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF drive motor	Replace the PF drive motor 2.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
2620 PF drive motor 3 error (paper feeder 3) When the PF drive motor is driven, error signal is detected continuously for 2 s.		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 3 and PF PWB (YC6)
		Drive transmission system of the PF drive motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF drive motor	Replace the PF drive motor 3.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).
2630 PF drive motor 4 error (paper feeder 4) When the PF drive motor is driven, error signal is detected continuously for 2 s.		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 4 and PF PWB (YC6)
		Drive transmission system of the PF drive motor	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		PF drive motor	Replace the PF drive motor 4.
		PF PWB	Replace the PF PWB (Refer to the service manual for the paper feeder).

Code	Contents	Related parts	Check procedures/ corrective measures
3100	Scanner carriage error The home position is not correct when the power is turned on, at the end of a reading process of the table and document processor.	Image scanner motor	1 Move the scanner by the hand to check whether it is unusually difficult to move. 2 Check that the scanner driving belt is not disengaged. 3 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Image scanner motor and control PWB (YC67) 4 If the wiring is disconnected, shorted or grounded, replace the wiring. 5 Replace the image scanner motor.
		Home position sensor	1 Check that the sensor is correctly positioned. 2 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Home position sensor and CCD PWB (YC3) CCD PWB and control PWB (YC20) 3 Replace the home position sensor.
		CCD PWB	Replace the image scanner unit and execute U411 (see page 6-69).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
3200	Exposure lamp error When a lamp is made to turn on one side at a time, the white standard data at the time of an initial is lower than a rated value.	LED PWB	1 Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. LED PWB and CCD PWB (YC2) CCD PWB and control PWB (YC20) 2 Replace the image scanner unit (see page 4-41).
		CCD PWB	Replace the image scanner unit and execute U411 (see page 6-69).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
3210 *2	CIS lamp error The white reference data retrieved by lighting the lamp at the initial operation is lower than the specified value.	CIS	1 Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. CIS and CIS connect PWB CIS connect PWB and control PWB (YC41) 2 Replace the image scanner unit and execute U411 (see page 4-41).
		CIS connect PWB	Replace the CIS connect PWB and check for correct operation.
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
3500	Communication error between scanner and ASIC An error code is detected.	CCD PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. CCD PWB and control PWB (YC20) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the image scanner unit and execute U411 (see page 6-69).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
4000	Polygon motor steady-state error After Polygon motor is stabilized, the ready signal is at the H level for 20 s continuously.	Polygon motor (LSU)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Laser scanner unit and control PWB (YC56) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the laser scanner unit (see page 4-46).
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
4101	BD steady-state error When the value is 1 after the lapse of a certain time after register BDSET is set to 1.	PD PWB (LSU)	1 Confirm that the FCC wiring connector is not distorted and connect the FCC wiring all the way in. Laser scanner unit and control PWB (YC56) 2 If the FCC wiring is disconnected, shorted or grounded, replace the FCC wiring. 3 Replace the laser scanner unit (see page 4-46)
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
5100	Chager current error When the current value measured at the time of potential adjustment is less than 20 μ A. The error of the charge current before toner installation. The error of the charge current before printing.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Charger unit and high voltage PWB High voltage PWB and control PWB (YC55)
		High voltage PWB	Replace the high voltage PWB and check for correct operation (see page 4-151).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
6000	Broken fuser heater wire (Center) (45 ppm model) Fuser thermistor 1 detects a temperature less than 100°C/212°F continuously for 30 s after a warm-up start. (55/60 ppm model) Fuser thermistor 2 detects a temperature less than 100°C/212°F continuously for 30 s after a warm-up start.	Fuser unit	1 Check that no paper jam is present. 2 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Fuser unit and fuser thermistor connect PWB (YC2) Fuser thermistor connect PWB and control PWB (YC58) 3 If the wiring is disconnected, shorted or grounded, replace the wiring. 4 Confirm the continuity of the thermostat. 5 Replace the Fuser unit (see page 4-15). (Deteriorated sensitivity due to the toner adhered to the center thermistor.)
		Fuser thermistor connect PWB	Replace the fuser thermistor connect PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
		Power source PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Power source PWB and connect right PWB (YC4) Connect right PWB and control PWB (YC65) 2 Replace the power source PWB (see page 4-131).
		Fuser heater	Replace the Fuser unit (see page 4-15).
6020	Abnormally high fuser thermistor 2 temperature (Center) Fuser thermistor 2 detects a temperature higher than 235°C/455°F. In a heater-off state, the detection temperature of fuser thermistor 2 is higher than 195°C/383°F after the detection temperature of fuser thermistor 2 was 155°C/311°F or less.	Fuser unit	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Fuser unit and fuser thermistor connect PWB (YC2) Fuser thermistor connect PWB and control PWB (YC58) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the Fuser unit (see page 4-15).
		Fuser thermistor connect PWB	Replace the fuser thermistor connect PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
6030	Broken fuser thermistor 2 wire (Center) Input from fuser thermistor 2 is 1019 or more (A/D value) continuously for 4 s.	Fuser unit	1 Check that no paper jam is present. 2 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Fuser unit and fuser thermistor connect PWB (YC2) Fuser thermistor connect PWB and control PWB (YC58) 3 If the wiring is disconnected, shorted or grounded, replace the wiring. 4 Replace the Fuser unit (see page 4-15). (Deteriorated sensitivity due to the toner adhered to the center thermistor.)
		Fuser thermistor connect PWB	Replace the fuser thermistor connect PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB (see page 4-133).
		Fuser thermistor 2	Replace the Fuser unit (see page 4-15).
		Fuser thermostat (triggered)	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Fuser unit and power source PWB (YC2) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the Fuser unit (see page 4-15).
		Power source PWB	Replace the power source PWB (see page 4-159).

Code	Contents	Related parts	Check procedures/ corrective measures
6000/ 6020/ 6030/ 6120/ 6130/ Combined	<p>Broken fuser heater wire</p> <p>Abnormally high fuser thermistor 2 temperature</p> <p>Broken fuser thermistor 2 wire</p> <p>Abnormally high fuser thermistor 1 temperature</p> <p>Broken fuser thermistor 1 wire</p>	<p>Connector pin</p> <p>Triac</p>	<p>If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign matters, replace the connectors or the units including the connectors.</p> <p>Remove the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 (the triac TRA41 is 55/60 ppm model only) are of several Mega-Ohms and not shorted. If failed, replace the power source PWB (see page 4-159).</p> <div data-bbox="699 696 1390 1104" style="text-align: center;"> <p>The diagram shows a rectangular printed wiring board (PWB) labeled 'Power source PWB'. A circular callout highlights a component labeled 'CR001', which is a triac. Two terminals, 'T1' and 'T2', are shown extending from the bottom of the triac component.</p> </div>
6120	<p>Abnormally high fuser thermistor 1 temperature</p> <p>(45 ppm model) The detection temperature of fuser thermistor 1 is higher than 250°C/482°F. In a heater-off state, the detection temperature of fuser thermistor 1 is higher than 170°C/338°F after the detection temperature of fuser thermistor 1 was 155°C/311°F or less.</p> <p>(55/60 ppm model) The detection temperature of fuser thermistor 1 is higher than 245°C/473°F. In a heater-off state, the detection temperature of fuser thermistor 1 is higher than 195°C/383°F after the detection temperature of fuser thermistor 1 was 155°C/311°F or less.</p>	<p>Connector pin</p> <p>Triac</p> <p>Paper</p> <p>Fuser thermistor</p> <p>Contrl PWB</p>	<p>See page 7-73.</p> <p>See page 7-73.</p> <p>Check whether the print size setting and paper size setting match.</p> <p>Replace the fuser unit (see page 4-15).</p> <p>Replace the control PWB and check for correct operation (see page 4-133).</p>

Code	Contents	Related parts	Check procedures/ corrective measures
6130	Broken fuser thermistor 1 wire A/D value of the fuser thermistor 1 exceeds 1019 bit continuously for 4 s during warming up.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser thermistor and fuser thermistor connect PWB (YC1) Fuser thermistor connect PWB and control PWB (YC58)
		Connector pin	See page 7-73.
		Triac	See page 7-73.
		Fuser thermistor	Replace the fuser unit (see page 4-15).
		Fuser thermistor connect PWB	Replace the fuser thermistor connect PWB.
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
6400	Zero-cross signal error While fuser heater ON/OFF control is performed, the zero-cross signal is not input within 2 s.	Fuser unit	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Power source PWB and connect right PWB (YC4) Connect right PWB and control PWB (YC65) 2 If the wiring is disconnected, shorted or grounded, replace the wiring.
		Power source PWB	Replace the power source PWB (see page 4-159).
		Connect right PWB	Replace the connect right PWB (see page 4-148).
		Control PWB	Replace the control PWB (see page 4-133).
7000	Toner motor error During driving the toner motor, an over-current detection signal is detected at intervals of 10 ms as for 300 accumulation.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Toner motor and drum PWB (YC4) Drum PWB and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53)
		Drum unit	Replace the drum unit (see page 4-12).
		Connect left PWB	Replace the connect left PWB (see page 4-138).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
7100 Sensor output value of 930 or more continuously for 5 s.	Toner sensor error	Toner sensor	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Toner sensor and drum PWB (YC3) Drum PWB and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Check that the gears of the Developer unit are not damaged and the spiral can rotate. 4 Replace the Developer unit (see page 4-10).
		Toner motor	1 Draw out the toner container. 2 Check the drive gear can rotate or they are not unusually loaded and, if necessary, replace. 3 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Toner motor and drum PWB (YC4) Drum PWB and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53) 4 If the wiring is disconnected, shorted or grounded, replace the wiring. 5 Replace the Toner motor.
		Connect left PWB	Replace the connect left PWB (see page 4-138).
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
		Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Developer unit and drum PWB (YC3) Drum PWB and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53)
Toner sensor	Replace the developer unit. (See Page 4-10)		
Connect left PWB	Replace the connect left PWB (see page 4-138).		
Control PWB	Replace the control PWB and check for correct operation (see page 4-133).		
7400 Sensor output value of 31 or less continuously for 5 s.	Developer unit non-installing error		

Code	Contents	Related parts	Check procedures/ corrective measures
7410	Drum unit type mismatch error The drum PWB EEPROM does not communicate normally. Absence of the drum unit is detected.	Connector cable or poor contact in the connector	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum unit and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53)
		Toner sensor	Replace the drum unit. (See Page 4-12)
		Connect left PWB	Replace the connect left PWB (see page 4-138).
		Control PWB	Replace the control PWB and check for correct operation (see page 4-133).
7800	Broken temperature sensor wire Input from temperature sensor is 1019 or more continuously for 160 ms. Input from temperature sensor is 93 or less continuously for 5 s.	Temperature sensor	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Temperature sensor and control PWB (YC54) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the key right PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
7810	Short-circuited temperature sensor wire Input from temperature sensor is 930 or more continuously for 5 s.	Temperature sensor	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. Temperature sensor and control PWB (YC54) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the key right PWB.
		Control PWB	1 Check the control software and upgrade to the latest, if necessary. 2 Replace the control PWB and check for correct operation (see page 4-133).
7900	Drum EEPROM error No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from 2 locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	DR PWB	1 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. DR PWB and drum connect PWB (YC1) Drum connect PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53) 2 If the wiring is disconnected, shorted or grounded, replace the wiring. 3 Replace the Drum unit (see page 4-12).
		Connect left PWB	Replace the connect left PWB (see page 4-138).
		Control PWB	4 Check the control software and upgrade to the latest, if necessary. 4. Replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
9180 *1	DP revers motor error When the home position was not detected even if the processing was retried three consecutive times. Condition of the home position detection: When detecting the home position by driving one rotation the DP revers motor.	DP revers motor	<ol style="list-style-type: none"> 1 Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2 Confirm that the connector of the DP revers motor is firmly connected, and if necessary, push the unit all the way in. 3 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. DP revers motor and the control PWB (YC1001) 4 If the wiring is disconnected, shorted or grounded, or the connector pin is deformed, remedy or replace the wire. 5 Replace the DP revers motor. (see page 4-73)
		DP revers sensor	<ol style="list-style-type: none"> 1 Rotate the DP revers motor by the hand to check that it is not unusually difficult to rotate. 2 Check that the DP revers sensor is not disengaged and is correctly positioned. And check that the actuator correctly shields the light. 3 Confirm that the wiring connector is firmly connected and, if necessary, connect the connector all the way in. DP revers sensor and the control PWB (YC1003) 4 If the wiring is disconnected, shorted or grounded remedy or replace the wire. 5 Replace the DP revers sensor (DPSBS).
		Control PWB	<ol style="list-style-type: none"> 1 Check the engine firmware and upgrade to the latest version, if necessary. 2 Replace the control PWB. (see page 4-133)
9200 *2	DP multi-feeding PWB communication error The DP multi-feeding PWB connection signal is not connected twice continuously with one retry when turning the power on. The DP multi-feeding PWB receive the incorrect communication command 3 times continuously.	RX PWB	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. (YC2) DP TX PWB (emitter) - DP RX PWB DP RX PWB (receiver) - Control PWB(YC71)
		DP firmware	Upgrade the control firmware and the DP firmware to the latest version.
		DP TX PWB DP RX PWB	Replace the DP TX PWB (emitter) or the DP RX PWB (receiver).
		Control PWB	<ol style="list-style-type: none"> 1 Check the engine firmware and upgrade to the latest version, if necessary. 2 Replace the control PWB. (see page 4-133)

Code	Contents	Related parts	Check procedures/ corrective measures
9220 *2	DP multi-feeding PWB backup error Write data and read data does not match 3 times continuously when writing. Block erase failed 3 times continuously. Writing does not complete when passing 200ms after starting writing.	RX PWB	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. DP TX PWB (emitter) - DP RX PWB DP RX PWB (receiver) - Control PWB(YC71)
		DP firmware	Upgrade the control firmware and the DP firmware to the latest version.
		DP TX PWB DP RX PWB	Replace the DP TX PWB (emitter) or the DP RX PWB (receiver).
		Control PWB	Replace the control PWB.
F000	Communication error between Control PWB and Operation PWB	Control PWB	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Check that the wirings and connectors between the control PWB and the operation panel PWB are normal. Operation PWB and control PWB (YC12) 3 Check that the DIMM memories in the control PWB are well conducted and, if not, replace. 4 Execute U021initialize memory. (see page 6-24) 5 Replace the control PWB (see page 4-133).
		Operation PWB	Replace the operation PWB (see page 4-163).
F010	Control PWB checksum error	Control PWB	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace control PWB and check for correct operation (see page 4-133).
F020	Control PWB RAM check sum error	Main memory (RAM)	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace control PWB and check for correct operation (see page 4-133).
F040	Communication error between Controller and Print engine	Control PWB	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Repair or replace the wire from the control PWB, that may be grounded. (Check short-circuit between 5V and 3.3V.) 3 Check the control software and upgrade to the latest, if necessary. 4 If not corrected, replace the control PWB and check for correct operation (see page 4-133).
F040	Communication error between Controller and Print engine	Control PWB	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Repair or replace the wire from the control PWB, that may be grounded. (Check short-circuit between 5V and 3.3V.) 3 Check the control software and upgrade to the latest, if necessary. 4 If not corrected, replace the control PWB and check for correct operation (see page 4-133).

Code	Contents	Related parts	Check procedures/ corrective measures
F050	Print engine ROM checksum error	Control PWB	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Confirm that the EEPROM has been properly installed. 3 Check the control software and upgrade to the latest, if necessary. 4 If not corrected, Replace the control PWB and check for correct operation (see page 4-133).
F051	Scan engine ROM checksum error	Control PWB	<ol style="list-style-type: none"> 1 Turn the main power switch off and after 5 seconds, then turn power on. 2 Confirm that the EEPROM has been properly installed. 3 Check the control software and upgrade to the latest, if necessary. 4 If not corrected, Replace the control PWB and check for correct operation (see page 4-133).

*1 45 ppm model only, *2: 55/60 ppm model only

(2-1)System Error (Fxxxx) Outline

The document is described for the outline of the factors of the Fxxx errors that are not described in the self-diagnosis error code list.

Please utilize it as the measures when the system is not recovered after power off/on or it frequently occurs.

- Please initially check the following when the error (Fxxx) is indicated.
 - Check the DIMM (DDR memory) and neighboring parts: Check the contact on the control PWB by releasing and reinserting the DIMM.
If the error repeats after that, replace the DIMM.
- Power is partially supplied to this machine when the power is turned off.
Unplug the power plug and check if the F-code error is not released when passing one minute or more after turning the power off and then on.

Number	Contents	Verification procedure & check point	Remarks
-	It locks on a Welcome screen.It locks on a starting logo (Ecosys) screen.(Even if time passes for a definite period of time in more than, a screen does not change)	(1) Check the harness of the connection state of a connector between Panel<=>Controller boards, and perform an operation check. (2) Check contact of a DDR memory (extracting) and perform an operation check. If exchangeable, it will exchange and will perform an operation check. (3) U021 Controller backup initialization is carried out and an operation check is performed. (4) Exchange a PanelMain board and perform an operation check. (5) Exchange a Controller board and perform an operation check. (6) It will get, if USBLOG is obtainable, and contact service headquarters.	
F000	CF000 will be displayed if progress is carried out for a definite period of time with a Welcome screen.The communication fault between Panel-Controller boards.Communication fault between Panel Core-Main Core *	(1) Check the harness of the connection state of a connector between Panel<=>Main boards, and perform an operation check. (2) Check contact of a DDR memory (extracting) and perform an operation check. If exchangeable, it will exchange and will perform an operation check. (3) U021 Controller backup initialization is carried out and an operation check is performed. (4) Exchange a Main board and perform an operation check. (5) Exchange a PanelMain board and perform an operation check. (6) It will get, if USBLOG is obtainable, and contact service headquarters. *: Only Dual Core CPU model	
F12X	Abnormality detecting in a Scan control section	(3) U021 Controller backup initialization is carried out and an operation check is performed. (4) Exchange a Controller/Cis connect board and perform an operation check. (5) Exchange a Controller board and perform an operation check. (6) Get USBLOG and contact service headquarters.	

Number	Contents	Verification procedure & check point	Remarks
F14X	Abnormality detecting in a FAX control part	(1) Check the harness between FAX<=>Controller boards, and the connection state of a connector, and perform an operation check. (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a FAX board and perform an operation check. (4) Exchange a Controller board and perform an operation check. (5) Get USBLOG and contact service headquarters.	[Confirmation of KUJO connector connection] Is fax board in the lower slot? Is the orientation of the fax board correct?
F15X	Abnormality detecting in an authentication device control section	(1) Check the harness between authentication device <=>Controller boards, and the connection situation of a connector, and perform an operation check. (2) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Controller board and perform an operation check. (4) Get USBLOG and contact service headquarters.	Authentication device: Card reader etc.
F17X	Abnormality detecting in a printer data control part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F18X	Abnormality detecting in a Video control section	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F1DX	Abnormality detecting of the image memory Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Poor arrangement of F1D4:Random Access Memory (1)Initialization of a set point (U021)
F21X F22X F23X	Abnormality detecting in an image-processing part	(1) Check contact of a DDR memory and perform an operation check. (2) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Controller board and perform an operation check. (4) Get USBLOG and contact service headquarters.	
F24X	Abnormality detecting in the system Management Department	(1) Check contact of a DDR memory and perform an operation check. (2) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Controller board and perform an operation check. (4) Get USBLOG and contact service headquarters.	F248 is the abnormalities of a printer process.In recurring by specific printer data, please give me cooperation at acquisition of capture data and USBLOG.
F25X	Abnormality detecting in a network management department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and packet capture and contact service headquarters.	It may occur according to a visitor's networkenvironment. [Main body to External network] Ethernet connector

Number	Contents	Verification procedure & check point	Remarks
F26X F27X F28X F29X F2AX	Abnormality detecting in the system Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F2BX F2CX F2DX F2EX F2FX F30X F31X F32X	Abnormality detecting in a network control part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters. (Depending on an analysis result, it is packet capture acquisition)	[Main body to External network] Ethernet connector
F33X	Abnormality detecting in the Scan Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F34X	Abnormality detecting in the Panel Management Department	(1) Check the harness between Panel<=>Controller boards, and the connection state of a connector, and perform an operation check. (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a Panel board and perform an operation check. (4) Exchange a Controller board and perform an operation check. (5) Get USBLOG and contact service headquarters.	
F35X	Abnormality detecting in the printing controlling Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F37X	Abnormality detecting in the FAX Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F38X	Abnormality detecting in the authentication authorized Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	

Number	Contents	Verification procedure & check point	Remarks
F3AX F3BX F3CX F3DX F3EX F3FX F40X F41X F42X F43X F44X F45X	Abnormality detecting in the Entity Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F46X	Abnormality detecting of a printer rendering part	(1) Exchange a Controller board and perform an operation check. (2) the acquisition wish of USBLOG -- carry out(Depending on the (2) case, it is print capture data acquisition)	F46F is the abnormalities of a printer process.In recurring by specific printer data, please give me cooperation at acquisition of capture data and USBLOG.
F47X	Abnormality detecting of an image editing processing part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F4DX	Abnormality detecting in the Entity Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F50X	Abnormality detecting in the FAX Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
F52X F53X F55X F56X F57X	Abnormality detecting in a JOB execution part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition. F56E: OCR dictionary detection error (occurs when SD card or SSD dictionary can not be detected) * HyPAS only.
F63X	Abnormality detecting in a device control section	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F68X	Abnormality detecting in a storage device control section	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	F684 is the overwrite error at the time of an SSD security kit.

Number	Contents	Verification procedure & check point	Remarks
F90X	Abnormality detecting in the extension application service part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
F93X	Abnormality detecting in the extension application management part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
F9FX	Abnormality detecting in the extension application various service part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FC0X	Abnormality detecting in system application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FC5X	Abnormality detecting in Copy application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FCAX	Abnormality detecting in Print application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FCFX	Abnormality detecting in Send application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FD4X	Abnormality detecting in Box application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FD9X	Abnormality detecting in FAX application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.
FDEX	Abnormality detecting in maintenance application	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.

Number	Contents	Verification procedure & check point	Remarks
FF7X	Abnormality detecting in a report creation part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Controller board and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition. [Controller problem] Resolution is only power off / On.

7 - 5 Electric problems

If the part causing the problem was not supplied, use the unit including the part for replacement.
 Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
1 The machine does not operate when the main power 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.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective main power switch.	Check for continuity across the contacts. If none, replace the main power switch.
	Defective power source PWB.	Replace the power source PWB (see page 4-159).
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective control PWB.	Replace the control PWB and check for correct operation (see page 4-133).
2 Image scanner motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Image scanner motor and control PWB (YC67)
	Defective drive transmission system.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	Defective motor.	Replace the image scanner motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
3 Eject motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Eject motor and connect left PWB (YC12) Connect left PWB and control PWB (YC53)
	Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	Defective motor.	Replace the eject motor.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
4 Toner motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Toner motor and drum PWB (YC4) Drum PWB and connect left PWB (YC3) Connect left PWB and control PWB (YC53)
	Defective motor.	Replace the toner motor.
	Defective drum PWB.	Replace the drum unit (see page 4-12).
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).

Problem	Causes	Check procedures/corrective measures
<p>5 Power source fan motor does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Power source fan motor and connect right PWB (YC7) Connect right PWB and control PWB (YC65)
	Defective motor.	Replace the power source fan motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>6 LSU fan motor does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. LSU fan motor and connect left PWB (YC4) Connect left PWB and control PWB (YC53)
	Defective motor.	Replace the LSU fan motor.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>7 Developer fan motor does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Developer fan motor and control PWB (YC63)
	Defective motor.	Replace the developer fan motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>8 Paper feed clutch does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Paper feed clutch and connect right PWB (YC12) Connect right PWB and control PWB (YC65)
	Defective clutch.	Replace the paper feed clutch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>9 Registration clutch does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Registration clutch and connect right PWB (YC12) Connect right PWB and control PWB (YC65)
	Defective clutch.	Replace the registration clutch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>10 Duplex clutch does not operate.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Duplex clutch and connect right PWB (YC12) Connect right PWB and control PWB (YC65)
	Defective clutch.	Replace the duplex clutch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).

Problem	Causes	Check procedures/corrective measures
11 Developer clutch does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Developer clutch and connect right PWB (YC12) Connect right PWB and control PWB (YC65)
	Defective clutch.	Replace the developer clutch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
12 Middle clutch does not operate. *1	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Middle clutch and connect right PWB (YC12) Connect right PWB and control PWB (YC65)
	Defective clutch.	Replace the middle clutch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
13 MP solenoid does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MP solenoid and connect right PWB (YC11) Connect right PWB and control PWB (YC65)
	Defective solenoid.	Replace the MP solenoid.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
14 Faceup solenoid does not operate. *1	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Faceup solenoid and connect left PWB (YC13) Connect left PWB and control PWB (YC53)
	Defective solenoid.	Replace the faceup solenoid.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
15 The message requesting paper to be loaded is shown when paper is present on the cassette.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. High voltage PWB and control PWB (YC55)
	Deformed actuator of the paper sensor.	Check visually and replace if necessary.
	Defective paper sensor.	Replace the high voltage PWB (see page 4-151).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).

Problem	Causes	Check procedures/corrective measures
<p>16 The message requesting paper to be loaded is shown when paper is present on the MP tray.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MP paper sensor and connect left PWB (YC8) Connect left PWB and control PWB (YC53)
	Deformed actuator of the MP paper sensor.	Check visually and replace if necessary.
	Defective MP paper sensor.	Replace the MP paper sensor.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>17 The size of paper on the cassette is not displayed correctly.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Cassette size switch and connect right PWB (YC2) Connect right PWB and control PWB (YC65)
	Defective cassette size switch.	Replace the cassette size switch.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>18 A paper jam in the paper feed, paper conveying or eject section is indicated when the main power switch is turned on.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Regist sensor 2 and drum PWB (YC6) DU sensor 1 and connect left PWB (YC9) Eject full sensor and control PWB (YC62) Eject sensor and control PWB (YC59)
	A piece of paper torn from paper is caught around registration sensor, duplex sensor, PF feed sensor, eject full sensor or eject sensor.	Check visually and remove it, if any.
	Defective sensor.	Replace the registration sensor, duplex sensor, eject full sensor or eject sensor.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
<p>19 A message indicating cover open is displayed when the top cover is closed.</p>	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Interlock switch and connect right PWB (YC8) Connect right PWB and control PWB (YC65)
	Defective interlock switch.	Check and replace if necessary.
	Defective connect right PWB.	Replace the connect right PWB (see page 4-148).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).

Problem	Causes	Check procedures/corrective measures
20 A message indicating cover open is displayed when the rear cover is closed. *1	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Rear cover switch and connect left PWB (YC10) Connect left PWB and control PWB (YC53)
	Defective rear cover switch.	Check and replace if necessary.
	Defective connect left PWB.	Replace the connect left PWB (see page 4-138).
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
21 DP paper feed motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable. DP paper feed motor and control PWB (YC69)
	Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	Defective motor.	Replace the DP paper feed motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page4-133).
22 DP paper conveying motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable. DP conveying motor and control PWB (YC69)
	Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	Defective motor.	Replace the DP conveying motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
23 DP revers motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable. DP revers motor and control PWB (YC69)
	Defective motor.	Replace the DP revers motor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
24 An original jams when the main power switch is turned on.	A piece of paper torn from an original is caught around the DP timing sensor, DP registration sensor or DP revers sensor.	Check visually and remove it, if any.
	Defective DP timing sensor.	Replace the DP timing sensor, DP registration sensor or DP revers sensor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).
25 A message indicating cover open is displayed when the DP top cover is closed.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable. DP open/close sensor and control PWB (YC70)
	Defective DP open/close sensor.	Replace the DP open/close sensor.
	Defective PWB.	Replace the control PWB and check for correct operation (see page 4-133).

