

# Service Manual

**ECOSYS PA6000x**

**ECOSYS PA5500x**

**ECOSYS PA5000x**

**ECOSYS PA4500x**

**CA-3100 / PB-325 / PF-3100 / PF-3110 / PT-320**



## CONFIDENTIAL

FOR AUTHORIZED KYOCERA ENGINEERS ONLY. DO NOT DISTRIBUTE TO NON-AUTHORIZED PARTIES.

## 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
ECOSYS PA6000x	60 ppm
ECOSYS PA5500x	55 ppm
ECOSYS PA5000x	50 ppm
ECOSYS PA4500x	45 ppm

## Revision history

Revision	Date	Pages	Revised contents
1.0	8/4/2022	-----	First edition release
2.0	10/5/2022	<a href="#">page 5-3</a>	Correction: Correct the wording (turn OFF --> turn ON)
		<a href="#">page 2-9</a>	Correction: Delete one sentence
		<a href="#">page 4-3</a>	Addition: Add the detail contents of the MK-kit
	10/17/2022	<a href="#">page 3-10</a> <a href="#">page 3-13</a> <a href="#">page 3-16</a> <a href="#">page 3-18</a>	Addition: Add the Part name table
		<a href="#">page 1-3</a>	Correction: Delete "Windows Server 2008/R2" (Operating System)
		<a href="#">page 1-7</a> <a href="#">page 2-11</a>	Correction: Correct the wording (Bottom plate --> Lift plate)
		<a href="#">page 9-10</a> <a href="#">page 9-12</a>	Correction of wiring diagram
		<a href="#">page 1-13</a>	Correction: Correct the wording (IC card reader --> Card reader)
		<a href="#">page 2-22</a> <a href="#">page 2-35</a>	Correction: Correct the wording (ID card reader --> Card reader)
		-----	Change of address on back cover
		-----	Second edition release



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# Safety precautions

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




## Safety warnings and precautions

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



-  **DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.
-  **WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.
-  **CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

## Symbols




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

 General warning.  Warning of risk of electric shock.  Warning of high temperature.

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



 General prohibited action.  Disassembly prohibited.

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






 General action required.  Remove the power plug from the wall outlet.  Always ground the machine.




## 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 machine 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 machine on an infirm or angled surface: the machine may tip over, causing injury. 
- Do not install the machine in a humid or dusty place. This may cause fire or electric shock. 
- Do not install the machine near a radiator, heater, other heat source or near flammable material. This may cause fire. 
- Allow sufficient space around the machine 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 machines so equipped. Failure to do this may cause the machine 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 machine's instruction handbook. 

## 2. Precautions for Maintenance

### WARNING

- Do not use spray cleaners for our product when cleaning. There is a danger of explosion because some spray cleaners contain flammable gas. 
- 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 machine 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. 
- When performing maintenance while the power is on, do not open the lid of the LSU unit or look into the laser opening of a machine that uses laser light. There is a risk of blindness due to laser light leakage. 
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. 
- Handle the power supply carefully. There is a risk of electric shock. 

**⚠ 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. 
- Be extremely careful when performing maintenance procedures. Do not touch the frame or other hot parts to avoid injuring fingers and arms. 
- Use utmost caution when working on a powered machine. Keep away from gears 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 machine 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. 
- When replacing the charger part, be sure to attach the charger part and the peripheral part. It may cause a high voltage leak. 
- 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 machine, 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)Machine

Item		Description			
		45 ppm	50 ppm	55 ppm	60 ppm
Type		Desktop			
Printing Method		Electrophotography by semiconductor laser			
Paper Weight	Cassette	60 to 120 g/m <sup>2</sup>			
	Multi Purpose Tray	60 to 220 g/m <sup>2</sup>			
Paper Type	Cassette	Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, High Quality, Custom			
	Multi Purpose Tray	Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, High Quality, Transparency (OHP film), Labels, Vellum, Envelope, Card stock, Thick, Custom			
Paper Size	Cassette	A4, A5, B5, Letter, Legal, Folio, 216×340 mm, Statement, Executive, Oficio II, 16K, B5(ISO), Envelope C5, A6 <sup>*2</sup> , B6 <sup>*2</sup> , Envelope DL <sup>*2</sup> , Oufuku Hagaki (Return postcard) <sup>*2</sup> , Custom (140 × 210 to 216 × 356 mm) <sup>*1</sup> Custom (105 × 148 to 216 × 356 mm) <sup>*2</sup>			
	Multi Purpose Tray	A4, A5, B5, Letter, Legal, Folio, 216×340 mm, Statement, Executive, Oficio II, 16K, B5(ISO), Envelope C5, A6, B6, Envelope DL, Oufuku Hagaki (Return postcard), Envelope Monarch, Envelope #10 Envelope #9, Envelope #6-3/4, Hagaki (Cardstock), Nagagata 3, Nagagata 4, Yonaga 3, Youkei 2, Youkei 4, Custom (70 × 140 to 216 × 356 mm), Banner sheet (216 × 356 to 216 × 915 mm)			
Warm-up Time (22°C/ 71.6°F, 60%)	Power on	16 seconds or less	20 seconds or less	25 seconds or less	25 seconds or less
	Sleep	15 seconds or less	20 seconds or less	25 seconds or less	25 seconds or less
Paper Capacity	Cassette	500 sheets (80 g/m <sup>2</sup> ) <sup>*3</sup>			
	Multi Purpose Tray	100 sheets (80 g/m <sup>2</sup> )			
Output Tray Capacity	Top tray	250 sheets (80 g/m <sup>2</sup> )	500 sheets (80 g/m <sup>2</sup> )		
	Face-up Rear Output Tray	-	250 sheets (80 g/m <sup>2</sup> )		
Photoconductor		a-Si drum (diameter 30 mm)			
Image write system		Semiconductor laser			
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, discharger needle (DC bias)			
Cleaning system		Counter blade cleaning + cleaning roller			
Charge erasing system		Exposure by cleaning lamp (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			

Item		Description			
		45 ppm	50 ppm	55 ppm	60 ppm
<b>Memory</b>		512 MB (On-Board) Maximum: 2.5GB (On-Board +2GB DIMM)			
<b>Interface</b>	<b>Standard</b>	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)			
	<b>Option</b>	eKUIO: 1			
<b>Operating Environment</b>	<b>Temperature</b>	10 to 32.5°C/50 to 90.5°F			
	<b>Humidity</b>	15 to 80%			
	<b>Altitude</b>	3,500 m/11,482 ft maximum			
	<b>Brightness</b>	1,500 lux maximum			
<b>Dimension (W × D × H)</b>		390 × 416 × 308 mm 15.35" × 16.38" × 12.13"	390 × 416 × 343 mm 15.35" × 16.38" × 13.50"	410 × 416 × 363 mm 16.14" × 16.38" × 14.29"	
<b>Weight (without toner container)</b>		Approx. 31.09 lb / 14.1 kg	Approx. 34.17 lb / 15.5 kg		
<b>Space Required (W × D) (Using multi purpose tray)</b>		390 × 606 mm 15.35" × 23.86"			410 × 606 mm 16.14" × 23.86"
<b>Power Source</b>	<b>AC120V,60Hz</b>	10.0 A			
	<b>AC220-240V, 50Hz</b>	5.6 A			

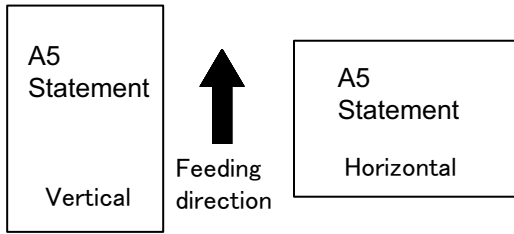
\*1: 45 ppm model

\*2: 50/55/60 ppm model

\*3: Up to upper limit height line in the cassette.

**(2)Printer Functions**

- Relation for feeding direction of A5 size or Statement size and indication is shown by below figure.



Item		Description		
Printing Speed			simplex	duplex
	45 ppm model	A4	45 sheets/min	22.5 sheets/min
		Letter	47 sheets/min	23.5 sheets/min
		Legal	38 sheets/min	19 sheets/min
		B5	36 sheets/min	18 sheets/min
		A5 (Vertical)	23 sheets/min	11.5 sheets/min
		Statement	23 sheets/min	11.5 sheets/min
	50 ppm model	A4	50 sheets/min	35.5 sheets/min
		Letter	52 sheets/min	36.5 sheets/min
		Legal	42 sheets/min	21 sheets/min
		B5	40 sheets/min	28 sheets/min
		A5 (Horizontal)	74 sheets/min	-
		A5 (Vertical)	27 sheets/min	19 sheets/min
		Statement (Horizontal)	76 sheets/min	-
		Statement (Vertical)	27 sheets/min	19 sheets/min
		A6	27 sheets/min	-
	55 ppm model	A4	55 sheets/min	39.5 sheets/min
		Letter	57 sheets/min	40.5 sheets/min
		Legal	46 sheets/min	23 sheets/min
		B5	44 sheets/min	31 sheets/min
	A5 (Horizontal)	82 sheets/min	-	
	A5 (Vertical)	29 sheets/min	20 sheets/min	
	Statement (Horizontal)	84 sheets/min	-	
	Statement (Vertical)	29 sheets/min	20 sheets/min	
	A6	29 sheets/min	-	
60 ppm model	A4	60 sheets/min	43 sheets/min	
	Letter	62 sheets/min	44 sheets/min	
	Legal	50 sheets/min	25 sheets/min	
	B5	48 sheets/min	34 sheets/min	



Item		Description		
		A5 (Horizontal)	90 sheets/min	-
		A5 (Vertical)	32 sheets/min	23 sheets/min
		Statement (Horizontal)	92 sheets/min	-
		Statement (Vertical)	32 sheets/min	23 sheets/min
		A6	32 sheets/min	-
<b>First Print Time (A4, feed from Cassette)</b>	<b>45 ppm model</b>	5.3 seconds or less		
	<b>50 ppm model</b>	5.4 seconds or less		
	<b>55 ppm model</b>	4.5 seconds or less		
	<b>60 ppm model</b>	4.5 seconds or less		
<b>Resolution</b>		Fast1200,Fine1200,600 dpi, 300 dpi		
<b>Operating System</b>		Windows 11, Windows 8.1, Windows 10, Windows Server 2012/R2, Windows Server 2016, Windows Server 2019, Mac OS 10.9 or later		
<b>Interface</b>		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-37/IB38 mounting)		
<b>Page Description Language</b>		PRESCRIBE		
<b>Emulations</b>		PCL6 (PCL-XL, PCL5c) URF, PWG Raster, PCLm, KPDL3, XPS, Open XPS, TIFF/JPEG, IBM Proprinter, EPSON LQ-850, LinePrinter,PDF		

**(3)Enhancements****(3-1)Paper Feeder (500-sheet) (PF-3110)**

Item	Description
Paper Supply Method	Friction roller feeder
Paper Size	A4, A5, B5, B6, Folio, Letter, Legal, Statement, Executive, Oficio II, 216 × 340 mm, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6-3/4, Envelope Monarch, Envelope DL, Envelope C5, Oufuku Hagaki (Return postcard), Nagagata 3, Yonaga 3, Youkei 2, Youkei 4, Custom (92 × 162 to 216 × 356 mm)
Paper capacity	500 sheets (80 g/m <sup>2</sup> )×1: Maximum: 4
Supported Paper	Paper weight: 60 to 120 g/m <sup>2</sup> Media types: Plain, Rough, Recycled, Preprinted, Bond, Color, Prepunched, Letterhead, Letter, High Quality, Custom 1 to 8
Dimensions (W) × (D) × (H)	14.97" × 16.16" × 4.77" 380 × 410 × 121 mm
Weight	8.4 lbs. / 3.8 kg or less
Power supply	From the machine

**(3-2)Large capacity Paper Feeder (2000-sheet) (PF-3100)**

Item	Description
Paper Size	Envelope Monarch, Envelope #10, Envelope DL, Envelope C5, Executive, Letter, A4, B5, A5, A6, B6, Envelope #9, Envelope #6-3/4, ISO B5, Custom, Hagaki, Oufuku Hagaki, 16K, Statement, Nagagata 3, Nagagata 4, Yonaga 3, Youkei 2, Youkei 4
Supported Paper	Plain, Transparency, Preprinted, Labels, Bond, Recycled, Vellum, Rough, Letterhead, Color, Prepunched, Envelope, Cardstock, Thick, High Quality, and CUSTOM 1 (to 8)
Paper capacity	2,000 sheets (75 g/m <sup>2</sup> )×1
Dimensions (W) × (D) × (H)	13 37 / 64" × 13 17 / 32" × 14 39 / 64" 345 × 420 × 371 mm
Weight	7.5 kg or less (16.54 lbs or less)
Power supply	From the machine

**(3-3)Dedicated stand for mounting PF-3100 (PB-325)**

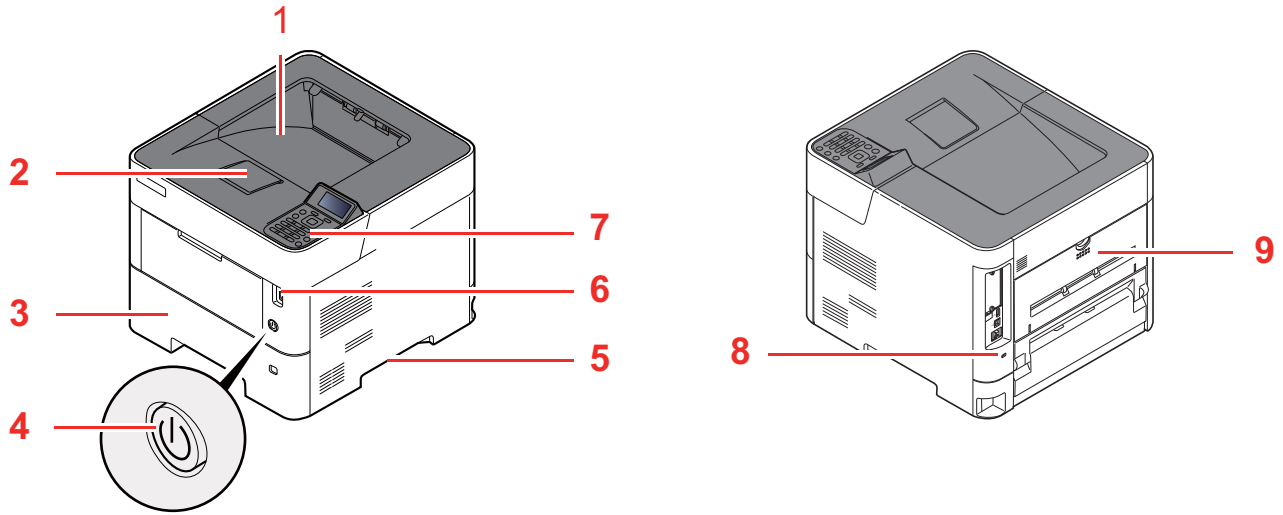
Item	Description
Dimensions (W) × (D) × (H)	380 × 706 × 184 mm
Weight	6.5 kg / 14.3 lbs or less

**NOTE**

Specifications are subject to change without notice to improve performance.

## 1 - 2 Parts names

### (1) Machine Exterior



1 Top Tray

2 Paper Stopper

3 Cassette 1

4 Power Switch

5 Handles

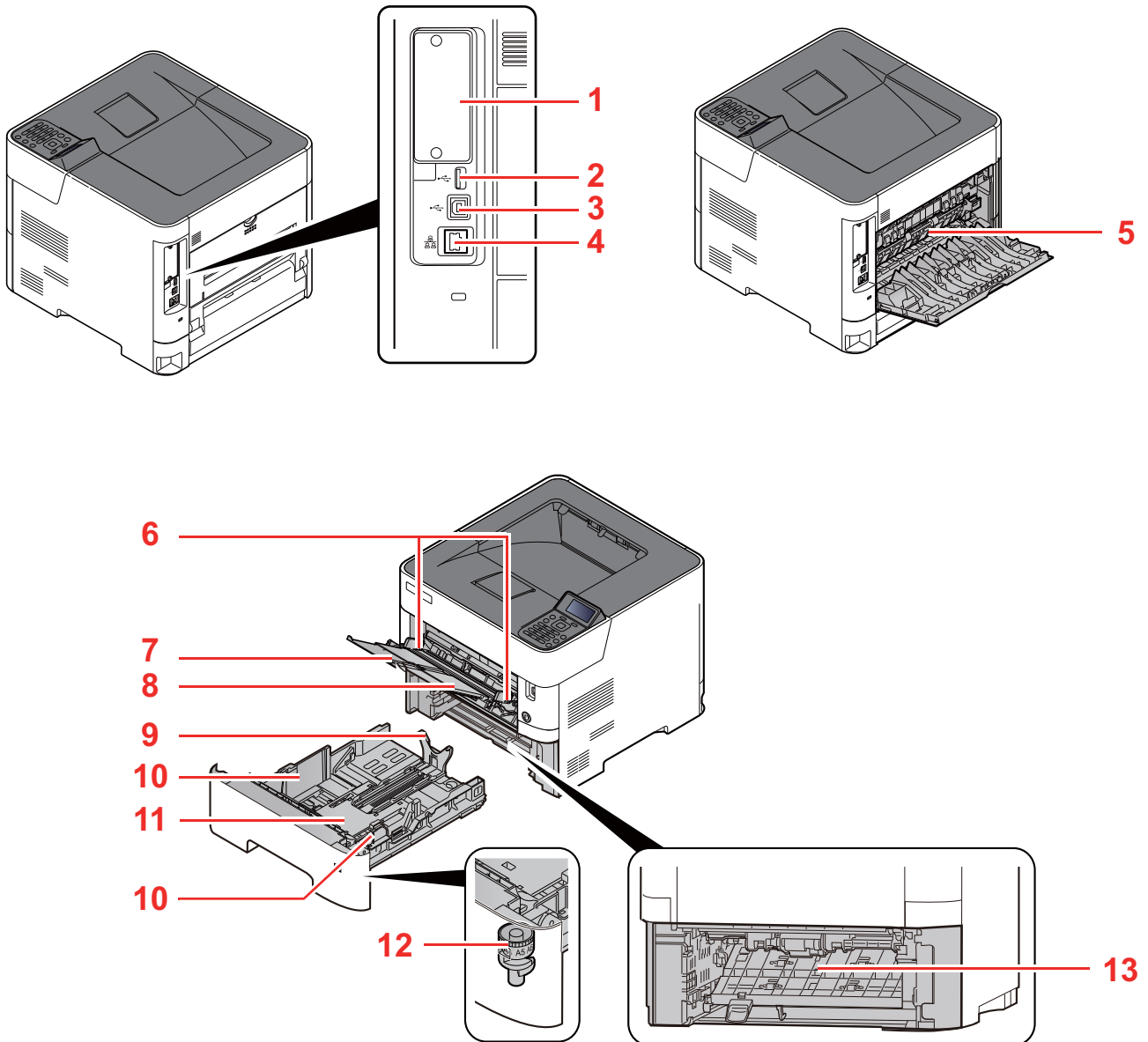
6 USB Drive Slot

7 Operation Panel

8 Anti-theft Lock Slot

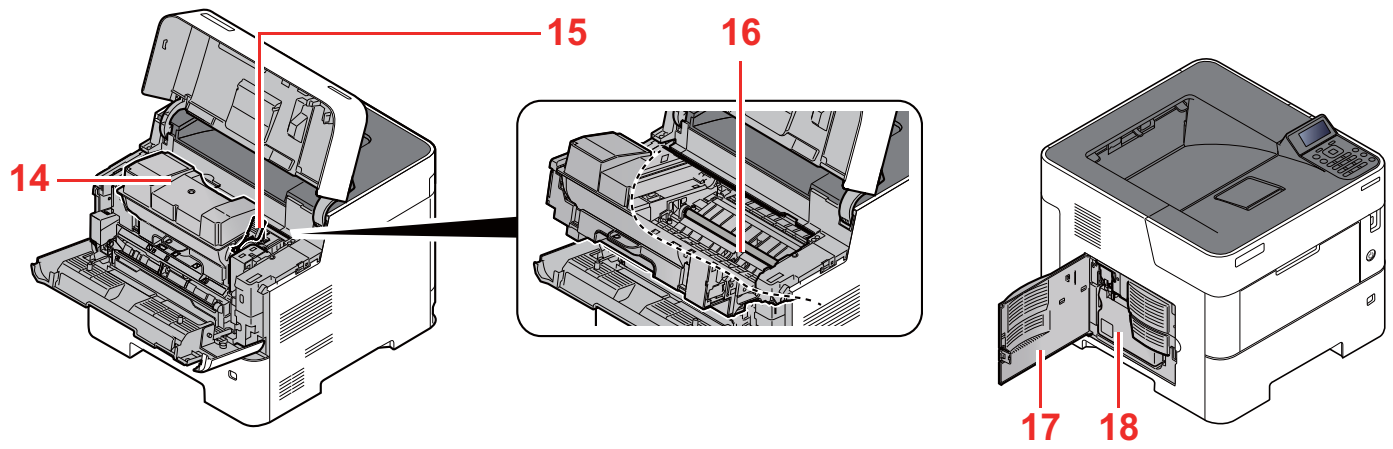
9 Rear Cover

**(2)Connectors/Interior**



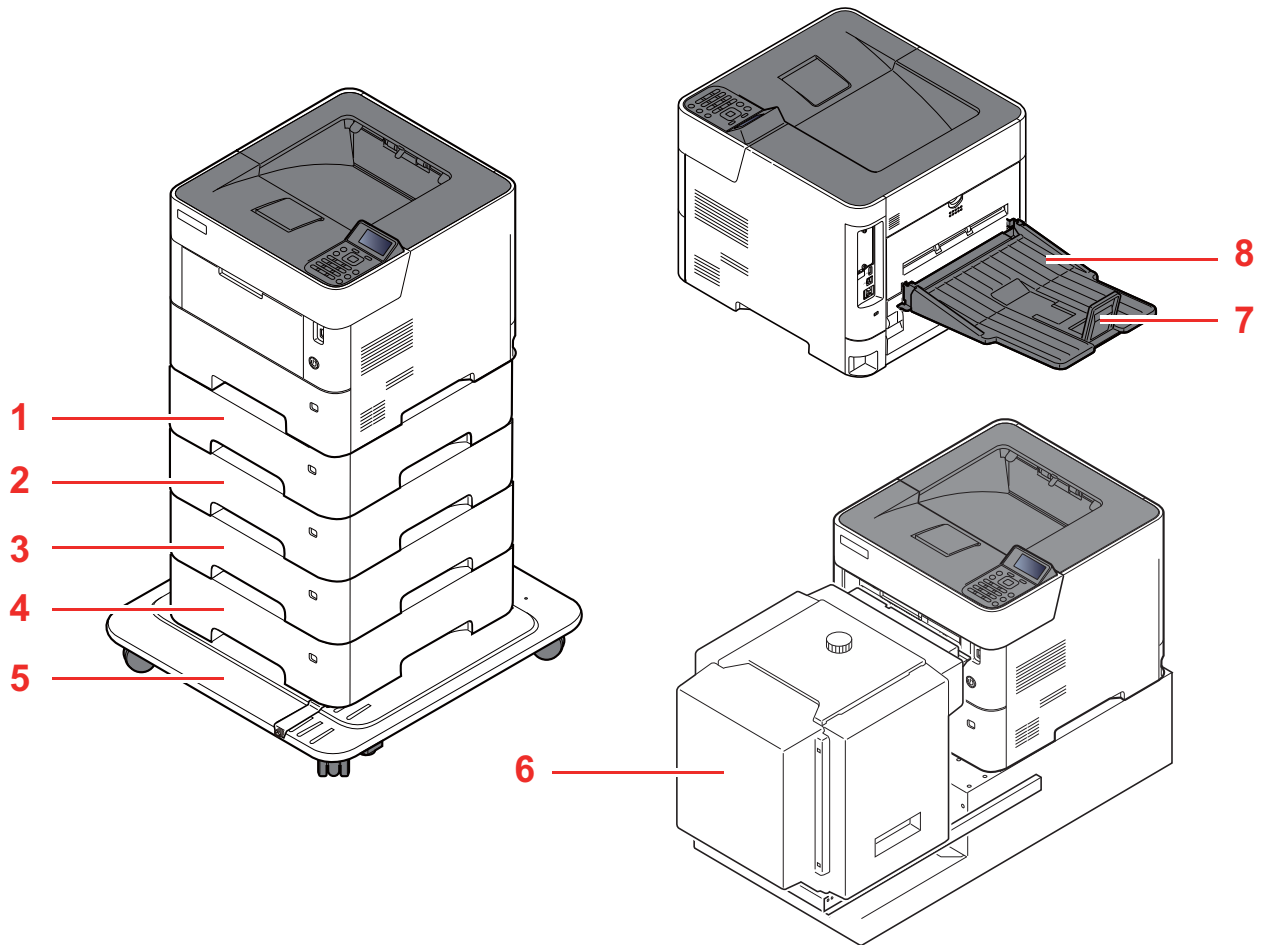
- 1 Option Interface
- 2 USB Port
- 3 USB Interface Connector
- 4 Network Interface Connector
- 5 Fuser Cover
- 6 Paper Width Guides
- 7 Tray Extension

- 8 Multi Purpose Tray (MP Tray)
- 9 Paper Length Guide
- 10 Paper Width Guides
- 11 Lift plate
- 12 Size Dial
- 13 Duplex Cover



- 14 Toner Container
- 15 Toner Container Lock Lever
- 16 Registration Roller


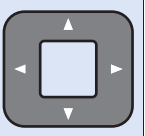


- 17 Waste Toner Box cover
- 18 Waste Toner Box

**(3)With Optional Equipments Attached**

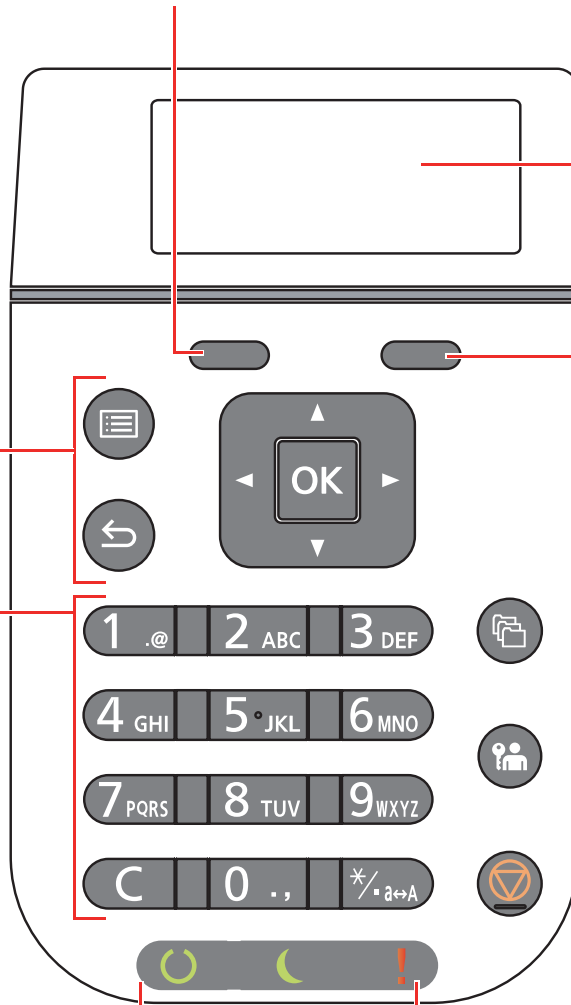
- 1 Cassette 2
- 2 Cassette 3
- 3 Cassette 4
- 4 Cassette 5

- 5 Caster kit
- 6 Large capacity Paper Feeder, (Dedicated stand for mounting PF-3100)
- 7 Paper Stopper (50/55/60 ppm model only)
- 8 Face-up Rear Output Tray (50/55/60 ppm model only)

### (4)Operation Panel Keys





	Displays the Menu screen.
	Increments or decrements numbers, or selects menu in the message display. In addition, moves the cursor when entering the characters.
	Finalizes a function or menu, and numbers that have been entered.
	Returns to the previous display.




Select Key :  
Selects the menu displayed at the bottom of the message display.



Message display :  
Displays the setting menu and error messages.

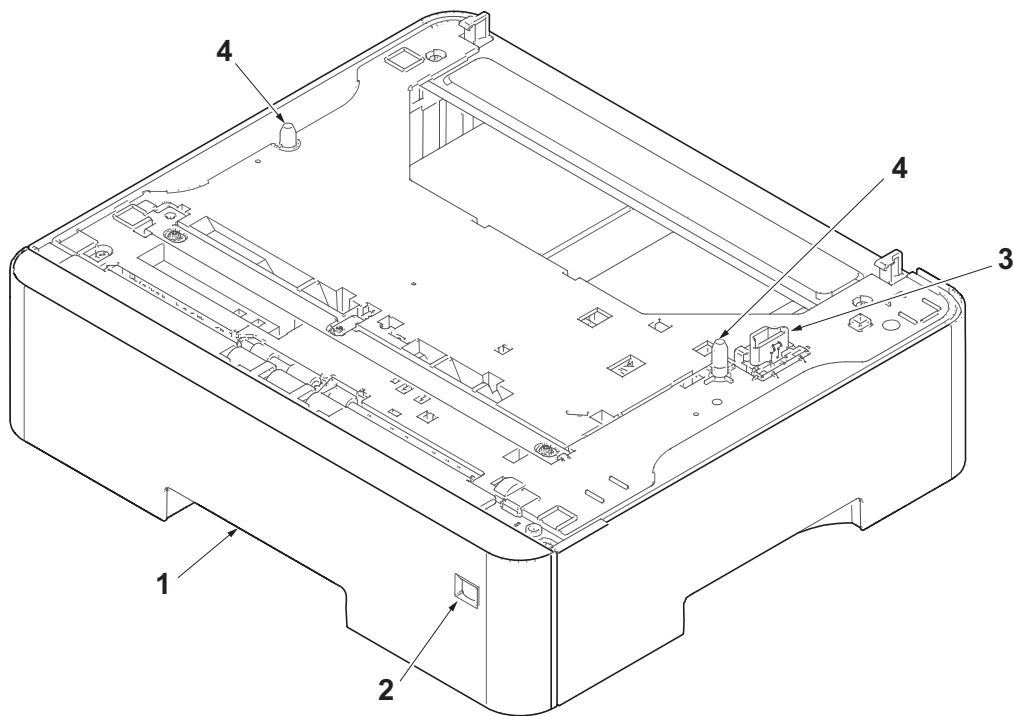
Select Key :  
Selects the menu displayed at the bottom of the message display.

	Numeric keys. Enter numbers and symbols.
	Displays the Document Box screen.
	Exits the operation for the current user (i.e. log out).
	Cancels or pauses the job in progress.

	Lights up in the print ready state. Blinks during print processing or when an error occurs.
	Lights up when the machine is in energy save mode.
	Lights or blinks when an error occurs and a job is stopped.

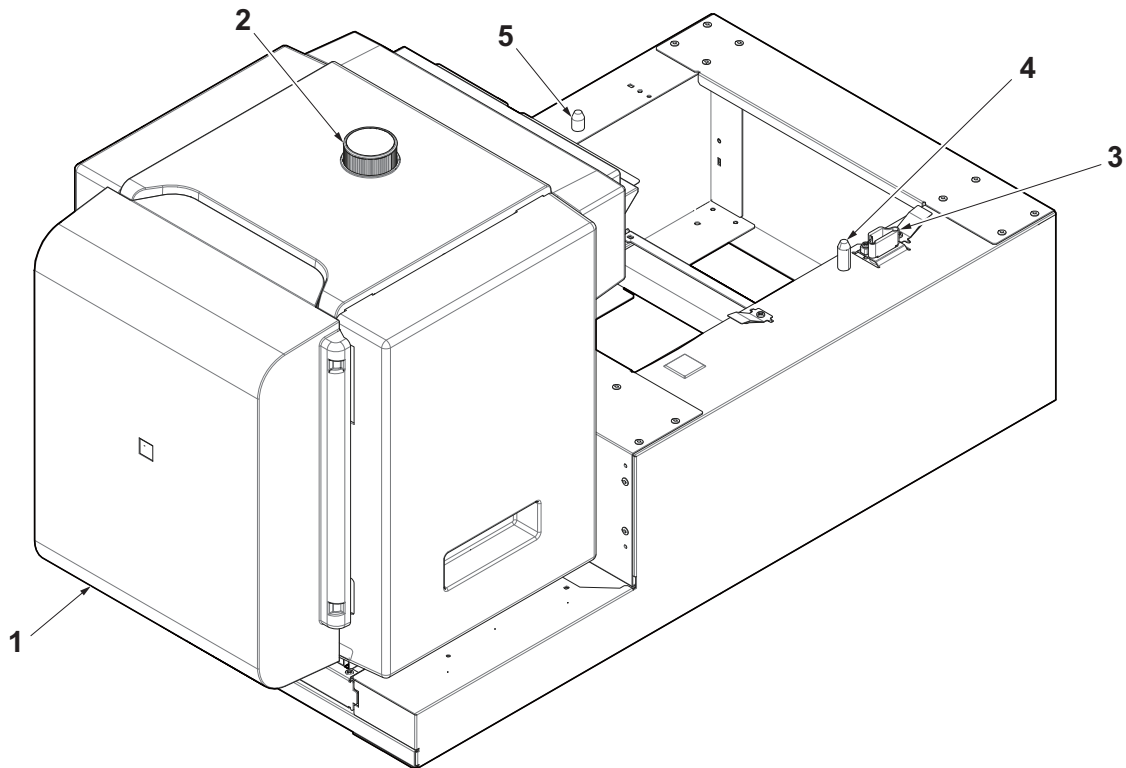
## 1 - 3 Parts names (Enhancements)

(1)PF-3110



- 1 Cassette
- 2 Paper size window
- 3 Interface connector
- 4 Pins

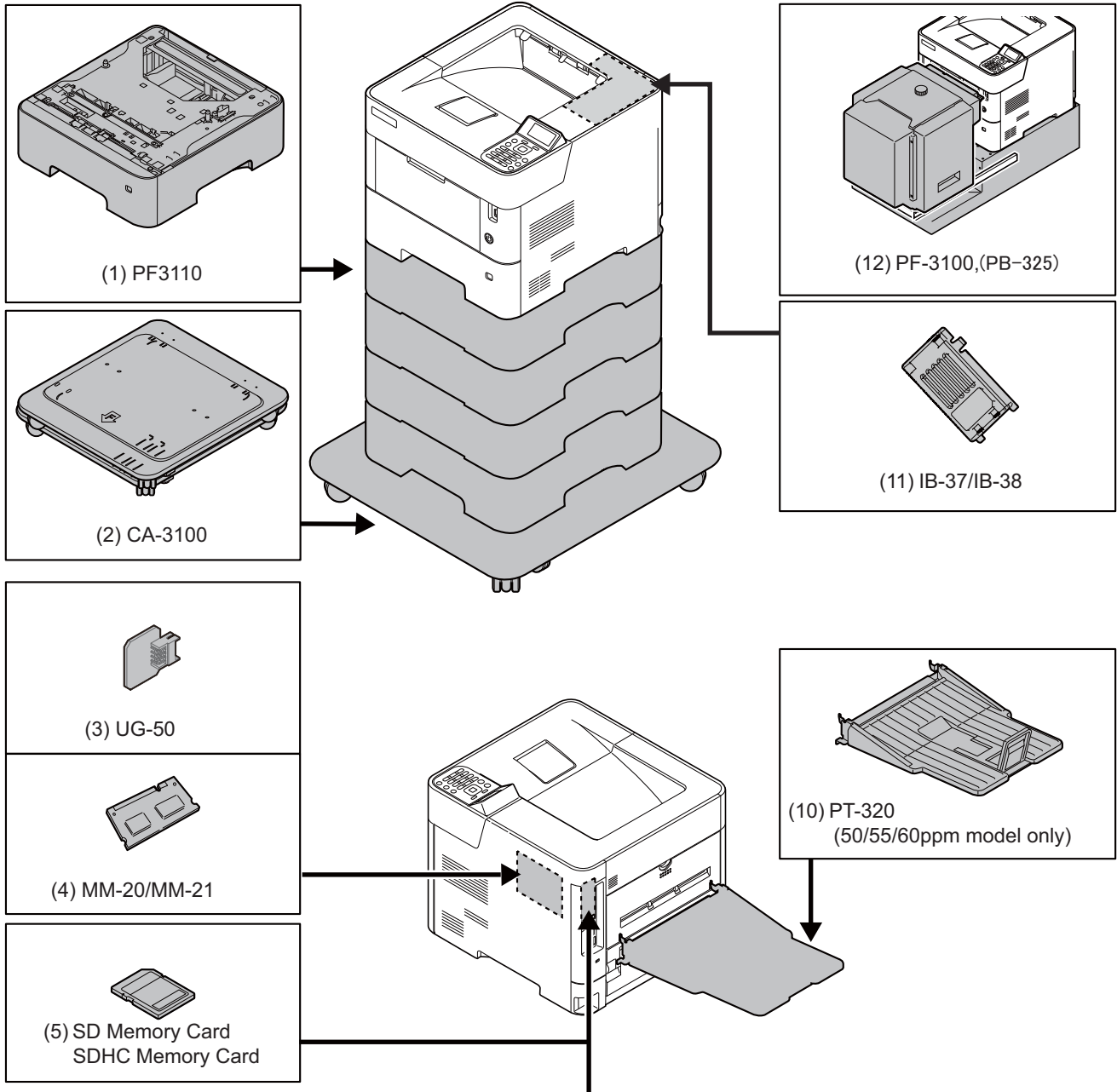


**(2)PF-3100**

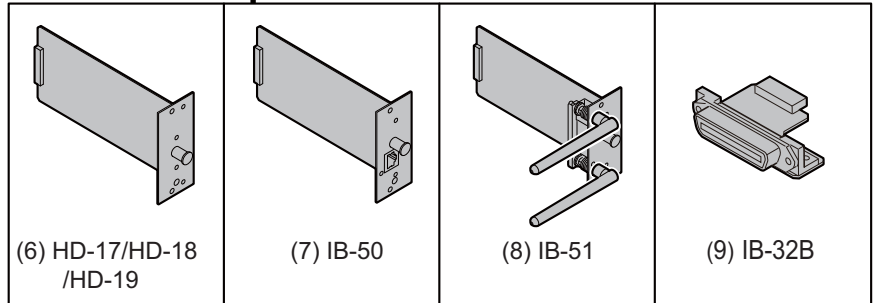
- 1 Tray cover
- 2 Paper adjuster knob
- 3 Interface connector
- 4 Pins
- 5 Pins

# 1 - 4 Overview of Optional Equipment

The following optional equipment is available for the machine.



Software option
(13) UG-33
(14) Card Authentication Kit(B) AC
(15) USB Keyboard
(16) Card reader



**(1)PF-3110 "Paper Feeder (500-sheets)"**

Up to four additional cassettes identical to the machine's cassettes can be installed in the machine. Loading method are the same as the standard cassettes.

**(2)CA-3100 "Caster Kit"**

If you are attaching Paper Feeder (500-sheet x1) to the printer and installing it on the floor, you can use the castor kit to maintain the machine's stability.

**(3)UG-50 "Trusted Platform Module"**

With this option installed in the machine, confidential information can be safely protected. The encryption key used to encrypt confidential information on this machine is stored in a dedicated storage area on the TPM chip. Since this storage area cannot be read from outside the TPM, confidential information can be safely protected. Once you have installed this option, the hard disk cannot be used without this option.

**(4)MM-20/MM-21 "Expansion Memory"**

The machine can perform the more multiple jobs simultaneously by adding more memories. Refer to the specifications for the maximum memory capacity after adding optional extended memory.

**(5)SD/SDHC Memory Card**

An SD/SDHC memory card is useful for storing fonts, macros, and overlays. The machine is equipped with a slot for an SDHC memory card with a maximum size of 32 GB, and an SD memory card with a maximum size of 2 GB.

Reading the SD/SDHC Memory Card.

**(6)HD-17/HD-18/HD-19 "SSD"**

With SSD installed in the machine, received data can be rasterized and stored on this SSD. This enables high-speed printing of multiple copies using an electric sort function. Also, you can use the Document Box functions.

**(7)IB-50 "Network Interface Kit"**

The Network Interface Kit provides a high-speed connection for the Gigabit-per-second interface. Settings are possible for a variety of OS and network protocols.

**(8)IB-51 "Wireless Network Interface Kit"**

This is a wireless LAN interface card which supports the wireless LAN specifications IEEE802.11n (Max 300 Mbps) and 11 g/b. With the utilities supplied, settings are possible for a variety of OS and network protocols.

**(9)IB-32B "Parallel Interface Kit"**

The parallel interface kit supports communications speeds up to 2 Mbps. Use a parallel printer cable when this option is used.

**(10)PT-320 "Face-Up Rear Output Tray" (50/55/60 ppm model only)**

Use the face-up output tray when you wish paper to be stacked with the printed side facing up (reverse order).

**(11)IB-37/IB-38 "Wireless Network Interface Kit"**

These are wireless LAN Interface cards which support the following wireless LAN specifications.

IB-37: IEEE802.11 a/b/g/n/ac; IB-38: IEEE802.11 b/g/n

In addition, network printing is possible without using the wireless LAN router because Wi-Fi Direct is supported.

**(12)PF-3100 "Large Capacity Paper Feeder (2000-sheets)"**

Holds approximately 2,000 sheets of 76 to 216 mm × 148 to 305 mm size paper. This Large Capacity Paper Feeder can be attached to the front of the printer after the MP tray has been removed. PB-325 is necessary when installing PF-3100.

**(13)UG-33 "ThinPrint Option"**

This application allows print data to be printed directly without a print driver.

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**(14)Card Authentication Kit (B) AC "Card Authentication Kit"**

User login administration can be performed using ID cards. To do so, it is necessary to register ID card information on the previously registered local user list.

**(15)USB Keyboard "USB Keyboard"**

A USB keyboard can be used to enter information into the text fields on the operation panel. A special mount is also available to install the keyboard on the machine. Please contact your dealer or service representative for information on keyboards that are compatible with your machine before you purchase one.

**(16)Card reader**

Purchase a compatible commercial card reader. Please contact your dealer or service representative for information on card reader that are compatible with your machine before you purchase one.

## 2 Installation

### 2 - 1 Environment

#### Installation environment

1. Temperature: 50 to 90.5°F (10 to 32.5°C) (But humidity should be 70% or less when the temperature is 90.5°F (32.5°C).)
2. Humidity: 15 to 80% (But the temperature should be 86°F (30°C) or less when humidity is 80%.)
3. Power requirements:
 

		45 ppm	50/55/60 ppm
110V	60Hz	11.4 A or more	11.9 A or more
120V AC	60Hz	10 A or more	10 A or more
220 to 240V AC	50/60Hz	5.6 A or more	5.6 A or more
4. Frequency fluctuation: 50Hz+/-2% or 60Hz+/-2%

#### Installation location

The operative environmental conditions are as follows:

Adverse environmental conditions may affect the image quality. It is recommended to use the machine as follows:  
 Humidity: 36 to 65% Temperature: 60.8 to 80.6°F or less (16 to 27°C).

Avoid the following locations when selecting a site for the machine.

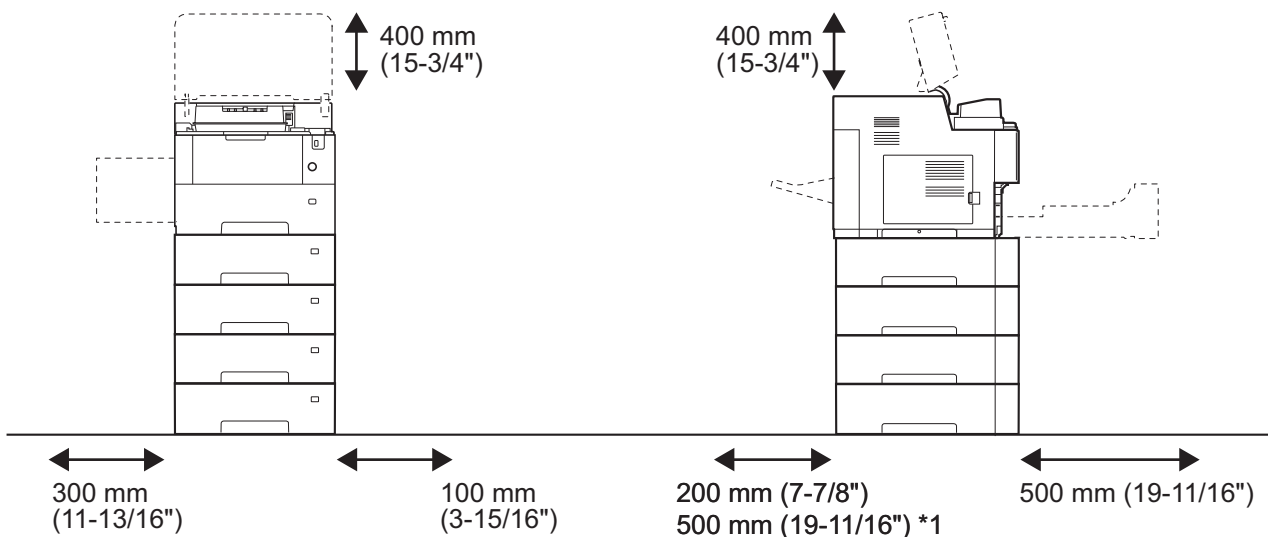
- Avoid locations near a window or with exposure to direct sunlight.
- Avoid locations with vibrations.
- Avoid locations with rapid temperature fluctuations.
- Avoid locations with direct exposure to hot or cold air.
- Avoid poorly ventilated locations.

If the floor is delicate, when this machine is moved after installation, the floor material may be damaged by the casters.

During operation, some ozone is released, but the amount does not cause any ill effect to one's health.

If, however, the machine is used over a long period of time in a poorly ventilated room or when making an extremely large number of copies, the smell may become unpleasant. To maintain the appropriate environment for copy work, it is suggested that the room be properly ventilated.

#### Installation space



\*1: The value when an optional Face-up Rear Output Tray (PT-320) is installed. (50/55/60 ppm model only)

## 2 - 2 Installing the main unit

### Installation procedures

[\(1\) Unpacking and checking bundled items \(45ppm/50ppm/55ppm/60ppm\) \(page 2-3\)](#)

[\(2\) Setup of a toner container \(page 2-5\)](#)

[\(3\) Installing the waste toner box \(page 2-7\)](#)

[\(4\) Connecting the cable \(page 2-8\)](#)

[\(5\) Loading Paper \(page 2-9\)](#)

[\(6\) Connecting the Power Cable \(page 2-13\)](#)

[\(7\) Power On \(page 2-13\)](#)

[\(8\) Default Setting \(page 2-14\)](#)

[\(9\) Setting altitude adjustment \(page 2-21\)](#)

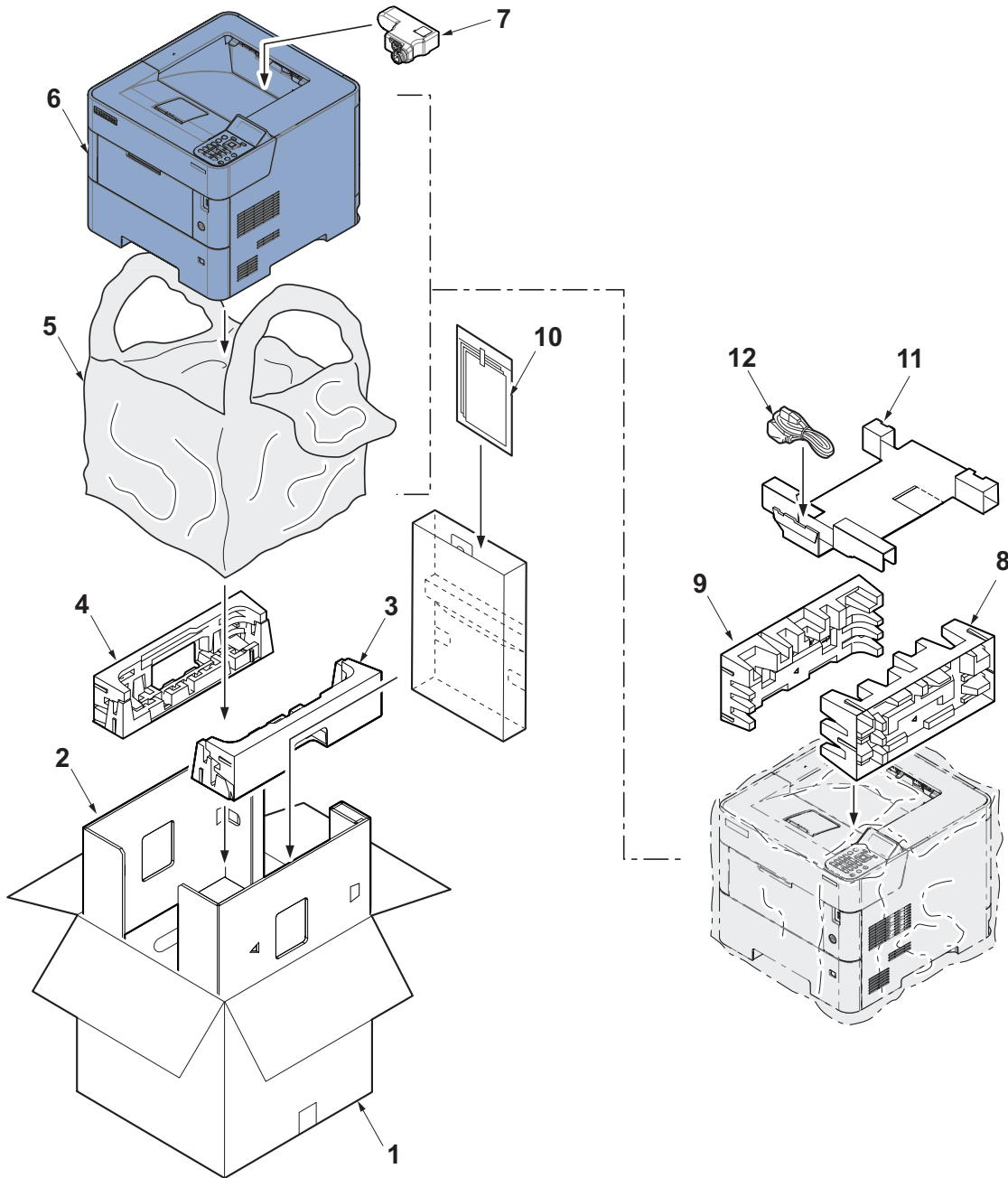
[\(10\) Printout the status page \(page 2-21\)](#)

[\(11\) Completion of the machine installation \(page 2-21\)](#)

### (1) Unpacking and checking bundled items (45ppm/50ppm/55ppm/60ppm)

Take out the main unit and accessories from the packing case.

Remove the tape and cushioning materials for packing from the main unit.



- |                |                   |                     |                       |
|----------------|-------------------|---------------------|-----------------------|
| 1 Outer case   | 4 Bottom pad L    | 7 Waste toner box*1 | 10 Safety guide, etc. |
| 2 Inner case   | 5 Main unit cover | 8 Upper pad R       | 11 Top tray pad       |
| 3 Bottom pad R | 6 Machine         | 9 Upper pad L       | 12 Power cord         |

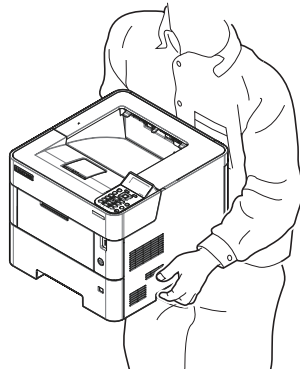
\*1: Waste toner box is on the top tray pad for 60ppm model.

**IMPORTANT**

Make sure to install the main unit on a level surface.

## Notes on main unit transportation

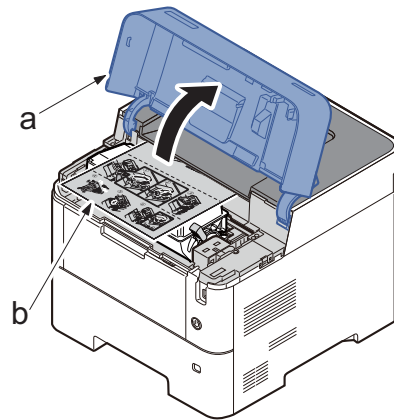
Be sure to hold the both side handles at the lower part of the machine when carrying it, as shown in the figure.





## (2) Setup of a toner container

- 1 Open the top cover (a) and pull the container label (b) toward you to remove it.

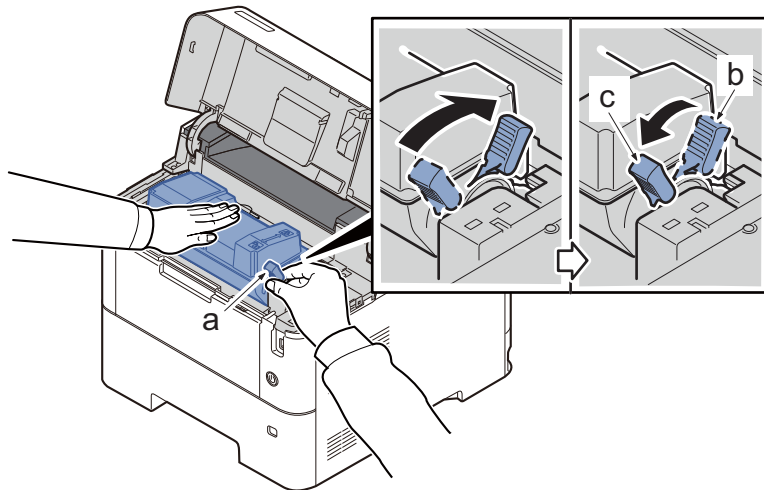


### CAUTION

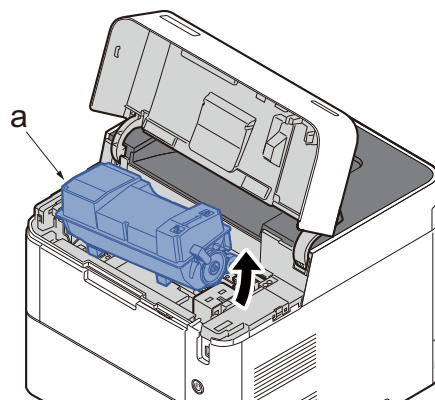
Check the contents of the container label and remove a container.

## 2 Detaching the toner container.

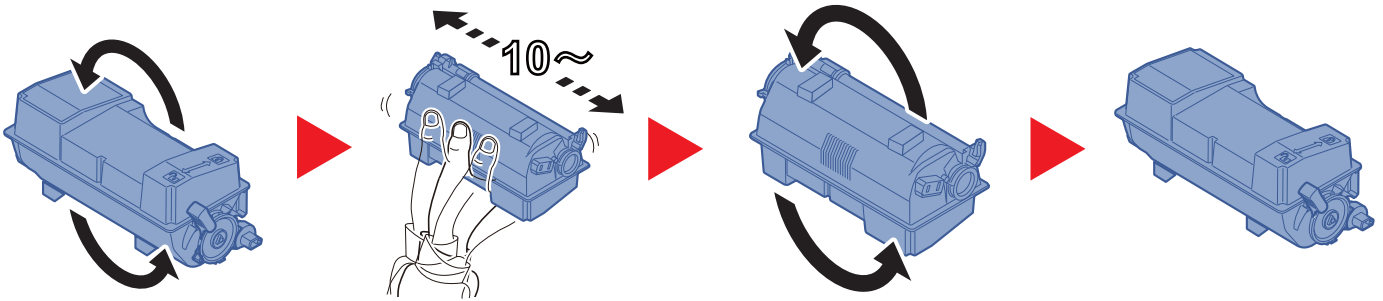
- 1 Rotate the toner container lock lever (a) to the lock position (b) and then back to the unlock position (c).



- 2 Remove the toner container (a) from the main unit.
  - Lift up the right side first to detach the toner container from the main unit.

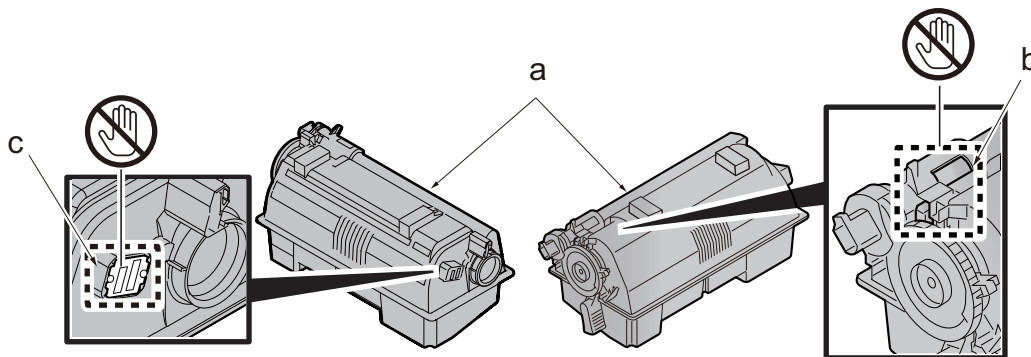


- 3** Shake the turned toner container 10 times or more as shown in the figure in order to distribute the toner evenly inside the container.

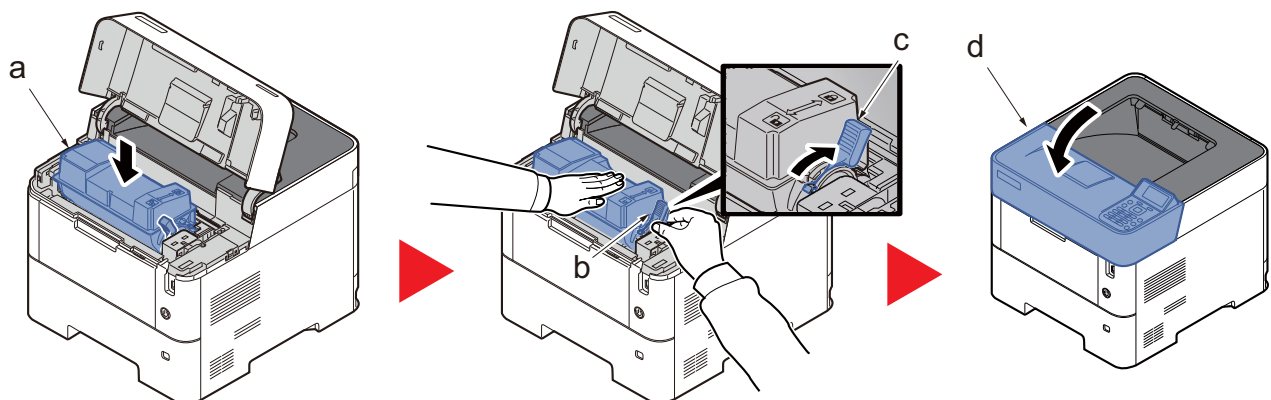


**✓ IMPORTANT**

Do not press too firmly on the center of the toner container (a) or touch the toner feed slot (b) or the terminal parts (c).

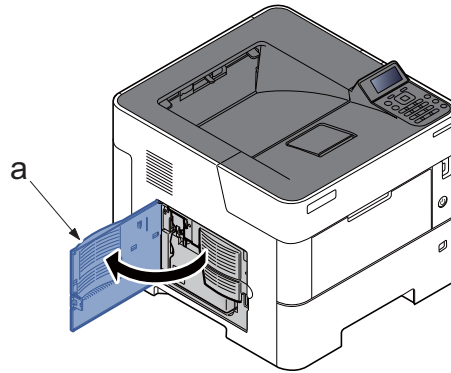


- 4** Set the toner container (a) to the main unit and then rotate the toner container lock lever (b) to the lock position (c). Close the top cover (d).



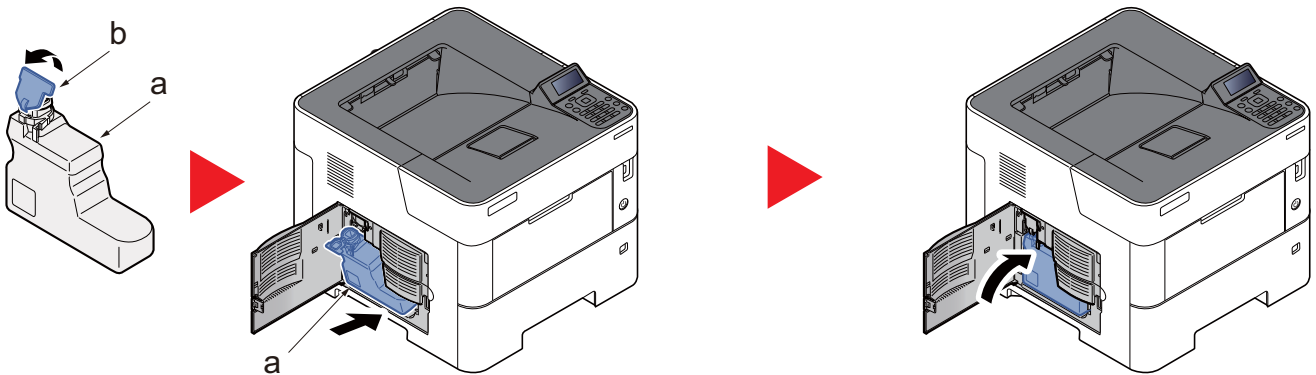
### (3) Installing the waste toner box

- 1 Open the waste toner box cover (a).

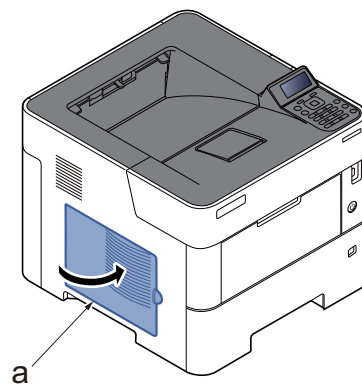


- 2 Installing the waste toner box.

- 1 Open the cap (b) of the waste toner box (a).
- 2 Installing the waste toner box (a).



- 3 Close the waste toner box cover (a).



## (4)Connecting the cable

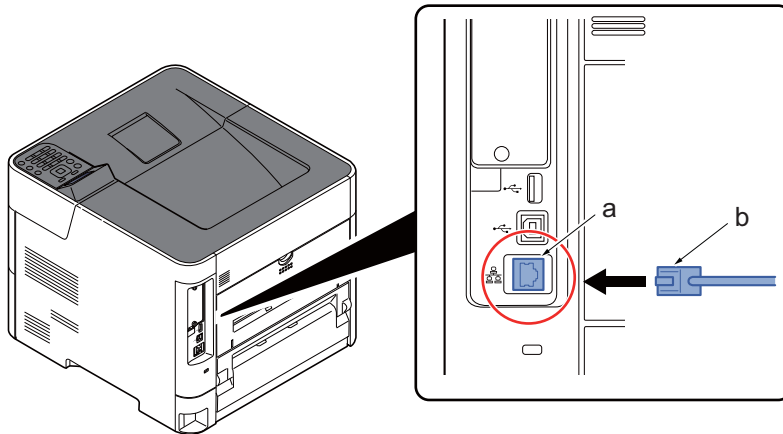
### (4-1)Connecting LAN Cable

#### ✔ IMPORTANT

If the power is on, turn the power switch off.

#### 1 Connect the cable (b) to the machine.

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



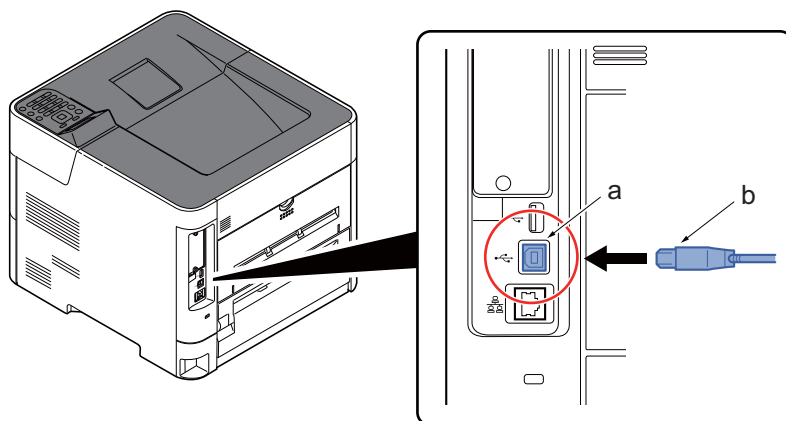
### (4-2)Connecting at USB

#### ✔ IMPORTANT

If the power is on, turn the power switch off.

#### 1 Connect the cable (b) to the machine.

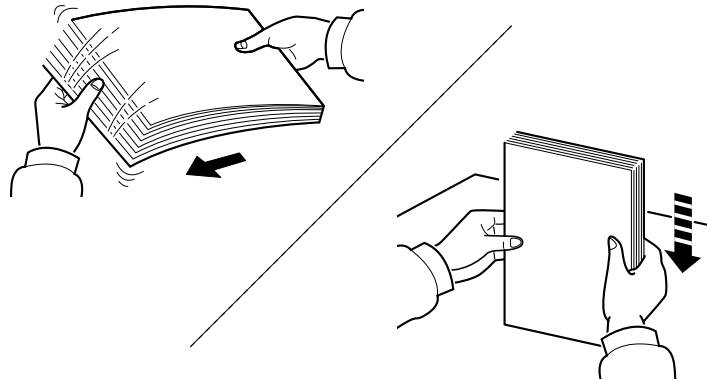
- 1 Connect the USB cable to the USB (b) interface connector (a) located on the back side of the main unit.
- 2 Connect the other end of the cable to the PC.



## (5) Loading Paper

### (5-1) Precaution for Loading Paper

Before loading paper in the cassette, fan the paper taken from a new package to separate it in the procedures below.



Fan the paper and align the edges at the flat place.

In addition, note the following points.

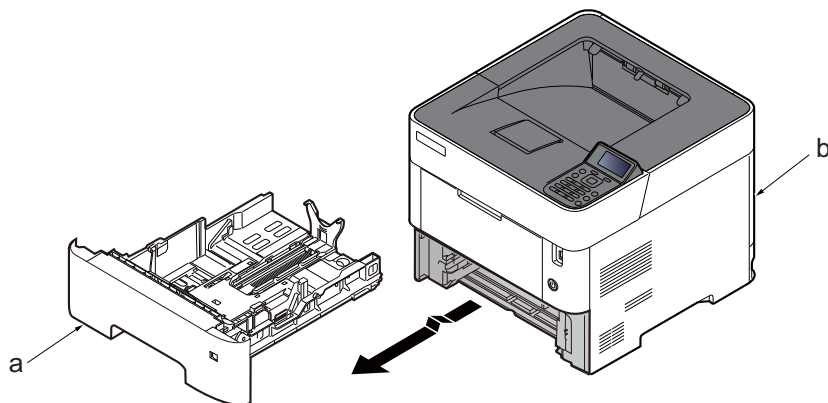
- If the paper is curled or folded, straighten it before loading. Such paper may cause a jam.
- If paper is left under high temperature and high humidity after taking it out of the package, it may cause trouble with paper absorbing moisture. After setting paper in the cassette, seal the rest of the paper in the paper storage bag. Also, seal the paper remaining on the MP tray in the paper storage bag.
- If the machine will not be used for a prolonged period, protect all paper from humidity by removing it from the cassettes and sealing it in the paper storage bag.

#### ✔ IMPORTANT

If you reuse paper already used for printing, remove staples or clips. Do not use paper with a staple or clip. This may cause poor image quality or malfunctions.

### (5-2) Set paper in the cassette

- 1 Pull the cassette (a) completely out of the machine.



#### ⚠ CAUTION

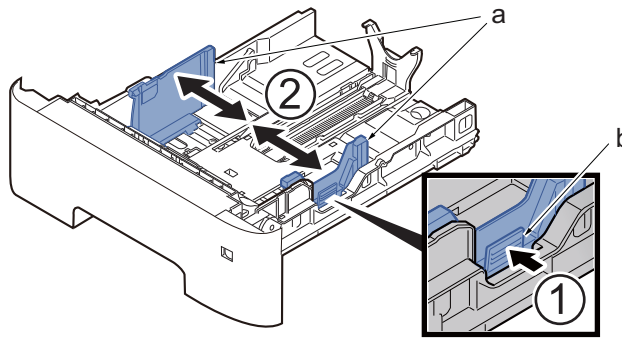
When pulling the cassette out of the machine, ensure it is supported and does not fall out.

## 2 Adjust the cassette size.

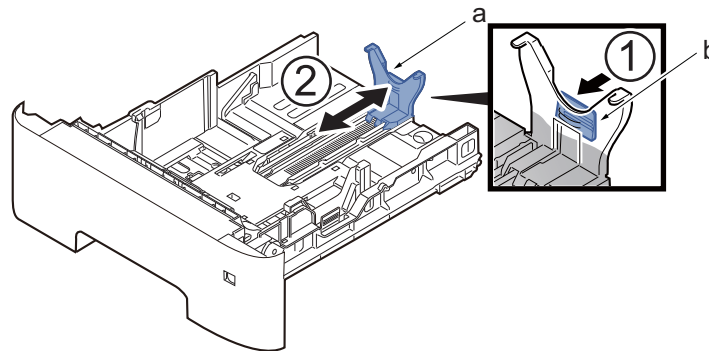
- 1 Adjust the position of the paper width guides (a) located on the left and right sides of the cassette. Press the paper width adjusting tab (a) and slide the guides to the paper size required.

### NOTE

Paper sizes are marked on the cassette.

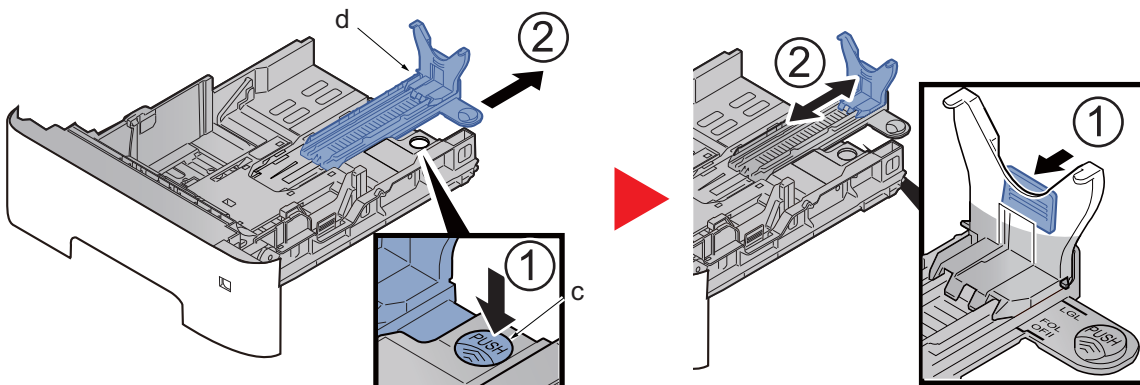


- 2 Adjust the paper length guide (a) to the paper size required. Press the paper length adjusting tab (b) and slide the guides to the paper size required.

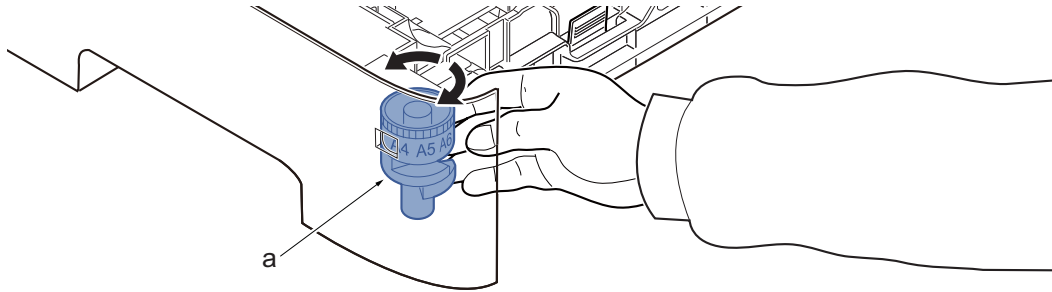



### NOTE

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



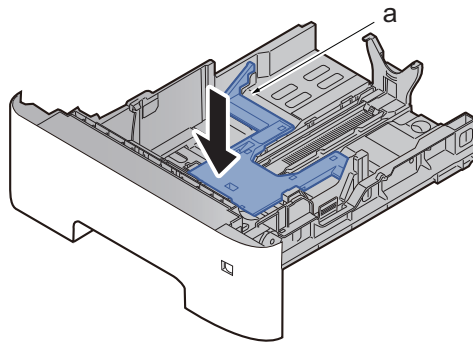
- 3 Turn the size dial (a) so that the size of the paper you are going to use appears in the paper size window.



 **NOTE**

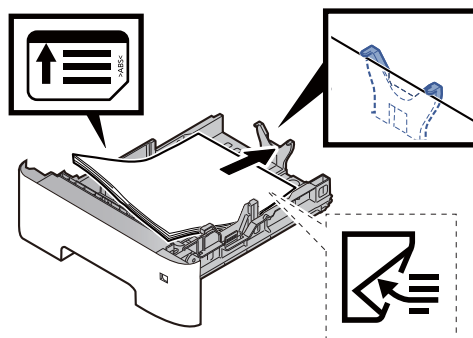
When the size dial is set to "Other" the paper size must be set into the machine on the operation panel.


- 3 Press the Lift plate down until it locks. (45ppm model only)



4 Load paper.

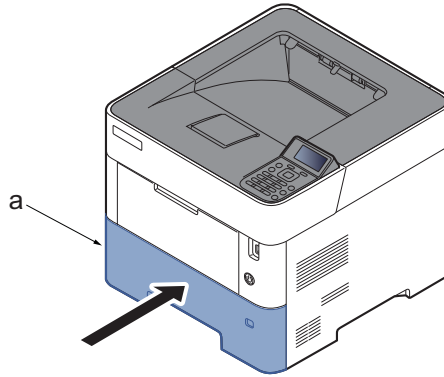
- 1 Fan the paper, then tap it on a level surface to avoid paper jams or skewed printing.
- 2 Load the paper in the cassette.



 **NOTE**

- Load the paper with the print side facing down.
- After removing new paper from its packaging, fan the paper before loading it in the cassette.
- Before loading the paper, be sure that it is not curled or folded. Paper that is curled or folded may cause paper jams.
- Ensure that the loaded paper does not exceed the level indicator (see illustration above).
- If paper is loaded without adjusting the paper length guide and paper width guide, the paper may skew or become jammed.

**5 Gently push the cassette (a) back in.**

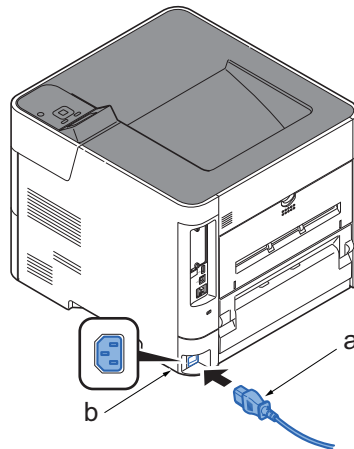


**6 Specify the type of paper loaded in the cassette using the operation panel.**



## (6) Connecting the Power Cable

- 1 Connect one end of the supplied power cable to the machine and the other end to a power outlet.



### ✔ IMPORTANT

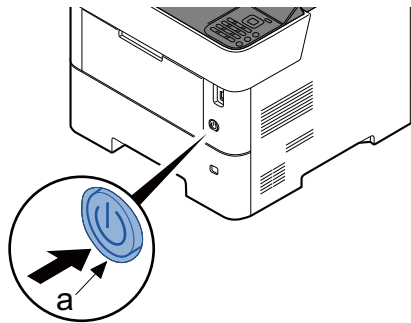
Only use the power cable that comes with the machine.

### 💡 NOTE

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

## (7) Power On

- 1 Turn the power switch (a) on. (ON)



### ✔ IMPORTANT

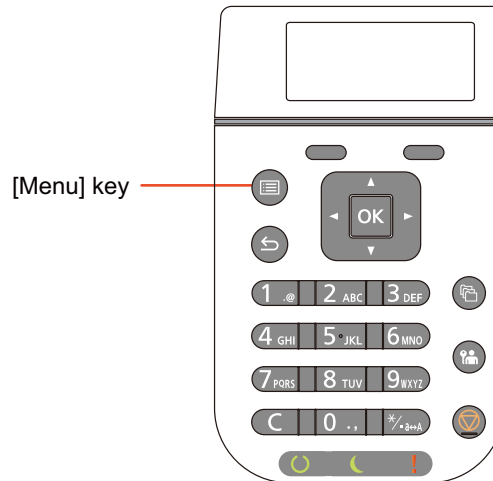
When turning off the power switch, do not turn on the power switch again immediately. Wait more than 5 seconds, and then turn on the power switch.

## (8)Default Setting

Before using this machine, configure such settings as date and time, network configuration, and energy saving functions as needed.

### NOTE

The default settings of the machine can be changed in System Menu.



### (8-1)Setting Date and Time

#### 1 Display the screen.

[Menu] key > [▲] [▼] key > [Device Common] > [OK] key > [▲] [▼] key > [Date Setting] > [OK] key

#### 2 Configure the settings.

[▲] [▼] key > [Time Zone] > [OK] key > Select the time zone > [OK] key > [▲] [▼] key >

[Date] > [OK] key > Set the date > [OK] key > [▲] [▼] key > [Time] > [OK] key > Set the time > [OK] key > [▲] [▼] key > [Date Format] > [OK] key > Select the Date Format > [OK] key

Item	Description
<b>Time Zone</b>	Set the time difference from GMT. Choose the nearest listed location from the list. If you select a region that utilizes summer time, configure settings for summer time.
<b>Date</b>	Set the date for the location where you use the machine. Value: Year (2000 to 2035), Month (1 to 12), Day (1 to 31)
<b>Time</b>	Set the time for the location where you use the machine. Value: Hour (00 to 23), Minute (00 to 59), Second (00 to 59)
<b>Date Format</b>	Select the display format of year, month, and date. The year is displayed in Western notation. Value: Month/Day/Year, Day/Month/Year, Year/Month/Day

## (8-2) Network Setup

### In case if the user authentication screen is appeared

If the user authentication screen is displayed, login by the user who has authority to make this setting.

#### NOTE

The factory default login user name and login password are set as shown below.

- 45 ppm model: Login User Name/ Login Password: 4500 / 4500
- 50 ppm model: Login User Name/ Login Password: 5000 / 5000
- 55 ppm model: Login User Name/ Login Password: 5500 / 5500
- 60 ppm model: Login User Name/ Login Password: 6000 / 6000

### Configuring the Wired Network

#### NOTE

The machine is equipped with network interface, which is compatible with network protocols such as TCP/IP (IPv4), TCP/IP (IPv6), NetBEUI, and IPSec. It enables network printing on the Windows, Macintosh, UNIX and other platforms.

Set up TCP/IP (IPv4) to connect to the Windows network.

#### TCP/IP(IPv4) setting

Set up TCP/IP (IPv4) to connect to the Windows network.

The default settings are as follows.

- TCP/IP: On
- DHCP: On
- Auto-IP: On
- IP address: 0.0.0.0
- Subnet Mask: 0.0.0.0
- Default Gateway: 0.0.0.0

#### 1 Display the screen.

[Menu] key > [▲] [▼] key > [Network] > [OK] key > [▲] [▼] key > [Wired Netwk. Set] > [OK] key > [▲] [▼] key > [TCP/IP Settings] > [OK] key > [▲] [▼] key > [IPv4 Setting] > [OK] key

#### 2 Configure the settings.

**When using DHCP server**

1 [▲] [▼] key > [DHCP] > [OK] key > [▲] [▼] key > [On] > [OK] key

#### NOTE

If the user authentication screen is displayed, login by the user who has authority to make this setting. Refer to the following for the factory default value of the login user name and login password.

[In case if the user authentication screen is appeared \(page 2-15\)](#)

**When setting the static IP address**

1 [▲] [▼] key > [DHCP] > [OK] key > [▲] [▼] key > [Off] > [OK] key

2 [▲] [▼] key > [IP Address] > [OK] key

- 3 Set the IP address.

**NOTE**

You can set any value between 000 and 255.

Use the numeric keys or select the [▲] or [▼] key to enter a number.

Select the [◀] or [▶] key to move the position being entered, which is shown highlighted.

- 4 Select the [OK] key.
- 5 [▲] [▼] key > [Subnet Mask] > [OK] key
- 6 Set the subnet mask.

**NOTE**

You can set any value between 000 and 255.

Use the numeric keys or select the [▲] or [▼] key to enter a number.

Select the [◀] or [▶] key to move the position being entered, which is shown highlighted.

- 7 Select the [OK] key.
- 8 [▲] [▼] key > [Default Gateway] > [OK] key
- 9 Set the default gateway.

**NOTE**

You can set any value between 000 and 255.

Use the numeric keys or select the [▲] or [▼] key to enter a number.

Select the [◀] or [▶] key to move the position being entered, which is shown highlighted.

- 10 Select the [OK] key.
- 11 [▲] [▼] key > [Auto-IP] > [OK] key
- 12 [Off] > [OK] key

**When using the Auto-IP**

Enter "0.0.0.0" in [IP Address].

**When setting the DNS server**

In the following cases, set the IP address of DNS (Domain Name System) server.

- When using the host name with "DHCP" setting set to [Off].
- When using the DNS server with IP address that is not assigned by DHCP automatically.

- 1 [▲] [▼] key > [DNS Server] > [OK] key

2 [▲] [▼] key > [Auto (DHCP)] or [Manual] > [OK] key

**NOTE**

When selecting [Manual], enter address to [Primary server] and [Secondary server].

**IMPORTANT**

After changing the setting, restart the network from System Menu, or turn the machine OFF and then ON.

### (8-3) Specifying Paper Size and Media Type

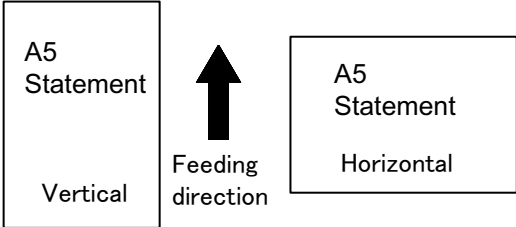
 **NOTE**

The default paper size setting for cassette 1, for the multi purpose tray, for the optional paper feeder (cassettes 2 to 5) and optional large capacity paper feeder is "A4" or "Letter", and the default media type setting is "Plain".

To change the type of paper to be used in cassettes, specify the paper size and media type setting.

#### Paper Size and Media Type for the Cassettes

Item	Description
<b>Media Type*1</b>	Select the media type. Values Cassette 1: Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, High Quality, CUSTOM 1 - 8 Cassette 2 to 5: Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, Envelope, High Quality, CUSTOM 1 - 8

Item	Description
<p><b>Other Paper Size</b></p>	<p>Available options are as follows:                      Values                      Cassette 1: Envelope DL<sup>*2</sup>, Envelope C5, Executive, Letter, Legal, A4, B5, A5(Vertical), A5 (Horizontal)<sup>*2</sup>, A6<sup>*2</sup>, B6<sup>*2</sup>, ISO B5, Custom, Oufuku Hagaki<sup>*2</sup>, Oficio II, 216 × 340 mm, 16K, Statement(Vertical), Statement (Horizontal)<sup>*2*3</sup>, Folio                      Cassette 2 to 5: Envelope Monarch, Envelope #10, Envelope DL, Envelope C5, Executive, Letter, Legal, A4, B5, A5, B6, Envelope #9, Envelope #6 3/4, ISO B5, Custom, Oufuku Hagaki, Oficio II, 216 × 340 mm, 16K, Statement(Vertical), Folio, Youkei 2, Youkei 4, Nagagata 3, Yonaga 3</p> <div style="text-align: center;">  <p>The diagram shows two rectangular boxes representing A5 Statement paper. The left box is labeled 'A5 Statement' and 'Vertical'. The right box is labeled 'A5 Statement' and 'Horizontal'. A thick black arrow points upwards from the vertical box to the horizontal box, with the text 'Feeding direction' written below the arrow.</p> </div>
<p><b>Custom Paper Size<sup>*4</sup></b></p>	<p>Register the custom paper size to be used in Cassettes 1 to 4.                      Values                      Cassette 1:                      Metric                      45 ppm model                      X: 140 to 216 mm (in 1 mm increments)                      Y: 210 to 356 mm (in 1 mm increments)                      60/55/50 ppm model                      X: 105 to 216 mm (in 1 mm increments)                      Y: 148 to 356 mm (in 1 mm increments)                      Inch                      45 ppm model                      X: 5.51 to 8.50" (in 0.01" increments)                      Y: 8.25 to 14.02" (in 0.01" increments)                      60/55/50 ppm model                      X: 4.13 to 8.50" (in 0.01" increments)                      Y: 5.83 to 14.02" (in 0.01" increments)                      Cassette 2 to 5:                      Metric                      X: 92 to 216 mm (in 1 mm increments)                      Y: 162 to 356 mm (in 1 mm increments)                      Inch                      X: 3.62 to 8.50" (in 0.01" increments)                      Y: 6.38 to 14.02" (in 0.01" increments)                      X=Width, Y=Length</p>

\*1: When a paper weight that cannot be loaded in the cassette is set for a media type, that media type does not appear.

\*2: 60/55/50 ppm model only

\*3: In case of attaching the cursor (included), the statement (Horizontal) can be fed. (USA only)

\*4: Appears when [Custom] is selected in Other Paper Size.

## Paper Size and Media Type for the Cassettes:

If the size dial is set to one of the sizes below, set the media type.

"A4", "A5", "B5", "Letter", "Legal" or "A6" (Cassette 1 only)

If the size dial is set to "Other", configure the settings for the paper size and the media type.

### 1 Display the screen.

- 1 [Menu] key > [▲] [▼] key > [Paper Settings] > [OK] key > [▲] [▼] key > [Cassette 1 (to 5) Set.] > [OK] key



#### NOTE

[Cassette 2] to [Cassette 5] are shown when the optional paper feeder is installed.

### 2 Specify the media type.

- 1 [▲] [▼] key > [Media Type] > [OK] key
- 2 Select the media type, and select the [OK] key.

### 3 Specify the paper size.

- 1 [▲] [▼] key > [Other Paper Size] > [OK] key
- 2 Select the paper size, and select the [OK] key.  
If you selected [Custom], use the procedure below to specify the paper length and width.
- 3 [▲] [▼] key > [Custom PaperSize] in "Cassette 1 (to 5) Set." > [OK] key > [▲] [▼] key > [Measurement] > [OK] key
- 4 Select the paper size units, and select the [OK] key.
- 5 [▲] [▼] key > [Size Entry(Y)] > [OK] key
- 6 Enter the paper length, and select the [OK] key.



#### NOTE

Use the numeric keys or select the [▲] or [▼] key to enter a number.

- 7 [▲] [▼] key > [Size Entry(X)] > [OK] key
- 8 Enter the paper width, and select the [OK] key.



#### NOTE

Use the numeric keys or select the [▲] or [▼] key to enter a number.



## (9) Setting altitude adjustment

Execute [Altitude Adjustment] from the System Menu when setting up at a high altitude place.

When the printing quality declines in the environment of an altitude higher than 1000m sea level, the setting of [Altitude Adjustment] mode can recover the printing quality.

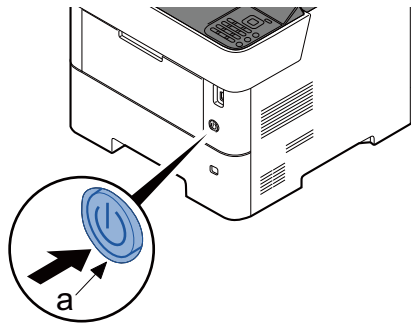
- 1 Press [Menu] key.
- 2 Select [Adjust/Maint.] using the [▲] [▼] key, then press the [OK] key.
- 3 Select [Service Setting] using the [▲] [▼] key, then press the [OK] key.
- 4 Select [Altitude Adj.] using the [▲] [▼] key, then press the [OK] key.
- 5 Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] using the cursor [▲] [▼] keys.
- 6 Press the [OK] key. The setting is set.

## (10) Printout the status page

- 1 [Menu] key > [▲] [▼] key > [Report] > [OK] key > [▲] [▼] key > [Report] > [OK] key > [▲] [▼] key > [Status Page] > [OK] key

## (11) Completion of the machine installation

- 1 Turn the power switch (a) off. (OFF)



- 2 Select [Yes] at the confirmation screen.

- It takes about 3 minutes for power off.

## 2 - 3 Installing the optional devices

### (1) Unpacking and checking bundled items

Take out the optional unit and accessories from the packing case.

Remove the tape and cushioning materials for packing from the optional unit.

### (2) Optional unit installation

Install necessary optional units in the main unit by referring to the installation procedures.

Product name	Installation guide link
MM-20/MM-21 (Expansion memory)	MM-20/MM-21 (Expansion memory)
TPM (Trusted Platform Module) UG-50	TPM (Trusted Platform Module) UG-50
SD/SDHC Memory Card <sup>*1</sup>	SD/SDHC Memory Card
SSD (HD-17/HD-18/HD-19)	SSD (HD-17/HD-18/HD-19)
Wireless Network Interface Kit (IB-37/IB-38)	Wireless Network Interface Kit (IB-37/IB-38)
Card reader <sup>*1</sup>	Card reader
IB-50 (Network interface Kit)	IB-50 INSTALLATION GUIDE
IB-51 (Wireless Network Interface Kit)	IB-51 INSTALLATION GUIDE
IB-32B (Parallel Interface Kit)	IB-32B INSTALLATION GUIDE
PF-3100 (2000-sheet x1 Large capacity Paper Feeder) <sup>*2</sup>	PF-3100 INSTALLATION GUIDE
PF-3110 (500-sheet x1 Paper Feeder)	PF-3110 INSTALLATION GUIDE
CA-3100 (Castor kit)	CA-3100 INSTALLATION GUIDE

\*1: This is not our product. Purchase a compatible commercial product. Please contact your dealer or service representative for information on the product that are compatible with your machine before you purchase one.

\*2: PB-325 is necessary when installing PF-3100.

## 2 - 4 Installing the optional parts

### ✔ IMPORTANT

Following procedures have to be done before PWB replacement.

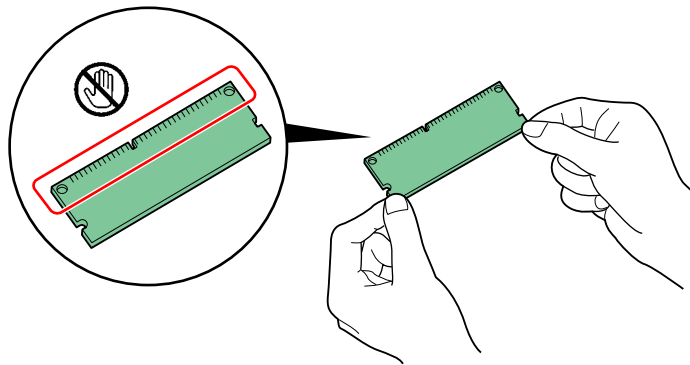
Otherwise PWB gets broken.

- Unplug power cord.
- Press power switch for more than 1 second. (Remove electrical charge in main unit.)

### (1)MM-20/MM-21 (Expansion memory)

The machine can perform more multiple jobs simultaneously by adding more memory. Refer to the specifications for the maximum memory capacity after adding optional extended memory

#### Precautions for Handling the Memory



### ✔ IMPORTANT

Static electricity that accumulates in your body through clothing or carpets may damage a memory. To protect a memory, discharge static electricity from your body by touching a water pipe (faucet) or other large metal object. Wear the anti-static wrist band on the wrist.

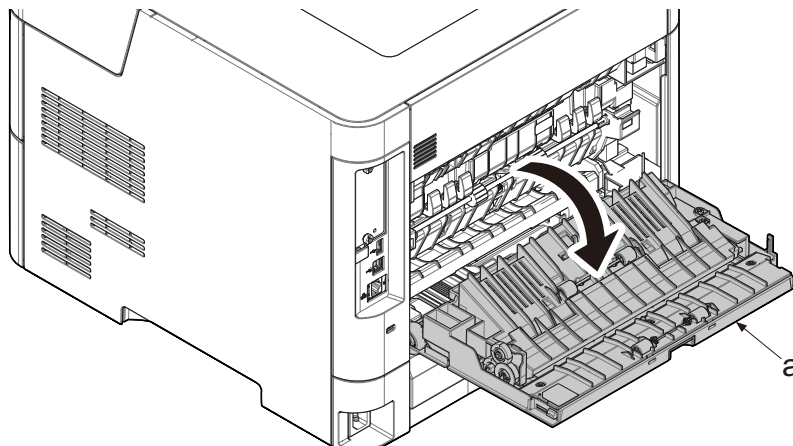
## 1 Remove the Interface cover.

- 1 Turn off the main unit and disconnect the power cord and all interface cables.

