

Brother Laser Printer SERVICE MANUAL

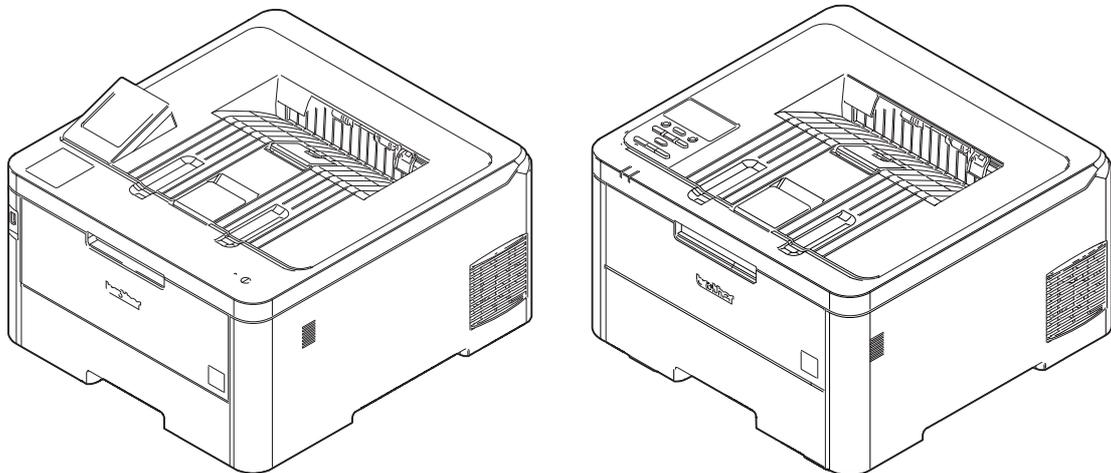
MODEL

**HL- L3215CW/L3220CW/L3220CWE/
L3220CDW/L3240CDW/L3280CDW/
L3295CDW/L8230CDW/L8240CDW/
L8245CDW**

OPTION

LT : Lower Tray

LT-310CL



Read this manual thoroughly before maintenance work.
Keep this manual in a convenient place for quick and easy reference at all times.

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Preface

This Service Manual is intended for use by service personnel and details the specifications, construction, and maintenance for the Brother machines noted on the front cover. It includes information required for troubleshooting and service--disassembly, reassembly, and lubrication--so that service personnel will be able to understand equipment function, repair the equipment in a timely manner and order spare parts as necessary.

To perform appropriate maintenance so that the machine is always in the best possible condition for the customer, service personnel must adequately understand and apply this manual.

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APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER

SAFETY INFORMATION

■ Definitions of Warnings, Cautions, Notes and Memos

The following conventions are used in this manual:

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injuries.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injuries.

IMPORTANT

IMPORTANT indicates a potentially hazardous situation which, if not avoided, may result in damage to property or loss of product functionality.



Prohibition icons indicate actions that must not to be performed.



Electrical Hazard icons alert you to possible electrical shocks.



Fire hazard icons alert you to the possibility of a fire.



Hot Surface icons warn you not to touch product parts that are hot.

Note

Specifies the operating environment, conditions for installation, or special conditions of use.

■ To use the machine safely

Please keep these instructions for later reference and read them before attempting any maintenance. If you do not follow these safety instructions, there is a possibility of a fire, electrical shock, burn or suffocation.

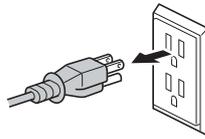
WARNING

ELECTRICAL HAZARDS

Failure to follow the warnings in this section may create the risk of an electrical shock. In addition, you could create an electrical short, which may create the risk of a fire.



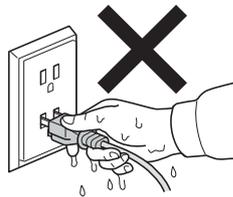
There are high-voltage electrodes inside the product. Before you access the inside of the product, including for routine maintenance such as cleaning, make sure you have unplugged the power cord from the AC power outlet, as well as Ethernet/RJ-45 cables (Network models only) from the product. DO NOT push objects of any kind into this product through slots or openings in the product, as they may touch dangerous voltage points or short-out parts.



Unplug the power plug regularly to clean it. Use a dry cloth to clean the root of the plug blades and between the blades. If the power plug is plugged into the outlet over a long period, dust accumulates around the plug blades, which may cause a short circuit, resulting in a fire.



DO NOT handle the plug with wet hands. Doing this might cause an electrical shock.



Always make sure the plug is fully inserted. DO NOT use the product or handle the cord if the cord has become worn or frayed.



DO NOT allow this product to come into contact with water.



This product should be connected to an AC power source within the range indicated on the rating label. DO NOT connect it to a DC power source or inverter.



Power Cord Safety:

- This product is equipped with a 3-wire grounded plug. This plug will only fit into a grounded power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, call your electrician to replace your obsolete outlet. DO NOT attempt to defeat the purpose of the grounded plug.
- Only use the power cord supplied with this product.
- This product should be positioned so that nothing pinches or constricts the power cord.
- DO NOT allow anything to rest on the power cord.
- DO NOT place this product where people may step on the cord.
- DO NOT place this product in a position where the cord is stretched or strained, as it may become worn or frayed.
- Brother strongly recommends that you DO NOT use any type of extension cord.



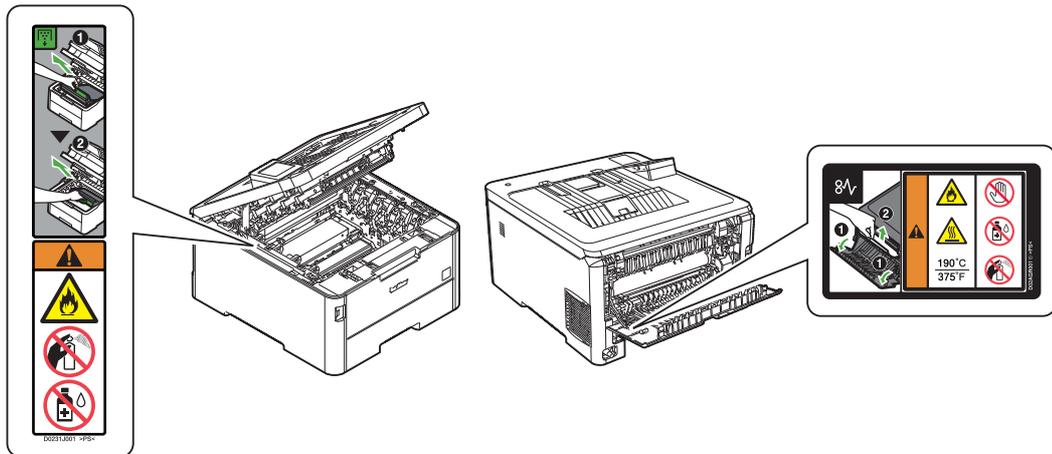
DO NOT use this product during a thunderstorm.



DO NOT put toner cartridges, a toner cartridge and drum unit assembly, or a waste toner box into a fire or places susceptible to fire. It could explode, resulting in injuries.



DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the product. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.



DO NOT attempt to operate this product when a paper jam or stray pieces of paper are inside the product. Prolonged contact of the paper with the fuser could cause a fire.



DO NOT use a vacuum cleaner to clean up scattered toner. Doing this might cause the toner dust to ignite inside the vacuum cleaner, potentially starting a fire. Carefully clean the toner dust with a dry, lint-free soft cloth and dispose of it according to local regulations.



Unplug this product from the wall socket before cleaning the product and the scanner glass. DO NOT use liquid or aerosol cleaners. Use a dry, lint-free soft cloth for cleaning.



DO NOT place the following objects on the product.

If these objects contact the electrical parts inside the product, it may cause a fire or electrical shock.

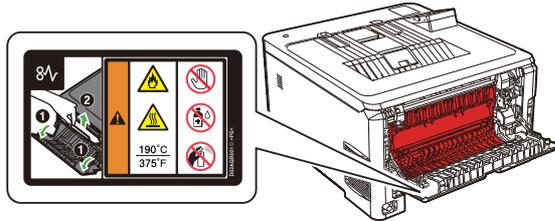
- Metal objects such as a clip or a staple
- Precious metals such as a necklace or a ring
- Containers holding water or liquid such as a glass, a flower vase, or a flower pot



HOT SURFACE

Immediately after using the product, some internal parts of the product will be extremely hot.

Wait at least 10 minutes for the product to cool down before you touch the internal parts of the product.

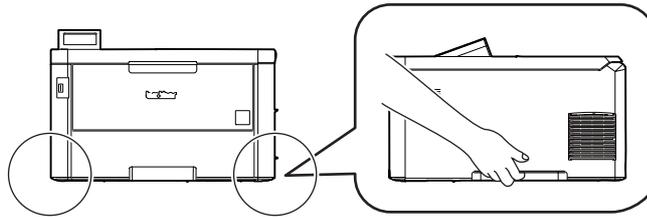


If you use a Lower Tray, DO NOT carry the product with the Lower Tray as you may be injured or cause damage to the product because it is not attached to the Lower Tray.



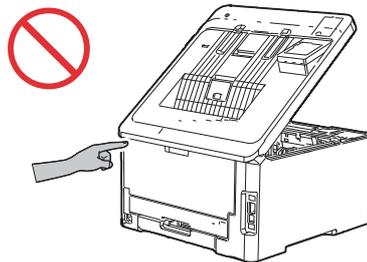
CAUTION

When you move the product, carry the product as shown in the illustration.



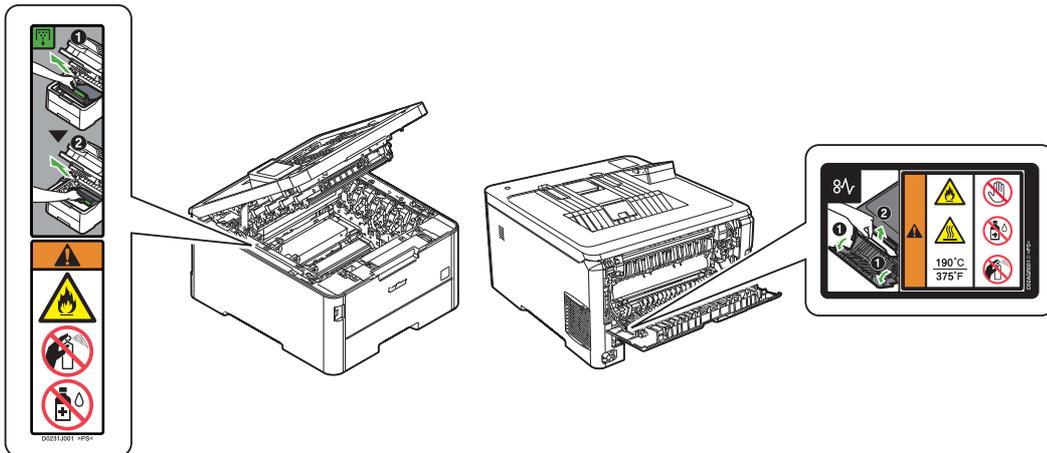
If you use a Lower Tray, DO NOT carry the product with the Lower Tray, as you may be injured or cause damage to the product because it is not attached to the Lower Tray.

To prevent injuries, be careful not to put your fingers in the areas shown in the illustrations.



IMPORTANT

- DO NOT remove or damage any of the caution or warning labels inside the product.



- DO NOT put objects on top of the product. Doing so could increase the risk of overheating should the product malfunction.

WARNING

For protection against the risk of electrical shock, always disconnect all cables from the wall outlet before the equipment is installed, serviced, or modified.

IMPORTANT

- This equipment may not be used on coin service lines provided by the telephone company or connected to party lines.
- Brother cannot accept any financial or other responsibilities that may be the result of your use of this information, including direct, special or consequential damages. There are no warranties extended or granted by this document.
- A grounded plug should be plugged into a grounded AC power outlet after checking the rating of the local power supply for the product to operate properly and safely.

GLOSSARY

Terms which appear in this manual have the meaning in the table below.

Term	Meaning
Brother Maintenance USB Printer	A maintenance printer driver that allows you to connect Brother's printer to your computer even without the printer driver for the machine to be repaired.
DJF	A type of firmware file. File extension: djf.
dpi	Dot per inch
DX	Duplex
Filedg32.exe	A utility that drags and drops files onto the displayed printer icon and sends the data to the printer.
HVPS	High Voltage Power Supply
Initial state of maintenance mode	An input waiting state for maintenance mode functions.
ipm	Image per minute
LT	Lower Tray
LVPS	Low Voltage Power Supply
Maintenance mode	A mode to use repair and maintenance functions.
MP (tray) / MF (tray)	Multi Purpose (tray) / Manual Feed (tray)
PCB	Print Circuit Board
PF kit	A periodical maintenance part with a pair of the separation roller and separation pad.
Ready state	In the state that a user uses the machine, a ready state that is not the sleep mode.
SX	Simplex
T1	Paper tray 1
UPD	A type of firmware file. File extension: upd. Note that the upd file can be installed into non-compliant models.
Y (toner) / M (toner) / C (toner) / K (toner)	Yellow (toner) / Magenta (toner) / Cyan (toner) / Black (toner)

CHAPTER 1 SUPPLEMENTAL SPECIFICATIONS

For details on product specifications, refer to the user's guide.

If there is a difference between the product specifications and the user's guide, the user's guide should take precedence over the product specifications.

The product specifications may change without prior notice.

1. GENERAL

Model		HL-L3215CW	HL-L3220CW	HL-L3220CWE	HL-L3220CDW	HL-L3240CDW	HL-L3280CDW	HL-L3295CDW	HL-L8230CDW	HL-L8240CDW	HL-L8245CDW				
CPU		Main: Cortex-A53 800MHz, Sub: ARM946 133MHz													
Backup Clock		N/A													
Wired LAN		N/A				10Base-T/100Base-TX/1000Base-T			N/A		10Base-T/100Base-TX/1000Base-T				
Wireless LAN		2.4GHz		Infrastructure Mode: IEEE 802.11 b/g/n, Wi-Fi Direct: IEEE 802.11 g/n								5GHz		Infrastructure Mode: IEEE 802.11 a/n, Wi-Fi Direct: IEEE 802.11 a/n (* 5GHz in GULF unsupported)	
Duplex Printing		N/A				Available									
Auto Duplex Copy		N/A				Available				N/A					
LCD Type		16 characters x 2 lines					2.7" TFT ColorLCD (6.8 cm / 67.5 mm)								
USB Host (Front)	USB 2.0 High-Speed	N/A					Available		N/A		Available				
USB Host (Rear)		N/A													
NFC	Card reader / NFC shortcut	N/A					Available		N/A		Available				
Auto Paper Low Detection		N/A													
PCL/PS		PCL5e, PCL5c, PCL6 (PCL XL Class3.0), BR-Script3, PDF Version 1.7, XPS Version 1.0													
Paper Capacity	Standard tray	250 sheets													
	MP tray	N/A					30 sheets Envelope: 3 envelopes up to 6 mm thick								
Paper Output		150 sheets face down (80 g/m ²), 1 sheet face-up (straight paper path)													
Option	Lower tray	N/A					250 sheets		N/A		250 sheets				
Warm-up Time At 73.4F / 50% (23°C / 50%)	From Sleep mode	less than 28 sec.				less than 24 sec.									
	From Power OFF → ON	less than 30 sec.				less than 28 sec.									
First Print Time (Mono/Color) At 73.4F (23°C)	From Ready mode	Less than 15/15 sec. at 230V		Less than 15/15 sec. at 115V (for US)	Less than 15/15 sec. at 230V (for ASA)	Less than 13.5/13.5 sec. at 127V (for Brazil)	Less than 13.5/13.5 sec. at 230V (except for Brazil)	Less than 13.5/13.5 sec. at 115V (for US)	Less than 13.5/13.5 sec. at 230V (except for US)	Less than 12.5/12.5 sec. at 115V	Less than 12.5/12.5 sec. at 230V	Less than 12.5/12.5 sec. at 115V			
	From Sleep mode	Less than 32/32 sec. at 230V		Less than 32/32 sec. at 115V (for US)	Less than 32/32 sec. at 230V (for ASA)	Less than 30/30 sec. at 127V (for Brazil)	Less than 30/30 sec. at 230V (except for Brazil)	Less than 30/30 sec. at 115V (for US)	Less than 30/30 sec. at 230V (except for US)	Less than 30/30 sec. at 115V	Less than 30/30 sec. at 230V	Less than 30/30 sec. at 115V			

2. SERVICE INFORMATION / SUPPLIES

Model	HL-L3215CW	HL-L3220CW	HL-L3220CWE	HL-L3220CDW	HL-L3240CDW	HL-L3280CDW	HL-L3295CDW	HL-L8230CDW	HL-L8240CDW	HL-L8245CDW	
Machine Life	100,000 pages (A4 / LTR) or 7 years						200,000 pages (A4 / LTR) or 7 years				
MTBF	4,000 hours										
MTTR	0.5 hours										
Maximum Monthly Volume	Up to 40,000 pages						Up to 50,000 pages				
Periodical Maintenance Parts *1	Fuser	50,000 pages (2 pages/job) (Service replacement)						50,000 pages (2 pages/job), 100,000 pages (5 pages/job) (Service replacement) * Replace notification will appear at 50,000 pages.			
	PF kit 1	200,000 pages (Non-periodical spare parts)									
	PF kit 2	N/A						200,000 pages (Non-periodical spare parts)	N/A	200,000 pages (Non-periodical spare parts)	
	PF kit MP	N/A						50,000 pages (Service replacement)			
Toner Cartridge	Starter toner *2	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages		BK: Approx. 500 pages CMY: Approx. 500 pages	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages		BK: Approx. 2,300 pages CMY: Approx. 1,200 pages	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages	BK: Approx. 2,600 pages CMY: Approx. 1,400 pages	BK: Approx. 3,000 pages CMY: Approx. 1,400 pages	
	Standard toner	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages (for EU) BK: Approx. 1,500 pages CMY: Approx. 1,200 pages (for ASA)	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages	BK: Approx. 1,500 pages CMY: Approx. 1,200 pages	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages (for EU and OCE) BK: Approx. 1,500 pages CMY: Approx. 1,200 pages (for Brazil and ASA)	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages (for OCE) BK: Approx. 1,500 pages CMY: Approx. 1,200 pages (except for OCE)	BK: Approx. 1,500 pages CMY: Approx. 1,200 pages	BK: Approx. 1,000 pages CMY: Approx. 1,000 pages		BK: Approx. 1,500 pages CMY: Approx. 1,200 pages
	High capacity toner	BK: Approx. 3,000 pages, CMY: Approx. 2,300 pages									
	Super high capacity toner	N/A	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for ASA) N/A (for EU)	N/A	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for ASA) N/A (for US)	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for Brazil and ASA) N/A (for EU and OCE)	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for ASA) N/A (except for ASA)	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages			
	When printing A4/LTR size one sided pages in accordance with ISO/IEC19798 Best before date: 2 years without opening (6 months after opening)										
Drum Unit	Life expectancy: Approx. 20,000 pages (1 page/job), Approx. 30,000 pages (3 pages/job) * Replace notification will appear at 20,000 pages. The life expectancy varies according to the use condition. Best before date: 2 years										
The best before date of toner cartridge and drum unit is guaranteed under the normal condition as below; (Temperature) Normal condition: 0 to 40°C * Storage condition at the temperature of 45 °C: Up to 5 days * Storage condition at the temperature of -20 to 0°C: Up to 5 days (Humidity) Normal condition: 35 to 85%RH (without condensation) * Storage condition at the humidity of 85 to 95%RH: Up to 5 days (without condensation) * Storage condition at the humidity of 10 to 35%RH: Up to 5 days (without condensation)											
Belt Unit	Approx. 50,000 pages (2 pages/job), Approx. 60,000 pages (3 pages/job) * Replace notification will appear at 50,000 pages.										
Waste Toner Box	Approx. 50,000 pages (5 pages/job)										

*1 As for replacement of the periodical maintenance parts, refer to "PERIODICAL MAINTENANCE" in Chapter 6.

*2 Toner supplied with the machine.

3. DIMENSIONS / WEIGHT

Model		HL-L3215CW	HL-L3220CW	HL-L3220CWE	HL-L3220CDW	HL-L3240CDW	HL-L3280CDW	HL-L3295CDW	HL-L8230CDW	HL-L8240CDW	HL-L8245CDW	
Dimensions (W x D x H)	Carton size	488 x 488 x 370 mm (19.2 x 19.2 x 14.6")						488 x 535 x 370 mm (19.2 x 21.1 x 14.6")				
	Machine size	399 x 399 x 239 mm (15.7 x 15.7 x 9.4")					339 x 339 x 274 mm (15.7 x 15.7 x 10.8")	399 x 446 x 274 mm (15.7 x 17.6 x 10.8")				
	LT-250 without carton	N/A						399 x 446 x 122 mm (15.7 x 17.6 x 4.8")	N/A	399 x 446 x 122 mm (15.7 x 17.6 x 4.8")		
Weights	with carton	17.5 kg / 38.7 lb	17.5 kg / 38.7 lb (for EU) 17.6 kg / 38.8 lb (for ASA)	17.5 kg / 38.5 lb	18.0 kg / 39.7 lb (for US) 18.1 kg / 40.0 lb (for ASA)	18.0 kg / 39.8 lb (for EU and OCE) 18.1 kg / 39.9 lb (for Brazil) 18.4 kg / 40.5 lb (for ASA)	18.2 kg / 40.1 lb (for US and OCE) 18.3 kg / 40.2 lb (for TWN) 18.3 kg / 40.3 lb (for PHL and IND) 18.6 kg / 40.9 lb (for LTN, ASA and GULF)	19.6 kg / 43.2 lb	19.5 kg / 43.0 lb (except for UK) 19.7 kg / 43.5 lb (for UK)	19.6 kg / 43.1 lb (except for UK) 19.8 kg / 43.6 lb (for UK)	19.6 kg / 43.3 lb	
	without carton, with toner/drum	14.7 kg / 32.4 lb		14.7 kg / 32.3 lb	15.2 kg / 33.5 lb	15.2 kg / 33.5 lb (except for ASA) 15.4 kg / 33.9 lb (for ASA)	15.4 kg / 33.9 lb (for US and OCE) 15.6 kg / 34.3 lb (for LTN, ASA and GULF)	16.7 kg / 36.8 lb	16.5 kg / 36.5 lb (except for UK) 16.7 kg / 36.9 lb (for UK)	16.6 kg / 36.6 lb (except for UK) 16.8 kg / 37.0 lb (for UK)	16.7 kg / 36.8 lb	
	without carton nor toner/drum	10.7 kg / 23.6 lb			11.2 kg / 24.7 lb		11.4 kg / 25.1 lb	12.6 kg / 27.8 lb	12.5 kg / 27.6 lb	12.6 kg / 27.8 lb		
	LT-250 without carton	N/A						3.21 kg / 7.08 lb	N/A	3.21 kg / 7.08 lb		

CHAPTER 2 ERROR INDICATION AND TROUBLESHOOTING

1. INTRODUCTION

Troubleshooting is the countermeasure procedures that the service personnel should follow if an error or malfunction occurs with the machine. It is impossible to anticipate all of the possible troubles which may occur in future and determine the troubleshooting procedures, so this chapter covers some sample troubles. However, those samples will help the service personnel pinpoint and repair other defective elements.

1.1 Precautions

Refer to "SAFETY INFORMATION".

1.2 Checks before Commencing Troubleshooting

Check the following items before attempting to repair the machine.

1.2.1 Operating environment

- (1) The machine is placed on a flat, stable surface.
- (2) The machine is used in a clean environment where the temperature is between 10 °C (50 °F) and 32 °C (89.6 °F) and the relative humidity is maintained between 20% and 80%.
- (3) Ensure the machine is not exposed to direct sunlight, excessive heat, moisture, or dust.
- (4) Keep the machine horizontal when you carry it. To prevent injuries when moving or lifting this machine, make sure to use at least two people.

1.2.2 Power supply

- (1) The AC input power supply described on the rating plate of the machine should be within $\pm 10\%$ of the rated voltage.
- (2) The AC input power supply is within the regulated value.
- (3) The cables and harnesses are connected correctly.
- (4) The fuses are not blown.

1.2.3 Paper

- (1) A recommended type of paper is being used.
- (2) The paper is not damp.
- (3) The paper is not short-grained paper or acid paper.

1.2.4 Consumable parts

- (1) The drum unit (including the toner cartridge) is installed correctly.
- (2) The belt unit and waste toner box are installed correctly.

1.2.5 Others

- (1) Condensation

When the machine is moved from a cold place into a warm room, condensation may occur inside the machine, causing various problems as listed below.

- Condensation on the surface of optical devices such as the scanner windows, lens, reflecting mirror, and protection glass, etc., may cause light print image.
- If the exposure drum is cold, the electrical resistance of the photosensitive layer is increased, making it impossible to obtain the correct contrast when printing.
- Condensation on the charge unit may cause corona charge leakage.
- Condensation on the plate and separation pad may cause paper feed problems.

If condensation has occurred, leave the machine for at least two hours to allow it to reach room temperature.

- (2) Low temperature

The motor may not drive normally under the low temperature environment under 10 °C (50 °F). This is due to there being too much load to drive each unit. In this case, increase the room temperature.

1.2.6 Cleaning

Use a soft dry lint-free cloth.



WARNING

DO NOT use any flammable spray or flammable solvent such as alcohol, benzene, or thinner to clean the machine. **DO NOT** use these articles near the machine.



2. OVERVIEW

2.1 Cross-section Drawing

2.1.1 Printer part

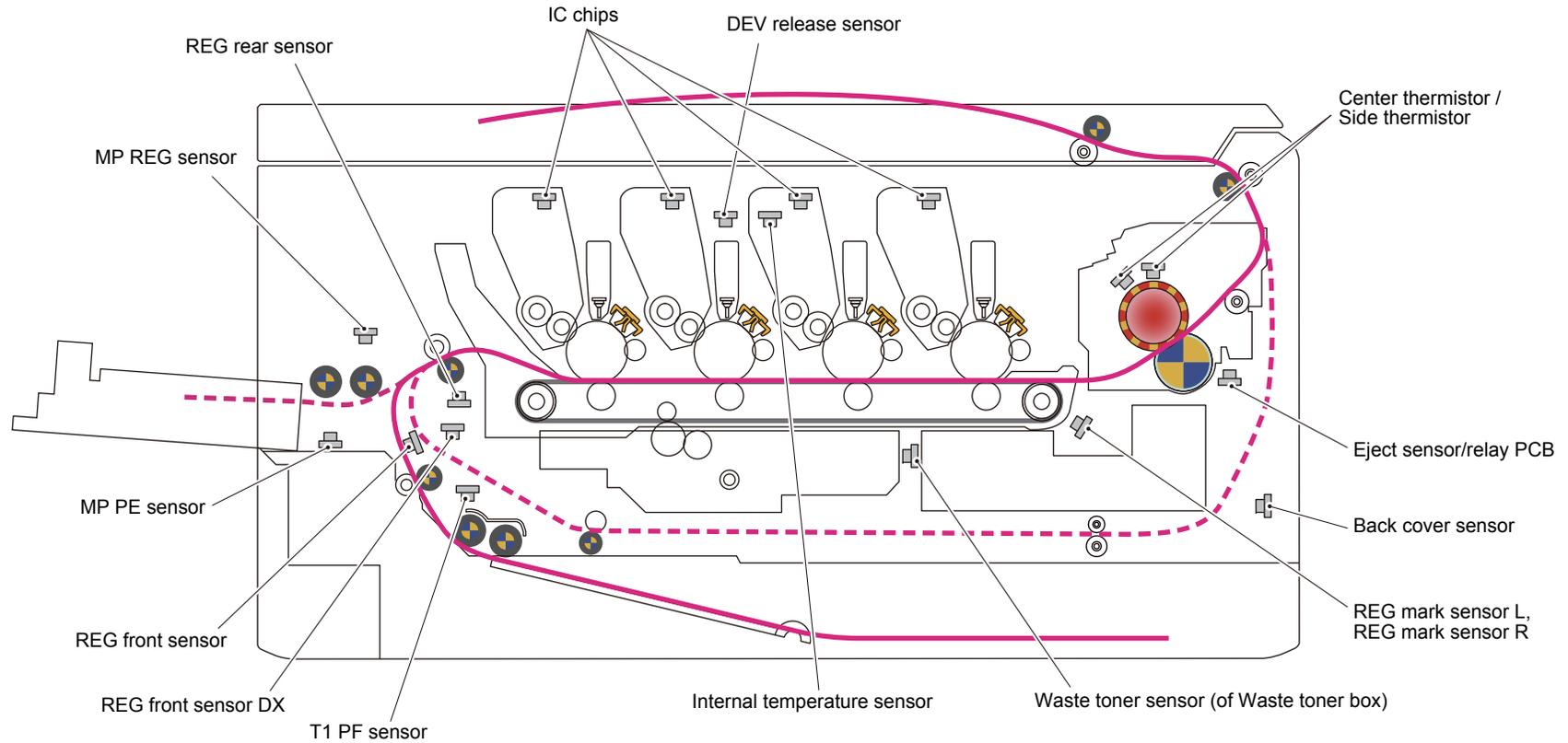


Fig. 2-1

2.1.2 LT

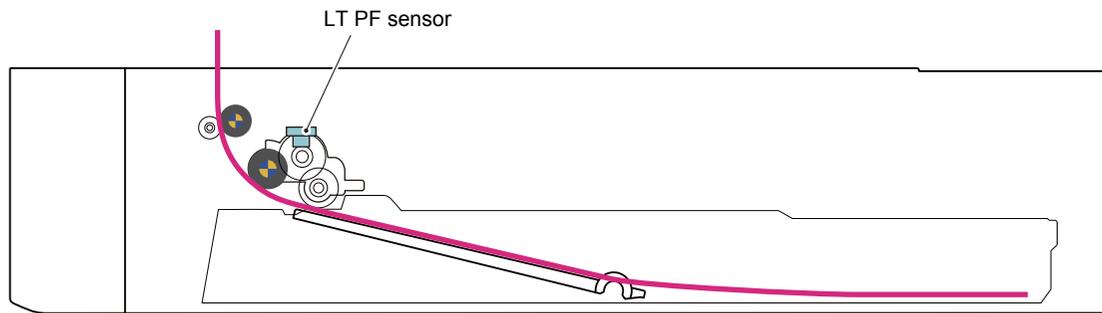


Fig. 2-2

2.2 Paper Feeding

2.2.1 Printer part

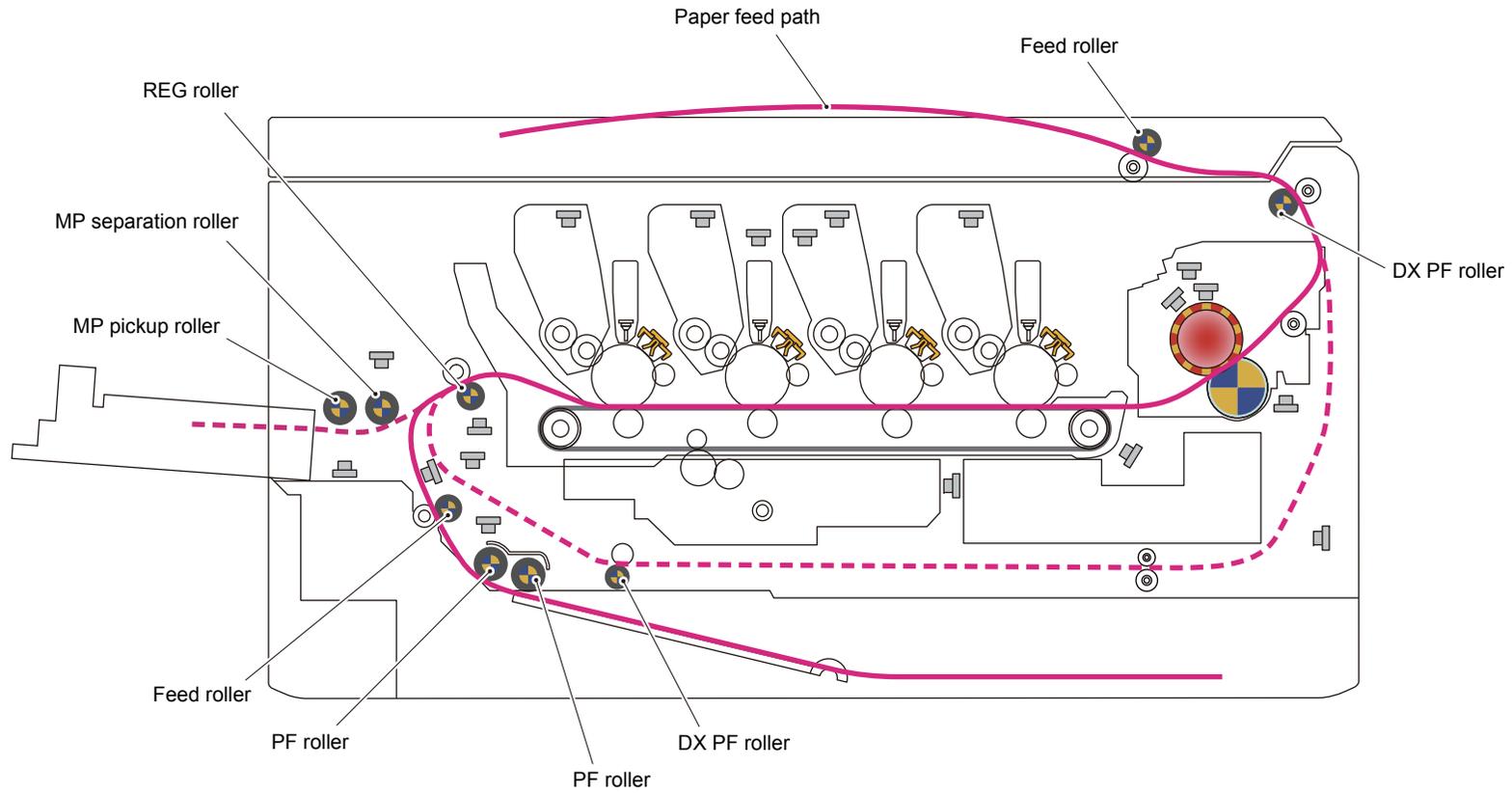


Fig. 2-3

2.2.2 LT

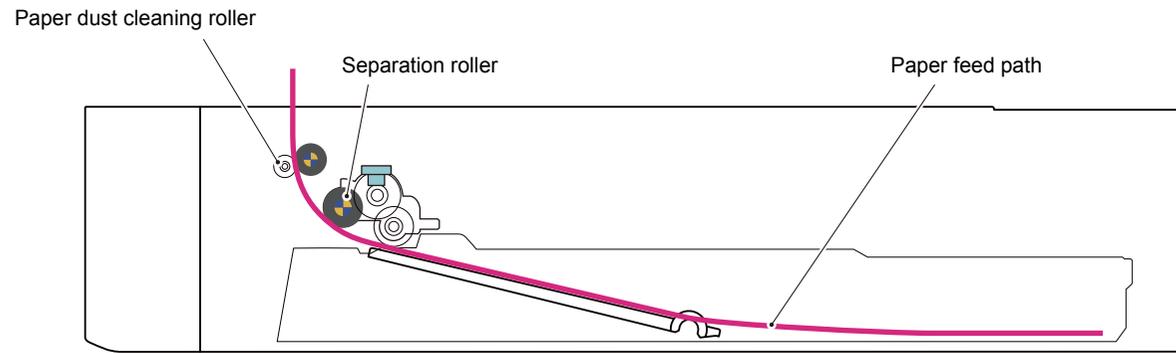


Fig. 2-4

2.3 Operation of Each Part and Location of Parts

Part name	Operation
Back cover sensor	Detects whether the back cover is open.
Belt cleaning roller	Cleans the collected waste toner in the belt unit.
Belt unit	Feeds the paper to the drum unit and transfers toner on the paper.
Cartridge sensor (Each color)	Communicates with the IC chip of the toner cartridge, and reads/writes information.
DEV K CLUTCH FCL	Controls the drive of the DEV roller.
DEV REL CLUTCH FCL	Controls the release of the DEV roller (all colors).
DEV release sensor PCB	Detects whether the DEV roller is separated from the exposure drum.
DX PF roller	Feeds the paper passing through the DX tray to the REG roller.
Eject roller 1	Feeds the paper ejected from the fuser to eject roller 2.
Eject roller 2	Feeds the paper to the eject roller 3. In 2-sided printing, after the first side of the sheet is printed and the paper is fed to the eject roller 3 up to a certain point, the eject roller 2 rotates conversely and feeds the paper fed from the eject roller 3 to the DX tray.
Eject roller 3	Ejects the paper to the face-down output tray. In 2-sided printing, after the first side of the sheet is printed and the paper is fed up to a certain point, the eject roller 3 rotates conversely, and the paper is fed to the eject roller 2.
Eject sensor/actuator	Detects whether or not paper is ejected from the fuser. In the case of the 2-sided printing, detects the rear edge of paper and adjusts the timing of the eject roller 2 and 3 switching. Detects paper jam in the rear section of the machine. Detects whether the fuser cover is open.
Eject sensor/relay PCB	Detects whether or not paper is ejected from the fuser. In the case of the 2-sided printing, detects the rear edge of paper and adjusts the timing of the eject roller 2 and 3 switching. Detects paper jam in the rear section of the machine.
External temperature/humidity sensor	Detects external temperature and humidity around the machine.
Fuser cover sensor/actuator	Detects whether or not paper is ejected from the fuser. In the case of the 2-sided printing, detects the rear edge of paper and adjusts the timing of the eject roller 2 and 3 switching. Detects paper jam in the rear section of the machine. Detects whether the fuser cover is open.
Heat roller (of fuser)	Fuses the toner transferred to paper by heat and pressure, and feeds paper to the eject roller 1.
Internal temperature sensor	Detects temperature inside the machine.
MP PE sensor/actuator	Detects the paper in the MP tray. Detects paper jams in the MP tray.
MP pickup roller	Feeds paper from the MP tray to the MP separation roller.
MP pickup solenoid	Presses the MP pickup roller against the paper when feeding from the MP tray.
MP REG sensor/actuator	Detects paper jams in the MP tray.
MP separation pad/roller	Separates the paper fed from the MP tray into single sheets.
Pressure roller (of fuser)	Fuses the toner transferred to paper by heat and pressure, and feeds paper to the eject roller 1.
REG front sensor/actuator	Detects the front edge of the paper to control the REG roller drive. Detects paper jams in the front section of the machine. Detects whether paper is fed from the T1.
REG mark sensor L	Checks a phase of each color.
REG mark sensor R	Checks a phase of each color.

Part name	Operation
REG rear sensor/actuator	<p>Detects paper pass and adjusts the writing start position for the paper.</p> <p>Detects paper jams in the front or center section of the machine.</p> <p>Detects the rear edge of the paper to determine the paper size.</p>
REG roller	<p>Corrects the paper alignment when the paper makes contact with the stopped REG roller. After the correction, it rotates to feed the paper to the belt unit.</p>
REGI ELECTRIC CLUTCH FCL	<p>Controls the activation of the REG roller for the paper alignment adjustment.</p>
T1 ELECTRIC CLUTCH FCL	<p>Drives the T1 pickup roller at the timing of paper feeding.</p>
T1 PF sensor/actuator	<p>Detects the T1 (open / closed).</p> <p>Detects paper jams in the T1.</p> <p>Determines whether paper is fed from the T1.</p>
T1 pickup roller	<p>Feeds document from the T1.</p>
T1 separation pad/roller	<p>Separates paper fed from the T1 into single sheets.</p>
Waste toner sensor (of waste toner box)	<p>Detects a certain amount of waste toner in the waste toner box.</p>

■ Location of sensors and clutches

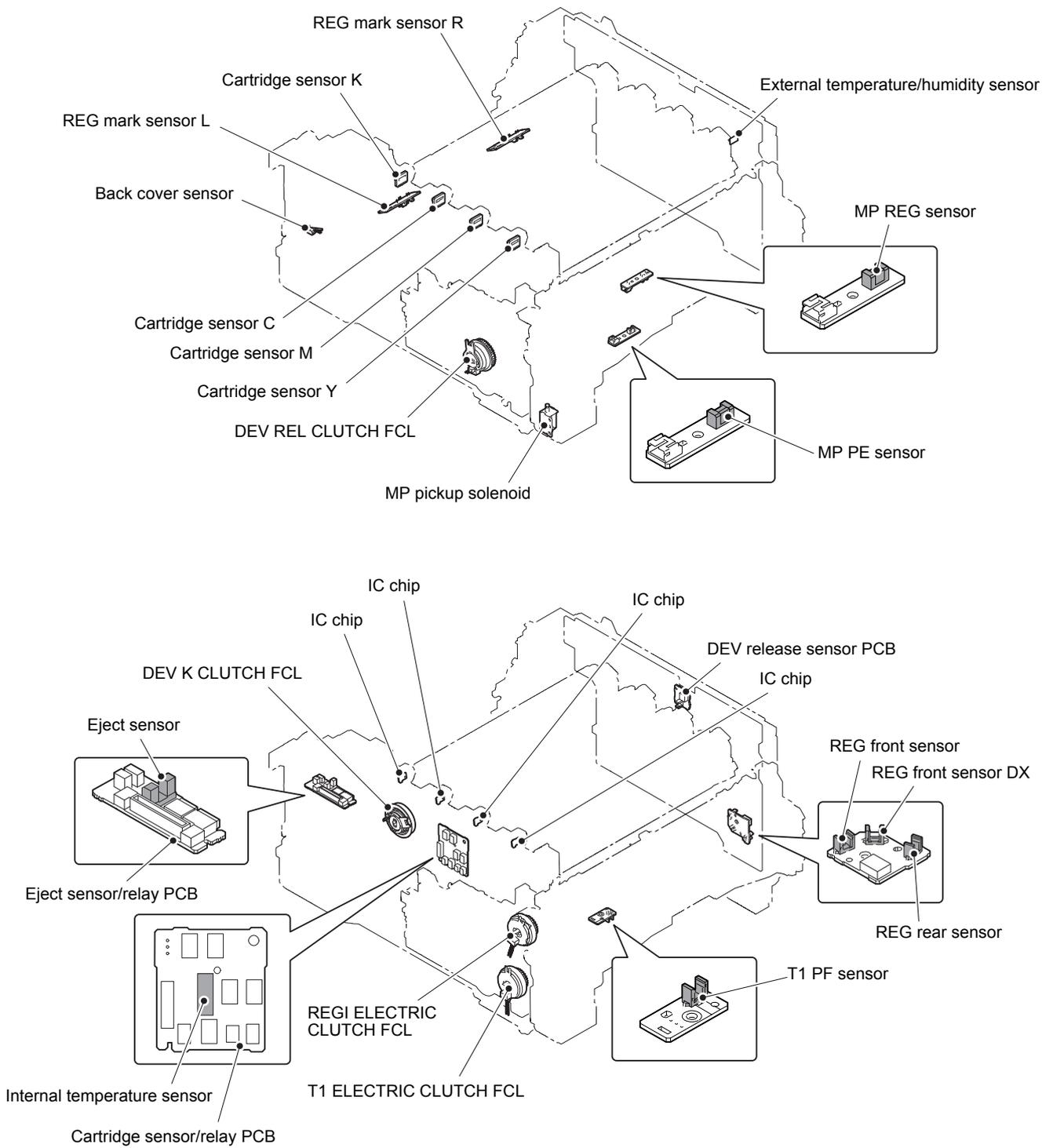


Fig. 2-5

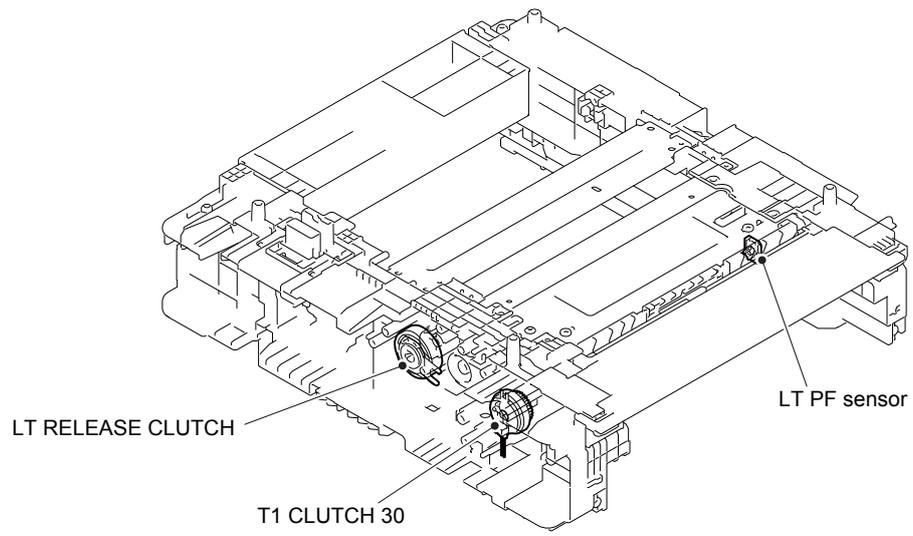


Fig. 2-6

2.4 Block Diagram

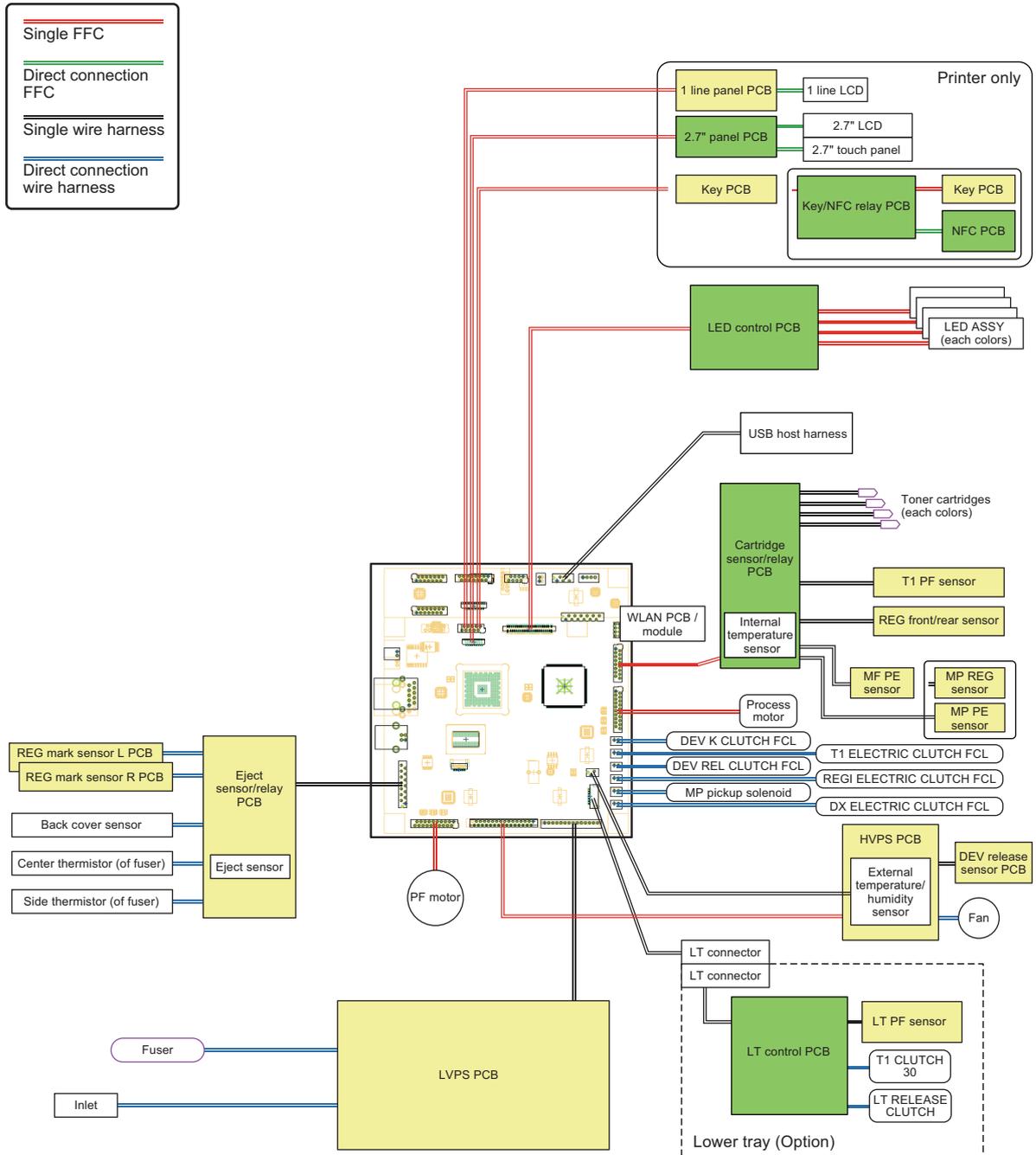


Fig. 2-7

2.5 Main Components

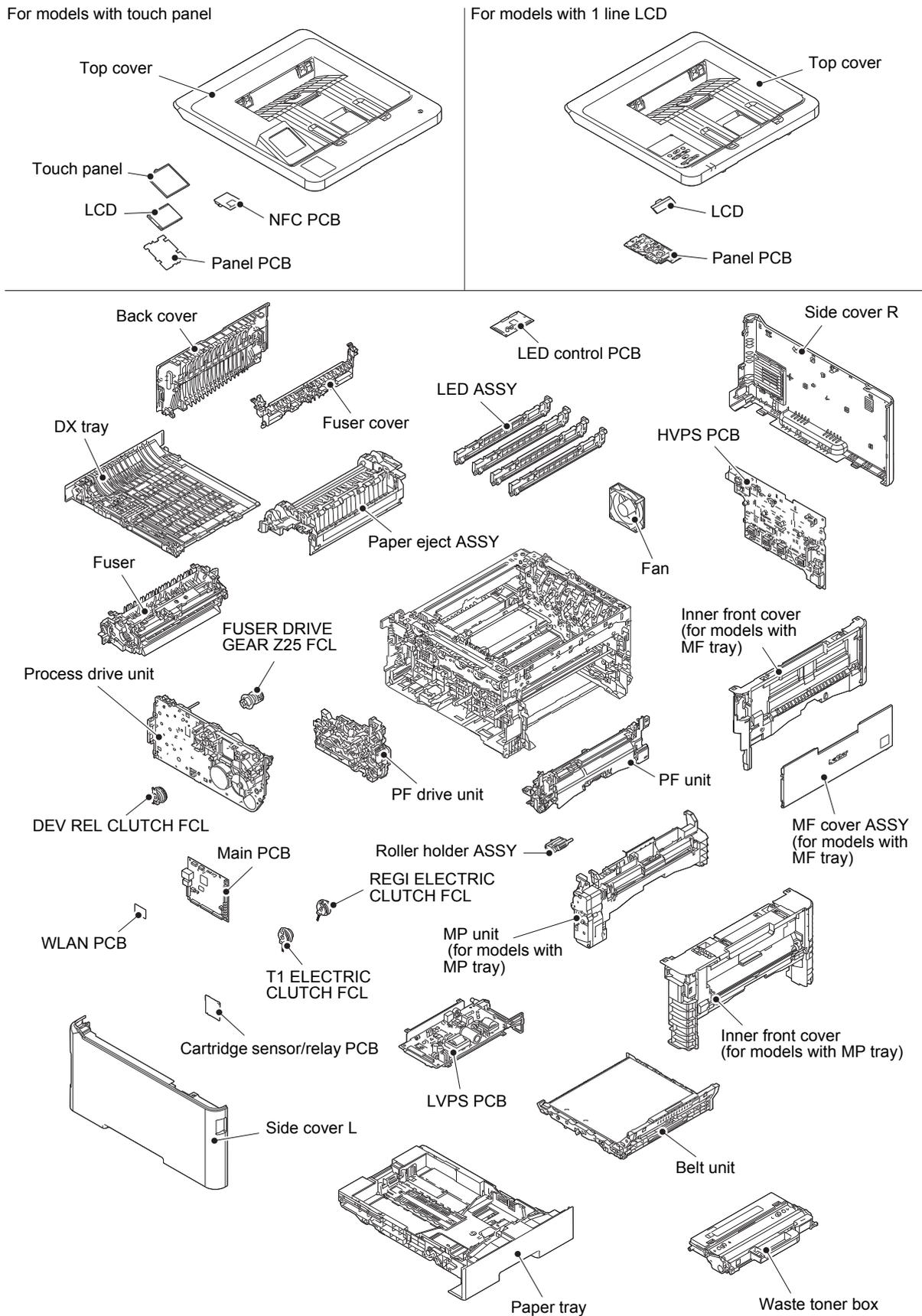


Fig. 2-8

3. ERROR INDICATIONS

You can obtain any error contents according to error codes and error messages.

3.1 Error Codes

Note:

- An Error not listed in the following table may be occurred due to noise or program failure. In that case, turn the power OFF and unplug the AC cord to clear the error.
- Contact Brother distributor when one error occurs repeatedly.

Error codes	Description	Refer to:	Error codes	Description	Refer to:
0000	An error for a specific user who uses the subscription service.	2-37	0C00	Density sensor failure	2-40
0101	Main PCB failure (ASIC / motor driver)	2-37	0E00	HVPS PCB communication error	2-40
0201	Communication error of the PF motor / Unstable speed	2-37	1003	REG mark sensor R failure	2-40
0202	Process motor failure	2-37	1004	REG mark sensor L failure	2-40
0501	Fuser temperature abnormality (Low temperature, center thermistor)	2-38	1400	Condensation (Main PCB temperature/humidity sensor)	2-41
0502	Fuser temperature abnormality (Low temperature, center thermistor)	2-38	1801	LT communication error (Main PCB - LT control PCB)	2-41
0503	Fuser temperature abnormality (High temperature, center thermistor)	2-38	1D01	LED ASSY (K) communication error	2-41
0504	Fuser temperature abnormality (Low temperature, center thermistor)	2-38	1D02	LED ASSY (Y) communication error	2-41
0505	Fuser temperature abnormality (Temperature rise, center thermistor)	2-38	1D03	LED ASSY (M) communication error	2-41
0506	Fuser temperature abnormality (Temperature fall, center thermistor)	2-38	1D04	LED ASSY (C) communication error	2-41
050A	Fuser temperature abnormality (Center thermistor, side thermistor)	2-38	1E01	LED control PCB communication error (Access error)	2-41
050B	Fuser temperature abnormality (Center thermistor, side thermistor)	2-38	1E02	LED control PCB communication error (Read/Write error)	2-41
050C	Fuser temperature abnormality (Center thermistor, side thermistor)	2-38	2100	Wrong K toner cartridge (The toner cartridge other than black is installed.)	2-42
0800	Internal temperature abnormality (Internal thermistor)	2-38	2101	Wrong Y toner cartridge (The toner cartridge other than yellow is installed.)	2-42
0900	Detected irregular power supply for more than 100 times.	2-39	2102	Wrong C toner cartridge (The toner cartridge other than cyan is installed.)	2-42
0A02	Fan failure	2-39	2103	Wrong M toner cartridge (The toner cartridge other than magenta is installed.)	2-42
0B01	HVPS PCB failure (during operating)	2-39	2200	Wrong K toner cartridge (The non-compliant toner cartridge is installed.)	2-43
0B02	HVPS PCB failure (in the stand-by state)	2-39	2201	Wrong Y toner cartridge (The non-compliant toner cartridge is installed.)	2-43

Error codes	Description	Refer to:	Error codes	Description	Refer to:
2202	Wrong C toner cartridge (The non-compliant toner cartridge is installed.)	2-43	2E02	Main PCB failure (IC chip)	2-47
2203	Wrong M toner cartridge (The non-compliant toner cartridge is installed.)	2-43	2E04	Main PCB failure (IC chip)	2-47
2400	Wrong K toner cartridge (The incompatible toner cartridge is installed.)	2-44	3801	External temperature abnormality (Internal thermistor)	2-47
2401	Wrong Y toner cartridge (The incompatible toner cartridge is installed.)	2-44	3A00	Main PCB failure (Sub CPU)	2-47
2402	Wrong C toner cartridge (The incompatible toner cartridge is installed.)	2-44	4001	The K drum unit will be replaced soon. (Part life - Number of pages printed)	2-48
2403	Wrong M toner cartridge (The incompatible toner cartridge is installed.)	2-44	4002	The Y drum unit will be replaced soon. (Part life - Number of pages printed)	2-48
2500	Wrong K toner cartridge (Consumables information access error)	2-45	4003	The M drum unit will be replaced soon. (Part life - Number of pages printed)	2-48
2501	Wrong Y toner cartridge (Consumables information access error)	2-45	4004	The C drum unit will be replaced soon. (Part life - Number of pages printed)	2-48
2502	Wrong C toner cartridge (Consumables information access error)	2-45	4201	Replace the K drum. (Part life - Number of pages printed)	2-48
2503	Wrong M toner cartridge (Consumables information access error)	2-45	4202	Replace the Y drum. (Part life - Number of pages printed)	2-48
2600	Wrong K toner cartridge (The toner cartridge that does not match the model is installed.)	2-46	4203	Replace the M drum. (Part life - Number of pages printed)	2-48
2601	Wrong Y toner cartridge (The toner cartridge that does not match the model is installed.)	2-46	4204	Replace the C drum. (Part life - Number of pages printed)	2-48
2602	Wrong C toner cartridge (The toner cartridge that does not match the model is installed.)	2-46	4300	The belt unit will be replaced soon. (Part life - Number of pages printed)	2-48
2603	Wrong M toner cartridge (The toner cartridge that does not match the model is installed.)	2-46	4400	Replace the belt unit. (Part life - Number of pages printed)	2-48
2800	Wrong K toner cartridge (Non-genuine cartridge prohibited)	2-47	4500	Replace the fuser. (Part life - Number of pages printed)	2-48
2801	Wrong Y toner cartridge (Non-genuine cartridge prohibited)	2-47	4700	The waste toner box will be replaced soon. (Amount of waste toner)	2-48
2802	Wrong C toner cartridge (Non-genuine cartridge prohibited)	2-47	4800	Replace the waste toner box. (Amount of waste toner)	2-49
2803	Wrong M toner cartridge (Non-genuine cartridge prohibited)	2-47	4A00	Replace the waste toner box. (Number of belt cleaning roller rotations)	2-50
2E00	Main PCB failure (IC chip)	2-47	4B01	The K toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)	2-50
2E01	Data in the main PCB is damaged.	2-47	4B02	The Y toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)	2-50

Error codes	Description	Refer to:	Error codes	Description	Refer to:
4B03	The M toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)	2-50	6203	No M drum	2-54
4B04	The C toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)	2-50	6204	No C drum	2-54
4C01	Replace the K toner cartridge. (Part life - DEV roller/Dot counter)	2-51	620A	No K drum	2-56
4C02	Replace the Y toner cartridge. (Part life - DEV roller/Dot counter)	2-51	620B	No Y drum	2-56
4C03	Replace the M toner cartridge. (Part life - DEV roller/Dot counter)	2-51	620C	No M drum	2-56
4C04	Replace the C toner cartridge. (Part life - DEV roller/Dot counter)	2-51	620D	No C drum	2-56
4C05	Replace the Y/M/C toner cartridge in printing. (Part life - DEV roller/Dot counter)	2-51	6300	No waste toner box	2-56
5001	Replace the PF kit MP. (Part life - Number of pages printed)	2-51	6400	No belt unit	2-57
5002	Replace the PF kit T1. (Part life - Number of pages printed)	2-51	6801	High temperature inside the machine	2-57
5003	Replace the PF kit T2. (Part life - Number of pages printed)	2-51	6901	Fuser failure (When turning the power ON)	2-58
5702	Communication error when inserting the K toner cartridge. (Cartridge sensor)	2-52	6902	Fuser failure (When turning the power OFF and then back on again after 6901 occurred)	2-58
5703	Communication error when inserting the Y toner cartridge. (Cartridge sensor)	2-52	6A00	The drum unit abnormally discharged. (Corona wire)	2-58
5704	Communication error when inserting the C toner cartridge. (Cartridge sensor)	2-52	6B01	The K drum abnormally discharged. (Detected after exceeding twice of the drum life.)	2-59
5705	Communication error when inserting the M toner cartridge. (Cartridge sensor)	2-52	6B02	The Y drum abnormally discharged. (Detected after exceeding twice of the drum life.)	2-59
6001	Top cover open	2-52	6B03	The M drum abnormally discharged. (Detected after exceeding twice of the drum life.)	2-59
6004	Fuser cover open	2-52	6B04	The C drum abnormally discharged. (Detected after exceeding twice of the drum life.)	2-59
6101	No K toner cartridge	2-53	6D00	Too many LTs connected	2-59
6102	No Y toner cartridge	2-53	6E00	DEV roller press-contact/release error	2-60
6103	No M toner cartridge	2-53	6F00	Detected irregular power supply for less than 100 times.	2-60
6104	No C toner cartridge	2-53	7000	Jam inside (REG rear sensor: ON - Eject sensor: OFF)	2-61
6201	No K drum	2-54	7100	Jam rear (REG rear sensor: OFF - Eject sensor: ON)	2-61
6202	No Y drum	2-54	7200	MP tray jam (When printing from MP tray, the REG rear sensor is still OFF.)	2-62

Error codes	Description	Refer to:	Error codes	Description	Refer to:
7302	T1 jam (When printing from T1, the REG front sensor is still OFF.)	2-62	9309	No paper in all trays (Paper source setting: AUTO, PE sensor)	2-68
7402	T2 jam (When printing from T2, the REG front sensor is still OFF.)	2-63	930A	No paper in Fax/FilePrint printing	2-69
7800	DX tray jam	2-63	9400	An error for a specific user who uses the subscription service.	2-37
7900	MF tray jam	2-64	9401	An error for a specific user who uses the subscription service.	2-37
8501	T1 open (The error detected on the controller side before the registration of printing in the engine.)	2-64	9402	An error for a specific user who uses the subscription service.	2-37
8502	T2 open (The error detected on the controller side before the registration of printing in the engine.)	2-64	9403	An error for a specific user who uses the subscription service.	2-37
8506	T1 open (The error detected on the engine side after the registration of printing in the engine.)	2-64	9404	An error for a specific user who uses the subscription service.	2-37
8903	Back cover open - 2-sided printing (The error detected on the controller side before the registration of printing in the engine.)	2-65	9405	An error for a specific user who uses the subscription service.	2-37
8904	Back cover open - 2-sided printing (The error detected on the engine side after the registration of printing in the engine.)	2-65	9406	An error for a specific user who uses the subscription service.	2-37
8A01	The paper size for 2-sided printing is out of specification. (REG rear sensor)	2-65	9407	An error for a specific user who uses the subscription service.	2-37
8C00	No paper in MF tray (When printing from MF tray)	2-65	9408	An error for a specific user who uses the subscription service.	2-37
8D01	Paper size error (Print settings)	2-66	9409	An error for a specific user who uses the subscription service.	2-37
8D02	Paper size error (Print data)	2-66	940A	An error for a specific user who uses the subscription service.	2-37
9001	Paper size mismatch - MP tray (Printer driver setting, Printer setting)	2-66	940B	An error for a specific user who uses the subscription service.	2-37
9002	T1 paper size mismatch (Printer driver setting, Printer setting)	2-66	940C	An error for a specific user who uses the subscription service.	2-37
9003	T2 paper size mismatch (Printer driver setting, Printer setting)	2-66	9701	The paper size for 2-sided printing is out of specification. (Printer driver setting)	2-69
9201	MP tray paper type mismatch (Printer driver setting, Printer setting)	2-66	9702	T1 paper size is out of specification. (Printer driver setting)	2-69
9202	T1 paper type mismatch (Printer driver setting, Printer setting)	2-66	9703	T2 paper size is out of specification. (Printer driver setting)	2-69
9203	T2 paper type mismatch (Printer driver setting, Printer setting)	2-66	9801	Density calibration failure (Incorrect measured value)	2-69
9301	No paper in MP tray (MP PE sensor)	2-67	9802	Density calibration failure (Toner empty)	2-69
9302	No paper in T1 (T1 PF sensor)	2-67	9803	Density calibration failure (Others)	2-70

Error codes	Description	Refer to:	Error codes	Description	Refer to:
9804	Density sensor sensitivity adjustment (Function code 72) failure	2-70	C700	Main PCB is out of memory (PC-Print)	2-72
9901	Manual color registration failure (Incorrect measured value)	2-70	C800	Main PCB is out of memory (Secure print)	2-72
9902	Manual color registration failure (Toner empty)	2-70	D800	Touch panel initialization failure	2-73
9903	Manual color registration failure (Others)	2-71	DB00	Main PCB failure (ASIC)	2-73
9A01	Auto color registration failure (Incorrect measured value)	2-71	E000	Data in the main PCB is damaged.	2-73
9A02	Auto color registration failure (Toner empty)	2-71	E001	Main PCB failure (Other operation errors)	2-73
9A03	Auto color registration failure (Others)	2-72	E100	Program data error	2-73
9E00	An error for a specific user who uses the subscription service.	2-37	E500	Main PCB failure (DRAM)	2-73
9E01	An error for a specific user who uses the subscription service.	2-37	E600	Main PCB failure (EEPROM)	2-73
9F00	An error for a specific user who uses the subscription service.	2-37	E701	Main PCB failure (Flash)	2-74
9F01	An error for a specific user who uses the subscription service.	2-37	E900	NFC initialization failure	2-74
9F02	An error for a specific user who uses the subscription service.	2-37	EB00	An error for a specific user who uses the subscription service.	2-37
9F03	An error for a specific user who uses the subscription service.	2-37	EB01	An error for a specific user who uses the subscription service.	2-37
C001	EWS (Web based management) settings error	2-72	EB02	An error for a specific user who uses the subscription service.	2-37
C002	EWS (Web based management) settings error	2-72	EB03	An error for a specific user who uses the subscription service.	2-37
C003	EWS (Web based management) settings error	2-72	EB04	An error for a specific user who uses the subscription service.	2-37
C004	EWS (Web based management) settings error	2-72	EC00	Abnormal current flowing through a USB connector (Eddy current)	2-74
C100	Failure to save HEXDUMP data to USB flash memory (Function code 45)	2-72	F100	Internal temperature abnormality (Internal thermistor)	2-74

3.2 Error Messages

The error messages displayed on the LCD of the machine and their descriptions are shown in the table below.

3.2.1 Non touch panel models

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
2-sided Disabled	Close the Back Cover and put the 2-sided Tray back in.	Back cover open - 2-sided printing (The error detected on the controller side before the registration of printing in the engine.)	8903	2-65
		Back cover open - 2-sided printing (The error detected on the engine side after the registration of printing in the engine.)	8904	2-65
Belt End Soon	-	The belt unit will be replaced soon. (Part life - Number of pages printed)	4300	2-48
Calibrate	Calibration failed. Insufficient Toner for Calibration.	Density calibration failure (Toner empty)	9802	2-69
	Calibration failed. Press Go.	Density calibration failure (Others)	9803	2-70
	Calibration failed. Press Go.	Density sensor sensitivity adjustment (Function code 72) failure	9804	2-70
	Calibration failed. Turn the power off and then back on again.	Density calibration failure (Incorrect measured value)	9801	2-69
Cannot Connect	Make sure the machine is connected to your network.	An error for a specific user who uses the subscription service.	9E00	2-37
		An error for a specific user who uses the subscription service.	9F00	2-37
		An error for a specific user who uses the subscription service.	EB00	2-37
Cannot Detect	Put the Toner Cartridge back in.	Wrong K toner cartridge (The incompatible toner cartridge is installed.)	2400	2-44
		Wrong Y toner cartridge (The incompatible toner cartridge is installed.)	2401	2-44
		Wrong C toner cartridge (The incompatible toner cartridge is installed.)	2402	2-44
		Wrong M toner cartridge (The incompatible toner cartridge is installed.)	2403	2-44
Cannot Print	Visit the subscription dashboard to check your account status.	An error for a specific user who uses the subscription service.	9E01	2-37
Cannot Print 01	Turn the power off and then back on again.	Main PCB failure (ASIC / motor driver)	0101	2-37
Cannot Print 02	Turn the power off and then back on again.	Communication error of the PF motor / Unstable speed	0201	2-37
		Process motor failure	0202	2-37

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Cannot Print 05	Turn the power off and then back on again.	Fuser temperature abnormality (Low temperature, center thermistor)	0501	2-38
		Fuser temperature abnormality (Low temperature, center thermistor)	0502	2-38
		Fuser temperature abnormality (High temperature, center thermistor)	0503	2-38
		Fuser temperature abnormality (Low temperature, center thermistor)	0504	2-38
		Fuser temperature abnormality (Temperature rise, center thermistor)	0505	2-38
		Fuser temperature abnormality (Temperature fall, center thermistor)	0506	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050A	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050B	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050C	2-38
Cannot Print 08	Turn the power off and then back on again.	Internal temperature abnormality (Internal thermistor)	0800	2-38
Cannot Print 09	Turn the power off and then back on again.	Detected irregular power supply for more than 100 times.	0900	2-39
Cannot Print 0A	Turn the power off and then back on again.	Fan failure	0A02	2-39
Cannot Print 0B	Turn the power off and then back on again.	HVPS PCB failure (during operating)	0B01	2-39
		HVPS PCB failure (in the stand-by state)	0B02	2-39
Cannot Print 0C	Turn the power off and then back on again.	Density sensor failure	0C00	2-40
Cannot Print 0E	Turn the power off and then back on again.	HVPS PCB communication error	0E00	2-40
Cannot Print 10	Turn the power off and then back on again.	REG mark sensor R failure	1003	2-40
		REG mark sensor L failure	1004	2-40
Cannot Print 18	Turn the power off and then back on again.	LT communication error (Main PCB - LT control PCB)	1801	2-41
Cannot Print 1D	Turn the power off and then back on again.	LED ASSY (K) communication error	1D01	2-41
		LED ASSY (Y) communication error	1D02	2-41
		LED ASSY (M) communication error	1D03	2-41
		LED ASSY (C) communication error	1D04	2-41
Cannot Print 1E	Turn the power off and then back on again.	LED control PCB communication error (Access error)	1E01	2-41
		LED control PCB communication error (Read/Write error)	1E02	2-41
Cannot Print 2E	Turn the power off and then back on again.	Main PCB failure (IC chip)	2E00	2-47
		Data in the main PCB is damaged.	2E01	2-47
		Main PCB failure (IC chip)	2E02	2-47
		Main PCB failure (IC chip)	2E04	2-47
Cannot Print 38	Turn the power off and then back on again.	External temperature abnormality (Internal thermistor)	3801	2-47
Cannot Print 3A	Turn the power off and then back on again.	Main PCB failure (Sub CPU)	3A00	2-47
Cannot Print C1	Turn the power off and then back on again.	Failure to save HEXDUMP data to USB flash memory (Function code 45)	C100	2-72
Cannot Print E0	Turn the power off and then back on again.	Data in the main PCB is damaged.	E000	2-73
		Main PCB failure (Other operation errors)	E001	2-73

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Cannot Print E1	Turn the power off and then back on again.	Program data error	E100	2-73
Cannot Print E5	Turn the power off and then back on again.	Main PCB failure (DRAM)	E500	2-73
Cannot Print E6	Turn the power off and then back on again.	Main PCB failure (EEPROM)	E600	2-73
Cannot Print E7	Turn the power off and then back on again.	Main PCB failure (Flash)	E701	2-74
Cannot Print E9	Turn the power off and then back on again.	NFC initialization failure	E900	2-74
Cannot Print F1	Turn the power off and then back on again.	Internal temperature abnormality (Internal thermistor)	F100	2-74
Cannot Print ZC	Turn the power off and then back on again.	Detected irregular power supply for less than 100 times.	6F00	2-60
Cartridge Error	Open the Top Cover. Check color and position of toner cartridges.	Wrong K toner cartridge (The toner cartridge other than black is installed.)	2100	2-42
		Wrong Y toner cartridge (The toner cartridge other than yellow is installed.)	2101	2-42
		Wrong C toner cartridge (The toner cartridge other than cyan is installed.)	2102	2-42
		Wrong M toner cartridge (The toner cartridge other than magenta is installed.)	2103	2-42
Change Cartridge	Install a non-subscription cartridge.	An error for a specific user who uses the subscription service.	9400	2-37
	Install a subscription cartridge.	An error for a specific user who uses the subscription service.	9408	2-37
	Install an unused subscription cartridge.	An error for a specific user who uses the subscription service.	9404	2-37
	Install your new subscription cartridge when it arrives. Press OK.	An error for a specific user who uses the subscription service.	940C	2-37
Condensation	Leave switched ON. Fully open the Top cover. Wait 30 minutes, switch OFF and close cover, then switch ON. Leave switched ON. Fully open the top cover. Wait 30 minutes, switch OFF and close cover, then switch ON.	Condensation (Main PCB temperature/humidity sensor)	1400	2-41
Cooling Down	Wait for a while	High temperature inside the machine	6801	2-57
Cover is Open	Close the Back Cover of the machine.	Fuser cover open	6004	2-52
	Close the Top Cover.	Top cover open	6001	2-52
Drum !	Slide the Green tab on Drum Unit. Black (BK)/ Cyan (C)/ Magenta (M)/ Yellow (Y).	The drum unit abnormally discharged. (Corona wire)	6A00	2-58
Drum End Soon: BK	-	The K drum unit will be replaced soon. (Part life - Number of pages printed)	4001	2-48

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Drum End Soon:C	-	The C drum unit will be replaced soon. (Part life - Number of pages printed)	4004	2-48
Drum End Soon:M	-	The M drum unit will be replaced soon. (Part life - Number of pages printed)	4003	2-48
Drum End Soon:Y	-	The Y drum unit will be replaced soon. (Part life - Number of pages printed)	4002	2-48
Drum Stop	Replace the Drum Unit.Black(BK)	The K drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B01	2-59
	Replace the Drum Unit.Cyan(C)	The C drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B04	2-59
	Replace the Drum Unit.Magenta(M)	The M drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B03	2-59
	Replace the Drum Unit.Yellow(Y)	The Y drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B02	2-59
Jam 2-sided	Pull out the 2-sided Tray at the back of the machine and remove the jammed paper.	DX tray jam	7800	2-63
Jam Inside	Open the Top Cover, pull out the Drum Unit completely and remove the jammed paper. Open the Top Cover, pull out all 4 Drum Unit completely and remove the jammed paper.	Jam inside (REG rear sensor: ON - Eject sensor: OFF)	7000	2-61
Jam Manual Feed	Pull out the jammed paper from Manual Feed and press Go.	MF tray jam	7900	2-64
Jam MP Tray	Remove the jammed paper from MP Tray and press Go.	MP tray jam (When printing from MP tray, the REG rear sensor is still OFF.)	7200	2-62
Jam Rear	Open the Back Cover and remove the jammed paper, then press Go.	Jam rear (REG rear sensor: OFF - Eject sensor: ON)	7100	2-61
Jam Tray 1	Remove the jammed paper from Tray 1.	T1 jam (When printing from T1, the REG front sensor is still OFF.)	7302	2-62
Jam Tray 2	Remove the jammed paper from Tray 2.	T2 jam (When printing from T2, the REG front sensor is still OFF.)	7402	2-63

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Log Access Error	Authentication Error, contact your administrator.	EWS (Web based management) settings error	C002	2-72
	File Access Error, contact your administrator.	EWS (Web based management) settings error	C003	2-72
	Server Timeout, contact your administrator.	EWS (Web based management) settings error	C001	2-72
	Wrong Date&Time, contact your administrator.	EWS (Web based management) settings error	C004	2-72
Manual Feed	Load Paper.	No paper in MF tray (When printing from MF tray)	8C00	2-65
Media Mismatch	Reload correct paper in the MP Tray, then press Go.	MP tray paper type mismatch (Printer driver setting, Printer setting)	9201	2-66
	Reload correct paper in Tray 1, then press Go.	T1 paper type mismatch (Printer driver setting, Printer setting)	9202	2-66
	Reload correct paper in Tray 2, then press Go.	T2 paper type mismatch (Printer driver setting, Printer setting)	9203	2-66
No Belt Unit	Open the Top Cover, pull out all 4 Drum Units completely and install the Belt Unit.	No belt unit	6400	2-57
No Drum Unit	Open the Top Cover, then install the Drum Unit. Black(BK)	No K drum	6201	2-54
	Open the Top Cover, then install the Drum Unit. Cyan(C)	No C drum	6204	2-54
	Open the Top Cover, then install the Drum Unit. Magenta(M)	No M drum	6203	2-54
	Open the Top Cover, then install the Drum Unit. Yellow(Y).	No Y drum	6202	2-54
No Paper	Reload paper in Tray.	No paper in all trays (Paper source setting: AUTO, PE sensor)	9309	2-68
No Paper MP	Reload paper in MP Tray.	No paper in MP tray (MP PE sensor)	9301	2-67
No Paper T1	Reload paper in Tray1.	No paper in T1 (T1 PF sensor)	9302	2-67
No Toner	Open the Top Cover, then install Toner Cartridge.	Wrong K toner cartridge (Consumables information access error)	2500	2-45
		Wrong Y toner cartridge (Consumables information access error)	2501	2-45
		Wrong C toner cartridge (Consumables information access error)	2502	2-45
		Wrong M toner cartridge (Consumables information access error)	2503	2-45

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
No Tray T1	Reinstall Tray 1	T1 open (The error detected on the controller side before the registration of printing in the engine.)	8501	2-64
		T1 open (The error detected on the engine side after the registration of printing in the engine.)	8506	2-64
No Tray T2	Reinstall Tray 2	T2 open (The error detected on the controller side before the registration of printing in the engine.)	8502	2-64
No Waste Toner	Install the Waste Toner Box.	No waste toner box	6300	2-56
Out of Memory	Press Go for 2 seconds.	Main PCB is out of memory (PC-Print)	C700	2-72
Print Data Full	Print Data is full. Press Cancel and delete the previously stored data.	Main PCB is out of memory (Secure print)	C800	2-72
Registration	Registration failed. Insufficient Toner for Registration.	Auto color registration failure (Toner empty)	9A02	2-71
	Registration failed. Press Go.	Manual color registration failure (Toner empty)	9902	2-70
		Manual color registration failure (Others)	9903	2-71
		Auto color registration failure (Others)	9A03	2-72
	Registration failed. Turn the power off and then back on again.	Manual color registration failure (Toner empty)	9901	2-70
		Auto color registration failure (Incorrect measured value)	9A01	2-71
Replace Belt	-	Replace the belt unit. (Part life - Number of pages printed)	4400	2-48
Replace Drum: BK	-	Replace the K drum. (Part life - Number of pages printed)	4201	2-48
Replace Drum: C	-	Replace the C drum. (Part life - Number of pages printed)	4204	2-48
Replace Drum: M	-	Replace the M drum. (Part life - Number of pages printed)	4203	2-48
Replace Drum: Y	-	Replace the Y drum. (Part life - Number of pages printed)	4202	2-48
Replace Fuser	-	Replace the fuser. (Part life - Number of pages printed)	4500	2-48
Replace PF KitMP	-	Replace the PF kit MP. (Part life - Number of pages printed)	5001	2-51

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Replace Toner	Open the Top Cover, replace Toner Cartridge. Open the Top Cover, replace Toner Cartridge. Black (BK).	Replace the K toner cartridge. (Part life - DEV roller/Dot counter)	4C01	2-51
	Open the Top Cover, replace Toner Cartridge. Cyan (C). Open the Top Cover, replace Toner Cartridge. Cyan (C).	Replace the C toner cartridge. (Part life - DEV roller/Dot counter)	4C04	2-51
	Open the Top Cover, replace Toner Cartridge. Magenta (M). Open the Top Cover, replace Toner Cartridge. Magenta (M).	Replace the M toner cartridge. (Part life - DEV roller/Dot counter)	4C03	2-51
	Open the Top Cover, replace Toner Cartridge. Yellow (Y). Open the Top Cover, replace Toner Cartridge. Yellow (Y).	Replace the Y toner cartridge. (Part life - DEV roller/Dot counter)	4C02	2-51
Replace WT Box	Replace the Waste Toner Box inside the machine.	Replace the waste toner box. (Amount of waste toner)	4800	2-49
Self-Diagnostic	Turn the power off, then on again. Leave the machine for 15 min.	Fuser failure (When turning the power ON)	6901	2-58
	Will Automatically Restart within 15 minutes.	Fuser failure (When turning the power OFF and then back on again after 6901 occurred)	6902	2-58
Size Error	Specify the correct paper size for Tray 1.	T1 paper size is out of specification. (Printer driver setting)	9702	2-69
	Specify the correct paper size for Tray 2.	T2 paper size is out of specification. (Printer driver setting)	9703	2-69
Size Error DX	Press Go for 2 seconds. Specify the correct paper and load the same size paper as the Printer driver setting.	The paper size for 2-sided printing is out of specification. (Printer driver setting)	9701	2-69
	Specify the correct paper and press Go.	The paper size for 2-sided printing is out of specification. (REG rear sensor)	8A01	2-65
Size Mismatch	Load #S paper in #T and press Go.	T2 paper size mismatch (Printer driver setting, Printer setting)	9003	2-66
	Load XXXX paper in MP Tray and press Go.	Paper size mismatch - MP tray (Printer driver setting, Printer setting)	9001	2-66
	Load XXXX paper in Tray 1 and press Go.	T1 paper size mismatch (Printer driver setting, Printer setting)	9002	2-66

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Toner Error	One or more Toner Cartridges are not detected. Pull out and reinsert all 4 Toner Cartridges.	DEV roller press-contact/release error	6E00	2-60
Toner Low: BK	-	The K toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B01	2-50
Toner Low: C	-	The C toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B04	2-50
Toner Low: M	-	The M toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B03	2-50
Toner Low: Y	-	The Y toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B02	2-50
Too Many Trays	Turn the power off and remove additional trays.	Too many LTs connected	6D00	2-59
Unusable Device	Remove the Device. Turn the power off and back on again.	Abnormal current flowing through a USB connector (Eddy current)	EC00	2-74
Wrong Toner	Open the Top Cover, then install Toner Cartridge.	Wrong K toner cartridge (The non-compliant toner cartridge is installed.)	2200	2-43
		Wrong Y toner cartridge (The non-compliant toner cartridge is installed.)	2201	2-43
		Wrong C toner cartridge (The non-compliant toner cartridge is installed.)	2202	2-43
		Wrong M toner cartridge (The non-compliant toner cartridge is installed.)	2203	2-43
WT Box End Soon	-	The waste toner box will be replaced soon. (Amount of waste toner)	4700	2-48

3.2.2 Touch panel models

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
2-sided Disabled	Close the Back Cover and put the 2-sided Tray back in.	Back cover open - 2-sided printing (The error detected on the controller side before the registration of printing in the engine.)	8903	2-65
		Back cover open - 2-sided printing (The error detected on the engine side after the registration of printing in the engine.)	8904	2-65
Calibration	Calibration failed. Insufficient Toner for Calibration.	Density calibration failure (Toner empty)	9802	2-69
	Calibration failed. Press [OK]	Density calibration failure (Others)	9803	2-70
	Calibration failed. Press [OK]	Density sensor sensitivity adjustment (Function code 72) failure	9804	2-70
	Calibration failed. Turn the power off and then back on again.	Density calibration failure (Incorrect measured value)	9801	2-69
Cannot Connect	Make sure the machine is connected to your network. Go to Settings > Subscription > Check Status. If the connection issue remains, you may not be able to print.	An error for a specific user who uses the subscription service.	EB00	2-37
	Make sure the machine is connected to your network. Go to Settings > Subscription > Check Status.	An error for a specific user who uses the subscription service.	9F00	2-37
	To be able to print, make sure the machine is connected to your network. Go to Settings > Subscription > Check Status.	An error for a specific user who uses the subscription service.	9E00	2-37
Cannot Detect	Put the Toner Cartridge back in. [BK] Black	Wrong K toner cartridge (The incompatible toner cartridge is installed.)	2400	2-44
	Put the Toner Cartridge back in. [C] Cyan	Wrong C toner cartridge (The incompatible toner cartridge is installed.)	2402	2-44
	Put the Toner Cartridge back in. [M] Magenta	Wrong M toner cartridge (The incompatible toner cartridge is installed.)	2403	2-44
	Put the Toner Cartridge back in. [Y] Yellow	Wrong Y toner cartridge (The incompatible toner cartridge is installed.)	2401	2-44
Cannot Print 01	Turn the power off and then back on again.	Main PCB failure (ASIC / motor driver)	0101	2-37

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Cannot Print 02	Turn the power off and then back on again.	Communication error of the PF motor / Unstable speed	0201	2-37
		Process motor failure	0202	2-37
Cannot Print 05	Turn the power off and then back on again.	Fuser temperature abnormality (Low temperature, center thermistor)	0501	2-38
		Fuser temperature abnormality (Low temperature, center thermistor)	0502	2-38
		Fuser temperature abnormality (High temperature, center thermistor)	0503	2-38
		Fuser temperature abnormality (Low temperature, center thermistor)	0504	2-38
		Fuser temperature abnormality (Temperature rise, center thermistor)	0505	2-38
		Fuser temperature abnormality (Temperature fall, center thermistor)	0506	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050A	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050B	2-38
		Fuser temperature abnormality (Center thermistor, side thermistor)	050C	2-38
Cannot Print 08	Turn the power off and then back on again.	Internal temperature abnormality (Internal thermistor)	0800	2-38
Cannot Print 09	Turn the power off and then back on again.	Detected irregular power supply for more than 100 times.	0900	2-39
Cannot Print 0A	Turn the power off and then back on again.	Fan failure	0A02	2-39
Cannot Print 0B	Turn the power off and then back on again.	HVPS PCB failure (during operating)	0B01	2-39
		HVPS PCB failure (in the stand-by state)	0B02	2-39
Cannot Print 0C	Turn the power off and then back on again.	Density sensor failure	0C00	2-40
Cannot Print 0E	Turn the power off and then back on again.	HVPS PCB communication error	0E00	2-40
Cannot Print 10	Turn the power off and then back on again.	REG mark sensor R failure	1003	2-40
		REG mark sensor L failure	1004	2-40
Cannot Print 18	Turn the power off and then back on again.	LT communication error (Main PCB - LT control PCB)	1801	2-41
Cannot Print 1D	Turn the power off and then back on again.	LED ASSY (K) communication error	1D01	2-41
		LED ASSY (Y) communication error	1D02	2-41
		LED ASSY (M) communication error	1D03	2-41
		LED ASSY (C) communication error	1D04	2-41
Cannot Print 1E	Turn the power off and then back on again.	LED control PCB communication error (Access error)	1E01	2-41
		LED control PCB communication error (Read/Write error)	1E02	2-41
Cannot Print 2E	Turn the power off and then back on again.	Main PCB failure (IC chip)	2E00	2-47
		Data in the main PCB is damaged.	2E01	2-47
		Main PCB failure (IC chip)	2E02	2-47
		Main PCB failure (IC chip)	2E04	2-47
Cannot Print 38	Turn the power off and then back on again.	External temperature abnormality (Internal thermistor)	3801	2-47
Cannot Print 3A	Turn the power off and then back on again.	Main PCB failure (Sub CPU)	3A00	2-47
Cannot Print C1	Turn the power off and then back on again.	Failure to save HEXDUMP data to USB flash memory (Function code 45)	C100	2-72

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Cannot Print DB	Turn the power off and then back on again.	Main PCB failure (ASIC)	DB00	2-73
Cannot Print E0	Turn the power off and then back on again.	Data in the main PCB is damaged.	E000	2-73
		Main PCB failure (Other operation errors)	E001	2-73
Cannot Print E1	Turn the power off and then back on again.	Program data error	E100	2-73
Cannot Print E5	Turn the power off and then back on again.	Main PCB failure (DRAM)	E500	2-73
Cannot Print E6	Turn the power off and then back on again.	Main PCB failure (EEPROM)	E600	2-73
Cannot Print E7	Turn the power off and then back on again.	Main PCB failure (Flash)	E701	2-74
Cannot Print E9	Turn the power off and then back on again.	NFC initialization failure	E900	2-74
Cannot Print F1	Turn the power off and then back on again.	Internal temperature abnormality (Internal thermistor)	F100	2-74
Cannot Print ZC	Turn the power off and then back on again.	Detected irregular power supply for less than 100 times.	6F00	2-60
Cartridge Error	Open the Top Cover. Check color and position of toner cartridges. [BK] Black	Wrong K toner cartridge (The toner cartridge other than black is installed.)	2100	2-42
	Open the Top Cover. Check color and position of toner cartridges. [C] Cyan	Wrong C toner cartridge (The toner cartridge other than cyan is installed.)	2102	2-42
	Open the Top Cover. Check color and position of toner cartridges. [M] Magenta	Wrong M toner cartridge (The toner cartridge other than magenta is installed.)	2103	2-42
	Open the Top Cover. Check color and position of toner cartridges. [Y] Yellow	Wrong Y toner cartridge (The toner cartridge other than yellow is installed.)	2101	2-42
	Reinstall the Toner Cartridge. [BK] Black	Communication error when inserting the K toner cartridge. (Cartridge sensor)	5702	2-52
	Reinstall the Toner Cartridge. [C] Cyan	Communication error when inserting the C toner cartridge. (Cartridge sensor)	5704	2-52
	Reinstall the Toner Cartridge. [M] Magenta	Communication error when inserting the M toner cartridge. (Cartridge sensor)	5705	2-52
	Reinstall the Toner Cartridge. [Y] Yellow	Communication error when inserting the Y toner cartridge. (Cartridge sensor)	5703	2-52

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Change Cartridge	Install your new subscription cartridge when it arrives.	An error for a specific user who uses the subscription service.	940C	2-37
	Non-subscription cartridge detected. You will still be charged your monthly plan rate. Install a subscription cartridge to provide accurate usage data.	An error for a specific user who uses the subscription service.	9408	2-37
Condensation	Leave switched ON. Fully open the Top Cover. Wait 30 minutes, switch OFF and close cover, then switch ON.	Condensation (Main PCB temperature/humidity sensor)	1400	2-41
Cooling Down	Wait for a while.	High temperature inside the machine	6801	2-57
Cover is Open.	Close the Back Cover of the Machine.	Fuser cover open	6004	2-52
	Close the Top Cover.	Top cover open	6001	2-52
Drum !	Open the Top Cover. [BK] Black [C] Cyan [M] Magenta [Y] Yellow Pull out all four drum and toner cartridge assemblies. Slide the Green tab on Drum Unit. [BK][C][M][Y]	The drum unit abnormally discharged. (Corona wire)	6A00	2-58

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Drum Stop	Replace the Drum Unit. Refer to the instructions in the carton of the new drum. [BK]	The K drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B01	2-59
	Replace the Drum Unit. Refer to the instructions in the carton of the new drum. [C]	The C drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B04	2-59
	Replace the Drum Unit. Refer to the instructions in the carton of the new drum. [M]	The M drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B03	2-59
	Replace the Drum Unit. Refer to the instructions in the carton of the new drum. [Y]	The Y drum abnormally discharged. (Detected after exceeding twice of the drum life.)	6B02	2-59
Jam 2-sided	Pull out the 2-sided Tray. Remove the jammed paper.	DX tray jam	7800	2-63
Jam Inside	Open the Top Cover. Pull out all four drum and toner cartridge assemblies. Remove the jammed paper.	Jam inside (REG rear sensor: ON - Eject sensor: OFF)	7000	2-61
Jam Manual Feed	Remove the jammed paper from Manual Feed and press [Retry].	MF tray jam	7900	2-64
Jam MP Tray	Remove the jammed paper from MP Tray and press [Retry].	MP tray jam (When printing from MP tray, the REG rear sensor is still OFF.)	7200	2-62
Jam Rear	Open the Back Cover and remove the jammed paper, then press [Retry].	Jam rear (REG rear sensor: OFF - Eject sensor: ON)	7100	2-61
Jam Tray 1	Pull the paper tray1 completely out of the machine and remove the jammed paper.	T1 jam (When printing from T1, the REG front sensor is still OFF.)	7302	2-62
Jam Tray 2	Pull the paper tray2 completely out of the machine and remove the jammed paper.	T2 jam (When printing from T2, the REG front sensor is still OFF.)	7402	2-63

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Log Access Error	Authentication error, contact your administrator.	EWS (Web based management) settings error	C002	2-72
	File Access error, contact your administrator.	EWS (Web based management) settings error	C003	2-72
	Server timeout, contact your administrator.	EWS (Web based management) settings error	C001	2-72
	Wrong Date&Time, contact your administrator.	EWS (Web based management) settings error	C004	2-72
Maintenance	Replace Fuser	Replace the fuser. (Part life - Number of pages printed)	4500	2-48
	Replace PF Kit MP	Replace the PF kit MP. (Part life - Number of pages printed)	5001	2-51
Manual Feed	Load paper.	No paper in MF tray (When printing from MF tray)	8C00	2-65
Media Type Mismatch	Reload correct paper in MP Tray, then press [Retry].	MP tray paper type mismatch (Printer driver setting, Printer setting)	9201	2-66
	Reload correct paper in Tray1, then press [Retry].	T1 paper type mismatch (Printer driver setting, Printer setting)	9202	2-66
	Reload correct paper in Tray2, then press [Retry].	T2 paper type mismatch (Printer driver setting, Printer setting)	9203	2-66
No Belt Unit	Open the Top Cover, pull out the Drum Unit completely and install the Belt Unit. Open the Top Cover, pull out all 4 Drum Unit completely and install the Belt Unit.	No belt unit	6400	2-57
No Drum Unit	Open the Top Cover, then install the Drum Unit. [BK] Black	No K drum	6201	2-54
	Open the Top Cover, then install the Drum Unit. [C] Cyan	No C drum	6204	2-54
	Open the Top Cover, then install the Drum Unit. [M] Magenta	No M drum	6203	2-54
	Open the Top Cover, then install the Drum Unit. [Y] Yellow	No Y drum	6202	2-54
No Paper	Reload paper in Tray.	No paper in all trays (Paper source setting: AUTO, PE sensor)	9309	2-68
No Paper MP Tray	Reload paper in MP Tray.	No paper in MP tray (MP PE sensor)	9301	2-67
No Paper Tray1	Reload paper in Tray 1.	No paper in T1 (T1 PF sensor)	9302	2-67

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
No Toner	Open the Top Cover, then install Toner Cartridge. [BK] Black	Wrong K toner cartridge (Consumables information access error)	2500	2-45
	Open the Top Cover, then install Toner Cartridge. [C] Cyan	Wrong C toner cartridge (Consumables information access error)	2502	2-45
	Open the Top Cover, then install Toner Cartridge. [M] Magenta	Wrong M toner cartridge (Consumables information access error)	2503	2-45
	Open the Top Cover, then install Toner Cartridge. [Y] Yellow	Wrong Y toner cartridge (Consumables information access error)	2501	2-45
No Tray1	Reinstall Tray 1.	T1 open (The error detected on the controller side before the registration of printing in the engine.)	8501	2-64
		T1 open (The error detected on the engine side after the registration of printing in the engine.)	8506	2-64
No Tray2	Reinstall Tray 2.	T2 open (The error detected on the controller side before the registration of printing in the engine.)	8502	2-64
No Waste Toner	Install the Waste Toner Box.	No waste toner box	6300	2-56
Out of Memory	Press stop[x].	Main PCB is out of memory (PC-Print)	C700	2-72
Print Data Full	Secure Print Data is full. Press Stop [X] and delete the previously stored data.	Main PCB is out of memory (Secure print)	C800	2-72
Registration	Registration failed. Insufficient Toner for Registration.	Auto color registration failure (Toner empty)	9A02	2-71
	Registration failed. Press [OK]	Manual color registration failure (Toner empty)	9902	2-70
		Manual color registration failure (Others)	9903	2-71
		Auto color registration failure (Others)	9A03	2-72
	Registration failed. Turn the power off and then back on again.	Manual color registration failure (Toner empty)	9901	2-70
		Auto color registration failure (Incorrect measured value)	9A01	2-71

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Replace Toner	Open the Top Cover. Pull out the drum unit with toner to be replaced. Press the green lever. Replace toner. [BK] Black	Replace the K toner cartridge. (Part life - DEV roller/Dot counter)	4C01	2-51
	Open the Top Cover. Pull out the drum unit with toner to be replaced. Press the green lever. Replace toner. [C] Cyan	Replace the C toner cartridge. (Part life - DEV roller/Dot counter)	4C04	2-51
	Open the Top Cover. Pull out the drum unit with toner to be replaced. Press the green lever. Replace toner. [C] Cyan [M] Magenta [Y] Yellow	Replace the Y/M/C toner cartridge in printing. (Part life - DEV roller/Dot counter)	4C05	2-51
	Open the Top Cover. Pull out the drum unit with toner to be replaced. Press the green lever. Replace toner. [M] Magenta	Replace the M toner cartridge. (Part life - DEV roller/Dot counter)	4C03	2-51
	Open the Top Cover. Pull out the drum unit with toner to be replaced. Press the green lever. Replace toner. [Y] Yellow	Replace the Y toner cartridge. (Part life - DEV roller/Dot counter)	4C02	2-51
Replace WT Box	Replace the Waste Toner Box inside the machine.	Replace the waste toner box. (Amount of waste toner)	4800	2-49
Self-Diagnostic	Turn the power off, then on again. Leave the machine for 15 min.	Fuser failure (When turning the power ON)	6901	2-58
	Will Automatically Restart within 15 minutes.	Fuser failure (When turning the power OFF and then back on again after 6901 occurred)	6902	2-58
Size Error	Specify the correct paper size for Tray1.	T1 paper size is out of specification. (Printer driver setting)	9702	2-69
	Specify the correct paper size for Tray2.	T2 paper size is out of specification. (Printer driver setting)	9703	2-69

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Size Error 2-sided	Press Stop [X]. Specify the correct paper and load the same size paper as Printer driver setting.	The paper size for 2-sided printing is out of specification. (Printer driver setting)	9701	2-69
	Specify the correct paper and press [Retry].	The paper size for 2-sided printing is out of specification. (REG rear sensor)	8A01	2-65
Size Mismatch	Reload correct paper in MP Tray, then press [Retry].	Paper size mismatch - MP tray (Printer driver setting, Printer setting)	9001	2-66
	Reload correct paper in Tray1, then press [Retry].	T1 paper size mismatch (Printer driver setting, Printer setting)	9002	2-66
	Reload correct paper in Tray2, then press [Retry].	T2 paper size mismatch (Printer driver setting, Printer setting)	9003	2-66
Supplies	Belt End Soon	The belt unit will be replaced soon. (Part life - Number of pages printed)	4300	2-48
	Drum End Soon: [BK]	The K drum unit will be replaced soon. (Part life - Number of pages printed)	4001	2-48
	Drum End Soon: [Y]	The Y drum unit will be replaced soon. (Part life - Number of pages printed)	4002	2-48
	Drum End Soon: [M]	The M drum unit will be replaced soon. (Part life - Number of pages printed)	4003	2-48
	Drum End Soon: [C]	The C drum unit will be replaced soon. (Part life - Number of pages printed)	4004	2-48
	Replace Belt	Replace the belt unit. (Part life - Number of pages printed)	4400	2-48
	Replace Drum: [BK]	Replace the K drum. (Part life - Number of pages printed)	4201	2-48
	Replace Drum: [Y]	Replace the Y drum. (Part life - Number of pages printed)	4202	2-48
	Replace Drum: [M]	Replace the M drum. (Part life - Number of pages printed)	4203	2-48
	Replace Drum: [C]	Replace the C drum. (Part life - Number of pages printed)	4204	2-48
	Toner Low: [BK]	The K toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B01	2-50
	Toner Low: [Y]	The Y toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B02	2-50
	Toner Low: [M]	The M toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B03	2-50
	Toner Low: [C]	The C toner cartridge will be replaced soon. (Part life - DEV roller/ Dot counter)	4B04	2-50
WT Box End Soon	The waste toner box will be replaced soon. (Amount of waste toner)	4700	2-48	

Error messages		Description	Error codes	Refer to:
1st message	2nd message			
Toner Error	One or more Toner Cartridges are not detected. Pull out and reinsert all 4 Toner Cartridges.	DEV roller press-contact/release error	6E00	2-60
Too Many Trays	Turn the power off and remove additional trays.	Too many LTs connected	6D00	2-59
Screen Init. Fail	Remove any material which is on the touchscreen.	Touch panel initialization failure	D800	2-73
Unsupported Cartridge	Install a non-subscription cartridge.	An error for a specific user who uses the subscription service.	9400	2-37
	This subscription cartridge has been used in a different machine. Install a new subscription cartridge.	An error for a specific user who uses the subscription service.	9404	2-37
Unusable Device	Remove the Device. Turn the power off and back on again.	Abnormal current flowing through a USB connector (Eddy current)	EC00	2-74
Wrong Toner Cartridge	Open the Top Cover, then install Toner Cartridge. [BK] Black	Wrong K toner cartridge (The non-compliant toner cartridge is installed.)	2200	2-43
	Open the Top Cover, then install Toner Cartridge. [C] Cyan	Wrong C toner cartridge (The non-compliant toner cartridge is installed.)	2202	2-43
	Open the Top Cover, then install Toner Cartridge. [M] Magenta	Wrong M toner cartridge (The non-compliant toner cartridge is installed.)	2203	2-43
	Open the Top Cover, then install Toner Cartridge. [Y] Yellow	Wrong Y toner cartridge (The non-compliant toner cartridge is installed.)	2201	2-43
	Open the Top Cover, then install Toner Cartridge. [BK] Black	Wrong K toner cartridge (The toner cartridge that does not match the model is installed.)	2600	2-46
	Open the Top Cover, then install Toner Cartridge. [C] Cyan	Wrong C toner cartridge (The toner cartridge that does not match the model is installed.)	2602	2-46
	Open the Top Cover, then install Toner Cartridge. [M] Magenta	Wrong M toner cartridge (The toner cartridge that does not match the model is installed.)	2603	2-46
	Open the Top Cover, then install Toner Cartridge. [Y] Yellow	Wrong Y toner cartridge (The toner cartridge that does not match the model is installed.)	2601	2-46

4. TROUBLESHOOTING

4.1 Error Cause and Remedy

- **Error code 0000, 9400, 9401, 9402, 9403, 9404, 9405, 9406, 9407, 9408, 9409, 940A, 940B, 940C, 9E00, 9E01, 9F00, 9F01, 9F02, 9F03, EB00, EB01, EB02, EB03, EB04**

An error for a specific user who uses the subscription service.