*1: 55/60 ppm model only

7 - 6 Mechanical problems

If the part causing the problem was not supplied, use the unit including the part for replacement.

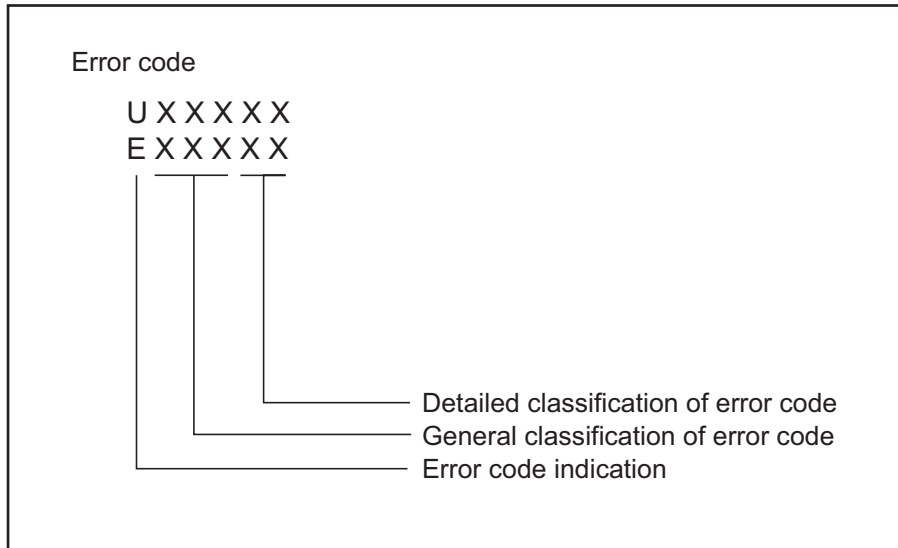
Problem	Causes/check procedures	Corrective measures
1 No primary paper feed.	Check if the surfaces of the following rollers are dirty with paper powder. Pickup roller Paper feed roller MP paper feed pulley	Clean with isopropyl alcohol.
	Check if the following rollers is deformed. Pickup roller Paper feed roller MP paper feed pulley	Check visually and replace any deformed (see page 4-5, 4-6).
	Defective paper feed clutch installation.	Check visually and remedy if necessary.
2 No secondary paper feed.	Check if the surfaces of the following rollers are dirty with paper powder. Upper registration roller Lower registration roller	Clean with isopropyl alcohol.
	Defective registration clutch installation.	Check visually and remedy if necessary.
3 Skewed paper feed.	Paper width guide in a cassette installed incorrectly.	Check the paper width guide visually and remedy or replace if necessary.
4 Multiple sheets of paper are fed.	Check if the paper is excessively curled.	Change the paper.
	Paper is loaded incorrectly.	Load the paper correctly.
	Check if the retard roller is worn.	Replace the retard roller if it is worn (see page 4-7).
5 Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Check if the contact between the upper and lower registration rollers is correct.	Check visually and remedy if necessary.
	Check if the heat roller or press roller is extremely dirty or deformed.	Check visually and replace the fuser unit (see page 4-15).
6 Toner drops on the paper conveying path.	Check if the drum unit or developer unit is extremely dirty.	Clean the drum unit or developer unit.
7 Abnormal noise is heard.	Check if the rollers, pulleys and gears operate smoothly.	Grease the bushes and gears.
	Check if the following clutches are installed correctly. Paper feed clutch Registration clutch Duplex clutch	Check visually and remedy if necessary.

7 - 7 FAX Related Errors

(1) FAX Related Errors

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication U followed by a 5-digit number. (Error codes for V34 communication errors start with an E indication, followed by five digits.)

The upper three of the five digits indicate general classification of the error and its cause, while the lower two indicate the detailed classification. Items for which detailed classification is not necessary have 00 as the last two digits.



(2) Table of general classification

Error code	Description
U00000/E00000	No response or busy every time though redialing in the specified times.
U00100/E00100	Press the [Stop] key.
U00200/E00200	Reception was interrupted by a press of the [Stop] key.
U00300/E00300	Destination receiver machine is out of paper during transmission.
U004XX/E004XX	Communication was interrupted due to the function unmatched when receiving the call (Receiver). Error corresponding to U004XX (Phase B interruption) (See page 7-95).
U00500/E00500	Unable to call due to interruption during multi communications (destination not called after interruption).
U006XX/E006XX	Communication was interrupted due to trouble of the own machine. Error corresponding to U006XX (Machine problem) (See page 7-96).
U00700/E00700	Communication was interrupted because of a problem in the destination unit.
U008XX/E008XX	Some pages were not correctly transmitted when transmitting in the G3 mode. Error corresponding to U008XX (Part of transmission error) (See page 7-96).
U009XX/E009XX	Some pages were not correctly received when receiving in the G3 mode. Error corresponding to U009XX (Part of transmission error) (See page 7-96).
U010XX/E010XX	Communication was interrupted due to signal errors during transmission in the G3 mode. Error corresponding to U010XX (Transmission in G3 mode) (See page P.7-97).
U011XX/E011XX	Communication was interrupted due to signal errors during reception in the G3 mode. Error corresponding to U011XX (Reception in G3 mode) (See page 7-99).
U01400/E01400	Invalid one-touch key, etc. were designated during communication.
U01500/E01500	A communication occurred at V.8 mode when calling.
U01600/E01600	A communication error occurred in V.8 mode when answering the call.

Error code	Description
U017XX/E017XX	A communication error occurred before starting the T.30 .protocol when transmitting in V.34 mode. Error corresponding to U017XX (Transmission in V.34 mode) (See page 7-100).
U018XX/E018XX	A communication error occurred before starting the T.30 protocol when receiving in V.34 mode. Error corresponding to U018XX (Reception in V.34 mode) (See page 7-100).
U02000/E02000	Relay multicast is denied by the relay station because permission ID and permission phone number dot not match when instructing relay.
U02100/E02100	Destination machine (relay station) has no relay multicast function when instructing relay.
U02200/E02200	Instruction station instructs relay but unable to relay because of designating phone number not registered in relay station. Or, replay station is requested for relay but phone number not registered in relay station is designated and relay multicast is not available. Or, dialing registered in the interoffice sub address box is deleted and relay multicast is not available.
U023XX/E023XX	When receiving relay instruction, receiver information is not correctly received. Error corresponding to U023XX (relay instruction reception error) (See page 7-101).
U02400/E02400	Interrupted because the interoffice sub address box No. designated when sending the interoffice sub address instruction between own company machines does not match.
U03000/E03000	Originals were not set on the destination machine at polling reception.
U03100/E03100	No document was present in the destination unit in the reverse polling but transmission finished.
U03200/E03200	Data is not accumulated in the box designated by the sender machine at the confidential polling reception. Or when receiving interoffice sub address bulletin board in interoffice, the data was not stored in the box specified by the destination unit.
U03300/E03300	Communication was interrupted since the permission ID number and permission phone number did not match at polling reception (Destination machine is our own). Or when receiving interoffice sub address bulletin board in interoffice, communication was interrupted since the permission ID number and permission phone number did not match.
U03400/E03400	Communication was interrupted since individual numbers did not match at polling reception(Destination machine is our own or other).
U03500/E03500	Designated confidential box No. is not registered in the destination machine at the confidential polling reception. Or when receiving the interoffice sub address bulletin board in interoffice, the specified interoffice sub address confidential box number was not registered in the destination unit. Or, it was during access.
U03600/E03600	Confidential polling reception is interrupted because designated confidential box ID No. does not match. Or when receiving interoffice sub address bulletin board in interoffice, it was interrupted because the specified interoffice sub address BOX ID number did not match.
U03700/E03700	Destination sender machine has no confidential polling function at the confidential polling reception. Or, no data is accumulated at any box of the destination sender machine. Or though receiving the interoffice sub address bulletin board in interoffice, the destination unit had no interoffice sub address bulletin board transmission function. Or data was not saved in any of the destination machine's confidential interoffice sub address box.
U04000/E04000	Confidential box designated at the confidential transmission is not registered in the destination receiver machine. Or, in interoffice sub address transmission mode, the specified sub address password was not registered in the destination unit. Or, it was during access.
U04100/E04100	Destination receiver machine has no confidential function at the confidential transmission. Or though transmitting interoffice sub address, the destination unit had no interoffice sub address reception function.
U04200/E04200	Confidential box designated at the encrypted transmission is not registered or not of encryption at the destination receiver machine. Or, the encryption box designated at the new encrypted transmission is not registered at the destination receiver machine.
U04300/E04300	The destination receiver machine did not have the encryption function at the encrypted transmission.
U044XX/E044XX	Communication was interrupted due to the encryption key error in the encrypted transmission. Or, Communication was interrupted due to the encryption key error in the new encrypted transmission. Error corresponding to U044XX (Encrypted transmission) (See page 7-101).
U04500/E04500	Communication was interrupted since the encryption key did not match in the encrypted reception. Or, communication was interrupted since the encryption key did not match in the new encrypted reception.
U05000/E05000	Transmitted pages do not match the specified pages when transmitting with page setting.
U05100/E05100	Communication was interrupted since the permission number did not match due to the password check receipt or receipt restriction.

Error code	Description
U05200/E05200	Communication was interrupted since the permission number did not match, the denial number matched or own phone number was not informed due to the password check receipt or receipt restriction.
U05300/E05300	Password check reception or restricted reception was interrupted because the permit ID's did not match, the rejected FAX number's did match, or the destination receiver did not return its phone number.
U09000/E09000	Destination is G2 machine when attempting G3 unique function.
U12000/E12000	Memory overflow occurs at reception when receiving relay multicast request from instructor station. Or, memory overflow occurs when receiving the interoffice sub address instruction.
U12100/E12100	Memory overflow occurs at the destination receiver machine (relay station) when instructing relay.
U14000/E14000	Memory overflow at the confidential reception. Or memory overflowed during the confidential interoffice sub address reception.
U14100/E14100	Memory overflow occurs at the destination receiver machine during confidential transmission. Or in the interoffice sub address transmission, memory overflowed in the destination receiver unit.
U19000/E19000	Memory overflowed during memory reception.
U19100/E19100	Destination receiver machine has memory overflow during reception.
U19200/E19200	Transmission fails due to decoding error at memory transmission
U19300/E19300	Transmission fails due to error when encoding JBIG.
U19400/E19400	Reception fails due to error when decoding JBIG.

(2-1)U004XX error code table: Interrupted phase B

Error code	Description
U00420/E00420	Relay requested from instructor station is interrupted because permission ID No. and permission phone No. do not match.
U00421/E00421	Interoffice sub address reception is interrupted because designated interoffice sub address box No. does not match.
U00430/E00430	(Confidential reception / Reverse) communication was interrupted by the permission number mismatch at polling request. (Sender's event) Or sub address bulletin board transmission request is received but communication is interrupted with permission number mismatch. (Sender's event)
U00431/E00431	Confidential polling transmission is interrupted because designated confidential box No. is not registered. Or communication was canceled since the interoffice sub address confidential box ID No. was not registered at interoffice sub address bulletin board transmission.
U00432/E00432	Confidential polling transmission is interrupted because confidential box ID no. does not match. Or, the interoffice sub address bulletin board transmission is interrupted because the interoffice sub address confidential box ID No. does not match.
U00433/E00433	No data is set in the confidential box when receiving confidential polling request. Or a sub address bulletin board transmission request was received but data was not present in the sub address box.
U00434/E00434	Confidential polling is interrupted because designated confidential box No. is for encryption.
U00435/E00435	Confidential polling is interrupted because designated confidential box No. is during access. Or, the interoffice sub address bulletin board transmission is interrupted because the interoffice sub address confidential box ID No. does not match.
U00440/E00440	Confidential reception is interrupted because designated confidential box No. is not registered. Or, the interoffice sub address confidential reception or the interoffice sub address reception is interrupted because designated interoffice sub address box No. is not registered. Or, the interoffice sub address confidential reception or the interoffice sub address relay reception is interrupted because designated interoffice sub address box No. is under access.
U00441/E00441	Interrupted because the confidential box No. is not registered at the encrypted reception.
U00450/E00450	Password check transmission or restricted transmission was interrupted because the permit ID's did not match.
U00460/E00460	Interrupted because the confidential box No. is not registered at the encrypted reception. Or, interrupted because designated encryption box No. is not registered at the new encrypted reception. Or, new encrypted reception is interrupted because designated encrypted box No. is under access.
U00461/E00461	Encrypted reception is interrupted because designated confidential box No. is not for encryption.
U00462/E00462	Encrypted reception is interrupted because encryption key for designated confidential box is not registered. Or, interrupted because designated the encryption key for encryption box No. is not registered at the new encrypted reception.

(2-2)U006XX error code table: Problems with the unit

Error code	Description
U00600/E00600	Cover of DP replacement opened.
U00601/E00601	Original feed jam or exceeding the maximum original length.
U00602/E00602	Scanning image writing section problem
U00603/E00603	No paper feeding jam occurred.
U00604/E00604	Document length exceeds the limit by bitmap memory capacity.
U00610/E00610	Cover of DP replacement opened.
U00611/E00611	Record paper is jammed.
U00613/E00613	Error in the optical writing section.
U00614/E00614	Record paper near-end is detected.
U00615/E00615	Record paper is used up.
U00620/E00620	Fuser of main unit error has occurred.
U00621/E00621	Fan error has occurred.
U00622/E00622	Drive motor of main unit error has occurred.
U00655/E00655	CTS is not active due to modem error after RTS is turned on.
U00656/E00656	No data is sent due to modem error after CTS is active.
U00670/E00670	Power is shut off during communication.
U00677/E00677	File to send does not exist at memory transmission.
U00690/E00690	System error has occurred.

(2-3)U008XX error code table: Page transmission error

Error code	Description
U00800/E00800	A page transmission error occurred because of reception of a RTN or PIN signal.
U00811/E00811	A page transmission error reoccurred after retry of transmission in the ECM mode.

(2-4)U009XX error code table: Page reception error

Error code	Description
U00900/E00900	An RTN or PIN signal was transmitted because of a page reception error.
U00910/E00910	A page reception error remained after retry of transmission in the ECM mode.

(2-5)U010XX error code table: G3 transmission

Error code	Description
U01000/E01000	FTT signal was received after sending TCF signal at 2400bps (repeated the specified times). Or RTN signal was received in response to Q signal (except EOP) when transmitting at 2400bps.
U01001/E01001	The function indicated by the DIS signal does not match the own machine.
U01010/E01010	Command resending time is over because no significant signal is received after sending DNL (MS or EOM) signal (between own company machines).
U01011/E01011	A message signal cannot be received after sending the DCS, TCF signal and command resending time is exceeded.
U01012/E01012	A message signal cannot be received after sending the NSS1, NSS2(TCF) signal and command resending time is exceeded (between own models).
U01013/E01013	A message signal cannot be received after sending the NSS3, TCF signal and command resending time is exceeded (between own models).
U01014/E01014	A message signal cannot be received after sending the NPS signal and command resending time is exceeded.
U01015/E01015	Command send retrial times exceeds since significant signal is not received after sending EOM signal.
U01016/E01016	After sending the EOM signal, the MCF signal was received but no DIS signal and it lead to the T1 timeout.
U01017/E01017	Command send retrial times exceeds since significant signal is not received after sending EOP signal.
U01018/E01018	Command send retrial times exceeds since significant signal is not received after sending PRI-EOP signal.
U01019/E01019	A message signal cannot be received after sending the CNC signal and command resending time is exceeded (between own models).
U01020/E01020	A message signal cannot be received after sending the CTC signal and command resending time is exceeded (ECM).
U01021/E01021	could not receive the message signal after sending the EOR-Q signal and exceeded the command resending time (ECM).
U01022/E01022	A message signal could not received and command resending time is exceeded after sending the RR signal (ECM).
U01023/E01023	could not receive the message signal after sending the PSS-NULL signal and exceeded the command resending time (ECM).
U01024/E01024	Command send retrial times exceeds since significant signal is not received after sending PSS•MPS signal. (ECM)
U01025/E01025	Command send retrial times exceeds since significant signal is not received after sending PPS•EOM signal. (ECM)
U01026/E01026	Command send retrial times exceeds since significant signal is not received after sending PPS•EOP signal. (ECM)
U01027/E01027	Command send retrial times exceeds since significant signal is not received after sending PPS•PRI-EOP signal. (ECM)
U01028/E01028	The T5 timeout is detected at the ECM transmission (ECM).
U01040/E01040	No significant signal is received other than DCN signal when waiting for DIS signal reception.
U01041/E01041	DCN signal was received after sending DNL (MPS or EOM) signal (between own models).
U01042/E01042	DCN signal is received after sending DCS, TCF signal.
U01043/E01043	DCN signal is received after sending NSS1, NSS2(TCF) signal (between own models).
U01044/E01044	DCN signal is received after sending NSS3, TCF signal (between own models).
U01045/E01045	A DCN or other inappropriate signal was received after sending MPS signal.
U01046/E01046	A DCN or other inappropriate signal was received after sending EOM signal.
U01047/E01047	A DCN or other inappropriate signal was received after sending EOP signal.
U01048/E01048	DCN signal is received after sending PRI-EOP signal.
U01049/E01049	DCN signal is received after sending CNC signal (between own models).
U01050/E01050	DCN signal was received after sending CTC signal (ECM).
U01051/E01051	DCN signal is received after sending EPR-Q signal (ECM).
U01052/E01052	DCN signal is received after sending RR signal (ECM).
U01053/E01053	DCN signal is received after sending PPS-NULL signal (ECM).

Error code	Description
U01054/E01054	DCN signal is received after sending PPS-MPS signal (ECM).
U01055/E01055	DCN signal is received after sending PPS-EOM signal (ECM).
U01056/E01056	DCN signal is received after sending PPS-EOP signal (ECM).
U01057/E01057	DCN signal is received after sending PPS-PRI-EOP signal (ECM).
U01070/E01070	Polarity invert is detected at handshake.
U01071/E01071	Polarity invert is detected during message transmission.
U01072/E01072	Loop current shutoff is detected during transmission.
U01073/E01073	No CM signal is received when transmitting after reception at the V.34 reverse polling (answerer side).
U01080/E01080	PIP signal was received after sending PPS.NULL signal.
U01091/E01091	Communication is interrupted because ten or more times of PPR signal is received after falling back to the lowest communication speed at the connected symbol speed in the V.34 transmission.
U01092/E01092	Communication was interrupted since the combination of symbol speed and communication speed do not match in V.34 mode.

(2-6)U011XX error code table: G3 reception

Error code	Description
U01100/E01100	The function indicated by the DCS signal does not match the own machine.
U01101/E01101	Functions indicated by the NSS signal (except communicating type) does not match the own machine.
U01102/E01102	DTC (NSC) signal was received without transmission data at the own machine.
U01110/E01110	No response is received after sending DIS signal.
U01111/E01111	No response is received after sending DTC (NSC) signal.
U01112/E01112	Training is not received after sending CFR signal.
U01113/E01113	No response is received after sending FTT signal.
U01114/E01114	No message is received after sending CFR signal.
U01115/E01115	No message is received after sending CFR signal.
U01116/E01116	No message is received after sending PPR signal.
U01117/E01117	No message is received after sending CTR signal.
U01118/E01118	No message is received after sending err signal.
U01119/E01119	No significant signal is received after receiving message.
U01120/E01120	No response is received after sending MCF signal.
U01121/E01121	No response is received after sending RTP signal.
U01122/E01122	No response is received after sending RTN signal.
U01123/E01123	No response is received after sending RIP signal.
U01124/E01124	No response is received after sending RIN signal.
U01125/E01125	No response is received after sending the CNS signal.
U01126/E01126	No response is received after sending PPR signal (ECM).
U01127/E01127	No response is received after sending ERR signal (ECM).
U01128/E01128	No response is received after sending RNR signal (ECM).
U01129/E01129	No response was received after sending SPA signal (Short protocol).
U01140/E01140	DCN signal is received after sending DIS signal.
U01141/E01141	DCN signal is received after sending DTC signal.
U01142/E01142	DCN signal is received after receiving DCS or NSS signal.
U01143/E01143	DCN signal is received after sending FTT signal.
U01144/E01144	DCN signal is received after sending CFR signal.
U01145/E01145	DCN signal is received after receiving DCN signal.
U01146/E01146	DCN signal is received after sending MCF signal. (Communication between own company machines such as the one after MPS, EOM signals and confidential)
U01147/E01147	DCN signal is received after sending RTP signal.
U01148/E01148	DCN signal is received after sending RTN signal.
U01149/E01149	DCN signal is received after sending PIP signal.
U01150/E01150	DCN signal is received after sending PIN signal.
U01151/E01151	DCN signal is received after sending PPR signal (ECM).
U01152/E01152	DCN signal was received after sending CTR signal (ECM).
U01153/E01153	DCN signal is received after sending ERR signal (ECM).
U01154/E01154	DCN signal is received after sending RNR signal (ECM).
U01155/E01155	DCN signal was received after sending SPA signal (Short protocol).
U01160/E01160	When receiving, the maximum transmission time per line has exceeded.
U01161/E01161	Error line exceeds the limit during message reception.
U01162/E01162	Loop current shutoff is detected during reception.
U01163/E01163	Polarity invert is detected during message reception.
U01164/E01164	Page length exceeds the specification during message reception.
U01170/E01170	Decoding error occurs during MMR message reception.

Error code	Description
U01172/E01172	JM is not detected after sending CM when receiving after transmission at the V.34 reverse polling (calling side).
U01191/E01191	Communication was interrupted since an error occurred during the image data reception sequences in V.34 mode.
U01199/E01199	DIS signal with different FIF is received after sending DIS signal.

(2-7)U017XX error code table: V.34 transmission

Error code	Description
U01700/E01700	A communication error occurred at Phase 2 (line probing).
U01720/E01720	A communication error occurred at Phase 4 (modem parameter exchange).
U01721/E01721	Communication was interrupted since the communication speed was not available to commonly use with the destination transmitter machine. (Or interrupted)

U01700: A communication error that occurs at the transmitting unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/A/Abar (B/Bbar, for polling transmission)/INFOh was not detected.

U01720: A communication error that occurs at the transmitting unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.

U01721: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange; 1) a DCN signal was received from the destination unit, and the line was cut; or 2) a DIS (NSF, CSI) signal was received from the destination unit and, in response to the signal, the unit transmitted a DCN signal, and the line was cut.

(2-8)U018XX error code table: V.34 reception

Error code	Description
U01800/E01800	A communication error occurred at Phase 2 (line probing).
U01810/E01810	A communication error occurred in phase 3 (primary channel equivalent device training).
U01820/E01820	A communication error occurred at Phase 4 (modem parameter exchange).
U01821/E01821	Communication was interrupted since the communication speed was not available to commonly use with the destination transmitter machine.

U01800: A communication error that occurs at the receiver unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/B/Bbar (A/Abar, for polling reception)/probing tone was not detected.

U01810: A communication error that occurs at the receiver unit in phase 3 (primary channel equivalent device training). For example, S/Sbar/PP/TRN was not detected.

U01820: A communication error that occurs at the receiver unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.

U01821: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange, a DCN signal was transmitted to the destination unit and the line was cut.

(2-9)U023XX error code table: Relay command abnormal reception

Error code	Description
U02303/E02303	Timeout when unable to receive correct DNL signal.
U02304/E02304	Signal other than MPS and EOM is received after receiving DNL signal.

(2-10)U044XX error code table: Encrypted transmission

Error code	Description
U04400/E04400	Communication was interrupted since the encryption key did not match in the encrypted transmission.
U04401/E04401	A call failed since the encryption key was not registered in the encrypted transmission.

7 - 8 Send error code

This section describes the scanning errors and descriptions, preventive actions, as well as corrective actions. Error codes not described here could fall within software errors.

If such an error is encountered, turn power off then on, and advise the service representative.

(1) Scan to SMB error codes

Code	Contents	Check procedures/corrective measures
1101	Host destined does not exist on the network.	Confirm destined host. Confirm device's network parameters. Confirm the network parameters the device is connected.
1102	Login to the host has failed.	Confirm user name and password. Confirm the network parameters the device is connected. Check the host if the folder is properly shared.
1103	Destined host, folder, and/or file names are invalid.	Check illegal characters are not contained within these names. Check the name of the folder and files conform with the naming syntax. Confirm destined host and folder.
1105	SMB protocol is not enabled.	Confirm device's SMB protocols.
2101	Login to the host has failed.	Confirm destined host. Confirm that the LAN cable is properly connected to the device. Check the SMB port number. Confirm device's network parameters. Confirm the network parameters the device is connected.
2201	Writing scanned data has failed.	Check the scanning file name. Confirm device's network parameters. Confirm the network parameters the device is connected.
2203	No response from the host during a certain period of time.	Confirm the network parameters the device is connected. Confirm that the LAN cable is properly connected to the device.

(2) Scan to FTP error codes

Code	Contents	Check procedures/corrective measures
1101	FTP server does not exist on the network.	Check the FTP server name. Confirm device's network parameters. Confirm the network parameters the device is connected.
1102	Login to the FTP server has failed.	Confirm user name and password. Check the FTP server name.
1103	Destined folder is invalid.	Check illegal characters are not contained within these names. Check the FTP server name.
1105	FTP protocol is not enabled.	Confirm device's FTP protocols.
1131	Initializing TLS has failed.	Confirm device's security parameters.
1132	TLS negotiation has failed.	Confirm device's security parameters. Check the FTP server name.
2101	Access to the FTP server has failed.	Check the FTP server name. Confirm that the LAN cable is properly connected to the device. Check the FTP port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the FTP server name.
2102	Access to the FTP server has failed. (Connection timeout)	Check the FTP server name. Check the FTP port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the FTP server name.
2103	The server cannot establish communication.	Check the FTP server name. Check the FTP port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the FTP server name.
2201	Connection with the FTP server has failed.	Confirm device's network parameters. Confirm the network parameters the device is connected. Confirm destined folder. Check the FTP server name.
2202	Connection with the FTP server has failed. (Timeout)	Confirm device's network parameters. Confirm the network parameters the device is connected.
2203	No response from the server during a certain period of time.	Confirm device's network parameters. Confirm the network parameters the device is connected.
2231	Connection with the FTP server has failed. (FTPS communication)	Confirm device's network parameters. Confirm the network parameters the device is connected.
3101	FTP server responded with an error.	Confirm device's network parameters. Confirm the network parameters the device is connected. Check the FTP server.