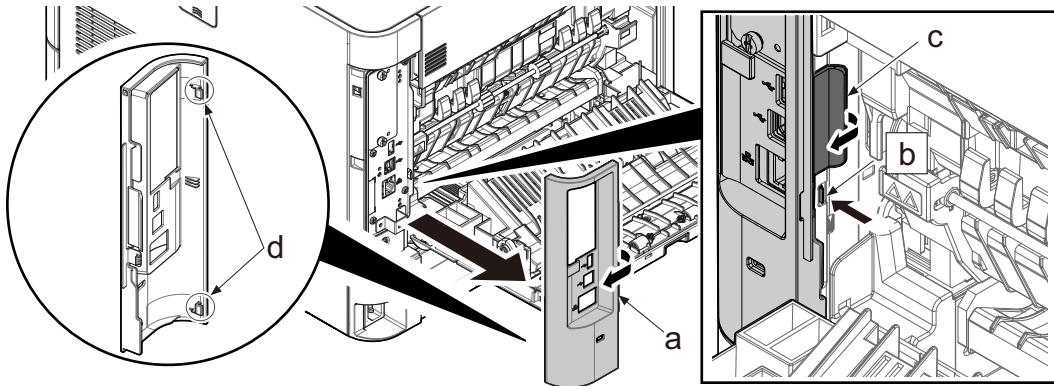
### 💡 NOTE

The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

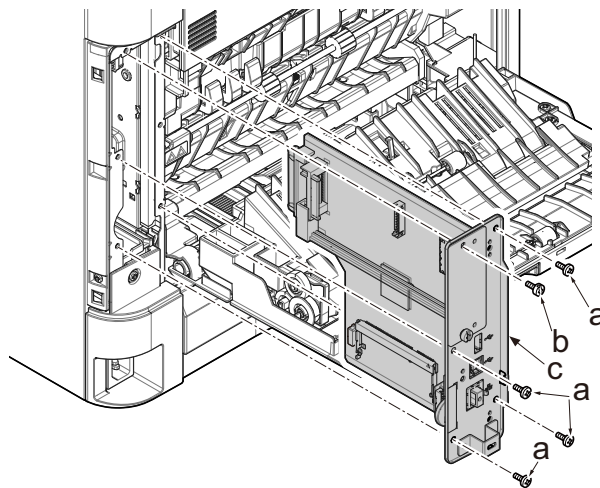
- 2 Open the rear cover (a).



- 3 Release the hook (b) and pull the handle (c) in the direction of the arrow to remove the interface cover (a).
- Insert two of the hook (d) first to attach.



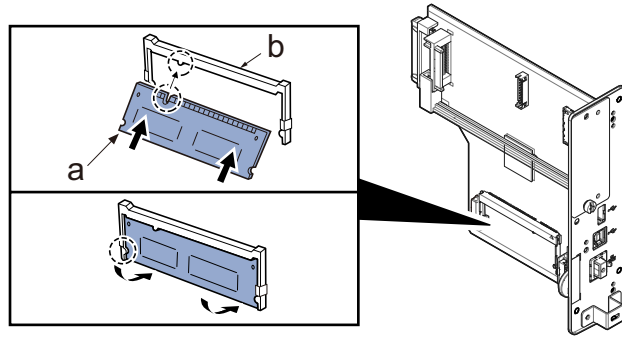
- 2 Remove 4 of screws (a) (M3x8) and the pin (b) and detach the main PWB unit (c).



### 3 Attaching the expansion memory.

- 1 Turn the terminal section of the expansion memory (a) to the socket (b) side and align the cut-out to the projection of the socket to insert it straight in angle.
- 2 Turn the expansion memory down to the position parallel to the main PWB by taking the socket section as fulcrum and fit it to the hook.
- 3 Refit the main PWB assembly and the screws.

## 4 Refit the covers.

**NOTE****Removing the Memory Module**

To remove the memory module, remove the right cover and the memory slot cover from the main unit. Then, carefully push the two stoppers so that the memory module pops up from the socket.

**Verifying the Memory Module**

To verify that the memory module is working properly, print out a status page and check its content.

If memory is expanded normally, installed memory information is displayed and total memory size is increased.

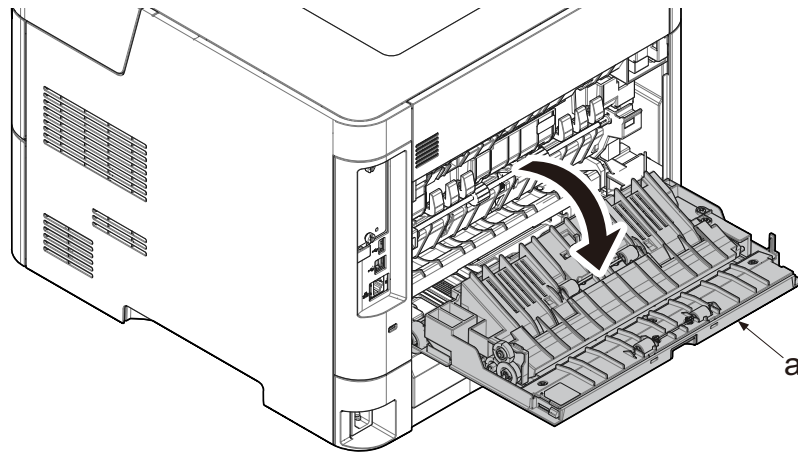
**(2)TPM (Trusted Platform Module) UG-50****1 Remove the Interface cover.**

- 1 Turn off the main unit and disconnect the power cord and all interface cables.

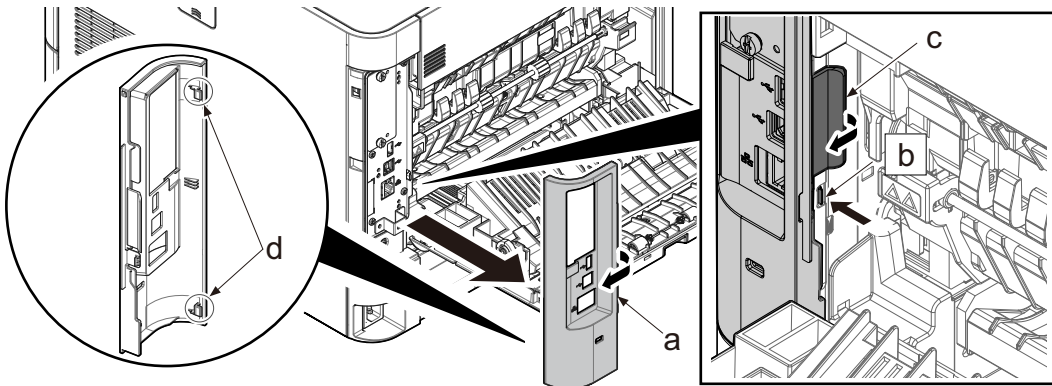
**NOTE**

The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

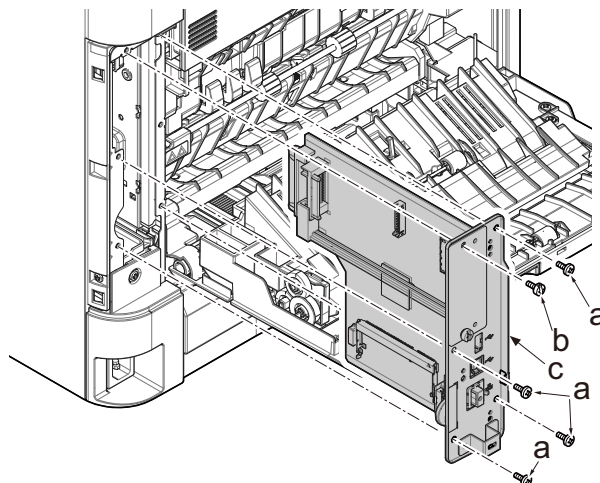
- 2 Open the rear cover (a).



- 3 Release the hook (b) and pull the handle (c) in the direction of the arrow to remove the interface cover (a).
  - Insert two of the hook (d) first to attach.

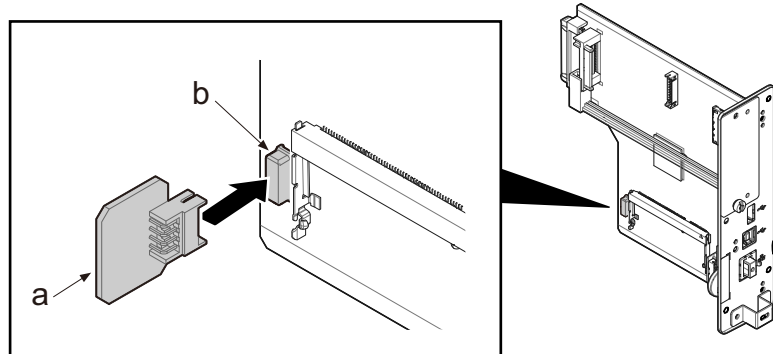


- 2 Remove 4 of screws (a) (M3x8) and the pin (b) and detach the main PWB unit (c).



### 3 Attaching the UG-50.

- 1 Insert the terminal (a) of UG-50 to the connector (b).
- 2 Refit the main PWB assembly and the screws.
- 3 Refit the covers.



### (3)SD/SDHC Memory Card

#### Reading the SD/SDHC Memory Card

- Once inserted in the machine's slot, the contents of the SD/SDHC memory card can be read from the operation panel or automatically when you power on or reset the machine.

#### NOTE

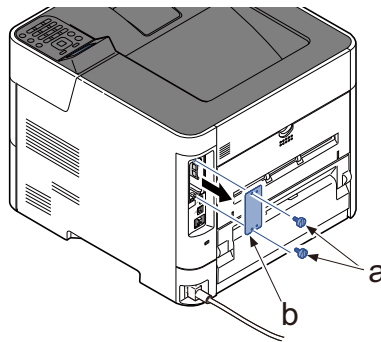
Purchase a compatible commercial SD/SDHC Memory Card. Please contact your dealer or service representative for information on SD/SDHC Memory Card that are compatible with your machine before you purchase one.

#### 1 Turn off the main unit and disconnect the power cord and all interface cables.

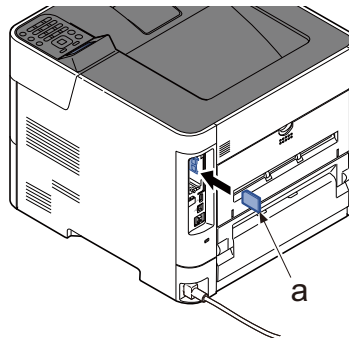
#### NOTE

The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

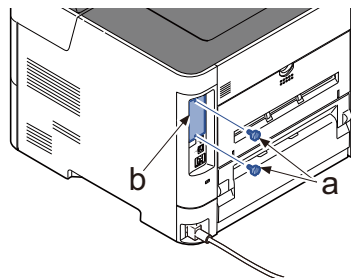
#### 2 Remove two screws (a) and remove the slot cover (b).



#### 3 Insert the SD/SDHC memory card (a) into the SD/SDHC memory card slot.

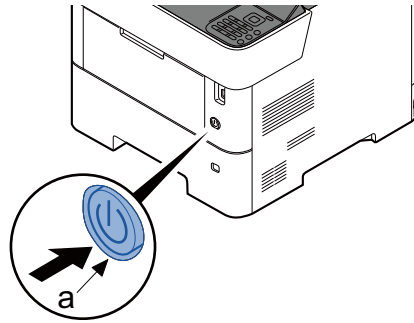


#### 4 Reattach the slot cover (b) once detached to the main unit with two screws (a).





## 5 Insert the power cord into the socket and turn on the power switch.



### Format SD Card

To use an unused SD/SDHC memory card, you must first use the machine to format the SD/SDHC memory card.

#### **IMPORTANT**

- Formatting will destroy any existing data on a storage device including a used SD card.
- If you have installed application, do not format the SD card to avoid the removal of the application in the SD card.

### Format procedure

- 1 [Menu] key > [▲] [▼] key > [Device Common] > [OK] key > [▲] [▼] key > [Format SD Card] > [OK] key
- 2 Format an optional SD/SDHC memory card.

#### **NOTE**

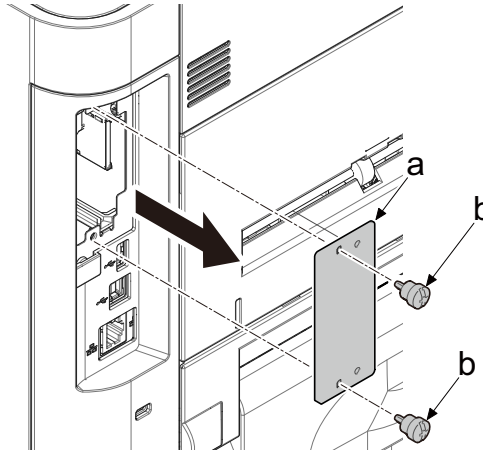
If the user authentication screen is displayed, login by the user who has authority to make this setting. Refer to the following for the factory default value of the login user name and login password.

[In case if the user authentication screen is appeared \(page 2-15\)](#)

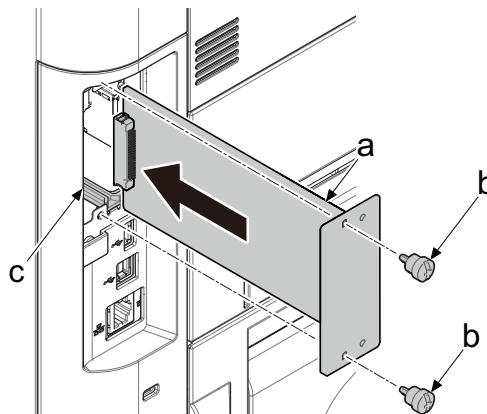
**(4)SSD (HD-17/HD-18/HD-19)****1 Turn off the main unit and disconnect the power cord and all interface cables.****NOTE**

The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

- 1 Remove two screws (b) and the option slot cover (a).

**2 Attach the SSD to the main unit.**

- 1 Insert the SSD (a) in an option slot (c).
- 2 Fix the SSD (a) with using two screws to main unit.



- When attaching the new SSD, display appears at the 1st start-up to induce formatting

**Format SSD**

When an optional SSD is inserted into the printer for the first time, it must be formatted before use.

**IMPORTANT**

- Formatting will destroy any existing data on a storage device including a used SSD.

## Format procedure

- 1 [Menu] key > [▲] [▼] key > [Device Common] > [OK] key > [▲] [▼] key > [Format SSD] > [OK] key  
Format an optional SSD.

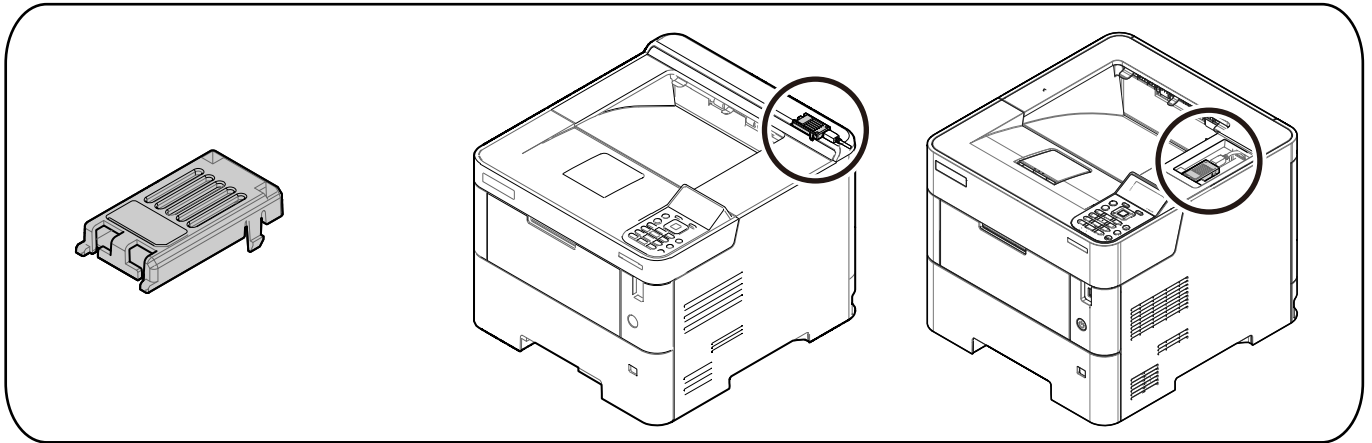


### NOTE

If the user authentication screen is displayed, login by the user who has authority to make this setting. Refer to the following for the factory default value of the login user name and login password.

[In case if the user authentication screen is appeared \(page 2-15\)](#)

- 2 Turn the power switch off and on. Wait for 5 seconds or more to turn on after power off.

**(5) Wireless Network Interface Kit (IB-37/IB-38)**

- 1 Turn off the main unit and disconnect the power cord and all interface cables.

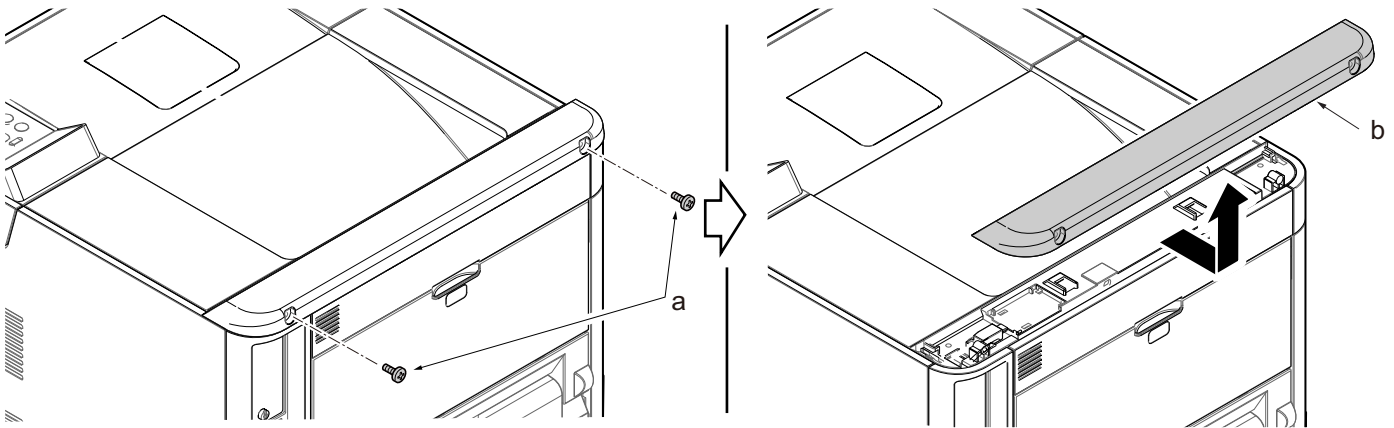
**NOTE**

The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

**2 Attaching the Wi-Fi unit.**

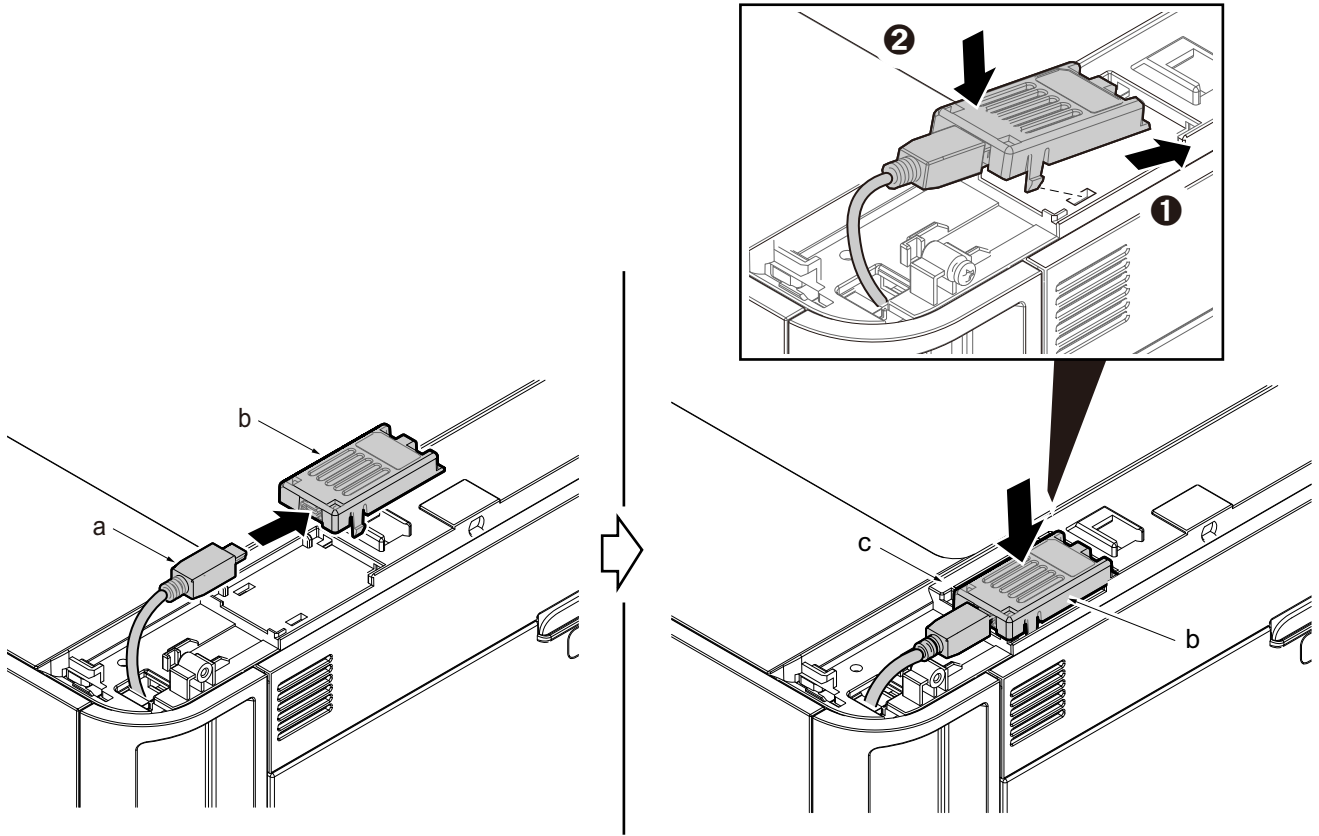
45 ppm model

- 1 Remove two screws (a).
- 2 Slide the rear top cover (b) in the direction of the arrow.



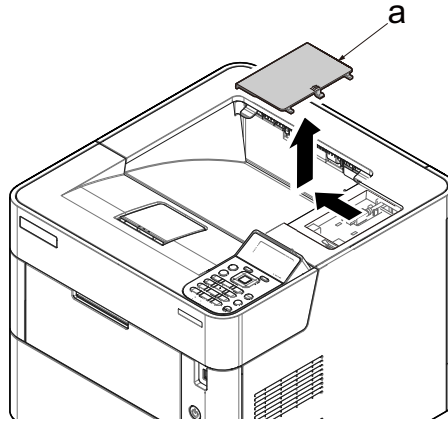
- 3 Connect the USB connector (a) to the Wi-Fi unit (b).
- 4 Store the Wi-Fi unit (b) in the socket (c).

- 5 Re-attach the rear top cover removed back to the original position.

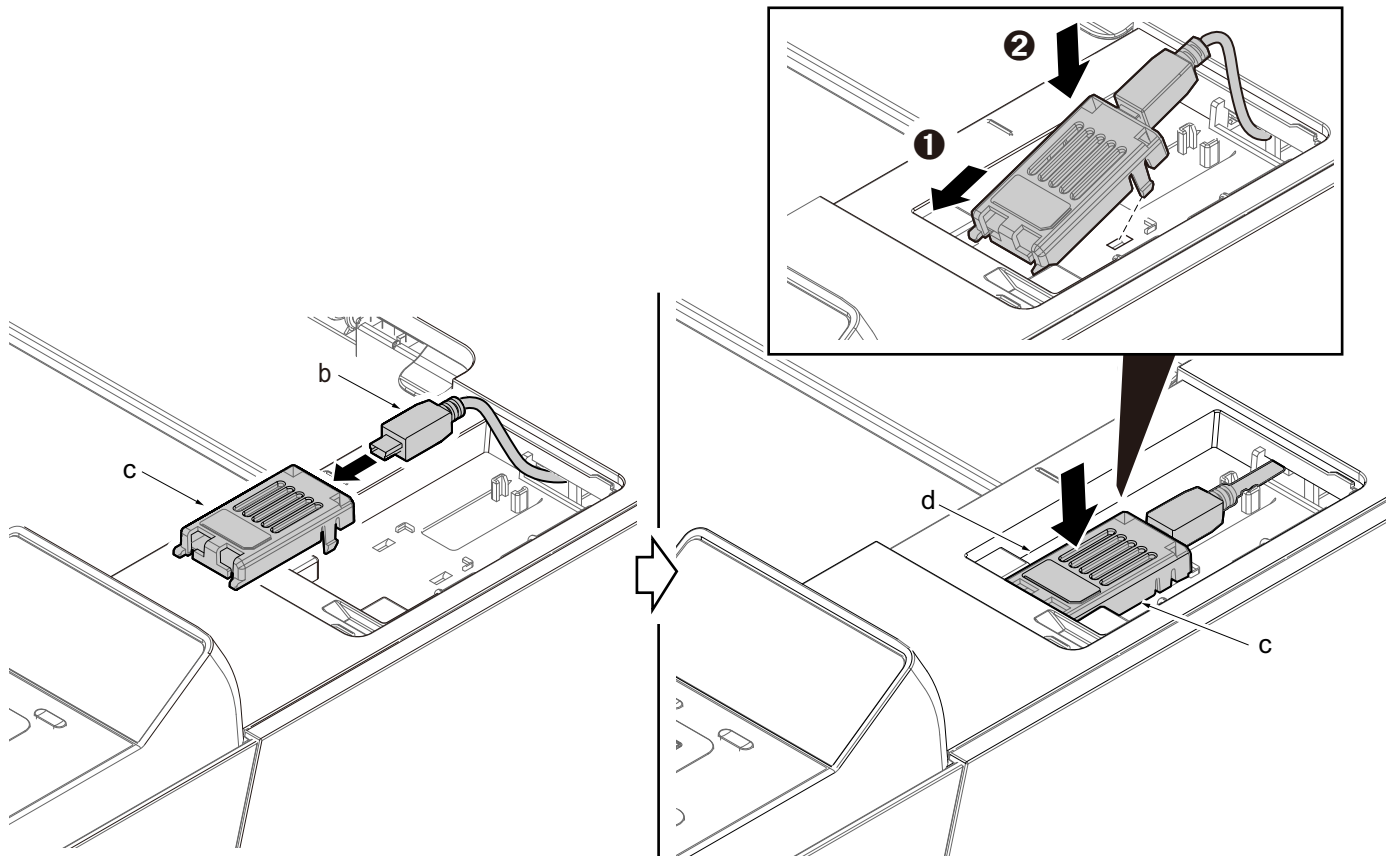


## 50/55/60 ppm model

- 1 Slide the Wi-Fi cover (a) in the direction of the arrow.



- 2 Connect the USB connector (b) to the Wi-Fi unit (c).
- 3 Store the Wi-Fi unit (c) in the socket (d).
- 4 Re-attach the Wi-Fi cover removed back to the original position.



**(6)Card reader**

Card reader installation requires the following parts.

- Double-side tape: 2pcs

**NOTE**

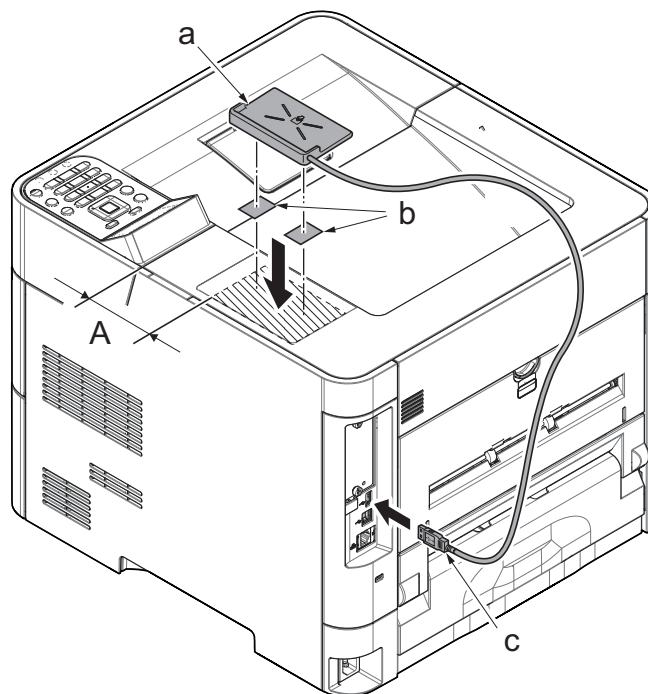
Purchase a compatible commercial card reader. Please contact your dealer or service representative for information on card reader that are compatible with your machine before you purchase one.

**1 Turn off the main unit and disconnect the power cord and all interface cables.****NOTE**

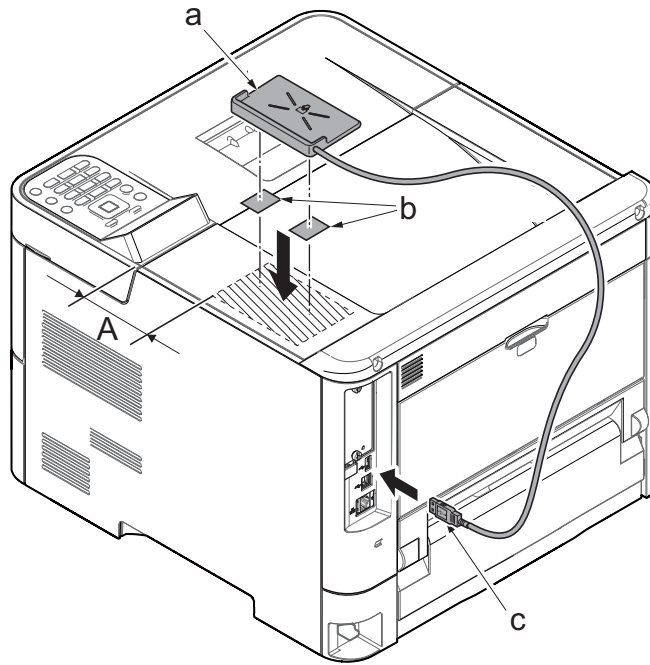
The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

- 1 Fix the card reader (a) with double-side tape (b) as indicated in the figure.
  - 2 Connect the USB connector (c) to the printer.
- A: 75 mm or more

50/55/60 ppm model



45 ppm model





## 2 - 5 Optional Function

Application	
Data Encryption (Data Encryption/Overwrite)	UG-33 (ThinPrint Option)*1
ID Card (Card Authentication Kit)*1	

\*1: This can be used on a trial basis for a limited time.

### NOTE

- Restrictions such as the number of times the application can be used during the trial period differ depending on the application.
- If you change the date/time while using the trial version of an application, you will no longer be able to use the application.

### Starting Application Use

Use the procedure below to start using an application.

- 1 [Menu] key > [▲] [▼] key > [Op Functions] > [OK] key

### NOTE

If the user authentication screen is displayed, login by the user who has authority to make this setting. Refer to the following for the factory default value of the login user name and login password.

[In case if the user authentication screen is appeared \(page 2-15\)](#)

- 2 Select the desired application, and select the [OK] key.
- 3 [▲] [▼] key > [License On] > [OK] key.

### NOTE

- You can view detailed information on the selected application by selecting [Detail].

- 4 To use the application as a trial, select [Trial] without entering the license key.
- 5 Enter the license key > [OK] key  
Some applications do not require you to enter a license key. If the license key entry screen does not appear, go to Step 6.
- 6 Select [Yes].

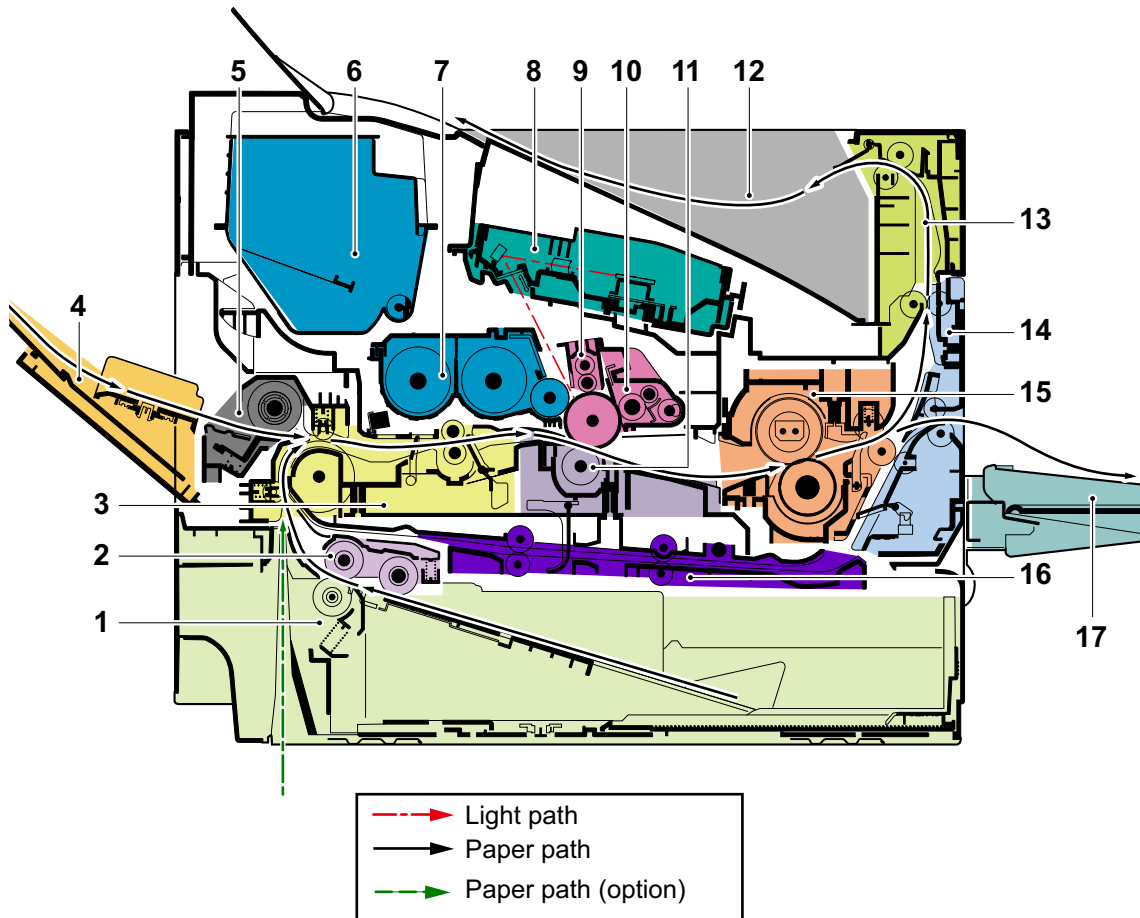
### NOTE

If you started the Data Encryption/Overwrite or Thin Print option, turn the power OFF/ON.

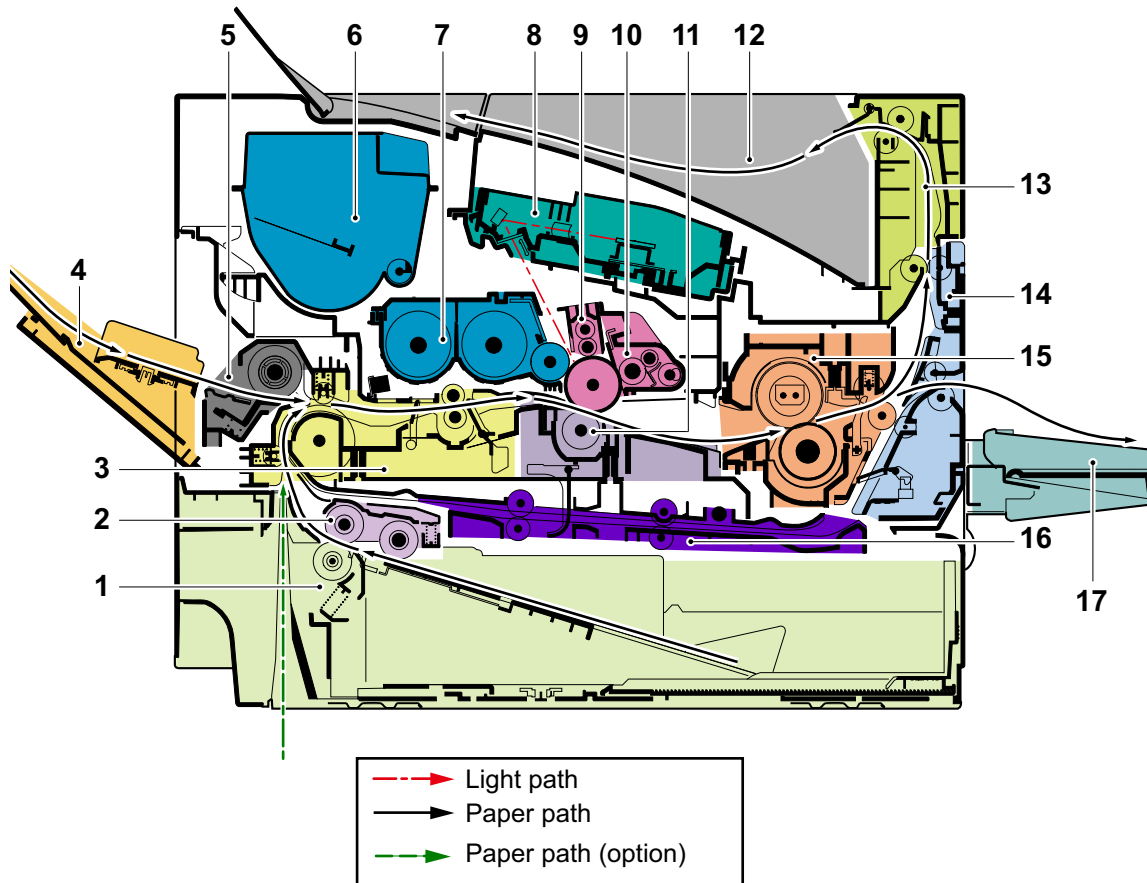
## 3 Machine Design

### 3 - 1 Mechanical Configuration

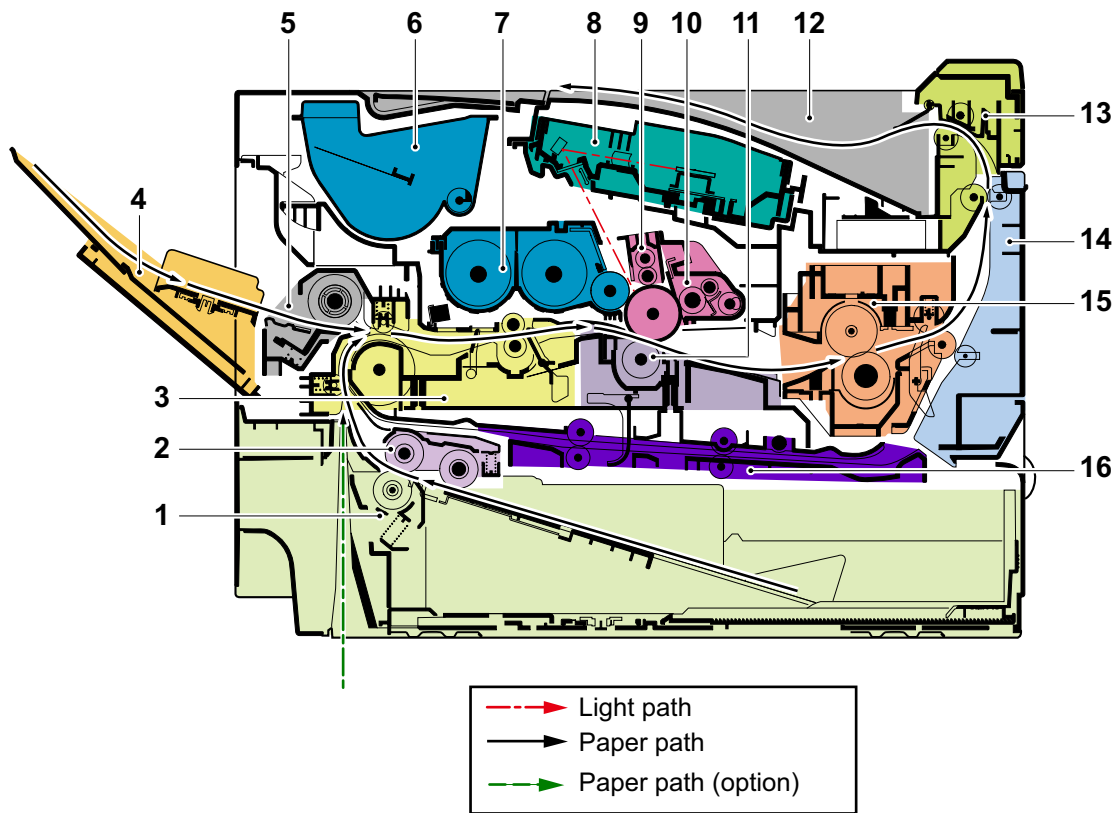
(1)60 ppm model



- |                                |                                      |
|--------------------------------|--------------------------------------|
| 1 Cassette                     | 10 Drum unit                         |
| 2 Cassette paper feed section  | 11 Transfer/Separation section       |
| 3 Paper feed conveying section | 12 Eject tray (face down)            |
| 4 MP tray                      | 13 Eject section                     |
| 5 MP tray paper feed section   | 14 Eject conveying section           |
| 6 Toner container              | 15 Fuser unit                        |
| 7 Developer unit               | 16 Duplex conveying section          |
| 8 Laser scanner unit (LSU)     | 17 Face-up rear output tray (option) |
| 9 Charger roller unit          |                                      |

**(2)55/50 ppm model**

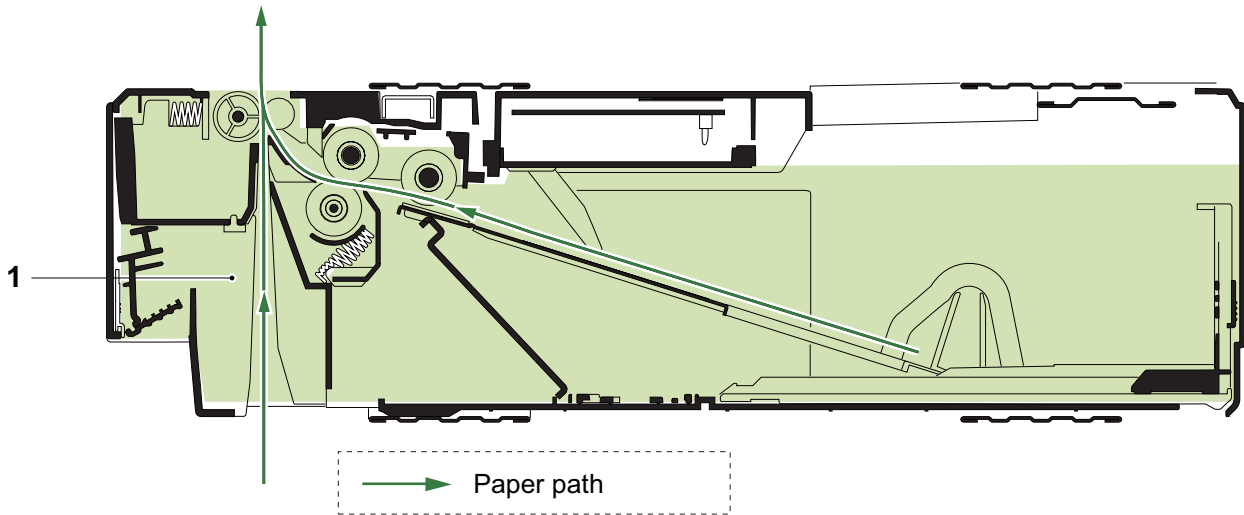
- |                                |                                      |
|--------------------------------|--------------------------------------|
| 1 Cassette                     | 10 Drum unit                         |
| 2 Cassette paper feed section  | 11 Transfer/Separation section       |
| 3 Paper feed conveying section | 12 Eject tray (face down)            |
| 4 MP tray                      | 13 Eject section                     |
| 5 MP tray paper feed section   | 14 Eject conveying section           |
| 6 Toner container              | 15 Fuser unit                        |
| 7 Developer unit               | 16 Duplex conveying section          |
| 8 Laser scanner unit (LSU)     | 17 Face-up rear output tray (option) |
| 9 Charger roller unit          |                                      |

**(3)45 ppm model**

- |                                |                                |
|--------------------------------|--------------------------------|
| 1 Cassette                     | 9 Charger roller unit          |
| 2 Cassette paper feed section  | 10 Drum unit                   |
| 3 Paper feed conveying section | 11 Transfer/Separation section |
| 4 MP tray                      | 12 Eject tray (face down)      |
| 5 MP tray paper feed section   | 13 Eject section               |
| 6 Toner container              | 14 Eject conveying section     |
| 7 Developer unit               | 15 Fuser unit                  |
| 8 Laser scanner unit (LSU)     | 16 Duplex conveying section    |

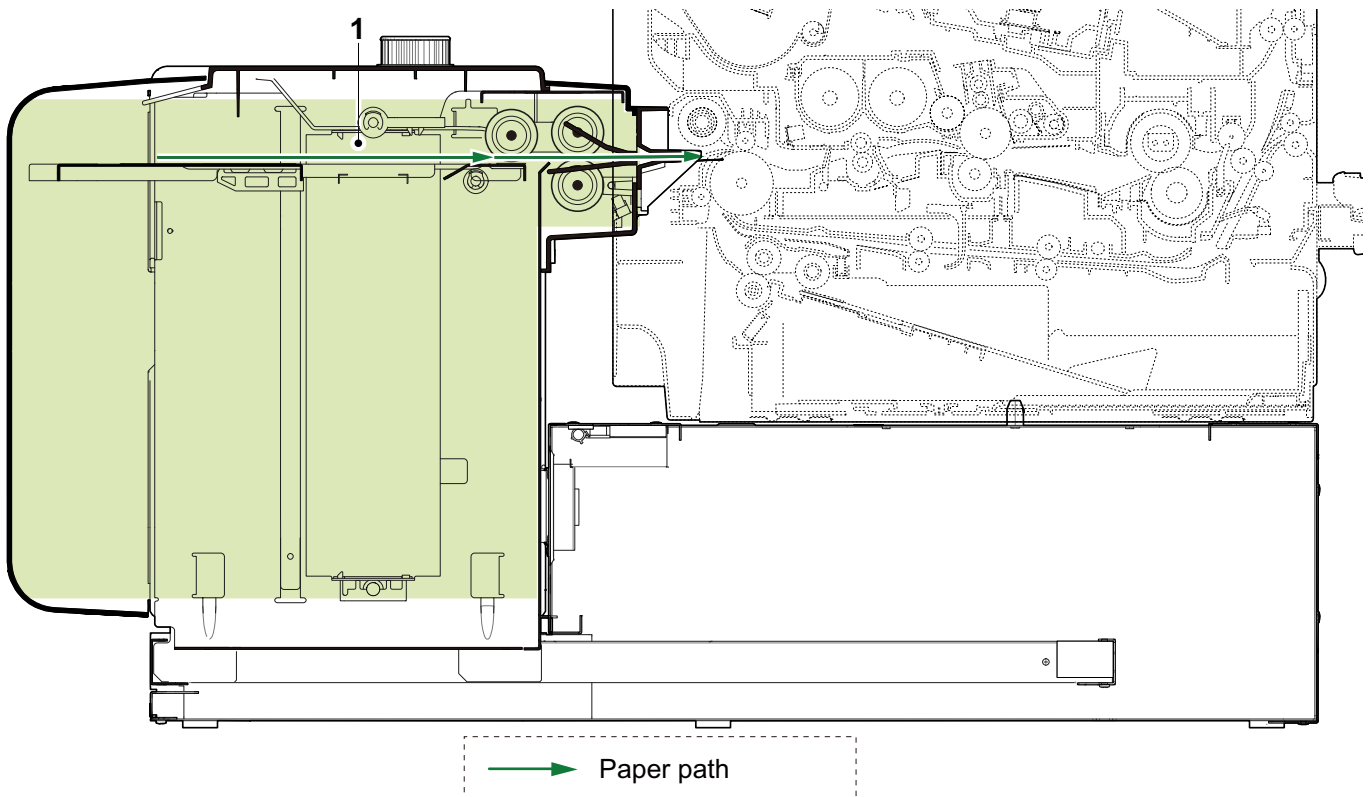
### 3 - 2 Extension device construction (option)

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



1 Cassette paper feed section (Cassette 2 to 5)

#### (2)2000-sheet x1 Large Capacity paper feeder cross-section view (PF-3100)



1 Cassette paper feed section (Cassette 2)

### 3 - 3 Electric parts

#### (1) Electric parts layout



1 Engine PWB

2 Power supply PWB

3 Main motor

4 Drum motor \*1

\*1: 60/55/50 ppm model only

5 Power supply fan

6 LSU fan

7 Developer fan

## (2) Descriptions about the major PWBs

### (2-1) Main PWB

Controls the software such as the print data processing and provides the interface with computers.



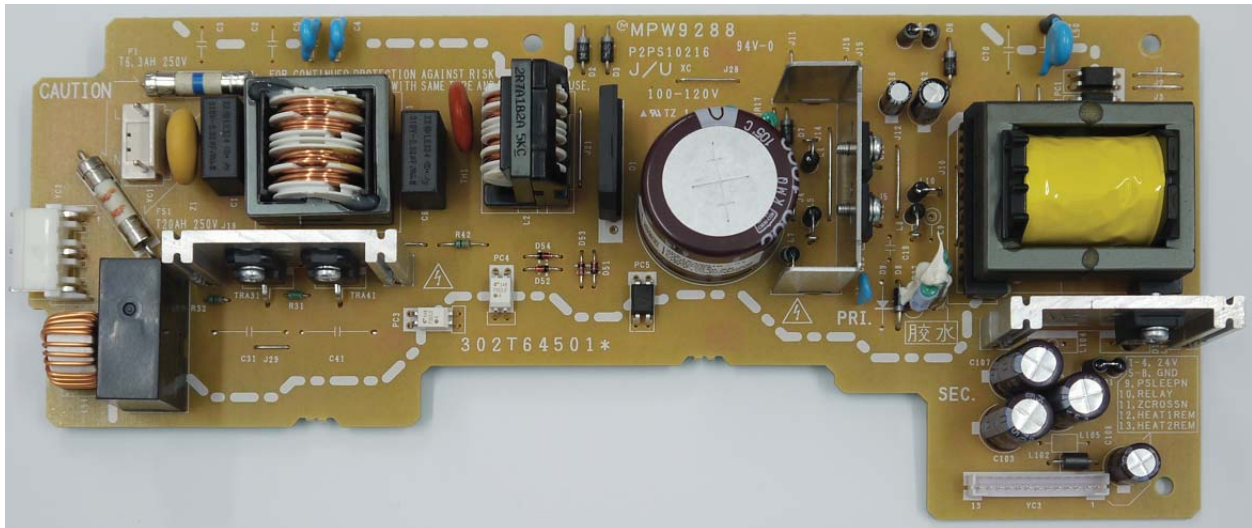
### (2-2) Engine PWB

Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc.



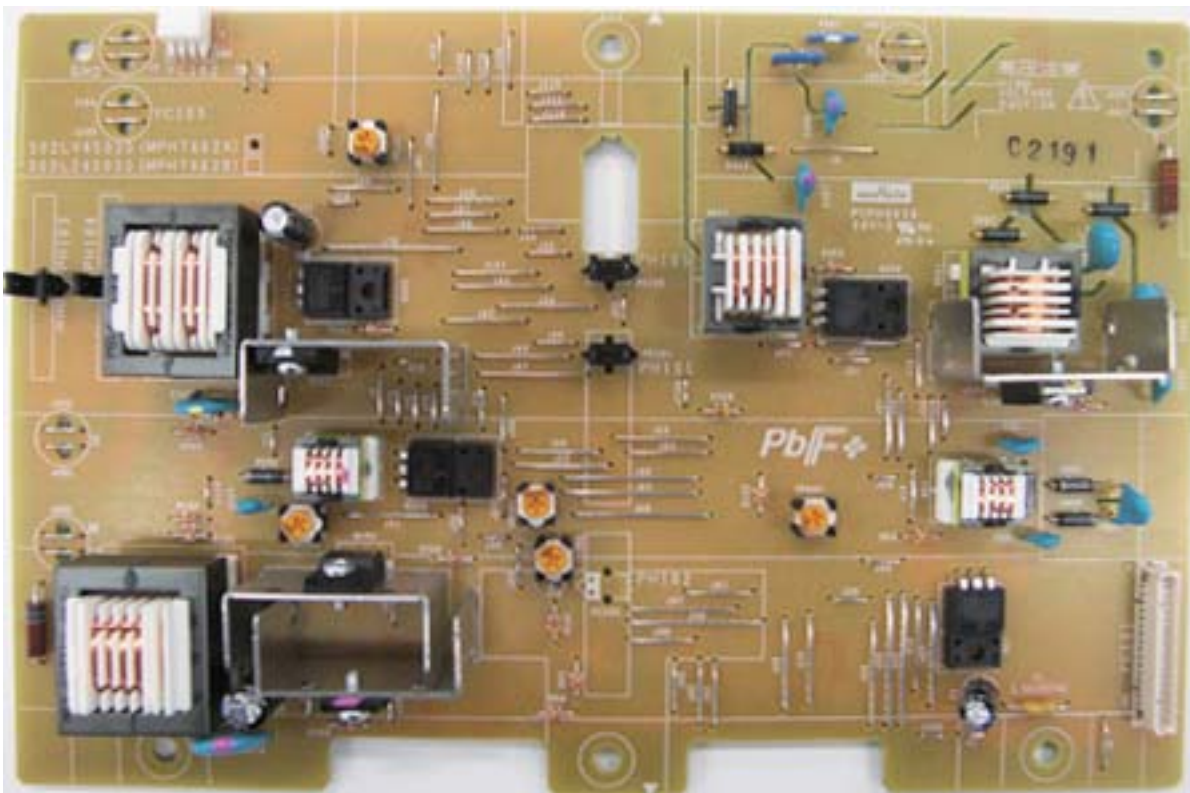
### (2-3)Power supply PWB

After full-wave rectification of AC power source input, switching for converting to 24 V DC for output. Controls the fuser heater.



### (2-4)High voltage PWB

Generates main charging, developing bias, transfer bias.

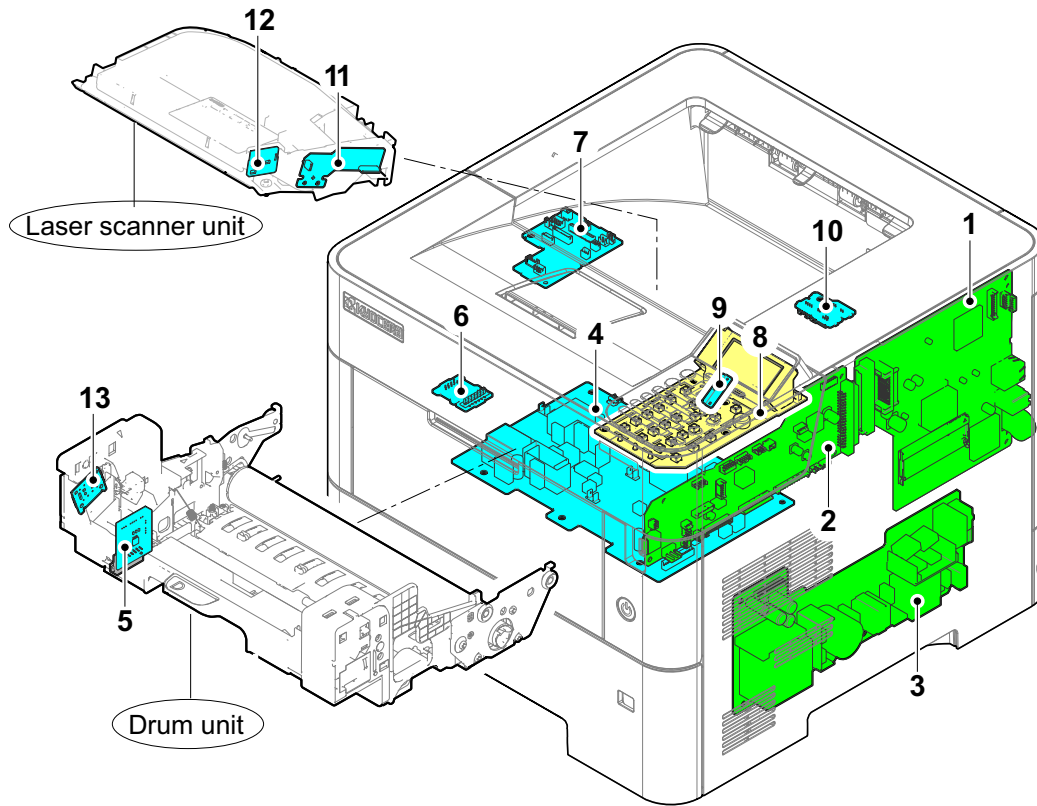




## (2-5)Operation panel PWB

Consists the LCD, LED indicators and key switches.



**(3)PWBs****(3-1)Layout**

- |    |                            |   |
|----|----------------------------|---|
| 1  | Main PWB                   | Controls the software such as the print data processing and provides the interface with computers.                                      |
| 2  | Engine PWB                 | Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc. |
| 3  | Power supply PWB           | After full-wave rectification of AC power source input, switching for converting to 24 V DC for output. Controls the fuser heater.      |
| 4  | High voltage PWB           | Generates main charging, developing bias, transfer bias.  |
| 5  | Drum PWB                   | Relays wirings from electrical components on the drum unit.<br>Drum individual information in EEPROM storage.                           |
| 6  | Drum relay PWB             | Consists of wiring relay circuit between engine PWB and the drum unit.  |
| 7  | Relay-L PWB                | Consists of wiring relay circuit between engine PWB and drum connect PWB.   |
| 8  | Operation panel PWB        | Consists the LCD, LED indicators and key switches.  |
| 9  | Back light PWB             | LCD lighting.   |
| 10 | Fuser thermistor relay PWB | Consists of wiring relay circuit between engine PWB fuser thermistors and cooling fans.   |
| 11 | APC PWB                    | Generates and controls the laser beam.  |
| 12 | PD PWB                     | Controls horizontal synchronizing timing of laser beam.   |
| 13 | Container relay PWB        | Reads the container information.  |

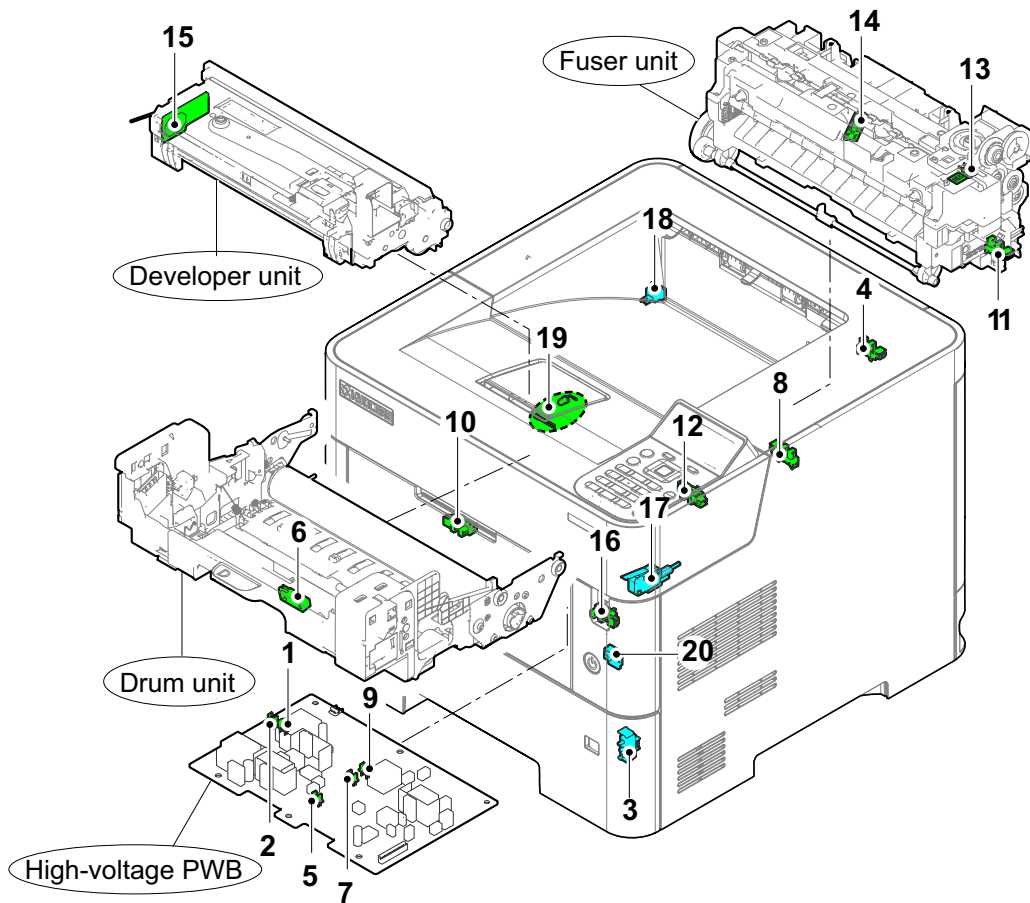
**(3-2)Part name table (PWB)**

No.	Name used in service manual	Name used in parts list	Part. No.
1	Main PWB	PARTS PWB MAIN ASSY SP PARTS PWB MAIN ASSY EU SP	30C0T9401_ <sup>*1, *3</sup> 30C0T9409_ <sup>*2</sup>
2	Engine PWB	PARTS PWB ENGINE ASSY SP	30C0T9402_ <sup>*4</sup> 30C0W9401_ <sup>*5</sup> 30C0X9401_ <sup>*6</sup> 30C0Y9401_ <sup>*7</sup>
3	Power source PWB	PARTS UNIT POWER SUPPLY 120 SP PARTS UNIT POWER SUPPLY 230 SP	302T69410_ <sup>*1</sup> 302T69415_ <sup>*2</sup>
4	High voltage PWB	PARTS HIGH VOLTAGE UNIT SP PARTS HIGH VOLTAGE UNIT SP	302L29403_ <sup>*7</sup> 302LV9406_ <sup>*8</sup>
5	Drum PWB	- (DK-3212 (U)) (DK-3210 (E)) (DK-3214 (AO)) (DK-3202 (U)) (DK-3200 (E)) (DK-3204 (AO))	- (30C0T9303_) <sup>*8, *1</sup> (30C0T9302_) <sup>*8, *2</sup> (30C0T9305_) <sup>*8, *3</sup> (30C0Y9302_) <sup>*7, *1</sup> (30C0Y9301_) <sup>*7, *2</sup> (30C0Y9304_) <sup>*7, *3</sup>
6	Drum relay PWB	PARTS PWB DRUM CONNECT ASSY SP	30C0T9404_
7	Relay-L PWB	PARTS PWB CONNECT-L ASSY SP	30C0T9406_ <sup>*8</sup> 30C0Y9402_ <sup>*4</sup>
8	Operation panel PWB	PARTS PWB PANEL ASSY SP	30C0T9403_
9	Backlight PWB	- (PARTS PWB PANEL ASSY SP)	- (30C0T9403_)
10	Fuser thermistor relay PWB	PARTS PWB ASSY TH CONNECT SP	302LV9422_
11	APC PWB	- (LK-3190) (LK-3170)	- (302T69301_) <sup>*4, *5</sup> (302T99304_) <sup>*6, *7</sup>
12	PD PWB	- (LK-3190) (LK-3170)	- (302T69301_) <sup>*4, *5</sup> (302T99304_) <sup>*6, *7</sup>
13	Container relay PWB	- (DK-3212 (U)) (DK-3210 (E)) (DK-3214 (AO)) (DK-3202 (U)) (DK-3200 (E)) (DK-3204 (AO))	- (30C0T9303_) <sup>*8, *1</sup> (30C0T9302_) <sup>*8, *2</sup> (30C0T9305_) <sup>*8, *3</sup> (30C0Y9302_) <sup>*7, *1</sup> (30C0Y9301_) <sup>*7, *2</sup> (30C0Y9304_) <sup>*7, *3</sup>

\*1: 120 V, \*2: 220-240 V, \*3: 240 V

\*4: 60 ppm model, \*5: 55 ppm model, \*6: 50 ppm model

\*7: 45 ppm model, \*8: 50/55/60 ppm model

**(4)Sensors and Switches****(4-1)Layout**

- |                                       |  |
|---------------------------------------|--|
| 1 Paper remaining sensor 1            | Detects the paper remaining amount level in the cassette.      |
| 2 Paper remaining sensor 2            | Detects the paper remaining amount level in the cassette.      |
| 3 Cassette size switch                | Detects the paper size dial setting of the paper setting dial. |
| 4 Eject full sensor                   | Detects the paper full in the upper tray (Face down).          |
| 5 Registration sensor 1 <sup>*2</sup> | Controls the secondary paper feed start timing.                |
| 6 Registration sensor 2 <sup>*1</sup> | Controls the secondary paper feed start timing.                |
| 7 Registration sensor 3 <sup>*1</sup> | Controls the Image data beginning timing.                      |
| 8 Duplex sensor 1 <sup>*1</sup>       | Detects a paper jam in the duplex section.                     |
| 9 Duplex sensor 2                     | Detects a paper jam in the duplex section.                     |
| 10 MP paper sensor                    | Detects the presence of paper on the MP tray.                  |
| 11 Exit sensor                        | Detects a paper misfeed in the fuser or eject section.         |
| 12 Fuser pressure release sensor      | Detects the change state of pressure in fuser unit.            |
| 13 Fuser thermistor 1                 | Detects the heat roller temperature at the edge position.      |
| 14 Fuser thermistor 2                 | Detects the heat roller temperature at the center position.    |
| 15 Toner sensor                       | Detects the amount of toner in the developer.                  |
| 16 Lift sensor <sup>*1</sup>          | Detects the top limit of the bottom plate.                     |
| 17 Interlock switch                   | Shuts off 24 V DC power line when the top cover is opened.     |

---

18 Rear cover switch	Detects the opening and closing of the rear cover.
19 Waste toner sensor	Detects when the waste toner box is full.
20 Power source switch	Change ON/OFF the power supply of a main PWB, an operation panel PWB, etc.

\*1:60/55/50 ppm model

\*2:45 ppm model

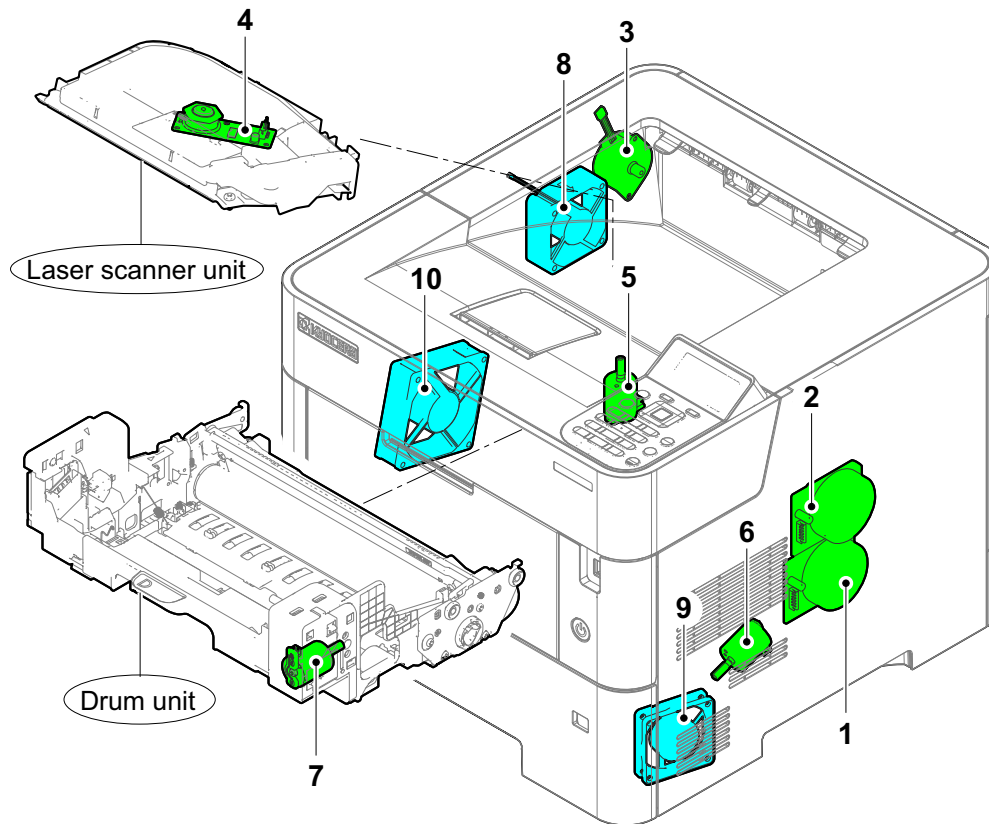
**(4-2)Part name table (Sensors and Switches)**

No.	Name used in service manual	Name used in parts list	Part. No.
1	Paper sensor 1	- (PARTS HIGH VOLTAGE UNIT SP)	- (302LV9406_) *4 (302L29403_) *5
2	Paper sensor 2	- (PARTS HIGH VOLTAGE UNIT SP)	- (302LV9406_) *4 (302L29403_) *5
3	Cassette size switch	SW.PUSH	7SP01000009+H01
4	Eject full sensor	PARTS SENSOR OPT SP	302P79401_
5	Registration sensor 1 *5	- (PARTS HIGH VOLTAGE UNIT SP)	- (302LV9406_) *4 (302L29403_) *5
6	Registration sensor 2 *4	- (DK-3212 (U)) (DK-3210 (E)) (DK-3214 (AO))	- (30C0T9303_) *1 (30C0T9302_) *2 (30C0T9305_) *3
7	Registration sensor 3 *4	- (PARTS HIGH VOLTAGE UNIT SP)	- (302LV9406_)
8	Duplex sensor 1 *4	PARTS SENSOR OPT SP (PARTS COVER REAR ASSY SP)	303M89426_ (302TP9402_)
9	Duplex sensor 2	- (PARTS HIGH VOLTAGE UNIT SP)	- (302LV9406_) *4 (302L29403_) *5
10	MP paper sensor	PARTS SENSOR OPT SP	303M89426_
11	Eject sensor	- (FK-3220 (E)) (FK-3222 (U)) (FK-3210 (E)) (FK-3212 (U))	- (30C0T9306_) *4, *1 (30C0T9308_) *4, *2, *3 (30C0Y9305_) *5, *1 (30C0Y9307_) *5, *2, *3
12	Fuser pressure release sensor	PARTS SENSOR OPT SP	303M89426_
13	Fuser thermistor 1	- (FK-3220 (E)) (FK-3222 (U)) (FK-3210 (E)) (FK-3212 (U))	- (30C0T9306_) *4, *1 (30C0T9308_) *4, *2, *3 (30C0Y9305_) *5, *1 (30C0Y9307_) *5, *2, *3
14	Fuser thermistor 2	- (FK-3220 (E)) (FK-3222 (U)) (FK-3210 (E)) (FK-3212 (U))	- (30C0T9306_) *4, *1 (30C0T9308_) *4, *2, *3 (30C0Y9305_) *5, *1 (30C0Y9307_) *5, *2, *3
15	Toner sensor	- (DV-3110)	- (30C0T9301_)
16	Lift sensor *4	PARTS SENSOR OPT SP	303M89426_

No.	Name used in service manual	Name used in parts list	Part. No.
17	Interlock switch	INTER LOCK SWITCH	2FB2716_
18	Rear cover switch	SW.PUSH	7SP01000009+H01
19	Waste toner sensor	PARTS TONER FULL DETECT ASSY SP	302LV9412_
20	Power source switch	PARTS PWB ASSY SWITCH SP	302LV9421_

\*1: 120 V, \*2: 220-240 V, \*3: 240 V

\*4: 50/55/60 ppm model, \*5: 45 ppm model

**(5)Motors****(5-1)Layout**

- |                                |   |
|--------------------------------|---|
| 1 Main motor                   | Drives the paper feed section and conveying section.          |
| 2 Drum motor* <sup>1</sup>     | Drives the drum unit and transfer roller.                     |
| 3 Eject motor                  | Drives the eject section.                                     |
| 4 Polygon motor                | Drives the polygon mirror.                                    |
| 5 Fuser pressure release motor | Drives the change mechanism of fixing pressure in fuser unit. |
| 6 Lift motor* <sup>1</sup>     | Operates the bottom plate in the cassette.                    |
| 7 Toner motor                  | Replenishes toner to the developer unit.                      |
| 8 LSU fan                      | Cools the LSU unit.   |
| 9 Power supply fan             | Cools the power supply PWB.                                   |
| 10 Developer fan               | Cools the developer unit.                                     |

\*1: 60/55/50 ppm model



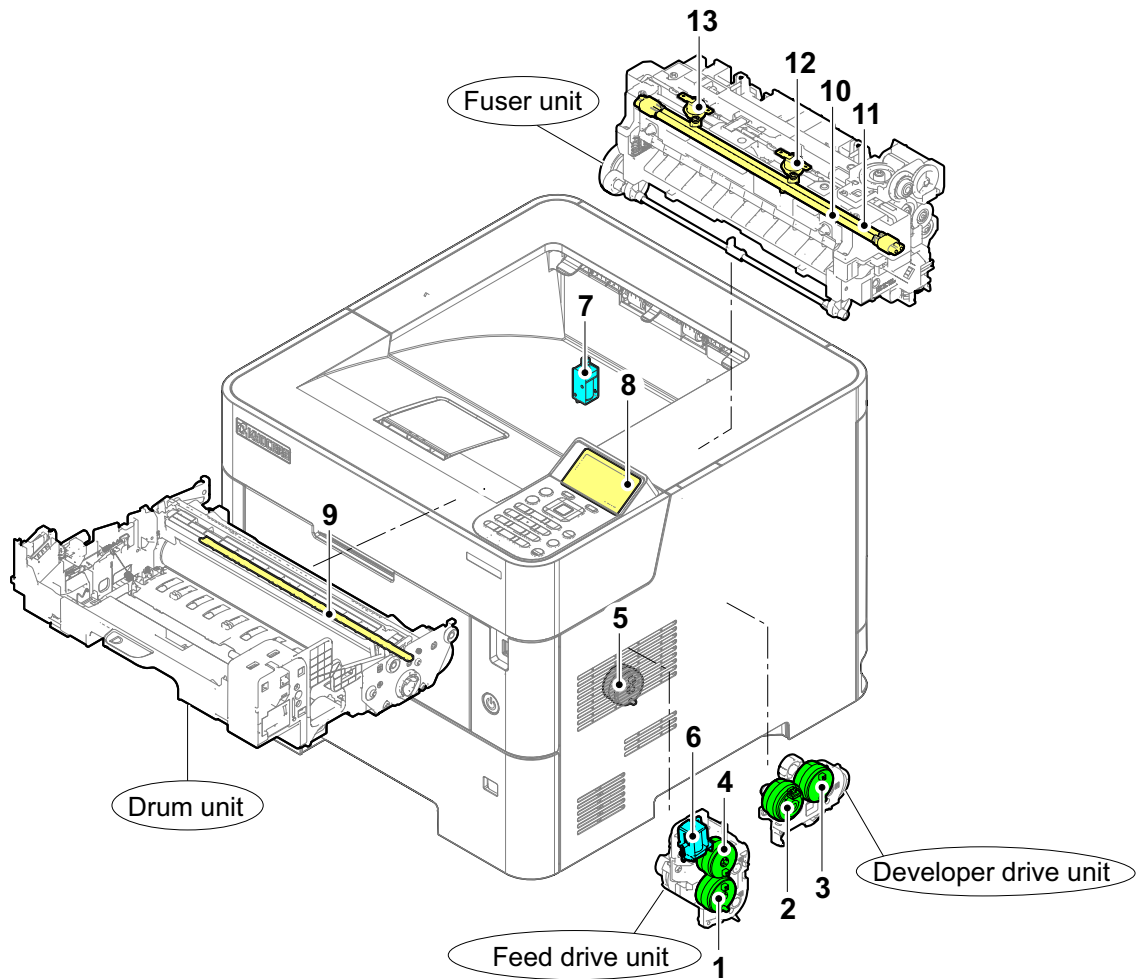
**(5-2)Part name table (motor)**

No.	Name used in service manual	Name used in parts list	Part. No.
1	Main motor	PARTS MOTOR-BL W30 SP	302K39420_
2	Drum motor *8	PARTS MOTOR-BL W30 SP	302K39420_
3	Eject motor	PARTS MOTOR EJECT SP	302T99405_
4	Polygon motor	- (LK-3190) (LK-3170)	- (302T69301_) *4, *5 (302T99304_) *6, *7
5	Fuser pressure release motor	PARTS DC MOTOR ASSY SP	302LV9423_
6	Lift motor *8	PARTS DC MOTOR ASSY SP	302LV9423_
7	Toner motor	- (DK-3212 (U)) (DK-3210 (E)) (DK-3214 (AO)) (DK-3202 (U)) (DK-3200 (E)) (DK-3204 (AO))	- (30C0T9303_) *8, *1 (30C0T9302_) *8, *2 (30C0T9305_) *8, *3 (30C0Y9302_) *7, *1 (30C0Y9301_) *7, *2 (30C0Y9304_) *7, *3
8	LSU fan	FAN LSU 60-25	302GR4408_
9	Power source fan	PARTS,FAN COOLING CONVEYING SP	302FZ9442_
10	Developer fan	PARTS FAN MOTOR ASSY SP	302LV9443_

\*1: 120 V, \*2: 220-240 V, \*3: 240 V

\*4: 60 ppm model, \*5: 55 ppm model, \*6: 50 ppm model

\*7: 45 ppm model, \*8: 50/55/60 ppm model

**(6)Other parts****(6-1)Layout**

1 Paper feed clutch	Primary paper feed from cassette.
2 Registration clutch	Controls the secondary paper feed.
3 Developer clutch	Controls the drive of the developer.
4 Conveying clutch	Controls the paper conveying.
5 Duplex clutch	Controls the drive of the duplex feed roller.
6 MP solenoid	Controls the MP bottom plate.
7 Feedshift solenoid *1	Operates the feedshift guide.
8 LCD	LCD display. Displays an operating state.
9 Cleaning lamp	Eliminates the residual electrostatic charge on the drum.
10 Fuser heater 1	Heats the heat roller.
11 Fuser heater 2	Heats the heat roller.
12 Fuser thermostat 1	Prevents overheating of the heat roller.
13 Fuser thermostat 2	Prevents overheating of the heat roller.

\*1:60/55/50 ppm model

**(6-2)Part name table (Other parts)**

No.	Name used in service manual	Name used in parts list	Part. No.
1	Paper feed clutch	PARTS CLUTCH 20-2W Z35R (PARTS DRIVE FEED ASSY SP)	302LV9416_ (302LV9425_)
2	Registration clutch	PARTS CLUTCH 50 Z35R SP	302KV9452_
3	Developer clutch	PARTS CLUTCH 50 Z35R SP	302KV9452_
4	Conveying clutch	PARTS CLUTCH 35 Z35R SP (PARTS DRIVE FEED ASSY SP)	302NR9401_ (302LV9425_)
5	Duplex clutch	PARTS CLUTCH 20-2W Z35R	302LV9416_
6	MP solenoid	- (PARTS DRIVE FEED ASSY SP)	- (302LV9425_)
7	Feedshift solenoid*5	- (PARTS COVER REAR ASSY SP)	- (30C0T9407_)
8	LCD	- (PARTS PWB ASSY PANEL SP)	- (30C0T9403_)
9	Cleaning lamp	- (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99307_)*5, *1 (302T99306_)*5, *2 (302T99309_)*5, *3 (302T69304_)*4, *1 (302T69303_)*4, *2 (302T69306_)*4, *3
10	Fuser heater 1	- (FK-3202) (FK-3200) (FK-3302) (FK-3300)	- (302V393060)*5, *1 (302V393040)*5, *2, *3 (302TA93050)*4, *2 (302TA93040)*4, *2, *3
11	Fuser heater 2	- (FK-3202) (FK-3200) (FK-3302) (FK-3300)	- (302V393060)*5, *1 (302V393040)*5, *2, *3 (302TA93050)*4, *2 (302TA93040)*4, *2, *3
12	Fuser thermostat 1	- (FK-3202) (FK-3200) (FK-3302) (FK-3300)	- (302V393060)*5, *1 (302V393040)*5, *2, *3 (302TA93050)*4, *2 (302TA93040)*4, *2, *3
13	Fuser thermostat 2	- (FK-3202) (FK-3200) (FK-3302) (FK-3300)	- (302V393060)*5, *1 (302V393040)*5, *2, *3 (302TA93050)*4, *2 (302TA93040)*4, *2, *3

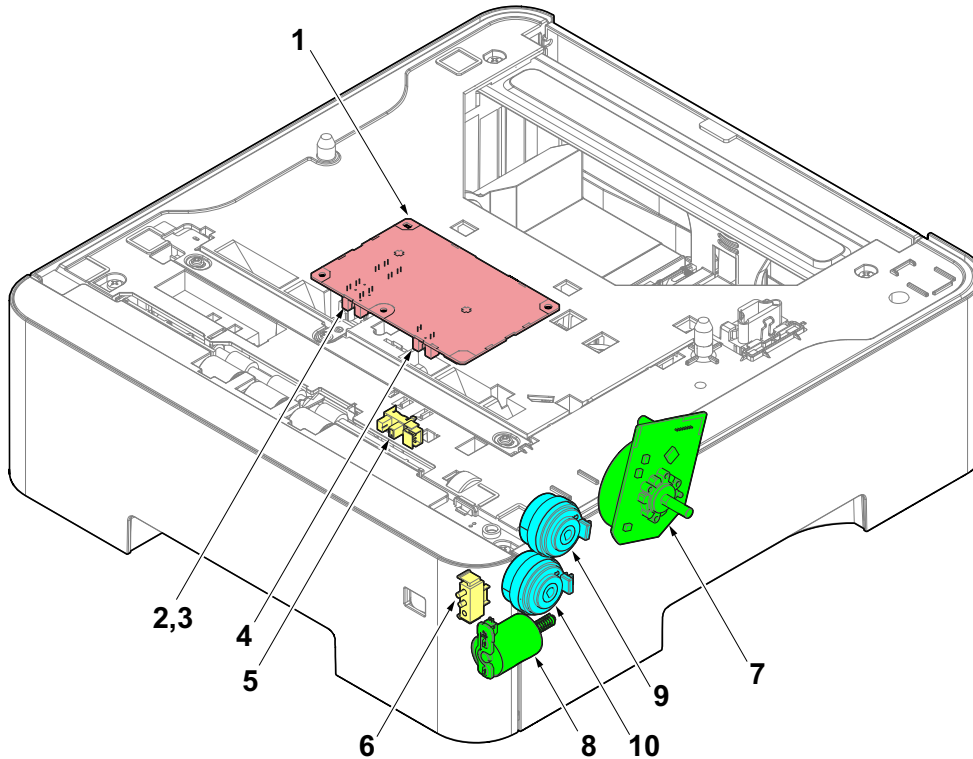
\*1: 120 V, \*2: 220-240 V, \*3: 240 V

\*4: 50/55/60 ppm model, \*5: 45 ppm model

### 3 - 4 Electric parts (Optional unit)

#### (1) Paper feeder (PF-3110)

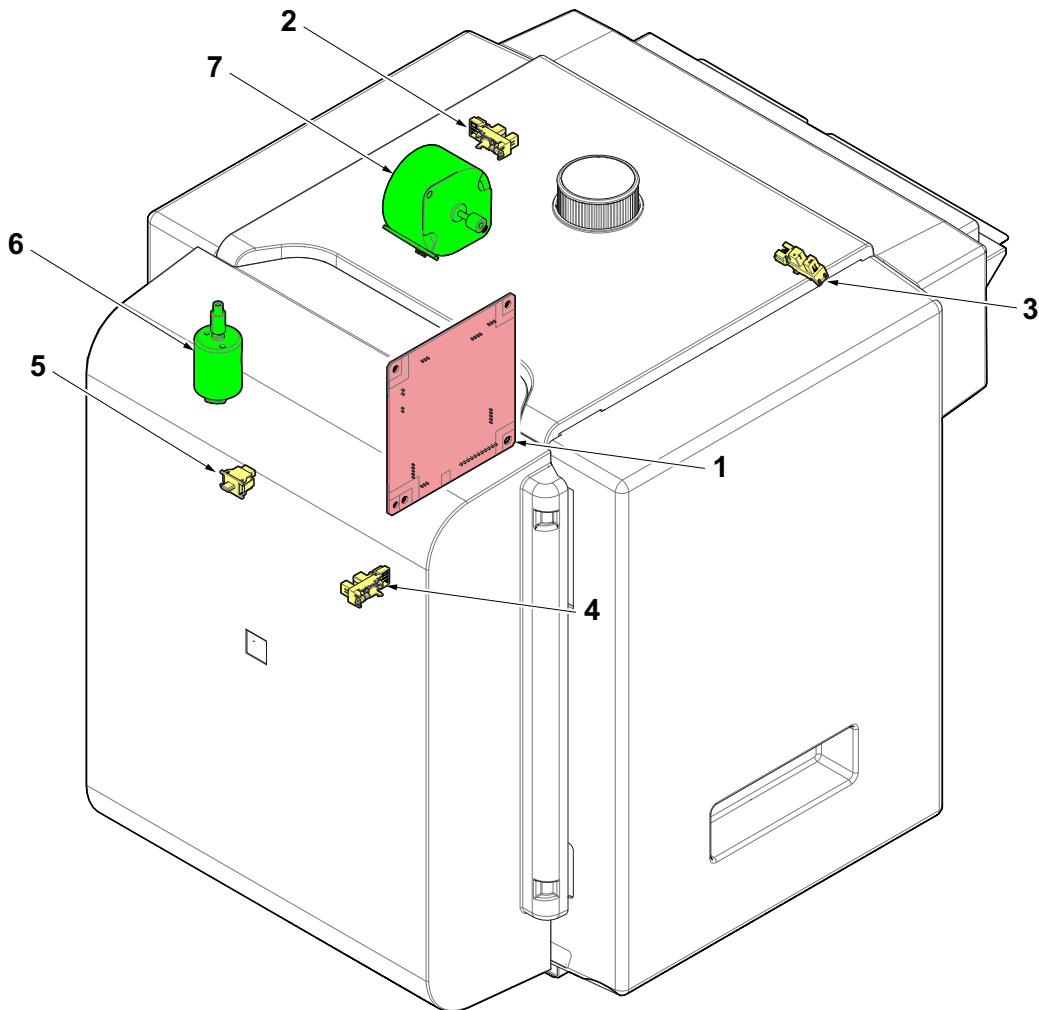
##### (1-1) Layout



1	PF PWB	Controls electrical components in the paper feeder and communications with the printer.
2	PF Paper remaining sensor 1	Detects the paper remaining amount level.
3	PF Paper remaining sensor 2	Detects the paper remaining amount level.
4	PF lift upper limit sensor	Detects the top limit of the bottom plate.
5	PF Paper feed 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 paper feed clutch	Controls the paper feed from the cassette.
10	PF conveying clutch	Controls the paper conveying.

**(1-2)Part name table**

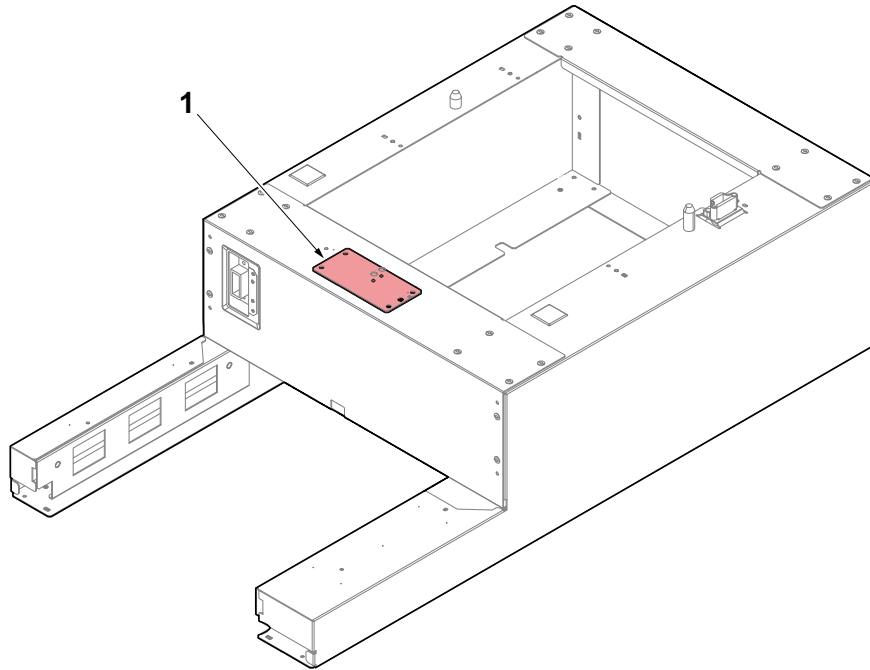
No.	Name used in service manual	Name used in parts list	Part. No.
1	PF PWB	PARTS PWB ASSY PF MAIN SP	303NY9401_
2	PF Paper remaining sensor 1	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
3	PF Paper remaining sensor 2	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
4	PF lift upper limit sensor	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
5	PF Paper feed sensor	SENSOR OPT.	7NXSG2A141++H01
6	PF cassette size switch	SW.PUSH	7SP03072003+H01
7	PF feed motor	PARTS MOTOR-BL W20 SP	302K99432_
8	PF lift motor	PARTS DC MOTOR ASSY SP	303NY9402_
9	PF paper feed clutch	PARTS CLUTCH 50 Z35R SP	302KV9452_
10	PF conveying clutch	PARTS CLUTCH 50 Z35R SP	302KV9452_

**(2) Large Capacity paper feeder (PF-3100)****(2-1) Layout**

- |   |                            |  |
|---|----------------------------|--|
| 1 | PF PWB                     | Controls electrical components in the Large Capacity paper feeder and communications with the printer.   |
| 2 | PF lift upper limit sensor | This sensor, when the top of the paper stack in the paper tray has reached the top most position, ready for feeding paper through the Large Capacity paper feeder output slot. |
| 3 | PF paper feed sensor       | This sensor monitors the presence of paper at the Large Capacity paper feeder output slot.   |
| 4 | PF lift lower limit sensor | This sensor, when stepped on by the paper tray as the paper tray descends.   |
| 5 | PF cover switch            | This switch reports CPU as to whether the tray cover is closed or open.  |
| 6 | PF lift motor              | This is a DC servo motor to raise or descends the paper tray.  |
| 7 | PF paper feed motor        | Drive the paper feed roller to pull paper out from the paper tray and feed it to the printer.  |

**(2-2)Part name table**

No.	Name used in service manual	Name used in parts list	Part. No.
1	PF PWB	PARTS PWB PF MAIN ASSY SP	303S39403_
2	PF upper limit sensor	PARTS SENSOR OPT. SP	302P79401_
3	PF paper feed sensor	PARTS SENSOR OPT. SP	302P79401_
4	PF lower limit sensor	PARTS SENSOR OPT. SP	302P79401_
5	PF cover switch	SW.PUSH	7SP01000009+H01
6	PF lift motor	PARTS DC MOTOR ASSY SP	303S39402_
7	PF paper feed motor	PARTS MOTOR-PM DP SP	302S09401_

**(3)Dedicated stand for mounting PF-3100 (PB-325)****(3-1)Layout**

1 PB PWB

Consist of the printer engine PWB and the relay PWB to the PF paper feeder.