<User Check>

- Check that the printer is a subscription service machine.
- Check that a subscription service cartridge is installed.
- Check that the cartridge is not the one ever used on the other subscription service machine.
- Check that the printer is connected to the network.

- **Error code 0101**

Main PCB failure (ASIC / motor driver)

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

- **Error code 0201**

Communication error of the PF motor / Unstable speed

No.	Cause		Remedy	
1	Failure	PF motor	Replace	PF motor
2	Connection failure	PF motor FFC	Reconnect	PF motor FFC
3	Failure	PF motor FFC	Replace	PF motor FFC (For models with MP tray) or PF motor FFC (For models with MF tray)
4	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
5	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
6	Failure	Main PCB	Replace	Main PCB
7	Failure	LVPS PCB	Replace	LVPS PCB
8	Connection failure	LVPS harness	Reconnect	LVPS harness
9	Failure	LVPS harness	Replace	LVPS harness
10	Failure	Fuser	Replace	Fuser

- **Error code 0202**

Process motor failure

No.	Cause		Remedy	
1	Failure	Process motor	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
2	Connection failure	Process motor FFC	Reconnect	Process motor FFC
3	Failure	Process motor FFC	Replace	Process motor FFC
4	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
5	Failure	Main PCB	Replace	Main PCB
6	Failure	LVPS PCB	Replace	LVPS PCB
7	Connection failure	LVPS harness	Reconnect	LVPS harness
8	Failure	LVPS harness	Replace	LVPS harness

■ **Error code 0501, 0502**

Fuser temperature abnormality (Low temperature, center thermistor)

Error code 0503

Fuser temperature abnormality (High temperature, center thermistor)

Error code 0504

Fuser temperature abnormality (Low temperature, center thermistor)

Error code 0505

Fuser temperature abnormality (Temperature rise, center thermistor)

Error code 0506

Fuser temperature abnormality (Temperature fall, center thermistor)

<User Check>

- Turn the power OFF. After several seconds, turn the power ON and check that this error is reset.

No.	Cause		Remedy	
1	Connection failure	Center thermistor harness (of fuser)	Reconnect	Center thermistor harness (of Fuser)
2	Failure	Fuser	Replace	Fuser
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
5	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
6	Failure	Main PCB	Replace	Main PCB
7	Failure	LVPS PCB	Replace	LVPS PCB
8	Connection failure	LVPS harness	Reconnect	LVPS harness
9	Failure	LVPS harness	Replace	LVPS harness

■ **Error code 050A, 050B, 050C**

Fuser temperature abnormality (Center thermistor, side thermistor)

<User Check>

- Turn the power OFF. After several seconds, turn the power ON and check that this error is reset.

No.	Cause		Remedy	
1	Connection failure	Side thermistor harness (of fuser)	Reconnect	Side thermistor harness (of Fuser)
2	Failure	Fuser	Replace	Fuser
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
5	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
6	Failure	Main PCB	Replace	Main PCB
7	Failure	LVPS PCB	Replace	LVPS PCB
8	Connection failure	LVPS harness	Reconnect	LVPS harness
9	Failure	LVPS harness	Replace	LVPS harness

■ **Error code 0800**

Internal temperature abnormality (Internal thermistor)

No.	Cause		Remedy	
1	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
2	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
3	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
4	Failure	Main PCB	Replace	Main PCB

■ **Error code 0900**

Detected irregular power supply for more than 100 times.

<User Check>

- Turn the power OFF. After several seconds, turn the power ON and check that this error is reset.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB
2	Failure	LVPS PCB	Replace	LVPS PCB
3	Connection failure	LVPS harness	Reconnect	LVPS harness
4	Failure	LVPS harness	Replace	LVPS harness

Note:

- The irregular power supply detection error (Error code 0900) of the LVPS PCB occurs when there is a large distortion in the power supply voltage supplied to the machine. In this case, if the same power supply is used, the same error might occur again even if the LVPS PCB is replaced. For this reason, be sure to ask users to rearrange the installation environment.

■ **Error code 0A02**

Fan failure

No.	Cause		Remedy	
1	Connection failure	Fan harness	Reconnect	Fan harness
2	Failure	Fan harness	Replace	Fan
3	Failure	Fan	Replace	Fan
4	Connection failure	HVPS harness	Reconnect	HVPS harness
5	Failure	HVPS harness	Replace	HVPS harness
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 0B01**

HVPS PCB failure (during operating)

Error code 0B02

HVPS PCB failure (in the stand-by state)

< User Check >

- Slide the green tab on the drum unit to left and right for two to three times to clean the corona wires of all four colors.
- There is a possibility of condensation. Turn the power OFF and then back ON again, then open the top cover/joint cover and the back cover and leave the machine more than 30 minutes.
- Replace the drum unit.

No.	Cause		Remedy	
1	Connection failure	HVPS FFC	Reconnect	HVPS FFC
2	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
3	Failure	HVPS PCB	Replace	HVPS PCB
4	Failure	Main PCB	Replace	Main PCB

■ **Error code 0C00**

Density sensor failure

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 0E00**

HVPS PCB communication error

No.	Cause		Remedy	
1	Connection failure	HVPS FFC	Reconnect	HVPS FFC
2	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
3	Failure	HVPS PCB	Replace	HVPS PCB
4	Failure	Main PCB	Replace	Main PCB

■ **Error code 1003**

REG mark sensor R failure

<User Check>

- Clean the dirt on the belt unit, or replace the belt unit.
- Replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor R harness	Reconnect	REG mark sensor R harness
2	Failure	REG mark sensor R PCB	Replace	REG mark sensor R PCB
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 1004**

REG mark sensor L failure

<User Check>

- Clean the dirt on the belt unit, or replace the belt unit.
- Replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 1400**

Condensation (Main PCB temperature/humidity sensor)

<User Check>

- Leave switched on. Open the top cover/joint cover and the back cover. After Waiting for 30 minutes or more, turn the power switch OFF and close the covers, then turn the power switch ON.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 1801**

LT communication error (Main PCB - LT control PCB)

<User Check>

- Install the latest main firmware. (The main firmware contains the LT firmware.)

No.	Cause		Remedy	
1	Connection failure	LT connector harness (Machine side)	Reconnect	LT connector harness (Machine side)
2	Failure	LT connector harness (Machine side)	Replace	LT connector harness (Machine side)
3	Connection failure	LT connector harness (LT side)	Reconnect	LT connector harness (LT side)
4	Failure	LT connector harness (LT side)	Replace	LT connector (LT side)
5	Failure	LT control PCB	Replace	LT control PCB
6	Failure	Main PCB	Replace	Main PCB

■ **Error code 1D01**

LED ASSY (K) communication error

Error code 1D02

LED ASSY (Y) communication error

Error code 1D03

LED ASSY (M) communication error

Error code 1D04

LED ASSY (C) communication error

No.	Cause		Remedy	
1	Failure	LED ASSY (Each color)	Replace	LED ASSY (Each color)
2	Connection failure	LED FFC (Each color)	Reconnect	LED FFC (Each color)
3	Failure	LED FFC (Each color)	Replace	LED FFC (Each color)
4	Failure	LED control PCB	Replace	LED control PCB
5	Connection failure	LED control FFC	Reconnect	LED control FFC
6	Failure	LED control FFC	Replace	LED control FFC
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 1E01**

LED control PCB communication error (Access error)

Error code 1E02

LED control PCB communication error (Read/Write error)

No.	Cause		Remedy	
1	Failure	LED control PCB	Replace	LED control PCB
2	Connection failure	LED control FFC	Reconnect	LED control FFC
3	Failure	LED control FFC	Replace	LED control FFC
4	Failure	Main PCB	Replace	Main PCB

■ **Error code 2100**

Wrong K toner cartridge (The toner cartridge other than black is installed.)

Error code 2101

Wrong Y toner cartridge (The toner cartridge other than yellow is installed.)

Error code 2102

Wrong C toner cartridge (The toner cartridge other than cyan is installed.)

Error code 2103

Wrong M toner cartridge (The toner cartridge other than magenta is installed.)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a different color toner cartridge is not set.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (See Fig. 2-9 below.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (See Fig. 2-9 below.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Toner cartridge sensor terminal (Toner cartridge)**

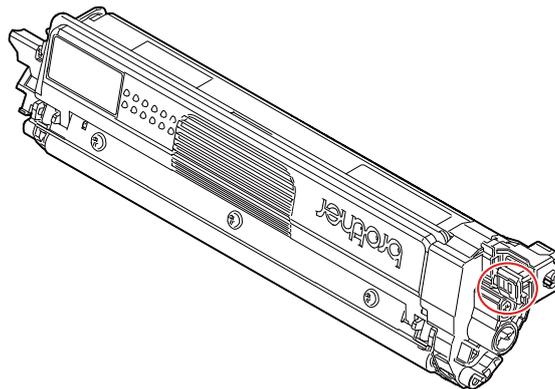


Fig. 2-9

■ **Error code 2200**

Wrong K toner cartridge (The non-compliant toner cartridge is installed.)

Error code 2201

Wrong Y toner cartridge (The non-compliant toner cartridge is installed.)

Error code 2202

Wrong C toner cartridge (The non-compliant toner cartridge is installed.)

Error code 2203

Wrong M toner cartridge (The non-compliant toner cartridge is installed.)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 2400**

Wrong K toner cartridge (The incompatible toner cartridge is installed.)

Error code 2401

Wrong Y toner cartridge (The incompatible toner cartridge is installed.)

Error code 2402

Wrong C toner cartridge (The incompatible toner cartridge is installed.)

Error code 2403

Wrong M toner cartridge (The incompatible toner cartridge is installed.)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 2500**

Wrong K toner cartridge (Consumables information access error)

Error code 2501

Wrong Y toner cartridge (Consumables information access error)

Error code 2502

Wrong C toner cartridge (Consumables information access error)

Error code 2503

Wrong M toner cartridge (Consumables information access error)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 2600**

Wrong K toner cartridge (The toner cartridge that does not match the model is installed.)

Error code 2601

Wrong Y toner cartridge (The toner cartridge that does not match the model is installed.)

Error code 2602

Wrong C toner cartridge (The toner cartridge that does not match the model is installed.)

Error code 2603

Wrong M toner cartridge (The toner cartridge that does not match the model is installed.)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 2800**

Wrong K toner cartridge (Non-genuine cartridge prohibited)

Error code 2801

Wrong Y toner cartridge (Non-genuine cartridge prohibited)

Error code 2802

Wrong C toner cartridge (Non-genuine cartridge prohibited)

Error code 2803

Wrong M toner cartridge (Non-genuine cartridge prohibited)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- According to the User’s Guide, allow using non-genuine cartridges.

■ **Error code 2E00**

Main PCB failure (IC chip)

Error code 2E01

Data in the main PCB is damaged.

Error code 2E02, 2E04

Main PCB failure (IC chip)

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 3801**

External temperature abnormality (Internal thermistor)

No.	Cause		Remedy	
1	Connection failure	LVPS harness	Reconnect	LVPS harness
2	Failure	LVPS harness	Replace	LVPS harness
3	Failure	LVPS PCB	Replace	LVPS PCB
4	Connection failure	HVPS FFC	Reconnect	HVPS FFC
5	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 3A00**

Main PCB failure (Sub CPU)

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 4001**

The K drum unit will be replaced soon. (Part life - Number of pages printed)

Error code 4002

The Y drum unit will be replaced soon. (Part life - Number of pages printed)

Error code 4003

The M drum unit will be replaced soon. (Part life - Number of pages printed)

Error code 4004

The C drum unit will be replaced soon. (Part life - Number of pages printed)

■ **Error code 4201**

Replace the K drum. (Part life - Number of pages printed)

Error code 4202

Replace the Y drum. (Part life - Number of pages printed)

Error code 4203

Replace the M drum. (Part life - Number of pages printed)

Error code 4204

Replace the C drum. (Part life - Number of pages printed)

<User Check>

- Replace the drum unit with a new one.

■ **Error code 4300**

The belt unit will be replaced soon. (Part life - Number of pages printed)

■ **Error code 4400**

Replace the belt unit. (Part life - Number of pages printed)

<User Check>

- Replace the belt unit with a new one.

■ **Error code 4500**

Replace the fuser. (Part life - Number of pages printed)

<User Check>

- Replace the fuser with a new one.

Note:

- Refer to “5.1 Resetting Printed Pages Counter for the Fuser (Reset Counters after Parts Replacement (Function Code 88))” in Chapter 4.

■ **Error code 4700**

The waste toner box will be replaced soon. (Amount of waste toner)

■ **Error code 4800**

Replace the waste toner box. (Amount of waste toner)

<User Check>

- Replace the waste toner box with a new one.

No.	Cause		Remedy	
1	Terminal dirt	Waste toner sensor (of waste toner box)	Clean	Waste toner sensor (of waste toner box) (See Fig. 2-10, Fig. 2-11 below.)
2	Failure	Waste toner sensor (of waste toner box)	Replace	Waste toner sensor (of waste toner box)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Waste toner sensor terminal (Machine)**

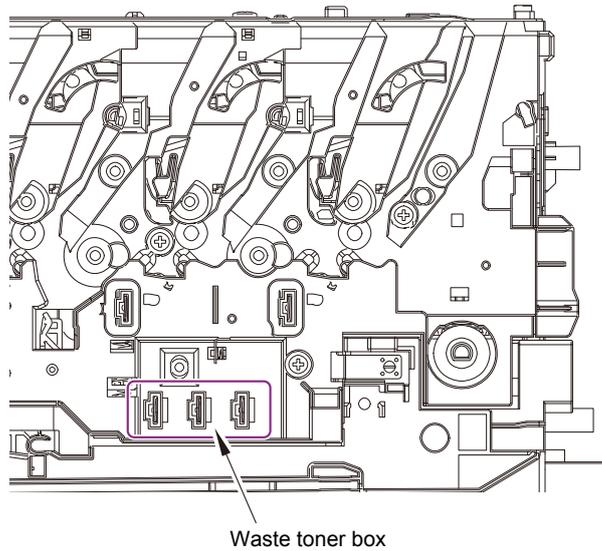


Fig. 2-10

■ **Waste toner sensor terminal (Waste toner box)**

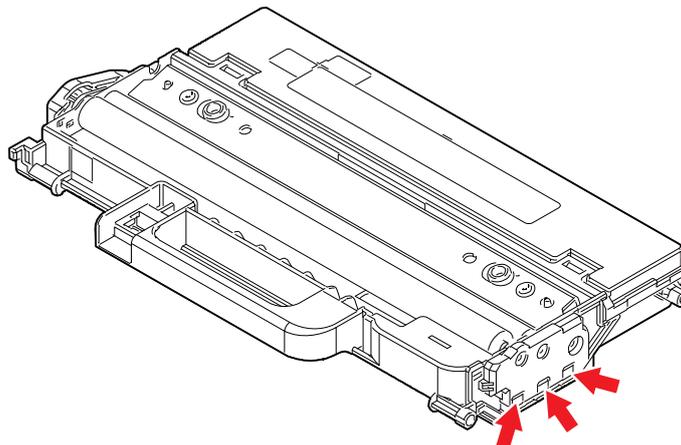


Fig. 2-11

■ **Electrodes location of HVPS PCB**

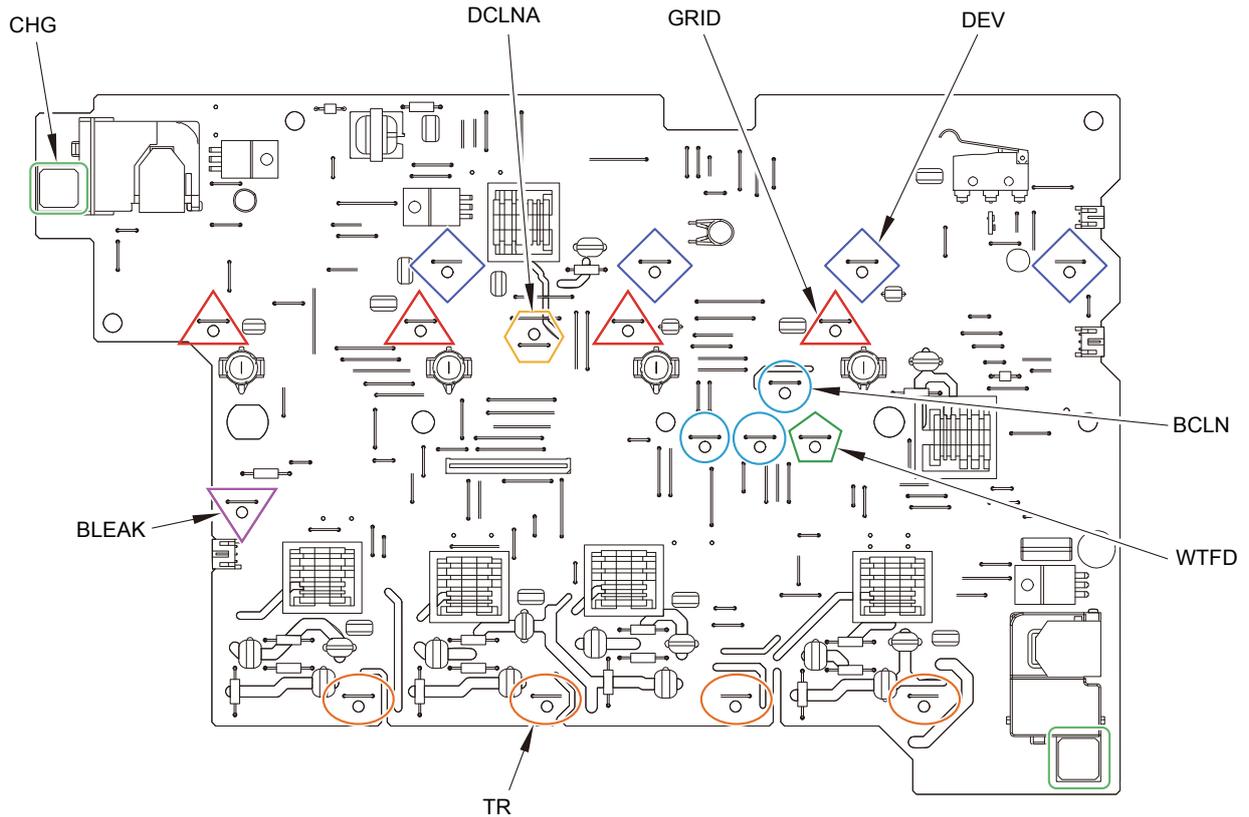


Fig. 2-12

■ **Error code 4A00**

Replace the waste toner box. (Number of belt cleaning roller rotations)

<User Check>

- Replace the waste toner box with a new one.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 4B01**

The K toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)

Error code 4B02

The Y toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)

Error code 4B03

The M toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)

Error code 4B04

The C toner cartridge will be replaced soon. (Part life - DEV roller/Dot counter)

■ **Error code 4C01**

Replace the K toner cartridge. (Part life - DEV roller/Dot counter)

Error code 4C02

Replace the Y toner cartridge. (Part life - DEV roller/Dot counter)

Error code 4C03

Replace the M toner cartridge. (Part life - DEV roller/Dot counter)

Error code 4C04

Replace the C toner cartridge. (Part life - DEV roller/Dot counter)

Error code 4C05

Replace the Y/M/C toner cartridge in printing. (Part life - DEV roller/Dot counter)

<User Check>

- Replace the toner cartridge with a new one.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 5001**

Replace the PF kit MP. (Part life - Number of pages printed)

<User Check>

- Replace the PF kit MP.
- Reset the counter. (Refer to "PERIODICAL MAINTENANCE" in Chapter 6.)

■ **Error code 5002**

Replace the PF kit T1. (Part life - Number of pages printed)

<User Check>

- Replace the PF kit T1.
- Reset the counter. (Refer to "PERIODICAL MAINTENANCE" in Chapter 6.)

■ **Error code 5003**

Replace the PF kit T2. (Part life - Number of pages printed)

<User Check>

- Replace the PF kit T2.
- Reset the counter. (Refer to "PERIODICAL MAINTENANCE" in Chapter 6.)

■ **Error code 5702**

Communication error when inserting the K toner cartridge. (Cartridge sensor)

Error code 5703

Communication error when inserting the Y toner cartridge. (Cartridge sensor)

Error code 5704

Communication error when inserting the C toner cartridge. (Cartridge sensor)

Error code 5705

Communication error when inserting the M toner cartridge. (Cartridge sensor)

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 6001**

Top cover open

No.	Cause		Remedy	
1	Connection failure	HVPS harness	Reconnect	HVPS harness
2	Failure	HVPS PCB	Replace	HVPS PCB
3	Failure	Main PCB	Replace	Main PCB

■ **Error code 6004**

Fuser cover open

No.	Cause		Remedy	
1	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
2	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
3	Failure	Main PCB	Replace	Main PCB

■ **Error code 6101**

No K toner cartridge

Error code 6102

No Y toner cartridge

Error code 6103

No M toner cartridge

Error code 6104

No C toner cartridge

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Failure	Toner cartridge (Each color)	Replace	Toner cartridge (Each color)
3	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
4	Failure	Cartridge sensor (Each color)	Replace	Cartridge sensor (Each color)
5	Connection failure	Cartridge sensor harness (Each color)	Reconnect	Cartridge sensor harness (Each color)
6	Failure	Cartridge sensor harness (Each color)	Replace	Cartridge sensor harness (Each color)
7	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 6201**

No K drum

■ **Error code 6202**

No Y drum

■ **Error code 6203**

No M drum

■ **Error code 6204**

No C drum

<User Check>

- Reinstall the drum unit.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (See Fig. 2-13 below.) (Refer to Fig. 2-14.)
2	Failure	Drum unit (Each color)	Replace	Drum unit (Each color)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Electrodes location of drum unit**

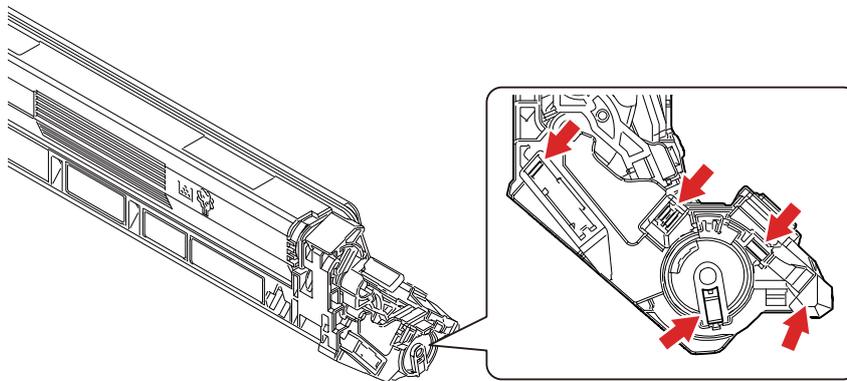
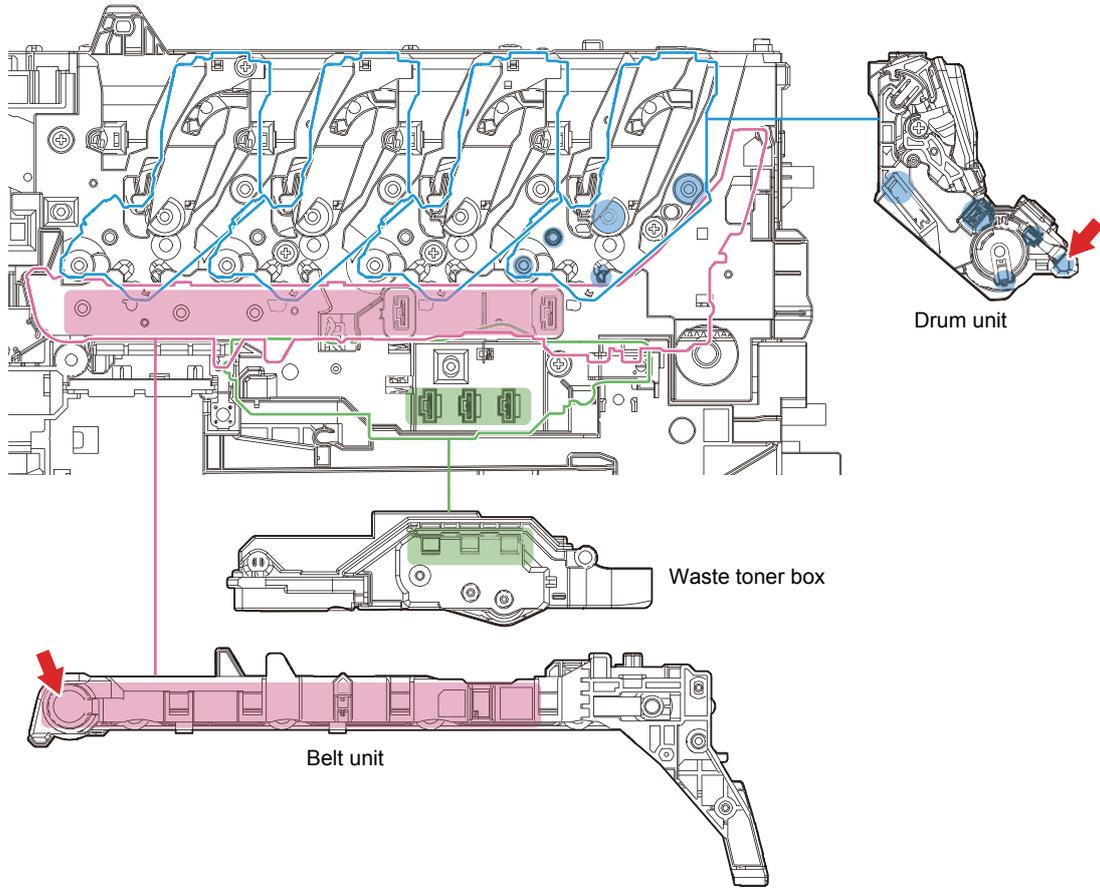


Fig. 2-13

■ Electrodes location of machine

<Frame R side>



<Frame L side>

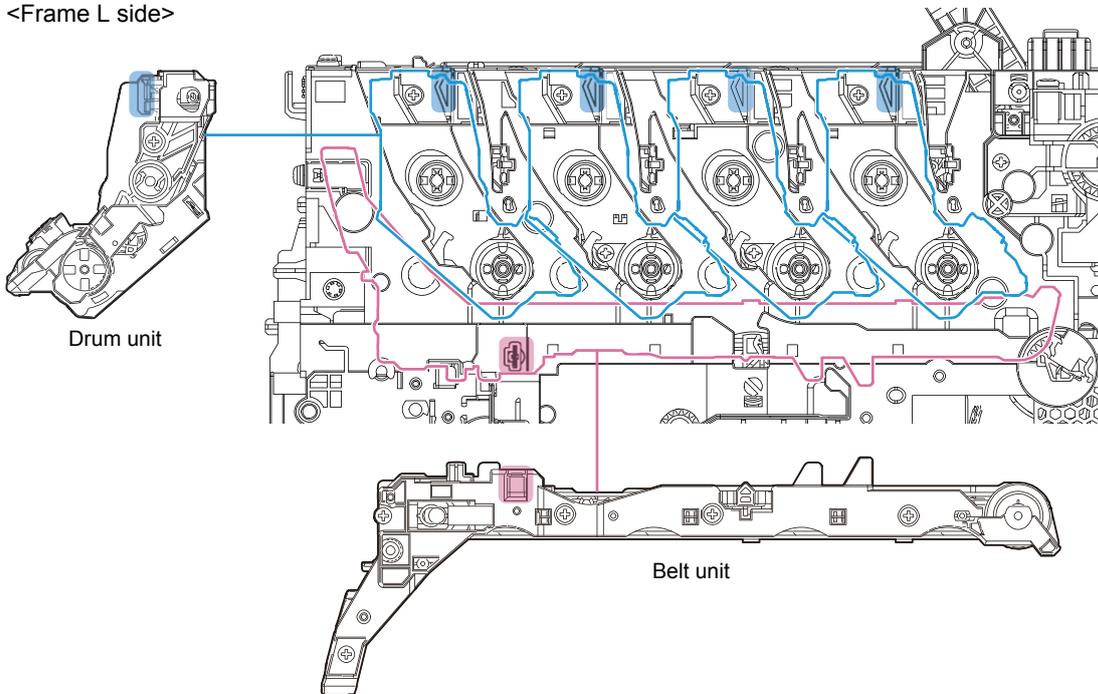


Fig. 2-14

■ **Error code 620A**

No K drum

Error code 620B

No Y drum

Error code 620C

No M drum

Error code 620D

No C drum

<User Check>

- Reinstall the drum unit.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (Refer to Fig. 2-13, Fig. 2-14.)
2	Failure	Drum unit (Each color)	Replace	Drum unit (Each color)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 6300**

No waste toner box

<User Check>

- Install the latest main firmware.
- Reinstall the waste toner box.

No.	Cause		Remedy	
1	Terminal dirt	Waste toner sensor (of waste toner box)	Clean	Waste toner sensor (of waste toner box) (Refer to Fig. 2-10, Fig. 2-11.)
2	Failure	Waste toner sensor (of waste toner box)	Replace	Waste toner sensor (of waste toner box)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 6400**

No belt unit

<User Check>

- Reinstall the belt unit.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
3	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
4	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 6801**

High temperature inside the machine

<User Check>

- DO NOT use the machine in hot places.
- Keep the machine away from heating appliances.
- Check that the fan exhaust port is not clogged.

No.	Cause		Remedy	
1	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
2	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
3	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
4	Failure	Fuser	Replace	Fuser
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 6901**

Fuser failure (When turning the power ON)

Error code 6902

Fuser failure (When turning the power OFF and then back on again after 6901 occurred)

No.	Cause		Remedy	
1	Connection failure	Center thermistor harness (of fuser)	Reconnect	Center thermistor harness (of Fuser)
2	Connection failure	Side thermistor harness (of fuser)	Reconnect	Side thermistor harness (of Fuser)
3	Failure	Fuser	Replace	Fuser
4	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
5	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
6	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
7	Connection failure	LVPS heater harness	Reconnect	LVPS heater harness
8	Failure	LVPS heater harness	Replace	LVPS heater harness
9	Connection failure	LVPS harness	Reconnect	LVPS harness
10	Failure	LVPS harness	Replace	LVPS harness
11	Failure	LVPS PCB	Replace	LVPS PCB
12	Failure	Main PCB	Replace	Main PCB

Note:

- Turn the power OFF. After the fuser has cooled sufficiently, turn the power ON again and leave the machine for 15 minutes. This problem may then be cleared.
- To release the fuser error after taking appropriate measures, enter the maintenance mode once and quit it with Function Code 99.

■ **Error code 6A00**

The drum unit abnormally discharged. (Corona wire)

<User Check>

- Reinstall the drum unit.
- Slide the green tab on the drum unit to left and right for two to three times to clean the corona wires of all four colors.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (Refer to Fig. 2-13, Fig. 2-14.)
2	Failure	Drum unit (Each color)	Replace	Drum unit (Each color)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 6B01**

The K drum abnormally discharged. (Detected after exceeding twice of the drum life.)

Error code 6B02

The Y drum abnormally discharged. (Detected after exceeding twice of the drum life.)

Error code 6B03

The M drum abnormally discharged. (Detected after exceeding twice of the drum life.)

Error code 6B04

The C drum abnormally discharged. (Detected after exceeding twice of the drum life.)

<User Check>

- Reinstall the drum unit.
- Slide the green tab on the drum unit to left and right for two to three times to clean the corona wires of all four colors.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (Refer to Fig. 2-13, Fig. 2-14.)
2	Failure	Drum unit (Each color)	Replace	Drum unit (Each color)
3	Connection failure	HVPS FFC	Reconnect	HVPS FFC
4	Failure	HVPS FFC	Replace	HVPS FFC (For models with MP tray) or HVPS FFC (For models with MF tray)
5	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 6D00**

Too many LTs connected

<User Check>

- Install the latest main firmware.
- Install LTs within the specified number.

No.	Cause		Remedy	
1	Connection failure	LT connector harness (Machine side)	Reconnect	LT connector harness (Machine side)
2	Failure	LT connector harness (Machine side)	Replace	LT connector harness (Machine side)
3	Connection failure	LT connector harness (LT side)	Reconnect	LT connector harness (LT side)
4	Failure	LT connector harness (LT side)	Replace	LT connector (LT side)
5	Failure	LT control PCB	Replace	LT control PCB
6	Failure	Main PCB	Replace	Main PCB

■ **Error code 6E00**

DEV roller press-contact/release error

No.	Cause		Remedy	
1	Connection failure	DEV release clutch CMY harness	Reconnect	DEV release clutch CMY harness
2	Connection failure	DEV release clutch K harness	Reconnect	DEV release clutch K harness
3	Failure	DEV release clutch CMY harness	Replace	DEV REL CLUTCH FCL
4	Failure	DEV release clutch K harness	Replace	DEV release clutch K harness
5	Failure	DEV REL CLUTCH FCL	Replace	DEV REL CLUTCH FCL
6	Connection failure	DEV release sensor harness	Reconnect	DEV release sensor harness
7	Failure	DEV release sensor harness	Replace	DEV release sensor PCB
8	Failure	DEV release sensor	Replace	DEV release sensor PCB
9	Failure	Main PCB	Replace	Main PCB

■ **Error code 6F00**

Detected irregular power supply for less than 100 times.

<User Check>

- Turn the power switch OFF and then back ON again.
- Introduce a noise filter at the power supply.

■ **Error code 7000**

Jam inside (REG rear sensor: ON-Eject sensor: OFF)

Error code 7100

Jam rear (REG rear sensor: OFF-Eject sensor: ON)

<User Check>

- Remove the jammed paper.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Come off	Fuser cover	Reattach	Fuser cover ASSY
3	Failure	Fuser cover	Replace	Fuser cover ASSY
4	Come off	Back cover	Reattach	Back cover ASSY
5	Failure	Back cover	Replace	Back cover ASSY
6	Failure	FUSER DRIVE GEAR Z25 FCL	Replace	FUSER DRIVE GEAR Z25 FCL (For models with MP tray) or FUSER DRIVE GEAR Z25 FCL (For models with MF tray)
7	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
8	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
9	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
10	Connection failure	Back cover sensor harness	Reconnect	Back cover sensor harness
11	Failure	Back cover sensor	Replace	Back cover sensor
12	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
13	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
14	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
15	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
16	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
17	Failure	REG front/rear sensor	Replace	REG front/rear sensor
18	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
19	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
20	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
21	Failure	Fuser	Replace	Fuser
22	Failure	Main PCB	Replace	Main PCB

■ **Error code 7200**

MP tray jam (When printing from MP tray, the REG rear sensor is still OFF.)

<User Check>

- Remove the jammed paper.
- Insert the papers straight using the paper guide of the MP tray.
- Check if the papers loaded in the MP tray is not held down with your hand.
- Check if the double feed occurs in the MP tray.
- Close the top cover/joint cover correctly.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Abrasion	PF kit MP	Replace	PF kit MP
3	Failure	MP unit	Replace	MP unit
4	Come off	REG rear actuator	Reattach	REG rear actuator
5	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
6	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
7	Failure	REG front/rear sensor	Replace	REG front/rear sensor
8	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
10	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
11	Failure	Main PCB	Replace	Main PCB

■ **Error code 7302**

T1 jam (When printing from T1, the REG front sensor is still OFF.)

<User Check>

- Remove the jammed paper.
- Flip through the paper and reload it in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check if too much paper is loaded in the tray. (Up to 250-sheet)
- Check that the thickness of the paper is 60 to 163 g/m² (16 to 43 lb).

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
3	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
4	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
5	Come off	REG front actuator	Reattach	REG front actuator
6	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
7	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
8	Failure	REG front/rear sensor	Replace	REG front/rear sensor
9	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
10	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
11	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
12	Failure	Main PCB	Replace	Main PCB

■ **Error code 7402**

T2 jam (When printing from T2, the REG front sensor is still OFF.)

<User Check>

- Remove the jammed paper.
- Flip through the paper and reload it in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check if too much paper is loaded in the tray. (Up to 250-sheet)
- Check that the thickness of the paper is 60 to 163 g/m² (16 to 43 lb).

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
3	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
4	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
5	Come off	REG front actuator	Reattach	REG front actuator
6	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
7	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
8	Failure	REG front/rear sensor	Replace	REG front/rear sensor
9	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
10	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
11	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
12	Failure	Main PCB	Replace	Main PCB

■ **Error code 7800**

DX tray jam

<User Check>

- Remove the jammed paper.
- Close the back cover correctly.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Connection failure	MP solenoid harness	Reconnect	MP solenoid harness
3	Failure	MP pickup solenoid	Replace	MP pickup solenoid
4	Failure	Paper eject roller	Replace	Paper eject roller
5	Failure	DX tray	Replace	DX tray
6	Failure	Main PCB	Replace	Main PCB

■ **Error code 7900**

MF tray jam

<User Check>

- Remove the jammed paper.
- Load paper properly using the paper guide of the MF tray.
- Load only one sheet of paper in the MF tray.
- Close the top cover/joint cover correctly.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Failure	MF unit	Replace	MF unit
3	Come off	REG rear actuator	Reattach	REG rear actuator
4	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
5	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
6	Failure	REG front/rear sensor	Replace	REG front/rear sensor
7	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
8	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
10	Failure	Main PCB	Replace	Main PCB

■ **Error code 8501**

T1 open (The error detected on the controller side before the registration of printing in the engine.)

Error code 8506

T1 open (The error detected on the engine side after the registration of printing in the engine.)

<User Check>

- Install the latest main firmware.
- Close the paper tray correctly.

No.	Cause		Remedy	
1	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
2	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
3	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
4	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 8502**

T2 open (The error detected on the controller side before the registration of printing in the engine.)

<User Check>

- Reconnect the LT unit.
- Install the latest main firmware.
- Close the paper tray correctly.

No.	Cause		Remedy	
1	Failure	LT connector	Replace	LT connector
2	Connection failure	LT connector harness	Reconnect	LT connector harness
3	Failure	LT control PCB	Replace	LT control PCB
4	Failure	LT PF sensor PCB	Replace	LT PF sensor PCB
5	Failure	Main PCB	Replace	Main PCB

■ **Error code 8903**

Back cover open - 2-sided printing (The error detected on the controller side before the registration of printing in the engine.)

Error code 8904

Back cover open - 2-sided printing (The error detected on the engine side after the registration of printing in the engine.)

<User Check>

- Close the back cover.

No.	Cause		Remedy	
1	Come off	Back cover	Reattach	Back cover ASSY
2	Failure	Back cover	Replace	Back cover ASSY
3	Connection failure	Back cover sensor harness	Reconnect	Back cover sensor harness
4	Failure	Back cover sensor	Replace	Back cover sensor
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

■ **Error code 8A01**

The paper size for 2-sided printing is out of specification. (REG rear sensor)

<User Check>

- Use paper whose length is longer than LTR.
- Check if the paper setting in the printer driver is matched with the size of the paper loaded in the paper tray.

No.	Cause		Remedy	
1	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
2	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
3	Failure	REG front/rear sensor	Replace	REG front/rear sensor
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
6	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 8C00**

No paper in MF tray (When printing from MF tray)

No.	Cause		Remedy	
1	Connection failure	MF PE sensor harness	Reconnect	MF PE sensor harness
2	Failure	MF PE sensor harness	Replace	MF PE sensor harness
3	Failure	MF PE sensor	Replace	MF PE sensor
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
6	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 8D01**

Paper size error (Print settings)

Error code 8D02

Paper size error (Print data)

<User Check>

- Use paper whose length is longer than LTR.
- Check if the paper setting in the printer driver is matched with the paper loaded in the paper tray.

No.	Cause		Remedy	
1	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
2	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
3	Failure	REG front/rear sensor	Replace	REG front/rear sensor
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
6	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 9001**

Paper size mismatch - MP tray (Printer driver setting, Printer setting)

Error code 9002

T1 paper size mismatch (Printer driver setting, Printer setting)

Error code 9003

T2 paper size mismatch (Printer driver setting, Printer setting)

<User Check>

- Check if the paper setting in the printer driver is matched with the paper loaded in the paper tray.

No.	Cause		Remedy	
1	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
2	Failure	REG front/rear sensor harness	Replace	REG front/rear sensor harness
3	Failure	REG front/rear sensor	Replace	REG front/rear sensor
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
6	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 9201**

MP tray paper type mismatch (Printer driver setting, Printer setting)

Error code 9202

T1 paper type mismatch (Printer driver setting, Printer setting)

Error code 9203

T2 paper type mismatch (Printer driver setting, Printer setting)

<User Check>

- Check if the paper setting in the printer driver is matched with the paper loaded in the paper tray.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 9301**

No paper in MP tray (MP PE sensor)

<User Check>

- Load paper in the paper tray.

No.	Cause		Remedy	
1	Connection failure	MP PE sensor harness	Reconnect	MP PE sensor harness
2	Failure	MP PE sensor harness	Replace	MP PE sensor harness
3	Failure	MP unit	Replace	MP unit
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
6	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 9302**

No paper in T1 (T1 PF sensor)

<User Check>

- Load paper in the paper tray.

No.	Cause		Remedy	
1	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
2	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
3	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
4	Abrasion	PF kit	Replace	PF kit
5	Connection failure	T1 pickup clutch harness	Reconnect	T1 pickup clutch harness
6	Failure	T1 ELECTRIC CLUTCH FCL	Replace	T1 ELECTRIC CLUTCH FCL
7	Failure	Main PCB	Replace	Main PCB

■ **Error code 9309**

No paper in all trays (Paper source setting: AUTO, PE sensor)

<User Check>

- Load paper in the paper tray.

No.	Cause		Remedy	
1	Connection failure	MF PE sensor harness	Reconnect	MF PE sensor harness
2	Failure	MF PE sensor harness	Replace	MF PE sensor harness
3	Failure	MF PE sensor	Replace	MF PE sensor
4	Connection failure	MP PE sensor harness	Reconnect	MP PE sensor harness
5	Failure	MP PE sensor harness	Replace	MP PE sensor harness
6	Failure	MP unit	Replace	MP unit
7	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
8	Failure	Cartridge sensor/relay FFC	Replace	Cartridge sensor/relay FFC
9	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
10	Connection failure	LT PF sensor PCB harness	Reconnect	LT PF sensor PCB harness
11	Failure	LT PF sensor PCB harness	Replace	LT PF sensor PCB harness
12	Failure	LT PF sensor PCB	Replace	LT PF sensor PCB
13	Failure	LT control PCB	Replace	LT control PCB
14	Connection failure	LT connector harness (LT side)	Reconnect	LT connector harness (LT side)
15	Failure	LT connector harness (LT side)	Replace	LT connector (LT side)
16	Connection failure	LT connector (LT side)/(Machine side)	Reconnect	LT connector (LT side)/(Machine side)
17	Connection failure	LT connector harness (Machine side)	Reconnect	LT connector harness (Machine side)
18	Failure	LT connector harness (Machine side)	Replace	LT connector harness (Machine side)
19	Connection failure	T1 CLUTCH 30 harness	Reconnect	T1 CLUTCH 30 harness
20	Failure	T1 CLUTCH 30	Replace	T1 CLUTCH 30
21	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
22	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
23	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
24	Connection failure	T1 pickup clutch harness	Reconnect	T1 pickup clutch harness
25	Failure	T1 ELECTRIC CLUTCH FCL	Replace	T1 ELECTRIC CLUTCH FCL
26	Failure	Main PCB	Replace	Main PCB

■ **Error code 930A**

No paper in Fax/FilePrint printing

<User Check>

- Load paper in the paper tray.

■ **Error code 9701**

The paper size for 2-sided printing is out of specifications. (Printer driver setting)

Error code 9702

T1 paper size is out of specification. (Printer driver setting)

Error code 9703

T2 paper size is out of specification. (Printer driver setting)

<User Check>

- Set the corresponding size for the paper in each tray of the Printer driver.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 9801**

Density calibration failure (Incorrect measured value)

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to “4.3 Troubleshooting for Image Defects” in this chapter.

■ **Error code 9802**

Density calibration failure (Toner empty)

<User Check>

- Replace the corresponding toner cartridge.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 9803**

Density calibration failure (Others)

Error code 9804

Density sensor sensitivity adjustment (Function code 72) failure

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to **“4.3 Troubleshooting for Image Defects”** in this chapter.

■ **Error code 9901**

Manual color registration failure (Incorrect measured value)

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to **“4.3 Troubleshooting for Image Defects”** in this chapter.

■ **Error code 9902**

Manual color registration failure (Toner empty)

<User Check>

- Replace the corresponding toner cartridge.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 9903**

Manual color registration failure (Others)

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to **“4.3 Troubleshooting for Image Defects”** in this chapter.

■ **Error code 9A01**

Auto color registration failure (Incorrect measured value)

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to **“4.3 Troubleshooting for Image Defects”** in this chapter.

■ **Error code 9A02**

Auto color registration failure (Toner empty)

<User Check>

- Replace the corresponding toner cartridge.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code 9A03**

Auto color registration failure (Others)

<User Check>

- Replace the belt unit.
- If “WT Box End Soon” is displayed on the LCD, replace the waste toner box.

No.	Cause		Remedy	
1	Connection failure	REG mark sensor L harness	Reconnect	REG mark sensor L harness
2	Failure	REG mark sensor L harness	Replace	REG mark sensor L PCB
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Eject sensor/relay harness	Replace	Eject sensor/relay harness
7	Failure	Eject sensor/relay PCB	Replace	Eject sensor/relay PCB
8	Failure	Main PCB	Replace	Main PCB

Note:

- If failure occurs when printing “Dthr K/W/Y/M/C_A” in **Function Code 71**, refer to **“4.3 Troubleshooting for Image Defects”** in this chapter.

■ **Error code C001, C002, C003, C004**

EWS (Web based management) settings error

<User Check>

- According to the User’s Guide, set the EWS (Web based management).

■ **Error code C100**

Failure to save HEXDUMP data to USB flash memory (Function code 45)

<User Check>

- Re-insert the USB flash memory.
- Check if there is something wrong with the USB flash memory during storage print.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code C700**

Main PCB is out of memory (PC-Print)

Error code C800

Main PCB is out of memory (Secure print)

<User Check>

- Print the print data stored in the memory.
- Divide the print data and print it.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code D800**

Touch panel initialization failure

No.	Cause		Remedy	
1	Connection failure	Touch panel FFC	Reconnect	Touch panel FFC
2	Failure	Touch panel	Replace	Touch panel (Only for FS and STEP models)
3	Connection failure	Panel FFC	Reconnect	Panel FFC (For models with touch panel) or Panel FFC (For BASE models)
4	Failure	Panel FFC	Replace	Panel FFC
5	Failure	Panel PCB	Replace	Panel PCB
6	Failure	Main PCB	Replace	Main PCB

■ **Error code DB00**

Main PCB failure (ASIC)

<User Check>

- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E000**

Data in the main PCB is damaged.

Error code E001

Main PCB failure (Other operation errors)

<User Check>

- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E100**

Program data error

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E500**

Main PCB failure (DRAM)

<User Check>

- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E600**

Main PCB failure (EEPROM)

<User Check>

- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E701**

Main PCB failure (Flash)

<User Check>

- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

■ **Error code E900**

NFC initialization failure

No.	Cause		Remedy	
1	Failure	NFC PCB	Replace	NFC PCB (Only for FS models)
2	Connection failure	NFC FFC	Reconnect	NFC FFC
3	Failure	Key/NFC relay PCB	Replace	Key/NFC relay PCB
4	Connection failure	Key/NFC relay harness	Reconnect	Key/NFC relay harness
5	Failure	Key/NFC relay harness	Replace	Key/NFC relay harness
6	Failure	Main PCB	Replace	Main PCB

Note:

- How to connect the NFC PCB differs depending on the model. For the FB models, the NFC PCB is directly connected to the main PCB. For the printer models, the NFC PCB is connected to the key/NFC relay PCB.

■ **Error code EC00**

Abnormal current flowing through a USB connector (Eddy current)

<User Check>

- Remove the USB flash memory and turn the power OFF. After a while, turn the power ON again.
- Replace the USB flash memory with another one.

No.	Cause		Remedy	
1	Connection failure	USB host harness	Reconnect	USB host harness
2	Failure	USB host harness	Replace	USB host harness
3	Failure	Main PCB	Replace	Main PCB

■ **Error code F100**

Internal temperature abnormality (Internal thermistor)

<User Check>

- Turn the power OFF. After several seconds, turn the power ON and check that this error is reset.

No.	Cause		Remedy	
1	Failure	LVPS PCB	Replace	LVPS PCB
2	Connection failure	LVPS harness	Reconnect	LVPS harness
3	Failure	LVPS harness	Replace	LVPS harness
4	Failure	Main PCB	Replace	Main PCB

4.2 Troubleshooting for Paper Feeding Problems

4.2.1 No paper feeding from T1

<User Check>

- Check if the paper is correctly loaded in the paper tray.
- Check if not too much paper is loaded in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Check that the thickness of the paper is 60 to 163 g/m² (16 to 43 lb).
- Check if the MP tray / LT is not specified for the paper feeding tray.
- Flip through the paper and reload it in the paper tray.
- Clean the paper pickup roller.

No.	Cause		Remedy	
1	Dirt	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (See Fig. 2-15 below.)
2	Attachment failure	Roller holder ASSY	Reattach	Roller holder ASSY
3	Connection failure	PF motor FFC	Reconnect	PF motor FFC
4	Connection failure	T1 PF sensor harness	Reconnect	T1 PF sensor harness
5	Connection failure	T1 pickup clutch harness	Reconnect	T1 pickup clutch harness
6	Abrasion	T1 pickup roller	Replace	PF kit
7	Failure	Gears in the paper tray	Replace	Paper tray
8	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
9	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
10	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
11	Failure	Fuser	Replace	Fuser
12	Failure	Main PCB	Replace	Main PCB

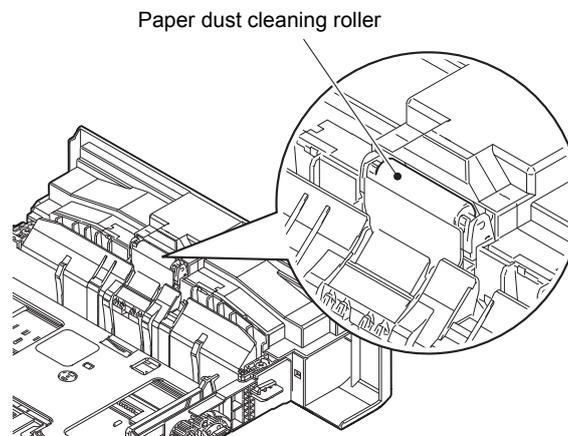


Fig. 2-15

4.2.2 No paper feeding from LT

<User Check>

- Check if the paper is correctly loaded in the paper tray.
- Check if not too much paper is loaded in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Check that the thickness of the paper is 60 to 163 g/m² (16 to 43 lb).
- Check if the MP tray / T1 is not specified for the paper feeding tray.
- Flip through the paper and reload it in the paper tray.
- Clean the paper pickup roller.

No.	Cause		Remedy	
1	Dirt	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
2	Attachment failure	Roller holder ASSY	Reattach	Roller holder ASSY
3	Connection failure	PF motor FFC	Reconnect	PF motor FFC
4	Connection failure	LT PF sensor harness	Reconnect	LT PF sensor harness
5	Connection failure	T1 CLUTCH 30 harness	Reconnect	T1 CLUTCH 30 harness
6	Abrasion	LT pickup roller	Replace	PF kit
7	Failure	Gears in the paper tray	Replace	Paper tray
8	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
9	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
10	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
11	Failure	Fuser	Replace	Fuser
12	Failure	Main PCB	Replace	Main PCB
13	Connection failure	LT connector harness (LT side)	Reconnect	LT connector harness (LT side)
14	Connection failure	LT connector harness (Machine side)	Reconnect	LT connector harness (Machine side)

4.2.3 No paper feeding from MF/MP tray

<User Check>

- Check that the paper is fully inserted in the MP tray.
- Check that not too much paper is loaded in the MP tray.
- Check if the machine is used with the MP tray support and MP flap are in closed state.
- Check that the thickness of the paper is 60 to 163 g/m² (16 to 43 lb).
- Check that the T1/LT is not set as the paper tray by the printer driver.
- Flip through the paper and reload it in the MP tray.
- Clean the MP pickup roller.

No.	Cause		Remedy	
1	Attachment failure	MP roller holder ASSY	Reattach	Roller holder ASSY
2	Connection failure	PF motor FFC	Reconnect	PF motor FFC
3	Connection failure	MF PE sensor harness	Reconnect	MF PE sensor harness
4	Connection failure	MP REG sensor harness	Reconnect	MP REG sensor harness
5	Connection failure	MP PE sensor harness	Reconnect	MP PE sensor harness
6	Abrasion	MP separation roller	Replace	PF kit
7	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
8	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
9	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
10	Failure	Fuser	Replace	Fuser
11	Failure	Main PCB	Replace	Main PCB

4.2.4 Multiple sheets of paper are fed

<User Check>

- Check that not too much paper is loaded in each paper tray.
- Check if the paper is correctly loaded in each paper tray.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Check that the thickness of each paper is 60 to 163 g/m² (16 to 43 lb).
- Flip through the paper and reload it in each paper tray.

No.	Cause		Remedy	
1	Abrasion	PF kit	Replace	PF kit

4.2.5 Paper becomes wrinkled

<User Check>

- Check if the paper is correctly loaded in each paper tray.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Adjust the paper guide according to the paper size.
- Check that the thickness of each paper is 60 to 163 g/m² (16 to 43 lb).
- Check if the paper is not damp.
- Check if there is no dust stuck to the fuser.
- Check if the paper type is proper.

No.	Cause		Remedy	
1	Failure	Paper eject ASSY	Replace	Paper eject ASSY
2	Failure	Fuser	Replace	Fuser

4.2.6 Paper is fed at an angle

<User Check>

- Check if the paper is correctly loaded in each paper tray.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Adjust each paper guide according to each paper size.
- Check that the thickness of each paper is 60 to 163 g/m² (16 to 43 lb).
- Check that not too much paper is loaded in the paper tray.
- Check if the paper type is proper.
- Clean each paper pickup roller.

No.	Cause		Remedy	
1	Abrasion	PF kit	Replace	PF kit
2	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)

4.2.7 Paper curls

<User Check>

- Check if the paper specified in the printer driver matches the paper that is actually loaded.
- Select "Reduce Paper Curl" in the printer driver.
- Check if the paper is correctly loaded in each paper tray.
- Open the back cover and try printing with straight paper ejection mode.

No.	Cause		Remedy	
1	Failure	Fuser	Replace	Fuser
2	Failure	Main PCB	Replace	Main PCB

4.2.8 Unable to perform DX printing

<User Check>

- Check if the DX tray is fully inserted.
- Close the back cover.
- The paper length is 114 mm or more.

No.	Cause		Remedy	
1	Attachment failure	Eject actuator	Reattach	Eject actuator
2	Failure	Back cover	Replace	Back cover ASSY
3	Connection failure	MP solenoid harness	Reconnect	MP solenoid harness
4	Failure	DX tray	Replace	DX tray
5	Connection failure	Eject sensor/relay harness	Reconnect	Eject sensor/relay harness
6	Failure	Paper eject ASSY	Replace	Paper eject ASSY
7	Failure	Main PCB	Replace	Main PCB

4.2.9 Paper jam

4.2.9.1 Paper jam at the T1

<User Check>

- Remove the jammed paper.
- Flip through the paper and reload it in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check if too much paper is loaded in the tray. (Up to 250-sheet)
- Check that the thickness of each paper is 60 to 163 g/m² (16 to 43 lb).
- Use paper within the specifications. Load the paper properly.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Foreign object	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
3	Attachment failure	PF actuator	Reattach	PF actuator
4	Attachment failure	REG front actuator	Reattach	REG front actuator
5	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
6	Connection failure	REG clutch harness	Reconnect	REG clutch harness
7	Connection failure	T1 PF sensor harness	Reconnect	T1 PF sensor harness
8	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
9	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
10	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
11	Failure	Fuser	Replace	Fuser
12	Failure	Main PCB	Replace	Main PCB

4.2.9.2 Paper jam at the LT

<User Check>

- Remove the jammed paper.
- Flip through the paper and reload it in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check if too much paper is loaded in the tray. (Up to 250-sheet)
- Check that the thickness of each paper is 60 to 163 g/m² (16 to 43 lb).
- Use paper within the specifications. Load the paper properly.

No.	Cause		Remedy	
1	Foreign object	Paper feeding path	Clean	Paper feeding path
2	Foreign object	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
3	Attachment failure	PF actuator	Reattach	PF actuator
4	Attachment failure	REG front actuator	Reattach	REG front actuator
5	Connection failure	REG front/rear sensor harness	Reconnect	REG front/rear sensor harness
6	Connection failure	REG clutch harness	Reconnect	REG clutch harness
7	Connection failure	LT PF sensor harness	Reconnect	LT PF sensor harness
8	Failure	PF drive unit	Replace	PF drive unit (For models with MP tray) or PF drive unit (For models with MF tray)
9	Failure	PF unit	Replace	PF unit (For models with MP tray) or PF unit (For models with MF tray)
10	Failure	Process drive unit	Replace	Process drive unit (For models with MP tray) or Process drive unit (For models with MF tray)
11	Failure	Fuser	Replace	Fuser
12	Failure	Main PCB	Replace	Main PCB

4.2.9.3 Paper jam at the MF/MP tray

Refer to error code 7200/7900 according to different errors.

4.2.9.4 Paper jam at the paper feeding section at the center of the machine

Refer to error code 7000 according to different errors.

4.2.9.5 Paper jam at the eject section

Refer to error code 7100 according to different errors.

4.2.9.6 Paper jam in DX printing

Refer to error code 7200 according to different errors.

4.3 Troubleshooting for Image Defects

4.3.1 Image defect examples

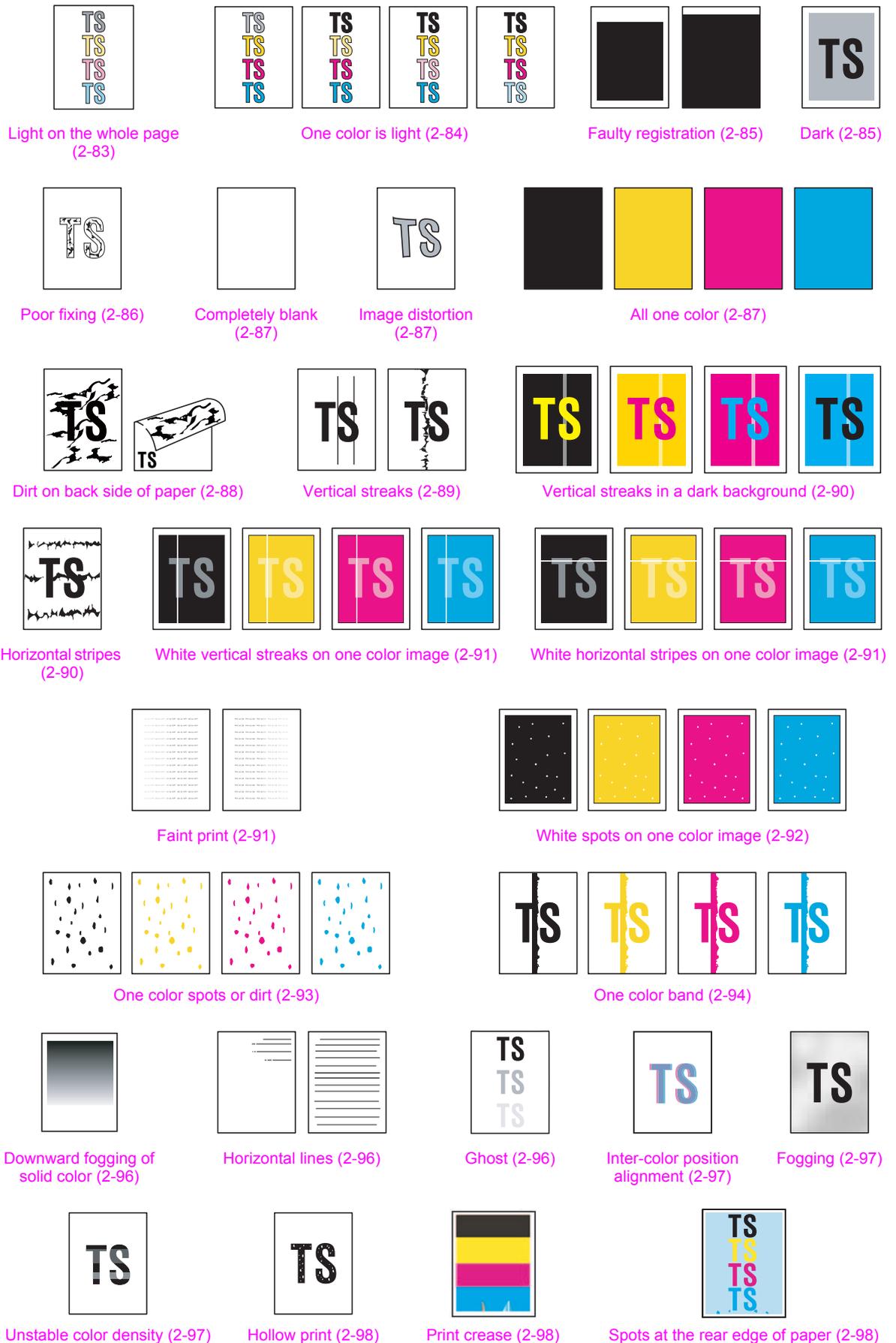
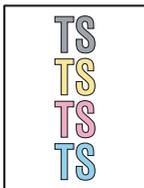


Fig. 2-16

4.3.2 Troubleshooting for each image defect

4.3.2.1 Light on the whole page

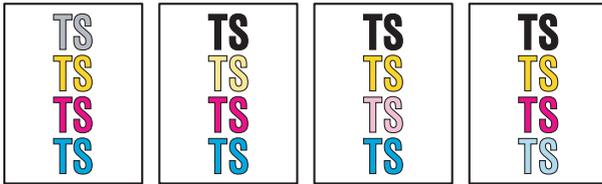


<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- If the toner save mode is ON, turn OFF the toner save mode.
- Execute the color calibration from the control panel.
- Replace the drum unit.
- Replace the toner cartridge.
- Replace the belt unit.
- Turn the power OFF, and leave the machine for a while. (Condensation)
- Check if paper is not damp.
- Use specified paper.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, HVPS PCB)	Clean	Electrodes (Machine, HVPS PCB) (Refer to Fig. 2-14, Fig. 2-12.)
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Failure	Fuser	Replace	Fuser
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

4.3.2.2 One color is light



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Execute the color calibration from the control panel.
- Replace the drum unit.
- Replace the toner cartridge.
- Use specified paper.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, and see Fig. 2-17 below.)
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Failure	Fuser	Replace	Fuser
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

■ Electrodes location of belt unit

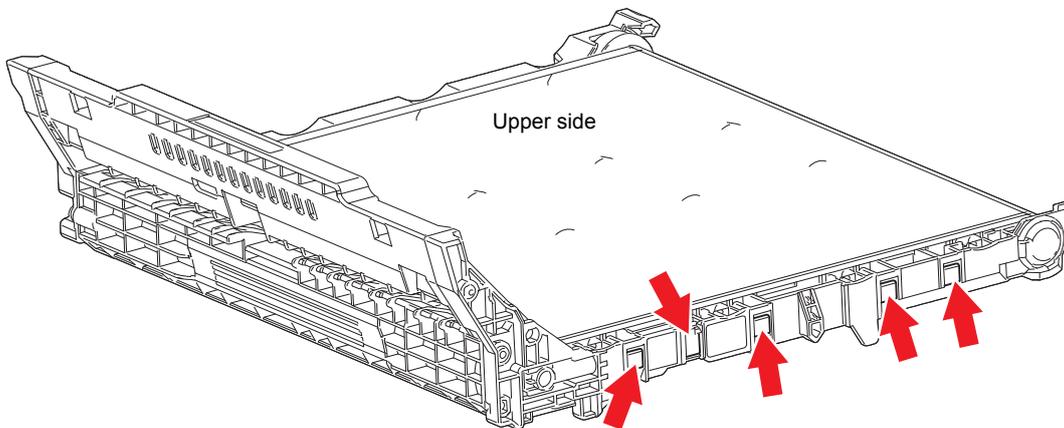


Fig. 2-17

4.3.2.3 Faulty registration



<User Check>

- Use specified paper.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Attachment failure	REG rear actuator	Reattach	REG rear actuator
2	Failure	Main PCB	Replace	Main PCB

4.3.2.4 Dark

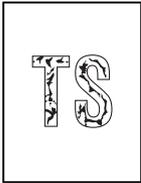


<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- If a new toner cartridge has been detected, check that it was not replaced with another toner cartridge.
- Execute density adjustment from the control panel.
- Clean the corona wires of all four colors on the drum unit.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Dirt	REG mark sensor L PCB	Clean	REG mark sensor L PCB
4	Failure	REG mark sensor L PCB	Replace	REG mark sensor L PCB
5	Failure	Fuser	Replace	Fuser
6	Failure	HVPS PCB	Replace	HVPS PCB
7	Failure	Main PCB	Replace	Main PCB

4.3.2.5 Poor fixing



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Clean the corona wires of all four colors on the drum unit.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.
- Wipe the LED ASSY with a soft, lint-free cloth. (See Fig. 2-18 below.)
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Failure	Fuser	Replace	Fuser
4	Failure	HVPS PCB	Replace	HVPS PCB
5	Failure	LVPS PCB	Replace	LVPS PCB
6	Failure	Main PCB	Replace	Main PCB

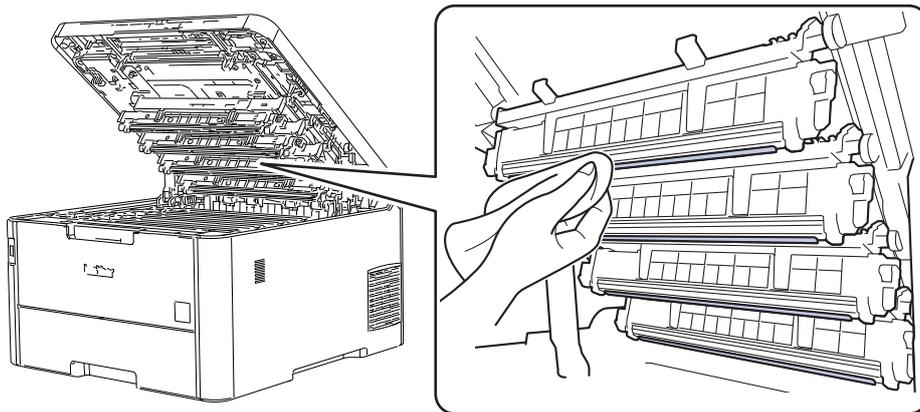
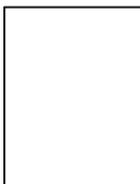


Fig. 2-18

4.3.2.6 Completely blank

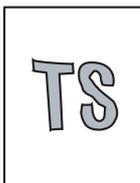


<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Connection failure	LED FFC	Reconnect	LED FFC
4	Connection failure	LED control FFC	Reconnect	LED control FFC
5	Terminal dirt	Electrodes (Machine, HVPS PCB)	Clean	Electrodes (Machine, HVPS PCB) (Refer to Fig. 2-14, Fig. 2-12.)
6	Failure	Main PCB	Replace	Main PCB

4.3.2.7 Image distortion

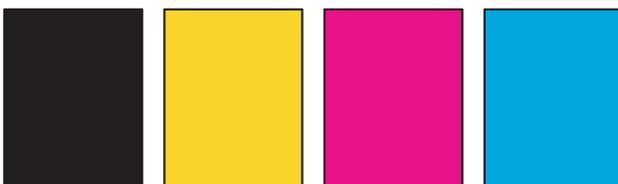


<User Check>

- Replace the belt unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

4.3.2.8 All one color

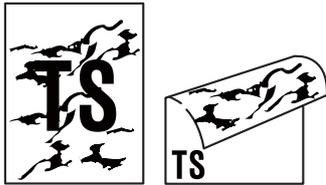


<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Connection failure	LED control FFC	Reconnect	LED control FFC
4	Terminal dirt	Electrodes (Machine, HVPS PCB)	Clean	Electrodes (Machine, HVPS PCB) (Refer to Fig. 2-14, Fig. 2-12.)
5	Failure	LED ASSY	Replace	LED ASSY
6	Failure	Main PCB	Replace	Main PCB

4.3.2.9 Dirt on back side of paper



<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Return the green tab for cleaning the corona wire to the ▲ position.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Dirt	Paper feeding path	Clean	Paper feeding path
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Terminal dirt	Electrodes (Machine, Waste toner box)	Clean	Electrodes (Machine, Waste toner box) (Refer to Fig. 2-14, and see Fig. 2-19 below.)
4	Failure	Fuser	Replace	Fuser
5	Failure	HVPS PCB	Replace	HVPS PCB

■ Electrodes location of waste toner box

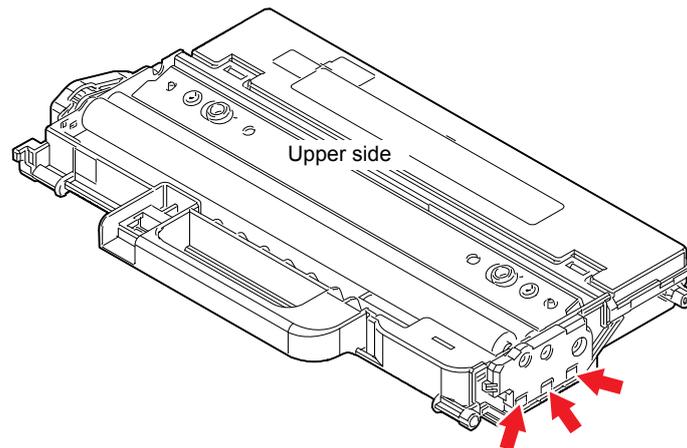
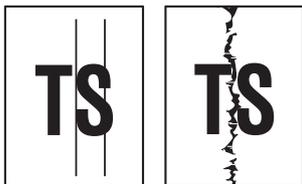


Fig. 2-19

4.3.2.10 Vertical streaks



<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Return the green tab for cleaning the corona wire to the ▲ position.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Wipe the LED ASSY with a soft, lint-free cloth. (Refer to Fig. 2-18.)
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Dirt	Paper feeding path	Clean	Paper feeding path
2	Deformation	Ground wire of paper tray	Repair	Ground wire of paper tray (See Fig. 2-20 below.)
3	Failure	Fuser	Replace	Fuser
4	Failure	LED ASSY	Replace	LED ASSY

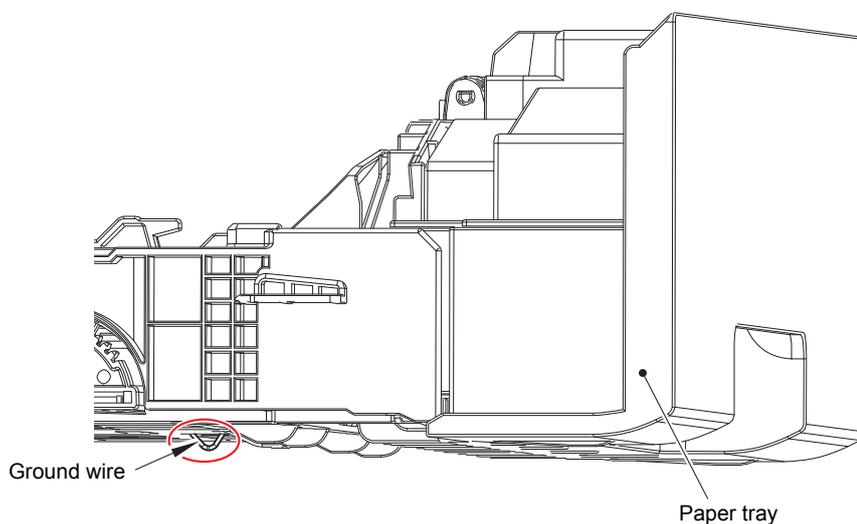
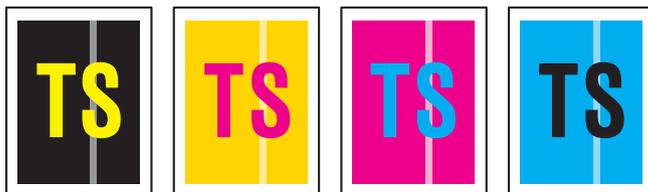


Fig. 2-20

4.3.2.11 Vertical streaks in a dark background



<User Check>

- Clean the corona wires of all four colors on the drum unit.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Turn the power OFF, and leave the machine for a while. (Condensation)
- Wipe the LED ASSY with a soft, lint-free cloth. (Refer to Fig. 2-18.)
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Failure	LED ASSY	Replace	LED ASSY

4.3.2.12 Horizontal stripes

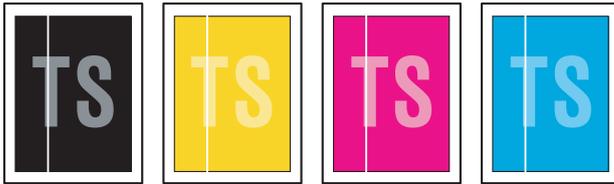


<User Check>

- Clean the corona wires of all four colors on the drum unit.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Turn the power OFF, and leave the machine for a while. (Condensation)
- Wipe the LED ASSY with a soft, lint-free cloth. (Refer to Fig. 2-18.)
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Failure	Fuser	Replace	Fuser
3	Failure	HVPS PCB	Replace	HVPS PCB

4.3.2.13 White vertical streaks on one color image

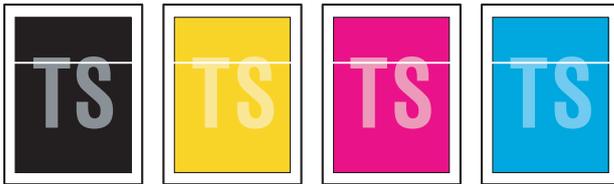


<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Failure	LED ASSY	Replace	LED ASSY

4.3.2.14 White horizontal stripes on one color image

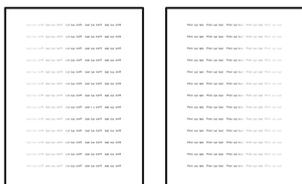


<User Check>

- This problem may disappear after printing multiple sheets of paper.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Failure	Fuser	Replace	Fuser
3	Failure	HVPS PCB	Replace	HVPS PCB

4.3.2.15 Faint print

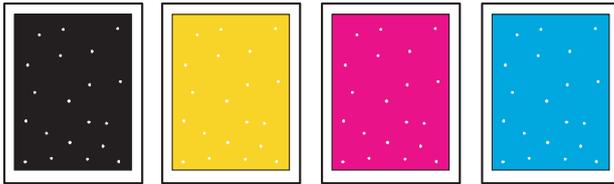


<User Check>

- Check that the machine is placed on a level surface.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	LED ASSY	Replace	LED ASSY
2	Failure	Fuser	Replace	Fuser
3	Failure	Main PCB	Replace	Main PCB

4.3.2.16 White spots on one color image



<User Check>

- Check if the fan are not clogged.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Dirt	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
2	Dirt	Filter	Clean	Filter
3	Failure	Fuser	Replace	Fuser
4	Failure	HVPS PCB	Replace	HVPS PCB

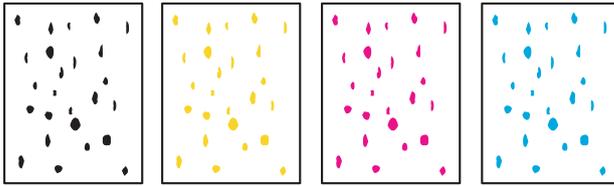
Note:

- Image defects which occur periodically may be caused by various roller defects. Refer to the table below to identify the cause based on the pitch appearing in the image.

<itches appearing in images caused by rollers>

Part name	Pitches appearing in images
DEV roller	29.0 mm
Exposure drum	94.5 mm
Heat roller (of fuser)	78.5 mm
Pressure roller (of fuser)	78.5 mm

4.3.2.17 One color spots or dirt



<User Check>

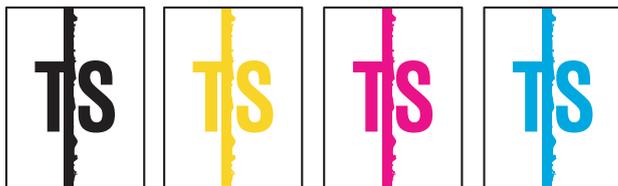
- Check if damp paper is used.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Paper powder	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
2	Dirt	Filter	Clean	Filter
3	Failure	Fuser	Replace	Fuser
4	Failure	HVPS PCB	Replace	HVPS PCB

Note:

- Image defects which occur periodically may be caused by various roller defects. Refer to <itches appearing in images caused by rollers> to identify the cause based on the pitch appearing in the image.

4.3.2.18 One color band



<User Check>

- Clean the corona wires of all four colors on the drum unit.
- Return the green tab for cleaning the corona wire to the ▲ position.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Deformation	Ground wire of paper tray	Repair	Ground wire of paper tray (Refer to Fig. 2-20.)
2	Failure	LED ASSY	Replace	LED ASSY

<How to clean the drum unit (the shape of the drum is different from the actual one)>

- (1) Remove the appropriate toner cartridge from the drum unit. Check where the image distortion occurs by placing the print sample in front of the drum unit.

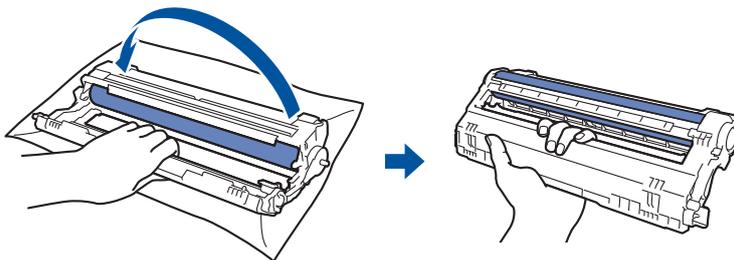
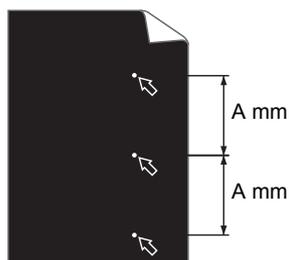
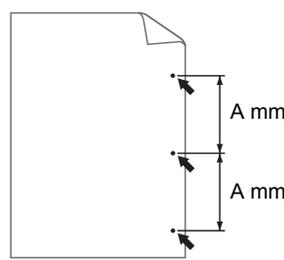


Fig. 2-21

< Examples of image distortion >



White dots repeat in A mm distance on the black page with printed images.



Black dots repeat in A mm distance on the page.

Fig. 2-22

Refer to the table <Pitches appearing in images caused by rollers> for what represents the value A.

- (2) Turn the drum unit gear by hand so that the glued exposure drum surface comes to the front.

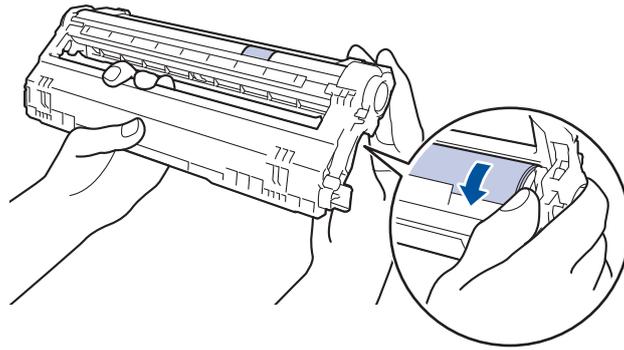


Fig. 2-23

- (3) If the position of the dirt on the drum and the dots on the print sample matches, wipe the exposure drum surface with a cotton bud until the dirt and paper dust comes off.