(3) Scan to E-mail error codes

Code	Contents	Check procedures/corrective measures
1101	SMTP/POP3 server does not exist on the network.	Check the SMTP/POP3 server name. Confirm device's network parameters. Confirm the network parameters the device is connected.
1102	Login to the SMTP/POP3 server has failed.	Confirm user name and password. Check the SMTP/POP3 server.
1104	The domain the destined address belongs is prohibited by scanning restriction.	Confirm device's SMTP parameters.
1105	SMTP protocol is not enabled.	Confirm device's SMTP protocols.
1106	Sender's address is not specified.	Confirm device's SMTP protocols.
2101	Connection to the SMTP/POP3 server has failed.	Check the SMTP/POP3 server name. Confirm that the LAN cable is properly connected to the device. Check the SMTP/POP3 port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the SMTP/POP3 server.
2102	Connection to the SMTP/POP3 server has failed. (Connection timeout)	Check the SMTP/POP3 server name. Check the SMTP/POP3 port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the SMTP/POP3 server.
2103	The server cannot establish communication.	Check the SMTP/POP3 server name. Check the SMTP/POP3 port number. Confirm device's network parameters. Confirm the network parameters the device is connected. Check the SMTP/POP3 server.
2201	Connection to the SMTP/POP3 server has failed.	Confirm device's network parameters. Confirm the network parameters the device is connected.
2202	Connection to the SMTP/POP3 server has failed. (Timeout)	Confirm device's network parameters. Confirm the network parameters the device is connected.
2204	The size of scanning exceeded its limit.	Confirm device's network parameters.
3101	SMTP/POP3 server responded with an error.	Confirm device's network parameters. Confirm the network parameters the device is connected. Check the SMTP/POP3 server.
3102	Error: Server Response.	Check the SMTP/POP3 server. Wait a minute and try again.
3201	No SMTP authentication is found.	Check the SMTP server. The device supports SMTP authentication services including CRAM-MD5, DIGEST-MD5, PLAIN and LOGIN.
4803	Failed to establish the SSL session.	Verify the self certificate of the device. Check the server certificate of the SMTP/POP3 server. Check the SMTP/POP3 configuration of the device and the SMTP/POP3 server.

8PWBs

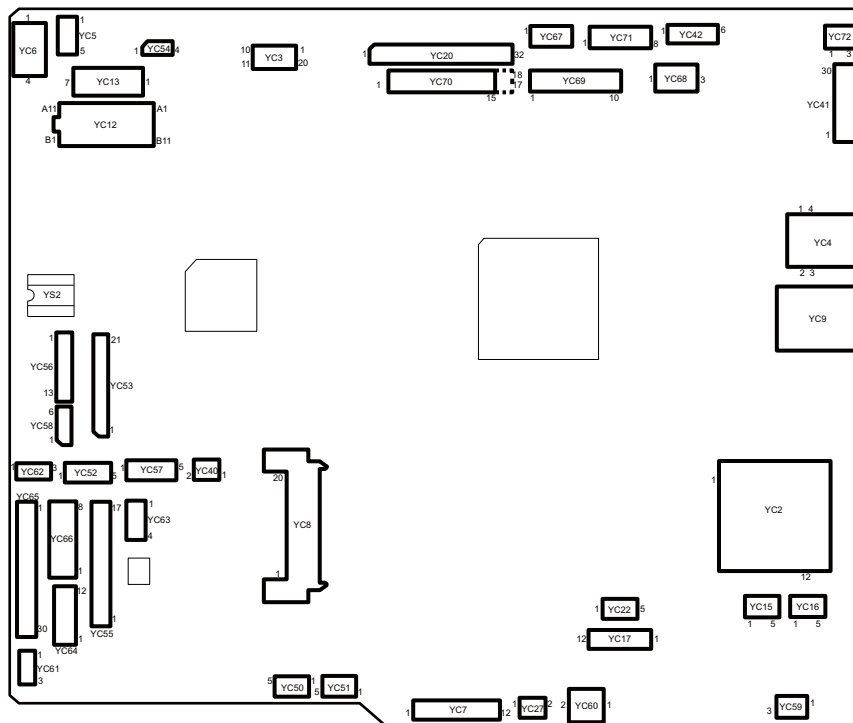
8 - 1 Description for PWB

(1) Control PWB

(1-1)PWB photograph



(1-2)Connector position



(1-3)Connector lists

Destination

YC1	Flash writer
YC2	SD card
YC3	Wi-Fi PWB
YC4	USB device
YC5	USB Type A
YC6	USB host
YC7 *4	FAX PWB
YC8	eKUIO
YC9	RJ45
YC12 *1, *3	Operation panel PWB
YC12 *2	Operation panel PWB
YC13 *1,*3	Operation panel PWB
YC15	Debugger for PPC
YC16	Debugger for ARM
YC17	JTAG
YC20	CCD PWB
YC22	PMIC flash
YC27 *4	FAXPWB
YC41	CIS connect PWB
YC42	CIS connect PWB
YC50	Engine CPU flash writer
YC51	Engine CPU debugger
YC52	Connect-L PWB
YC53	Connect-L PWB
YC54	Panel-R PWB *1,*3 or Operation panel PWB *2
YC55	High voltage PWB
YC56	APC PWB
YC57	Polygon motor
YC58	Fuser thermistor connect PWB
YC59	Exit sensor
YC60	Stapler
YC61 *3	Lift sensor
YC62	Feed sensor
YC63	Developer fan motor
YC64	Paper feeder (Option)
YC65	Connect-R PWB
YC66	Connect-R PWB
YC67	Image scanner motor
YC69	Conveying motor, DP feed motor, DP feed clutch
YC70	DP original sensor, DPopen/close sensor, DP exit sensor, DP timing sensor, DP registration sensor, DP backside timing sensor

*1: 45 ppm / HyPAS model, *2: 45 ppm / Basic model, *3: 55/60 ppm model, *4: FAX model only

Connector	Pin	Signal	I/O	Voltage	Description
YC1					
YC2					
YC3					
YC4					
YC5					
YC6					

Connector	Pin	Signal	I/O	Voltage	Description
YC7 *4	1	+24V2F	-	24 V DC	24 V DC power source
	2	GND	-	-	Ground
	3	+3.3V	-	3.3 V DC	3.3 V DC power source
	4	RESB	O	0/3.3 V DC	Resetsignal
	5	GND	-	-	Ground
	6	HSCLK	O	0/3.3 V DC (pulse)	SPI clock
	7	HSD	I	0/3.3 V DC	SPI data input
	8	GND	-	-	Ground
	9	HSAD	O	0/3.3 V DC	SPI data addrss output
	10	HSCSB	O	0/3.3 V DC	SPI chip select
	11	GND	-	-	Ground
	12	HINT	I	0/3.3 V DC	Interrupt signal
YC8					
YC9					
YC12 *1,*3	A1	P2C_SDAT	I	0/3.3 V DC	Panel communication data reception signal
	A2	C2P_SDAT	O	0/3.3 V DC	Panel communication data send signal
	A3	P2C_SDIR	I	0/3.3 V DC	Communication direction
	A4	P2C_SBSY	I	0/3.3 V DC	Communication busy
	A5	C2P_SCK	O	0/3.3 V DC (pulse)	Communication clock
	A6	INT_ANYKEY	I	0/3.3 V DC	ANYKEY detection signal
	A7	GND	-	-	Ground
	A8	+5V1	O	5 V DC	5 V DC Power output
	A9	+5V1	O	5 V DC	5 V DC Power output
	A10	+5V1	O	5 V DC	5 V DC Power output
	A11	FAX_SPEKER1	O	Analog	Speaker signal
	B1	FAX_SPEKER2	O	Analog	Speaker signal
	B2	GND	-	-	Ground
	B3	GND	-	-	Ground
	B4	GND	-	-	Ground
	B5	3.3V2_C	O	3.3 V DC	3.3 V DC Power output
	B6	BEEP_POWERO N	O	0/3.3 V DC	Sleep return signal 0
	B7	LED_MEMORY	O	0/3.3 V DC	Memory LED control signal
	B8	LED_ATTENTION	O	0/3.3 V DC	Attention LED control signal
	B9	PNL_WKUP_REQ	O	0/3.3 V DC	Operation panel return request
	B10	INT_ENERGYSAV ERKEY	I	0/3.3 V DC	Energy saver key output signal
B11	FPRST	O	3.3 V DC	3.3 V DC Power output	
YC12 *2	A1	P2C_SDAT	I	0/3.3 V DC (pulse)	Panel send communication data
	A2	C2P_SDAT	O	0/3.3 V DC (pulse)	Panel reception communication data
	A3	NC	-	-	Not used
	A4	NC	-	-	Not used
	A5	NC	-	-	Not used
	A6	INT_ANYKEY	I	0/3.3 V DC	Sleep output signal
	A7	GND	-	-	Ground
	A8	+5V1	O	5 V DC	5 V DC Power output
	A9	NC	-	-	Not used
	A10	NC	-	-	Not used

Connector	Pin	Signal	I/O	Voltage	Description
YC12 *2	A11				
	B1				
	B2	NC	-	-	Not used
	B3	NC	-	-	Not used
	B4	GND	-	-	Ground
	B5	3.3V1_C	O	3.3 V DC	3.3 V DC Power output
	B6	NC	-	-	Not used
	B7	NC	-	-	Not used
	B8	NC	-	-	Not used
	B9	NC	-	-	Not used
	B10	INT_POWERKEY	I	0/3.3 V DC	Power souce key output signal
B11	FPRST	O	0/3.3 V DC	Panel reset signal	
YC13 *1,*3	1	GND	-	-	Ground
	2	LCD_OFF	O	0/3.3 V DC	LCD display off signal
	3	LOCKN	O	0/3.3 V DC	LCD display permission signal
	4	GND	-	-	Ground
	5	TX0N	I/O	Pulse	LCD display data
	6	TX0P	I/O	Pulse	LCD display data
	7	GND	-	-	Ground
YC15					
YC16					
YC17					
YC20	1	12V3	O	12 V DC	12 V DC Power output
	2	12V3	O	12 V DC	12 V DC Power output
	3	N.C.	-	-	Not used
	4	+5V3 F9	O	5 V DC	5 V DC Power output
	5	+5V3 F9	O	5 V DC	5 V DC Power output
	6	NC	-	-	Not used
	7	GND	-	-	Ground
	8	CCDOSR	I	Analog	Image analog signal RED
	9	GND	-	-	Ground
	10	CCDOSG(EVEN)	I	Analog	Image analog signal GREEN
	11	GND	-	-	Ground
	12	CCDOSB(ODD)	I	Analog	Image analog signal BLUE
	13	GND	-	-	Ground
	14	CCDSW	O	0/3.3 V DC	CCD color/monochrome shift signal
	15	CCDSH	O	0/3.3 V DC	Sift gate signal
	16	GND	-	-	Ground
	17	GND	-	-	Ground
	18	CCDPH1+	O	LVDS	CCD shift register clock signal
	19	CCDPH1-	O	LVDS	CCD shift register clock signal
	20	GND	-	-	Ground
	21	CCDCP-	O	LVDS	CCD clamp signal
	22	CCDCP+	O	LVDS	CCD clamp signal
	23	GND	-	-	Ground
	24	CCDRS+	O	LVDS	CCD reset signal
	25	CCDRS-	O	LVDS	CCD reset signal

Connector	Pin	Signal	I/O	Voltage	Description
YC20	26	GND	-	-	Ground
	27	NC	-	-	Not used
	28	+3.3V3 E	O	3.3 V DC	3.3 V DC Power output
	29	HP SWN	I	0/3.3 V DC	Home position sensor control signal
	30	GND	-	-	Ground
	31	M LED C	I	DC0 to 2V	LED cathode
	32	M LED A	O	DC3V	LED anode
YC22					
YC27 *4	1				
	2				
YC41	1	GND	-	-	Ground
	2	TR	O	DC0V/3.3V	CIS control signal
	3	VREF	O	Analog	CIS control signal
	4	GND	-	-	Ground
	5	MCK	O	DC0V/3.3V	CIS control signal
	6	GND	-	-	Ground
	7	OS5	I	Analog	Image signal
	8	GND	-	-	Ground
	9	OS6	I	Analog	Image signal
	10	GND	-	-	Ground
	11	OS7	I	Analog	Image signal
	12	GND	-	-	Ground
	13	OS8	I	Analog	Image signal
	14	GND	-	-	Ground
	15	OS9	I	Analog	Image signal
	16	GND	-	-	Ground
	17	OS10	I	Analog	Image signal
	18	GND	-	-	Ground
	19	OS11	I	Analog	Image signal
	20	GND	-	-	Ground
	21	OS12	I	Analog	Image signal
	22	GND	-	-	Ground
	23	OS1	I	Analog	Image signal
	24	GND	-	-	Ground
	25	OS2	I	Analog	Image signal
	26	GND	-	-	Ground
	27	OS3	I	Analog	Image signal
	28	GND	-	-	Ground
	29	OS4	I	Analog	Image signal
	30	GND	-	-	Ground
YC42	1	LEDR	O	Analog	LED control signal
	2	LEDB	O	Analog	LED control signal
	3	LEDA	O	Analog	LED control signal
	4	LEDB	O	Analog	LED control signal
	5	LEDG	O	3.3 V DC	LED power output
	6	GND	-	-	Ground
YC50					

Connector	Pin	Signal	I/O	Voltage	Description
YC51					
YC52	1	+24V0_F2	I	24 V DC	24 V DC Power input
	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	+24V3_IL_F6	I	24 V DC	24 V DC Power input
	5	IWIRE			
YC53	1	EECLK	I	0/3.3 V DC (pulse)	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	0/3.3 V DC	Data signal
	4	ERASER	I	0/3.3 V DC	Eraser control signal
	5	+3.3V3_E	I	3.3 V DC	3.3 V DC Power input
	6	TSENS	O	Analog	Toner sensor output signal
	7	SBMDIR	I	0/5 V DC	Shift motor drive control signal
	8	WTSENS	O	Analog	Waste toner sensor output signal
	9	SBMENBLN	I	0/3.3 V DC	Sift motor output control signal
	10	WTLED	I	0/3.3 V DC	Waste toner LED control signal
	11	SBMSTEP	I	0/3.3 V DC	Sift motor step signal
	12	MPFSENS	O	0/3.3 V DC	MP sensor output signal
	13	SBMMODE	I	0/3.3 V DC	Sift motor mode control signal
	14	+3.3V1_PWM_F	I	3.3 V DC	3.3 V DC Power input
	15	TMOT	I	0/3.3 V DC	Toner motor drive control signal
	16	LFANN	I	0/24 V DC	LSU fan motor control signal
	17 *1	FUDR	I	0/24 V DC	Fuser solenoid drive control signal
	18 *1	ENVMOT	I	0/5 V DC	Envelope motor drive control signal
	19 *1	FDDR	I	0/24 V DC	Fuser solenoid drive control signal
	20 *1	DUJAMSEN1N	O	0/3.3 V DC	Duplex sensor 1 output signal
	21 *1	REGSEN2	O	0/3.3 V DC	Registsensor 2 output signal
	22 *1	REARSWN	O	0/3.3 V DC	Rear cover switch output signal
YC54	1	AIRTEMP	I	Analog	Temperature input signal
	2	AIR WET	I	Analog	Humid sensor input signal
	3	GND	-	-	Ground
	4	WETCLK	O	0/3.3 V DC (pulse)	Humid sensor clock signal
YC55	1	ENVSENSN	I	0/3.3 V DC	Envelope sensor signal
	2	GND	-	-	Ground
	3	MISENS	I	Analog	MCoutput signal
	4	MHVCLK	O	0/3.3 V DC (pulse)	MC Clock signal
	5	MACCNT	O	Analog	MC AC control signal
	6	MDCCNT	O	Analog	MC DC control signal
	7	HVCLK	O	0/3.3 V DC (pulse)	DEV Clock signal
	8	BDCNT	O	Analog	DEV DC control signal
	9	BACNT	O	Analog	DEV AC control signal
	10	PAPERSEN2N	I	0/3.3 V DC	Paper sensor 2 output signal
	11	PAPERSEN1N	I	0/3.3 V DC	Paper sensor 1 output signal
	12	REGSENSN	I	0/3.3 V DC	Registsensor output signal
	13	DUJAMSEN2N	I	0/3.3 V DC	Duplex sensor output signal
	14	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	15	SCNT	O	0/3.3 V DC	Separate output control signal

Connector	Pin	Signal	I/O	Voltage	Description
YC55	16	TRREM	O	0/3.3 V DC	TC remote signal
	17	TCNT	O	Analog	TC control signal
	18	+24V3_IL_F6	O	24 V DC	24 V DC Power output
YC56	1	+5.0V3_F9	O	5 V DC	5 V DC Power output
	2	VDATA1P	O	LVDS	Video data 1signal (+)
	3	VDATA1N	O	LVDS	Video data 1signal (-)
	4	VDATA2P	O	LVDS	Video data 2signal (+)
	5	VDATA2N	O	LVDS	Video data 2signal (-)
	6	SAMPLEN1	O	0/3.3 V DC	Sample/Hold signal 1
	7	SAMPLEN2	O	0/3.3 V DC	Sample/Hold signal 2
	8	OUTPEN	O	0/3.3 V DC	Laser permission signal
	9	VCONT1	O	Analog	LD-1 light volume adjustment
	10	VCONT2	O	Analog	LD-2 light volume adjustment
	11	GND	-	-	Ground
	12	PDN	I	0/3.3 V DC (pulse)	Main Scan Sync signal
	13	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
YC57	1	+24V3_IL_F6	O	24 V DC	24 V DC Power output
	2	GND	-	-	Ground
	3	PLGDRN	O	0/5 V DC	Polygon motor drive control signal
	4	PLGRDYN	I	0/3.3 V DC	Polygon motor ready signal
	5	POLCLK	O	0/3.3 V DC (pulse)	Polygon motor clock signal
YC58	1	TH3	I	Analog	Fuser thermistor 2 output signal
	2	TH1	I	Analog	Fuser thermistor 1 output signal
	3	GND	-	-	Ground
	4	REARFANN			
	5	+24V0_F2	O	24 V DC	24 V DC Power output
YC59	1	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	EXITSENSN	I	0/3.3 V DC	Exit sensor output signal
YC60	1	GND	-	-	Ground
	2	24V2_F4	O	24 V DC	24 V DC Power output
YC61 *3	1	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	LSENS	I	0/3.3 V DC	Lift sensor output signal
YC62	1	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	PAPFULN	I	0/3.3 V DC	Paper full sensor output signal
YC63	1	DFANRN	O	0/24 V DC	Developer fan motor control signal
	2	+24V0_F2	O	24 V DC	24 V DC Power output
	3	-	-	-	Not used
	4	-	-	-	Not used
YC64	1	+24V3_F3	O	24 V DC	24 V DC Power output
	2	OPSDO	O	0/3.3 V DC (pulse)	PF communication serial data signal
	3	OPSDI	I	0/3.3 V DC (pulse)	PF communication serial data signal
	4	OPCLK	O	0/3.3 V DC (pulse)	PF communication serial clock signal
	5	OPRDYN	I	0/3.3 V DC	Option communication data signal
	6	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output

Connector	Pin	Signal	I/O	Voltage	Description
YC64	7	GND	-	-	Ground
	8	OPSEL2	O	0/3.3 V DC	PF select signal
	9	OPSEL1	O	0/3.3 V DC	PF select signal
	10	OPSEL0	O	0/3.3 V DC	PF select signal
	11	OPPAUSEN	O	0/3.3 V DC	Paper stop signal
	12	GND	-	-	Ground
YC65	1	DSLEEPN	O	0/3.3 V DC	Sleep signal
	2	RFANH	O	0/3.3 V DC	LVUFAN drive signal
	3	MPFSOL	O	0/24 V DC	MP soenoid drive control signal
	4	COVOPN	I	0/3.3 V DC	CIS control signal
	5	LIFTMOTOR	O	0/5 V DC	Lift motor drive control signal
	6	RFANL	O	0/3.3 V DC	LVUFAN drive signal
	7	DLPCL	O	0/3.3 V DC	Developer clutch drive control signal
	8	NC	-	-	Not used
	9	FEEDCL	O	0/24 V DC	Feed clutch drive control signal
	10	POWERSW	I	0/3.3 V DC	Power switch output signal
	11	REGCL	O	0/24 V DC	Registration clutch drive control signal
	12	CASSET	O	Analog	Cassette size switch output signal
	13	PSLEEPN	I	0/5 V DC	Sleep mode signal
	14	MMOTCWN	O	0/5 V DC	Main motor drive shift signal
	15	RELAY	I	0/5 V DC	Connect control
	16	MMOTRDYN	I	0/3.3 V DC	Main motor ready signal
	17	ZCROSSN	O	0/5 V DC (pulse)	Zerocross signal
	18	MMOTON	O	0/5 V DC	Main motor drive control signal
	19	HEAT1REM	O	0/24 V DC	Fuser heater drive control
	20	NC	-	-	Not used
	21	GND	-	-	Ground
	22	MMOTCLK	O	0/5 V DC (pulse)	Main motor clock signal
	23 *1	GND	-	-	Ground
	24 *1	DMOTCLK	O	0/5 V DC (pulse)	Drum motor clock signal
	25 *1	GND	-	-	Ground
	26 *1	DMOTRDYN	I	0/3.3 V DC	Drum motor ready signal
	27 *1	MIDCL	O	0/24 V DC	Middle clutch drive control signal
	28 *1	DMOTON	O	0/5 V DC	Drum motor drive control signal
	29 *1	DUCL	O	0/24 V DC	Duplex clutch drive control signal
	30 *1	HEAT2REM	O	0/24 V DC	Fuser heater control
YC66	1	+24V3_IL	O	24 V DC	24 V DC Power output
	2	+24V3_IL	O	24 V DC	24 V DC Power output
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	+24V0	I	24 V DC	24 V DC Power input
	8	+24V0	I	24 V DC	24 V DC Power input

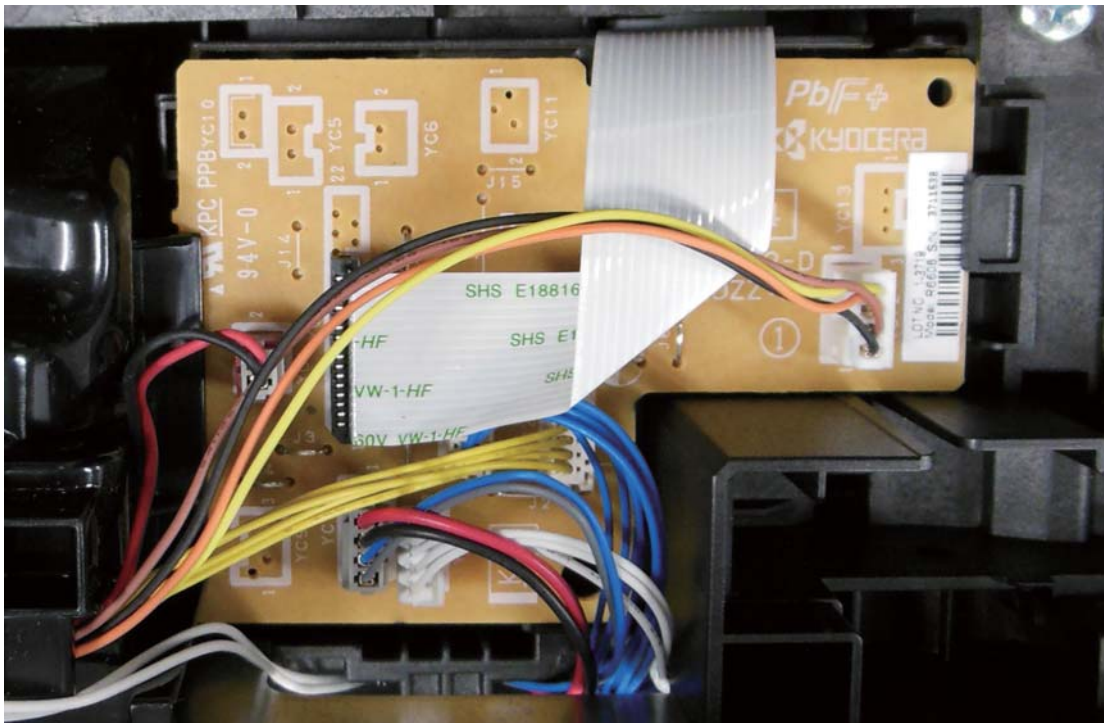
Connector	Pin	Signal	I/O	Voltage	Description
YC67	1	SCMOTB2	O	0/24 V DC (pulse)	Scanner motor drive control signal
	2	SCMOTA1	O	0/24 V DC (pulse)	Scanner motor drive control signal
	3	SCMOTB1	O	0/24 V DC (pulse)	Scanner motor drive control signal
	4	SCMOTA2	O	0/24 V DC (pulse)	Scanner motor drive control signal
YC69 *1, *2	1	CONNMOTB2	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	2	CONNMOTB1	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	3	CONNMOTA2	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	4	CONNMOTA1	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	5	JNCMOTB2	O	0/24 V DC (pulse)	DP feed motor drive control signal
	6	JNCMOTA2	O	0/24 V DC (pulse)	DP feed motor drive control signal
	7	JNCMOTB1	O	0/24 V DC (pulse)	DP feed motor drive control signal
	8	JNCMOTA1	O	0/24 V DC (pulse)	DP feed motor drive control signal
	9	JNCDMOTB2	O	0/24 V DC (pulse)	DP revers motor drive control signal
	10	JNCDMOTB1	O	0/24 V DC (pulse)	DP revers motor drive control signal
	11	JNCDMOTA2	O	0/24 V DC (pulse)	DP revers motor drive control signal
	12	JNCDMOTA1	O	0/24 V DC (pulse)	DP revers motor drive control signal
YC69 *3	1	CONNMOTB2	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	2	CONNMOTB1	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	3	CONNMOTA2	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	4	CONNMOTA1	O	0/24 V DC (pulse)	DP conveying motor drive control signal
	5	JNCMOTB2	O	0/24 V DC (pulse)	DP feed motor drive control signal
	6	JNCMOTA2	O	0/24 V DC (pulse)	DP feed motor drive control signal
	7	JNCMOTB1	O	0/24 V DC (pulse)	DP feed motor drive control signal
	8	JNCMOTA1	O	0/24 V DC (pulse)	DP feed motor drive control signal
	9	+24V3_F7_IL	O	24 V DC	24 V DC Power output
	10	DP_CL_REM	O	0/24 V DC	DP feed clutch drive control signal
	11	NC	-	-	Not used
	12	NC	-	-	Not used
YC70 *1, *2	1	+3.3V1_PWM_F	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	DP_SET_SW	I	0/3.3 V DC	DP original sensor output signal
	4	+3.3V3_E_LED	O	3.3 V DC	3.3 V DC Power output
	5	GND	-	-	Ground
	6	DP_REG_SW	I	0/3.3 V DC	DP registration sensor output signal
	7	+3.3V1_PWM_F	O	3.3 V DC	3.3 V DC Power output
	8	GND	-	-	Ground
	9	DP_OPEN_SW	I	0/3.3 V DC	DP open/close sensor output signal
	10	+3.3V3_E_LED	O	3.3 V DC	3.3 V DC Power output
	11	GND	-	-	Ground
	12	DP_JHP_SW	I	0/3.3 V DC	DP revers sensor output signal
	13	+3.3V3_E_LED	O	3.3 V DC	3.3 V DC Power output
	14	GND	-	-	Ground
	15	DP_TMG_SW	I	0/3.3 V DC	DP timing sensor output signal
	16	NC	-	-	Not used
	17	NC	-	-	Not used
	18	NC	-	-	Not used

Connector	Pin	Signal	I/O	Voltage	Description
YC70 *3	1	+3.3V1_PWM_F	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	DP_SET_SW	I	0/3.3 V DC	DP feed sensor output signal
	4	+3.3V1_PWM_F	O	3.3 V DC	3.3 V DC Power output
	5	GND	-	-	Ground
	6	DP_OPEN_SW	I	0/3.3 V DC	DP open/close sensor output signal
	7	+3.3V3_E_LED	O	3.3 V DC	3.3 V DC Power output
	8	GND	-	-	Ground
	9	DP_EXIT_SW	I	0/3.3 V DC	DP exit sensor output signal
	10	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	11	DP_TMG_SW	I	0/3.3 V DC	DP timing sensor output signal
	12	GND	-	-	Ground
	13	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	14	DP_REG_SW	I	0/3.3 V DC	DP registration sensor output signal
	15	GND	-	-	Ground
	16	GND	-	-	Ground
	17	CIS_TMG_SW	I	0/3.3 V DC	DP backside timing sensor output signal
	18	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output