**(3-2)Part name table**

No.	Name used in service manual	Name used in parts list	Part. No.
1	PB PWB	PARTS PWB ASSY PB SP	303N19401_

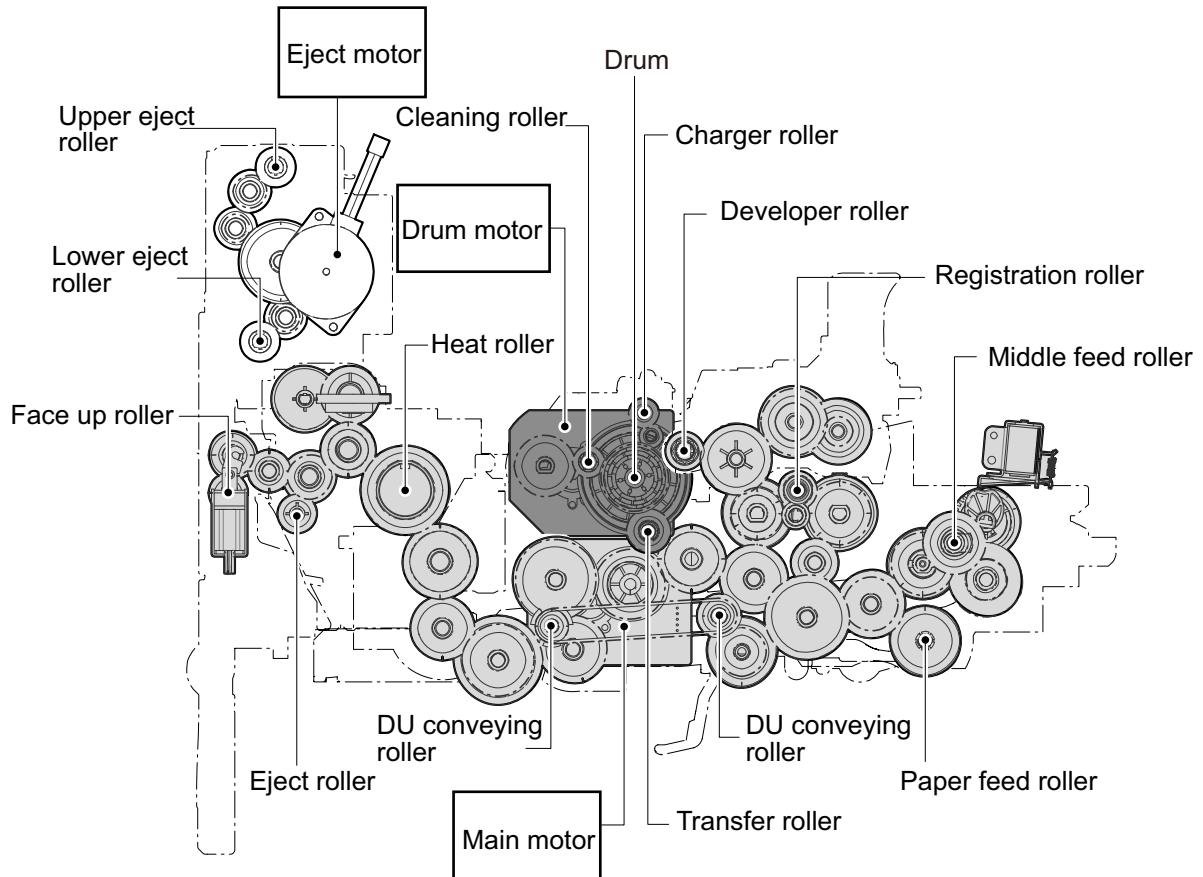


### 3 - 5 Drive system

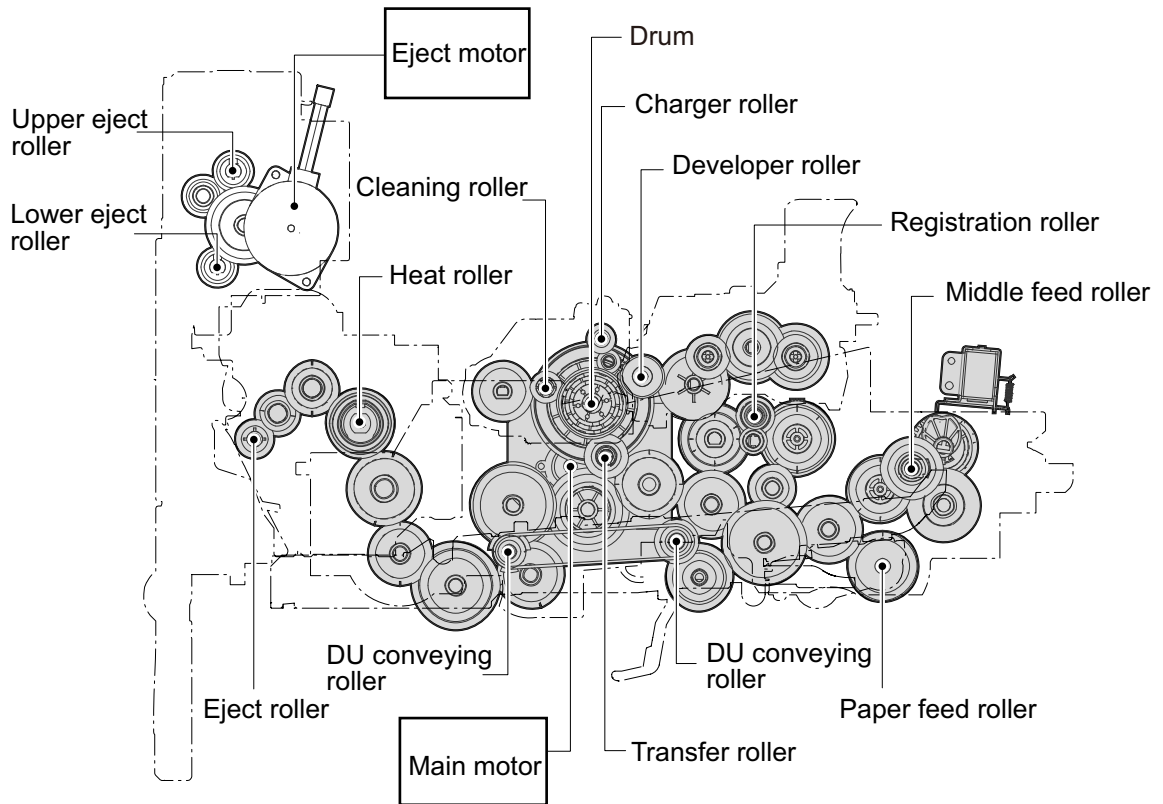
#### (1) Drive configuration

Entire drive

60/55/50 ppm model



45 ppm model



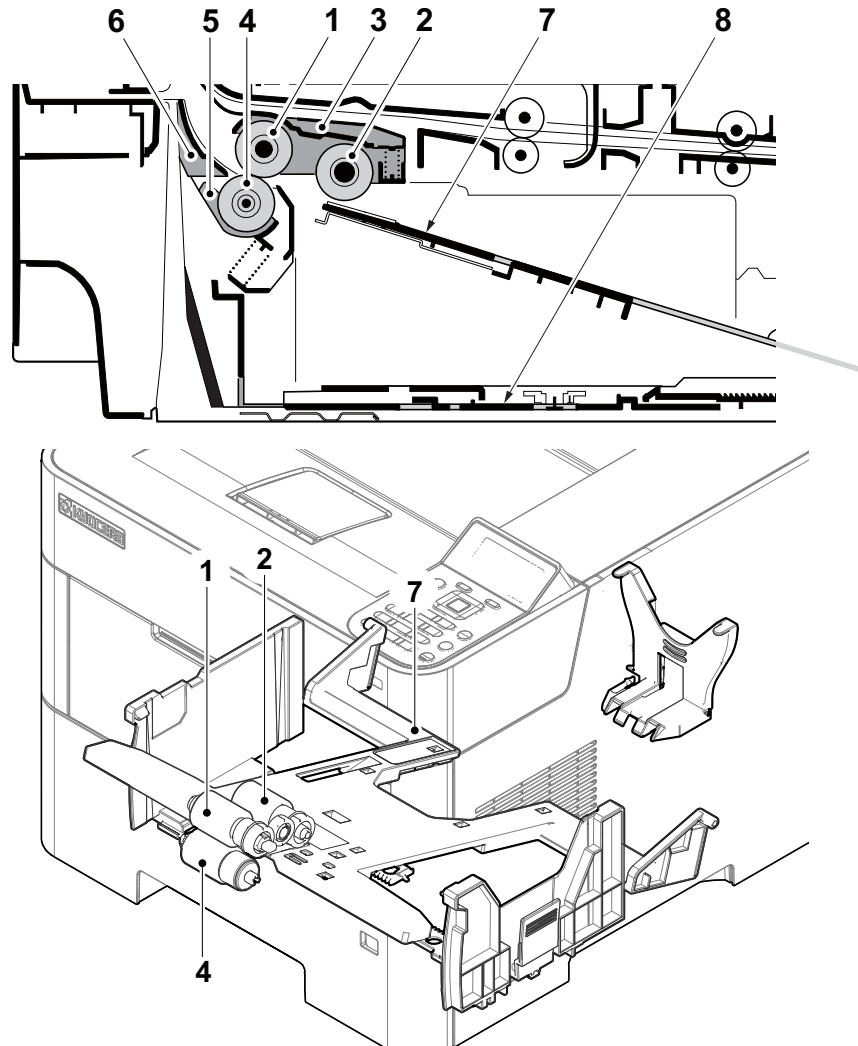
### 3 - 6 Mechanical construction

#### (1) Paper feed section

Paper feed/conveying 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 (80 g/m<sup>2</sup>). 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.



1 Paper feed roller

2 Pickup roller

3 Feed holder

4 Retard roller

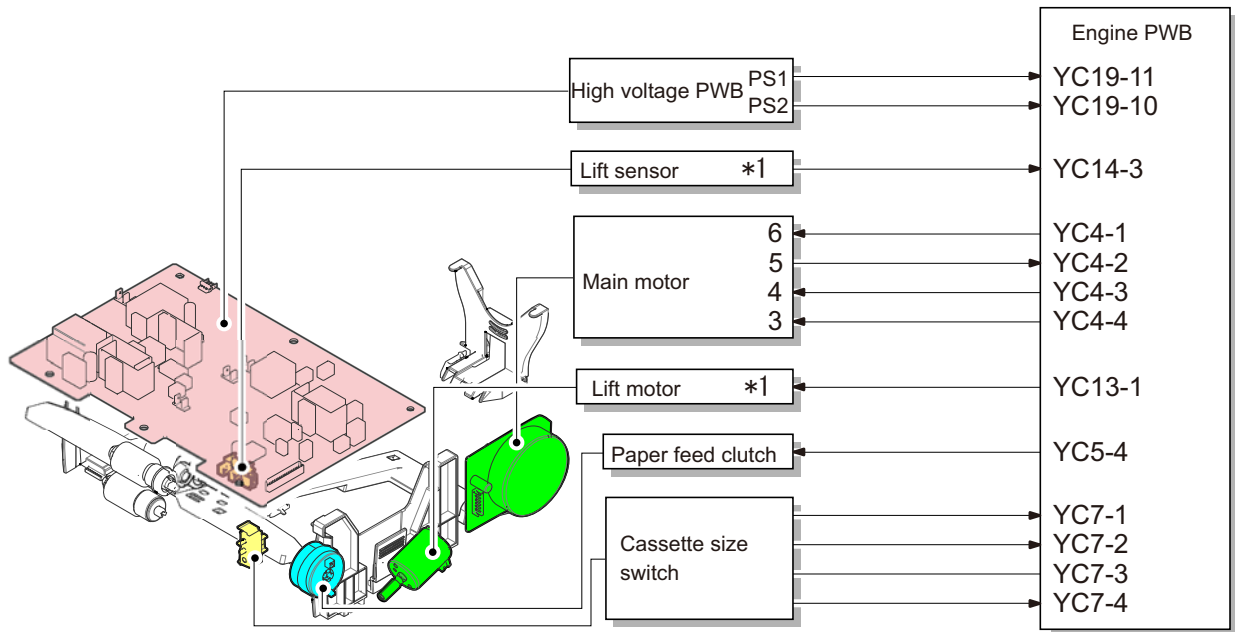
5 Retard holder

6 Retard guide

7 Bottom plate

8 Cassette base

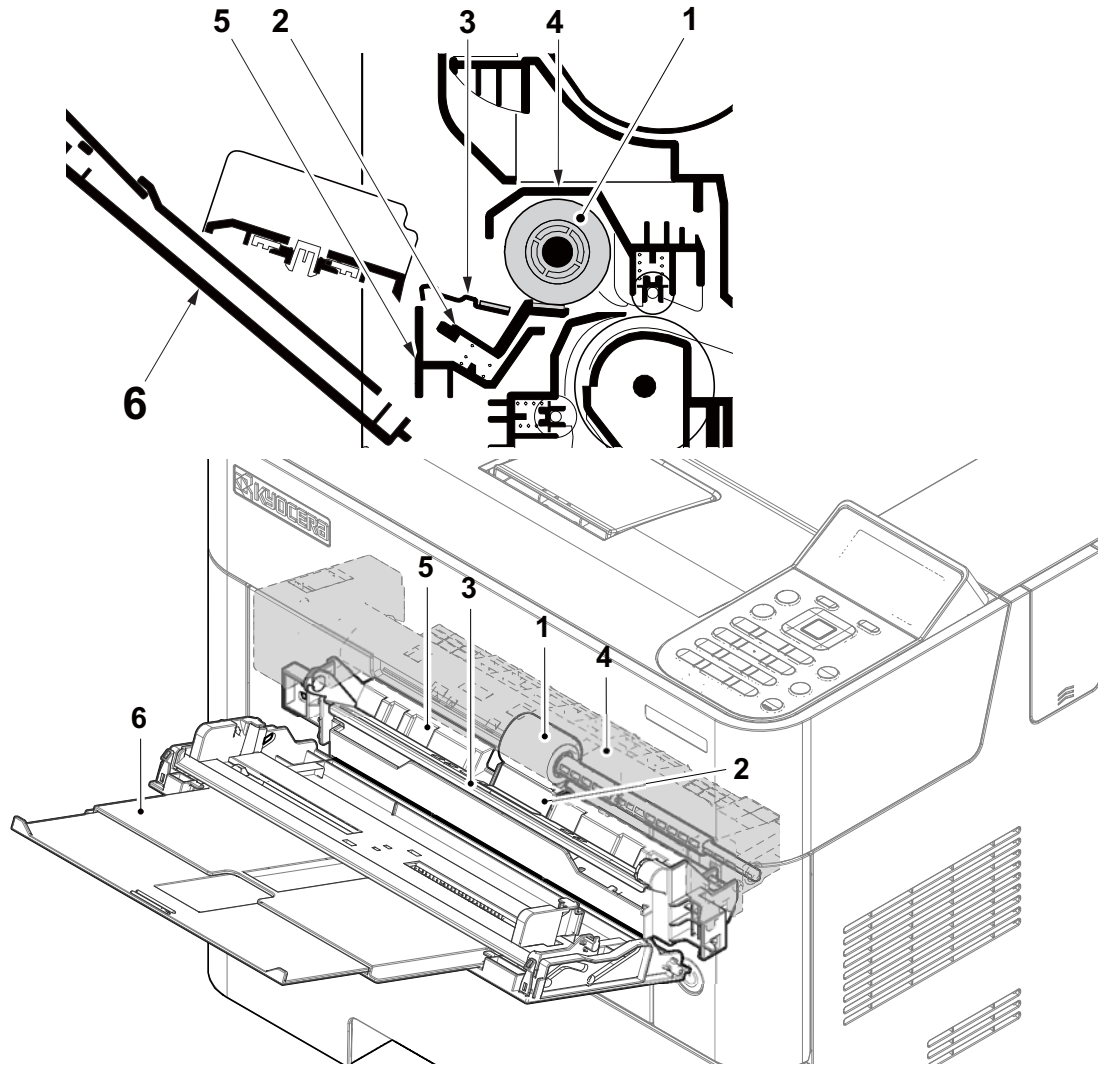
Block diagram



\*1: 60/55/50 ppm model

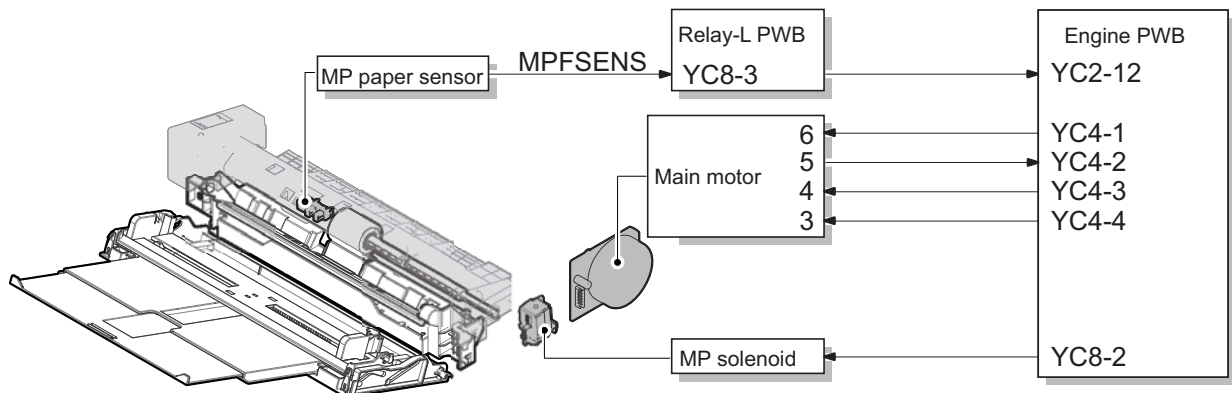
### (1-2)MP tray paper feed section

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.



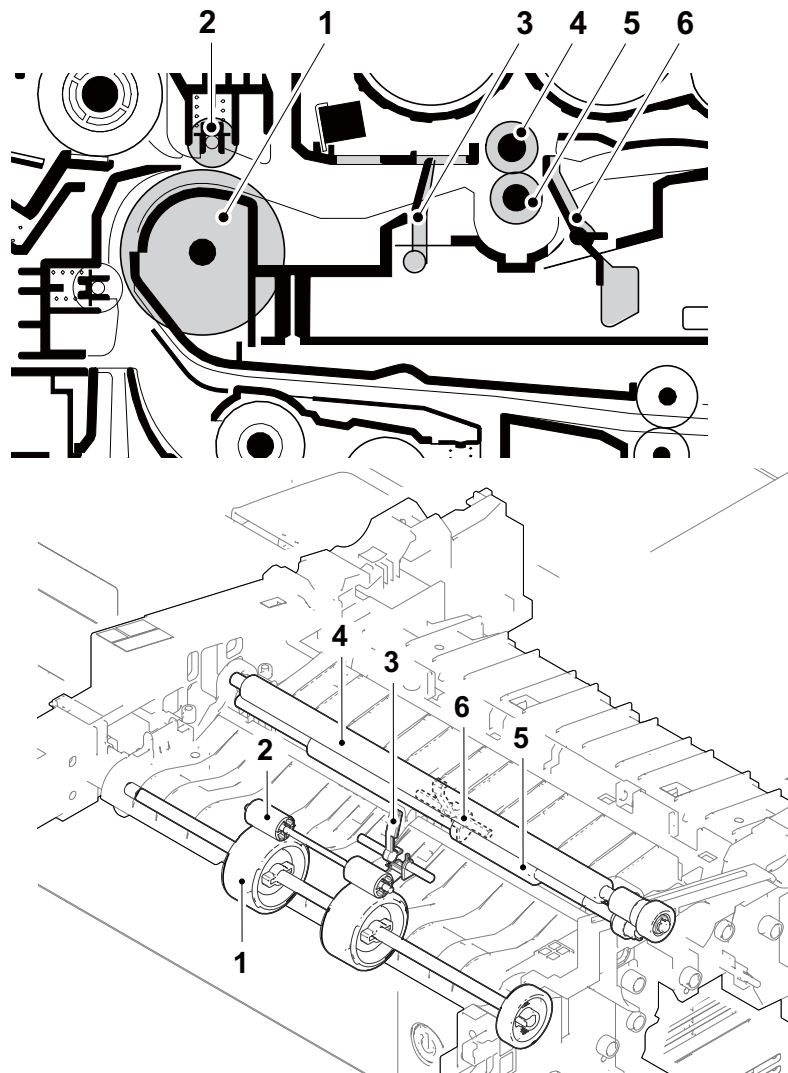
- 1 MP paper feed roller
- 2 MP separation pad
- 3 MP bottom plate
- 4 MP frame
- 5 MP base
- 6 MP tray

### Block diagram



## (2)Conveying section

The conveying section conveys paper to the transfer/separation section as paper feeding from the cassette or MP tray, or as paper re-feeding 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.



1 Middle feed roller

2 Feed DU pulley

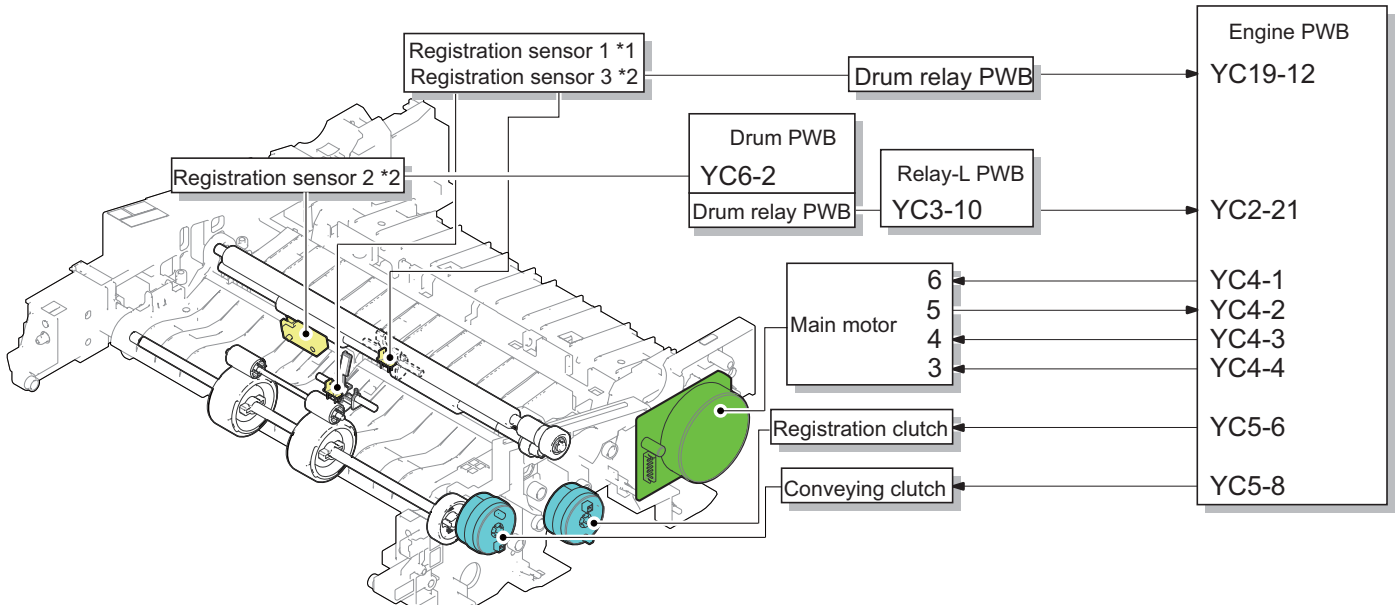
3 Actuator  
(Registration sensor 1) \*1

4 Upper registration roller

5 Lower registration roller

6 Actuator  
(Registration sensor 3) \*2

Block diagram



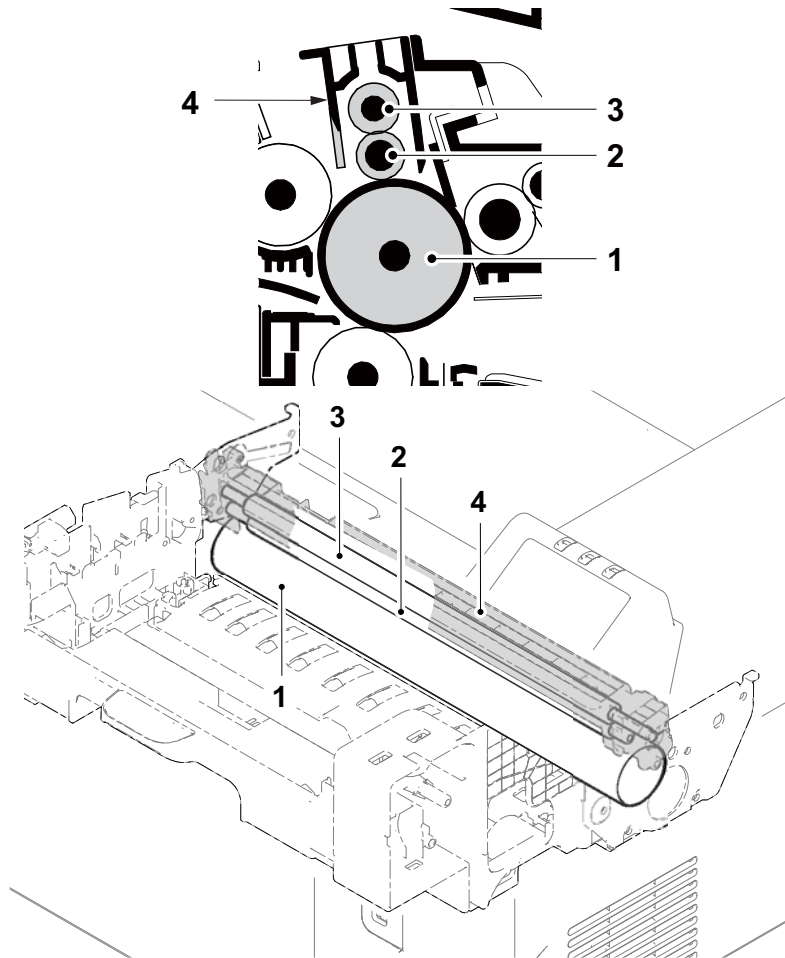
\*1: 45 ppm model

\*2: 60/55/50 ppm model

### (3)Drum section

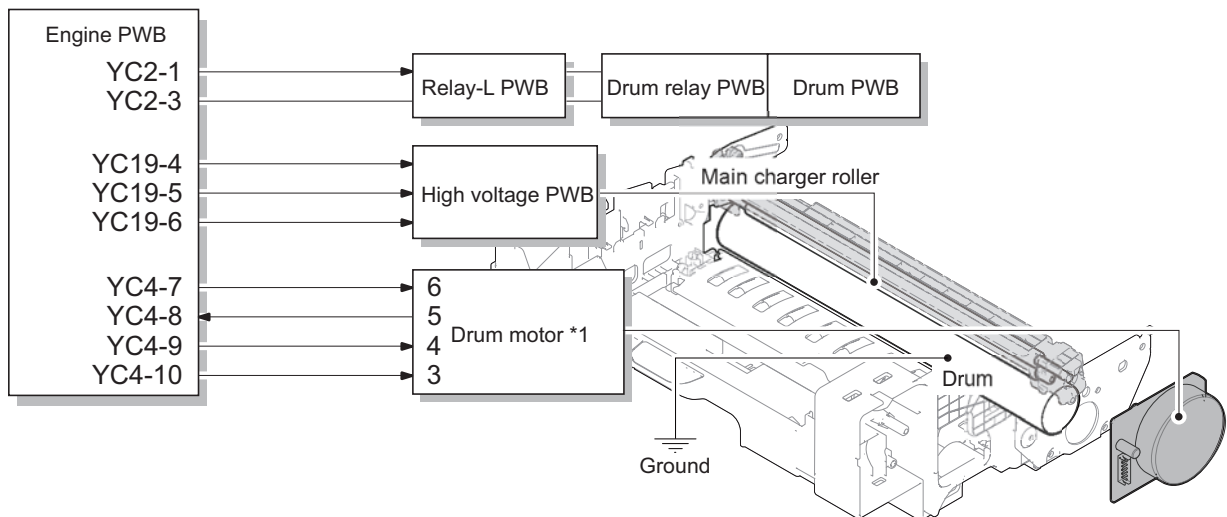
#### (3-1)Charger roller unit

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



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

#### Block diagram

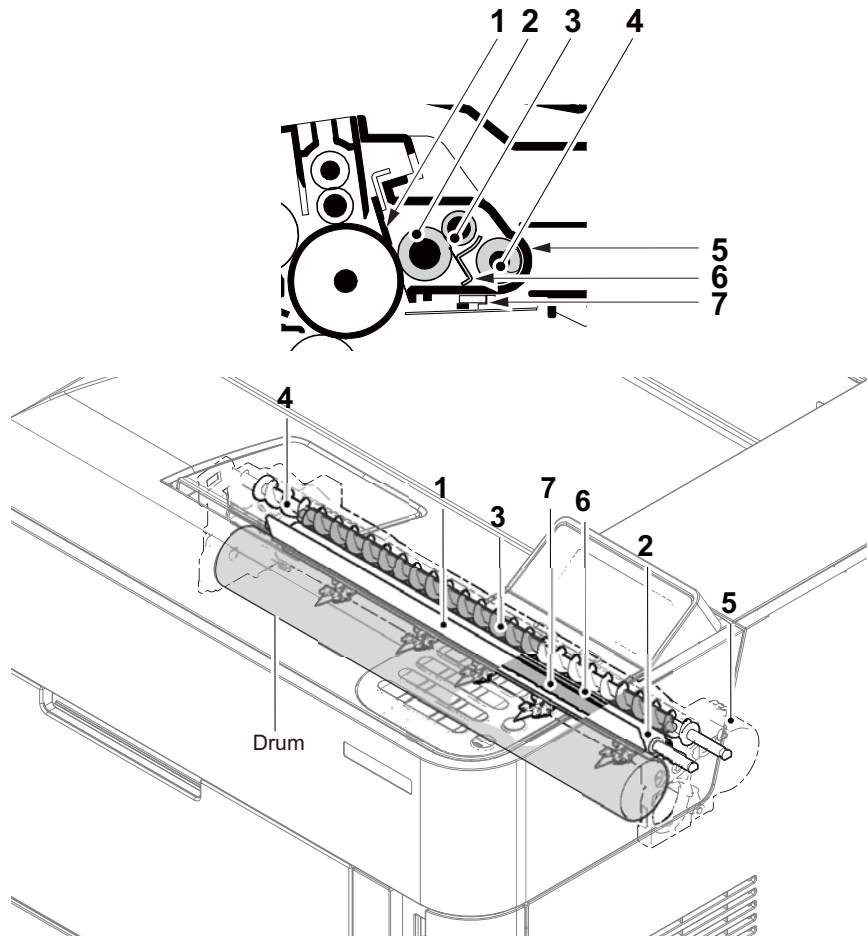


\*1: 60/55/50 ppm model



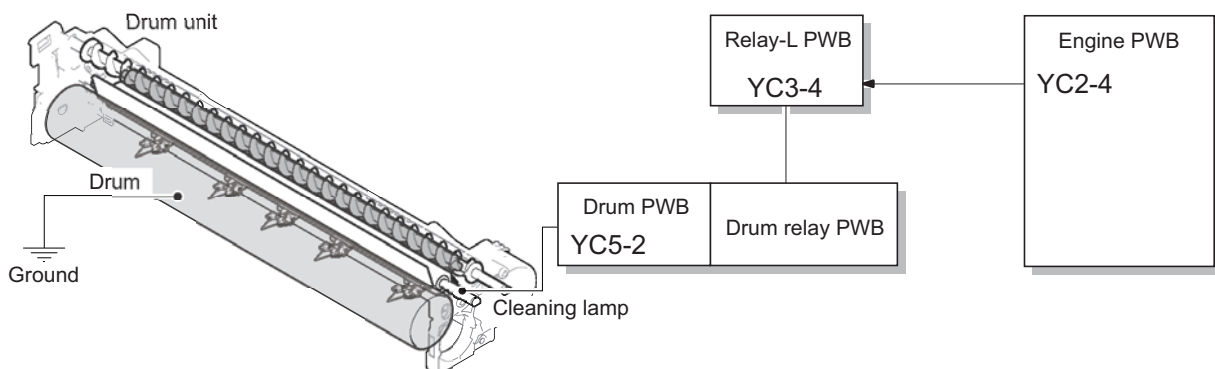
### (3-2)Cleaning unit

In the cleaning section, toner remaining on the drum surface after transferring is removed by the cleaning blade, and collected to the waste toner box by the drum screw. The cleaning lamp consists of the LED lamp, and it removes the electric charge remaining on the drum before the main charge



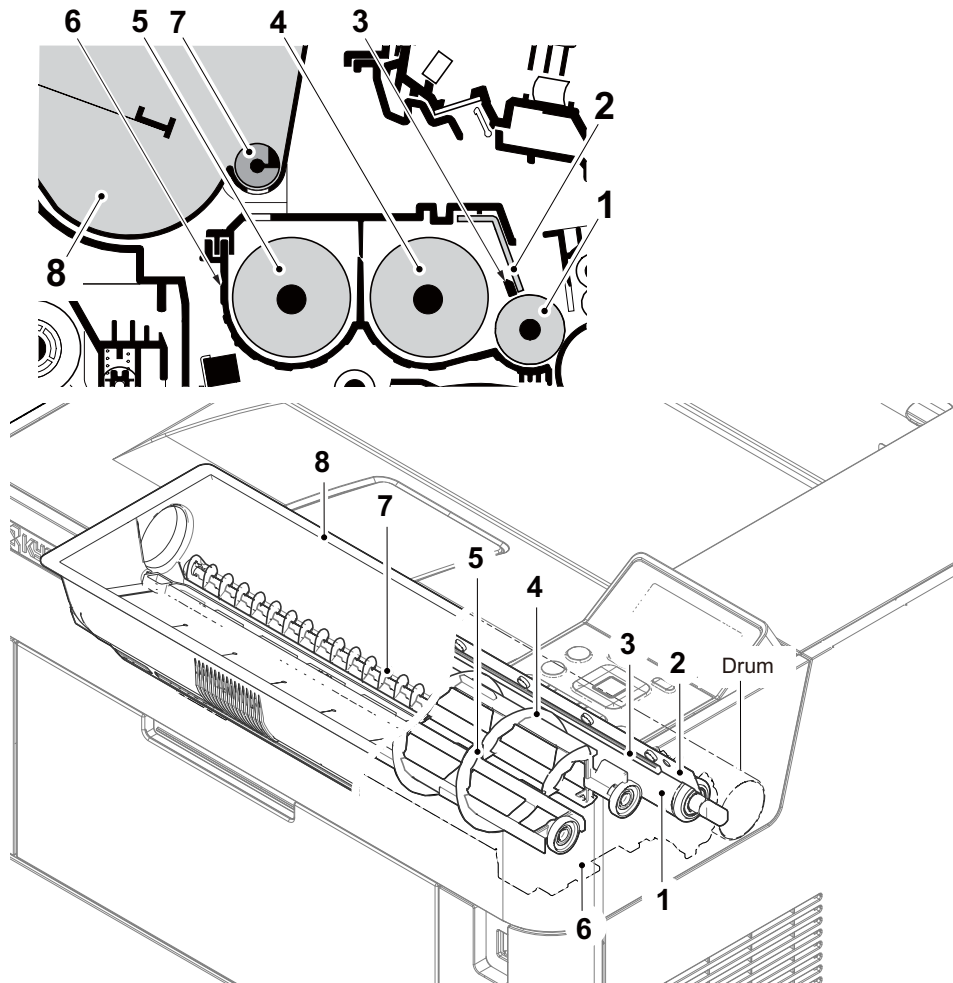
- 1 Cleaning blade
- 2 Cleaning roller
- 3 Control roller
- 4 Sweep roller
- 5 Drum frame
- 6 Scraper
- 7 Cleaning lamp

#### Block diagram



**(4)Developer section**

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.



1 Developer roller

2 Developer blade

3 Magnet blade

4 Developer screw A

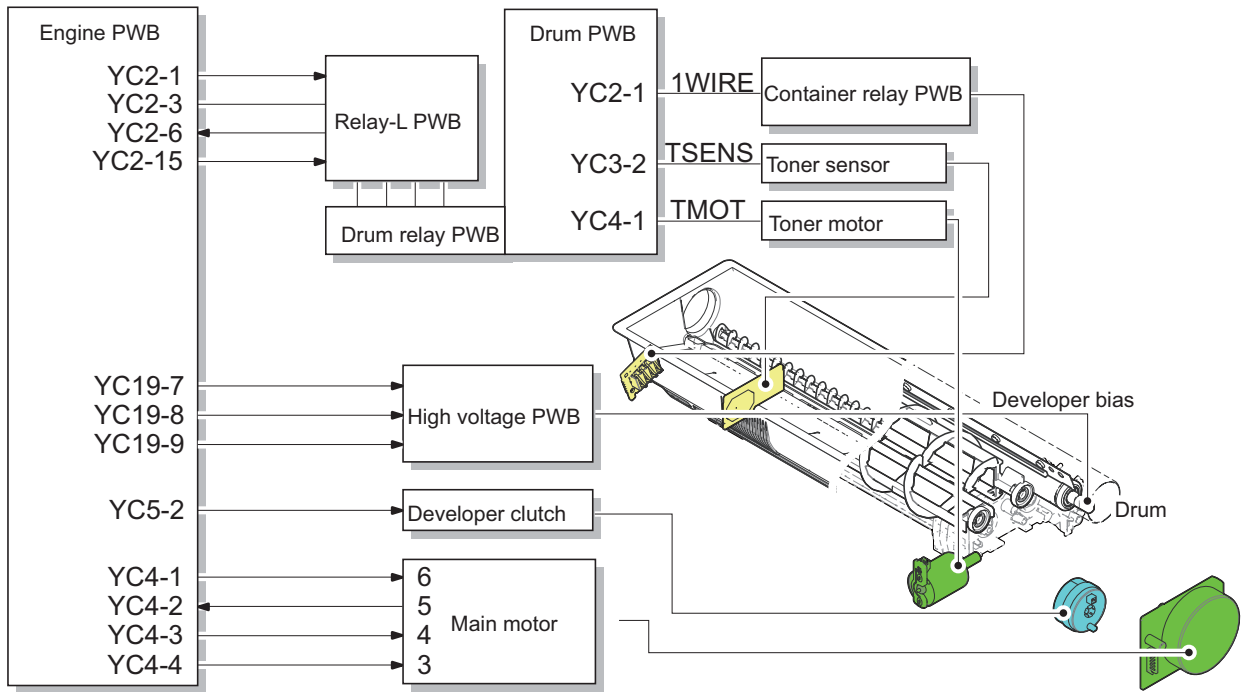
5 Developer screw B

6 Developer case

7 Toner supply roller

8 Toner container

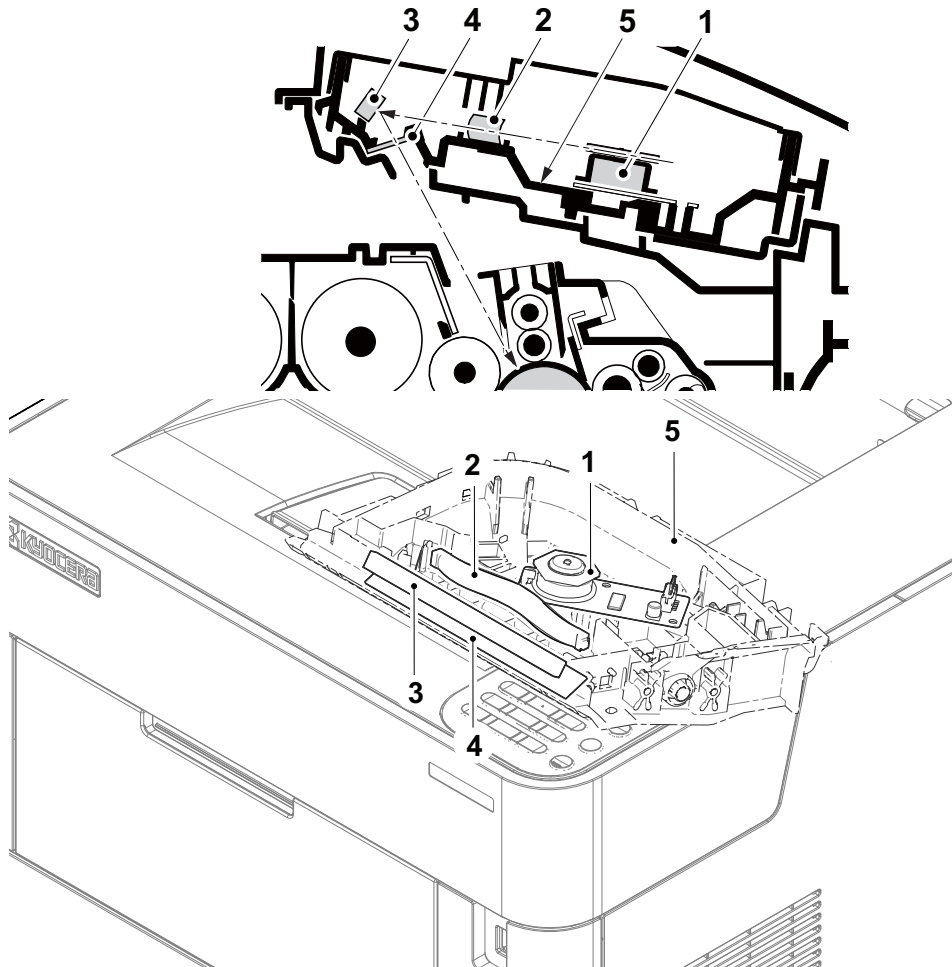
Block diagram



**(5)Optical section**

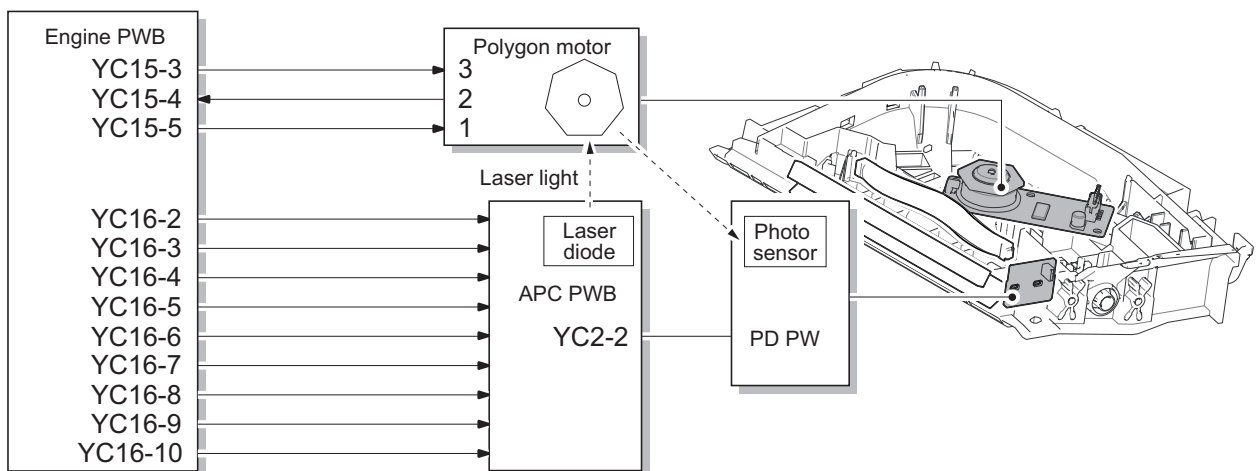
**(5-1)Laser scanner section**

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.



- 1 Polygon motor
- 2 f $\theta$  main lens
- 3 Direction change mirror
- 4 LSU dust shield glass
- 5 LSU base

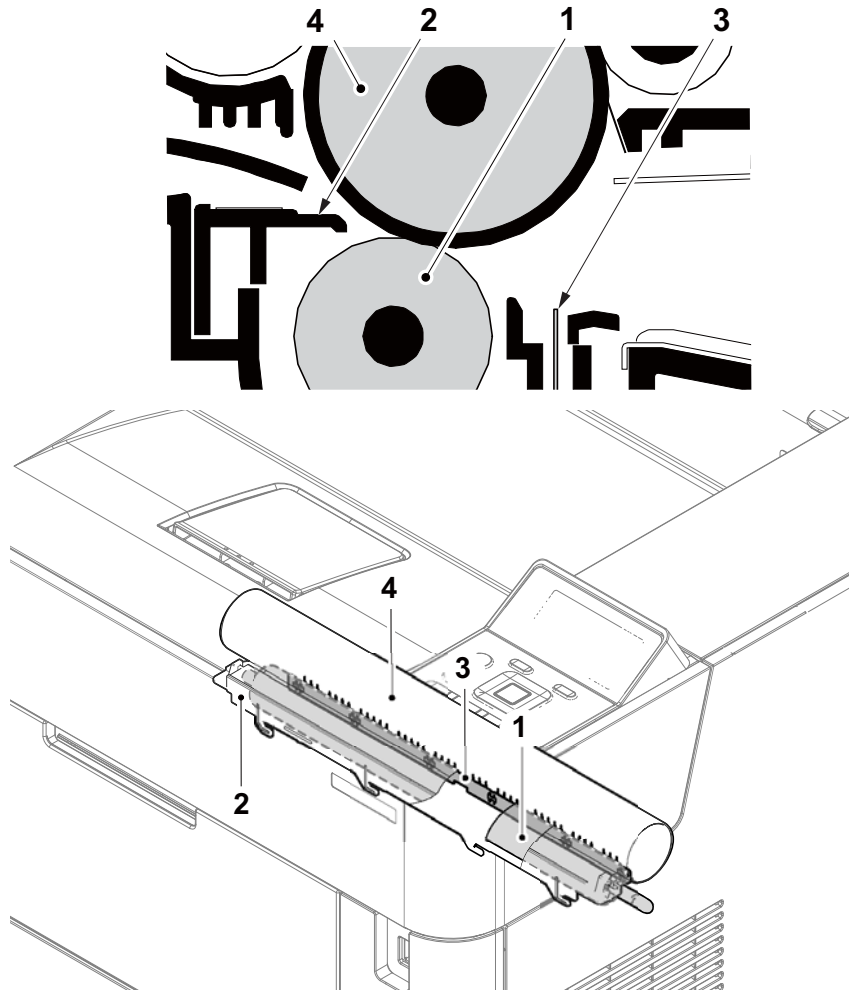
**Block diagram**



### (6)Transfer/Separation section

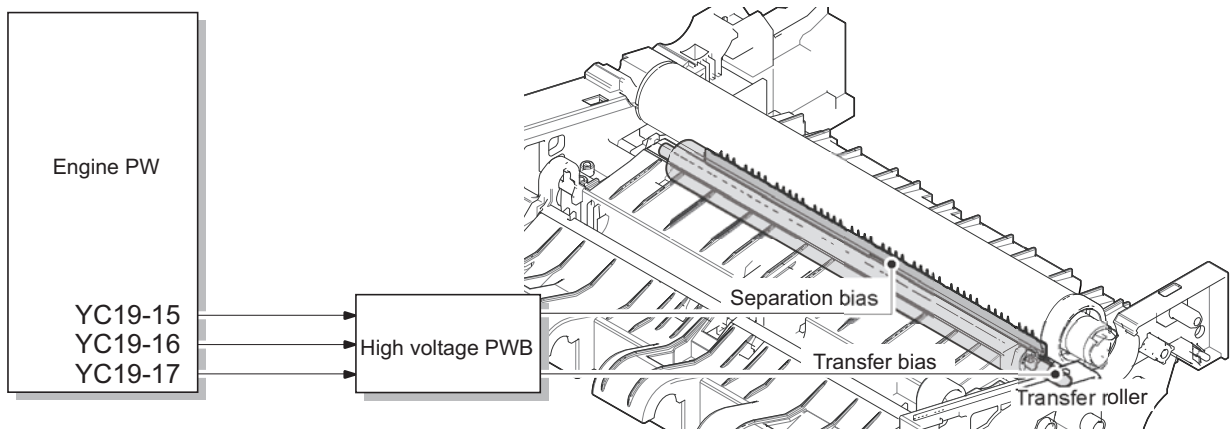
The transfer and separation section consists mainly of the transfer roller and separation electrode.

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.



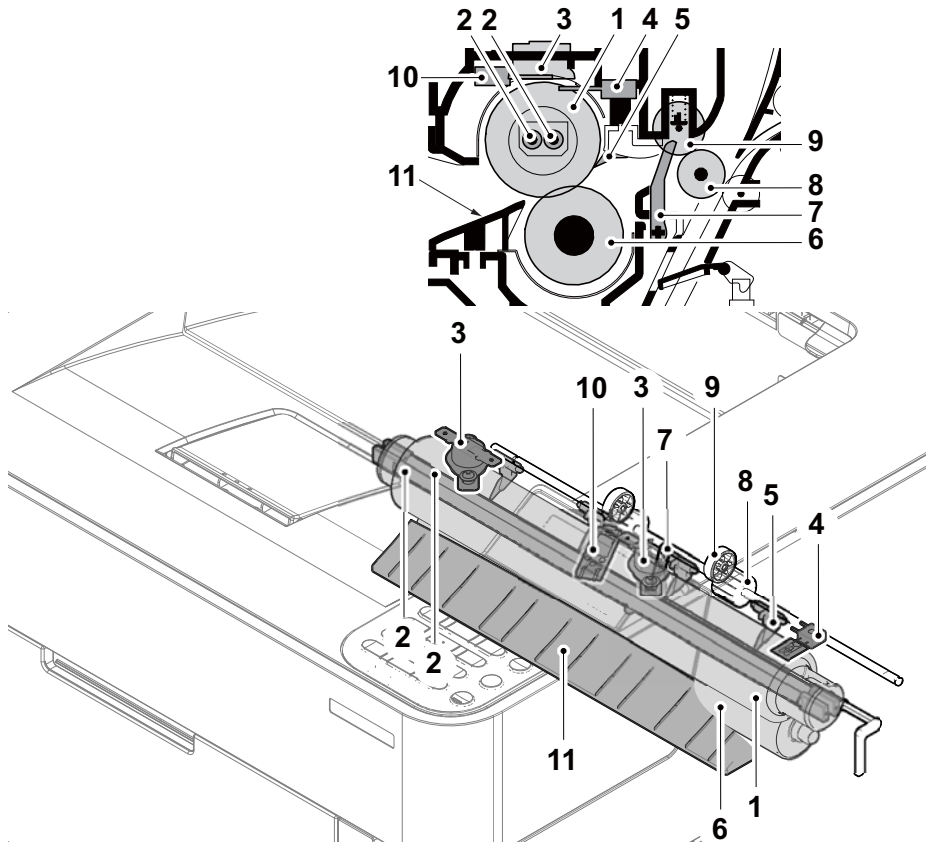
- |                     |                     |
|---------------------|---------------------|
| 1 Transfer roller   | 3 Separation needle |
| 2 Paper chute guide | 4 Drum              |

### Block diagram



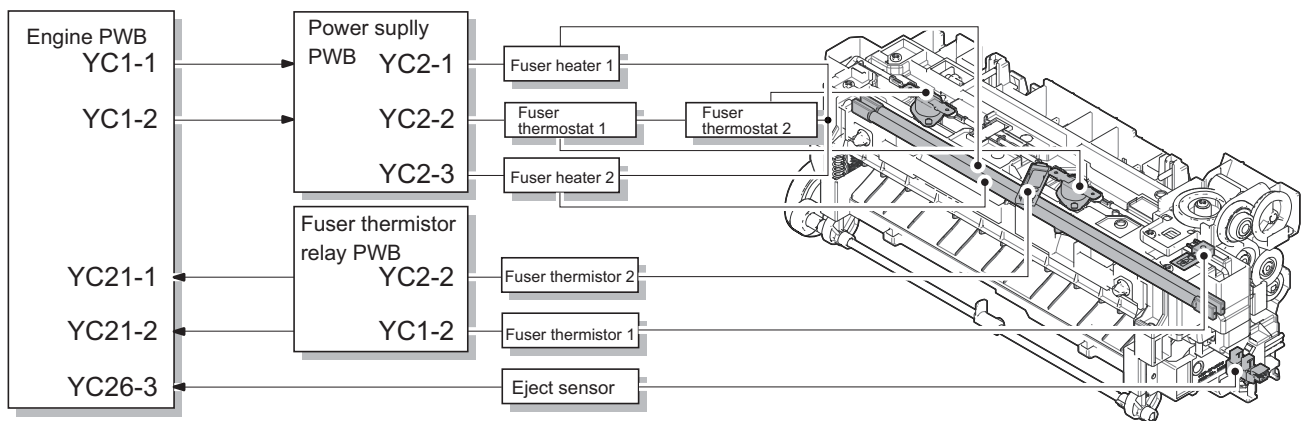
### (7)Fuser section

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 engine 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.



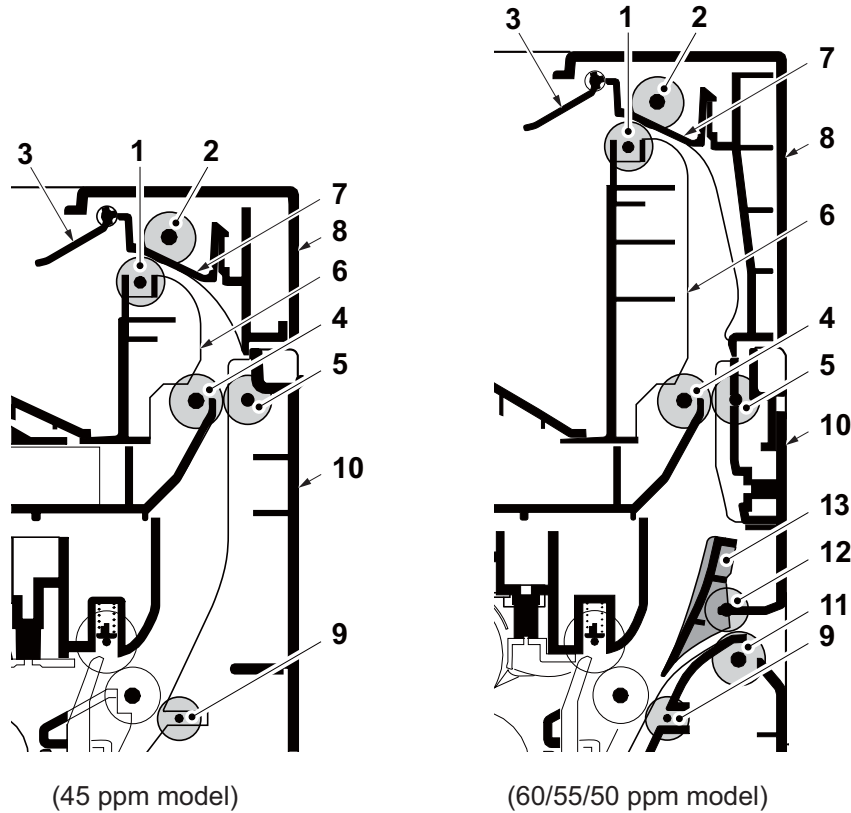
- |                      |                          |                       |
|----------------------|--------------------------|-----------------------|
| 1 Heat roller        | 5 Separators             | 9 Fuser Exit pulley   |
| 2 Fuser heater       | 6 Press roller           | 10 Fuser thermistor 2 |
| 3 Fuser thermostat   | 7 Actuator (Exit sensor) | 11 Pre fuser guide    |
| 4 Fuser thermistor 1 | 8 Fuser Exit roller      |                       |

### Block diagram



**(8)Eject/Feedshift section**

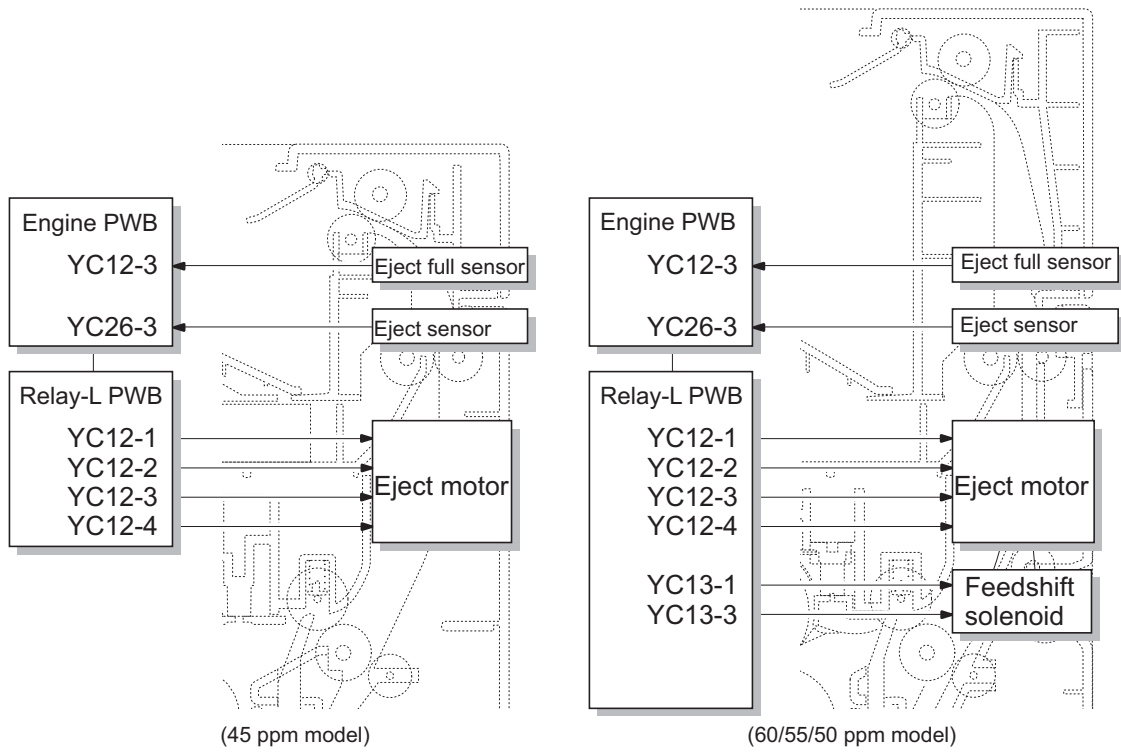
The paper eject/feedshift section consists of the conveying path which sends the paper that has passed the fuser section to the top tray, the face-up rear output tray (60/50/45 ppm model only) or the duplex conveying section.



- |                                |                    |                       |
|--------------------------------|--------------------|-----------------------|
| 1 Upper Exit roller            | 6 Vertical guide   | 11 Face-up roller *1  |
| 2 Upper Exit pulley            | 7 Paper exit guide | 12 Face-up pulley *1  |
| 3 Actuator (Eject full sensor) | 8 Top cover        | 13 Feedshift guide *1 |
| 4 Lower Exit roller            | 9 DU feed pulley   |                       |
| 5 Lower Exit pulley            | 10 Rear cover      |                       |

\*1: 60/55/50 ppm model only

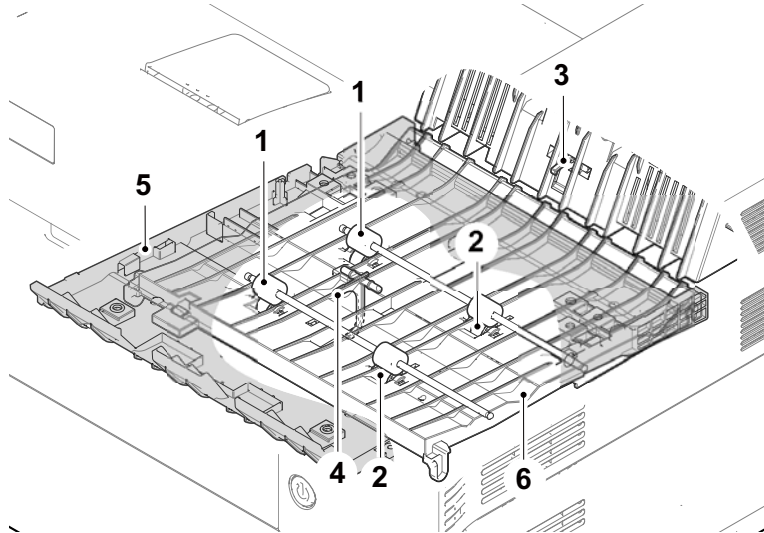
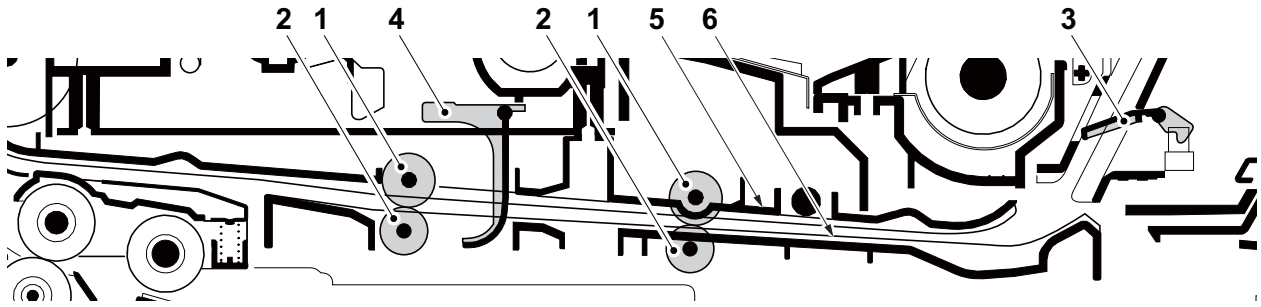
Block diagram





### (9) Duplex conveying section

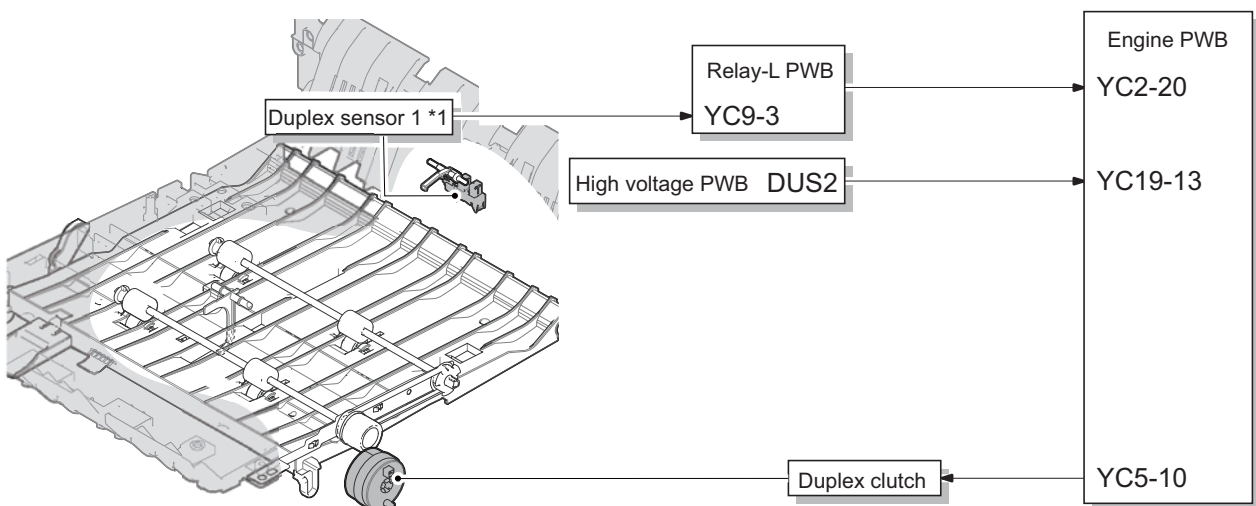
The duplex conveying section consists of conveying path which sends the paper sent from the eject/feedshift section to the paper feed/conveying section when duplex printing.



- 1 DU conveying roller
- 2 DU conveying pulley
- 3 Actuator (Duplex sensor 1) \*1
- 4 Actuator (Duplex sensor 2)
- 5 DU base
- 6 DU lower guide

\*1: 60/55/50 ppm model

#### Block diagram

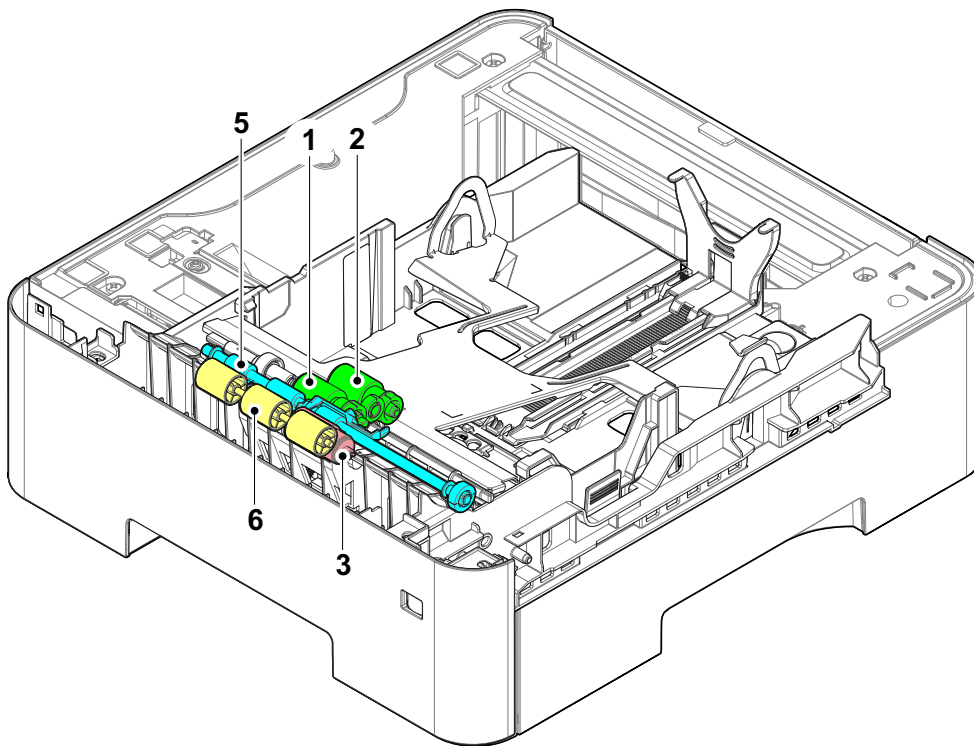
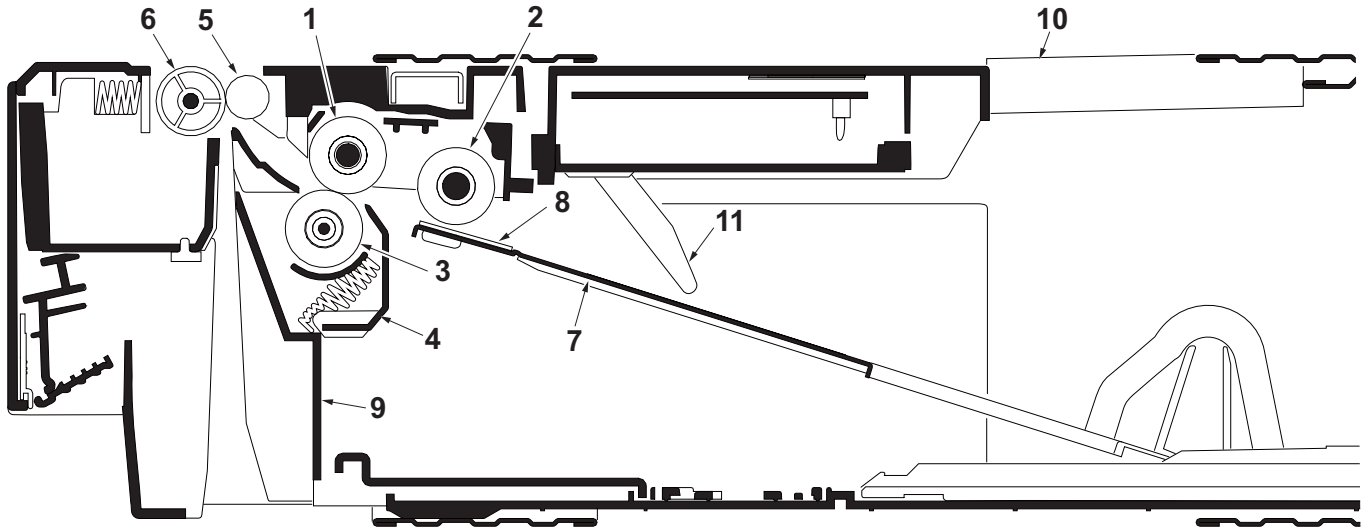


\*1: 60/55/50 ppm model

### 3 - 7 Mechanical construction (option)

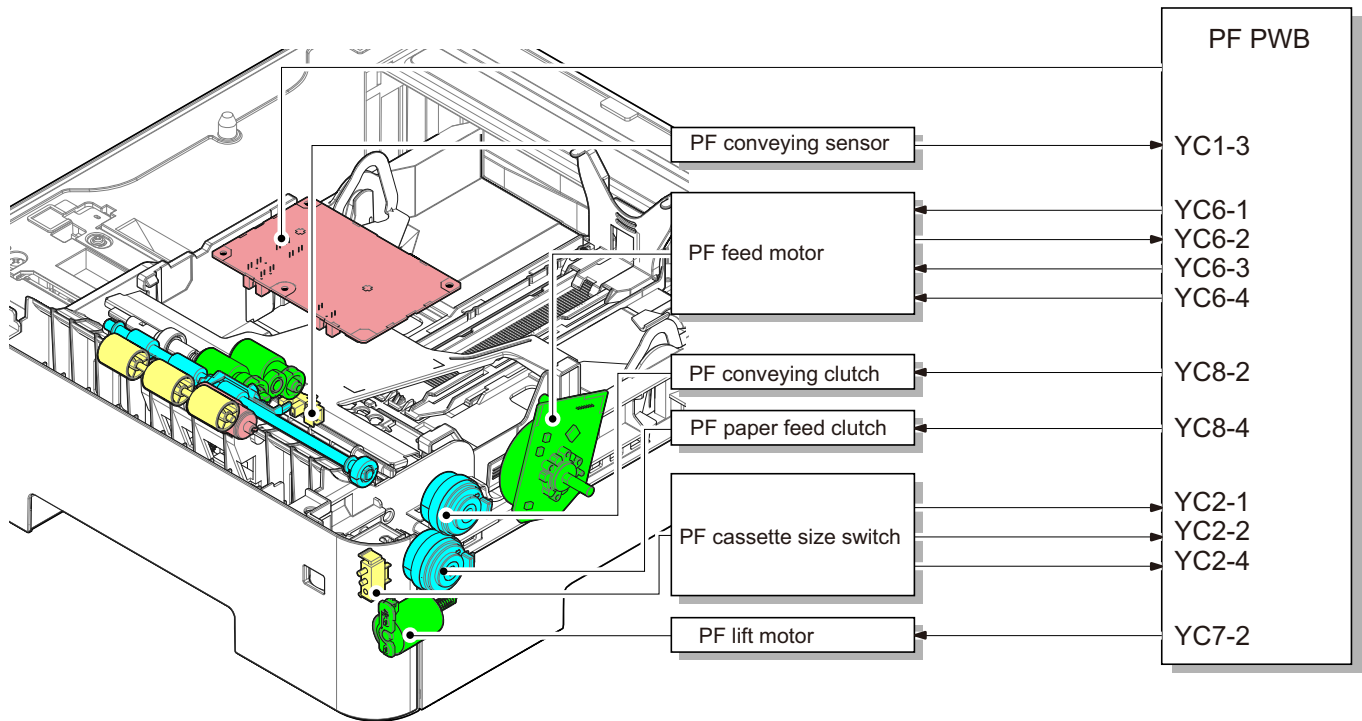
#### (1) Paper feeder (PF-3110)

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.



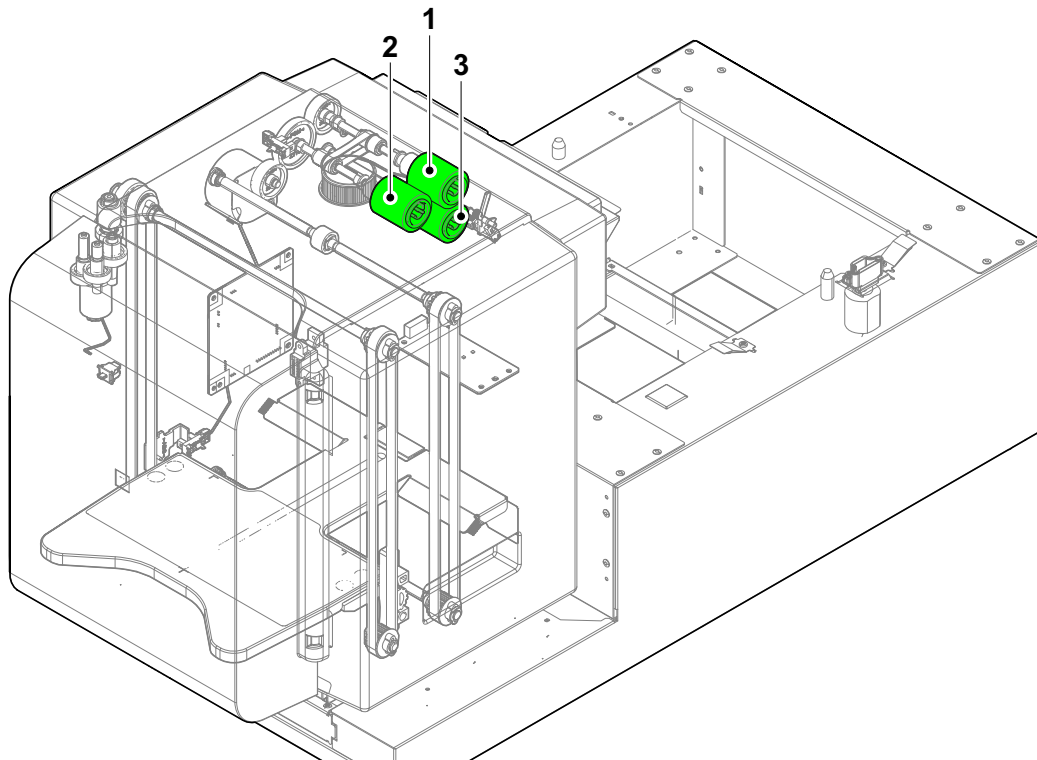
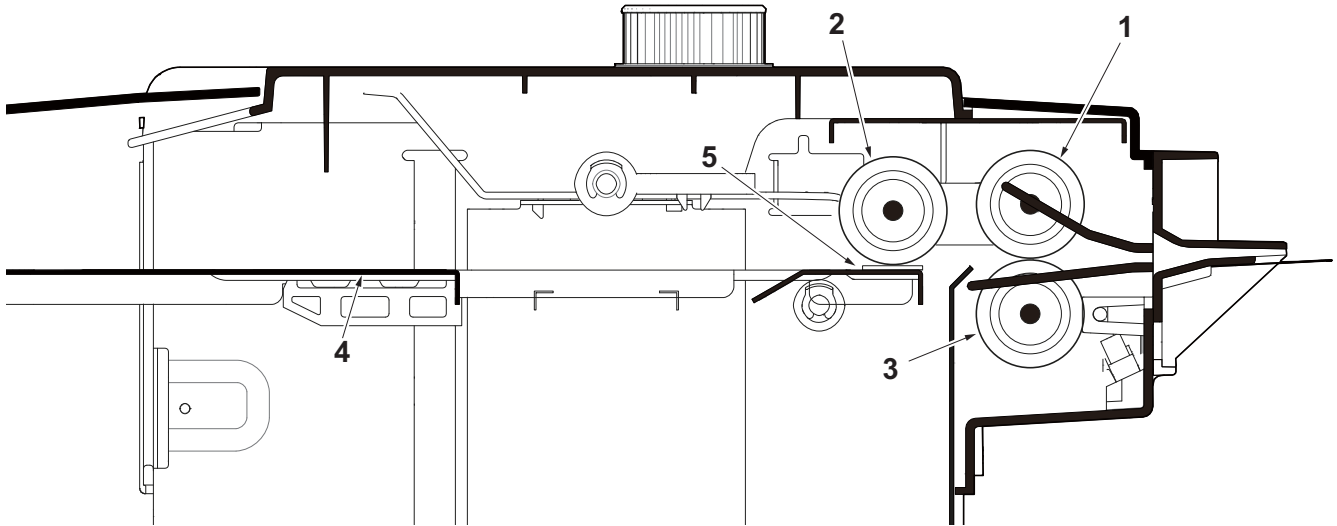
- |                          |                       |  |
|--------------------------|-----------------------|--|
| 1 PF paper feed roller   | 5 PF conveying roller | 9 PF Cassette base                     |
| 2 PF pickup roller       | 6 PF conveying pulley | 10 PF Upper cover                      |
| 3 PF retard roller       | 7 PF Bottom plate     | 11 PF Actuator<br>(Paper gauge sensor) |
| 4 PF Retard roller guide | 8 PF Bottom pad       |  |

Block diagram



## (2) Large Capacity Paper Feeder (PF-3100)

The cassette can load 2,000 sheets paper (80 g/m<sup>2</sup>). Feeding from cassette works as picking up paper by rotating the PF pickup roller and conveys it to main unit by rotating the PF paper feed roller. Multi-feeding is also prevented by the effect of the PF retard roller.



1 PF paper feed roller

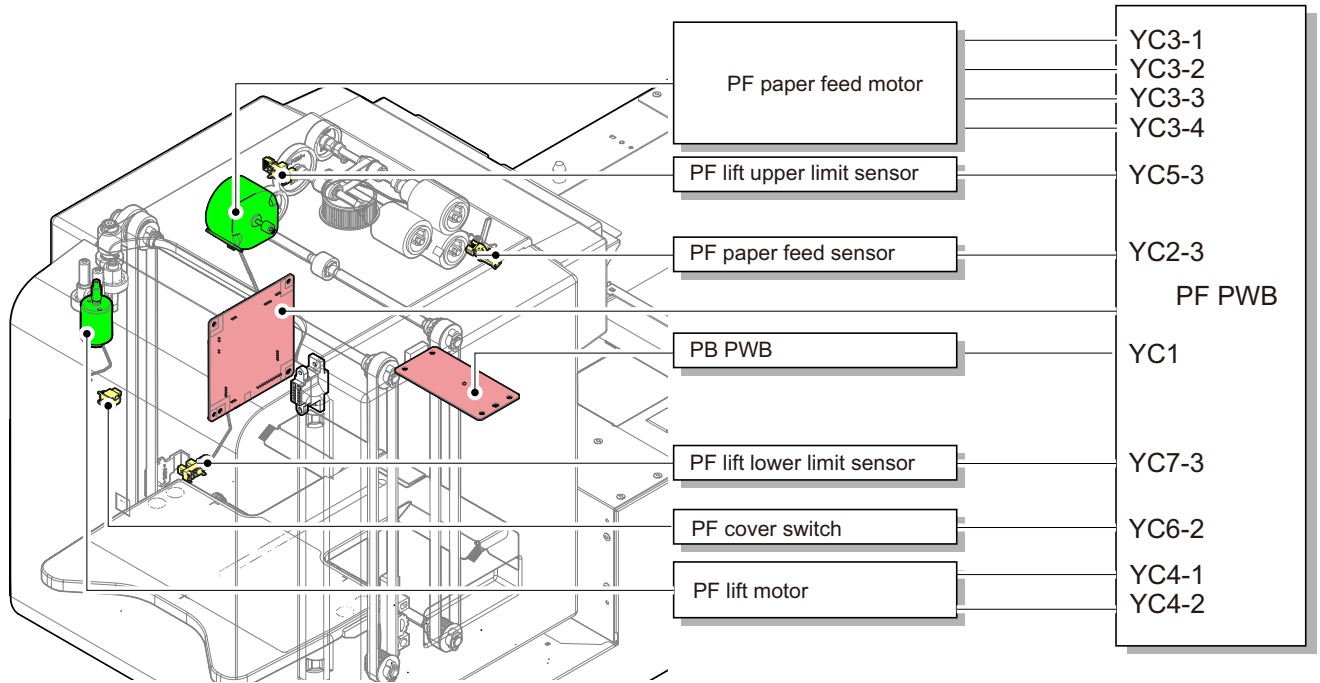
3 PF retard roller

5 PF friction pad

2 PF pickup roller

4 PF lift plate

Block diagram



## 4 Maintenance

### 4 - 1 Important Notes of Maintenance

#### (1)Precautions

Before starting disassembly, push the power switch to shutdown. And check the operation panel display disappears certainly. Then, unplug the power cable from the wall outlet.

Do not touch a parts on the PWB just after turn off or unplug, since electric charge may remain in a capacitor on power supply PWB. In order to discharge it, press power key for one second without power cord.

When handling PWBs (printed wiring PWBs), do not touch with bare hands. And pay attention not to get damaged the PWB.

Do not touch ICs on the PWB with bare hands or any object that have static charge.

When disconnecting the connector with hook, be sure to release the hook.

Take care not to get the cables pinched at work.

To reassemble the parts, use the original screws.

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

#### (2)Handling and storage of the drum unit

Pay attention of following notes when handling and storing the drum unit.

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

Keep the drum unit at a temperature between -20°C/-4°F and 40°C/104°F and at a relative humidity 85% or less. Leave at least 5 seconds from OFF to ON. Avoid abrupt changes in temperature and humidity thought it is within the specified range.

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

Do not touch the drum surface with any object.

Do not touch by hands or gloves.

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

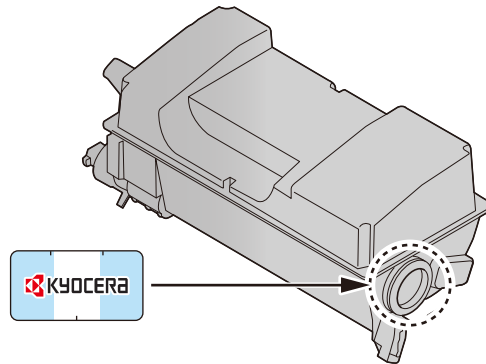
#### (3)Storing the toner container

Store the toner containers in a cool, dark place.

Avoid exposing the toner containers to direct light and high humidity.

### (4)How to tell the genuine Kyocera toner container

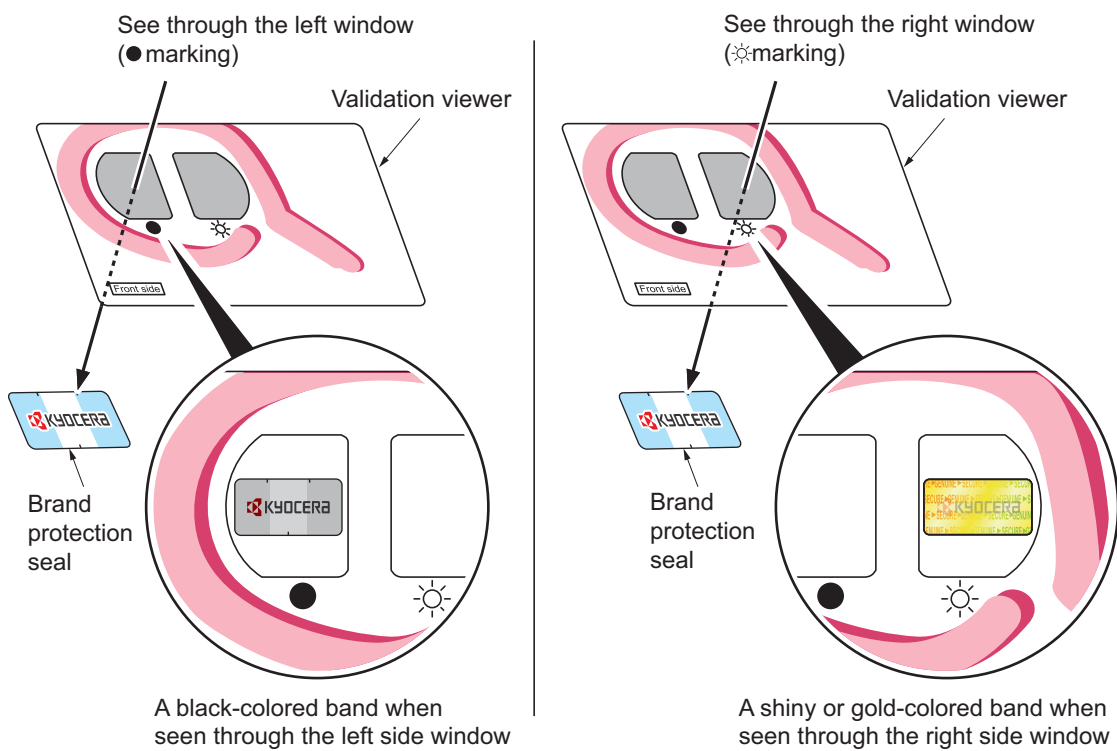
The anti-counterfeit film on the screening seal affixed on the toner container is seen through each window of the validation viewer.



Through each window, the genuinity is judged how the anti-counterfeit film is seen.

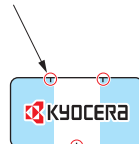
- Black-colored when seen through the left side window ( ● symbol)
- Gold-colored (Shiny) when seen through the right side window ( ☀ symbol)

The above will reveal that the toner container is a genuine Kyocera branded toner container, otherwise (both seen gold-colored, etc.), it is a counterfeit.



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

Three cut parts at the red circle section



## 4 - 2 Maintenance Parts

### (1)Maintenance Kit

[60/55/50ppm]

Service manual	Name in Parts list	Number	Parts number
MK-3380	MK-3380/MAINTENANCE KIT	1	170C0T8NLO *1
MK-3382	MK-3382/MAINTENANCE KIT	1	170C0T7US0 *2
MK-3384	MK-3384/MAINTENANCE KIT	1	170C0T8AU0 *3
(500,000 images)			
Feed unit	PARTS HOLDER RETARD B SET SP	1	302LV9448_
	RETARD ROLLER ASSY	1	302F90917_
	PARTS HOLDER FEED ASSY SP	1	302LV9427_
TRANSFER ROLLER	PARTS ROLLER TRANSFER SP	1	302LV9413_
	GEAR Z22R TC	1	3V2LV2414_
DRUM UNIT	DK-3210 (E)	1	30C0T9302_ *1
	DK-3212 (U)	1	30C0T9303_ *2
	DK-3214 (AO)		30C0T9305_ *3
DEVELOPER UNIT	DV-3110	1	30C0T9301_
FUSER UNIT	FK-3220 (E)	1	30C0T9306_ *1,3
	FK-3222 (U)	1	30C0T9308_ *2



## 45 ppm

Service manual	Name in Parts list	Number	Parts number
MK-3370	MK-3370/MAINTENANCE KIT	1	170C0Y8NL0 *1
MK-3372	MK-3372/MAINTENANCE KIT	1	170C0Y7US0 *2
MK-3374 (300,000 images)	MK-3374/MAINTENANCE KIT	1	170C0Y8AU0 *3
Feed unit	PARTS HOLDER RETARD B SET SP	1	302LV9448_
	RETARD ROLLER ASSY	1	302F90917_
	PARTS HOLDER FEED ASSY SP	1	302LV9427_
TRANSFER ROLLER	PARTS ROLLER TRANSFER SP	1	302LV9413_
	GEAR Z22R TC	1	3V2LV2414_
DRUM UNIT	DK-3200 (E)	1	30C0Y9301 *1
	DK-3202 (U)	1	30C0Y9302 *2
	DK-3204 (AO)	1	30C0Y9304 *3
DEVELOPER UNIT	DV-3110	1	30C0T9301_
FUSER UNIT	FK-3210 (E)	1	30C0Y9305_ *1,3
	FK-3212 (U)	1	30C0Y9307_ *2

\*1: 220-240V (KDE), \*2: 120V (KDA), \*3: 240V (KDAU)

## 4 - 3 Maintenance Parts replacement procedure

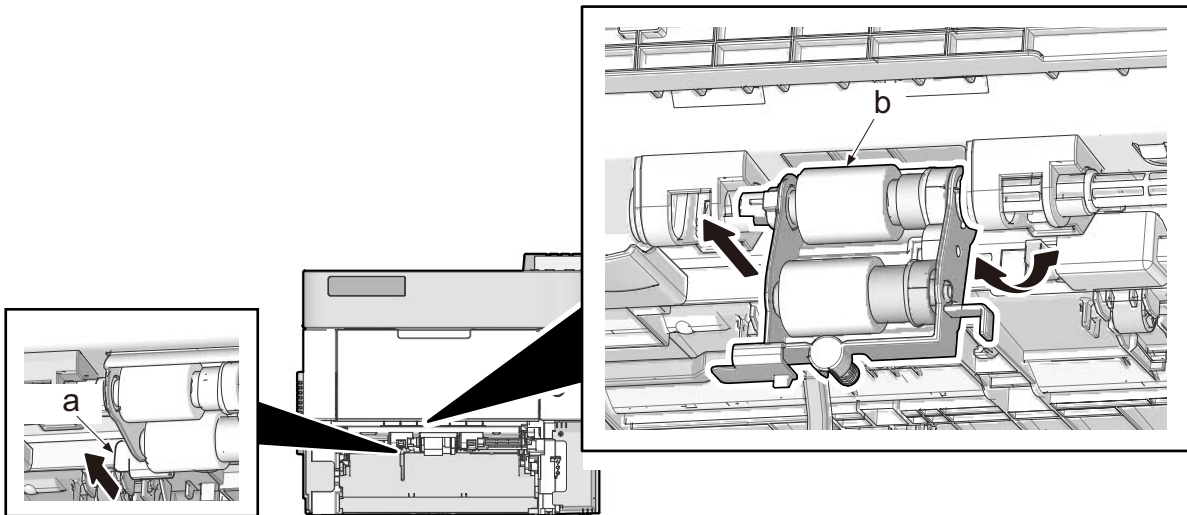
Maintenance Kit has to be replaced every 300,000 images (45 ppm) and 500,000 images (60/55/50 ppm). [Replace Maintenance kit] comes up on display when the time for replacement.

Replace the Maintenance Kit with following procedures.

### (1) Paper feed section

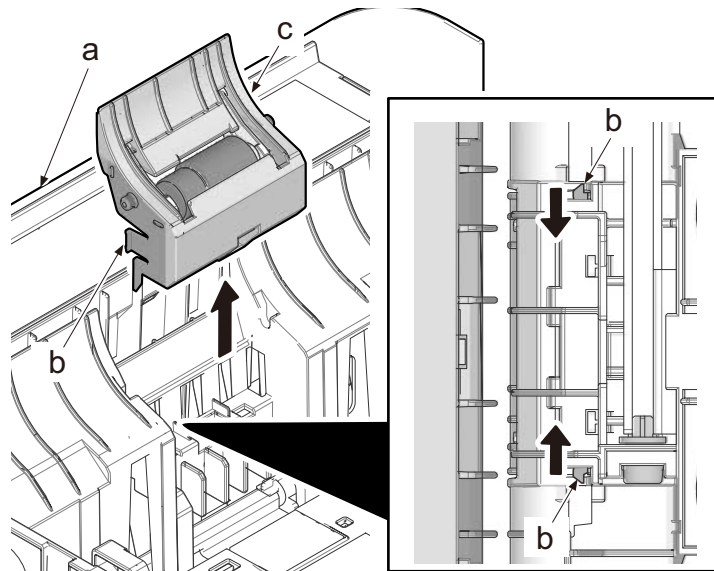
#### (1-1) Detaching and refitting the paper feed roller

- 1 Pull out cassette.
- 2 Release the lock by pulling the lever (a).
- 3 Detach the paper feed roller assembly (b) by raising it up and slide frontward.
- 4 Check or replace the paper feed roller and refit all the removed parts.



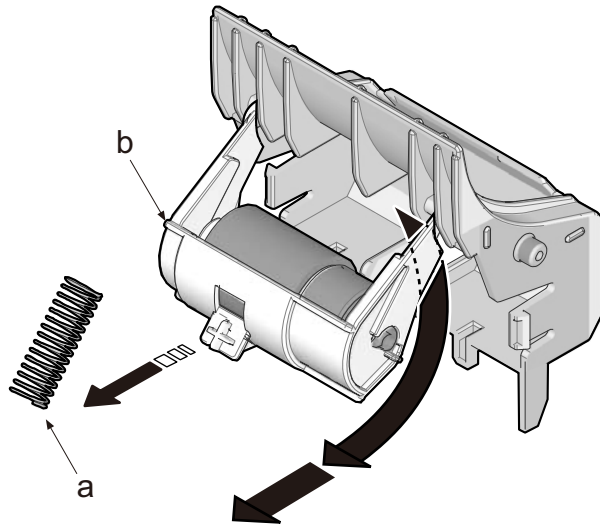
#### (1-2) Detaching and refitting the retard roller

- 1 Release two hooks (b) in backside of cassette (a) and then detach the retard roller assembly (c).



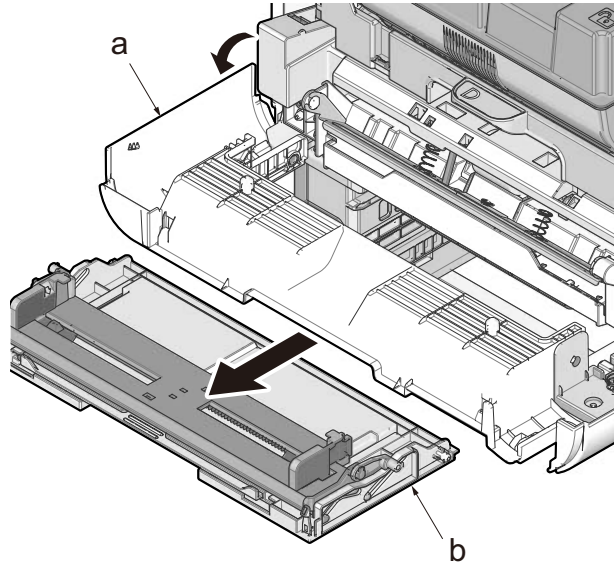
- 2 Remove spring (a).
- 3 Remove the retard roller holder (b) by rotating it.

- 4 Check or replace the retard roller and refit all the removed parts.