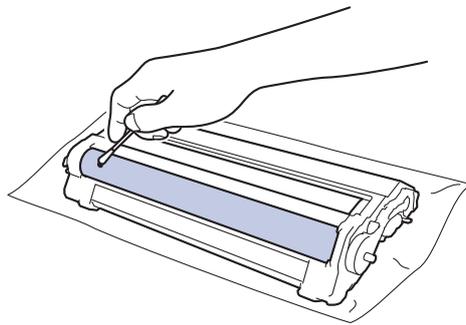


Fig. 2-24

Note:

- DO NOT clean the exposure drum surface with anything sharp like a ball pointed pen.

4.3.2.19 Downward fogging of solid color

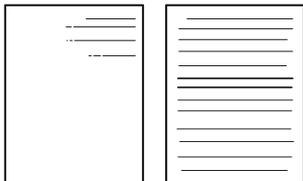


<User Check>

- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	HVPS PCB	Replace	HVPS PCB
2	Failure	Main PCB	Replace	Main PCB

4.3.2.20 Horizontal lines



<User Check>

- This problem may disappear after printing multiple sheets of paper.
- Refer to [<How to clean the drum unit>](#) and remove the dirt on the exposure drum using a cotton swab.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14 , Fig. 2-13 .)
2	Failure	Fuser	Replace	Fuser
3	Failure	HVPS PCB	Replace	HVPS PCB

4.3.2.21 Ghost



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check if an appropriate paper type is selected in the printer driver.
- Select “Improve Toner Fixing” in the printer driver.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Fuser	Replace	Fuser
2	Failure	HVPS PCB	Replace	HVPS PCB

4.3.2.22 Inter-color position alignment



<User Check>

- Implement the adjustment of color registration (adjustment of inter-color position alignment).
- Replace the belt unit with a new one.
- Replace the drum unit with a new one.
- Replace the waste toner box with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	REG mark sensor R PCB	Replace	REG mark sensor R PCB
2	Failure	Main PCB	Replace	Main PCB

4.3.2.23 Fogging



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check if the acid paper is not used.
- This problem may disappear after printing multiple sheets of paper.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	HVPS PCB	Replace	HVPS PCB
2	Failure	Main PCB	Replace	Main PCB

4.3.2.24 Unstable color density



<User Check>

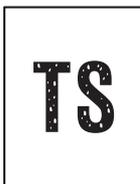
- Make a print on a different type of paper.
- Replace the belt unit with a new one.
- Replace the waste toner box with a new one.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Electrodes (Machine, Drum unit)	Clean	Electrodes (Machine, Drum unit) (Refer to Fig. 2-14, Fig. 2-13.)
2	Terminal dirt	Electrodes (Machine, Belt unit)	Clean	Electrodes (Machine, Belt unit) (Refer to Fig. 2-14, Fig. 2-17.)
3	Failure	HVPS PCB	Replace	HVPS PCB
4	Failure	LED ASSY	Replace	LED ASSY
5	Failure	Main PCB	Replace	Main PCB

Note:

- This problem tends to occur when the life of the drum unit or toner cartridge is expiring.

4.3.2.25 Hollow print



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Refer to [<How to clean the drum unit>](#) and remove the dirt on the exposure drum using a cotton swab.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Paper powder	Paper dust cleaning roller of paper tray	Clean	Paper dust cleaning roller (Refer to Fig. 2-15.)
2	Failure	Fuser	Replace	Fuser
3	Failure	HVPS PCB	Replace	HVPS PCB

4.3.2.26 Print crease



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Change the paper to thick paper.
- Check if paper is not damp
- Check if the thickness of the paper is properly set in the driver.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Failure	Fuser	Replace	Fuser

4.3.2.27 Spots at the rear edge of paper



<User Check>

- Using the machine in hot-humid or cold-dry conditions can cause this problem.

No.	Cause		Remedy	
1	Failure	Fuser	Replace	Fuser

4.4 Troubleshooting for Network Problems

4.4.1 Cannot make a print through network connection

<User Check>

- Try connecting with another LAN cable.
- Check the relevant section in the Network Setting Guide.
- Reset the network. (Refer to the online User's Guide.)
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	WLAN PCB	Reconnect	WLAN PCB
2	Failure	Main PCB	Replace	Main PCB

4.4.2 Cannot connect to access point

<User Check>

- Reset the wireless LAN settings.
- Reset the access point settings.
- Change the machine installation location.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	WLAN PCB	Reconnect	WLAN PCB
2	Failure	Main PCB	Replace	Main PCB

4.5 Troubleshooting for Control Panel

4.5.1 Nothing is displayed on the LCD

<User Check>

- Turn the power OFF and then back ON again.
- Unplug the AC cord and then plug it again.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	LCD FFC	Reconnect	LCD FFC
2	Failure	LCD	Replace	LCD
3	Connection failure	Touch panel FFC	Reconnect	Touch panel FFC
4	Failure	Touch panel	Replace	Touch panel (Only for FS and STEP models)
5	Connection failure	Panel FFC	Reconnect	Panel FFC (For models with touch panel) or Panel FFC (For BASE models)
6	Failure	Panel PCB	Replace	Panel PCB
7	Failure	LVPS PCB	Replace	LVPS PCB
8	Failure	Main PCB	Replace	Main PCB

4.5.2 No LED indication

<User Check>

- Turn the power OFF and then back ON again.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	Panel FFC	Reconnect	Panel FFC (For models with touch panel) or Panel FFC (For BASE models)
2	Failure	Panel PCB	Replace	Panel PCB
3	Failure	LVPS PCB	Replace	LVPS PCB
4	Failure	Main PCB	Replace	Main PCB

4.5.3 Unable to perform panel operation

<User Check>

- Turn the power OFF and then back ON again.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	Touch panel FFC	Reconnect	Touch panel FFC
2	Failure	Touch panel	Replace	Touch panel (Only for FS and STEP models)
3	Connection failure	Panel FFC	Reconnect	Panel FFC (For models with touch panel) or Panel FFC (For BASE models)
4	Failure	Panel PCB	Replace	Panel PCB
5	Failure	Main PCB	Replace	Main PCB

4.6 Troubleshooting for Toner Cartridge and Drum Unit

4.6.1 Toner cartridge not detected

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
3	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Main PCB	Replace	Main PCB

4.6.2 Error message prompting toner cartridge replacement does not disappear

<User Check>

- Check that the toner cartridge is genuine.
- Check if a wrong toner cartridge is installed.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Toner cartridge (Each color)	Clean	Toner cartridge (Each color) (Refer to Fig. 2-9.)
2	Terminal dirt	Cartridge sensor (Each color)	Clean	Cartridge sensor (Each color) (Refer to Fig. 2-9.)
3	Failure	Cartridge sensor/relay PCB	Replace	Cartridge sensor/relay PCB
4	Connection failure	Cartridge sensor/relay FFC	Reconnect	Cartridge sensor/relay FFC
5	Failure	Main PCB	Replace	Main PCB

4.6.3 Drum error

<User Check>

- Clean the corona wire of the drum unit.
- Replace the drum unit with a new one.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (Refer to Fig. 2-13, Fig. 2-14.)
2	Connection failure	HVPS harness	Reconnect	HVPS harness
3	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
4	Failure	HVPS PCB	Replace	HVPS PCB
5	Failure	Main PCB	Replace	Main PCB

4.6.4 Error message prompting drum replacement does not disappear

<User Check>

- Reinstall the drum unit.
- Reset the drum counter according to the User's Guide.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Terminal dirt	Drum unit (Each color)	Clean	Drum unit (Each color) (Refer to Fig. 2-13, Fig. 2-14.)
2	Connection failure	HVPS harness	Reconnect	HVPS harness
3	Terminal dirt	HVPS PCB	Clean	HVPS PCB (Refer to Fig. 2-12.)
4	Failure	HVPS PCB	Replace	HVPS PCB
5	Failure	Main PCB	Replace	Main PCB

4.7 Troubleshooting for PCB Problems

4.7.1 Full memory

<User Check>

- Print the accumulated data stored in the memory.
- Divide the print data and print it.
- Re-insert the USB flash memory.
- Check if there is something wrong with the USB flash memory during storage print.

No.	Cause		Remedy	
1	Failure	Main PCB	Replace	Main PCB

4.8 Troubleshooting for Other Problems

4.8.1 Problems of USB direct interface

<User Check>

- Re-insert the USB flash memory.
- Replace the USB flash memory.
- Check that the data extension in the USB flash memory is correct.
- Install the latest main firmware.

No.	Cause		Remedy	
1	Connection failure	USB host harness	Reconnect	USB host harness
2	Failure	USB host harness	Replace	USB host harness
3	Failure	Main PCB	Replace	Main PCB

4.8.2 Cannot update firmware

<User Check>

- Turn the power OFF and then back ON again.

No.	Cause		Remedy	
1	Interruption	During updating	Execute	<Update by upd file> below
2	Failure	Main PCB	Replace	Main PCB

<Update by upd file>

For models without touch panel

- (1) Unplug the AC cord while the USB is connected.
- (2) Press and hold the [Cancel] and [Go].
- (3) Plug the AC cord while pressing and holding the [Cancel] and [Go].
- (4) Release the [Cancel] and [Go].
- (5) Send the firmware (upd file) via the Maintenance Printer Driver.
- (6) Reboot automatically.

	“■”
	“■”

For models with touch panel

- (1) Unplug the AC cord while the USB is connected.
- (2) Press and hold the [].
- (3) Plug the AC cord while pressing and holding the [].
- (4) Release the [].
- (5) Press the [] several times.
- (6) Send the firmware (upd file) via the Maintenance Printer Driver.
- (7) Reboot automatically.

	White screen
	White screen
	“02 DL”

* By the above update procedure, other models' firmware can be updated to the machine. Be sure to check the firmware before correctly updating it. If you updated another model's firmware by mistake, the machine may repeat power ON/OFF or not powered ON. In this case, you need to replace the main PCB.

4.8.3 Firmware installation mode

1 line LCD model

Retry by USB

2 lines LCD model

Retry by USB

Touch panel model

Retry Updating
by USB

Install the firmware in accordance with ["1.3.2.3 Firmware installation using a computer"](#) in Chapter 4.

CHAPTER 3 DISASSEMBLY AND ASSEMBLY

1. SAFETY PRECAUTIONS

Refer to “SAFETY INFORMATION”.

2. SCREW CATALOGUE

Taptite bind B

Taptite bind B M4x12	
Taptite bind B M3x10	

Taptite bind S

Taptite bind S M3x5	
------------------------	--

Taptite pan (washer)

Taptite pan (washer) B M4x12DA	
-----------------------------------	--

Taptite pan B

Taptite pan B M4x14	
------------------------	--

Taptite cup B

Taptite cup B M3x10	
------------------------	--

Taptite cup S

Taptite cup S M3x8 SR	
--------------------------	--

Screw cup

Screw cup M3x8	
Screw cup M3x8 SR	
Screw cup M3x6	

Screw pan (S/P washer)

Screw pan (S/P washer) M3x12DB	
-----------------------------------	--

Screw pan

Screw pan M4x8	
-------------------	--

Screw bind

Screw bind M3x8	
--------------------	--

3. SCREW TORQUE LIST

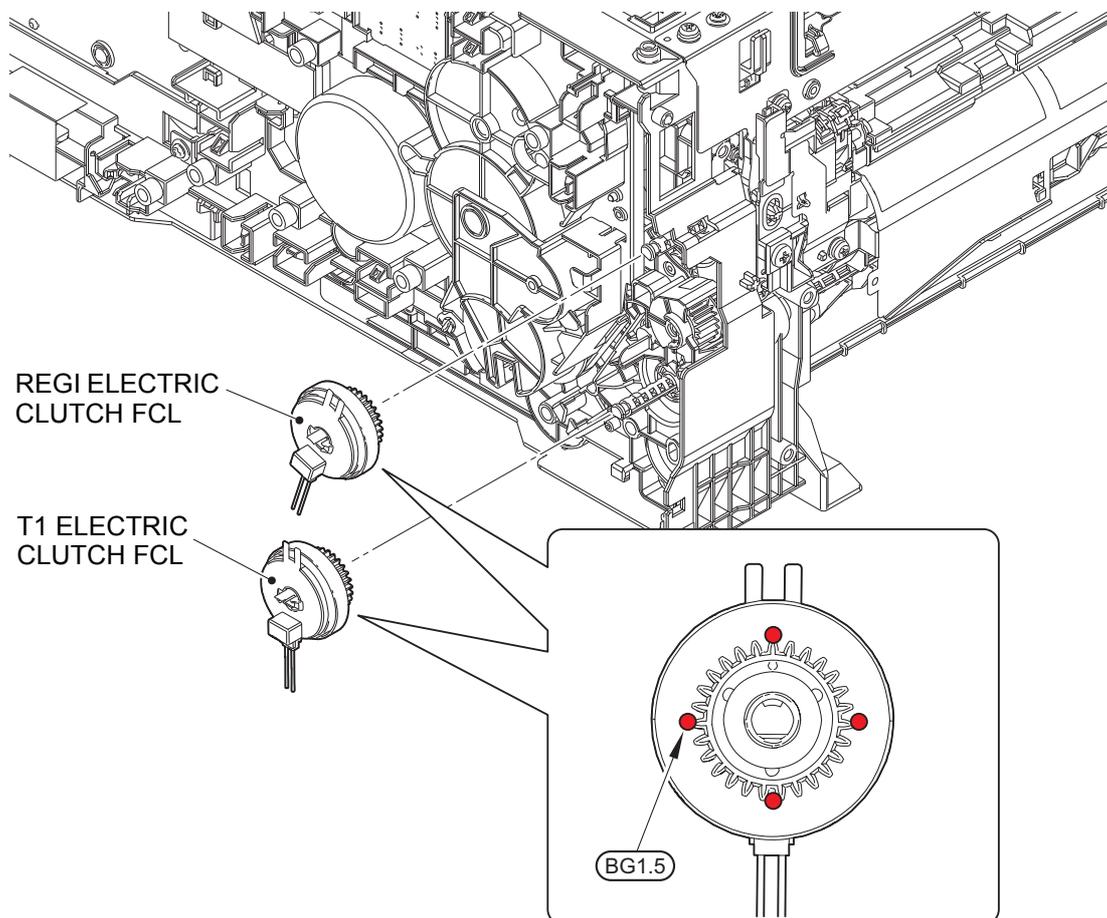
Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
Fuser cover L	Taptite bind B M3x10	1	0.5±0.05 (5±0.5)
Fuser cover R	Taptite bind B M3x10	1	0.5±0.05 (5±0.5)
Fuser	Taptite pan (washer) B M4x12DA	2	0.7±0.1 (7±1)
Side cover L	Taptite bind B M4x12	2	0.8±0.1 (8±1)
Side cover R	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LED FG harness	Screw pan (S/P washer) M3x12DB	1	0.65±0.1 (6.5±1)
Damper L ASSY	Taptite bind B M4x12	1	0.8±0.1 (8±1)
Damper R ASSY	Taptite bind B M4x12	1	0.8±0.1 (8±1)
Open lever cover (For FS models)	Taptite bind B M4x12	8	0.8±0.1 (8±1)
LED unit (For FS models)	Taptite bind B M4x12	8	0.8±0.1 (8±1)
Open lever cover (For STEP models)	Taptite bind B M4x12	4	0.8±0.1 (8±1)
LED unit (For STEP models)	Taptite bind B M4x12	8	0.8±0.1 (8±1)
Open lever cover (For BASE models)	Taptite bind B M4x12	4	0.8±0.1 (8±1)
LED unit (For BASE models)	Taptite bind B M4x12	7	0.8±0.1 (8±1)
Key PCB holder	Taptite bind B M3x10	1	0.45±0.1 (4.5±1)
Key PCB	Taptite bind B M3x10	1	0.45±0.1 (4.5±1)
Panel FG harness (For STEP models)	Taptite pan B 3x10	1	0.45±0.1 (4.5±1)
Panel FG harness (Only for FS models)	Taptite pan B 3x10	1	0.45±0.1 (4.5±1)
Panel unit (For FS models or STEP models)	Taptite bind B M3x10	5	0.45±0.1 (4.5±1)
Panel ASSY (For FS models or STEP models)	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LCD panel lower (For FS models or STEP models)	Taptite bind B M3x10	2	0.45±0.1 (4.5±1)
LED shield plate	Screw cup M3x8 SR	2	0.4±0.05 (4±1)
LED control PCB	Screw cup M3x8 SR	2	0.4±0.05 (4±1)
LED weight plate	Screw cup M3x8 SR	2	0.8±0.1 (8±1)
MP maintenance cover	Taptite pan B M4x14	2	0.8±0.1 (8±1)
Main PCB	Screw cup M3x8	4	0.45±0.05 (4.5±0.5)
Main ground plate	Taptite cup S M3x8 SR	1	0.6±0.1 (6±1)
Inner front cover (For models with MP tray)	Taptite bind B M4x12	2	0.8±0.1 (8±1)
	Screw bind M3x8	2	0.45±0.05 (4.5±0.5)
	Taptite pan (washer) B M4x12DA	1	0.8±0.1 (8±1)
USB holder ASSY	Taptite bind B M3x10	2	0.5±0.05 (5±0.5)
USB host ground plate	Screw pan (S/P washer) M3x12DB	2	0.5±0.05 (5±0.5)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
MP unit (For models with MP tray)	Taptite bind B M4x12	4	0.8±0.1 (8±1)
MP REG sensor PCB	Taptite bind B M3x10	1	0.5±0.05 (5±0.5)
MP sensor holder ASSY	Taptite bind B M3x10	2	0.5±0.05 (5±0.5)
MP PE sensor PCB	Taptite bind B M3x10	1	0.5±0.05 (5±0.5)
Inner front cover (For models with MF tray)	Taptite bind B M4x12	2	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR	2	0.6±0.1 (6±1)
HVPS ground plate front	Taptite cup S M3x8 SR	1	0.75±0.05 (7.5±0.5)
	Taptite pan (washer) M4x12DA	1	0.75±0.05 (7.5±0.5)
HVPS ground plate rear	Taptite pan (washer) M4x12DA	2	0.75±0.05 (7.5±0.5)
UB ground spring 2R	Taptite pan (washer) M4x12DA	1	0.75±0.05 (7.5±0.5)
HVPS PCB	Taptite bind B M4x12	2	0.75±0.05 (7.5±0.5)
Cartridge sensor/relay PCB	Screw cup M3x8	1	0.45±0.05 (4.5±0.5)
DEV clutch cover	Taptite cup S M3x8 SR	1	0.75±0.05 (7.5±0.5)
Process drive unit	Taptite bind B M4x12	5	0.75±0.05 (7.5±0.5)
	Taptite cup S M3x8 SR	2	0.75±0.05 (7.5±0.5)
	Taptite pan (washer) M4x12DA	1	0.75±0.05 (7.5±0.5)
PF motor	Taptite bind B M4x12	2	0.75±0.05 (7.5±0.5)
	Taptite cup S M3x8 SR	2	0.75±0.05 (7.5±0.5)
Fuser gear cover	Taptite cup S M3x8 SR	4	0.75±0.05 (7.5±0.5)
PF drive unit	Taptite bind B M4x12	5	0.7±0.1 (7±1)
TR cover	Taptite bind B M3x10	1	0.65±0.05 (6.5±0.5)
PF unit	Taptite bind B M4x12	3	0.8±0.1 (8±1)
	Taptite pan (washer) M4x12DA	1	0.9±0.05 (9±0.5)
	Taptite cup B M3x10	2	0.5±0.05 (5±0.5)
Paper eject ASSY	Taptite bind B M4x12	4	1.1±0.1 (11±1)
LVPS harness cover lower	Taptite bind B M4x12	1	0.75±0.05 (7.5±0.5)
Base frame middle DX	Taptite bind B M3x10	2	0.5±0.05 (5±0.5)
LVPS harness cover upper	Screw cup M3x6	2	0.5±0.05 (5±0.5)
LVPS FG harness	Screw pan M4x8	1	0.5±0.05 (5±0.5)
HVPS ground plate rear	Taptite pan (washer) B M4x12DA	1	0.75±0.05 (7.5±0.5)
Fan ground plate	Taptite pan (washer) B M4x12DA	2	0.75±0.05 (7.5±0.5)
Fan FG harness			
LVPS shield plate	Taptite pan (washer) B M4x12DA	4	0.75±0.05 (7.5±0.5)
	Screw cup M3x6	3	0.6±0.05 (6±0.5)
REG mark sensor ASSY	Taptite bind S M3x5	1	0.5±0.05 (5±0.5)
LT side cover L	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LT side cover R	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LT front cover ASSY	Taptite cup S M3x8 SR	1	0.6±0.1 (6±1)
LT under bar ground plate L	Taptite cup S M3x8 SR	2	0.8±0.1 (8±1)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
LT under bar front	Taptite cup S M3x8 SR (a)	1	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR (b)	1	0.6±0.1 (6±1)
	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LT drive ASSY	Taptite bind B M4x12	3	0.8±0.1 (8±1)
LT under bar	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LT PF frame FG plate R	Taptite cup S M3x8 SR	1	0.6±0.1 (6±1)
LT center FG plate L	Taptite cup S M3x8 SR (c)	1	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR (d)	1	0.6±0.1 (6±1)
LT center FG plate R	Taptite cup S M3x8 SR (e)	1	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR (f)	1	0.6±0.1 (6±1)
LT frame L unit	Taptite cup S M3x8 SR (g)	2	0.6±0.1 (6±1)
	Taptite cup S M3x8 SR (h)	4	0.8±0.1 (8±1)
	Taptite bind B M4x12	4	0.8±0.1 (8±1)
LT PF frame ASSY	Taptite cup S M3x8 SR (i)	2	0.6±0.1 (6±1)
	Taptite cup S M3x8 SR (j)	2	0.6±0.1 (6±1)
LT front beam	Taptite bind B M4x12	2	0.8±0.1 (8±1)
LT PF actuator holder ASSY	Taptite cup B M3x10	1	0.5±0.1 (5±1)

4. LUBRICATION

The kind of the lubricating oil (Maker name)	Lubrication point	Quantity of lubrication
FLOIL BG-10KS (Kanto Kasei)	T1 ELECTRIC CLUTCH FCL	1.5 mm dia. ball
	REGI ELECTRIC CLUTCH FCL	1.5 mm dia. ball

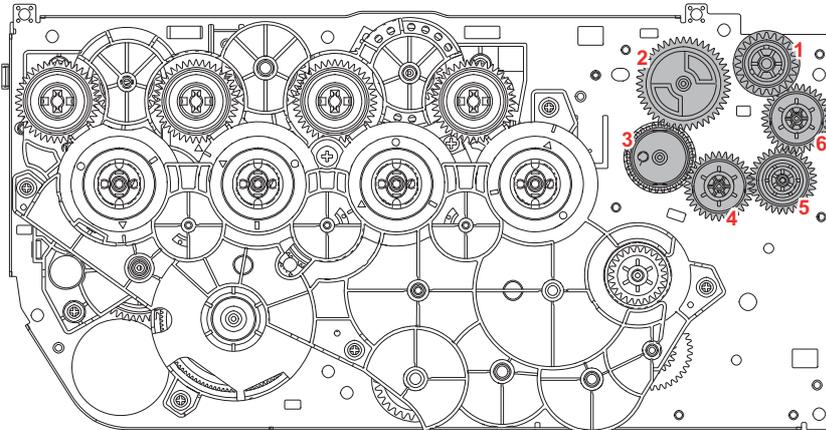


BG1.5: FLOIL BG-10KS (1.5 mm dia. ball)

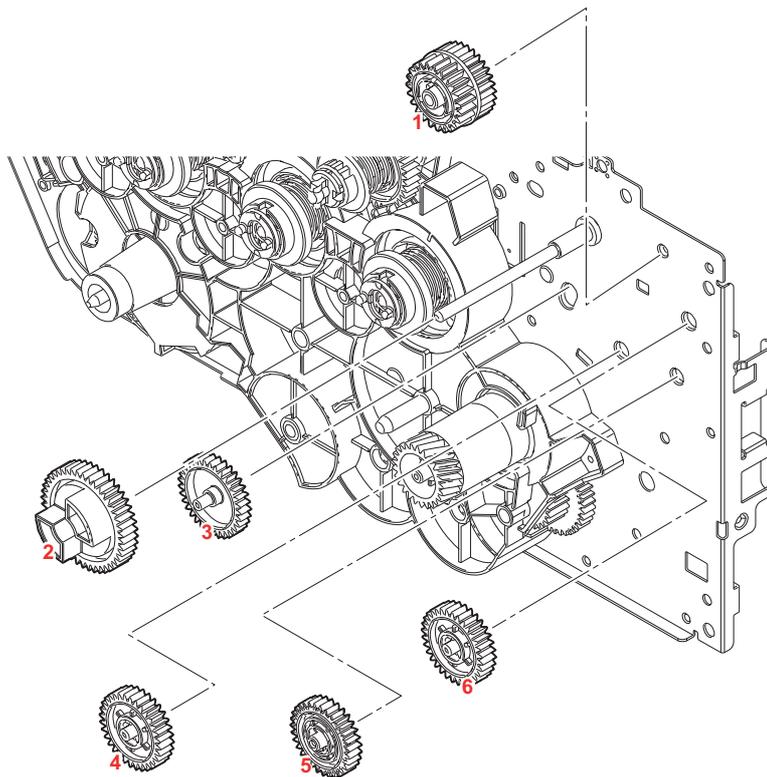
5. OVERVIEW OF GEARS

When ordering repair parts, refer to the parts reference list.

<Layout view>



<Development view>

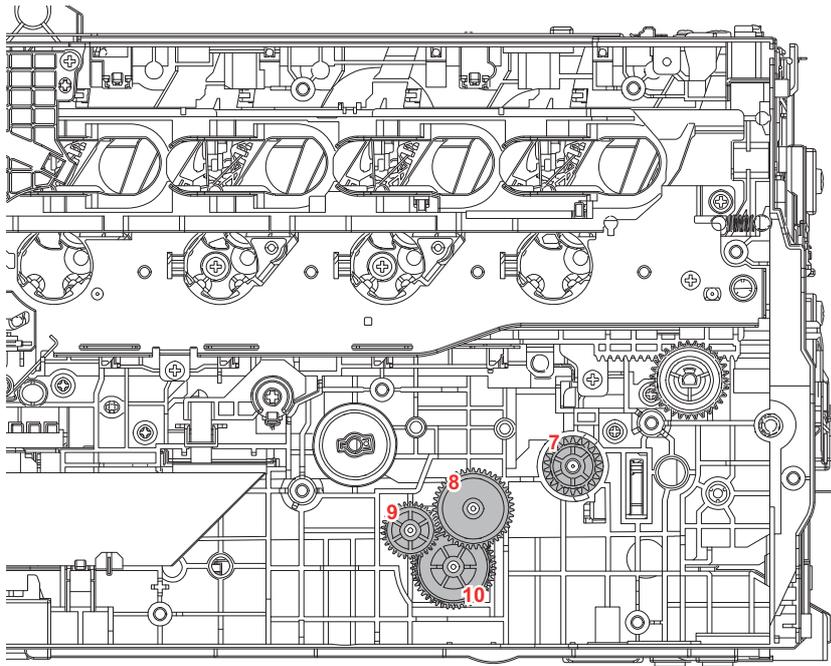


<Name of gears>

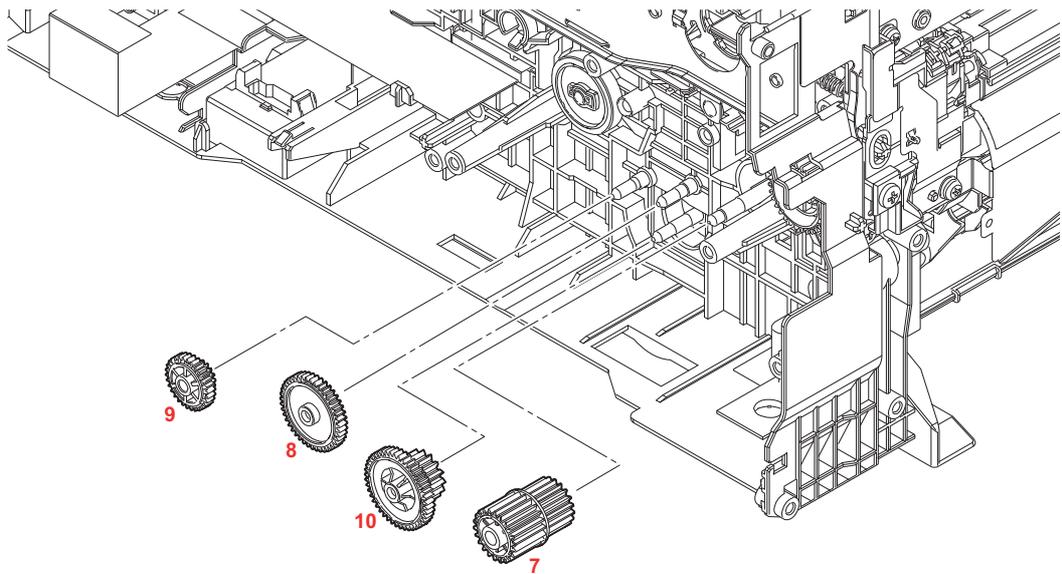
1	D01J92	EJECT DRIVE GEAR Z30-23 FCL
2	D01J95	FUSER DRIVE GEAR Z44 FCL
3	D01J97	FUSER IDLE GEAR Z33 FCL
4	D01J94	IDLE GEAR Z32 FCL
5	D01J93	IDLE GEAR Z31 FCL
6	D01J94	IDLE GEAR Z32 FCL

* These parts are subject to change without notice.

<Layout view>



<Development view>



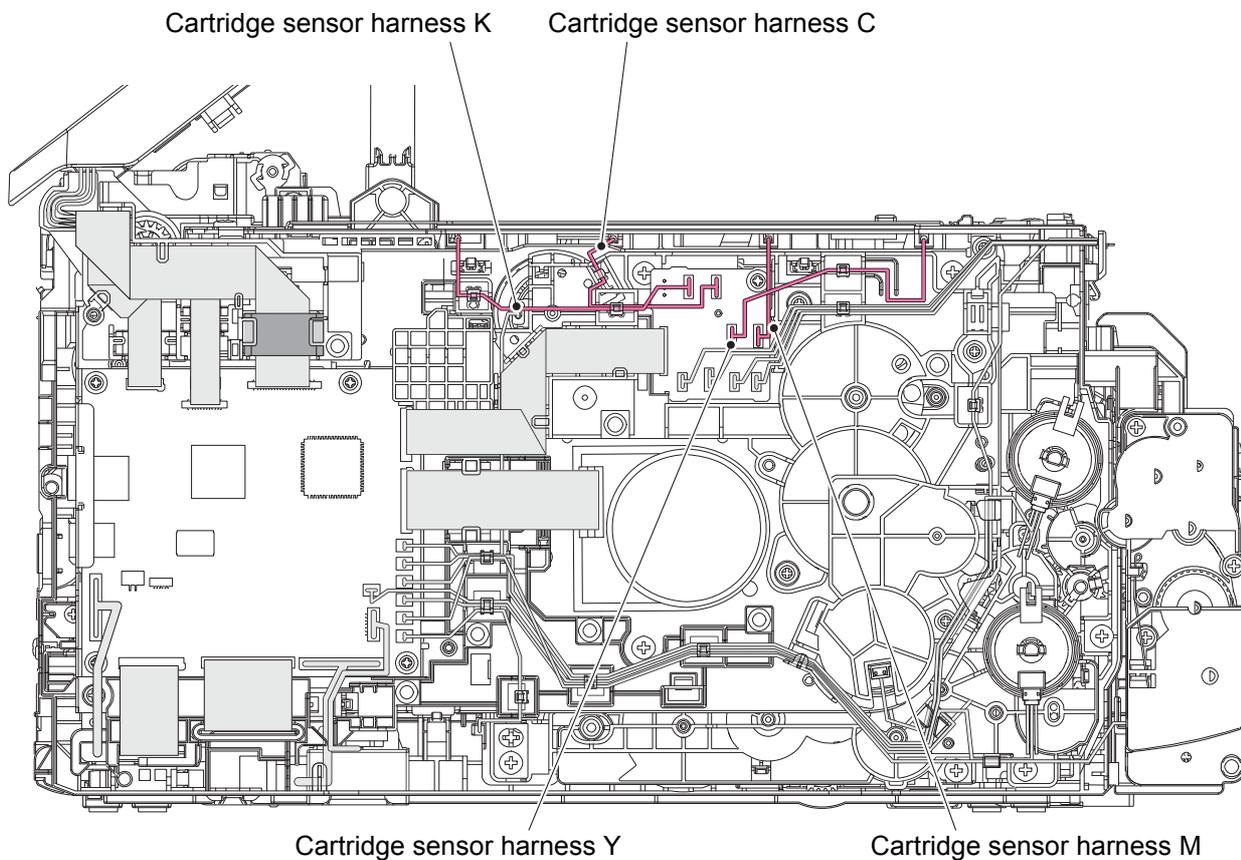
<Name of gears>

7	D01JTG	DX IDLE GEAR Z22-20 FCL
8	D01JS3	PT IDLE GEAR Z43 FCL
9	D01M5Y	PT IDLE GEAR Z30-17 FCL
10	D01JS2	PT IDLE GEAR Z45-15

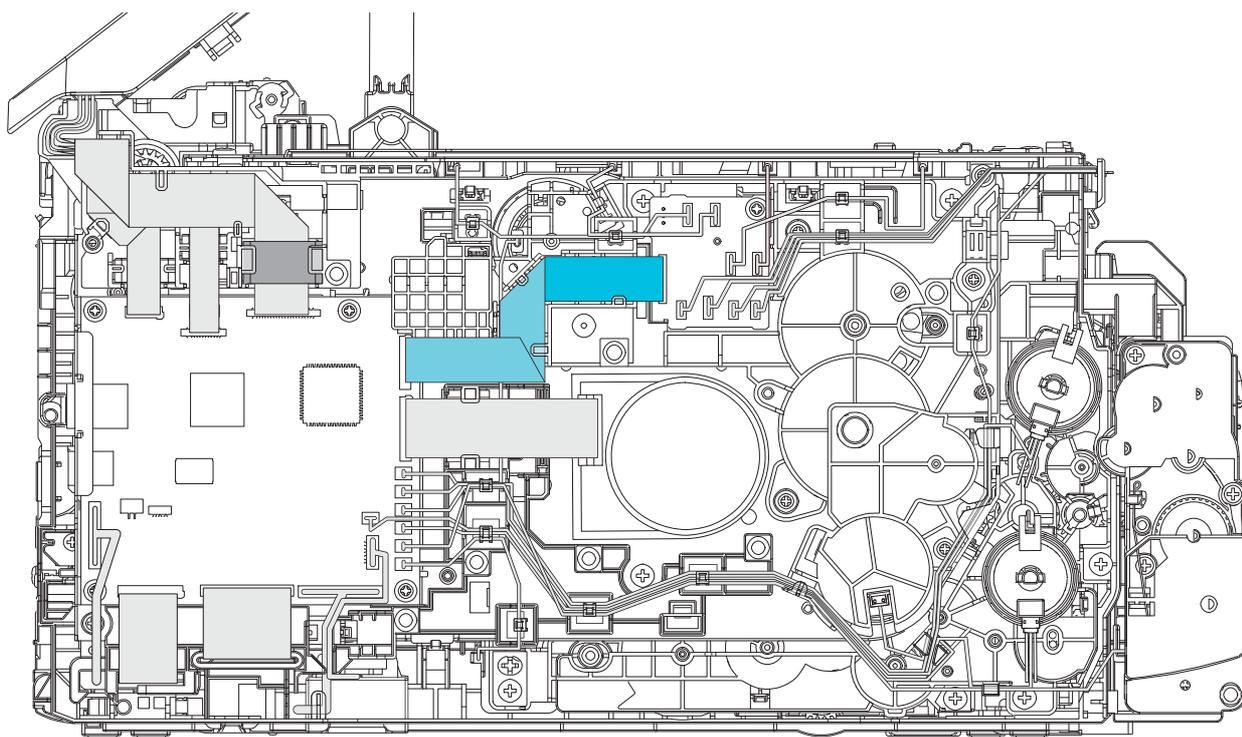
* These parts are subject to change without notice.

6. HARNESS ROUTING

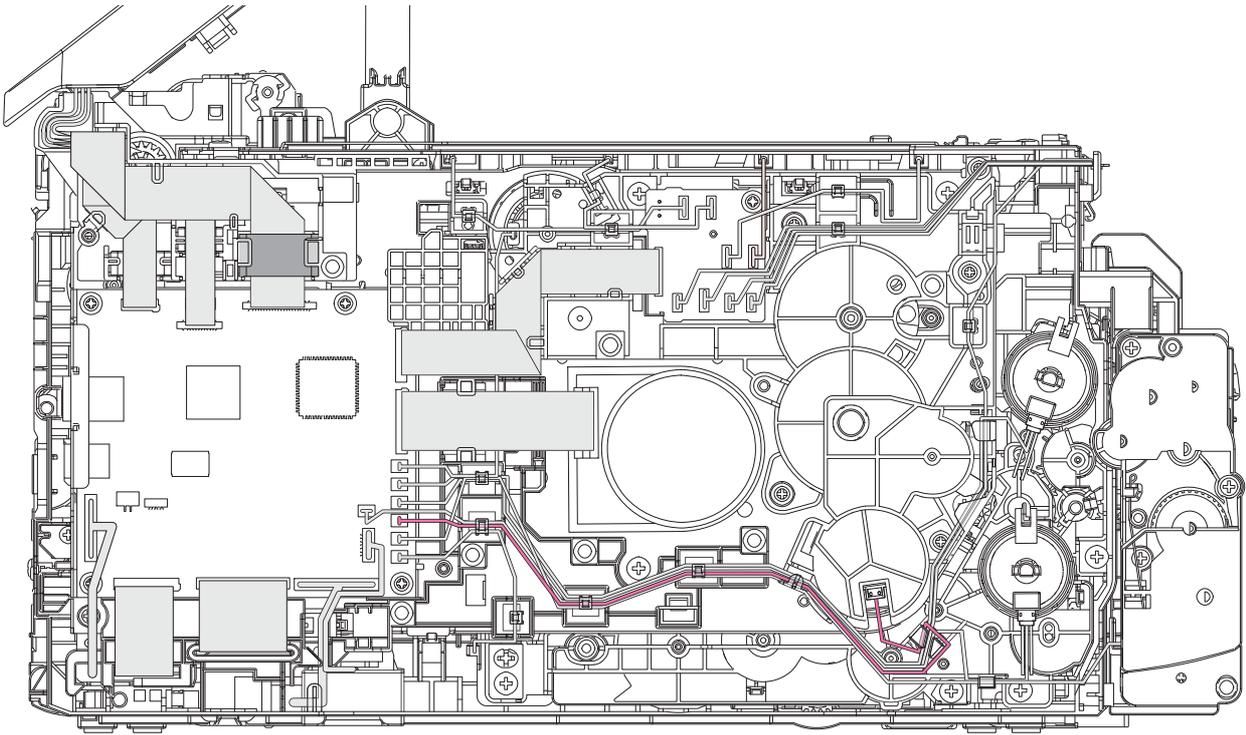
1 Cartridge sensor harness C/M/Y/K



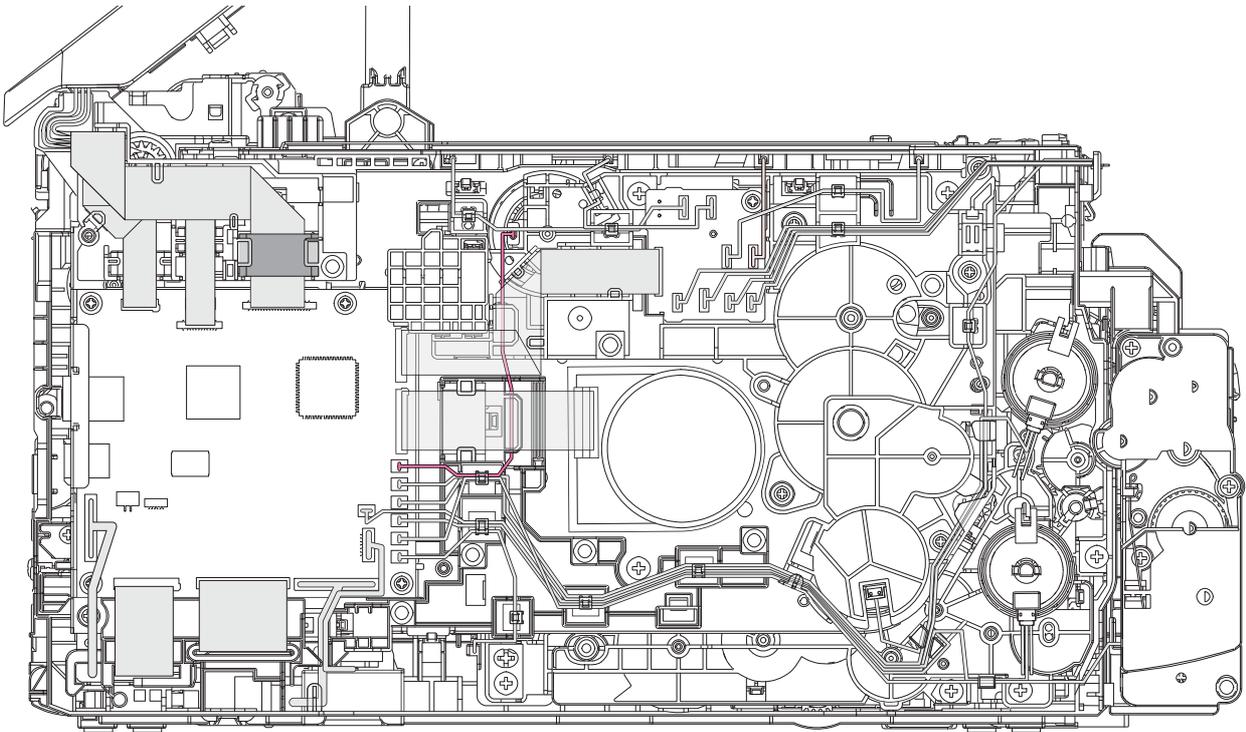
2 Cartridge sensor/relay FFC



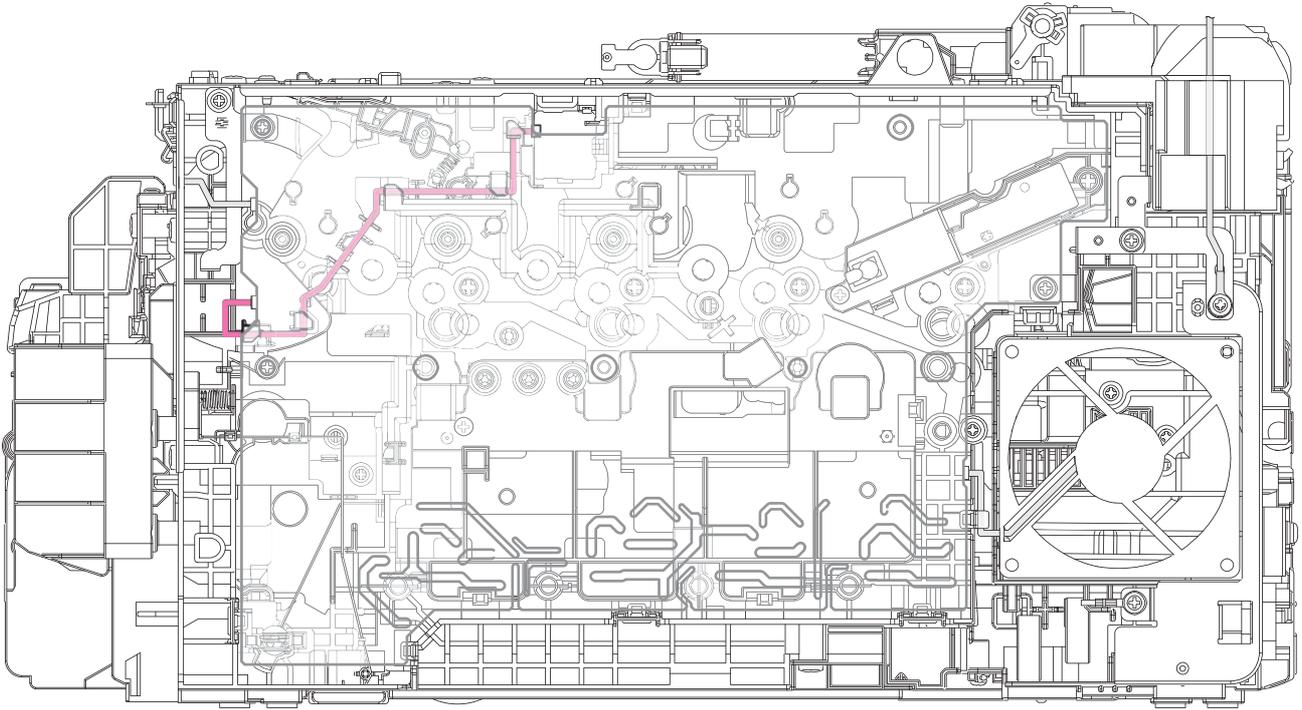
3 DEV release clutch CMY harness



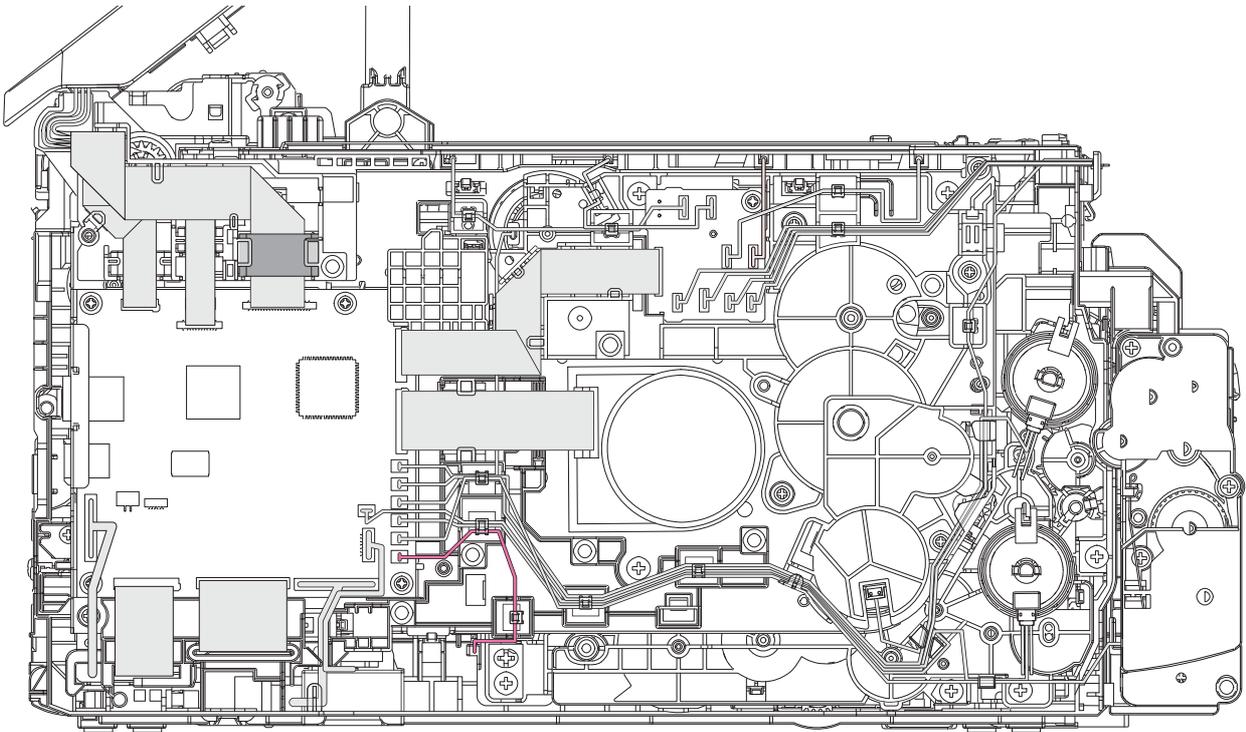
4 DEV release clutch K harness



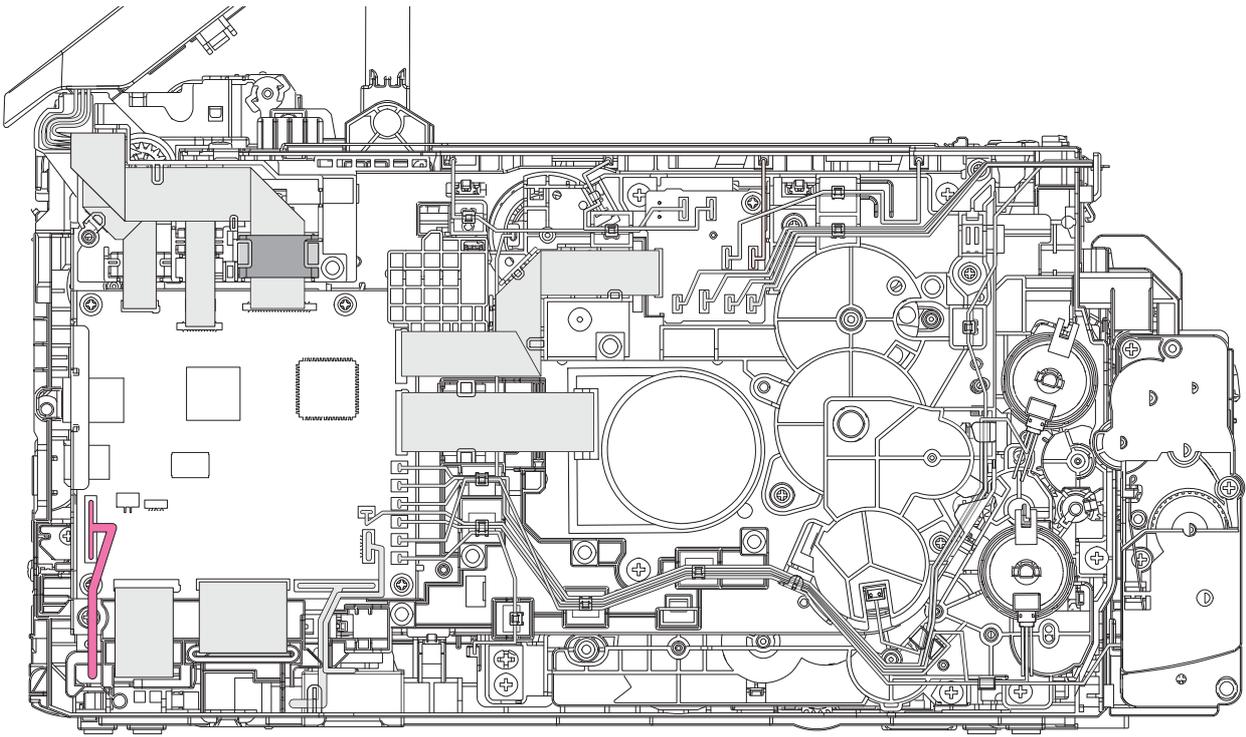
5 DEV release sensor harness



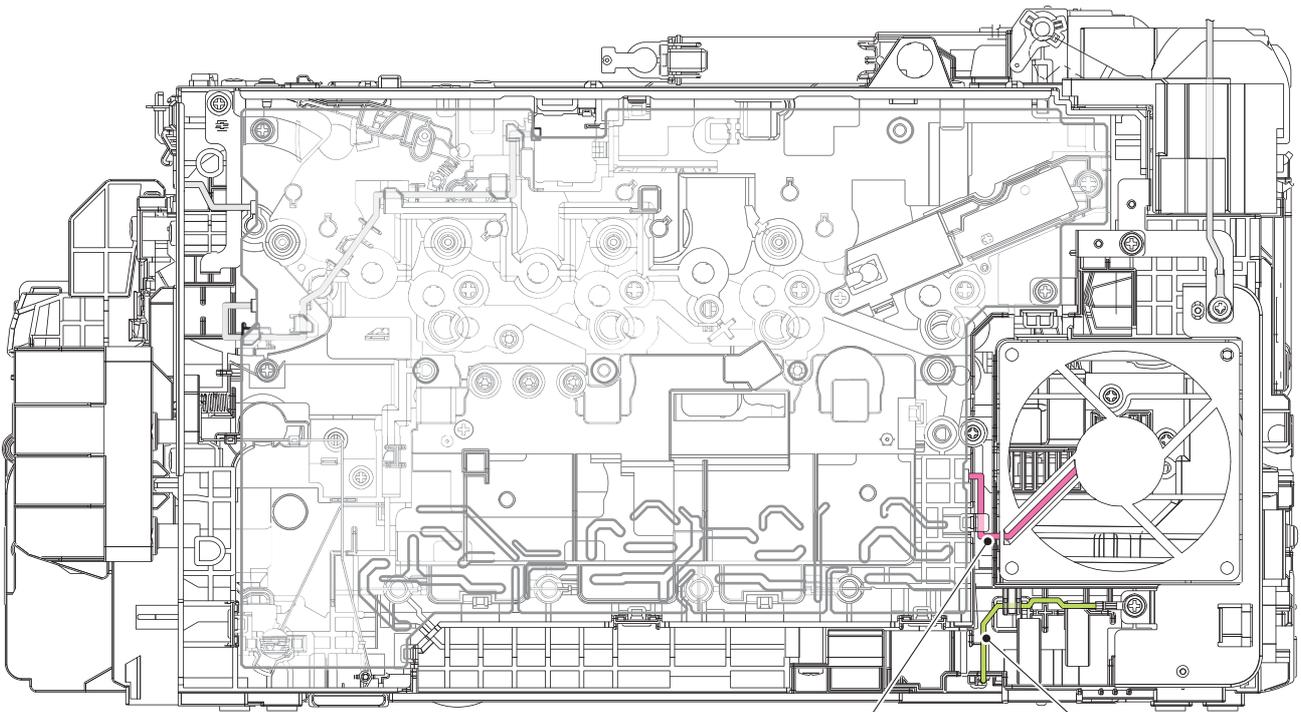
6 DX clutch harness



7 Eject sensor/relay harness

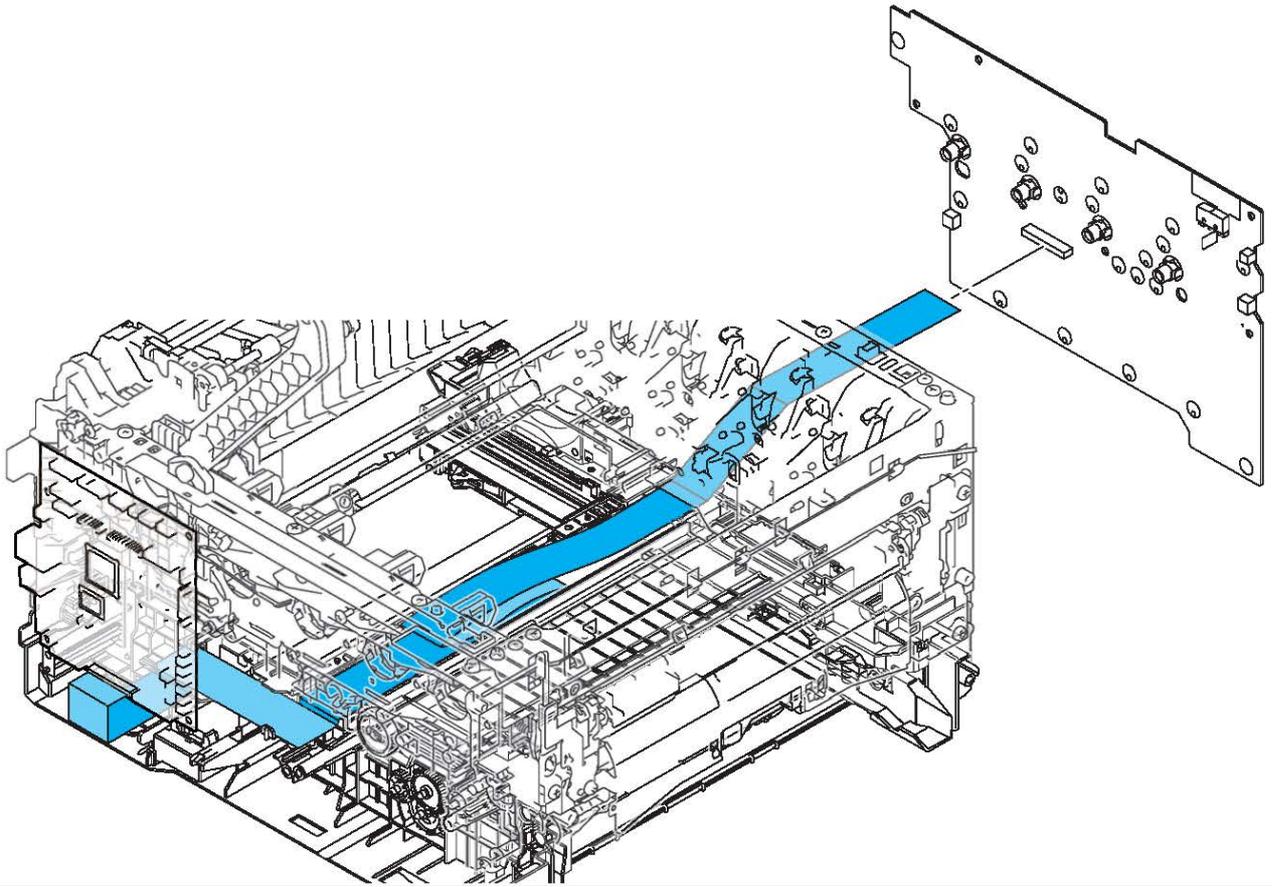


8 Fan harness, Fan FG harness

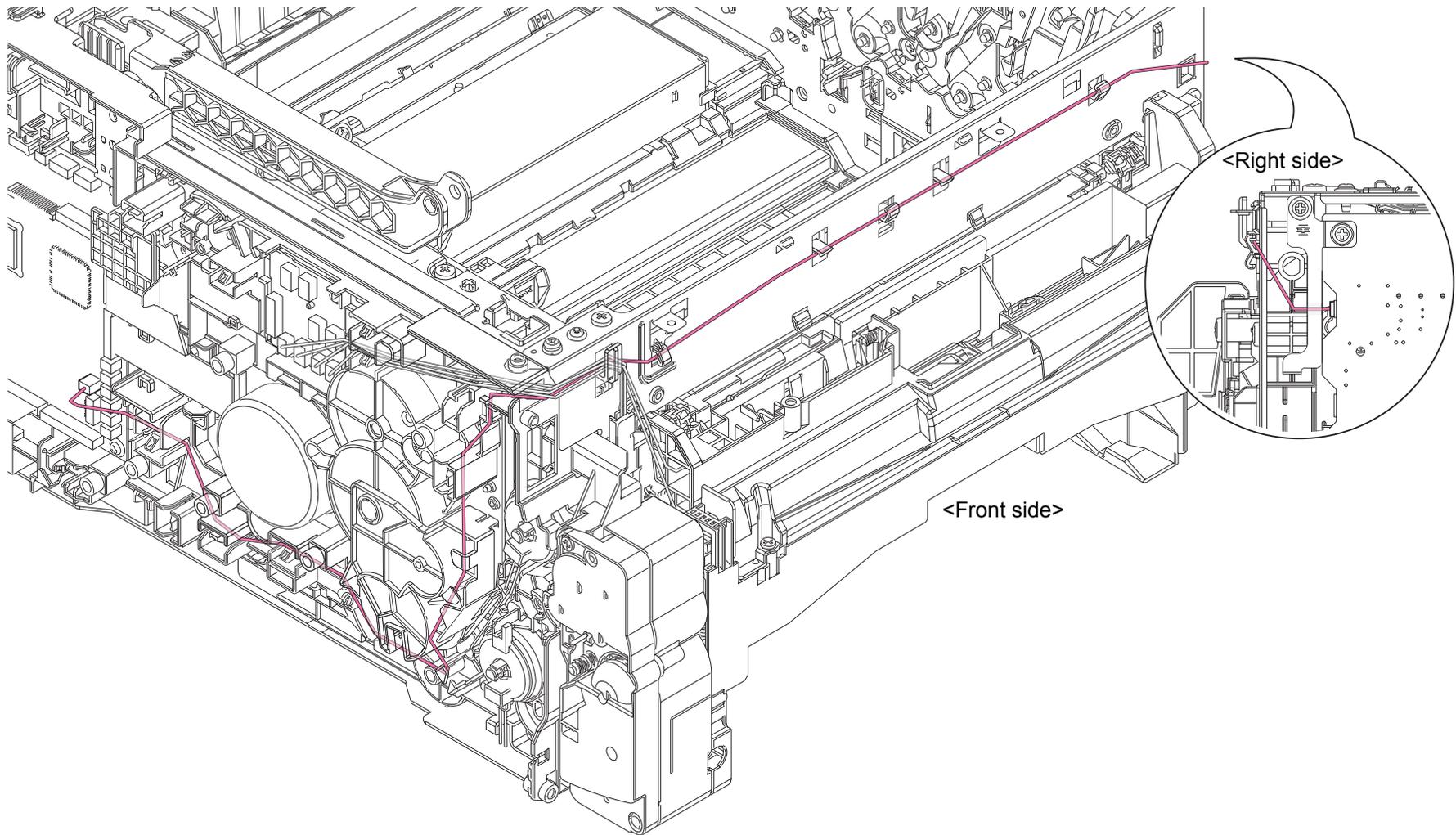


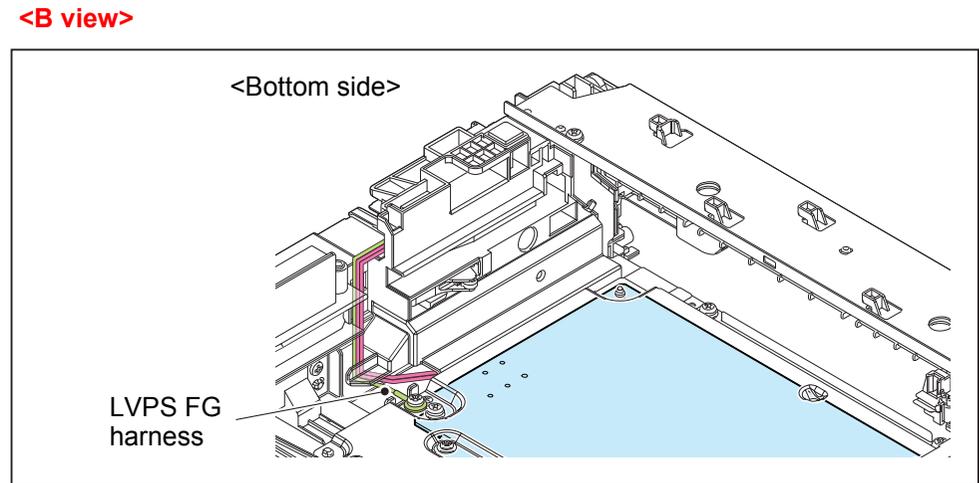
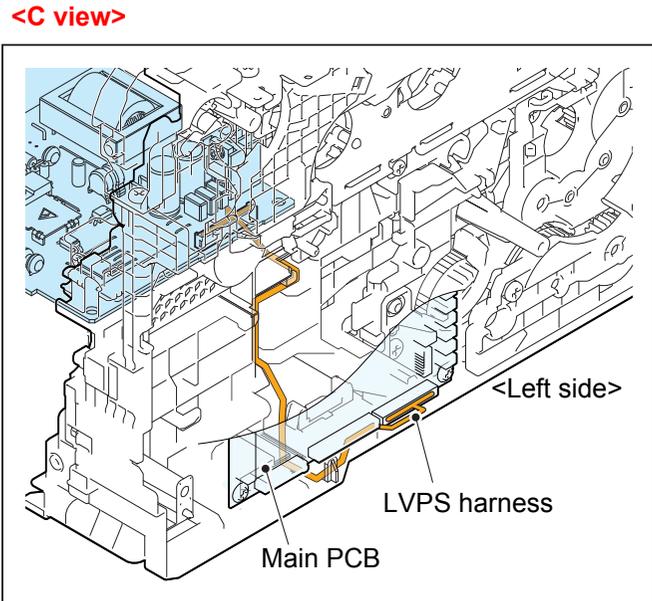
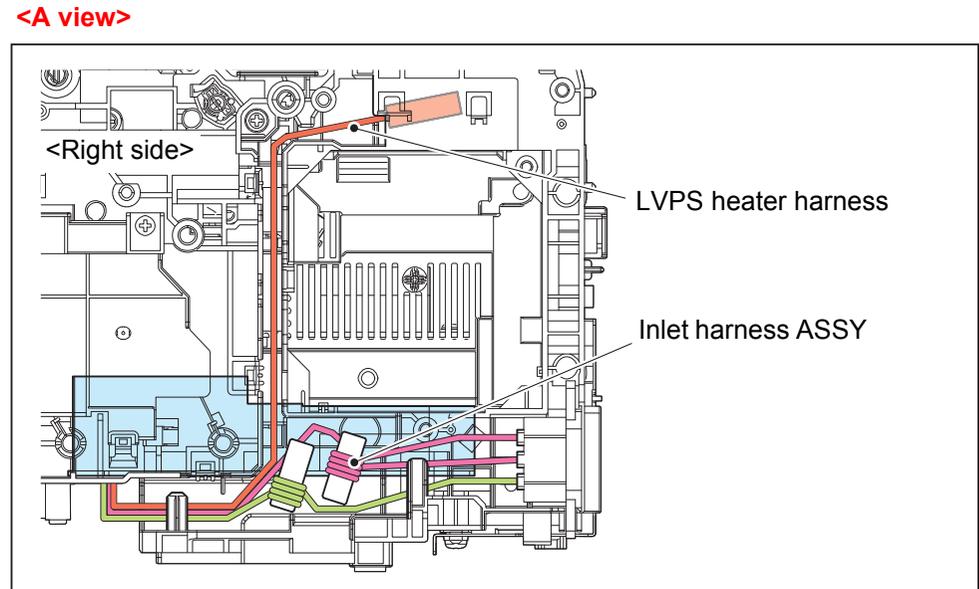
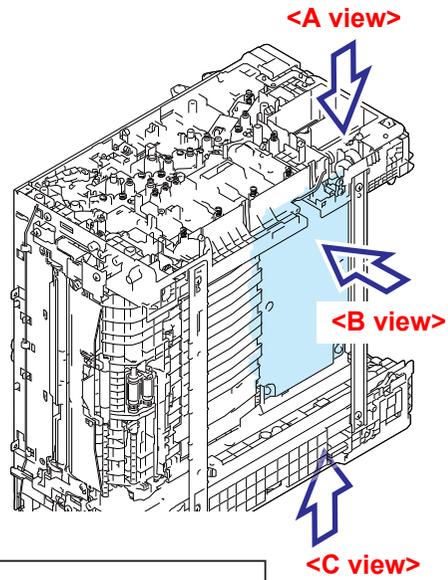
Fan harness

Fan FG harness



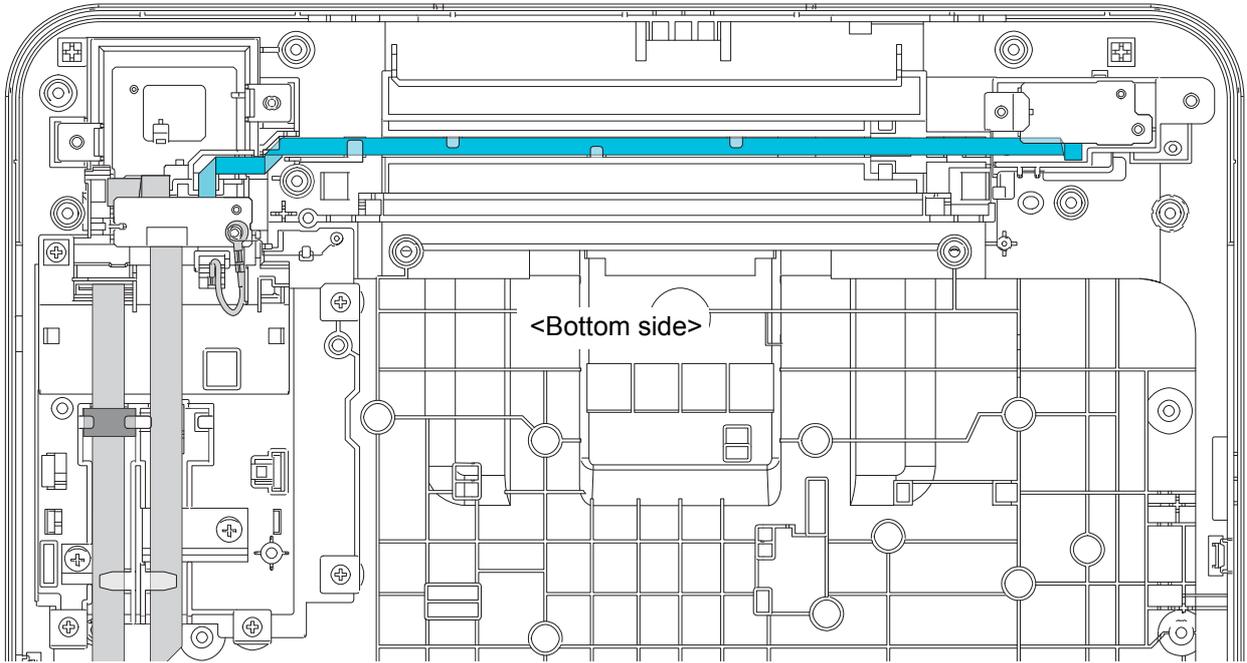
10 HVPS harness



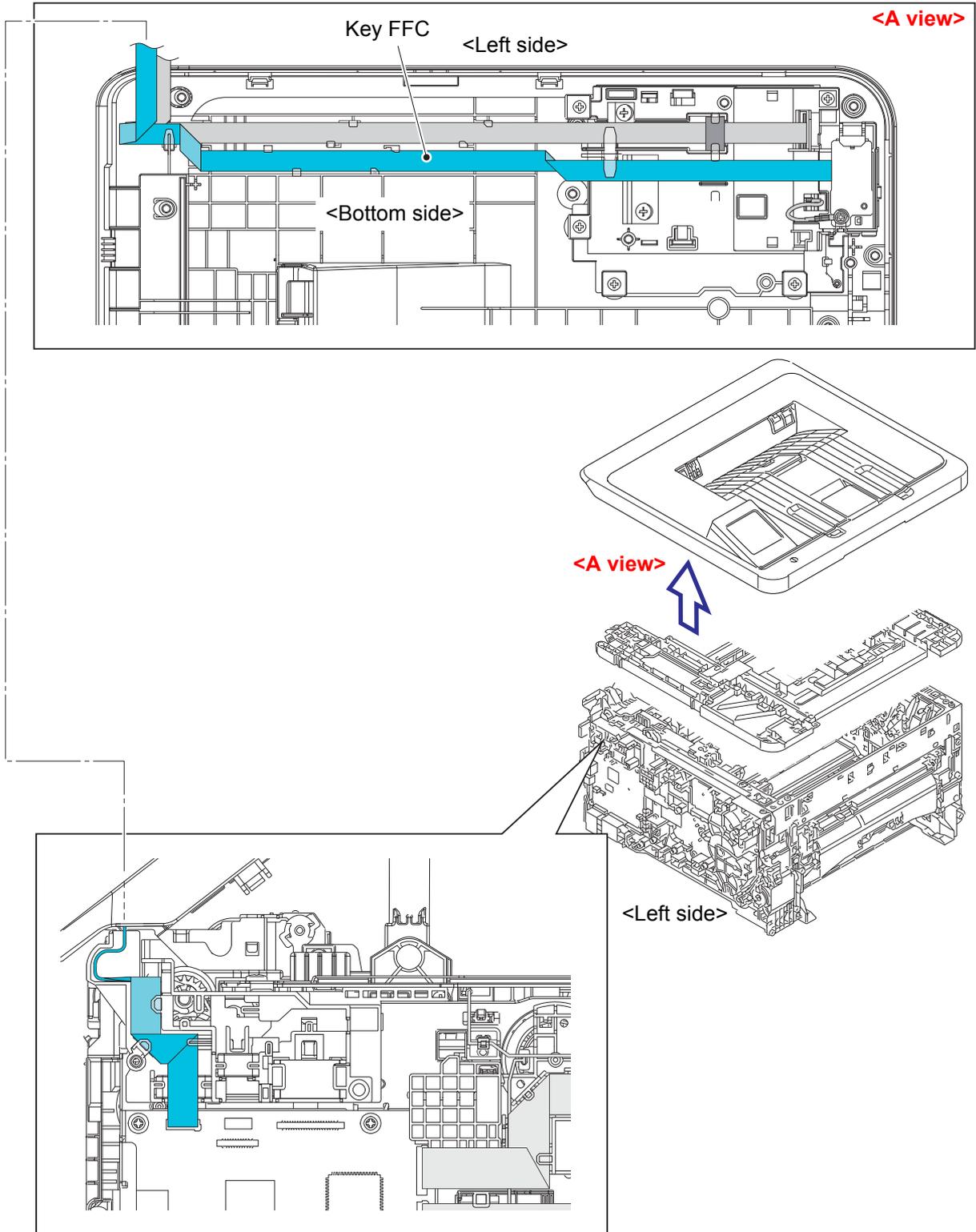


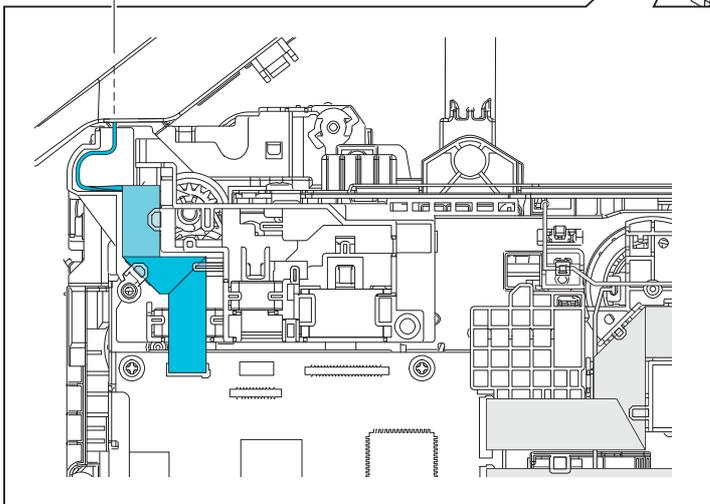
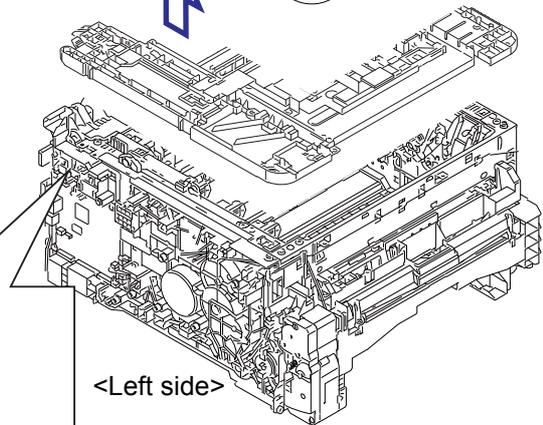
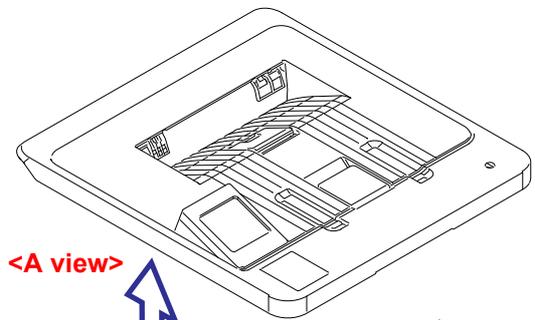
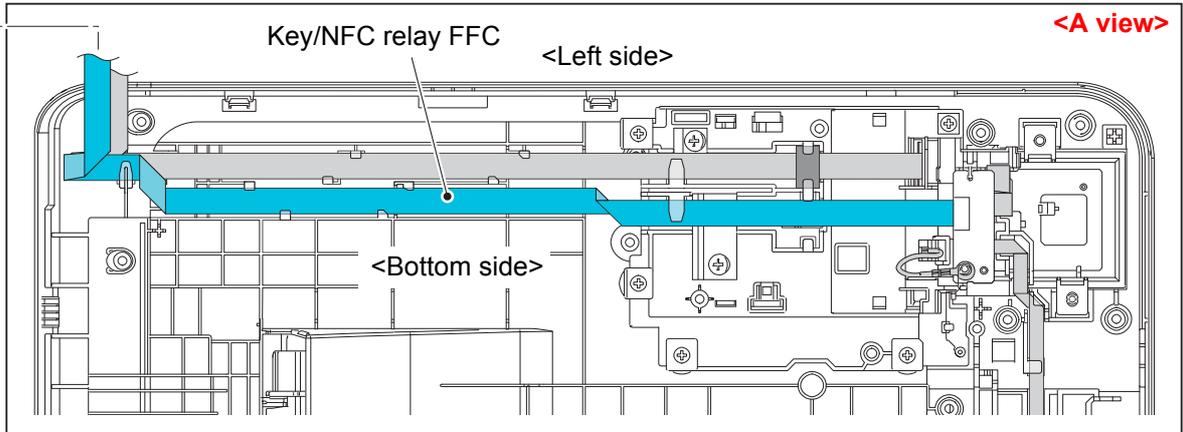
12 Key FFC (For FS models)

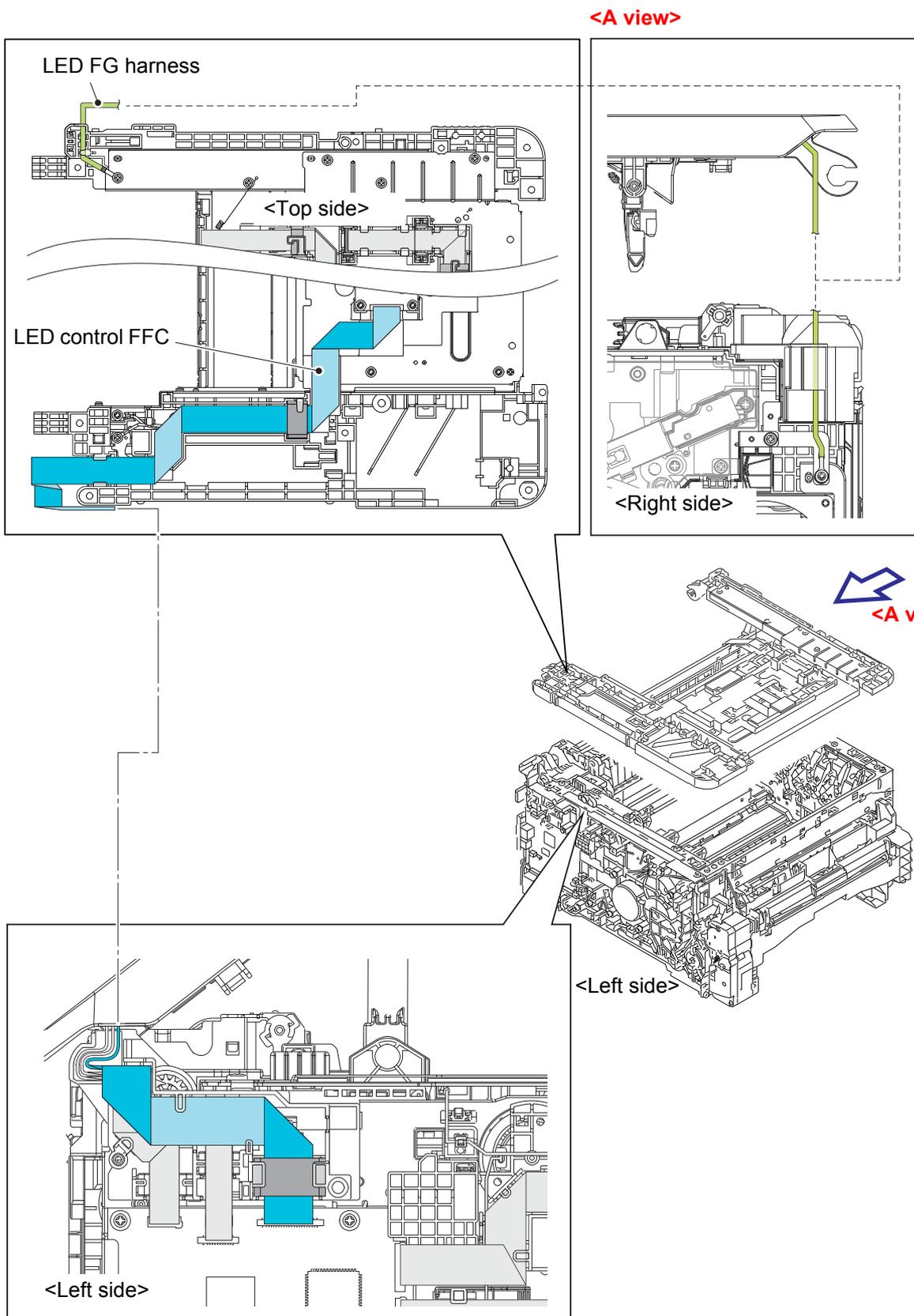
<Front side>



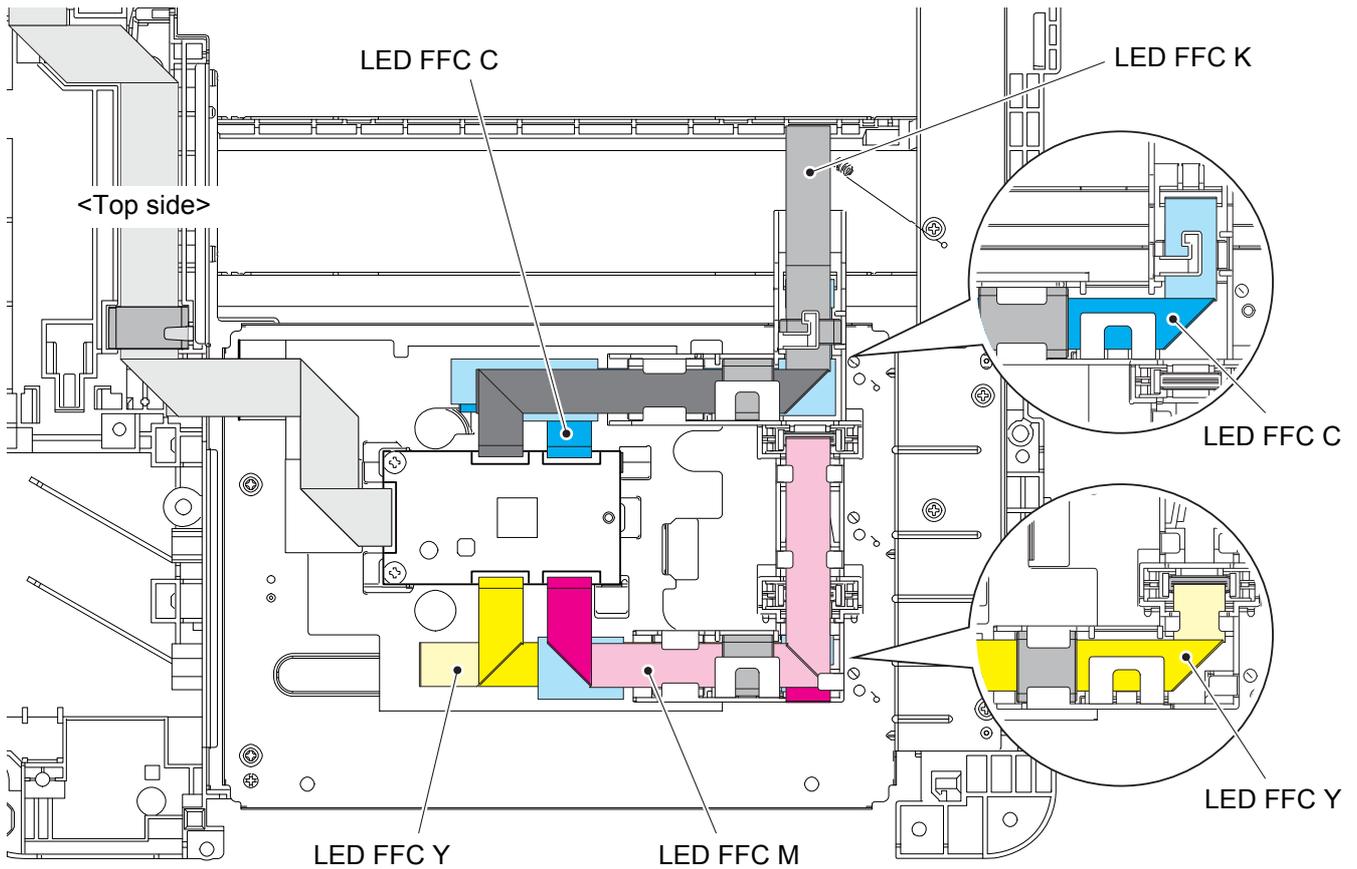
13 Key FFC (For STEP models)