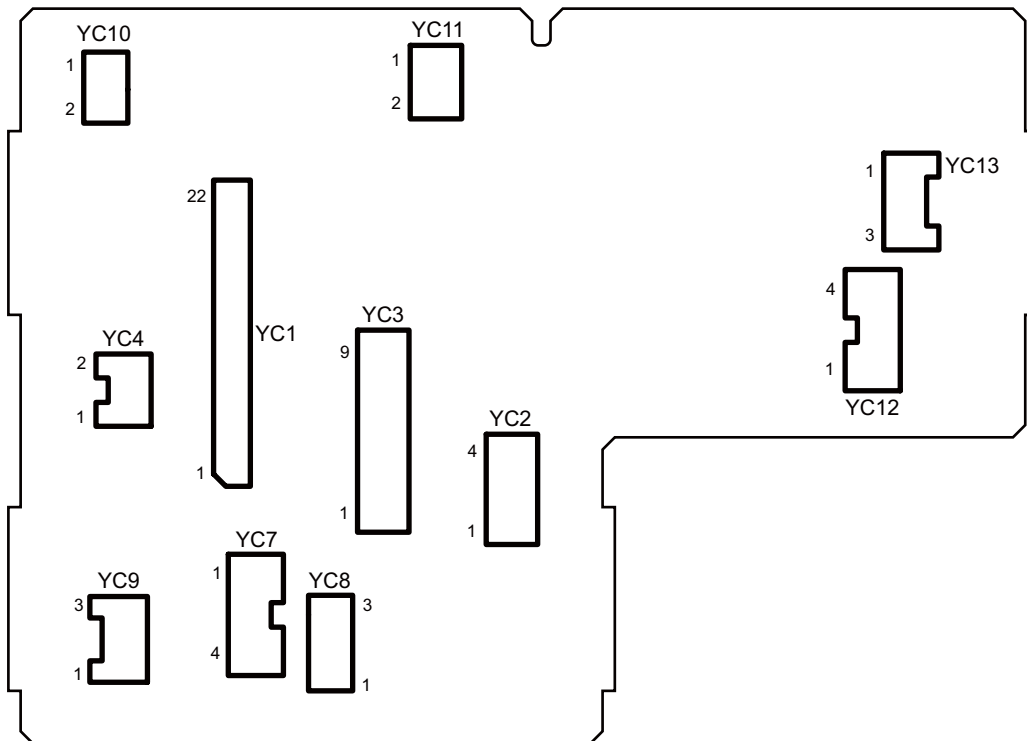
*1: 45 ppm / HyPAS model, *2: 45 ppm / Basic model, *3: 55/60 ppm model, *4: FAX model only

(2) Connect-L PWB

(2-1)PWB photograph



(2-2)Connector position



(2-3)Connector lists

Destination

YC1	Control PWB
YC2	Control PWB
YC3	Drum connect PWB
YC4	LSU fan motor
YC7	Waste toner sensor
YC8	MP feed sensor
YC9 *1	Duplex sensor 1
YC10	Rear cover switch
YC11	Envelope motor
YC12	Exit motor
YC13 *1	Shift solenoid

*1: 55/60 ppm model only

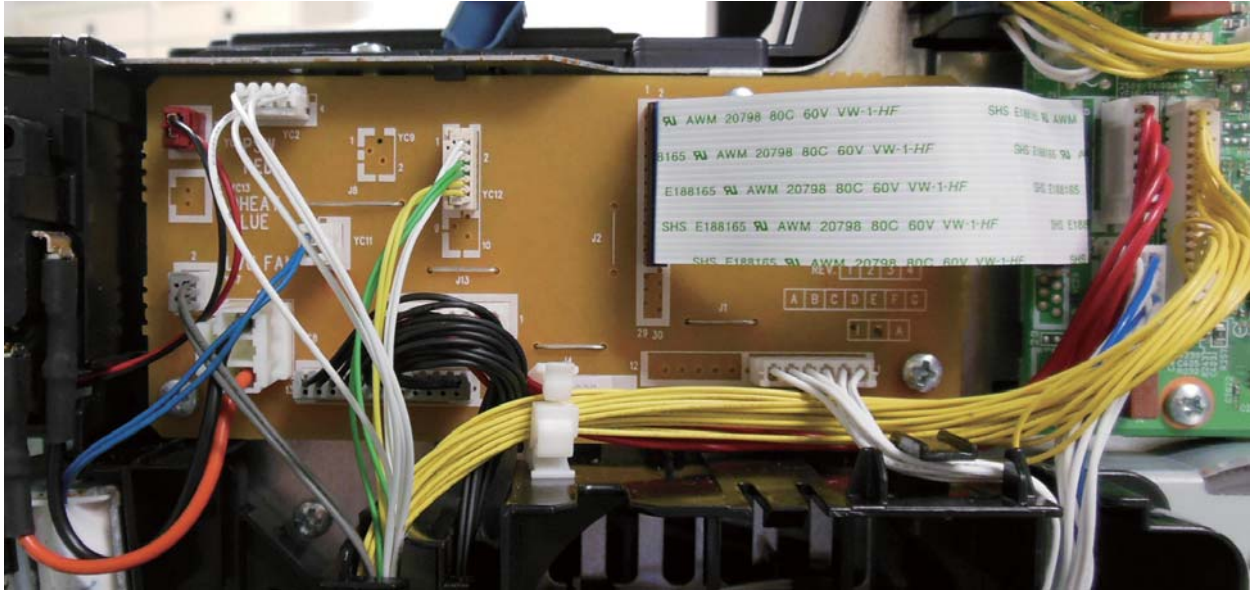
Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	EECLK	I	0/3.3 V DC (pulse)	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	0/3.3 V DC	Data signal
	4	ERASER	I	0/3.3 V DC	Eraser control signal
	5	+3.3V3_E	I	3.3 V DC	3.3 V DC Power input
	6	TSENS	O	Analog	Toner sensor output signal
	7	SBMDIR	I	0/5 V DC	Reverse motor drive control signal
	8	WTSENS	O	Analog	WTSoutput signal
	9	SBMENBLN	I	0/3.3 V DC	Reverse motor drive control signal
	10	WTLED	I	0/3.3 V DC	Waste toner LED control
	11	SBMSTEP	I	0/3.3 V DC	Reverse motor step signal
	12	MPFSENS	O	0/3.3 V DC	MP paper sensor output signal
	13	SBMMODE	I	0/3.3 V DC	Reverse motor mode control signal
	14	+3.3V1_PWM_F	I	3.3 V DC	3.3 V DC Power input
	15	TMOT	I	0/3.3 V DC	Toner motor drive control signal
	16	LFANN	I	0/24 V DC	LSU fanmotor control signal
	17	FUDR	I	0/24 V DC	Fuser solenoid drive control signal
	18	ENVMOT	I	0/5 V DC	Envelope motor drive control signal
	19	FDDR	I	0/24 V DC	Fuser solenoid
	20	DUJAMSEN1N	O	0/3.3 V DC	Duplex sensor 1 output signal
	21	REGSEN2	O	0/3.3 V DC	Registration sensor 2 output signal
	22	REARSWN	O	0/3.3 V DC	Rear cover switch output signal
YC2	1	1WIRE			
	2	+24V3_IL_F6	I	24 V DC	24 V DC Power input
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+24V0_F2	I	24 V DC	24 V DC Power input
YC3	1	1WIRE			
	2	TSENS	I	Analog	Toner sensor output signal
	3	+24V3_IL_F6	O	24 V DC	24 V DC Power output
	4	ERASERN	O	0/24 V DC	Eraser control signal
	5	EECLK	O	0/24 V DC (pulse)	Clock signal

Connector	Pin	Signal	I/O	Voltage	Description
YC3	6	EESIO	I/O	0/3.3 V DC	Dta signal
	7	TMOT	O	0/5 V DC	Toner motor drive control signal
	8	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	9	GND	-	-	Ground
	10	REGSEN2	I	0/3.3 V DC	Registration sensor 2output signal
YC4	1	LFANN	O	0/24 V DC	LSU fan motor control signal
	2	+24V0_F2	O	24 V DC	24 V DC Power output
YC7	1	+3.3V12	O	3.3 V DC	3.3 V DC Power output
	2	WTLEDN	I	0/3.3 V DC	Waste toner sensor (LED)output signal
	3	WTSSENS	I	Analog	Waste toner sensor output signal
	4	+3.3V2_E	O	3.3 V DC	3.3 V DC Power output
YC8	1	+3.3V1_PWM_F	O	-	3.3 V DC Power output
	2	GND	-	-	Ground
	3	MPFSSENS	I	0/3.3 V DC	MP paper sensor output signal
YC9 *1	1	3.3V11	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	DUJAMSEN1N	I	0/3.3 V DC	Duplex sensor output signal
YC10	1	REARSWN	I	0/3.3 V DC	Rear cover switch output signal
	2	GND	-	-	Ground
YC11	1	ENVMOT	O	0/5 V DC	Envelope motor drive control signal
	2	GND	-	-	Ground
YC12	1	OUTB3	O	0/3.3 V DC	Exit motor drive control signal
	2	OUTB1	O	0/3.3 V DC	Exit motor drive control signal
	3	OUTA3	O	0/3.3 V DC	Exit motor drive control signal
	4	OUTA1	O	0/3.3 V DC	Exit motor drive control signal
YC13 *1	1	FACEUDRN	O	0/24 V DC	Sift solenoid drive control signal
	2	+24V3_IL_F6	O	24 V DC	24 V DC Power output
	3	FACEDDRN	O	0/24 V DC	Sift solenoid drive control signal

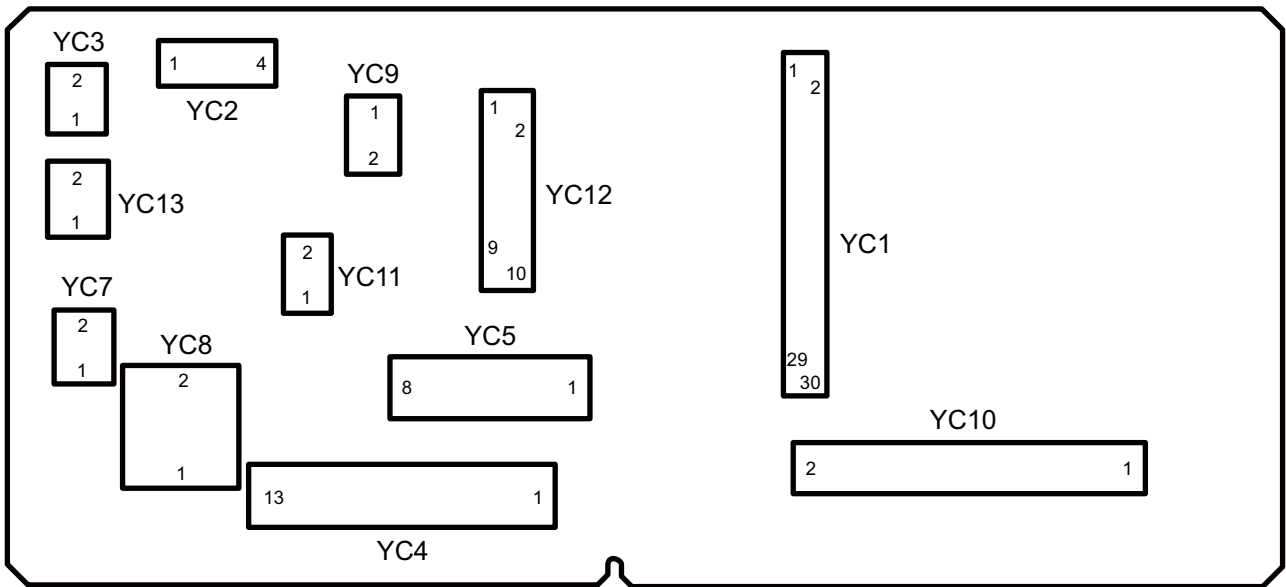
*1: 55/60 ppm model

(3) Connect-R PWB

(3-1)PWB photograph



(3-2)Connector position



(3-3)Connector lists

Destination

YC1	Control PWB
YC2	Cassette size switch
YC3	Switch PWB
YC4	Low voltage PWB
YC5	Control PWB
YC7	Power source fan motor
YC8	Interlock switch
YC9 *1	Lift motor
YC10	Main motor, Drum motor
YC11	MP solenoid
YC12	Developer clutch, Feed clutch, Registration clutch, Middle clutch and Duplex clutch

*1: 55/60 ppm model only

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	DSLEEPN	I	0/3.3 V DC	Sleep signal
	2	RFANH			
	3	MPFSOL	I	0/24 V DC	MP solenoid drive control signal
	4	COVOPN	I	0/3.3 V DC	Inter lock switch output signal
	5	LIFTMOTOR	I	0/5 V DC	Lift motor drive control signal
	6	RFANL	I	0/24 V DC	
	7	DLPCL	I	0/3.3 V DC	Developer clutch drive control signal
	8	NC	I	0/24 V DC	Drum heater control signal
	9	FEEDCLN	I	0/24 V DC	Feed clutch drive control signal
	10	POWERSW	O	0/3.3 V DC	Power switch output signal
	11	REGCL	I	0/24 V DC	Registration clutch drive control signal
	12	CASSET	I	Analog	Cassette size switch output signal
	13	PSLEEPN	O	0/5 V DC	Sleep mode signal
	14	MMOTCWN	I	0/5 V DC	Main motor drive shift signal
	15	RELAY	O	0/5 V DC	Connect control signal
	16	MMOTRDYN	O	0/3.3 V DC	Main motor ready signal
	17	ZCROSSN	I	0/5 V DC (pulse)	Zerocross signal
	18	MMOTON	I	0/5 V DC	Main motor drive control signal
	19	HEAT1REM	I	0/24 V DC	Fuser heater control
	20	NC	-	-	Not used
	21	GND	-	-	Ground
	22	MMOTCLK	O	0/5 V DC (pulse)	Main motor clock signal
	23	GND	-	-	Ground
	24	DMOTCLK	O	0/5 V DC (pulse)	Drum motor clock signal
	25	GND	-	-	Ground
	26	DMOTRDYN	I	0/3.3 V DC	Drum motor ready signal
	27	MIDCL	O	0/24 V DC	Middle clutch drive control signal
	28	DMOTON	O	0/5 V DC	Drum motor drive control signal
	29	DUCL	O	0/24 V DC	Duplex clutch drive control signal
	30	HEAT2REM	O	0/24 V DC	Fuser heater control signal

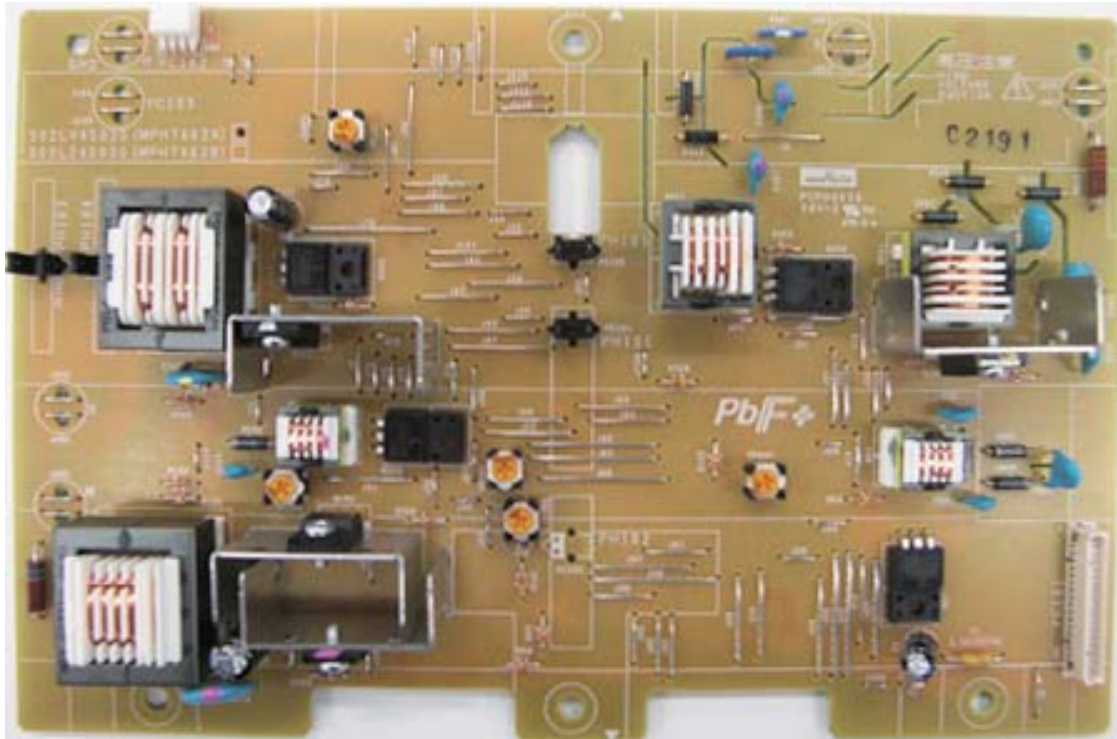
Connector	Pin	Signal	I/O	Voltage	Description
YC2	1	CAS3	I	0/24 V DC	Cassette size switch output signal
	2	CAS2	I	0/3.3 V DC	Cassette size switch output signal
	3	CASSET	-	-	Cassette size switch common signal
	4	CAS1	I	0/3.3 V DC	Cassette size switch output signal
YC3	1	GND	-	-	Ground
	2	POWERSW	I	0/3.3 V DC	PSSW: On/Off
YC4	1	HEAT2REM	O	0/3.3 V DC	Fuse heater 2 remote signal
	2	HEAT1REM	O	0/3.3 V DC	Fuse heater 1 remote signal
	3	ZCROSSN	I	0/3.3 V DC	Zerocross detection signal
	4	RELAY	O	0/3.3 V DC	Connect drivesignal
	5	PSLEEPN	O	0/3.3 V DC	Sleep signal
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	+24V0	I	24 V DC	24 V DC Power input
	11	+24V0	I	24 V DC	24 V DC Power input
	12	+24V0	I	24 V DC	24 V DC Power input
	13	+24V0	I	24 V DC	24 V DC Power input
YC5	1	+24V3_IL	O	24 V DC	24 V DC Power output
	2	+24V3_IL	O	24 V DC	24 V DC Power output
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	+24V0	I	24 V DC	24 V DC Power input
	8	+24V0	I	24 V DC	24 V DC Power input
YC7	1	+24V0	O	24 V DC	24 V DC Power output
	2	FANRN	O	0/24 V DC	PSFM: On/Off
YC8	1	+24V0	O	24 V DC	24 V DC Power output
	2	+24V0_IL	O	24 V DC	24 V DC Power output
YC9 *1	1	LIFTMOTOR	O	0/5 V DC	Lift motor drive control signal
	2	GND	-	-	Ground
YC10	1	MMOTCW	O	0/5 V DC	Main motor drive shift signal
	2	MMOTRDYN	I	0/3.3 V DC	Main motor ready signal
	3	MMOTCLKN	O	0/5 V DC (pulse)	Main motor Clock signal
	4	MMOTONN	O	0/5 V DC	Main motor drive control signal
	5	GND	-	-	Ground
	6	+24V3_IL	O	24 V DC	24 V DC Power output
	7 *1	DMOTCW	O	0/5 V DC	drum motor rotation detection
	8 *1	DMOTRDYN	I	0/3.3 V DC	drum motor ready signal
	9 *1	DMOTCLKN	O	0/5 V DC (pulse)	drum motor Clock signal
	10 *1	DMOTONN	O	0/5 V DC	drum motor drive control signal
	11 *1	GND	-	-	Ground
	12 *1	+24V2_E1	O	24 V DC	24 V DC Power output
YC11	1	+24V3_IL	O	24 V DC	24 V DC Power output
	2	MPFSOLN	O	0/24 V DC	MP solenoid drive control signal

Connector	Pin	Signal	I/O	Voltage	Description
YC12	1	+24V3_IL	O	24 V DC	24 V DC Power output
	2	DLPCLN	O	0/3.3 V DC	Developer clutch drive control signal
	3	+24V3_IL	O	24 V DC	24 V DC Power output
	4	FEEDCLN	O	0/24 V DC	Feed clutch drive control signal
	5	+24V3_IL	O	24 V DC	24 V DC Power output
	6	REGCLN	O	0/24 V DC	Registration clutch drive control signal
	7	+24V3_IL	O	24 V DC	24 V DC Power output
	8	MIDCLN	O	0/24 V DC	Middle clutch drive control signal
	9	+24V3_IL	O	24 V DC	24 V DC Power output
	10	DUCLN	O	0/24 V DC	Duplex clutch drive control signal

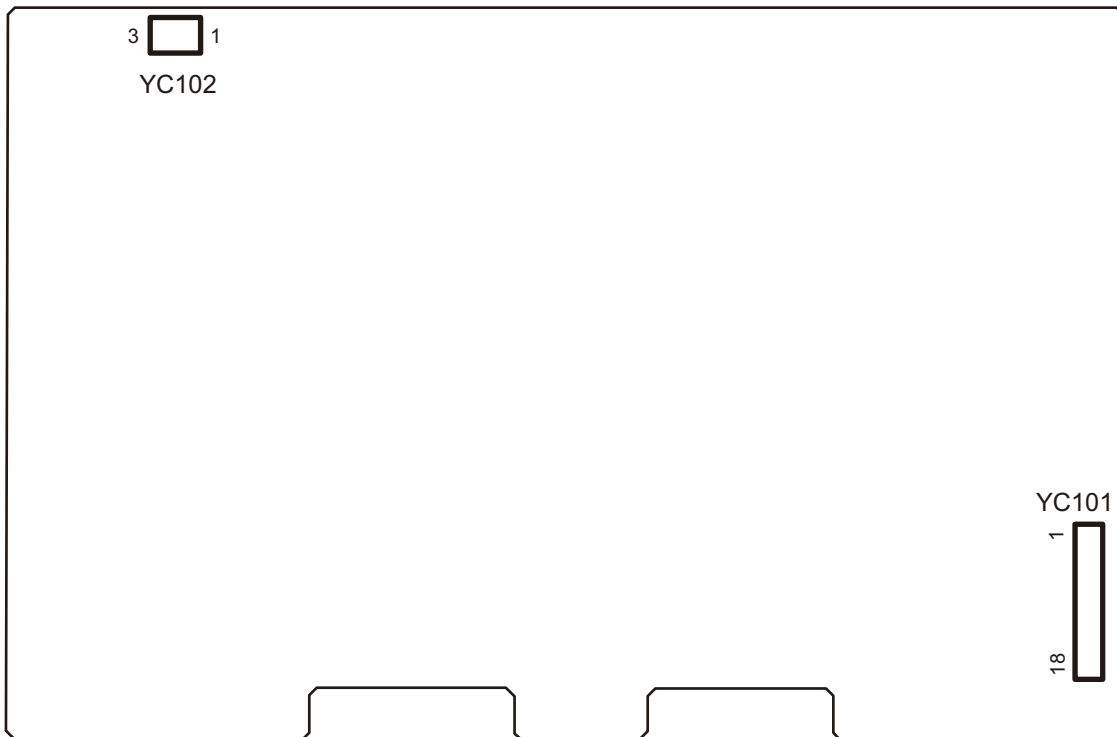
*1: 55/60 ppm model only

(4) High voltage PWB

(4-1)PWB photograph



(4-2)Connector position



(4-3)Connector lists

Destination

YC101 Control PWB
 YC102 Envelope sensor

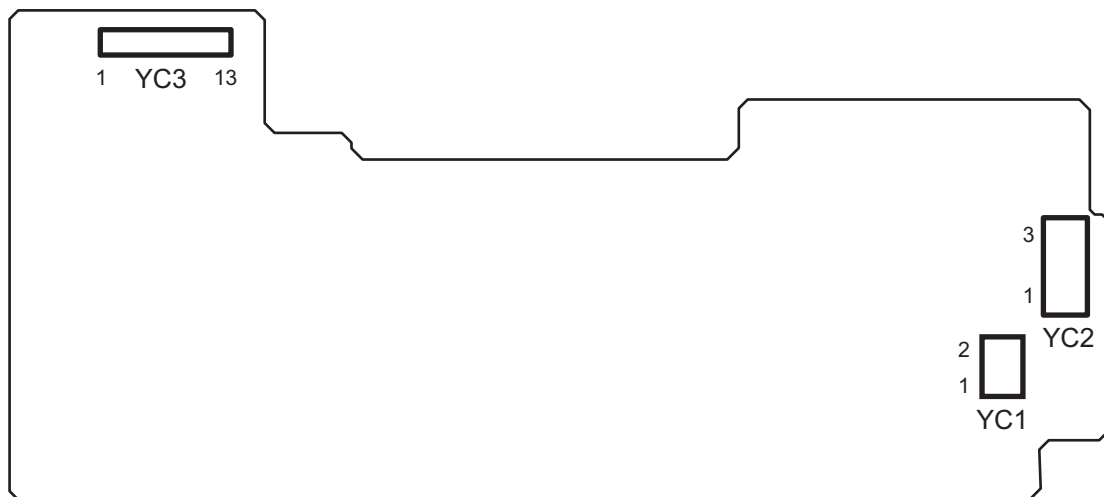
Connector	Pin	Signal	I/O	Voltage	Description
YC101	1	+24V3_IL_F6	O	24 V DC	24 V DC Power output
	2	TCNT	O	Analog	Transfer control
	3	TRREM	O	0/3.3 V DC	Transfer remote signal
	4	SCNT	O	Analog	Separate control
	5	+3.3V3_E	O	3.3 V DC	3.3 V DC Power output
	6	DUJAMSEN2N	I	0/3.3 V DC	Duplex sensor 2output signal
	7	REGSENSN	I	0/3.3 V DC	Registration sensor output signal
	8	PAPERSEN1N	I	0/3.3 V DC	Feed sensor 1output signal
	9	PAPERSEN2N	I	0/3.3 V DC	Feed sensor 2output signal
	10	BACNT	I	Analog	Developer AC control
	11	BDCNT	I	Analog	Developer DC control
	12	HVCLK	O	0/3.3 V DC	Developer Clock signal
	13	MDCCNT	I	Analog	Chage DC control
	14	MACCNT	I	Analog	Chage AC control
	15	MHVCLK	O	0/3.3 V DC	Chage Clock signal
	16	MISENS	O	Analog	Chage current detection
	17	GND	-	-	Ground
	18	ENVSENSN	I	0/3.3 V DC	Exit sensor output signal
YC102	1	+3.3V14	O	3.3 V DC	3.3 V DC Power output
	2	GND	-	-	Ground
	3	ENVSENSN	I	0/3.3 V DC	Fuser press release sensor output signal