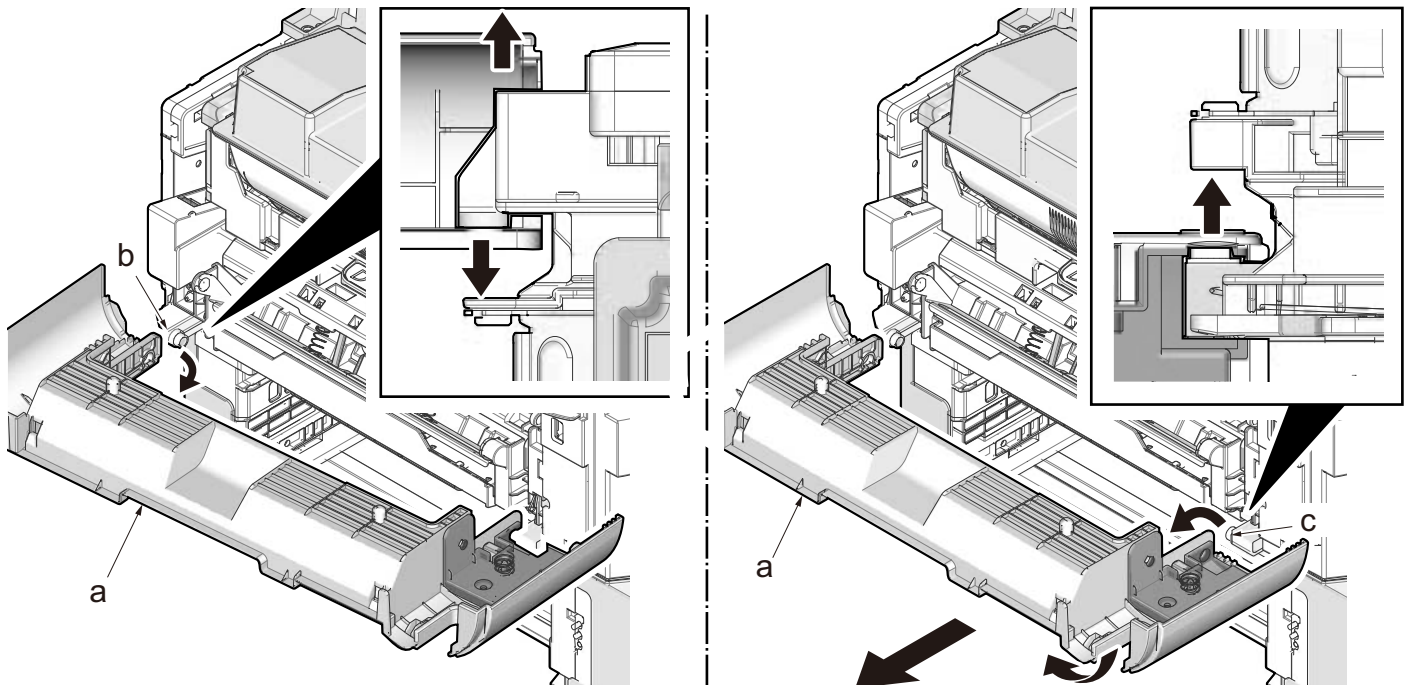


**(2)Manual feed tray section****(2-1)Detaching and refitting the MP feed roller****1 Remove the manual feed tray**

- 1 Open the top cover.
- 2 Open the front cover (a).
- 3 Bend the tray and remove from the printer.

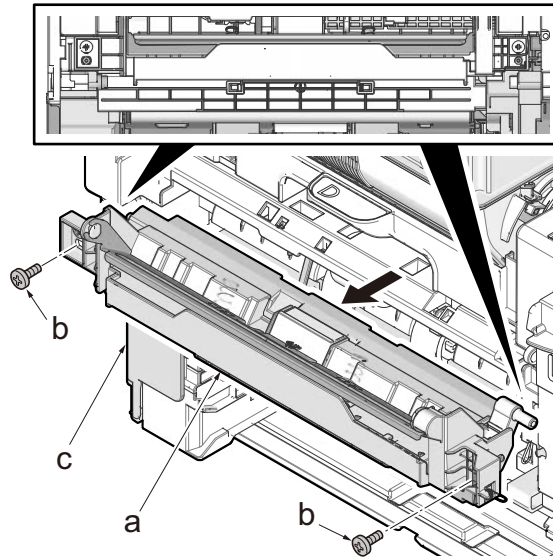
**2 Detach the left upper cover.**

- 1 Remove the fulcrum (b) of left side by extending the cover (a).
- 2 Twisting the cover (a) and remove the fulcrum (c) of right side.
- 3 Pull the front cover (a) frontward.



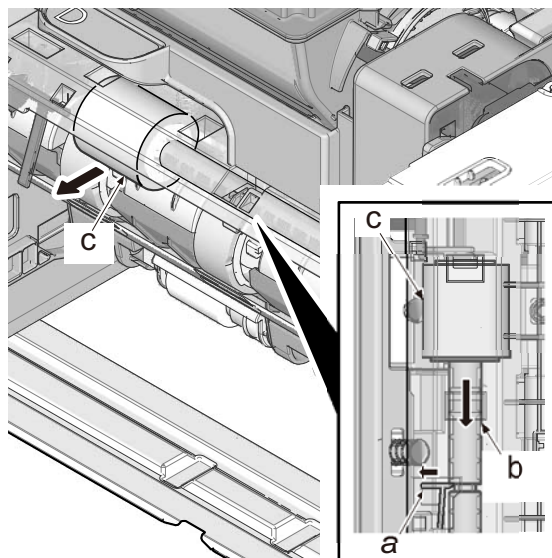
### 3 Remove the MP paper feed unit (a).

- 1 Remove two screws (b) on the MP paper feed unit (a). (M3x8)
- 2 Remove the MP paper feed unit (a) from the printer.



### 4 Detaching and refitting the paper feed roller

- 1 Release the lock lever (a) and then slide the MP paper feed roller shaft (b).
- 2 Detach the MP paper feed roller (c).
- 3 Check or replace the paper feed roller and refit all the removed parts.



#### ✔ IMPORTANT

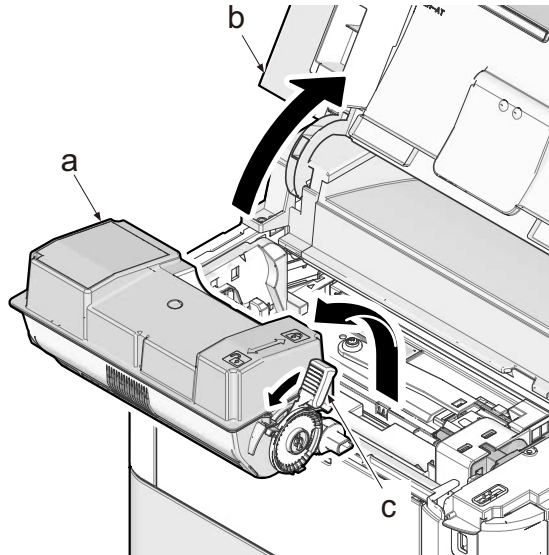
Pay attention not to touch on surface in the new MP feed roller replacement.

### (3)Developer section

#### (3-1)Detaching and refitting the developer unit

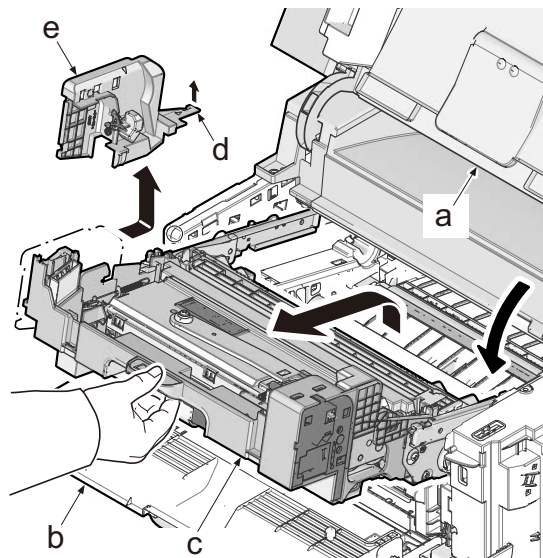
##### 1 Remove toner container (a)

- 1 Open the top cover (b).
- 2 Rotate the lock lever (c) and detach the toner container (a).



##### 2 Remove toner container guide (e)

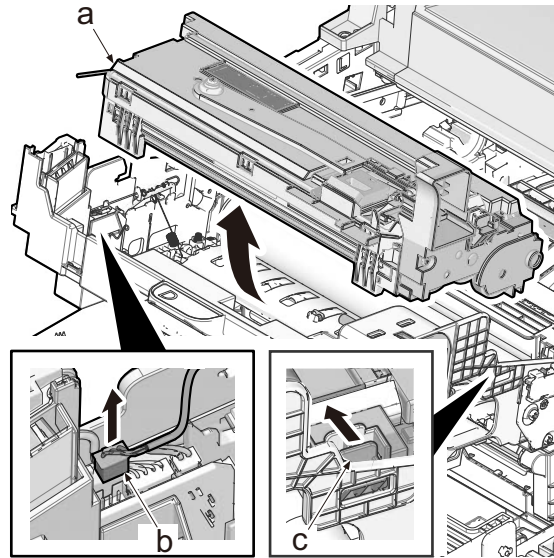
- 1 Open the front cover (b).
- 2 Pull the imaging unit (c) out.
- 3 Release the hook (d) and then remove the container guide (e) by sliding it.



##### 3 Detaching and refitting the developer unit (a)

- 1 Pull the connector (b) out.
- 2 Release the lock lever (c) and then detach the developer unit (a) upward.

- 3 Check or replace the developer unit (a) and refit all the removed parts.



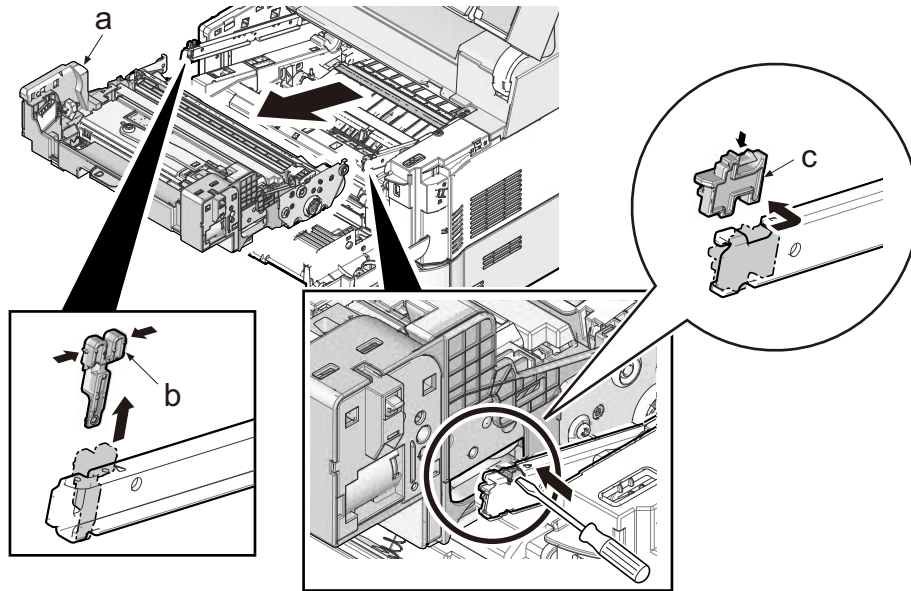
✔ **IMPORTANT**

- Keep the unit and main unit flat when move them and do not get them vibration or impact.
- Do not store or transport them with tilted position.

## (4) Drum section

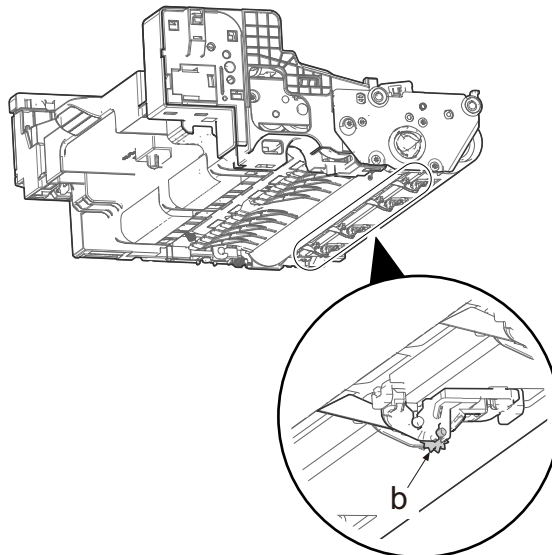
### (4-1) Detaching and refitting the drum unit

- 1 Detach the developer unit. (See [page 4-9](#))
- 2 Detach the lock lever L (b).
- 3 Remove the lock lever R (c) by sliding it.
- 4 Remove the drum unit (a) by sliding forward.
- 5 Check or replace the drum unit and refit all the removed parts.



#### ✔ IMPORTANT

When placing the drum unit on the table, do not deform the star-wheels (b).

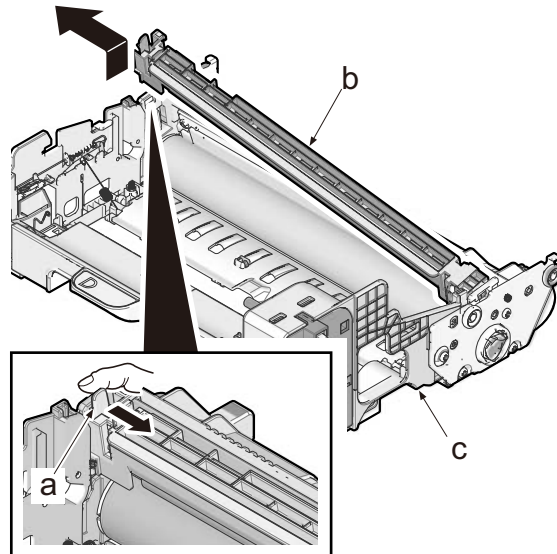


### (4-2) Detaching and refitting the main charger roller unit

- 1 Release the lock lever (a) and then detach the main charger roller unit (b) from the drum unit (c).

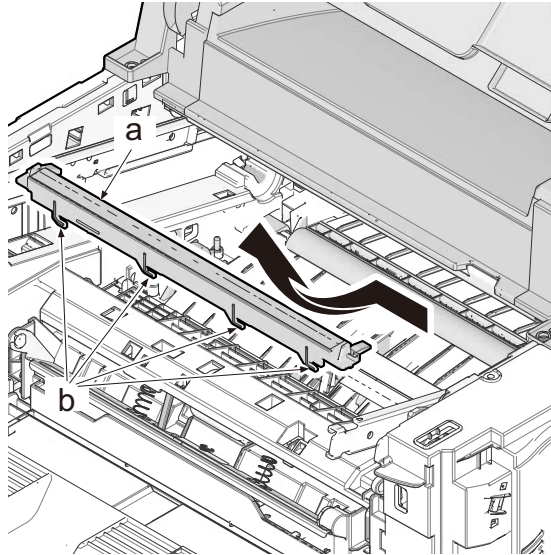


- 2 Check or replace the main charger roller unit (b) and refit all the removed parts.

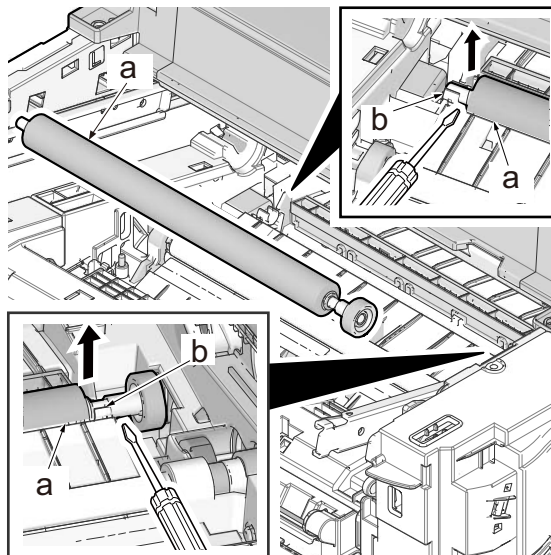


**(5)Transfer/separation section****(5-1)Detaching and refitting the transfer roller assembly****1 Detach the paper chute guide**

- 1 Remove the drum unit. (See [page 4-11](#))
- 2 Bring the paper chute guide to the left and release 4 hooks (b).
- 3 Detach the paper chute guide (a) upward.

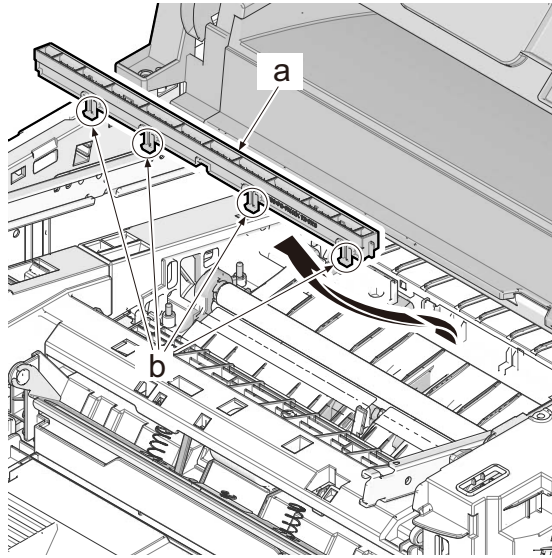
**2 Detach the transfer roller.**

- 1 Detach the shaft of transfer roller (a) from each bushes (b).
- 2 Detach the transfer roller assembly (a) upward.
- 3 Check or replace the transfer roller assembly and refit all the removed parts.

**(5-2)Detaching and refitting the separation needle unit**

- 1 Detach the transfer roller. (See [page 4-13](#))
- 2 Release four hooks (b) of separation needle unit (a) by rotating forward and then detach it upward.

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



 **IMPORTANT**

Check if the parts is fixed at the time of attachment.

## (6)Fuser section

### (6-1)Detaching and refitting the fuser unit

#### 1 Detach the inlet cover and interface cover

(See [page 4-17](#))

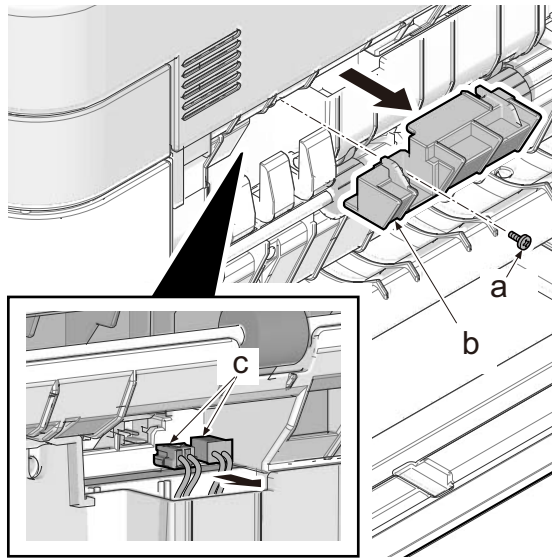
#### 2 Detach the rear cover.

(See [page 4-26](#))

#### 3 Detach the fuser unit.

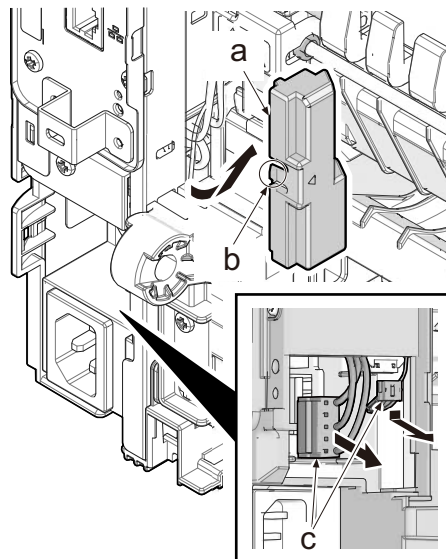
1 Remove the screw (a) and then detach the connector cover A (b). (M3x8)

2 Pull 2 connectors (c) out.



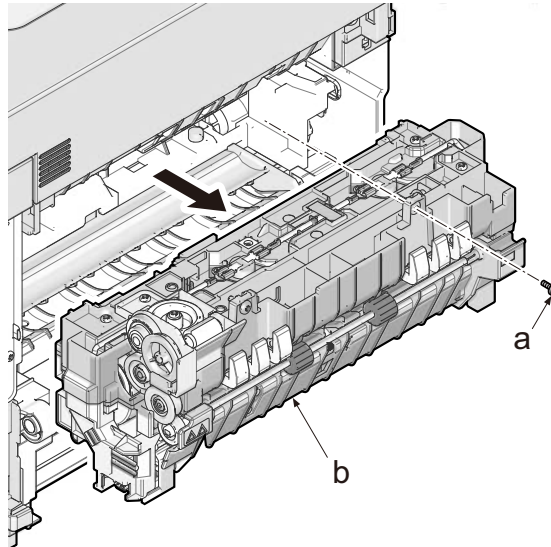
3 Rotate the connector cover B (a) and release the hook (b) and remove the cover.

4 Pull two connectors (c) out.



5 Remove the screw (a) and then detach the fuser unit (b) forward.

- 6 Check or replace the fuser unit and refit all the removed parts.



 **IMPORTANT**

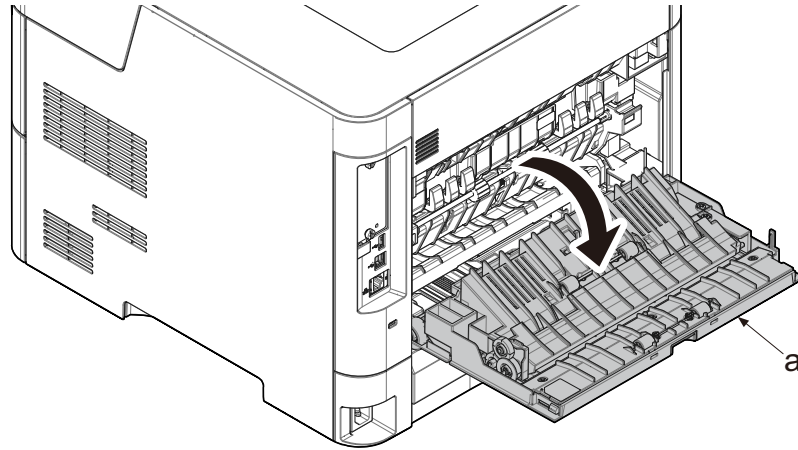
- When refitting the fuser unit, perform the following procedures.
  - 1 Turn on the power switch while opening the rear cover after removing the fuser unit.
  - 2 Turn off the power switch in 5-second or more. (release state of fixing pressure)
  - 3 Refit the fuser unit.

## 4 - 4 Assembly and disassembly

### (1)Outer covers

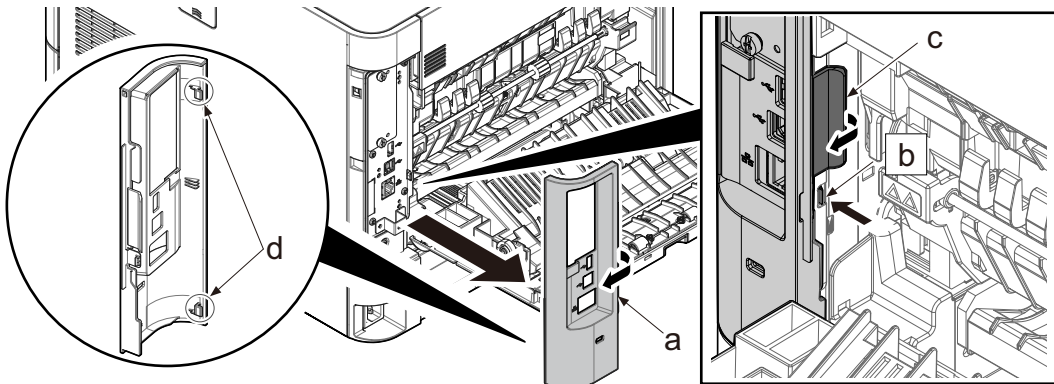
#### (1-1)Detaching and refitting the inlet cover and interface cover

1 Open the rear cover (a).

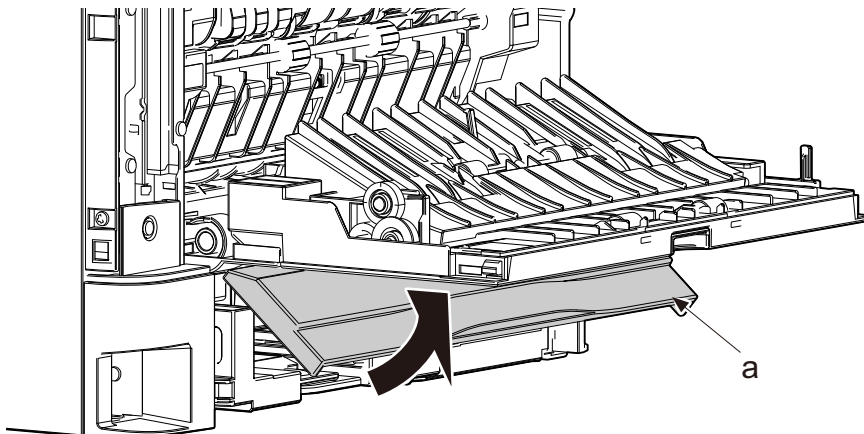


2 Release hook (b) and detach the interface cover (a).

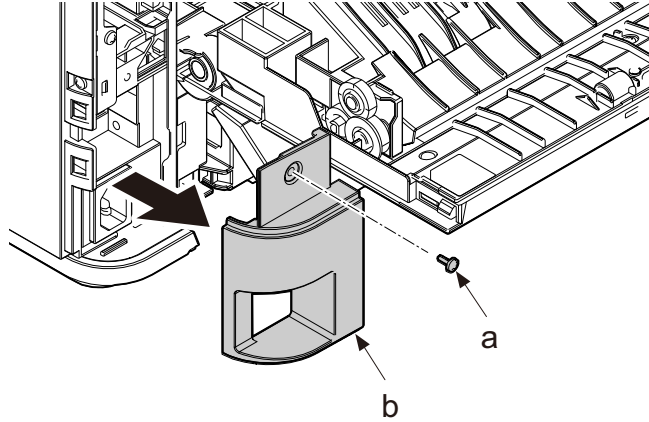
- Release the hook (b) and pull the handle (c) in the direction of the arrow to remove the interface cover (a).
- Insert two of the hook (d) first to attach.



3 Open the rear cassette cover (a).

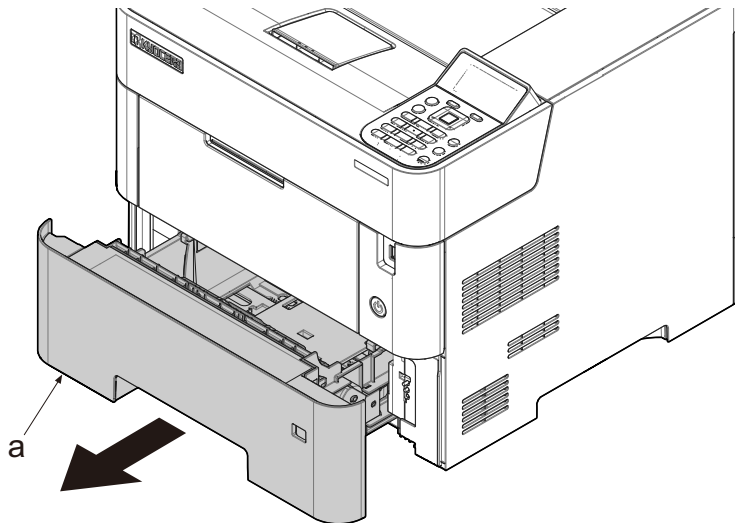


#### 4 Remove screw (a) and detach the inlet cover (b). (M3x8)

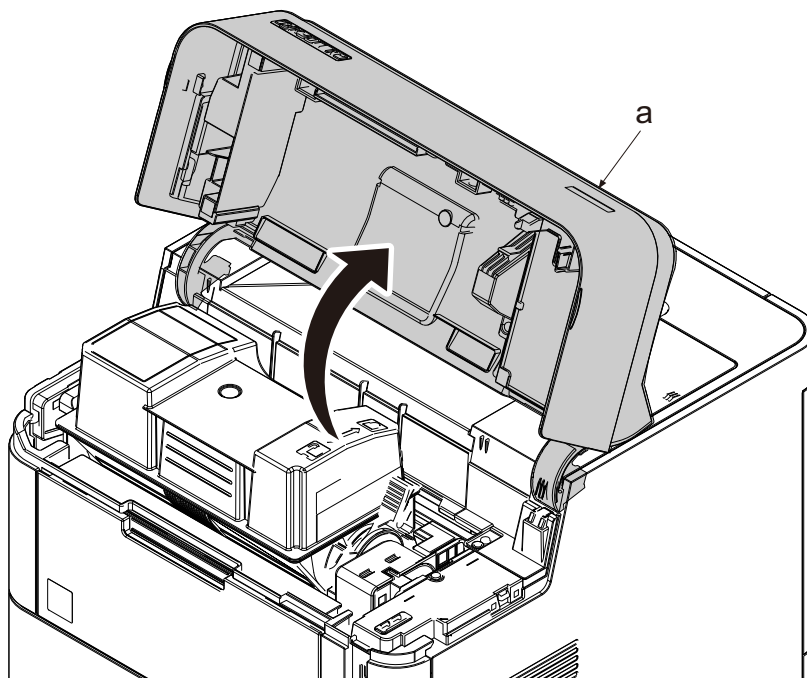


#### (1-2) Detaching and refitting the right cover

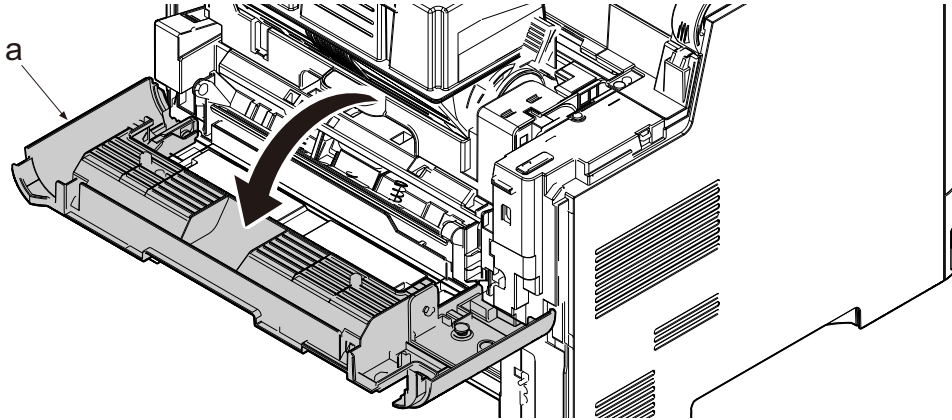
##### 1 Pull out the cassette (a).



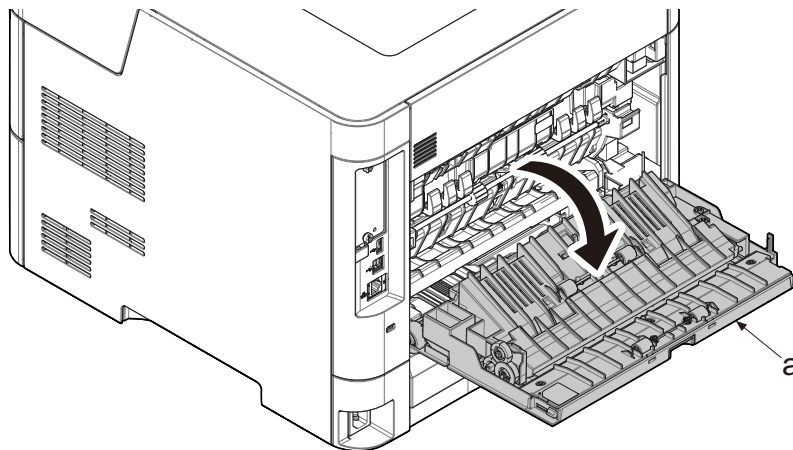
##### 2 Open the top cover (a).



### 3 Open the front cover (a).

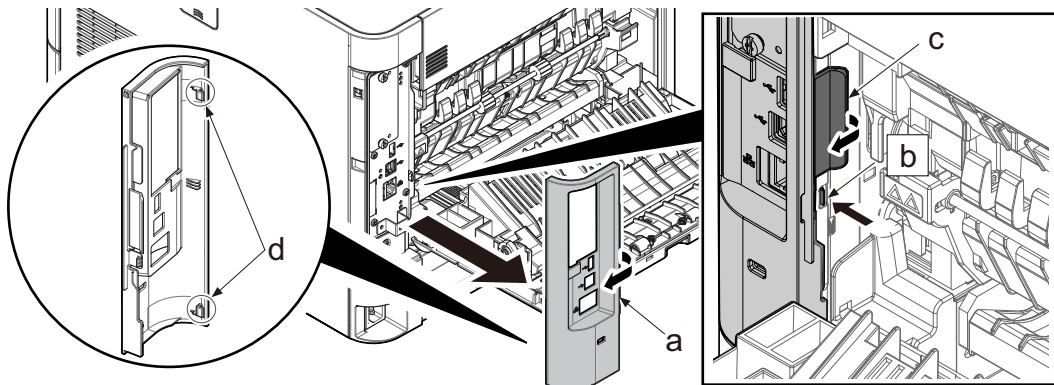


### 4 Open the rear cover (a).



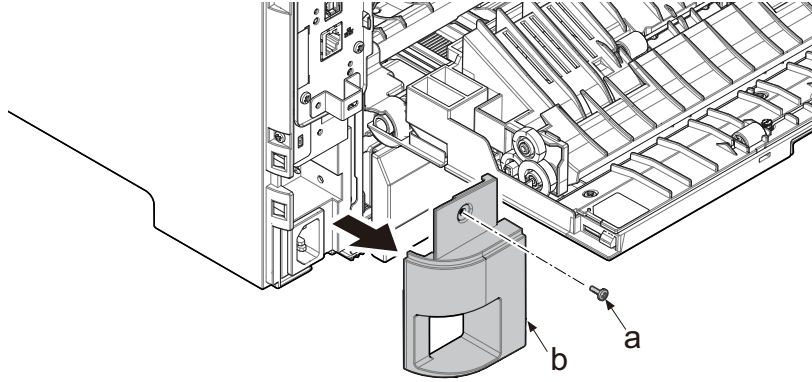
### 5 Release hook (b) and detach the interface cover (a).

- Release the hook (b) and pull the handle (c) in the direction of the arrow to remove the interface cover (a).
- Insert two of the hook (d) first to attach.



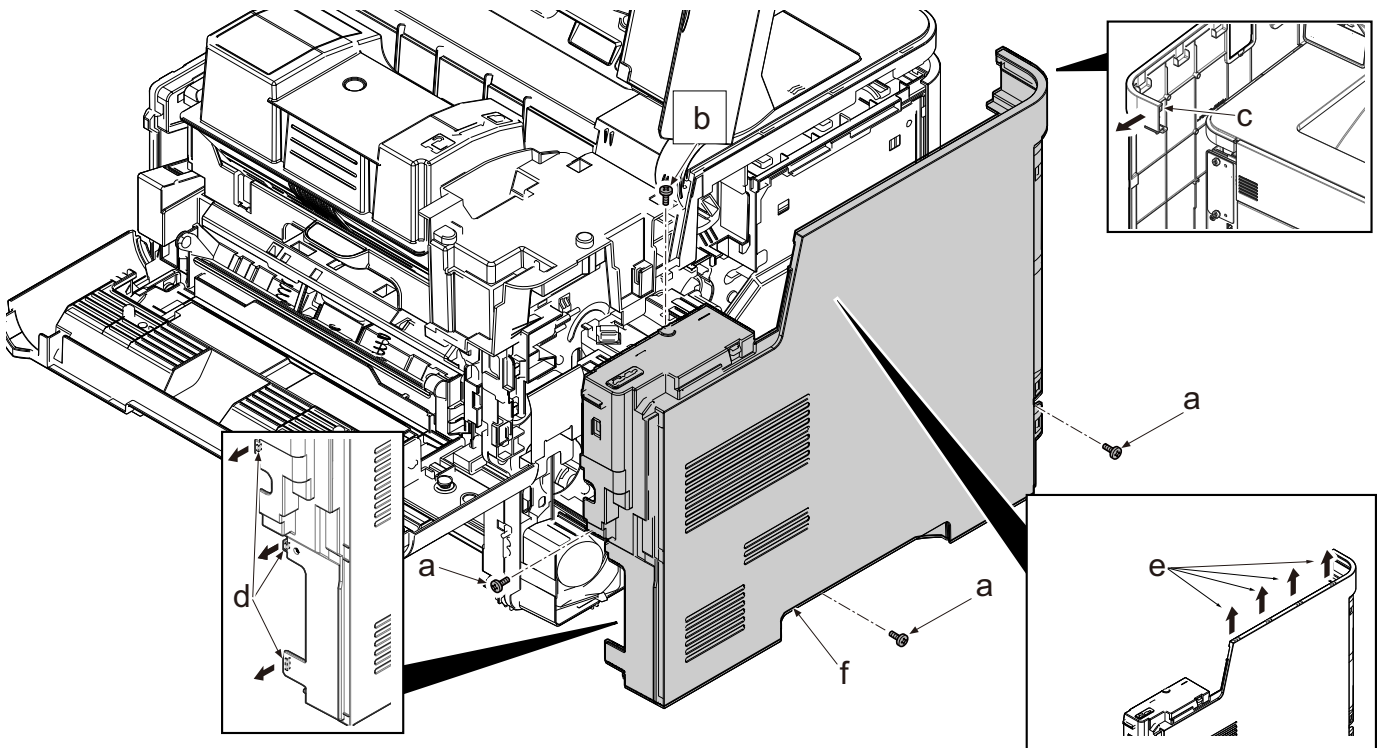


## 6 Remove screw (a) and detach the inlet cover (b). (M3x8)



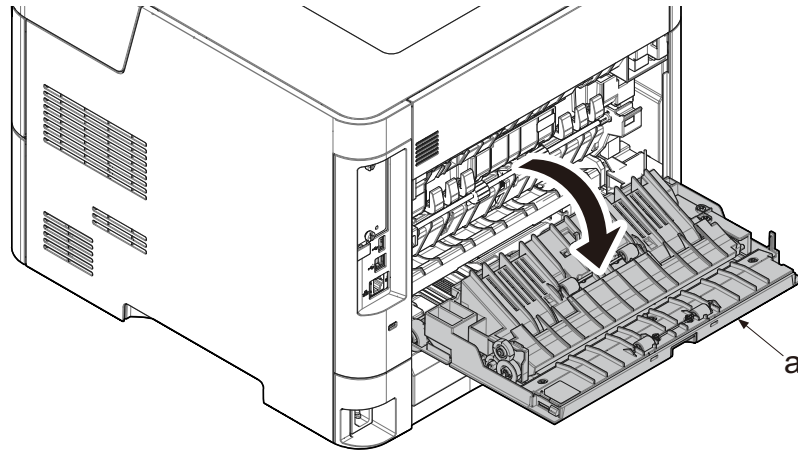
## 7 Remove the right cover (a).

- 1 Remove 3 screws (a) (M3x8) and (b) (M3x12).
- 2 Release hook (c).
- 3 Release 3 hooks (d).
- 4 Hold up the right cover and release 4 hooks (e) then remove the cover.

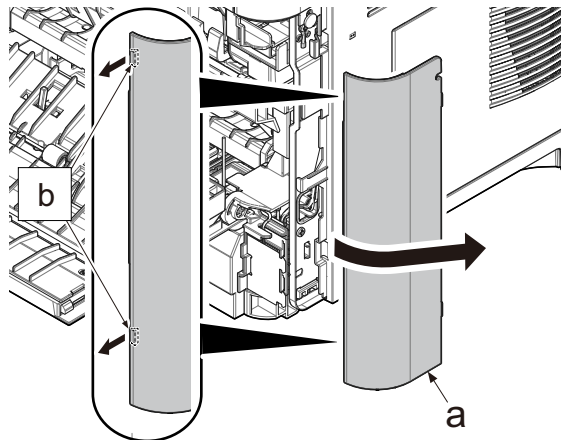


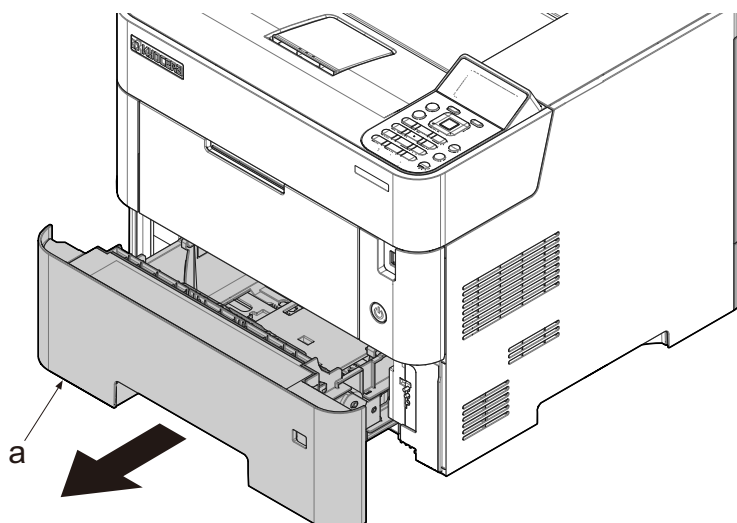
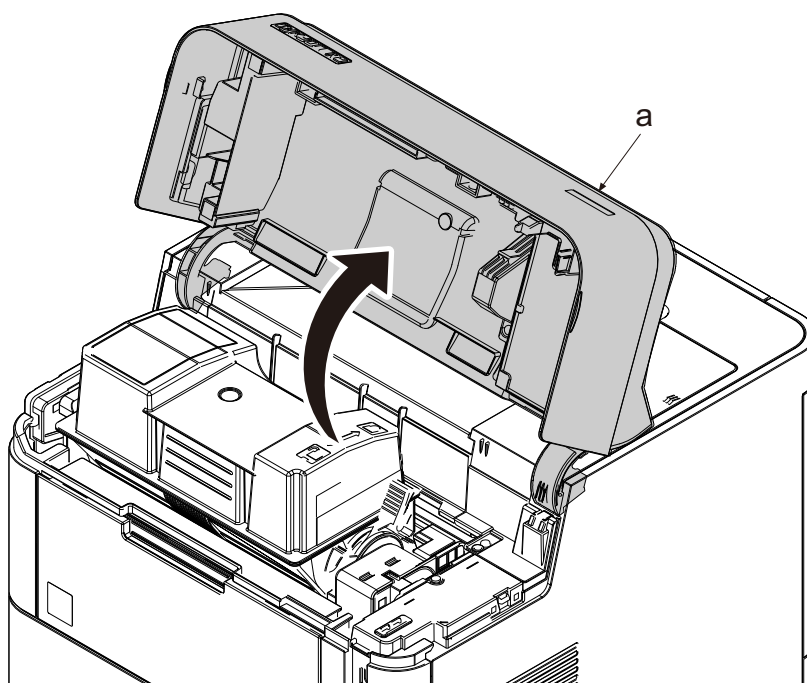
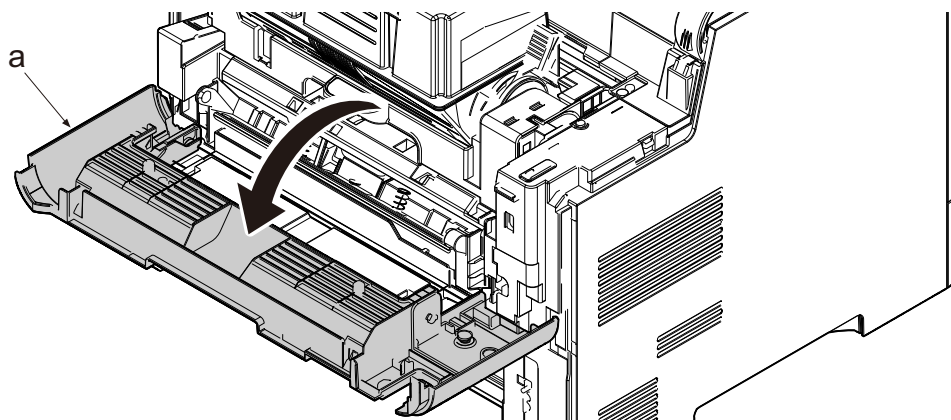
**(1-3) Detaching and refitting the rear left and left cover**

- 1** Detach the waste toner box.
- 2** Open the rear cover (a).

**3 Detach the rear left cover (a).**

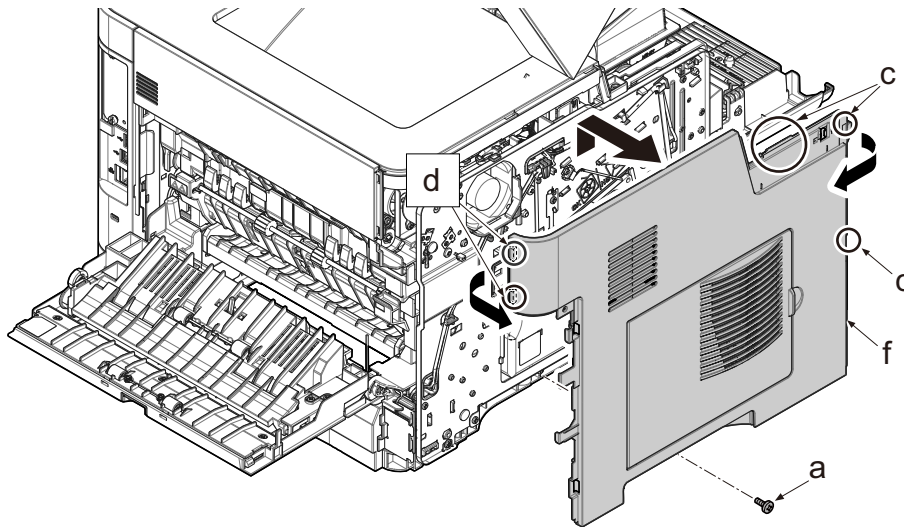
- 1** Pull the cover and release hook (b).
- 2** Detach the rear left cover (a) by rotating it.



**4 Pull out the cassette (a).****5 Open the top cover (a).****6 Open the front cover (a).**

## 7 Detach the left cover.

- 1 Remove screw (a) for the lower left cover. (M3x8)
- 2 Release three hooks (c).
- 3 Release two hooks (d).
- 4 Hold up the left cover (f) and then remove the cover.

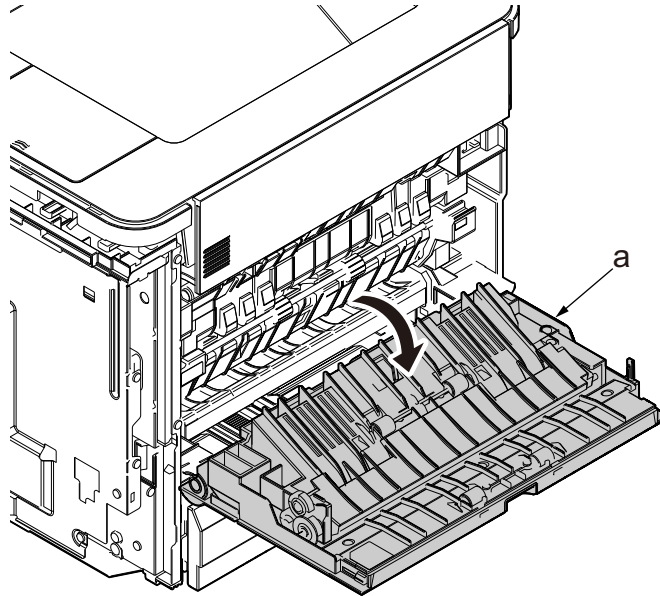


**(1-4) Detaching and refitting the top cover****1 Remove the right cover.**

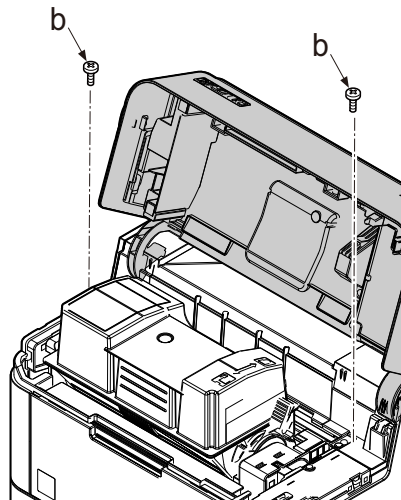
(See [page 4-18](#))

**2 Detach the left cover.**

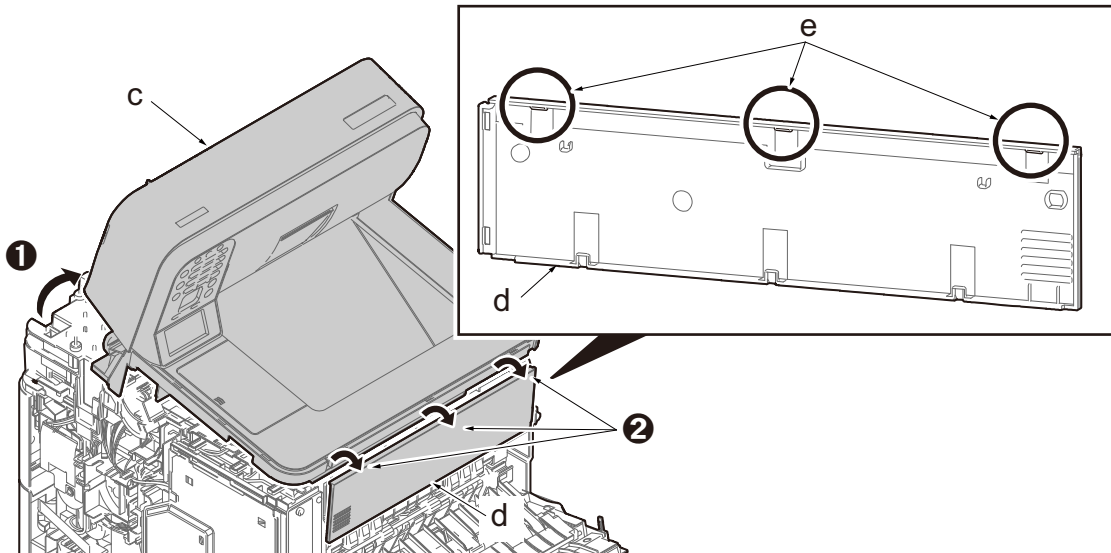
(See [page 4-21](#))

**3 Open the rear cover (a).****4 Detach the top cover assembly.**

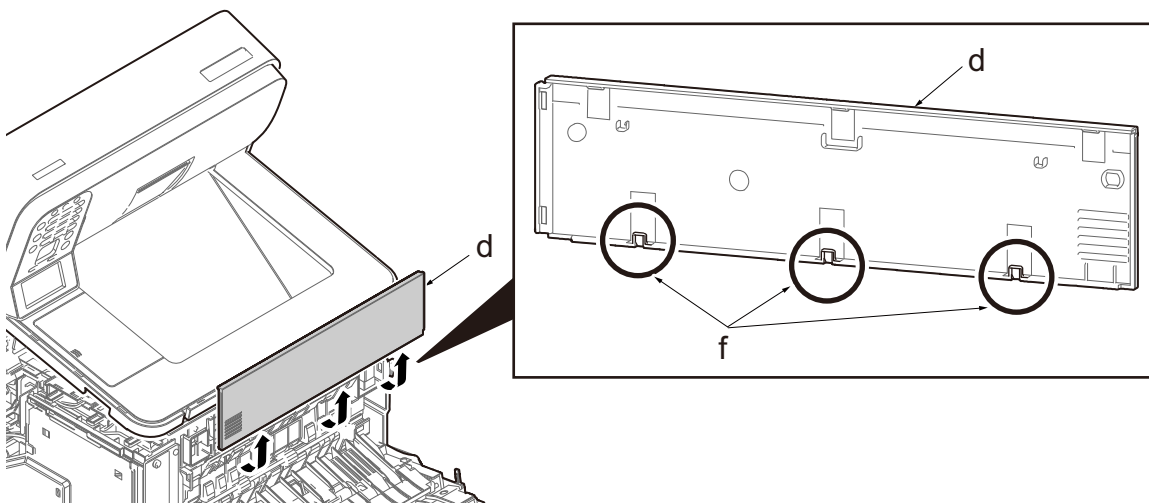
1 Remove two screws (b). (M3x8)



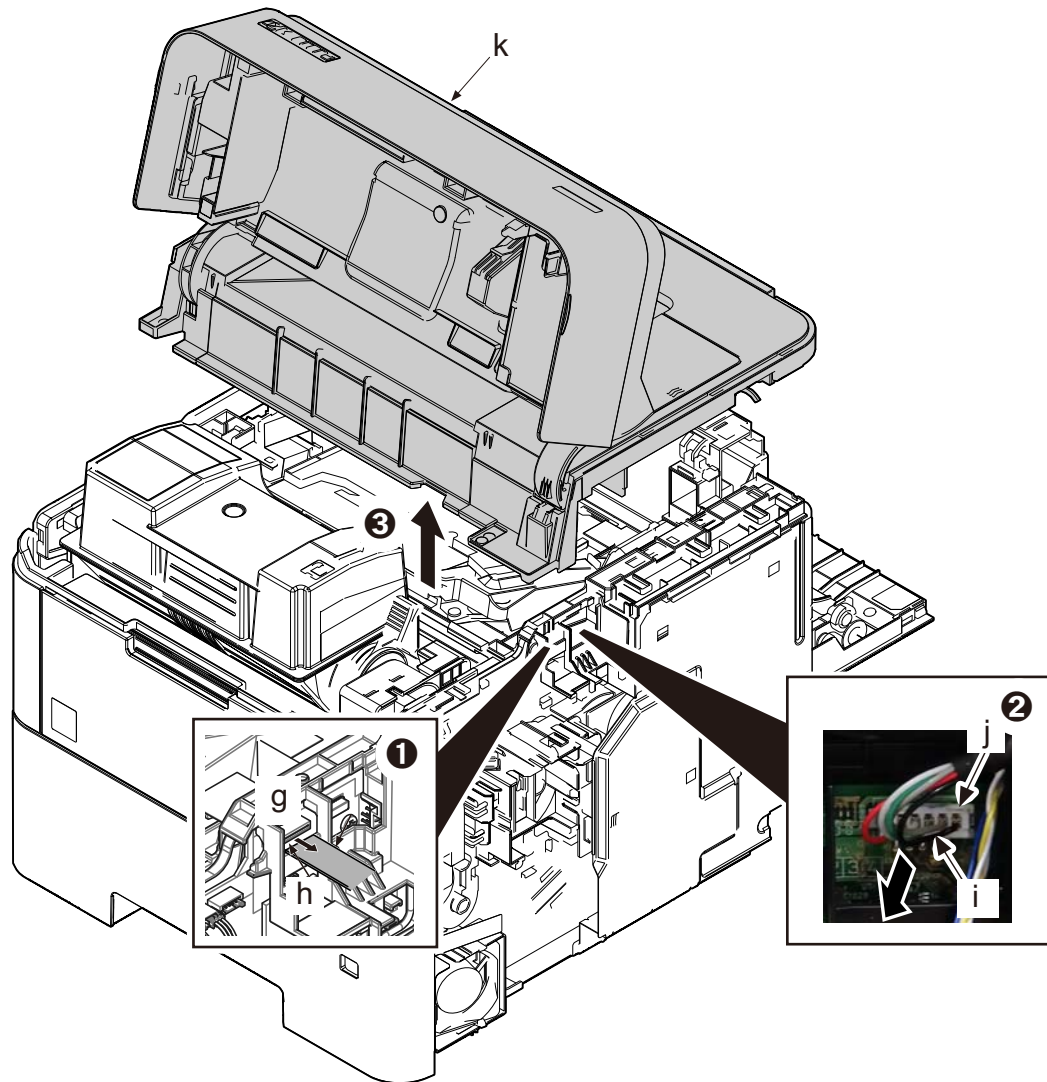
- 2 Pick up the front of the top cover assembly (c), and release three upper hooks (e) on the upper rear cover (d).



- 3 Release three lower hooks (f) on the upper rear cover (d), and remove the upper rear cover (d).

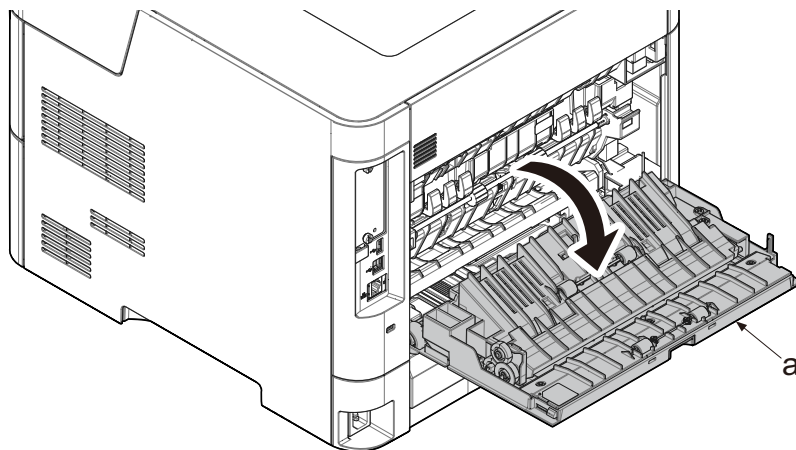


- 4 Remove the FFC (g) from the connector (h).
- 5 Remove the Wi-Fi connector (i) from the connector (j).
- 6 Remove the upper cover (k).



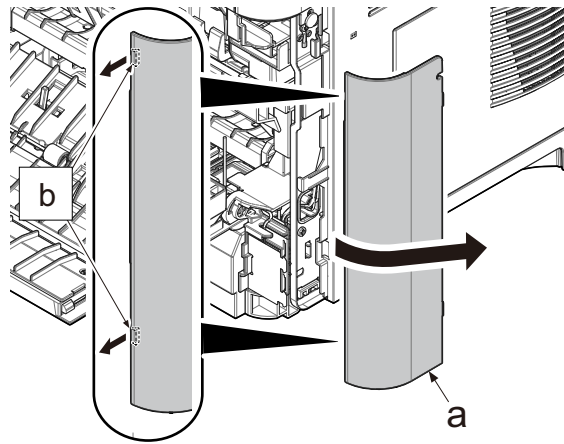
(1-5) Detach the rear cover.

1 Open the rear cover (a).



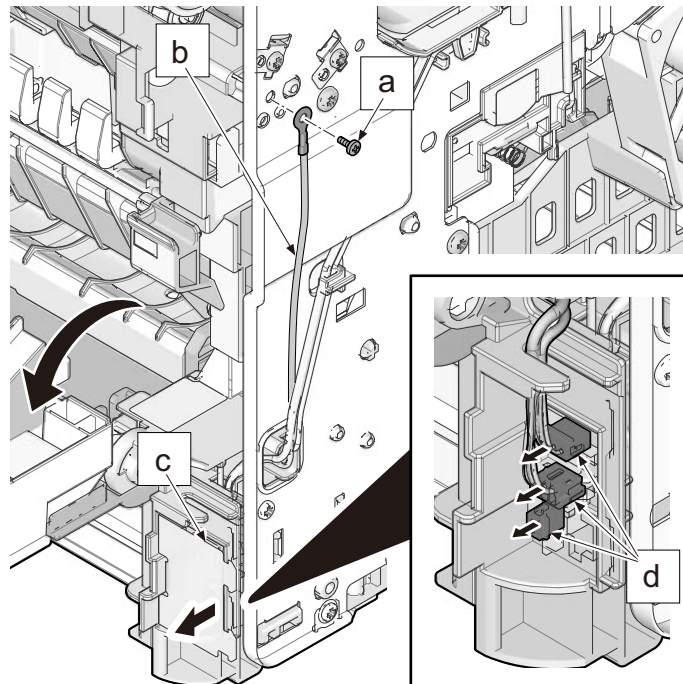
2 Detach the rear left cover (a).

- 1 Pull the cover and release hook (b).
- 2 Detach the rear left cover (a) by rotating it.



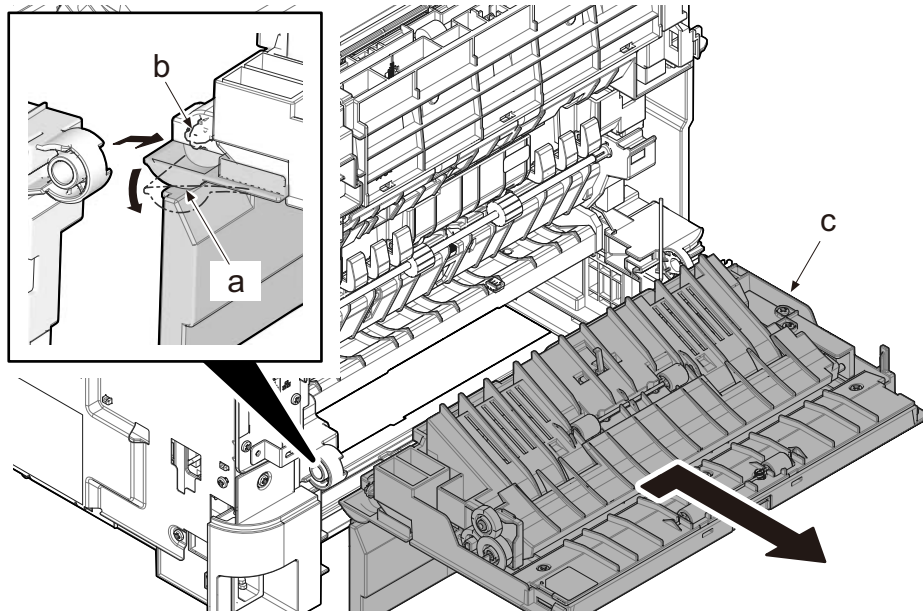
### 50/55/60ppm model only

- 3 Remove the screw (a) and the grounding wire (b). (M3x8)
- 4 Open the connector cover (c) and then remove three connectors (d).





- 3** Remove the shaft (b) by sliding the rear cover (a) and then detach the rear cover assembly (c).



## (2)Optical section

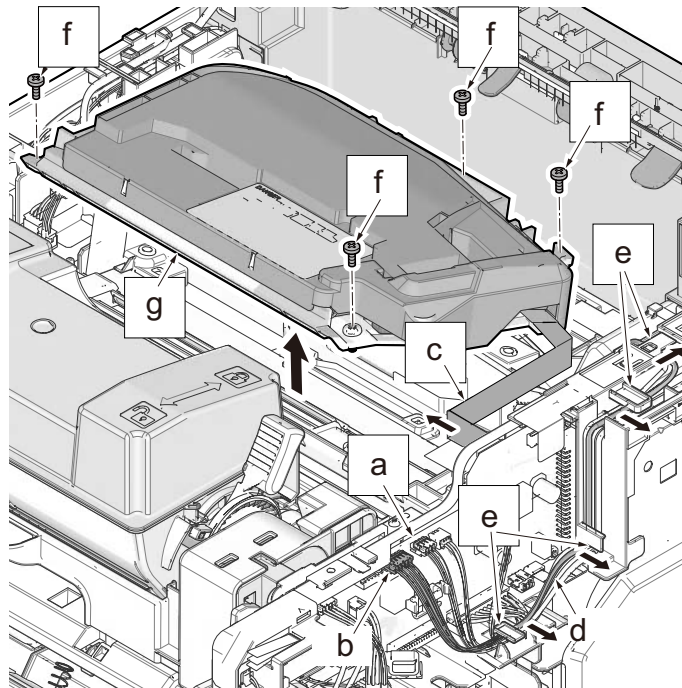
### (2-1)Detaching and refitting the laser scanner unit

#### 1 Detach the top cover assembly.

(See [page 4-24](#))

#### 2 Remove laser scanner unit.

- 1 Pull out the connector (b) and FFC (c) from engine PWB (a).
- 2 Release the wires (d) from the wire guide (e).
- 3 Remove 4 screws (f) and remove the laser scanner unit (g). (M3x8)
- 4 Check or replace the laser scanner unit and refit all the removed parts.



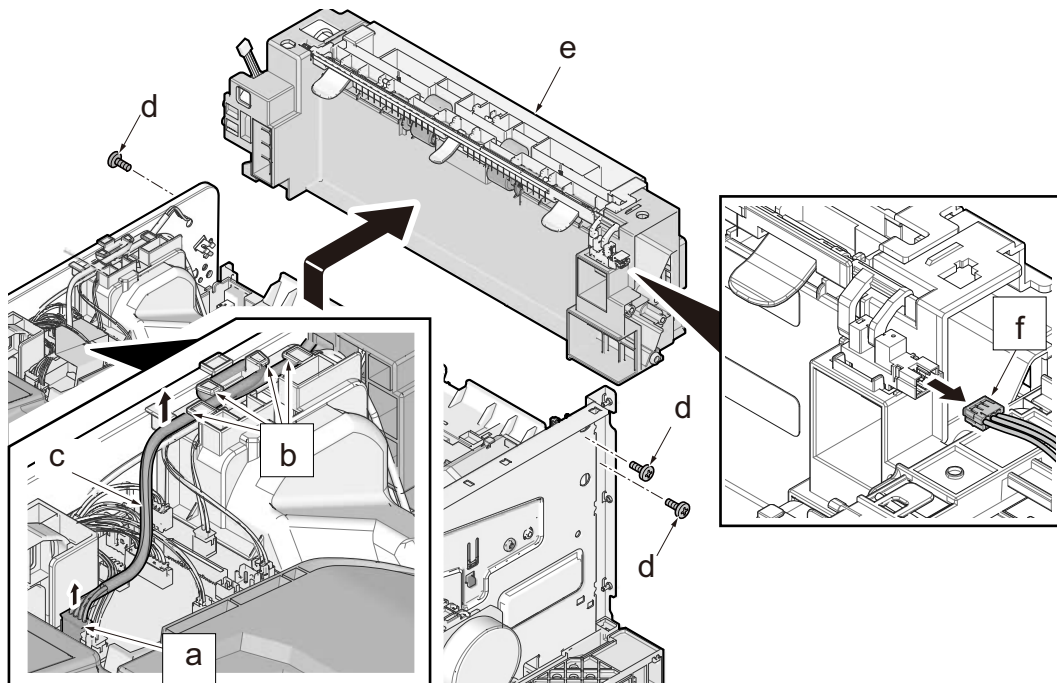
#### ✔ IMPORTANT

- Wear anti-static wrist band to avoid from static shock on the laser scanner unit. Do not touch APC PWB and terminal of FCC.
- Pay attention to insert FCC completely when connect it. If miss the connection, error comes up and takes time to fix it.

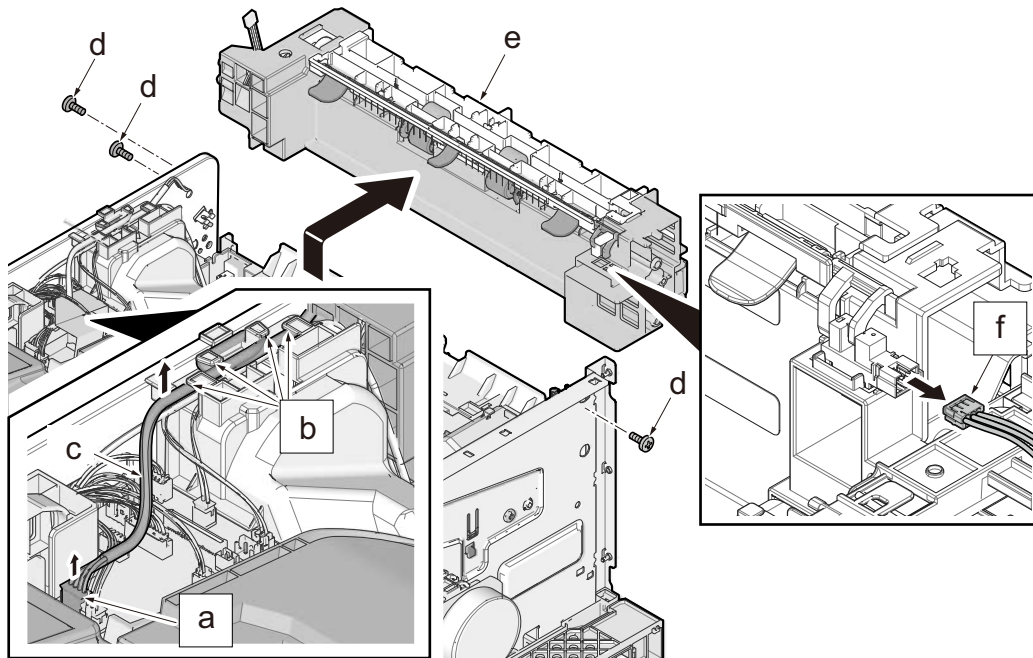
**(3)Exit section****(3-1)Detaching and refitting the exit unit**

- 1 Remove the right cover.**  
(See [page 4-18](#))
- 2 Detach the left cover.**  
(See [page 4-21](#))
- 3 Detach the top cover assembly.**  
(See [page 4-24](#))
- 4 Detach the wire guide 1.**  
(See [page 4-34](#))
- 5 Detach the controller box cover.**  
(See [page 4-38](#))
- 6 Detach the exit unit**
  - 1 Pull the connector (f) out.
  - 2 Pull the connector (a) out and then release the wires (c) from hooks.
  - 3 Remove three screws (d) and then detach the exit unit (e).
  - 4 Check or replace the exit unit and refit all the removed parts.

[60/55/50ppm]



45 ppm

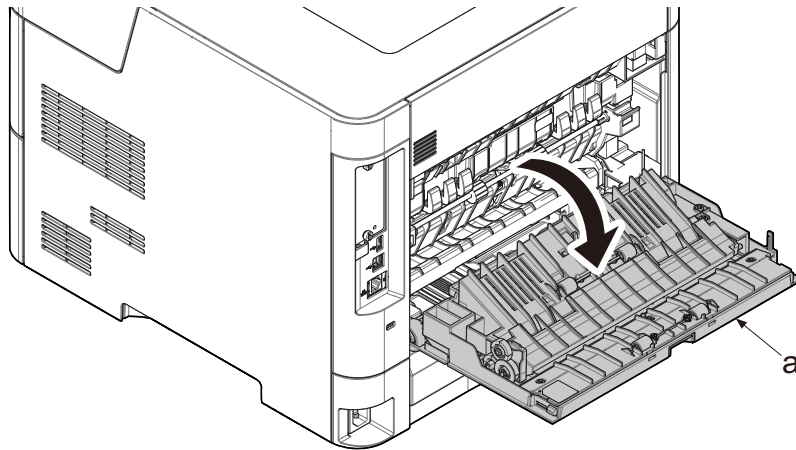


**(4)PWBs****CAUTION**

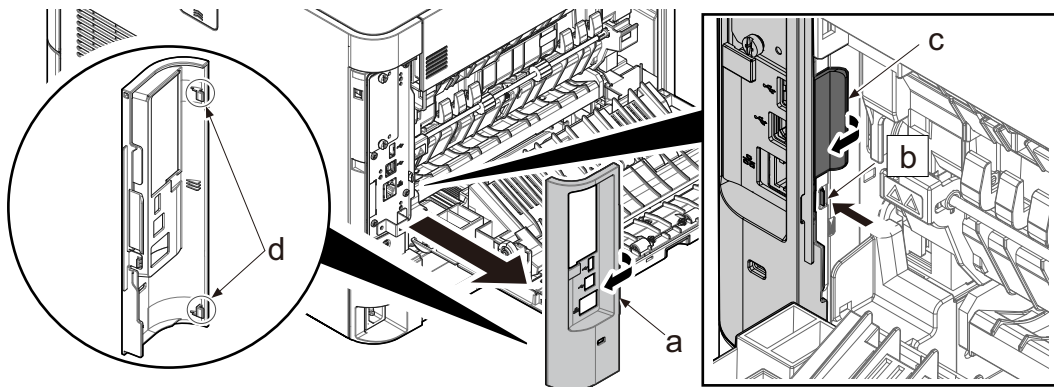
Before replacing the PWB, be sure to take the following procedures. Otherwise, The PWB may get damaged.

Disconnect the power cord.

Press the power switch one second or more. (discharge the electric charge inside the main unit)

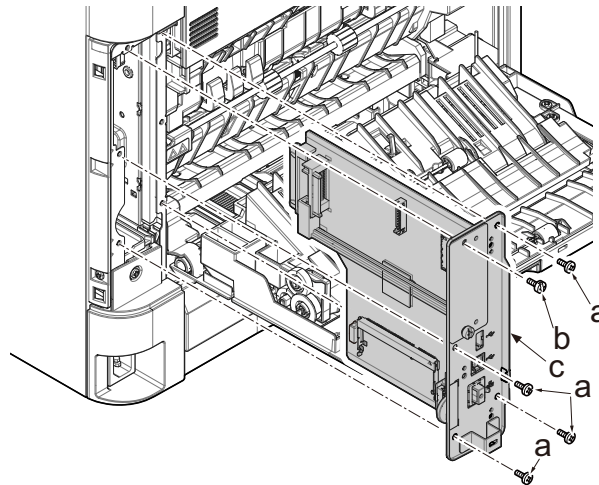
**(4-1)Detaching and refitting the main PWB****1 Open the rear cover (a).****2 Release hook (b) and detach the interface cover (a).**

- Release the hook (b) and pull the handle (c) in the direction of the arrow to remove the interface cover (a).
- Insert two of the hook (d) first to attach.

**3 Unplug the power cable.****4 Detach the main PWB.**

- 1 Remove four screws (a) and (b) then detach the main PWB unit (c).

- 2 Check or replace the main PWB and refit all the removed parts.



 **IMPORTANT**

Re-activate the license if optional licensed product is installed.

- 1) Card Authentication Kit (B)
- 2) UG-33 (ThinPrint)

Re-input four-digit encrypted code that was input at setup.

Reset the user initial values from the System. Menu and Command Center.

**(4-2) Detaching and refitting the engine PWB****1 Remove the right cover.**

(See [page 4-18](#))

**2 Detach the left cover.**

(See [page 4-21](#))

**3 Detach the top cover assembly.**

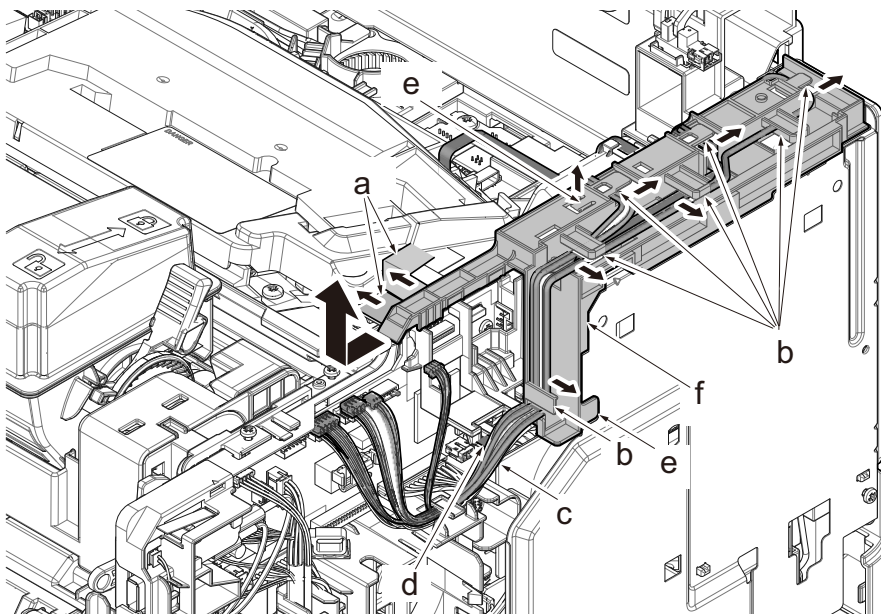
(See [page 4-24](#))

**4 Detach the wire guide 1.**

1 Remove two FFCs (a) from inside of frame.

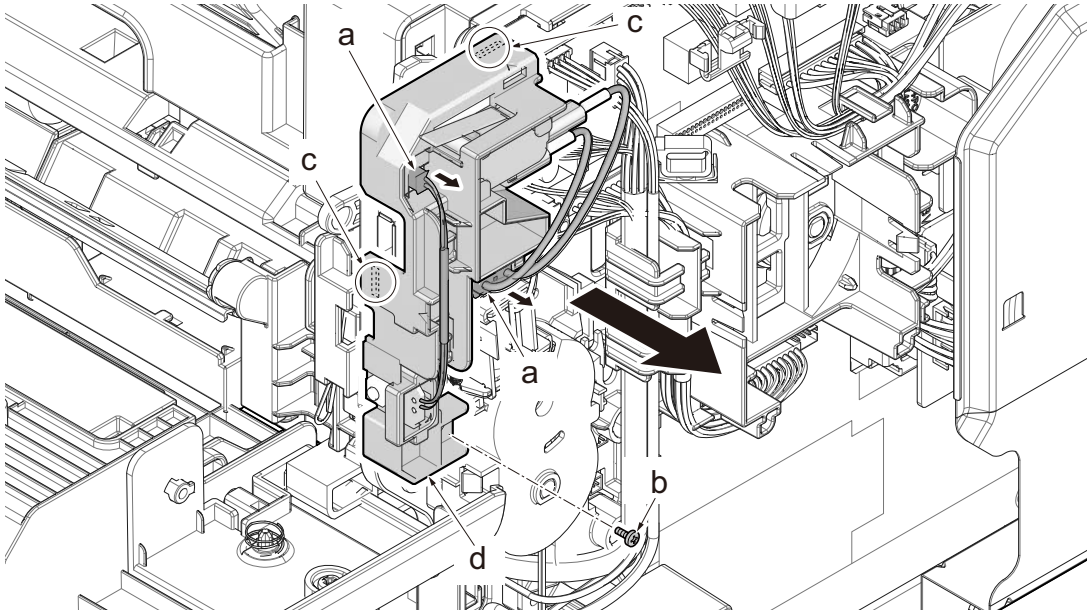
2 Release the wires (c) and FFC (d) from hooks (b).

3 Release the fixing hook (e) and then remove the wire guide 1 (f).

**5 Detach the wire guide 2.**

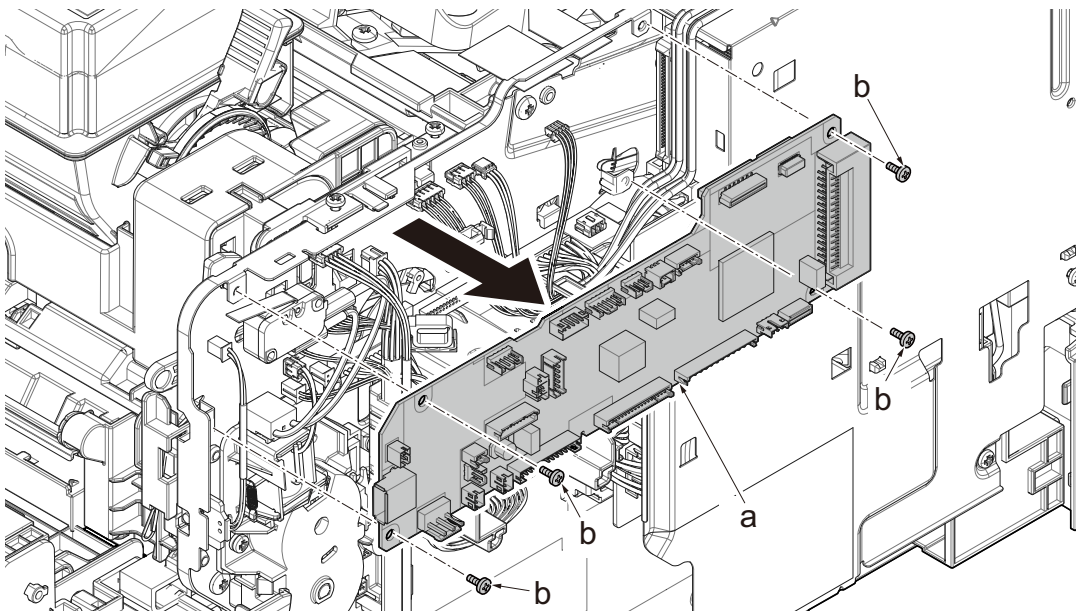
1 Pull the connector (a) out.

- 2 Remove screw (b) and release 2 hooks (c) then remove the wire guide 2. (M3x8)



## 6 Detach the engine PWB.

- 1 Pull all connectors out from engine PWB (a).
- 2 Remove four screws (b) and then detach the engine PWB (a). (M3x8)
- 3 Check or replace the engine PWB and refit all the removed parts.

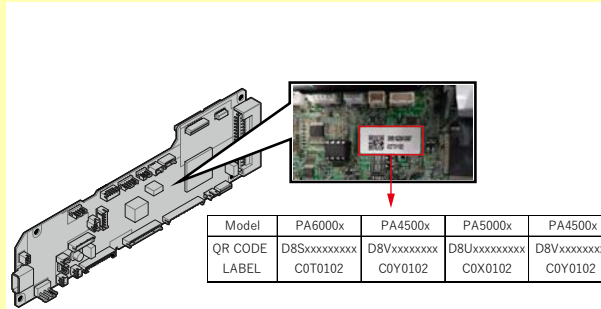




**✔ IMPORTANT**

When replacing the engine PWB (a), remove the EEPROM (U21) from the PWB and then reattach it to the new PWB.

When replacing the engine PWB, make sure to check the QR code label of the engine PWB and attach correct one.

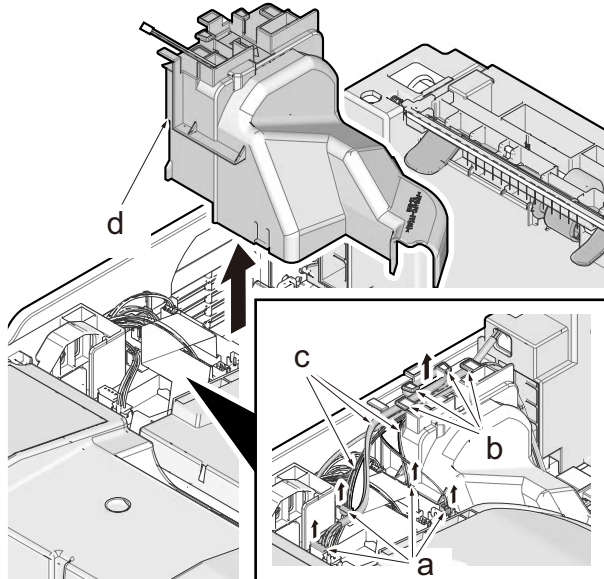


**(4-3) Detaching and refitting the relay-L PWB****1 Detach the top cover assembly.**

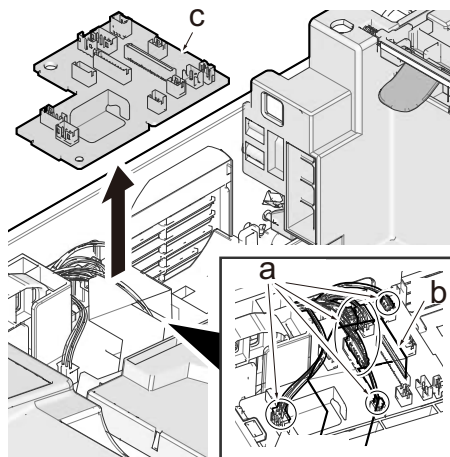
(See [page 4-24](#))

**2 Detach the LSU fan.**

- 1 Pull the connectors (a) out from relay-L PWB and then release the wires (c) from hooks (b).
- 2 Detach the LSU fan assembly (d) upward.

**3 Detach the relay-L PWB.**

- 1 Pull the connectors (a) and FFC (b) out and detach the relay-L PWB.
- 2 Check or replace the relay-L PWB (c) and refit all the removed parts.



## (4-4) Detaching and refitting the Power supply PWB



### CAUTION

Before replacing the PWB, be sure to take the following procedures. Otherwise, The PWB may get damaged.  
Disconnect the power cord.

Press the power switch one second or more. (discharge the electric charge inside the main unit)

### 1 Remove the right cover.

(See [page 4-18](#))

### 2 Detach the left cover.

(See [page 4-21](#))

### 3 Detach the top cover assembly.

(See [page 4-24](#))

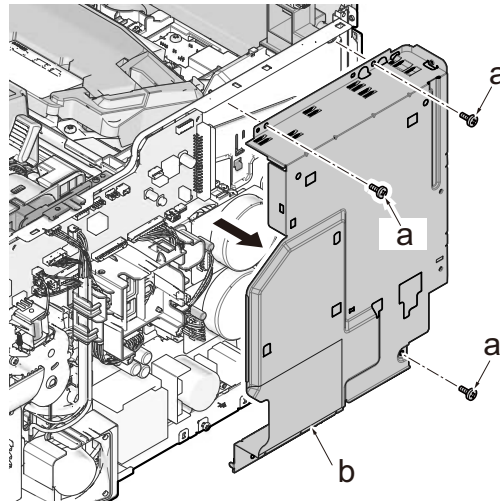
### 4 Detach the main PWB.

(See [page 4-32](#))

### 5 Detach the wire guide 1.

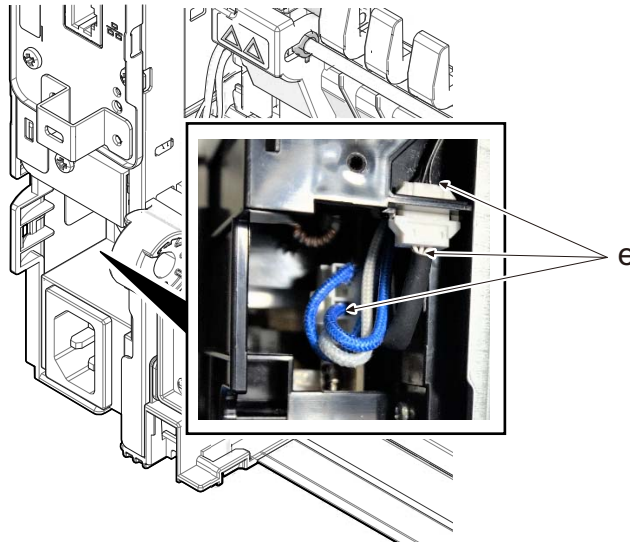
(See [page 4-34](#))

### 6 Remove three screws (a) and detach the controller box cover (b). (M3x8)

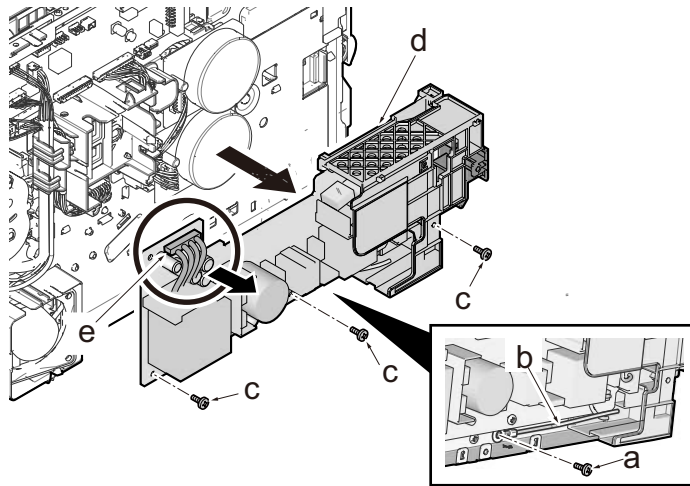


## 7 Detach the power supply PWB.

- 1 Pull three connectors (e) out.

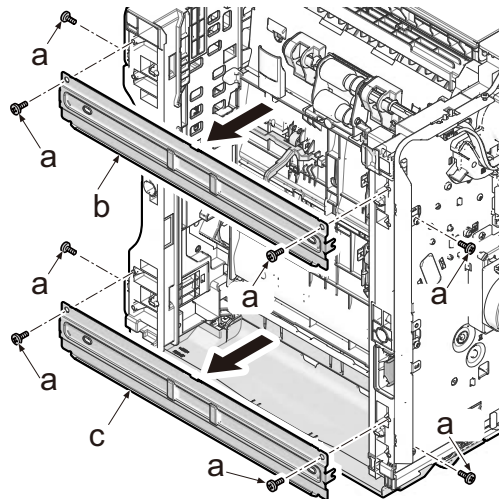


- 2 Remove the screw (a) and then the grounding wire (b).
- 3 Pull the connector (e) out.
- 4 Remove three screws (c) and remove the power supply PWB (d).
- 5 Check or replace the power supply PWB and refit all the removed parts.



**(4-5) Detach the high-voltage PWB.**

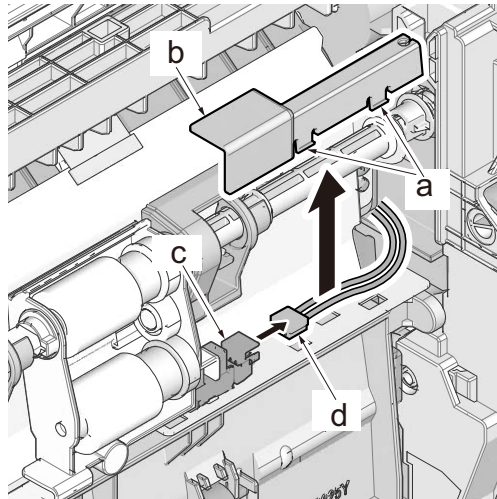
- 1 Detach the cassette.**
- 2 Remove the right cover.**  
(See [page 4-18](#))
- 3 Detach the left cover.**  
(See [page 4-21](#))
- 4 Detach the power supply fan.**  
(See [page 4-46](#))
- 5 Detach the power supply PWB.**  
(See [page 4-38](#))
- 6 Place the main unit front side up.**
- 7 Remove four screws (a) each and remove the bottom plate 1 (b) and the bottom plate 2 (c).**



## 8 [60/55/50ppm only]

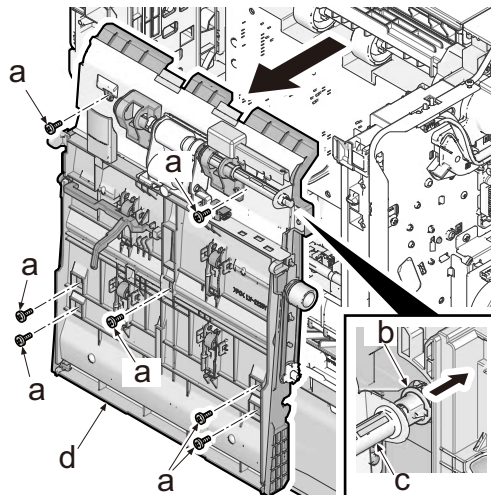
Release two hooks (a) and detach the wire cover (b).

Pull the lift sensor (c) connector (d) out.



## 9 Detach the duplex unit.

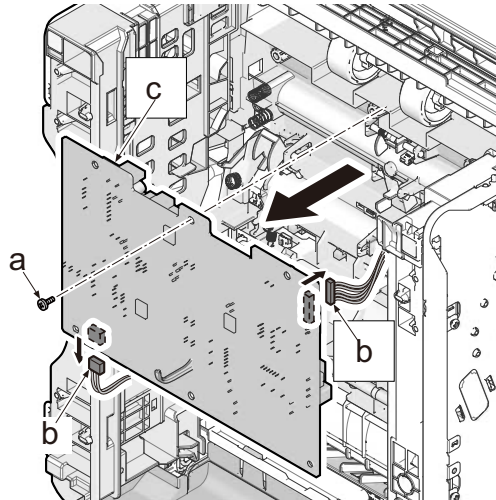
- 1 Remove 7 screws (a). (M3x8)
- 2 Push the joint section (b) and pull out the feed roller (c).
- 3 Detach the duplex unit frontward.



## 10 Detach the high voltage PWB.

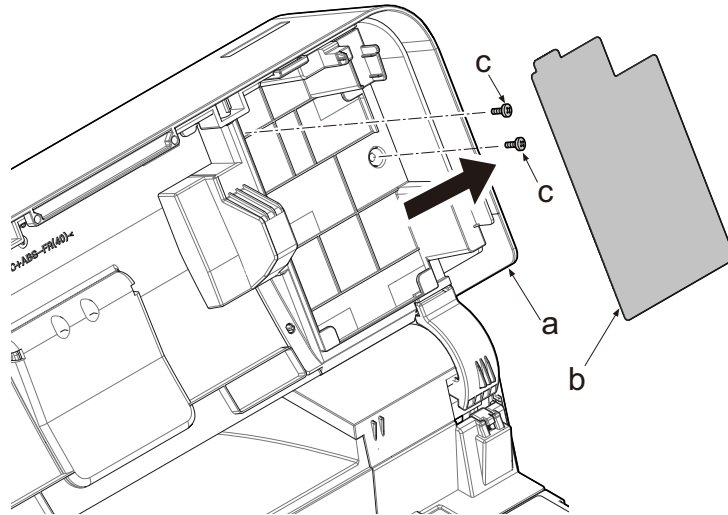
- 1 Remove 1 screw (a). (M3x8)
- 2 Pull two connectors (b) out and then detach the high voltage PWB (c).

- 3 Check or replace the high-voltage PWB and refit all the removed parts.