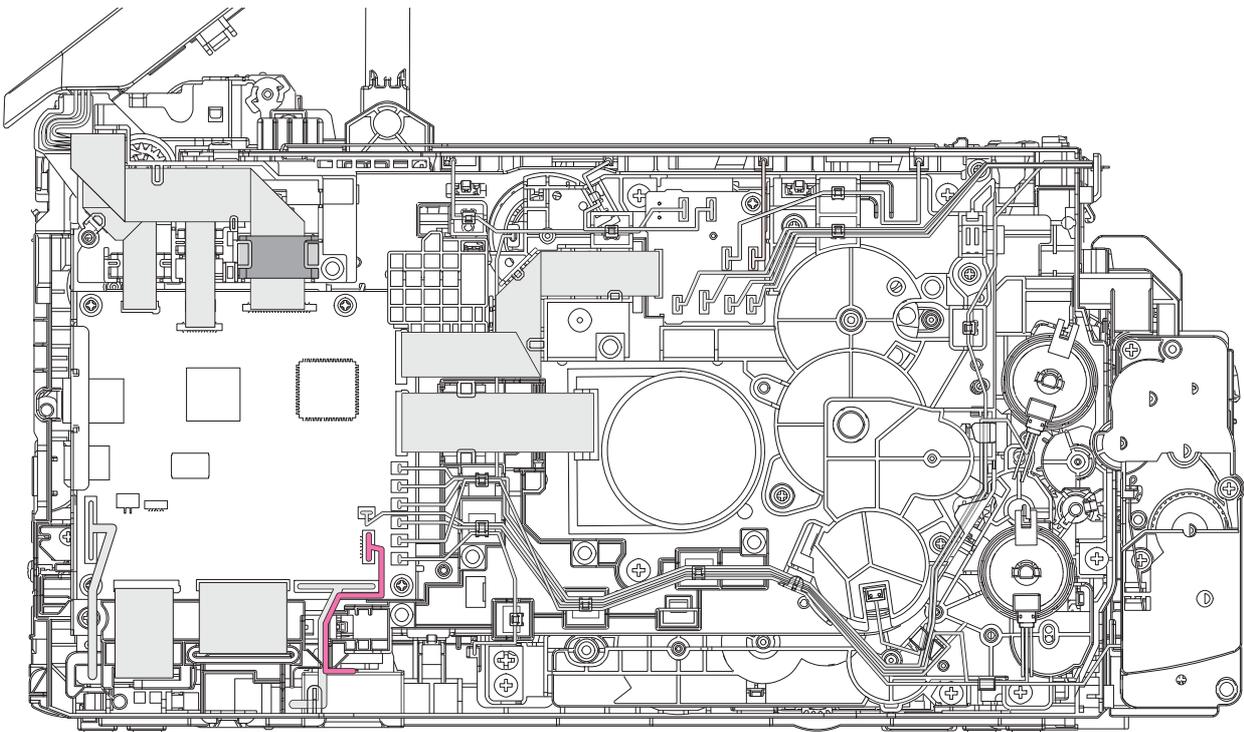


16 LED FFC Y/M/C/K

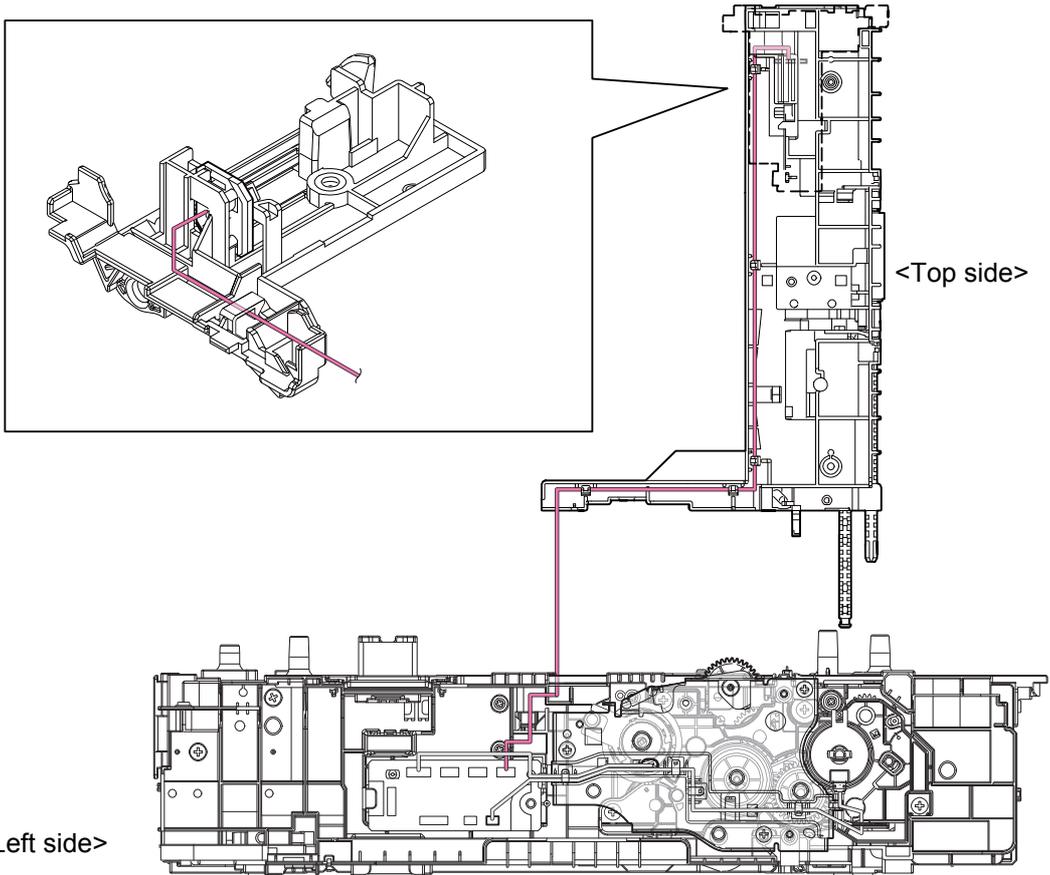


17 LT connector harness

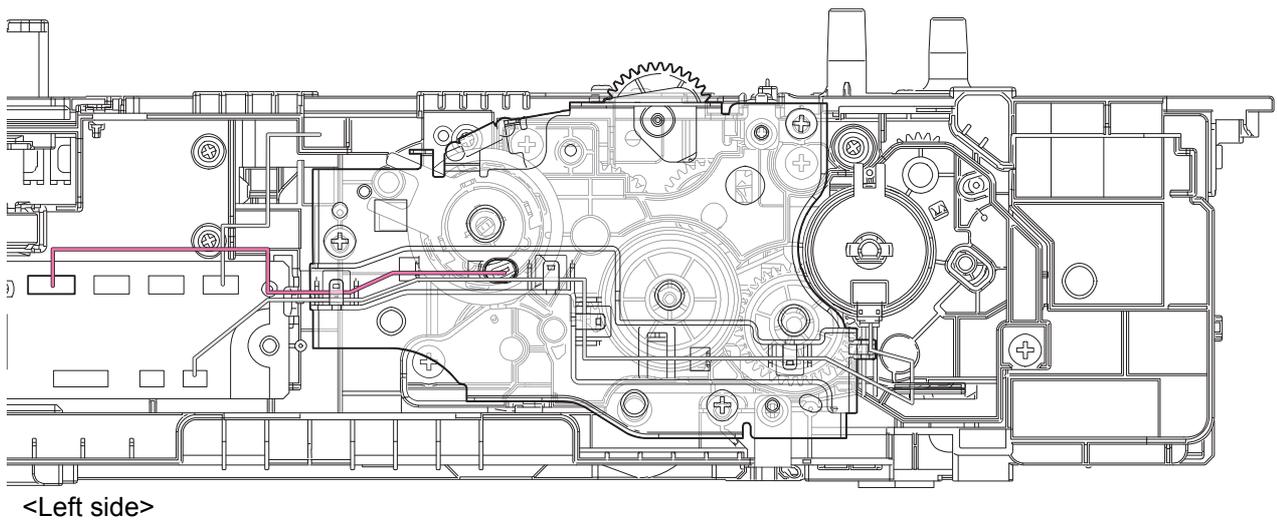
<Left side>



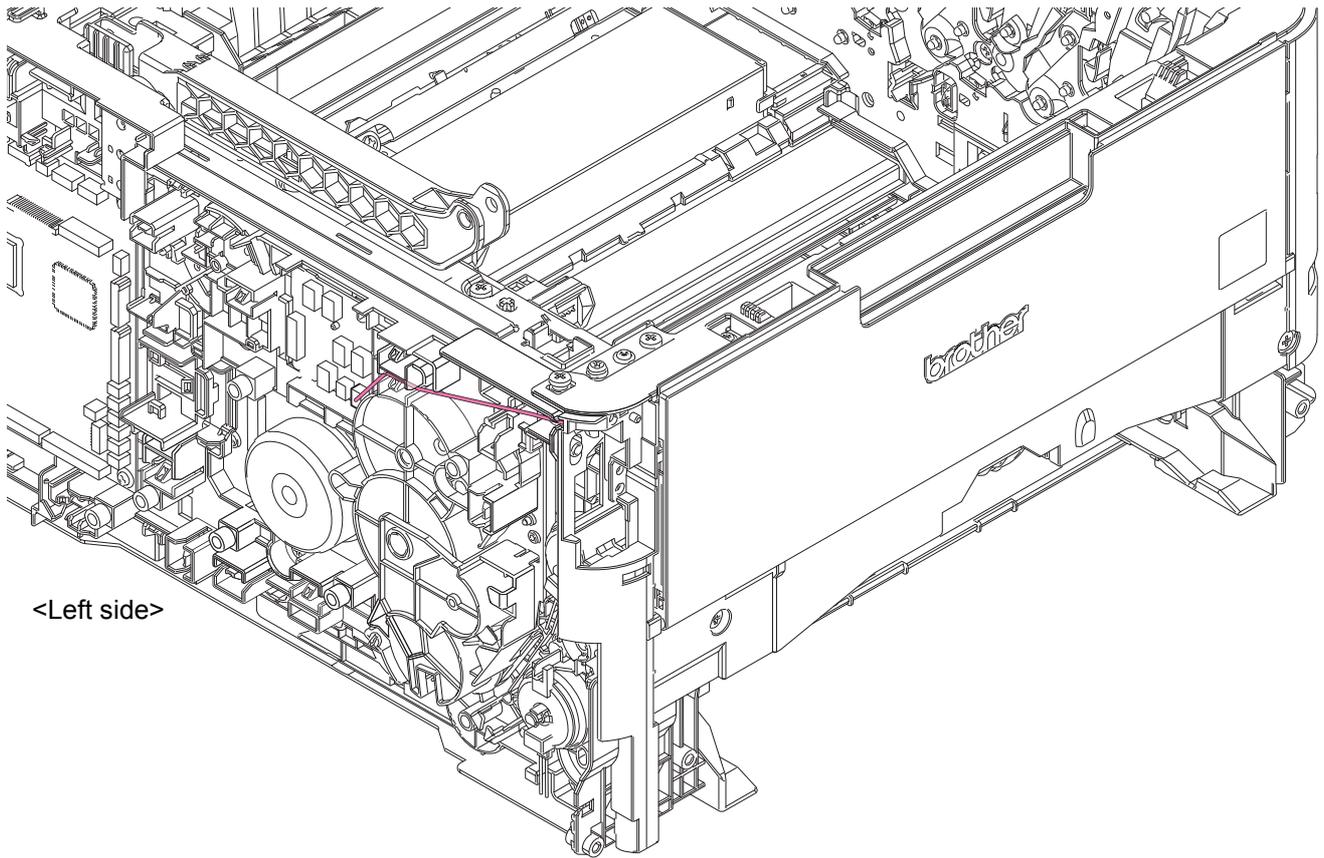
18 LT PF sensor harness

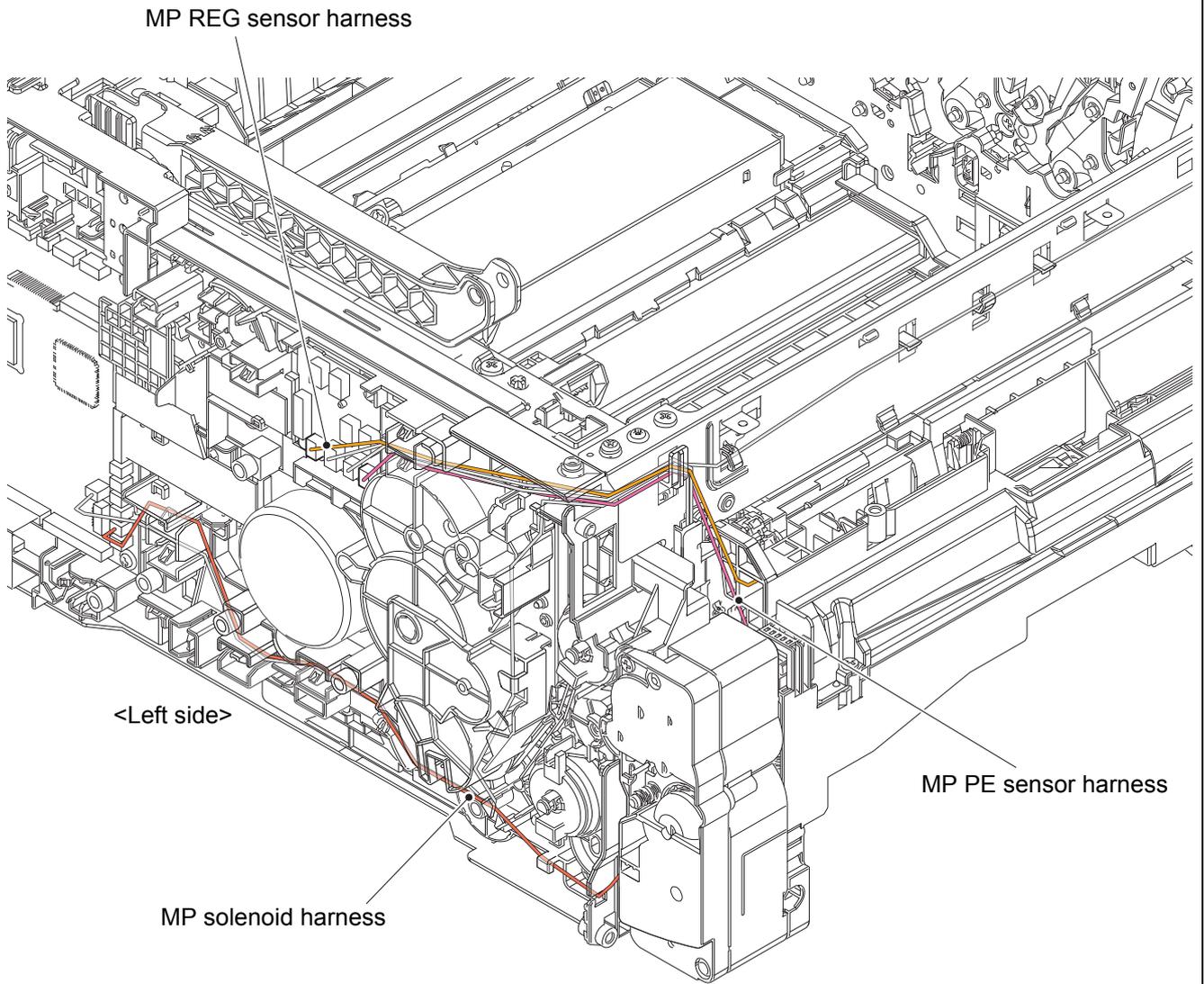


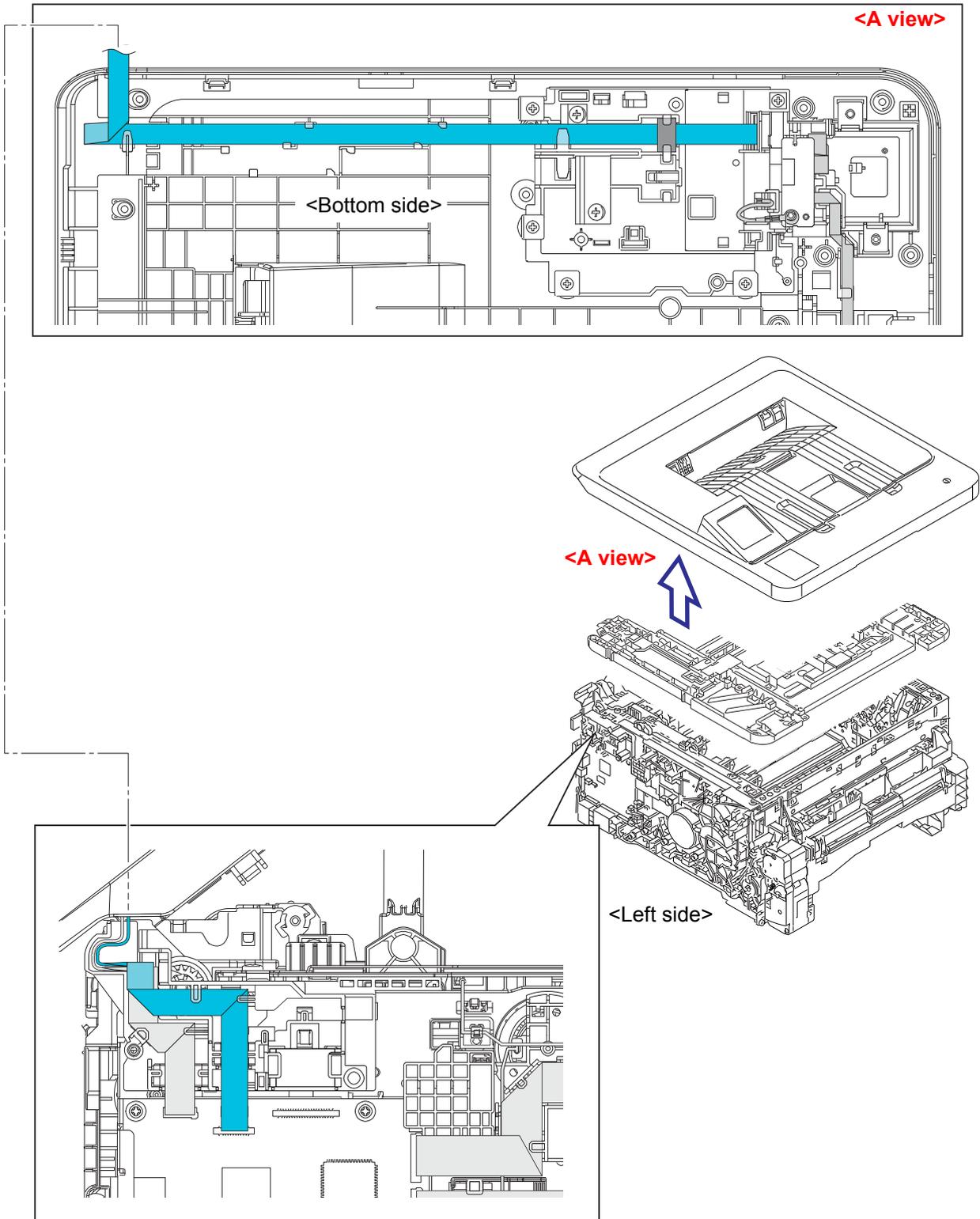
19 LT release clutch harness

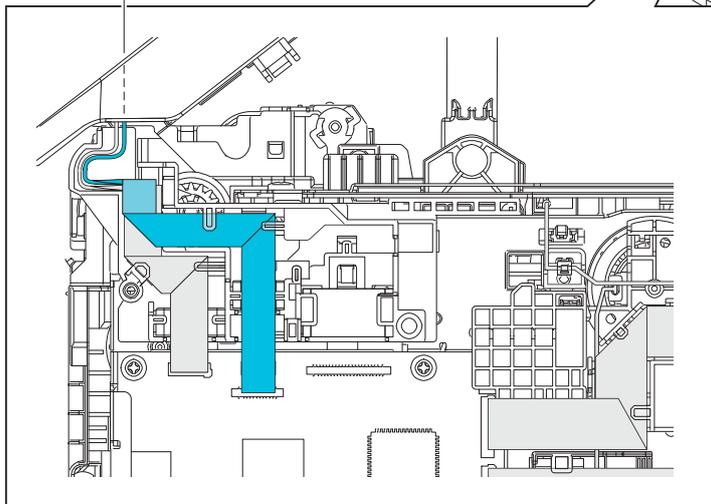
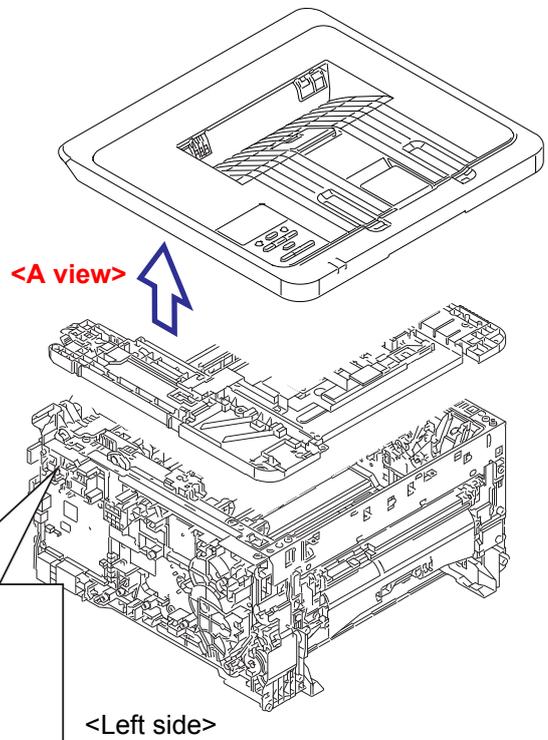
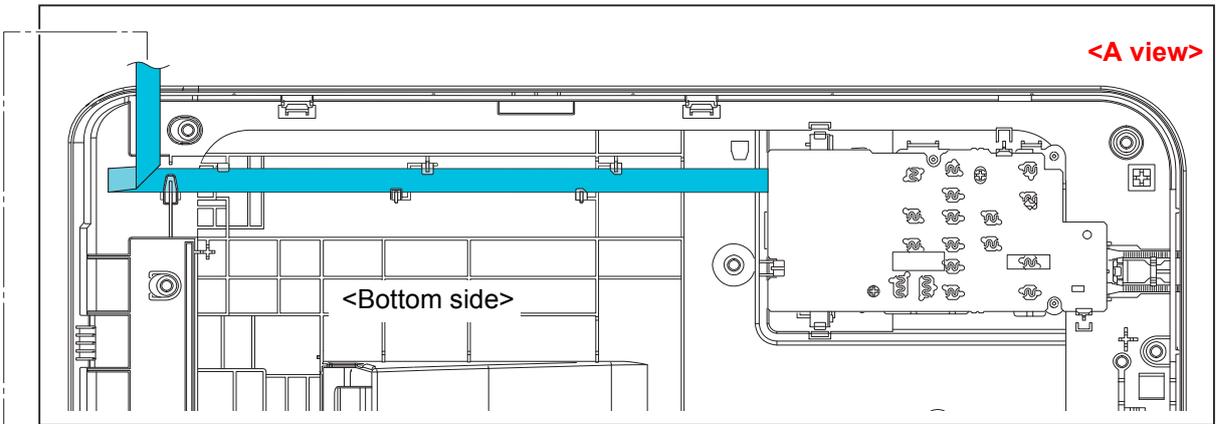


20 MF PE sensor harness

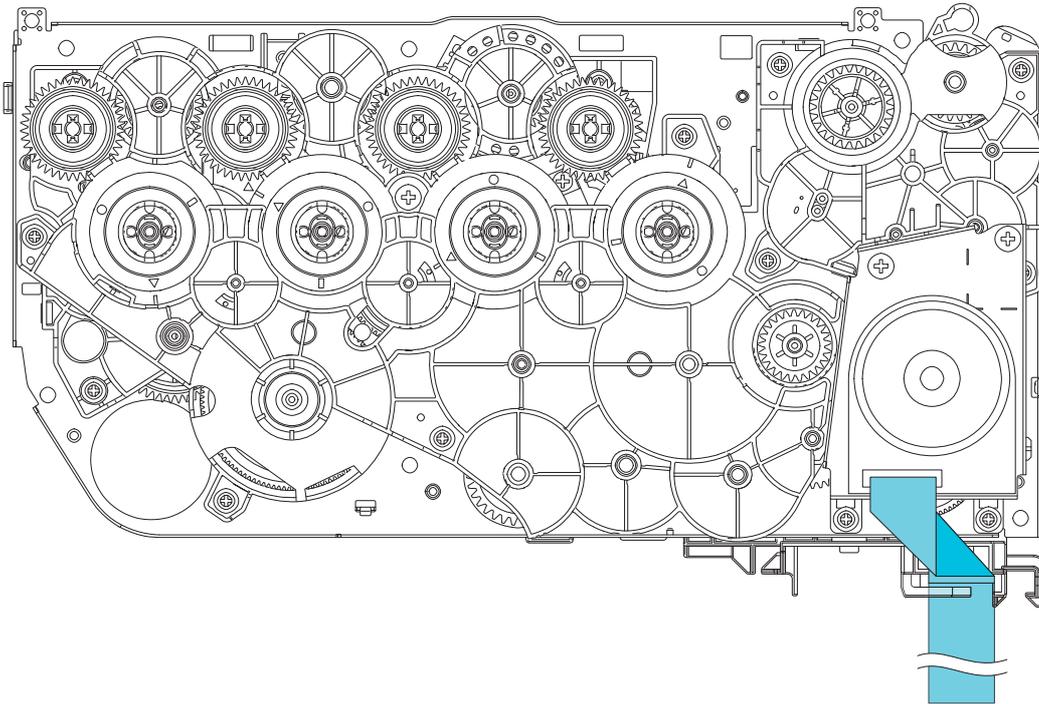






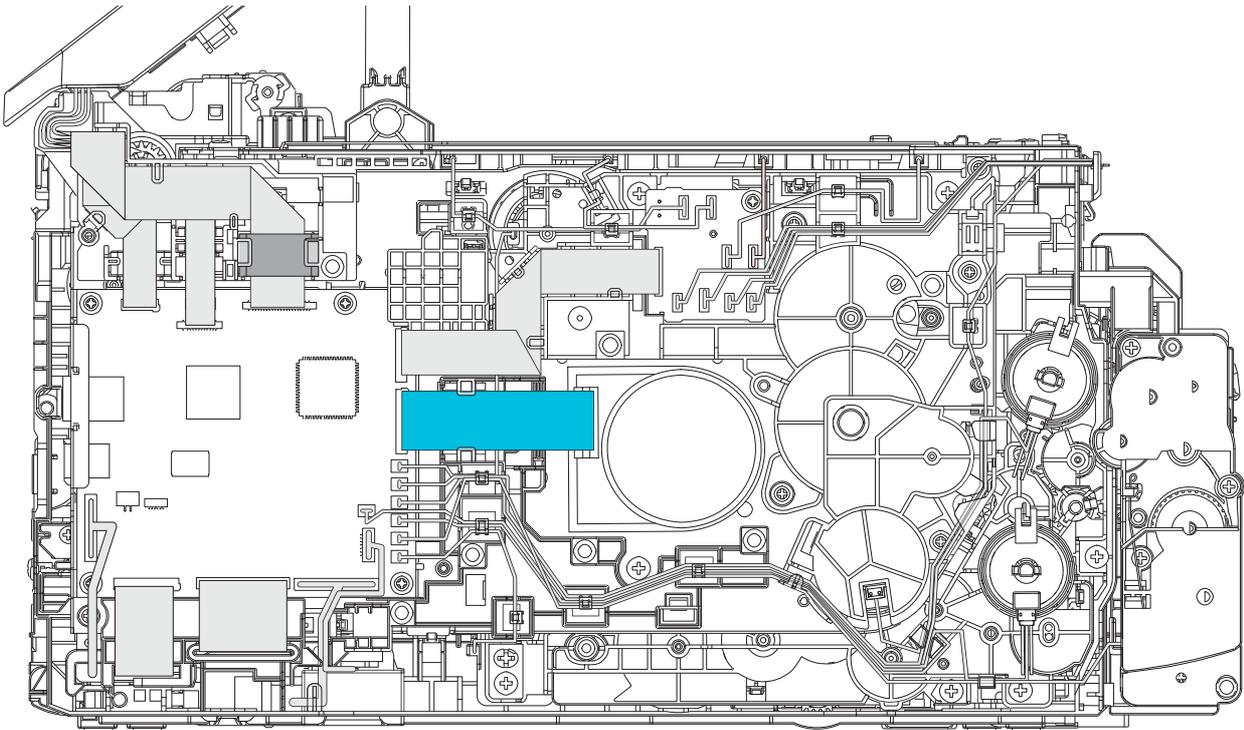


24 PF motor FFC



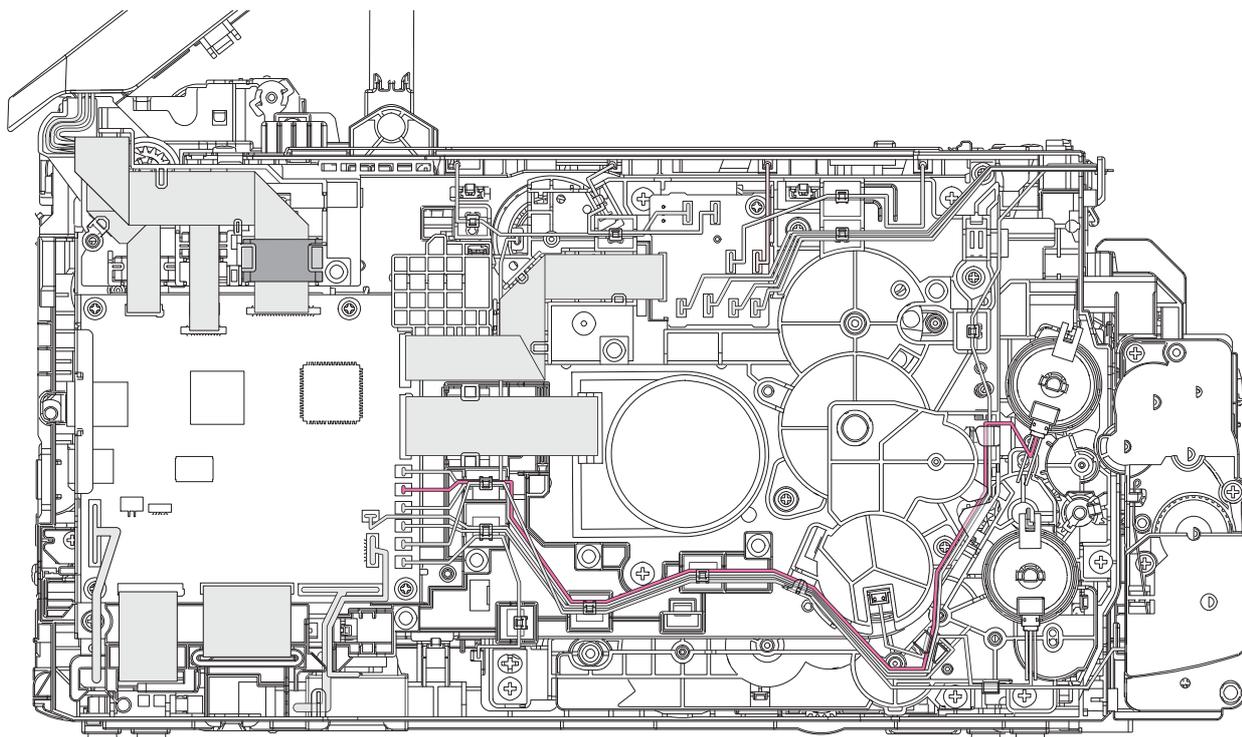
25 Process motor FFC

<Left side>



26 REG clutch harness

<Left side>

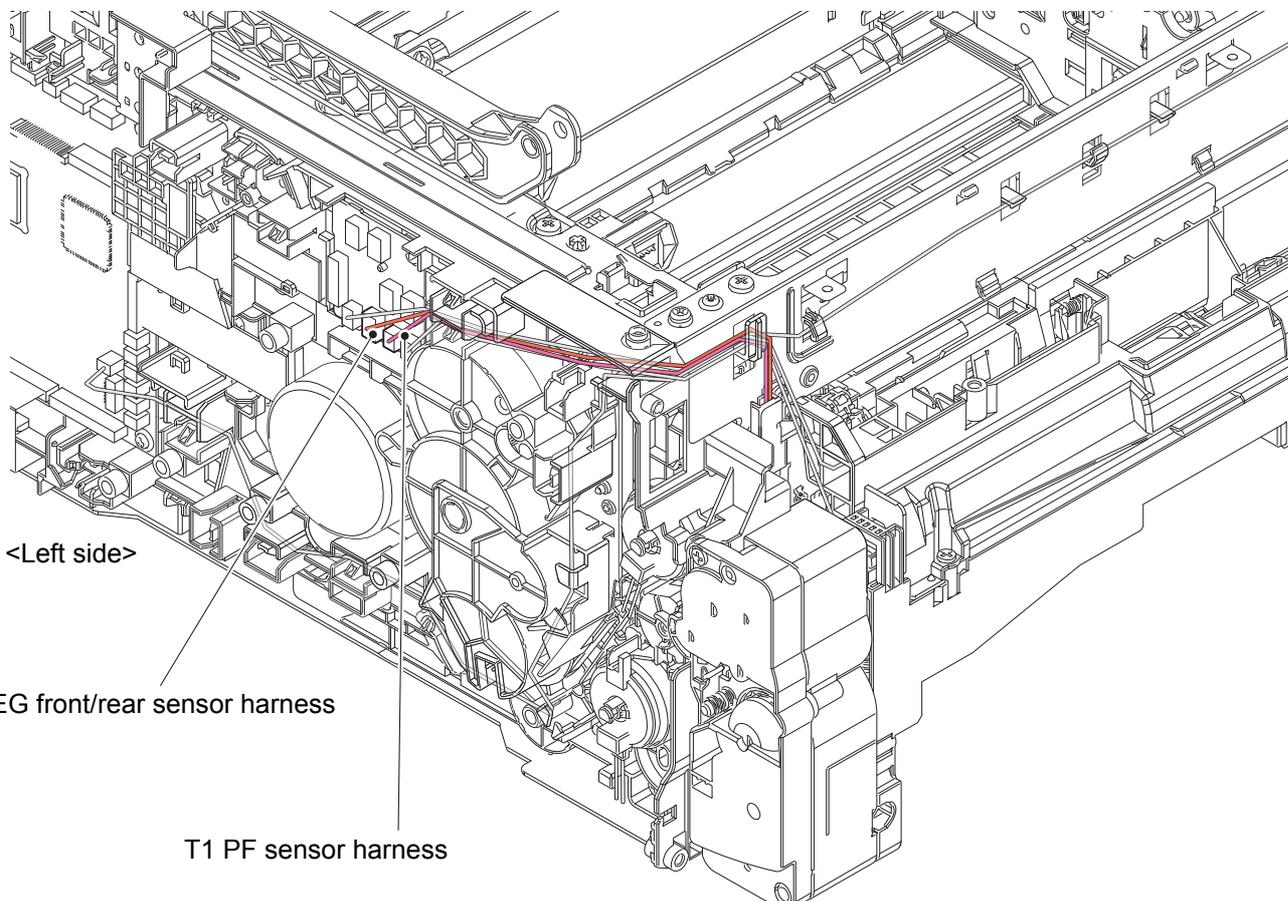


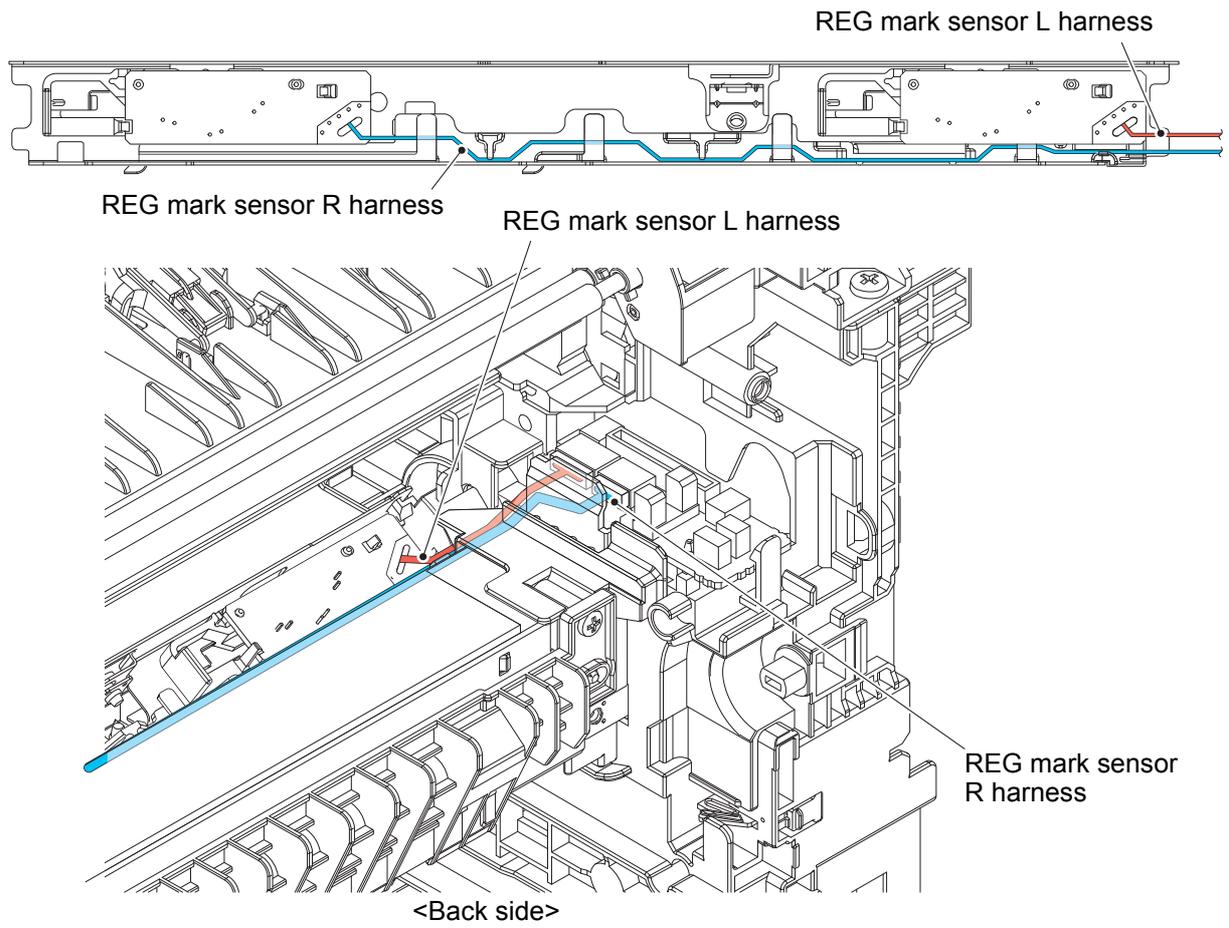
27 REG front/rear sensor harness, T1 PF sensor harness

<Left side>

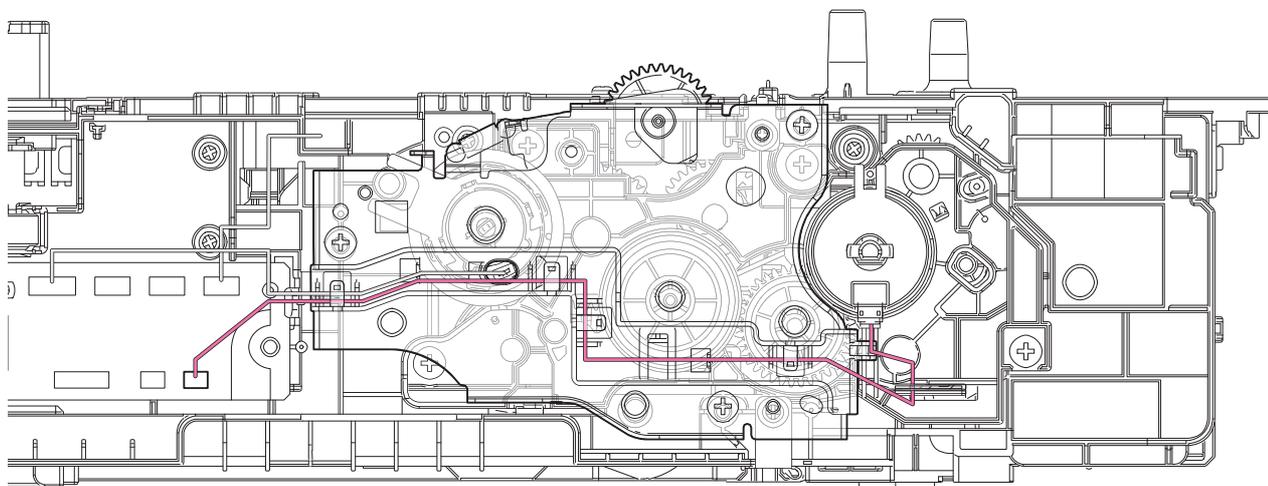
REG front/rear sensor harness

T1 PF sensor harness





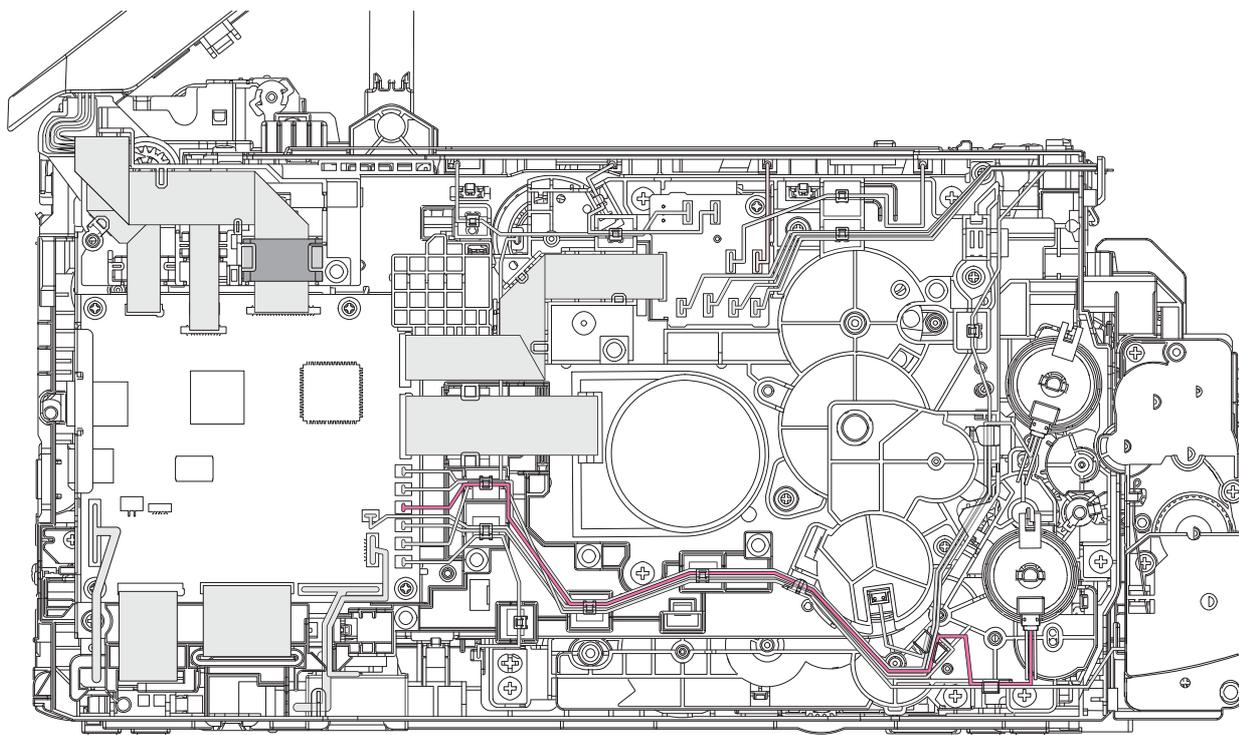
29 T1 CLUTCH 30 harness



<Left side>

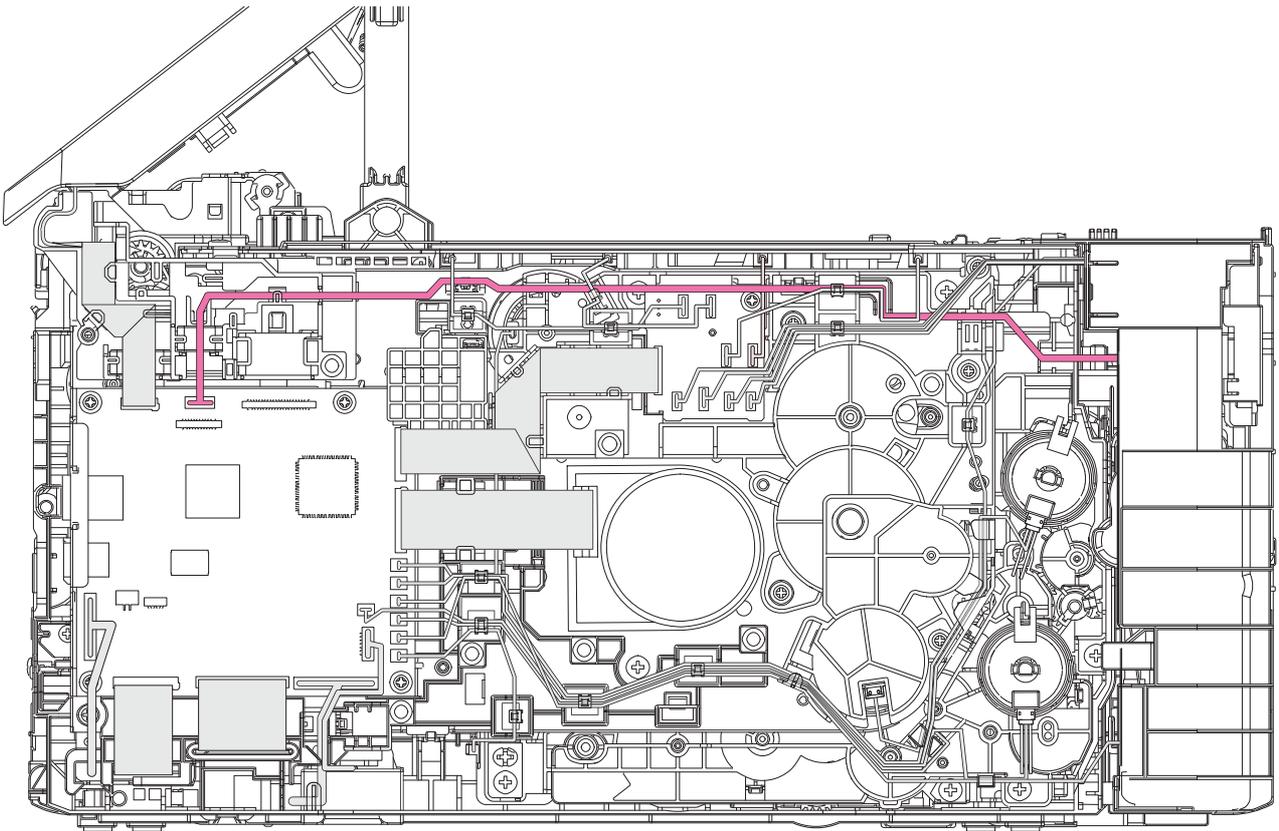
30 T1 pickup clutch harness

<Left side>



31 USB host harness

<Left side>



7. DISASSEMBLY FLOW

Hook (H) / Screw (S) (pcs)

B

Back cover arm R, Back cover arm L

8.3 Back cover ASSY

Step number: (1), (2)

H: 2 / S: 0



8.4 Back cover arm R, Back cover arm L

Step number: (1)

H: 0 / S: 0

Back cover ASSY

8.3 Back cover ASSY

Step number: (1) to (3)

H: 2 / S: 0

C

Cartridge sensor/relay FFC

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.37 Cartridge sensor/relay FFC
Step number: (1), (2)
H: 0 / S: 0

Cartridge sensor/relay PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.27 Main PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.38 Cartridge sensor/relay PCB
Step number: (1), (2)
H: 0 / S: 1

D

DEV REL CLUTCH FCL

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.27 Main PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.42 DEV REL CLUTCH FCL
Step number: (1) to (4)
H: 2 / S: 1

DEV release sensor PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.34 HVPS PCB
Step number: (1) to (9)
H: 8 / S: 7



8.35 DEV release sensor PCB
Step number: (1) to (3)
H: 2 / S: 0

E

Eject sensor/relay PCB

8.3 Back cover ASSY
Step number: (1), (2)
H: 2 / S: 0



8.6 Fuser cover ASSY
Step number: (1) to (3)
H: 0 / S: 1



8.7 Fuser
Step number: (1) to (4)
H: 1 / S: 3



8.48 Eject sensor/relay PCB
Step number: (1) to (5)
H: 1 / S: 0

F

Fan

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.36 Fan
Step number: (1), (2)
H: 0 / S: 0

F

Fuser

8.3 Back cover ASSY
Step number: (1), (2)
H: 2 / S: 0



8.6 Fuser cover ASSY
Step number: (1) to (3)
H: 0 / S: 1



8.7 Fuser
Step number: (1) to (4)
H: 1 / S: 3

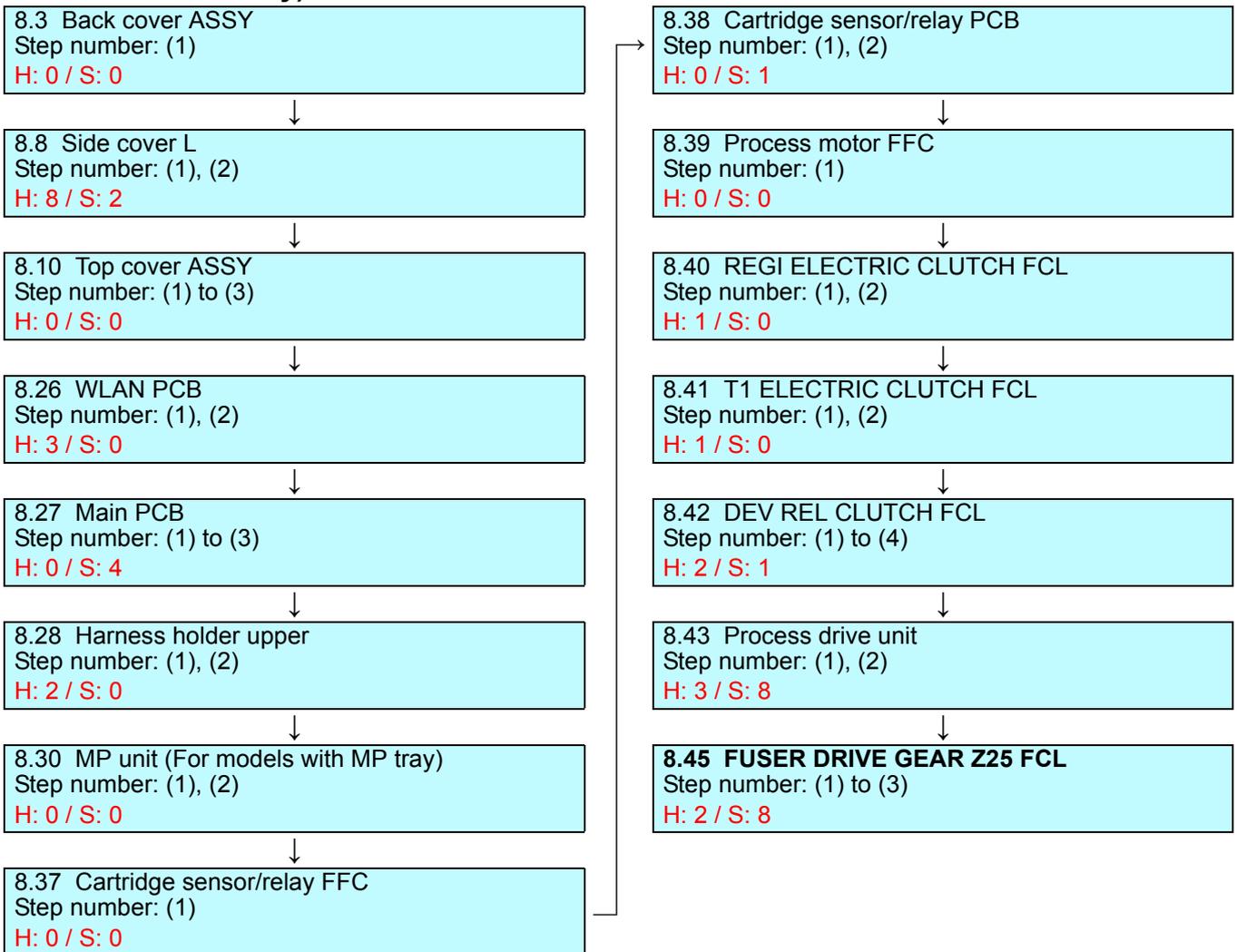
Fuser cover ASSY

8.3 Back cover ASSY
Step number: (1), (2)
H: 2 / S: 0

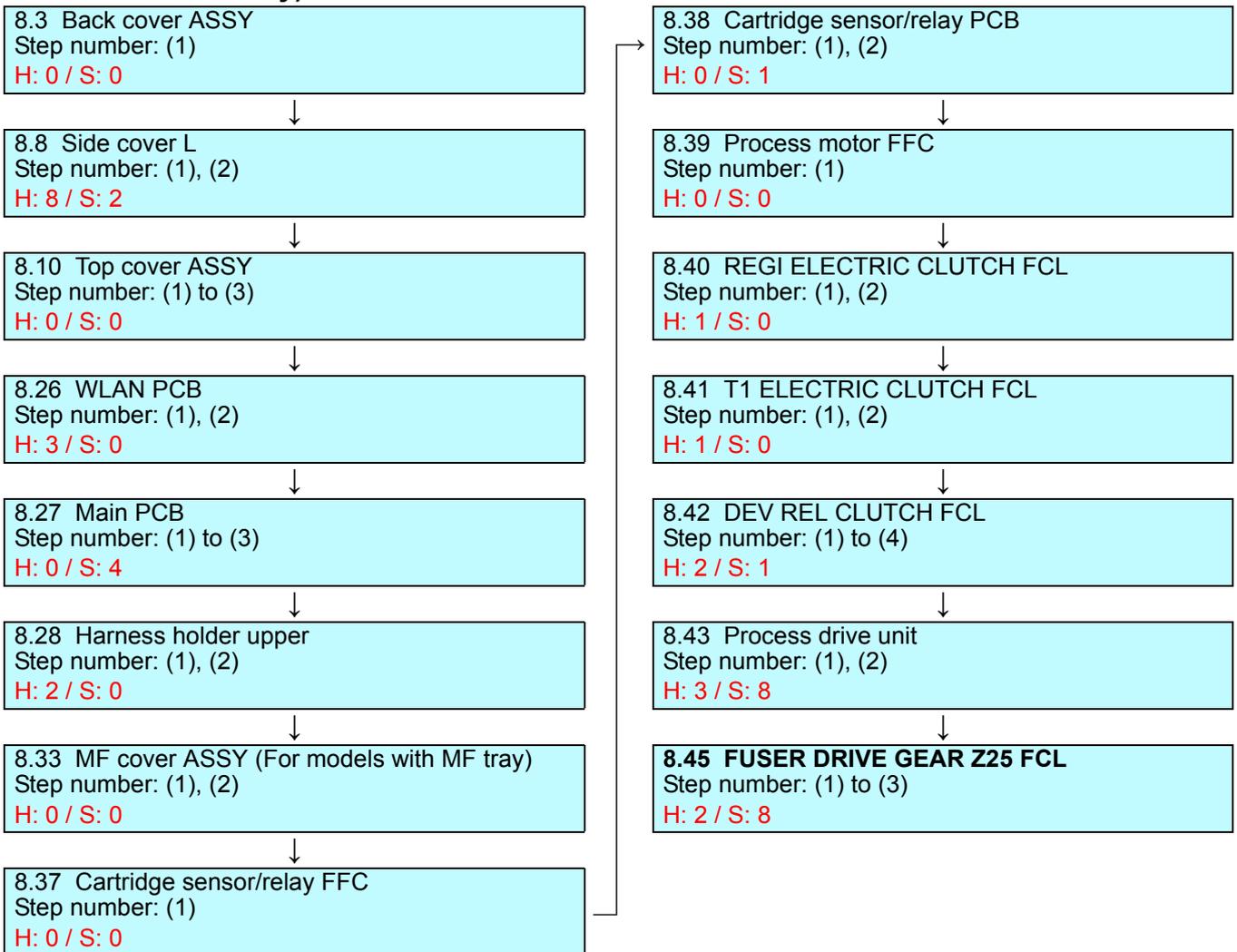


8.6 Fuser cover ASSY
Step number: (1) to (6)
H: 4 / S: 1

FUSER DRIVE GEAR Z25 FCL (For models with MP tray)



FUSER DRIVE GEAR Z25 FCL (For models with MF tray)



H

Harness holder upper

8.3 Back cover ASSY

Step number: (1)

H: 0 / S: 0



8.8 Side cover L

Step number: (1), (2)

H: 8 / S: 2



8.10 Top cover ASSY

Step number: (1) to (3)

H: 0 / S: 0



8.27 Main PCB

Step number: (1) to (3)

H: 0 / S: 4



8.28 Harness holder upper

Step number: (1), (2)

H: 2 / S: 0

HVPS FFC (For models with MP tray)



HVPS FFC (For models with MF tray)



HVPS PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.34 HVPS PCB
Step number: (1) to (9)
H: 8 / S: 7

K

Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12



**8.12 Key FFC (Only for FS and STEP models),
Key PCB (Only for FS and STEP models)**
(For FS models) Step number: (1) to (5)
H: 0 / S: 2
(For STEP models) Step number: (1) to (3)
H: 0 / S: 1

**Key/NFC relay FFC (Only for FS models),
Key/NFC replay PCB (Only for FS models)**

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16



8.12 Key FFC (Only for FS and STEP models), Key
PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 2



**8.13 Key/NFC relay FFC (Only for FS models),
Key/NFC replay PCB (Only for FS models)**
Step number: (1) to (3)
H: 0 / S: 1

L

LCD, LCD sheet (Only for BASE models)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11



8.12 Key FFC (Only for FS and STEP models), Key
PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 2
(For STEP models) Step number: (1)
H: 0 / S: 1



8.13 Key/NFC relay FFC (Only for FS models),
Key/NFC replay PCB (Only for FS models)
Step number: (1) to (3)
H: 0 / S: 1



8.14 Panel ASSY (Only for FS and STEP models)
Step number: (1) to (3)
H: 2 / S: 7



8.15 Panel FFC, Panel PCB
(For FS and STEP models) Step number: (1) to (5)
H: 3 / S: 2
(For BASE models) Step number: (1) to (2)
H: 2 / S: 0



8.16 LCD, LCD sheet (Only for BASE models)
(For FS and STEP models) Step number: (1)
H: 0 / S: 0
(For BASE models) Step number: (1) to (3)
H: 2 / S: 0

LED ASSY (Y/M/C/K) / LED FFC (Y/M/C/K) / LED FFC sponges

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11



8.20 LED control PCB
Step number: (1), (2)
H: 0 / S: 2



8.22 LED ASSY (Y/M/C/K) / LED FFC (Y/M/C/K) / LED FFC sponges
Step number: (1) to (12)
H: 4 / S: 2

LED control FFC

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11



8.20 LED control PCB
Step number: (1), (2)
H: 0 / S: 2



8.21 LED control FFC
Step number: (1), (2)
H: 0 / S: 0

LED control PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11



8.20 LED control PCB
Step number: (1) to (3)
H: 0 / S: 4

LED unit

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11

LVPS PCB

8.3 Back cover ASSY
Step number: (1) to (3)
H: 2 / S: 0



8.6 Fuser cover ASSY
Step number: (1) to (3)
H: 0 / S: 1



8.7 Fuser
Step number: (1) to (4)
H: 1 / S: 3



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.36 Fan
Step number: (1), (2)
H: 0 / S: 0



8.52 LVPS PCB
Step number: (1) to (16)
H: 3 / S: 16

M

Main PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.26 WLAN PCB
Step number: (1), (2)
H: 3 / S: 0



8.27 Main PCB
Step number: (1) to (3)
H: 0 / S: 4

MF cover ASSY (For models with MF tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.33 MF cover ASSY (For models with MF tray)
Step number: (1) to (4)
H: 4 / S: 4

MP cover ASSY (For models with MP tray)

8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1)
H: 0 / S: 0



8.25 MP cover ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 0

MP paper guide ASSY (For models with MP tray)

8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1)
H: 0 / S: 0



8.24 MP paper guide ASSY (For models with MP tray)
Step number: (1)
H: 0 / S: 0

MP PE sensor PCB (For models with MP tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (3)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 2



8.27 Main PCB
Step number: (1)
H: 0 / S: 0



8.28 Harness holder upper
Step number: (1)
H: 0 / S: 0



8.29 USB host harness
Step number: (1)
H: 4 / S: 5



8.30 MP unit (For models with MP tray)
Step number: (1) to (3)
H: 2 / S: 4



8.32 MP PE sensor PCB (For models with MP tray)
Step number: (1) to (8)
H: 3 / S: 3

MP REG sensor PCB (For models with MP tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (3)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 2



8.27 Main PCB
Step number: (1)
H: 0 / S: 0



8.28 Harness holder upper
Step number: (1)
H: 0 / S: 0



8.29 USB host harness
Step number: (1)
H: 4 / S: 5



8.31 MP REG sensor PCB (For models with MP tray)
Step number: (1), (2)
H: 1 / S: 1

MP roller holder ASSY (For models with MP tray)

8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1) to (6)
H: 3 / S: 2

N

MP unit (For models with MP tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (3)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 2



8.27 Main PCB
Step number: (1)
H: 0 / S: 0



8.28 Harness holder upper
Step number: (1)
H: 0 / S: 0



8.29 USB host harness
Step number: (1)
H: 4 / S: 5



8.30 MP unit (For models with MP tray)
Step number: (1) to (3)
H: 2 / S: 4

NFC PCB (Only for FS models)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16



8.12 Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 0



8.13 Key/NFC relay FFC (Only for FS models), Key/NFC replay PCB (Only for FS models)
Step number: (1) to (3)
H: 0 / S: 1



8.14 Panel ASSY (Only for FS and STEP models)
Step number: (1)
H: 0 / S: 5



8.18 NFC PCB (Only for FS models)
Step number: (1)
H: 1 / S: 0

P

Panel ASSY (Only for FS and STEP models)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12



8.12 Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 0
(For STEP models) Step number: (1) to (3)
H: 0 / S: 1



8.13 Key/NFC relay FFC (Only for FS models), Key/NFC replay PCB (Only for FS models)
Step number: (1) to (3)
H: 0 / S: 1



8.14 Panel ASSY (Only for FS and STEP models)
Step number: (1) to (3)
H: 2 / S: 7

Panel FFC, Panel PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12
(For BASE models) Step number: (1) to (5)
H: 0 / S: 11



8.12 Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 0
(For STEP models) Step number: (1) to (3)
H: 0 / S: 1



8.13 Key/NFC relay FFC (Only for FS models), Key/NFC replay PCB (Only for FS models)
Step number: (1) to (3)
H: 0 / S: 1



8.14 Panel ASSY (Only for FS and STEP models)
Step number: (1) to (3)
H: 2 / S: 7



8.15 Panel FFC, Panel PCB
(For FS and STEP models) Step number: (1) to (5)
H: 3 / S: 2
(For BASE models) Step number: (1) to (3)
H: 2 / S: 0

Paper eject ASSY

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2

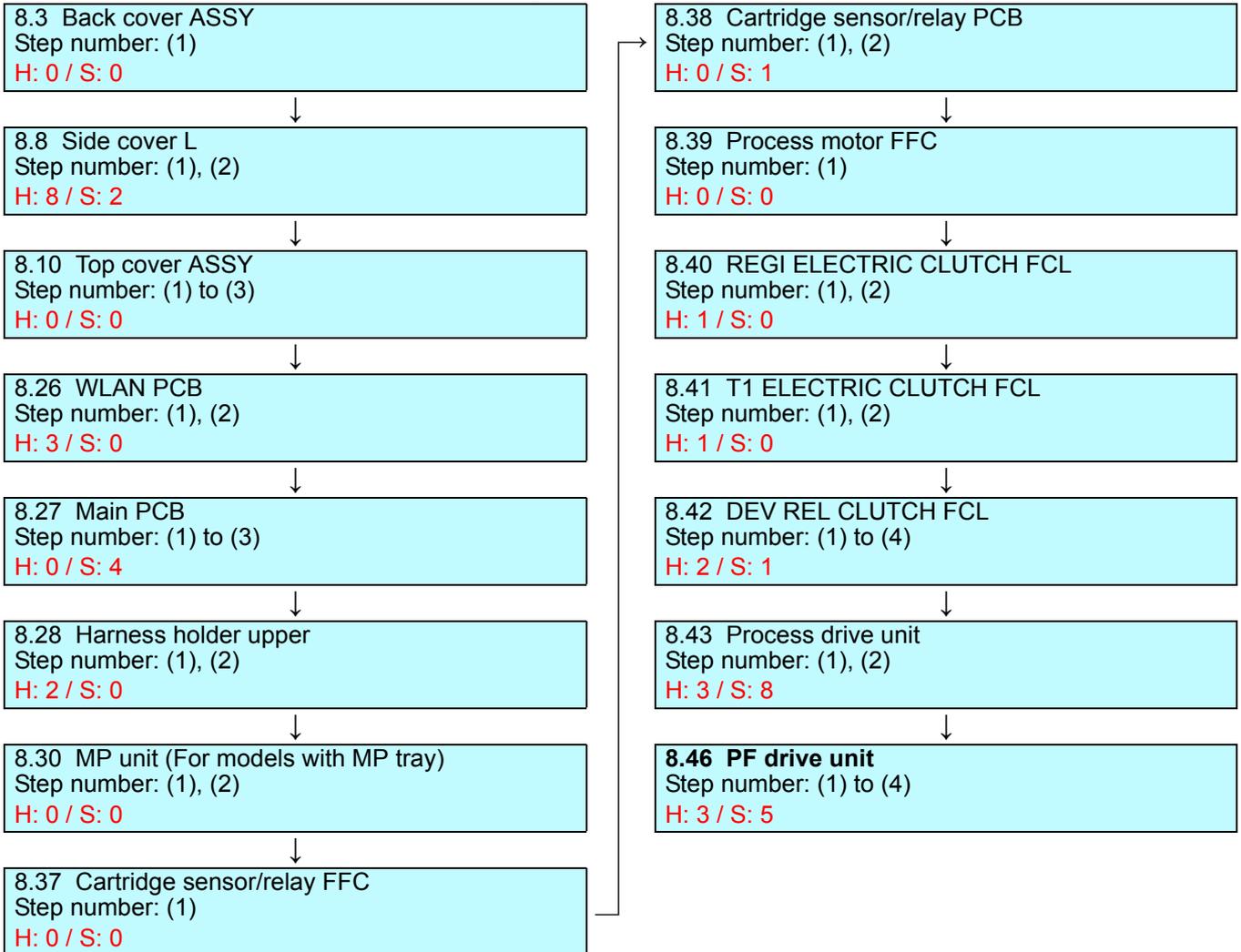


8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3

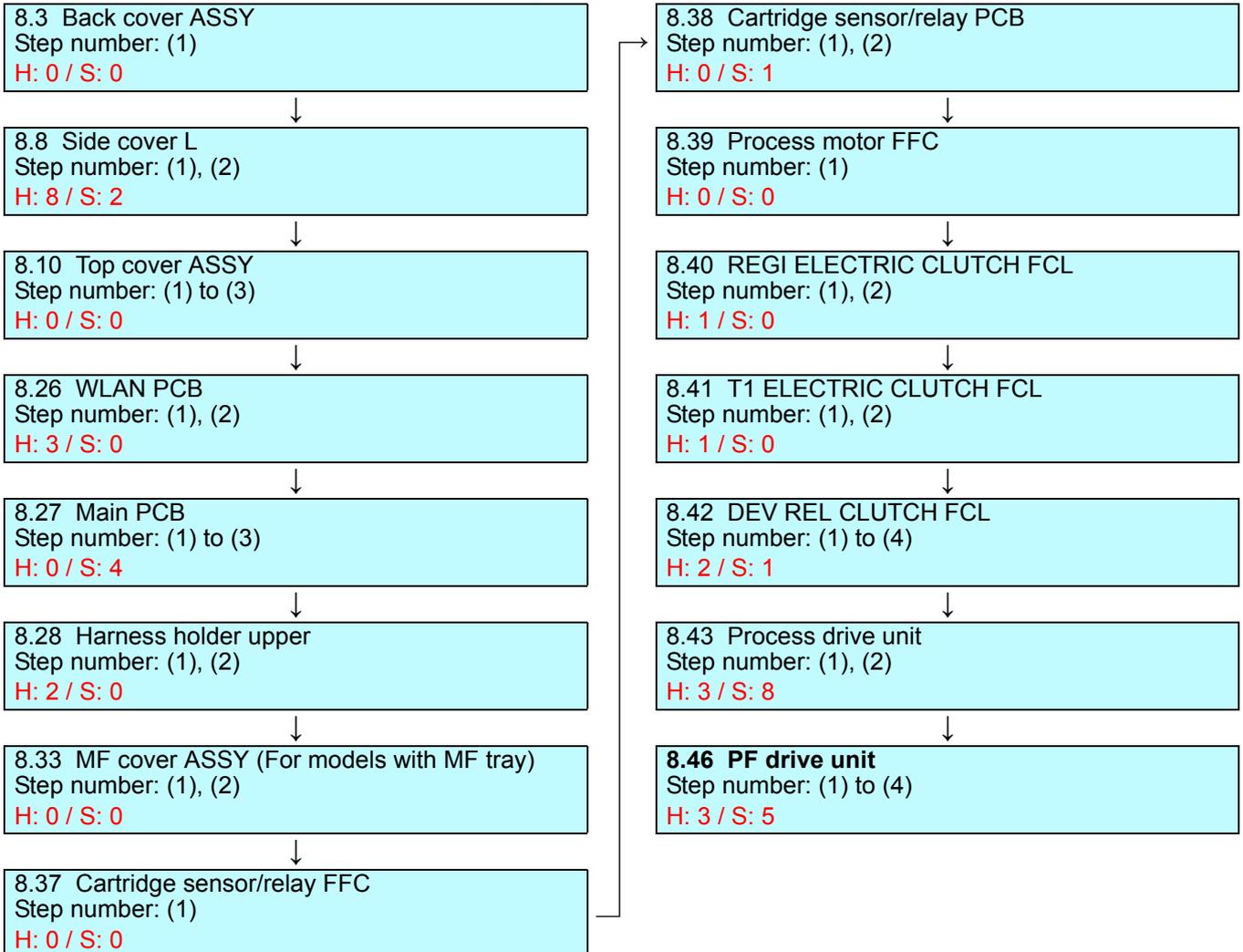


8.51 Paper eject ASSY
Step number: (1), (2)
H: 0 / S: 4

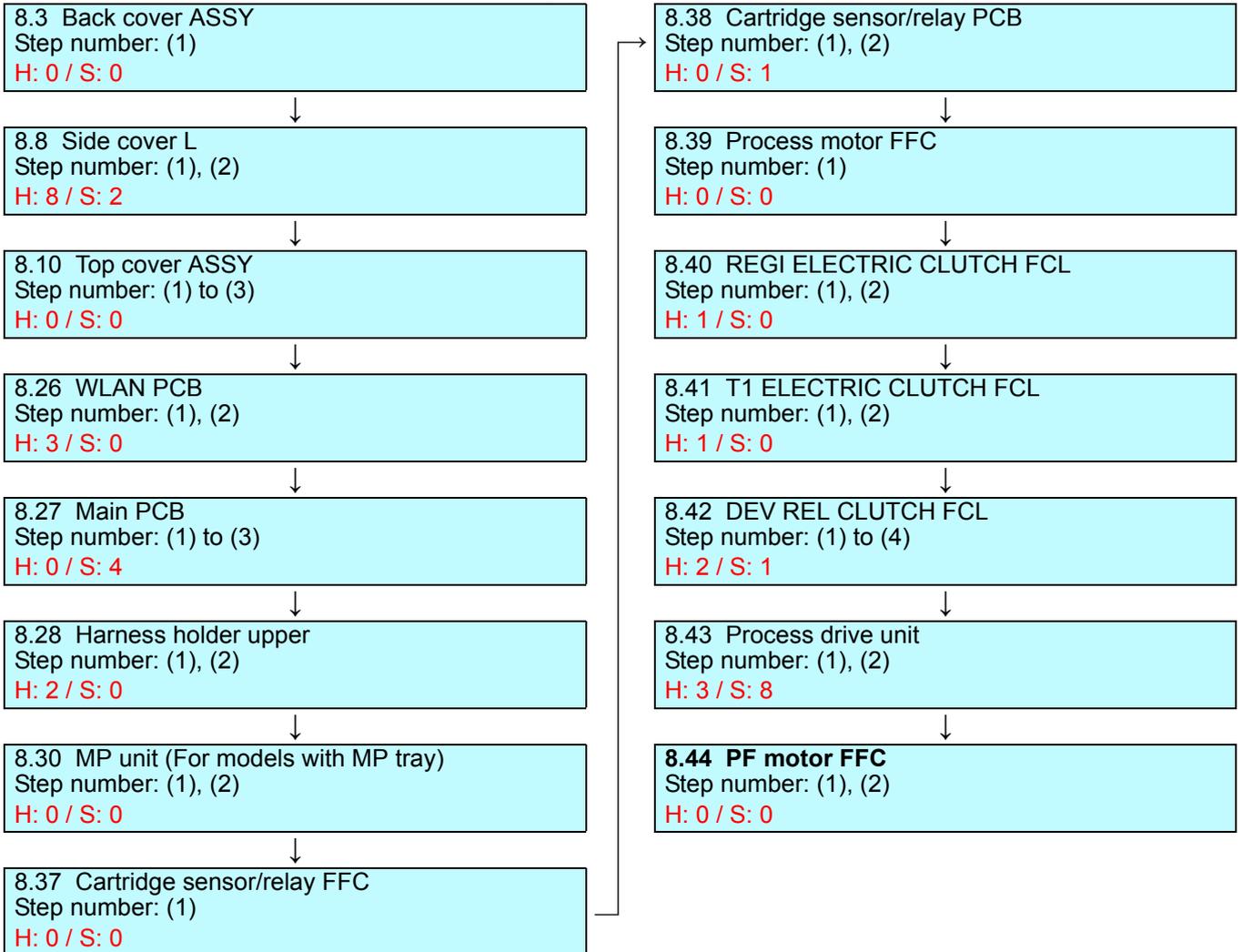
PF drive unit (For models with MP tray)



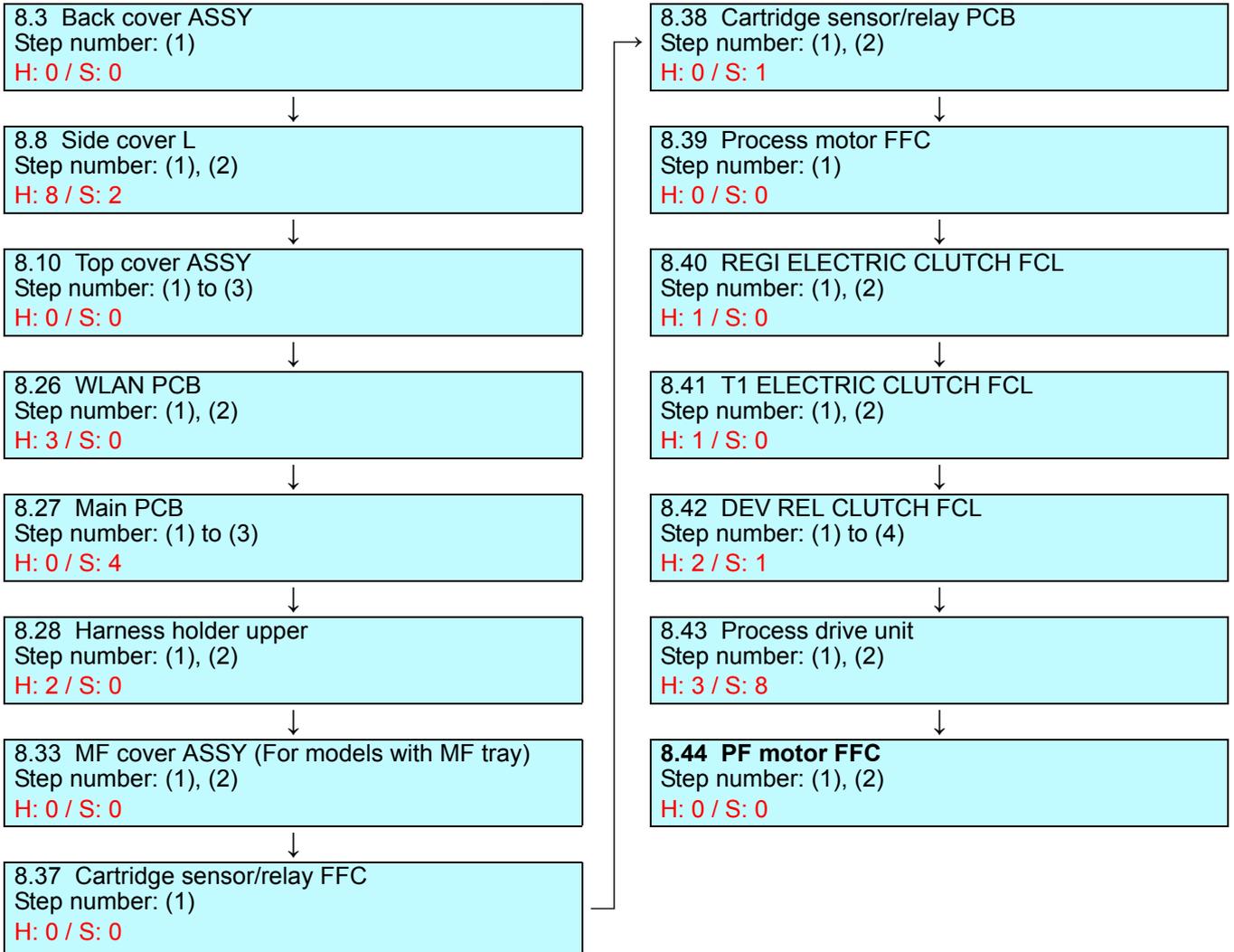
PF drive unit (For models with MF tray)



PF motor FFC (For models with MP tray)



PF motor FFC (For models with MF tray)



PF unit (For models with MP tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (3)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 2



8.26 WLAN PCB
Step number: (1), (2)
H: 3 / S: 0



8.27 Main PCB
Step number: (1) to (3)
H: 0 / S: 4



8.28 Harness holder upper
Step number: (1), (2)
H: 2 / S: 0



8.29 USB host harness
Step number: (1)
H: 4 / S: 5



8.30 MP unit (For models with MP tray)
Step number: (1) to (3)
H: 2 / S: 4



8.38 Cartridge sensor/relay PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.43 Process drive unit
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.49 Roller holder ASSY
Step number: (1)
H: 0 / S: 0



8.50 PF unit
Step number: (1) to (3)
H: 0 / S: 6

PF unit (For models with MF tray)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.33 MF cover ASSY (For models with MF tray)
Step number: (1) to (3)
H: 4 / S: 4



8.38 Cartridge sensor/relay PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.43 Process drive unit
Step number: (1) The relevant harness(es)
H: 0 / S: 0

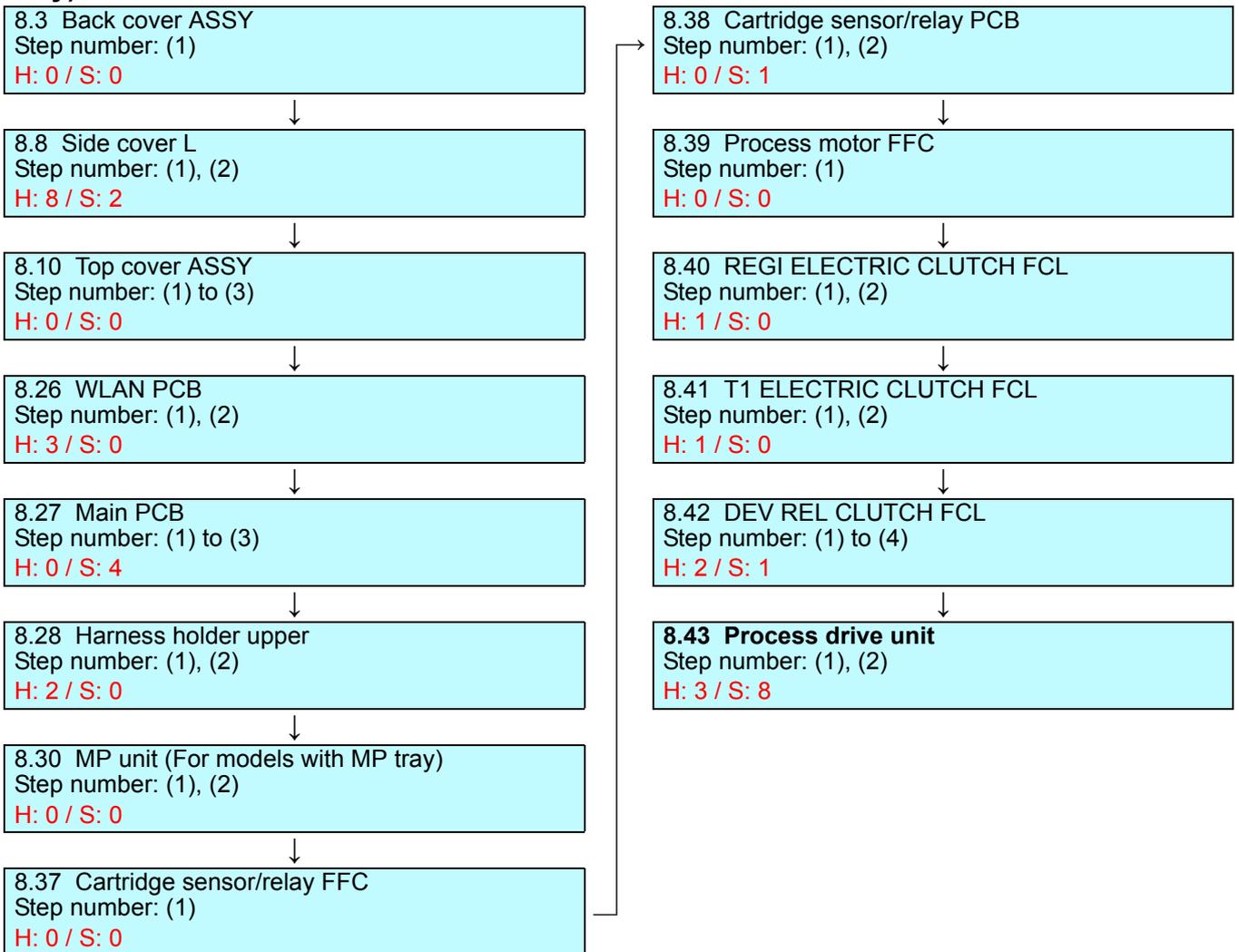


8.49 Roller holder ASSY
Step number: (1)
H: 0 / S: 0

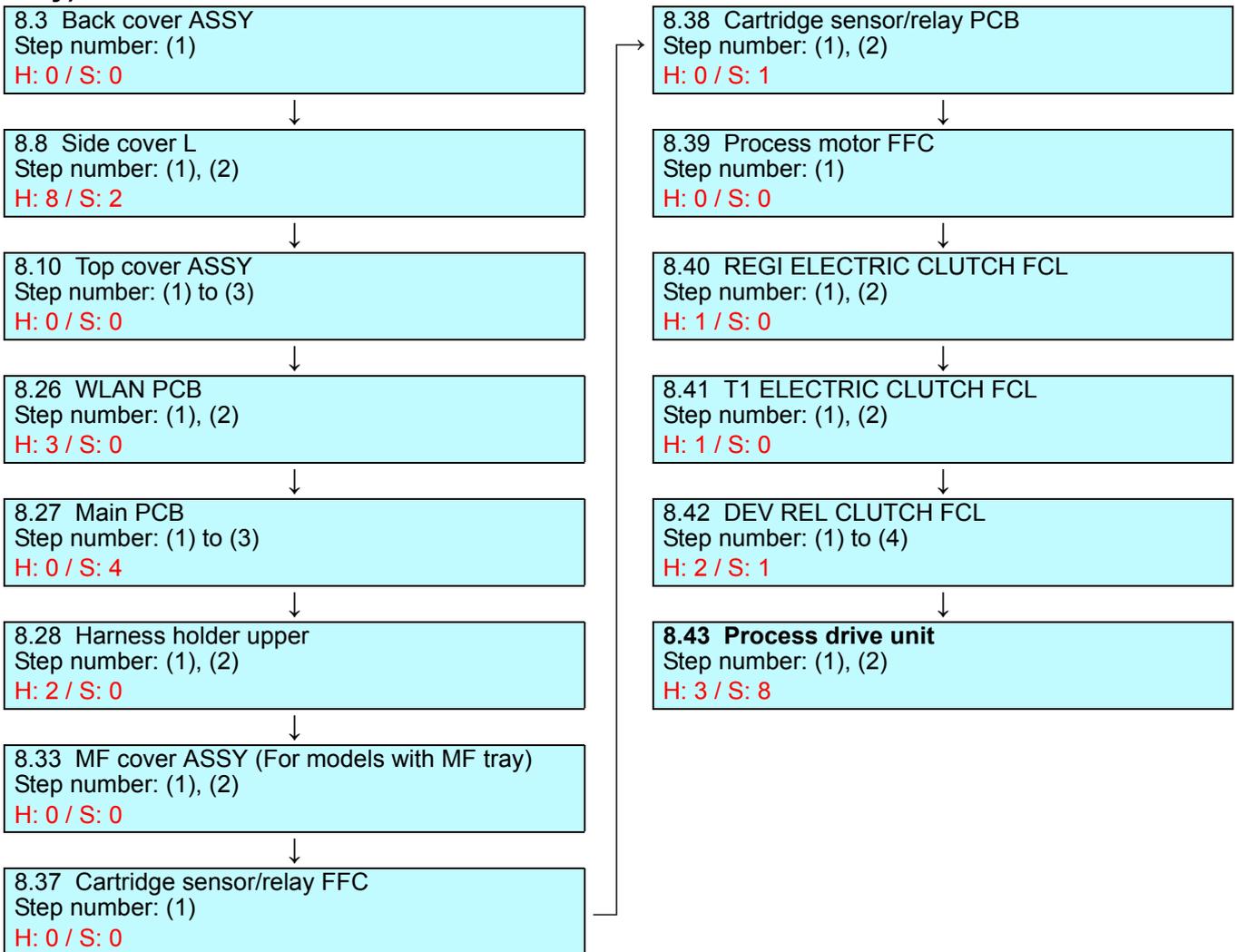


8.50 PF unit
Step number: (1) to (3)
H: 0 / S: 6

Process drive unit (For models with MP tray)



Process drive unit (For models with MF tray)



Process motor FFC

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.27 Main PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.39 Process motor FFC
Step number: (1), (2)
H: 0 / S: 0

R

Rear flapper sub ASSY

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.5 Rear flapper sub ASSY
Step number: (1)
H: 0 / S: 0

REG mark sensor L PCB, REG mark sensor R PCB

8.3 Back cover ASSY
Step number: (1), (2)
H: 2 / S: 0



8.6 Fuser cover ASSY
Step number: (1) to (3)
H: 0 / S: 1



8.7 Fuser
Step number: (1) to (4)
H: 1 / S: 3



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.48 Eject sensor/relay PCB
Step number: (1) to (5)
H: 1 / S: 0



8.53 REG mark sensor L PCB, REG mark sensor R PCB
Step number: (1) to (5)
H: 1 / S: 1

REGI ELECTRIC CLUTCH FCL

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.27 Main PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.40 REGI ELECTRIC CLUTCH FCL
Step number: (1), (2)
H: 1 / S: 0

Roller holder ASSY

8.49 Roller holder ASSY

Step number: (1)

H: 0 / S: 0

S

Side cover L

8.3 Back cover ASSY

Step number: (1)

H: 0 / S: 0



8.8 Side cover L

Step number: (1), (2)

H: 8 / S: 2

Side cover R

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1)
H: 0 / S: 0



8.9 Side cover R
Step number: (1)
H: 8 / S: 2

T

T1 ELECTRIC CLUTCH FCL

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.27 Main PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



8.41 T1 ELECTRIC CLUTCH FCL
Step number: (1), (2)
H: 1 / S: 0

T1 separation pad

8.2 T1 separation pad

Step number: (1)

H: 2 / S: 0

Top cover ASSY

8.3 Back cover ASSY

Step number: (1)

H: 0 / S: 0



8.8 Side cover L

Step number: (1), (2)

H: 8 / S: 2



8.9 Side cover R

Step number: (1)

H: 8 / S: 2



8.10 Top cover ASSY

Step number: (1) to (9)

H: 2 / S: 3

Touch panel (Only for FS and STEP models)

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (9)
H: 2 / S: 3



8.11 LED unit
(For FS models) Step number: (1) to (5)
H: 0 / S: 16
(For STEP models) Step number: (1) to (5)
H: 0 / S: 12



8.12 Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)
(For FS models) Step number: (1)
H: 0 / S: 0
(For STEP models) Step number: (1) to (3)
H: 0 / S: 1



8.13 Key/NFC relay FFC (Only for FS models), Key/NFC replay PCB (Only for FS models)
Step number: (1) to (3)
H: 0 / S: 1



8.14 Panel ASSY (Only for FS and STEP models)
Step number: (1) to (3)
H: 2 / S: 7



8.15 Panel FFC, Panel PCB
(For FS and STEP models) Step number: (1) to (5)
H: 3 / S: 2



8.16 LCD, LCD sheet (Only for BASE models)
(For FS and STEP models) Step number: (1)
H: 0 / S: 0



8.17 Touch panel (Only for FS and STEP models)
Step number: (1), (2)
H: 4 / S: 0

U

USB host harness

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.9 Side cover R
Step number: (1)
H: 8 / S: 2



8.10 Top cover ASSY
Step number: (1) to (3)
H: 0 / S: 0



8.23 MP roller holder ASSY (For models with MP tray)
Step number: (1), (2)
H: 0 / S: 2



8.27 Main PCB
Step number: (1)
H: 0 / S: 0



8.28 Harness holder upper
Step number: (1)
H: 0 / S: 0



8.29 USB host harness
Step number: (1) to (3)
H: 5 / S: 9

W

WLAN PCB

8.3 Back cover ASSY
Step number: (1)
H: 0 / S: 0



8.8 Side cover L
Step number: (1), (2)
H: 8 / S: 2



8.26 WLAN PCB
Step number: (1), (2)
H: 3 / S: 0

■ LT

L

**LIFT GEAR Z27M10, GEAR Z22M10,
IDLE GEAR Z18M10**

**9.3 LIFT GEAR Z27M10, GEAR Z22M10, IDLE
GEAR Z18M10**

Step number: (1) to (3)

H: 1 / S: 0

LT connector

9.5 LT side cover L

Step number: (1)

H: 8 / S: 2



9.8 LT control PCB

Step number: (1) The relevant harness(es)

H: 0 / S: 0



9.11 LT connector

Step number: (1), (2)

H: 3 / S: 0

LT control PCB

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2



9.8 LT control PCB
Step number: (1), (2)
H: 1 / S: 0

LT front cover ASSY

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2



9.6 LT side cover R
Step number: (1)
H: 8 / S: 2



9.7 LT front cover ASSY
Step number: (1)
H: 3 / S: 1

LT PF sensor PCB

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2



9.6 LT side cover R
Step number: (1)
H: 8 / S: 2



9.8 LT control PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



9.9 T1 CLUTCH 30
Step number: (1), (2)
H: 1 / S: 0



9.10 LT RELEASE CLUTCH
Step number: (1), (2)
H: 0 / S: 6



9.12 LT PF sensor PCB
Step number: (1) to (13)
H: 1 / S: 24

LT RELEASE CLUTCH

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2



9.8 LT control PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



9.10 LT RELEASE CLUTCH
Step number: (1) to (6)
H: 0 / S: 9

LT roller holder ASSY

9.4 LT roller holder ASSY

Step number: (1)

H: 0 / S: 0

LT separation pad

9.2 LT separation pad

Step number: (1)

H: 2 / S: 0

LT side cover L

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2

LT side cover R

9.6 LT side cover R
Step number: (1)
H: 8 / S: 2

T

T1 CLUTCH 30

9.5 LT side cover L
Step number: (1)
H: 8 / S: 2



9.8 LT control PCB
Step number: (1) The relevant harness(es)
H: 0 / S: 0



9.9 T1 CLUTCH 30
Step number: (1), (2)
H: 1 / S: 0

8. DISASSEMBLY PROCEDURE

8.1 Preparation

■ Disconnecting cables and removing accessories

Prior to proceeding with the disassembly procedure,

- (1) **Unplug** > AC cord,
USB cable, if connected,
LAN cable, if connected,
USB flash memory, if connected.
- (2) **Remove** > Toner cartridge & Drum unit,
Belt unit,
Waste toner box,
Paper tray,
DX tray,
LAN port cap.