(5) Low voltage PWB

(5-1)PWB photograph



(5-2)Connector position



(5-3)Connector lists

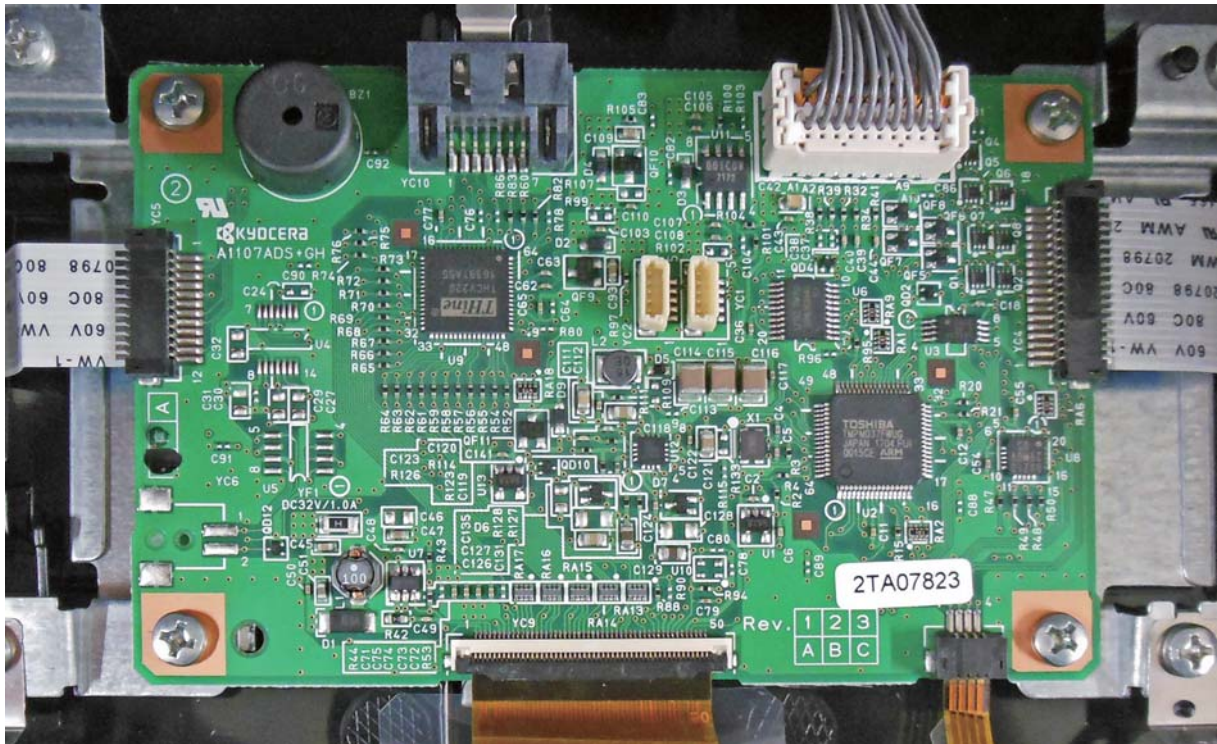
Destination

YC1 Inlet
 YC2 Fuser unit
 YC3 Connect-R PWB

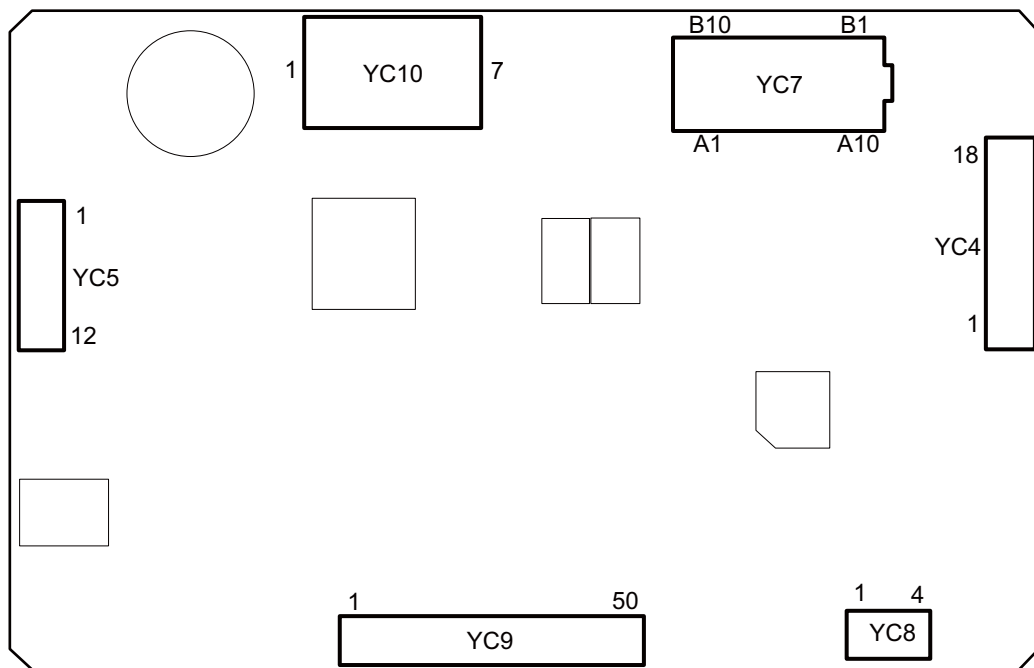
Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	LIVE	I	Commercial Power supply output voltage	AC Power input
	2	NEUTRAL	I	Commercial Power supply output voltage	AC Power input
YC2	1	NEUTRAL1	I	Commercial Power supply output voltage	Fuser heater 1
	2	LIVE	O	Commercial Power supply output voltage	AC Power input
	3	NEUTRAL2	I	Commercial Power supply output voltage	Fuser heater 2
YC3	1	+24V0	O	24 V DC	24 V DC Power output
	2	+24V0	O	24 V DC	24 V DC Power output
	3	+24V0	O	24 V DC	24 V DC Power output
	4	+24V0	O	24 V DC	24 V DC Power output
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	PSLEEPN	I	0/5 V DC	Sleep mode signal
	10	RELAY	I	0/5 V DC	Connect control
	11	ZCROSSN	O	0/5 V DC (pulse)	Zerocross signal
	12	HEAT1REM	I	0/24 V DC	Fuser heater control
	13	HEAT2REM	I	0/24 V DC	Fuser heater control

(6) Operation panel PWB (7 Inch TSI)

(6-1)PWB photograph



(6-2)Connector position



(6-3)Connector lists

Destination

YC4	Panel-R PWB
YC5	Panel-L PWB
YC7	Control PWB
YC8	Touch panel
YC9	LCD
YC10	Control PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC4	1	KEY0	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 0
	2	PROCESSING	O	0/3.3 V DC	Attention LED control signal
	3	SCAN5	O	0/3.3 V DC (pulse)	Scan signal 5
	4	GND	-	-	Ground
	5	KEY1	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 1
	6	KEY2	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 2
	7	SCAN6	O	0/3.3 V DC (pulse)	Scan signal 6
	8	SCAN7	O	0/3.3 V DC (pulse)	Scan signal 7
	9	SCAN3	O	0/3.3 V DC (pulse)	Scan signal 3
	10	LED2	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 2
	11	KEY3	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 3
	12	LED1	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal1
	13	SCAN4	O	0/3.3 V DC (pulse)	Scan signal 4
	14	ENERGYSAVER_KEY	O	0/3.3 V DC	Energy saver key control signal
	15	MEMORY	O	0/3.3 V DC	Memory LED control signal
	16	ATTENTION	O	0/3.3 V DC	Attention LED control signal
	17	SCAN2	O	0/3.3 V DC (pulse)	Scan signal 2
	18	ENERGYSAVER_LED	O	0/3.3 V DC	Energy saver key LED control signal
YC5	1	GND	-	-	Ground
	2	SCAN0	O	0/3.3 V DC (pulse)	Scan signal 0
	3	KEY0	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 0
	4	NC	-	-	Not used
	5	KEY1	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 1
	6	NC	-	-	Not used
	7	SCAN1	O	0/3.3 V DC (pulse)	Scan signal 1
	8	SCAN2	O	0/3.3 V DC (pulse)	Scan signal 2
	9	NC	-	-	Not used
	10	NC	-	-	Not used
	11	LED0	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal0
	12	NC	-	-	Not used
YC7	A1	+5V1	I	5 V DC	5 V DC Power input
	A2	+5V1	I	5 V DC	5 V DC Power input
	A3	+5V1	I	5 V DC	5 V DC Power input
	A4	GND	-	-	Ground
	A5	INT_ANYKEY	O	0/3.3 V DC	Panel sleep return
	A6	C2P_SCK	I	0/3.3 V DC (pulse)	Communication clock

Connector	Pin	Signal	I/O	Voltage	Description
YC7	A7	P2C_SBSY	O	0/3.3 V DC	Communication busy
	A8	P2C_SDIR	O	0/3.3 V DC	Communication direction
	A9	C2P_SDAT	I	0/3.3 V DC (pulse)	Communication data
	A10	P2C_SDAT	O	0/3.3 V DC (pulse)	Communication data
	B1	FPRST	I	0/3.3 V DC	Panel reset
	B2	INT_ENERGYSA VERKEY	O	0/3.3 V DC	Energy saver interrupt
	B3	PNL_WKUP_REQ	I	0/3.3 V DC	Operation panel return request
	B4	LED ATTENTION	I	0/3.3 V DC	Attention LED control signal
	B5	LED MEMORY	I	0/3.3 V DC	Memory LED control signal
	B6	BEEP_POWERO N	I	0/3.3 V DC	Sleep return signal
	B7	3.3V2_C	I	3.3 V DC	3.3 V DC power input
	B8	GND	-	-	Ground
	B9	GND	-	-	Ground
B10	GND	-	-	Ground	
YC8	1	XR	I/O	Analog	Touch panel coordinate data
	2	YB	I/O	Analog	Touch panel coordinate data
	3	XL	I/O	Analog	Touch panel coordinate data
	4	YL	I/O	Analog	Touch panel coordinate data
YC9	1	VLED+	O	0/12 V DC	LED output
	2	VLED+	O	0/12 V DC	LED output
	3	VLED-	I	DC0V	LED input
	4	VLED-	I	DC0V	LED input
	5	GND	-	-	Ground
	6	VCOM	O	0/3.3 V DC	Power output
	7	DVDD	O	3.3 V DC	Power output
	8	MODE	O	0/3.3 V DC	Display mode select
	9	DE	O	0/3.3 V DC	Data input permission
	10	VS	O	0/3.3 V DC	Vertical display data synchronization
	11	HS	O	0/3.3 V DC	Horizontal display data synchronization
	12	B7	O	0/3.3 V DC	LCD display data
	13	B6	O	0/3.3 V DC	LCD display data
	14	B5	O	0/3.3 V DC	LCD display data
	15	B4	O	0/3.3 V DC	LCD display data
	16	B3	O	0/3.3 V DC	LCD display data
	17	B2	O	0/3.3 V DC	LCD display data
	18	B1	O	0/3.3 V DC	LCD display data
	19	B0	O	0/3.3 V DC	LCD display data
	20	G7	O	0/3.3 V DC	LCD display data
	21	G6	O	0/3.3 V DC	LCD display data
	22	G5	O	0/3.3 V DC	LCD display data
	23	G4	O	0/3.3 V DC	LCD display data
	24	G3	O	0/3.3 V DC	LCD display data
	25	G2	O	0/3.3 V DC	LCD display data
	26	G1	O	0/3.3 V DC	LCD display data
	27	G0	O	0/3.3 V DC	LCD display data
	28	R7	O	0/3.3 V DC	LCD display data

Connector	Pin	Signal	I/O	Voltage	Description
YC9	29	R6	O	0/3.3 V DC	LCD display data
	30	R5	O	0/3.3 V DC	LCD display data
	31	R4	O	0/3.3 V DC	LCD display data
	32	R3	O	0/3.3 V DC	LCD display data
	33	R2	O	0/3.3 V DC	LCD display data
	34	R1	O	0/3.3 V DC	LCD display data
	35	R0	O	0/3.3 V DC	LCD display data
	36	GND	-	-	Ground
	37	DCLK	O	0/3.3 V DC (pulse)	Display data clock
	38	GND	-	-	Ground
	39	SHIR	O	3.3 V DC	Left / right display selection signal
	40	UPDN	O	0 V DC	Up / Down display selection signal
	41	VDDG	O	0 /18 V DC	Power output
	42	VEEG	O	0/-8 V DC	Power output
	43	AVDD	O	0/10/5 V DC	Power output
	44	RSTB	O	0/3.3 V DC	Reset signal
	45	NC	-	-	Not used
	46	VCOM	O	0/3.3 V DC	Power output
	47	DITH	O	3.3 V DC	Dithering function allow signal
	48	GND	-	-	Ground
49	NC	-	-	Not used	
50	NC	-	-	Not used	
YC10	1	GND	-	-	Ground
	2	LCD_OFF	I	0/3.3 V DC	LCD display off signal
	3	LOCKN	I	0/3.3 V DC	LCD display permission signal
	4	GND	-	-	Ground
	5	TX0N	I/O	pulse	LCD display data
	6	TX0P	I/O	pulse	LCD display data
	7	GND	-	-	Ground

(7) Operation panel PWB (5 Line LCD)

(7-1)PWB photograph

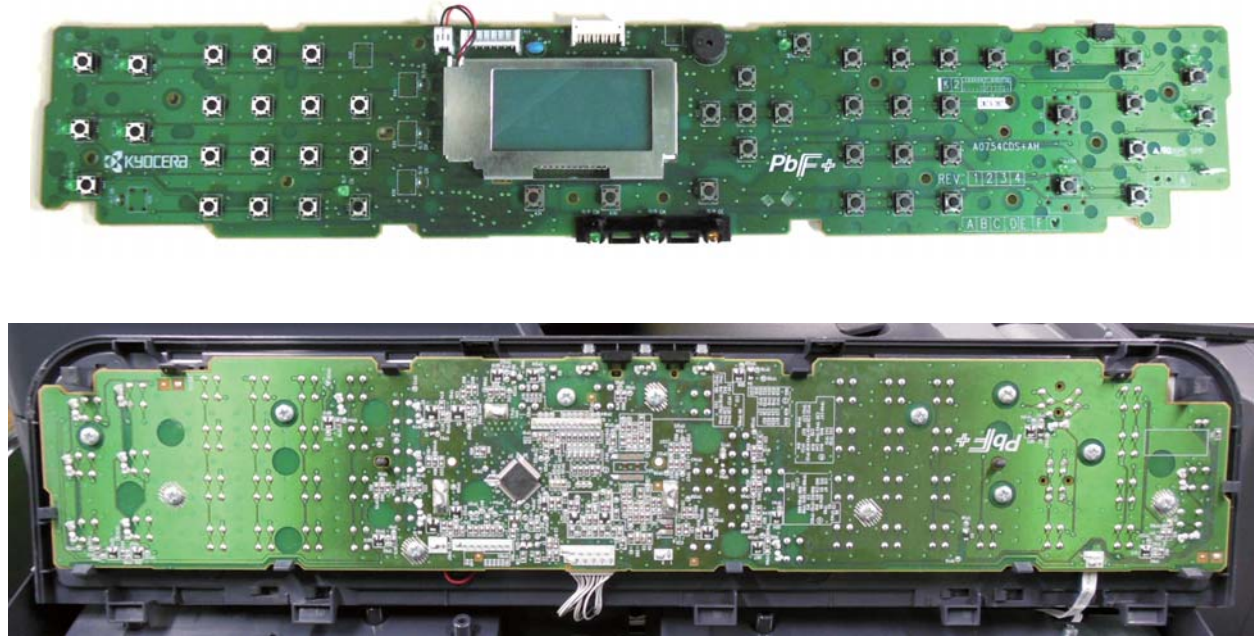


Figure 1-8-1

(7-2)Connector position

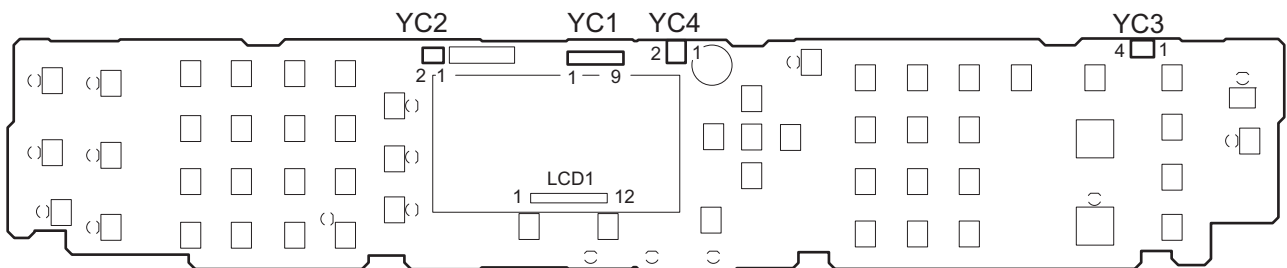


Figure 1-8-2

(7-3)Connector list

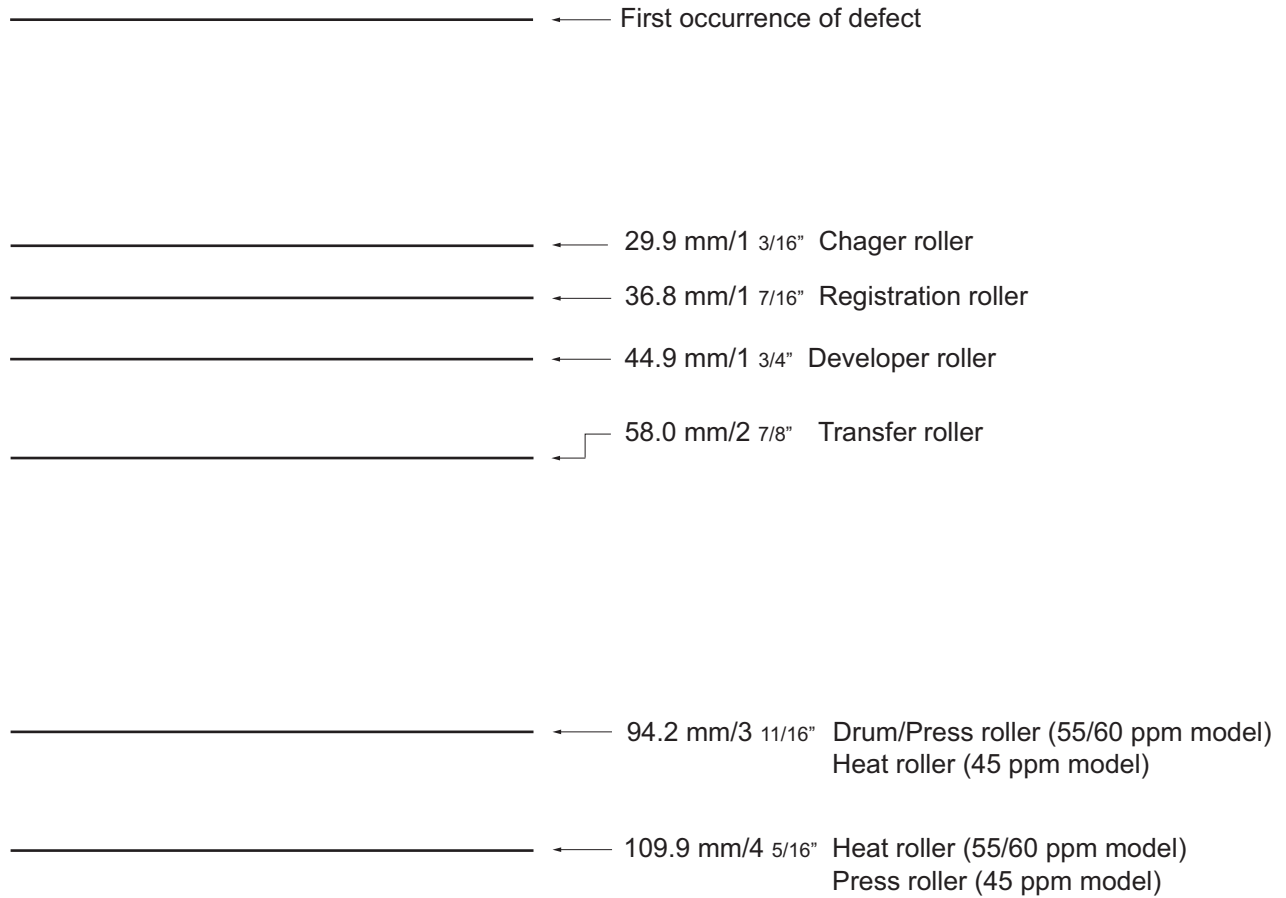
Destination

YC1 Control PWB
 YC2 Back light PWB
 YC3 Control PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	+5V1	I	5V DC	5 V DC power input
	2	GND	-	-	Ground
	3	INT_ANYKEY	O	0/3.3 V DC	Key input signal at sleep
	4	C2P_SDAT	I	0/3.3 V DC (pulse)	Panel communication data receiving signal
	5	P2C_SDAT	O	0/3.3 V DC (pulse)	Panel communication data sending signal
	6	FPRST	I	0/3.3 V DC	Panel reset signal
	7	INT_POWERKEY	O	0/3.3 V DC	Power key output signal
	8	3.3V1_C	I	3.3 V DC	3.3 V DC power input
	9	GND	-	-	Ground
YC2	1	+5V5	O	5V DC	5 V DC power output
	2	BLIGHT	O	5 V DC	Backlight controll signal
YC3	1	WETCLK	O	0/3.3 V DC (pulse)	Humid sensor clock signal
	2	GND	-	-	Ground
	3	AIRWET	O	Analog	Humid sensor input signal
	4	AIRTEMP	O	Analog	Temperature sensor input signal

9Appendixes

9 - 1 Repetitive defects gauge



- The repetitive marks interval may vary depending on operating conditions.

9 - 2 Firmware environment commands

The printer maintains a number of printing parameters in its memory. These parameters may be changed permanently with the FRPO (Firmware RePrOgram) commands.

This section provides information on how to use the FRPO command and its parameters using examples.

Using FRPO commands for reprogramming the firmware

The current settings of the FRPO parameters are listed as the optional values on the service status page.

Note: Before changing any FRPO parameters, print out a service status page, so you will know the parameter values before the changes are made. To return FRPO parameters to their factory default values, send the FRPO INIT (FRPO-INITialize) command.(!R! FRPO INIT; EXIT;)

The FRPO command is sent to the printer in the following sequence:

!R! FRPO parameter, value; EXIT;

Example: Changing emulation mode to PC-PR201/65A

!R! FRPO P1, 11; EXIT;

FRPO parameters

Items	FRPO	Setting value	Factory Setting
Top margin	A1	Integer value in inches	0
	A2	Fraction value in 1/100 inches	0
Left margin	A3	Integer value in inches	0
	A4	Fraction value in 1/100 inches	0
Page length	A5	Integer value in inches	13
	A6	Fraction value in 1/100 inches	61
Page width	A7	Integer value in inches	13
	A8	Fraction value in 1/100 inches	61
Default pattern resolution	B8	0: 300 dpi 1: 600 dpi	0
Copy count	C0	Number of copies to print:1-999	1
Page orientation	C1	0: Portrait 1: Landscape	0
Default font No.	C2	Middle two digits of power-up font	0
	C3	Last two digits of power-up font	0
	C5	First two digits of power-up font	0
PCL font switch	C8	0:HP compatibility mode (Characters higher than 127 are not printed.) 32:Conventional mode (Characters higher than 127 are printed. Supported symbol sets: ISO-60 Norway [00D], ISO-15 Italian [00I], ISO-11 Sweden [00S], ISO-6 ASCII [00U], ISO-4 U.K. [01E], ISO-69 France [01F], ISO-21 Germany [01G], ISO-17 Spain [02S], Symbol [19M])	0

Items	FRPO	Setting value	Factory Setting
Printing concentration	D4	1: Thin. 2: Slightly Thin. 3: Standard 4: Slightly Deep. 5: Deep.	3
Total host buffer size	H8	0 to 99 in units of the size defined by FRPO S5	5
Form feed time-out value	H9	Value in units of 5 seconds (0 to 99).	6
KIR mode	N0	0: Off 2: On	2
Duplex binding	N4	0: Off 1: Long edge 2: Short edge	0
Sleep timer time-out time	N5	1 to 240 minutes [0: Off] (U.S.A and other) 1 to 120 minutes [0: Off] (Euro only)	1
Ecoprint level	N6	0: Off 2: On	0
Resolution	N8	0: 300dpi 1: 600dpi 3: 1200dpi	1
Default emulation mode	P1	0 : Line printer 1 : IBM proprinter 2 : DIABLO 630 5 : Epson LQ-850 6 : PCL6 (except PCL XL) 8 : KC-GL 9 : KPDL 11 : PC-PR201 12 : IBM 5577 13 : VP-1000 14 : N5200 15 : FMPR-359F1	9 (KDA) 6 (KDE)
Carriage-return action *	P2	0: Ignores 0x0d 1: Carriage-return 2: Carriage-return+linefeed	1
Linefeed action *	P3	0: Ignores 0x0d 1: Linefeed 2: Linefeed+carriage-return	1
Automatic emulation sensing (For KPDL3)	P4	0: AES disabled 1: AES enabled	1 (KDA) 0 (KDE)
Alternative emulation	P5	6: PCL 6	6
Automatic emulation switching trigger (For KPDL3)	P7	0: Page eject commands 1: None 2: Page eject and PRESCRIBE EXIT 3: PRESCRIBE EXIT 4: Formfeed (^L) 6: Page eject, PRESCRIBE EXIT and formfeed 10: Page eject commands; if AES fails, resolves to KPDL	11 (KDA) 10 (KDE)

Items	FRPO	Setting value	Factory Setting
Command recognition character	P9	ASCII code of 33 to 126	82(R)
Default stacker (HyPAS model only)	R0	1 (inner tray) 2	1
Default paper size	R2	0: Size of the default paper cassette (See R4.) 1: Monarch (3-7/8 × 7-1/2 inches) 2: Business (4-1/8 × 9-1/2 inches) 3: International DL (11 × 22 cm) 4: International C5 (16.2 × 22.9 cm) 5: Executive (7-1/4 × 10-1/2 inches) 6: US Letter (8-1/2 × 11 inches) 7: US Legal (8-1/2 × 14 inches) 8: A4 (21.0 × 29.7 cm) 9: JIS B5 (18.2 × 25.7 cm) 10: A3 (29.7 × 42 cm) 11: B4 (25.7 × 36.4 cm) 12: US Ledger (11 × 17 inches) 13: ISO A5 14: A6 (10.5 × 14.8 cm) 15: JIS B6 (12.8 × 18.2 cm) 16: Commercial #9 (3-7/8 × 8-7/8 inches) 17: Commercial #6 (3-5/8 × 6-1/2 inches) 18: ISO B5 (17.6 × 25 cm) 19: Custom (11.7 × 17.7 inches) 30: C4 (22.9 × 32.4 cm) 31: Hagaki (10 × 14.8 cm) 32: Ofuku-hagaki (14.8 × 20 cm) 33: Officio II 39: 8K 40: 16K 42: 216x340 50: Statement 51: Folio 52: Youkei 2 53: Youkei 4	0
Default cassette	R4	0: MP tray 1: Cassette 1 2: Cassette 2 3: Cassette 3	1
MP tray paper size	R7	Same as the R2 values except: 0	6 (KDA) 8 (KDE)
A4/letter equation	S4	0: Off 1: On	1
Host buffer size	S5	0: 10kB (x H8) 1: 100kB (x H8) 2: 1024kB (x H8)	1
RAM disk size	S6	1 to 1024 MB	16