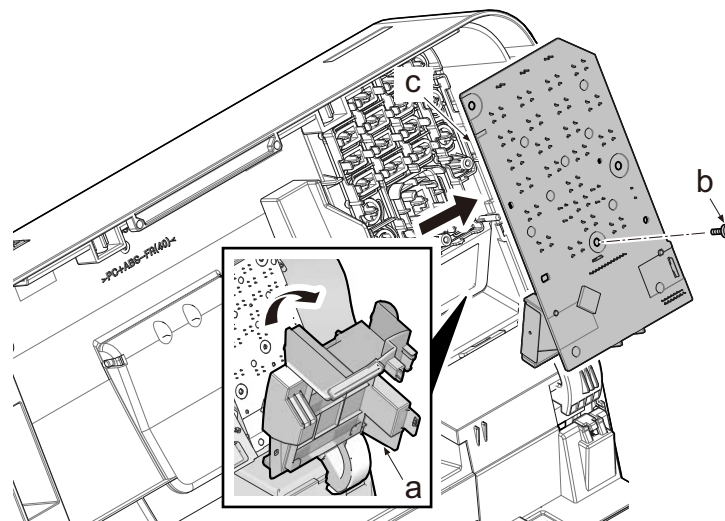


**(4-6) Detaching and reattaching the operation PWB**

- 1 Open the top cover (a).
- 2 Remove the jam clearance procedure sheet (b).
- 3 Remove 2 screws (c). (M3x8)

**4 Remove the operation PWB.**

- 1 Rotate the operation PWB cover (a).
- 2 Remove the screw (b) and take the operation PWB out. (M3x8)
- 3 Check or replace the operation PWB and refit all the removed parts.

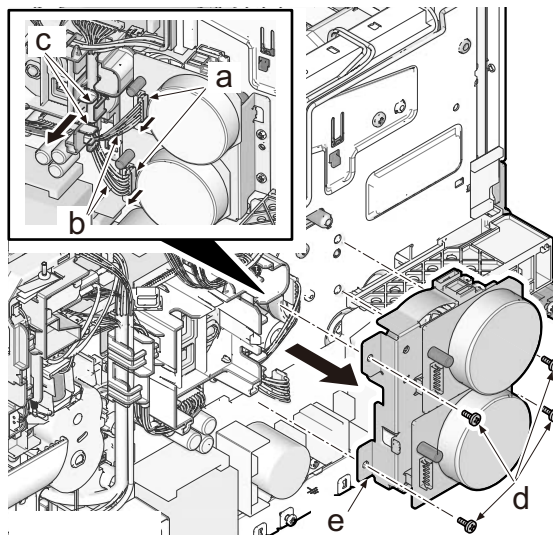




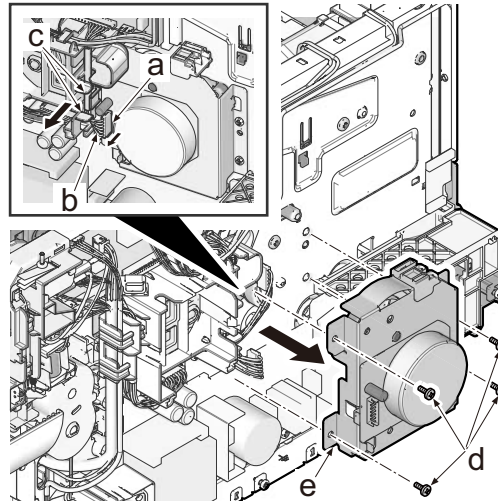
**(5) Drive section****(5-1) Detaching and reattaching the main drive unit**

- 1 Remove the right cover.**  
(See [page 4-18](#))
- 2 Detach the left cover.**  
(See [page 4-21](#))
- 3 Detach the top cover assembly.**  
(See [page 4-24](#))
- 4 Detach the main PWB.**  
(See [page 4-32](#))
- 5 Detach the wire guide 1.**  
(See [page 4-34](#))
- 6 Detach the controller box cover.**  
(See [page 4-38](#))
- 7 Detaching main drive unit**
  - 1 Pull the connector (a) out from the motor and then release the wires (b) from wire holder (c).
  - 2 Remove four screws (d) and then detach the main drive unit (e).
  - 3 Check or replace the main drive unit and refit all the removed parts.

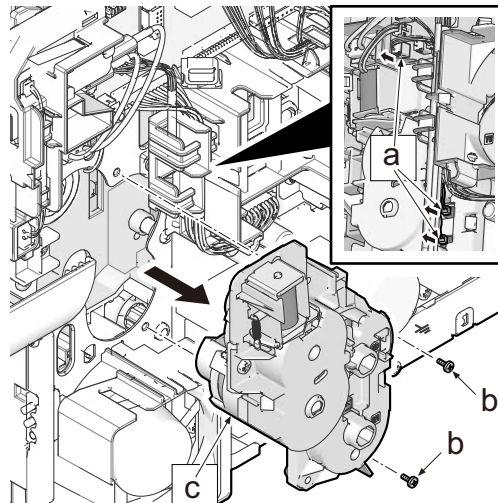
[60/55/50ppm]



45 ppm

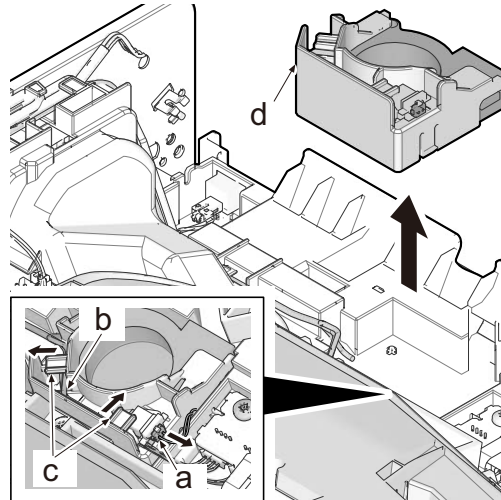
**(5-2) Detaching and refitting the paper feed drive unit****1 Remove the right cover.**(See [page 4-18](#))**2 Remove the paper feed drive unit.**

- 1 Pull the connector (a) out.
- 2 Remove 2 screws (b) and then detach the paper feed drive unit (c).
- 3 Check or replace the paper feed drive unit and refit all the removed parts.

**(5-3) Detaching and refitting the center fan (60 ppm only)****1 Detach the exit unit**(See [page 4-30](#))**2 Detach the center fan (d).**

- 1 Disconnect the connector (a) and release the wire (b) from the hook (c).
- 2 Detach the center fan (d).

- 3 Check or replace the center fan and refit all the removed parts.



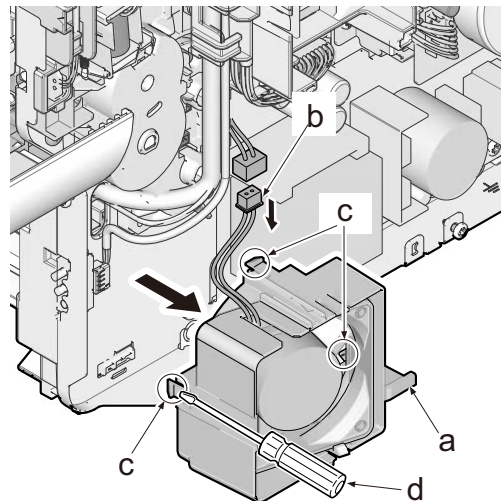
#### (5-4) Detaching and reattaching the power supply fan

- 1 Remove the right cover.

(See [page 4-18](#))

- 2 Detach the power supply fan.

- 1 Pull the connector (b) of the power supply fan (a).
- 2 Release three hooks (c) using flat-blade screwdriver (d) and then detach the power supply fan (a).
- 3 Check or replace the power supply fan and refit all the removed parts.

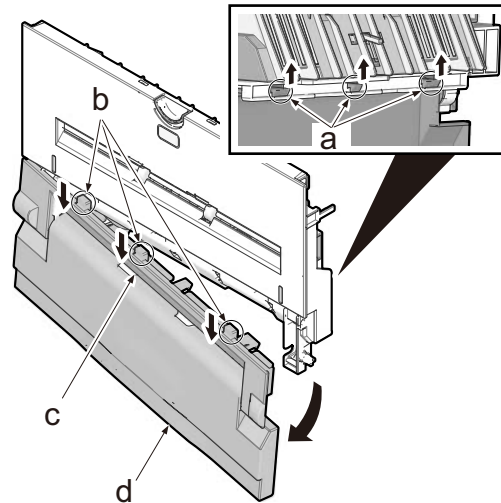


#### (5-5) Detaching and reattaching the rear fan. (60/55/50ppm only)

- 1 Detach the rear cover assembly.

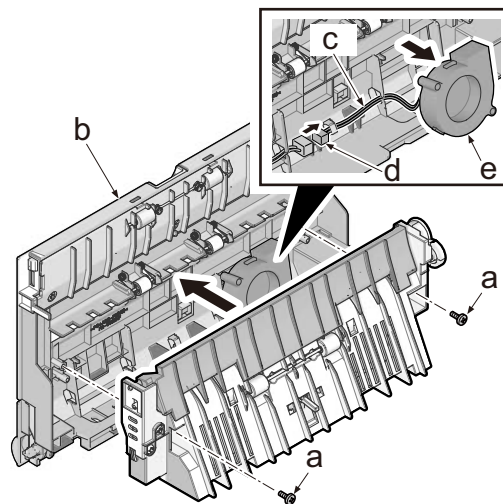
(See [page 4-26](#))

- 2** Release three hooks (a) and then detach the lower rear cover (c) and cassette cover (d) by pulling out three projections.



**3** Detach the rear fan.

- 1 Remove two screws (a) and detach the upper rear cover (b).
- 2 Disconnect connector (d) of the fan wire (c).
- 3 Detach the rear fan (e).
- 4 Check or replace the rear fan and refit all the removed parts.

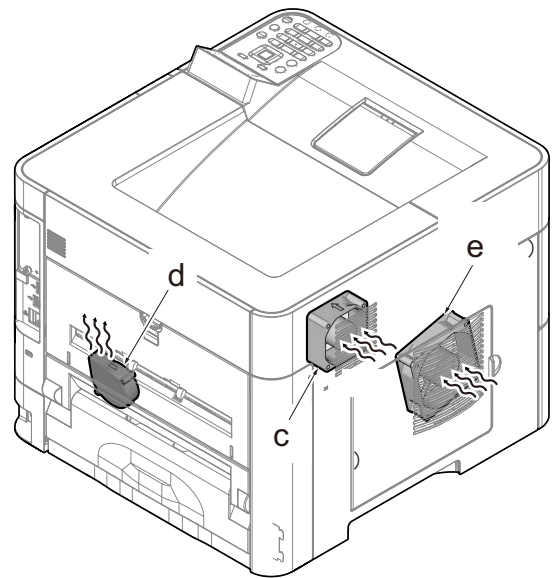
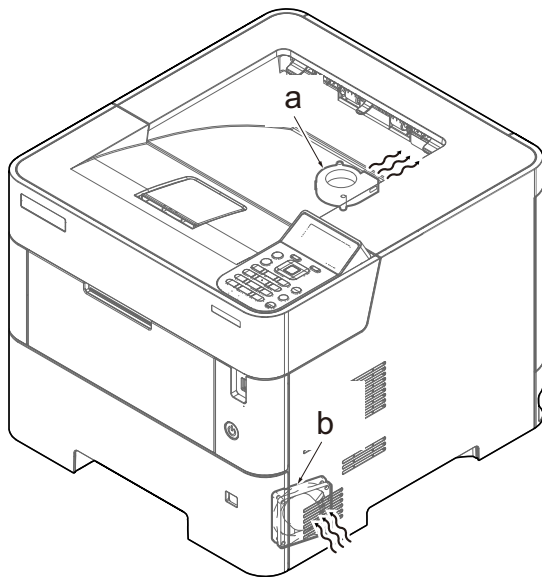


**(5-6) Direction of the fan installation.**

When detaching or refitting the fan, pay attention of the airflow direction (intake or exhaust).

- Center motor fan (a) \*1: Exhaust (Rating label face down)
- Power supply fan (b): Intake (Rating label face inside)
- LSU fan (c): Intake (Rating label face inside)
- Rear fan (d) \*1: Exhaust (Rating label face inside)
- Developer fan (e): Intake (Rating label face inside)

\*1: 110V model only

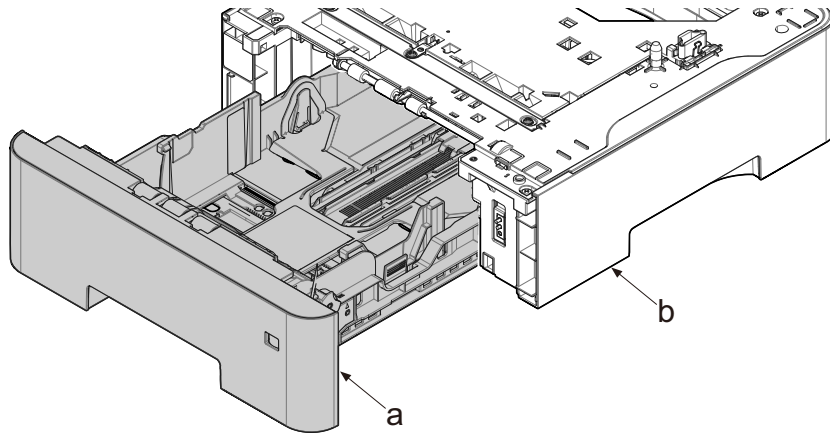


## 4 - 5 Assembly and disassembly (Optional items)

### (1) Paper feeder (PF-3110)

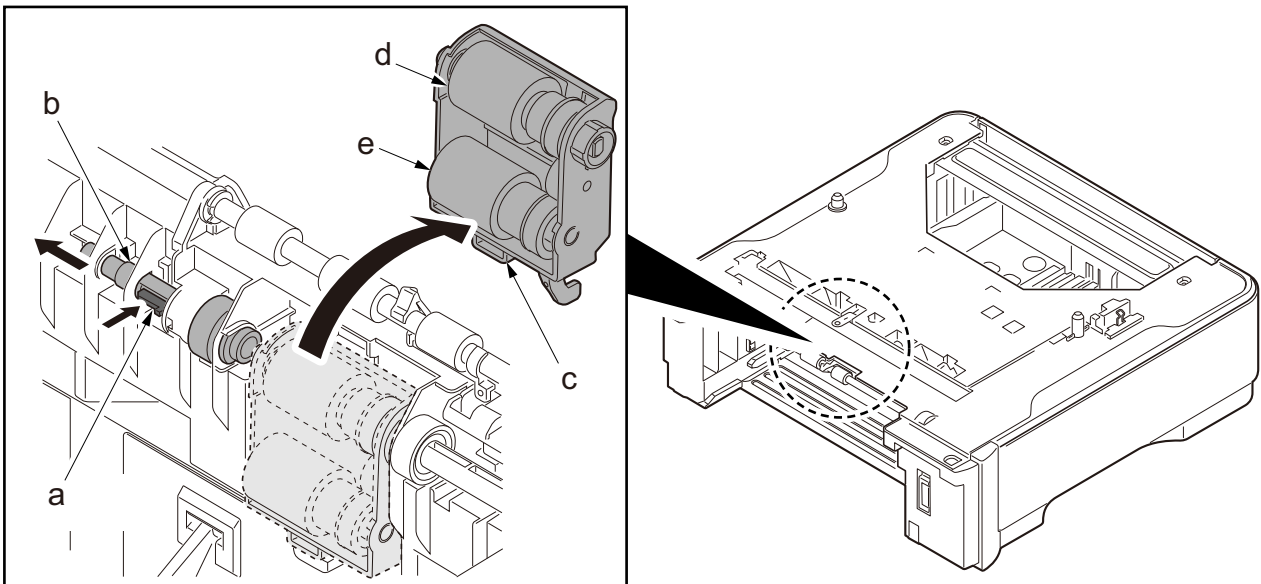
#### (1-1) Detaching and refitting the paper feed roller

- 1 Remove cassette (a) from paper feeder (b).



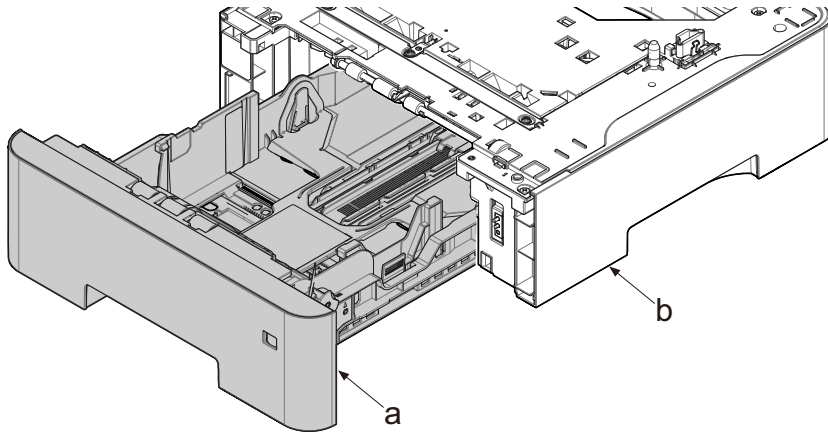
- 2 Remove the paper feed roller unit.

- 1 Press the lock lever (a) and slide the roller holder (b).
- 2 Detach the paper feed roller assembly (c).
- 3 Check or replace the paper feed roller or pick up roller and refit all the removed parts.

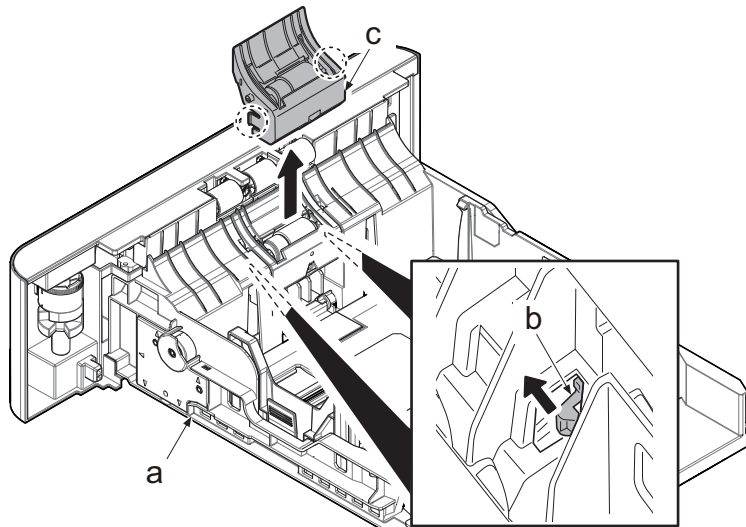


**(1-2) Detaching and refitting the retard roller**

- 1 Remove cassette (a) from paper feeder (b).**



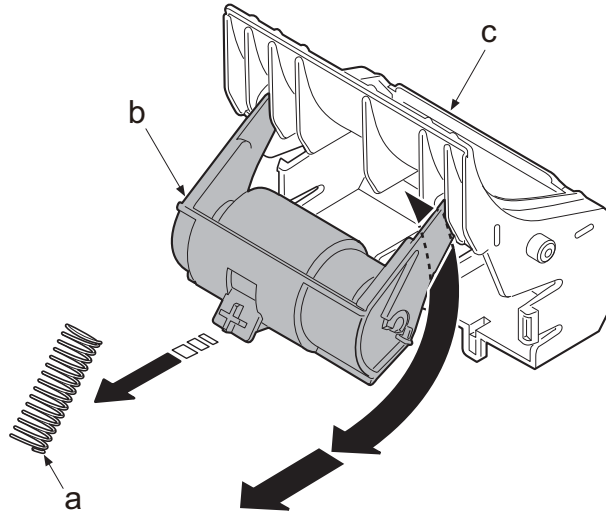
- 2 Release two hooks (b) in backside of cassette (a) and then detach the retard roller assembly (c).**



- 3 Remove the retard roller.**

- 1 Remove spring (a).**
- 2 Remove the retard roller holder (b) by rotating it.**

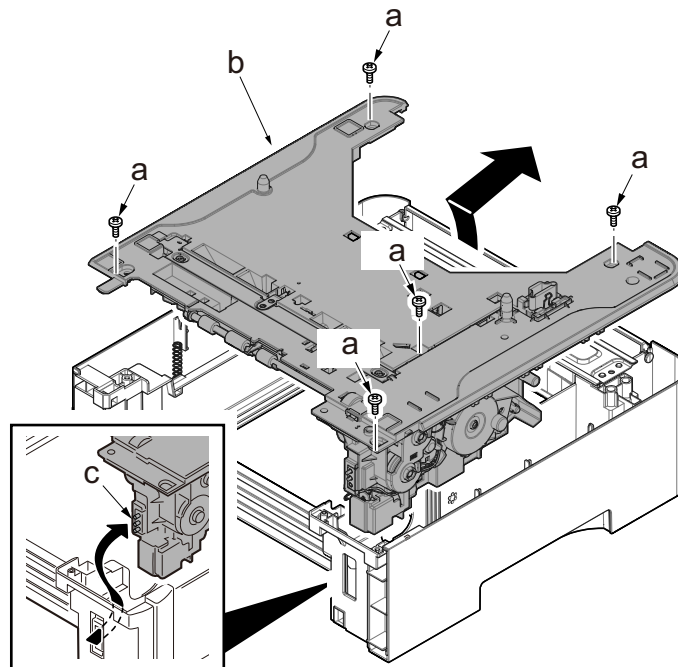
- 3 Check or replace the retard roller and refit all the removed parts.



### (1-3) Detaching and refitting the drive unit and PF PWB.

#### 1 Detach the top cover.

- 1 Remove 5 screws (a). (M3x8)
- 2 Lift up rear edge of the top cover (b).
- 3 Pull out cassette size switch (c) and remove top cover (b).

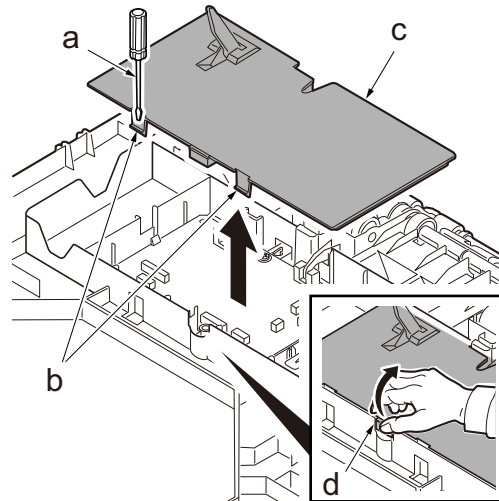


#### 2 Detach the PWB cover.

- 1 Release 2 hooks (b) with flat head screw driver (a).

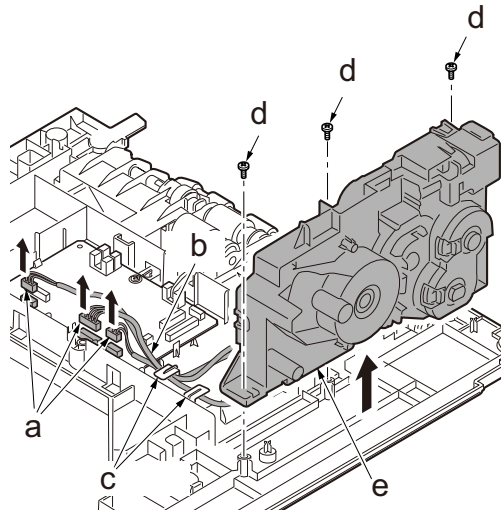


- 2 Lift up tab (d) on PWB cover (c) and remove the cover.



### 3 Remove the drive unit.

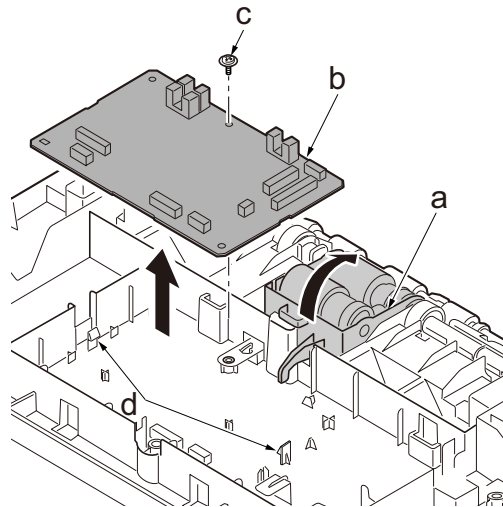
- 1 Pull the 3 connectors (a) out and release the wires (b) from wire holder (c).
- 2 Remove three screws (d) and detach the drive unit (e). (M3x8)



### 4 Detach the PF PWB cover.

- 1 Raise the feed roller assembly (a) up.
- 2 Pull the all connector from PF PWB out.
- 3 Remove the screw (c).

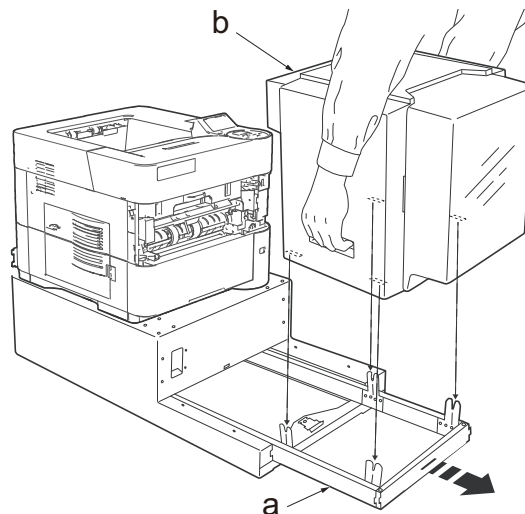
- 4 Release two hooks (d) and detach the PF PWB (b).



## (2) Large Capacity Paper Feeder (PF-3100)

### (2-1) Remove the paper feeder

- 1 Take away the paper feeder (b) from main unit by sliding on the mount rails (a).
- 2 Hold up the paper feeder (b).

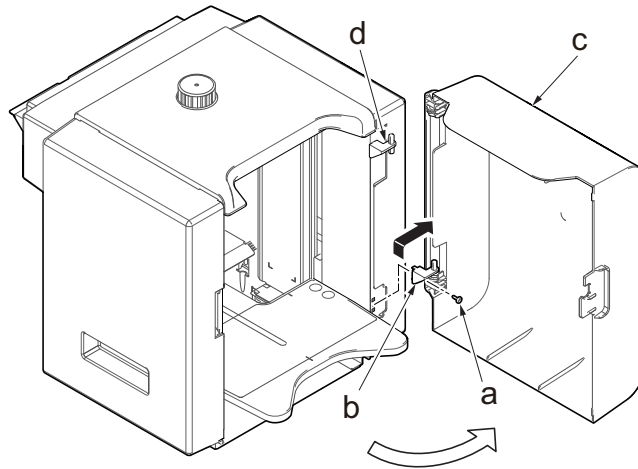


### (2-2) Detach the tray cover.

- Fix the tray cover with tape not to let it open during maintenance. Or remove the tray with following procedure.

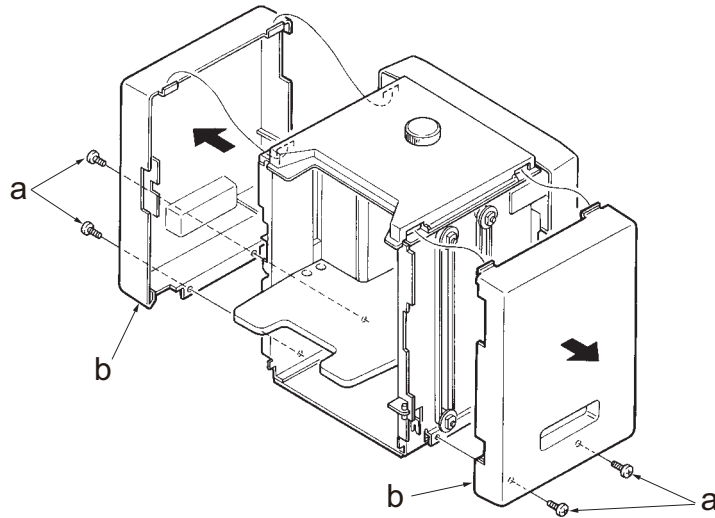
- 1 Remove the screw (a) and remove lower hinge (b).

- lift up the tray cover (c) and remove from upper hinge (d).

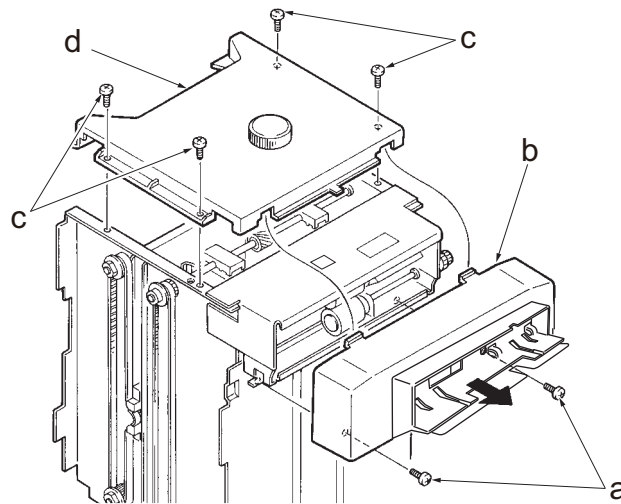


**(2-3)Detach the side cover.**

- Do this in case if access to parts inside.

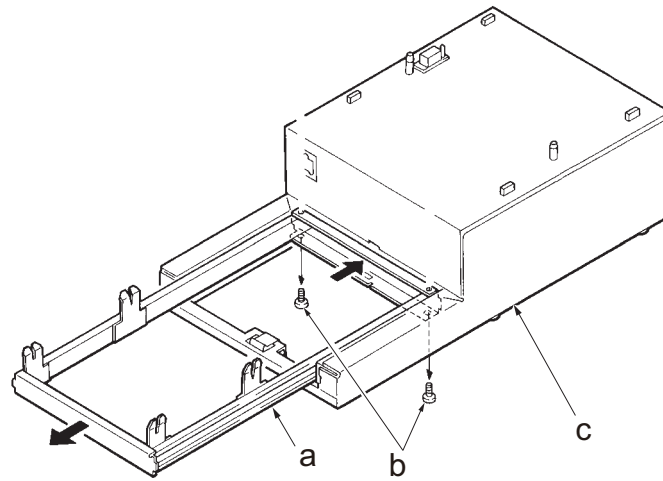
**1 Remove two screws (a) on lower side and detach the right/left side covers (b).****(2-4)Remove paper feed section and top cover**

- In case of top cover removal, it recommends that the paper feed is removed either.
- Tray size adjust knob cannot be removed unless removing top cover.

**1 Remove 2 screws (a) and remove paper feed section (b).****2 Remove 4 screws (c) and detach the top cover.**

**(2-5) Remove printer base mount**

- 1** Remove 2 screws (b) on mount rail (a).
- 2** Pull out the mount rail (a) from printer base (c).



## 5 Firmware

### 5 - 1 Firmware update

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 Package	DL_PKG_CTRL.C0T	CPKG
	Product Line Platform	DL_CTRL_PLP.C0T	PLP
	Common Basic App	DL_CTRL_STDAPP_CMN.C0T	CMN
	System Setting App	DL_CTRL_STDAPP_SST.C0T	SST
	Maintenance App	DL_CTRL_STDAPP_MNT.C0T	MNT
	Print App	DL_CTRL_STDAPP_PRT.C0T	PRT
	Box App	DL_CTRL_STDAPP_BOX.C0T	BOX
	Web Page App	DL_CTRL_STDAPP_WPG.C0T	WPG
	Auth App	DL_CTRL_STDAPP_AUTH.C0T	AUTH
	Panel Control System App	DL_CTRL_STDAPP_PCS.C0T	PCS
	Service Cooperation App	DL_CTRL_STDAPP_SCO.C0T	SCO
	Extension Service Platform	DL_CTRL_EXSP.C0T	EXSP
	Package Version Info	DL_CTRL_VINF.C0T	VINF
	Option Language Data(1)	DL_OPT_xx.C0T *1	OPT1
	Option Language Data(2)	DL_OPT_xx.C0T *1	OPT2
	Option Language Data(3)	DL_OPT_xx.C0T *1	OPT3
	Option Language Data(4)	DL_OPT_xx.C0T *1	OPT4
	Option Language Data(5)	DL_OPT_xx.C0T *1	OPT5
Option Language Data(Erase)	DL_OPT_ER.C0T	-	

\*1: Alphanumeric characters corresponding to the type of the optional language is substituted for xx.

#### [GROUP2 UPDATE]

#### [GROUP3 UPDATE]

UPDATE step	Target	Master file name	Message
1	Engine Firmware	DL_ENGN.C0T	ENGN
2	Paper Feeder	DL_03NY.2LV	PF1 ~ 4 *1

\*1: Four PFs are connected at the maximum. It is updated one by one and four are displayed.

## 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
Product Line Platform	C0T_CTRL_PLP_sign.bin	C0T_CTRL_PLP_cert.pem
Common Basic App	C0T_CTRL_STDAPP_CMN_sign.bin	C0T_CTRL_STDAPP_CMN_cert.pem
System Setting App	C0T_CTRL_STDAPP_SST_sign.bin	C0T_CTRL_STDAPP_SST_cert.pem
Maintenance App	C0T_CTRL_STDAPP_MNT_sign.bin	C0T_CTRL_STDAPP_MNT_cert.pem
Print App	C0T_CTRL_STDAPP_PRT_sign.bin	C0T_CTRL_STDAPP_PRT_cert.pem
Box App	C0T_CTRL_STDAPP_BOX_sign.bin	C0T_CTRL_STDAPP_BOX_cert.pem
Web Page App	C0T_CTRL_STDAPP_WPG_sign.bin	C0T_CTRL_STDAPP_WPG_cert.pem
Auth App	C0T_CTRL_STDAPP_AUTH_sign.bin	C0T_CTRL_STDAPP_AUTH_cert.pem
Panel Control System App	C0T_CTRL_STDAPP_PCS_sign.bin	C0T_CTRL_STDAPP_PCS_cert.pem
Service Cooperation App	C0T_CTRL_STDAPP_SCO_sign.bin	C0T_CTRL_STDAPP_SCO_sign.bin
Extension Service Platform	C0T_CTRL_EXSP_sign.bin	C0T_CTRL_EXSP_cert.pem
Package Version Info	C0T_CTRL_VINF_sign.bin	C0T_CTRL_VINF_cert.pem
Option Language Data (1)	C0T_OPT_xx_sign.bin *1	C0T_OPT_xx_cert.pem *1
Option Language Data (2)	C0T_OPT_xx_sign.bin *1	C0T_OPT_xx_cert.pem *1
Option Language Data (3)	C0T_OPT_xx_sign.bin *1	C0T_OPT_xx_cert.pem *1
Option Language Data (4)	C0T_OPT_xx_sign.bin *1	C0T_OPT_xx_cert.pem *1
Option Language Data (5)	C0T_OPT_xx_sign.bin *1	C0T_OPT_xx_cert.pem *1
Option Language Data (Erase)	C0T_OPT_ER_sign.bin	C0T_OPT_ER_cert.pem
Engine Firmware	C0T_ENGN_sign.bin	C0T_ENGN_cert.pem
Paper Feeder	2LV_03NY_sign.bin	2LV_03NY_cert.pem

\*1: 01 to 99 of a different number for each language is inserted in "xx".

### Note when upgrading the firmware

When using a USB memory requiring a long time to start up, the main unit starts up before executing the firmware upgrade and entering into the firmware upgrade fails.

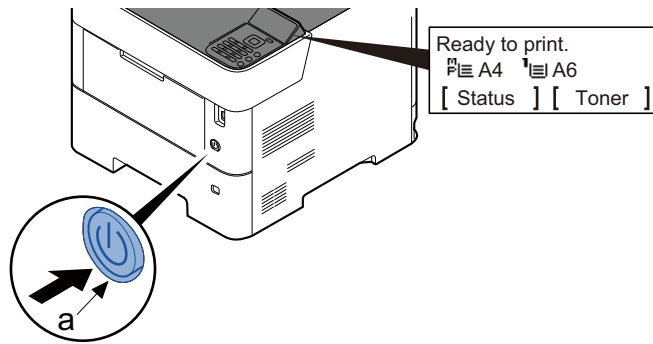
### Preparations

Unzip the PACK of the downloaded firmware and save it directly under the USB drive.

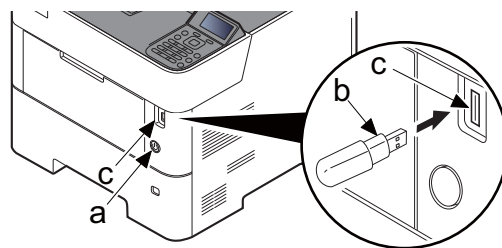
In case of saving multiple firmware PACK to the same USB drive, create, a folder and save it in that folder.

The name of the folder to create is [FWUP\_0C0T].

- 1 Turn ON the power switch (a) and confirm if the screen shows “Ready to print” then, turn OFF the power switch.



- 2 Insert USB memory that has the firmware in the USB host interface slot then, turn ON the power switch (a).



- [FW-UPDATE] and the progress indicator are displayed.



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



-  
-



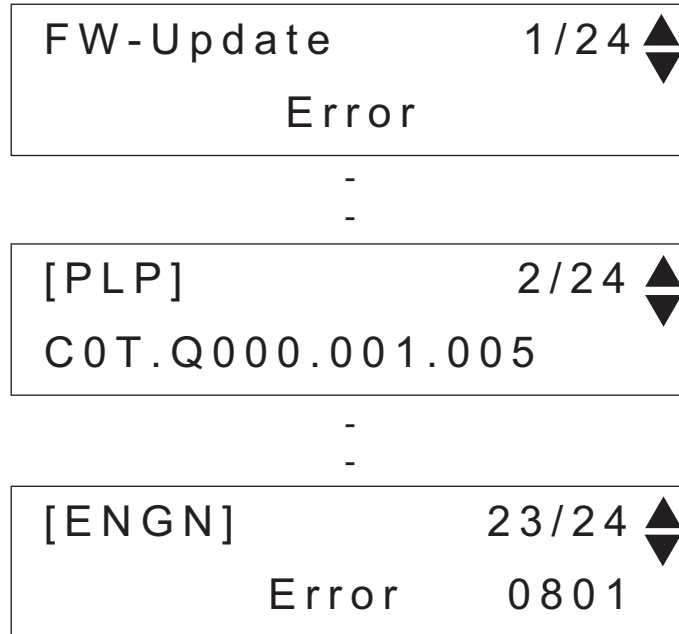
-  
-





- When there is no corresponding master file, "No Change" is displayed.  
The "\*" is displayed behind the target firmware name, if when has been skipped update.
- [-----] is displayed when the optional equipment is not installed.

### In case of the error completion



- In case of occurring an error during the firmware update, the process is immediately interrupted and the error message and error code are displayed.

Codes	Description	Codes	Description
0000	Others	S000	Other signature verification error *1
0100	There is no master file.	S001	Official signature verification file is short.
0200	Master file version discrepancy	N001	Unable to connect the network *2 (There is no target to update.)
03xx	There is no download file (No.xx).		
04xx	File (No.xx) check sum discrepancy	N002	Can not connect to the network *3 (There is the target to update.)
05xx	File (No.xx) preparation failure		
06xx	File (No.xx) preparation failure		
08xx	File (No.xx) writing failure		

\*1: The expiration of the FM certification is also included.

\*2: Since the normal start-up is available next time, it is restarted automatically and starts up normally.

\*3: As there is a possibility that normal start-up is impossible next time, without restarting automatically, and move to USB update mode.

## Indication 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

- 3 **Unplug the power cord and disconnect the USB memory.**
- 4 **Plug in the power cord and turn the power switch (a) on.**
- 5 **Check that the “Ready to print” screen is displayed and then turn the power switch (a) off.**

### **IMPORTANT**

Never turn the power switch (a) off or disconnect the USB memory (b) 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.

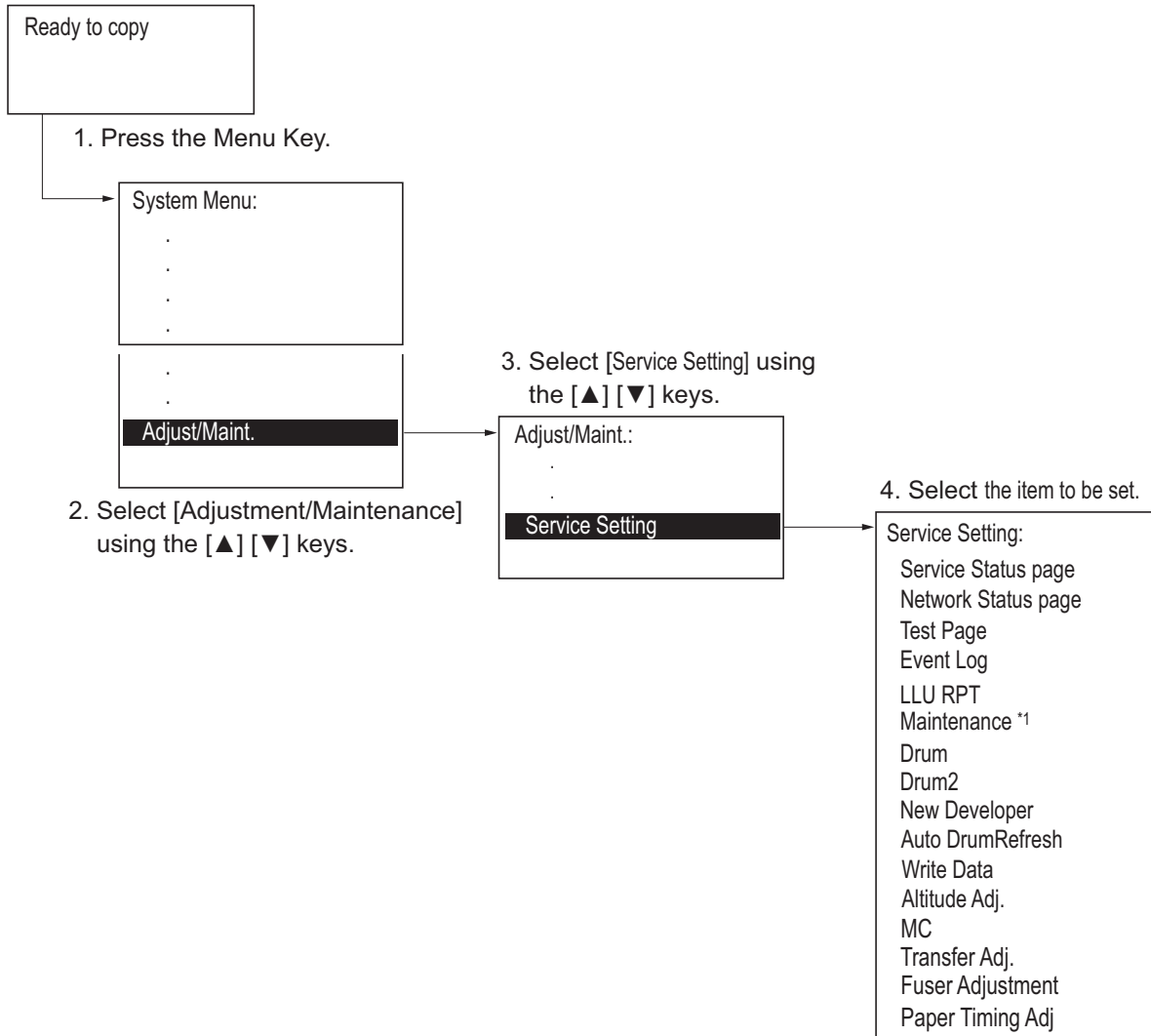
- \* The firmware update that was already completed before power shut-down is skipped.

## 6 Service mode

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

### 6 - 1 Executing the service mode

[Message Display]



\*1: Displays on the System Menu only when the condition of the replacement timing comes.

## 6 - 2 Service settings

Items	Contents	Page
Service Status	Outputs the service status page.	<a href="#">page 6-3</a>
Network Status	Outputs the network status page.	<a href="#">page 6-10</a>
Test Page	The test page is printed with halftones.	<a href="#">page 6-11</a>
Event log	Outputs the event log report.	<a href="#">page 6-12</a>
LLU RPT	Outputs the LLU report.	<a href="#">page 6-18</a>
Maintenance	Counter reset for the maintenance kit.	<a href="#">page 6-19</a>
Drum	The execution of the drum refresh (no paper)	<a href="#">page 6-20</a>
Drum2	The execution of the drum refresh (With paper)	<a href="#">page 6-21</a>
New Developer	Installs the toner to the new developer unit.	<a href="#">page 6-22</a>
Auto Drum Refresh	Execute the drum refresh operation for the specified time	<a href="#">page 6-23</a>
Write Data	Write the data into USB Drive.	<a href="#">page 6-23</a>
Altitude adj.	Sets the altitude adjustment mode.	<a href="#">page 6-24</a>
MC	Sets the main charger output.	<a href="#">page 6-24</a>
Transfer Adj.	Sets the transfer adjustment mode.	<a href="#">page 6-25</a>
Fuser Adjustment	Sets the fuser adjustment mode.	<a href="#">page 6-25</a>
Paper Timing Adj.	Sets the paper timing adjustment mode.	<a href="#">page 6-26</a>

## Service Status

### Contents

Prints a status page for service purpose. The status page includes various settings and service information.

### Purpose

To acquire the current printing environmental parameters and information.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Status Page] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [YES] using the left select key.
  - [Accepted] is displayed and two pages will be printed.

Detail of service status page (1)

# Service Status Page

Printer  
ECOSYS PA6000x



(2) Z468Z00040  
(3) 2022/04/10 17:11

(1) Firmware Version COT\_S000.003.010 2022.4.10

(4)(5) [COT\_1000.003.002] [2T6\_1100.001.001]

## Controller Information

### Memory Status

Standard Size 512MB  
Option Slot 0 MB  
(6) Total Size 512MB

### Time

(7) Local Time Zone  
UTC Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London  
(8) Date and Time 10/04/2022 17:11  
(9) Time Server

### Installed Options

(10) Paper Feeder 2 Installed  
(11) Paper Feeder 3 Installed  
(12) Paper Feeder 4 Installed  
(13) Paper Feeder 5 Installed  
(14) Bulk Feeder Not Installed  
(15) SD Card Not Installed  
(16) SSD Not Installed  
(17) Card Authentication Kit (B) Not Installed  
(18) UG-33 Not Installed  
(19) UG-35 (TPM) Not Installed  
(20) USB Keyboard Not Connected  
(21) USB Keyboard Type US-English

Override A4/LT S4 01  
Host Buffer Size Rate S5 01  
RAM Disk Size S6 16  
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  
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  
Cassette 3 Paper Type X4 01  
Cassette 3 Paper Type X5 01  
PCL Paper Source X9 00  
Auto Error Clear Y0 00  
Error Clear Timer Y1 06  
On Demand Mode Y2 00  
Finishing error Y3 64  
Special Type Act Mode Y4 00  
PDF mode Y5 00  
e-MPS error control Y6 03

### (22) Print Coverage

Average (%) / Usage Page(A4/Letter Conversion)  
(23) K: 5.45 / 110.00  
(24) Period (17/12/2018 - 17/02/2019 01:46)  
(25) Last Page (%) 0.00  
(26) Last Job (%) 0.00

### RP Code

(28) 0008 01E2 3177  
(29) 0008 027A C873  
(30) FFFF FFFF FFFF  
(31) 0008 01E2 31F5

### (27) FRPO Status

User Top Margin A1+A2/100 0.00  
User Left Margin A3+A4/100 0.00  
User Page Length A5+A6/100 13.61  
User Page Width A7+A8/100 13.61  
Reserved B0 00  
Reserved B7 01  
Default Pattern Switch B8 00  
Page Orientation C1 00  
Default Font Number C5\*10000+C2\*100+C3 00000  
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  
KIR Mode N0 02  
Duplex mode N4 00  
Sleep Timer N5 10  
EcoPrint Mode N6 00  
Reserved N7 00  
Print Resolution N8 01  
Standard Pararel I/O o0/o2 70/2  
Default Emulation P1 09  
CR/LF Action P2/P3 1/1  
AES Mode P4 00  
Alt. Emulation P5 06  
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  
MP Tray Paper Size R7 08

Detail of service status page (2)

# Service Status Page



Printer  
**ECOSYS PA6000x**

Z468Z00040  
2022/04/10 17:10

Firmware Version C0t\_S000.003.010 2022.4.10 [C0t\_1000.003.002] [C0t\_1100.001.001] [C0t\_7000.001.001]

### Controller Information

### Engine Information

- (32) **Altitude Adjustment**  
Status Normal
- (33) **Transfer Adjustment**  
Status Normal
- (34) **Fuser Adjustment**  
Status 1

- (36) NVRAM Version \_Cb26630\_Cb26630
- (37) MAC Address 00:17:C8:16:84:04

### (35) System Firmware(Details)

- C0t\_Q000.003.027
- C0t\_QA00.003.027
- C0t\_R000.003.027
- C0t\_R100.003.027
- C0t\_R200.003.027
- C0t\_R400.003.027
- C0t\_R600.003.027
- C0t\_R800.003.027
- C0t\_R900.003.027
- C0t\_RB00.003.027
- C0t\_RD00.003.027
- C0t\_S100.003.027

- (38)(39) 1/1
- (40) 600/600
- (41) 0/0/0/0/0/0/
- (42) 0/0/0/0/0/0/
- (43) 0/50/0/50/
- (44) 0000000/00000000/00000000/00000000/00000000/00000000/00000000/00000000//
- (45) 0000000/00000000/
- (46) 00000000/00000000/
- F00/U00/0/1/1/1/25/25/50/0/0/0/0/00//5/2/0/1/ (47)(48)(49)(50)(51)(52)(53)(54)(55)(56)(57)(58)(59)(60)(61)(62)(63)(64)
- (65) 2010/9000/4010/5000/3010/2010/4000/4010/3010/2010/5000/6000/6000/
- 5010/2010/2010/2010/2010/2010/2010/2010/2010/2010/2010/
- (66) 00000000/00000000/00/0000/00/00/0000000000000000
- (67) /0/
- (68) [3NY\_9000.002.001][3NY\_9000.002.001][3NY\_9000.002.001][3NY\_9000.002.001]
- (69) [2TP\_81DK.001.003][2TP\_81SE.001.003][2TP\_81NO.001.003][2TP\_81BR.001.003][2TP\_81TR.001.003]
- (70)(71) 0/4/
- (72) 1/-/
- (73)(74) 0/5/
- (75) 1/
- 1/0/1/ (76)(77)(78)
- (79) EZJ00Z400033/

No.	Description	Supplement
(1)	Firmware version	-
(2)	Machine serial number	-
(3)	System date	-
(4)	Engine soft version	-
(5)	Engine boot version	-
(6)	Total memory size	-
(7)	Local time zone	-
(8)	Report output date	Day / Month / Year hour: minute
(9)	NTP server name	-
(10)	Installed or not installed for the optional paper feeder 2	Installed / Not Installed
(11)	Installed or not installed for the optional paper feeder 3	Installed / Not Installed
(12)	Installed or not installed for the optional paper feeder 4	Installed / Not Installed
(12)	Installed or not installed for the optional paper feeder 5	Installed / Not Installed
(14)	Installed or not installed for the Large Capacity paper feeder	Installed / Not Installed
(15)	Installed or not installed for the optional SD card	Installed / Not Installed
(16)	Installed or not installed for the optional SSD	Installed / Not Installed
(17)	Installed or not installed for the optional Card Authentication Kit(B)	Installed / Not Installed / Trial
(18)	Installed or not installed for the optional UG-33	Installed / Not Installed
(19)	Installed or not installed for the optional UG-35 (TPM)	Installed / Not Installed
(20)	The connection state of an optional USB Keyboard	Connected / Not Connected
(21)	Displays setting of optional USB Keyboard	US English / US English with Euro / German / French / UK English
(22)	Print coverage (Conversion of the A4 / Letter)	The description of the print coverage shows just a guide and it does not mean the actual toner consumption.
(23)	Average printer coverage	Black
(24)	Cleared date and output date	-
(25)	Coverage on the last output page	-
(26)	Last job output date	-
(27)	FRPO setting	-



No.	Description	Supplement
(28)	RP Code	Code the engine software version and the date of update.
(29)		Code the main software version and the date of update.
(30)		Code the engine software version and the date of the previous update.
(31)		Code the main software version and the date of the previous update.
(32)	High altitude adjustment set data	Normal / 1001 - 2000m / 2001 - 3000m / 3001 - 3500m
(33)	Transfer Adjustment	Standard / Line drawing priority
(34)	Fuser Adjustment	1 / 2
(35)	System Firmware (Details)	-
(36)	NV RAM version	<p>_ 1F3 1225 _ 1F3 1225            (a) (b) (c) (d) (e) (f)            (a) Consistency of the present software 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            If (a) and (d) are underscored, and (b) and (e), and (c) and (f) are the same, then they are normal.</p>
(37)	Mac address	-
(38)	Destination information	-
(39)	Area information	-
(40)	Margin settings	Top margin / Left margin
(41)	Top offset for each paper source	MP tray / Paper feeder 1 / Paper feeder 2 / Paper feeder 3 / Paper feeder 4 / Duplex / Page rotation
(42)	Left offset for each paper source	MP tray / Paper feeder 1 / Paper feeder 2 / Paper feeder 3 / Paper feeder 4 / Duplex / Page rotation
(43)	L value settings	Top margin integer part / Top margin decimal part / Left margin integer part / Left margin decimal part
(44)	Life counter (The first line)	Machine life / MP tray / Cassette1 / Cassette2 / Cassette3 / Cassette4 / Cassette5 / Duplex / Large Capacity paper feeder
(45)	Life counter (The second line)	Drum unit / Fuser unit
(46)	Life counter (The third line)	Maintenance kit / Maintenance kit pre-set

No.	Description	Supplement
(47)	Panel lock information	F00: OFF F01: Partial Lock 1 F02: Partial Lock 2 F03: Partial Lock 3 F04: Full Lock
(48)	USB information	U00: Not Connected U01: Full speed U02: Hi speed
(49)	Paper handling information	0: Paper source (cassette) fixed 1: Paper source unit
(50)	Auto cassette change	0: OFF 1: ON
(51)	Black and white printing double count mode	0: All single counts 2: Legal, single count, Less than 356 mm (length) 3: Folio, Single count, Less than 330 mm (length)  The count mode can be changed using a PRESCRIBE command.  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 1" or "Other 2".
(52)	Temperature (machine inside)	-
(53)	Temperature (machine outside)	-
(54)	Relative humidity (machine outside)	-
(55)	Absolute humidity (machine outside)	-
(56)	Humidity (machine inside)	-
(57)	LSU temperature	-
(58)	LSU 2 temperature	-
(59)	DRT parameter coefficient	-
(60)	Fixed assets number	-
(61)	Job end judgment time-out time	-
(62)	Temperature (machine inside)	-
(63)	Job end detection mode	0: It is as one job even if it includes multiple jobs in the job received with network connection. 1: If it includes multiple jobs in the job received, detect the break point between jobs and divide them.
(64)	PRESCRIBE environmental reset	0: Off 1: On

No.	Description	Supplement	
(65)	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 0: Light 1: Normal 1 2: Normal 2 3: Normal 3 4: Heavy 1 5: Heavy 2 6: Heavy 3 7: Extra Heavy	Fuser settings 0: High 1: Middle 2: Low 3: Vellum  Duplex settings 0: Disable 1: Enable
(66)	RFID information	-	
(67)	Toner install mode information	-	
(68)	Software version of the optional paper feeder	Paper feeder 1 / Paper feeder 2 / Paper feeder 3 / Paper feeder 4	
(69)	Version of the optional message	-	
(70)	Altitude Adjustment	0: Normal (0 - 1000m) 1: 1001 - 2000m 2: 2001 - 3000m 3: 3001 - 3500m	
(71)	MC correction	1 to 7	
(72)	Data sanitization information	Main Memory / HDD / SSD / Execute time 1: Success 0: Fail -: Not performed or Not installed	
(73)	Toner Low setting	0: Invalid 1: Effective	
(74)	Toner Low detection level	0 to 100%	
(75)	Skip Mode (Blank Page)	0: Disabled 1: Enabled	
(76)	ErP applied mode setting	0: ErP non-applied mode 1: ErP applied mode	
(77)	Full page printing mode	0: Normal mode (The factory default settings) 1: Full page mode	
(78)	Wake-up mode	0: Off (No wake up) 1: On (Wake up)	
(79)	Drum serial number	-	

## Network Status

### Contents

Prints a status page for network.

Execution is possible only the model with network.

### Purpose

To acquire the detailed network setting information.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Network Status] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 [Accepted] is displayed and Network status page will be printed.

## OP Network Status (When Optional NIC is installed)

### Contents

Prints a status page for optional network.

Execution is possible only the model with optional network.

### Purpose

To acquire the detailed network setting information.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [OP Network Status] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 [Accepted] is displayed and Option Network status page will be printed.

## Test Page

### Contents

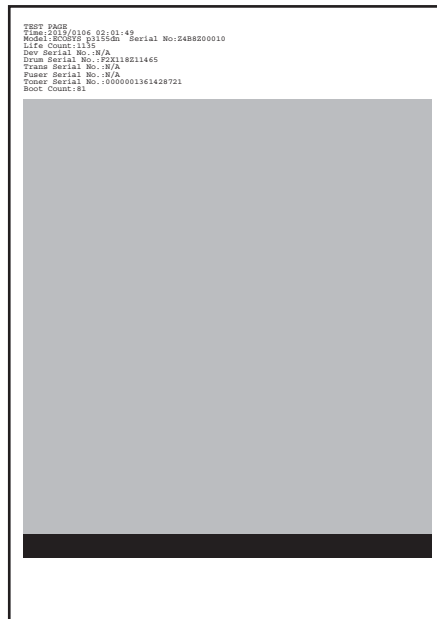
The test page is printed with halftones.

### Purpose

To check the activation of the developer and drum units.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Test Page] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 [Accepted] is displayed and Test page will be printed.



## Event log

### Contents

Prints a history list of occurrences of paper jam, self-diagnostics, toner replacements, etc.

### Purpose

To allow machine malfunction analysis based on the frequency of paper misfeeds, self diagnostic errors and replacements.

### Method

- 1 Enter the Service Setting menu.
- 2 Enter Login user name and Login user password.
- 3 Select [Event Log] using the [▲] [▼] keys.
- 4 Press the [OK] key.
- 5 Select the [Yes] using the left select key.
- 6 [Accepted] is displayed and Test page will be printed.

Detail of event log

# Event Log

Printer  
**ECOSYS PA6000x**



Z468Z00040

(2) 2022/04/10 17:11

(1) Firmware Version COT\_S000.003.010 2022.04.10

(3)(4) [COT\_1000.003.002] [2T6\_1100.001.001]

(5) Machine No.:Z2C5Y00100

(6) Life Count:100000

## (7) Paper Jam Log

#	Count.	Event Descriptions	Date and Time
12	5555( 5558)	0501.01.08.01.00	2022/04/10 17:11
11	4444( 4448)	4002.01.08.01.00	2022/04/10 17:11
10	3333( 3338)	0501.01.08.01.00	2022/04/10 17:11
9	2222( 2228)	4002.01.08.01.00	2022/04/10 17:11
8	1111( 1118)	0501.01.08.01.00	2022/04/10 17:11
7	9999( 998)	4002.01.08.01.00	2022/04/10 17:11
6	8888( 88)	0501.01.08.01.00	2022/04/10 17:11
5	7777( 7)	0501.01.08.01.00	2022/04/10 17:11
4	6666( 6)	4002.01.08.01.00	2022/04/10 17:11
3	5555( 5)	0501.01.08.01.00	2022/04/10 17:11
2	4444( 4)	4002.01.08.01.00	2022/04/10 17:11
1	3333( 338)	4002.01.08.01.00	2022/04/10 17:11

**0501.01.08.01.00**

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

## (8) Service Call Log

#	Count.	Service Code	Data and Time
8	1111( 1118)	01.00.6000	2022/04/10 17:11
7	9999( 998)	01.01.2100	2022/04/10 17:11
6	8888( 888)	01.01.0000	2022/04/10 17:11
5	7777( 778)	01.00.6000	2022/04/10 17:11
4	6666( 668)	01.00.2100	2022/04/10 17:11
3	5555( 558)	01.01.4000	2022/04/10 17:11
2	4444( 448)	01.00.6000	2022/04/10 17:11
1	3333( 338)	01.00.2100	2022/04/10 17:11

## (9) Maintenance Log

#	Count.	Item.	Data and Time
2	5555( 558)	02.01	2022/04/10 17:11
1	4444( 448)	02.02	2022/04/10 17:11

## (10) Toner Log

#	Count.	Item.	Serial Number	Data and Time	Detail
4	6666( 6668)	01.00	0123456789ABCDEF	2022/04/10 17:11	A.000
3	5555( 5558)	01.00	0123456789ABCDEF	2022/04/10 17:11	B.010
2	4444( 4448)	01.00	0123456789ABCDEF	2022/04/10 17:11	B.100
1	3333( 3338)	01.00	0123456789ABCDEF	2022/04/10 17:11	C.029

# Event Log

Printer  
**ECOSYS PA6000x**

Firmware Version COT\_S000.003.010 2022.04.10



Z468Z00040

2022/04/10 17:11

[COT\_1000.003.002] [2T6\_1100.001.001]

Machine No.:Z2C5Y00100

Life Count:100000

## (11) Counter Log

(f) J0000:	0	J4201:	1
J0100:	1	J4202:	0
J0101:	11	J4203:	1
J0104:	222	J4204:	1
J0105:	1	J4205:	1
J0106:	1	J4208:	0
J0107:	1	J4209:	1
J0110:	1	J4211:	11
J0111:	1	J4212:	222
J0120:	1	J4213:	1
J0121:	1	J4214:	2
J0211:	1	J4215:	1
J0212:	1	J4218:	0
J0213:	999	J4219:	1
J0501:	1	J4301:	0
J0502:	1	J4302:	0
J0503:	1	J4303:	1
J0504:	1	J4304:	1
J0505:	1	J4305:	2
J0508:	1	J4309:	2
J0509:	1	J4301:	0
J0511:	1	J4302:	0
J0512:	1	J4303:	1
J0512:	1	J4304:	11
J0513:	1	J4305:	2
J0514:	1	J4309:	2
J0515:	1	(g) C0000:	0
J0518:	1	C0001:	1
J0519:	1	C0002:	2
J0529:	1	C0003:	3
J0539:	1	C0004:	4
J1403:	1	C0005:	5
J1404:	1	C0006:	6
J1405:	1	C0007:	7
J1413:	1	C0008:	8
J1414:	1	C0009:	9
J1415:	1	C0010:	10
J1604:	1	CF245:	11( 0)
J1605:	1	CF248:	12( 0)
J1614:	1	CF345:	13( 0)
J1615:	1	(h) T00:	10
J1805:	1	M00:	20
J4002:	1		
J4003:	1		
J4004:	1		
J4005:	1		
J4009:	1		
J4012:	1		
J4013:	1		
J4014:	1		
J4015:	1		
J4019:	1		
J4101:	1		
J4102:	0		
J4103:	1		
J4104:	1		
J4108:	0		
J4109:	1		
J4111:	11		
J4112:	222		
J4113:	1		
J4114:	2		
J4115:	2		
J4118:	1		
J4119:	1		



## Description of event log

No.	Description			
(1)	System version			
(2)	System date			
(3)	Engine soft version			
(4)	Engine boot version			
(5)	Machine serial number			
(6)	Life Counter			
(7)	Paper Jam Log			
	#	Count.	Event Descriptions	Date and Time
	Records 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 the paper jam.	Log code (Hexadecimal, 5 categories) (a) Cause of a 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.			
	(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: Cassette 5 (paper feeder) 08: paper feeder (paper feeder) 06, 07, 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 0E: A6 0F: B6 10: Commercial #9 11: Commercial #6 12: ISO B5 13: Custom size 1E: C4 1F: Postcard 20: Reply-paid postcard 21: Oficio II	22: Special 1 23: 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 2 35: Youkei 4	

No.	Description			
(7) 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: Thick 11: High quality	15: Custom 1 16: Custom 2 17: Custom 3 18: Custom 4 19: Custom 5 1A: Custom 6 1B: Custom 7 1C: Custom 8	
	(e) Detail of paper eject location (Hexadecimal)			
	01: Face down (FD) 02: Face up (FU) (60 / 55 / 50 ppm model only)			
(8)	Service Call Log			
	#	Count.	Service Code	Date and Time
	Records 1 to 8 of occurrence of self diagnostics error. If the occurrence of the previous diagnostics error is less than 8, all of the diagnostics errors are logged.	The total page count at the time of the self diagnostics error.	The first two digits (Identification) 01: Service call / System error 02: Unit replacement Next two digits (Auto reboot information) 00: No auto reboot 01: Auto reboot Last four digits Self diagnostic error code (Example) 01.00.6000 01 for Self diagnostic error, 00 for no auto reboot and 6000 for Self diagnostic error code.	Date and time of occurrence
(9)	Maintenance Log			
	#	Count.	item	Date and Time
	Remembers 1 to 8 of occurrence of replacement. If the occurrence of the previous replacement of toner container is less than 8, all of the occurrences of replacement are logged.	The total page count at the time of the replacement of the toner container.	Item code for the maintenance replace (2 items for 1 byte value)  First byte (Replacing item) 02: Maintenance kit Second 1 byte (Replacement item type) 01: MK-3372 / 3370 MK-3374 / 3390 MK-3382 / 3280 MK-3384 / 3392	Date and time of occurrence

No.	Description			
(10)	Toner Log			
	#	Count.	Item./ Serial Number	Date and Time
	UP to 32 times are recorded. All occurrences are recorded in case of less than 32 times.	The total page count at the time of toner container replacement. (both genuine and non-genuine toner) Number in ( ) is the color total page counter.  If installing the same toner container twice or used toner container, all of them are counted.	log code First 1 byte (Replacing item) 01: Genuine product 02: Non-genuine product Next 1 byte (type of replacement item) 00: Black Last 16 digits Display the serial number of the toner container. When detecting non-genuine toner, no serial number is displayed.	Date and time of occurrence
	Detail			
Further information of toner replacement The first letter A: Start B: Replace with the new toner C: Replaced with the used or non-genuine toner Next 3 digits Toner remaining (%)				
(11)	Counter Log			
	(f) Paper jam	(g) Self diagnostic error	(h) Replacement for maintenance Item	
Indicate the log counter of paper jams by causes. See Paper Jam Log. All causes are displayed even no record.	Indicate the log counter of self diagnostics errors by causes. Service call / System error includes a number of auto reboots either. (Example) CF245: 4 (2) System Error 245 occurred four times and auto reboot twice.	Indicate the log counter by the maintenance replacing items. T: Toner container 00: Black M: Maintenance kit 00: MK-3372 / 3370 MK-3374 / 3390 MK-3382 / 3280 MK-3384 / 3392 Example: T00: 1 The toner container (Black) 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. (genuine toner only)	Consist of three log counters, paper jams, self diagnostics errors, and maintenance replacement items.	

## LLU RPT

### Contents

Event log, Service status page and test page are printed.

### Purpose

Output the data for applying LLU.

### Method

- 1 Enter the Service Setting menu.
- 2 Enter Login user name and Login user password.
- 3 Select [LLU RPT] using the [▲] [▼] keys.
- 4 Press the [OK] key.
- 5 Select the [Yes] using the left select key.
- 6 [Accepted] is displayed and Test page will be printed.

## Maintenance

### Contents

Counter reset for the maintenance kit.

The "Install MK" message means that maintenance kit should be replaced at certain pages of printing. The interval counter must be manually reset using this service item.

### Maintenance kit

MK-3372 / 3370 / 3374 / 3390 (45 ppm): 300,000 images

MK-3382 / 3380 / 3384 / 3392 (60 / 55 / 50 ppm): 500,000 images

### Maintenance kit includes the following units:

- Drum unit
- Developer unit
- Fuser unit
- Transfer roller
- Paper feed pulley

### Purpose

To reset the life counter for maintenance kit.

### Method

- Drum unit
- Developer unit
- Transfer roller
- Fuser unit
- Paper feed pulley

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Maintenance] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 [Completed] is displayed and the counter of each unit is reset.

### Completion

Press the [Stop] key.

#### IMPORTANT

Occurrences of resetting the maintenance kits are recorded on the service status page or event log in number of pages at which the maintenance kit was replaced. This may be used to determine the possibility that the counter was wrongly or unintentionally reset.

## Drum

### Contents

The execution of the drum refresh (no paper)

Rotates the drum approximately 3 minutes with toner lightly on the overall drum using the high-voltage output control. The cleaning blade in the drum unit scrapes toner off the drum surface to clean it.

### Purpose

To clean the drum surface when image failure occurs due to the drum. This mode is effective when dew condensation on the drum occurs.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Drum] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 Drum surface refreshing will start.

## Drum2

### Contents

The execution of the drum refresh (With paper)

Rotates the drum approximately 3 minutes with toner lightly on the overall drum using the high-voltage output control. The cleaning blade in the drum unit scrapes toner off the drum surface to clean it.

### Purpose

To clean the drum surface when image failure occurs due to the drum. This mode is effective when dew condensation on the drum occurs.

### Method

- 1 Set A4/Letter paper in the multi purpose tray.
- 2 Enter the Service Setting menu.
- 3 Select [Drum2] using the [▲] [▼] keys.
- 4 Press the [OK] key.
- 5 Select the [Yes] using the left select key.
- 6 Drum surface refreshing will start.

## New Developer (Toner install)

### Contents

Initializing the developer unit. (Toner installation mode)

When replacing the developer unit with new one, it is necessary to fill toner in it since there is no toner in the new developer unit. The toner can be automatically filled in the developer unit without any operation though, in case of the new developer unit with not toner in, it takes some time to fill the toner in it until the time when it is possible to print. (It is necessary to fill about 200 g of toner in the developer unit).

Therefore, if the developer unit is replaced, use this mode for filling the toner with high speed.

### Purpose

To execute when the developer unit has been replaced.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [New Developer] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select the [Yes] using the left select key.
- 5 [Accepted] is displayed.
- 6 The toner installation is performed when power is turned on and off.
  - Toner supply is stopped when toner installation mode is performing.



## Auto Drum Refresh

### Contents

The automatic drum surface refresh.

Normally the drum surface refresh operation is performed when the temperature / humidity sensor detects that the drum surface is in a dew condensation condition at the time of the power on or when the drum surface is warmed up after recovering from the sleep mode. This mode can change the setting (Temperature/Humidity) to determine the condition of the dew condensation.

\* Set the length of the drum refresh.

### Purpose

To prevent blurred image when the printer's operating environment is one of high humidity.

### Method

- 1 Enter the Service Setting menu.
- 1 Select [Auto Drum Refresh] using the [▲] [▼] keys.
- 2 Press the [OK] key.
- 3 Select the mode (Off / Short / Standard / Long) using the [▲] [▼] keys.
- 4 Press the [OK] key. The new value is set.

### Completion

Press the [Exit] key.

## Write data (USB Drive data write)

### Purpose

To write data into a USB Drive.

Execution is possible only when a USB Drive is detected.

### Method

Install the USB Drive before attempting to write data.

- 1 Enter the Service Setting menu.
- 2 Select [Write Data] using the [▲] [▼] keys.
- 3 Press the OK key.
- 4 Select the [Yes] using the left select key.
- 5 [Data waiting] is displayed and the printer waits for data to be written.
- 6 When the data is sent, [Processing] appears and the data is written to USB Drive. When data writing ends, the display returns to [Ready].

## Altitude adj.

### Contents

Sets the altitude adjustment mode.

### Purpose

Execute when using in an environment above 1001m above sea level.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Altitude Adj.] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] using the cursor up / down keys.
- 5 Press the [OK] key. The setting is set.

### Completion

Press the [Exit] key.

## MC

### Contents

Sets the main charger output.

Execution is possible only when the altitude adjustment mode is set to [Normal].

### Purpose

Execute when the image density decreases, dirt of a background or an offset has occurred.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [MC] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select [1] to [7] using the [▲] [▼] keys.
  - When the image has a background: 1 to 3 (Drum charge amount: Down)
  - Standard value: 4
  - When the image density decreases: 5 to 7 (Drum charge amount: Up)
- 5 Press the [OK] key. The setting is set.

### Completion

Press the [Exit] key.

## Transfer Adj.

### Contents

Set the transfer current (when the bleeding occurs).

### Purpose

If you select line text priority, the transfer current is set high and the bleeding is improved.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Transfer Adj.] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select [Standard] or [Line Text Priority] using the [▲] [▼] keys.
- 5 Press the [OK] key.

### Completion

Press the [Exit] key.

## Fuser Adjustment

### Contents

Change fuser temperature.

### Purpose

Increase fuser temperature when fixability is poor.

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Fuser Adjustment] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Select [1] or [2] using the [▲] [▼] keys.
  - When [2] is selected, the fuser temperature becomes high.
- 5 Press the [OK] key.

### Completion

Press the [Exit] key.

## Paper Timing Adj.

### Contents

Adjust the paper feed timing.

### Purpose

If the print position (Timing) is out of alignment, execute to align the print position

### Method

- 1 Enter the Service Setting menu.
- 2 Select [Paper Timing Adj] using the [▲] [▼] keys.
- 3 Press the [OK] key.
- 4 Enter Login user name and Login user password.
- 5 Select [MP Tray], [Cassette1], [Cassette2], [Cassette3], [Cassette4], [Cassette5] or [Duplex] using the [▲] [▼] keys.
- 6 Select [Start Position], [Center Line] or [Print Test Page] using the [▲] [▼] keys.
- 7 In case of [Start Position] or [Center Line], input the number (-3.0 to 3.0)
- 8 In case of [Print Test Page], input the number (1 to 999). In case of duplex, after inputting the number, press the [OK] key and select the paper source.
- 9 Press the [OK] key.

### Completion








Press the [Exit] key.

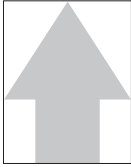


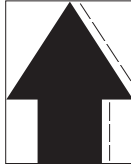
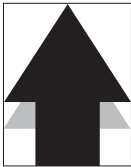

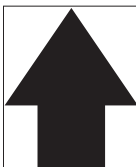

## 7 Troubleshooting




### 7 - 1 Image formation problems

#### (1) Engine Factors (Paper conveying cause: Transfer, Fuser and Separation)

##### Error message items

Contents	Image sample
<a href="#">Background image is foggy.</a>	
<a href="#">Black dots (toner dirt)</a>	
<a href="#">Image is missing partly (blank image, white spots)</a>	
<a href="#">Part of the image does not appear (when feeding from the multi purpose tray)</a>	
<a href="#">Blank image</a>	
<a href="#">Mismatch between the original center line and output image center line</a>	
<a href="#">Dirty reverse side</a>	

Contents	Image sample
<a href="#">Entire image is light</a>	
<a href="#">Horizontal streaks, band (White, black)</a>	
<a href="#">Irregular mismatch of the leading edge between the original and output image (paper leading edge timing variation)</a>	
<a href="#">Blurred characters</a>	
<a href="#">Offset</a>	
<a href="#">Fusing failure</a>	
<a href="#">Paper skew at the trailing edge</a>	
<a href="#">Uneven transfer</a>	

Contents	Image sample
<a href="#">Image is blurred</a>	
<a href="#">Vertical streaks, band (white)</a>	
<a href="#">Vertical streaks and bands (black)</a>	
<a href="#">Trailing image</a>	
<a href="#">Granular image</a>	

## Content of Engine Factors

### Background image is foggy.

Step	Check description	Assumed cause	Measures
1	Checking the transfer bias contact	The transfer bias contact is deformed	Correct the transfer bias contact so that it grounds the shaft of the transfer roller securely.
2	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.

### Black dots (toner dirt)

Step	Check description	Assumed cause	Measures
1	Cleaning the fuser separation claws	The fuser separation nails are dirty.	Clean the fuser separation claws.
2	Checking the fuser unit	The fuser heat roller or fuser press roller is dirty, there are foreign objects adhere or scratched.	If the image is defective due to the circumferential pitch of the fuser heat roller or fuser pressure roller, clean each roller. If it does not improve, replace the fuser unit.
3	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.

### Image is missing partly (blank image, white spots)

Step	Check description	Assumed cause	Measures
1	Setting the media type	The media type is not properly set.	Set the proper media type via the System Menu.
2	Replacing paper	The paper is damp.	Replace with the dry paper.
3	Checking the paper storage place	The paper is stored in the high humidity environment.	Ask the user to store paper in a dry place. Also, consider installing a cassette heater.
4	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.

### Part of the image does not appear (when feeding from the multi purpose tray)

Step	Check description	Assumed cause	Measures
1	Changing the settings	The paper size on the multi purpose tray is not correct.	Set the paper size of the multi purpose tray properly in the System Menu.



### Blank image

Step	Check description	Assumed cause	Measures
1	Checking the connection	The FFC is not properly connected or faulty.	Reconnect the FFC. If the FFC terminal is peeled off, deformed or FFC wire is broken, replace the FFC. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
2	Checking the high voltage PWB	The transfer bias output from the high voltage PWB is faulty.	Replace the high voltage PWB.
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Mismatch between the original center line and output image center line

Step	Check description	Assumed cause	Measures
1	Checking the paper width guides or the MP paper width guides	The locations of the paper width guides or the MP paper width guides do not match the paper size.	Relocate the paper width guides or the MP paper width guides to match the paper size.

### Dirty reverse side

Step	Check description	Assumed cause	Measures
1	Executing the service mode.	The transfer bias is improperly set.	Service mode > Set the transfer bias value back to the default value by the transfer setting.
2	Cleaning the fuser press roller and changing the settings	The fuser pressure roller is dirty caused by the paper type setting.	Clean the fuser press roller and set the proper media type at System Menu.
3	Cleaning the conveying guide	The conveying guide is dirty.	Clean the conveying guide.
4	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.

### Entire image is light

Step	Check description	Assumed cause	Measures
1	Executing the service mode.	The transfer bias is improperly set.	Service mode > Set the transfer bias value back to the default value by the transfer setting.
2	Replacing paper	The paper is damp.	Replace with dry paper. Ask users to store paper at low humidity.
3	Checking the transfer bias contact	The transfer bias is not impressed since the contact is dirty or deformed	Clean the transfer bias contacts. Or, fix it so that it is firmly grounded.
4	Checking the connection	The FFC is not properly connected or faulty.	Reconnect the FFC. If the FFC terminal is peeled off, deformed or FFC wire is broken, replace the FFC. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
5	Checking the high voltage PWB	The transfer bias output from the high voltage PWB is faulty.	Replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Horizontal streaks, band (White, black)

Step	Check description	Assumed cause	Measures
1	Checking the fuser unit	The fuser heat roller or fuser press roller is dirty, there are foreign objects adhere or scratched.	If the image is defective due to the circumferential pitch of the fuser heat roller or fuser pressure roller, clean each roller. If it does not improve, replace the fuser unit.
2	Reinstalling the transfer roller	The pressure spring is not properly attached or deformed.	Reattach the transfer roller and reattach the pressing spring. If the pressing spring is deformed, replace it.

### Irregular mismatch of the leading edge between the original and output image (paper leading edge timing variation)

Step	Check description	Assumed cause	Measures
1	Checking the clutch	The feed conveying related clutch does not operate correctly.	If the feed/conveying clutch does not operate properly, reattach it and reconnect the connector. If not repaired, replace the clutch.

### Blurred characters

Step	Check description	Assumed cause	Measures
1	Changing the settings	The media type is not properly set.	Set the proper media type via the System Menu.
2	Replacing paper	Unspecified papers are used.	Replace with the paper within the specification.
3	Applying the grease	The drives from the conveying motors are not smoothly transmitted.	Apply the grease to the drive gear of the conveying related motor. (EM-50LP: Part number (7BG010009H))
4	Replacing the fuser unit	The fuser exit guide is deformed or the fuser pressure is uneven	Replace the fuser unit.

## Offset

Step	Check description	Assumed cause	Measures
1	Changing the settings	The media type is not properly set.	Change the settings according to the media type (paper weight).
2	Checking the paper	Unspecified papers are used.	Replace with the paper within the specification.
3	Executing the service mode.	The transfer bias is improperly set.	Service mode > Set the transfer bias value back to the default value by the transfer setting.
4	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.
5	Checking the fuser unit	The fuser heat roller or fuser press roller is dirty or scratched.	If the image is defective due to the circumferential pitch of the fuser heat roller or fuser pressure roller, clean each roller. If it does not improve, replace the fuser unit.

## Fusing failure

Step	Check description	Assumed cause	Measures
1	Setting the media type	The media type is not properly set.	Set the proper media type via the System Menu.
2	Replacing paper	Unspecified papers are used.	Replace with the proper paper.
3	Replacing the fuser unit	The nipped pressure (width) to the solid image is low and fuser pressure setting (spring) is too weak.	Replace the fuser unit.

## Paper skew at the trailing edge

Step	Check description	Assumed cause	Measures
1	Clean surrounding area of the transfer roller.	The neighboring parts of the secondary transfer roller are dirty with paper dust.	Clean the transfer roller, transfer separation needle and paper path.
2	Removing foreign material	Paper is caught by foreign material such as a piece of paper.	Check that there are no pieces of paper, foreign matter, or burrs on the parts on paper path, and remove them.
3	Relocating the paper width guides or the MP paper width guides	The paper width guide or MP paper width guide position does not match the paper size and paper is conveyed in skew.	Relocate the paper width guides or the MP paper width guides to match the paper size.
4	Checking the conveying section	The registration roller or middle pulley is not attached properly. Or it is dirty.	Check that the registration roller or middle pulley is attached properly, and then reattach it if necessary. Also, if it is dirty with toner or paper dust, clean it.
5	Reinstalling the fuser unit	The fuser unit is not properly installed.	Insert the fuser unit straight into the main unit, and lock both sides of the fuser unit firmly.

### Uneven transfer

Step	Check description	Assumed cause	Measures
1	Reinstalling the transfer roller	The pressure spring is not properly attached or deformed.	Reattach the transfer roller and reattach the pressing spring. If the pressing spring is deformed, replace it.
2	Checking the transfer roller	The transfer roller is dirty, or faulty.	If the image is defective due to the circumferential pitch of the transfer roller, clean it. If it does not improve, replace the transfer roller.
3	Replacing the fuser unit	The rollers, drive unit, fuser pressure release mechanism, etc. are deformed or worn.	Replace the fuser unit.
4	Checking the connection	The FFC is not properly connected or faulty.	Reconnect the FFC. If the FFC terminal is peeled off, deformed or FFC wire is broken, replace the FFC. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
5	Checking the high voltage PWB	The transfer bias output from the high voltage PWB is faulty.	Replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Image is blurred

Step	Check description	Assumed cause	Measures
1	Replacing paper	The paper is damp.	Replace with dry paper. Ask users to store paper at low humidity.

### Vertical streaks, band (white)

Step	Check description	Assumed cause	Measures
1	Checking the transfer roller	The transfer roller is dirty or scratched.	Clean the transfer roller if the image failure appears in the circumference interval. If not repaired, replace the transfer roller.
2	Checking the exit guide	Paper is hitting the exit guide strongly.	Check the operation of the exit guide and reattach it if necessary.

### Vertical streaks and bands (black)

Step	Check description	Assumed cause	Measures
1	Checking the fuser unit	The fuser heat roller or fuser separation nail is dirty with paper dust or toner or parts inside the fuser is faulty.	Clean the fuser heat roller and fuser separation nail. If parts inside the fuser is broken, replace the fuser unit.
2	Changing the settings	The media type is not properly set.	Set the proper media type via the System Menu.
3	Cleaning the exit guide	There is toner dirt or welding on the exit guide.	Clean the exit guide with the dry cloth.
4	Checking the transfer roller	The transfer roller is dirty or scratched.	Clean the transfer roller if the image failure appears in the circumference interval. If not repaired, replace the transfer roller.
5	Checking the connection	The FFC is not properly connected or faulty.	Reconnect the FFC. If the FFC terminal is peeled off, deformed or FFC wire is broken, replace the FFC. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
6	Checking the high voltage PWB	The transfer bias output from the high voltage PWB is faulty.	Replace the high voltage PWB.
7	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Trailing image




Step	Check description	Assumed cause	Measures
1	Setting the media type	The media type is not properly set.	Set the proper media type via the System Menu.
2	Replacing paper	Unspecified papers are used.	Replace with the proper paper.
3	Executing the service mode.	The transfer bias is improperly set.	Service mode > Set the transfer bias value back to the default value by the transfer setting.
4	Trailing image reduction mode setting	When the paper is heated by the fuser roller and the moisture on the paper evaporates, the unfused toner on the paper is scattered.	If the media type (paper weight) is [Normal1 to 3], set to [Custom 8] (Trailing image reduction mode) at [System Menu] > [Device Settings] > [Feed] > [Paper Type Settings].

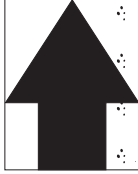




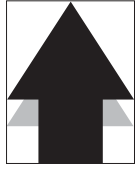
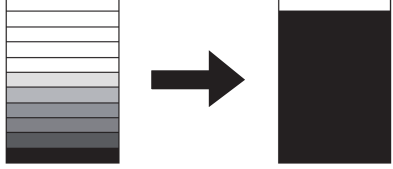
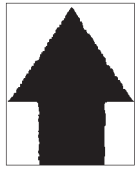
### Granular image

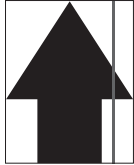


Step	Check description	Assumed cause	Measures
1	Checking the paper	The paper surface is not smooth.	Perform printing operation on color printing paper and check if the same phenomenon occurs. If there are differences in the paper, change the settings for the paper you are using. If the problem persists after changing the settings, please suggest a paper change to the user.
2	(When using the thick paper with Heavy 1-3) Setting the media type	The fuser temperature does not match the media type.	Change the paper weight in [Media Type Settings] in the System Menu.

**(2)Engine Factors (Image forming cause)**

Error message items

Contents	Image sample
<a href="#">Background image is foggy.</a>	
<a href="#">Background image is foggy.</a>	
<a href="#">Background image is foggy.</a>	
<a href="#">Entire image is light</a>	
<a href="#">Entire image is light</a>	
<a href="#">Entire image is light</a>	
<a href="#">Blank image</a>	
<a href="#">Toner dirt</a>	

Contents	Image sample
<a href="#">Periodic toner dirt</a>	
<a href="#">Entire blank image (black)</a>	
<a href="#">Horizontal streaks, band (White, black)</a>	
<a href="#">Horizontal uneven density</a>	
<a href="#">Image is missing partly</a>	
<a href="#">Offset</a>	
<a href="#">Gradation reproducibility is low</a>	
<a href="#">Image is blurred</a>	

Contents	Image sample
<a href="#">Vertical streaks or bands</a>	
<a href="#">Vertical uneven density</a>	
<a href="#">Vertical streaks, band (white)</a>	



Content of Engine Factors (Image forming cause)

Background image is foggy.

Step	Check description	Assumed cause	Measures
1	Measures for the image quality improvement	Image quality is affected by the influence of the usage environment.	Execute [Adjustment / Maintenance] > [Gradation Adjustment] in the system menu.
2	Checking the developer bias contact	The developer bias contact is dirty or deformed.	Clean the developer bias contacts. And repair it to ensure to contact.
3	Checking the developer high voltage contact	The developer high voltage contacts that contacts with the high voltage PWB are dirty. Or, it is deformed.	Clean the developer high voltage contacts and correct to contact it surely. And reattach the high voltage PWB.
4	Replacing the developer unit	The charge amount of the toner is low.	Replace the developer unit.
5	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. • High voltage PWB - Engine PWB
6	Replacing the high voltage PWB	The developer bias output from the high voltage PWB is high.	Replace the high voltage PWB.
7	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

Background image is foggy.

Step	Check description	Assumed cause	Measures
1	Checking the temperature inside the main unit	Temperature is low in the installation environment.	If the machine inside temperature described on the status page is 10°C or lower, ask the user to change the installation environment so that the room temperature is 16°C or higher. (Since this phenomenon is likely to occur immediately after being left in a low temperature environment for several days)
2	Checking the charger high voltage contact	The charger high voltage contacts that contacts with the high voltage PWB are dirty. Or, it is deformed.	Clean the developer high voltage contacts and correct to contact it surely. And reattach the high voltage PWB.
3	Reinstalling the charger roller unit	The charger roller unit is not installed properly.	Reattach the charger roller unit to the drum unit, and then reattach the drum unit to the Main unit to ensure that the connector is connected.
4	Checking the charger roller unit	The charger roller surface is dirty.	Clean the charger roller surface with the dry cloths.
5	Replacing the drum unit	The drum is faulty.	Replace the drum unit.
6	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. • High voltage PWB - Engine PWB
7	Replacing the high voltage PWB	The charger bias output from the high voltage PWB is low.	Replace the high voltage PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**Background image is foggy.**

Step	Check description	Assumed cause	Measures
1	Checking the connection	The FFC is not connected properly. Or it is faulty.	Clean the FFC terminals of the following FFC and reconnect them. If the FFC terminal is deformed or broken, replace the FFC. <ul style="list-style-type: none"> <li>LSU (APC PWB) - Engine PWB</li> </ul>
2	Replacing the LSU	The LSU is faulty.	Replace the LSU.
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**Entire image is light**

Step	Check description	Assumed cause	Measures
1	Measures for the image quality improvement	Image quality is affected by the influence of the usage environment.	Execute [Adjustment / Maintenance] > [Gradation Adjustment] in the system menu.
2	Reinstalling the toner container	Toner is collected on one side.	Sufficiently shake the toner container and reinstall it to the main unit.
3	Checking the developer bias contact	The developer bias contact is deformed.	Repair the developer bias contacts to ensure contacting.
4	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
5	Replacing the high voltage PWB	The high voltage PWB is faulty.	Replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**Entire image is light**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh2	The drum surface has condensation.	Execute the drum refresh2.
2	Checking the charger high voltage contact	The voltage applied to the charger high voltage contact is high.	Repair the charger high voltage contacts to ensure contacting.
3	Replacing the drum unit	Since the photosensitive layer is thin, the surface potential of the drum after exposure is high. The drum surface is worn. Or the drum is not grounded.	If the drum unit counter described on the status page exceeds the life time, replace the drum unit. And, if there is no continuity between the drum and the frame, replace the drum unit.
4	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
5	Replacing the high voltage PWB	The high voltage PWB is faulty.	Replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Entire image is light

Step	Check description	Assumed cause	Measures
1	Checking the connection	The FFC is not connected properly. Or it is faulty.	Clean the FFC terminals of the following FFC and reconnect them. If the FFC terminal is deformed or broken, replace the FFC. <ul style="list-style-type: none"> <li>LSU (APC PWB) - Engine PWB</li> </ul>
2	Replacing the LSU	The LSU is faulty.	Replace the LSU.
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Blank image

Step	Check description	Assumed cause	Measures
1	Executing U140	The setting value of the developer bias is improper.	Reset the U140 setting values to the default.
2	Checking the developer bias contact	The developer bias contact is dirty or deformed.	Clean the developer bias contacts. And repair it to ensure to contact.
3	Replacing the developer unit	The developer drive gear is faulty.	Replace the developer unit.
4	Checking the connection	The connector or FFC is not connected properly. Or, the wire or FFC is faulty.	Reconnect the following wire connectors and clean FFC and reconnect. If there is no continuity, replace the wire. If the FFC terminal section is deformed or FFC is broken, replace the FFC. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> <li>LSU (APC PWB) - Engine PWB</li> </ul>
5	Replacing the high voltage PWB	The developer, charger and transfer bias output from the high voltage PWB is low.	Replace the high voltage PWB.
6	Replacing the LSU	The APC PWB in the LSU is faulty.	Replace the LSU.
7	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
8	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### Toner dirt

Step	Check description	Assumed cause	Measures
1	Cleaning the developer unit	Toner drops off from the developer unit.	Clean the exterior of the developer unit with a dry cloth.
2	Cleaning the drum unit	Toner drops off from the drum unit.	Clean the exterior of the drum unit with a dry cloth.

**Periodic toner dirt**

Step	Check description	Assumed cause	Measures
1	Performing the drum refresh (In case of 94.2mm cycle)	The drum surface is dirty.	Execute Drum refresh.
2	Replacing the drum unit (In case of 94.2mm cycle)	The drum surface is scratched.	Replace the drum unit.
3	Checking the charger roller unit (In case of 29.9mm cycle)	There is dirt or foreign object on the charger roller surface.	Clean the charger roller if an image failure appears in the circumference interval. If not repaired, replace the charger roller unit.
4	Checking the developer unit (In case of 44.9mm interval)	There is dirt, foreign object or scratch on the developer roller.	Wipe the developer roller dry. If it does not improve, replace the developer unit.