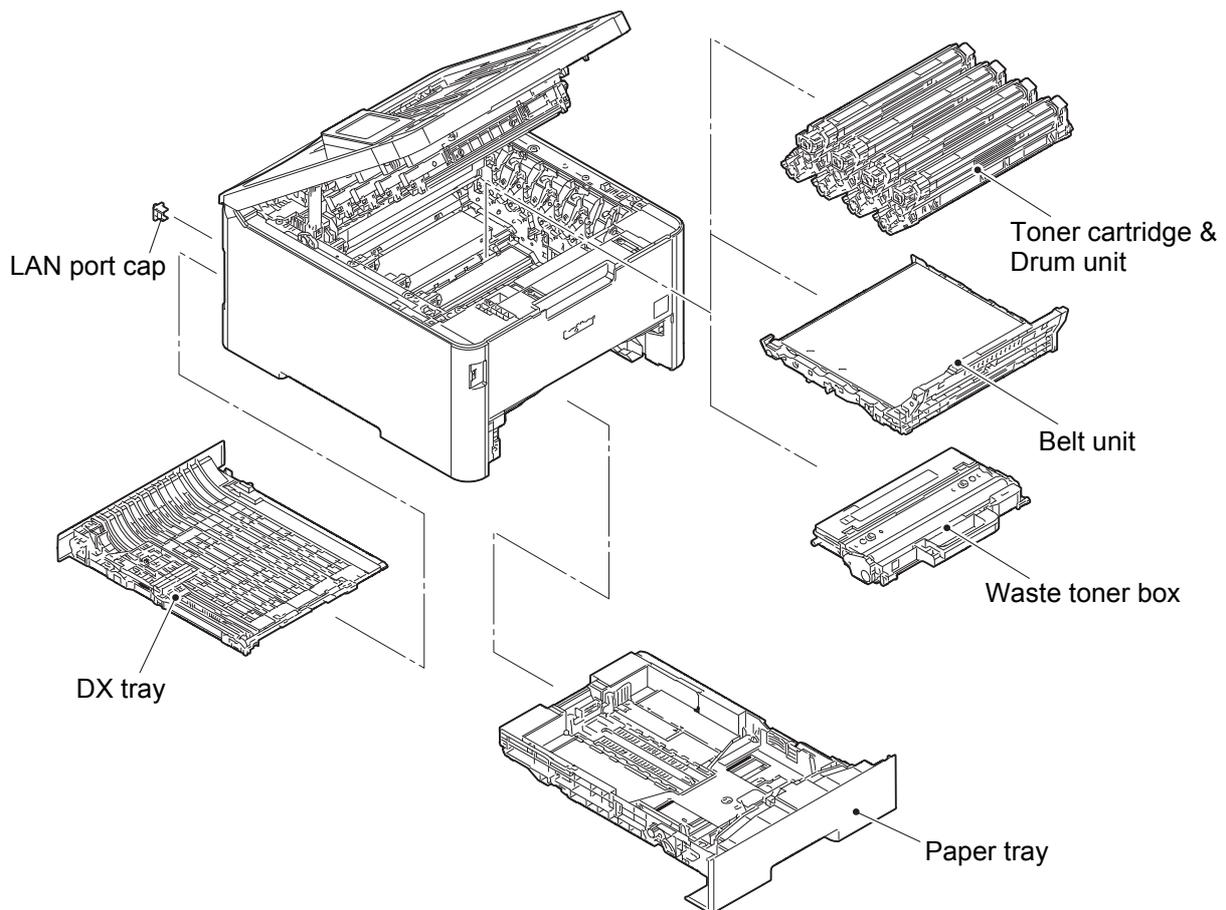


Fig. 3-1

8.2 T1 separation pad

(1) **Remove** > T1 separation pad

 **Fixtures & Fittings**

- Hook (x 2)

- Boss (x 2)

(2) **Remove** > T1 separation pad spring

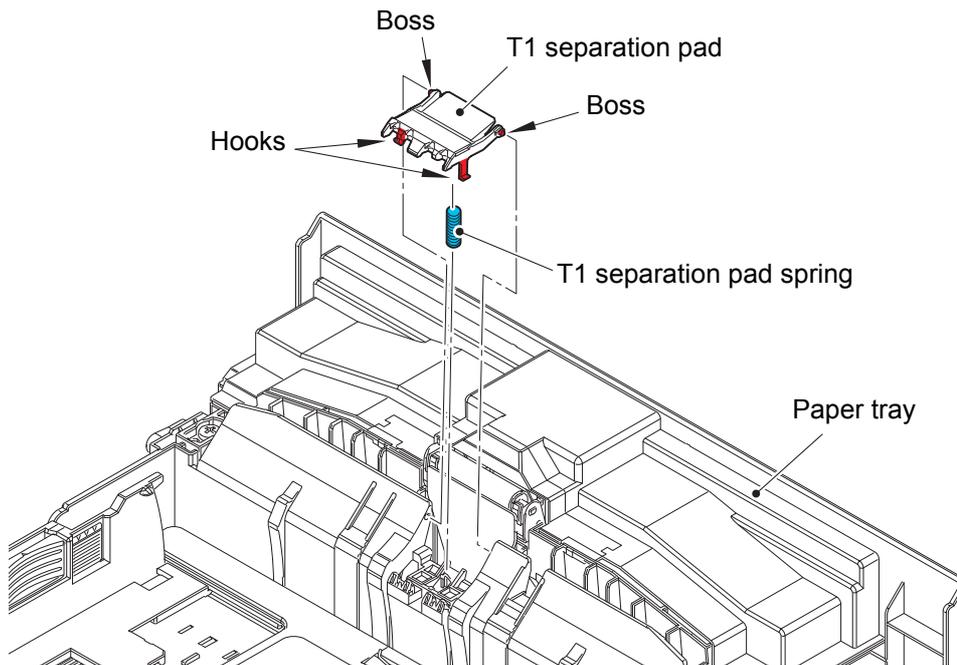


Fig. 3-2

8.3 Back cover ASSY

(1) Open > Back cover ASSY

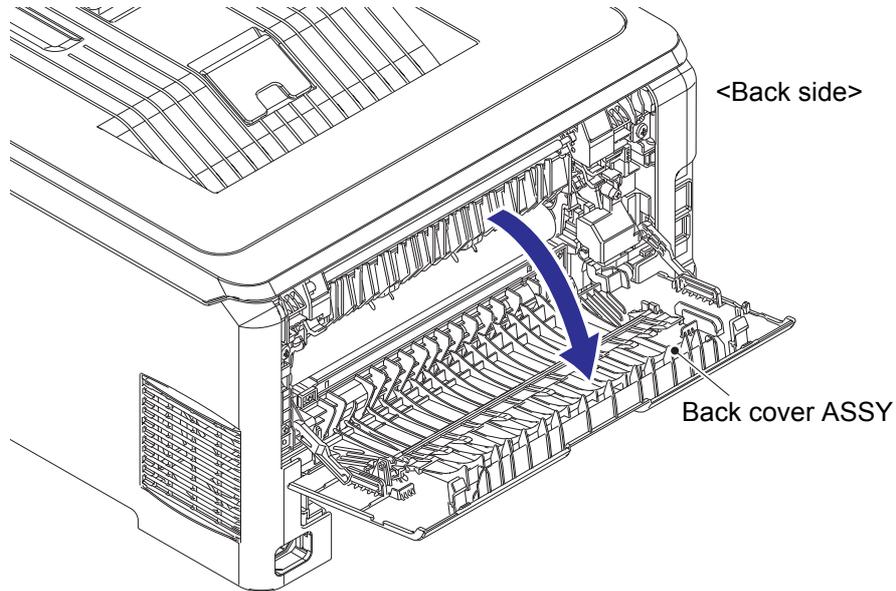


Fig. 3-3

(2) Release > Back cover arm R, Back cover arm L

 **Fixtures & Fittings**

- Hook of the Back cover arm R
- Hook of the Back cover arm L

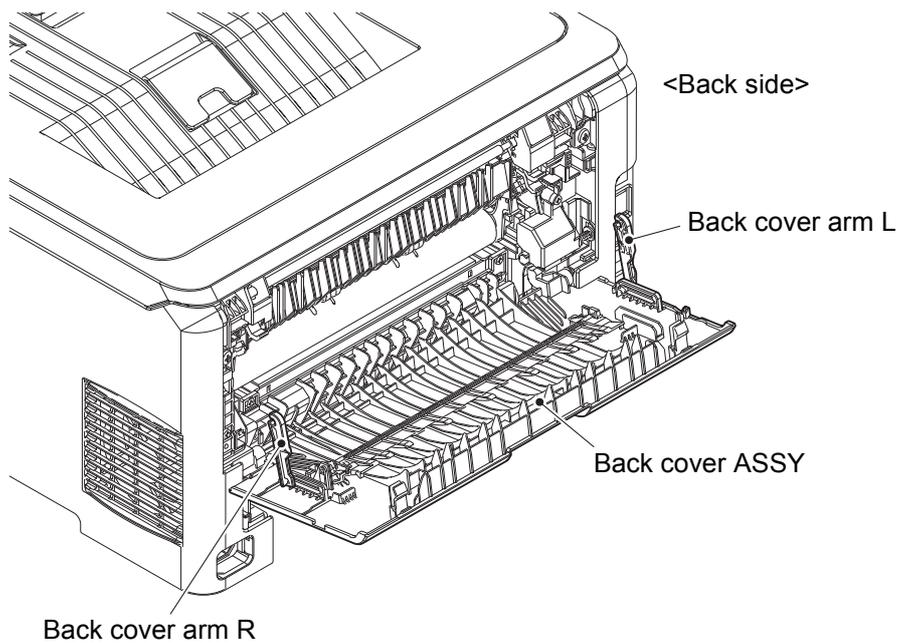


Fig. 3-4

(3) **Remove** > Back cover ASSY



Point:

- Remove the Back cover ASSY in the order of the arrows.

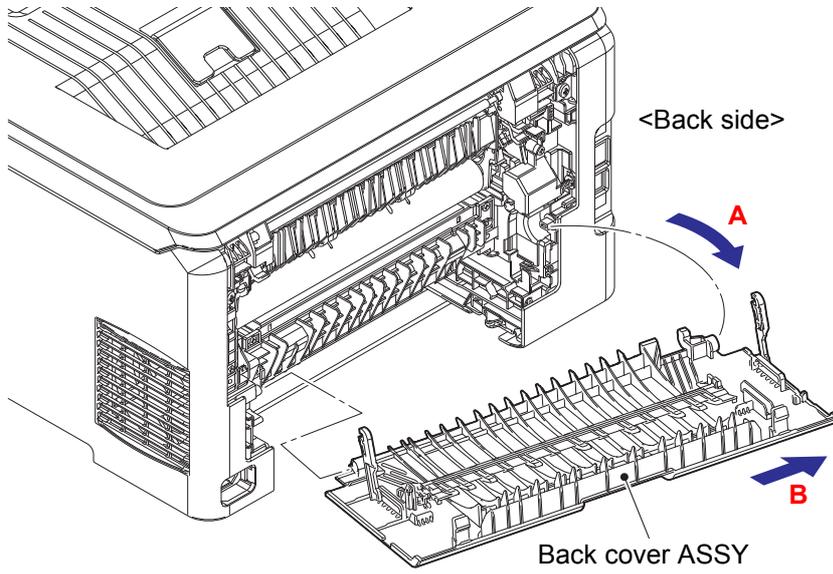


Fig. 3-5

8.4 Back cover arm R, Back cover arm L

(1) Remove > Back cover arm R, Back cover arm L

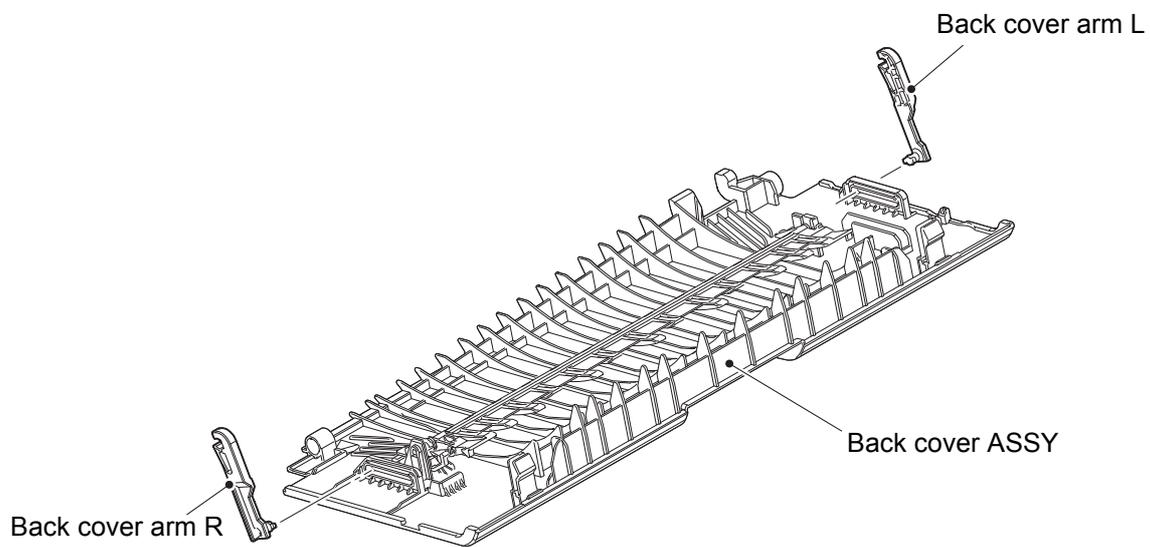


Fig. 3-6

8.5 Rear flapper sub ASSY

(1) Remove > Rear flapper sub ASSY

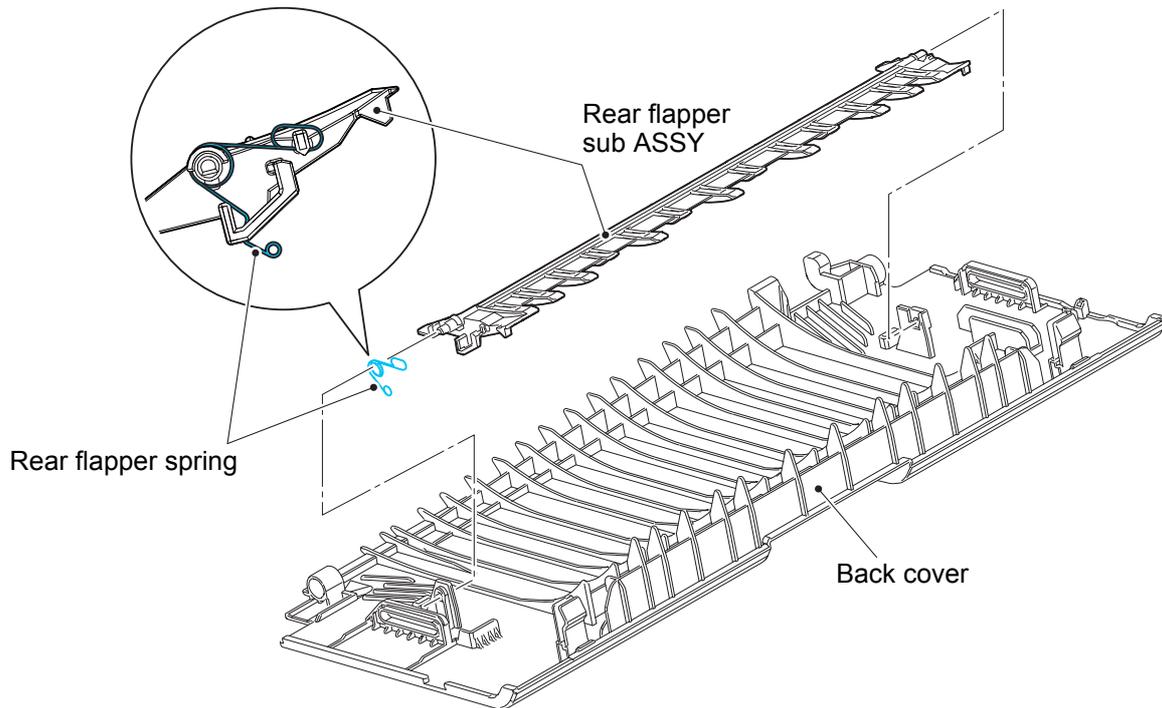


Fig. 3-7



Assembling note:

- Apply the Rear flapper spring as shown in the figure above.

8.6 Fuser cover ASSY



Assembling note:

- When replacing the Fuser cover ASSY, the Cleaner pinch roller is also replaced.

(1) **Remove** > Fuser cover L



Fixtures & Fittings

- Taptite bind B M3x10 (x 1)



Point:

- Remove the Fuser cover L in the order of the arrows.

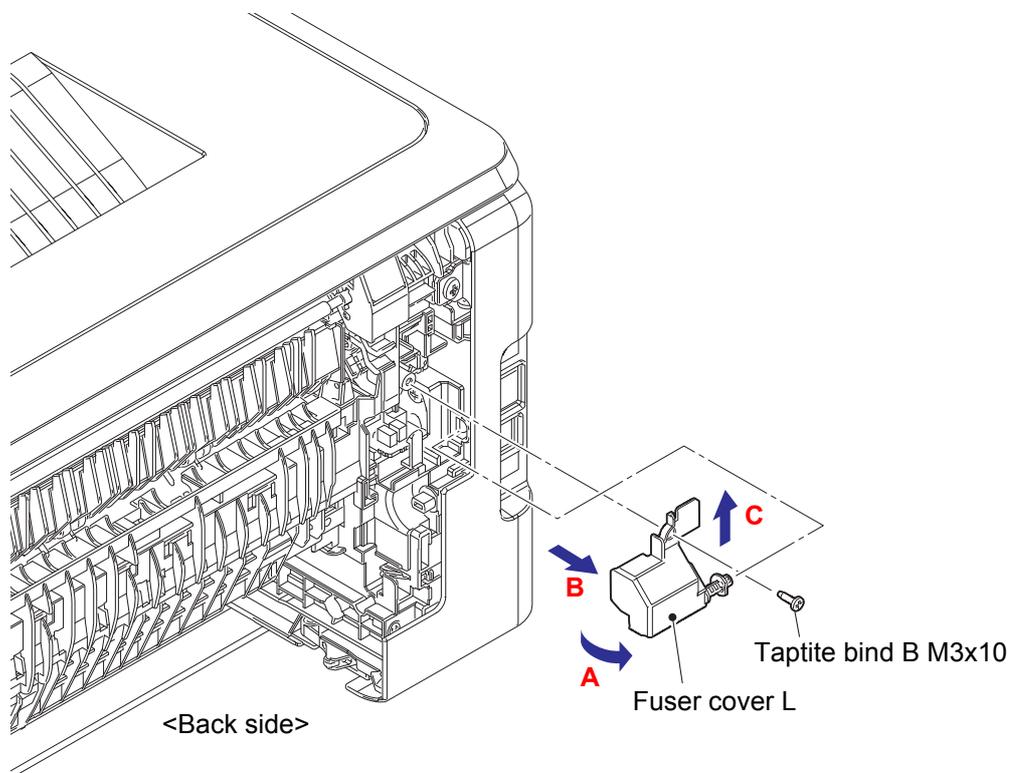


Fig. 3-8

(2) **Open** > Fuser cover ASSY

Fixtures & Fittings

- Fuser cover lock lever L, Fuser cover lock lever R

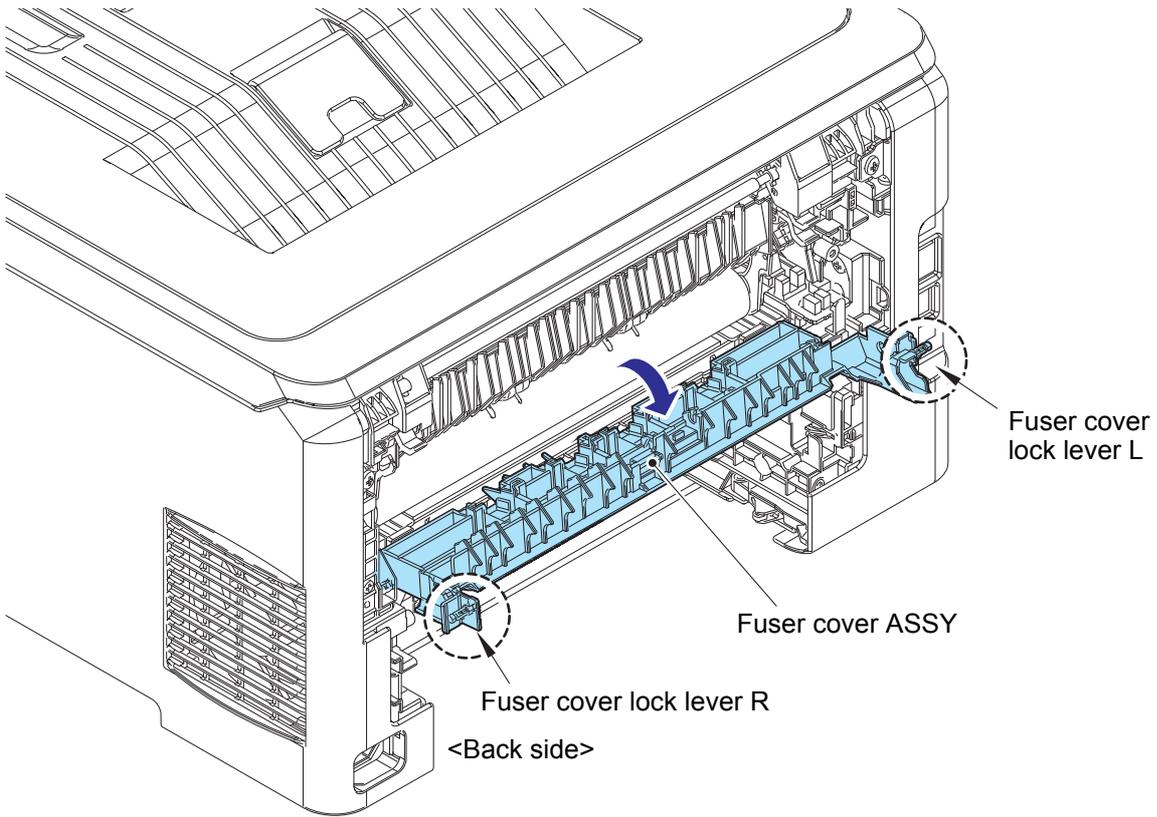


Fig. 3-9

(3) **Remove** > Fuser cover ASSY

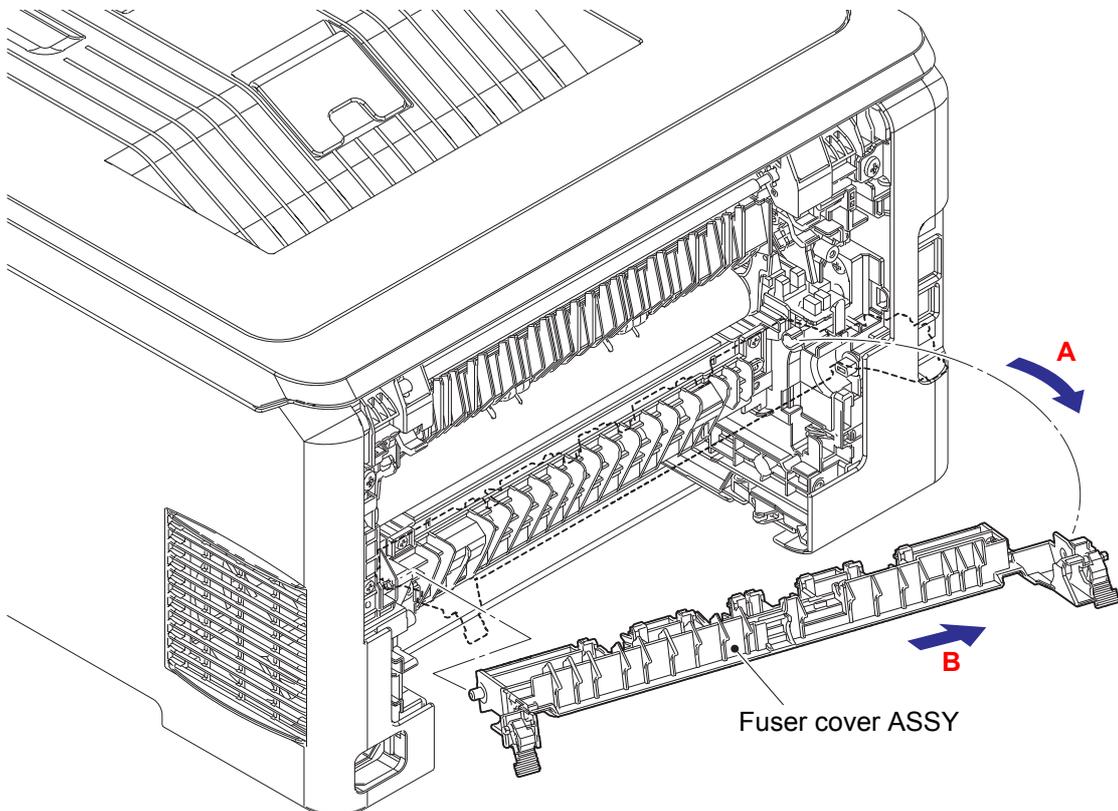


Fig. 3-10

(4) **Release** > Cleaner pinch roller spring (x 4)

 **Fixtures & Fittings**
- Hook (x 1)

(5) **Remove** > Cleaner pinch roller (x 4)

 **Point:**
• Remove the Cleaner pinch roller in the direction of the arrow.

(6) **Remove** > Cleaner pinch roller spring (x 4)

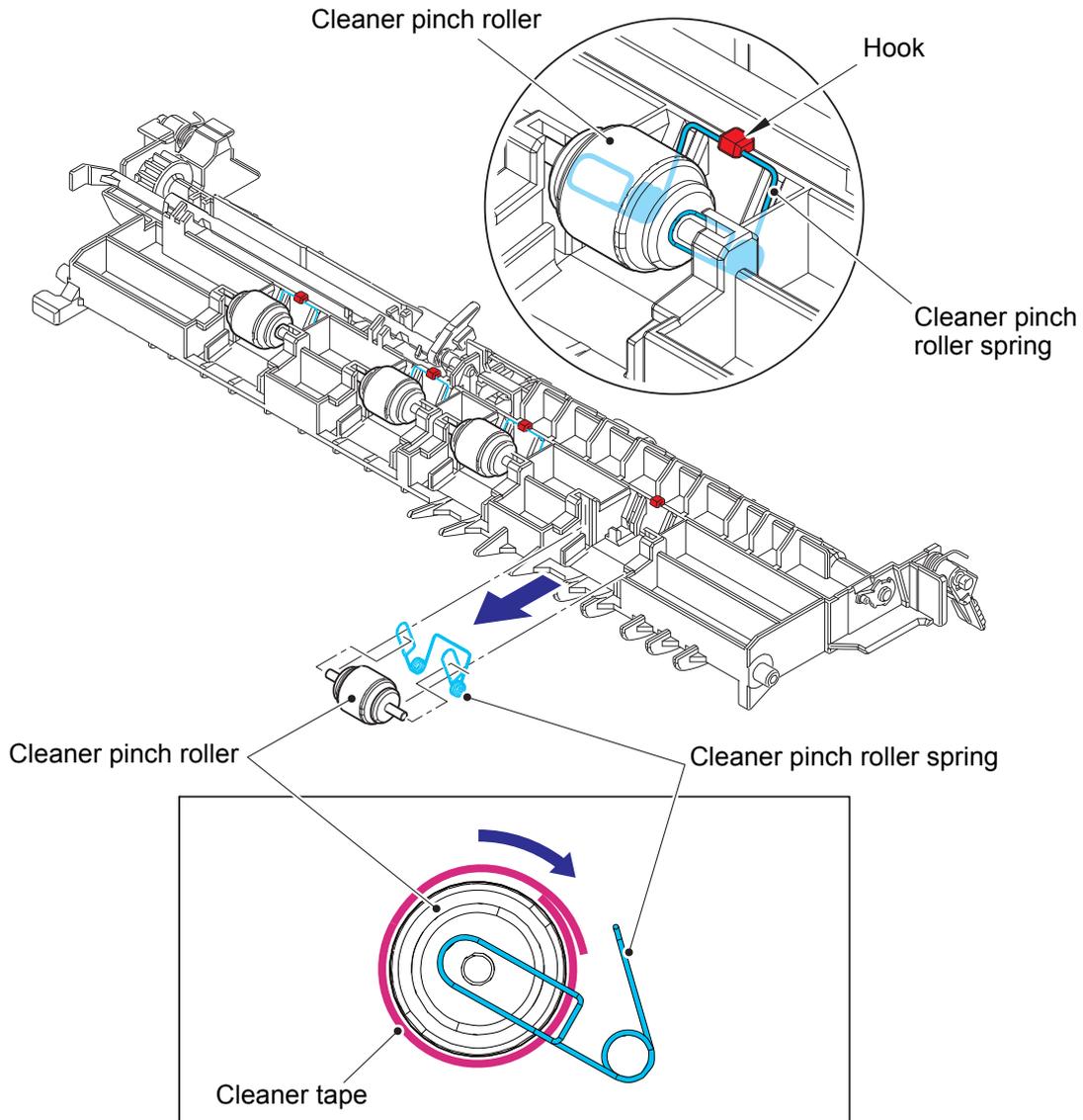


Fig. 3-11

 **Assembling note:**
• The Cleaner pinch roller spring and the Cleaner pinch roller should be assembled as shown in the figure above, paying attention to how to wind the cleaner tape.

8.7 Fuser

WARNING

Some parts inside the machine are extremely hot immediately after the machine is used. When opening the Back cover to access any parts inside the machine, never touch the shaded parts shown in the following figures.



(1) **Remove** > Fuser cover R

-  **Fixtures & Fittings**
 - Taptite bind B M3x10 (x 1)

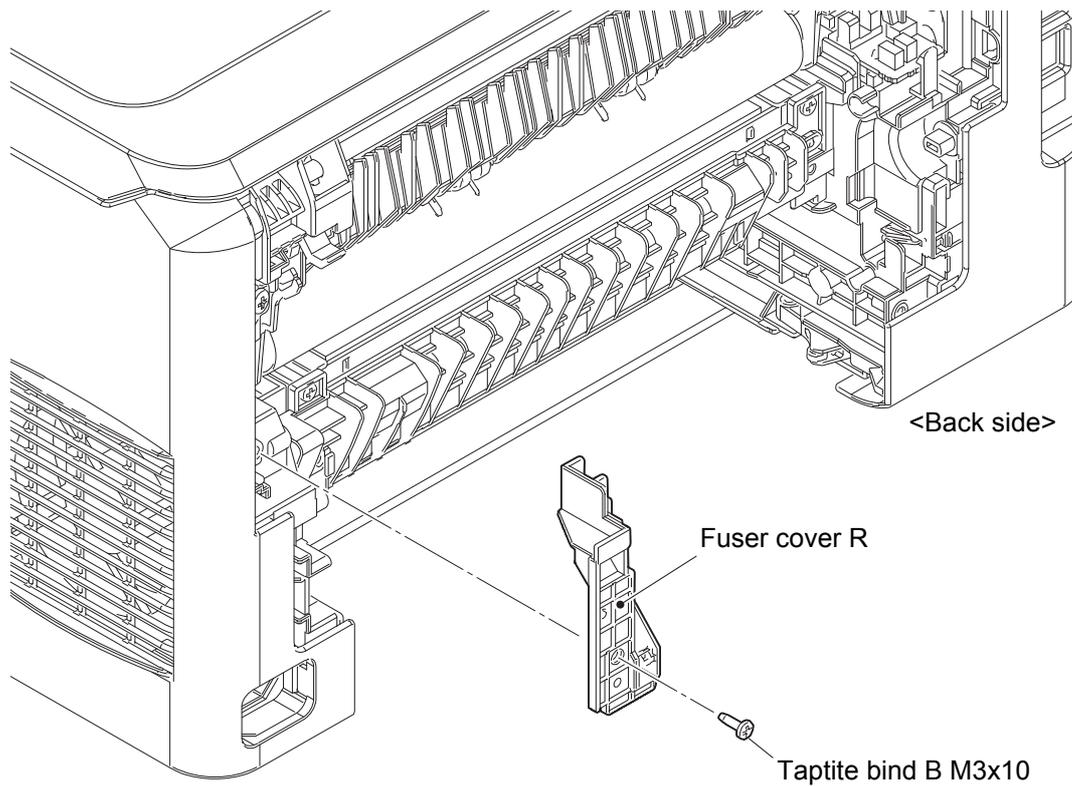


Fig. 3-12

(2) **Disconnect** > Center thermistor harness (of Fuser), Side thermistor harness (of Fuser)

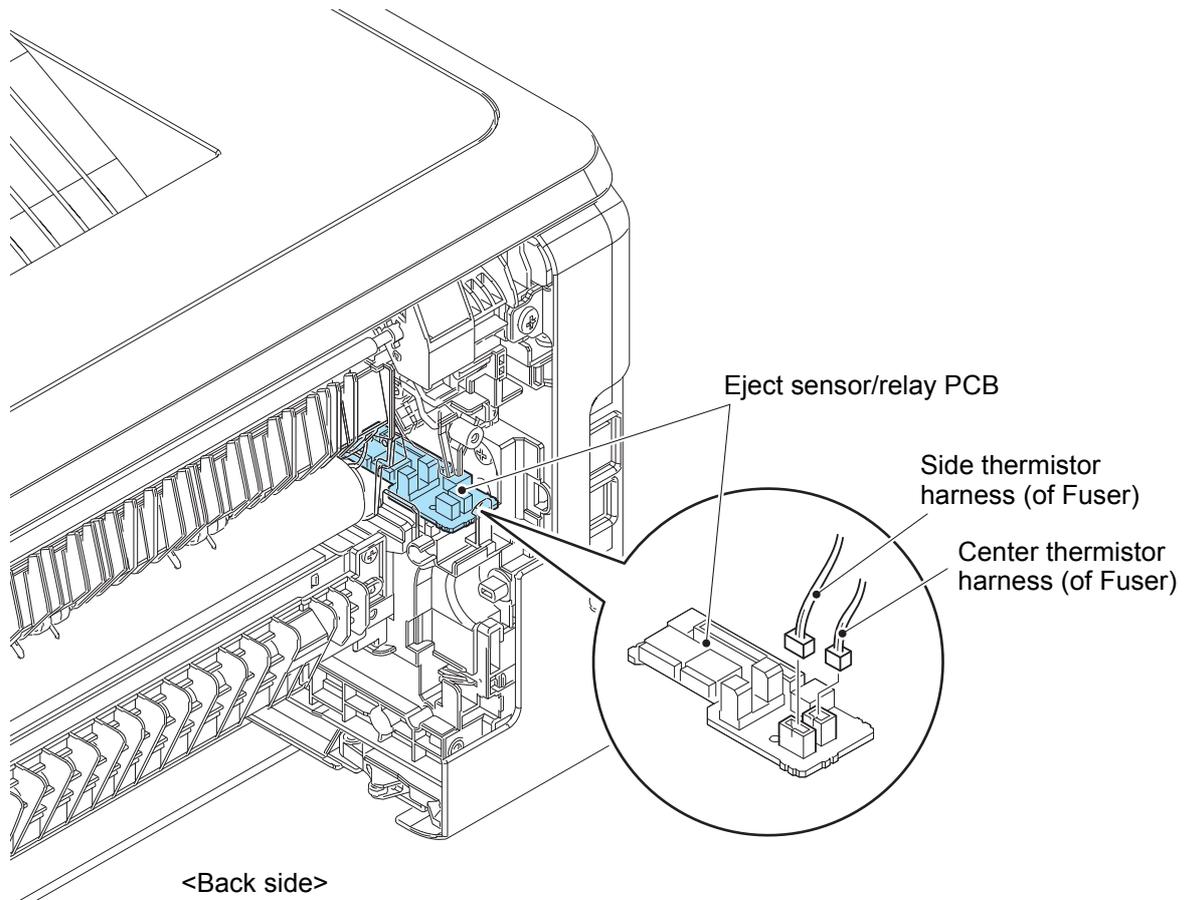


Fig. 3-13

(3) **Remove** > Fuser

 **Fixtures & Fittings**

- Taptite pan (washer) B M4x12DA (x 2)

(4) **Disconnect** > Heater harness (of Fuser)

 **Fixtures & Fittings**

- Hook (x 1)

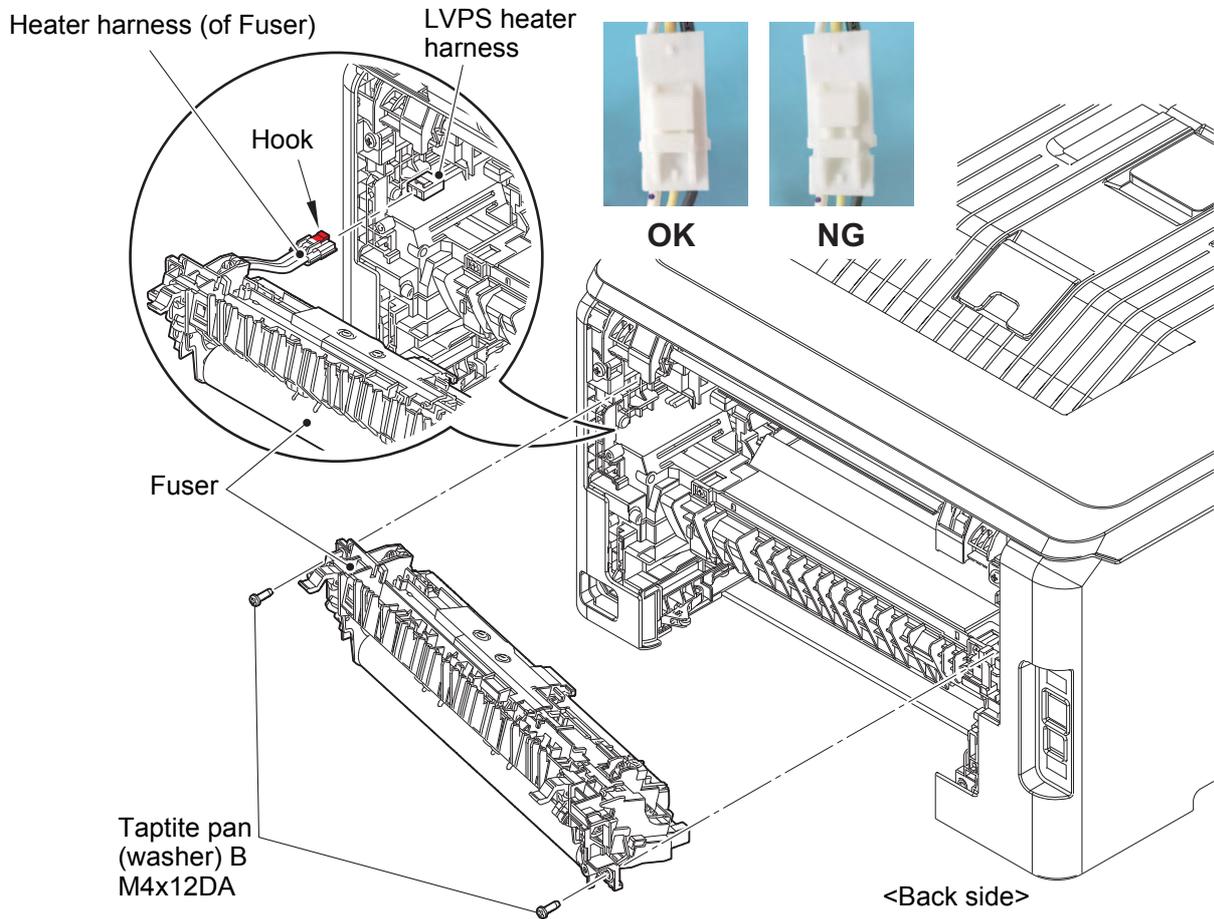


Fig. 3-14



Assembling note:

- After connecting the Heater harness (of Fuser), pull the Connector on the Heater harness (of Fuser) side while holding the Connector on the LVPS heater harness side to make sure it is locked.
- If you replaced the Fuser, refer to "5. IF YOU REPLACE THE FUSER" in Chapter 4 to configure settings.



Note:

- Do not apply a physical impact or vibration to the Fuser.
- Do not touch the roller and the electrodes as shown in the figure below to prevent breakage of the Fuser.

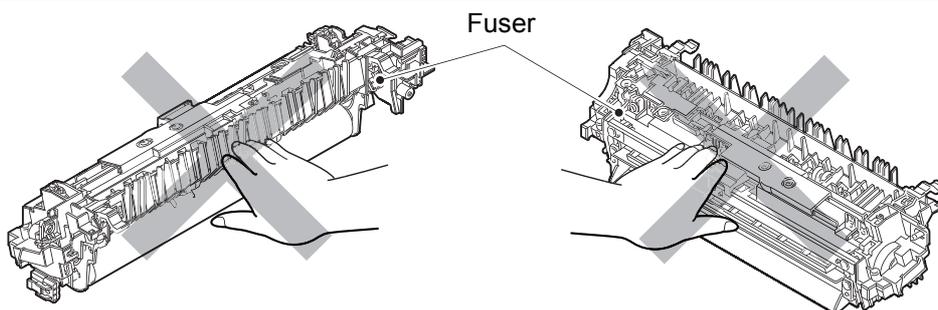


Fig. 3-15

8.8 Side cover L

- (1) **Open** > Top cover ASSY
- (2) **Remove** > Side cover L



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Hook (x 8)



Point:

- Release the hooks in the order of the arrows.

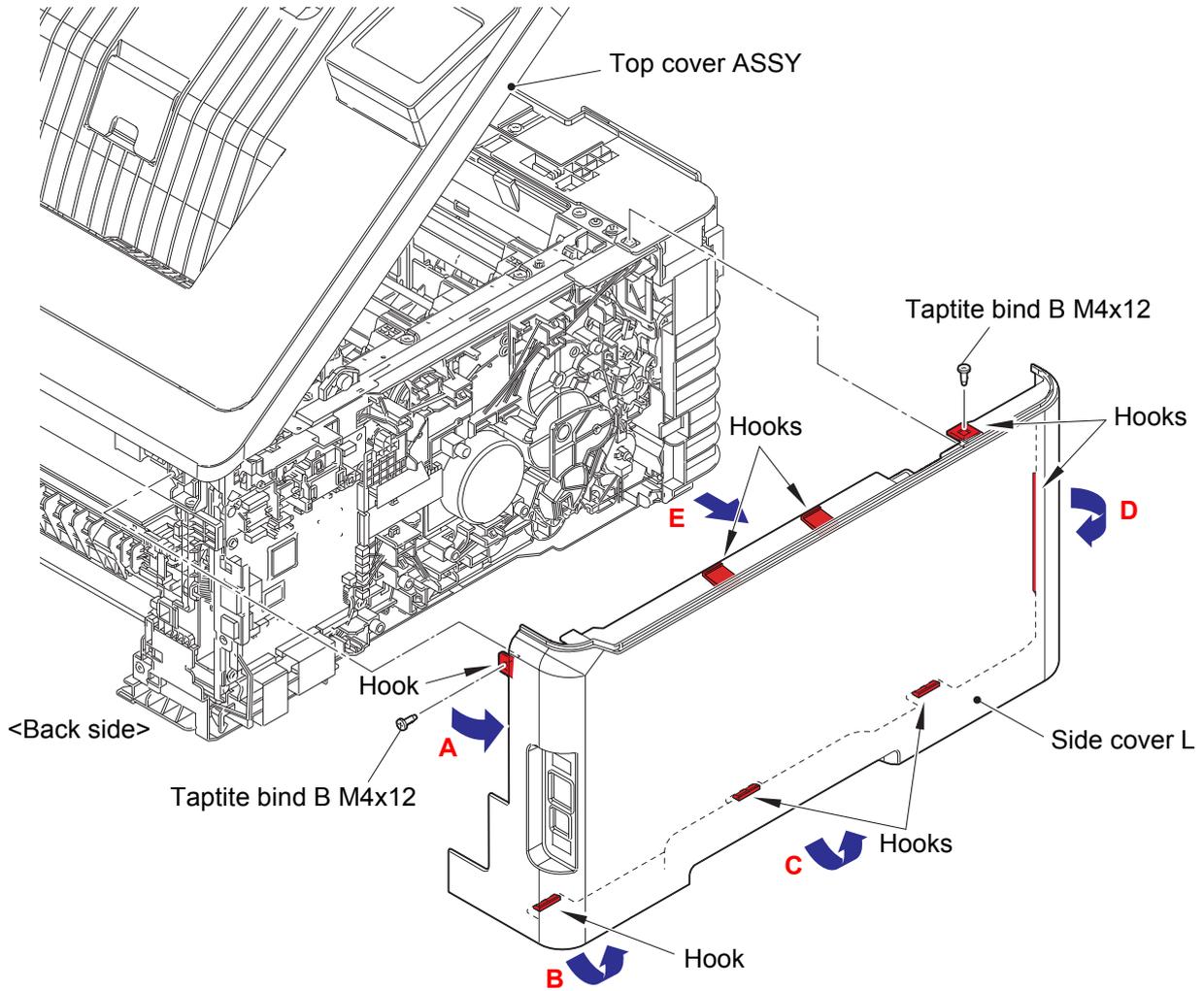


Fig. 3-16

8.9 Side cover R

(1) **Remove** > Side cover R



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Hook (x 8)



Point:

- Release the hooks in the order of the arrows.

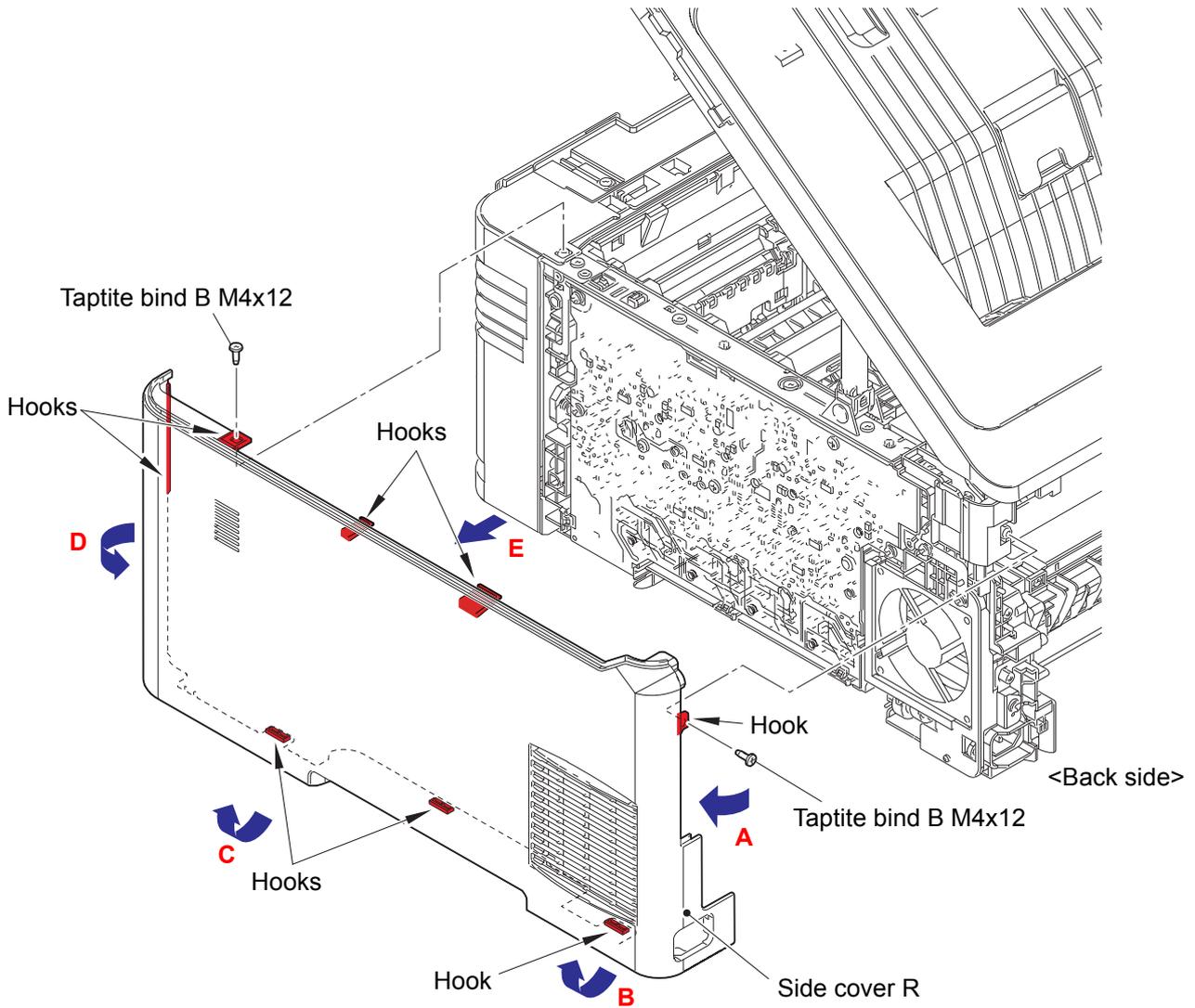


Fig. 3-17

8.10 Top cover ASSY

- (1) **Disconnect** > LED control FFC, Panel FFC

Fixtures & Fittings

- Lock (x 2)

- (2) **Disconnect** > Key/NFC relay FFC (for FS models) or Key FFC (for STEP models)

- (3) **Wiring** > LED control FFC, Panel FFC,
Key/NFC relay FFC (for FS models) or Key FFC (for STEP models)

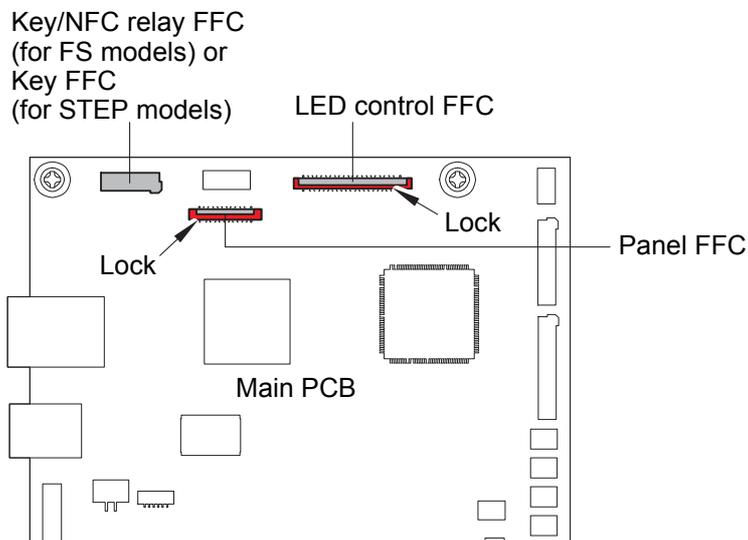
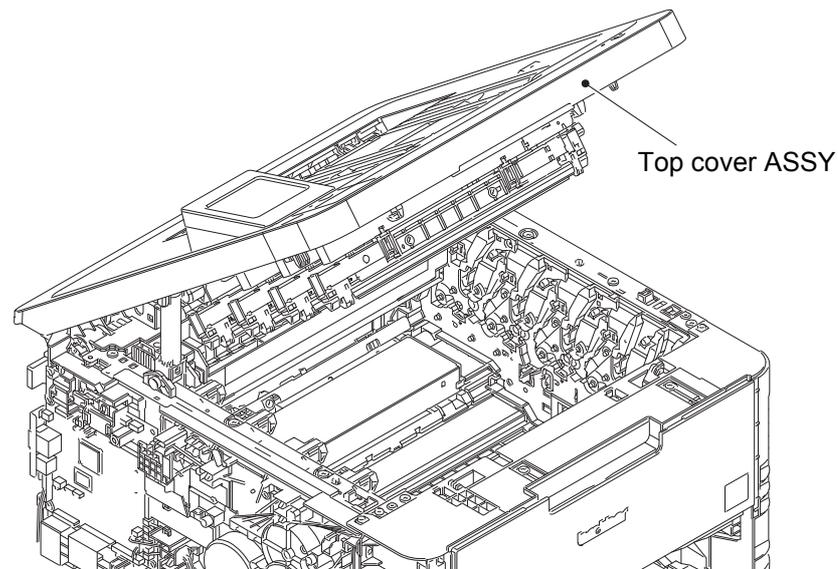


Fig. 3-18

Harness routing: Refer to "15. LED control FFC, LED FG harness, 14. Key/NFC relay FFC (For FS models)".

(4) **Remove** > LED FG harness

 **Fixtures & Fittings**

- Screw pan (S/P washer) M3x12DB (x 1)

(5) **Wiring** > LED FG harness

(6) **Release** > Joint sub arm R

 **Fixtures & Fittings**

- Hook (x 2)

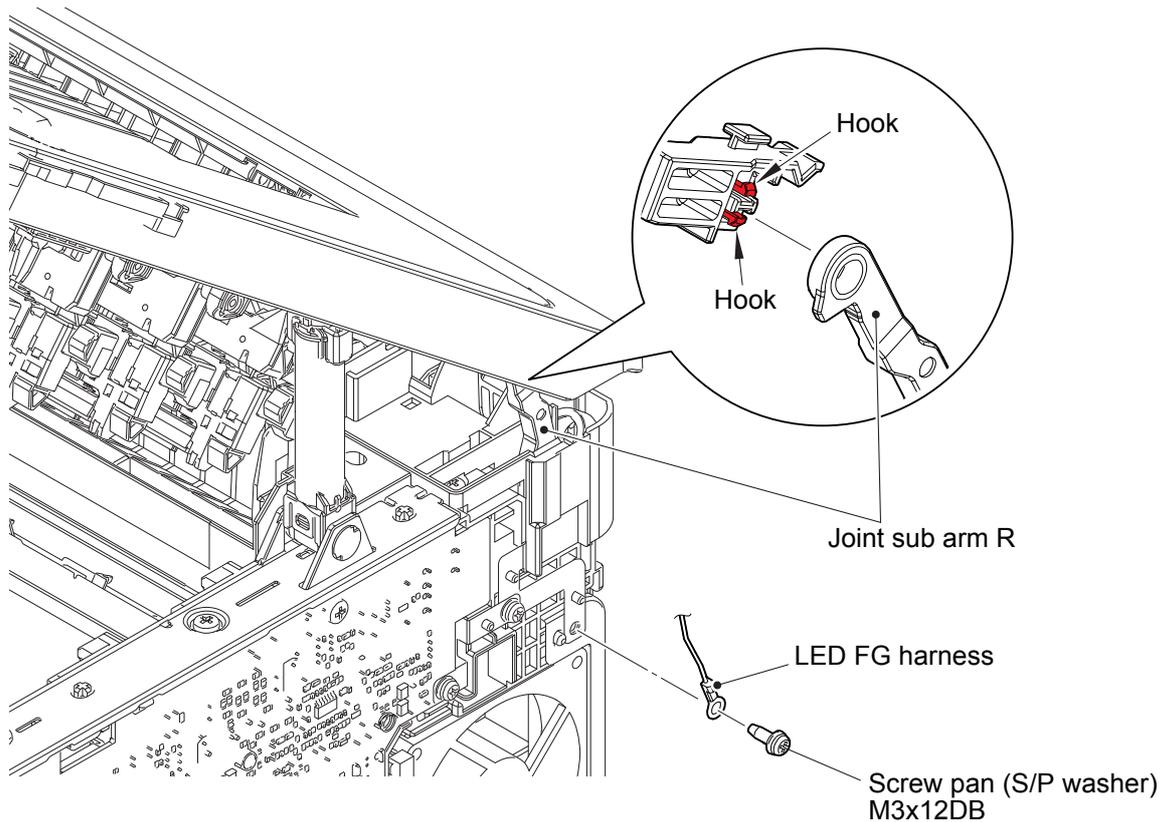


Fig. 3-19

Harness routing: Refer to "15. LED control FFC, LED FG harness".

(7) **Release** > Damper L ASSY

- Fixtures & Fittings**
 - Taptite bind B M4x12 (x 1)

(8) **Release** > Damper R ASSY

- Fixtures & Fittings**
 - Taptite bind B M4x12 (x 1)

(9) **Remove** > Top cover ASSY

Point:

- Open the Top cover ASSY approximately 90 degrees to remove it upward.

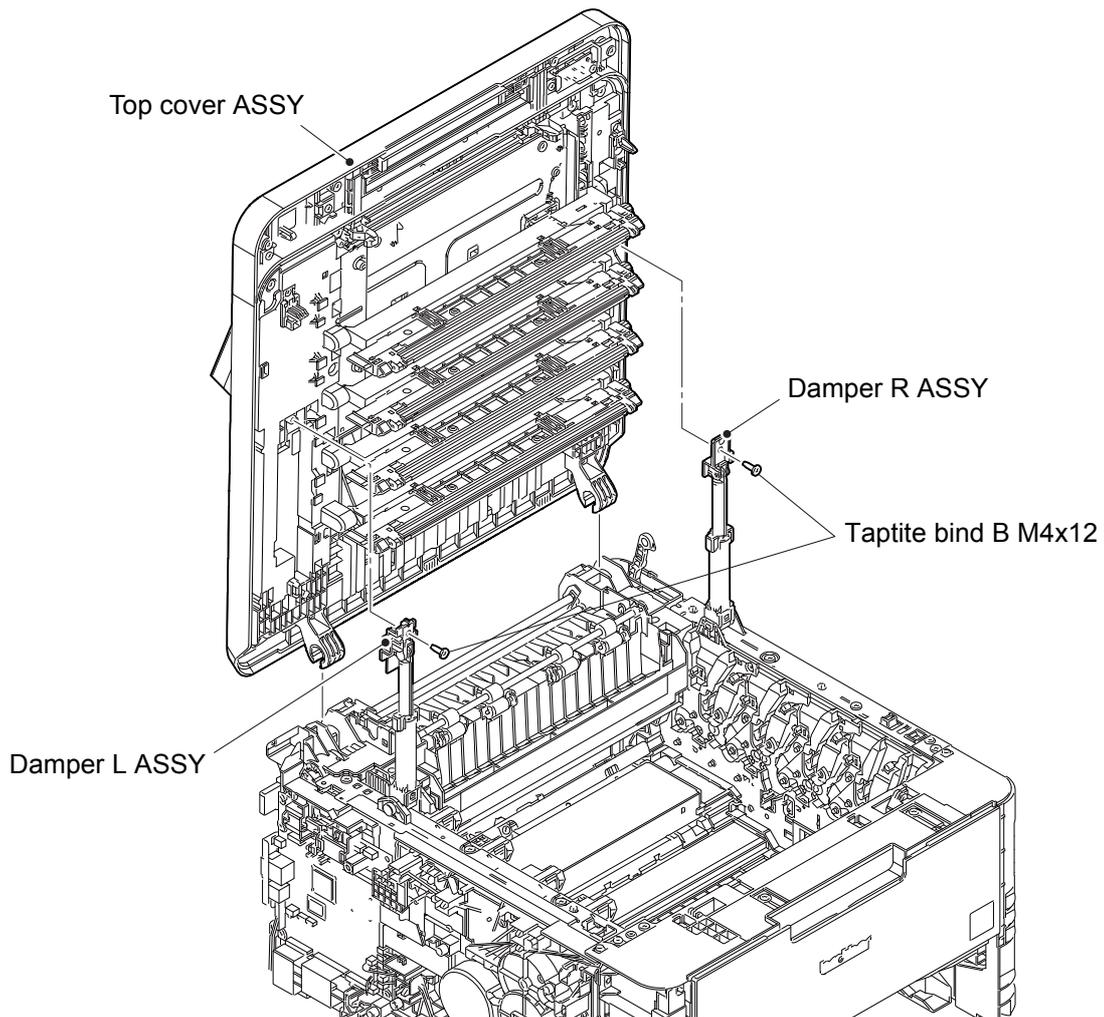


Fig. 3-20

8.11 LED unit

■ For FS models

(1) **Remove** > Open lever cover



Fixtures & Fittings

- Taptite bind B M4x12 (x 8)

(2) **Remove** > Open lever

(3) **Remove** > Open lever L, Open lever spring

(4) **Remove** > Open lever R, Open lever spring

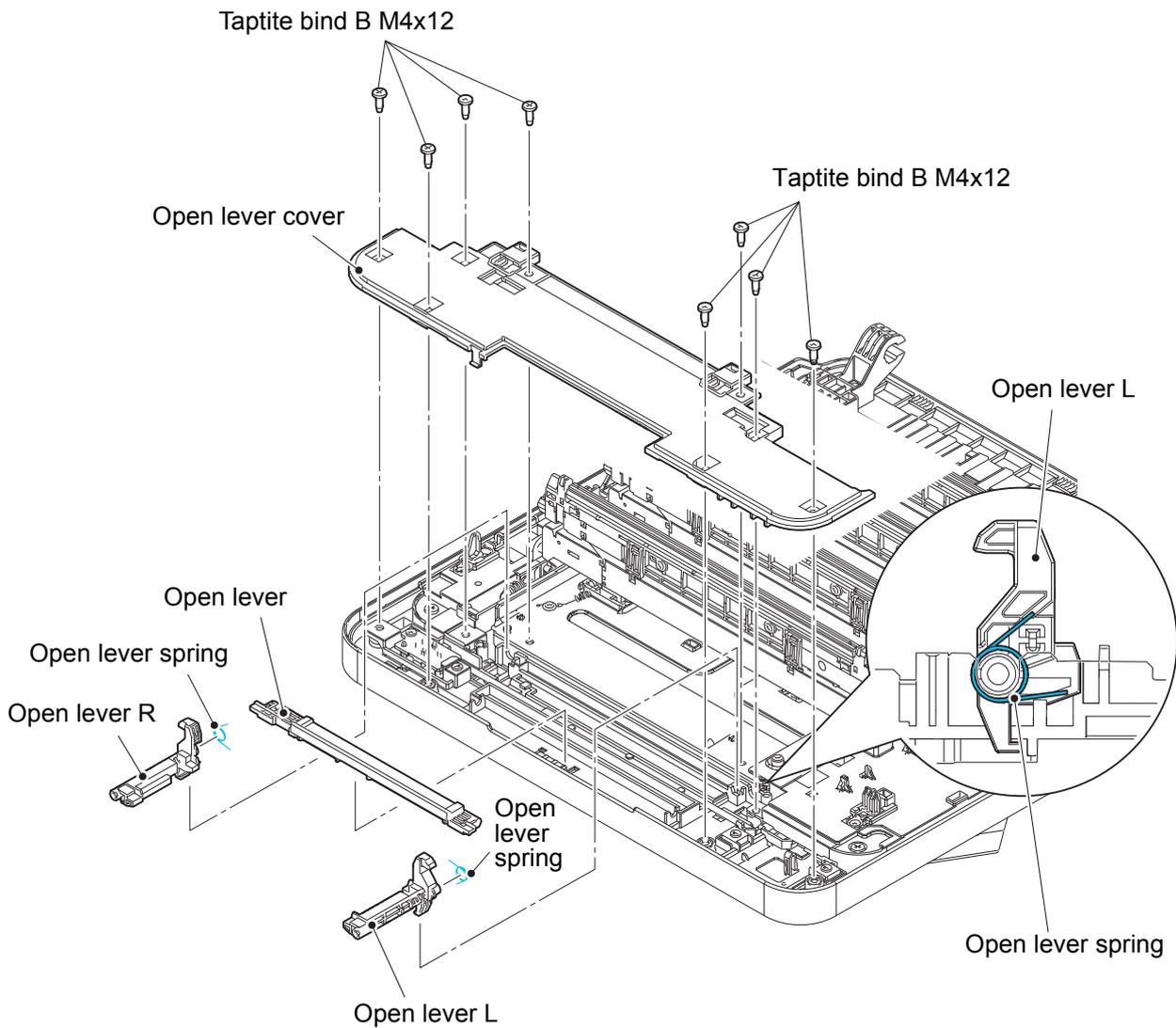


Fig. 3-21



Assembling note:

- Apply the Open lever spring as shown in the figure above.

(5) **Remove** > LED unit

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 8)

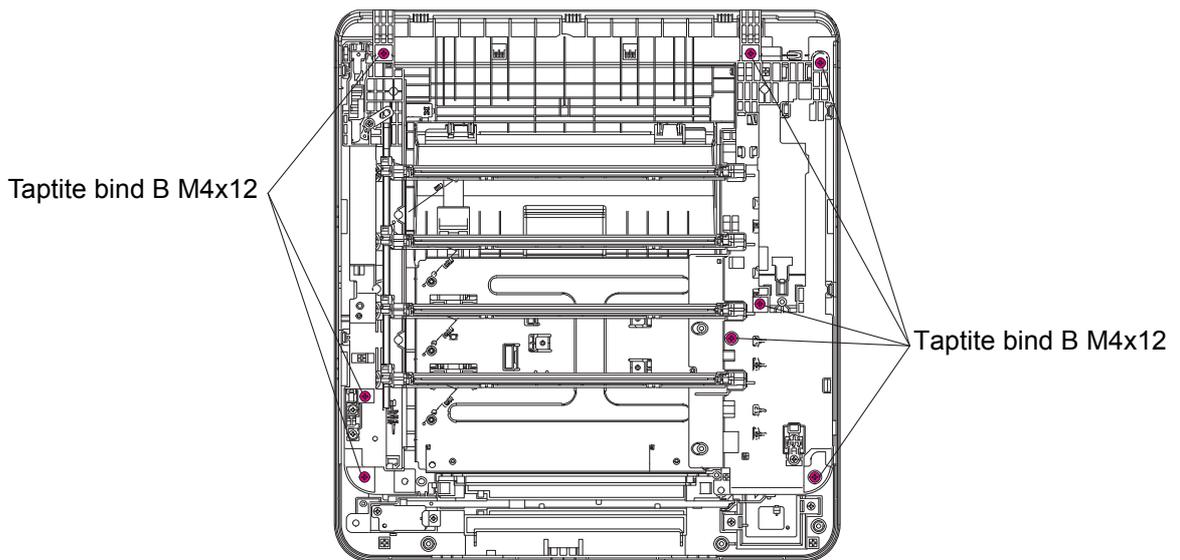
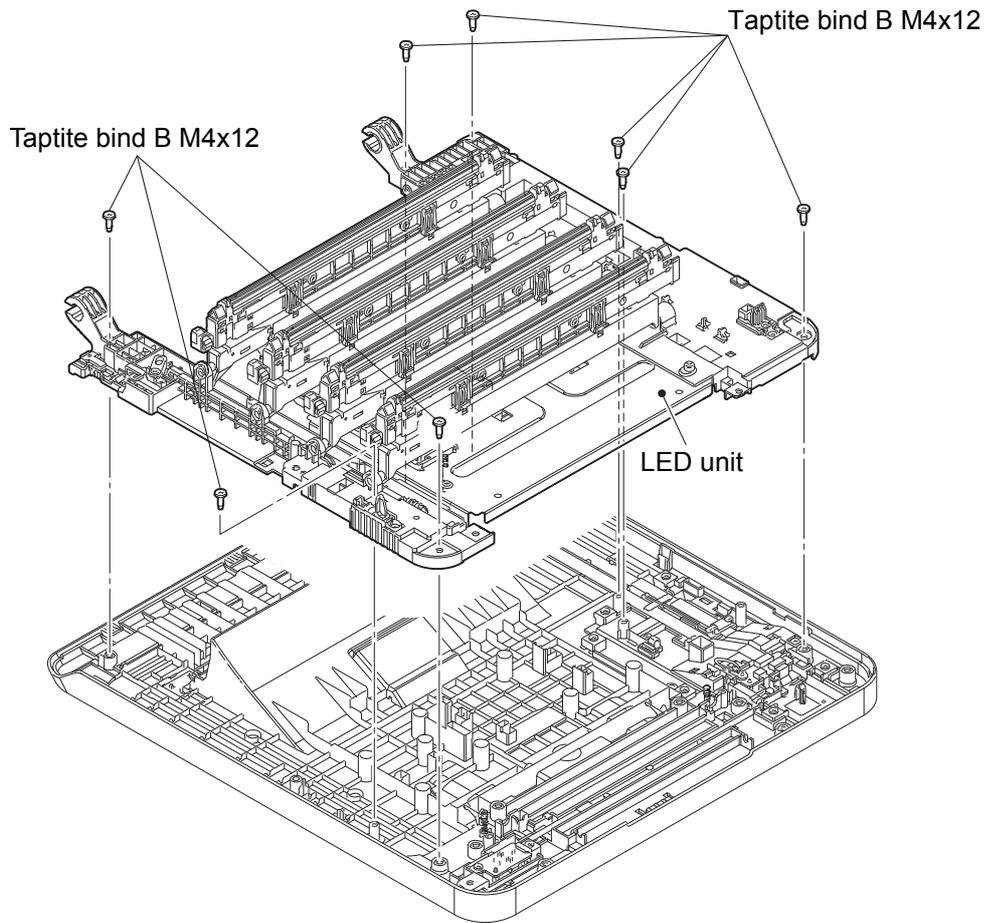


Fig. 3-22

■ **For STEP models**

- (1) **Remove** > Open lever cover



Fixtures & Fittings

- Taptite bind B M4x12 (x 4)

- (2) **Remove** > Open lever

- (3) **Remove** > Open lever L, Open lever spring

- (4) **Remove** > Open lever R, Open lever spring

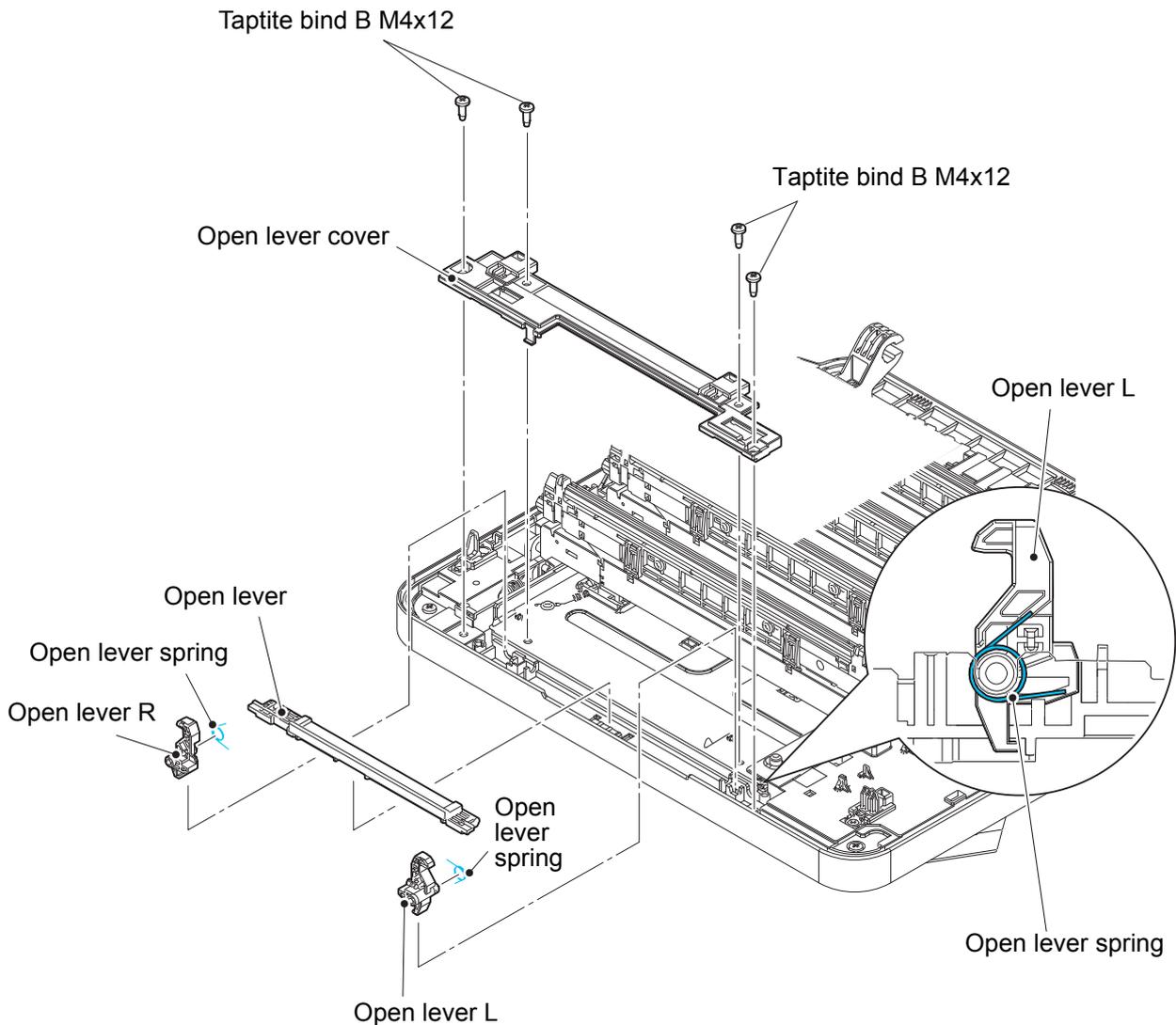


Fig. 3-23



Assembling note:

- Apply the Open lever spring as shown in the figure above.

(5) **Remove** > LED unit

Fixtures & Fittings

- Taptite bind B M4x12 (x 8)

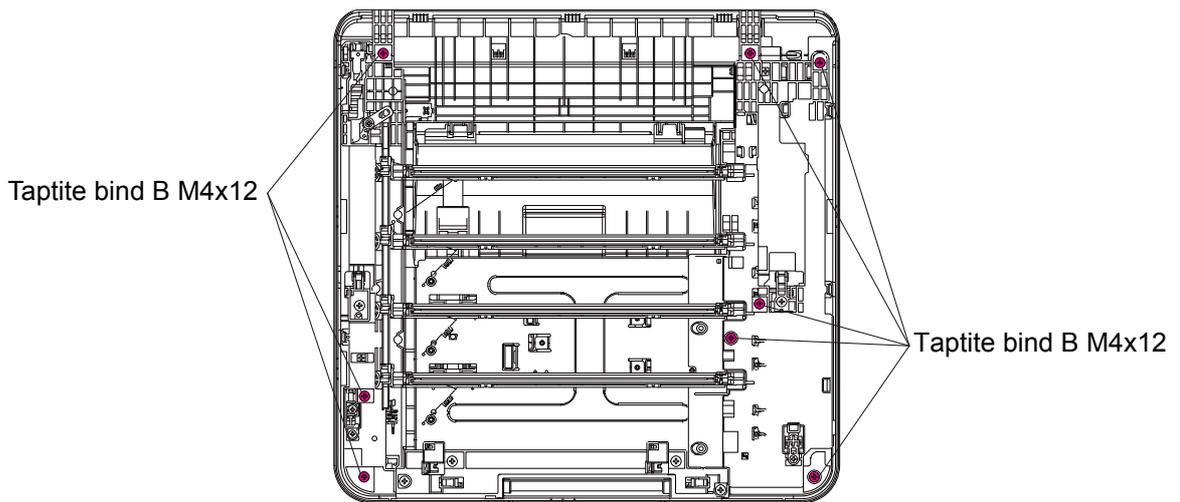
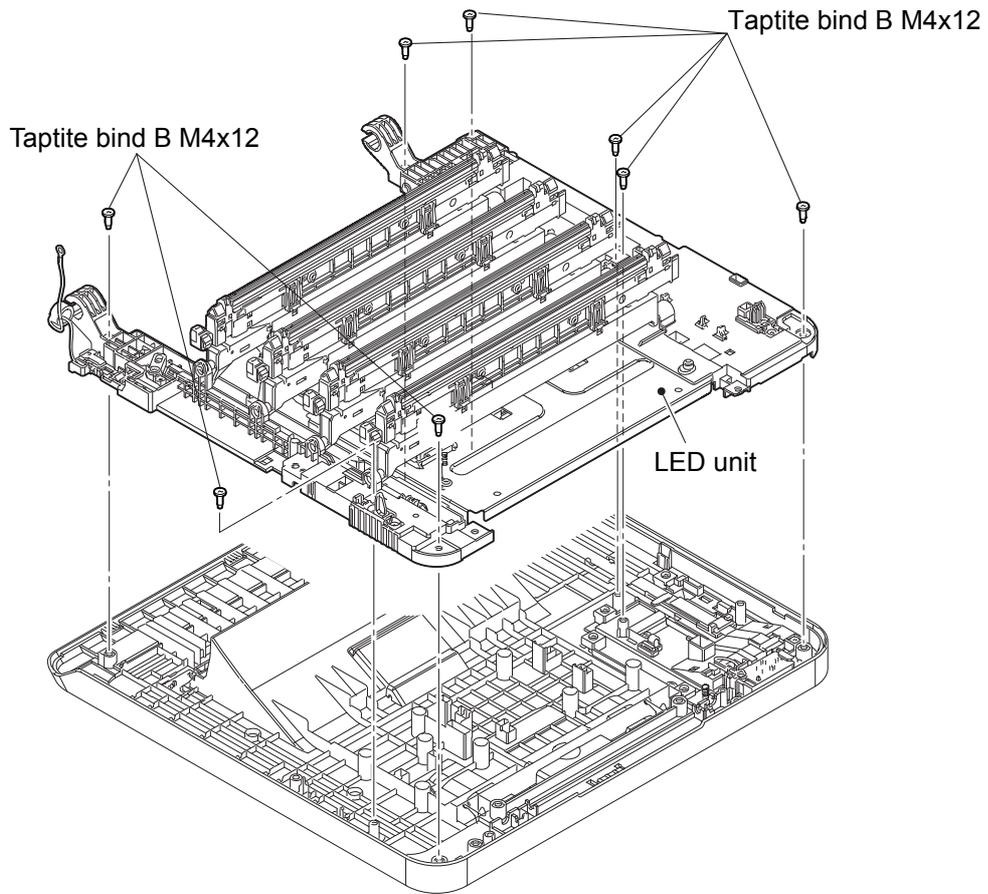


Fig. 3-24

■ For BASE models

- (1) **Remove** > Open lever cover



Fixtures & Fittings

- Taptite bind B M4x12 (x 4)

- (2) **Remove** > Open lever

- (3) **Remove** > Open lever L, Open lever spring

- (4) **Remove** > Open lever R, Open lever spring

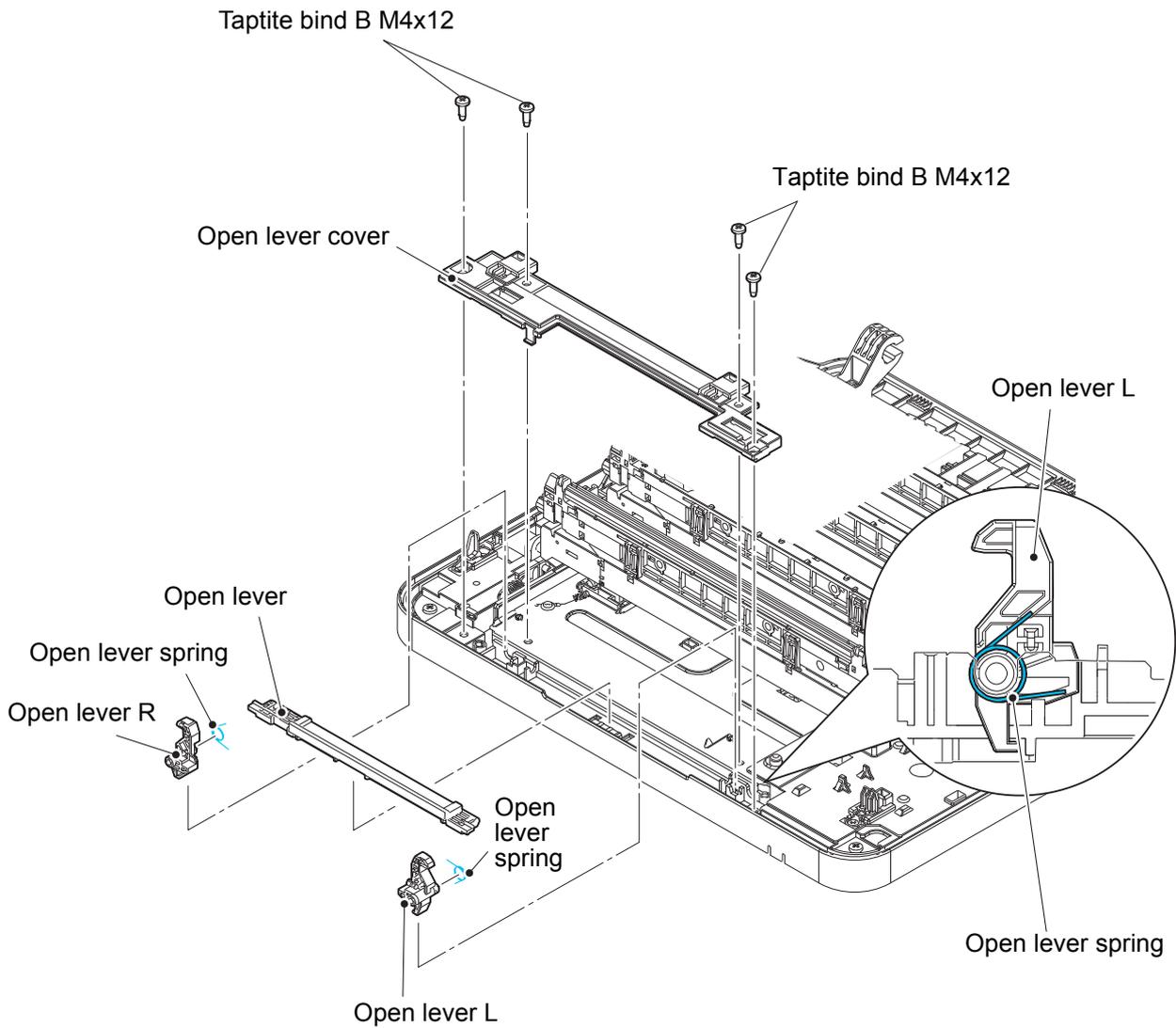


Fig. 3-25



Assembling note:

- Apply the Open lever spring as shown in the figure above.

(5) **Remove** > LED unit

Fixtures & Fittings

- Taptite bind B M4x12 (x 7)

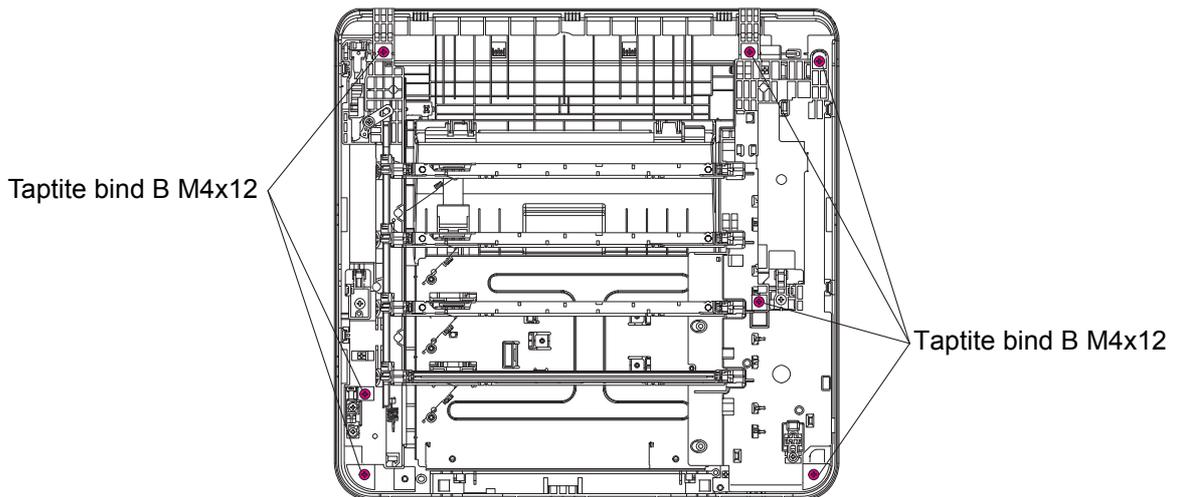
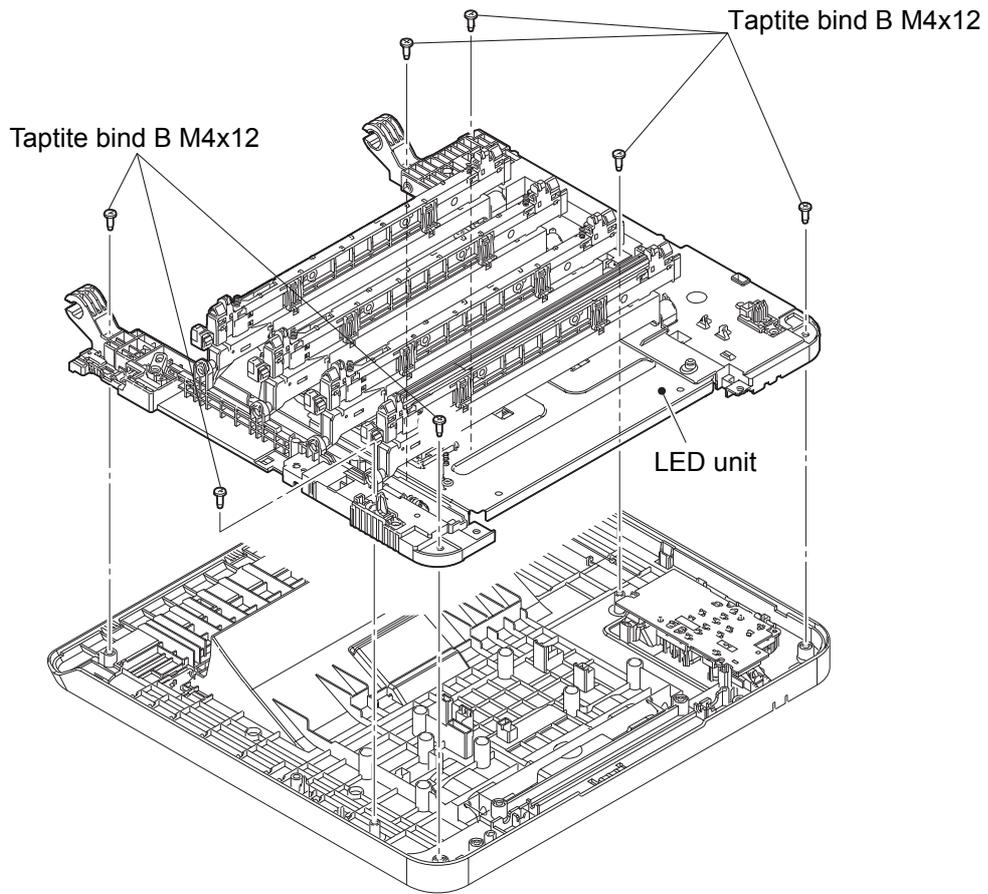


Fig. 3-26

8.12 Key FFC (Only for FS and STEP models), Key PCB (Only for FS and STEP models)

■ For FS models

- (1) **Disconnect** > Key FFC
- (2) **Wiring** > Key FFC
- (3) **Remove** > Key antistatic spring, Key PCB holder



Fixtures & Fittings

- Taptite bind B M3x10 (x 1)

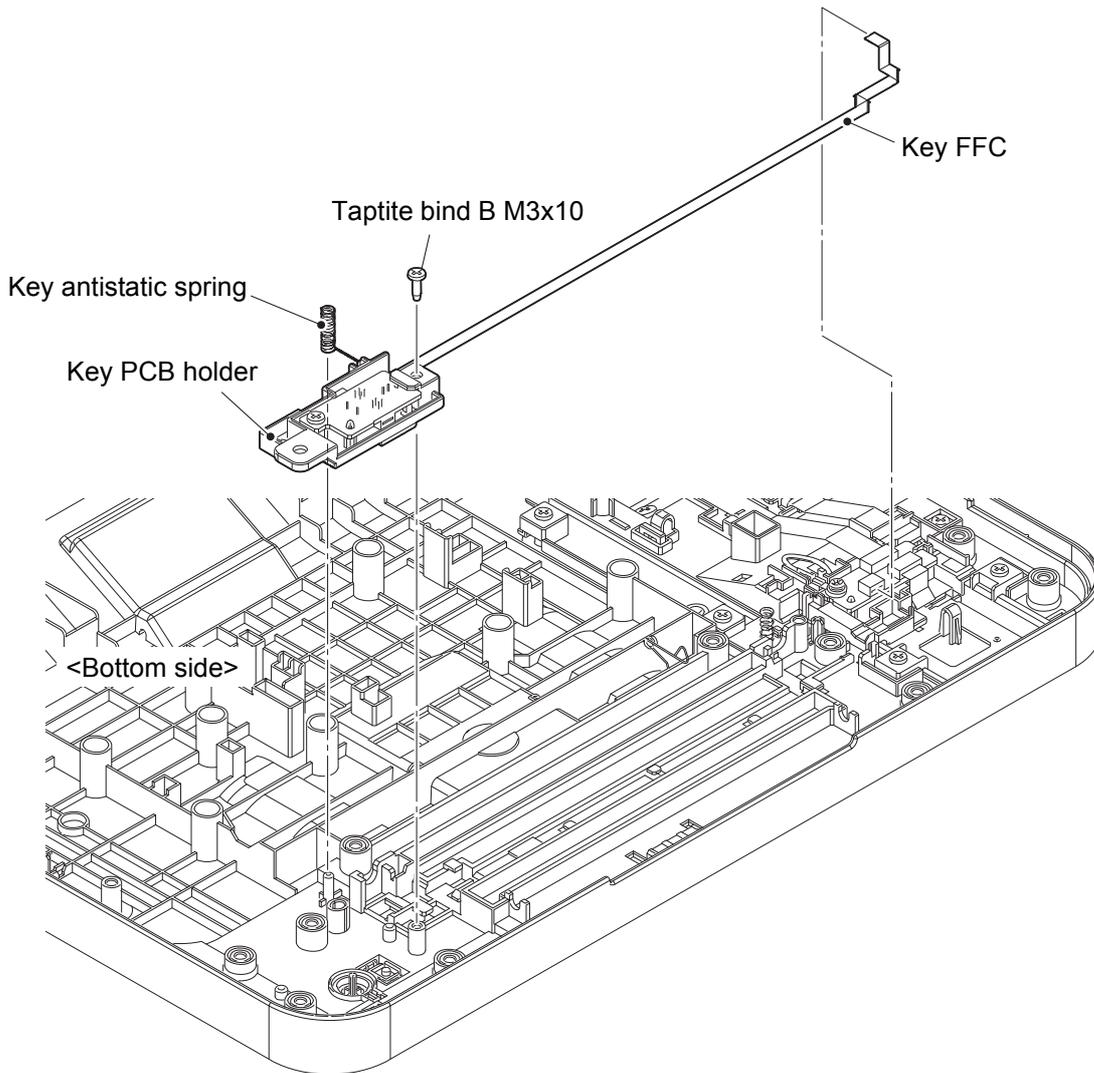


Fig. 3-27

Harness routing: Refer to "12. Key FFC (For FS models)".