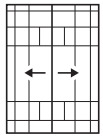
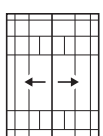
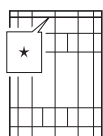
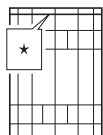
Items	FRPO	Setting value	Factory Setting
RAM disk mode	S7	0: Off 1: On	1
Wide A4	T6	0: Off 1: On	0
Line spacing	U0	Lines per inch (integer value)	6
Line spacing	U1	Lines per inch (fraction value)	0
Character spacing	U2	Characters per inch (integer value)	10
Character spacing	U3	Characters per inch (fraction value)	0
Country code	U6	0: US-ASCII 1: France 2: Germany 3: UK 4: Denmark 5: Sweden 6: Italy 7: Spain 8: Japan 9: US Legal 10: IBM PC-850 (Multilingual) 11: IBM PC-860 (Portuguese) 12: IBM PC-863 (Canadian French) 13: IBM PC-865 (Norwegian) 14: Norway 15: Denmark 2 16: Spain 2 17: Latin America 21: US ASCII (U7 = 50 SET) 77: HP Roman-8 (U7 = 52 SET)	41
Code set at power up in daisywheel emulation	U7	0: Same as the default emulation mode (P1) 1: IBM 6: IBM PC-8 50: US ASCII (U6 = 21 SET) 52: HP Roman-8 (U6 = 77 SET)	53
Font pitch for fixed pitch scalable font	U8	Integer value in cpi: 0 to 99	10
	U9	Fraction value in 1/100 cpi: 0 to 99	0

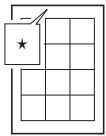
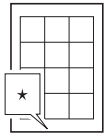
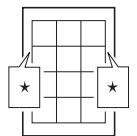
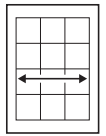
Items	FRPO	Setting value	Factory Setting
Font height for the default scalable font	V0	Integer value in 100 points: 0 to 9	0
	V1	Integer value in points: 0 to 99	12
	V2	Fraction value in 1/100 points: 0, 25, 50, 75	0
Default scalable font	V3	Name of typeface of up to 32 characters, enclosed with single or double quotation marks	Courier
Default weight (courier and letter Gothic)	V9	0: Courier = darkness Letter Gothic = darkness 1: Courier = regular Letter Gothic = darkness 4: Courier = darkness Letter Gothic = regular 5: Courier = regular Letter Gothic = regular	5
Paper type for the MP tray	X0	1: Plain 1 2: Transparency 3: Preprinted 4: Label 5: Bond 6: Recycle 7: Vellum 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Cardstock 16: Thick 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1

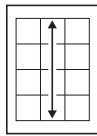
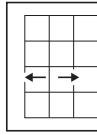
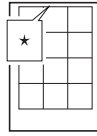
Items	FRPO	Setting value	Factory Setting
Paper type for paper cassettes 1	X1	1: Plain 3: Preprinted 5: Bond 6: Recycled 9: Letterhead 10: Color 11: Prepunched 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1
Paper type for paper cassettes 2 to 5	X2 X3 X4 X5	1: Plain 3: Preprinted 5: Bond 6: Recycled 9: Letterhead 10: Color 11: Prepunched 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1
PCL paper source	X9	0: Paper selection depending on an escape sequence compatible with HP-LJ5Si. 2: Paper selection depending on an escape sequence compatible with HP-LJ8000.	0
Automatic continue for 'Press GO'	Y0	0: Off 1: On	0
Automatic continue timer	Y1	Number from 0 to 99 in increments of 5 seconds	6 (30s)
Error message for device error	Y3	0: Not detect 1: Detect	97

Items	FRPO	Setting value	Factory Setting
Duplex operation for specified paper type (Prepunched, Preprinted and Letter-head)	Y4	0: Off 1: On	0
Default operation for PDF direct printing	Y5	0: Enlarges or reduces the image to fit in the current paper size. Loads paper from the current paper cassette. 1: Through the image. Loads paper which is the same size as the image. 2: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the image size. 3: Through the image. Loads Letter, A4 size paper depending on the image size. 8: Through the image. Loads paper from the current paper cassette. 9: Through the image. Loads Letter, A4 size paper depending on the image size. 10: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the image size.	0
e-MPS error	Y6	0: Does not print the error report and display the error message. 1: Prints the error report. 2: Displays the error message. 3: Prints the error report and displays the error message.	3

9 - 3 Chart of image adjustment procedures

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			No.	Mode		Method	Adjustment	
1	Adjusting the center line of the MP tray (Adjustment of writing) Changes the LSU writing start timing.		U034	LSU Out Left	P.6-26	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [LSU Out Left] - [MPT] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	<p>*When the setting value is increased, the image moves rightward.</p> <p>*When adjusting for the duplex copy, select [Dup].</p>
2	Adjusting the center line of the cassettes (Adjustment of writing) Changes the LSU writing start timing.		U034	LSU Out Left	P.6-26	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [LSU Out Left] - [Cass1] to [Cass5] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	<p>*When the setting value is increased, the image moves rightward.</p> <p>*When adjusting for the duplex copy, select [Dup].</p>
3	Adjusting the leading edge registration of the MP tray (Adjustment of writing) Changes the secondary paper feed timing.		U034	LSU Out Top	P.6-26	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [Lsu Out Top Full] - [MPT] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	<p>*When the setting value is increased, the image moves downward.</p> <p>*When adjusting for the duplex copy, select [Dup].</p>
4	Adjusting the leading edge registration of the cassette (Adjustment of writing) Changes the secondary paper feed timing.		U034	LSU Out Top	P.6-26	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [Lsu Out Top Full] - [Cass] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	<p>*When the setting value is increased, the image moves downward.</p> <p>*When adjusting for the duplex copy, select [Dup].</p>

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			No.	Mode		Method	Adjustment	
5	Adjusting the leading edge margin (Adjustment of writing) Changes the LSU illumination start timing.		U402	Lead	P.6-66	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [Lead] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	*When the setting value is increased, the margin get larger.
6	Adjusting the trailing edge margin (Adjustment of writing) Changes the LSU illumination end timing.		U402	Trail	P.6-66	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. [Trail] 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	*When the setting value is increased, the margin get larger.
7	Adjusting the left and right margins (Adjustment of writing) Changes the LSU illumination start/end timing.		U402	A Margin C Margin	P.6-66	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. Select [A Margin] or [C Margin]. 3 Press the System Menu key. 4 Press the Start key. (Pattern output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	*When the setting value is increased, the margin get larger.
8	Adjusting magnification of the scanner in the main scanning direction Processes data.		U065 U070	Main Scan Convey Speed	P.6-30 P.6-35	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. Select [Main Scan] or [Convey Speed]. 3 Press the System Menu key. 4 Place an original and press the Start key. (Test copy output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	U065: When using on the contact glass *When the setting value is increased, the image get larger. U070: When using document processor *When the setting value is increased, the image get longer.

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			No.	Mode		Method	Adjustment	
9	Adjusting magnification of the scanner in the sub scanning direction (scanning adjustment) Changes the original scanning speed.		U065	Sub Scan	P.6-30	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. U065: [Sub Scan] 3 Press the System Menu key. 4 Place an original and press the Start key. (Test copy output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	U065: When using on the contact glass *When the setting value is increased, the image get larger.
10	Adjusting the center line (Adjustment of reading) Scan data is processed.		U067 U072	Front Front Back	P.6-33 P.6-38	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. U067: [Front] U072: [Front] or [Back] 3 Press the System Menu key. 4 Place an original and press the Start key. (Test copy output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	U067: When using on the contact glass *When the setting value is increased, the image moves leftward. U072: When using document processor *Back adjustment selects [Back] at the time of duplex mode. *When the setting value is increased, the image moves rightward.
11	Adjusting the leading edge registration (Adjustment of reading) Changes the original scan start timing.		U066 U071	Front Front Head Back Head	P.6-32 P.6-36	<ol style="list-style-type: none"> 1 Press the Start key. 2 Select the adjustment content. U066: [Front] U071: [Front Head] 3 Press the System Menu key. 4 Place an original and press the Start key. (Test copy output) 5 Press the System Menu key. 6 Execute the adjustment. 	<ol style="list-style-type: none"> 1 By using the [<] [>] keys or the numeric keys, change the setting value. 2 Press the Start key to set the setting value. 3 Press the [Stop] key. 	U066: When using on the contact glass *When the setting value is increased, the image moves forward. U071: When using document processor *Back adjustment selects [Back Head] at the time of duplex mode. *When the setting value is increased, the image moves forward.

When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302NM94340), the following adjustments are automatically made:

When running this test chart, you first must clean the feed rollers with alcohol and ensure the DP width guides are correctly positioned against the original.

- Adjusting the DP sub scanning magnification (U070)
- Adjusting the DP leading edge registration (U071)
- Adjusting the DP center line (U072)

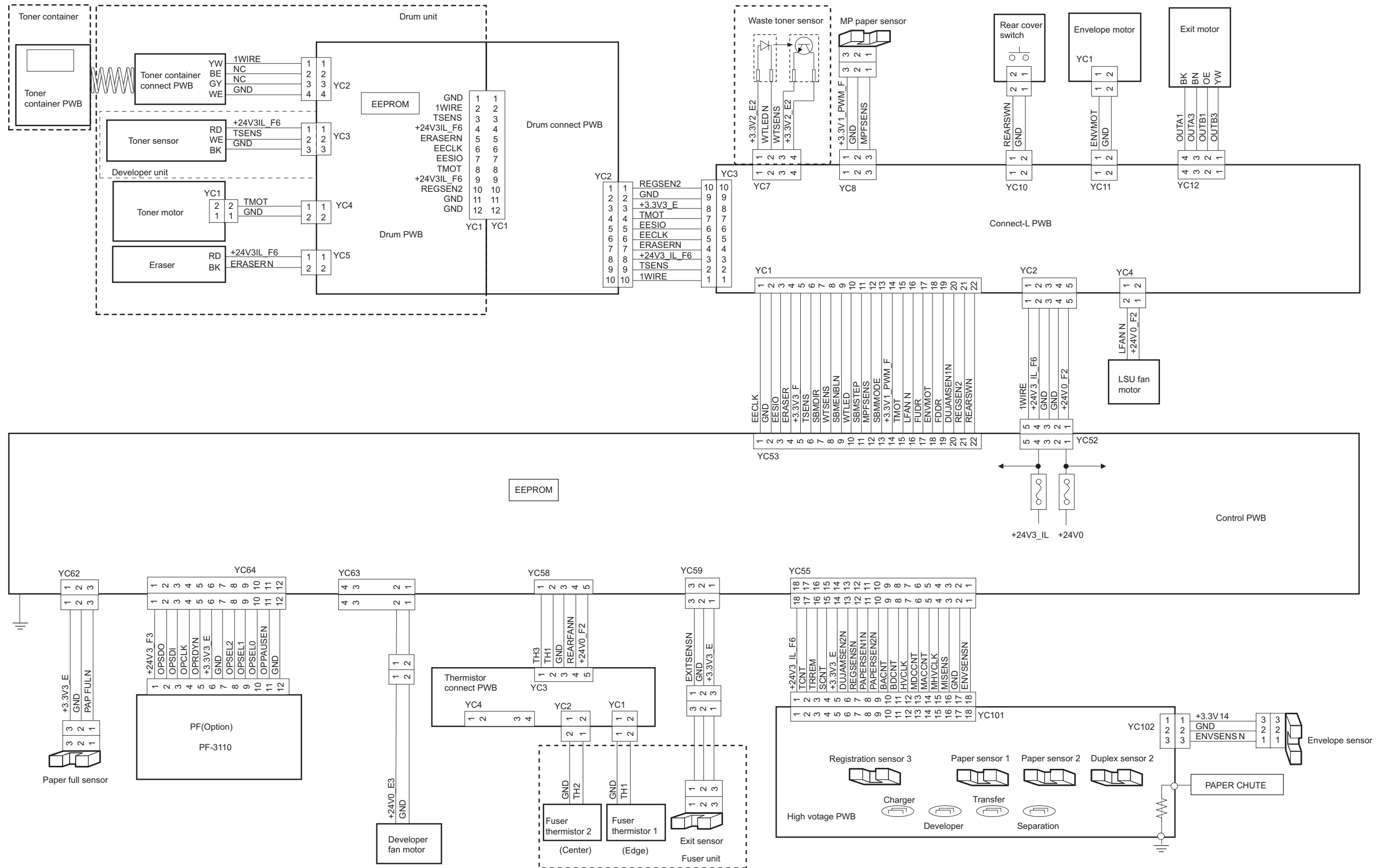
When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302NM94330), the following adjustments are automatically made:

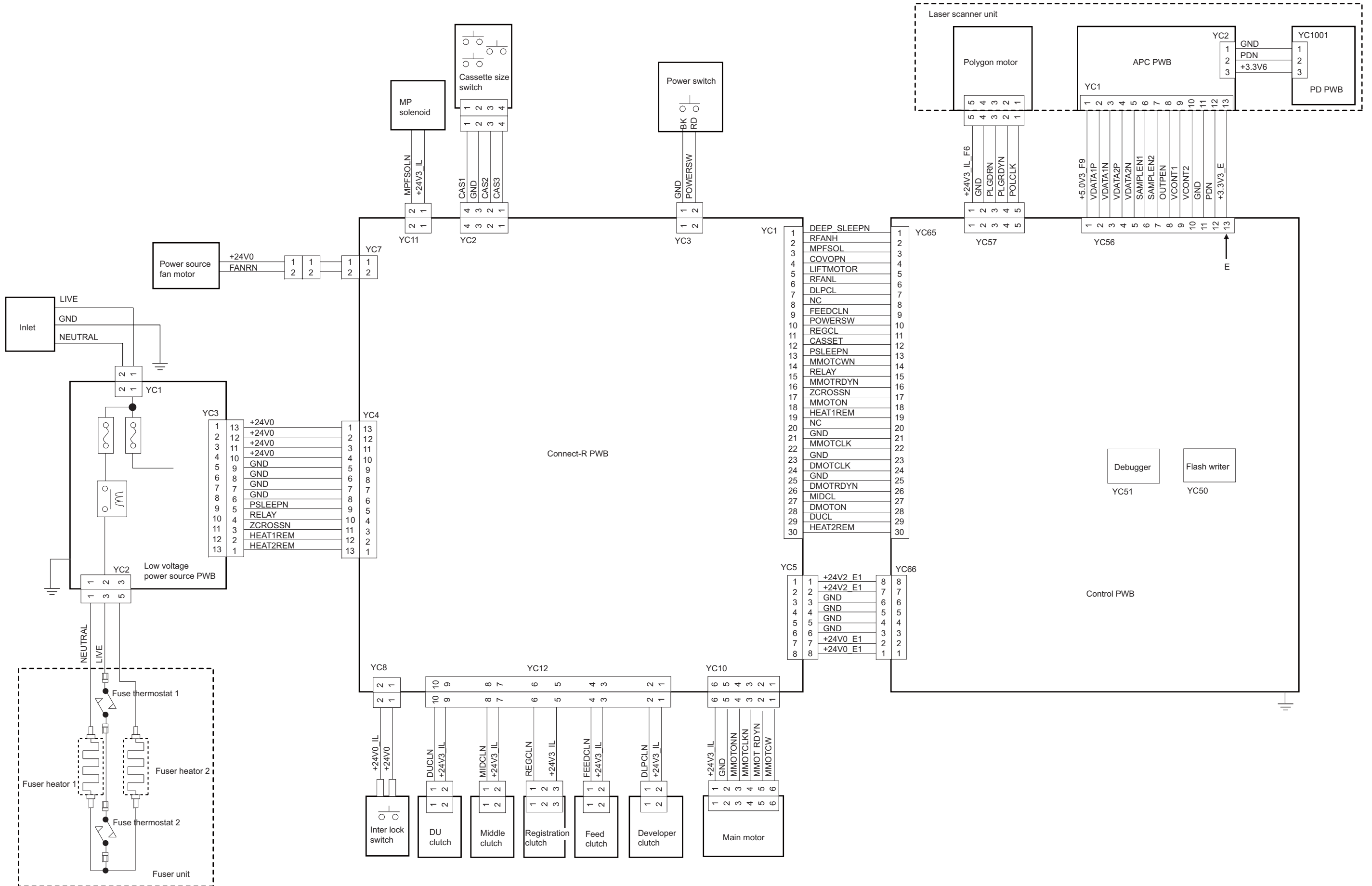
- Adjusting the DP sub scanning magnification (U070)
- Adjusting the DP leading edge registration (U071)
- Adjusting the DP center line (U072)

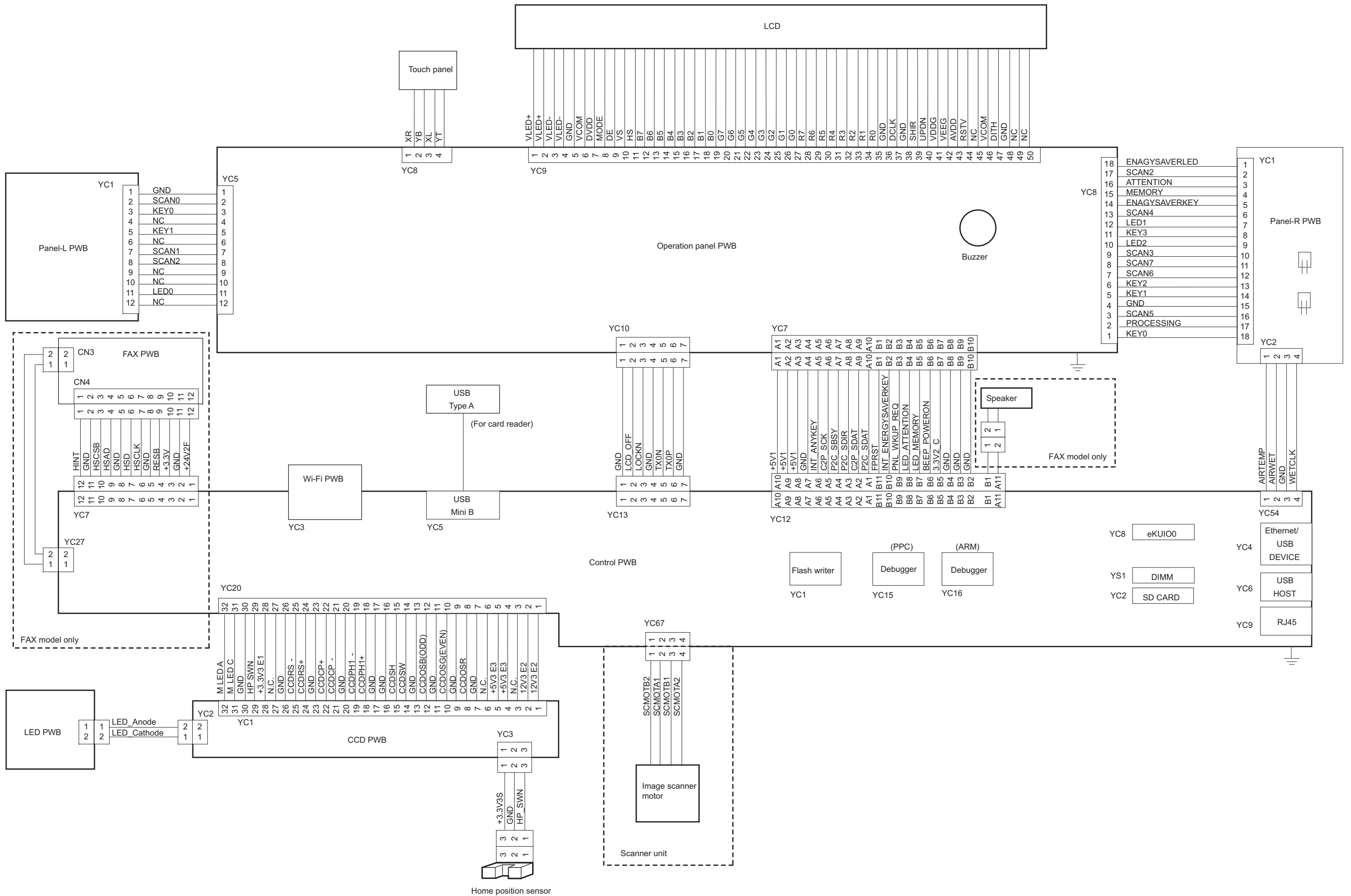
Image quality

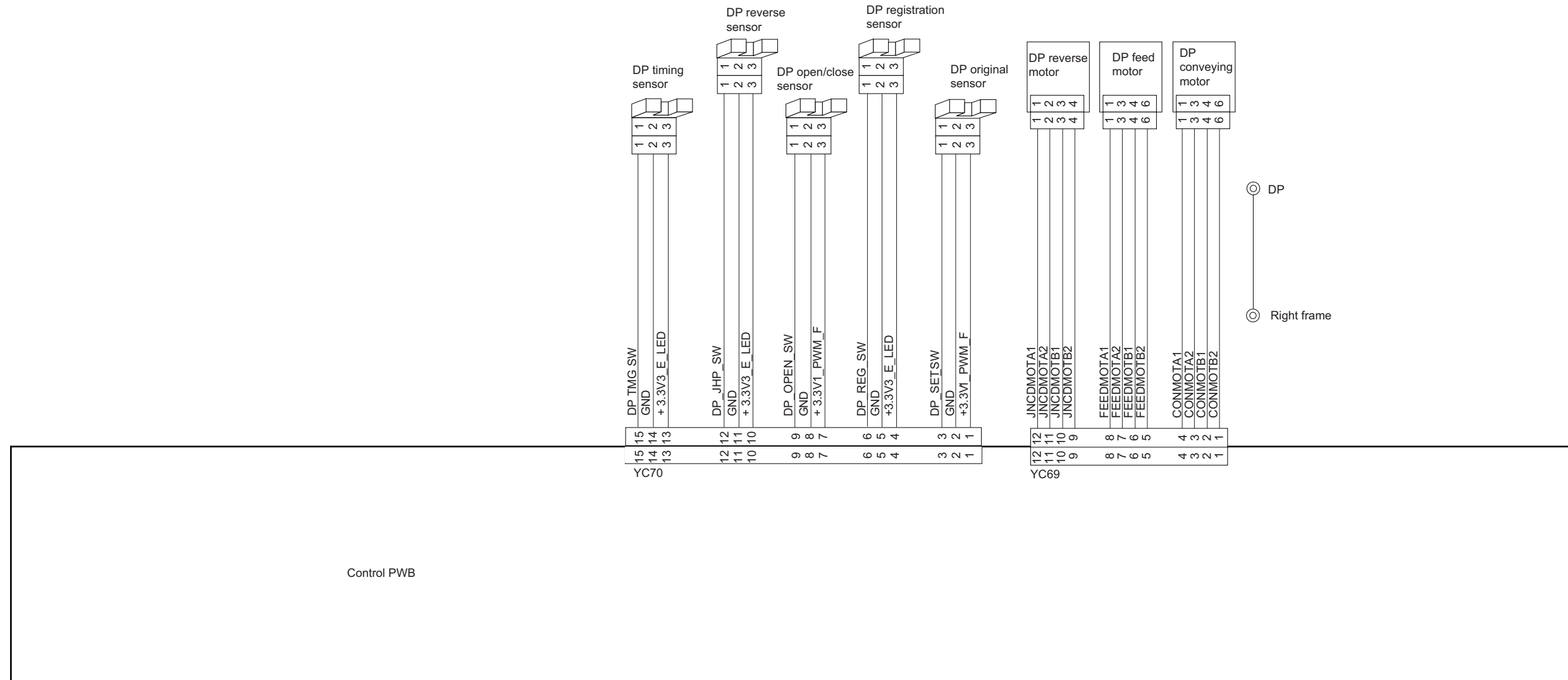
Items	Specifications
100% magnification	Printer: $\pm 0.8\%$ Copy: $\pm 1.5\%$ Using DP: $\pm 2.0\%$
Magnification	Copy: $\pm 2.0\%$ Using DP: $\pm 2.5\%$
Lateral squareness	Copy: $\pm 2.0\text{mm}/200\text{mm}$ Using DP: $\pm 2.5\text{mm}/200\text{mm}$
Leading edge timing	Print: 2.0 mm or less Copy: 2.0mm or less Using DP: 2.5mm or less
Skewed paper feed (left-right difference)	Print: 1.0mm /100mm or less Copy: 1.0mm /100mm or less (table) 1.5mm/100 mm or less (DP)
Lateral image shifting	Print: $\pm 2.0\text{mm}$ or less (cassette) $\pm 3.0\text{mm}$ or less (MP tray) Copy: $\pm 2.0\text{mm}$ or less (cassette) $\pm 3.0\text{mm}$ or less (MP tray) Using DP: $\pm 2.0\text{mm}$ or less (cassette) $\pm 3.0\text{mm}$ or less (MP tray)

9 - 4 Wiring diagram (45 ppm model (HyPAS model))