**Entire blank image (black)**

Step	Check description	Assumed cause	Measures
1	Reinstalling the charger roller unit and drum unit	The charger roller unit or drum unit is not installed properly.	Reattach the charger roller unit in the drum unit and reinstall the drum unit in the main unit to ensure contact
2	Replacing the drum unit	The cleaning blade winds up and is caught between the charger roller and the drum.	Replace the drum unit.
3	Checking the charger high voltage contact	The charger high voltage contacts are dirty or deformed (no charger bias is applied).	Clean the charger high voltage contacts. And repair the contacts to ensure contact
4	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• High voltage PWB - Engine PWB</li> </ul>
5	Replacing the high voltage PWB	The charger bias voltage output is not even from the main high voltage PWB.	Replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Horizontal streaks, band (White, black)

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface is dirty.	Execute Drum refresh.
2	Checking the developer bias contact	The developer bias is leaking due to the dirt or the deterioration of the developer bias contact.	Clean the developer bias contact.
3	Checking the developer unit	The developer bias is leaking due to the dirt or deterioration of the developer contact spring.	Clean the developer contact spring with the dry cloth. If not improved, replace the developer unit.
4	Checking the charger roller unit	The charger roller surface is dirty or scratched.	In case of occurring the image failure at the circumference pitch of the charger roller, clean the surface of the charger roller with a dry cloth. If it does not improve, replace the charger roller unit.
5	Replacing the drum unit	Scratches or pinholes are on the drum surface, which makes leakage.	Replace the drum unit.
6	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• High voltage PWB - Engine PWB</li> </ul>
7	Replacing the high voltage PWB	The charger bias voltage output is not even from the main high voltage PWB.	Replace the high voltage PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### Horizontal uneven density

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	Toner smudges in the shape of a streak are on both ends of the drum surface.	Execute Drum refresh.
2	Checking the charger roller unit	charger roller rotation is uneven.	Reinstall the charger roller unit. If it does not improve, replace the charger roller unit.
3	Replacing the drum unit	The drum surface is worn down.	Replace the drum unit.
4	Cleaning the developing bias contact	The conduction is not stabilized due to the dirty developer bias contact.	Clean the developer bias contact.
5	Checking the developer unit	The developer unit is faulty.	Replace the developer unit.
6	Replacing the LSU	The laser emission is uneven.	Replace the LSU.

### Image is missing partly

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface is dirty.	Execute Drum refresh.
2	Replacing the drum unit	There are adhered objects on the drum surface.	Replace the drum unit.

**Offset**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface is dirty.	Execute Drum refresh.
2	Replacing the drum unit	The drum surface is worn down or scratched.	Replace the drum unit.
3	Checking the developer unit	The Developer roller is dirty. The surface of the Developer roller is worn. Or there are scratches.	Clean the developer roller with a dry cloth. If it does not improve, replace the developer unit.

**Gradation reproducibility is low**

Step	Check description	Assumed cause	Measures
1	Adjusting the image	Grayscale adjustment is not executed.	Execute [Adjustment / Maintenance] > [Gradation Adjustment] in the system menu.

**Image is blurred**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface has condensation.	Execute Drum refresh.
2	Cleaning or replacing the LSU	The LSU dustproof glass is dirty. Or it has changed.	Replace the LSU.

**Vertical streaks or bands**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh2	The drum surface has condensation.	Execute the drum refresh2.
2	Checking the charger roller unit	Streaky stains are attached to the surface of the charger roller. Or, the surface of the charger roller is streaked.	Clean the surface of the charger roller with a dry cloth. If it does not improve, replace the charger roller unit.
3	Replacing the drum unit	The cleaning blade or drum surface is worn out.	Replace the drum unit.
4	Checking the developer unit	Foreign objects and aggregated toner adhere to the developer roller surface.	Clean the developer roller with a dry cloth. If it does not improve, replace the developer unit.

**Vertical uneven density**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface has condensation.	Execute Drum refresh.
2	Checking the charger roller unit	Streaky dirt adheres to the surface of the charger roller.	Clean the surface of the charger roller with a dry cloth. If it does not improve, replace the charger roller unit.
3	Replacing the drum unit	The drum surface is worn down.	Replace the drum unit.
4	Replacing the developer unit	The toner layer on the developer roller is uneven.	Replace the developer unit.
5	Replacing the LSU	LSU emits the laser unevenly. (Inner mirror comes off.)	Replace the LSU.

**Vertical streaks, band (white)**

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	The drum surface is dirty.	Execute Drum refresh.
2	Replacing the developer unit	Foreign objects and aggregated toner are mixed in the developer unit.	Clean the charger roller surface if an image failure appears in the circumference interval. If not repaired, replace the charger roller unit.
3	Checking the charger roller unit	There is dirt, foreign object or scratch on the charger roller.	Clean the surface of the charger roller with a dry cloth. If it does not improve, replace the charger roller unit.
4	Replacing the drum unit	The drum surface is scratched.	Replace the drum unit.
5	Removing foreign material	The foreign objects are adhered on the LSU dustproof glass.	Remove the drum unit and Developer unit, and clean the LSU dust proof glass from inside of the main unit.
6	Replacing the LSU	Foreign objects are on the mirrors inside the LSU.	Replace the LSU.

## 7 - 2 Feeding/Conveying Failures

### Prior standard check items

Contents
<a href="#">Paper jam due to the cover-open detection</a>
<a href="#">Paper jam from paper factor</a>
<a href="#">Paper jam due to the dog-ear, paper skew, paper creases, fusing failure or the paper curl</a>
<a href="#">Paper jam due to the guide</a>
<a href="#">Paper jam caused by improperly loaded paper in the cassette</a>
<a href="#">Paper jam due to the inferior paper</a>
<a href="#">Paper jam from the factor of conveying roller, motor or clutch</a>
<a href="#">Paper jam due to the sensor</a>
<a href="#">Paper jam due to the setting / detection failure</a>
<a href="#">Paper jam due to the static electricity</a>
<a href="#">Paper jam caused by the installation environment (Papers inside the cassette are always damp.)</a>



Content of Feeding/Conveying Failures

**Paper jam due to the cover-open detection**

Step	Check description	Assumed cause	Measures
1	Open/close the upper cover	The upper cover is not aligned to the other exterior covers.	Open the upper cover and close it securely again.
2	Checking the toner container and waste toner box	The toner container and waste toner box are not attached properly.	Check how the toner container and waste toner box are attached. Reattach them if necessary.
3	Opening and closing the rear cover	The rear cover is not aligned to the other exterior covers	Open the rear cover and close it securely again.

**Paper jam from paper factor**

Step	Check description	Assumed cause	Measures
1	Checking the paper	The paper curls.	Reload paper upside down.
2	Checking the paper	The paper is damp.	Replace the paper.
3	Checking the paper	The paper fanning is not enough or the cutting edge of loaded paper is damaged.	Fan the paper well and swap the front and back edges of paper, and reload them.
4	Checking the paper	The paper is wavy.	Correct or replace the paper. If replacement is difficult, swap the front and back edges of the paper, or turn it over and reload it.
5	Checking the paper	Paper out of specification is used or foreign objects adhere to paper.	Ask a user to use the specified paper type. Or, remove the paper with foreign objects.

**Paper jam due to the dog-ear, paper skew, paper creases, fusing failure or the paper curl**

Step	Check description	Assumed cause	Measures
1	Checking the paper path and the paper	Paper is caught up by a piece of paper or paper leading edge is bent.	If the dog ear of paper occurs, check if there are any piece of paper, foreign objects or burr of the parts on the conveying route, then remove them. And if the leading edge of paper is bent, remove it.

### Paper jam due to the guide

Step	Check description	Assumed cause	Measures
1	Checking the paper path	The paper is caught with a piece of paper, etc.	If a piece of paper, the foreign objects are on the conveying path, or a burr in the parts such as the guide or the actuator, remove them.
2	Checking the guide	The guide is dirty.	If the guide or separation needle is dirty with toner or paper dust, clean it with a cleaning cloth or brush.
3	Checking the guide	The guide does not properly operate due to the incorrect attachment or a fault.	Check the guide and remove the burrs, etc. if there are any. And, if the guide does not smoothly move manually, reattach it. If not repaired, deformed or worn down, replace it.
4	Checking the solenoid	The solenoid does not operate properly.	Execute U033 and check the operation of the guide with the operation sound. If the guide does not move at all or smoothly, reattach the guide. If it does not repair, replace the solenoid.

### Paper jam caused by improperly loaded paper in the cassette

Step	Check description	Assumed cause	Measures
1	Relocating the paper width guides	The locations of the paper width guides do not fit with the paper size.	When the skew feed, crease or paper jam occurs, reset the paper width guide or MP paper width guide matching to the paper size.
2	Checking the paper	The paper fanning is not enough.	Fan paper and reload it in the paper source. If a part of the paper is bent, remove it.

### Paper jam due to the inferior paper

Step	Check description	Assumed cause	Measures
1	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.

### Paper jam from the factor of conveying roller, motor or clutch

Step	Check description	Assumed cause	Measures
1	Checking the roller or the pulley	The surface of the rollers or pulleys is dirty. Or it is faulty.	Check if the rollers or the pulleys have no paper dust, toner, foreign objects, diameter change or frictional wear, and clean their surface. If not repaired, replace the parts.
2	Cleaning the roller shaft and bushing	The roller shaft or the bearings are dirty.	If a load is given to the roller rotation caused by the dirt of the roller shaft or the bearings, clean.
3	Checking the spring	The spring does not press the conveying roller or pulley properly.	Check if the spring is dropping off or the roller and the pulley are pressed properly, then reattach them if necessary.

### Paper jam due to the sensor

Step	Check description	Assumed cause	Measures
1	Checking the actuator and the return spring	The actuator or the return spring does not operate correctly.	If the actuator is caught or came off, reattach the actuator or return spring.
2	Cleaning the sensor	The sensor is dirty.	If the sensor surface is dirty with paper dust, etc., clean it.

### Paper jam due to the setting / detection failure

Step	Check description	Assumed cause	Measures
1	Relocating the paper width guides	The paper size is misdetected.	In order to detect the paper size correctly, readjust the paper width guide or the MP paper width guide matching to the paper size.
2	Checking the settings	The media type is not properly set.	In case if the paper type setting does not match to the actual thick paper, (Paper jam due to the separation failure) set the paper weight by System Menu > [Device setting] > [Paper feed] > [Set the paper type] .

### Paper jam due to the static electricity

Step	Check description	Assumed cause	Measures
1	Checking the ground	The static electricity accumulates.	When the main unit is installed in the low humidity environment where the static electricity easily accumulates on the conveying guide during the continuous printing, <ul style="list-style-type: none"> <li>• Check if the discharge sheet in the exit section and the metal guide in the transfer section are grounded securely. If necessary, reattach the parts.</li> </ul>

### Paper jam caused by the installation environment (Papers inside the cassette are always damp.)

Step	Check description	Assumed cause	Measures
1	Checking the paper storage place	Papers have been stored in the improper place.	Ask users to store paper in a dry place.

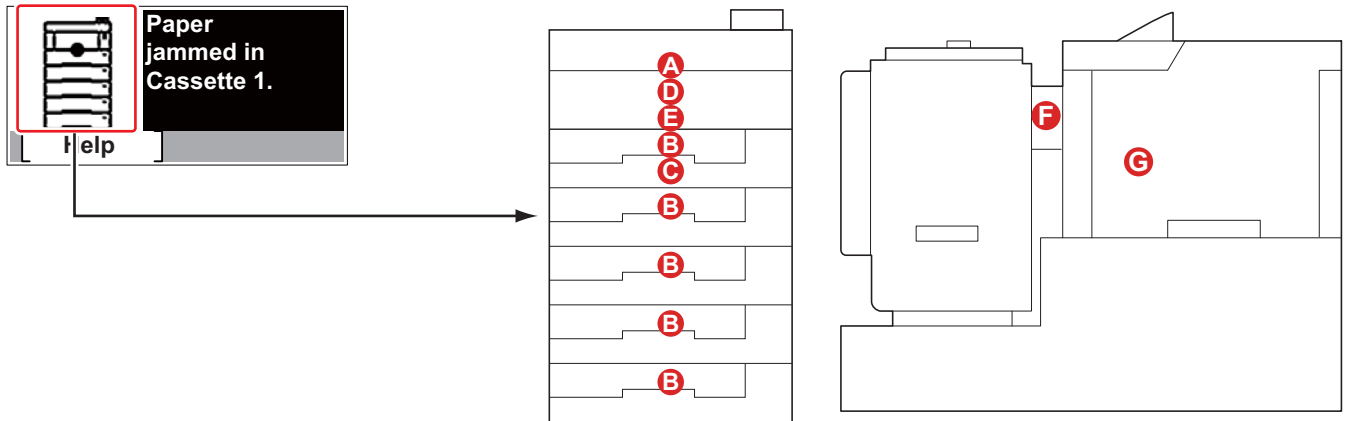
## 7 - 3 Paper misfeed detection

### (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 misfeed 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.

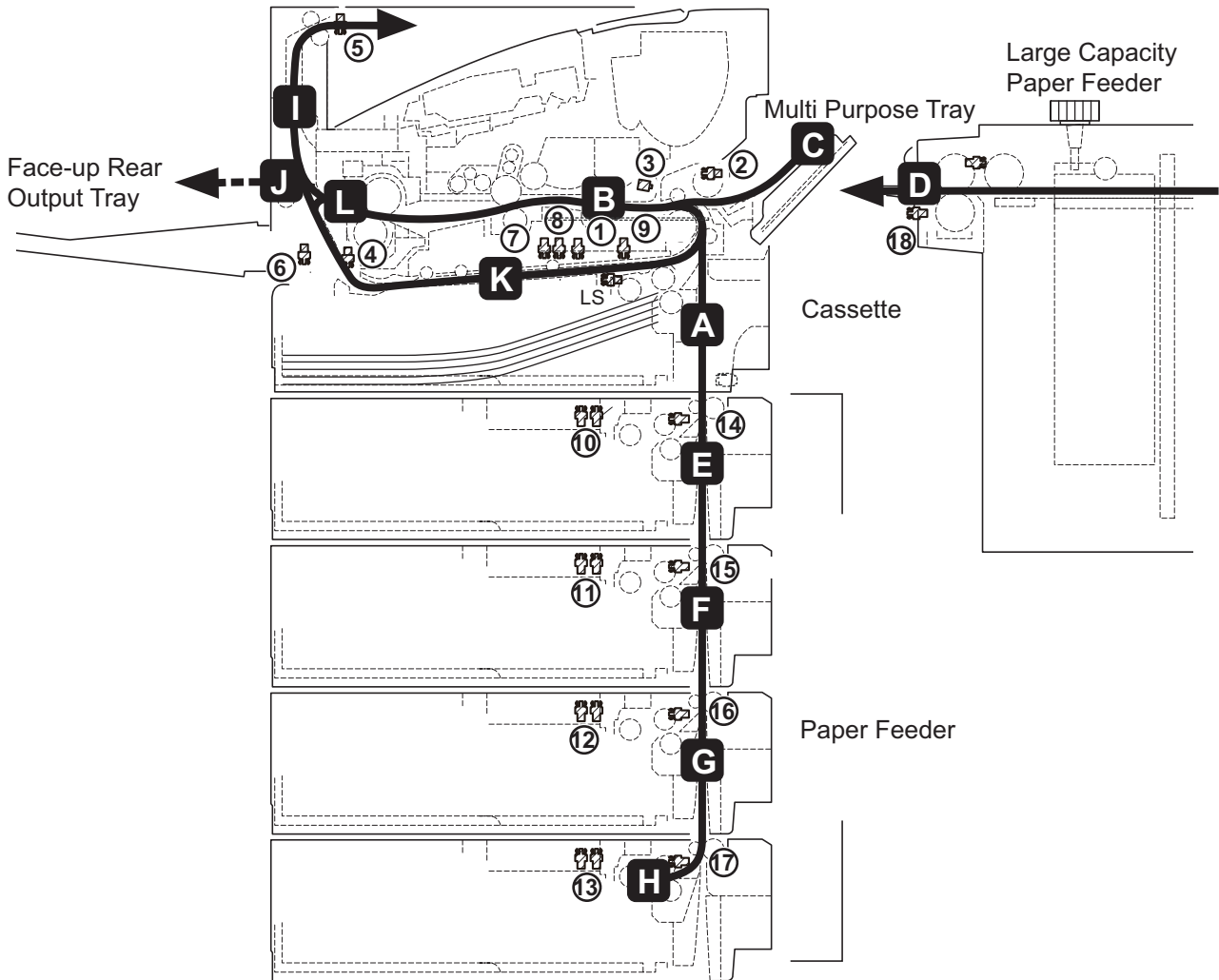
#### Jam location indicators



- A Misfeed in Multi Purpose Tray
- B Misfeed in the Cassettes 1 to 5
- C Misfeed in the Duplex Unit
- D Misfeed inside the machine
- E Misfeed inside the rear cover or the top tray
- F Misfeed in the paper feeder
- G Misfeed in the Duplex Unit (when paper feeder is installed)

**(2)Paper misfeed detection condition**

Machine + Paper Feeder, Large Capacity Paper Feeder (Option)



**Sensor name**

- |                                       |   |   |
|---------------------------------------|---|---|
| 1 Registration sensor 3 <sup>*2</sup> | 8 Paper remaining sensor 1 / 2            | 14 PF paper feed sensor (1st drawer)                  |
| 2 MP paper sensor                     | 9 Registration sensor 1 <sup>*1</sup>     | 15 PF paper feed sensor (2nd drawer)                  |
| 3 Registration sensor 2 <sup>*2</sup> | 10 PF Paper remaining sensor (1st drawer) | 16 PF paper feed sensor (3rd drawer)                  |
| 4 Exit sensor                         | 11 PF Paper remaining sensor (2nd drawer) | 17 PF paper feed sensor (4th drawer)                  |
| 5 Eject full sensor                   | 12 PF Paper remaining sensor (3rd drawer) | 18 PF paper feed sensor (Large Capacity Paper Feeder) |
| 6 Duplex sensor 1 <sup>*2</sup>       | 13 PF Paper remaining sensor (4th drawer) |   |
| 7 Duplex sensor 2                     |   |   |

\*1:45 ppm model

\*2:60/55/50 ppm model

### (3)Jam Codes

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Content of Jam Code

**J0000: Power ON jam**

The power was turned on with the unspecified conveying sensor turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper path	There is a piece of paper remaining on paper conveying route to turn on the sensor.	If a piece of paper or the foreign objects adhere on the conveying path, or a burr in the parts such as the guide or the actuator, remove them.
2	Cleaning the sensor	The sensor is dirty.	Clean the conveying related sensor.
3	Checking the connection	The sensor connector is not connected properly	Reinsert the connector of the conveying related sensor.
4	Replacing the sensor	The sensor connector is not connected properly	Replace the conveying related sensor.

**J0100: JAM for the firmware factor**

The firmware does not operate correctly. (Secondary feed time out)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

**J0101: JAM for the firmware factor**

The firmware does not operate correctly. (Waiting for the process ready)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

**J0104: JAM for the firmware factor**

The firmware does not operate correctly. (Waiting for the conveying ready)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0105: JAM for the firmware factor

The firmware does not operate correctly. (Preventing for keep spinning the drive)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0106: JAM for the firmware factor

The firmware does not operate correctly. (Duplex feed request time out)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0107: JAM for the firmware factor

The firmware does not operate correctly. (Waiting for the fuser ready)

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0110: Cover open detection

The cover open is detected during the printing (Rear cover).

Step	Check description	Assumed cause	Measures
1	Checking the cover	The covers are not fitted.	Check if the cover is closed firmly, and reattach it if necessary. If the cover is deformed, repair or replace it.
2	Checking the cover switch	The cover switch does not operate properly.	Reattach the cover switch and reconnect the connector. If the cover switch is faulty, replace it.

### J0111: Cover open detection

The cover open is detected during the printing (Top cover, large capacity feeder).

Step	Check description	Assumed cause	Measures
1	Checking the cover	The covers are not fitted.	Check if the cover is closed firmly, and reattach it if necessary. If the cover is deformed, repair or replace it.
2	Checking the cover switch	The cover switch does not operate properly.	Reattach the cover switch and reconnect the connector. If the cover switch is faulty, replace it.

### J0120: JAM for the firmware factor

The controller notified paper feed request from the duplex unit even though there was no paper in the duplex unit.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0121: JAM for the firmware factor

The controller notified the duplex unit of more paper requests than necessary.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The controller does not activate properly.	Remove a piece of paper from the conveying section and check the sensors. Then, turn off the power switch and unplug the power cord. When 5s passes, reconnect the power cord and turn the power switch on.
2	Firmware upgrade	The firmware does not properly activate.	Upgrade the firmware to the latest version.

### J0501: Cassette1 no paper feed

When feeding from cassette 1, the registration sensor 1 does not turn on.

Step	Check description	Assumed cause	Measures
1	Reloading paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the paper	The paper leading edge is bent.	Remove the bent paper in the cassette.
3	Checking the paper	Paper is curled downward or waving.	Correct or replace paper. If difficult to replace, re-load paper by switching top and bottom ends or turning it over.
4	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.
5	Checking the paper	foreign objects are on the paper.	Remove paper that the foreign objects adheres in the cassette.
6	Relocating the paper width guides and paper length guide	The paper width guide and length guide set position does not match the paper	Relocate the paper width guides and paper length guide to match the paper size.
7	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
8	Checking the pickup roller	The conveying function of the pickup roller is not enough.	Check the pickup spring. In case of installation failure, reattach the spring. Clean the pickup roller surface. If the surface is worn down, replace the pickup roller.
9	Checking the paper feed roller	The conveying function of the paper feed roller is not enough.	Clean the feed roller surface. If worn down, replace it.
10	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Feed clutch - Engine PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> </ul>
11	Checking the paper feed clutch	The paper feed clutch is not connected, so the paper feed roller does not rotate.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
12	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
13	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

## J0502: Cassette2 no paper feed

When feeding from cassette 2, PF paper feed sensor does not turn on. (PF 1st drawer)

Step	Check description	Assumed cause	Measures
1	Reloading paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the paper	The paper leading edge is bent.	Remove the bent paper in the cassette.
3	Checking the paper	Paper is curled downward or waving.	Correct or replace paper. If difficult to replace, re-load paper by switching top and bottom ends or turning it over.
4	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.
5	Checking the paper	foreign objects are on the paper.	Remove paper that the foreign objects adheres in the cassette.
6	Relocating the paper width guides and paper length guide	The paper width guide and length guide set position does not match the paper	Relocate the paper width guides and paper length guide to match the paper size.
7	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
8	Checking the pickup roller	The conveying function of the pickup roller is not enough.	Check the pickup spring. In case of installation failure, reattach the spring. Clean the pickup roller surface. If the surface is worn down, replace the pickup roller.
9	Checking the paper feed roller	The conveying function of the paper feed roller is not enough.	Clean the feed roller surface. If worn down, replace it.
10	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed clutch - PF PWB</li> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
11	Checking the PF paper feed clutch	Since the PF paper feed clutch is not connected, the feed roller does not rotate.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
12	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
13	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**J0503: Cassette3 no paper feed**

When feeding from cassette 3, PF paper feed sensor does not turn on. (PF 2nd drawer)

Step	Check description	Assumed cause	Measures
1	Reloading paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the paper	The paper leading edge is bent.	Remove the bent paper in the cassette.
3	Checking the paper	Paper is curled downward or waving.	Correct or replace paper. If difficult to replace, re-load paper by switching top and bottom ends or turning it over.
4	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.
5	Checking the paper	foreign objects are on the paper.	Remove paper that the foreign objects adheres in the cassette.
6	Relocating the paper width guides and paper length guide	The paper width guide and length guide set position does not match the paper	Relocate the paper width guides and paper length guide to match the paper size.
7	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
8	Checking the pickup roller	The conveying function of the pickup roller is not enough.	Check the pickup spring. In case of installation failure, reattach the spring. Clean the pickup roller surface. If the surface is worn down, replace the pickup roller.
9	Checking the paper feed roller	The conveying function of the paper feed roller is not enough.	Clean the feed roller surface. If worn down, replace it.
10	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed clutch - PF PWB</li> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
11	Checking the PF paper feed clutch	Since the PF paper feed clutch is not connected, the feed roller does not rotate.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
12	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
13	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0504: No paper feed from cassette

When feeding from cassette 4, PF paper feed sensor does not turn on. (PF 3rd drawer)

Step	Check description	Assumed cause	Measures
1	Reloading paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the paper	The paper leading edge is bent.	Remove the bent paper in the cassette.
3	Checking the paper	Paper is curled downward or waving.	Correct or replace paper. If difficult to replace, re-load paper by switching top and bottom ends or turning it over.
4	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.
5	Checking the paper	foreign objects are on the paper.	Remove paper that the foreign objects adheres in the cassette.
6	Relocating the paper width guides and paper length guide	The paper width guide and length guide set position does not match the paper	Relocate the paper width guides and paper length guide to match the paper size.
7	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
8	Checking the pickup roller	The conveying function of the pickup roller is not enough.	Check the pickup spring. In case of installation failure, reattach the spring. Clean the pickup roller surface. If the surface is worn down, replace the pickup roller.
9	Checking the paper feed roller	The conveying function of the paper feed roller is not enough.	Clean the feed roller surface. If worn down, replace it.
10	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed clutch - PF PWB</li> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
11	Checking the PF paper feed clutch	Since the PF paper feed clutch is not connected, the feed roller does not rotate.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
12	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
13	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**J0505: Cassette no feed JAM**

When feeding from cassette 5, PF paper feed sensor does not turn on. (PF 4th drawer)

Step	Check description	Assumed cause	Measures
1	Reloading paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the paper	The paper leading edge is bent.	Remove the bent paper in the cassette.
3	Checking the paper	Paper is curled downward or waving.	Correct or replace paper. If difficult to replace, re-load paper by switching top and bottom ends or turning it over.
4	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.
5	Checking the paper	foreign objects are on the paper.	Remove paper that the foreign objects adheres in the cassette.
6	Relocating the paper width guides and paper length guide	The paper width guide and length guide set position does not match the paper	Relocate the paper width guides and paper length guide to match the paper size.
7	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
8	Checking the pickup roller	The conveying function of the pickup roller is not enough.	Check the pickup spring. In case of installation failure, reattach the spring. Clean the pickup roller surface. If the surface is worn down, replace the pickup roller.
9	Checking the paper feed roller	The conveying function of the paper feed roller is not enough.	Clean the feed roller surface. If worn down, replace it.
10	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed clutch - PF PWB</li> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
11	Checking the PF paper feed clutch	Since the PF paper feed clutch is not connected, the feed roller does not rotate.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
12	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
13	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### J0508: Duplex no feed

When feeding from duplex section, the registration sensor 1/3 does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
2	Checking the conveying roller and the pulley	The paper conveying force is lowered.	Clean the surface of the conveying roller and the conveying pulley. Check the pressure of the roller and pulley and if the spring or the bearing is coming off, reattach them. Check the drive gear and if damaged, etc., replace it.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Registration sensor1/3 - High voltage PWB - Engine PWB</li> </ul>
4	Checking the duplex clutch	The duplex clutch does not operate correctly.	If the duplex clutch does not operate correctly, reattach and reconnect it. If not repaired, replace it.
5	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0509: No paper feed from the MP tray

When feeding from MPT, the registration sensor 1/3 does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
2	Checking the MP feed roller and drive gears	The paper conveying force is lowered or slippage occurs	Clean the surface of the MP feed roller. If it is worn down, replace it. If the foreign objects adhere on the drive gear, remove them. If damaged, replace it.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• MP solenoid - Engine PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> </ul>
4	Checking the MP bottom plate	MP bottom plate does not operate properly.	If the MP bottom plate does not operate properly, reattach the MP bottom plate. If not repaired, replace the MP solenoid.
5	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0511: Multi-feeding from cassette 1

When feeding from cassette 1, the registration sensor 1/3 does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the retard roller	The paper separation force of the retard roller is not enough.	Clean the surface of the retard roller. If it is worn out, replace it.
3	Checking the retard roller operation	The retard roller does not contact the feed roller	Rotate the retard roller to check if it contacts the feed roller. If the load is heavy in excess, check the drive belt and clean the ISU shaft
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Cassette size switch - Engine PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> <li>• Feed clutch - Engine PWB</li> </ul>
5	Checking the cassette size switch	Cassette size switch has misdetected the paper size.	If the paper size loaded in the cassette is different from the size displayed on the operation panel, reattach the cassette size switch and reconnect the connector. If it does not repair, replace it.
6	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
7	Checking the paper feed clutch	The feed clutch does not operate properly.	If the feed clutch does not operate correctly, reattach it and reconnect the connector. If not repaired, replace it.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

## J0512: Multi-feed jam from cassette 2

When feeding from cassette 2, PF paper feed sensor does not turn off. (PF 1st drawer)

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the retard roller	The paper separation force of the retard roller is not enough.	Clean the surface of the retard roller. If it is worn out, replace it.
3	Checking the retard roller operation	The retard roller does not contact the feed roller	Rotate the retard roller to check if it contacts the feed roller. If the load is heavy in excess, check the drive belt and clean the ISU shaft
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Cassette size switch - PF PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
5	Checking the cassette size switch	Cassette size switch has misdetected the paper size.	If the paper size loaded in the cassette is different from the size displayed on the operation panel, reattach the cassette size switch and reconnect the connector. If it does not repair, replace it.
6	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
8	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
9	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0513: Cassette3 multiple feed JAM

When feeding from cassette 3, PF paper feed sensor does not turn off. (PF 2nd drawer)

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the retard roller	The paper separation force of the retard roller is not enough.	Clean the surface of the retard roller. If it is worn out, replace it.
3	Checking the retard roller operation	The retard roller does not contact the feed roller	Rotate the retard roller to check if it contacts the feed roller. If the load is heavy in excess, check the drive belt and clean the ISU shaft
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Cassette size switch - PF PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
5	Checking the cassette size switch	Cassette size switch has misdetected the paper size.	If the paper size loaded in the cassette is different from the size displayed on the operation panel, reattach the cassette size switch and reconnect the connector. If it does not repair, replace it.
6	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
8	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
9	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**J0514: Cassette4 multiple feed JAM**

When feeding from cassette 4, PF paper feed sensor does not turn off. (PF 3rd drawer)

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the retard roller	The paper separation force of the retard roller is not enough.	Clean the surface of the retard roller. If it is worn out, replace it.
3	Checking the retard roller operation	The retard roller does not contact the feed roller	Rotate the retard roller to check if it contacts the feed roller. If the load is heavy in excess, check the drive belt and clean the ISU shaft
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Cassette size switch - PF PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
5	Checking the cassette size switch	Cassette size switch has misdetecting the paper size.	If the paper size loaded in the cassette is different from the size displayed on the operation panel, reattach the cassette size switch and reconnect the connector. If it does not repair, replace it.
6	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
8	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
9	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0515: Cassette 5 overlap JAM

When feeding from cassette 5, PF paper feed sensor does not turn off. (PF 4th drawer)

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
2	Checking the retard roller	The paper separation force of the retard roller is not enough.	Clean the surface of the retard roller. If it is worn out, replace it.
3	Checking the retard roller operation	The retard roller does not contact the feed roller	Rotate the retard roller to check if it contacts the feed roller. If the load is heavy in excess, check the drive belt and clean the ISU shaft
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Cassette size switch - PF PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
5	Checking the cassette size switch	Cassette size switch has misdetected the paper size.	If the paper size loaded in the cassette is different from the size displayed on the operation panel, reattach the cassette size switch and reconnect the connector. If it does not repair, replace it.
6	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
8	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
9	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0518: Multi-feeding from the duplex section

When feeding from duplex section, the registration sensor 1/3 does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Registration sensor1/3 - High voltage PWB - Engine PWB</li> </ul>
2	Checking the duplex clutch	The duplex clutch does not operate correctly.	If the duplex clutch does not operate correctly, reattach and reconnect it. If not repaired, replace it.
3	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0519: Multi-feeding from the MP tray

When feeding from MP tray, the registration sensor does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper size	Paper size on display and actual one mismatch (actual is longer)	Adjust the paper setting to match the actual paper size
2	Checking the MP feed roller and the MP separation pad	The paper separation force of the MP separation pad is insufficient.	Clean the MP feed roller and MP separation pad, or replace them
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• MP solenoid - Engine PWB</li> <li>• Registration sensor 1/3 - High voltage PWB - Engine PWB</li> </ul>
4	Checking the registration sensor	The registration sensor does not operate properly.	If the registration sensor does not operate correctly, replace the high voltage PWB.
5	Checking the MP solenoid	The MP feed roller rotation does not stop due to the MP solenoid operation failure	If the MP solenoid does not operate correctly, replace the MP solenoid.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0529: Large capacity feeder no feed JAM

When feeding from large capacity feeder, the registration sensor does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
2	Checking the PF paper feed roller	The paper conveying capacity is low. Or it is slipping.	Clean the surface of the PF feed roller. If it is worn out, replace it.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	Clean and reattach the PF paper feed sensor, then reconnect the connector. If not repaired, replace it.
5	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
7	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J0539: Large capacity feeder overlap JAM

When feeding from large capacity feeder, it does not turn off even after a specified time has passed since the PF paper feed sensor turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper	The cut-end of the paper is crushed.	Fan the paper well and load it by reversing the paper direction.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
5	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	Clean and reattach the PF paper feed sensor, then reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1403: PF paper feed sensor (PF 2nd drawer) non-arrival JAM (Cassette 3 feed)

When feeding from cassette 3, PF paper feed sensor (PF 2nd drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### J1404: PF paper feed sensor (PF 2nd drawer) non-arrival JAM (Cassette 4 feed)

When feeding from cassette 4, PF paper feed sensor (PF 2nd drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1405: PF paper feed sensor (PF 2nd drawer) non-arrival JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 2nd drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**J1413: PF paper feed sensor (PF 2nd drawer) stay JAM (Cassette 3 feed)**

When feeding from cassette 3, PF paper feed sensor (PF 2nd drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**J1414: PF paper feed sensor (PF 2nd drawer) stay JAM (Cassette 4 feed)**

When feeding from cassette 4, PF paper feed sensor (PF 2nd drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1415: PF paper feed sensor (PF 2nd drawer) stay JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 2nd drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1604: PF paper feed sensor (PF 3rd drawer) non-arrival JAM (Cassette 4 feed)

When feeding from cassette 4, PF paper feed sensor (PF 3rd drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1605: PF paper feed sensor (PF 3rd drawer) non-arrival JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 3rd drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1614: PF paper feed sensor (PF 3rd drawer) stay JAM (Cassette 4 feed)

When feeding from cassette 4, PF paper feed sensor (PF 3rd drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1615: PF paper feed sensor (PF 3rd drawer) stay JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 3rd drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - Engine PWB</li> <li>• PF paper feed clutch - PF PWB</li> <li>• PF feed motor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1805: PF paper feed sensor (PF 4th drawer) non-arrival JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 4th drawer) does not turn on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF paper feed sensor - PF PWB</li> <li>• PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J1815: PF paper feed sensor (PF 4th drawer) stay JAM (Cassette 5 feed)

When feeding from cassette 5, PF paper feed sensor (PF 4th drawer) does not turn off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF paper feed sensor - Engine PWB</li> <li>PF paper feed clutch - PF PWB</li> <li>PF feed motor - PF PWB</li> <li>PF PWB - Engine PWB</li> </ul>
4	Checking the PF paper feed sensor	The PF paper feed sensor does not operate properly.	If the PF paper feed sensor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
5	Checking the PF paper feed clutch	The PF paper feed clutch does not operate properly.	If the PF paper feed clutch does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
6	Checking the PF feed motor	The PF feed motor does not operate properly.	If the PF feed motor does not operate correctly, reattach and it and reconnect the connector. If not repaired, replace it.
7	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
8	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4002: Registration sensor non-arrival JAM (Cassette 2 feed)

When feeding from cassette 2, the registration sensor 1/3 does not turn on even after the specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Registration sensor 1/3 - High voltage PWB - Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4003: Registration sensor non-arrival JAM (Cassette 3 feed)

When feeding from cassette 3, the registration sensor 1/3 does not turn on even after the specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Registration sensor 1/3 - High voltage PWB</li> <li>- Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4004: Registration sensor non-arrival JAM (Cassette 4 feed)

When feeding from cassette 4, the registration sensor 1/3 does not turn on even after the specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Registration sensor 1/3 - High voltage PWB</li> <li>- Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### J4005: Registration sensor non-arrival JAM (Cassette 5 feed)

When feeding from cassette 5, the registration sensor 1/3 does not turn on even after the specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Registration sensor 1/3 - High voltage PWB</li> <li>- Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4012: Registration sensor stay JAM (Cassette 2 feed)

The registration sensor 1/3 does not turn off even after a specified time has passed since the PF paper feed sensor (1st drawer) was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Registration sensor 1/3 - High voltage PWB</li> <li>- Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4013: Registration sensor stay JAM (Cassette 3 feed)

The registration sensor 1/3 does not turn off even after a specified time has passed since the PF paper feed sensor (1st drawer) was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Registration sensor 1/3 - High voltage PWB</li> <li>Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4014: Registration sensor stay JAM (Cassette 4 feed)

The registration sensor 1/3 does not turn off even after a specified time has passed since the PF paper feed sensor (1st drawer) was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Registration sensor 1/3 - High voltage PWB</li> <li>Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4015: Registration sensor stay JAM (Cassette 5 feed)

The registration sensor 1/3 does not turn off even after a specified time has passed since the PF paper feed sensor (1st drawer) was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Registration sensor 1/3 - High voltage PWB</li> <li>Engine PWB</li> </ul>
4	Checking the registration sensor 1/3	Registration sensor 1/3 does not operate correctly.	If the registration sensor 1/3 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4101: Registration sensor 2 non-arrival JAM (Cassette 1 feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Drum relay PWB - Relay L PWB</li> <li>Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4102: Registration sensor 2 non-arrival JAM (Cassette 2 feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4103: Registration sensor 2 non-arrival JAM (Cassette 3 feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4104: Registration sensor 2 non-arrival JAM (Cassette 4 feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4105: Registration sensor 2 non-arrival JAM (Cassette 5 feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4108: Registration sensor 2 non-arrival JAM (Duplex feed)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4109: Registration sensor 2 non-arrival JAM (MPF/paper feeder)

The registration sensor 2 does not turn on even after a specified time has passed since the registration clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4111: Registration sensor 2 stay JAM (Cassette 1 feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4112: Registration sensor 2 stay JAM (Cassette 2 feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4113: Registration sensor 2 stay JAM (Cassette 3 feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4114: Registration sensor 2 stay JAM (Cassette 4 feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.



### J4115: Registration sensor 2 stay JAM (Cassette 5 feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4118: Registration sensor 2 stay JAM ((Duplex feed)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4119: Registration sensor 2 stay JAM (MPF/paper feeder)

The registration sensor 2 does not turn off even after a specified time has passed since the registration sensor was turned off.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the registration sensor 2	Registration sensor 2 does not operate correctly.	If the registration sensor 2 does not operate correctly, replace the drum unit.
4	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
5	Replacing the Relay L PWB	Relay L PWB is faulty.	Replace the Relay L PWB.
6	Replacing the Engine PWB	Engine PWB is faulty.	Replace the Engine PWB.

### J4201: Exit sensor non-arrival JAM (Cassette 1 feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Exit sensor - Engine PWB</li> </ul>
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4202: Exit sensor non-arrival JAM (Cassette 2 feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4203: Exit sensor non-arrival JAM (Cassette 3 feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4204: Exit sensor non-arrival JAM (Cassette 4 feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4205: Exit sensor non-arrival JAM (Cassette 5 feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4208: Exit sensor non-arrival JAM (Duplex feed)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4209: Exit sensor non-arrival JAM (MPF/paper feeder)

The exit sensor does not turn on even after a specified time has passed.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4211: Exit sensor stay JAM (Cassette 1 feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4212: Exit sensor stay JAM (Cassette 2 feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4213: Exit sensor stay JAM (Cassette 3 feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4214: Exit sensor stay JAM (Cassette 4 feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4215: Exit sensor stay JAM (Cassette 5 feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4218: Exit sensor stay JAM (Duplex feed)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. • Exit sensor - Engine PWB
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### J4219: Exit sensor stay JAM (MPF/paper feeder)

The exit sensor does not turn off even after a specified time has passed since the registration sensor 2 was turned off.

The exit sensor does not turn off even after a specified time has passed since the registration roller stopped.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the connector terminal of the wire and reconnect. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Exit sensor - Engine PWB</li> </ul>
4	Checking the exit sensor	The exit sensor does not operate properly.	If the exit sensor does not operate correctly, replace the fuser unit.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4301: Duplex sensor 1 non-arrival JAM (Cassette 1 feed)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Duplex clutch - Engine PWB</li> <li>Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4302: Duplex sensor 1 non-arrival JAM (Cassette 2 feed)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4303: Duplex sensor 1 non-arrival JAM (Cassette 3 feed)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4304: Duplex sensor 1 non-arrival JAM (Cassette 4 feed)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4305: Duplex sensor 1 non-arrival JAM (Cassette 5 feed)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4309: Duplex sensor 1 non-arrival JAM (MPF/paper feeder)

The duplex sensor 1 does not turn on even after a specified time has passed since the duplex clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex clutch - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 1	Duplex sensor 1 is not working properly.	If the duplex sensor 1 does not operate correctly, replace the duplex sensor 1 PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4401: Duplex sensor 2 non-arrival JAM (Cassette 1 feed)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4402: Duplex sensor 2 non-arrival JAM (Cassette 2 feed)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4403: Duplex sensor 2 non-arrival JAM (Cassette 3 feed)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4404: Duplex sensor 2 non-arrival JAM (Cassette 4 feed)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4405: Duplex sensor 2 non-arrival JAM (Cassette 5 feed)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4409: Duplex sensor 2 non-arrival JAM (MPF/paper feeder)

The duplex sensor 2 does not turn on even after a specified time has passed since the duplex sensor 1 was turned on.

Step	Check description	Assumed cause	Measures
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### J4418: Duplex sensor 2 non-arrival JAM (Duplex feed)

The duplex sensor 2 does not turn off even after a specified time has passed since the duplex feed clutch was turned on.

Step	Check description	Assumed cause	Measures
1	Removing the paper	The paper is jammed in the DF paddle.	Remove the jammed paper from the DF paddle.
1	Checking the paper conveying parts	Rollers, guides, etc. are not installed properly. Or there is dirt, deformation, or wear.	Clean, repair and reattach the conveying parts such as the roller, guide, etc. If not repaired, replace it.
2	Checking the paper path	The paper is caught with a piece of paper, etc.	If there is a piece of paper, foreign objects, etc. on the conveying path, remove them.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Duplex sensor 2 - High voltage PWB - Engine PWB</li> <li>• Duplex sensor 1 - Engine PWB</li> </ul>
4	Check duplex sensor 2	Duplex sensor 2 is not working properly.	If the duplex sensor 2 does not operate correctly, replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.


## 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 disconnecting the power cord, press the power switch one second or more to discharge the electric charge inside the main unit.

### (3)System error (C-Code)

#### C-Code error items

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<a href="#">C0130: Backup memory reading/writing error</a>
<a href="#">C0150: Engine EEPROM reading / writing error</a>
<a href="#">C0170: Charger count error</a>
<a href="#">C0180: Machine serial number mismatch</a>
<a href="#">C0800: Image processing error</a>
<a href="#">C0840: RTC error</a>
<a href="#">C1020: PF lift motor error (PF 1st drawer)</a>
<a href="#">C1030: PF lift motor error (PF 2nd drawer)</a>
<a href="#">C1040: PF lift motor error (PF 3rd drawer)</a>
<a href="#">C1050: PF lift motor error (PF 4th drawer)</a>
<a href="#">C1140: PF lift motor ascending error (paper feeder)</a>
<a href="#">C1150: PF lift motor descending error (paper feeder)</a>
<a href="#">C1800: Paper feeder communication error (PF 1st drawer)</a>
<a href="#">C1810: Paper feeder communication error (PF 2nd drawer)</a>
<a href="#">C1820: Paper feeder communication error (PF 3rd drawer)</a>
<a href="#">C1830: Paper feeder communication error (PF 4th drawer)</a>
<a href="#">C1900: Paper feeder EEPROM error (PF 1st drawer)</a>
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<a href="#">C2200: Drum motor start up error</a>
<a href="#">C2210: Drum motor steady error</a>
<a href="#">C2330: Fuser pressure release motor error (Over current)</a>
<a href="#">C2340: Fuser pressure release motor error (Timeout)</a>
<a href="#">C2600: PF feed motor error (PF 1st drawer)</a>
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<a href="#">C4700: VIDEO ASIC device error</a>
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<a href="#">C6120: Fuser thermistor (Press) high temperature error</a>
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<a href="#">C6400: Zero-cross signal error</a>
<a href="#">C7100: Toner sensor error</a>
<a href="#">C7400: Developer unit not installed</a>
<a href="#">C7410: Drum unit type mismatch error</a>
<a href="#">C7800: External thermistor disconnection detection</a>
<a href="#">C7810: External thermistor short circuit detection</a>
<a href="#">C7900: Drum unit EEPROM error</a>

## Content of Self Diagnostic

### C0100: Backup memory device error

An abnormal status is output from the flash memory.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The flash memory does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the EEPROM on the engine PWB	The EEPROM is not properly attached.	Reattach the EEPROM on the engine PWB.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C0130: Backup memory reading/writing error

When the power was turned on, an error was detected in the backup data consistency check.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The flash memory does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C0150: Engine EEPROM reading / writing error

Read / Write No response from the device was detected continuously for a specified number of times for a specified time or longer.

- Data read a specified number of times do not match a specified number of times in a row.
- The write data and the read data do not match the specified number of times in a row.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The EEPROM on the engine PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the EEPROM on the engine PWB	The EEPROM is not properly attached.	Reattach the EEPROM on the engine PWB.
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
4	Replacing the EEPROM	The EEPROM on the engine PWB is faulty.	Contact to the service headquarters.

### C0170: Charger count error

The values in one of the billing counters, life counter or the scanner counter mismatch between the main side and the engine side.

Step	Check description	Assumed cause	Measures
1	Checking the EEPROM	The EEPROM is not properly attached.	Reattach the EEPROM on the engine PWB.
2	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
4	Replacing the EEPROM	The EEPROM on the engine PWB is faulty.	Contact to the service headquarters.

### C0180: Machine serial number mismatch

Machine serial number mismatch between the main and engine side when turning the power on.

Step	Check description	Assumed cause	Measures
1	Checking the EEPROM	The EEPROM is not properly attached.	Reattach the EEPROM on the engine PWB.
2	Checking the connection	The FFC is not connected properly. Or it is faulty.	Clean the FFC terminals of the following FFC and reconnect them. If the FFC terminal is deformed or broken, replace the FFC. <ul style="list-style-type: none"> <li>• Engine PWB - Main PWB</li> </ul>
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
5	Replacing the EEPROM	The EEPROM on the engine PWB is faulty.	Contact to the service headquarters.

### C0800: Image processing error

The print sequence jam was detected continuously a specified number of times.

Step	Check description	Assumed cause	Measures
1	Checking the image data	The image data is faulty.	If it occurs only in specific image data, check if there is any error in the image data. If there is no error in the image data, proceed to the next step. If there is something wrong with the image data, ask the user to print with another image data.
2	Checking the situation	The printing operation of the certain file is faulty.	If the phenomenon can be reproduced by identifying the job that detected the error, acquire the job log. If the problem persists even after executing the following steps, send the acquired job log to the service headquarters and request an investigation.
3	Checking the main PWB	The connector or the FFC is not connected properly. Or, the wire, FFC, the PWB is faulty.	Clean the terminal of the connectors on the main PWB, reconnect the connector of the wire, and reconnect the FFC terminal. If the wire or the FFC is faulty, repair or replace them. If not resolved, replace the main PWB.

### C0840: RTC error

Cannot communicate with RTC properly. Or, the RTC data is inconsistent.

Step	Check description	Assumed cause	Measures
1	Replacing the main PWB	The main PWB is faulty, or the backup battery runs out.	If C0840 still occurs after performing the above steps, replace the main PWB.

### C1020: PF lift motor error (PF 1st drawer)

The PF lift motor overcurrent detection of cassette 2 was continuously detected a specified number of times.

- The condition in which the PF lift sensor is not turned on even after a specified time has passed since the cassette 2 was inserted was continuously detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF lift motor - Engine PWB</li> <li>PF lift sensor - Engine PWB</li> </ul>
4	Checking the PF lift motor	The PF lift motor is not attached properly. Or, it is faulty.	Reattach the PF lift motor. If not operating properly, replace it.
5	Checking the PF lift sensor	The PF lift sensor is not attached properly. Or, it is faulty.	Reattach the PF lift sensor. If not operating properly, replace it.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1030: PF lift motor error (PF 2nd drawer)

The PF lift motor overcurrent detection of cassette 3 was continuously detected a specified number of times.

- The condition in which the PF lift sensor is not turned on even after a specified time has passed since the cassette 3 was inserted was continuously detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the PF firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF lift motor - Engine PWB</li> <li>PF lift sensor - Engine PWB</li> </ul>
4	Checking the PF lift motor	The PF lift motor is not attached properly. Or, it is faulty.	Reattach the PF lift motor. If not operating properly, replace it.
5	Checking the PF lift sensor	The PF lift sensor is not attached properly. Or, it is faulty.	Reattach the PF lift sensor. If not operating properly, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C1040: PF lift motor error (PF 3rd drawer)

The PF lift motor overcurrent detection of cassette 4 was continuously detected a specified number of times.

- The condition in which the PF lift sensor is not turned on even after a specified time has passed since the cassette 4 was inserted was continuously detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the PF firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF lift motor - Engine PWB</li> <li>PF lift sensor - Engine PWB</li> </ul>
4	Checking the PF lift motor	The PF lift motor is not attached properly. Or, it is faulty.	Reattach the PF lift motor. If not operating properly, replace it.
5	Checking the PF lift sensor	The PF lift sensor is not attached properly. Or, it is faulty.	Reattach the PF lift sensor. If not operating properly, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C1050: PF lift motor error (PF 4th drawer)

The PF lift motor overcurrent detection of cassette 5 was continuously detected a specified number of times.

- The condition in which the PF lift sensor is not turned on even after a specified time has passed since the cassette 5 was inserted was continuously detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the PF firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF lift motor - Engine PWB</li> <li>PF lift sensor - Engine PWB</li> </ul>
4	Checking the PF lift motor	The PF lift motor is not attached properly. Or, it is faulty.	Reattach the PF lift motor. If not operating properly, replace it.
5	Checking the PF lift sensor	The PF lift sensor is not attached properly. Or, it is faulty.	Reattach the PF lift sensor. If not operating properly, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C1140: PF lift motor ascending error (paper feeder)

The PF upper limit sensor does not turn on even after a specified time has passed since the PF lift motor started to rise.

- After the PF lift motor started to rise, the lift motor lock was detected a specified number of times.
- The PF upper limit sensor turns off during paper feeding, and the PF upper limit sensor does not turn on even after a specified time has elapsed after the PF lift motor started to rise.
- The PF upper limit sensor was turned off during paper feeding, and after the PF lift motor started to rise, the lift motor lock was detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the PF firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF lift motor - PF PWB</li> <li>PF upper limit sensor - PF PWB</li> </ul>
4	Checking the PF lift motor	The PF lift motor is not attached properly. Or, it is faulty.	Reattach the PF lift motor. If not operating properly, replace it.
5	Checking the PF upper limit sensor	The PF upper limit sensor is not attached properly. Or, it is faulty.	Reattach the PF upper limit sensor. If not operating properly, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C1150: PF lift motor descending error (paper feeder)

The PF lower limit sensor does not turn on even after a specified time has passed since the PF lift motor started to descend.

- After the PF lift motor started to descend, the lift motor lock was detected a specified number of times.
- The overcurrent detection signal has been detected for a specified time or longer. (PF-3100 only)

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the PF firmware to the latest version.
2	Checking the lift plate	The lift plate does not operate properly.	Repair or replace the lift plate when it does not move vertically.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF lift motor 2 - PF PWB</li> <li>• PF lift sensor 2 - PF PWB</li> </ul>
4	Checking PF lift motor 2	The PF lift motor2 is not attached properly. Or it is faulty.	Reattach PF lift motor 2. If it does not operate correctly, replace it.
5	Checking PF lift sensor 2	The PF lift sensor2 is not attached properly. Or it is faulty.	Reattach PF lift sensor 2. If it does not operate correctly, replace it.
6	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C1800: Paper feeder communication error (PF 1st drawer)

The communication error was detected 10 times continuously.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1810: Paper feeder communication error (PF 2nd drawer)

The communication error was detected 10 times continuously.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1820: Paper feeder communication error (PF 3rd drawer)

The communication error was detected 10 times continuously.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### C1830: Paper feeder communication error (PF 4th drawer)

The communication error was detected 10 times continuously.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1900: Paper feeder EEPROM error (PF 1st drawer)

The option cassette2 detected the EEPROM failure.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1910: Paper feeder EEPROM error (PF 2nd drawer)

The option cassette3 detected the EEPROM failure.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1920: Paper feeder EEPROM error (PF 3rd drawer)

The option cassette4 detected the EEPROM failure.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C1930: Paper feeder EEPROM error (PF 4th drawer)

The option cassette5 detected the EEPROM failure.

Step	Check description	Assumed cause	Measures
1	Reinstalling the paper feeder	The drawer connector of the paper feeder does not connect to the main unit properly.	Reinstall the paper feeder in the main unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF PWB - Engine PWB</li> </ul>
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2000: Main motor start up error

The rotation speed is not stable within a predetermined time after the main motor drive is started.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Main motor - Engine PWB</li> </ul>
3	Checking the main drive unit	The main drive unit is faulty.	Check if the gear in the main drive unit is rotating properly. If there is a load on the rotation, clean the gear and the bearing, and apply the grease. If not repaired, replace the main drive unit.
4	Checking the main motor	The main motor is not attached properly. Or it is faulty.	Reattach the main motor. If not operating properly, replace it.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2010: Main motor steady error

After the main motor drive became stable, it was out of the stable condition for a predetermined time or more.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Main motor - Engine PWB</li> </ul>
3	Checking the main drive unit	The main drive unit is faulty.	Check if the gear in the main drive unit is rotating properly. If there is a load on the rotation, clean the gear and the bearing, and apply the grease. If not repaired, replace the main drive unit.
4	Checking the main motor	The main motor is not attached properly. Or it is faulty.	Reattach the main motor. If not operating properly, replace it.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2200: Drum motor start up error

After starting the drum motor drive, the rotation speed is not stable within a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum motor - Engine PWB</li> </ul>
3	Checking the drum motor	The drum motor is not attached properly. Or, it is faulty.	Reattach the drum motor. If not operating properly, replace it.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2210: Drum motor steady error

After the drum motor drive become stable, it was out of the stable condition for a specified time or more.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum motor - Engine PWB</li> </ul>
3	Checking the drum motor	The drum motor is not attached properly. Or, it is faulty.	Reattach the drum motor. If not operating properly, replace it.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2330: Fuser pressure release motor error (Over current)

When driving the fuser pressure release motor, the fuser pressure release motor overcurrent detection signal was continuously detected a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Fuser pressure release motor - Relay L PWB</li> <li>Relay L PWB - Engine PWB</li> </ul>
3	Checking the fuser pressure release motor	The fuser pressure release motor is not attached properly. Or, it is faulty.	Reattach the fuser motor. If not operating, replace it.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2340: Fuser pressure release motor error (Timeout)

When driving the fuser pressure release motor, the fuser pressure release sensor is not detected predetermined time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Fuser pressure release motor - Relay L PWB</li> <li>Relay L PWB - Engine PWB</li> </ul>
4	Checking the fuser pressure release motor	The fuser pressure release motor is not attached properly. Or, it is faulty.	Reattach the fuser motor. If not operating, replace it.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C2600: PF feed motor error (PF 1st drawer)

The error signal was detected continuously for the specific time when the PF feed motor is driven.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>PF feed motor - PF PWB</li> </ul>
3	Checking the PF feed motor	The PF feed motor is faulty.	Replace the PF feed motor.
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C2610: PF feed motor error (PF 2nd drawer)

The error signal was detected continuously for the specific time when the PF feed motor is driven.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF feed motor - PF PWB</li> </ul>
3	Checking the PF feed motor	The PF feed motor is faulty.	Replace the PF feed motor.
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C2620: PF feed motor error (PF 3rd drawer)

The error signal was detected continuously for the specific time when the PF feed motor is driven.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF feed motor - PF PWB</li> </ul>
3	Checking the PF feed motor	The PF feed motor is faulty.	Replace the PF feed motor.
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C2630: PF feed motor error (PF 4th drawer)

The error signal was detected continuously for the specific time when the PF feed motor is driven.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• PF feed motor - PF PWB</li> </ul>
3	Checking the PF feed motor	The PF feed motor is faulty.	Replace the PF feed motor.
4	Replacing the PF PWB	The PF PWB is faulty.	Replace the PF PWB.

### C3500: Communication error between Scanner - ASIC1

There is a communication error between the scanner and the ASIC.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The FFC is not connected properly. Or it is faulty.	Clean the FFC terminals of the following FFC and reconnect them. If the FFC terminal is deformed or broken, replace the FFC <ul style="list-style-type: none"> <li>• Engine PWB - Main PWB</li> </ul>
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C4000: Polygon motor startup error

The speed is not stable within a specified time after the polygon motor drive is started.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• LSU (Polygon motor) - Engine PWB</li> </ul>
3	Checking the polygon motor	The polygon motor does not rotate properly.	Check the rotation sound of the polygon motor, and reattach or replace the LSU if it does not rotate properly.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C4200: BD steady-state error

BD cannot be detected within a specified time after the polygon motor stabilizes.

- BD cannot be detected continuously for a specified number of times in the BD check process.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• LSU (APC PWB) - Main PWB</li> </ul>
3	Checking the LSU	The LSU is faulty.	Replace the LSU.
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C4700: VIDEO ASIC device error

Communication with the VIDEO ASIC failed a specified number of times in a row.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The ASIC operation on the engine is faulty.	Turn off the power switch. After 5 seconds, turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
3	Checking the connection	The FFC is not connected properly. Or it is faulty.	Clean the following FFC terminal of the FFC and reconnect it. If the FFC terminal is deformed or the FFC is broken, replace it. <ul style="list-style-type: none"> <li>Engine PWB - Main PWB</li> </ul>
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C5100: main high voltage error

The potential adjustment failed a specified number of times.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the charger roller unit	A proper current does not flow due to foreign objects adhering, deformation, damage, etc. to the high voltage contacts of the charger roller unit.	Check the high voltage contacts of the charger roller unit and clean it if any foreign objects, etc. are adhered. If there are any deformation, damages, etc., replace the charger roller unit.
3	Checking the connection	The wire is not properly connected or is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>High voltage PWB - Engine PWB</li> </ul>
4	Replacing the high voltage PWB	The high voltage PWB is faulty.	Replace the high voltage PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.



### C6000: Broken fuser heater 1 error

- The fuser thermistor does not detect 100°C or higher within the specified time from the start of warm up.
- The fuser thermistor does not detect the ready temperature within the specified time after detecting 100°C during warm up.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Fuser heater - Power supply PWB</li> <li>• Fuser thermostat - Power supply PWB</li> <li>• Fuser thermistor - Engine PWB</li> </ul>
3	Replacing the fuser unit	The fuser heater, fuser thermistor or other is faulty.	Replace the fuser unit.
4	Replacing the power supply PWB	The power supply PWB is faulty.	Replace the power supply PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C6020: Fuser thermistor high temperature error

The fuser thermistor detected a high temperature error continuously for a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Fuser thermistor - Engine PWB</li> </ul>
3	Replacing the fuser unit	The fuser thermistor is faulty.	Replace the fuser unit.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C6030: Broken fuser thermistor wire

During the warm up, the fuser thermistor detected the abnormal value for a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Fuser thermistor - Engine PWB</li> </ul>
3	Replacing the fuser unit	The fuser thermistor is faulty.	Replace the fuser unit.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C6120: Fuser thermistor (Press) high temperature error

The fuser thermistor detected a high temperature error continuously for a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. • Fuser thermistor - Engine PWB
3	Replacing the fuser unit	The fuser thermistor is faulty.	Replace the fuser unit.
4	Replacing the power supply PWB	The power supply PWB is faulty.	Replace the power supply PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C6130: Fuser thermistor (Press) short circuit detection

During the warm up, the fuser thermistor detected the abnormal value for a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following connector terminal of the wire and reinsert them. If there is no continuity, replace the wire. • Fuser thermistor - Engine PWB
3	Replacing the fuser unit	The fuser thermistor does not detect normal temperature.	Replace the fuser unit.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C6400: Zero-cross signal error

The condition in which the zero cross signal was not input during the fuser heater control continued for a specified time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the terminal of the following wire connectors and reconnect the connectors. If there is no continuity, replace the wire. • Power supply PWB - Engine PWB
3	Replacing the power supply PWB	The power supply PWB is faulty.	Replace the power supply PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### C7100: Toner sensor error

When the toner sensor output value is equal to or higher than the specified value for a specified period of time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Toner sensor - Drum PWB</li> <li>• Drum PWB - Drum relay PWB</li> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Main PWB</li> </ul>
3	Checking the developer unit	The gear of the developer unit is damaged and the forwarding roller dies not rotate smoothly.	Replace the developer unit.
4	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
5	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C7400: Developer unit not installed

When the toner sensor output value is equal to or less than the specified value for a specified period of time.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Toner sensor - Drum PWB</li> <li>• Drum PWB - Drum relay PWB</li> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB - Main PWB</li> </ul>
3	Checking the toner sensor.	The toner sensor is faulty.	Replace the developer unit.
4	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
5	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C7410: Drum unit type mismatch error

Unit identification codes do not match.

Step	Check description	Assumed cause	Measures
1	Checking the drum unit	The different drum unit is installed.	Install the proper drum unit.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum PWB - Drum relay PWB</li> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB -Main PWB</li> </ul>
4	Replacing the drum PWB	The drum PWB is faulty.	Replace the drum unit.
5	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
6	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C7800: External thermistor disconnection detection

When the average value of the external thermistor output continues for a specified period of time and it is lower than the specified value.

Step	Check description	Assumed cause	Measures
1	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Panel R PWB Main PWB</li> </ul>
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C7810: External thermistor short circuit detection

When the average value of the external thermistor output continues for a specified period of time and exceeds the specified value.

Step	Check description	Assumed cause	Measures
1	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Panel R PWB Main PWB</li> </ul>
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### C7900: Drum unit EEPROM error

The following conditions in which the drum unit EEPROM cannot be accessed were detected continuously a predetermined number of times.

- 1. Continuously detected no response from the device for a specified time or longer during reading/writing.
- The data read in two places do not match continuously.
- The write data and the read data do not match continuously.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The data stored in the EEPROM in the drum unit is faulty.	Turn off the power switch. After 5 seconds, turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.
3	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Drum PWB - Drum relay PWB</li> <li>• Drum relay PWB - Relay L PWB</li> <li>• Relay L PWB -Main PWB</li> </ul>
4	Replacing the drum unit	The EEPROM in the drum unit is faulty.	Replace the drum unit.
5	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
6	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### (4)System Error code (F code)

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.

**✔ IMPORTANT**

- 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.

#### List of the system error (F code)

Error code items
<a href="#">F000: Communication error between the main PWB and the operation panel PWB</a>
<a href="#">F010: Main PWB checksum error</a>
<a href="#">F020: Main PWB RAM checksum error</a>
<a href="#">F040: Communication error between the main PWB and the engine PWB</a>
<a href="#">F050: Engine ROM checksum error</a>
<a href="#">F15x: Abnormal detection in the authentication device control section</a>
<a href="#">F17x: Abnormal detection in the print data control section</a>
<a href="#">F18x: Abnormal detection in the Video control section</a>
<a href="#">F1Dx: Abnormal detection in the image memory management section</a>
<a href="#">F21x/F23x: The error detection at the image process section</a>
<a href="#">F24x: Abnormal detection in the system management section</a>
<a href="#">F25x: Abnormal detection in the network management section</a>
<a href="#">F26x/F27x/F28x/F29x/F2Ax: Abnormal detection in the system management section</a>
<a href="#">F2Bx/F2Cx/F2Dx/F2Ex/F2Fx/F30x/F31x/F32x: Abnormality detection in the network control unit</a>
<a href="#">F35x: Abnormal detection in the print control / management section</a>
<a href="#">F38x: Abnormal detection in the authentication / authorization management section</a>
<a href="#">F3Ax/F3Bx/F3Cx/F3Dx/F3Ex/F3Fx/F40x/F41x/F42x/F43x/F44x/F45x: Abnormal detection in the internal setting value management section</a>
<a href="#">F46x: Abnormal detection in the print rendering section</a>
<a href="#">F4Dx/F4Ex: The error detection at the internal setting value control section</a>
<a href="#">F4Fx: The error detection at the JOB control section</a>
<a href="#">F52x/F53x/F55x/F56x/F57x: Abnormality detection in the JOB execution section</a>
<a href="#">F58x/F59x/F5Ax: Abnormal detection in the various-services Management Department</a>
<a href="#">F63x: Abnormal detection in the device control section</a>
<a href="#">F68x: Abnormal detection in the storage device control section</a>

Error code items
<a href="#">F90x: Abnormal detection in the extended application unification section</a>
<a href="#">F93x: Abnormal detection in the extended application management section</a>
<a href="#">FC0x: Abnormal detection in the system application</a>
<a href="#">FCAx: Abnormal detection in the print application</a>
<a href="#">FD4x: Abnormal detection in the box application</a>
<a href="#">FDEx: Abnormal detection in the maintenance application</a>
<a href="#">FE9x: Abnormal detection in the application system</a>
<a href="#">FEEEx: Abnormal detection in Web Page Agent</a>
<a href="#">FF7x: Abnormal detection in the report application</a>
<a href="#">FF9x: Abnormal detection in the service linkage application processing section</a>

Content of F code Error

**F000: Communication error between the main PWB and the operation panel PWB**

The panel cannot be detected since the CPU communication between the main PWB and the operation panel main PWB is unavailable.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The communication between the main PWB and the operation panel main PWB is faulty.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware and panel firmware to the latest version.
3	Checking the connection	The connector and FFC are not connected properly or the wire, FFC or PWB is faulty.	Clean the terminals of the connectors, the terminal of FFC connectors and reconnect them. If there is no continuity, replace the FFC. <ul style="list-style-type: none"> <li>• Main PWB - Engine PWB</li> <li>• Engine PWB - Operation panel PWB</li> </ul>
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
5	Replacing the operation panel PWB	The operation panel PWB is faulty.	Replace the operation panel PWB.

**F010: Main PWB checksum error**

Data corruption is detected at the program read

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not properly start up.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.



### F020: Main PWB RAM checksum error

The error appears during the reading/writing check of the RAM for the CPU when the main unit starts up.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not properly start up.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
3	Checking the expansion memory (DIMM)	The expansion memory is not properly connected.	Check if the capacity of the expansion memory is proper and if it is genuine product then reattach it. If not repaired, replace it.

### F040: Communication error between the main PWB and the engine PWB

There is an error in the communication between the main PWB and the engine PWB.

Step	Check description	Assumed cause	Measures
1	Resetting the power	There is an error in the communication between the main PWB and the engine PWB.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the connection	The connector is not connected properly, or it is faulty.	Clean the terminals of the connector, reattach the main PWB and the engine PWB. <ul style="list-style-type: none"> <li>• Engine PWB - Main PWB</li> </ul>
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### F050: Engine ROM checksum error

The engine program cannot start up.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The engine ROM checksum is faulty.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the engine firmware to the latest version.
3	Checking the EEPROM	The EEPROM is not properly attached.	Reattach the EEPROM.
4	Checking the engine PWB	The connector or the FFC is not connected properly. Or, the wire, FFC, the PWB is faulty.	Clean the terminal of the connectors on the engine PWB, reconnect the connector of the wire, and reconnect the FFC terminal. If the wire or the FFC is faulty, repair or replace it. If not resolved, replace the engine PWB.

### F15x: Abnormal detection in the authentication device control section

The communication between the authentication device and the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F17x: Abnormal detection in the print data control section

The communication at the print data control section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F18x: Abnormal detection in the Video control section

There is an error in the communication between the main PWB and the engine PWB.

Step	Check description	Assumed cause	Measures
1	Resetting the power	As the power reset was performed instantly, an error occurred in the communication between the controller and the engine.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the connection	The connector is not connected properly, or it is faulty.	Clean the terminals of the connector, reattach the main PWB and the engine PWB. <ul style="list-style-type: none"> <li>• Engine PWB - Main PWB</li> </ul>
3	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F1Dx: Abnormal detection in the image memory management section

The communication in the image memory management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F21x/F23x: The error detection at the image process section

The communication at the image processing section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F24x: Abnormal detection in the system management section

The communication at the system management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F25x: Abnormal detection in the network management section

The communication at the network management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Checking the main PWB	The Ethernet cable connection or the main PWB is faulty.	Reconnect the Ethernet cable connector on the main PWB. If it does not repair, replace the main PWB.

### F26x/F27x/F28x/F29x/F2Ax: Abnormal detection in the system management section

The communication at the system management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F2Bx/F2Cx/F2Dx/F2Ex/F2Fx/F30x/F31x/F32x: Abnormality detection in the network control unit

The communication at the network control section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Checking the connection (when F2BX is lit)	The Ethernet cable connection is faulty.	Reconnect the Ethernet cable connector on the main PWB.
4	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F35x: Abnormal detection in the print control / management section

The communication at the print control management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F38x: Abnormal detection in the authentication / authorization management section

The communication at the authentication / authorization management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F3Ax/F3Bx/F3Cx/F3Dx/F3Ex/F3Fx/F40x/F41x/F42x/F43x/F44x/F45x: Abnormal detection in the internal setting value management section

The communication at the internal setting value management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F46x: Abnormal detection in the print rendering section

The communication at the print rendering section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F4Dx/F4Ex: The error detection at the internal setting value control section

The communication at the internal setting value management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F4Fx: The error detection at the JOB control section

There is a communication error in the main PWB at the JOB control section.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F52x/F53x/F55x/F56x/F57x: Abnormality detection in the JOB execution section

Abnormality communication in a JOB execution part of the Main PWB.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F58x/F59x/F5Ax: Abnormal detection in the various-services Management Department

Abnormality communication in a various-services Management Department of the Main PWB.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F63x: Abnormal detection in the device control section

The communication at the device control section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F68x: Abnormal detection in the storage device control section

The communication at the storage device control section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F90x: Abnormal detection in the extended application unification section

The communication at the extended application unification section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### F93x: Abnormal detection in the extended application management section

The communication at the extended application management section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FC0x: Abnormal detection in the system application

The communication at the system application in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FCAx: Abnormal detection in the print application

The communication at the print application in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FD4x: Abnormal detection in the box application

The communication at the box application in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FDEx: Abnormal detection in the maintenance application

The communication at the maintenance application in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.



### FE9x: Abnormal detection in the application system

The communication at the application system in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FEEEx: Abnormal detection in Web Page Agent

The communication at Web Page Agent in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FF7x: Abnormal detection in the report application

The communication at the report application in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

### FF9x: Abnormal detection in the service linkage application processing section

The communication at the service linkage application processing section in the main PWB is faulty.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main PWB does not operate properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
3	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

## 7 - 5 Print Errors

### Error message items

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<a href="#">Orientation is different</a>
<a href="#">Paper is fed from the MP tray</a>
<a href="#">Garbled characters</a>
<a href="#">Paper is not fed from the MP tray</a>
<a href="#">The same data is printed out endlessly</a>
<a href="#">[Print job error] or [Waiting for printing] is displayed on the PC screen, or the printer is not available is displayed in the printer property.</a>
<a href="#">The paper loading message appearsThe message waiting for the printer is displayed but the [Data] lamp is lit.</a>
<a href="#">Cannot output during the sleep mode due to the failure of the starting up the main unit. The [Data] lamp is lit.</a>
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<a href="#">"Paper Mismatch Error" appears</a>

Content of Print Errors

The paper loading message appears

Step	Check description	Assumed cause	Measures
1	Checking the paper	The size of the loaded paper did not match the paper size set in the printer properties.	Load the paper of the paper size defined at "Paper size" in the [Basic] tab in the print settings at the PC to the cassette.
2	Checking the paper size	The paper size on the operation panel and the one set for the paper source do not match.	Set the paper size displayed on the operation panel and the paper size loaded in the cassette by the cassette size dial correctly.
3	Checking the situation	The print data generated by a certain application (Word) is faulty.	Check if the print data not generated by a certain application (Word) is output properly. And then, change the application setting if necessary.
4	Changing the settings	Paper orientation is not properly set in the print page setting on a certain application (Word).	Check the page orientation with preview before printing and reset the page orientation at the print setting on a certain application (Word).
5	Checking the settings	The paper size and the media type set at the main unit do not match the paper size and the media type set in the printer driver.	Check if the paper size set for the MP tray and the media type of the MP tray set in the System Menu (for the main unit) match the paper size and the media type at [Imaging] > [Basic] in the printer properties at the PC.
6	Changing the settings	The MP tray setting does not match between the main unit and printer driver.	Select "MP tray" at [Source] in the [Basic] tab in the print settings at the PC.

Orientation is different

Step	Check description	Assumed cause	Measures
1	Checking the cassette size dial	The cassette size dial is not set correctly.	Set the cassette size dial correctly.
2	Changing the settings	The printer driver is not set correctly.	Set [Orientation] properly at the [Basic setting] of the printer driver.
3	Reinstalling the printer driver	The printer driver was not properly installed.	Uninstall and reinstall the printer driver.
4	Checking the print setting at the application software side	The print setting at the application software side has the priority.	Set the print setting at the application software side properly.

### Paper is fed from the MP tray

The main unit MP tray setting is wrong

Step	Check description	Assumed cause	Measures
1	Changing the settings	The Auto Cassette Change is [On].	In order not to feed paper if paper is not available in the selected cassette, change the cassette auto switch setting to [Off]. <ul style="list-style-type: none"> <li>[Menu] key &gt; [Print settings] &gt; [Auto Cassette Change] &gt; change to [Off].</li> </ul>
2	Changing the settings	"Media type" in the [Basic] tab in the print settings at the PC differs from the media type of the cassette that is set in the main unit.	Check the media type set in the cassette type and the multi purpose tray type at the main unit side, and set the media type at [Print settings] > [Basic settings] in PC side match to the setting of the main unit side.
3	Changing the settings	The same media type is set between the main unit cassette and MP tray.	Set different media types between the main unit cassette and MP tray

### Garbled characters

The printer driver was not properly installed.

Step	Check description	Assumed cause	Measures
1	Resetting the power	There is a communication error.	Check if there is no job in process in the PC and main unit. Next, turn the main unit power off and disconnect the power cord. After 5s, reconnect the power cord and turn the power on.
2	Checking the font list	Font for special data is not resident.	After checking output from Excel and Word is normal, print the font list to check if a font for special data is resident.
3	Selecting the bitmap font	The bitmap font (default setting) is unselected.	Select the bitmap font (default setting) and print the data.
4	Checking the printer driver	The printer driver is faulty.	Uninstall and reinstall the printer driver.

### Paper is not fed from the MP tray

The media types of each paper source defined in the printer driver and the main unit are mismatched.

Step	Check description	Assumed cause	Measures
1	Checking the settings	The paper size and the media type set at the main unit do not match the paper size and the media type set in the printer driver.	Check if the paper size set for the MP tray and the media type of the MP tray set in the System Menu (for the main unit) match the paper size and the media type at [Imaging] > [Basic] in the printer properties at the PC.
2	Changing the settings	The MP tray setting does not match between the main unit and printer driver.	Select "MP tray" at [Source] in the [Basic] tab in the print settings at the PC.

### The same data is printed out endlessly

A PC (spooler) does not properly operate.

Step	Check description	Assumed cause	Measures
1	Deleting the job	The generated data is faulty.	Delete the print job spooled in the PC and print it out again.

### [Print job error] or [Waiting for printing] is displayed on the PC screen, or the printer is not available is displayed in the printer property.

The main unit is not ready to print.

Step	Check description	Assumed cause	Measures
1	Clearing the error	The main unit is not ready to print.	Check if an error is displayed on the operation panel or [Attention] lamp blinks. Then, clear the error.
2	Checking the main unit	The main unit is not ready to print.	Resolve the problem at the main unit.

### The message waiting for the printer is displayed but the [Data] lamp is lit.

The main unit locks up.

Step	Check description	Assumed cause	Measures
1	Clearing the error	The main unit is not ready to print.	After confirming no error is indicted on the main units operation panel, cancel all PC print jobs. Then, turn off the power switch and unplug the power cord. After passing 5s, reconnect the power cord and turn on the power switch.

### Cannot output during the sleep mode due to the failure of the starting up the main unit. The [Data] lamp is lit.

The main unit locks up.

Step	Check description	Assumed cause	Measures
1	Firmware upgrade	The firmware is not the latest version.	Upgrade the firmware to the latest version.

## Printing is stopped (Operation lock) after printing several sheets. The [Data] lamp on the operation panel is lit

The image processing fails due to the insufficient memory, so the main unit locks up.

Step	Check description	Assumed cause	Measures
1	Checking the situation	The data processing in a certain PC is faulty.	Check if the error occurred in printing from all PCs on the network or a specific PC, and then print from another PC.
2	Checking the situation	The application is not properly set.	Check if it occurs with the certain application or file (large size file such as CAD data) and change the setting of the application or refer to Help of the application.
3	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.
4	Deleting the job	Processing fails.	Cancel the job in process and reprint in the main unit job status.
5	Resetting the power	The main unit locks up.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.

## Print out is not available from the network factor (1)

There is a network failure. Or, the network setting is not proper.

Step	Check description	Assumed cause	Measures
1	Checking the network	There is trouble in the network.	Check if the memory LED on the operation panel of the main unit is blinking after printing out from the PC. If not blinking, cancel the processing job and reprint out.
2	Checking the network	There is trouble in the network.	If a print error is displayed on the operation panel or PC screen, clear the error such as toner related and paper jam.
3	Checking the network	There is trouble in the network.	Check the main unit IP Address in the status page, etc. and then check if Command Center can be opened using that IP Address. If not, reconfigure the network again.
4	Checking the network	There is trouble in the network.	Check the internet connection and restore the network connection if necessary
5	Checking the network	There is trouble in the network.	Check the cable and reset the router or HUB.
6	Restarting up	The PC or the main unit locks up.	Restart the PC or main unit to reprint.

### Print out is not available from the network factor (2)

The cable between the main unit and the PC is not properly connected.

Step	Check description	Assumed cause	Measures
1	Checking the cable	The cable between the main unit and the PC is not properly connected.	Check the cable connection between the main unit and the PC.
2	Restarting up	The main unit or the PC does not properly start up.	Restart the main unit and then restart the PC.
3	Checking the Ethernet cable	The Ethernet cable is faulty.	Replace the Ethernet cable.
4	Changing the connection	Another network is faulty.	Directly connect the main unit to the PC with the cross cable and then check if the same data can be printed out.

### Print out is not available from the network factor (3)

The access point in the network (router or HUB) does not operate properly.

Step	Check description	Assumed cause	Measures
1	Restarting up	The router or the HUB does not properly activate.	Check if the link lamp of the router or HBU is on, and restart it.
2	Checking the Ethernet cable	The Ethernet cable is not properly connected.	In case the link lamp is off, once disconnect the Ethernet cable from the router and reconnect it to check the link lamp is lit.
3	Checking the Ethernet cable	The Ethernet cable is faulty.	Replace the Ethernet cable.
4	Restarting up	The router, hub, PC or the main unit do not start up properly.	In case of no connection while the link lamp is lit, restart the router or hub and then restart up the PC and the main unit.

### Print out is not available from the network factor (4)

The router is faulty or the router setting is not proper.

Step	Check description	Assumed cause	Measures
1	Changing the settings	The IP address is not properly set.	Check if the main unit IP Address indicated in the status page is the same as the IP Address in the [Port] tab of [Printer Properties] at the PC. If not, correct the IP address at the PC
2	Changing the settings	The printer host name is not properly set.	Check the printer host name by printing out the status report when there is a server environment. Then, check the printer host name at the [Port] tab in the printer properties at a PC. If they differ, correct the printer host name.

### Print out is not available from the network factor (5)

"Offline" appears and the print function is unavailable.

Step	Check description	Assumed cause	Measures
1	Checking the network	There is trouble in the network.	Check the internet connection and restore the network connection if necessary
2	Restarting up	The PC malfunctions.	When "Offline" appears on the printer driver, check if it is used in the pause or offline. Then, restart up the PC.
3	Changing the settings	The application is not properly set.	Check if the other Excel / Word data can be output and change the setting of the application.
4	Changing the settings	The IP address is not properly set.	Check if the main unit IP Address indicated in the status page is the same as the IP Address in the [Port] tab of [Printer Properties] at the PC. If not, correct the IP address at the PC
5	Restarting up	The IP address is not properly set.	Check if communication is possible with the Command Center or Ping using the IP address that is set, reset the IP address if necessary and restart the main unit.
6	Restarting up	The port settings in the printer properties at the PC are incorrect.	On the [Port] tab of [Printer Properties] on the PC side, uncheck the bidirectional support and SNMP status, and restart the main unit and the PC.
7	Restarting up	The main unit does not start up properly.	After the printer is ready, check if the test sheet can be output and restart the main unit.

### Print out is not available from the network factor (7)

The main unit IP address is changed.

Step	Check description	Assumed cause	Measures
1	Restarting up	There is trouble in the network.	Check if a problem occurs with output from all PCs on the network and restart up hub or router.
2	Checking the cable	The cable is not properly connected.	Check if there is problem with the cable connection on the network.
3	Resetting the power	The main unit does not start up properly.	If the operation panel or the buttons are not active, turn the power switch off. After 5s passes, turn the power switch on.
4	Changing the settings	IP address was changed.	Check if the main unit IP Address indicated in the status page is the same as the IP Address in the [Port] tab of [Printer Properties] at the PC. If not, correct the IP address at the PC
5	Changing the settings	The static IP Address is not set in the System Menu	Set the static IP Address in the System Menu.



### Print out is not available from the printer driver setting factor (1)

[Not connected] is displayed on the PC so that the print job cannot be executed due to the error. (Cannot print)

Condition:

Print file: Test page

Connection method: Wireless LAN

Step	Check description	Assumed cause	Measures
1	Deleting the job	The faulty print job is remaining.	Check if the print job remains in the printer driver and delete the remaining.

### Print out is not available from the printer driver setting factor (2)

It displays that the printer is preparing on the main unit. The jobs are stuck without output.

Condition:

Print file: Test page

Connection method: Wireless LAN

Step	Check description	Assumed cause	Measures
1	Deleting the job	The faulty print job is remaining.	Check if the print job remains in the printer driver and delete the remaining.

### Print out is not available from the printer driver setting factor (3)

A PC does not recognize the main unit.

Step	Check description	Assumed cause	Measures
1	Checking the settings	The printer driver is not properly set.	Check if the printer icon of PC is [Ready]. (Right click the printer icon and execute the trouble shooting.)
2	Installing the printer driver	The printer driver is faulty.	Uninstall and reinstall the printer driver.
3	Restarting up	The PC does not start up properly.	Restart up the PC.
4	Checking the printer driver	The printer driver is not the latest version.	Update the printer driver.

### Print out is not available from the printer driver setting factor (4)

PC operation does not stabilize.

Step	Check description	Assumed cause	Measures
1	Restarting up	The printer driver is not set properly due to many application software is running on the PC or the free space of the memory or HDD of the PC is low.	Restart up the PC.

### Print out is not available from the printer driver setting factor (5)

The printing port that supports printing with the network connection is not selected. Or, setting does not match.

Step	Check description	Assumed cause	Measures
1	Checking the IP address	The IP address is not properly set.	Check if the IP Address indicated in the main unit status report and system menu is same as the IP address in the port setting of [Printer Properties] at the PC. If not, correct the IP address at the port setting

### Print out is not available from the printer driver setting factor (6)

The incorrect printer driver was selected.

Step	Check description	Assumed cause	Measures
1	Installing the printer driver	The incorrect printer driver is selected.	Select the correct printer driver. If it is not in the PC, install the printer driver for the destination unit in the PC.

### Data is not printed out due to the printer driver setting (7)

Installed printer driver shows "Deleting" and it remains when reinstalling it.

Step	Check description	Assumed cause	Measures
1	Deleting the job	The print jobs remain in the spool inside the printer driver.	Delete all print jobs spooling inside the printer driver.
2	Uninstalling the printer driver	There is the unused printer driver.	Delete the unused printer driver.
3	Restarting the print	The system is pausing.	Right click the pausing printer icon and select [Print resuming]. Then, check the ready port.
4	Checking the settings	The host name or the IP address is not properly set.	In case of connecting to the local network, check the host name and the IP address with the status report of the main unit.
5	Adding the Standard TCP/IP port	There is no main unit IP Address in the Standard TCP/IP Port.	Add the main unit IP address in Standard TCP/IP port and print Test Page.

### A part of the image is missing

The image data processing with a certain application (Excel, PDF) is faulty.

Step	Check description	Assumed cause	Measures
1	Checking the situation	The image data processing with a certain application (Excel, PDF) is faulty.	When the phenomenon occurs with a certain file only, check if there is an abnormality in the image data.
2	Checking the situation	The data processing with a certain application (Excel, PDF) is faulty.	Check if the image does not drop out on the print preview, and refer to the Help in the application if necessary.
3	Changing the settings	The PDL settings is incorrect.	Select "GDI compatible mode" at [PDL settings] in the print settings at the PC.
4	Firmware upgrade	The firmware is not the latest version.	Upgrade the main firmware to the latest version.

**"Paper Mismatch Error" appears**

The paper size is not detected properly.

Step	Check description	Assumed cause	Measures
1	Checking the paper setting	The paper size and the media type which is set does not match to the paper size or the media type which was set at the feeding drawer selected by the printer driver.	Change the paper size and media type of the cassette selected by the cassette size dial, and change to the proper paper setting by [Paper settings].

## 7 - 6 Error Messages

### Item of the Error Messages

Contents
<a href="#">Even closing the upper cover, the cover open message is displayed.</a>
<a href="#">The cover open message is displayed even closing the rear cover.</a>
<a href="#">The add paper message appears while the paper is loaded on the MP tray</a>

## Content of Error Messages

### Even closing the upper cover, the cover open message is displayed.

Step	Check description	Assumed cause	Measures
1	Check the front cover	The front cover does not turn the front cover switch on due to the fitting failure.	Reattach the front cover.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Interlock switch - Engine PWB</li> </ul>
3	Replacing the interlock switch	The interlock switch is faulty.	Replace the interlock switch.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### The cover open message is displayed even closing the rear cover.

Step	Check description	Assumed cause	Measures
1	Checking the rear cover	Since the rear cover is not aligned, the rear cover switch does not turn on.	Reattach the rear cover.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• Rear cover switch - Engine PWB</li> </ul>
3	Replacing the rear cover switch	The rear cover switch is faulty.	Replace the rear cover switch.
4	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### The add paper message appears while the paper is loaded on the MP tray

Step	Check description	Assumed cause	Measures
1	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following terminal of the wire connector and reinsert it. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>• MP paper sensor - Relay L PWB</li> <li>• Relay L PWB - Engine PWB</li> </ul>
2	Replacing the actuator	The actuator is deformed.	Replace the actuator for the MP paper sensor.
3	Checking the MP paper sensor	The MP paper sensor is not properly connected or faulty.	Reattach the MP paper sensor. If it does not operate correctly, replace it.
4	Replace the relay L PWB	The relay L PWB is faulty.	Replace the relay L PWB.
5	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

## 7 - 7 Abnormal Noise

Error message items.

Contents
<a href="#">Abnormal sound (basic support excluding fuser section)</a>
<a href="#">Abnormal sounds from the paper conveying section</a>
<a href="#">Abnormal sound from the developer section</a>
<a href="#">Abnormal sound from the exit section</a>
<a href="#">Fan rotating sounds are noisy</a>
<a href="#">Abnormal sound from the primary paper feed section</a>
<a href="#">Abnormal sound from the MP feed section</a>
<a href="#">Abnormal sound from the fuser section</a>
<a href="#">Abnormal sound from the fuser exit section</a>
<a href="#">Abnormal sound from inside the machine</a>
<a href="#">Abnormal sound from inside the machine</a>
<a href="#">Abnormal sound from inside the machine</a>

## Content of Abnormal Noise

### Abnormal sound (basic support excluding fuser section)

Step	Check description	Assumed cause	Measures
1	Applying the grease	Grease on each gear or bushing is not enough.	Check the rotation of the roller, the pulley or the gear, if they do not rotate smoothly, apply the grease on the gears or the bearings. (EM-50LP, Part number: 7BG010009H)
2	Reattaching the gears or the bearings	The parts such as each gear or bushing are not properly attached.	Reattach the gear or the bushing.

### Abnormal sounds from the paper conveying section

The conveying rollers, pulleys and gears are worn down, dirty or foreign objects adhere to them

Step	Check description	Assumed cause	Measures
1	Cleaning and applying the grease	The bushing or the gear is dirty or foreign objects are on them.	Clean the bearings and the gears of the conveying related rollers, and apply the grease (EM-50LP, Part number: 7BG010009H).
2	Cleaning and applying the grease	The inside of the pulley is worn down.	Clean the drive shaft of the conveying related pulley and apply the Hanarl. (302LV94550)
3	Cleaning and applying the grease	The gear tooth surface is dirty. Or, foreign objects are attached.	Clean the drive gears of the conveying related rollers, and apply the grease (EM-50LP, Part number: 7BG010009H).
4	Checking the pressure spring	Pressure of the conveying related roller and pulley are weak, and the bearing vibrates as the roller and pulley rotate.	Reattach the pressure springs of the conveying related rollers or the pulleys, or replace them.
5	Replacing the main motor	The main motor is faulty.	Replace the main motor.

### Abnormal sound from the developer section

Caused by the developer unit.

Step	Check description	Assumed cause	Measures
1	Checking the developer unit	The developer unit drive is faulty.	Check if the toner is leaked from the developer unit, if there are any damages or if the roller rotates manually. Repair it if necessary.
2	Replacing the developer unit	The developer unit is faulty.	Replace the developer unit.

### Abnormal sound from the exit section

The exit section is dirty or foreign objects adhere to it

Step	Check description	Assumed cause	Measures
1	Cleaning and applying the grease	The bushing or the gear is dirty or foreign objects are on them.	Clean the bearings of the exit roller and the gears, and apply the grease. (EM-50LP, Part number: 7BG010009H)
2	Cleaning and applying the grease	The shaft is dirty or foreign objects adhere to it.	Clean the shaft both lower and upper the exit pulley, and apply Hanarl (302LV94550)

### Fan rotating sounds are noisy

Fan is dirty or faulty.

Step	Check description	Assumed cause	Measures
1	Replacing the fan	The fan is faulty.	Reattach the fan and reconnect the connector. If not repaired, replace it.

### Abnormal sound from the primary paper feed section

The primary feed section is worn down, dirty, not attached properly or foreign objects adhere to it

Step	Check description	Assumed cause	Measures
1	Checking the gear and the clutch	The parts such as the gear or the clutch are not properly attached.	Reattach the primary paper feed drive components such as the gear or the clutch if they are not properly attached.
2	Cleaning and applying the grease	The gears and bearings are dirty. Or, foreign objects are attached.	Clean the gears and the bearings of the primary feed drive section, and apply the grease. (EM-50LP, Part number: 7BG010009H)
3	Cleaning and applying the grease	The shaft or the bushing is dirty or foreign objects adhere on them.	Clean the shaft and bearing of the paper feed roller, and apply grease (EM-50LP ... Part number: 7BG010009H).
4	Checking the paper feed roller	The surface of the paper feed roller is dirty. Or it is worn out.	Clean the paper feed roller, or replace it if necessary.

### Abnormal sound from the MP feed section

The MP feed section is worn down, dirty, not attached properly or foreign objects adhere to it

Step	Check description	Assumed cause	Measures
1	Checking the gear and the clutch	The parts such as the gear or the clutch are not properly attached.	When the gears or the clutch in the MP paper feed drive section are not properly attached, reattach them.
2	Cleaning and applying the grease	The shaft or the bushing is dirty or foreign objects adhere on them.	Clean the shaft and the bearings of the MP feed roller, and apply the grease. (EM-50LP, Part number: 7BG010009H)
3	Checking the MP separation pad	The surface of the MP separation pad is dirty. Or it is worn out.	Clean the MP separation pad. Then, replace it if necessary.
4	Checking the MP bottom plate	The MP bottom plate is not properly attached.	Reattach the MP bottom plate.

### Abnormal sound from the fuser section

Step	Check description	Assumed cause	Measures
2	Replacing the fuser unit	The fuser unit is faulty.	Replace the fuser unit.



### Abnormal sound from the fuser exit section

Rubbing noise of the fuser exit roller and shaft due to dirt or foreign matter adhering

Step	Check description	Assumed cause	Measures
1	Cleaning and applying the grease	The fuser exit rollers and shafts are dirty. Or, foreign objects are attached.	Clean the fuser exit rollers and shafts, and apply heat-resistant grease.
2	Replacing the fuser unit	The fuser unit is faulty.	Replace the fuser unit.

### Abnormal sound from inside the machine

Toner container drive failure, toner supply shutter opening/closing failure or toner aggregation

Step	Check description	Assumed cause	Measures
1	Checking the toner container	The torque increases due to the toner condensation.	Shake the toner container enough and reinstall it. Or, replace it.
2	Cleaning the drive parts	The drive gear shaft or the bearings of the main motor is dirty. Or, the foreign objects are adhered.	If the main motor drive gear does not rotate smoothly, clean the shaft and the bearings.

### Abnormal sound from inside the machine

Dirt at the developer section, Foreign object adhesion or toner aggregation

Step	Check description	Assumed cause	Measures
1	Checking the developer unit	The developer roller shaft and bushing are dirty or foreign objects adhere.	Check if the developer roller rotates. If not rotating smoothly, clean the shaft or the bushing of the developer roller.
2	Replacing the developer unit	The torque inside the developer unit increased due to the toner condensation, etc.	Check if the developer roller rotates, and replace the developer unit if not rotating.