(4) **Remove** > Key PCB

 **Fixtures & Fittings**

- Taptite bind B M3x10 (x 1)

(5) **Disconnect** > Key FFC

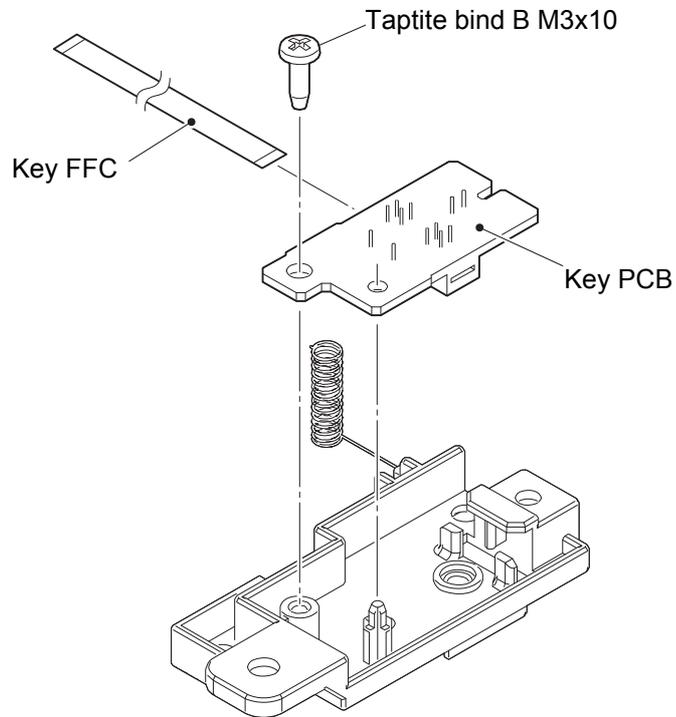


Fig. 3-28

<How to fold the Key FFC>

—— Mountain fold
 - - - - - Valley fold

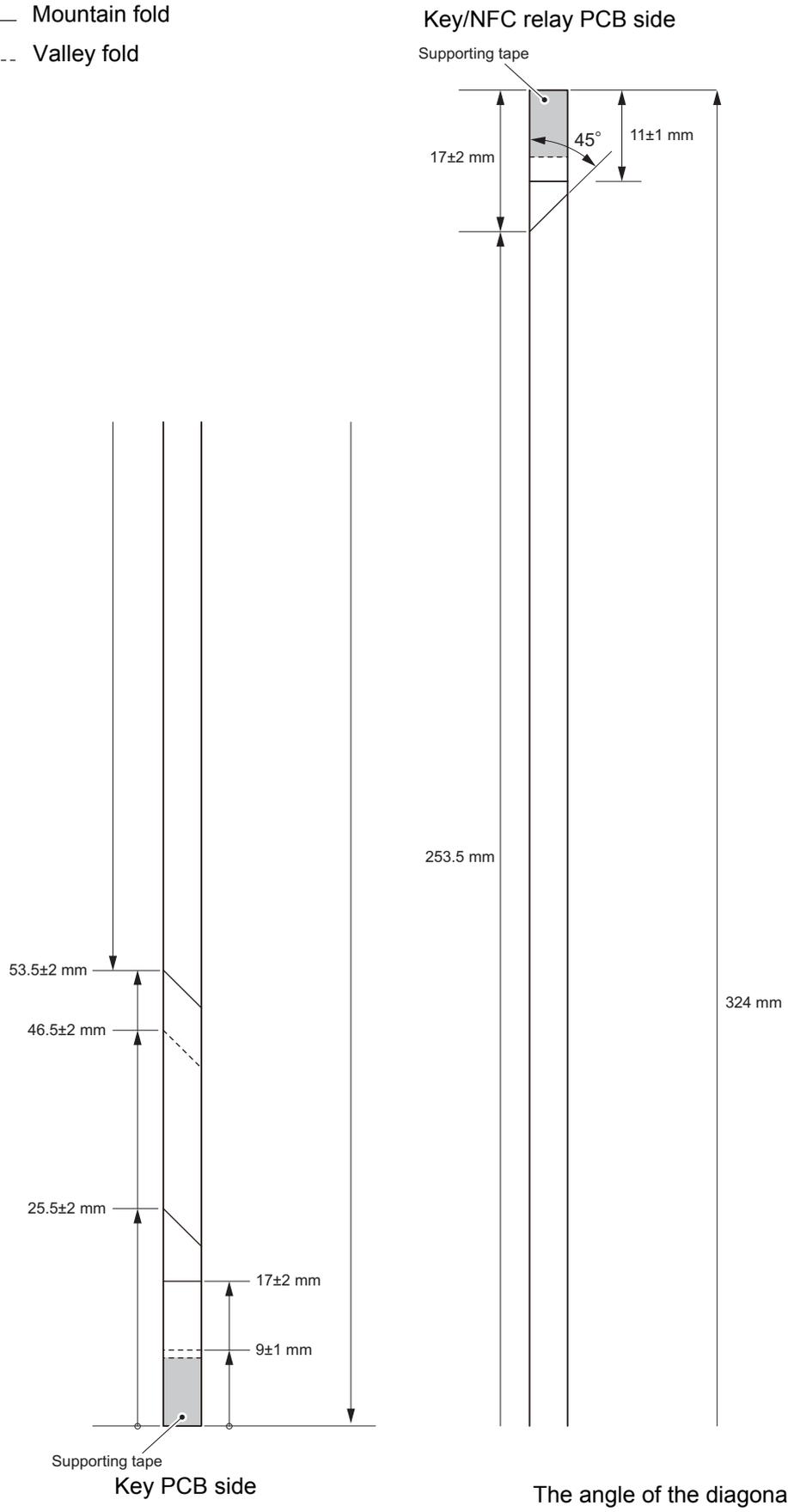


Fig. 3-29

■ For STEP models

(1) **Wiring** > Key FFC, Panel FFC

Fixtures & Fittings
- Double-sided tape (x 2)

(2) **Remove** > Panel FG harness, Panel antistatic spring, Key PCB

Fixtures & Fittings
- Taptite pan B 3x10 (x 1)

(3) **Disconnect** > Key FFC

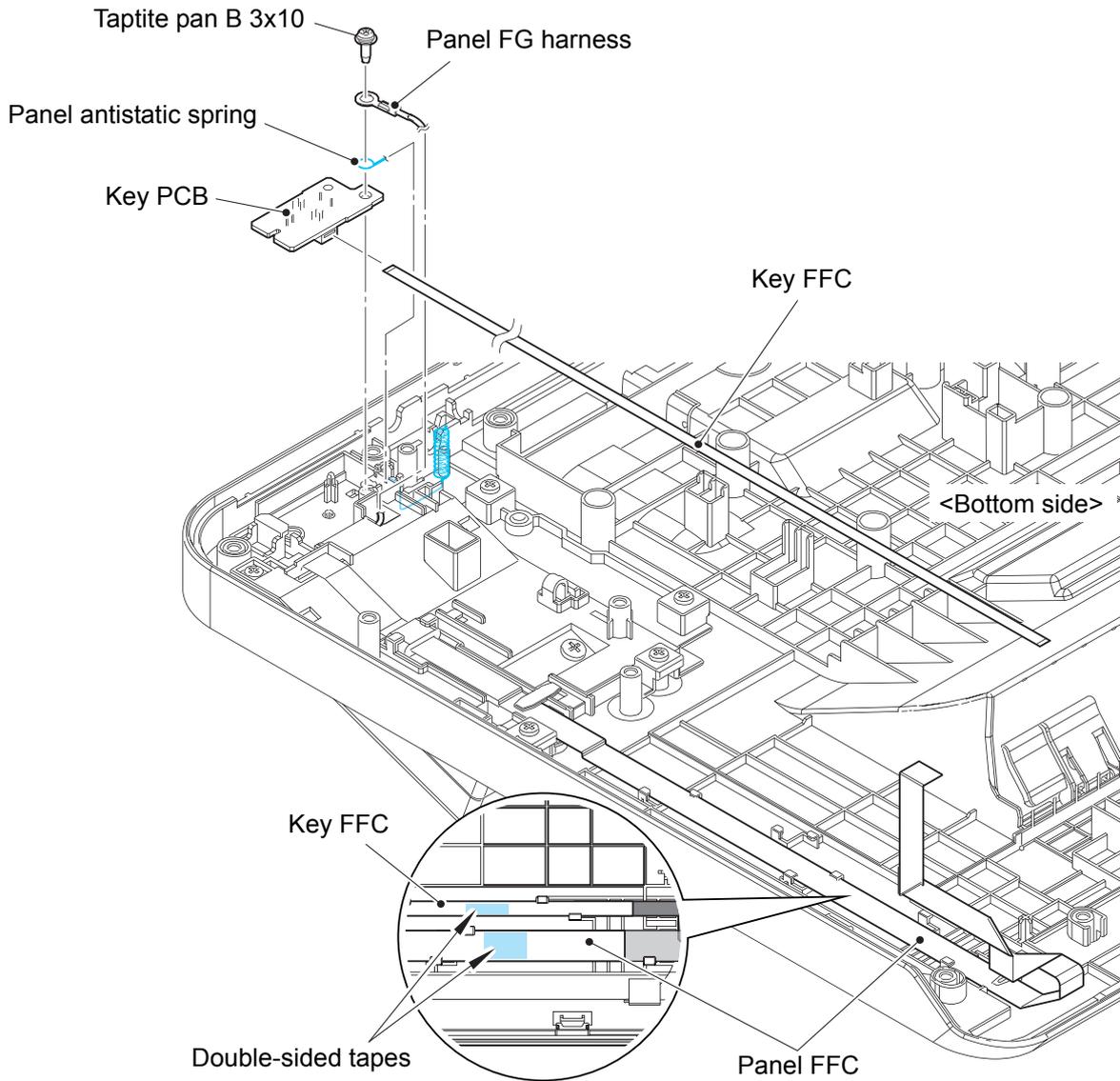


Fig. 3-30

Harness routing: Refer to "13. Key FFC (For STEP models), 22. Panel FFC (For FS and STEP models)".

<How to fold the Key FFC>

—— Mountain fold
 - - - - - Valley fold

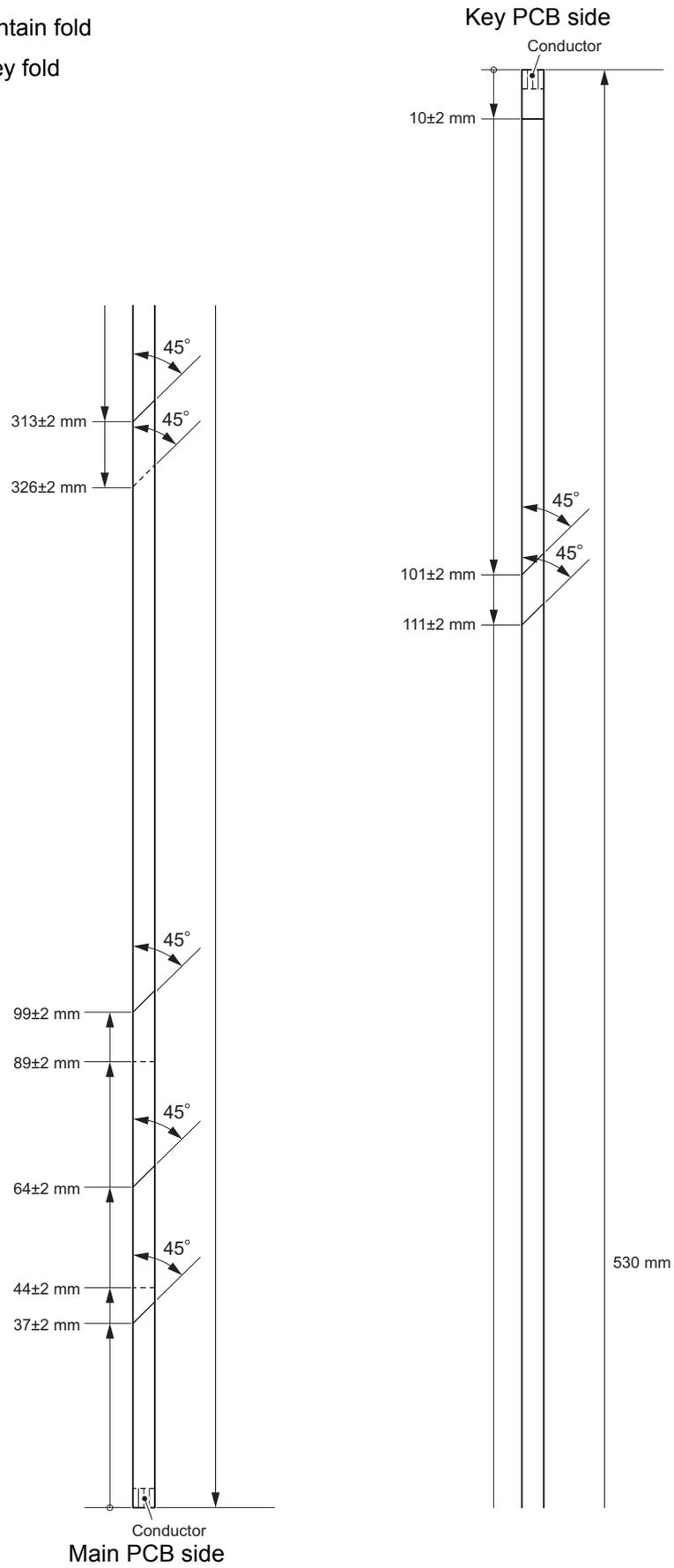


Fig. 3-31

8.13 Key/NFC relay FFC (Only for FS models), Key/NFC replay PCB (Only for FS models)

(1) **Wiring** > Key/NFC relay FFC, Panel FFC

- Fixtures & Fittings**
 - Double-sided tape (x 2)

(2) **Remove** > Panel FG harness, Panel antistatic spring, Key/NFC relay PCB

- Fixtures & Fittings**
 - Taptite pan B 3x10 (x 1)

(3) **Disconnect** > Key/NFC relay FFC, NFC FFC

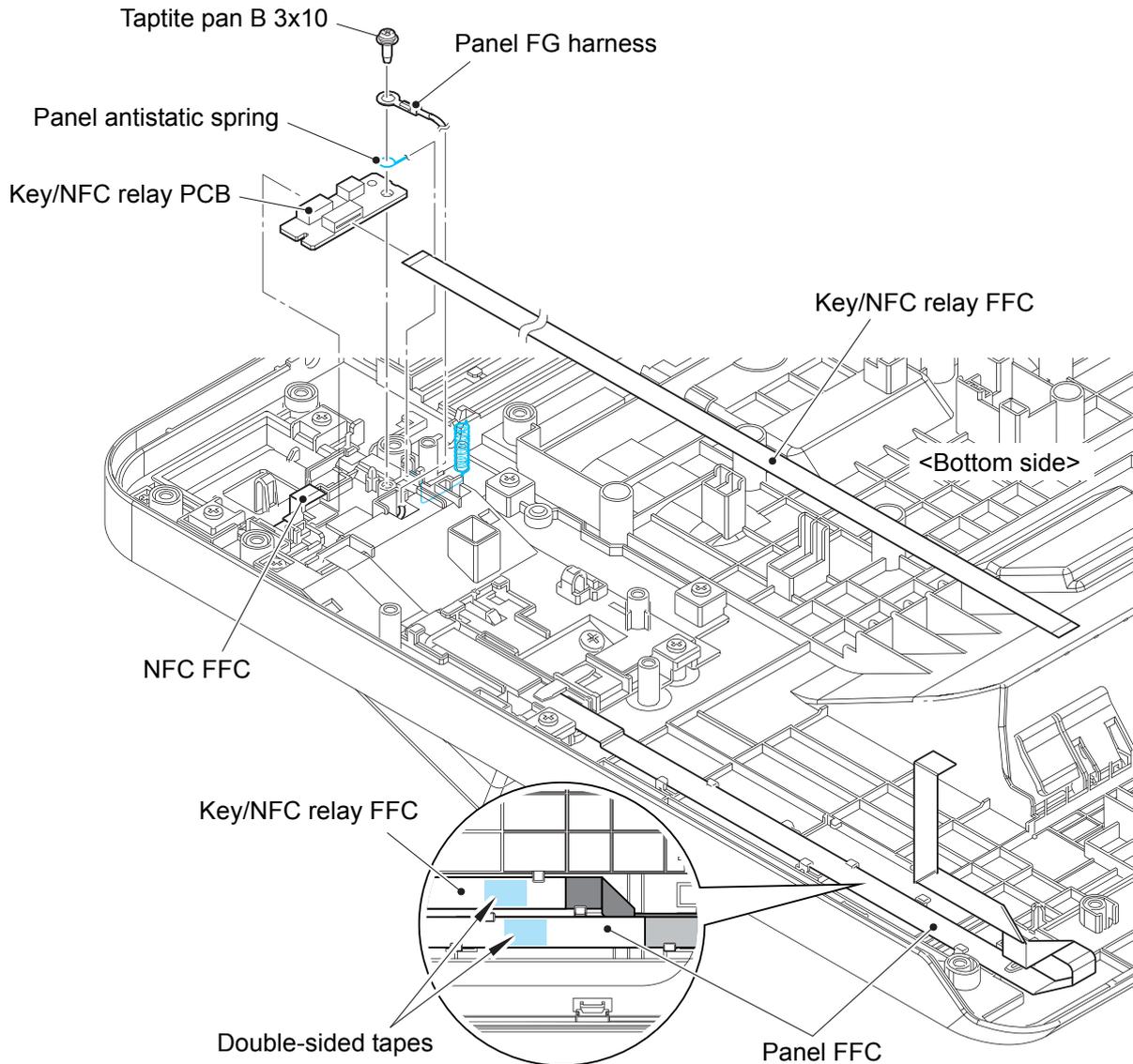
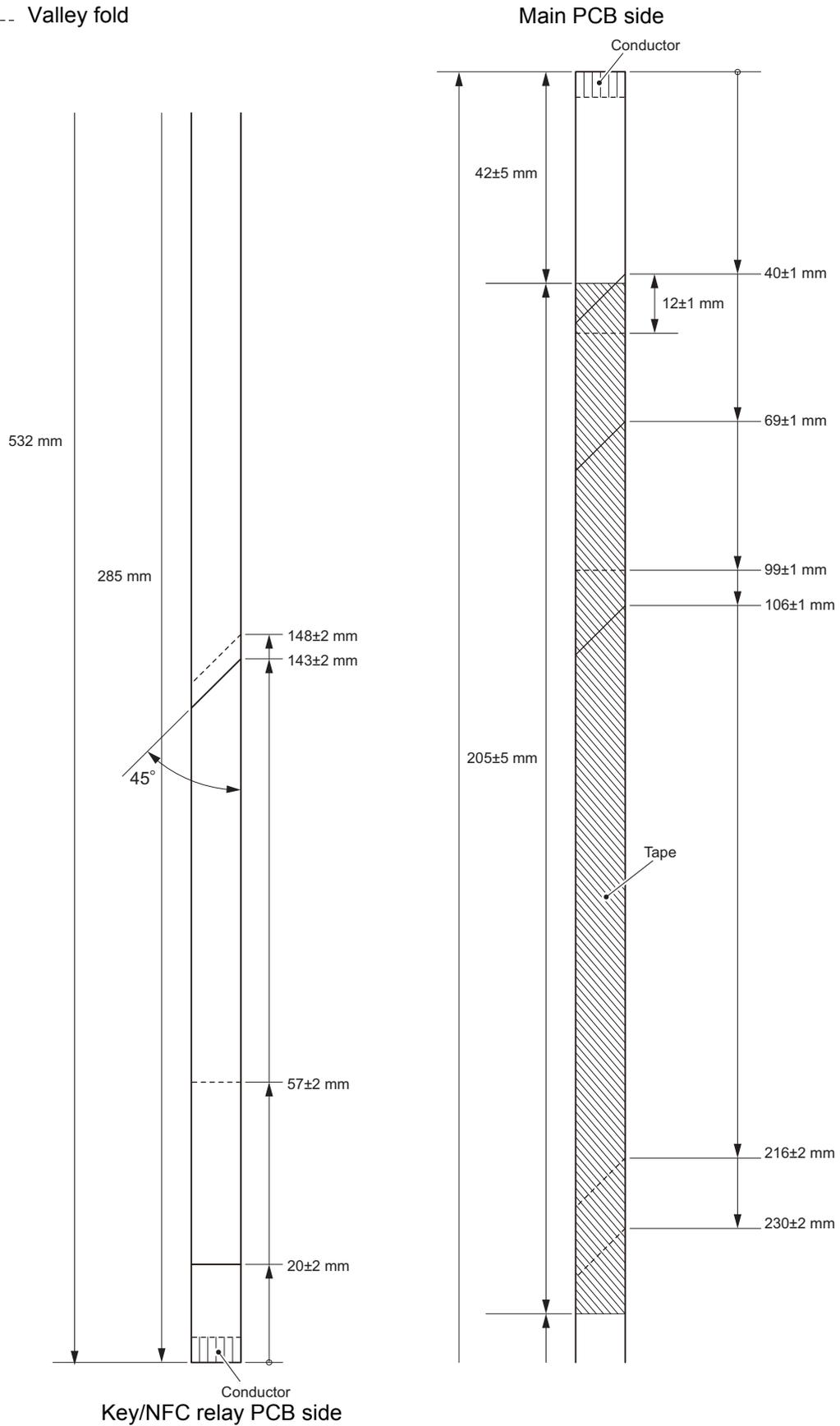


Fig. 3-32

Harness routing: Refer to "14. Key/NFC relay FFC (For FS models), 22. Panel FFC (For FS and STEP models)".

<How to fold the Key/NFC relay FFC>

—— Mountain fold
 - - - - Valley fold



The angle of the diagonal fold is 45°.

Fig. 3-33

8.14 Panel ASSY (Only for FS and STEP models)

(1) **Remove** > Panel unit



Fixtures & Fittings

- Taptite bind B M3x10 (x 5)

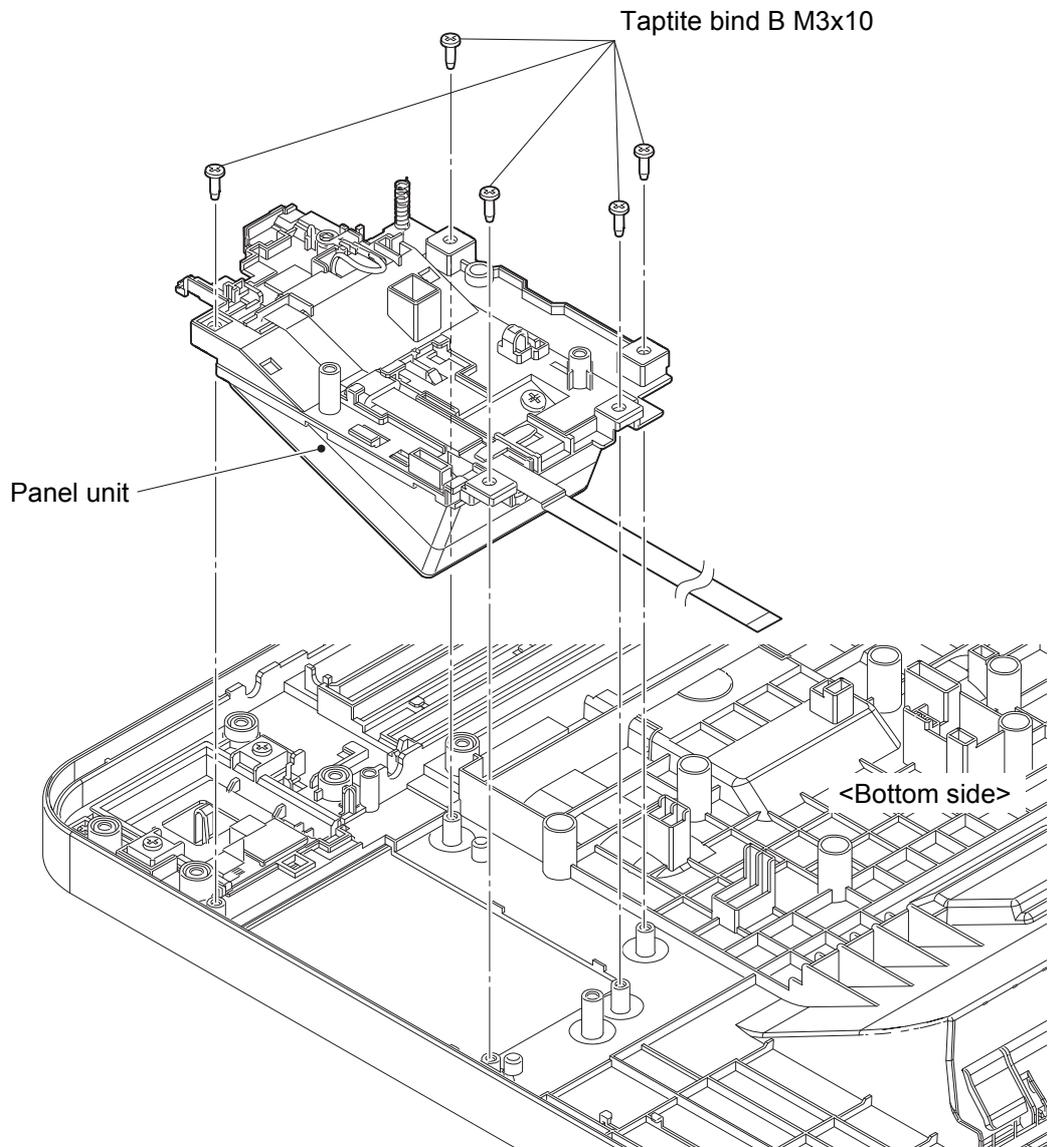


Fig. 3-34

(2) **Remove** > Ferrite core

 **Fixtures & Fittings**

- Hook (x 1)

(3) **Remove** > Panel ASSY

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 2)

- Hook (x 1)

 **Point:**

- Pull out the Panel FFC and the Panel FG harness through each hole.

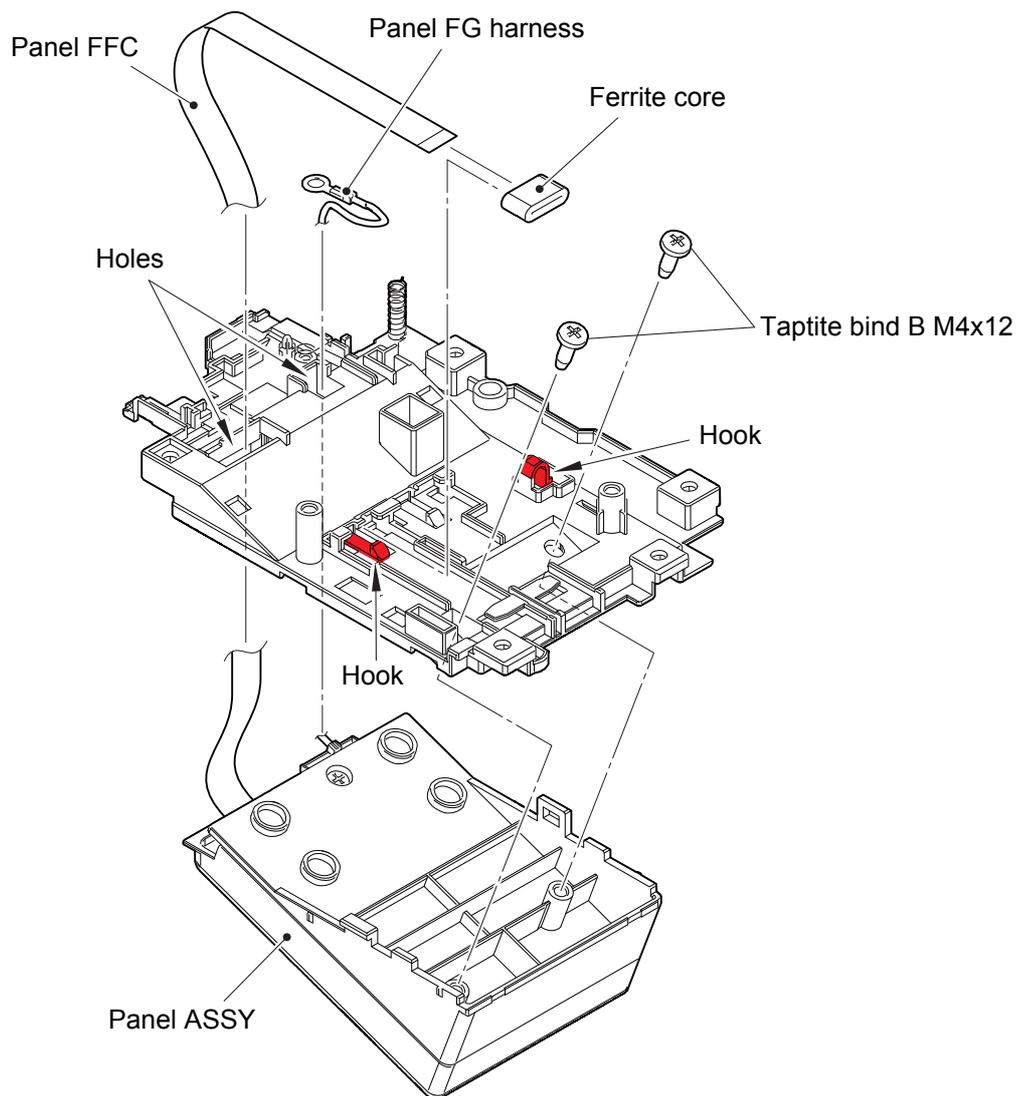


Fig. 3-35

 **Assembling note:**

- If you replaced the Panel ASSY, refer to "4. IF YOU REPLACE THE LCD, PANEL UNIT OR PANEL PCB" in Chapter 4 to configure settings.

8.15 Panel FFC, Panel PCB

■ For FS and STEP models

(1) **Remove** > LCD panel lower

- 🔧 **Fixtures & Fittings**
 - Taptite bind B M3x10 (x 2)
 - Hook (x 2)

(2) **Disconnect** > Panel FFC

- 🔧 **Fixtures & Fittings**
 - Lock (x 1)

(3) **Disconnect** > LCD FFC

- 🔧 **Fixtures & Fittings**
 - Lock (x 1)

(4) **Disconnect** > Touch panel FFC

(5) **Remove** > Panel PCB

- 🔧 **Fixtures & Fittings**
 - Hook (x 1)

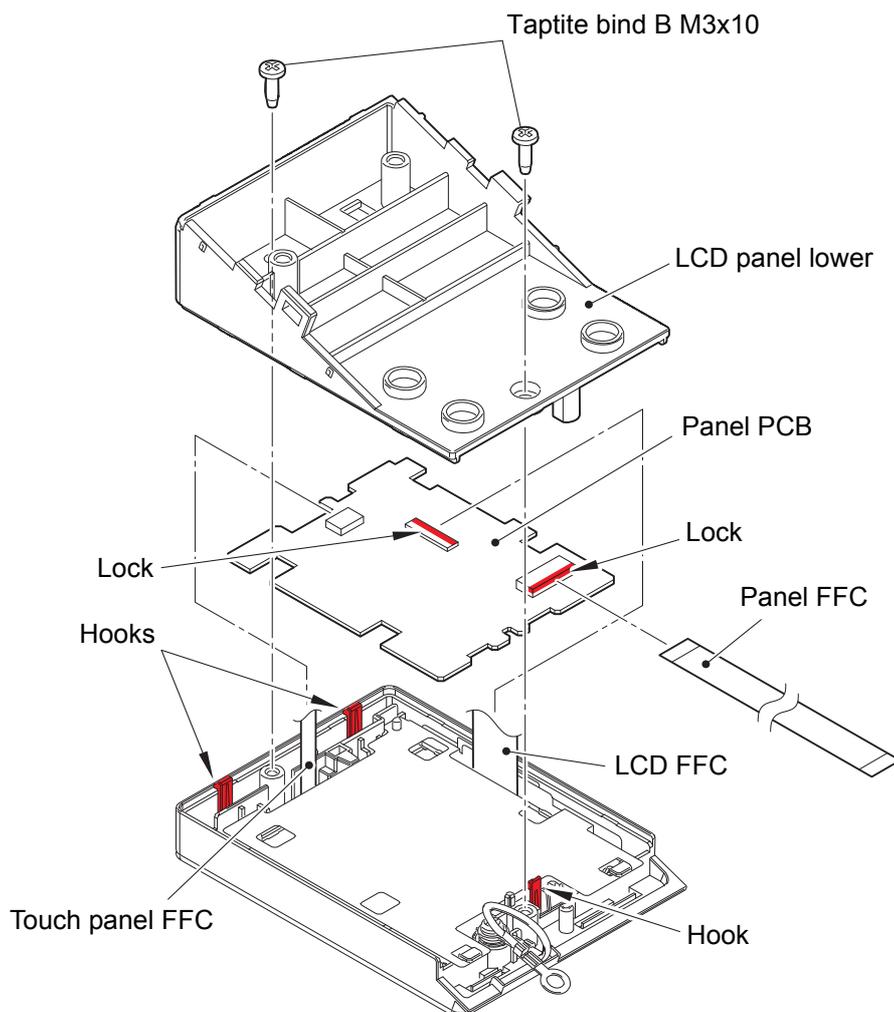


Fig. 3-36

<How to fold the Panel FFC>

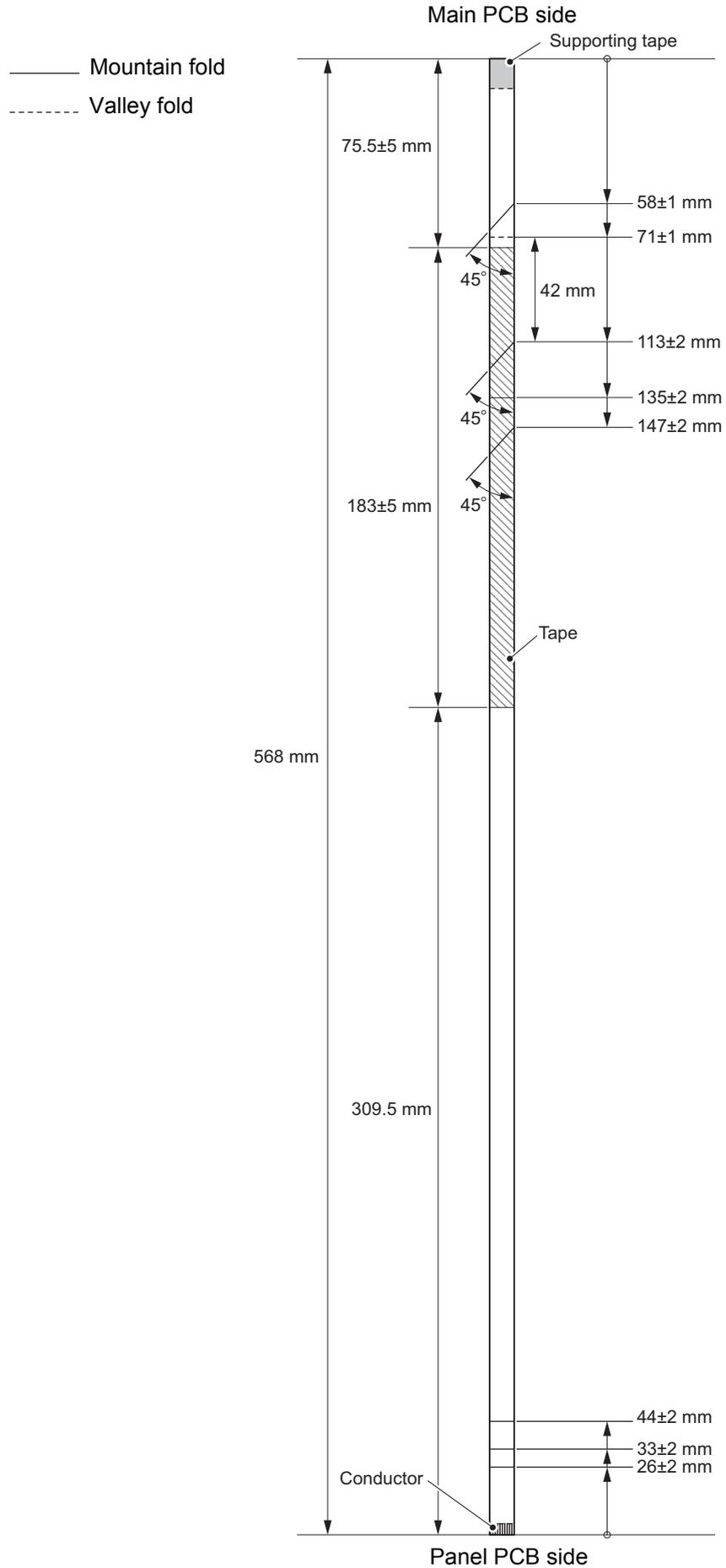


Fig. 3-37

■ For BASE models

(1) **Wiring** > Panel FFC

- 🔧 **Fixtures & Fittings**
 - Double-sided tape (x 1)

(2) **Remove** > Panel PCB

- 🔧 **Fixtures & Fittings**
 - Hook (x 2)

(3) **Disconnect** > LCD FFC, Panel FFC

- 🔧 **Fixtures & Fittings**
 - Lock (x 1)

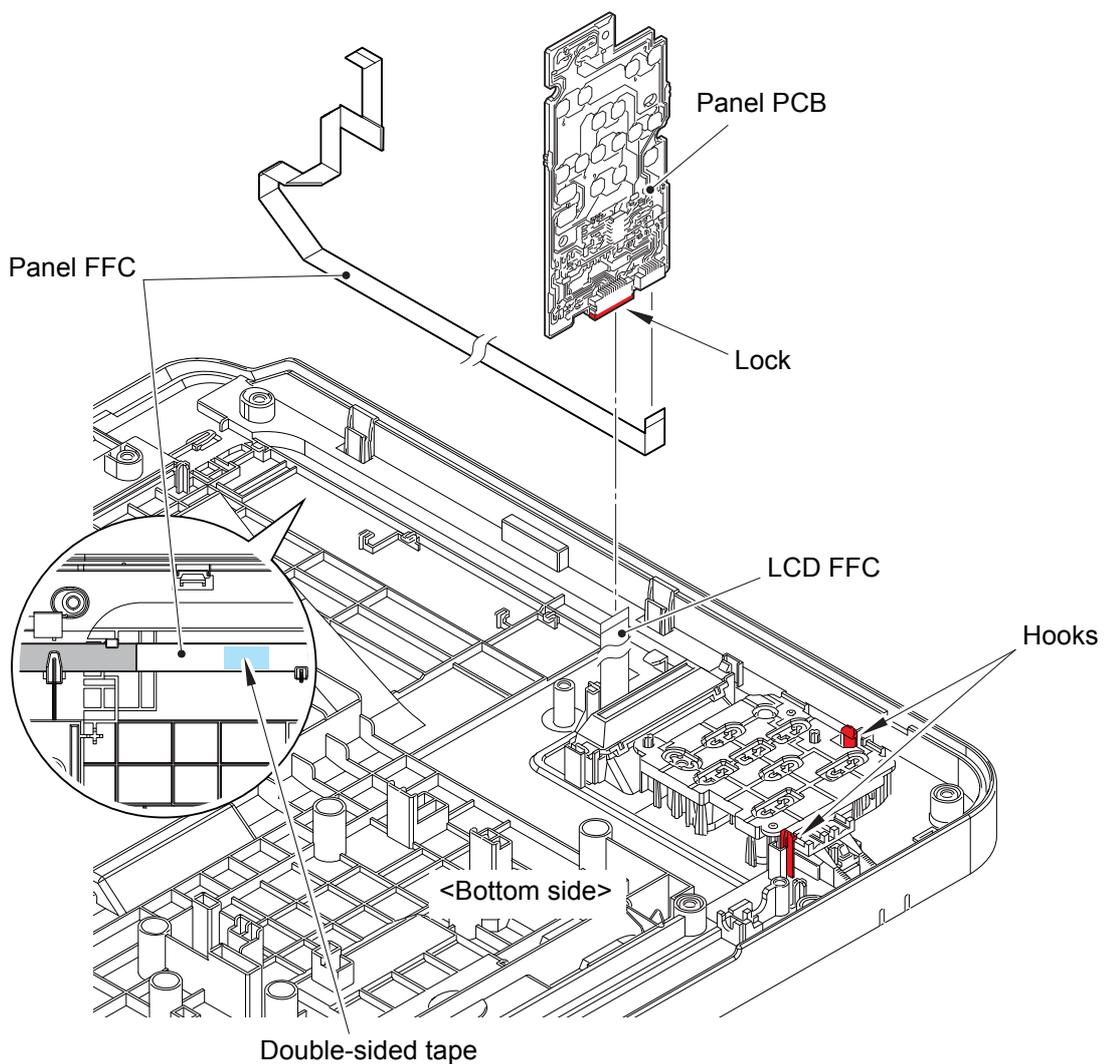


Fig. 3-38

Harness routing: Refer to "23. Panel FFC (For BASE models)".

<How to fold the Panel FFC>

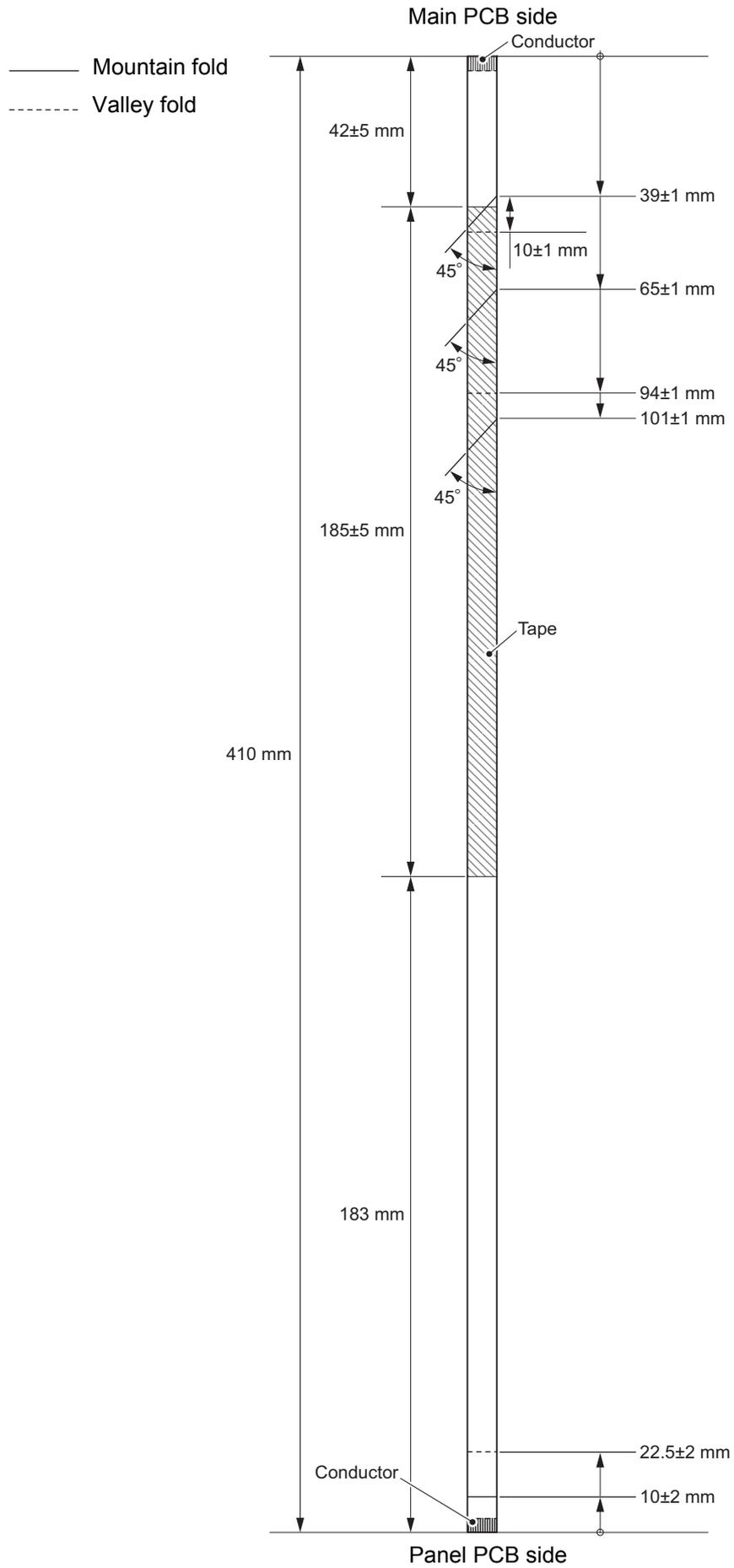


Fig. 3-39

8.16 LCD, LCD sheet (Only for BASE models)

■ For FS and STEP models

(1) Remove > LCD back film, LCD

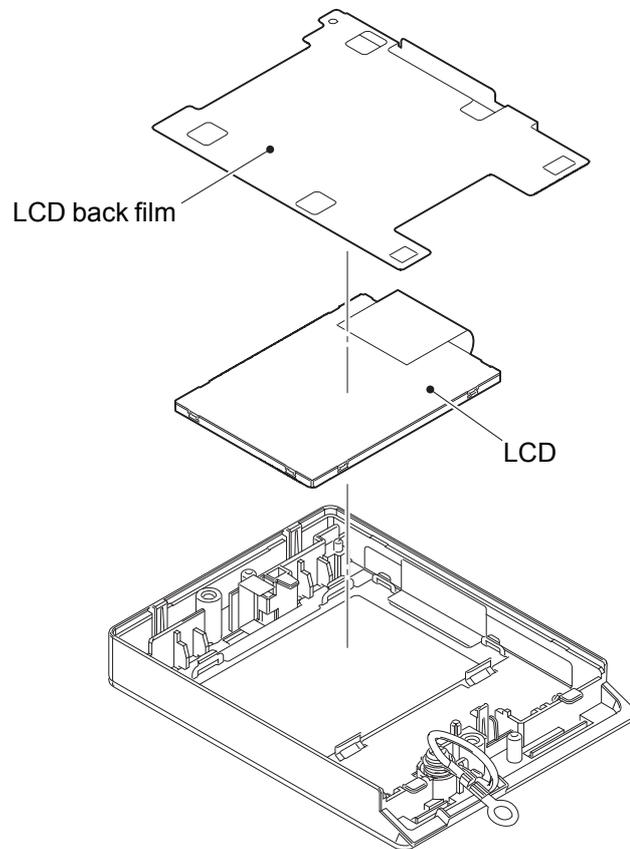


Fig. 3-40

■ For BASE models

(1) **Remove** > LCD holder

 **Fixtures & Fittings**
- Hook (x 2)

(2) **Remove** > LCD back sheet, LCD

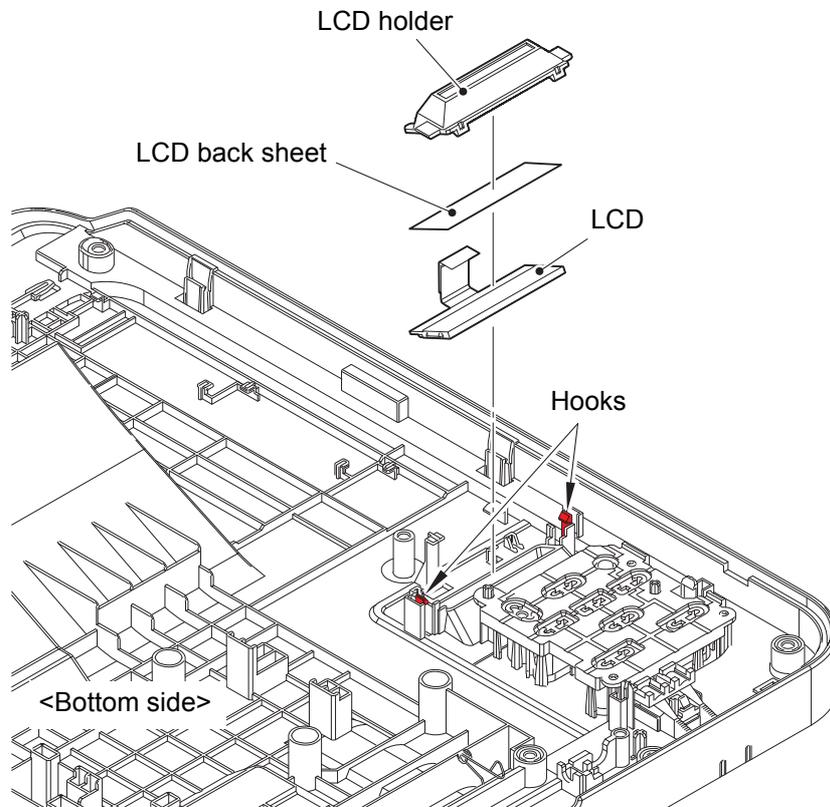


Fig. 3-41

(3) **Remove** > LCD sheet

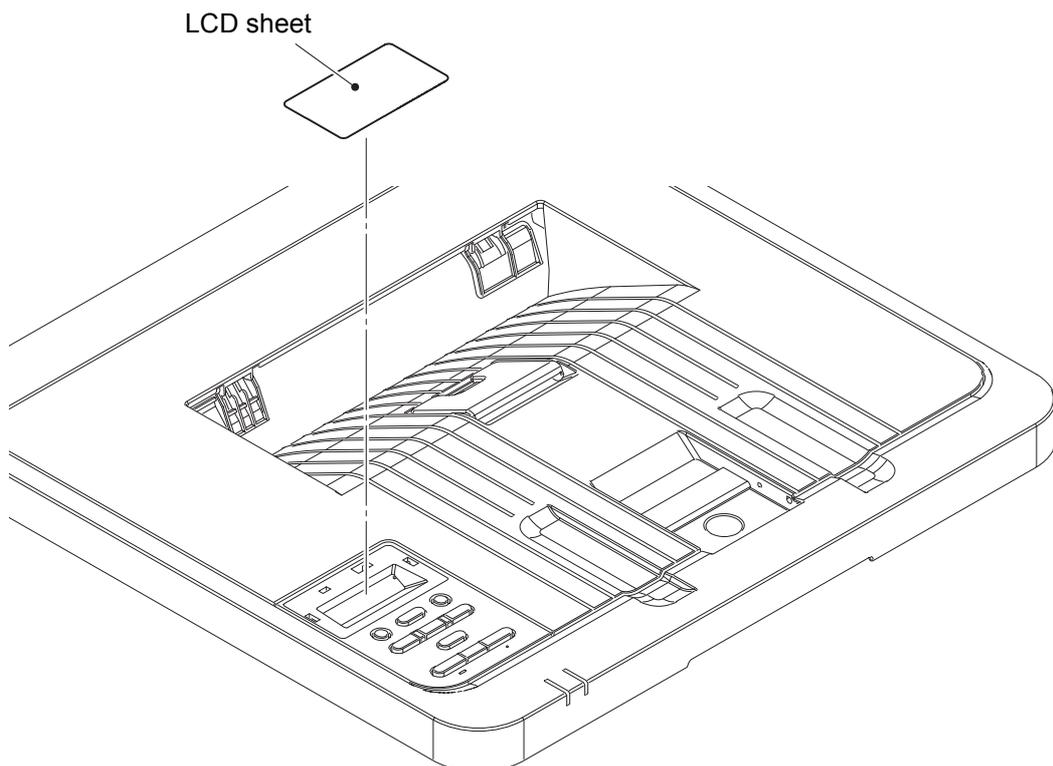


Fig. 3-42

8.17 Touch panel (Only for FS and STEP models)

(1) **Remove** > Shield plate

 **Fixtures & Fittings**
- Hook (x 4)

(2) **Remove** > Touch panel

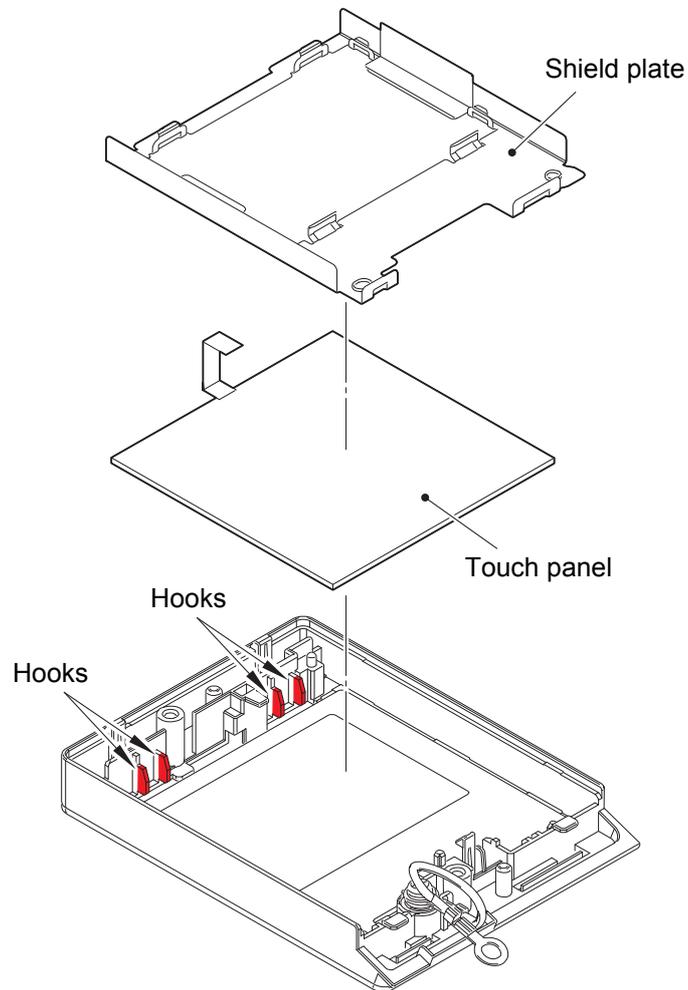


Fig. 3-43



Assembling note:

- If you replaced the Touch panel, refer to "4. IF YOU REPLACE THE LCD, PANEL UNIT OR PANEL PCB" in Chapter 4 to configure settings.

8.18 NFC PCB (Only for FS models)

(1) **Remove** > NFC PCB

 **Fixtures & Fittings**
- Hook (x 1)

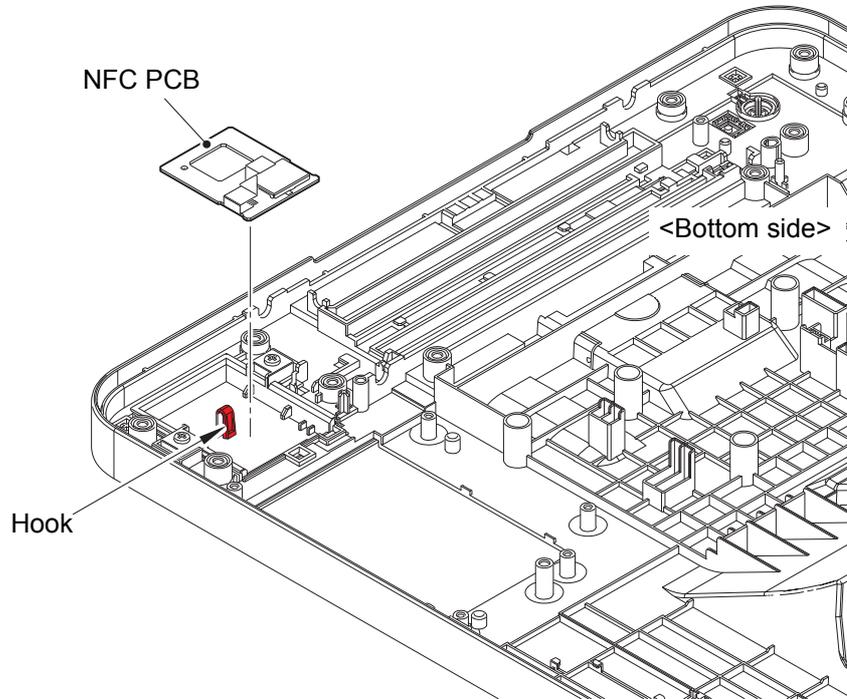


Fig. 3-44

<How to fold the NFC FFC>

- Mountain fold
- Valley fold

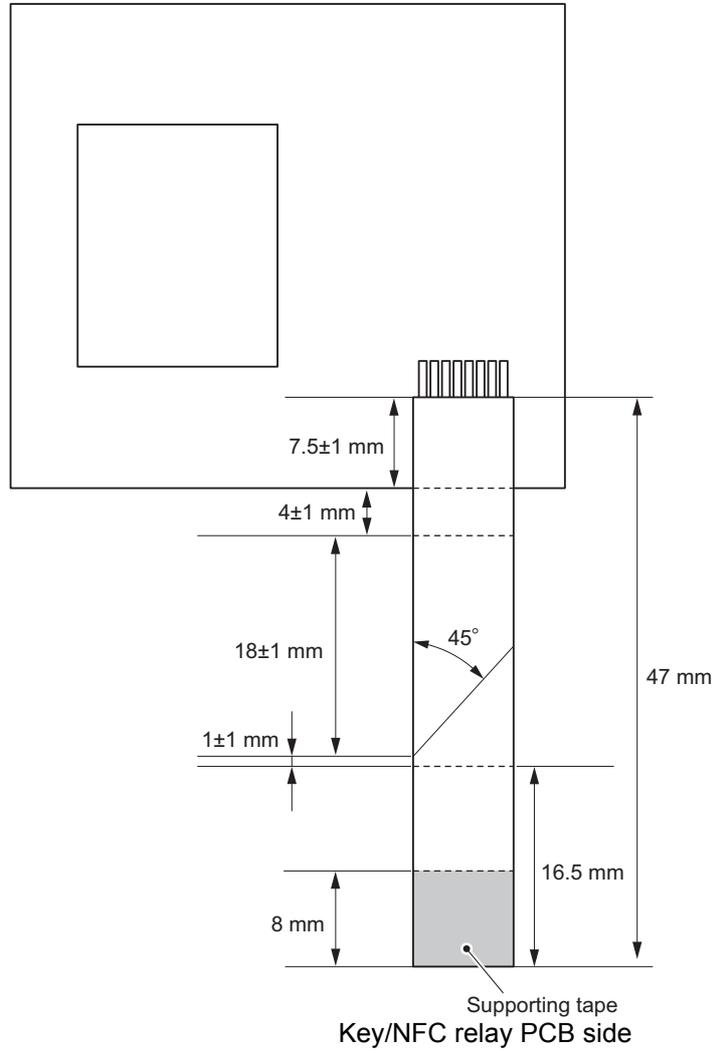


Fig. 3-45

8.19 Paper stopper

(1) **Remove** > Paper stopper

 **Fixtures & Fittings**
- Boss (x 2)

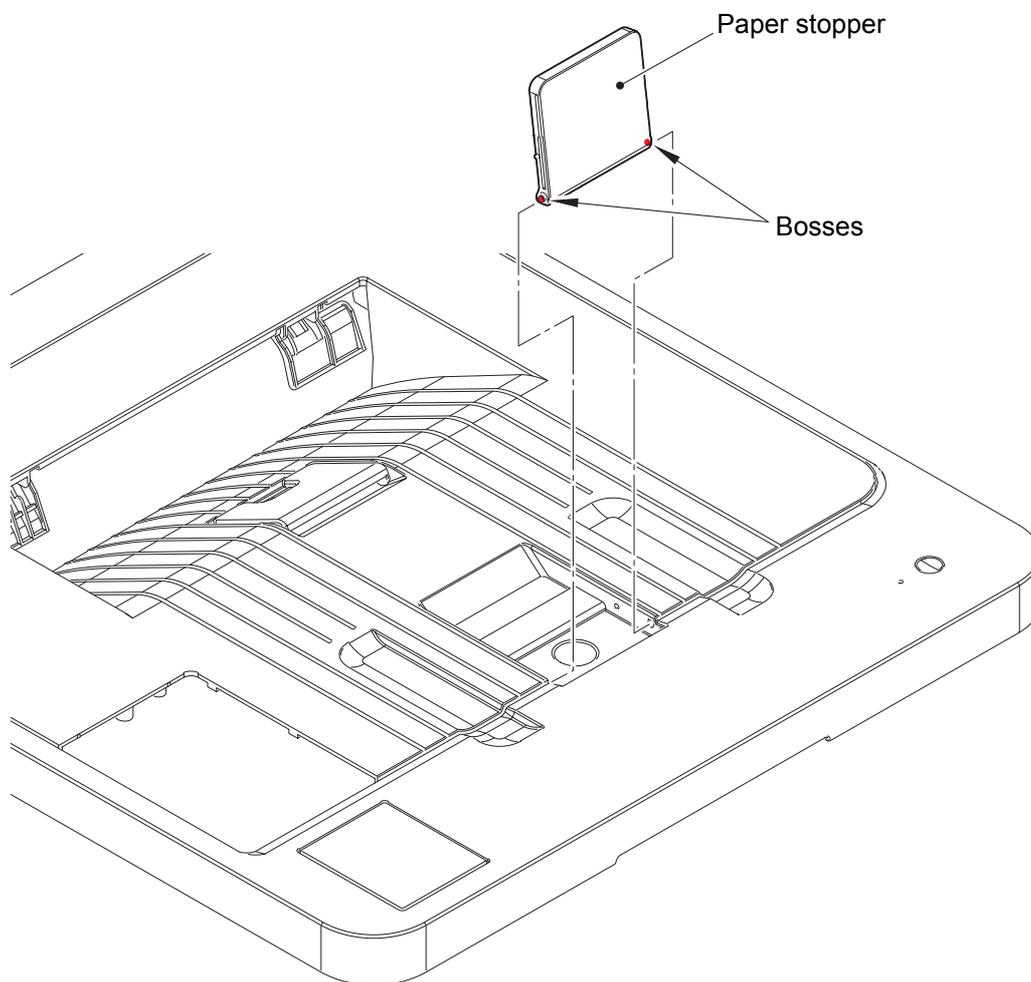


Fig. 3-46

8.20 LED control PCB



Note:

- When disassembling/assembling the LED unit, attach it to the machine to prevent breakage of the LED ASSYs.

(1) **Remove** > LED shield plate



Fixtures & Fittings

- Screw cup M3x8 SR (x 2)

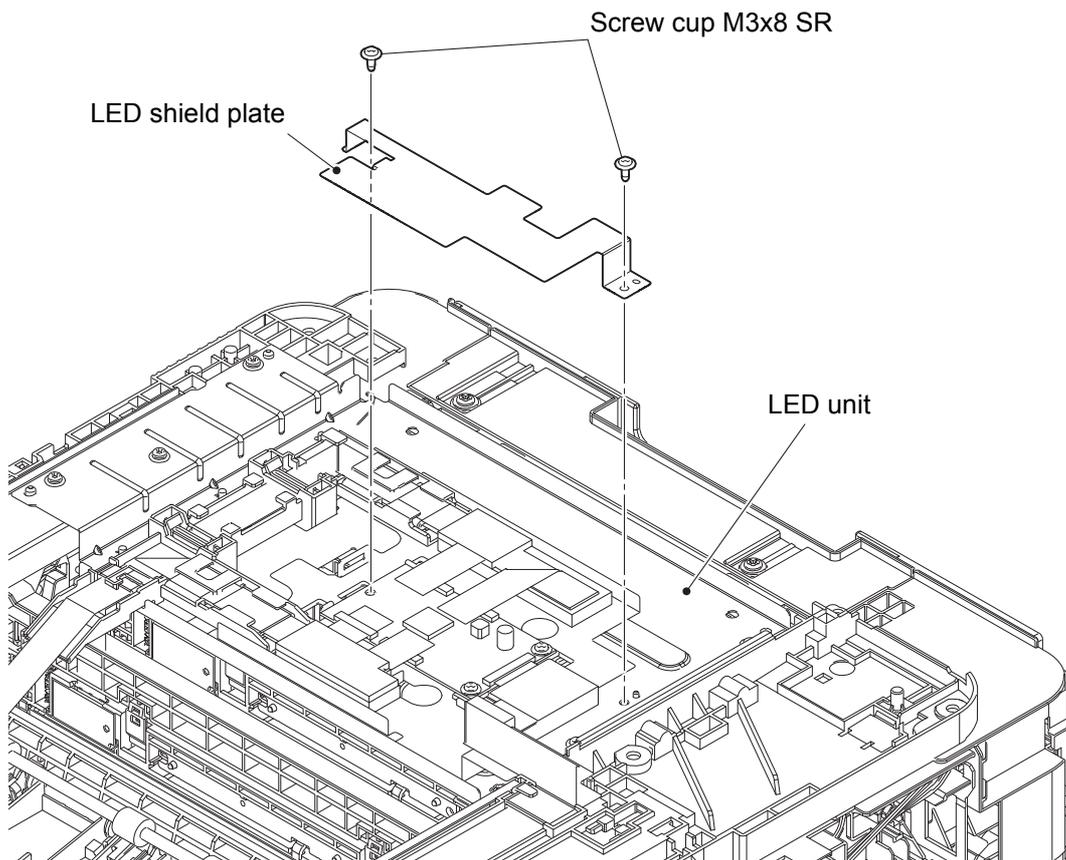


Fig. 3-47

(2) **Disconnect** > LED FFC Y/M/C/K, LED control FFC

- Fixtures & Fittings**
- Lock (x 5)

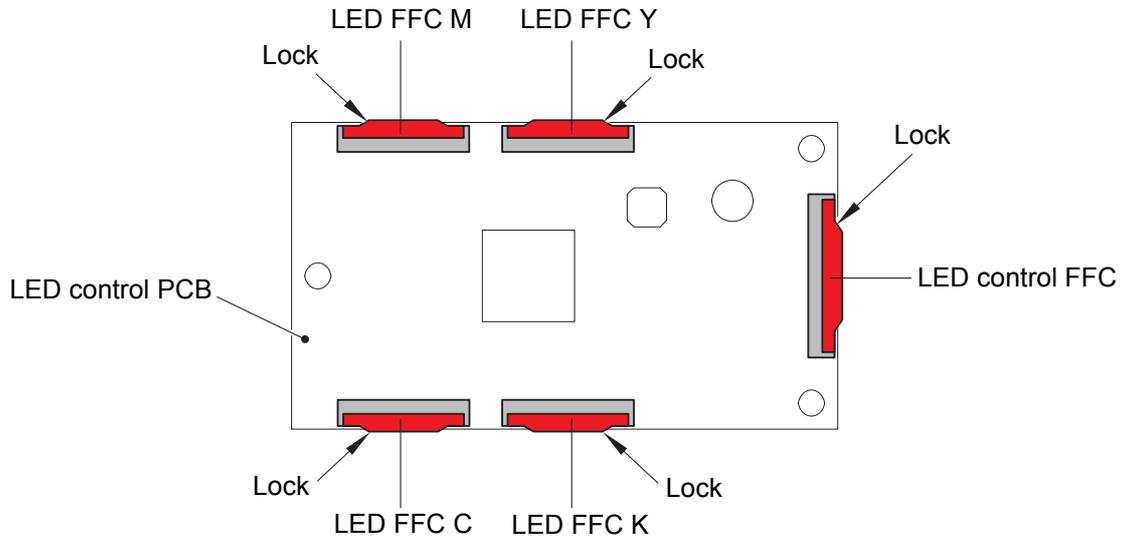


Fig. 3-48

(3) **Remove** > LED control PCB

- Fixtures & Fittings**
- Screw cup M3x8 SR (x 2)

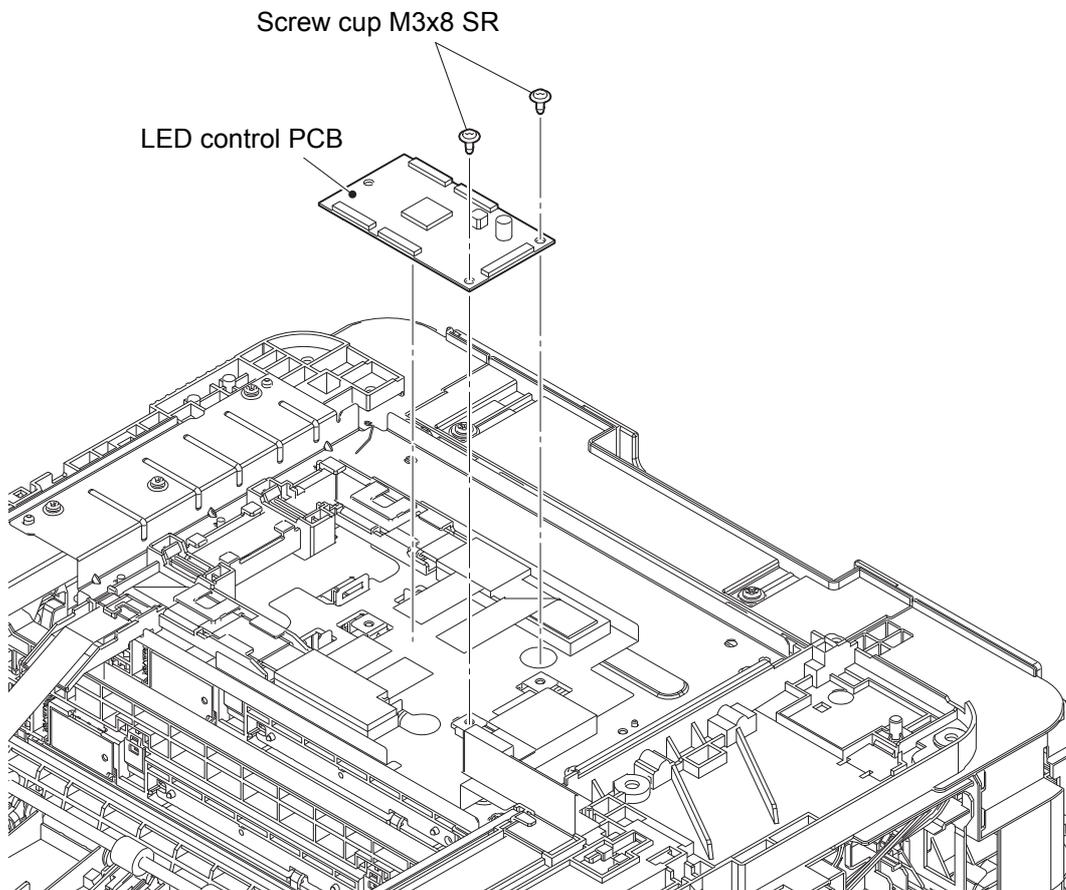


Fig. 3-49

8.21 LED control FFC

- (1) **Wiring** > LED control FFC



Point:

- Release the two Flat cores from the securing fixtures.

- (2) **Remove** > Flat core (x 2)

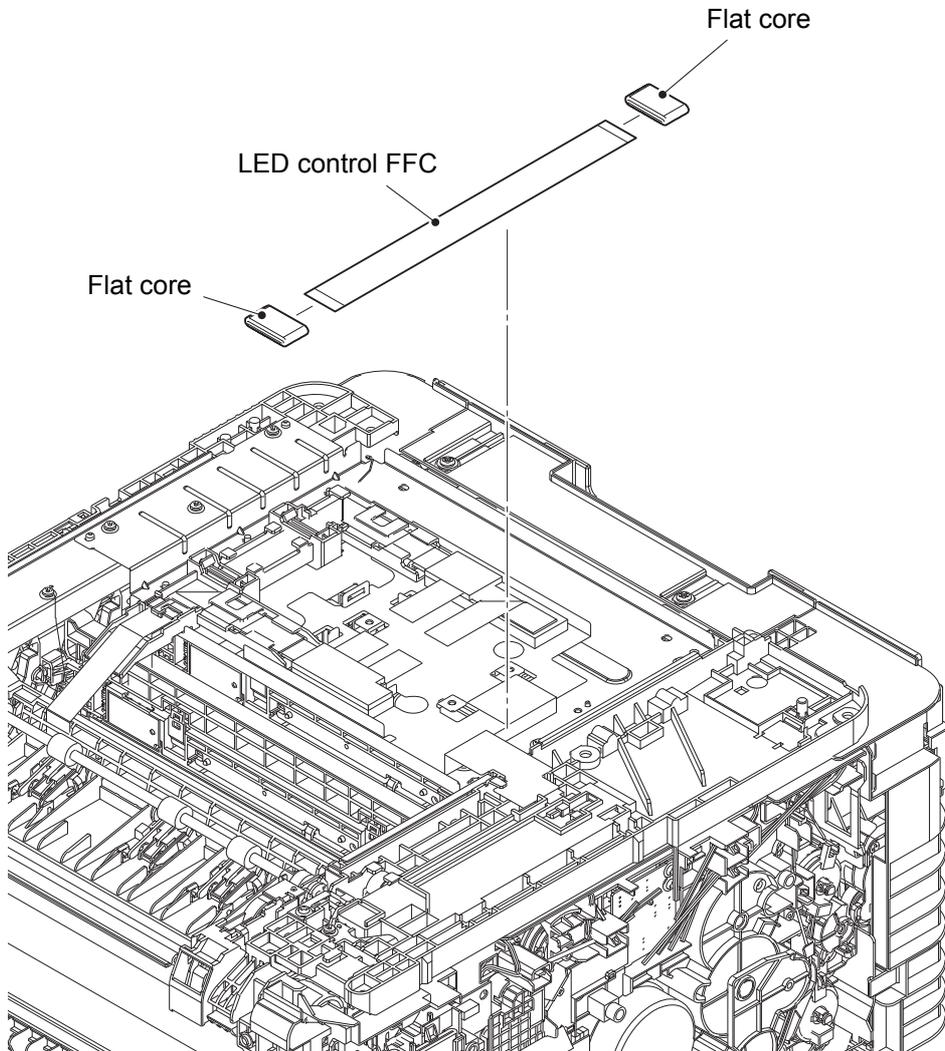


Fig. 3-50

Harness routing: Refer to "15. LED control FFC, LED FG harness".

<How to fold the LED control FFC>

- Mountain fold
- Valley fold

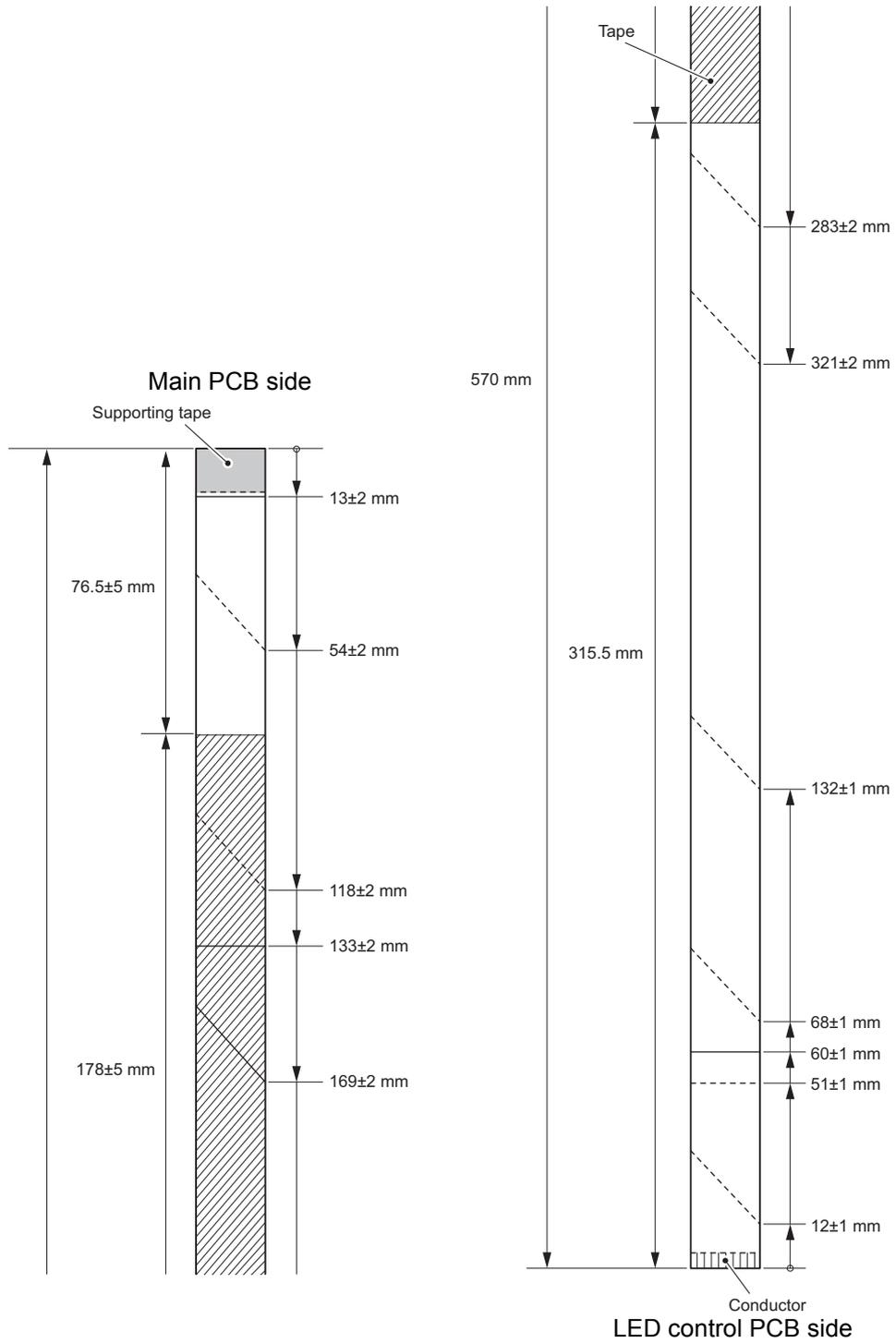


Fig. 3-51

8.22 LED ASSY (Y/M/C/K) / LED FFC (Y/M/C/K) / LED FFC sponges

(1) **Wiring** > LED FFC K



Point:

- Pull out the LED FFC K through the two Flat cores iv/vii on the LED FFC holder.

(2) **Wiring** > LED FFC M



Point:

- Pull out the LED FFC M through the two Flat cores ii/vi on the LED FFC holder.

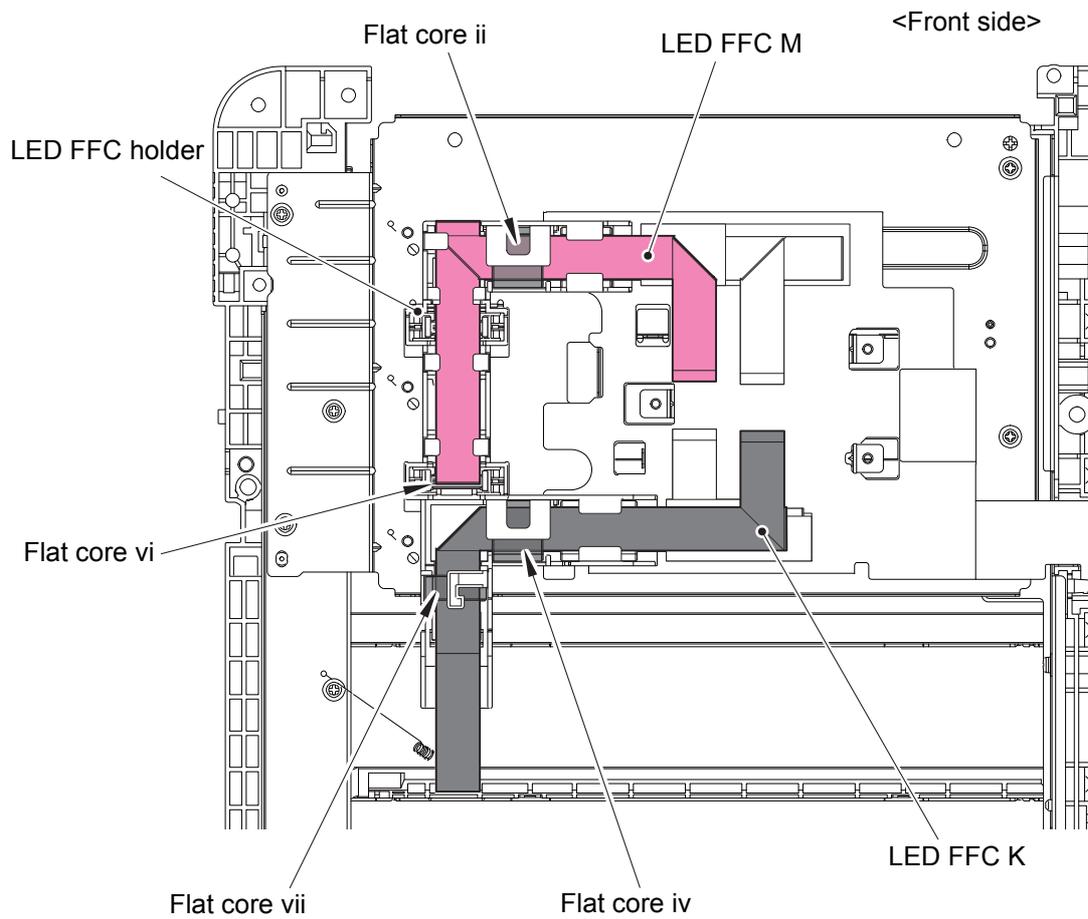


Fig. 3-52

Harness routing: Refer to "16. LED FFC Y/M/C/K".

- (3) **Remove** > LED FFC sponge 7, LED FFC sponge 6, LED FFC sponge 5, LED FFC sponge 4, LED FFC sponge 3

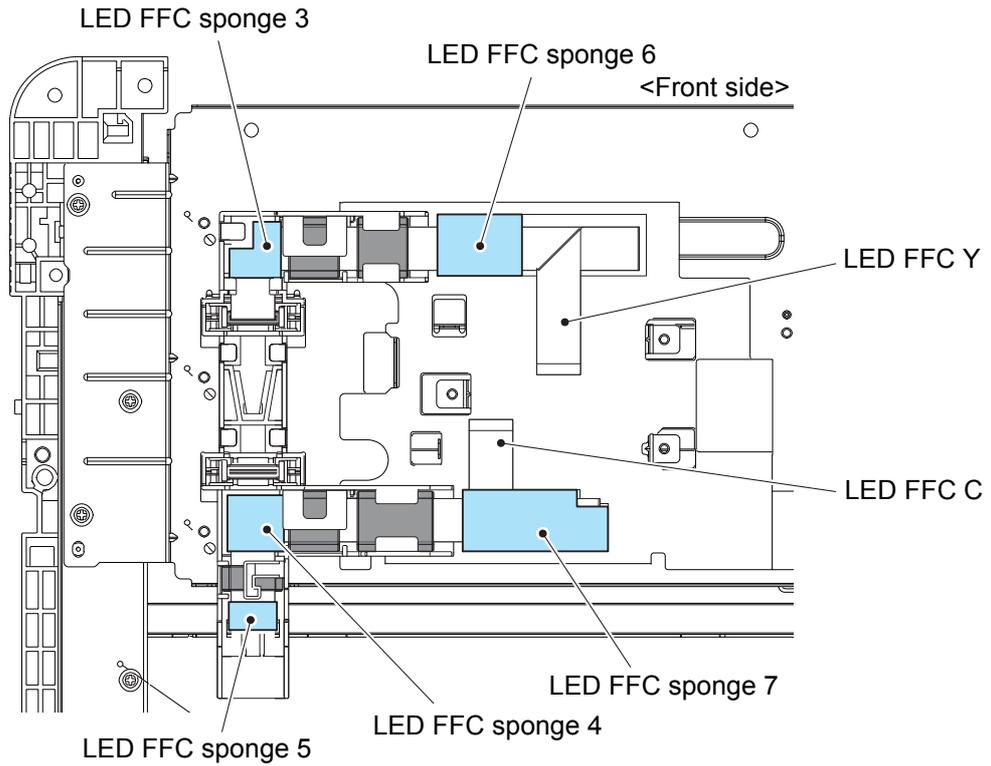


Fig. 3-53



Assembling note:

- Once the LED FFC sponge is removed from the LED FFC, replace it with a new one.
- Attach the LED FFC sponges 3 and 6 to the LED FFC Y, and attach the LED FFC sponges 4, 5, and 7 to the LED FFC C as shown in the figure above.

(4) **Wiring** > LED FFC C

 **Point:**
• Pull out the LED FFC C through the Flat core iii on the LED FFC holder and the hole.

(5) **Wiring** > LED FFC Y

 **Point:**
• Pull out the LED FFC Y through the two Flat cores i/v on the LED FFC holder.

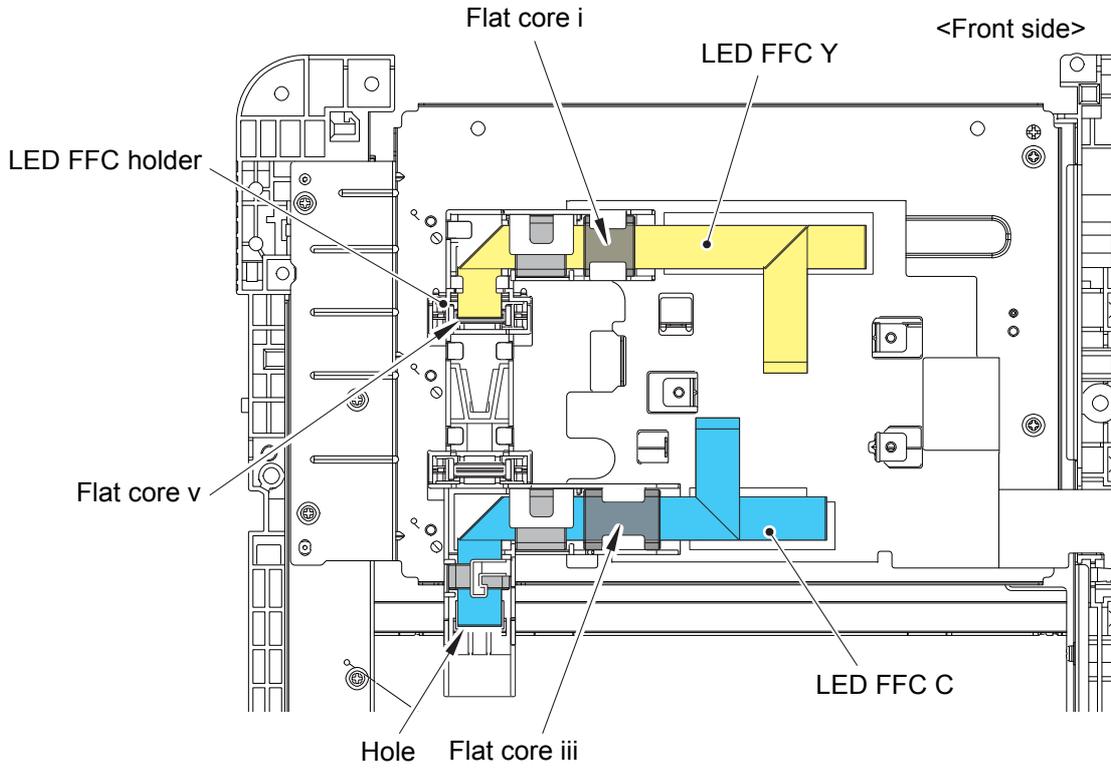


Fig. 3-54

Harness routing: Refer to "16. LED FFC Y/M/C/K".

(6) **Remove** > LED PCB insulation sheet

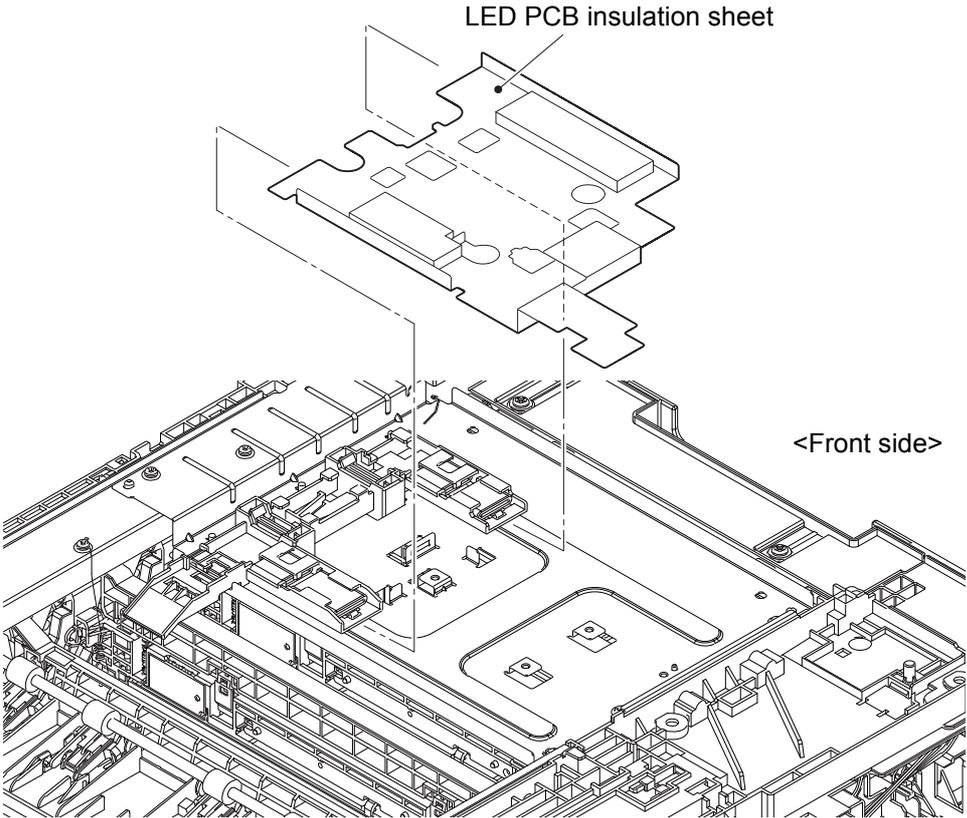


Fig. 3-55

(7) **Remove** > LED unit



Point:

- Refer to the disassembly procedure "8.10 Top cover ASSY".

(8) **Remove** > LED holder hook (x 2)



Fixtures & Fittings

- One Hook for each LED holder hook



Point:

- Be sure to stand the LED ASSYs up.

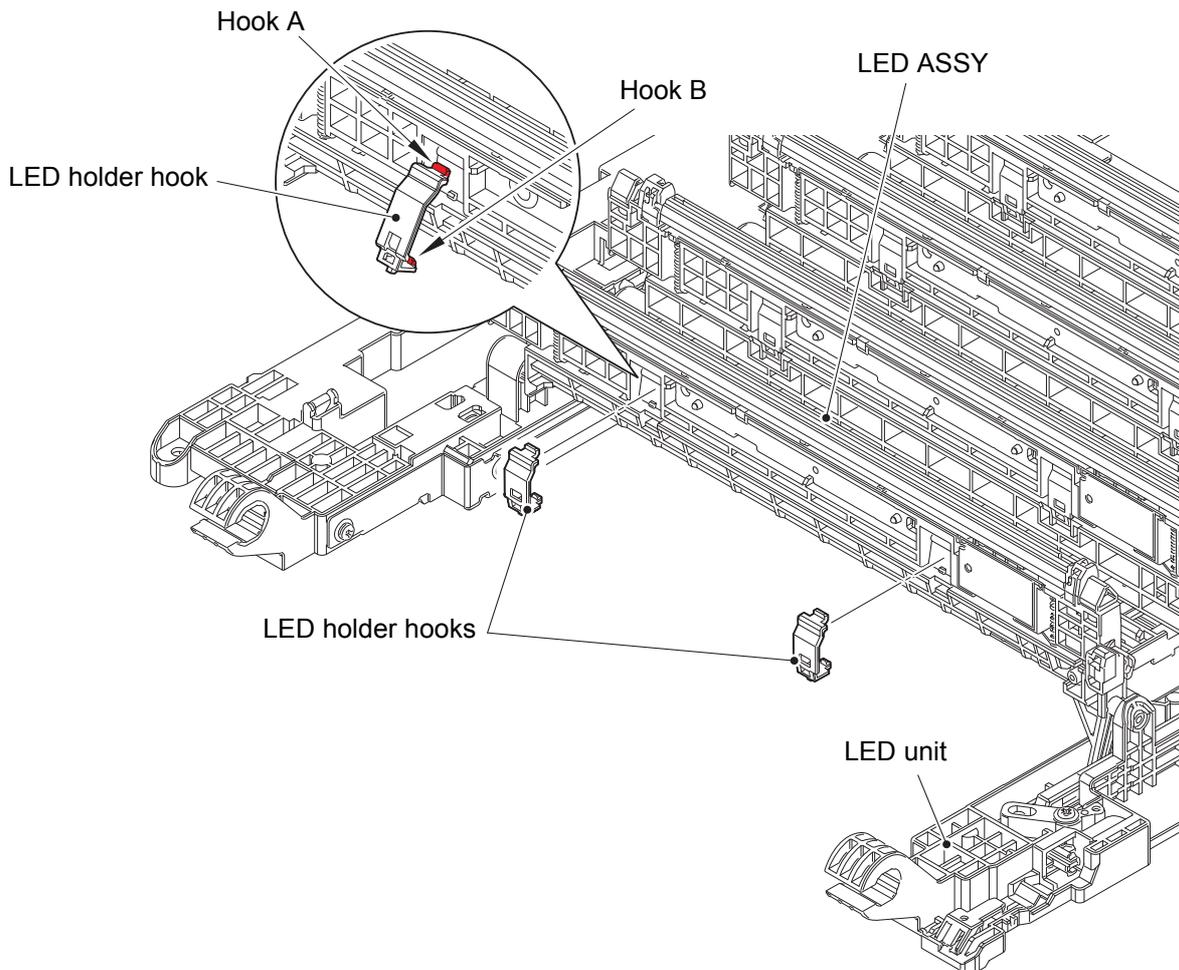


Fig. 3-56



Assembling note:

- When assembling the LED holder hook, make sure to insert the Hook A of the LED holder hook into the groove of the LED ASSY first, and then assemble the Hook B of the LED holder hook.
- After assembling, make sure to check that the Hook A is firmly engaged to the LED ASSY. If the LED holder hook is not engaged firmly, it might cause an image failure.