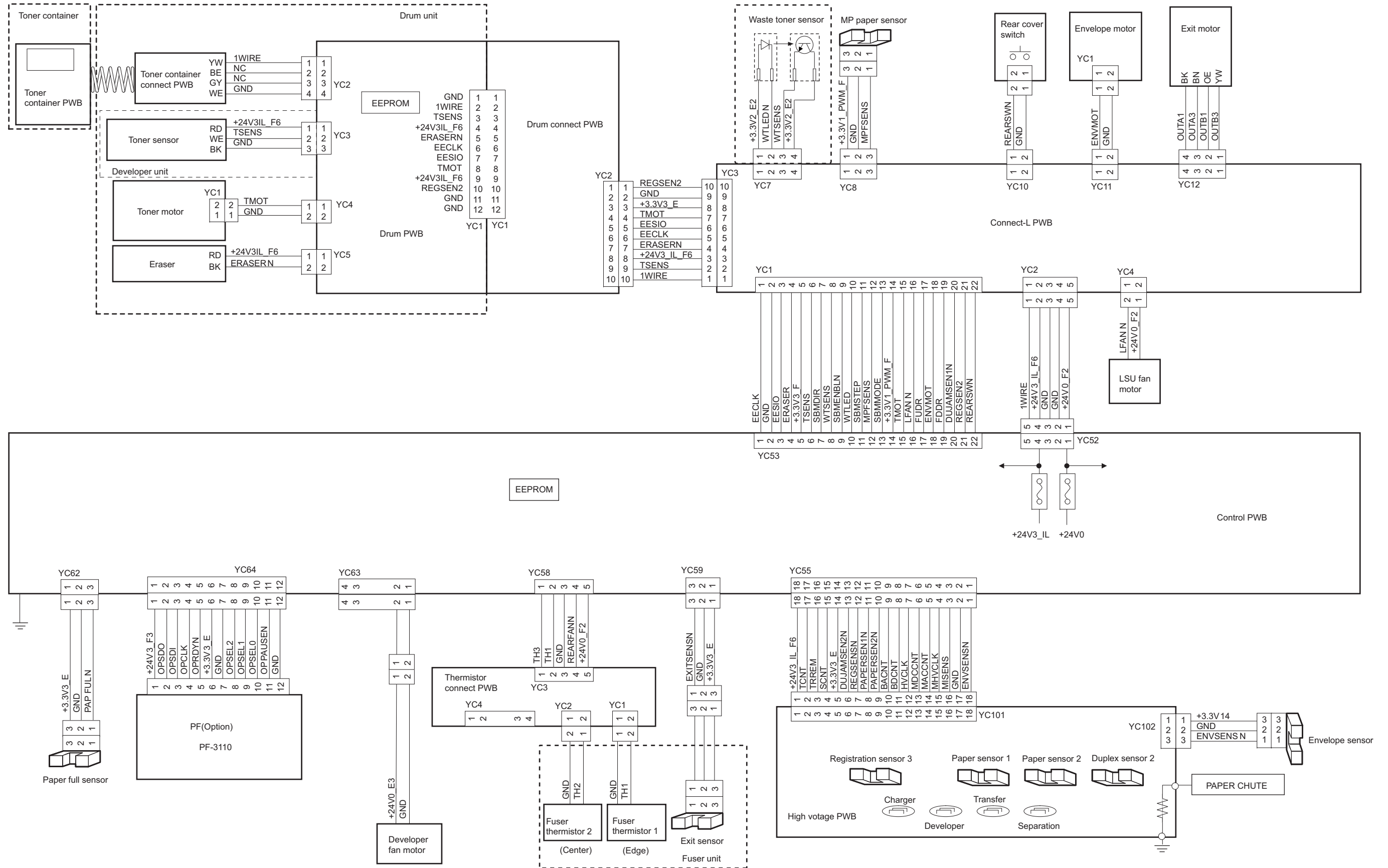


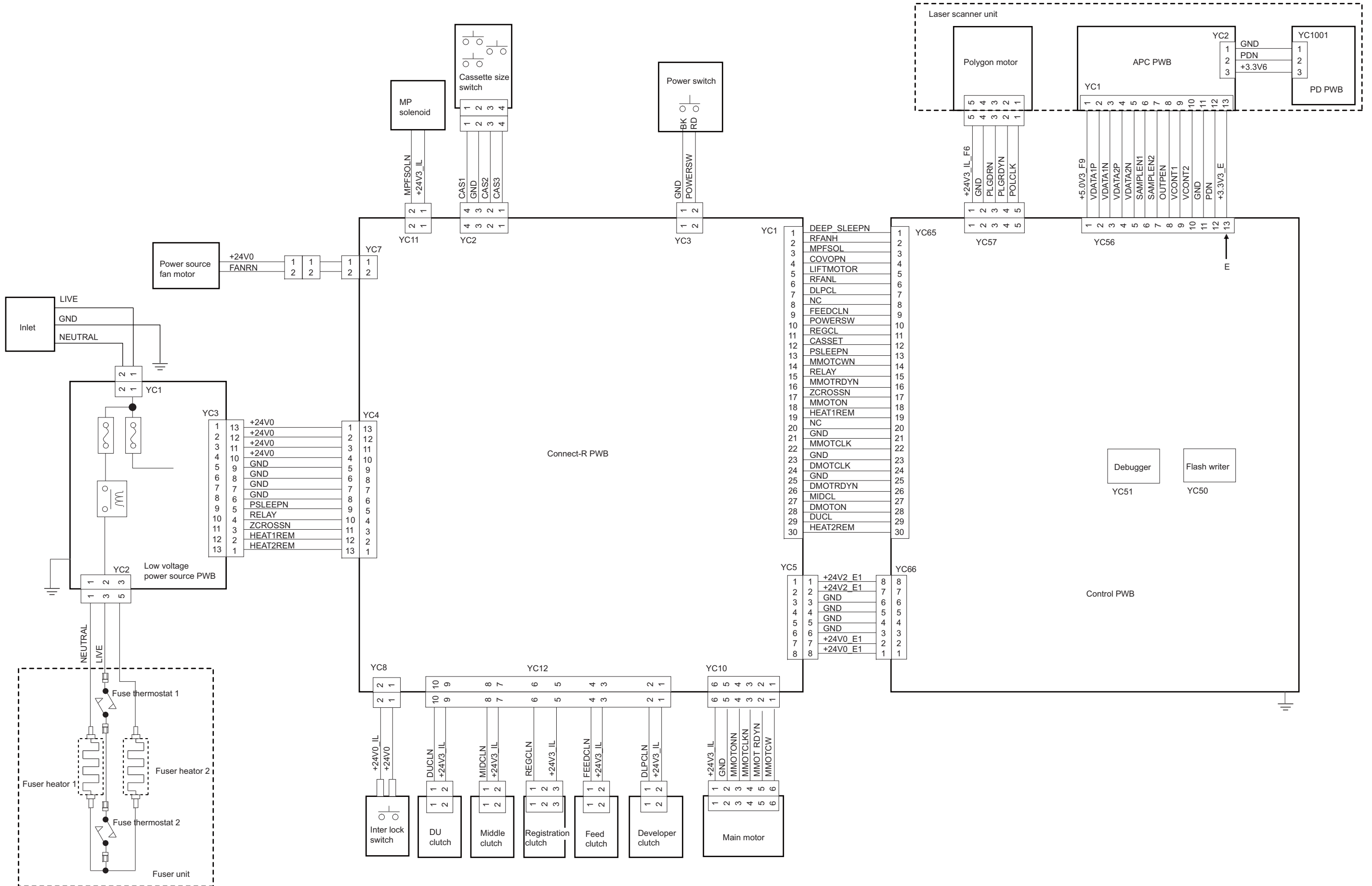


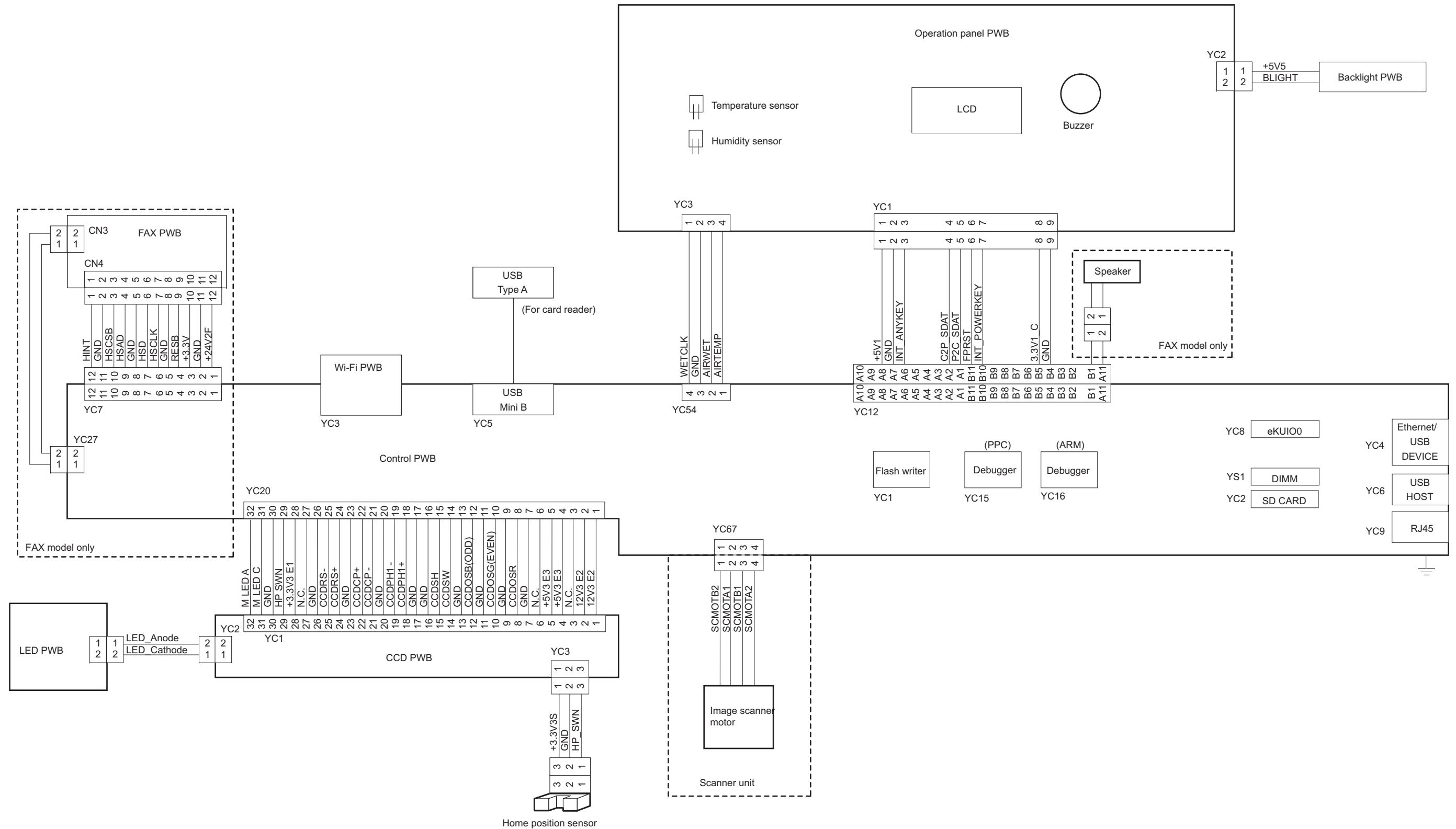


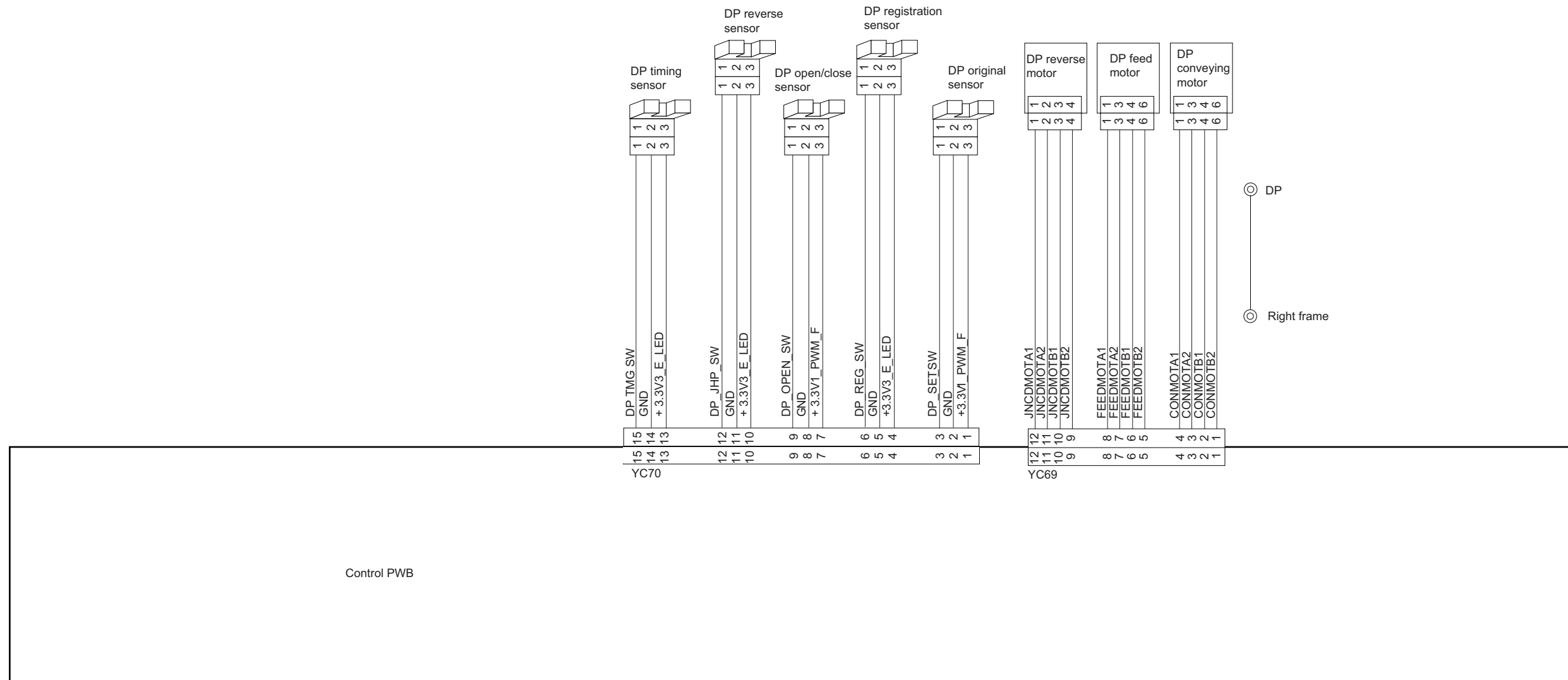


9 - 5 Wiring diagram (45 ppm model (Basic model))

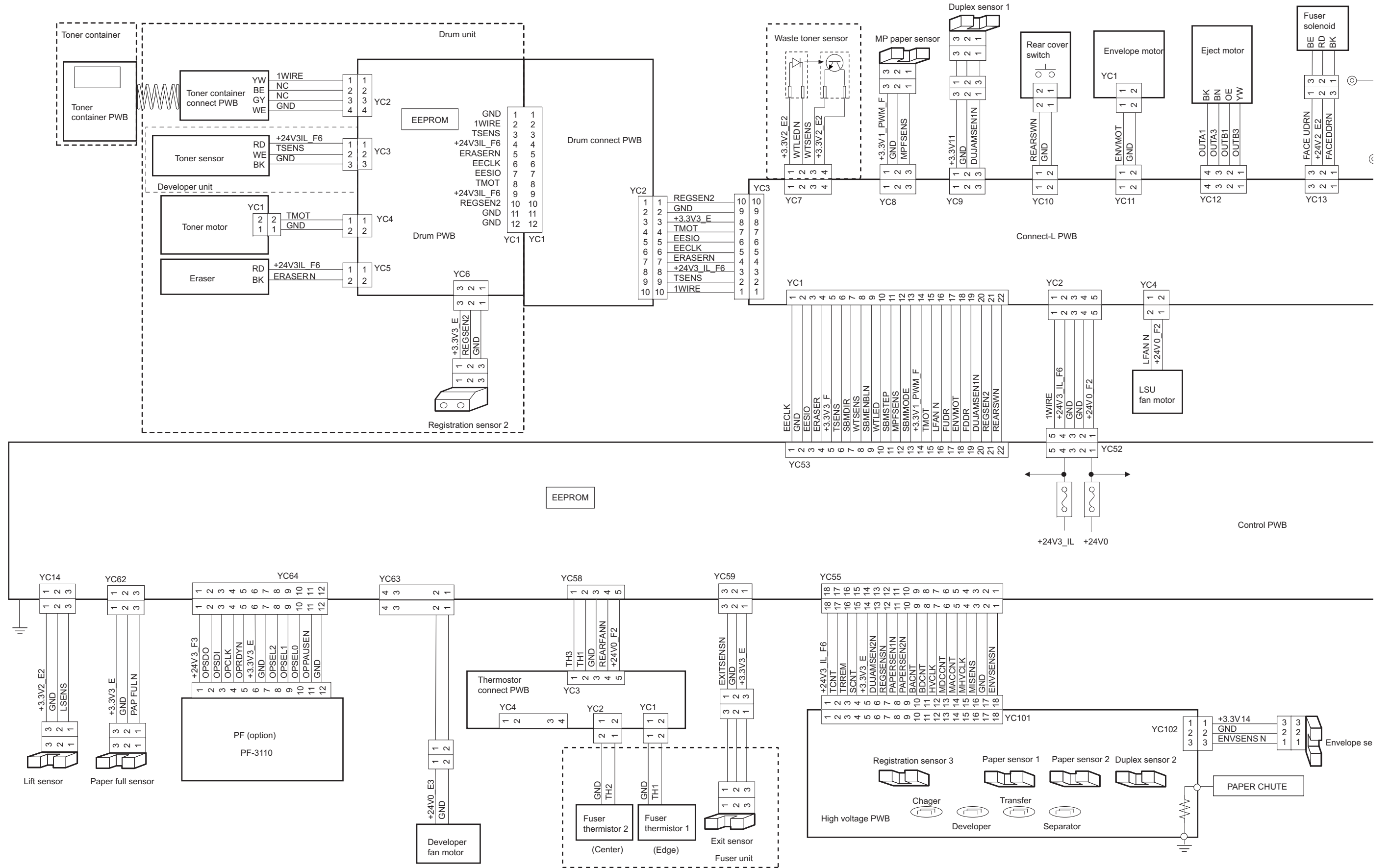


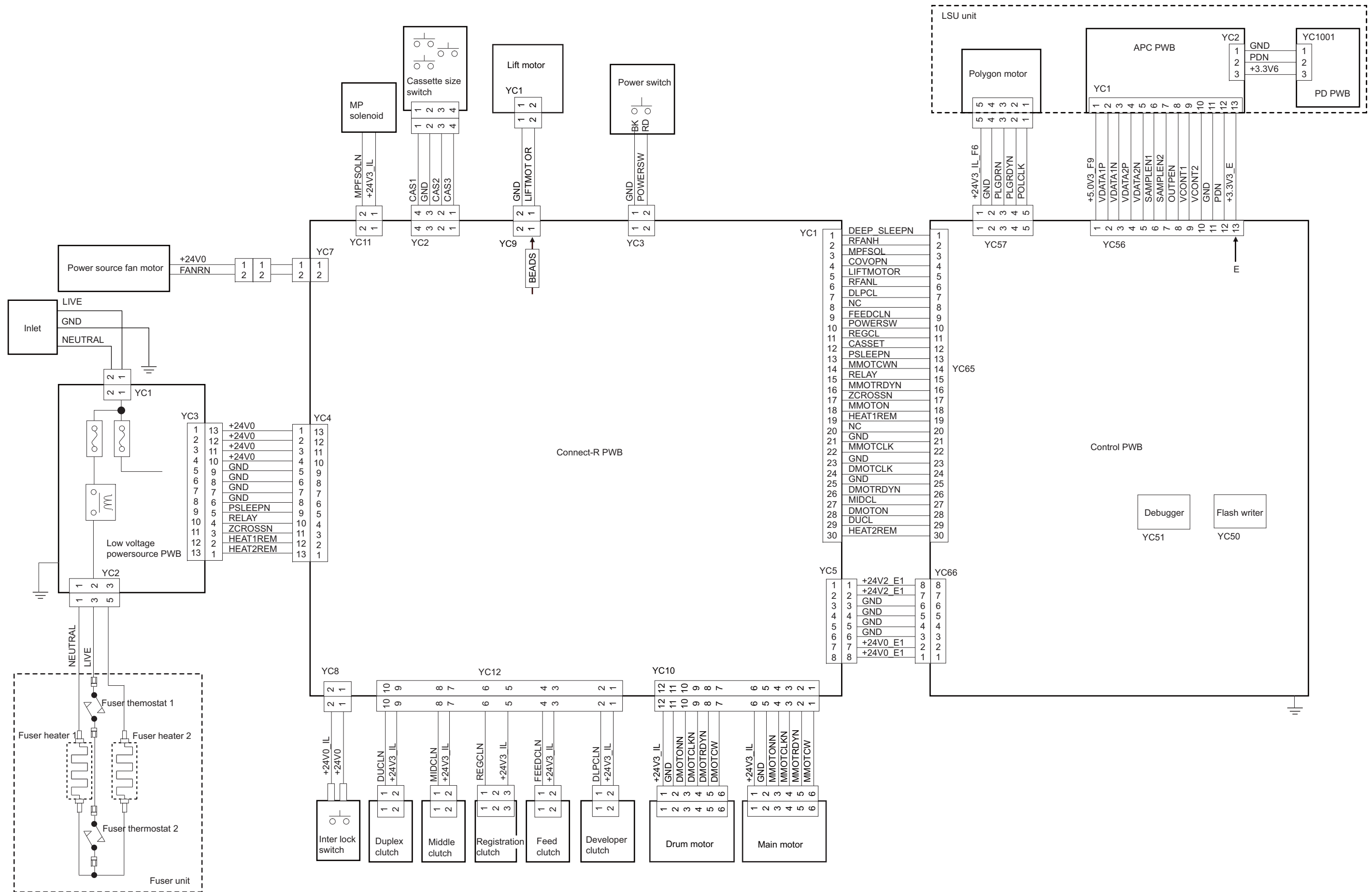


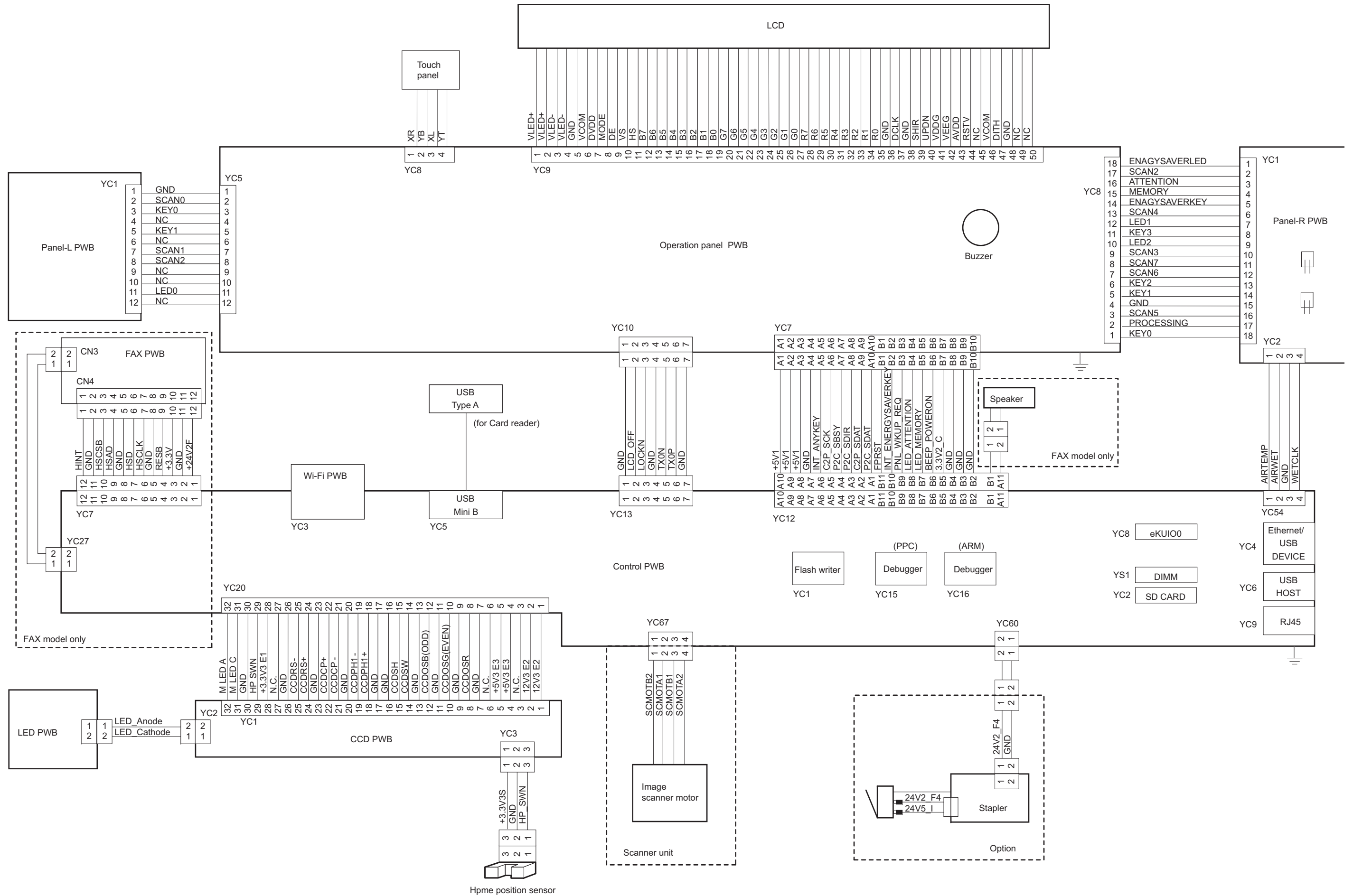


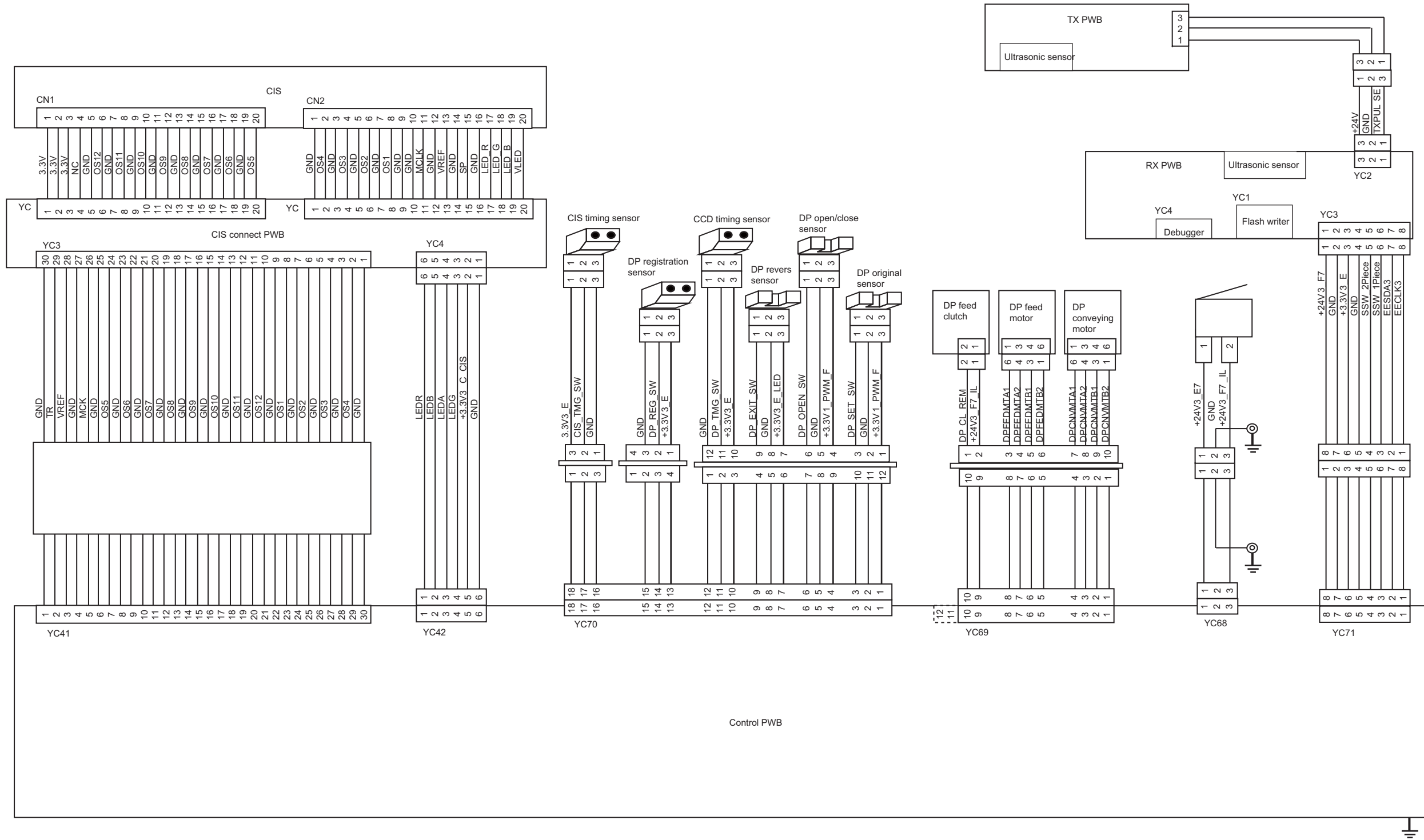


9 - 6 Wiring diagram (55/60 ppm model (HyPAS model))