### Abnormal sound from inside the machine

Worn, dirt, foreign object adhesion or waste toner clogging at the drum section

Step	Check description	Assumed cause	Measures
1	Executing Drum refresh	Toner is not enough on the drum.	Execute the drum refresh to supply the toner to the cleaning unit.
2	Cleaning and applying the grease	Foreign objects are on the tooth of the drum drive gear, or the grease is not enough.	Clean the tooth surface of the drum drive gear and apply the grease. (EM-50LP, Part number: 7BG010009H)
3	Checking the drum unit	The drum screw does not properly rotate.	Check the drum screw rotation and if it does not rotate smoothly, clean it. If it locks, replace the drum unit.

## 7 - 8 Malfunction

### Error message items

Contents
<a href="#">The size of the paper loaded in the cassette is misdetected. Or, it is not displayed. (Cassette 1)</a>
<a href="#">The size of the paper loaded in the cassette is misdetected. Or, it is not displayed. (Cassette 2, 3, 4, 5)</a>
<a href="#">The main unit does not operate at all even if the power switch is turned on</a>
<a href="#">No display in the operation panel</a>
<a href="#">The operation panel screen remains unchanged which is the same screen display as the display at start up.</a>
<a href="#">Even if the option cassette is installed, it is not displayed on the operation panel.</a>

Content of Malfunction

**The size of the paper loaded in the cassette is misdetected. Or, it is not displayed. (Cassette 1)**

Step	Check description	Assumed cause	Measures
1	Checking the cassette size dial	The cassette size dial is not set correctly.	Set the cassette size dial correctly.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Cassette size switch - Engine PWB</li> </ul>
3	Replacing the cassette size switch	The cassette size switch is faulty.	Replace the cassette size switch.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

**The size of the paper loaded in the cassette is misdetected. Or, it is not displayed. (Cassette 2, 3, 4, 5)**

Target: Paper feeder

Step	Check description	Assumed cause	Measures
1	Checking the cassette size dial	The cassette size dial is not set correctly.	Set the cassette size dial correctly.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire connector terminal and reinsert them. If there is no continuity, replace the wire. <ul style="list-style-type: none"> <li>Cassette size switch - Engine PWB</li> </ul>
3	Replacing the cassette size switch	The cassette size switch is faulty.	Replace the cassette size switch.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

### The main unit does not operate at all even if the power switch is turned on

Step	Check description	Assumed cause	Measures
1	Measuring the input voltage	The power cord has no continuity.	Plug the power cord into another wall outlet.
2	Replacing the power cord	The power cord is faulty.	The power plug is faulty such as deformation, or if the power cord is not conducting, replace the power cord.
3	Checking the power switch	The power switch is faulty.	Check the continuity between the contacts of the power switch. Replace the power switch if there is no continuity.
4	Checking the connection	The connector or FFC terminal is not connected properly. Or, the wire or FFC is faulty.	Reinsert the following connector and reconnect the FFC. If there is no continuity, replace the wire. If the FFC terminal is deformed or the FFC is broken, replace the FFC. <ul style="list-style-type: none"> <li>Power supply PWB - Engine PWB</li> <li>Engine PWB - Main PWB</li> </ul>
5	Replacing the power supply PWB	The power supply PWB is faulty.	Replace the power supply PWB.
6	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
7	Checking the main PWB	The main PWB is faulty.	Replace the main PWB.

### No display in the operation panel

The image on the operation panel is abnormal or becomes blank.

Step	Check description	Assumed cause	Measures
1	Resetting the power	The main firmware does not start correctly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the connection	The connector is not connected properly, or the wire is faulty.	Clean the following wire, the terminal of SATA cable connector and reconnect them. If there is no continuity, replace the wire or the SATA cable. <ul style="list-style-type: none"> <li>Engine PWB - Main PWB</li> <li>Main PWB - Operation panel PWB</li> </ul>
3	Replacing the operation panel PWB	The operation panel PWB is faulty.	Replace the operation panel PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
5	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

**The operation panel screen remains unchanged which is the same screen display as the display at start up.**

Communicate between the main PWB and the operation panel main PWB cannot be done.'

Step	Check description	Assumed cause	Measures
1	Resetting the power	The communication between the main PWB and the operation panel main PWB is faulty.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the connection	The connector is not connected properly. Or, FFC is faulty.	Clean the connector terminal, FFC cable connector terminal and reinsert them. If there is no continuity, replace the FFC cable. <ul style="list-style-type: none"> <li>• Main PWB - Engine PWB</li> <li>• Engine PWB - Operation panel PWB</li> </ul>
3	Replacing the operation panel PWB	The operation panel PWB is faulty.	Replace the operation panel PWB.
4	Replacing the engine PWB	The engine PWB is faulty.	Replace the engine PWB.
5	Replacing the main PWB	The main PWB is faulty.	Replace the main PWB.

**Even if the option cassette is installed, it is not displayed on the operation panel.**

Step	Check description	Assumed cause	Measures
1	Resetting the power	The option cassette is not working properly.	Turn off the power switch and pull out the power plug. After passing 5s, reinsert the power plug and turn on the power switch.
2	Checking the connection	The connection between the option cassette and the main unit is faulty due to deformation of the drawer connector pin.	Reattach the optional cassette to the Main unit. At that time, if the drawer connector pin or the wire is faulty, repair or replace it.
3	Checking the PF PWB	The PF PWB is faulty.	Reconnect the wire connector on the PF PWB. If it does not improve, replace the PF PWB.
4	Checking the engine PWB	The engine PWB is faulty.	Replace the engine PWB.

## 8 PWBs

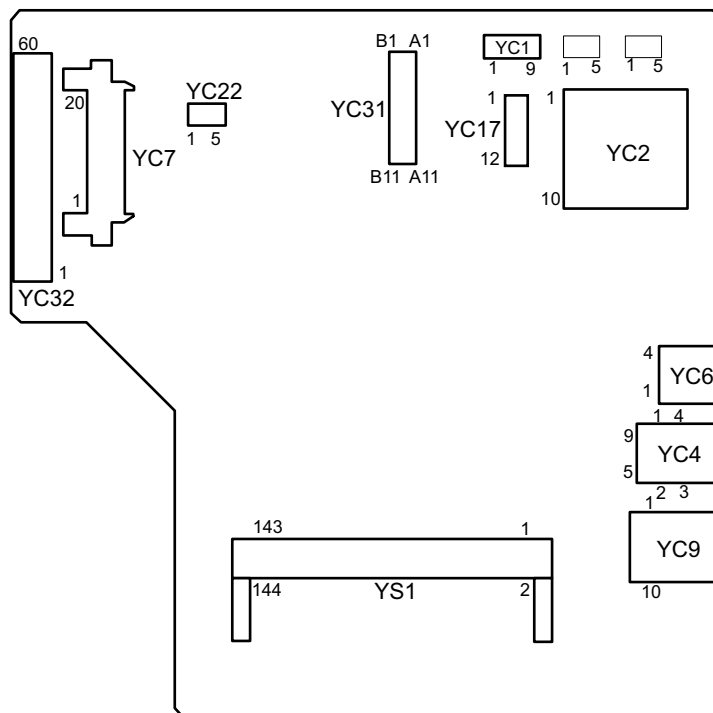
### 8 - 1 Description for PWB

#### (1)Main PWB

#### (1-1)PWB photograph



#### (1-2)Connector position



**(1-3)Connector lists****Destination**

- YC1: Flash writer
- YC2: SD Card
- YC4: USB Device (Rear side)
- YC6: USB Host (Rear side)
- YC7: eKUIO
- YC9: Ethernet
- YC22: PMIC flash
- YC31: IEEE1284 I/F
- YC32: Engine I/F
- YC33:TPM
- YS1: DIMM (Option)

**NOTE**

Fuse YF3, Rating 32V or 50Vdc, 1A

Connector	Pins	Signal	I/O	Voltage	Description
YC1	-	-	-	-	Flash writer
YC2	1	DAT3	I/O	DC 0V/3.3V	Control signal
	2	CMD	I/O	DC 0V/3.3V	Command control signal
	3	VSS	-	-	Ground
	4	VDD	O	DC 3.3V	Power source
	5	CLK	O	DC 0V/3.3V	Clock
	6	VSS	-	-	Ground
	7	DAT0	I/O	DC 0V/3.3V	Data bus signal
	8	DAT1	I/O	DC 0V/3.3V	Data bus signal
	9	DAT2	I/O	DC 0V/3.3V	Data bus signal
	10	Detective Card Switch	I	DC 0V/3.3V	Control signal
	11	Common Contact	-	-	Ground
	12	WPSwitch	I	DC 0V/3.3V	Write protect input signal
YC4	1	VBUS	O	DC 0V/5V	VBUS signal
	2	D-	I/O	DC 0V/0.4V/3.3V	USB data signal
	3	D+	I/O	DC 0V/0.4V/3.3V	USB data signal
	4	GND	-	-	Ground
YC6	1	VBUS	O	DC 0V/5V	VBUS signal
	2	D-	I/O	DC 0V/0.4V/3.3V	USB data signal
	3	D+	I/O	DC 0V/0.4V/3.3V	USB data signal
	4	GND	-	-	Ground
YC7	1	5.0V1_C1	O	D C5V	Power source
	2	GND	-	-	Ground
	3	RESET	O	DC 0V/3.3V	Reset signal
	4	5.0V2_C	O	DC 5V	Power source
	5	GND	-	-	Ground
	6	IRQ	I	DC 0V/3.3V	Interrupt signal

Connector	Pins	Signal	I/O	Voltage	Description
	7	OPEN	-	-	Not used
	8	OEPN	-	-	Not used
	9	OPEN	-	-	Not used
	10	OPEN	-	-	Not used
	11	GND	-	-	Ground
	12	OPEN	-	-	Not used
	13	OPEN	-	-	Not used
	14	GND	-	-	Ground
	15	OPEN	-	-	Not used
	16	OPEN	-	-	Not used
	17	GND	-	-	Ground
	18	DP	I/O	DC 0V/0.4V/3.3V	USB data signal
	19	DN	I/O	DC 0V/0.4V/3.3V	USB data signal
	20	VBUS	O	DC 5V	VBUS signal
YC9	1	TD1+	I/O	(0, ±0.5. ±1.0)	Send data
	2	TD1-	I/O	(0, ±0.5. ±1.0)	Send data
	3	TD2+	I/O	(0, ±0.5. ±1.0)	Send data
	4	TD2-	I/O	(0, ±0.5. ±1.0)	Send data
	5	CT1	I	-	Center tap
	6	CT2	I	-	Center tap
	7	TD3+	I/O	(0, ±0.5. ±1.0)	Send data
	8	TD3-	I/O	(0, ±0.5. ±1.0)	Send data
	9	TD4+	I/O	(0, ±0.5. ±1.0)	Send data
	10	TD4-	I/O	(0, ±0.5. ±1.0)	Send data
YC22	-	-	-	-	PMIC flash
YC31	1	+3.3V2	O	DC 3.3V	3.3 V DC power source
	2	+5.0V2	O	DC 5V	5 V DC Power output
	3	P1284DIR	O	DC 0V/3.3V	Direction input signal
	4	NACK	O	DC 0V/3.3V	Acknowledge input signal
	5	BUSY	O	DC 0V/3.3V	Busy input
	6	PERROR	O	DC 0V/3.3V	Error signal
	7	SELECT	O	DC 0V/3.3V	Select signal
	8	NFAULT	O	DC 0V/3.3V	Error signal
	9	PDATA1	I/O	DC 0V/3.3V	Data signal
	10	PDATA2	I/O	DC 0V/3.3V	Data signal
	11	PDATA3	I/O	DC 0V/3.3V	Data signal
	12	PDATA4	I/O	DC 0V/3.3V	Data signal
	13	PDATA5	I/O	DC 0V/3.3V	Data signal
	14	PDATA6	I/O	DC 0V/3.3V	Data signal
	15	PDATA7	I/O	DC 0V/3.3V	Data signal
	16	PDATA8	I/O	DC 0V/3.3V	Data signal
	17	NSELECTIN	I	DC 0V/3.3V	Select signal
	18	NSTROBE	I	DC 0V/3.3V	Output signal
	19	NAUTOFD	I	DC 0V/3.3V	AUTO-FEED signal
	20	NINIT	I	DC 0V/3.3V	Reset signal
	21	PDETECT	I	DC 0V/3.3V	OP detection signal
	22	GND	-	-	Ground



Connector	Pins	Signal	I/O	Voltage	Description
YC32	1	LDOUT_1_DN	O	LVDS	Video data
	2	LDOUT_1_DP	O	LVDS	Video data
	3	SH1D	O	DC 0V/3.3V	Sample-and-hold signal
	4	GND	-	-	Ground
	5	5.0V_WIFI	O	DC 5V	5 V DC Power output
	6	WIFI_D+	I/O	DC 0V/0.4V/3.3V	Wi-Fi input / output data
	7	WIFI_D-	I/O	DC 0V/0.4V/3.3V	Wi-Fi input / output data
	8	WIFI_INT	I/O	DC 0V/3.3V	Wi-Fi input / output data
	9	GND	-	-	Ground
	10	GND	-	-	Ground
	11	C2E_STBY_ASIC	O	DC 0V/3.3V	Engine Hold signal
	12	GND	-	-	Ground
	13	GND	-	-	Ground
	14	USBH_DP2	I/O	DC 0V/0.4V/3.3V	USB data signal
	15	USBH_DN2	I/O	DC 0V/0.4V/3.3V	USB data signal
	16	VBUS_USBH_2	O	DC 5V	VBUS signal
	17	E2C_SDIR	I	DC 0V/3.3V	Serial communication direction signal
	18	E2C_SBSY	I	DC 0V/3.3V	System busy signal
	19	C2E_SDAT	I	DC 0V/3.3V	Serial communication data input
	20	C2E_SCK	O	DC 0V/3.3V	Serial communication clock signal
	21	DUTY_CONTROL	O	DC 0V/3.3V (pulse)	PI / Sensor intermittent control signal
	22	E2C_SDAT	O	DC 0V/3.3V	Serial communication data output
	23	5.0V1_C1	O	DC 5V	5 V DC Power output
	24	3.3V1_C	O	DC 3.3V	3.3 V DC power source
	25	3.3V3_E	O	DC 3.3V	3.3 V DC power source
	26	3.3V3_E	O	DC 3.3V	3.3 V DC power source
	27	24V0	O	DC 24V	24 V DC power source
	28	3.3V0	O	DC 3.3V	3.3 V DC power source
	29	24V0	O	DC 24V	24 V DC power source
	30	24V0	O	DC 24V	24 V DC power source
	31	LDOUT_2_DP	O	LVDS	Video data
	32	LDOUT_2_DN	O	LVDS	Video data
	33	SH2D	O	DC 0V/3.3V	Sample/Hold signal
	34	GND	-	-	Ground
	35	GND	-	-	Ground
	36	BDN_D	I	DC 0V/3.3V (pulse)	BD signal
	37	GND	-	-	Ground
	38	GND	-	-	Ground
	39	C2P_SDAT	O	DC 0V/3.3V	Panel transmitted data signal
	40	GND	-	-	Ground
	41	C2P_RST_N	O	DC 0V/3.3V	Panel reset signal
	42	P2C_SDAT	I	DC 0V/3.3V	Panel received data signal
	43	P2C_WKUP_RDY	I	DC 0V/3.3V	Ready return trigger signal
	44	ENERGYSAVERKEY_N	I	DC 0V/3.3V	Key input
	45	PVSYNC	I	DC 0V/3.3V	VSYNC
	46	GND	-	-	Ground
	47	ENG_HLDN	O	DC 0V/3.3V	Engine Hold signal

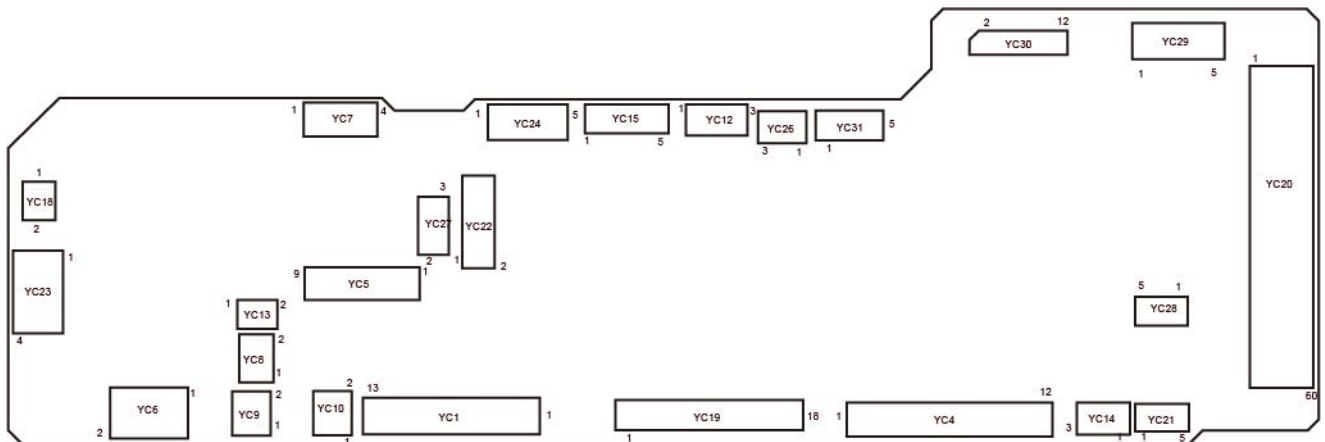
Connector	Pins	Signal	I/O	Voltage	Description
	48	C2E_QUICK_START	O	DC 0V/3.3V	Speed priority return notification signal
	49	E2C_IRN	I	DC 0V/3.3V	G6 interrupt signal
	50	E2C_WKUP_BGD_N	I	DC 0V/3.3V	Engine BGM return trigger
	51	LVU_SLEEP_N	O	DC 0V/3.3V	Sleep mode signal
	52	POWER_SW	I	DC 0V/3.3V	Power switch output signal
	53	GND	-	-	Ground
	54	GND	-	-	Ground
	55	EUSS_EN	I	DC 0V/3.3V	EUSS enable
	56	EUSS_INT	O	DC 0V/3.3V	EUSS interrupt
	57	EUSS_SDO	I	DC 0V/3.3V	EUSS data input
	58	EUSS_CS	I	DC 0V/3.3V	EUSS chip select
	59	EUSS_SDI	O	DC 0V/3.3V	EUSS data output
	60	EUSS_CLK	I	DC 0V/3.3V	EUSS clock
YC33	1	+3.3V	O	DC 3.3V	3.3 V DC Power output
	2	DETECT	I	DC 0V/3.3V	TPM detection signal
	3	SPICLK	O	DC 0V/3.3V (pulse)	Communication clock
	4	RESET	O	DC 0V/3.3V	Reset signal
	5	SPISO	O	DC 0V/3.3V	Communication output data
	6	CSN	O	DC 0V/3.3V	Chip select
	7	SPISI	I	DC 0V/3.3V	Communication input data
	8	GND	-	-	Ground
YS1	-	-	-	-	DIMM (Option)

**(2)Engine PWB**

**(2-1)PWB photograph**



**(2-2)Connector position**



**(2-3)Connector lists****Destination**

- YC1: Power supply PWB
- YC2: Relay-L PWB
- YC4: Drum motor, Main motor
- YC5: Duplex clutch, Conveying clutch, Registration clutch, Paper feed clutch, Developer clutch
- YC6: Interlock switch
- YC7: Cassette size switch
- YC8: MP solenoid
- YC9\*2: Drum heater
- YC10: Power source fan
- YC12: Eject full sensor
- YC13\*1: Lift motor
- YC14\*1: Lift sensor
- YC15: Polygon motor
- YC16: APC PWB
- YC18: Power source switch
- YC19: High voltage PWB
- YC20: Main PWB
- YC21: Thermistor relay PWB
- YC22: Paper feeder (Optional)
- YC23: USB host
- YC26: Exit sensor
- YC27: Developer fan
- YC30: Operation panel PWB
- YC31: Relay-L PWB

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	HEAT2REM	O	DC 0V/3.3V	TH2 remote signal
	2	HEAT1REM	O	DC 0V/3.3V	TH1 remote signal
	3	ZCROSSN	I	DC 0V/3.3V	Zero crossing detection signal
	4	RELAY	O	DC 0V/3.3V	Relay driving signal
	5	PSLEEPN	O	DC 0V/3.3V	Sleep signal
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	+24V0	I	DC 24V	Power input
	11	+24V0	I	DC 24V	Power input
	12	+24V0	I	DC 24V	Power input
	13	+24V0	I	DC 24V	Power input

Connector	Pins	Signal	I/O	Voltage	Description
YC2	1	EECLK	O	DC 0V/3.3V	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	DC 0V/3.3V (pulse)	Communication data
	4	ERASER	O	DC 0V/3.3V	Cleaning lamp: On/Off
	5	+3.3V3_F2	O	DC 3.3V	Power source
	6	TSENS	I	Analog	Toner sensor output signal
	7	SBMDIR	O	DC 0V/3.3V	Eject motor: On/Off
	8	WTSENS	I	Analog	WTS output signal
	9	SBMENBLN	O	DC 0V/3.3V	Enable signal
	10	WTLED	O	DC 0V/3.3V	LED: On/Off
	11	SBMSTEP	O	DC 0V/3.3V (pulse)	Clock signal
	12	MPFSENS	I	DC 0V/3.3V	MP paper sensor: On/Off
	13	SBMMODE	O	DC 0V/3.3V	Mode signal
	14	+3.3V1_PWM_F2	O	DC 3.3V	Power source
	15	TMOT	O	DC 0V/3.3V	Toner motor: On/Off
	16	LFANN	O	DC 0V/3.3V	Center fan: On/Off
	17	FUDR	O	DC 0V/3.3V	Feedshift solenoid: On/Off
	18	ENVMOT	O	DC 0V/3.3V	Fuser pressure release motor: On/Off
	19	FDDR	O	DC 0V/3.3V	Feedshift solenoid: On/Off
	20	DUJAMSEN1N	I	DC 0V/3.3V	Duplex sensor: On/Off
	21	REGSEN2	I	DC 0V/3.3V	Registration sensor 2: On/Off
	22	REARSWN	I	DC 0V/3.3V	Rear cover switch: On/Off
YC4	1	MMOTCW	O	DC 0V/5V	Main motor drive shift signal
	2	MMOTRDYN	I	DC 0V/3.3V	Main motor ready signal
	3	MMOTCLKN	O	DC 0V/5V (pulse)	Main motor clock signal
	4	MMOTONN	O	DC 0V/5V	Main motor: On/Off
	5	GND	-	-	Ground
	6	+24V3_IL_F6	O	DC 24V	Power source
	*1	DMOTCW	O	DC 0V/5V	Drum motor rotation direction
	*1	DMOTRDYN	I	DC 0V/3.3V	Drum motor ready signal
	*1	DMOTCLKN	O	DC 0V/5V (pulse)	Drum motor clock signal
	*1	DMOTONN	O	DC 0V/5V	Drum motor: On/Off
	*1	GND	-	-	Ground
	*1	+24V3_IL_F6	O	DC 24V	Power source
YC5	1	+24V3_IL_F4	O	DC 24V	Power source
	2	DLPCLN	O	DC 0V/3.3V	Developer clutch: On/Off
	3	+24V3_IL_F4	O	DC 24V	Power source
	4	FEEDCLN	O	DC 0V/24V	Paper feed clutch: On/Off
	5	+24V3_IL_F4	O	DC 24V	Power source
	6	REGCLN	O	DC 0V/24V	Registration clutch: On/Off
	7	+24V3_IL_4	O	DC 24V	Power source
	8	MIDCLN	O	DC 0V/24V	Conveying clutch: On/Off
	9	+24V3_IL_F4	O	DC 24V	Power source
	10	DUCLN	O	DC 0V/24V	Duplex clutch: On/Off
YC6	1	+24V0	O	DC 24V	Power source
	2	+24V0_IL	O	DC 24V	Power source
YC7	1	CAS3	I	DC 0V/24V	Cassette size switch: On/Off

Connector	Pins	Signal	I/O	Voltage	Description
	2	CAS2	I	DC 0V/3.3V	Cassette size switch: On/Off
	3	CASSET	-	-	Cassette size switch common signal
	4	CAS1	I	DC 0V/3.3V	Cassette size switch: On/Off
YC8	1	+24V3_IL_F6	O	DC 24V	Power source
	2	MPFSOLN	O	DC 0V/24V	MP solenoid: On/Off
YC9*2	1	+24V0_F1	O	DC 24V	Power source
	2	DHEATER	O		Drum heater: On/Off
YC10	1	+24V0	O	DC 24V	Power source
	2	FANRN	O	DC 0V/24V	Power source fan: On/Off
YC12	1	+3.3V3_F2	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	PAPFULN	I	DC 0V/3.3V	Eject full sensor: On/Off
YC13 *1	1	LIFTMOTOR	O	DC 0V/5V	Lift motor: On/Off
	2	GND	-	-	Ground
YC14 *1	1	+3.3V_F2	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	LSENS	I	DC 0V/3.3V	Lift sensor: On/Off
YC15	1	+24V3_IL_F4	O	DC 24V	Power source
	2	GND	-	-	Ground
	3	PLGDRN	O	DC 0V/5V	Polygon motor: On/Off
	4	PLGRDYN	I	DC 0V/3.3V	Ready signal
	5	POLCLK	O	DC 0V/3.3V (pulse)	Clock signal
YC16	1	+5.0V3_F1	O	DC 5V	Power source
	2	VDATA1P	O	LVDS	Video data 1 signal (+)
	3	VDATA1N	O	LVDS	Video data 1 signal (-)
	4	VDATA2P	O	LVDS	Video data 2 signal (+)
	5	VDATA2N	O	LVDS	Video data 2 signal (-)
	6	SAMPLEN1	O	DC 0V/3.3V	Sample / hold signal 1
	7	SAMPLEN2	O	DC 0V/3.3V	Sample / hold signal 2
	8	OUTPEN	O	DC 0V/3.3V	Laser enable
	9	VCONT1	O	Analog	LD-1 Light volume adjustment
	10	VCONT2	O	Analog	LD-2 Light volume adjustment
	11	GND	-	-	Ground
	12	PDN	I	DC 0V/3.3V (pulse)	Main scanning synchronizing signal
	13	+3.3V3_F2	O	DC 3.3V	Power source
YC18	1	GND	-	-	Ground
	2	POWERSW	I	DC 0V/3.3V	Power source switch: On/Off
YC19	1	ENVSENSN	I	DC 0V/3.3V	Fuser pressure release sensor: On/Off
	2	GND	-	-	Ground
	3	MISENS	I	Analog	MC output signal
	4	MHVCLK	O	DC 0V/3.3V (pulse)	MC clock signal
	5	MACCNT	O	Analog	MC AC control signal
	6	MDCCNT	O	Analog	MC DC control signal
	7	HVCLK	O	DC 0V/3.3V (pulse)	DEV clock signal
	8	BDCNT	O	Analog	DEV DC control signal
	9	BACNT	O	Analog	DEV AC control signal
	10	PAPERSEN2N	I	DC 0V/3.3V	Paper remaining sensor 2: On/Off

Connector	Pins	Signal	I/O	Voltage	Description
	11	PAPERSEN1N	I	DC 0V/3.3V	Paper remaining sensor 1: On/Off
	12	REGSENSN	I	DC 0V/3.3V	Registration sensor: On/Off
	13	DUJAMSEN2N	I	DC 0V/3.3V	Duplex sensor: On/Off
	14	+3.3V3_F2	O	DC 3.3V	Power source
	15	SCNT	O	DC 0V/3.3V	Separation output control signal
	16	TRREM	O	DC 0V/3.3V	TC remote signal
	17	TCNT	O	Analog	TC control signal
	18	+24V3_IL	O	DC 24V	Power source
YC20	1	LDOUT_1_DN	I	LVDS	Video data 1 -
	2	LDOUT_1_DP	I	LVDS	Video data 1 +
	3	SH1D	I	3.3V CMOS	Sample/Hold signal 1
	4	GND	-	-	Ground
	5	+5.0V1_C_WIFI	I	DC 5.0V	Power source for Wi-Fi
	6	WIFI_D+	I/O	LVDS	Wi-Fi input and output data
	7	WIFI_D -	I/O	LVDS	Wi-Fi input and output data
	8	WIFI_INT	O	DC 0V/3.3V	Interrupt signal
	9	GND	-	-	Ground
	10	GND	-	-	Ground
	11	C2E_STBY_ASIC	I	LVC MOS33	Serial communication data output
	12	GND	-	-	Ground
	13	GND	-	-	Ground
	14	USBH_DP2	I/O	LVDS	Front USB HOST data +
	15	USBH_DN2	I/O	LVDS	Front USB HOST data -
	16	VBUS_USBH_2	I	3.3V CMOS	Front USB HOST VBUS
	17	E2C_SDIR	O	LVC MOS33	Serial communication direction signal
	18	E2C_SBSY	O	LVC MOS33	System busy signal
	19	C2E_SDAT	I	LVC MOS33	Serial communication clock signal
	20	C2E_SCK	I	LVC MOS33	Serial communication clock signal
	21	LEDPWM_EN	I	LVC MOS33	Duty control of the PI power supply
	22	E2C_SDAT	O	LVC MOS33	Serial communication data output
	23	+5.0V1_C	I	DC 5.0V	Power source
	24	+3.3V1_C	I	DC 3.3V	Power source
	25	+3.3V3_E	I	DC 3.3V	Power source
	26	+3.3V3_E	I	DC 3.3V	Power source
	27	+24V0	O	DC 24V	Power source
	28	+3.3V0_PM	I	DC 3.3V	Power source
	29	+24V0	O	DC 24V	Power source
	30	+24V0	O	DC 24V	Power source
	31	LDOUT_2_DP	I	LVDS	Video data 2 -
	32	LDOUT_2_DN	I	LVDS	Video data 2 +
	33	SH2D	I	3.3V CMOS	Sample / hold signal 2
	34	GND	-	-	Ground
	35	GND	-	-	Ground
	36	BDN_D	O	3.3V CMOS	Beam Detect
	37	GND	-	-	Ground
	38	GND	-	-	Ground
	39	C2P_SDAT	I	LVC MOS33	Panel transmitted data signal

Connector	Pins	Signal	I/O	Voltage	Description
	40	GND	-	-	Ground
	41	C2P_RST_N	I		Panel reset signal
	42	P2C_SDAT	O	LVC MOS33	Panel received data signal
	43	P2C_WKUP_RDY	O	LVC MOS33	Detecting the panel key pressed
	44	ENERGYSAVERKEY_N	O	LVC MOS33	OK key on the operation panel
	45	PVSYNC	O	LVC MOS33	VSYNC
	46	GND	-	-	Ground
	47	ENG_HLDN	I	3.3V CMOS	Hold to the engine
	48	C2E_QUICK_START	I	LVC MOS33	Speed priority return notification
	49	E2C_IRN	O	LVC MOS33	Engine Interrupt
	50	E2C_WKUP_BGD_N	O	LVC MOS33	Engine BGD return trigger
	51	LVU_SLEEP_N	I	DC 0V/3.3V	LVU energy-saving control
	52	POWER_SW	O	DC 0V/3.3V	Detecting the power switch pressed
	53	GND	-	-	Ground
	54	GND	-	-	Ground
	55	EUSS_EN	O	LVC MOS33	EUSS enable
	56	EUSS_INT	I	LVC MOS33	EUSS interrupt
	57	EUSS_SDO	O	LVC MOS33	EUSS data output
	58	EUSS_CS	O	LVC MOS33	EUSS chip select
	59	EUSS_SDI	I	LVC MOS33	EUSS data input
	60	EUSS_CLK	O	LVC MOS33	EUSS clock
YC21	1	TH3	I	Analog	FUTH2 output signal
	2	TH1	I	Analog	FUTH2 output signal
	3	GND	-	-	Ground
	4	REARFANN	O	DC 24V	Rear fan: On/Off
	5	+24V0_F3	O	DC 24V	Power source
YC22	1	+24V3_F2	O	DC 24V	Power source
	2	OPSDO	O	DC 0V/3.3V (pulse)	PF communication serial data signal
	3	OPSDI	I	DC 0V/3.3V (pulse)	PF communication serial data signal
	4	OPCLK	O	DC 0V/3.3V (pulse)	PF communication serial clock signal
	5	OPRDYN	I	DC 0V/3.3V	Option communication ready signal
	6	+3.3V3_F1	O	DC 3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	O	DC 0V/3.3V	PF select signal
	9	OPSEL1	O	DC 0V/3.3V	PF select signal
	10	OPSEL0	O	DC 0V/3.3V	PF select signal
	11	OPPAUSEN	O	DC 0V/3.3V	Paper stop signal
	12	GND	-	-	Ground
YC23	1	VBUS	O	DC 5V	Power source
	2	UDATAN	I/O	LVDS	USB data signal (-)
	3	UDATAP	I/O	LVDS	USB data signal (+)
	4	GND	-	-	Ground
YC26	1	+3.3V3_F2	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	EXITSENSN	I	DC 0V/3.3V	Exit sensor: On/Off
YC27	1	DFANRN	O	DC 0V/24V	Developer fan: On/Off
	2	+24V0_F3	O	DC 24V	Power source



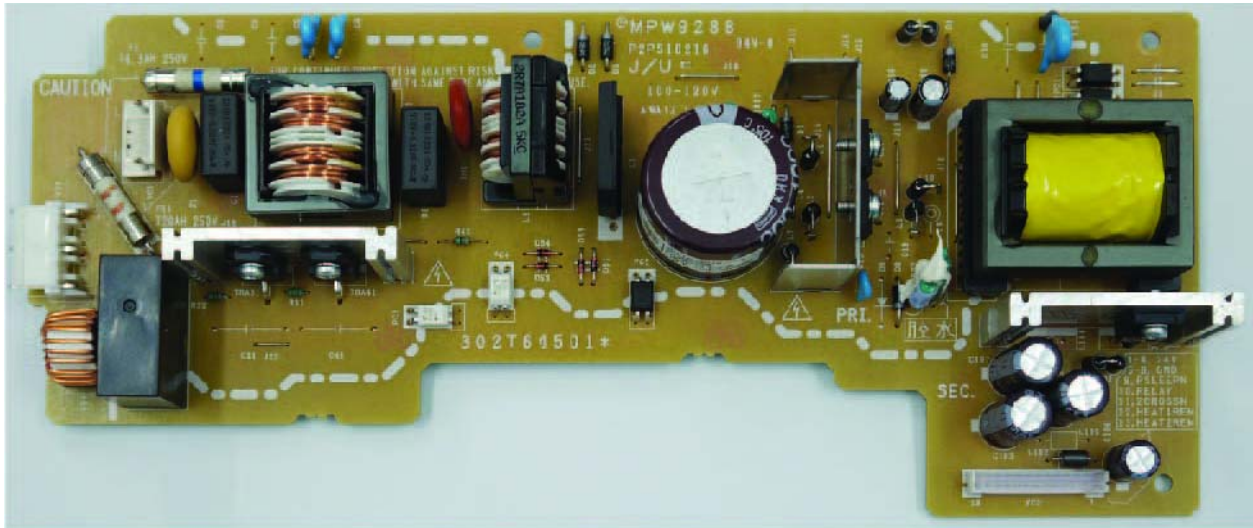
Connector	Pins	Signal	I/O	Voltage	Description
	3	-	-	-	Not used
	4	-	-	-	Not used
YC29 *1	1	VBUS	O	DC 5V	+5.0V1_C_Wi-Fi power source
	2	D-	I/O	LVDS	Wi-Fi USBH_DN signal
	3	D+	I/O	LVDS	Wi-Fi USBH_DP signal
	4	WLAN_INT_N	I	DC 0V/3.3V	Interrupt signal
	5	GND	-	-	Ground
YC30	1	+3.3V1_F1	O	DC 3.3V	Power source
	2	FPRSTN	O	DC 0V/3.3V	Reset signal
	3	GND	-	-	Ground
	4	INT_OK_N	I	DC 0V/3.3V	Pressing the OK key on the operation panel (Return)
	5	AIRTEMP	I	Analog	Temperature sensor input signal
	6	INT_MENU	I	DC 0V/3.3V	Pressing the Menu key on the operation panel (Return)
	7	+5.0V1_F1	O	DC 5V	Power source
	8	P2C_SDAT	I	DC 0V/3.3V	Data signal
	9	AIRWET	I	Analog	Humid sensor input signal
	10	C2P_SDAT	O	DC 0V/3.3V	The data signal between panel main
	11	WETCLK	O	DC 0V/3.3V (pulse)	Humid sensor clock signal
	12	FG	-	-	Ground
YC31	1	+24V0_F3	O	DC 24V	Power source
	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	+24V3_IL_F5	O	DC 24V	Power source
	5	1WIRE	-	-	-

\*1: 50/55/60 ppm model

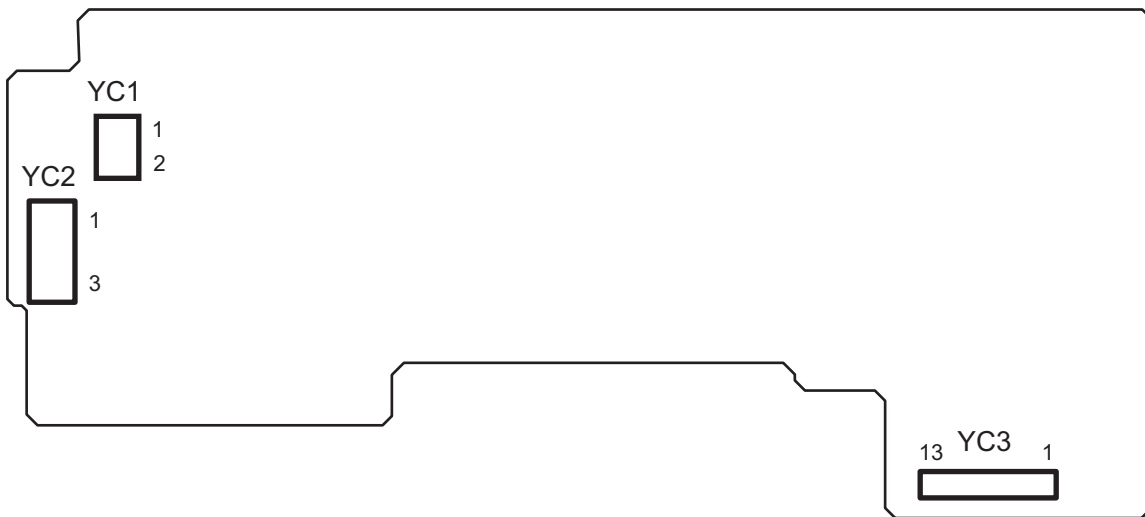
\*2: Drum heater is not available in some destination.

### (3)Power supply PWB

#### (3-1)PWB photograph



#### (3-2)Connector position



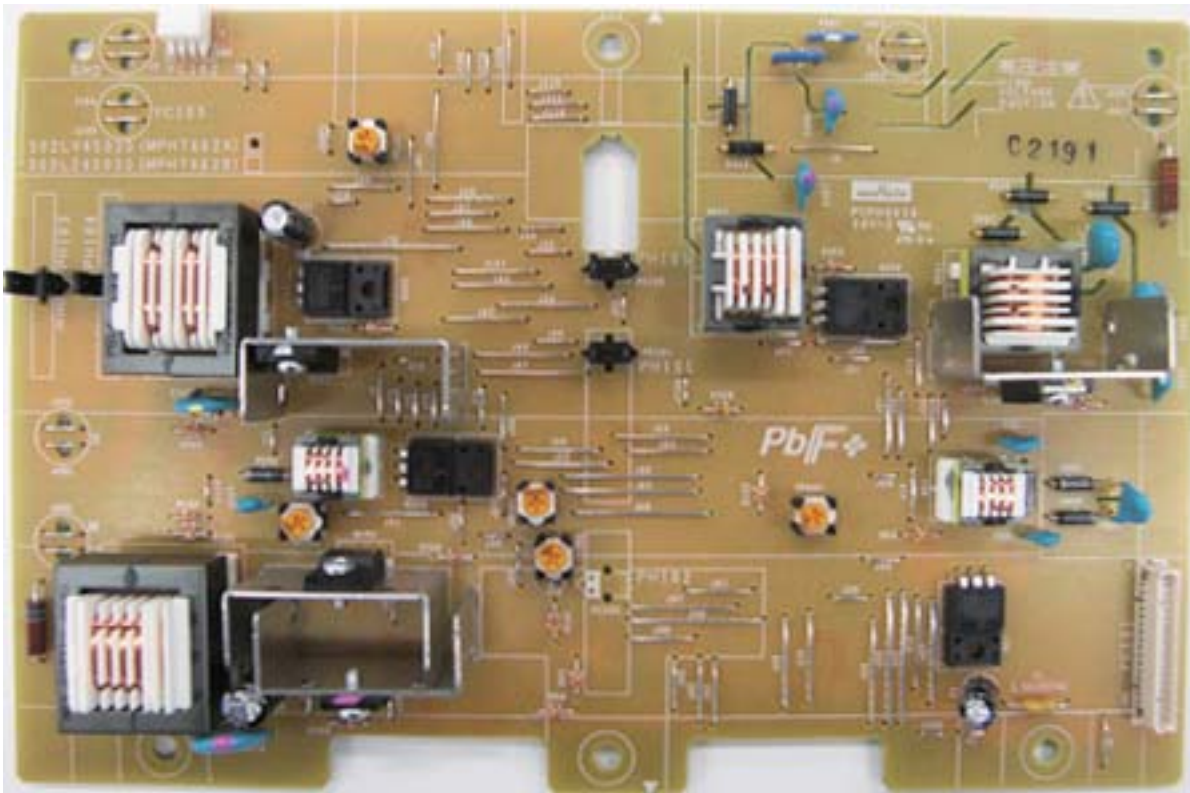
**(3-3)Connector lists****Destination**

- YC1: Inlet
- YC2: Fuser unit
- YC3: Engine PWB

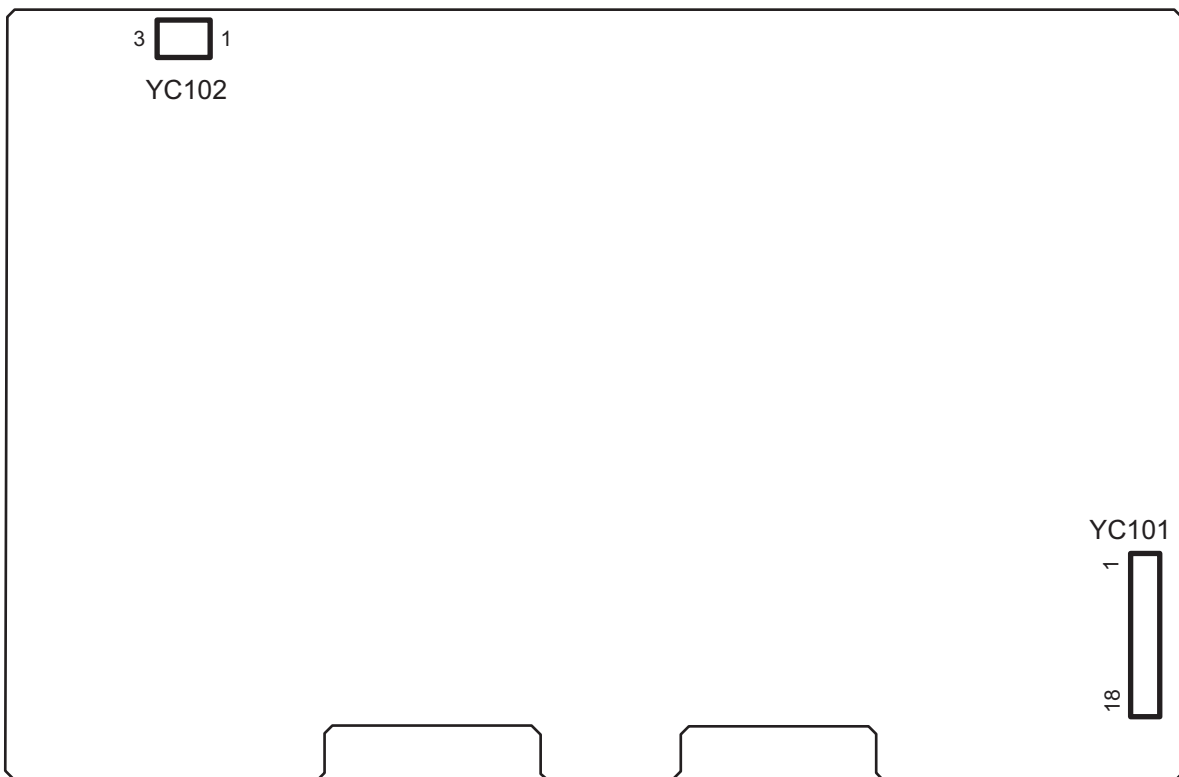
Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	LIVE	I	AC 100V or 230V	AC power input
	2	NEUTRAL	I	AC 100V or 230V	AC power input
YC2	1	NEUTRAL1	I	AC 100V or 230V	Fuser heater
	2	LIVE	O	AC 100V or 230V	AC power source
	3	NEUTRAL2	I	AC 100V or 230V	Fuser heater
YC3	1	+24V0	O	DC 24V	Power source
	2	+24V0	O	DC 24V	Power source
	3	+24V0	O	DC 24V	Power source
	4	+24V0	O	DC 24V	Power source
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	PSLEEPN	I	DC 0V/5V	Sleep mode signal
	10	RELAY	I	DC 0V/5V	Relay control
	11	ZCROSSN	O	DC 0V/5V (pulse)	Zero crossing signal
	12	HEAT1REM	I	DC 0V/24V	Fuser heater control
	13	HEAT2REM	I	DC 0V/24V	Fuser heater control

**(4)High voltage PWB**

**(4-1)PWB photograph**



**(4-2)Connector position**



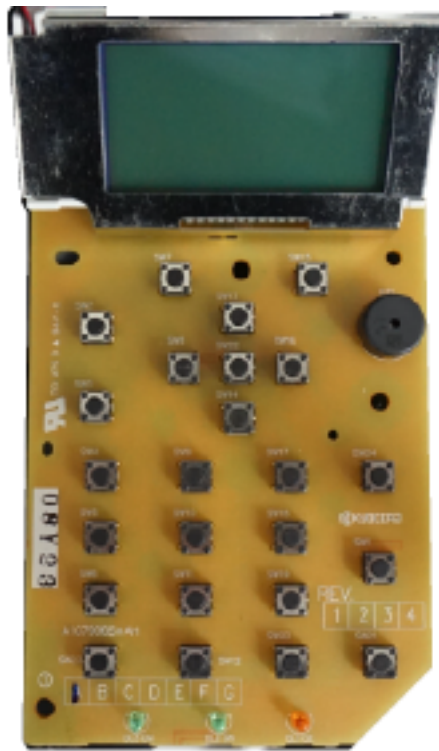
**(4-3)Connector lists****Destination**

- YC101: Engine PWB
- YC102: Fuser pressure release sensor

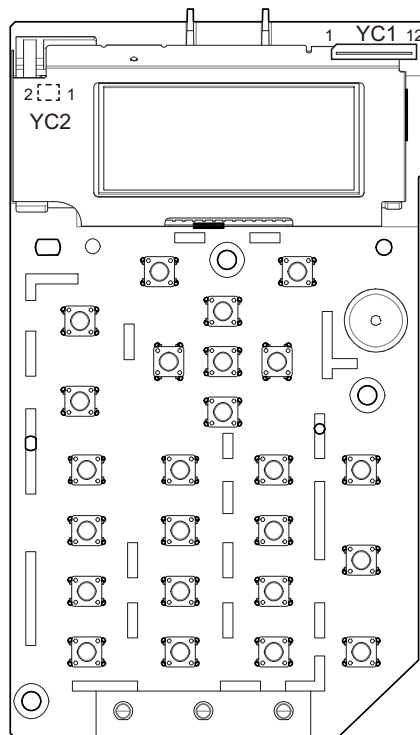
Connector	Pins	Signal	I/O	Voltage	Description
YC101	1	+24V3_IL	O	DC24V	Power source
	2	TCNT	O	AnalogV	Transfer control
	3	TRREM	O	DC 0V/3.3V	Transfer remote signal
	4	SCNT	O	Analog	Separation control
	5	+3.3V3_F2	O	DC 3.3V	Power source
	6	DUJAMSEN2N	I	DC 0V/3.3V	Duplex sensor 2: On/Off
	7	REGSENSN	I	DC 0V/3.3V	Registration sensor: On/Off
	8	PAPERSEN1N	I	DC 0V/3.3V	Paper remaining sensor 1: On/Off
	9	PAPERSEN2N	I	DC 0V/3.3V	Paper remaining sensor 2: On/Off
	10	BACNT	I	Analog	Developer AC control
	11	BDCNT	I	Analog	Developer DC control
	12	HVCLK	O	DC 0V/3.3V	Developer clock signal
	13	MDCCNT	I	Analog	Charger DC control
	14	MACCNT	I	Analog	Charger AC control
	15	MHVCLK	O	DC 0V/3.3V	Charger clock signal
	16	MISENS	O	Analog	Charger current detection
	17	GND	-	-	Ground
	18	ENVSENSN	I	DC 0V/3.3V	Exit sensor: On/Off
YC102	1	+3.3V14	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	ENVSENSN	I	DC 0V/3.3V	Fuser pressure release sensor: On/Off

**(5)Operation panel PWB**

**(5-1)PWB photograph**



**(5-2)Connector position**



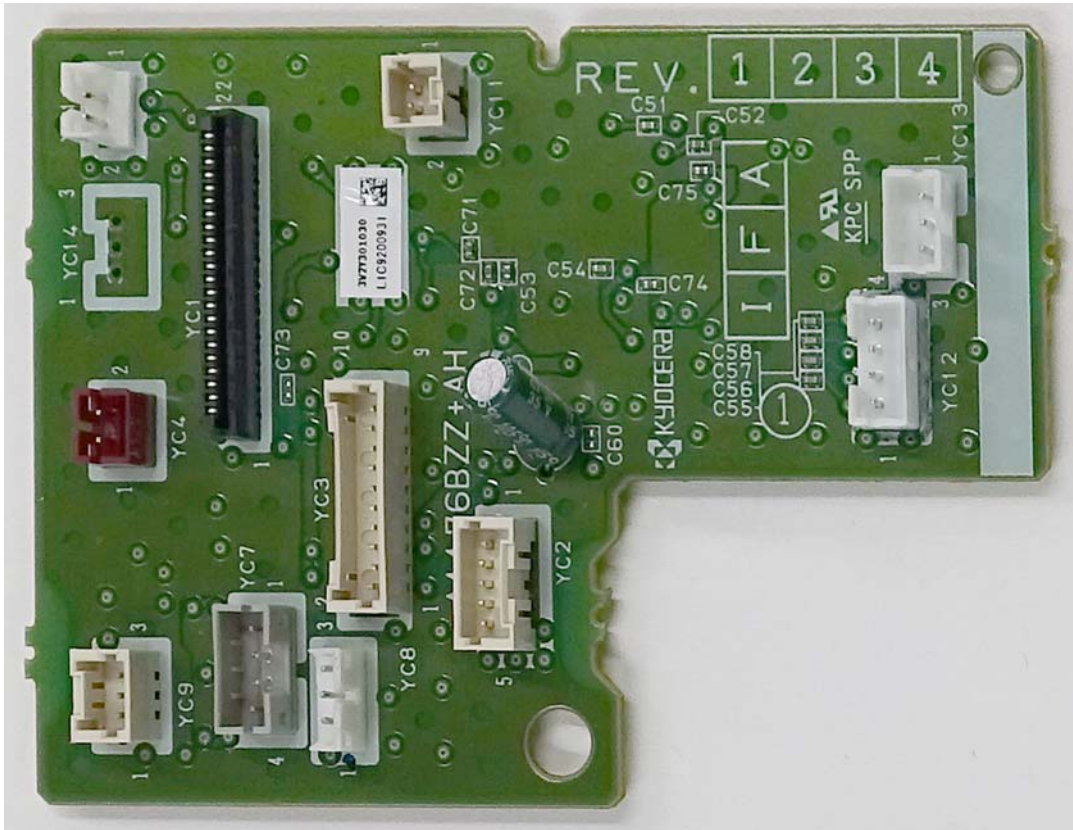
**(5-3)Connector lists****Destination**

- YC1: Engine PWB
- YC2: Backlight PWB

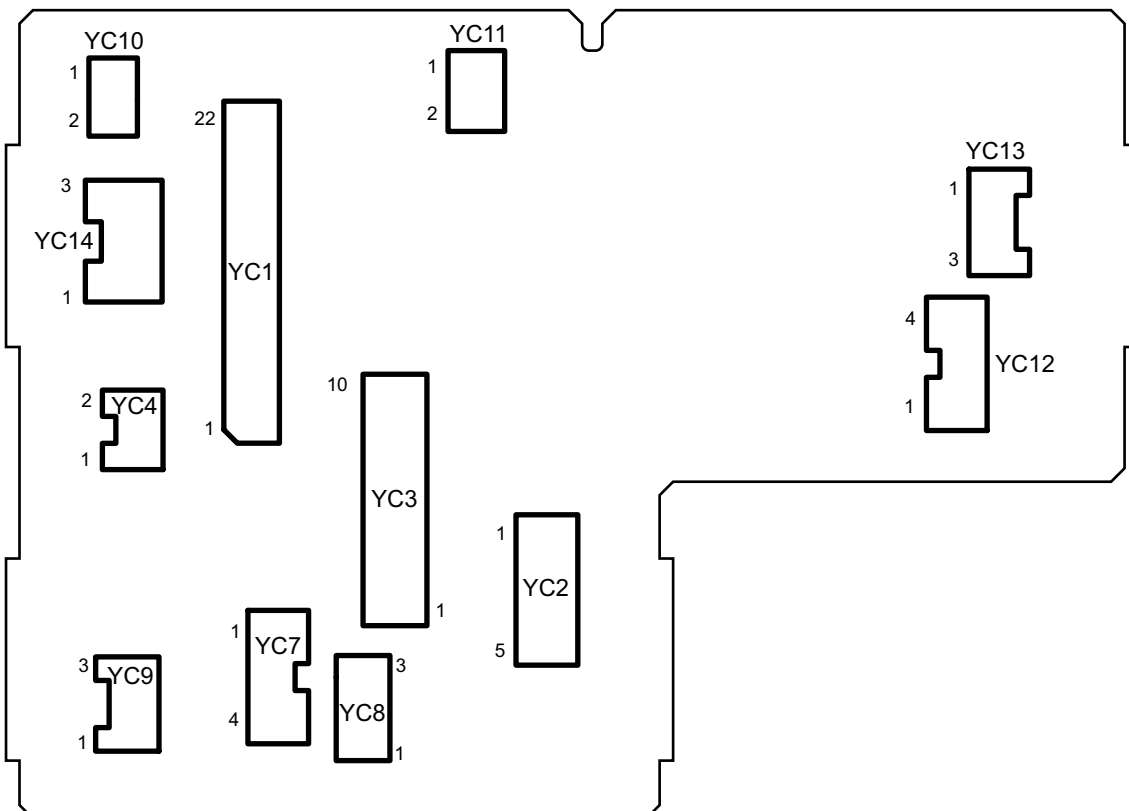
Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+3.3V1_F1	I	DC 3.3V	Power source
	2	FPRSTN	I	DC 0V/3.3V	Reset signal
	3	GND	-	-	Ground
	4	INT_OK_N	O	DC 0V/3.3V	Pressing the OK key on the operation panel (Return)
	5	AIRTEMP	O	Analog	Temperature sensor output signal
	6	INT_MENU	O	DC 0V/3.3V	Pressing the Menu key on the operation panel (Return)
	7	+5.0V1_F1	I	DC 5V	Power source
	8	P2C_SDAT	O	DC 0V/3.3V	Data signal
	9	AIRWET	O	Analog	Humid sensor output signal
	10	C2P_SDAT	I	DC 0V/3.3V	The data signal between panel main
	11	WETCLK	I	DC 0V/3.3V (pulse)	Humid sensor clock signal
	12	FG	-	-	Ground
YC2	1	+5V5	O	DC 5V	Power output
	2	BLIGHT	O	DC 0V/5V	Back light: On/Off

**(6)Relay-L PWB**

**(6-1)PWB photograph**



**(6-2)Connector position**





**(6-3)Connector lists****Destination**

- YC1: Engine PWB
- YC2: Engine PWB
- YC3: Drum connect PWB
- YC4: LSU fan
- YC7: Waste toner sensor
- YC8: MP paper sensor
- YC9\*1: Duplex sensor 1
- YC10: Rear cover switch
- YC11: Fuser pressure release motor
- YC12: Eject motor
- YC13\*1: Feed shift solenoid

\*1: 50/55/60 ppm model

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	EECLK	I	DC 0V/3.3V (pulse)	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	DC 0V/3.3V	Data signal
	4	ERASER	I	DC 0V/3.3V	CL control signal
	5	+3.3V3_F2	I	DC 3.3V	Power input
	6	TSENS	O	Analog	Toner sensor output signal
	7	SBMDIR	I	DC 0V/5V	Eject motor: On/Off
	8	WTSENS	O	Analog	Waste toner sensor output signal
	9	SBMENBLN	I	DC 0V/3.3V	Output control signal
	10	WTLED	I	DC 0V/3.3V	Waste toner LED control
	11	SBMSTEP	I	DC 0V/3.3V	Step signal
	12	MPFSSENS	O	DC 0V/3.3V	MP paper sensor: On/Off
	13	SBMMODE	I	DC 0V/3.3V	Mode control signal
	14	+3.3V1_PWM_F2	I	DC 3.3V	Power input
	15	TMOT	I	DC 0V/3.3V	Toner motor: On/Off
	16	LFANN	I	DC 0V/24V	LSU fan: On/Off
	17	FUDR	I	DC 0V/24V	Feedshift solenoid: On/Off
	18	ENVMOT	I	DC 0V/5V	Fuser pressure release motor: On/Off
	19	FDDR	I	DC 0V/24V	Feedshift solenoid: On/Off
	20	DUJAMSEN1N	O	DC 0V/3.3V	Duplex sensor 1: On/Off
	21	REGSEN2	O	DC 0V/3.3V	Registration sensor 2: On/ Off
	22	REARSWN	O	DC 0V/3.3V	Rear cover switch: On/Off
YC2	1	1WIRE	-	-	-
	2	+24V3_IL_F5	I	DC 24V	Power input
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+24V0_F3	I	DC 24V	Power input
YC3	1	1WIRE	-	-	-
	2	TSENS	I	Analog	TS output signal

Connector	Pins	Signal	I/O	Voltage	Description
YC3	2	+24V3_IL_F5	O	DC 24V	Power source
	3	ERASERN	O	DC 0V/24V	Cleaning lamp: On/Off
	4	EECLK	O	DC 0V/24V (pulse)	Clock signal
	5	EESIO	I/O	DC 0V/3.3V	Data signal
	6	TMOT	O	DC 0V/5V	Toner motor control signal
	7	+3.3V3_E	O	DC 3.3V	Power source
	8	GND	-	-	Ground
	9	REGSEN2	I	DC 0V/3.3V	Registration sensor 2: On/Off
	YC4	1	LFANN	-	DC 0V/24V
2		+24V0_F3	O	DC 24V	Power source
YC7	1	+3.3V12	O	DC 3.3V	Power source
	2	WTLEDN	I	DC 0V/3.3V	Waste toner sensor (LED): On/Off
	3	WTSENS	I	Analog	Output signal
	4	+3.3V3_F2	O	DC 3.3V	Power source
YC8	1	+3.3V1_PWM	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	MPFSENS	I	DC 0V/3.3V	MP paper sensor: On/Off
YC9*1	1	+3.3V3_E	O	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	DUJAMSEN1N	I	DC 0V/3.3V	Duplex sensor 1: On/Off
YC10	1	REARSWN	I	DC 0V/3.3V	Rear cover switch: On/Off
	2	GND	-	-	Ground
YC11	1	ENVMOT	O	DC 0V/5V	Fuser pressure release motor: On/Off
	2	GND	-	-	Ground
YC12	1	OUTB3	O	DC 0V/3.3V	B3 drive control signal
	2	OUTB1	O	DC 0V/3.3V	B1 drive control signal
	3	OUTA3	O	DC 0V/3.3V	A3 drive control signal
	4	OUTA1	O	D C0V/3.3V	A1 drive control signal
YC13*1	1	FACEUDRN	O	DC 0V/24V	Feedshift solenoid: On/Off
	2	+24V6	O	DC 24V	Power source
	3	FACEUDRN	O	DC 0V/24V	Feedshift solenoid: On/Off

\*1: 50/55/60 ppm model



**(1-3)Connector lists****Destination**

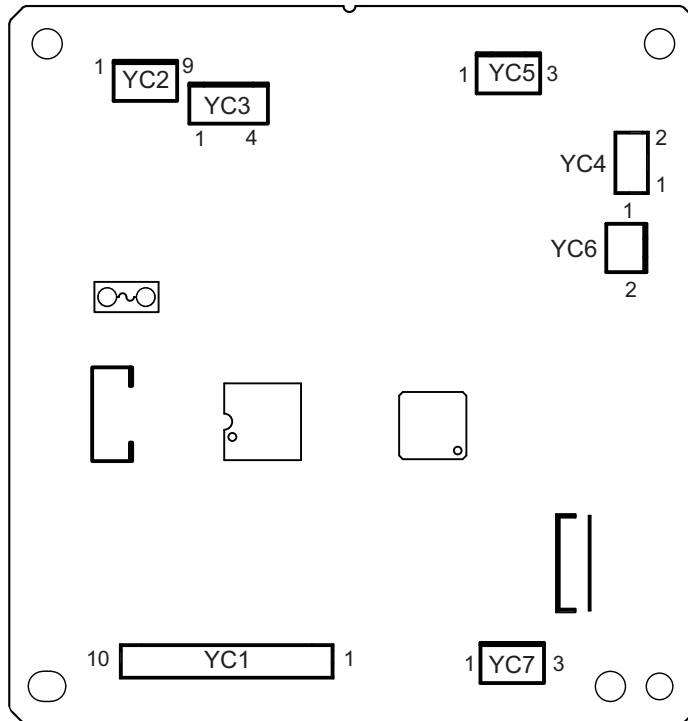
- YC1: PF conveying sensor
- YC2: PF cassette size switch
- YC3: Printer or upper paper feeder
- YC4: Lower paper feeder
- YC6: PF feed motor
- YC7: PF lift motor
- YC8: PF paper feed clutch, PF conveying clutch

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+3.3V2	-	DC 3.3V	Power source
	2	GND	-	-	Ground
	3	OUT	I	DC 0V/3.3V	PF conveying sensor: On/Off
YC2	1	PAPSIZE0	I	DC 0V/3.3V	PF cassette size switch 0: On/Off
	2	PAPSIZE1	I	DC 0V/3.3V	PF cassette size switch 1: On/Off
	3	GND	-	-	Ground
	4	PAPSIZE2	I	DC 0V/3.3V	PF cassette size switch 2: On/Off
YC3	1	+24V1	O	DC 24V	Power source
	2	OPSDO	O	DC 0V/3.3V (pulse)	Synchronous serial receiving data
	3	OPSDI	O	DC 0V/3.3V (pulse)	Synchronous serial send data
	4	OPSCCLK	O	DC 0V/3.3V (pulse)	Synchronous serial clock signal
	5	OPRDYN	-	DC 0V/3.3V	SPI ready signal
	6	+3.3V1	O	DC 3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	I	DC 0V/3.3V	SPI_SEL 2
	9	OPSEL1	I	DC 0V/3.3V	SPI_SEL 1
	10	OPSEL0	I	DC 0V/3.3V	SPI_SEL 0
	11	OPPAUSEN	O	DC 0V/3.3V	PF operation stop signal
	12	GND	I	-	Ground
YC4	1	+24V1	O	DC 24V	Power source
	2	OPSDO	O	DC 0V/3.3V (pulse)	Synchronous serial receiving data
	3	OPSDI	I	DC 0V/3.3V (pulse)	Synchronous serial send data
	4	OPSCCLK	O	DC 0V/3.3V (pulse)	Synchronous serial clock signal
	5	OPRDYN	I	DC 0V/3.3V	SPI ready signal
	6	+3.3V1	O	DC 3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	O	DC 0V/3.3V	SPI_SEL 2
	9	OPSEL1	O	DC 0V/3.3V	SPI_SEL 1
	10	OPSEL0	O	DC 0V/3.3V	SPI_SEL 0
	11	OPPAUSEN	O	DC 0V/3.3V	PF operation stop signal
	12	GND	-	-	Ground
YC6	1	TMDIR	O	DC 0V/3.3V	Rotation direction signal
	2	TMLOCK	I	DC 0V/3.3V	Rotation stable signal

Connector	Pins	Signal	I/O	Voltage	Description
YC6	3	TMCLK	O	DC 0V/3.3V (pulse)	Clock signal
	4	TMDRVN	O	DC 0V/3.3V	Control signal
	5	GND	-	-	Ground
	6	+24V2	-	DC 24V	Power source
YC7	1	GND	-	-	Ground
	2	LMOTOR	O	DC 0V/3.3V	PF lift motor control signal
YC8	1	+24V2	-	DC 24V	Power source
	2	FEEDCLN	O	DC 0V/3.3V	PF conveying clutch control signal
	3	+24V2	-	DC 24V	Power source
	4	TRANSCLN	O	DC 0V/3.3V	PF paper feed clutch control signal

**(2)PF PWB (PF-3100)**

**(2-1)Connector position**



**(2-2)Connector lists**

**Destination**

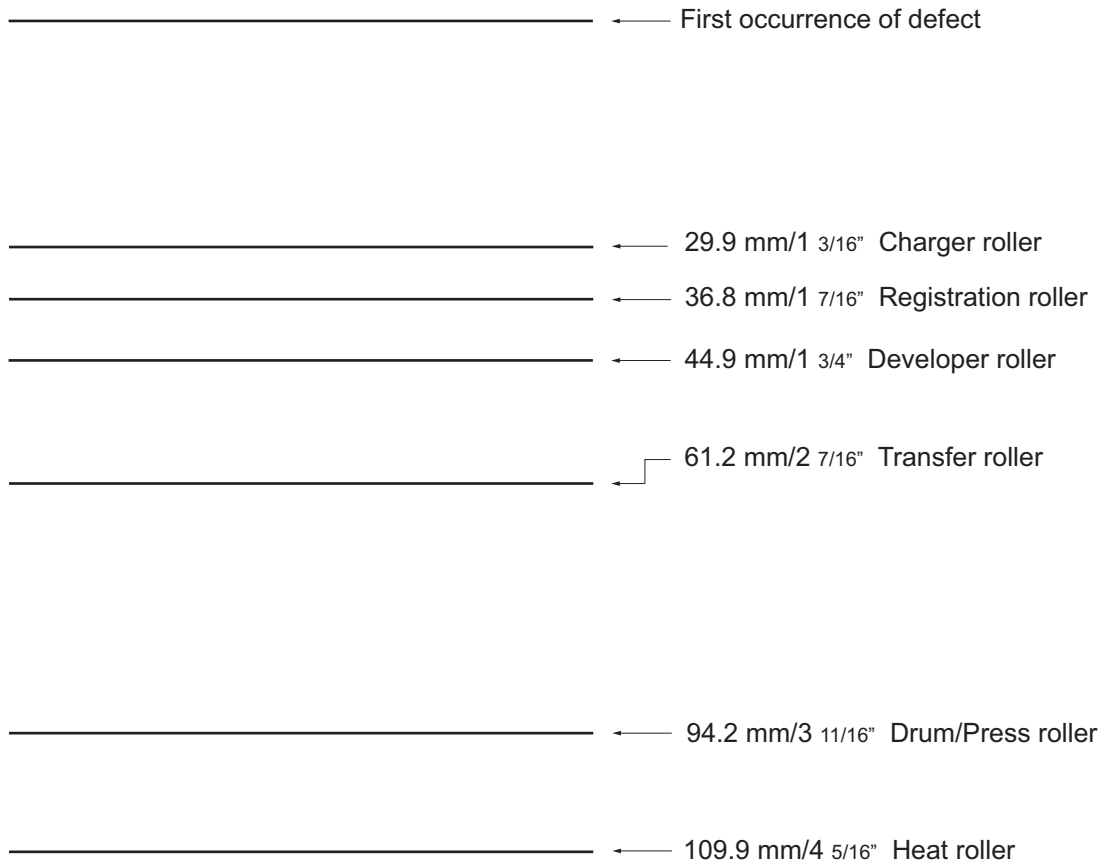
- YC1: Printer
- YC2: PF paper feed sensor
- YC3: PF paper feed motor
- YC4: PF lift motor
- YC5: PF lift upper limit sensor
- YC6: PF cover switch
- YC7: PF lower limit sensor

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+5V	I	DC 5V	Power input
	2	PFSEL2	I	DC 0V/3.3V	PF Select2 signal
	3	PFSEL1	I	DC 0V/3.3V	PF Select1 signal
	4	PFSEL0	I	DC 0V/3.3V	PF Select0 signal
	5	PFRDYN	O	DC 0V/3.3V	Serial Communication signal Ready
	6	PFTxD	I	DC 0V/3.3V	Serial Communication signal Data
	7	PFRxD	O	DC 0V/3.3V	Serial Communication signal Data
	8	PFCLK	I	DC 0V/3.3V(Pulse)	Serial Communication signal Clock
	9	GND	I	-	Ground
	10	+24V	I	DC 24V	Power input
YC2	1	FELED	O	DC 3.3V	Power source
	2	GND	O	-	Ground
	3	FEEDN	I	DC 0V/3.3V	FEED signal

Connector	Pins	Signal	I/O	Voltage	Description
YC3	1	FEED AN	O	DC 0V/24V	Paper feed motor drive output
	2	FEED A	O	DC 0V/24V	Paper feed motor drive output
	3	FEED B	O	DC 0V/24V	Paper feed motor drive output
	4	FEED BN	O	DC 0V/24V	Paper feed motor drive output
YC4	1	MOTOR2	O	DC 0V/24V	PF lift motor drive output
	2	MOTOR1	O	DC 0V/24V	PF lift motor drive output
YC5	1	UPLD	O	DC 3.3V	Power source
	2	GND	O	-	Ground
	3	UPLIMIT	I	DC 0V/3.3V	UPLIMIT signal
YC6	1	GND/3.3V	O	-	Power output
	2	COVER	I	DC 0V/3.3V	COVER signal
YC7	1	DOWNLED	O	DC 3.3V	Power source
	2	GND	O	-	Ground
	3	DWNLIMIT	I	DC 0V/3.3V	DWNLIMIT signal

## 9 Appendixes

### 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.

FRPO INIT command can reset all the FRPO parameters to the default settings of the printer.

(!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 PCL6

!R! FRPO P1, 6; EXIT;

## FRPO parameters

Items	FRPO	Setting value	Factory setting
User top margin integral area	A1	Integer value in inches	0
User top margin decimal area	A2	Fraction value in 1/100 inches	0
User left margin integral area	A3	Integer value in inches	0
User left margin decimal area	A4	Fraction value in 1/100 inches	0
User page length integral area	A5	Integer value in inches	13
User page length decimal area	A6	Fraction value in 1/100 inches	61
User page width integral area	A7	Integer value in inches	13
User page width decimal area	A8	Fraction value in 1/100 inches	61
PRESCRIBE compatible mode	B0	0 to 255	0
Power ON message language selection	B7	0, 1	1
Default pattern resolution	B8	0: 300 dpi 1: Sets pattern resolution as same as system resolution.	0
Default copy number	C0	1 to 999	1
Page orientation	C1	0: Portrait 1: Landscape	0
Default font *1	C2 C3 C5	Middle two digits of power-up font Last two digits of power-up font First two digits of power-up font	0 0 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]* *: 128 or more of the high code section can be printed with any C8 value. But, when setting C8 value to 0, character code 160 is not printed.	0
Print density control	D4	1: Light 2: Slightly light 3: Standard 4: Slightly dark 5: Dark	3
JAM recovery timing	D6	0 to 3	0
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
Panel display unit for custom paper	I3	0 to 255	USA: 255 Others: 0
Sleep timer ON/OFF switch	I5	0, 1	1

Items	FRPO	Setting value	Factory setting
Font cache mode	I6	0 to 39	0
Reduction rate	J0	0: 100% 5: 70 % 6: 81 % 7: 86 % 8: 94 % 9: 98 %	0
KIR	N0	0: OFF 2: ON	2
Duplex printing mode selection	N4	0: OFF 1: Long-edge mode (long-edge bind) 2: Short-edge mode (Short-edge bind)	0
Sleep timer time-out time	N5	1 to 120 minutes	1
Eco Print mode	N6	0: OFF 2: ON	0
Duplex order mode	N7	0 to 99	0
Resolution	N8	1: 600dpi 3: 1200dpi	1
Parallel I/F mode	O0	0: Normal mode 1: High Speed mode 5: Nibble (High) mode 70: Auto mode	70
Parallel I/F control	O2	0 to 99	2
Default emulation mode	P1	6: PCL6 (except PCL XL) 9: KPD 11: PC-PR201 12: IBM 5577 13: VP-1000	9 (USA) 6 (Europe)
Carriage-return action *1	P2	0: Ignores 1: CR 2: CR+LF	1
Linefeed action *1	P3	0: Ignores 1: LF 2: CR+LF	1
AES mode (Auto Emulation Switching)	P4	0 to 3	1 (USA) 0 (Europe)
AES alternative emulation	P5	6: PCL6 (except PCL XL) 9: KPD 11: PC-PR201 12: IBM 5577 13: VP-1000	9 (USA) 6 (Europe)

Items	FRPO	Setting value	Factory setting
AES option 1-After AES is started, the data neither applicable to KPD L nor auto switching (alternate) emulation is processed in KPD L	P7	<p>After AES is started, the data neither applicable to KPD L nor auto switching (alternate) emulation is processed in KPD L.</p> <p>0: AES activated by all the page exit commands.</p> <p>1: None</p> <p>2: AES activated by all the page exit commands and Prescribe EXIT command.</p> <p>3: AES activated by Prescribe EXIT command only.</p> <p>4: AES activated by ^L command only.</p> <p>6: AES activated by Prescribe EXIT command and ^L command.</p> <p>After AES is started, the data neither applicable to KPD L nor auto switching (alternate) emulation is processed in KPD L.</p> <p>10: AES activated by all the page exit commands and Prescribe EXIT command.</p>	11 (USA) 10 (Europe)
Command recognition character	P9	ASCII code of 33 to 126	82(R)
Default stacker	R0	<p>1: Top tray</p> <p>2: Face-up rear output tray</p>	1
Default Paper Size	R2	<p>0: Size of the default paper cassette (See R4.)</p> <p>1: Envelope Monarch</p> <p>2: Envelope #10</p> <p>3: Envelope DL</p> <p>4: Envelope C5</p> <p>5: Executive</p> <p>6: Letter</p> <p>7: Legal</p> <p>8: ISO A4</p> <p>9: JIS B5</p> <p>13: ISO A5</p> <p>14: ISO A6</p> <p>15: JIS B6</p> <p>16: Envelope #9</p> <p>17: Envelope #6-3/4</p> <p>18: ISO B5</p> <p>19 Custom</p> <p>22: A4→A4 98%</p> <p>31: Cardstock</p> <p>32: 20: Oufuku Hagaki</p> <p>33: Oficio II</p> <p>40: 16K</p> <p>42: 8.5x13.5</p> <p>50: Statement</p> <p>51: Folio</p> <p>52: Youkei type 2 (Envelope)</p> <p>53: Youkei type 4 (Envelope)</p>	0
Detailed setting of each emulation behavior	R3	0 to 99	0

Items	FRPO	Setting value	Factory setting
Default paper source	R4	0: Multi Purpose Tray 1: Cassette 1 2: Cassette 2 3: Cassette 3 4: Cassette 4 5: Cassette 5	1
MP tray paper size	R7	Same as the R2 values except: 0	6 (USA) 8 (Europe)
A4/Letter override	S4	0: OFF 1: ON	1
Host buffer size rate (H8 value and integration)	S5	0: 10 KB 1: 100 KB 2: 1 MB	1
RAM disk size	S6	1 to 1024 MB	16
RAM disk mode	S7	0: OFF 1: ON	1
Wide A4	T6	0: OFF 1: ON	0
Line spacing *1	U0	Lines per inch (integer value)	6
Line spacing *1	U1	Lines per inch (fraction value)	0
Character spacing *1	U2	Characters per inch (integer value)	10
Character spacing *1	U3	Characters per inch (fraction value)	0
KPDL binary mode	U4	0 to 2	1
Country code of the resident fonts	U6	0: US 1: France 2: Germany 3: U.K. 4: Denmark 5: Sweden 6: Italy 7: Spain 8: Japan 9: US legal 10: IBM PC-850 (Multi-lingual) 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 (U4 = 52 SET)	41

Items	FRPO	Setting value	Factory setting
Supported symbol sets	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
Default font pitch *1	U8	Integer section of Default font pitch: 0 to 99	10
	U9	Decimal section of Default font pitch: 0 to 99	0
ANK outline font size at start-up*1	V0	Integer value of ANK outline font size at power-up Upper 2-digit/valid value: 00 to 09	0
	V1	Integer value of ANK outline font size at power-up Lower 2-digit/valid value: 00 to 99	12
	V2	Decimal value of ANK outline font size at power-up Valid value: 00, 25, 50, 75	0
ANK outline font name at start-up *1	V3	ANK outline font name at power-up	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
Media type (MP tray)	X0	1: Plain 2: Transparency 3: Preprinted 4: Labels 5: Bond 6: Recycled 7: Vellum 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Cardstock 16: Thick 17: High quality 21 to 28: Custom 1 to Custom 8	1

Items	FRPO	Setting value	Factory setting
Media type (Paper cassettes 1)	X1	1: Plain 3: Preprinted 5: Bond 6: Recycled 9: Letterhead 10: Color 11: Prepunched 17: High quality 21 to 28: Custom 1 to Custom 8	1
Media type (Cassette 2, 3, 4, 5)	X2 X3 X4 X5	1: Plain 3: Preprinted 5: Bond 6: Recycled 8: Letterhead 9: Letterhead 10: Color 11: Prepunched 12: Envelope 17: High quality 21 to 28: Custom 1 to Custom 8	1
Cassette selection mode (PCL)	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
Auto error clear at an error (For errors to clear by pressing [Go] key only)	Y0	0: OFF 1: ON	0
Auto error clear timeout time	Y1	Value in units of 5 seconds (0 to 99).	6 (30 sec)
Heater ON/OFF switch	Y2	0: OFF 1: ON	0
Paper error detection at duplex printing	Y3	0 to 255	127
Forced duplex printing setting (Media type is Preprinted, Prepunched and Letterhead only)	Y4	0: OFF 1: ON	0

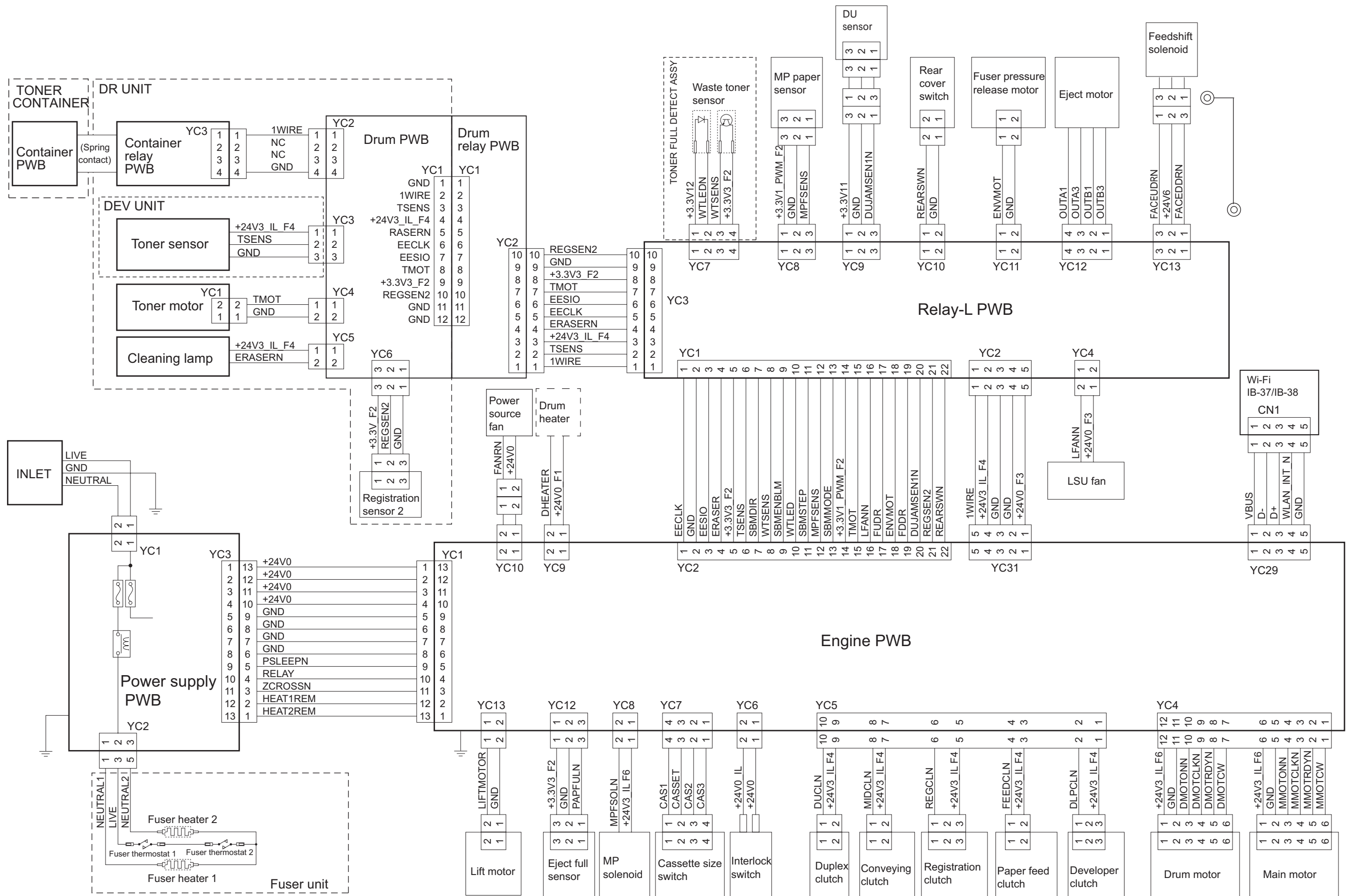
Items	FRPO	Setting value	Factory setting
PDF direct printing	Y5	0: Zoom depending on paper size 1: Loads paper which is the same size as the image 2: Loads Letter, A4 size paper depending on the image size Enlarges or reduces the image to fit in the current paper size 3: Loads Letter, A4 size paper depending on the image size 8: Printed in full magnification 9: Loads Letter, A4 size paper depending on the image size 10: Loads Letter, A4 size paper depending on the image size Enlarges or reduces the image to fit in the current paper size 13-99: The same operation as default value (0).	0
e-MPS error	Y6	0: No error control 1: Output the error list 2: Displays the error 3: Displays the error and prints the error report	3

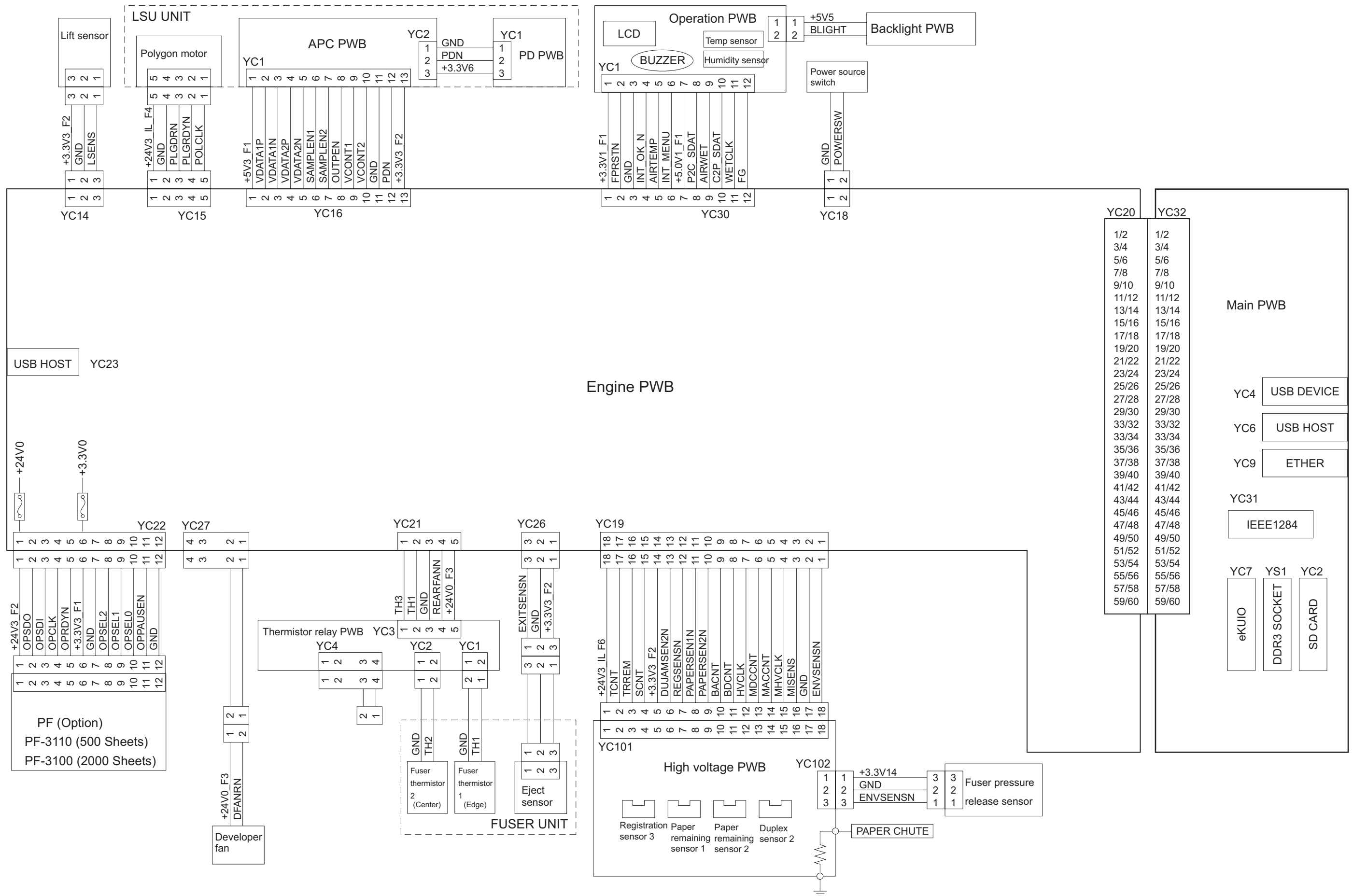
\*1: Ignored depending on emulation



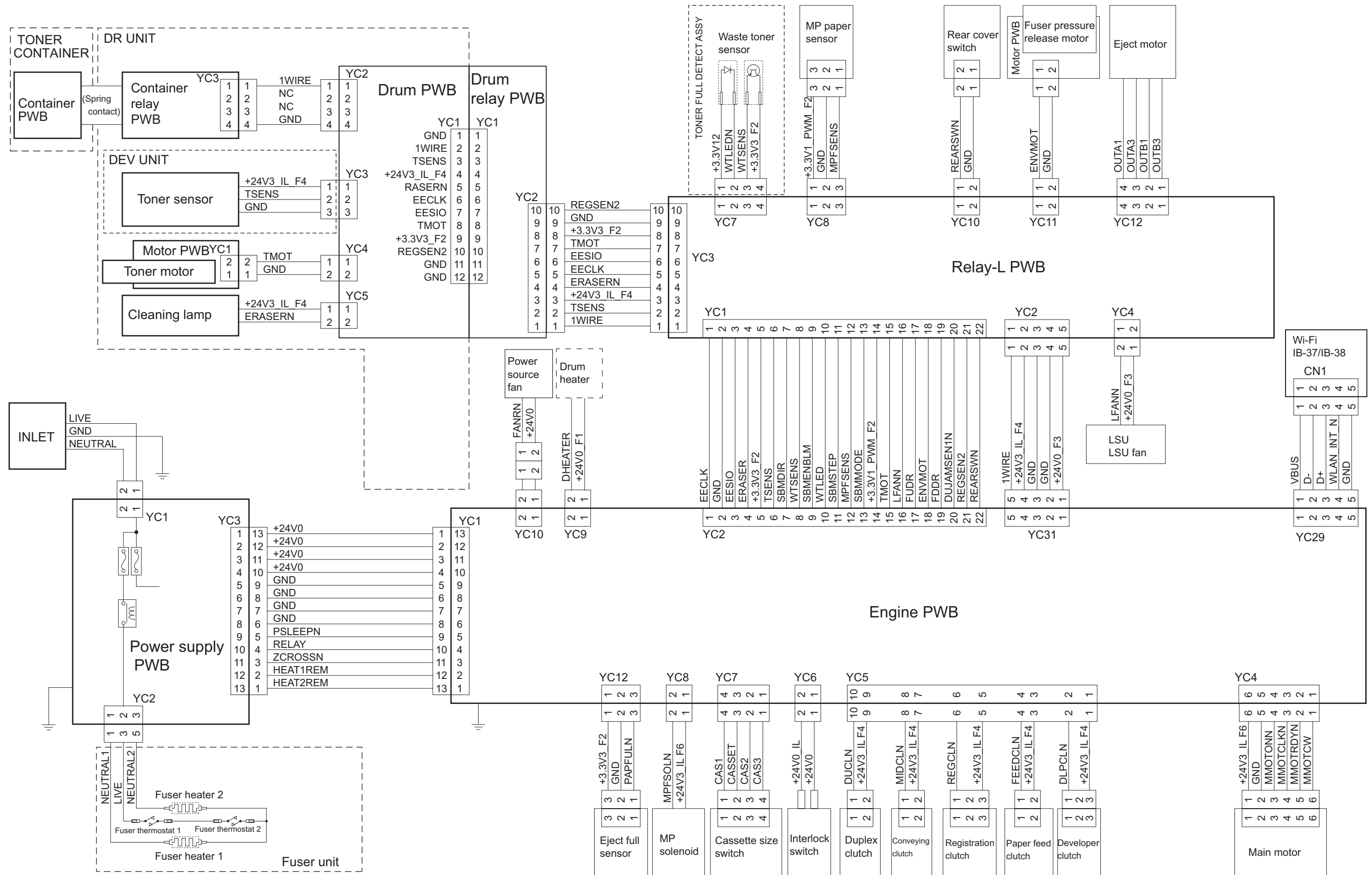
### 9 - 3 Wiring diagram

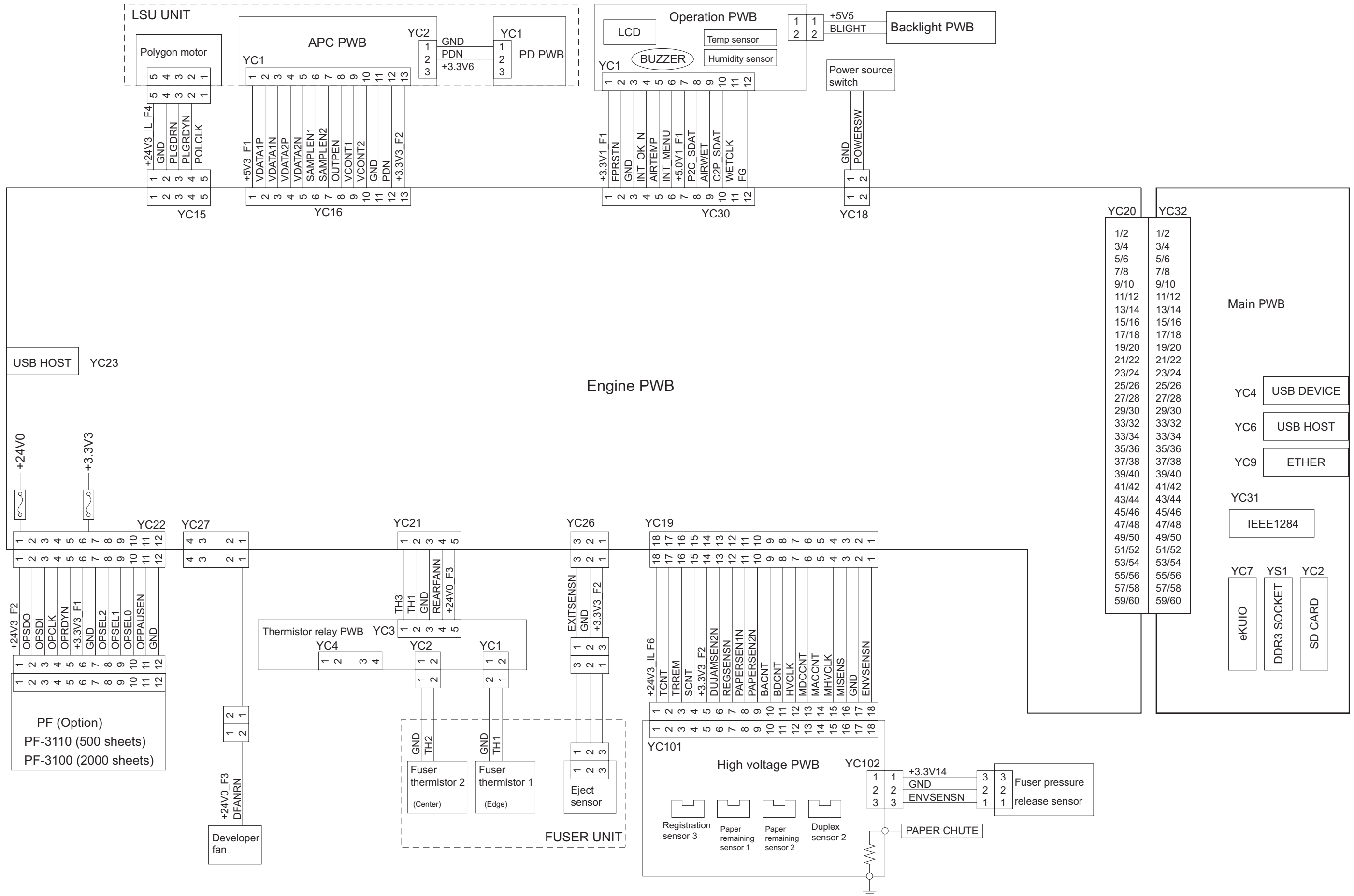
(1)60/55/50 ppm model





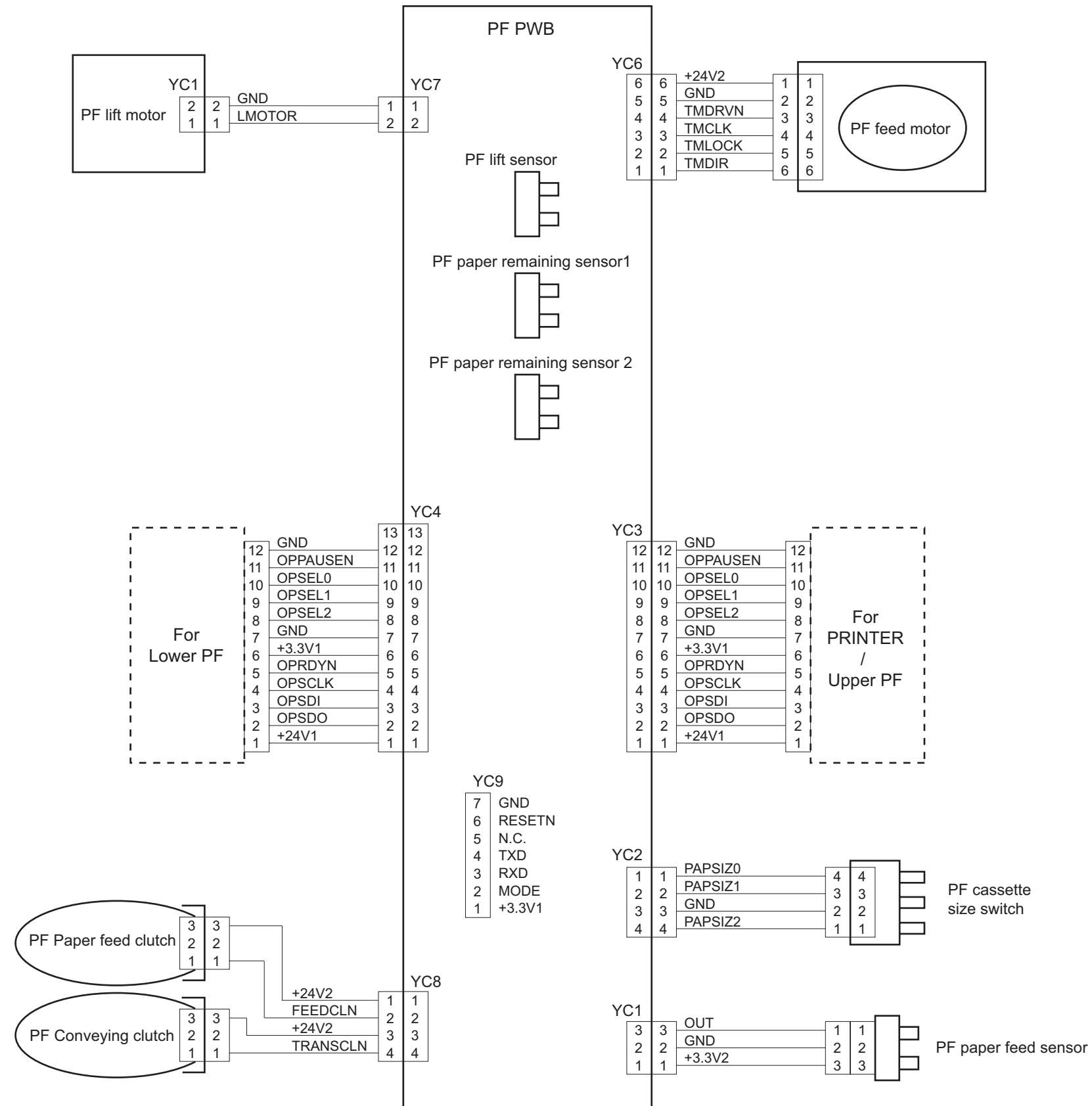
(2)45ppm model



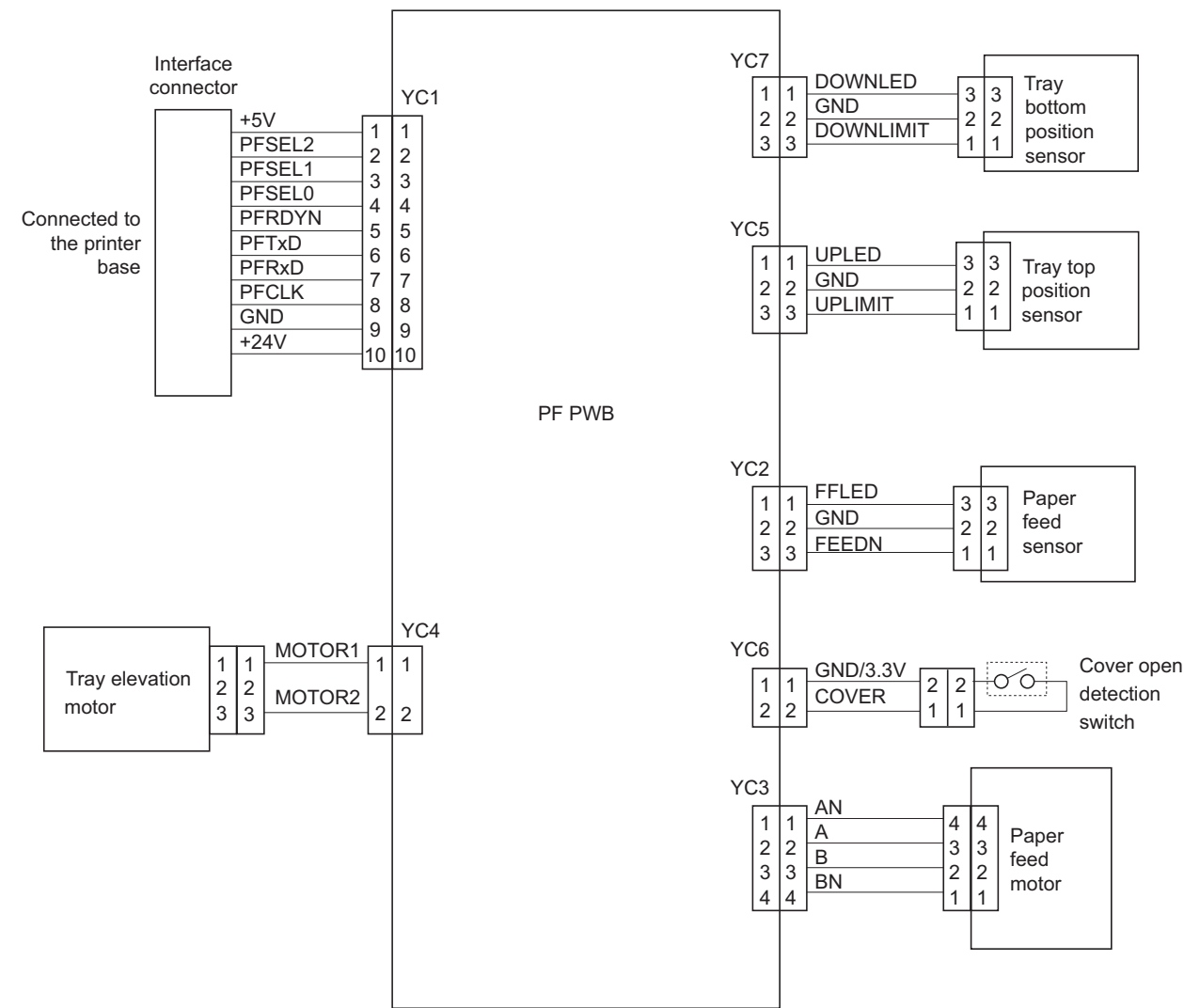


### 9 - 4 Wiring diagram (Enhancement)

#### (1) Paper feeder (PF-3110)

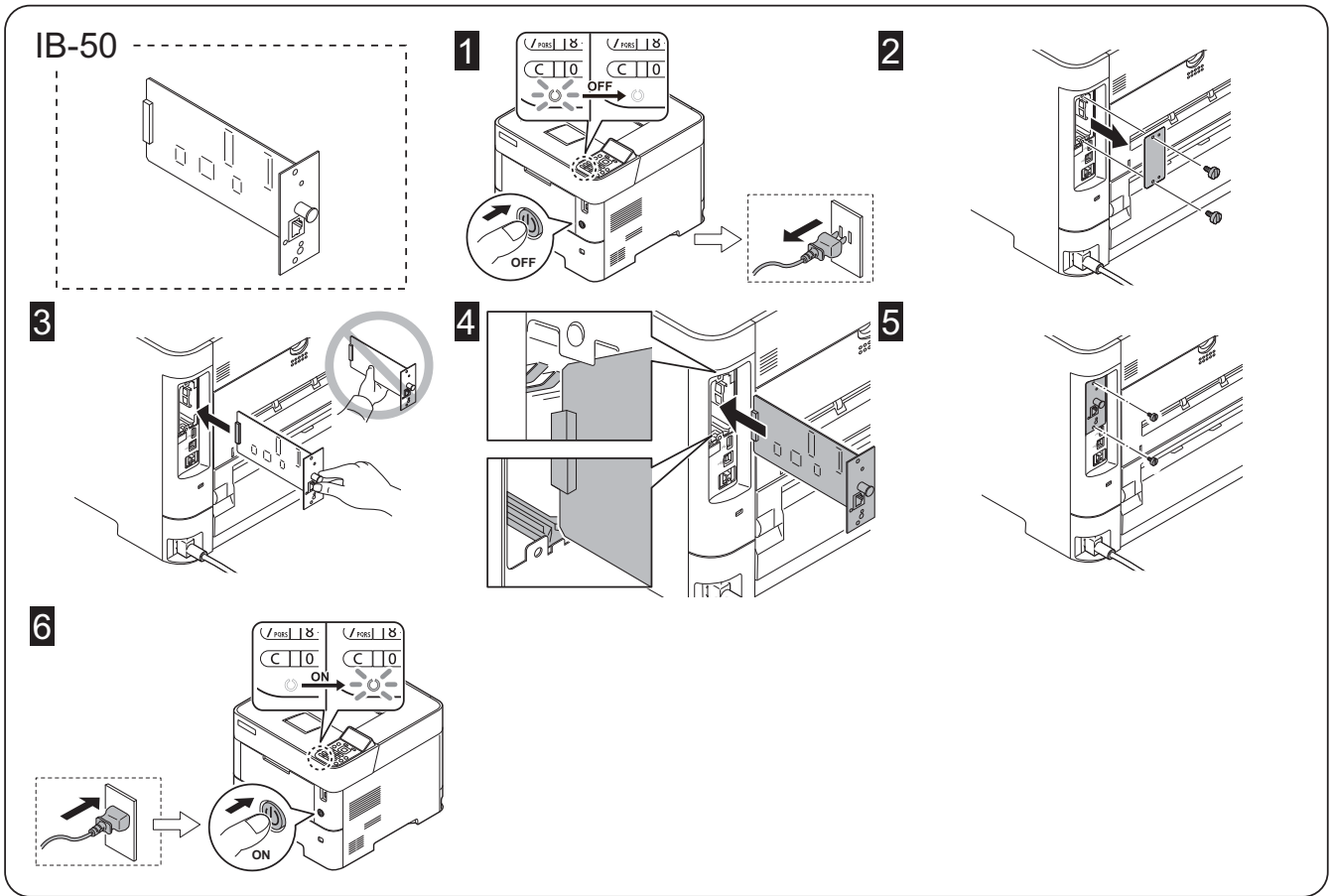


(2) Large Capacity Paper feeder (PF-3100)



# 9 - 5 Installation guide

## (1)IB-50 INSTALLATION GUIDE



**English**

### Optional Network Interface Kit IB-50 Installation Guide

**Introduction**  
The IB-50 is an optional network interface kit for use with the MFPs and the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.  
This network interface kit can be installed in other models using the same installation procedure.