(9) **Remove** > LED ASSY

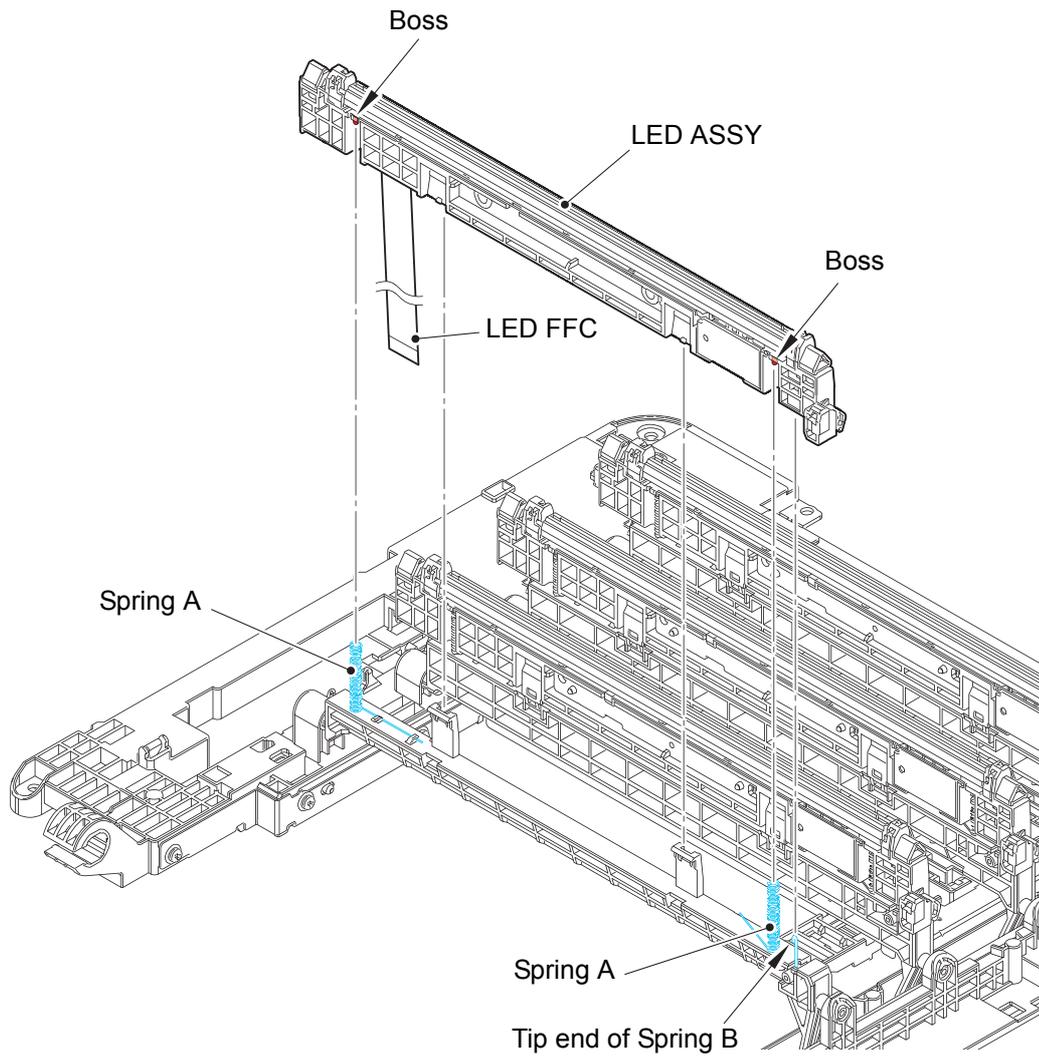


Fig. 3-57



Assembling note:

- When assembling the LED ASSY, insert the two Springs A into each Boss of the LED ASSY and insert the tip end of Spring B in the Hole of the LED ASSY.

(10) **Remove** > LED control FFC cover

-  **Fixtures & Fittings**
 - Hook (x 2)

(11) **Disconnect** > LED FFC

-  **Fixtures & Fittings**
 - Lock (x 1)

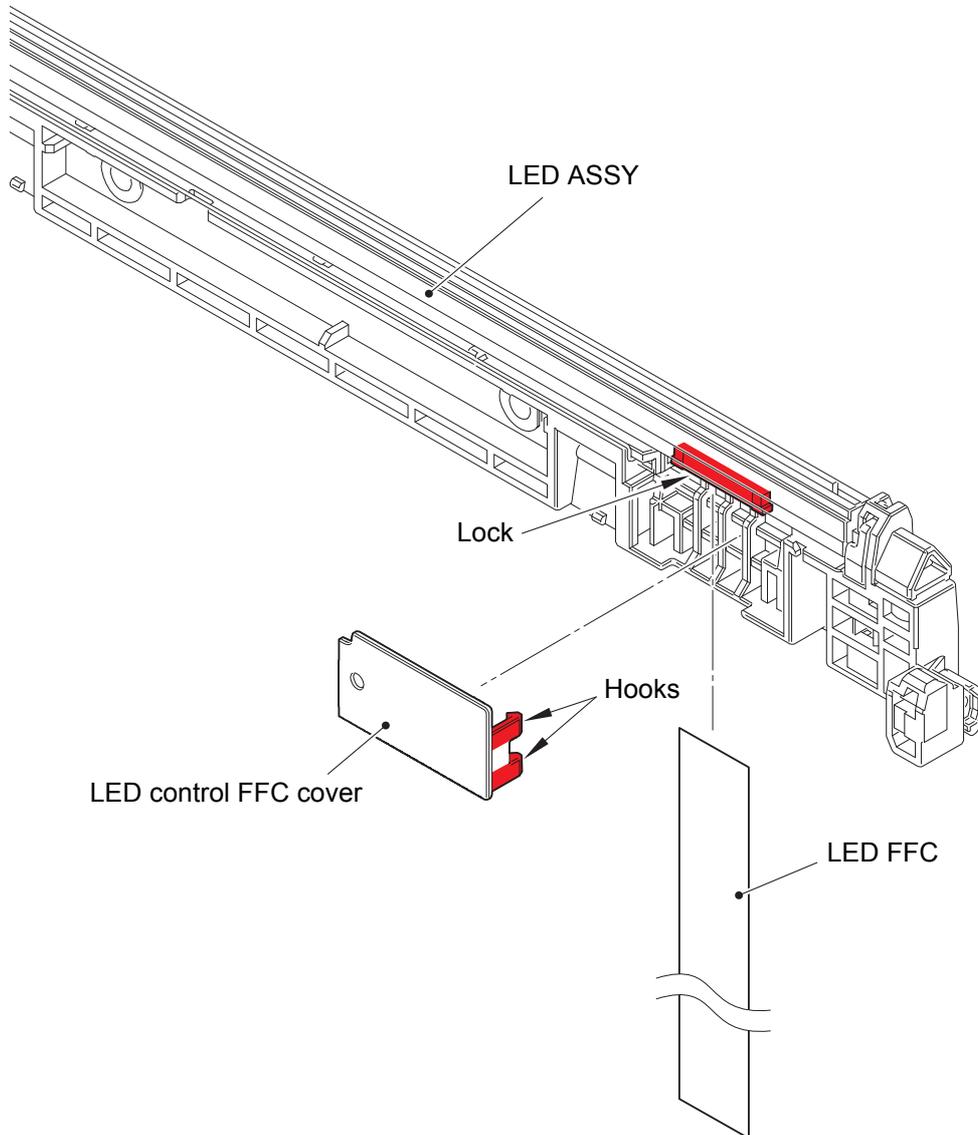
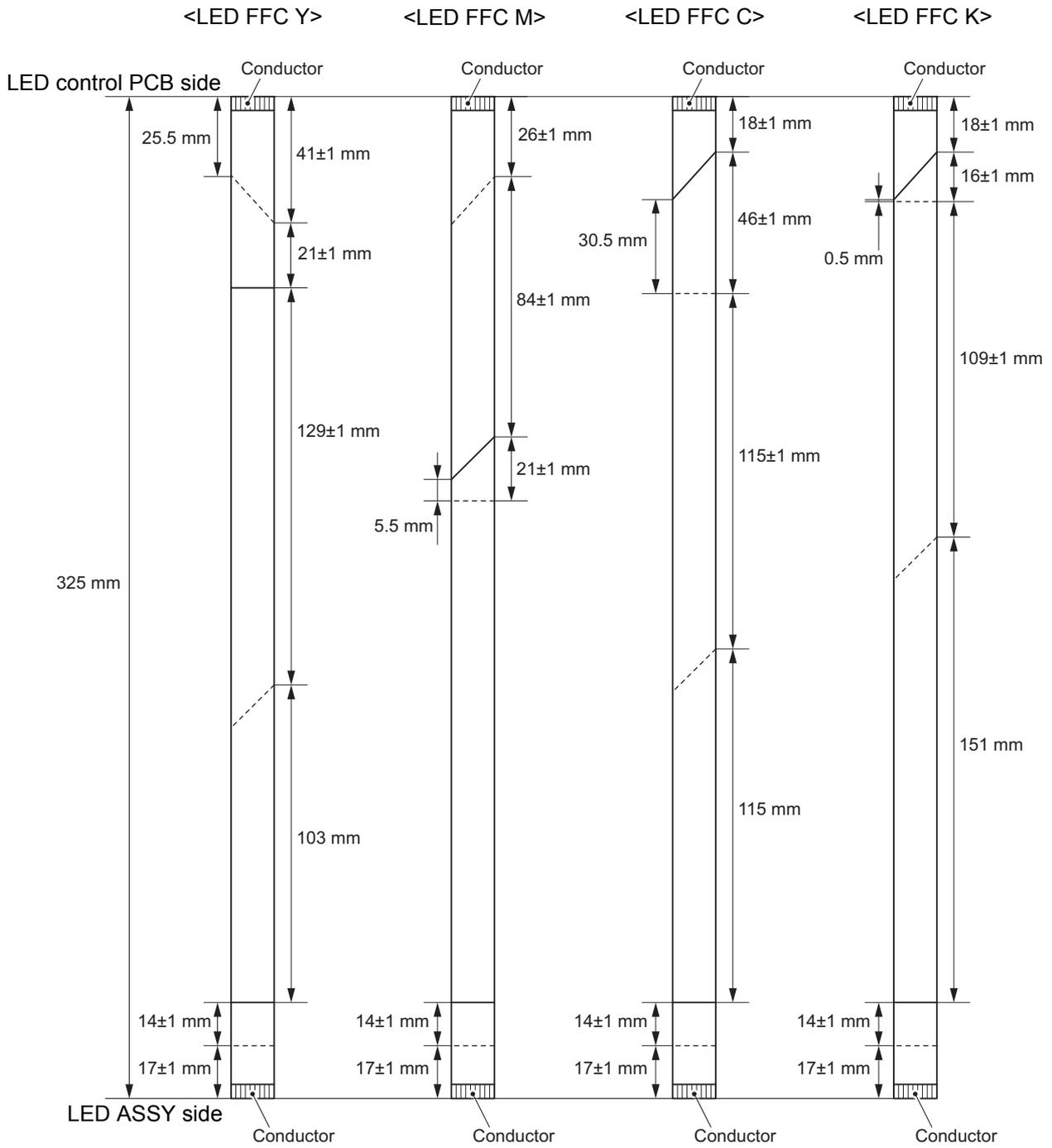


Fig. 3-58

<How to fold the LED FFC Y/M/C/K>

—— Mountain fold
 - - - - - Valley fold



The angle of the diagonal fold is 45°.

Fig. 3-59

(12) **Remove** > LED weight plate



Fixtures & Fittings

- Screw cup M3x8 SR (x 2)



Point:

- Remove the LED weight plate only for models with the LED weight plate on the LED ASSY.

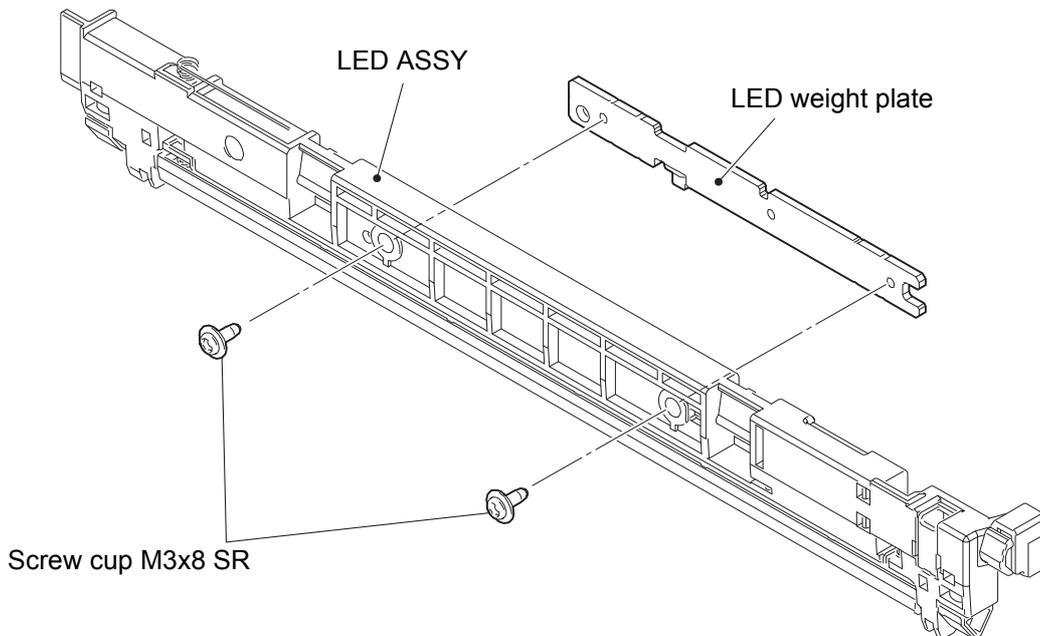


Fig. 3-60



Assembling note:

- The LED parts of the LED ASSY for replacement are covered with protection tapes. Make sure not to remove the protection tapes until assembling of the LED ASSY is completed. After it is assembled, make sure to remove the protection tapes.
- If the LED parts get smeared, make sure to wipe smears on the LED parts with a clean and soft cloth.
- For models with the LED weight plate on the LED ASSY, DO NOT forget to attach the LED weight plate to the spare LED ASSY.
- For models without the LED weight plate on the LED ASSY, DO NOT attach the LED weight plate to the spare LED ASSY.

8.23 MP roller holder ASSY (For models with MP tray)

- (1) **Open** > MP cover ASSY
- (2) **Remove** > MP maintenance cover

-  **Fixtures & Fittings**
- Taptite pan B M4x14 (x 2)

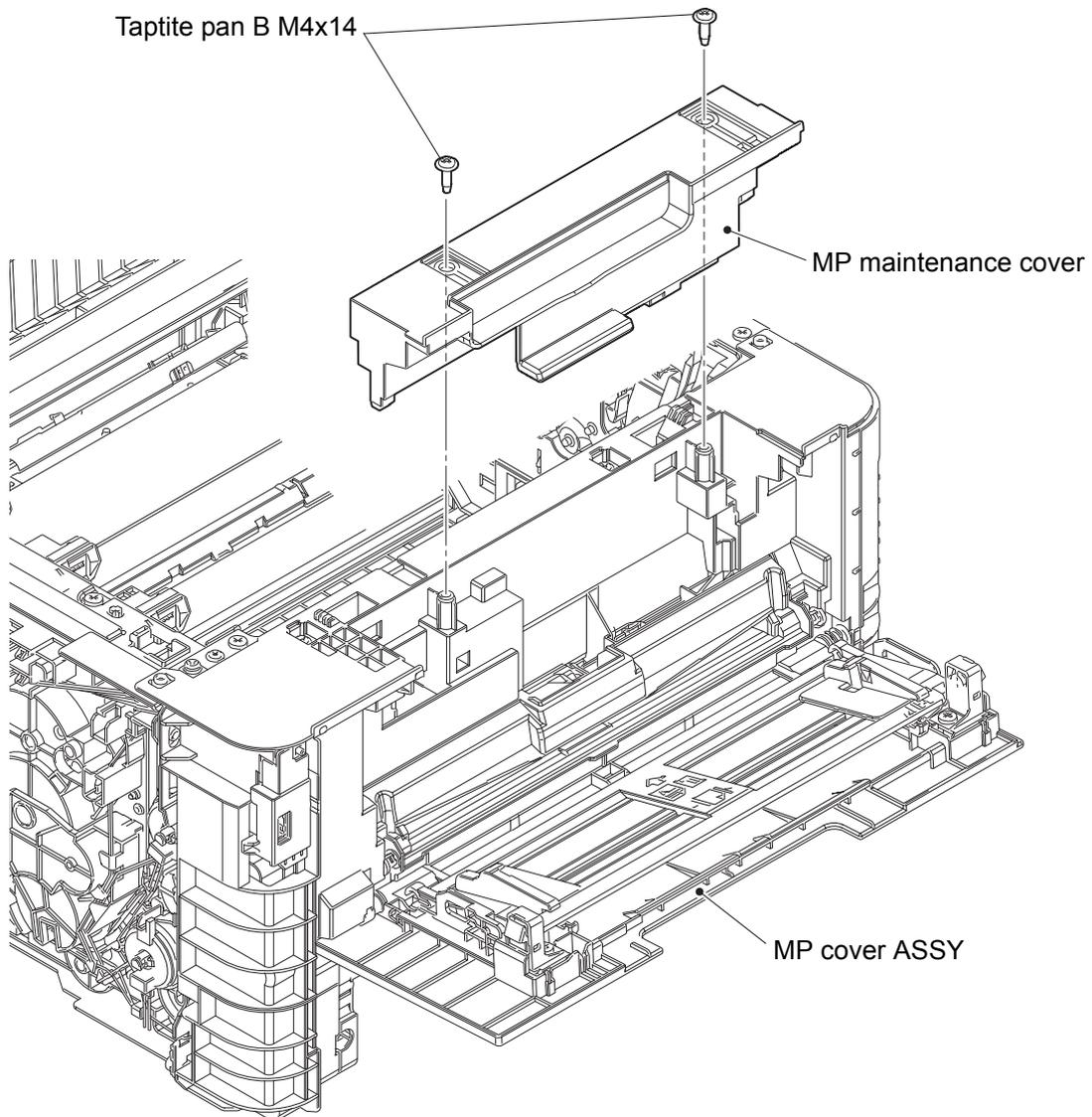


Fig. 3-61

(3) **Slide** > MP holder bushing

 **Fixtures & Fittings**

- Hook (x 1)

(4) **Remove** > MP roller holder ASSY

 **Point:**

- Remove the MP roller holder ASSY in the order of the arrows.

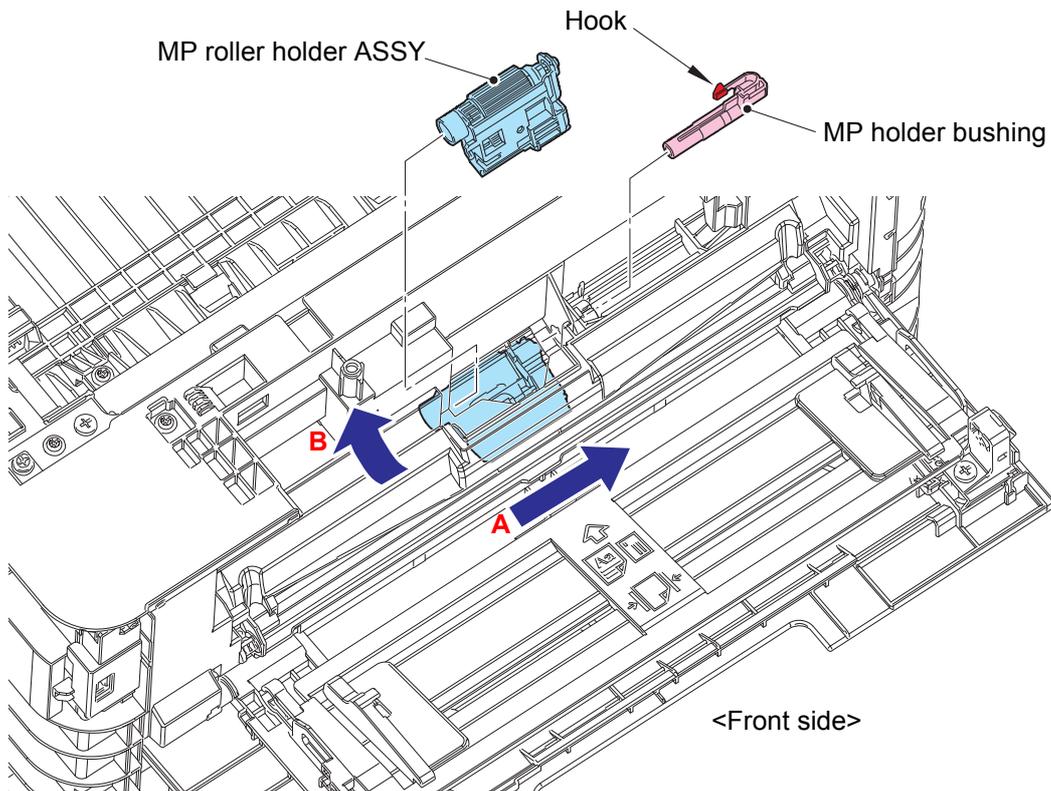


Fig. 3-62



Assembling note:

- After replacing the MP roller holder ASSY, reset the counter.
(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

(5) **Remove** > MP separation pad

 **Fixtures & Fittings**
- Hook (x 2)

 **Point:**
• Turn the MP separation pad upright to remove it upward.

(6) **Remove** > MP separation pad spring

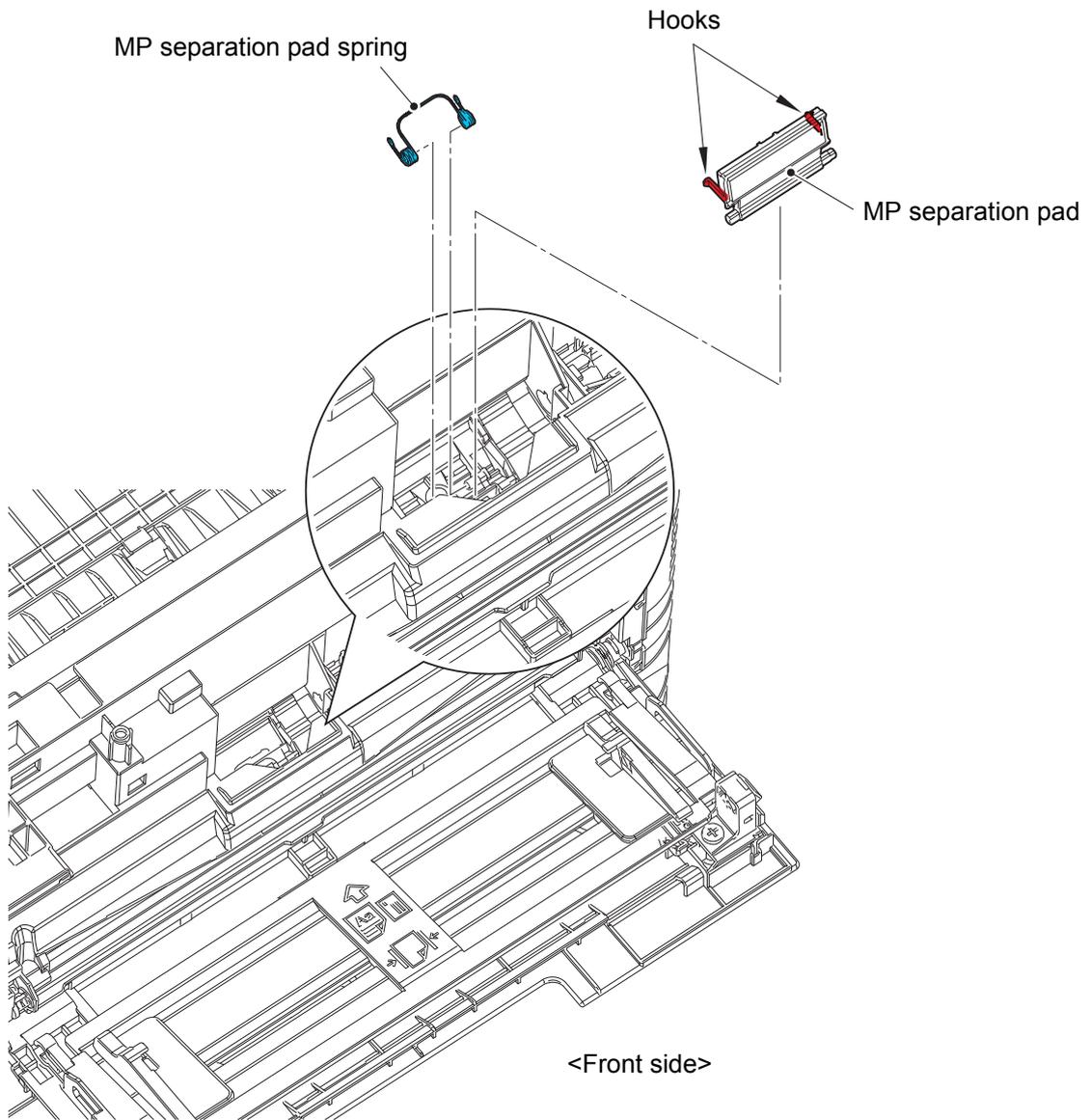


Fig. 3-63

8.24 MP paper guide ASSY (For models with MP tray)

(1) **Remove** > MP paper guide ASSY

 **Fixtures & Fittings**
- Boss (x 2)



Point:

- Remove the MP paper guide ASSY in the direction of the arrow.

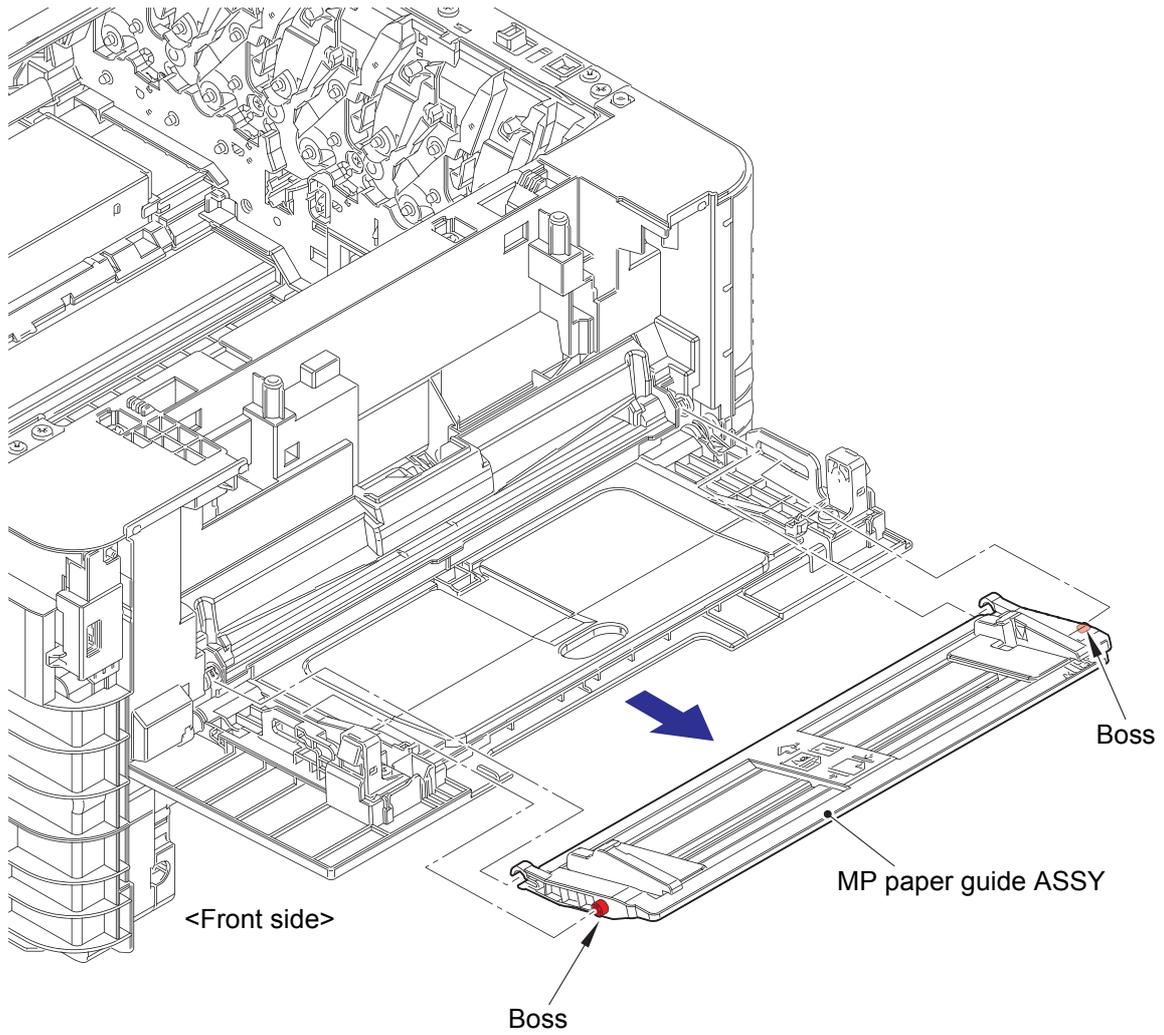


Fig. 3-64

8.25 MP cover ASSY (For models with MP tray)

- (1) **Release** > Hook of MP cover damper spring
- (2) **Remove** > MP cover ASSY



Point:

- Remove the MP cover ASSY in the direction of the arrow.

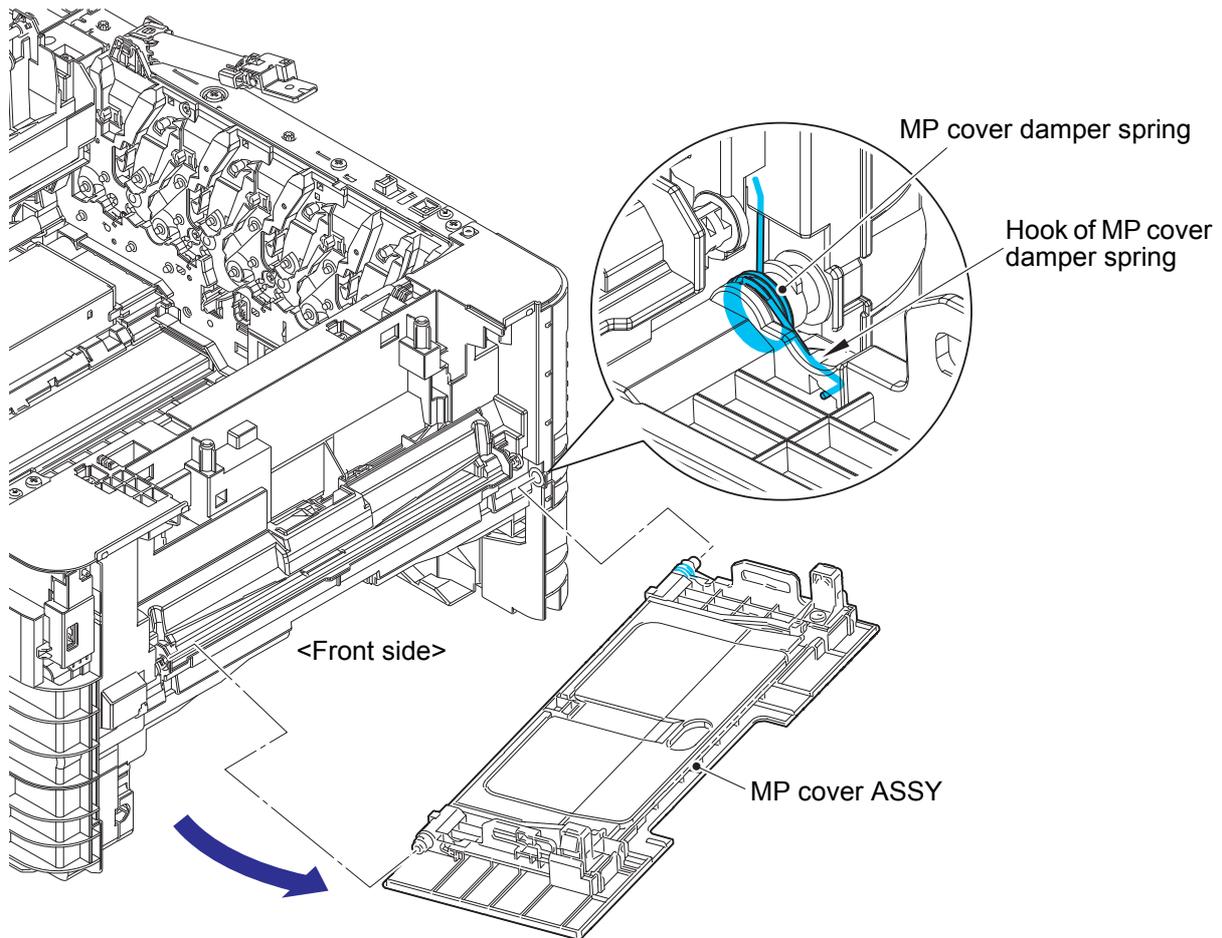


Fig. 3-65

8.26 WLAN PCB

(1) **Remove** > WLAN cap

 **Fixtures & Fittings**
- Hook (x 3)

(2) **Remove** > WLAN PCB

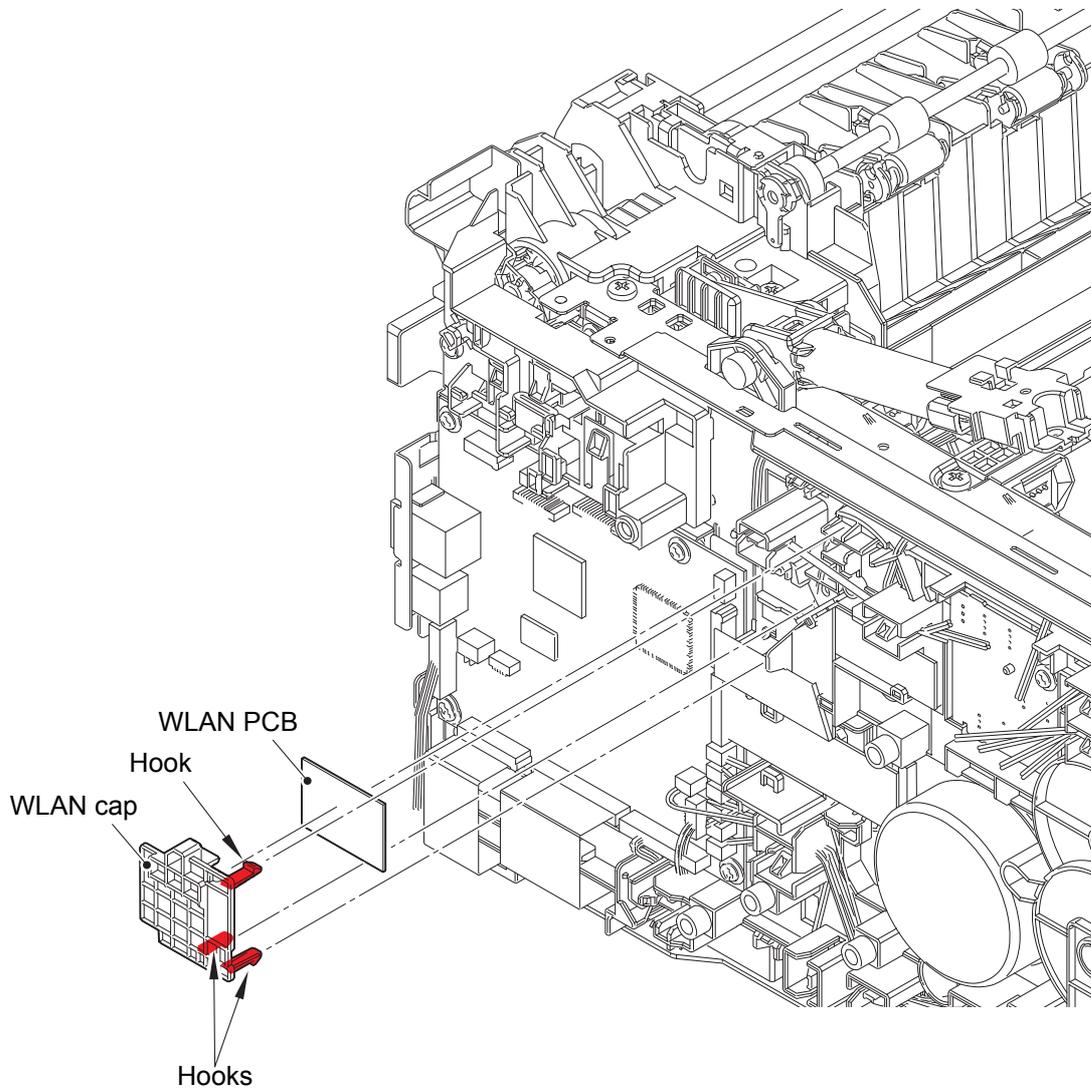


Fig. 3-66

8.27 Main PCB

(1) **Disconnect** > All the harnesses and FFCs

Fixtures & Fittings

- Lock (x 1)

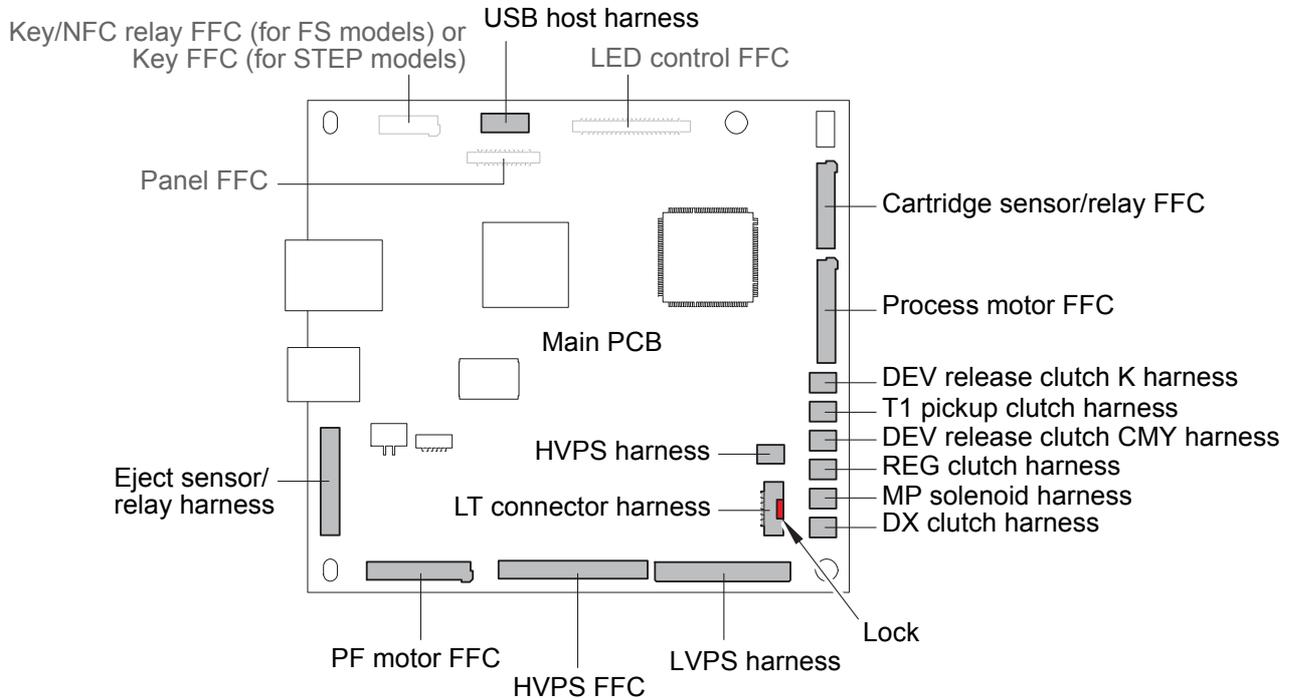


Fig. 3-67



Note:

- After disconnecting flat cables, check that each cable is not damaged at its end or short-circuited.
- When connecting flat cables, do not insert them at an angle. After insertion, check that the cables are not at an angle.

(2) **Remove** > Main PCB

 **Fixtures & Fittings**

- Screw cup M3x8 (x 4)

(3) **Remove** > Main PCB insulation sheet

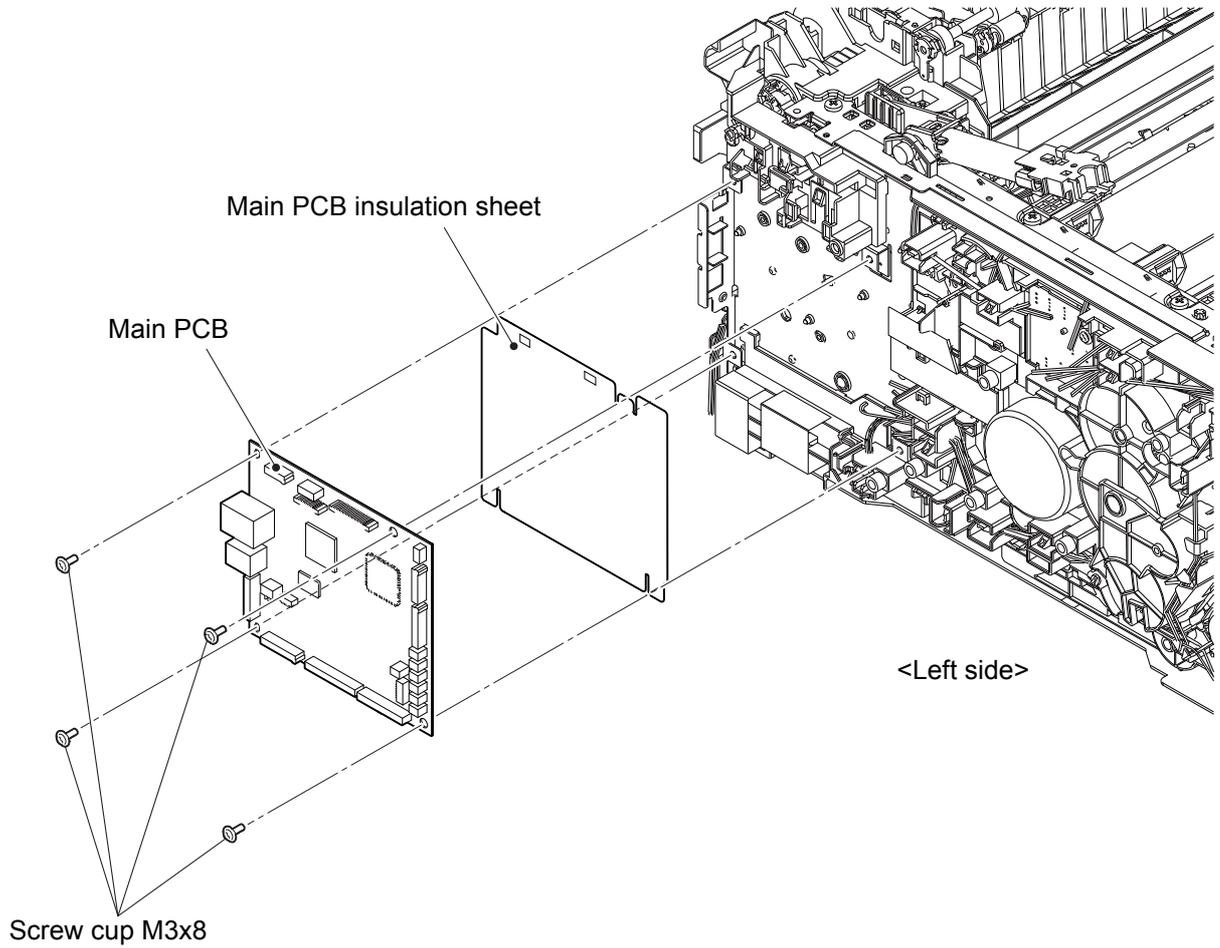


Fig. 3-68

8.28 Harness holder upper

- (1) **Wiring** > USB host harness
- (2) **Remove** > Harness holder upper

 **Fixtures & Fittings**
- Hook (x 2)

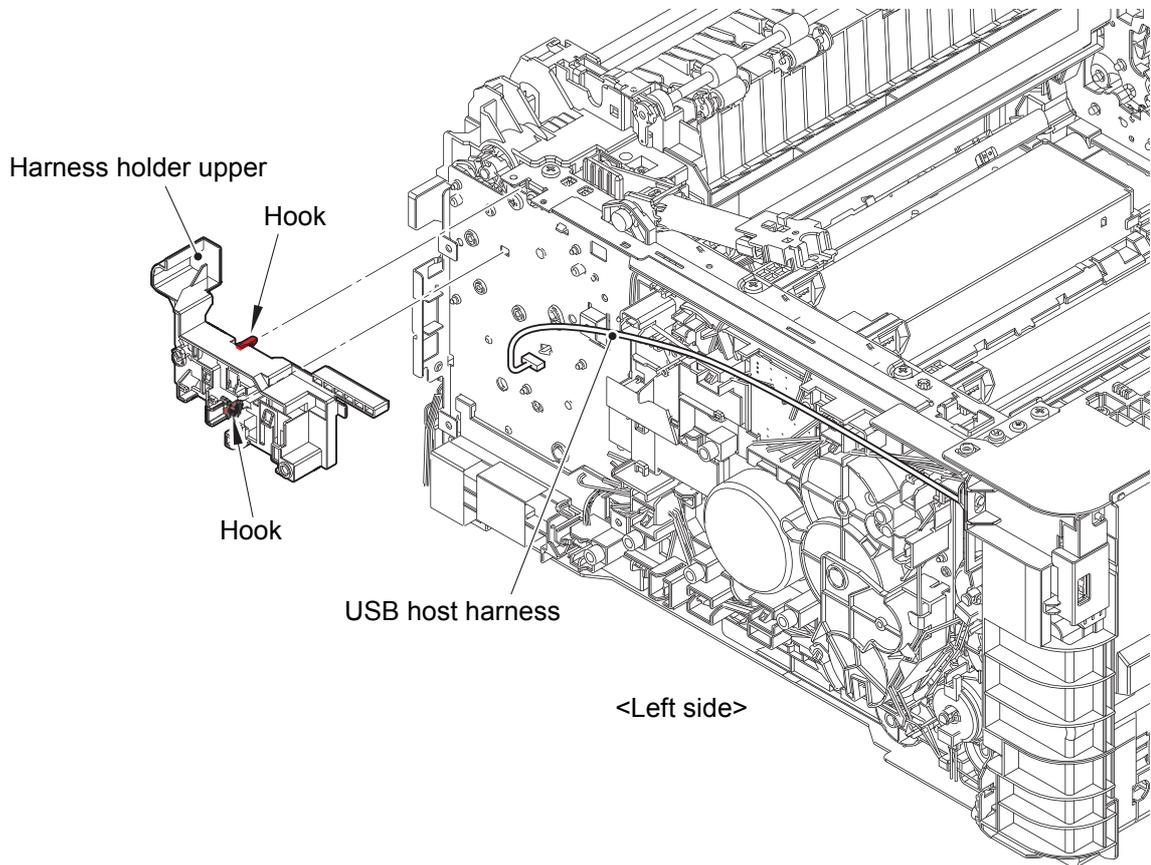


Fig. 3-69

Harness routing: Refer to "31. USB host harness".

8.29 USB host harness

(1) **Remove** > Inner front cover



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Screw bind M3x8 (x 2)
- Taptite pan (washer) B M4x12DA (x 1)
- Hook (x 4)



Point:

- Pull out the USB host harness through the hole.

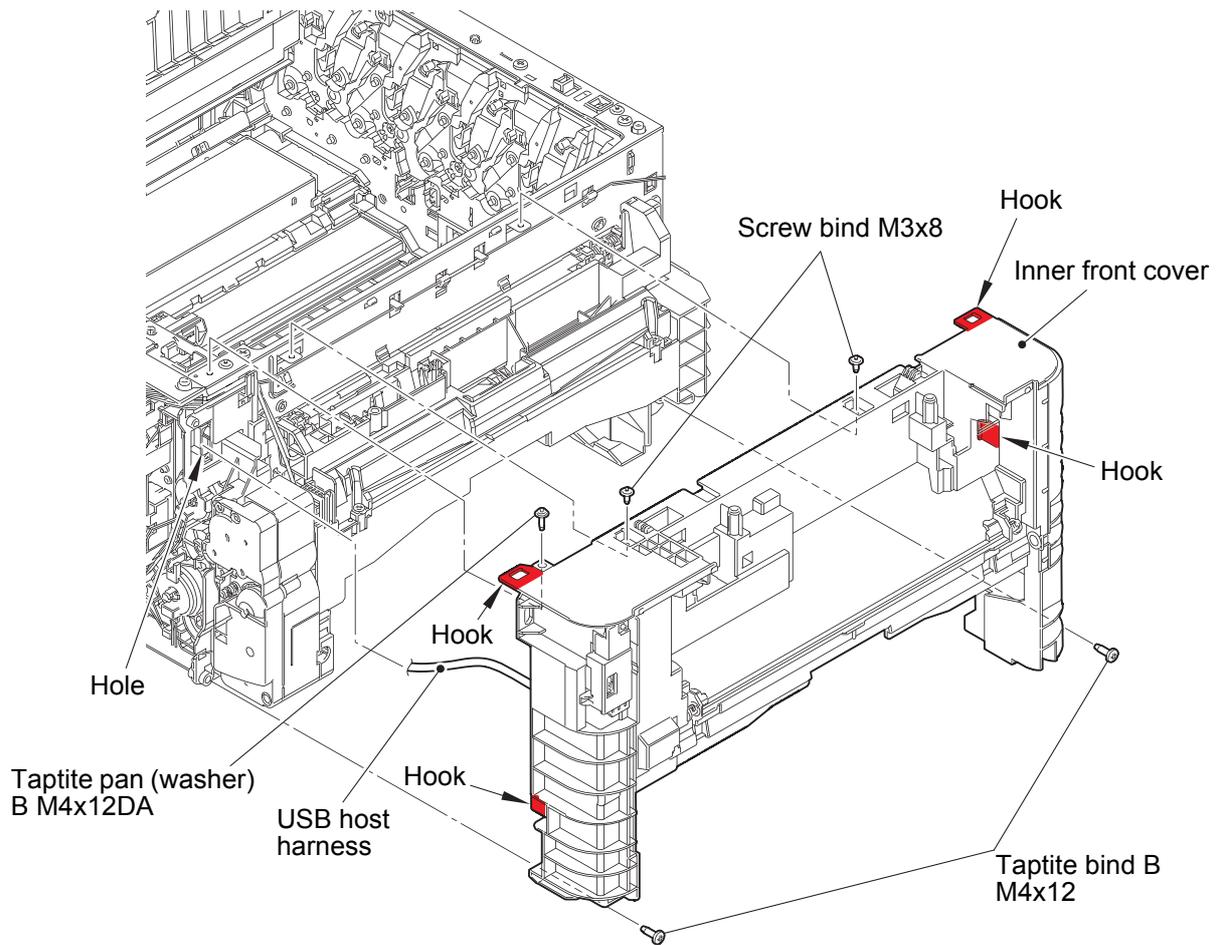


Fig. 3-70

(2) **Remove** > USB holder ASSY

Fixtures & Fittings

- Taptite bind B M3x10 (x 2)

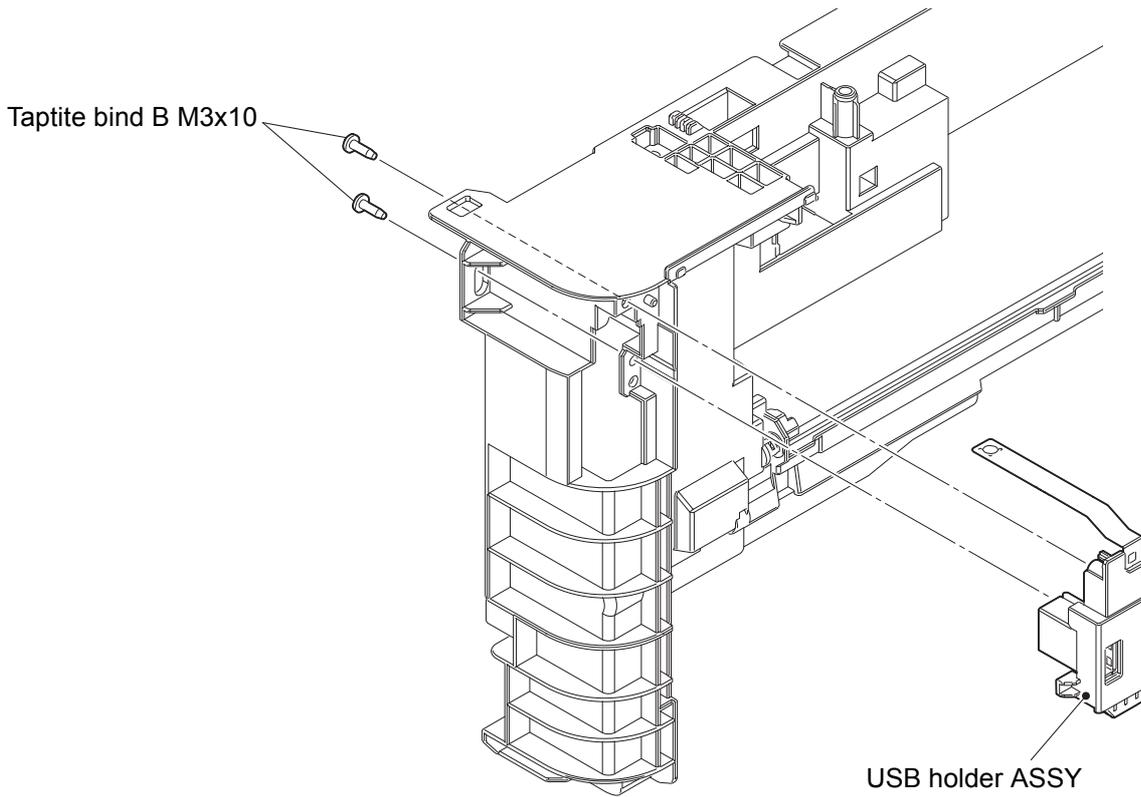


Fig. 3-71

(3) **Remove** > USB host harness, USB host ground plate

Fixtures & Fittings

- Screw pan (S/P washer) M3x12DB (x 2)
- Hook (x 1)

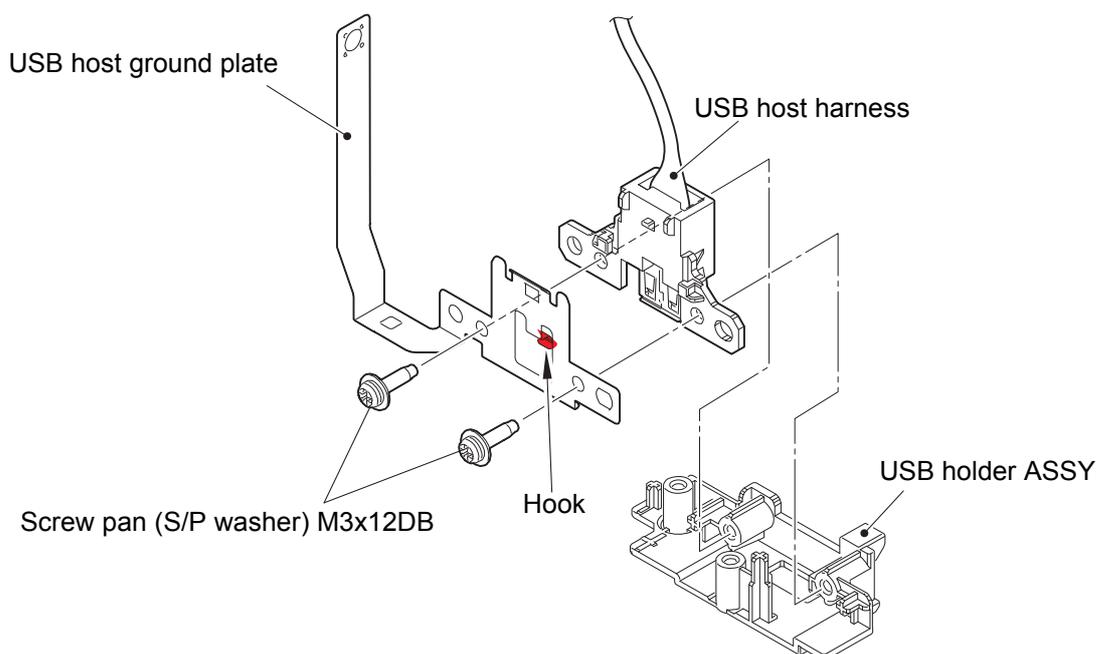


Fig. 3-72

8.30 MP unit (For models with MP tray)

- (1) **Disconnect** > MP REG sensor harness, MP PE sensor harness
- (2) **Wiring** > MP REG sensor harness, MP PE sensor harness, MP solenoid harness

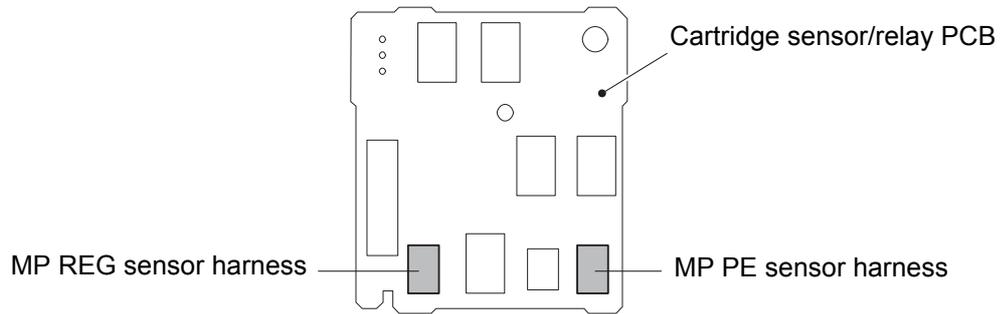


Fig. 3-73

Harness routing: Refer to "21. MP PE sensor harness, MP REG sensor harness, MP solenoid harness".

- (3) **Remove** > MP unit

-  **Fixtures & Fittings**
 - Taptite bind B M4x12 (x 4)
 - Hook (x 2)

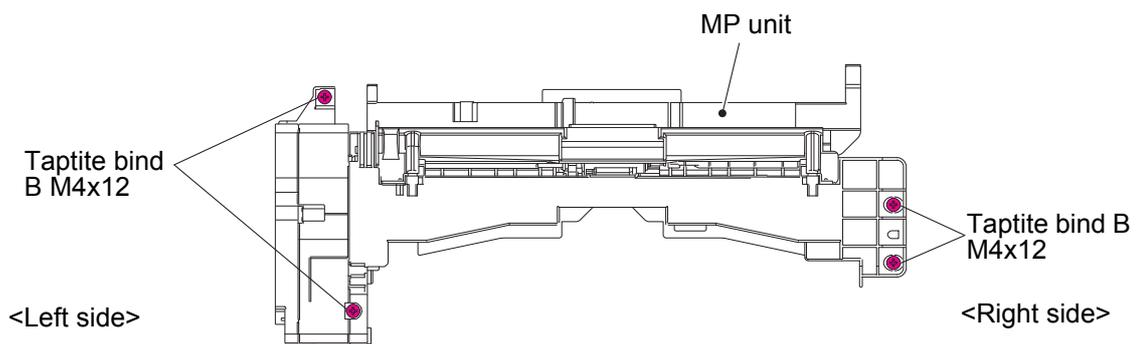
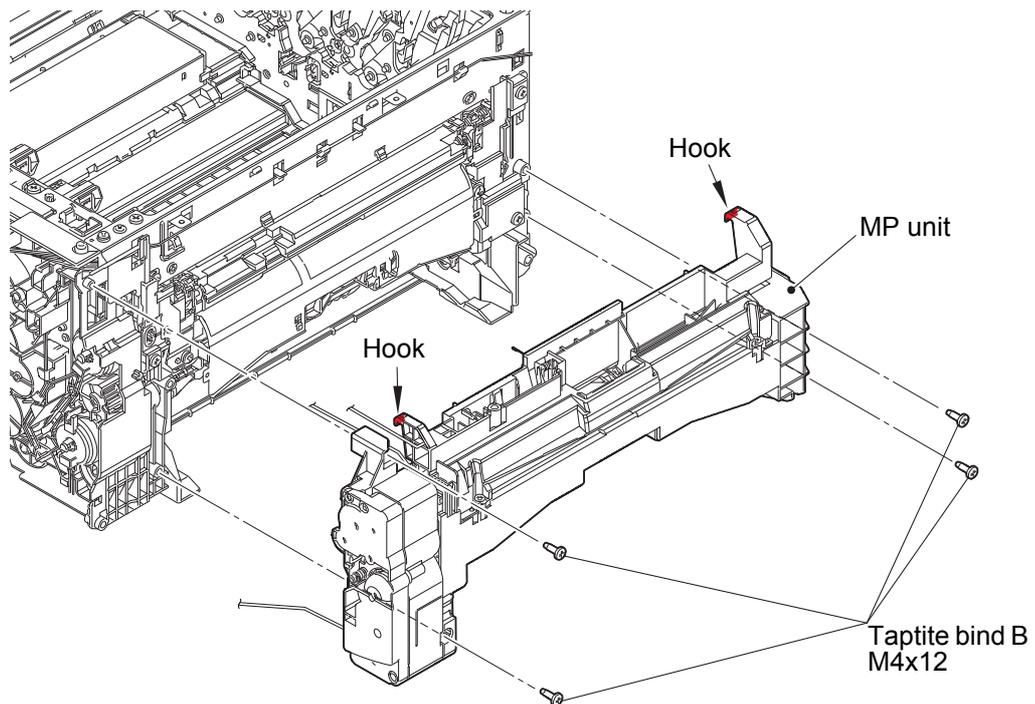


Fig. 3-74

8.31 MP REG sensor PCB (For models with MP tray)

(1) **Remove** > MP REG sensor PCB



Fixtures & Fittings

- Taptite bind B M3x10 (x 1)
- Hook (x 1)

(2) **Disconnect** > MP REG sensor harness

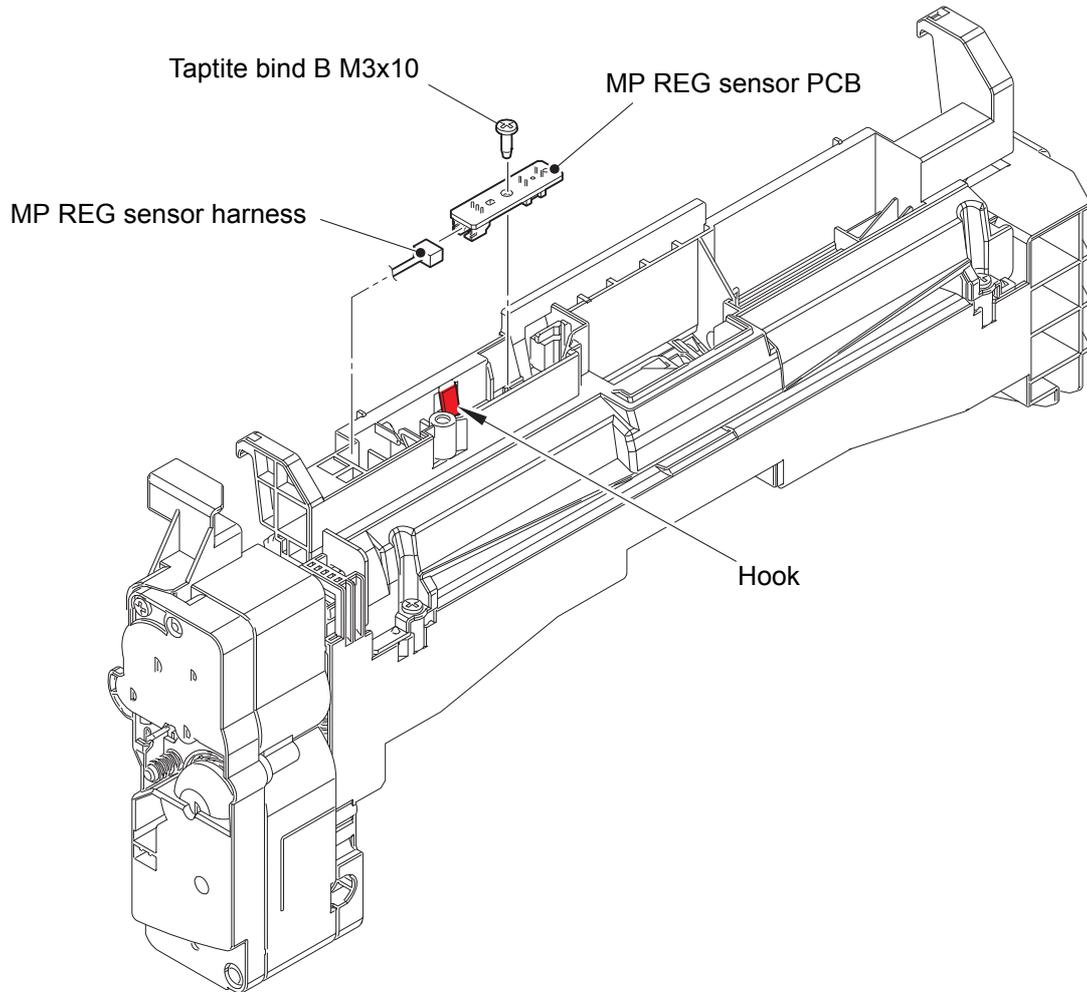


Fig. 3-75

8.32 MP PE sensor PCB (For models with MP tray)

(1) **Remove** > Screws



Fixtures & Fittings

- Taptite bind B M3x10 (x 2)

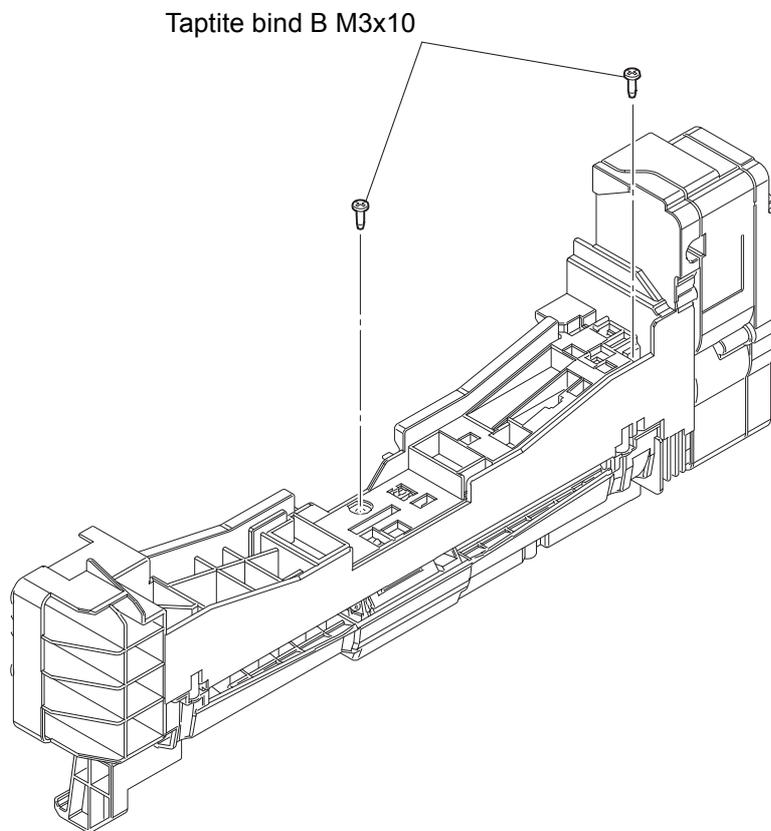


Fig. 3-76

- (2) **Open** > MP sensor holder ASSY
- (3) **Disconnect** > MP PE sensor harness
- (4) **Remove** > MP spring A
- (5) **Remove** > MP paper stopper

 **Fixtures & Fittings**
- Hook (x 1)

 **Point:**
• Remove the MP paper stopper in the order of the arrows.

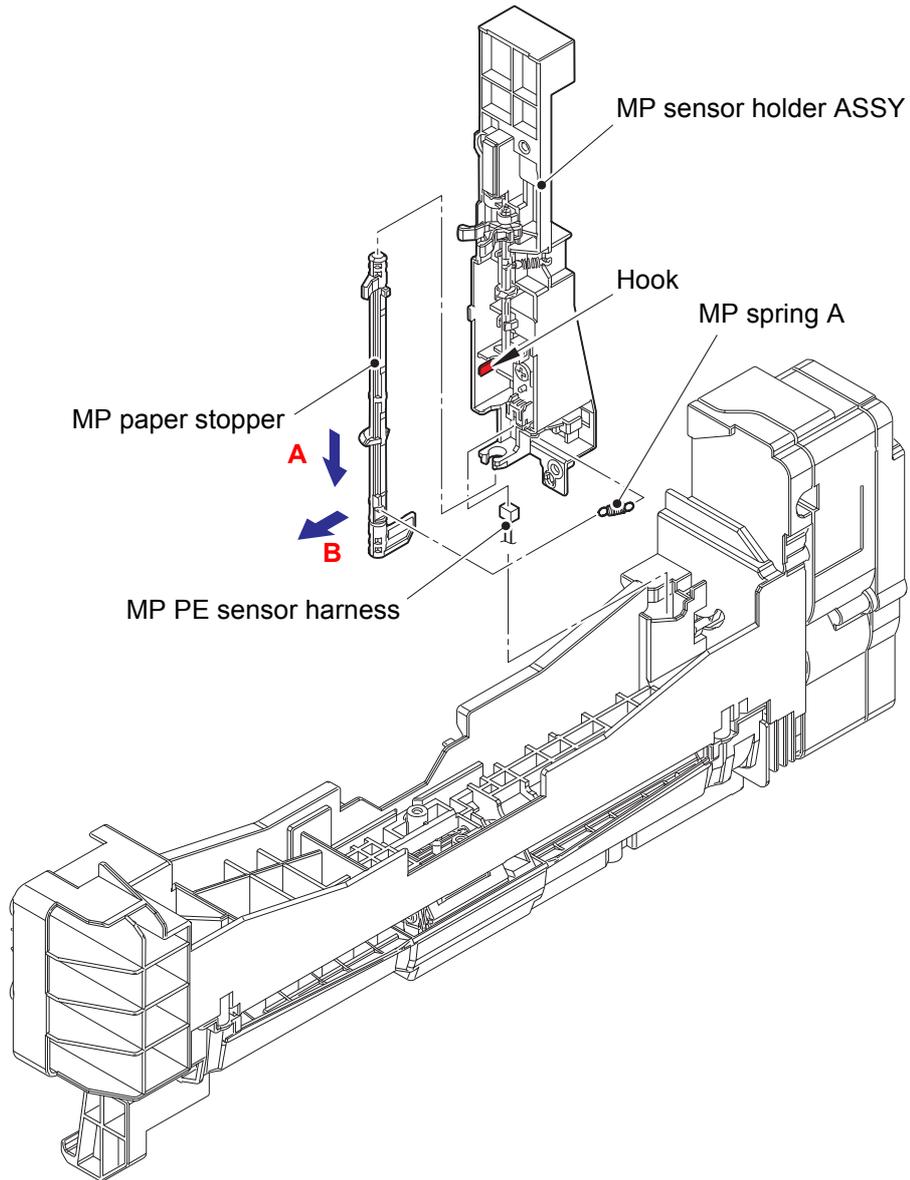


Fig. 3-77

- (6) **Remove** > MP spring B
- (7) **Remove** > MP PE actuator

 **Fixtures & Fittings**
 - Hook A (x 1)

 **Point:**
 • Remove the MP PE actuator in the order of the arrows.

- (8) **Remove** > MP PE sensor PCB
-  **Fixtures & Fittings**
 - Taptite bind B M3x10 (x 1)
 - Hook B (x 1)

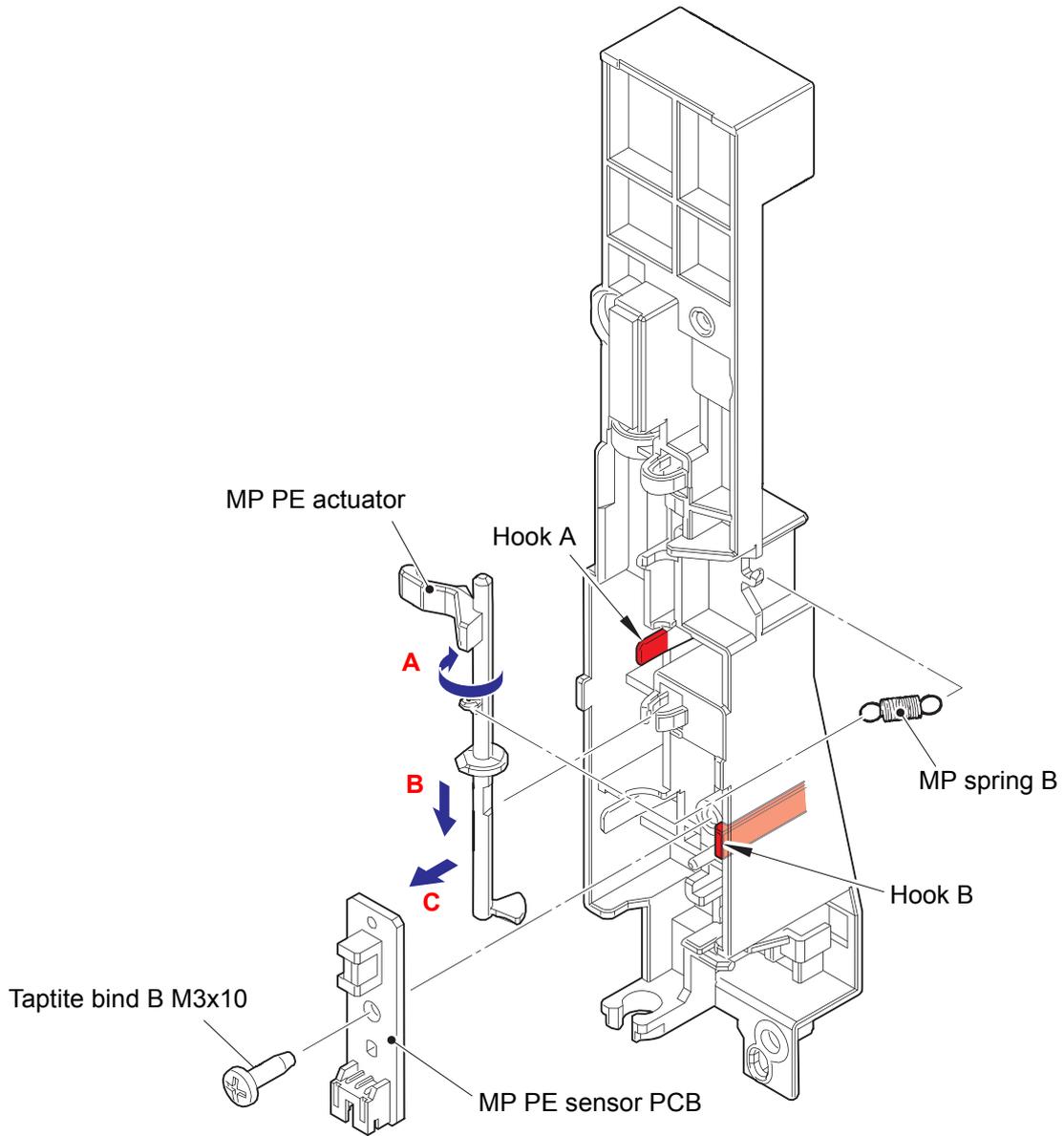


Fig. 3-78

8.33 MF cover ASSY (For models with MF tray)

- (1) **Disconnect** > MF PE sensor harness
- (2) **Wiring** > MF PE sensor harness

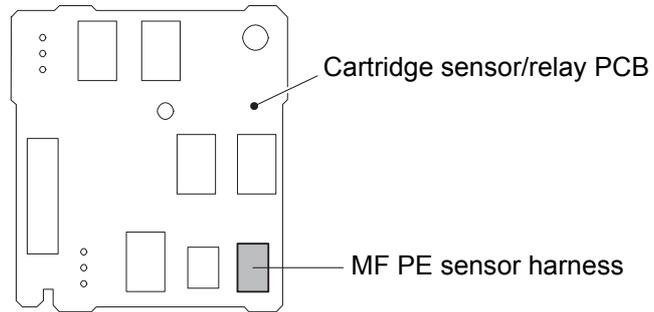


Fig. 3-79

Harness routing: Refer to "20. MF PE sensor harness".

- (3) **Remove** > Inner front cover



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Taptite cup S M3x8 SR (x 2)
- Hook (x 4)

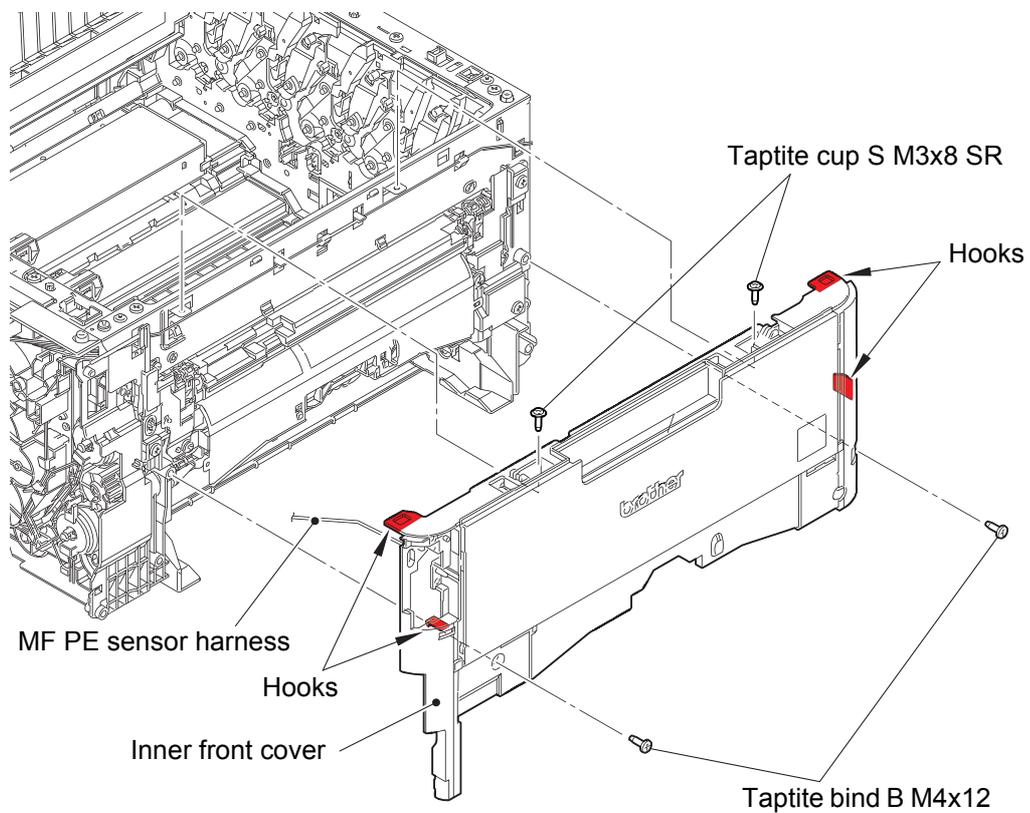


Fig. 3-80

(4) **Remove** > MF cover ASSY

-  **Fixtures & Fittings**
- Boss (x 2)

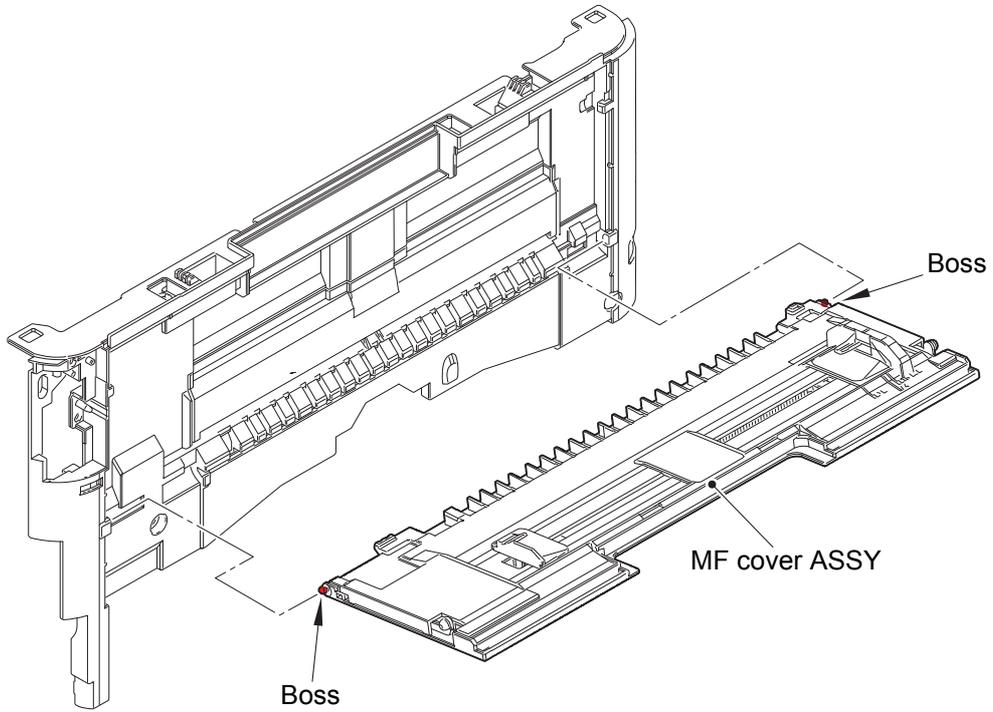


Fig. 3-81

8.34 HVPS PCB

(1) **Release** > HVPS FFC cover

-  **Fixtures & Fittings**
- Hook (x 2)

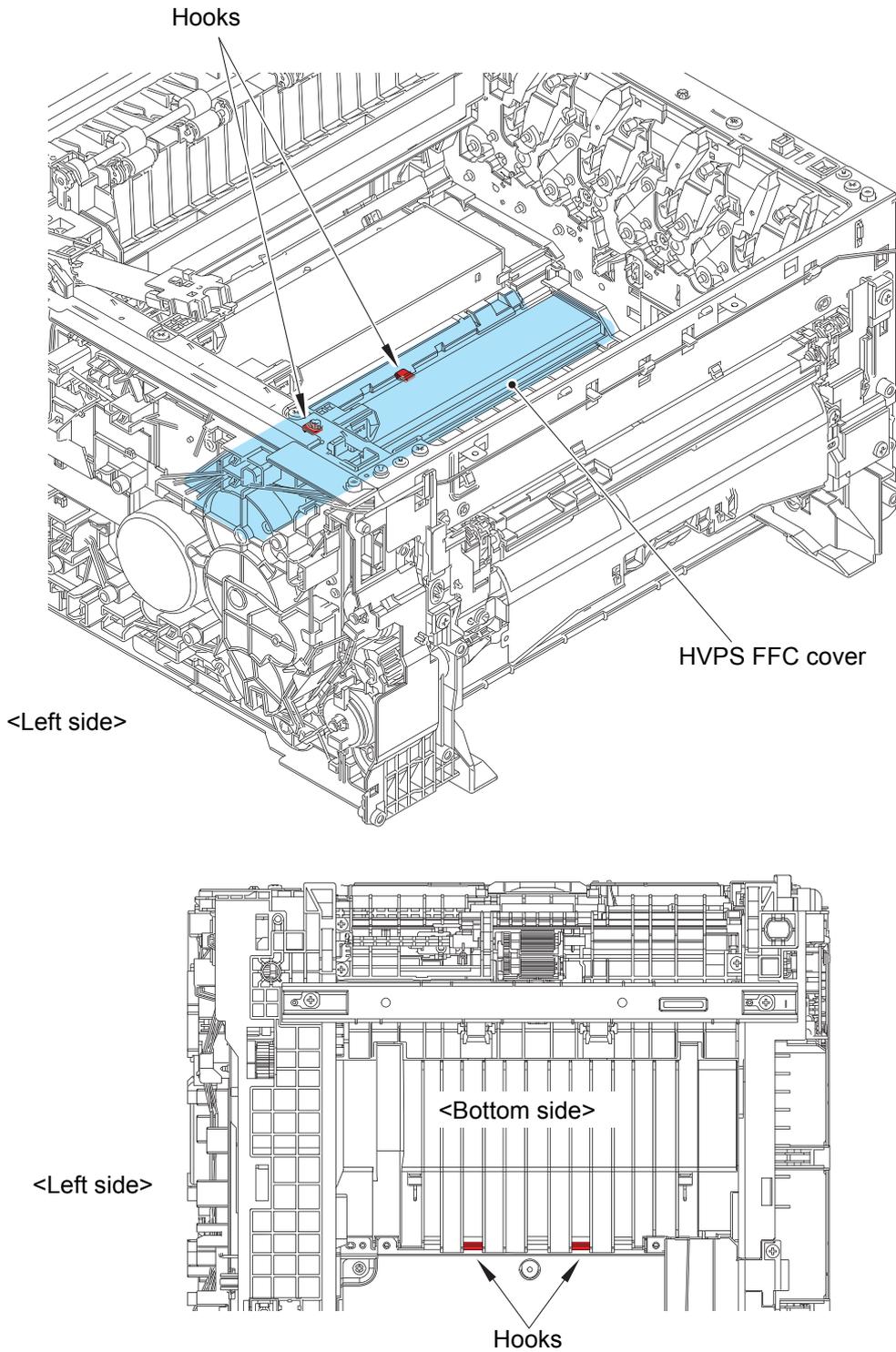


Fig. 3-82

(2) **Remove** > HVPS FFC cover



Point:

- Remove the HVPS FFC cover in the direction of the arrow.

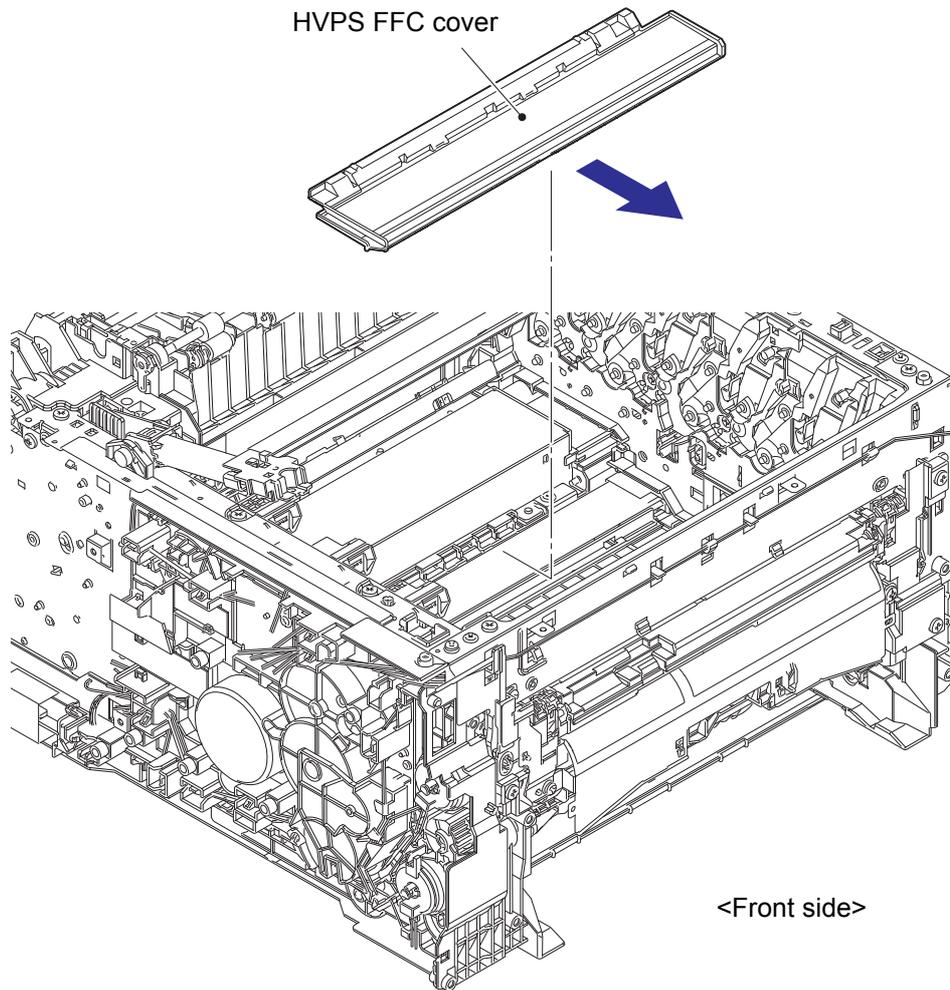


Fig. 3-83

(3) **Remove** > HVPS support chip (x 3)

(4) **Remove** > HVPS support pad

(5) **Remove** > HVPS ground plate front

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (x 1)

- Taptite pan (washer) M4x12DA (x 1)

(6) **Remove** > HVPS ground plate rear

 **Fixtures & Fittings**

- Taptite pan (washer) M4x12DA (x 2)

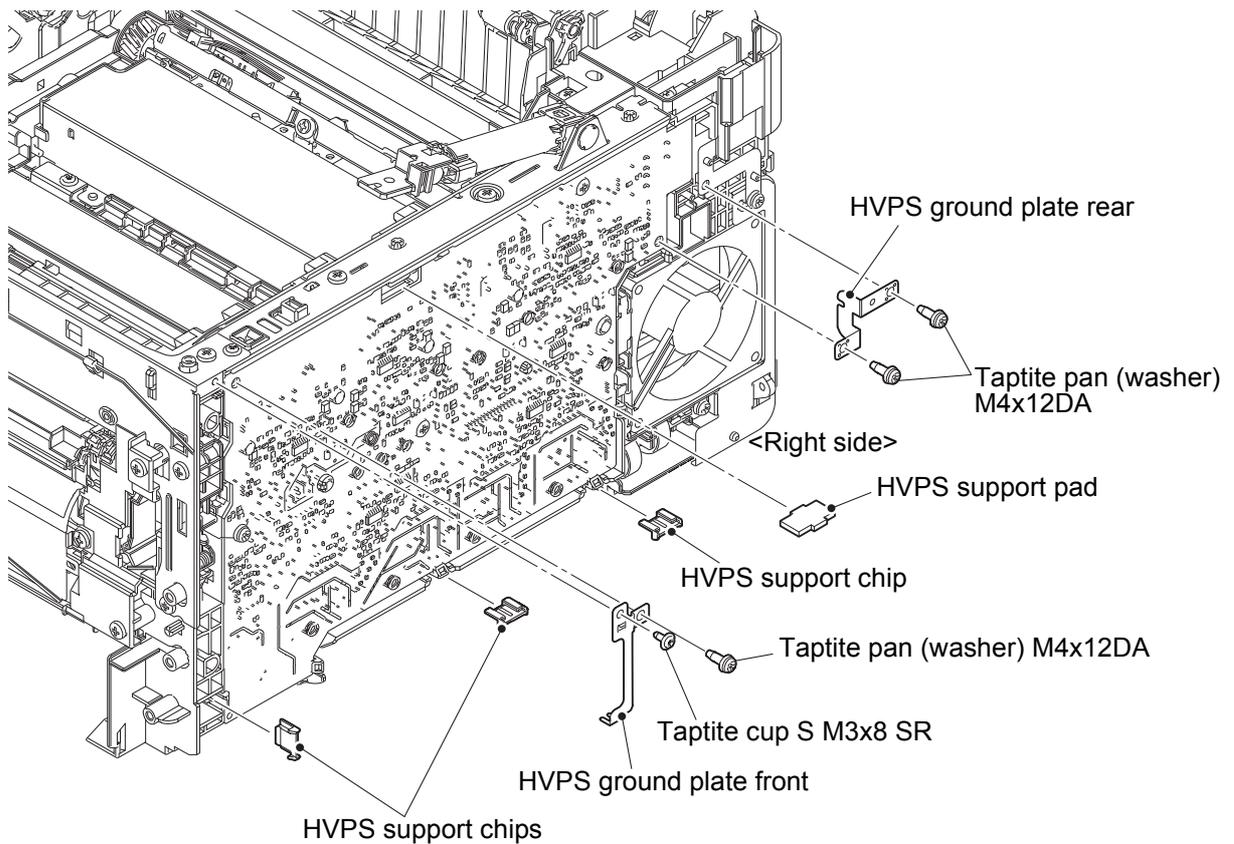


Fig. 3-84

(7) **Release** > UB ground spring 2R

 **Fixtures & Fittings**

- Taptite pan (washer) M4x12DA (x 1)

(8) **Remove** > HVPS PCB

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 2)
- Hook (x 6)



Point:

- Do not pull the HVPS PCB strongly because each harness and the HVPS FFC are connected.