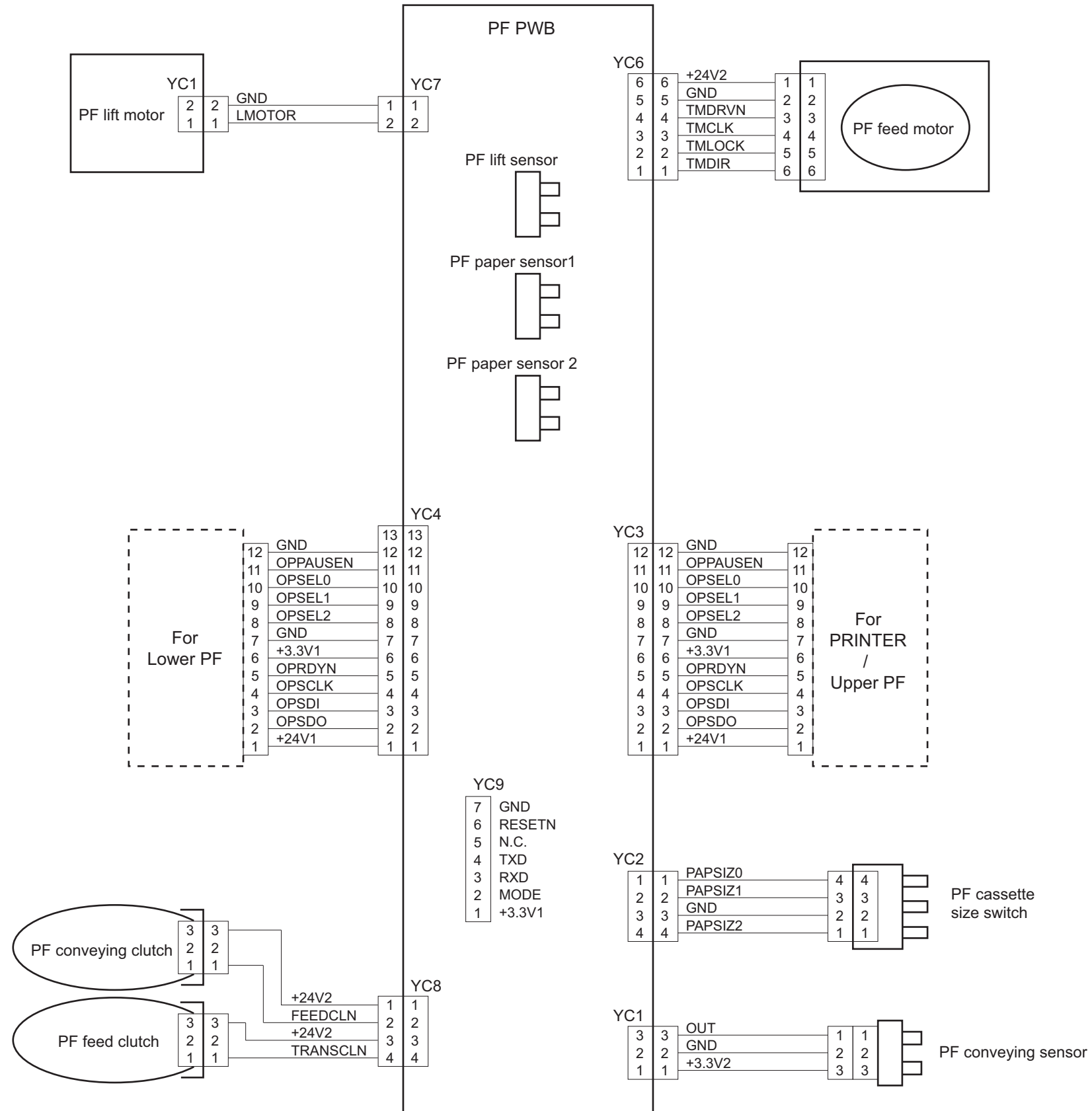








9 - 7 Wiring diagram (PF-3110) (option)



9 - 8 Installation Guide

(1) PF-3110

PF-3110

(Paper feeder)

Installation Guide

PF-3110



Installation Guide
Installationsanleitung
Guide d'installation

Guida all'installazione 安装手册
Guía de instalación 설치안내서
 インストールガイド

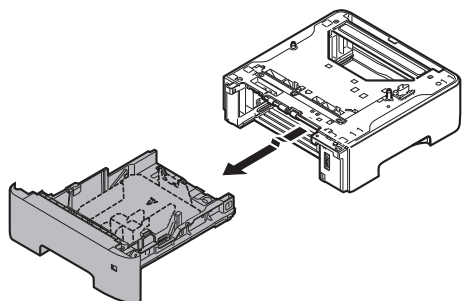
For Canada:
CAN ICES-3B/NMB-3B

Installation of PF-3110
Installation von PF-3110
Installation de PF-3110

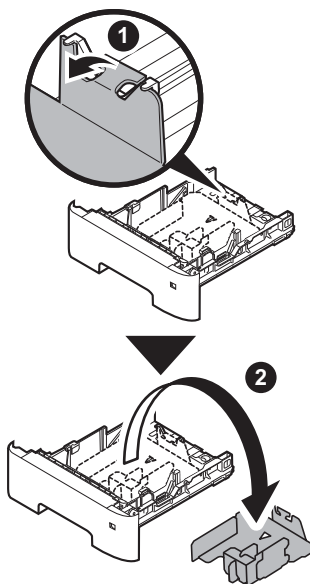
Installazione di PF-3110
Instalación de PF-3110

PF-3110 的安装
PF-3110 설치
PF-3110の設置

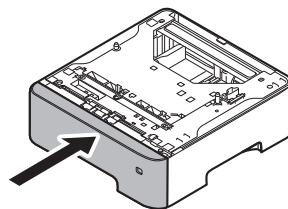
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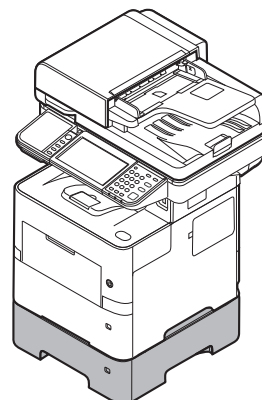
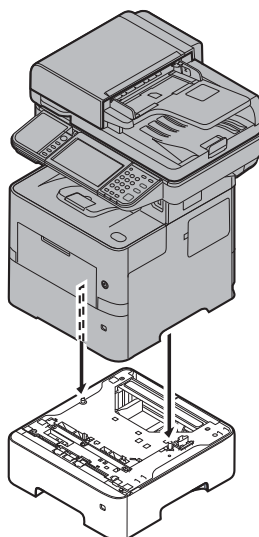
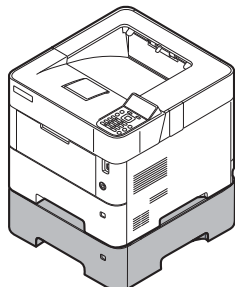
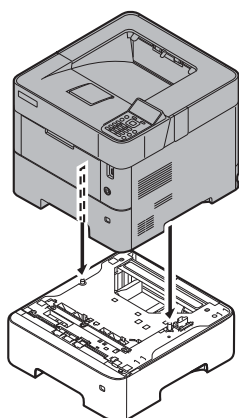
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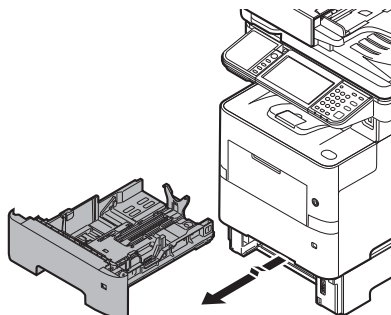
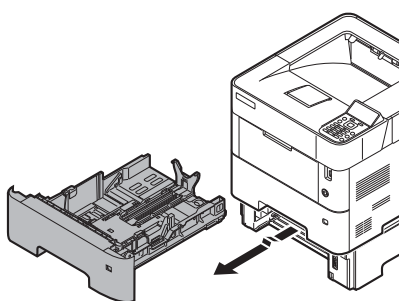


Adjustment of paper size
 Justage des Papierformats
 Ajustement de format papier

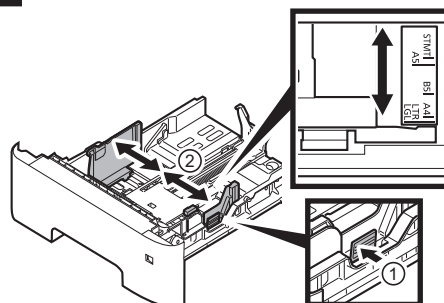
Registrazione del formato carta
 Ajuste del tamaño del papel

纸张大小的调整
 용지 크기의 조정
 用紙サイズの調整

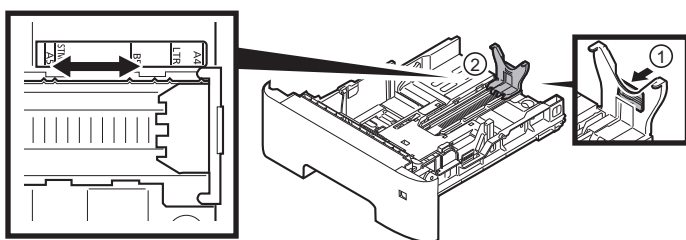
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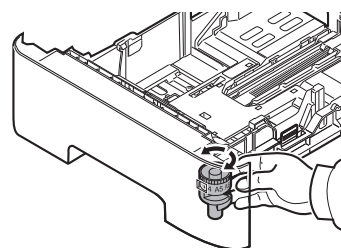
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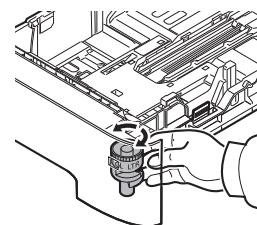
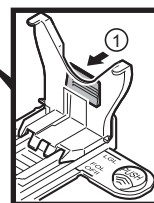
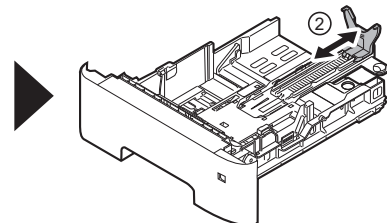
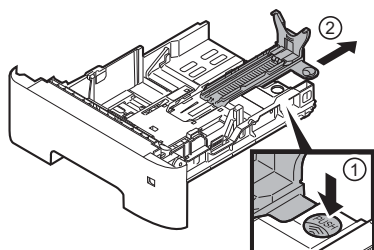
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4



(For Legal/Folio/OficioII)

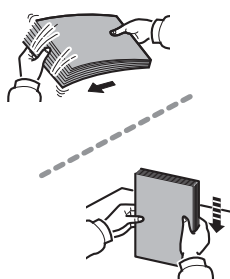


Loading paper
 Ladenpapier
 Papier de chargement

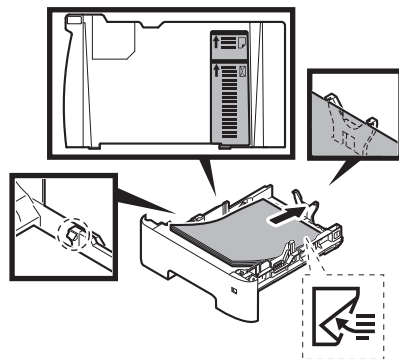
Carta da caricamento
 Papel del cargamento

装紙
 용지 적재
 用紙のセット

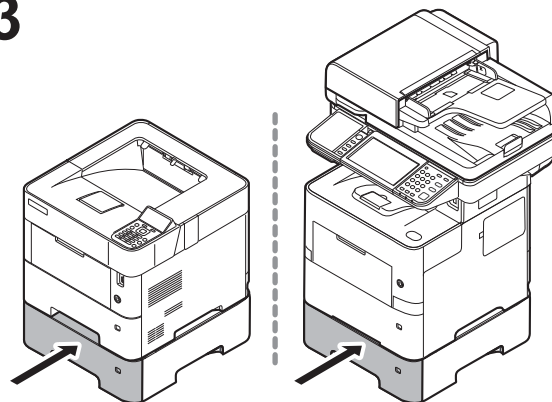
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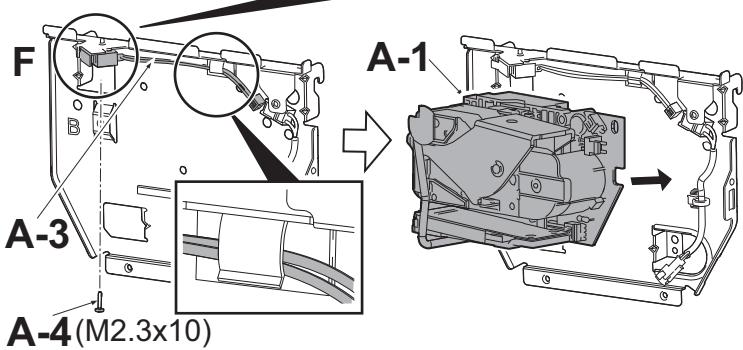
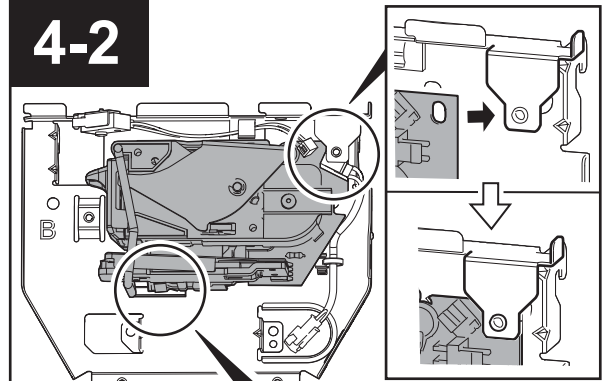
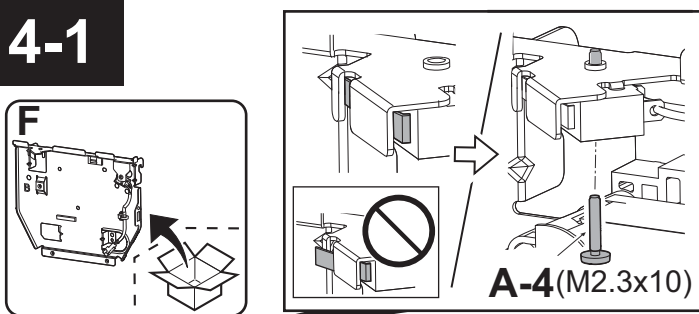
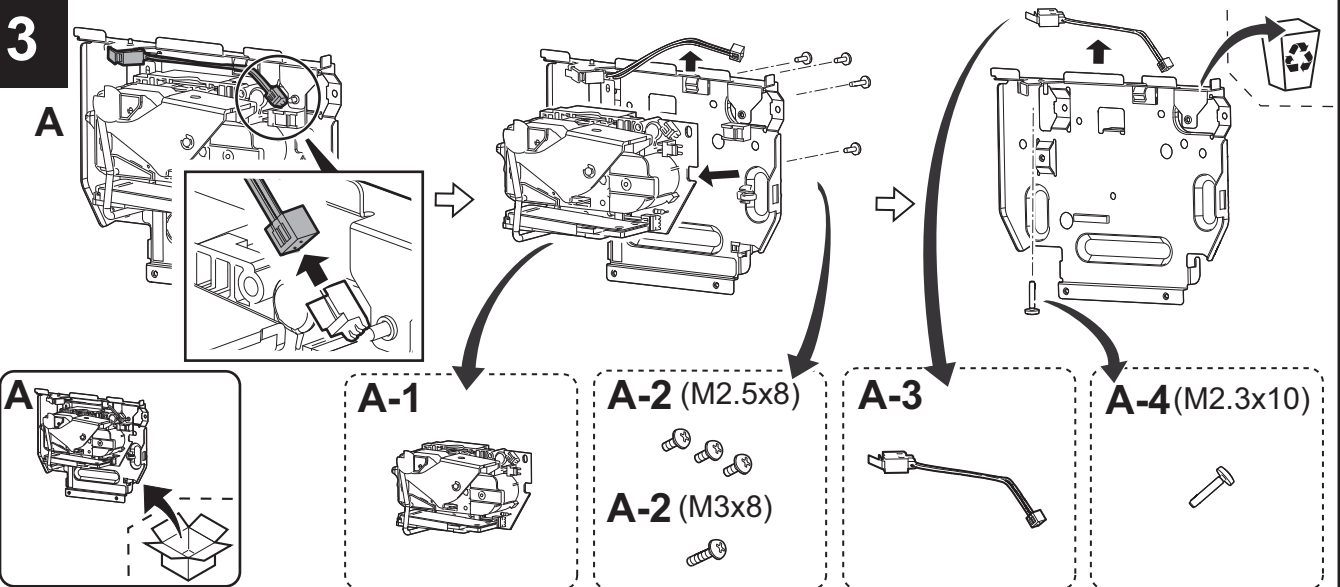
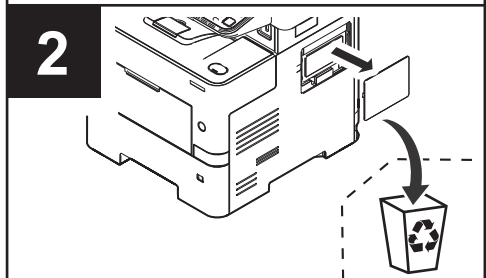
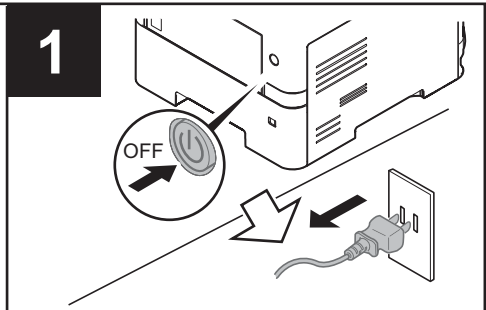
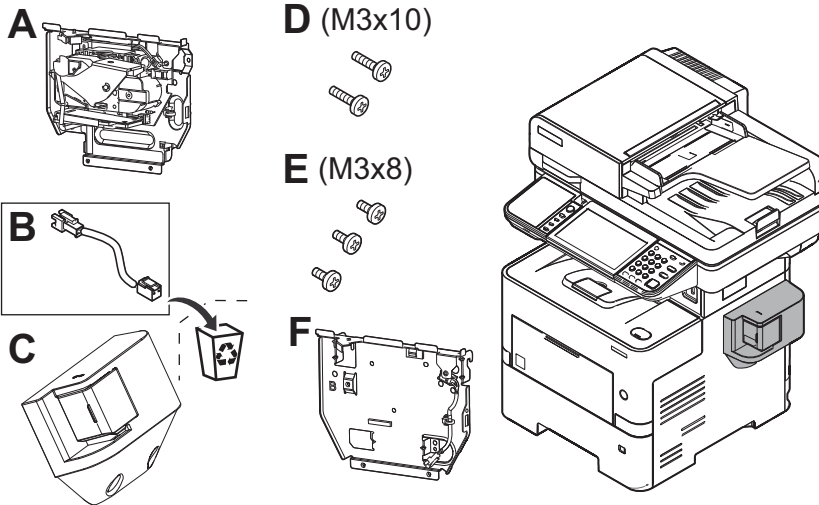
(2) MS-5100B

MS-5100B

(Manual Stapler)

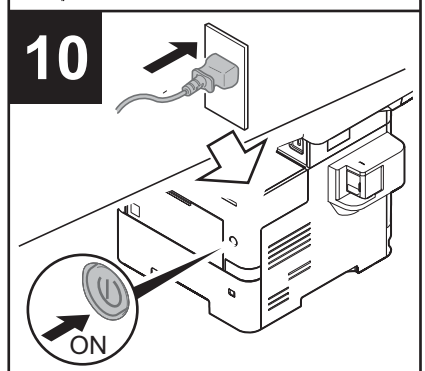
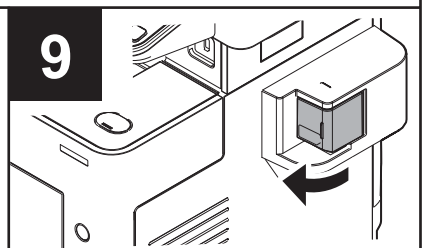
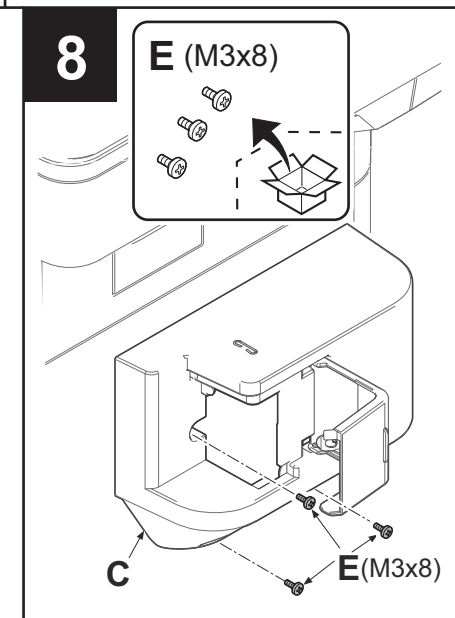
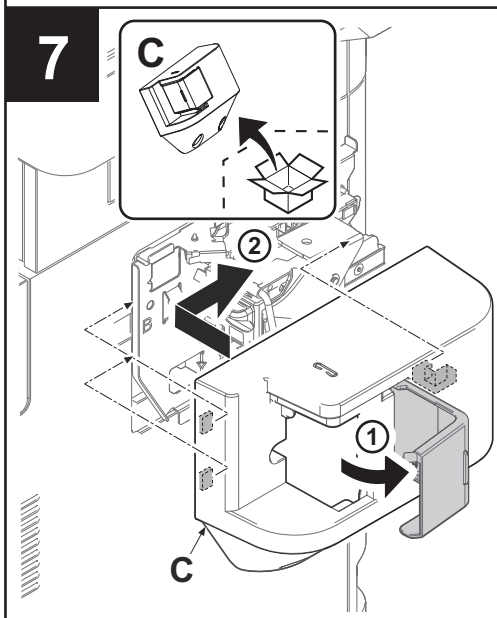
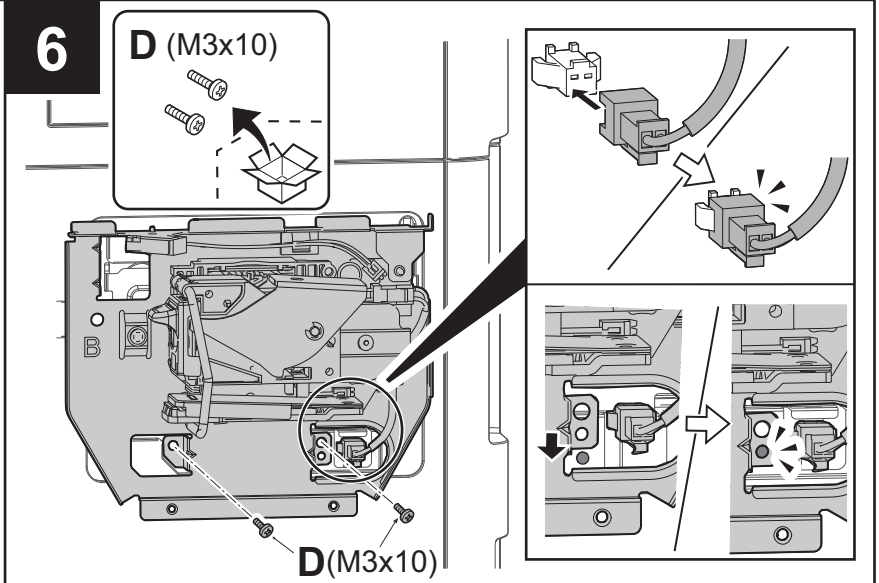
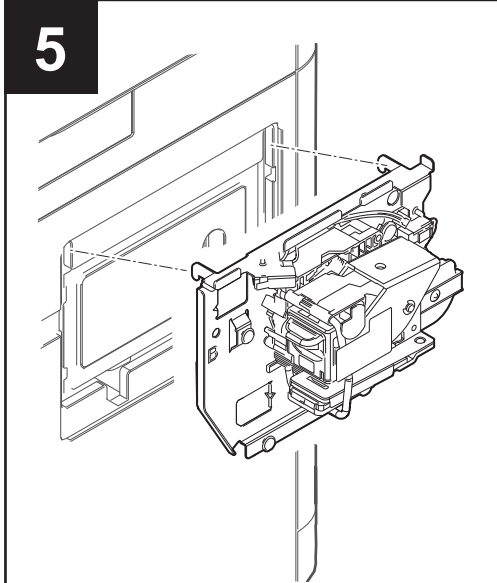
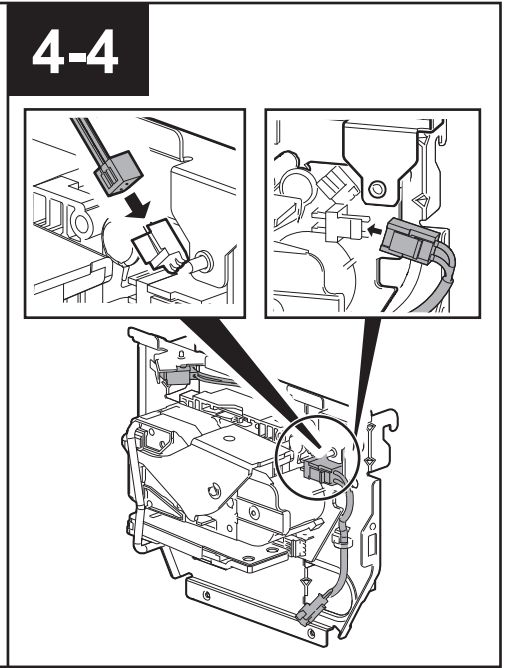
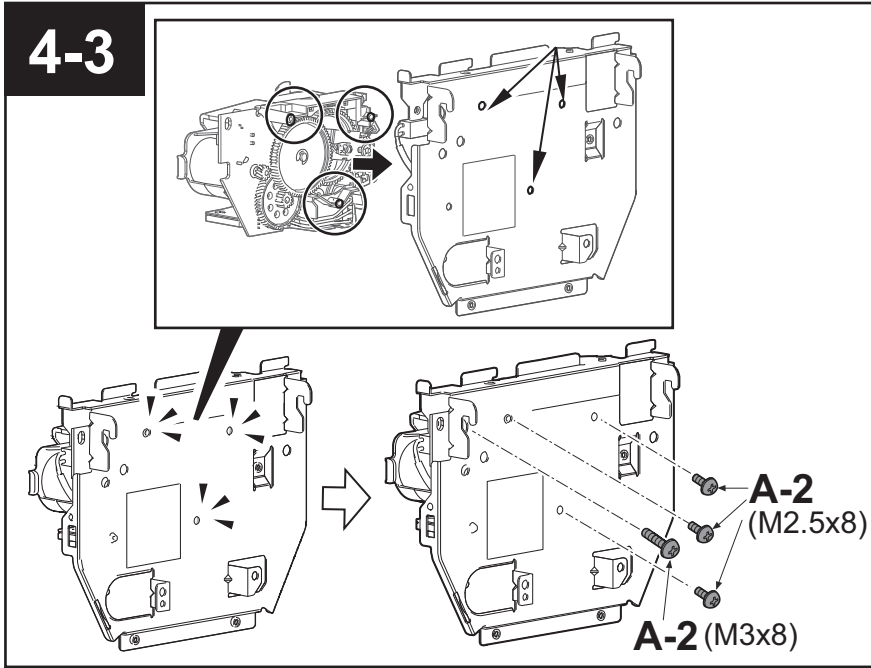
Installation guide

MS-5100B / MANUAL STAPLER



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<http://www.kyoceradocumentsolutions.com>