**Packing List**

- IB-50 .....1
- Installation Guide (this guide) .....1
- Setup Guide .....1
- CD-ROM .....1

**Precautions for Handling the Network Interface Kit**  
When handling the network interface kit, adhere to the following precautions.

- The network interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the network interface kit from the bag.
- Never touch the network interface kit's connector section directly with hands.
- When holding the network interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
- Do not apply undue force when installing.

**Installing the Network Interface Kit**  
**CAUTION**  
Before installing (or removing) the network interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

**Verifying Installation of the Network Interface Kit**  
To verify that the network interface kit has been correctly installed, try to print out the status page.  
Refer to the Operation Guide for the method for printing a status page.

**Network settings**  
Refer to the Operation guide for the network settings.

**Français**

### Kit d'interface réseau IB-50 en option Guide d'installation

**Introduction**  
L'IB-50 est un kit d'interface réseau en option destiné à être utilisé avec les imprimantes multifonctions et les imprimantes par page. Veuillez lire entièrement ce guide d'installation et vous assurer que vous comprenez bien les méthodes d'installation.  
Ce kit d'interface réseau peut être installé dans d'autres modèles à l'aide de la même procédure d'installation.

**Contenu de l'emballage**

- IB-50 .....1
- Guide d'installation (ce manuel) .....1
- Guide de mise en service .....1
- CD-ROM .....1

**Précautions de manipulation du kit d'interface réseau**  
Lorsque vous manipulez le kit d'interface réseau, observez les précautions suivantes.

- Le kit d'interface réseau est livré dans un sac antistatique. Avant de le retirer du sac, touchez brièvement un grand objet métallique pour vous décharger de toute électricité statique. Vous éviterez ainsi d'endommager le kit d'interface réseau.
- Ne touchez jamais directement la partie du connecteur du kit d'interface réseau avec les mains.
- Lorsque vous tenez le kit d'interface réseau, ne touchez pas la surface de la carte de circuits imprimés. Saisissez-le par les bords.
- N'appliquez aucune force inutile en l'installant.

**Installation du kit d'interface réseau**  
**ATTENTION**  
Avant d'installer (ou de retirer) le kit d'interface réseau, mettez toujours l'imprimante hors tension et débranchez la fiche du cordon d'alimentation de la prise de courant.

**Vérification de l'installation du kit d'interface réseau**  
Pour vous assurer que le kit d'interface réseau a été correctement installé, essayez d'imprimer la page d'état de l'imprimante.  
Pour connaître la méthode d'impression de la page d'état, consultez le manuel d'utilisation.

**Réglages réseau**  
Pour connaître les réglages réseau, consultez le manuel d'utilisation.

**Español**

### Kit de interfaz de red IB-50 opcional Guía de instalación

**Introducción**  
El IB-50 es un kit de interfaz de red opcional para utilizar con la copiadora e impresora de hojas. Lea completamente esta Guía de instalación de forma que pueda entender los métodos de instalación y operación correctos.  
Este kit de interfaz de red puede instalarse en otros modelos utilizando el mismo procedimiento de instalación.

**Lista del contenido del paquete**

- IB-50 .....1
- Guía de instalación (este folleto) .....1
- Guía de configuración .....1
- CD-ROM .....1

**Precauciones para el manejo del kit de interfaz de red**  
Cuando maneje el kit de interfaz de red, tenga en cuenta las siguientes precauciones.

- El kit de interfaz de red se entrega en una bolsa antiestática. Para evitar cualquier daño, antes de sacar el kit de interfaz de red de la bolsa, toque un objeto metálico grande para descargar la electricidad estática de su cuerpo.
- Nunca toque la sección del conector del kit de interfaz de red directamente con las manos.
- Cuando sostenga el kit de interfaz de red, no toque con las manos la superficie de la placa del circuito impreso. Sujétela por los bordes.
- No aplique demasiada fuerza al realizar la instalación.

**Instalación del kit de interfaz de red**  
**PRECAUCIÓN**  
Antes de instalar (o desmontar) el kit de interfaz de red, asegúrese de desconectar la alimentación de la impresora y de desenchar el cable de alimentación de la toma de corriente de CA.

**Verificación de la instalación del kit de interfaz de red**  
Para verificar que el kit de interfaz de red ha sido instalado correctamente, trate de imprimir la página de estado de la impresora.  
Consulte la Guía de uso para obtener información sobre la impresión de la página de estado de la impresora.

**Configuración de la red**  
Consulte la Guía de uso para obtener información sobre la configuración de la red.

## Deutsch

Optionales Network Interface Kit IB-50  
Installationsanleitung

## Einführung

Das IB-50 ist ein optionales Network Interface Kit zur Verwendung mit den MFPS und den Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren. Dieses Network Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

## Verpackungsinhalt

IB-50 .....	1
Installationsanleitung (diese Anleitung).....	1
Einrichtungsleitfaden .....	1
CD-ROM.....	1

## Vorsichtsmaßnahmen bei der Handhabung des Network Interface Kits

- Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Network Interface Kit.
- Das Network Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung des Network Interface Kits zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Network Interface Kit aus der Verpackung entfernen.
  - Berühren Sie auf keinen Fall die Steckleiste des Network Interface Kits mit bloßen Händen.
  - Achten Sie beim Halten des Network Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Network Interface Kit stets an den Kanten der Platine.
  - Vermeiden Sie übermäßige Kraftanwendung beim Installieren.

## Installation des Network Interface Kits

## VORSICHT

**Achten Sie vor dem Installieren (bzw. Entfernen) des Network Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzkabel von der Netzsteckdose zu trennen.**

## Überprüfung der Installation des Network Interface Kits

Um eine korrekte Installation des Network Interface Kits zu überprüfen, drucken Sie die Statusseite aus. Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.

## Netzwerkeinstellungen

Die Netzwerkeinstellungen finden Sie in der Bedienungsanleitung.

## Italiano

Kit interfaccia di rete IB-50 opzionale  
Guida all'installazione

## Introduzione

IB-50 è un kit interfaccia di rete opzionale per utilizzi con stampanti multifunzione (MFP) e con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione. Questo kit interfaccia di rete può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

## Contenuto della confezione

IB-50 .....	1
Guida all'installazione (la presente guida).....	1
Guida alla configurazione .....	1
CD-ROM.....	1

## Precauzioni d'uso del kit interfaccia di rete

- Durante l'utilizzo del kit interfaccia di rete, adottare le precauzioni che seguono.
- Il kit interfaccia di rete è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere il kit interfaccia di rete dalla custodia.
  - Non toccare la sezione del connettore del kit interfaccia di rete direttamente con le mani.
  - Nell'afferrare il kit interfaccia di rete, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
  - Non esercitare una forza eccessiva durante l'installazione.

## Installazione del kit interfaccia di rete

## ATTENZIONE:

**prima di installare (o di rimuovere) il kit interfaccia di rete, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.**

## Verifica dell'installazione del kit interfaccia di rete

Per verificare che il kit interfaccia di rete sia stato installato correttamente, stampare la pagina di stato. Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.

## Impostazioni di rete

Per le impostazioni di rete, consultare la Guida alle funzioni.

## 简体中文

选装网络接口套件 IB-50  
安装手册

## 前言

IB-50 是一款适用于 MFP 和页式打印机的选装网络接口套件。为了解正确的安装方法，请仔细阅读本《安装手册》。本网络接口套件可通过同样的安装步骤安装到其他机型上去。

## 包装内容列表

IB-50 .....	1
安装手册 (本手册) .....	1
设置手册 .....	1
CD-ROM .....	1

## 使用本网络接口套件的注意事项

- 使用本网络接口套件时，请遵守以下注意事项。
- 本网络接口套件被包装在防静电袋中。将网络接口套件从包装袋中取出之前，请勿触摸大件金属物体以消除静电，以免造成损坏。
  - 请勿直接用手指触摸网络接口套件的连接器部分。
  - 拿取网络接口套件时，请勿接触到电路板的表面。请拿握其边缘。
  - 安装时请不要过于用力。

## 安装本网络接口套件

## 注意：

**安装（或拆卸）本网络接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。**

## 确认本网络接口套件安装正确

为确认本网络接口套件已经正确安装，请尝试打印状态页。有关打印状态页的方法，请参阅《操作手册》。

## 网络设置

有关网络设置的相关信息，请参阅《操作手册》。

## 동봉물

옵션 네트워크 인터페이스 키트 IB-50  
토너 설치 안내서

## 소개

IB-50은 MFP와 페이지 프린터에 사용되는 옵션 네트워크 인터페이스 키트입니다. 본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하시기 바랍니다. 본 네트워크 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치할 수 있습니다.

## 포장 내용물

IB-50 .....	1
토너 설치 안내서 (본 안내서).....	1
설정 안내서.....	1
CD-ROM.....	1

## 네트워크 인터페이스 키트 취급 시 주의사항

네트워크 인터페이스 키트 취급 시, 다음과 같은 주의사항을 지켜주시기 바랍니다.

- 네트워크 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 네트워크 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 먼저 정전기를 방지하시기 바랍니다.
- 네트워크 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
- 네트워크 인터페이스 키트를 잡을 때는, 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
- 설치 시 과도한 힘을 가하지 마십시오.

## 네트워크 인터페이스 키트 설치

## 주의사항

네트워크 인터페이스 키트를 설치(또는 제거)하기 전, 기기의 전원을 끄고 AC 아웃렛에서 전원선을 분리하십시오.

## 네트워크 인터페이스 키트 설치 확인

네트워크 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하시기 바랍니다.

## 네트워크 설정

네트워크 설정에 관련된 정보는 사용설명서를 참고하시기 바랍니다.

## 日本語

オプションネットワークインターフェイスキット IB-50  
インストールガイド

## はじめに

IB-50 は弊社複合機およびプリンター用増設ネットワークです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

## 梱包内容の確認

IB-50 本体 .....	1
インストールガイド(本書) .....	1
セットアップガイド .....	1
CD-ROM .....	1

## 取扱い上の注意

- 本オプションの取り扱いには、以下のことにご注意ください。
- 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
  - 本品のコネクター部分には手を触れないでください。
  - 本品を持つ際は基板の表面に手を触れず、基板の端を持ってください。
  - 装着時は無理な力を加えないでください。

## ネットワークインターフェイスキットの装着

## 注意

**本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。**

## 装着の確認

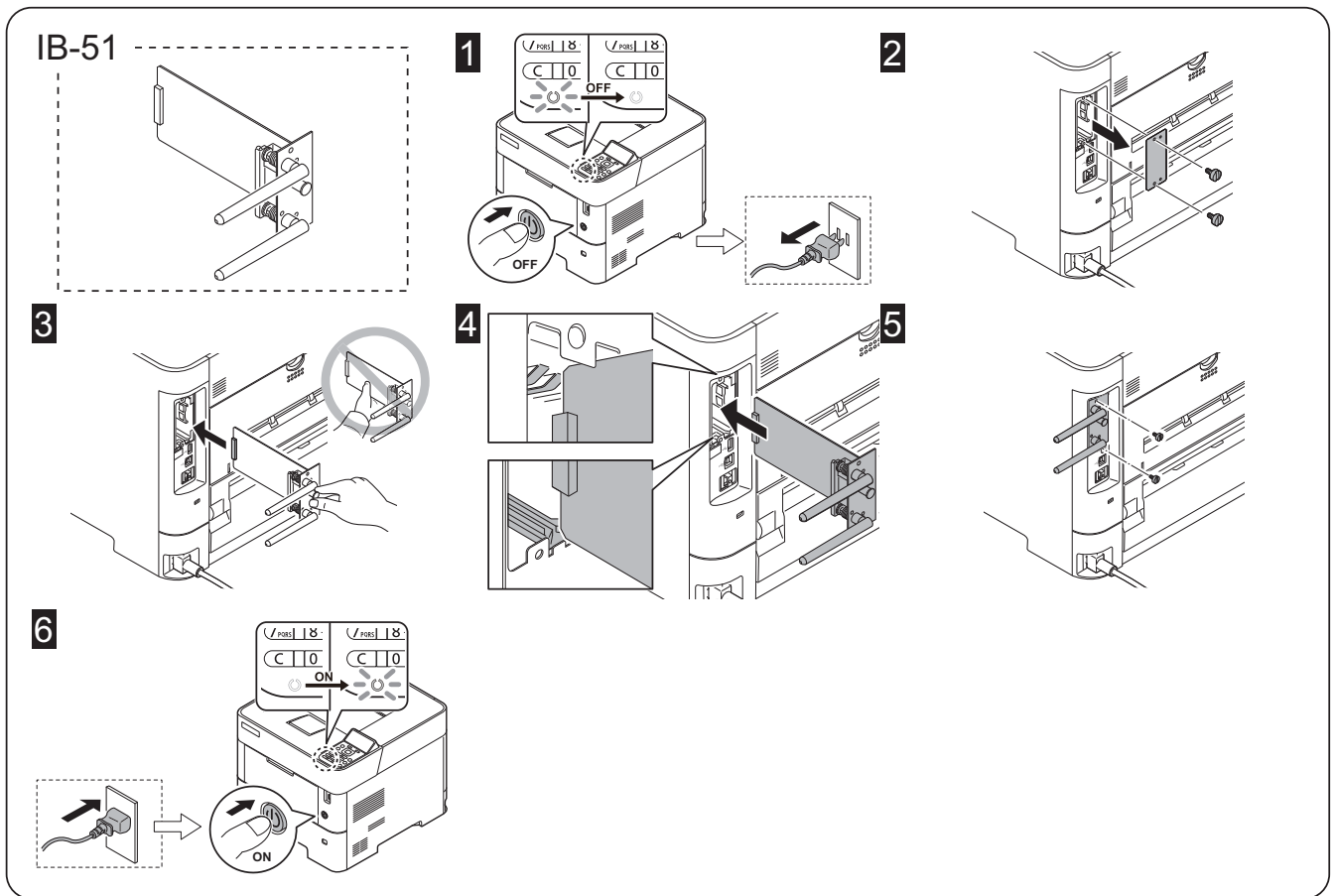
ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。ステータスページの印刷方法は、使用説明書を参照してください。

## ネットワークの設定

ネットワークの設定については、使用説明書を参照してください。



## (2)IB-51 INSTALLATION GUIDE



## English

Optional Wireless Network Interface Kit IB-51  
Installation Guide

## Introduction

The IB-51 is an optional wireless network interface kit for use with the MFPs and the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.

This wireless network interface kit can be installed in other models using the same installation procedure.

## Packing List

IB-51 .....	1
Installation Guide (this guide) .....	1
CD-ROM .....	1

## Precautions for Handling the Wireless Network Interface Kit

When handling the wireless network interface kit, adhere to the following precautions.

- The wireless network interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the wireless network interface kit from the bag.
- Never touch the wireless network interface kit's connector section directly with hands.
- When holding the wireless network interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
- Do not apply undue force when installing.

## Installing the Wireless Network Interface Kit

## CAUTION

Before installing (or removing) the wireless network interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

## Verifying Installation of the Wireless Network Interface Kit

To verify that the wireless network interface kit has been correctly installed, try to print out the status page.

Refer to the Operation Guide for the method for printing a status page.

## Network settings

For the network settings and operation procedure, refer to the printer's Operation Guide and the wireless network interface manual.

## 日本語

オプションワイヤレスネットワーク  
インターフェイスキット IB-51  
インストールガイド

## はじめに

IB-51 は弊社複合機およびプリンター用ワイヤレスネットワークインターフェイスキットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

## 梱包内容の確認

ワイヤレスネットワークインターフェイス本体 .....	1
インストールガイド(本書) .....	1
CD-ROM .....	1

## 取扱い上の注意

本オプションの取り扱いには、以下のことにご注意ください。

- 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
- 本品のコネクター部分には手を触れないでください。
- 本品を持つ際は基板の表面に手を触れず、基板の端を持ってください。
- 装着時は無理な力を加えないでください。

## ワイヤレスネットワークインターフェイスキットの装着

## 注意

本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

## 装着の確認

ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。

ステータスページの印刷方法は、使用説明書を参照してください。

## ネットワークの設定

ネットワークの設定、操作手順については、プリンターの使用説明書とワイヤレスネットワークインターフェイスのマニュアルを参照してください。

## Deutsch

Optionales Wireless Network Interface Kit IB-51  
Installationsanleitung

## Einführung

Das IB-51 ist ein optionales Wireless Network Interface Kit zur Verwendung mit den MFPs und den Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren. Dieses Wireless Network Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

## Verpackungsinhalt

IB-51	1
Installationsanleitung (diese Anleitung)	1
CD-ROM	1

## Vorsichtsmaßnahmen bei der Handhabung des Wireless Network Interface Kits

Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Wireless Network Interface Kit.

- Das Wireless Network Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung des Wireless Network Interface Kits zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Wireless Network Interface Kit aus der Verpackung entfernen.
- Berühren Sie auf keinen Fall die Steckleiste des Wireless Network Interface Kits mit bloßen Händen.
- Achten Sie beim Halten des Wireless Network Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Wireless Network Interface Kit stets an den Kanten der Platine.
- Vermeiden Sie übermäßige Kraftanwendung beim Installieren.

## Installation des Wireless Network Interface Kits

## VORSICHT

Achten Sie vor dem Installieren (bzw. Entfernen) des Wireless Network Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzabel von der Netzsteckdose zu trennen.

## Überprüfung der Installation des Wireless Network Interface Kits

Um eine korrekte Installation des Wireless Network Interface Kits zu überprüfen, drucken Sie die Statusseite aus.

Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.

## Netzwerkeinstellungen

Netzwerkeinstellungen und Betriebsverfahren finden Sie in Bedienungsanleitung und Anleitung vom Wireless Network Interface.

## Italiano

Kit interfaccia di rete wireless IB-51 opzionale  
Guida all'installazione

## Introduzione

IB-51 è un kit interfaccia di rete wireless opzionale per utilizzi con stampanti multifunzione (MFP) e con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione.

Questo kit interfaccia di rete wireless può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

## Contenuto della confezione

IB-51	1
Guida all'installazione (la presente guida)	1
CD-ROM	1

## Precauzioni d'uso del kit interfaccia di rete wireless

Durante l'utilizzo del kit interfaccia di rete wireless, adottare le precauzioni che seguono.

- Il kit interfaccia di rete wireless è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere la kit interfaccia di rete wireless dalla custodia.
- Non toccare la sezione del connettore del kit interfaccia di rete wireless direttamente con le mani.
- Nell'afferrare il kit interfaccia di rete wireless, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
- Non esercitare una forza eccessiva durante l'installazione.

## Installazione del kit interfaccia di rete wireless

## ATTENZIONE:

prima di installare (o di rimuovere) il kit interfaccia di rete wireless, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.

## Verifica dell'installazione del kit interfaccia di rete wireless

Per verificare che il kit interfaccia di rete wireless sia stato installato correttamente, stampare la pagina di stato.

Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.

## Impostazioni di rete

Per le impostazioni di rete e la procedura operativa, consultare la Guida alle funzioni della stampante e il manuale dell'interfaccia di rete wireless.

## Français

Kit d'interface réseau sans fil IB-51 en option  
Guide d'installation

## Introduction

L'IB-51 est un kit d'interface réseau sans fil en option destiné à être utilisé avec les imprimantes multifonctions et les imprimantes par page. Veuillez lire entièrement ce guide d'installation et vous assurer que vous comprenez bien les méthodes d'installation.

Ce kit d'interface réseau sans fil peut être installé dans d'autres modèles à l'aide de la même procédure d'installation.

## Contenu de l'emballage

IB-51	1
Guide d'installation (ce manuel)	1
CD-ROM	1

## Précautions de manipulation du kit d'interface réseau sans fil

Lorsque vous manipulez le kit d'interface réseau sans fil, observez les précautions suivantes.

- Le kit d'interface réseau sans fil est livré dans un sac antistatique. Avant de le retirer du sac, touchez brièvement un grand objet métallique pour vous décharger de toute électricité statique. Vous éviterez ainsi d'endommager le kit d'interface réseau sans fil avec les mains.
- Ne touchez jamais directement la partie du connecteur du kit d'interface réseau sans fil avec les mains.
- Lorsque vous tenez le kit d'interface réseau sans fil, ne touchez pas la surface de la carte de circuits imprimés. Saisissez-le par les bords.
- N'appliquez aucune force inutile en l'installant.

## Installation du kit d'interface réseau sans fil

## ATTENTION

Avant d'installer (ou de retirer) le kit d'interface réseau sans fil, mettez toujours l'imprimante hors tension et débranchez la fiche du cordon d'alimentation de la prise de courant.

## Vérification de l'installation du kit d'interface réseau sans fil

Pour vous assurer que le kit d'interface réseau sans fil a été correctement installé, essayez d'imprimer la page d'état de l'imprimante.

Pour connaître la méthode d'impression de la page d'état, consultez le manuel d'utilisation.

## Réglages réseau

Pour les réglages réseau et la procédure d'utilisation, consultez le manuel d'utilisation de l'imprimante et le manuel de l'interface réseau sans fil.

## Español

Kit de interfaz de red inalámbrica IB-51 opcional  
Guía de instalación

## Introducción

El IB-51 es un kit de interfaz de red inalámbrica opcional para utilizar con la copiadora e impresora de hojas. Lea completamente esta Guía de instalación de forma que pueda entender los métodos de instalación y operación correctos. Este kit de interfaz de red inalámbrica puede instalarse en otros modelos utilizando el mismo procedimiento de instalación.

## Lista del contenido del paquete

IB-51	1
Guía de instalación (este folleto)	1
CD-ROM	1

## Precauciones para el manejo del kit de interfaz de red inalámbrica

Cuando maneje el kit de interfaz de red inalámbrica, tenga en cuenta las siguientes precauciones.

- El kit de interfaz de red inalámbrica se entrega en una bolsa antiestática. Para evitar cualquier daño, antes de sacar el kit de interfaz de red inalámbrica de la bolsa, toque un objeto metálico grande para descargar la electricidad estática de su cuerpo.
- Nunca toque la sección del conector del kit de interfaz de red inalámbrica directamente con las manos.
- Cuando sostenga el kit de interfaz de red inalámbrica, no toque con las manos la superficie de la placa del circuito impreso. Sujétela por los bordes.
- No aplique demasiada fuerza al realizar la instalación.

## Instalación del kit de interfaz de red inalámbrica

## PRECAUCIÓN

Antes de instalar (o desmontar) el kit de interfaz de red inalámbrica, asegúrese de desconectar la alimentación de la impresora y de desenchufar el cable de alimentación de la toma de corriente de CA.

## Verificación de la instalación del kit de interfaz de red inalámbrica

Para verificar que el kit de interfaz de red inalámbrica ha sido instalado correctamente, trate de imprimir la página de estado de la impresora.

Consulte la Guía de uso para obtener información sobre la impresión de la página de estado de la impresora.

## Configuración de la red

Si desea obtener información sobre la configuración de la red y el procedimiento de operación, consulte la Guía de uso y el manual de la interfaz de red inalámbrica.

## 简体中文

选装无线网络接口套件 IB-51  
安装手册

## 前言

IB-51 是一款适用于 MFP 和页式打印机的选装无线网络接口套件。为了解正确的安装方法，请仔细阅读本《安装手册》。

本无线网络接口套件可通过同样的安装步骤安装到其他机型上。

## 包装内容列表

IB-51	1
安装手册（本手册）	1
CD-ROM	1

## 使用本无线网络接口套件的注意事项

使用本无线网络接口套件时，请遵守以下注意事项。

- 本无线网络接口套件被包装在防静电袋中。将无线网络接口套件从包装袋中取出之前，请短暂触摸大件金属物体以消除静电，以免造成损坏。
- 请勿直接用手指触摸无线网络接口套件的连接器部分。
- 拿握无线网络接口套件时，请勿接触到电路板的表面。请拿握其边缘。
- 安装时请勿不要过于用力。

## 安装本无线网络接口套件

## 注意：

安装（或拆卸）本无线网络接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。

## 确认本无线网络接口套件安装正确

为确认本无线网络接口套件已经正确安装，请尝试打印状态页。

有关打印状态页的方法，请参阅《操作手册》。

## 网络设置

有关网络设置的操作方法和步骤，请参阅打印机的《操作手册》和无线网络接口手册。

## 동봉물

옵션 무선 네트워크 인터페이스 키트 IB-51  
토너 설치 안내서

## 소개

IB-51은 MFP와 페이지 프린터에 사용되는 옵션 무선 네트워크 인터페이스 키트입니다. 본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하시기 바랍니다. 본 무선 네트워크 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치될 수 있습니다.

## 포장 내용물

IB-51	1
토너 설치 안내서 (본 안내서)	1
CD-ROM	1

## 무선 네트워크 인터페이스 키트 취급 시 주의사항

무선 네트워크 인터페이스 키트 취급 시, 다음과 같은 주의 사항을 지켜주시기 바랍니다.

- 무선 네트워크 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 무선 네트워크 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 만져서 정전기를 방지하시기 바랍니다.
- 무선 네트워크 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
- 무선 네트워크 인터페이스 키트를 잡을 때는 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
- 설치 시 과도한 힘을 가하지 마십시오.

## 무선 네트워크 인터페이스 키트 설치

## 주의사항

무선 네트워크 인터페이스 키트를 설치(또는 제거)하기 전, 기기의 전원을 끄고 AC 파워트랩에서 전원선을 분리하십시오.

## 무선 네트워크 인터페이스 키트 설치 확인

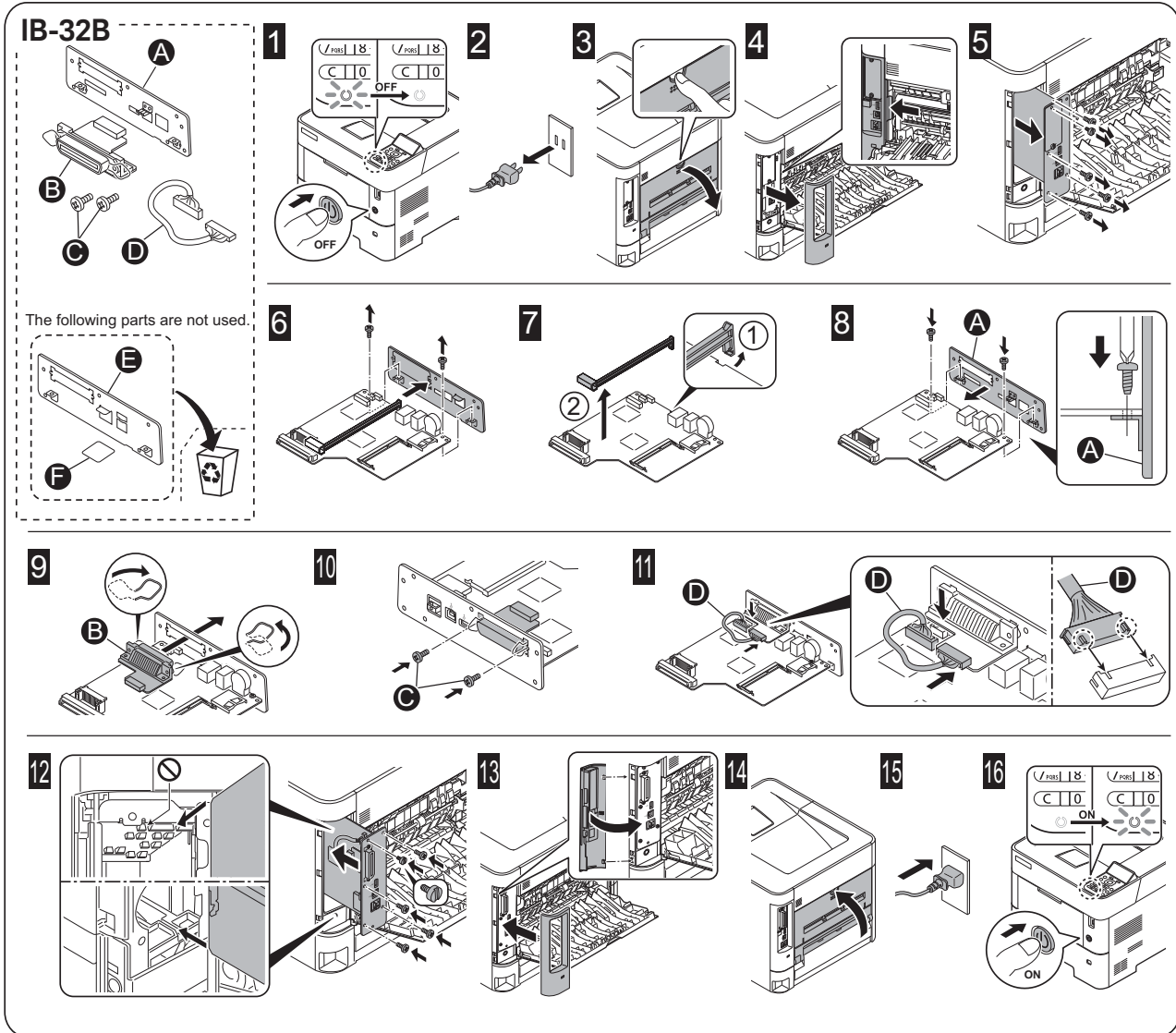
무선 네트워크 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하시기 바랍니다.

## 네트워크 설정

네트워크 설정 및 사용 절차에 관련된 정보는 프린터의 사용설명서와 무선 네트워크 인터페이스 매뉴얼을 참고하시기 바랍니다.

### (3)IB-32B INSTALLATION GUIDE

For European countries and Australia :



**English**

**Optional Parallel Interface Kit IB-32B Installation Guide**

**Introduction**  
The IB-32B is an optional parallel interface kit for use with the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.  
This parallel interface kit can be installed in other models using the same installation procedure.

**Packing List**

IB-32B .....	1
Plate .....	2
Screw .....	2
Relay cable .....	1
Seal .....	1
Installation Guide (this guide) .....	1

- Select a plate and a seal according to the board type of the machine.
- Precautions for Handling the Parallel Interface Kit**  
When handling the parallel interface kit, adhere to the following precautions.
- The parallel interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the parallel interface kit from the bag.
  - Never touch the parallel interface kit's connector section directly with hands.
  - When holding the parallel interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
  - Do not apply undue force when installing.

**Installing the Parallel Interface Kit**  
**CAUTION**  
Before installing (or removing) the parallel interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

**Verifying Installation of the Parallel Interface Kit**  
To verify that the parallel interface kit has been correctly installed, try to print out the status page.  
Refer to the Operation Guide for the method for printing a status page.  
The machine may differ from the illustration depending on the type of your machine but installation procedure is same for every machine.

**Français**

**Kit d'interface parallèle IB-32B en option Guide d'installation**

**Introduction**  
L'IB-32B est un kit d'interface parallèle en option destiné à être utilisé avec les imprimantes par page. Veuillez lire entièrement ce guide d'installation et vous assurer que vous comprenez bien les méthodes d'installation.  
Ce kit d'interface parallèle peut être installé dans d'autres modèles à l'aide de la même procédure d'installation.

**Contenu de l'emballage**

IB-32B .....	1
Plaque .....	2
Vis .....	2
Câble de relais .....	1
Obturbateur .....	1
Guide d'installation (ce manuel) .....	1

- Sélectionner une plaque et un joint en fonction du type de la carte machine.
- Précautions de manipulation du kit d'interface parallèle**  
Lorsque vous manipulez le kit d'interface parallèle, observez les précautions suivantes.
- Le kit d'interface parallèle est livré dans un sac antistatique. Avant de le retirer du sac, touchez brièvement un grand objet métallique pour vous décharger de toute électricité statique. Vous éviterez ainsi d'endommager le kit d'interface parallèle.
  - Ne touchez jamais directement la partie du connecteur du kit d'interface parallèle avec les mains.
  - Lorsque vous tenez le kit d'interface parallèle, ne touchez pas la surface de la carte de circuits imprimés. Saisissez-le par les bords.
  - N'appliquez aucune force inutile en l'installant.

**Installation du kit d'interface parallèle**  
**ATTENTION**  
Avant d'installer (ou de retirer) le kit d'interface parallèle, mettez toujours l'imprimante hors tension et débranchez la fiche du cordon d'alimentation de la prise de courant.

**Vérification de l'installation du kit d'interface parallèle**  
Pour vous assurer que le kit d'interface parallèle a été correctement installé, essayez d'imprimer la page d'état de l'imprimante.  
Pour connaître la méthode d'impression de la page d'état, consultez le manuel d'utilisation.  
La machine peut différer de l'illustration en fonction du type de votre machine, mais la procédure d'installation est la même pour toutes les machines.

**Español**

**Kit de interfaz en paralelo IB-32B opcional Guía de instalación**

**Introducción**  
El IB-32B es un kit de interfaz en paralelo opcional para utilizar con la impresora de hojas. Lea completamente esta Guía de instalación de forma que pueda entender los métodos de instalación y operación correctos.  
Este kit de interfaz en paralelo puede instalarse en otros modelos utilizando el mismo procedimiento de instalación.

**Lista del contenido del paquete**

IB-32B .....	1
Placa .....	2
Tornillo .....	2
Cable de relé .....	1
Sello .....	1
Guía de instalación (este folleto) .....	1

- Seleccione una placa y un precinto de acuerdo con el tipo de tarjeta de la máquina.
- Precauciones para el manejo del kit de interfaz en paralelo**  
Cuando maneje el kit de interfaz en paralelo, tenga en cuenta las siguientes precauciones.
- El kit de interfaz en paralelo se entrega en una bolsa antiestática. Para evitar cualquier daño, antes de sacar el kit de interfaz en paralelo de la bolsa, toque un objeto metálico grande para descargar la electricidad estática de su cuerpo.
  - Nunca toque la sección del conector del kit de interfaz en paralelo directamente con las manos.
  - Cuando sostenga el kit de interfaz en paralelo, no toque con las manos la superficie de la placa del circuito impreso. Sujétela por los bordes.
  - No aplique demasiada fuerza al realizar la instalación.

**Instalación del kit de interfaz en paralelo**  
**PRECAUCIÓN**  
Antes de instalar (o desmontar) el kit de interfaz en paralelo, asegúrese de desconectar la alimentación de la impresora y de desenchufar el cable de alimentación de la toma de corriente de CA.

**Verificación de la instalación del kit de interfaz en paralelo**  
Para verificar que el kit de interfaz en paralelo ha sido instalado correctamente, trate de imprimir la página de estado de la impresora.  
Consulte la Guía de uso para obtener información sobre la impresión de la página de estado de la impresora.  
La máquina puede ser distinta de la mostrada en la ilustración según el tipo de máquina, pero el procedimiento de instalación es el mismo para todas las máquinas.

Deutsch

Optionales Parallel Interface Kit IB-32B  
Installationsanleitung

**Einführung**  
Das IB-32B ist ein optionales Parallel Interface Kit zur Verwendung mit Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren.  
Dieses Parallel Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

**Verpackungsinhalt**

IB-32B .....	1
Platte .....	2
Schraube .....	2
Relaiskabel .....	1
Dichtung .....	1
Installationsanleitung (diese Anleitung).....	1

Wählen Sie eine Platte und eine Dichtung gemäß der Platinenausführung des Geräts.

**Vorsichtsmaßnahmen bei der Handhabung des Parallel Interface Kits**  
Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Parallel Interface Kit.

- Das Parallel Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Parallel Interface Kit aus der Verpackung entfernen.
- Berühren Sie auf keinen Fall die Steckleiste des Parallel Interface Kits mit bloßen Händen.
- Achten Sie beim Halten des Parallel Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Parallel Interface Kit stets an den Kanten der Platine.
- Vermeiden Sie übermäßige Kräfteanwendung beim Installieren.

**Installation des Parallel Interface Kits**

**VORSICHT**  
Achten Sie vor dem Installieren (bzw. Entfernen) des Parallel Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzkabel von der Netzsteckdose zu trennen.

**Überprüfung der Installation des Parallel Interface Kits**  
Um eine korrekte Installation des Parallel Interface Kits zu überprüfen, drucken Sie die Statusseite aus.  
Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.  
Je nach verwendetem Modell kann das Aussehen geringfügig abweichen, jedoch ist die Vorgehensweise zur Installation für jedes Modell gleich.

Italiano

Kit interfaccia parallela IB-32B opzionale  
Guida all'installazione

**Introduzione**  
IB-32B è un kit interfaccia parallela opzionale per utilizzi con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione.  
Questo kit interfaccia parallela può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

**Contenuto della confezione**

IB-32B .....	1
Vassoio .....	2
Vite .....	2
Cavo relè .....	1
Chiusura .....	1
Guida all'installazione (la presente guida).....	1

Selezionare una piastra e un sigillo in base al tipo di scheda della macchina.

**Precauzioni d'uso del kit interfaccia parallela**

- Durante l'utilizzo del kit interfaccia parallela, adottare le precauzioni che seguono.
- Il kit interfaccia parallela è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere il kit interfaccia parallela dalla custodia.
  - Non toccare la sezione del connettore del kit interfaccia parallela direttamente con le mani.
  - Nell'afferrare il kit interfaccia parallela, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
  - Non esercitare una forza eccessiva durante l'installazione.

**Installazione del kit interfaccia parallela**

**ATTENZIONE:**  
prima di installare (o di rimuovere) il kit interfaccia parallela, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.

**Verifica dell'installazione del kit interfaccia parallela**  
Per verificare che il kit interfaccia parallela sia stato installato correttamente, stampare la pagina di stato.  
Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.  
La verifica può essere diversa da quella riprodotta in figura in funzione del tipo di periferica in uso; tuttavia, la procedura di installazione è identica per tutte le periferiche.

简体中文

选装并行接口套件 IB-32B  
安装手册

**前言**  
IB-32B 是一款适用于页式打印机的选装并行接口套件。为了解正确的安装方法，请仔细阅读本《安装手册》。  
本并行接口套件可通过同样的安装步骤安装到其他机型上去。

**包装内容列表**

IB-32B .....	1
板 .....	2
螺钉 .....	2
继电器电缆 .....	1
密封件 .....	1
安装手册（本手册） .....	1

根据机器的电路板类型选择板和密封件。

**使用本并行接口套件的注意事项**

- 使用本并行接口套件时，请遵守以下注意事项。
- 本并行接口套件被包装在防静电袋中。将并行接口套件从包装袋中取出之前，请短暂触摸大件金属物体以消除静电，以免造成损坏。
  - 请勿直接用手触摸并行接口套件的连接器部分。
  - 拿握并行接口套件时，请勿接触到电路板的表面。请拿握其边缘。
  - 安装时请不要过于用力。

**安装本并行接口套件**

**注意：**  
**安装（或拆卸）本并行接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。**

**确认本并行接口套件安装正确**

为确认本并行接口套件已经正确安装，请尝试打印状态页。  
有关打印状态页的方法，请参阅《操作手册》。  
视机器类型而异，机器可能会与图例有所不同，但每台机器的安装步骤相同。

동봉물

옵션 병렬 인터페이스 키트 IB-32B  
토너 설치 안내서

**소개**  
IB-32B는 페이지 프린터에 사용되는 옵션 병렬 인터페이스 키트입니다.  
본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하십시오.  
본 병렬 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치할 수 있습니다.

**포장 내용물**

IB-32B .....	1
플레이트 .....	2
나사 .....	2
릴레이 케이블 .....	1
실 .....	1
토너 설치 안내서 (본 안내서) .....	1

접시와 기계의 보드의 종류에 따라 인장을 선택합니다.

**병렬 인터페이스 키트 취급 시 주의사항**  
병렬 인터페이스 키트 취급 시, 다음과 같은 주의사항을 지켜주시기 바랍니다.

- 병렬 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 병렬 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 먼저 정전기를 방지하십시오.
- 병렬 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
- 병렬 인터페이스 키트를 잡을 때는 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
- 설치 시 과도한 힘을 가하지 마십시오.

**병렬 인터페이스 키트 설치**

**주의사항**  
**병렬 인터페이스 키트를 설치(또는 제거)하기 전, 기기의 전원을 끄고 AC 파워트렛에서 전원선을 분리하십시오.**

**병렬 인터페이스 키트 설치 확인**

병렬 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해 보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하십시오.  
본체는 종류에 따라 그림과 다를 수도 있지만 모든 기기의 설치 절차는 동일합니다.

日本語

オプションパラレルインターフェイスキット IB-32B  
インストールガイド

**はじめに**  
IB-32B は弊社プリンター用パラレルインターフェイスキットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

**梱包内容の確認**

IB-32B 本体 .....	1
プレート .....	2
ネジ .....	2
中継線 .....	1
シール .....	1
インストールガイド(本書) .....	1

基板の形状に応じてプレートおよびシールを選択してください。

**取扱い上の注意**

- 本オプションの取り扱いには、以下のことにご注意ください。
- 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
  - 本品のコネクター部分には手を触れないでください。
  - 本品を持つ際は基板の表面に手を触れず、基板の端を持ってください。
  - 装着時は無理な力を加えないでください。

**パラレルインターフェイスキットの装着**

**注意**  
本オプションの装着（または取り外し）は、プリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

**装着の確認**

ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。  
ステータスページの印刷方法は、使用説明書を参照してください。  
使用される機種によって、イラストと外観が異なることがありますが、交換手順は全機種で同じです。

**(4)PF-3110 INSTALLATION GUIDE**

**(4-1)PF-3110 INSTALLATION GUIDE**

**PF-3110**

Installation Guide

Installationsanleitung

Guide d'installation

Guida all'installazione

Guía de instalación

安装手册

설치안내서

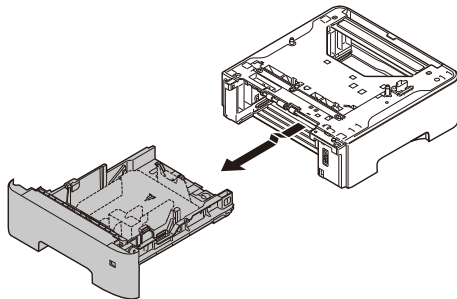
インストールガイド

Installation of PF-3110  
Installation von PF-3110  
Installation de PF-3110

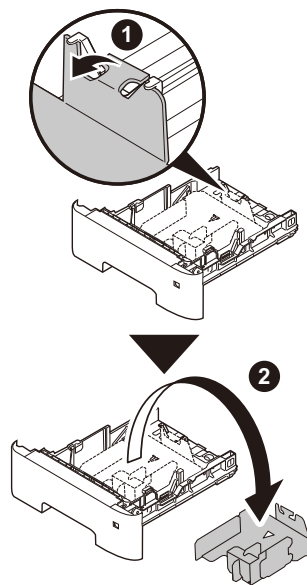
Installazione di PF-3110  
Instalación de PF-3110

PF-3110설치  
PF-3110 的安装  
PF-3110의設置

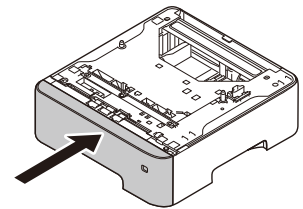
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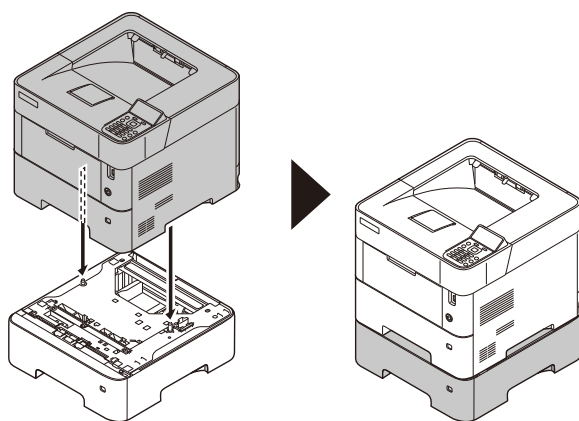
**2**



**3**



**4**

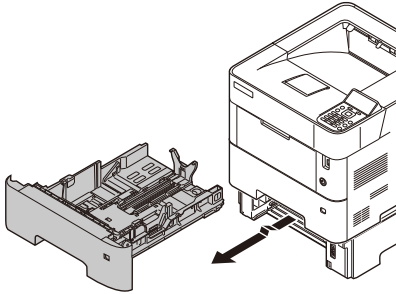


Adjustment of paper size  
 Justage des Papierformats  
 Ajustement de format papier

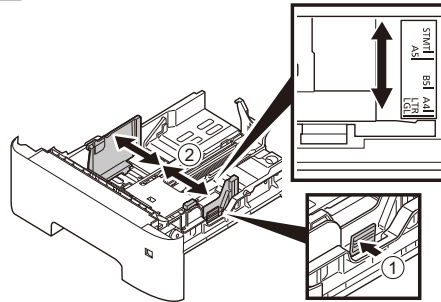
Registrazione del formato carta  
 Ajuste del tamaño del papel

纸张大小的调整  
 용지 크기의 조정  
 用紙サイズの調整

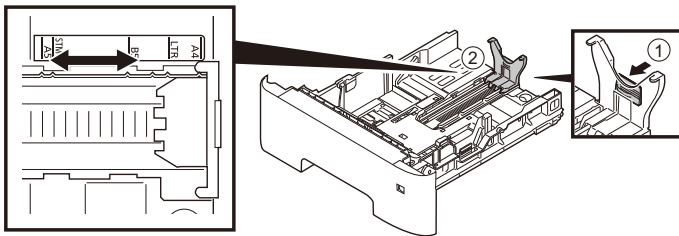
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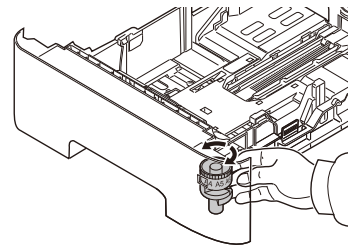
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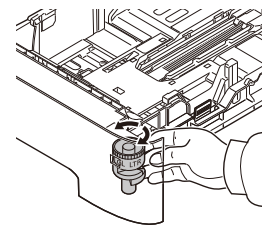
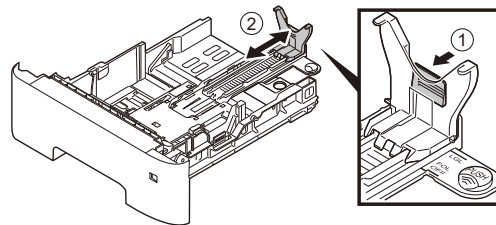
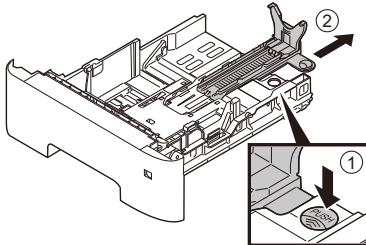
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4



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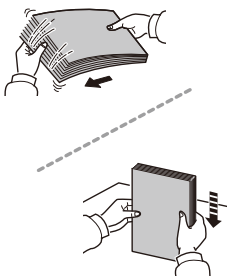


Loading paper  
 Ladenpapier  
 Papier de chargement

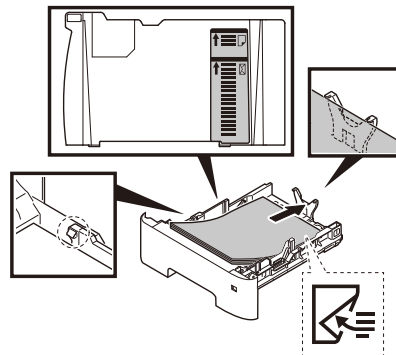
Carta da caricamento  
 Papel del cargamento  
 Загрузка бумаги

装紙  
 용지 적재  
 用紙のセット

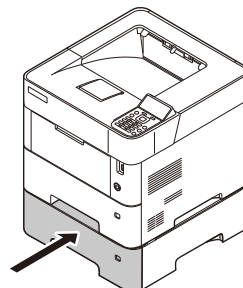
1



2



3



**(4-2)FIXING BRACKET MOUNTING PROCEDURE (PF-3110)****Fixing bracket mounting procedure****Procédure de montage du support de fixation****Procedimiento de montaje de las abrazaderas de fijación****Vorgehen zum Installieren der Verbinder****Procedura di montaggio delle staffe di fissaggio****固定支架安装步骤****고정 브래킷 장착 절차****固定金具取付手順書**

The illustrations may vary depending on the product, but the installation procedure is the same.

**CAUTION:**

- To install four Paper Feeders (PF-3110), the Castor kit (CA-3100) must always be installed.
- When installing a Paper Feeder (PF-3110), the paper feeders must be fixed to the machine, and to each other, with the provided brackets.

Les illustrations peuvent varier en fonction du produit, mais la procédure d'installation est la même.

**ATTENTION:**

- Pour installer quatre chargeurs de papier (PF-3110), le kit roulettes (CA-3100) doit toujours être installé.
- Lors de l'installation d'un chargeur de papier (PF-3110), les chargeurs de papier doivent être fixés à la machine, et les uns aux autres, avec les supports fournis.

Las ilustraciones pueden variar según el producto, pero el procedimiento de instalación es el mismo.

**PRECAUCIÓN:**

- Para instalar cuatro depósitos de papel (PF-3110), se debe instalar siempre el kit de ruedas (CA-3100).
- Cuando se instala un depósito de papel (PF-3110), los depósitos de papel se deben fijar a la máquina y entre sí con las abrazaderas suministradas.

Die Abbildungen können in Abhängigkeit des verwendeten Produkts unterschiedlich sein, der Installationsvorgang ist jedoch gleich.

**VORSICHT:**

- Um vier Papierzufuhren (PF-3110) anzuschließen, muss immer das Standfuß-Kit (CA-3100) installiert sein.
- Wenn die Papierzufuhr (PF-3110) installiert ist, müssen die Papierzufuhren am Gerät und auch untereinander mit den gelieferten Verbindern befestigt werden.

Le figure possono variare in funzione del prodotto mentre la procedura di installazione è la stessa.

**ATTENZIONE:**

- Installare sempre il kit rotelle (CA-3100) quando si installano 4 cassette carta (PF-3110).
- Quando si installa un cassetto carta (PF-3110), fissare i cassette carta al sistema e tra di loro con le staffe.

插图可能因产品而异，但安装步骤相同。

**注意:**

- 安装四个供纸盒 (PF-3110) 时，必须安装脚轮组件 (CA-3100)。
- 安装供纸盒 (PF-3110) 时，必须用附带的支架将供纸盒固定至机器并将它们互相固定。

그림은 제품에 따라 다를 수 있지만 설치 절차는 동일합니다.

**주의:**

- 4대의 용지 급지대(PF-3110)를 설치하려면 캐스터 키트(CA-3100)를 항상 설치해야 합니다.
- 용지 급지대(PF-3110)를 설치할 때 제공된 브래킷으로 용지 급지대를 본체에 고정하고 급지대 간에도 서로 고정해야 합니다.

イラストは製品によっては異なる場合がありますが、取り付け手順は同じです。

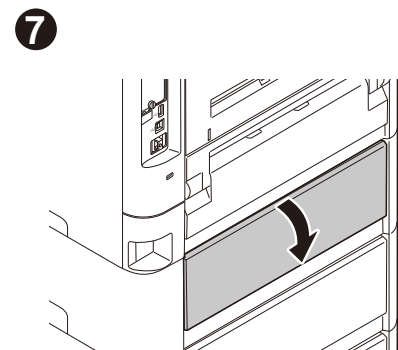
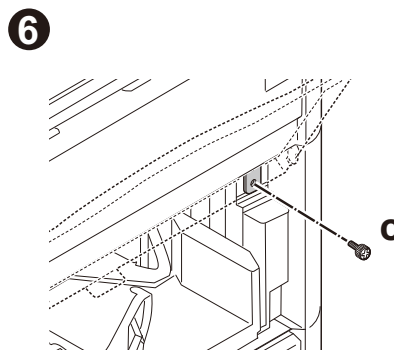
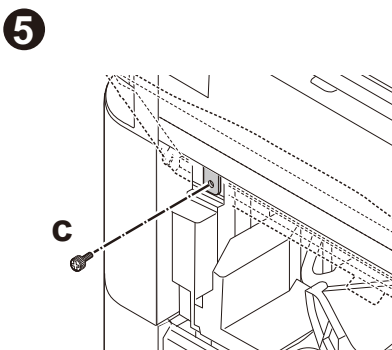
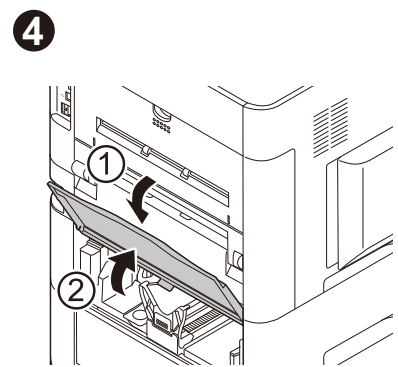
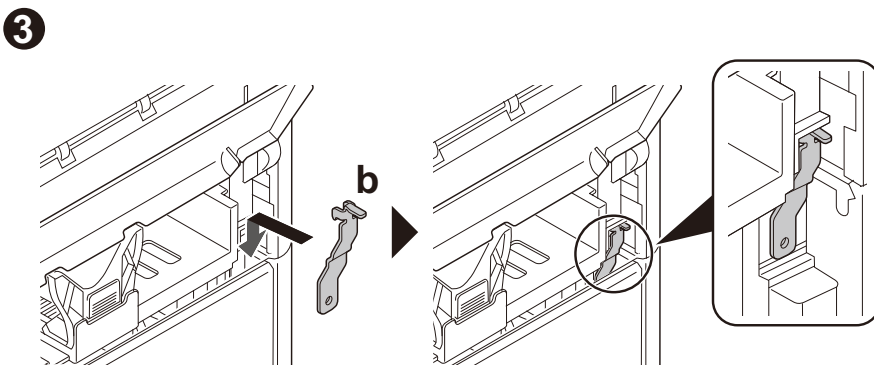
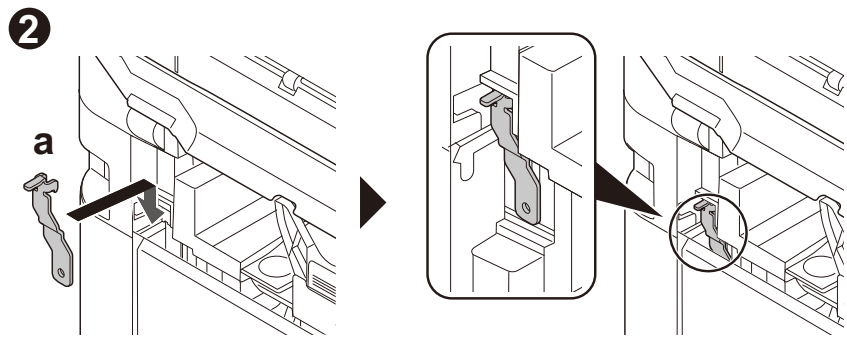
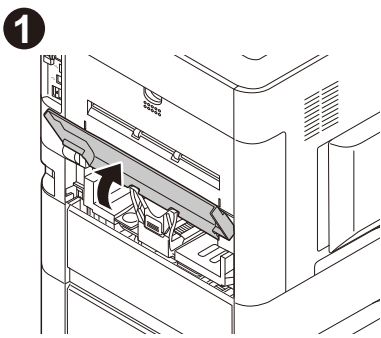
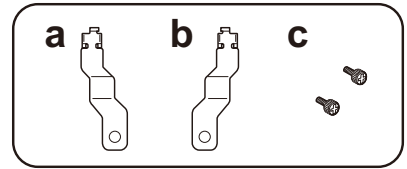
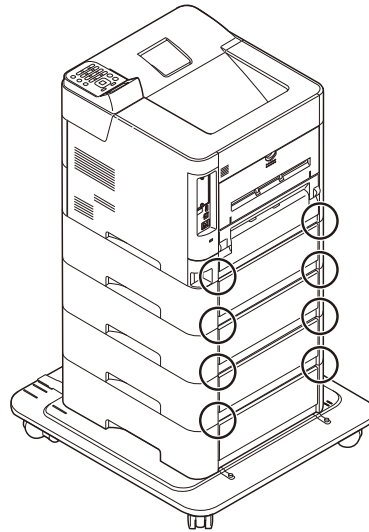
**注意:**

- ペーパーフィーダー (PF-3110) を4段装着する場合は、キャスターキット (CA-3100) を必ず装着すること
- ペーパーフィーダー (PF-3110) を装着する場合は、本体とペーパーフィーダーおよびペーパーフィーダー間を付属の金具で固定すること

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## (5)CA-3100 INSTALLATION GUIDE

# CA-3100 INSTALLATION GUIDE

## GUIDE D'INSTALLATION

## GUÍA DE INSTALACION

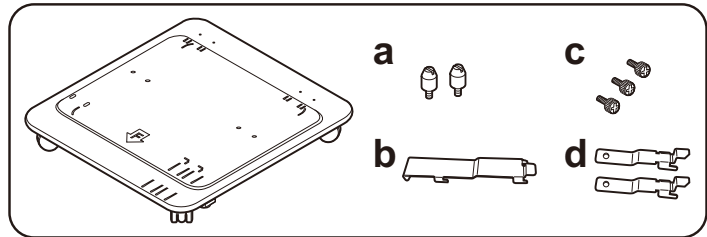
## INSTALLATIONSANLEITUNG

## GUIDA ALL'INSTALLAZIONE

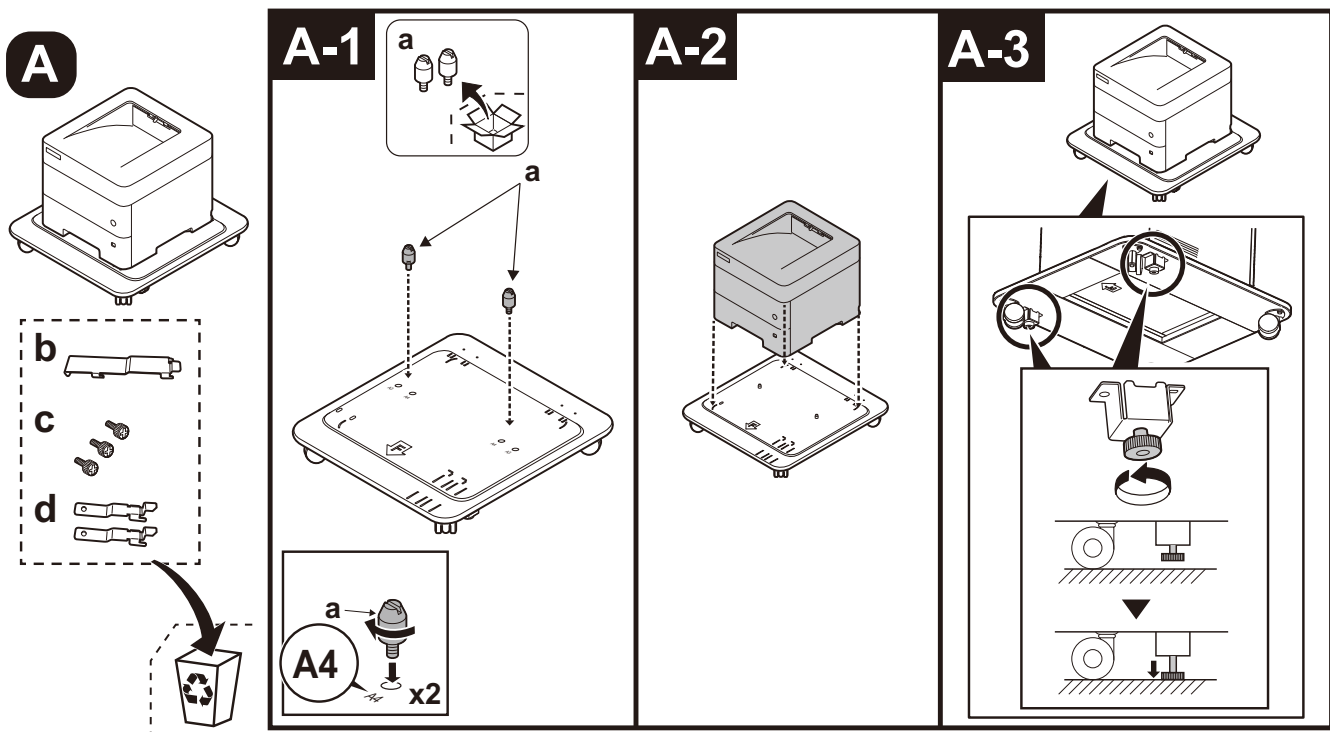
## 安装手册

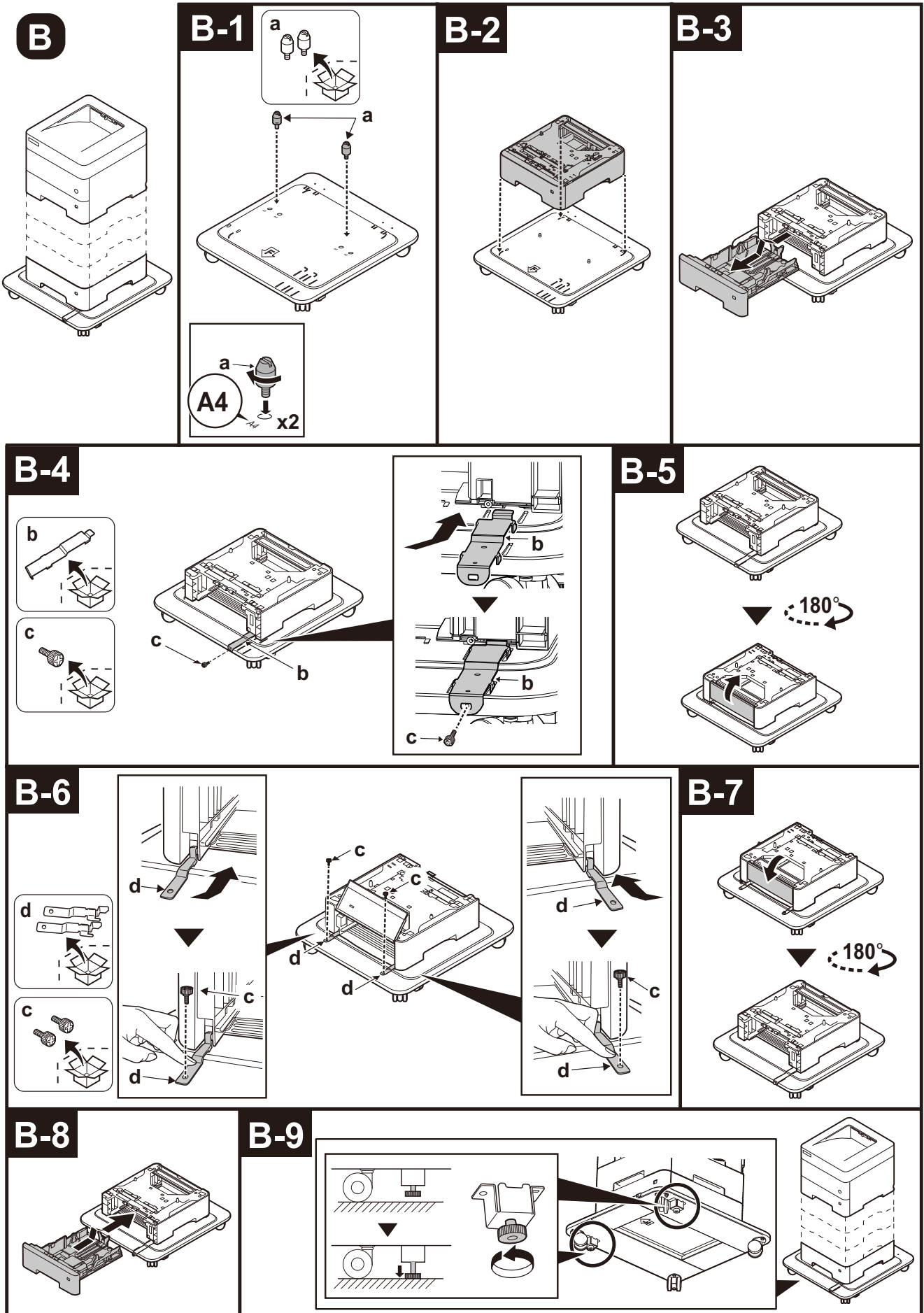
## 설치안내서

## 設置手順書



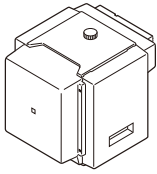
- (EN) **CAUTION** : This CA-3100 is intended for use only Printer / MFP + Paper Feeder Unit, PF-3110, PF-4110 etc., manufactured by Kyocera Document Solutions Inc. Use with other equipment may result in instability causing injury.
- (FR) **ATTENTION** : Ce CA-3100 est prévu pour être utilisé uniquement avec une imprimante/MFP + chargeur de papier (PF-3110, PF-4110, etc.) fabriqués par Kyocera Document Solutions Inc. L'utilisation avec d'autres équipements peut entraîner une instabilité et provoquer des blessures.
- (ES) **PRECAUCIÓN** : Este kit CA-3100 se ha diseñado para usarse exclusivamente con la impresora/MFP + depósito de papel, PF-3110, PF-4110, etc., fabricados por Kyocera Document Solutions Inc. Su uso con otro equipo puede provocar inestabilidad y causar lesiones.
- (DE) **VORSICHT** : Dieses CA-3100 ist nur für die Verwendung mit einem Drucker/MFP und Papierzufuhr-Einheiten wie PF-3110, PF-4110 etc. vorgesehen, die von Kyocera Document Solutions Inc. hergestellt werden. Verwendung anderer Geräte kann zu Instabilität oder Verletzungen führen.
- (IT) **ATTENZIONE** : CA-3100 è indicato per l'uso con una stampante/MFP + cassetto carta (PF-3110, PF-4110) ecc., prodotti da Kyocera Document Solutions Inc. L'utilizzo con un altro sistema può provocare instabilità e causare lesioni.
- (ZHCN) 注意：此 CA-3100 仅适用于京瓷办公信息系统株式会社制造的打印机和 MFP / 供纸单元、PF-3110、PF-4110 等。与其他设备一起使用可能会不稳定，从而造成人身伤害。
- (KO) 주의 : 이 CA-3100은 Kyocera Document Solutions Inc.에서 제조한 프린터 및 MFP/급지대, PF-3110, PF-4110 등만 사용하도록 만들어졌습니다. 다른 장비와 함께 사용하면 불안정하여 부상을 유발할 수 있습니다.
- (JA) 注意：このCA-3100は、京セラドキュメントソリューションズ社製のプリンターもしくはMFPと、PF-3110、PF-4110などのペーパーフィーダーユニットを使用するためのものです。他の機器で使用すると、不安定になり怪我をする可能性があります。





## (6)PF-3100 INSTALLATION GUIDE

### PF-3100

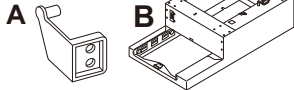


For Canada:

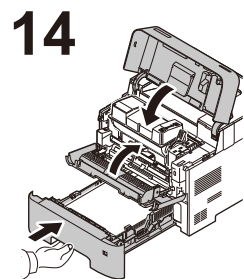
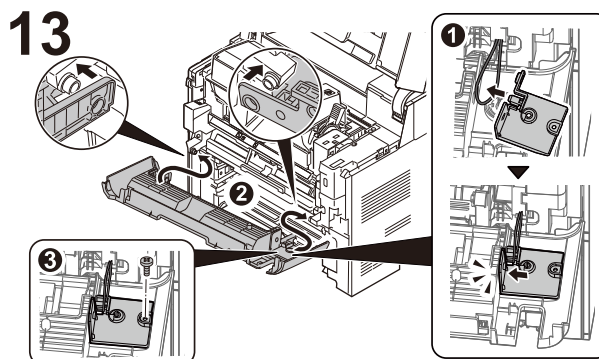
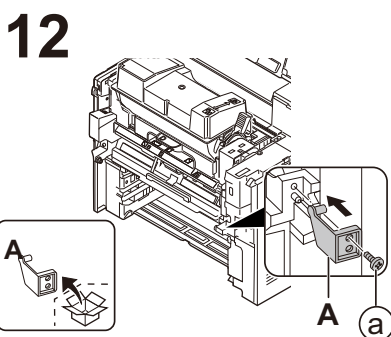
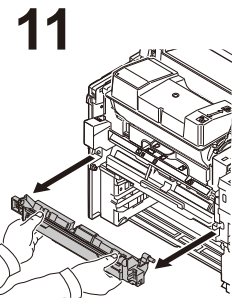
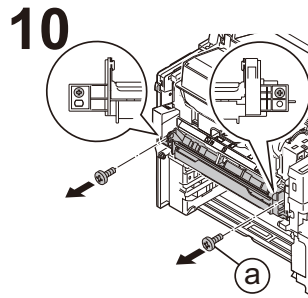
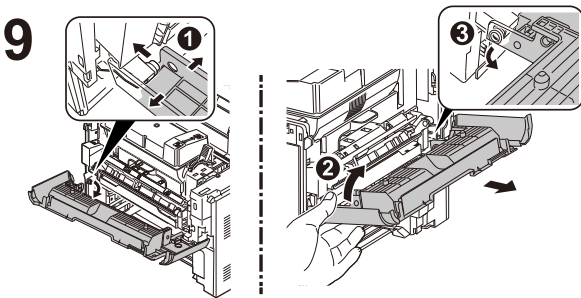
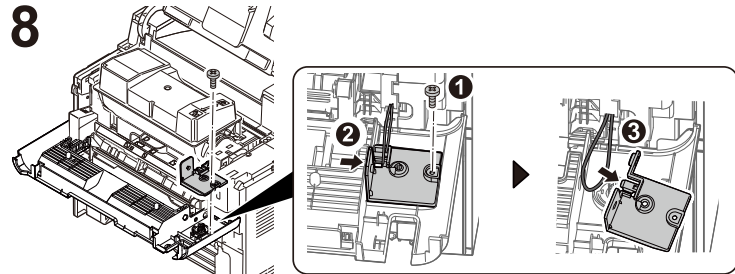
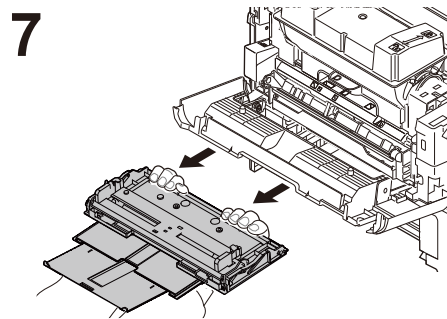
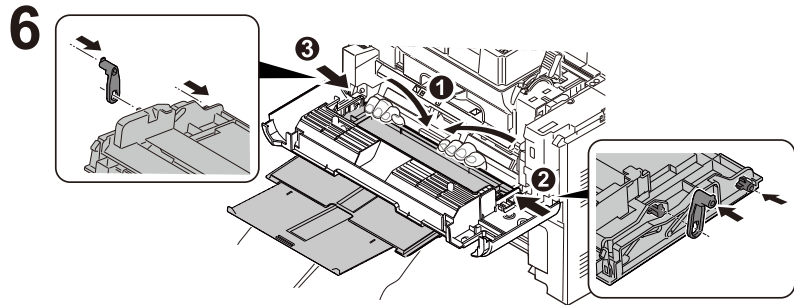
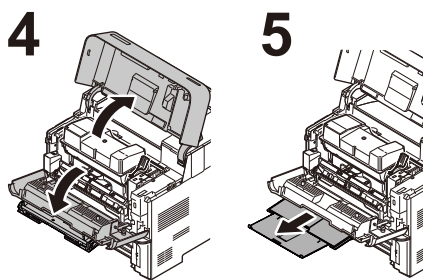
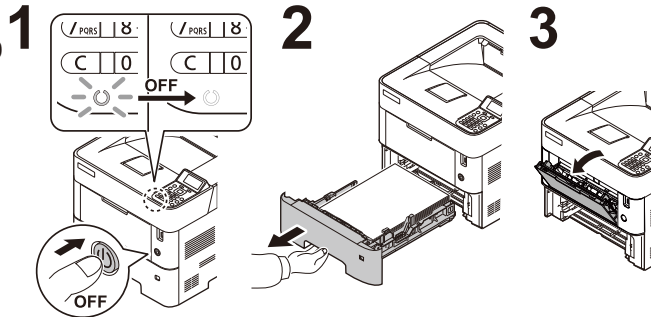
This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

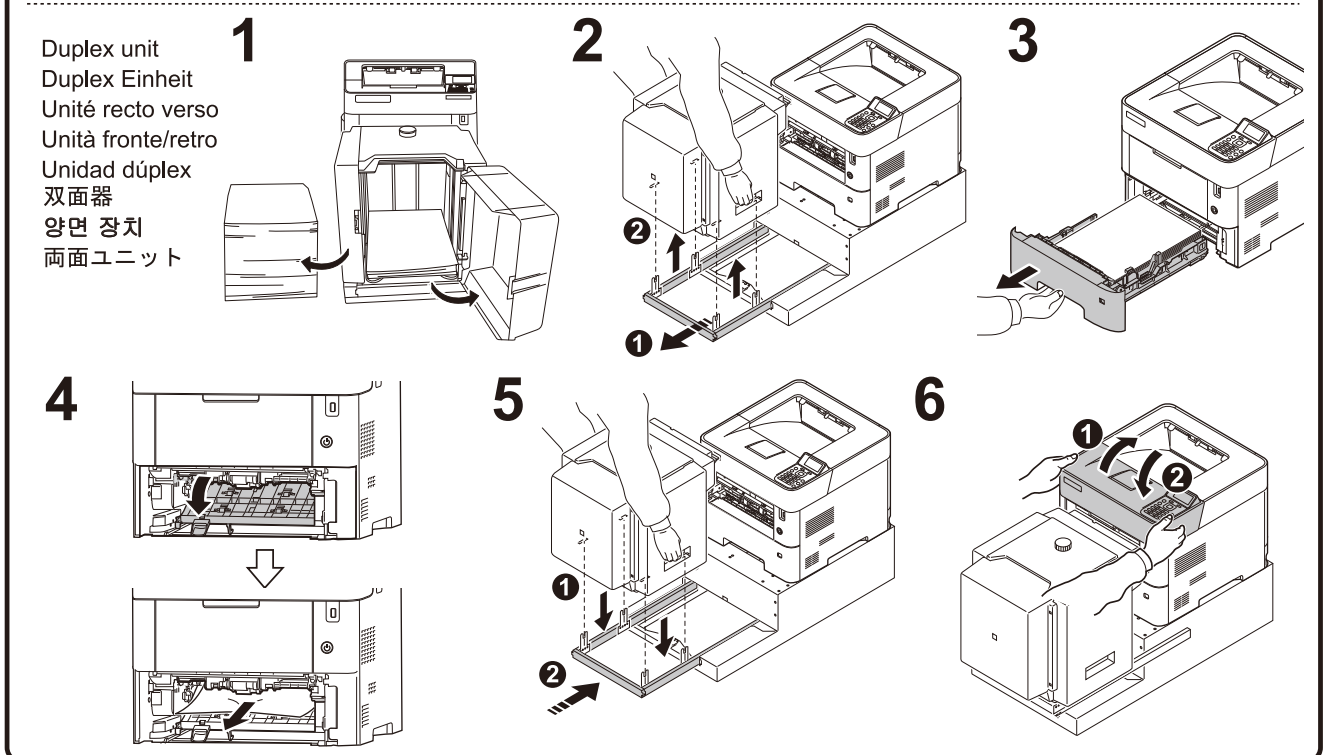
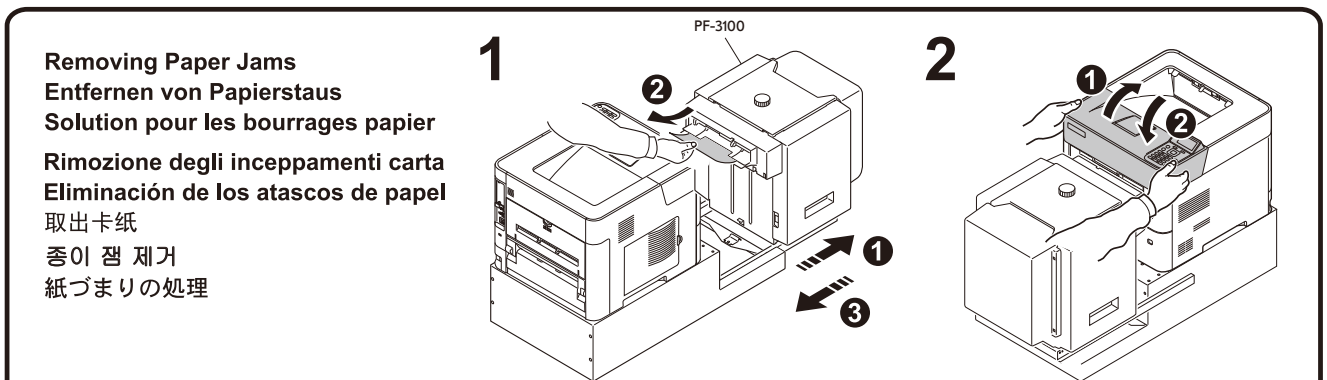
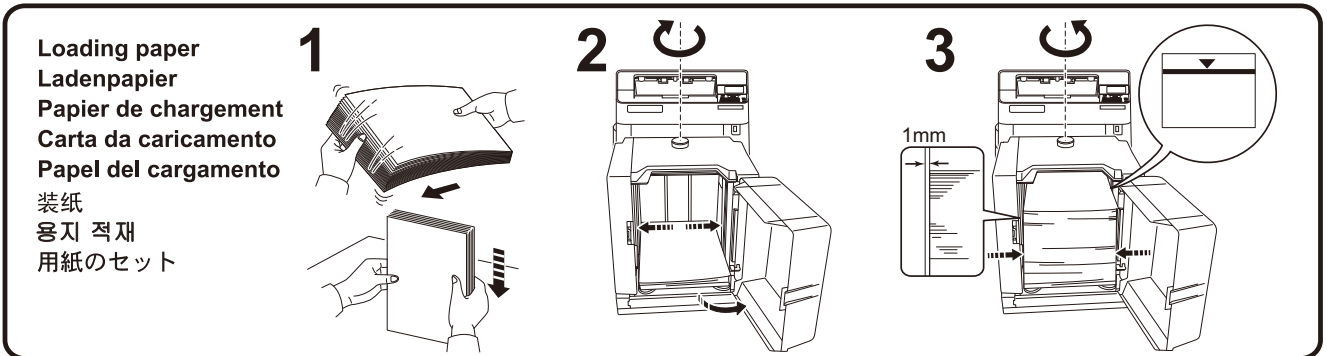
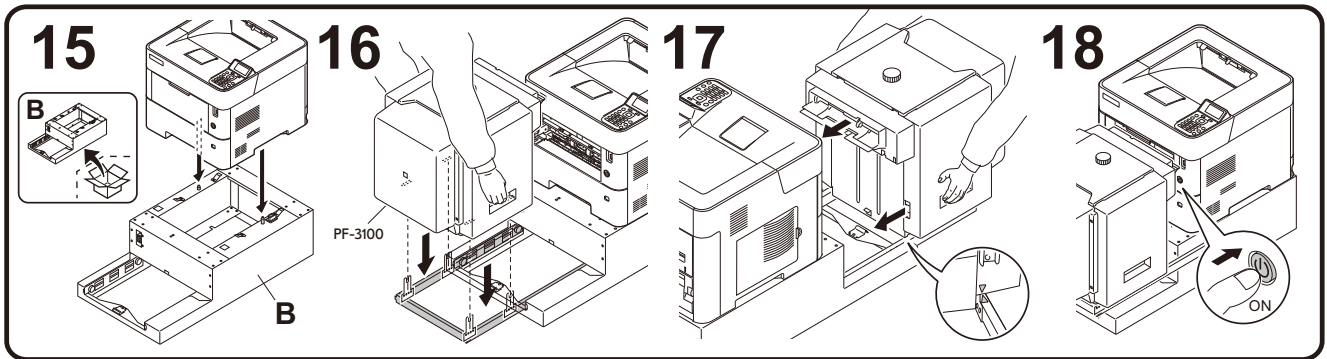
PB-325 is necessary when installing PF-3100.  
The following items are bundled in PB-325.

PB-325



**Installation of PF-3100**  
**Installation von PF-3100**  
**Installation de PF-3100**  
**Instalazione di PF-3100**  
**PF-3100の安装**  
**PF-3100 설치**  
**PF-3100の設置**





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