(9) **Disconnect** > Fan harness, HVPS harness, DEV release sensor harness, HVPS FFC

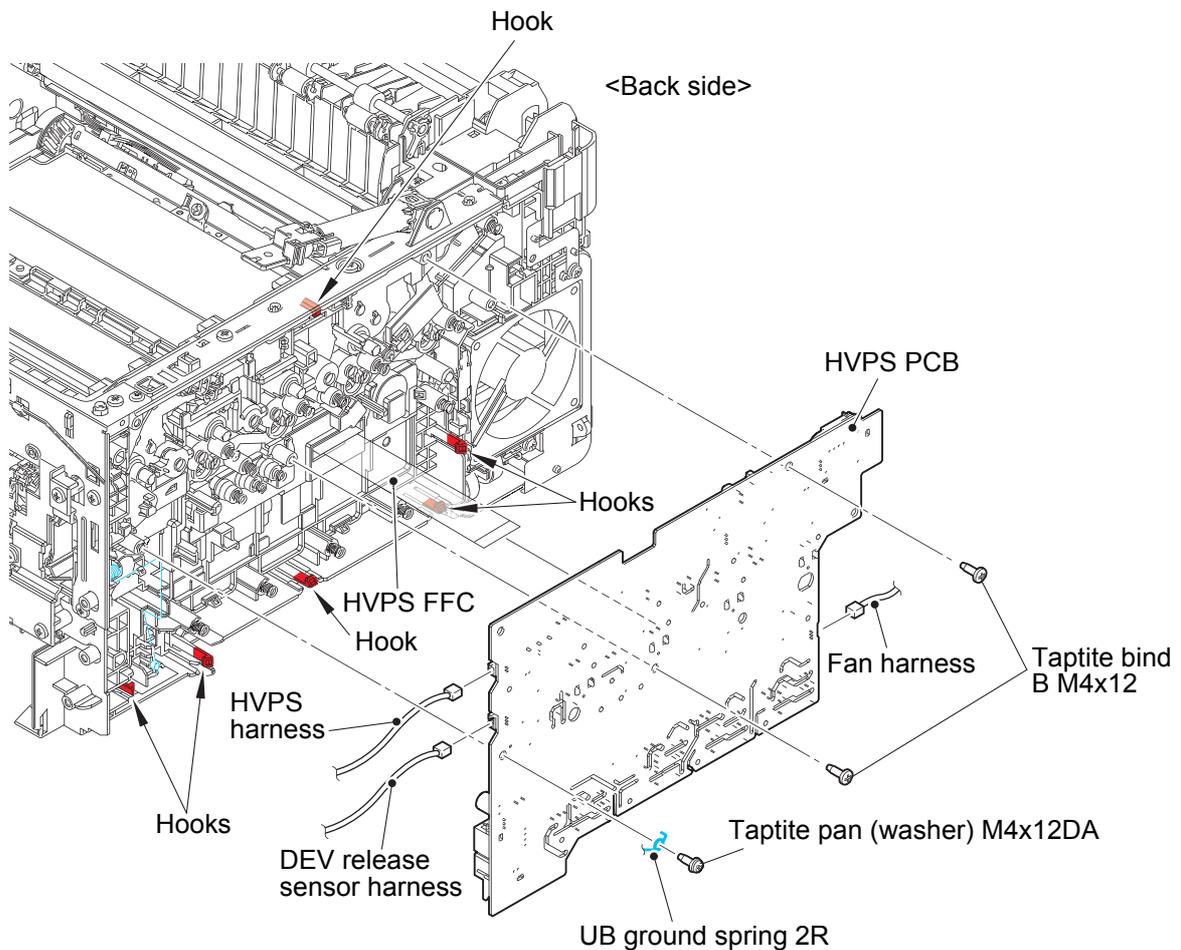


Fig. 3-85



Assembling note:

- **Be careful not to damage the HVPS FFC. (Fault Report: PS08838 related)**
- When attaching the HVPS PCB, refer to "9. HVPS FFC" to firstly pass the HVPS FFC through the hole from inside the machine and connect it to the HVPS PCB. After attaching the HVPS PCB to the machine, pull the HVPS FFC to the machine side.
- After attaching the HVPS PCB, check whether the Electrodes inside the machine are not dropping or not get caught by pushing the Electrodes inside the machine.

8.35 DEV release sensor PCB

- (1) **Wiring** > DEV release sensor harness
- (2) **Remove** > DEV release sensor PCB

 **Fixtures & Fittings**
- Hook (x 2)

- (3) **Disconnect** > DEV release sensor harness

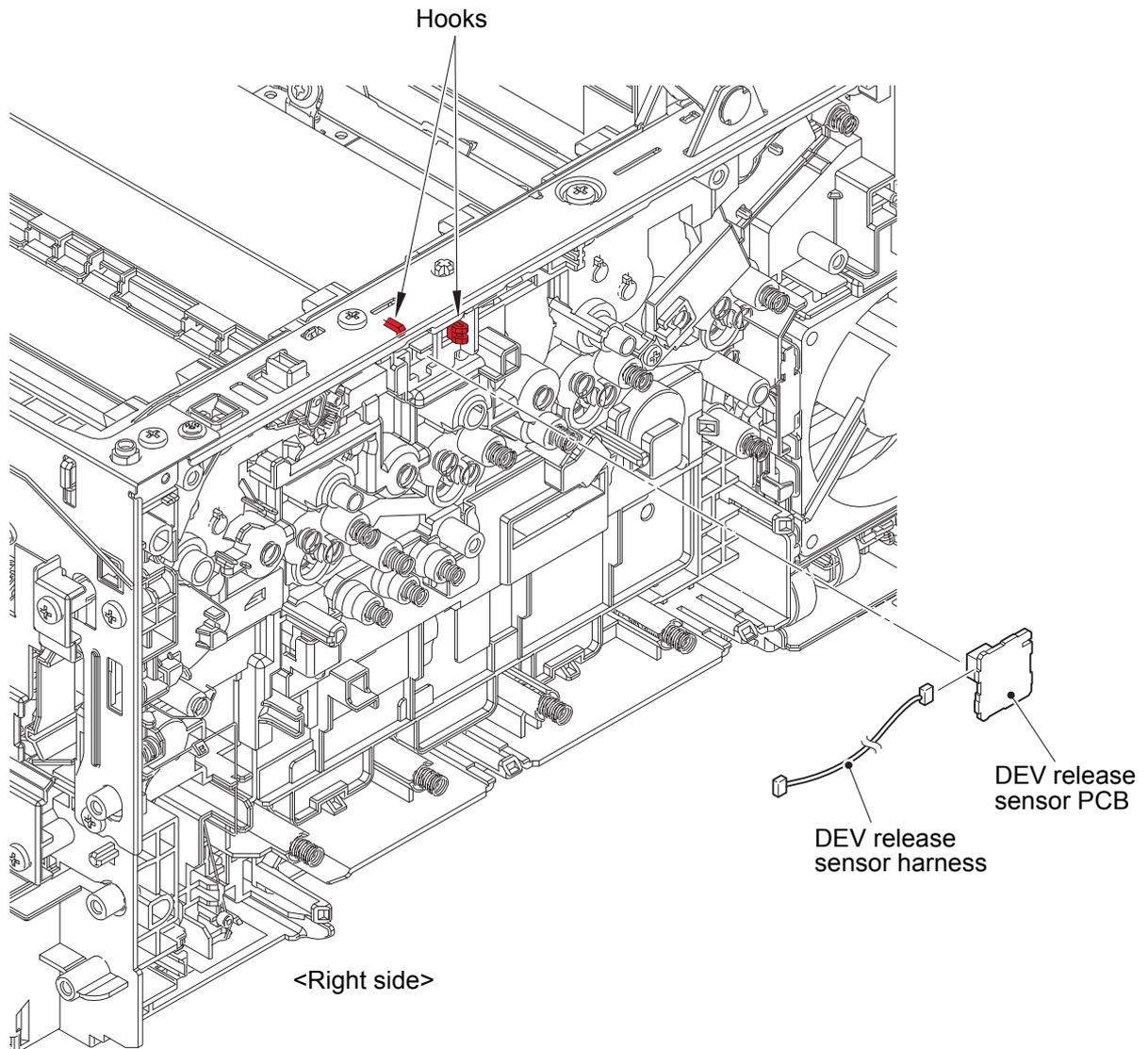


Fig. 3-86

Harness routing: Refer to "5. DEV release sensor harness".

8.36 Fan

- (1) **Wiring** > Fan harness
- (2) **Remove** > Fan

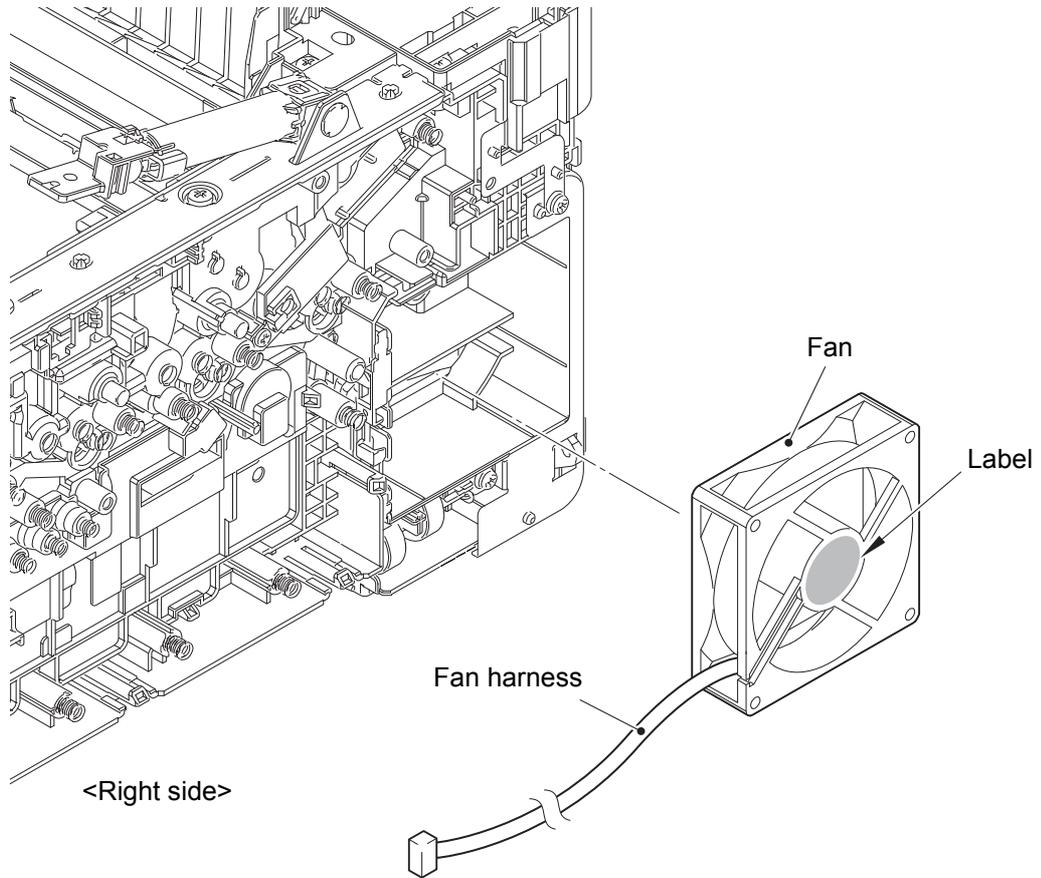


Fig. 3-87

Harness routing: Refer to "8. Fan harness, Fan FG harness".



Assembling note:

- When assembling the Fan, be sure to assemble it in a way that the Label side faces out.

8.37 Cartridge sensor/relay FFC

- (1) **Wiring** > Cartridge sensor/relay FFC
- (2) **Disconnect** > Cartridge sensor/relay FFC

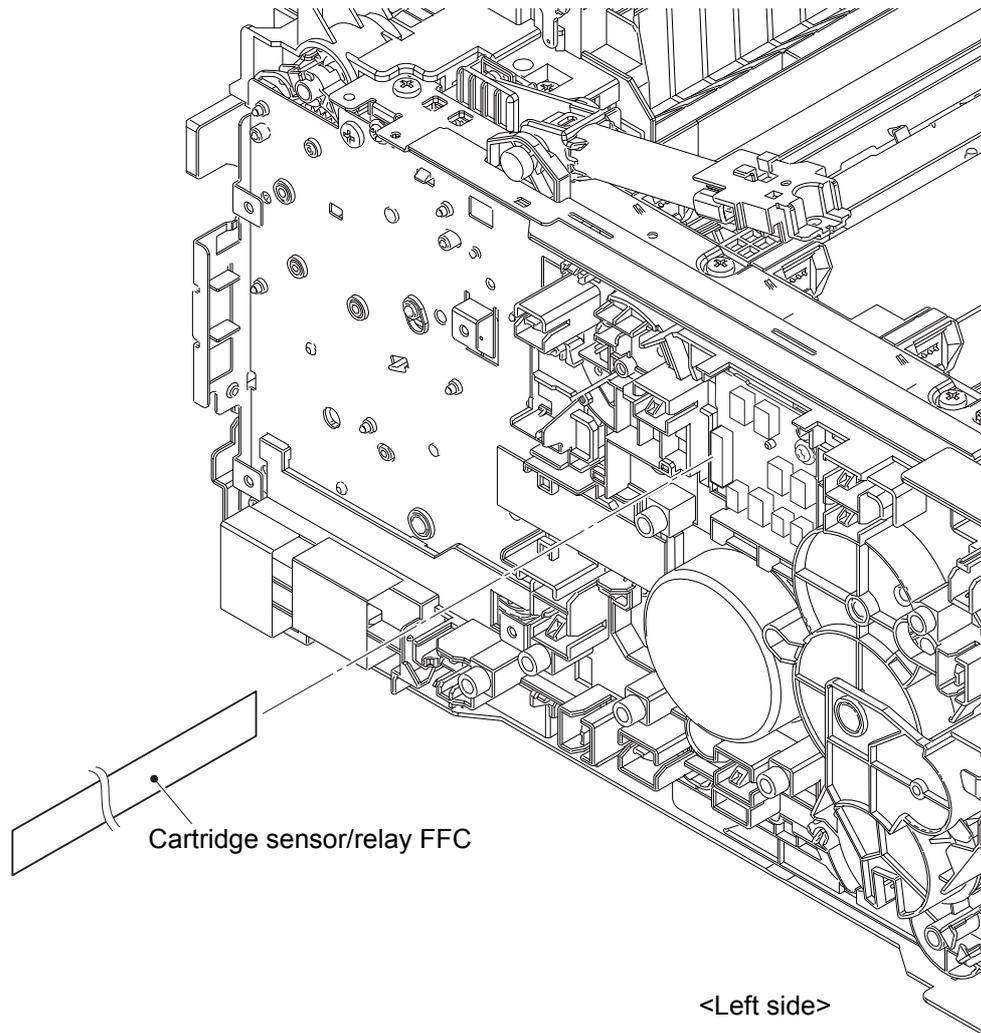
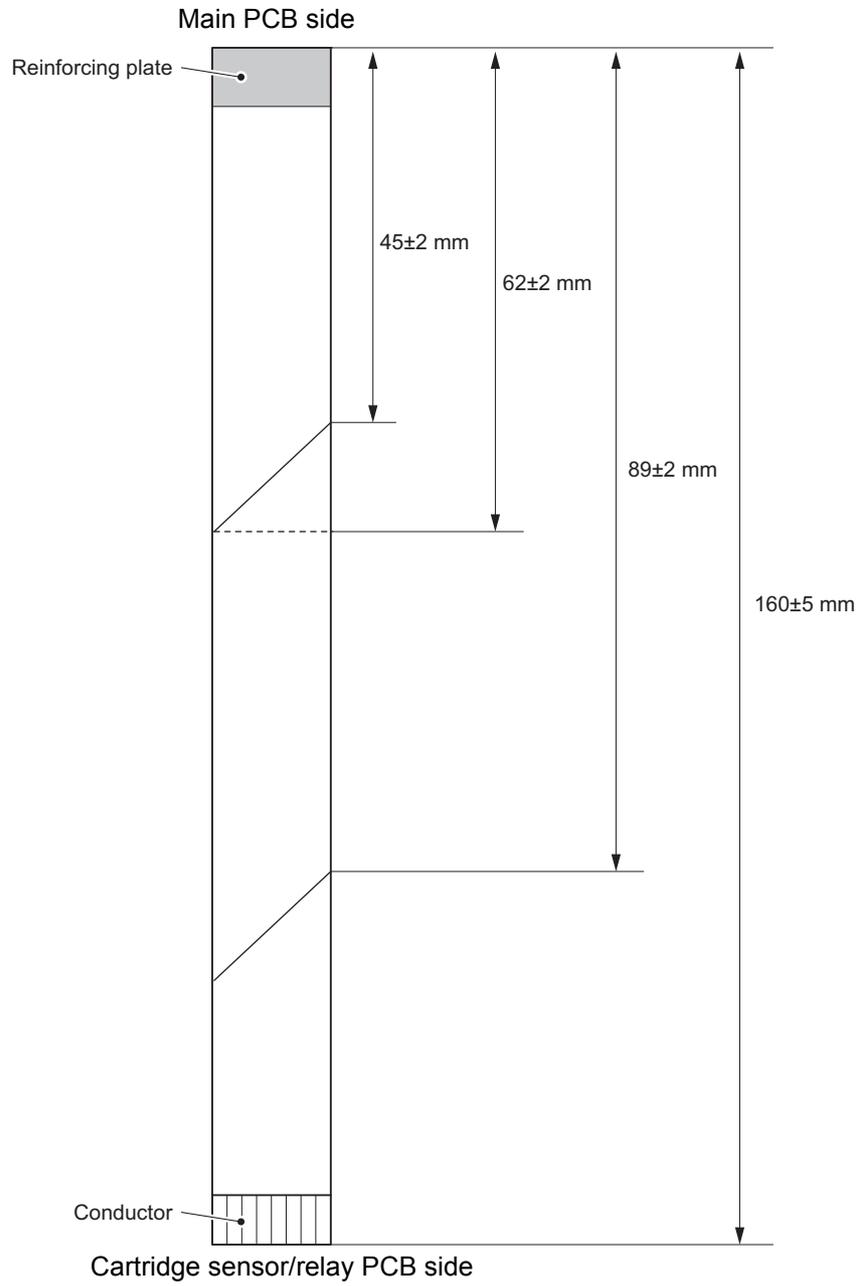


Fig. 3-88

Harness routing: Refer to "2. Cartridge sensor/relay FFC".

<How to fold the Cartridge sensor/relay FFC>

- Mountain fold
- Valley fold



The angle of the diagonal fold is 45°.

Fig. 3-89

8.38 Cartridge sensor/relay PCB

- (1) **Disconnect** > Cartridge sensor harness C, Cartridge sensor harness M, Cartridge sensor harness Y, Cartridge sensor harness K, T1 PF sensor harness, REG front/rear sensor harness
- (2) **Remove** > Cartridge sensor/relay PCB



Fixtures & Fittings

- Screw cup M3x8 (x 1)

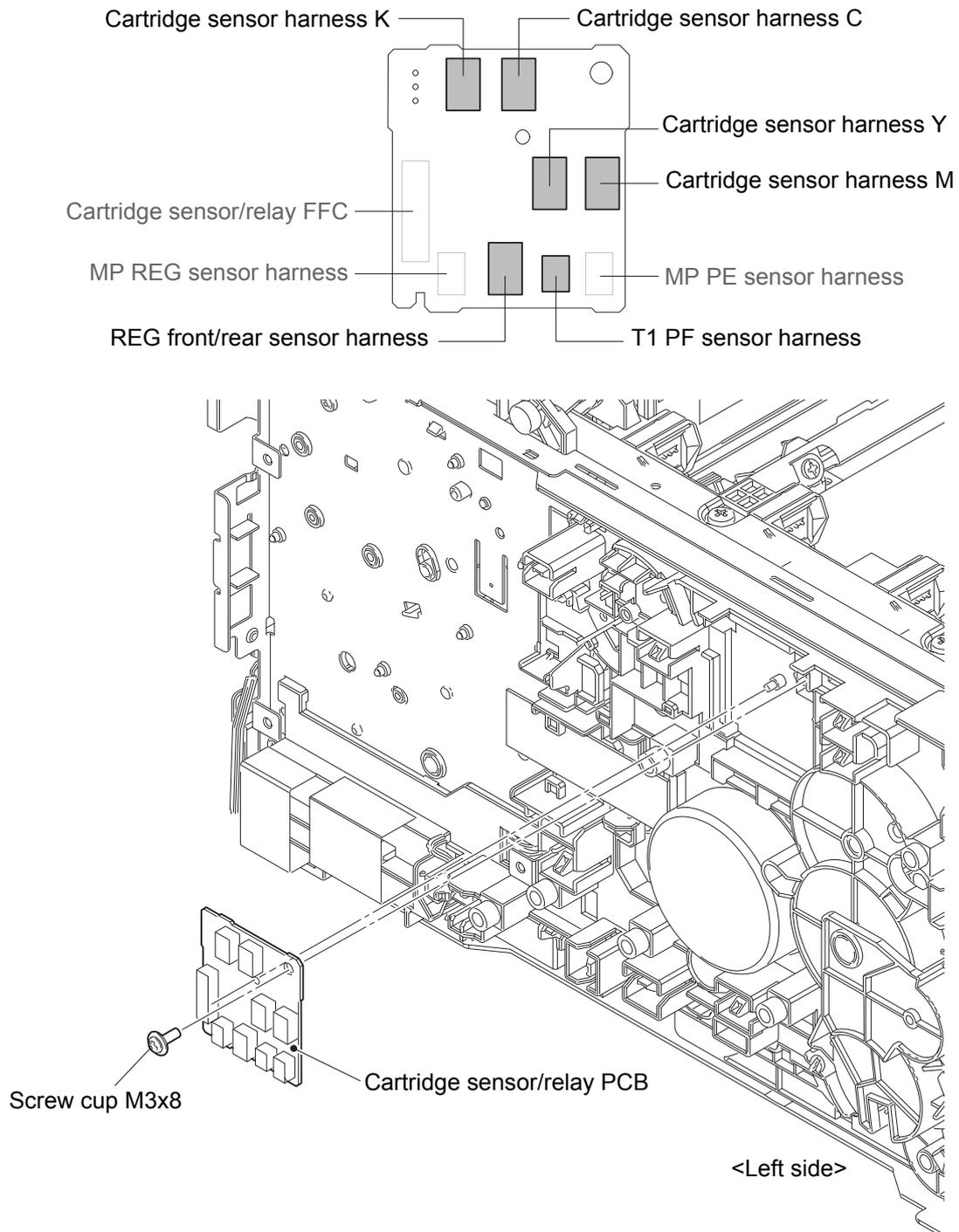


Fig. 3-90

8.39 Process motor FFC

- (1) **Wiring** > Process motor FFC
- (2) **Disconnect** > Process motor FFC

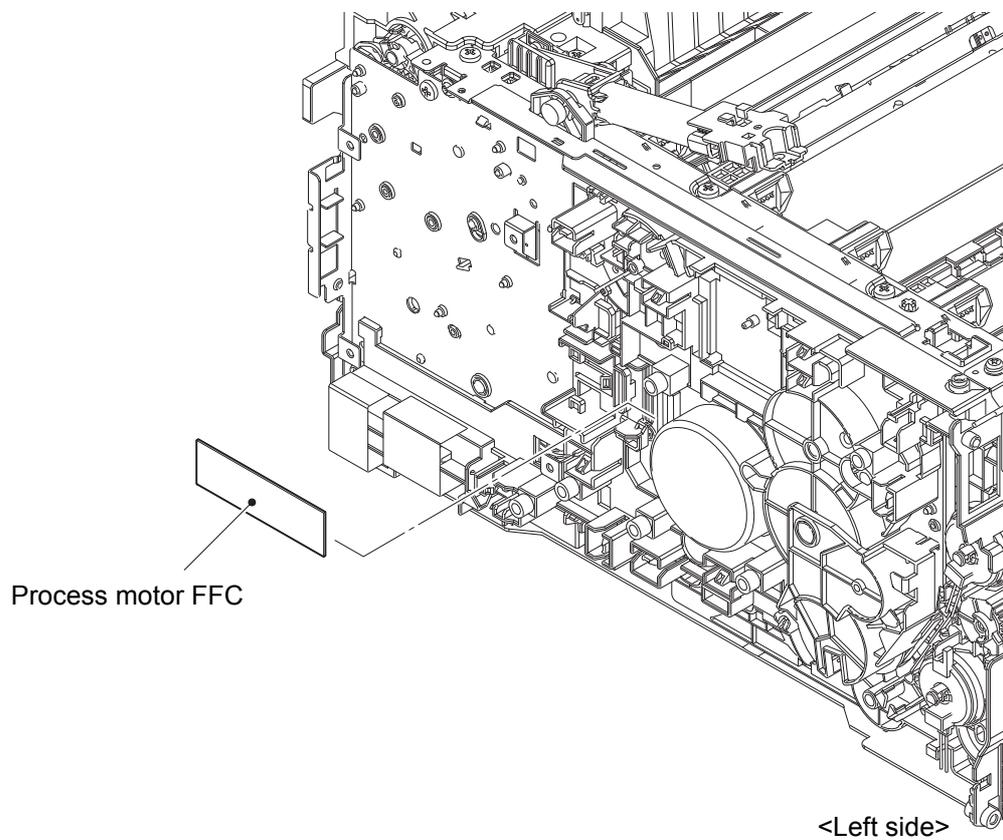


Fig. 3-91

Harness routing: Refer to "25. Process motor FFC".

8.40 REGI ELECTRIC CLUTCH FCL

- (1) **Wiring** > REG clutch harness
- (2) **Remove** > REGI ELECTRIC CLUTCH FCL

-  **Fixtures & Fittings**
- Hook (x 1)

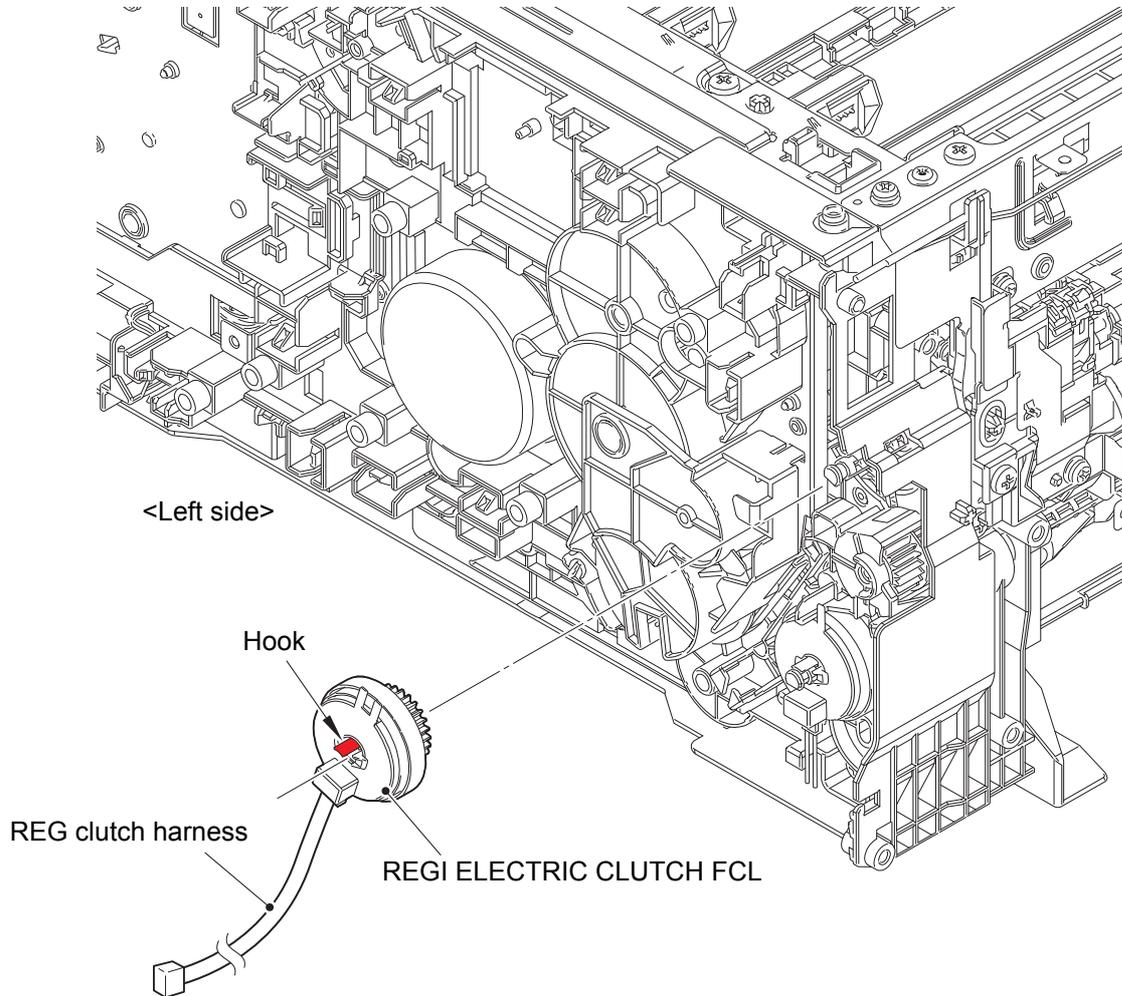


Fig. 3-92

Harness routing: Refer to "26. REG clutch harness".

8.41 T1 ELECTRIC CLUTCH FCL

- (1) **Wiring** > T1 pickup clutch harness
- (2) **Remove** > T1 ELECTRIC CLUTCH FCL

-  **Fixtures & Fittings**
 - Hook (x 1)

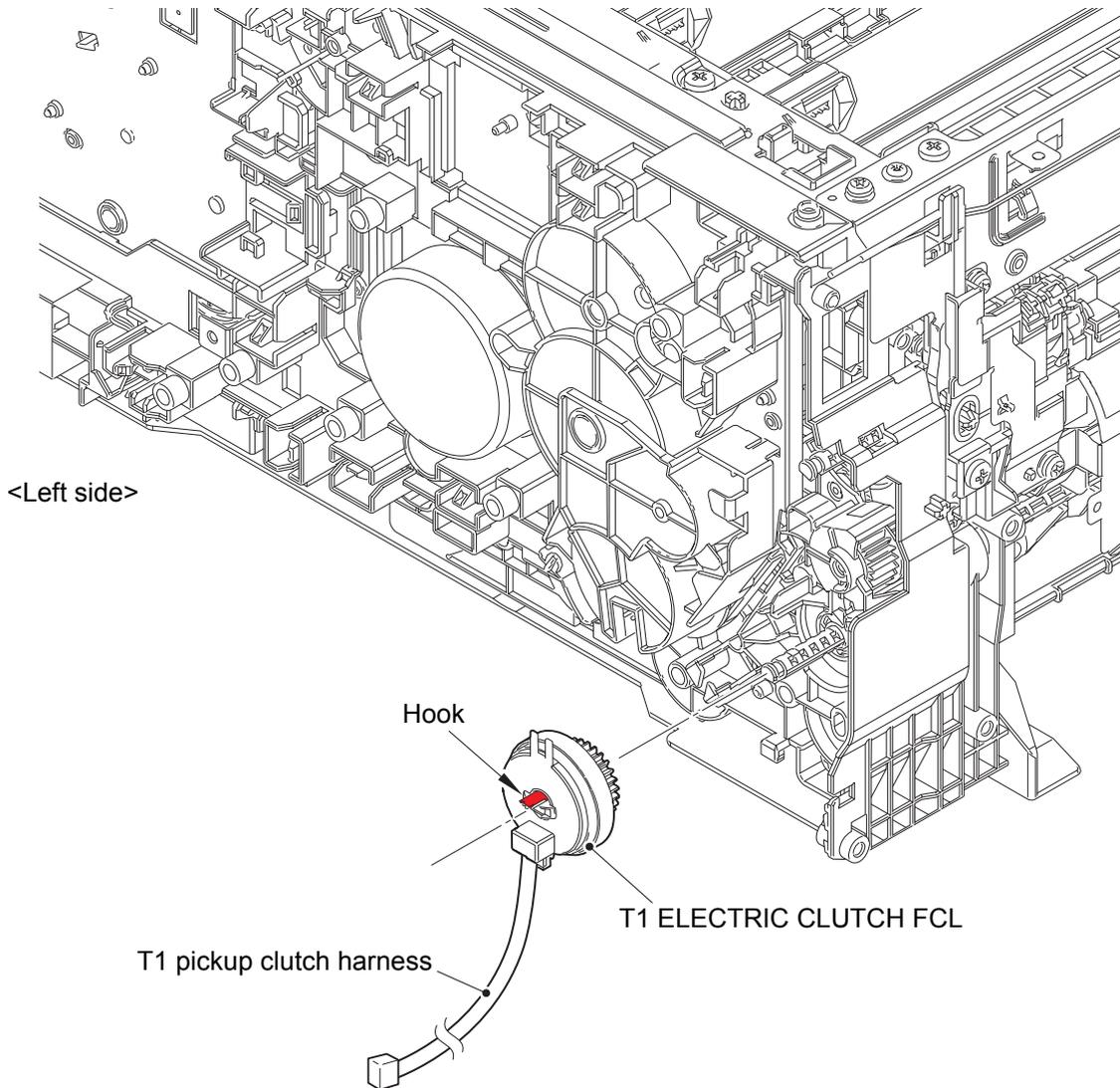


Fig. 3-93

Harness routing: Refer to "30. T1 pickup clutch harness".

8.42 DEV REL CLUTCH FCL

(1) **Wiring** > DEV release clutch CMY harness, HVPS harness

(2) **Remove** > DEV clutch cover

Fixtures & Fittings

- Taptite cup S M3x8 SR (x 1)

- Hook (x 2)

(3) **Remove** > DEV REL IDLE GEAR Z28

(4) **Remove** > DEV REL CLUTCH FCL

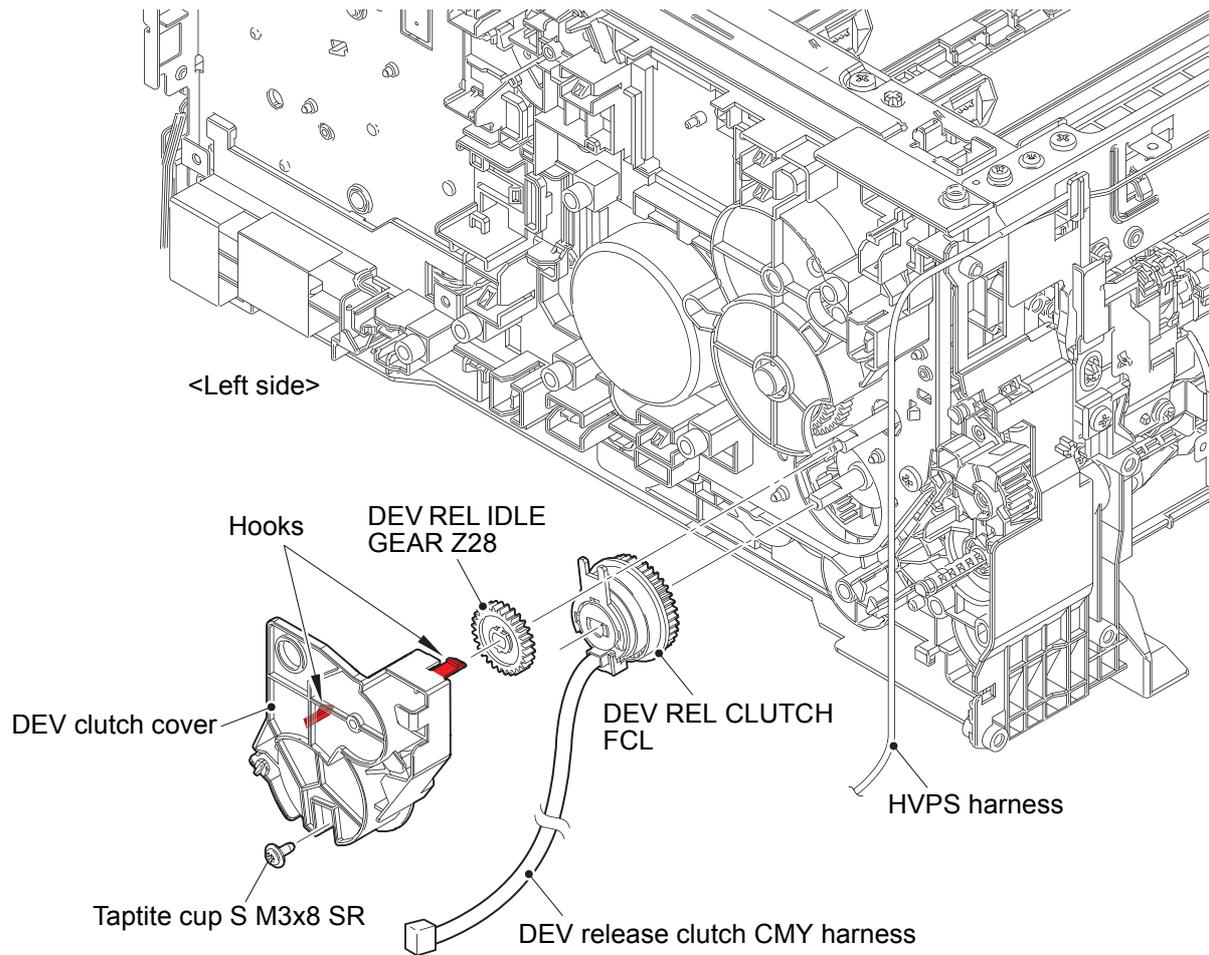


Fig. 3-94

Harness routing: Refer to "3. DEV release clutch CMY harness, 10. HVPS harness".



Assembling note:

- Raise the Damper L/R ASSY up. Turn the DEV REL GEAR Z36-29 FCL clockwise to the end. Turn the DEV RELEASE GEAR Z57-50 FCL clockwise so that the Hole of the DEV CLUTCH CAM FCL is aligned with the Hole of the DEV cam cover, and then attach the DEV REL IDEL GEAR Z28.

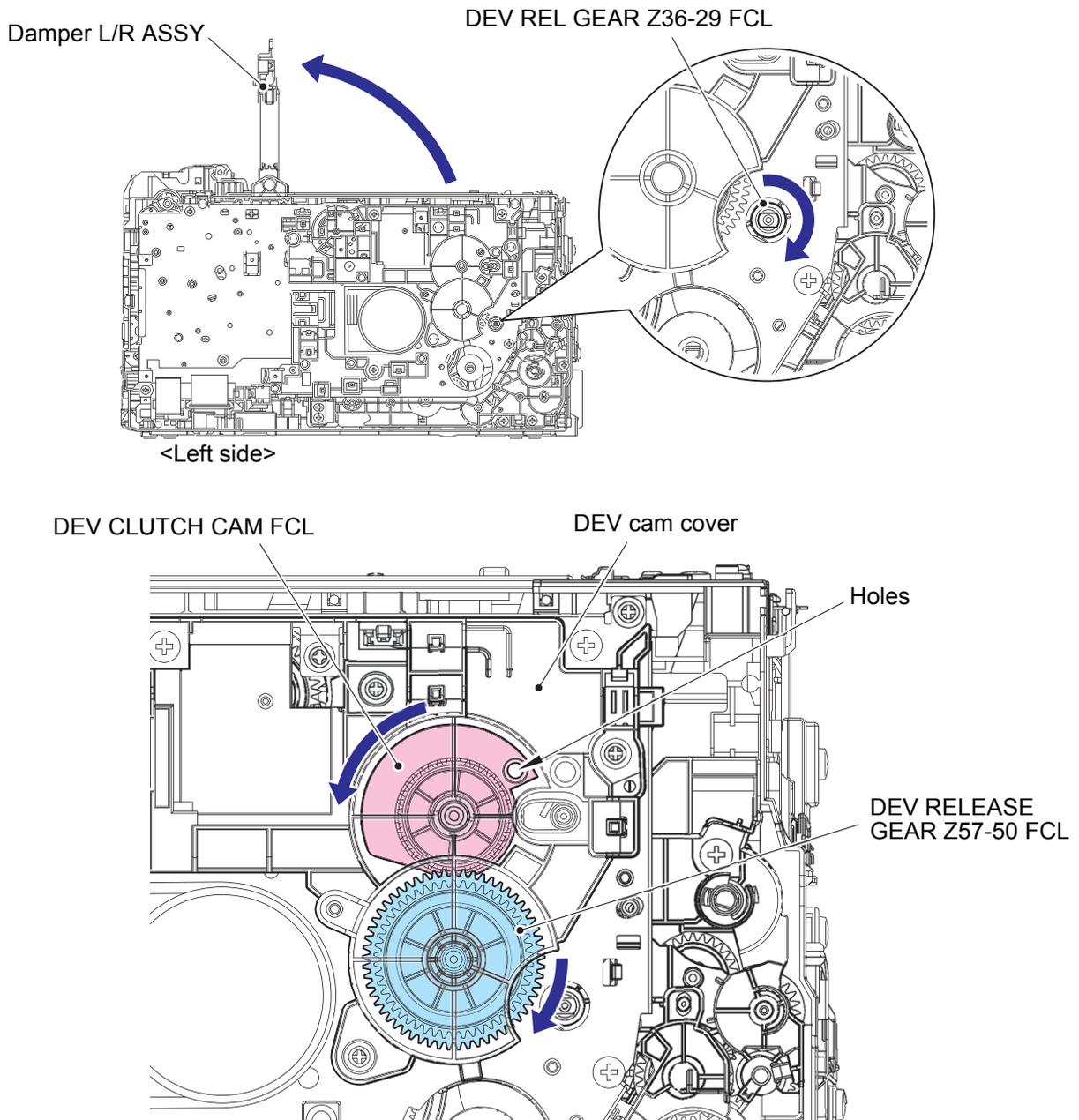


Fig. 3-95

8.43 Process drive unit

- (1) **Wiring** > Eject sensor/relay harness, LVPS harness, LT connector harness, DX clutch harness, DEV release clutch K harness, Cartridge sensor harness K, Cartridge sensor harness C, Cartridge sensor harness Y, T1 PF sensor harness, REG front/rear sensor harness
- (2) **Remove** > Process drive unit

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 5)
- Taptite cup S M3x8 SR (x 2)
- Taptite pan (washer) M4x12DA (x 1)
- Hook (x 3)

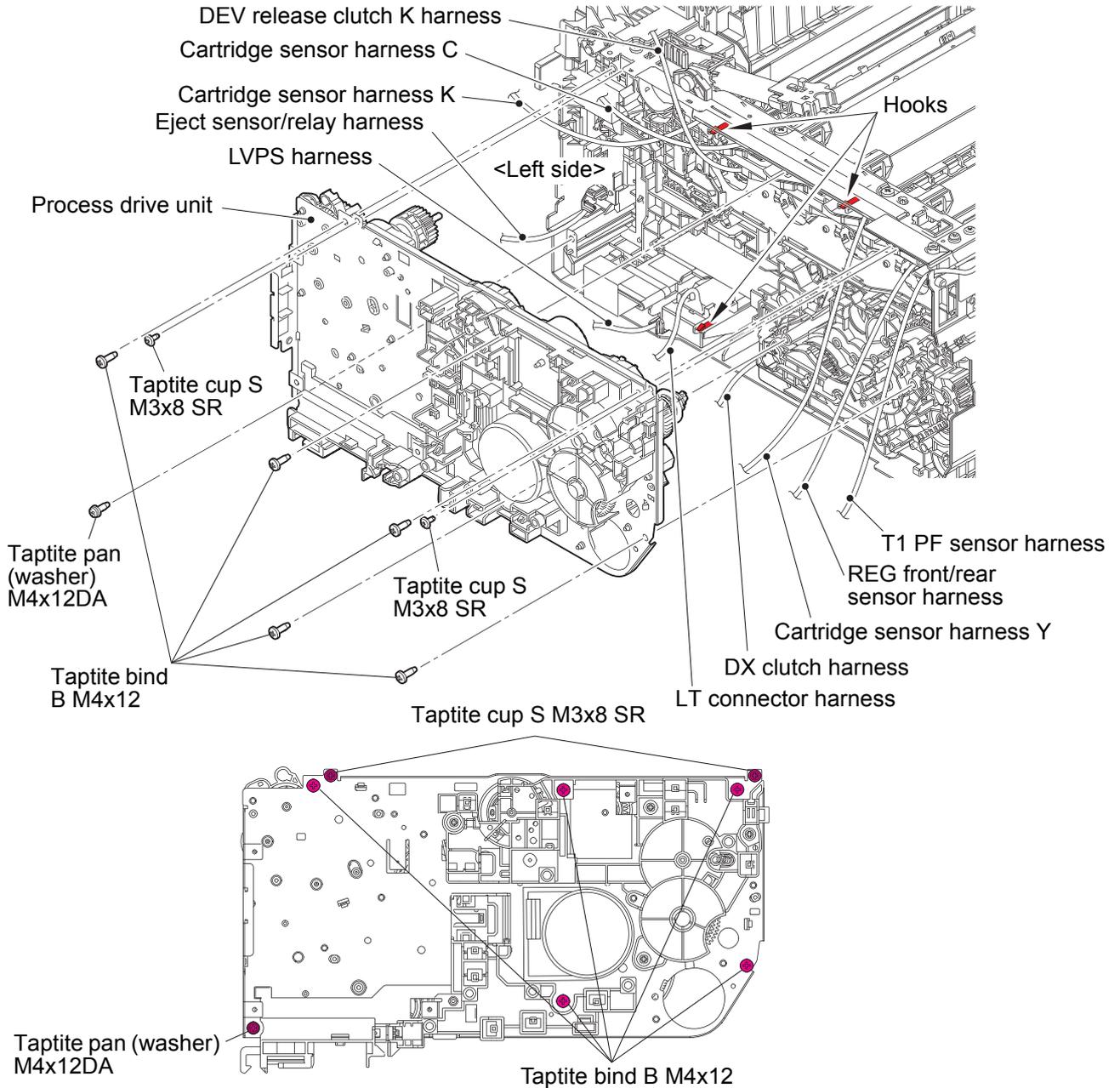


Fig. 3-96

Harness routing: Refer to "7. Eject sensor/relay harness, 11. Inlet harness ASSY, LVPS heater harness, LVPS harness, 17. LT connector harness, 6. DX clutch harness, 4. DEV release clutch K harness, 1. Cartridge sensor harness C/M/Y/K, 27. REG front/rear sensor harness, T1 PF sensor harness".

8.44 PF motor FFC

- (1) **Wiring** > PF motor FFC
- (2) **Disconnect** > PF motor FFC

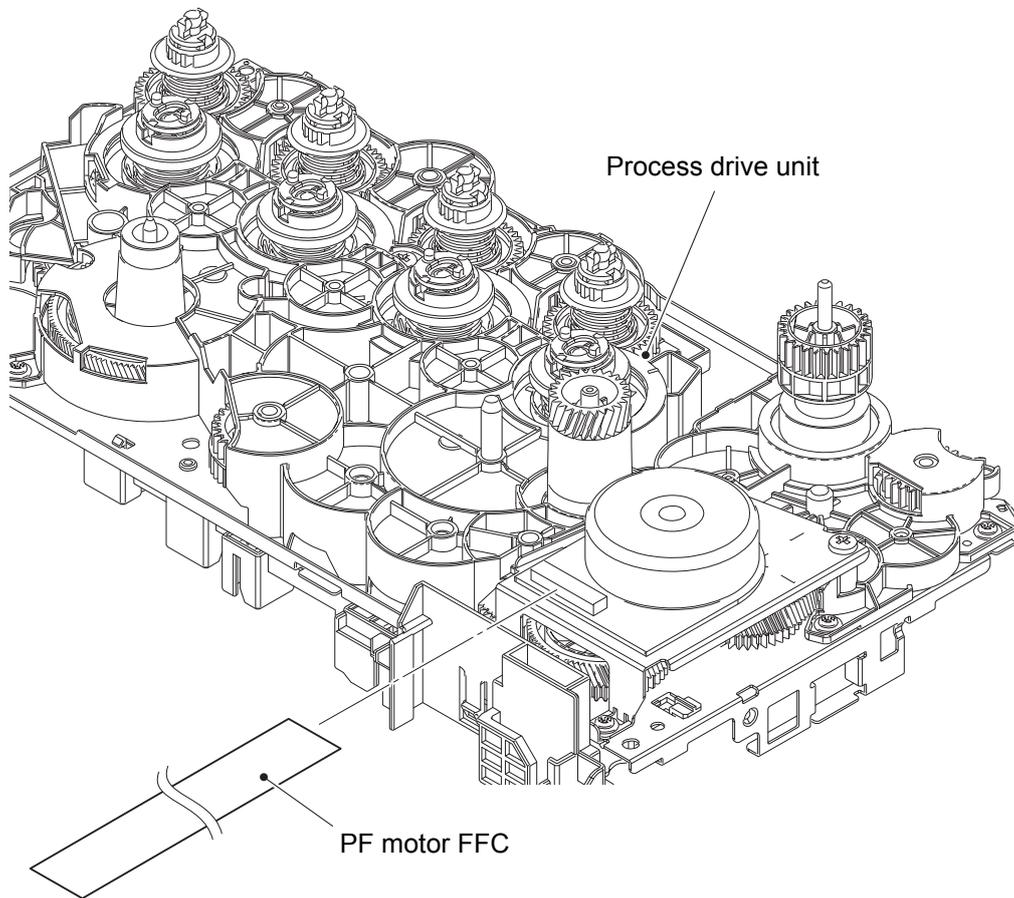


Fig. 3-97

Harness routing: Refer to "24. PF motor FFC".

<How to fold the PF motor FFC>

- Mountain fold
- Valley fold

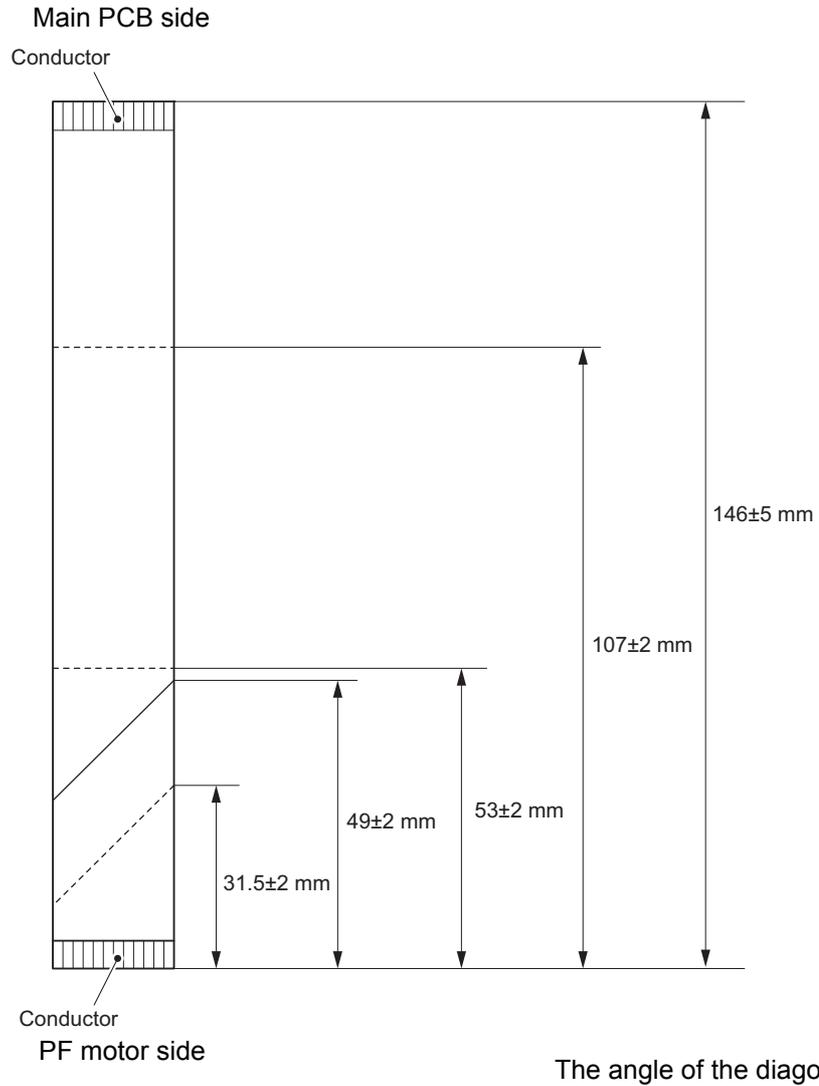


Fig. 3-98

8.45 FUSER DRIVE GEAR Z25 FCL

(1) **Remove** > PF motor



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Taptite cup S M3x8 SR (x 2)

(2) **Remove** > Fuser gear cover



Fixtures & Fittings

- Taptite cup S M3x8 SR (x 4)
- Hook (x 2)

(3) **Remove** > FUSER DRIVE GEAR Z25 FCL

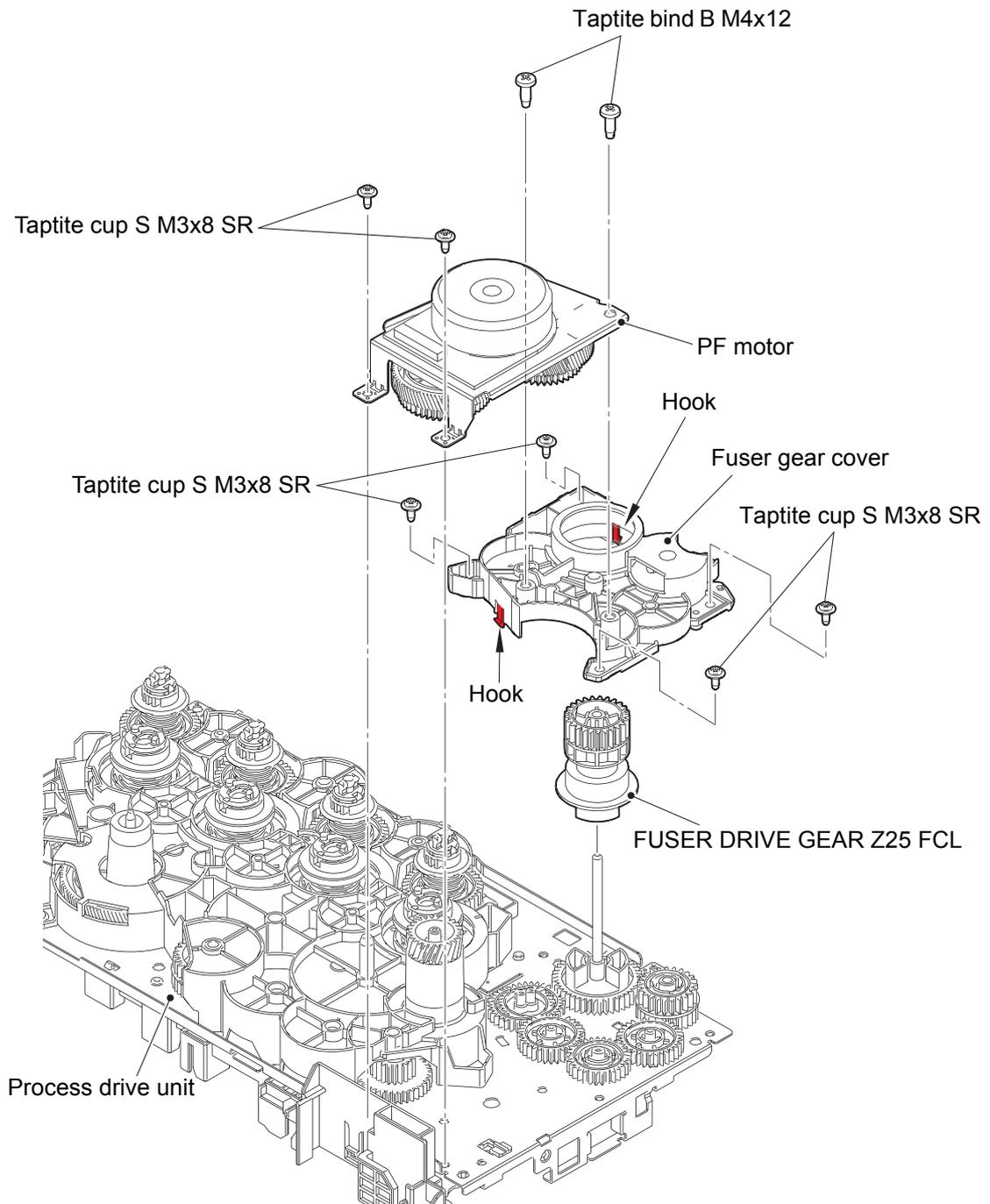


Fig. 3-99

8.46 PF drive unit

- (1) **Remove** > T1 bearing 6, PF REG drive joint

 **Fixtures & Fittings**
- Hook (x 1)



Point:

- Rotate the T1 bearing 6 in the direction of the arrow.

- (2) **Remove** > PF bearing 5, Feed roller drive shaft

 **Fixtures & Fittings**
- Hook (x 1)

- (3) **Remove** > T1 bearing 6, Separation roller drive joint

 **Fixtures & Fittings**
- Hook (x 1)



Point:

- Rotate the T1 bearing 6 in the direction of the arrow.

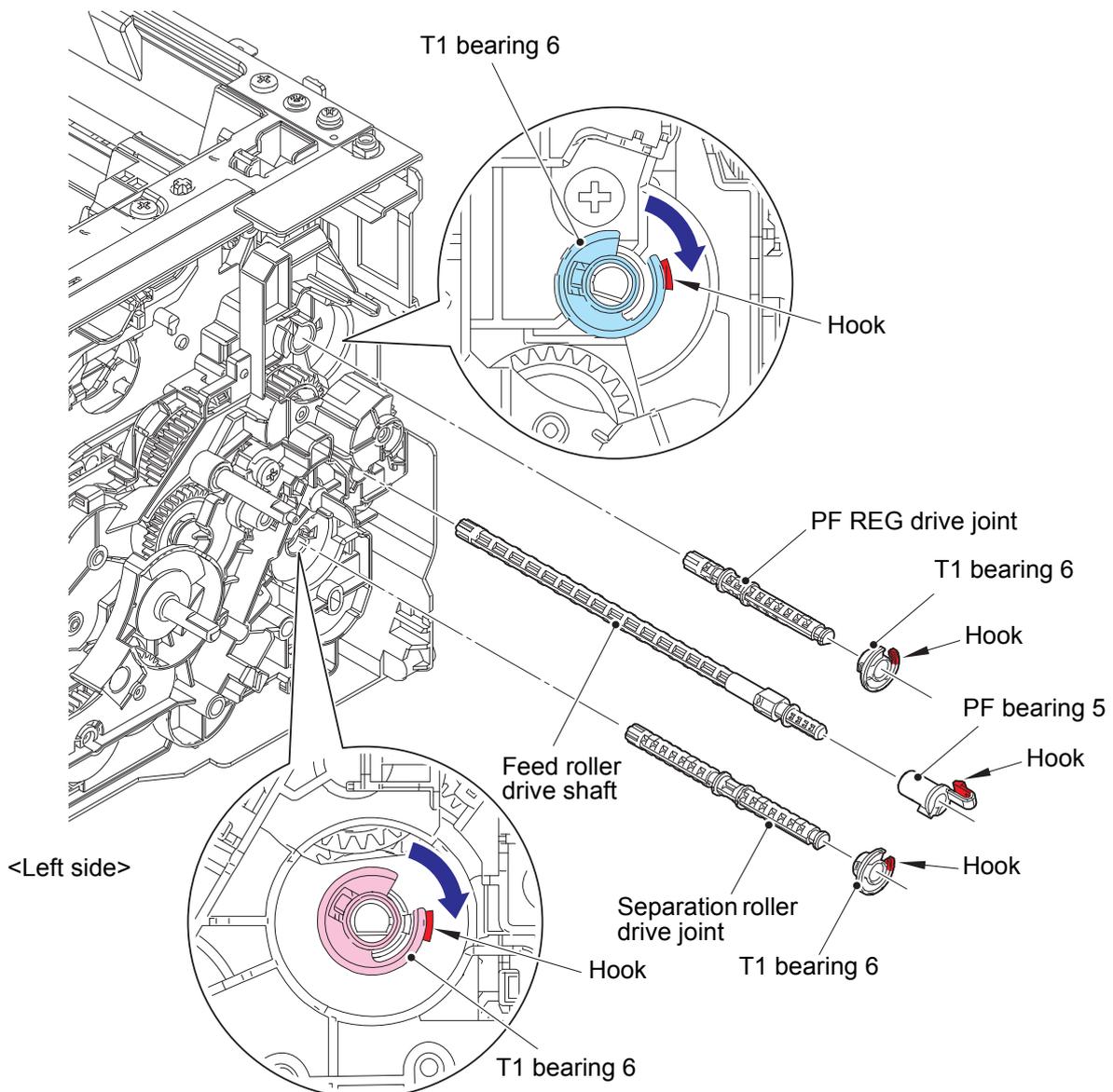


Fig. 3-100

(4) **Remove** > PF drive unit

- Fixtures & Fittings**
- Taptite bind B M4x12 (x 5)

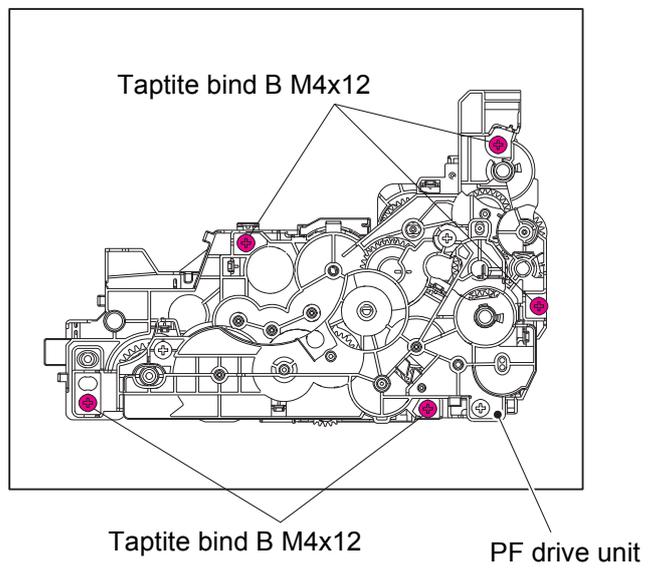
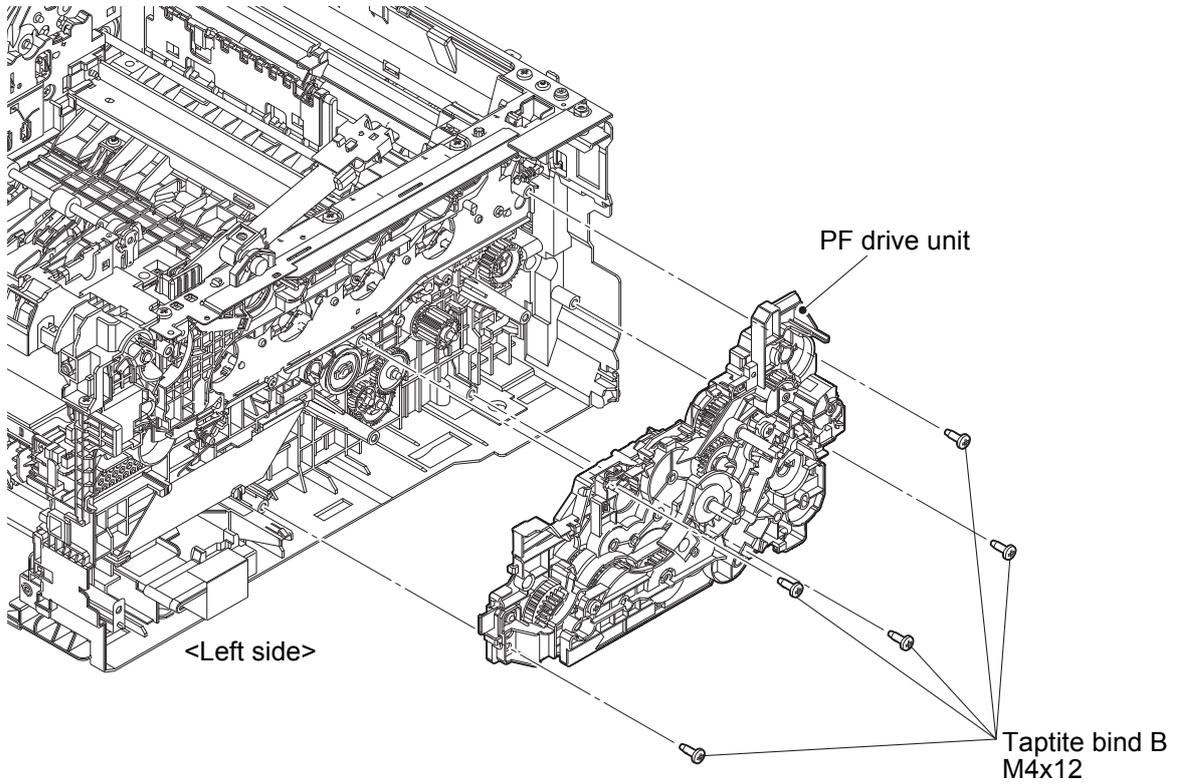


Fig. 3-101

8.47 HVPS FFC

(1) **Remove** > TR cover



Fixtures & Fittings

- Taptite bind B M3x10 (x 1)
- Hook (x 3)



Point:

- Pull out the HVPS FFC through the hole.

(2) **Wiring** > HVPS FFC

(3) **Remove** > HVPS FFC



Fixtures & Fittings

- Double-sided tape (x 1)

Double-sided tape

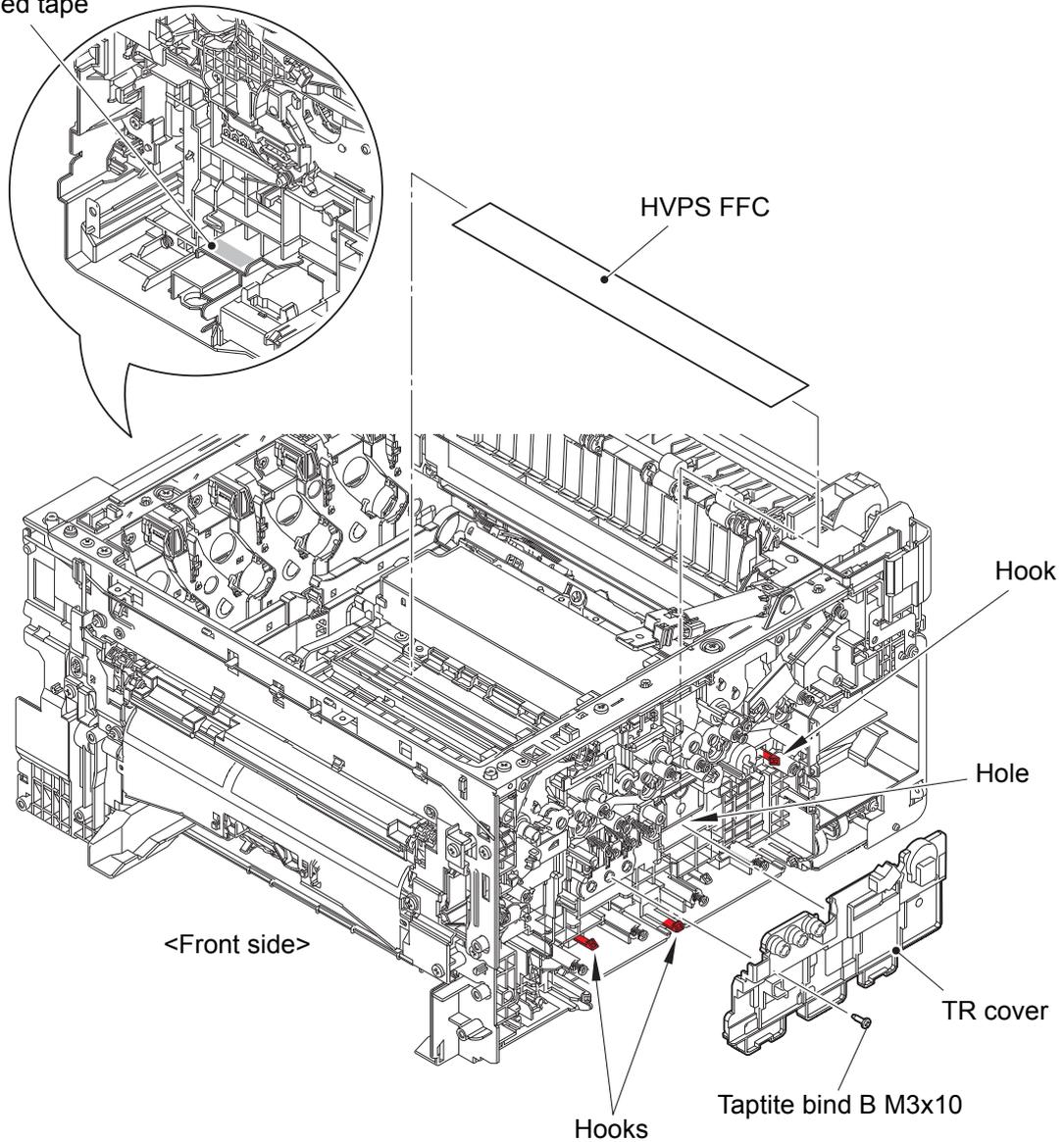


Fig. 3-102

Harness routing: Refer to "9. HVPS FFC".

<How to fold the HVPS FFC>

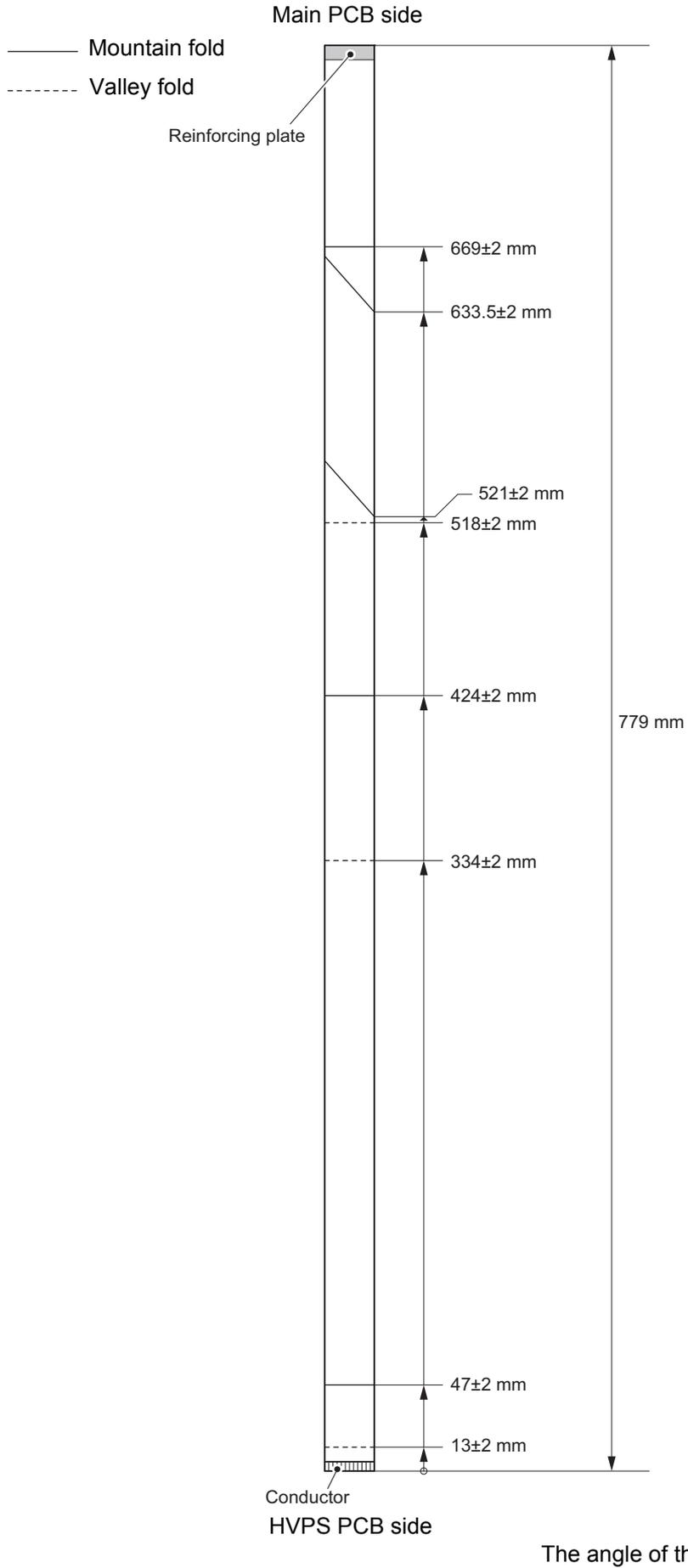


Fig. 3-103

8.48 Eject sensor/relay PCB

- (1) **Disconnect** > Back cover sensor harness
- (2) **Wiring** > Eject sensor/relay harness
- (3) **Disconnect** > Eject sensor/relay harness
- (4) **Remove** > Eject sensor/relay PCB

Fixtures & Fittings

- Hook (x 1)

- (5) **Disconnect** > REG mark sensor L harness, REG mark sensor R harness

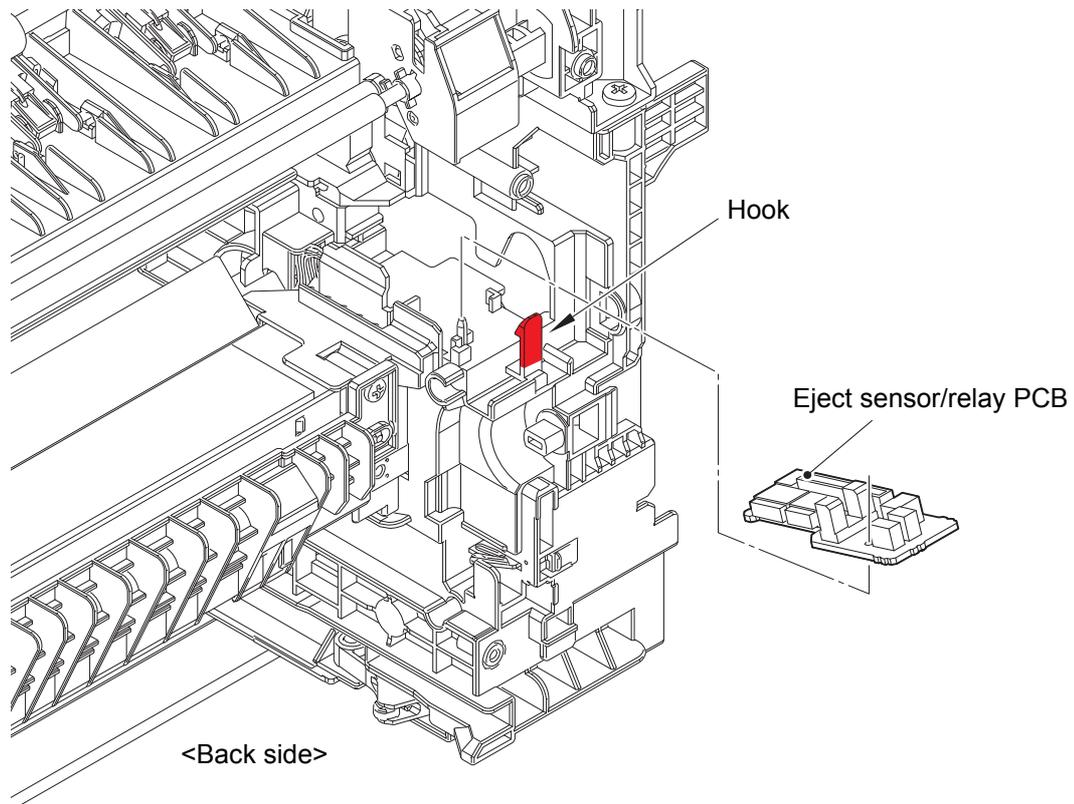
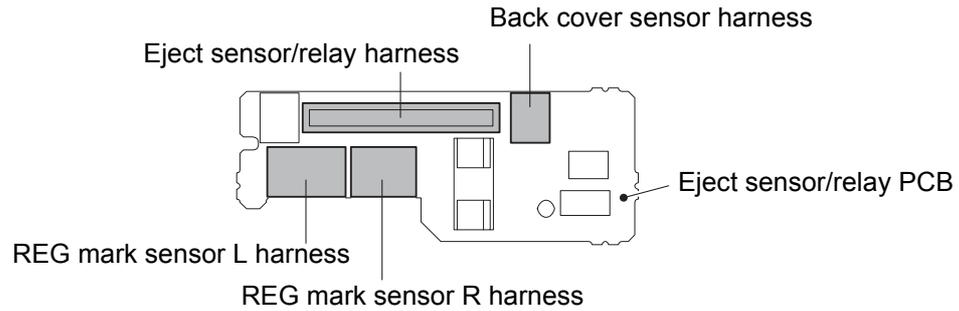


Fig. 3-104

Harness routing: Refer to "7. Eject sensor/relay harness".

8.49 Roller holder ASSY

(1) **Remove** > Roller holder ASSY

 **Fixtures & Fittings**
- Lift arm (x 1)



Point:

- Remove the Roller holder ASSY in the order of the arrows.

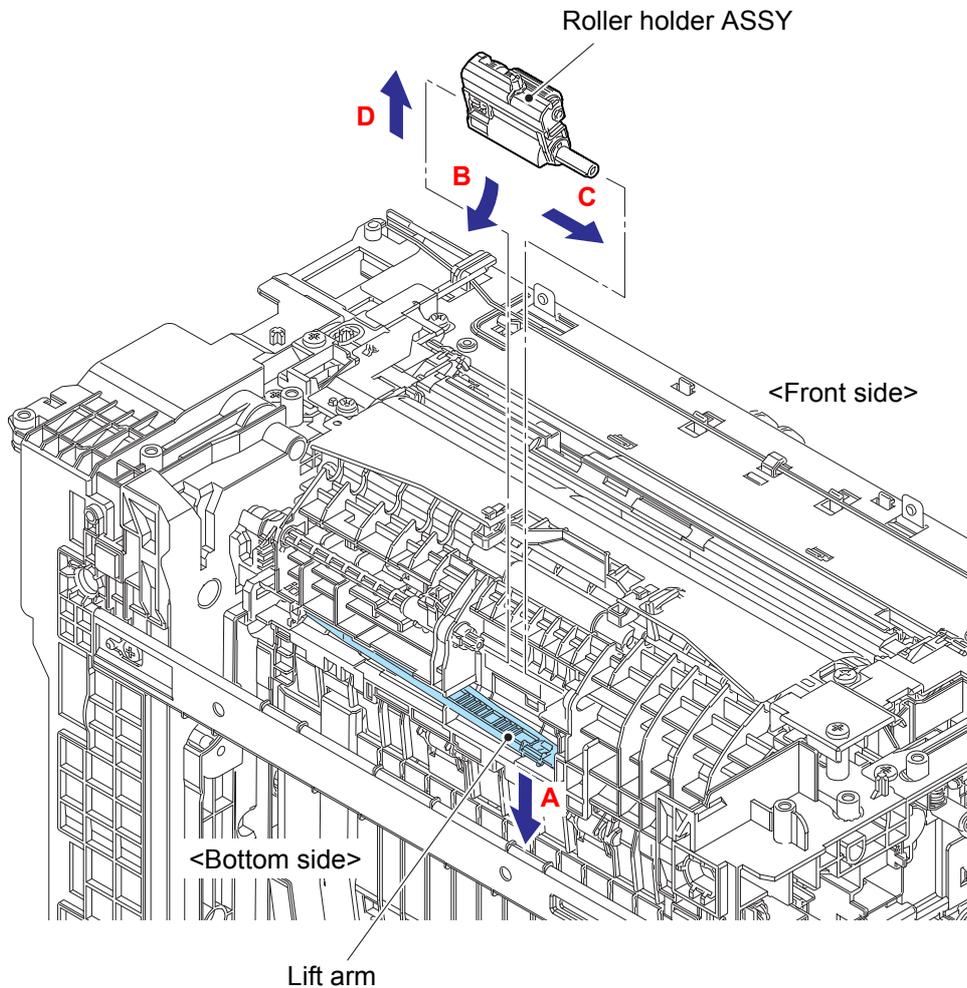


Fig. 3-105



Assembling note:

- After replacing the Roller holder ASSY, reset the counter.
(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

8.50 PF unit

(1) **Wiring** > T1 PF sensor harness, REG front/rear sensor harness

(2) **Release** > Lift arm

Fixtures & Fittings

- Boss (x 1)

(3) **Remove** > PF unit

Fixtures & Fittings

- Taptite bind B M4x12 (x 3)

- Taptite pan (washer) M4x12DA (x 1)

- Taptite cup B M3x10 (x 2)

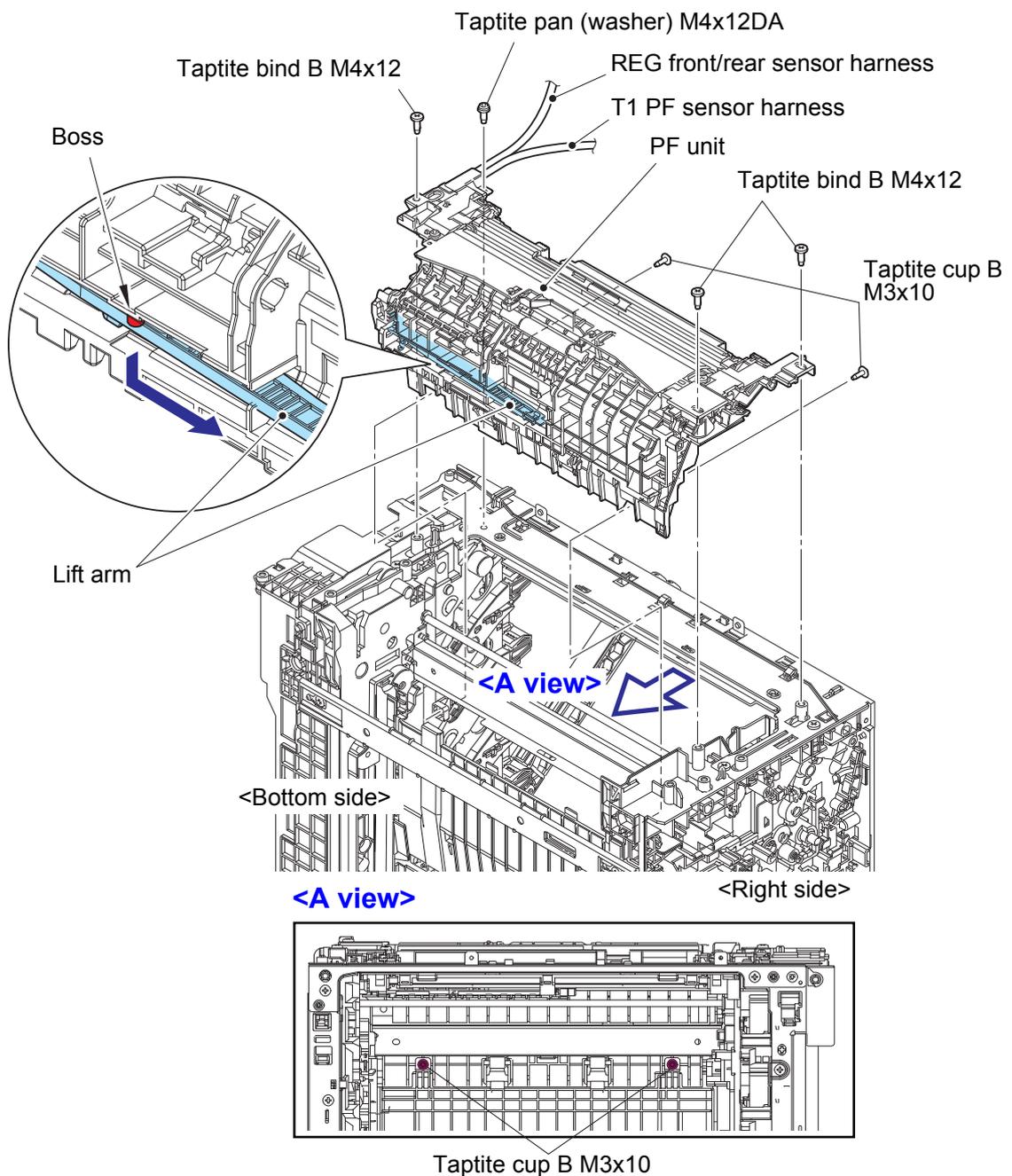


Fig. 3-106

Harness routing: Refer to "27. REG front/rear sensor harness, T1 PF sensor harness".

8.51 Paper eject ASSY

- (1) **Remove** > Joint sub arm R
- (2) **Remove** > Paper eject ASSY



Fixtures & Fittings

- Taptite bind B M4x12 (x 4)

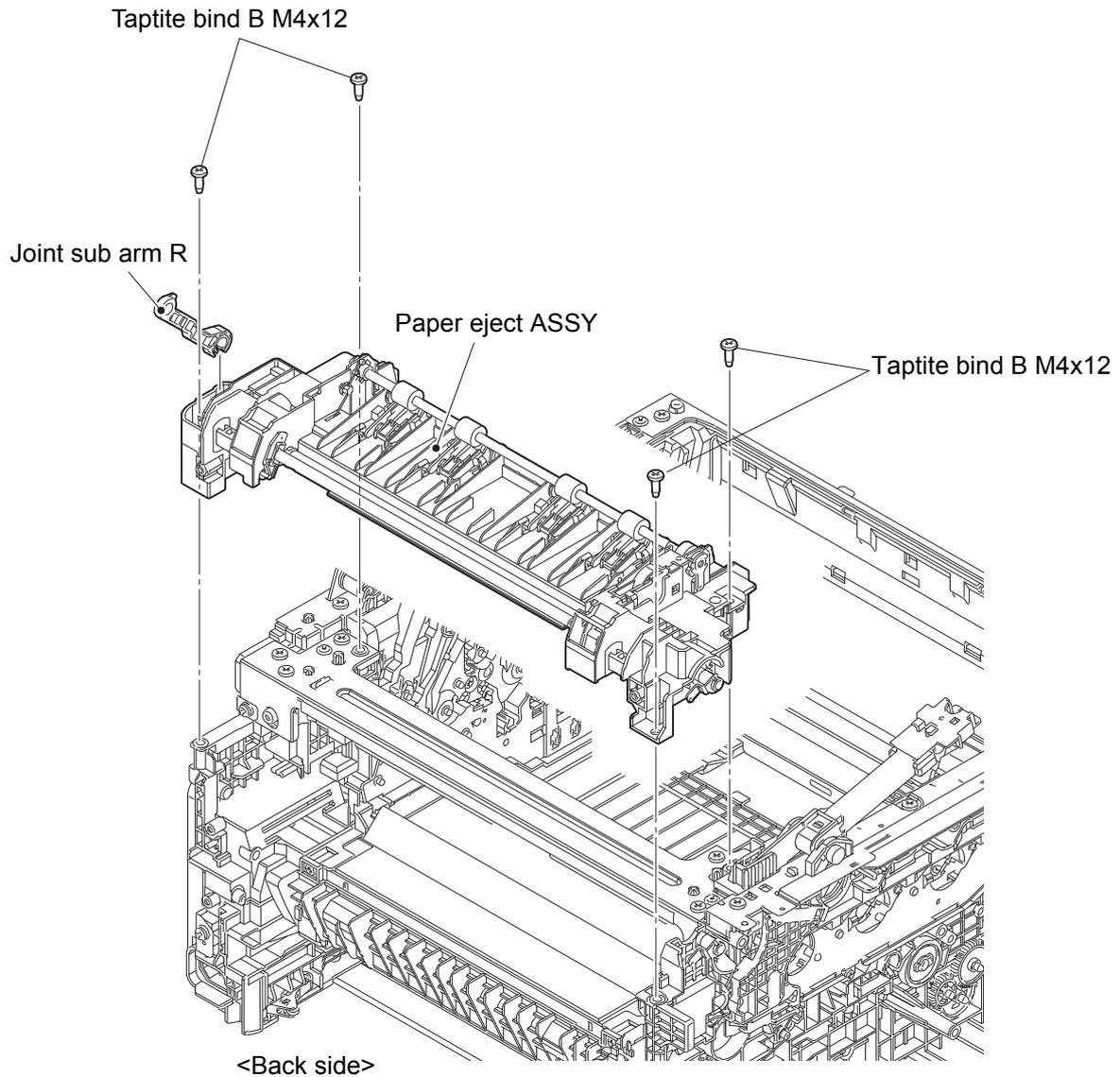


Fig. 3-107

8.52 LVPS PCB

⚠ WARNING

When removing the LVPS PCB, do not touch it within **3 minutes** after disconnecting the AC cord as it may cause an electric shock due to the electric charge accumulated in the capacitor.

- (1) **Remove** > LVPS harness cover lower



Fixtures & Fittings

- Taptite bind B M4x12 (x 1)

- (2) **Remove** > Rib DX



Fixtures & Fittings

- Hook (x 1)

- (3) **Remove** > Base frame middle DX



Fixtures & Fittings

- Taptite bind B M3x10 (x 2)

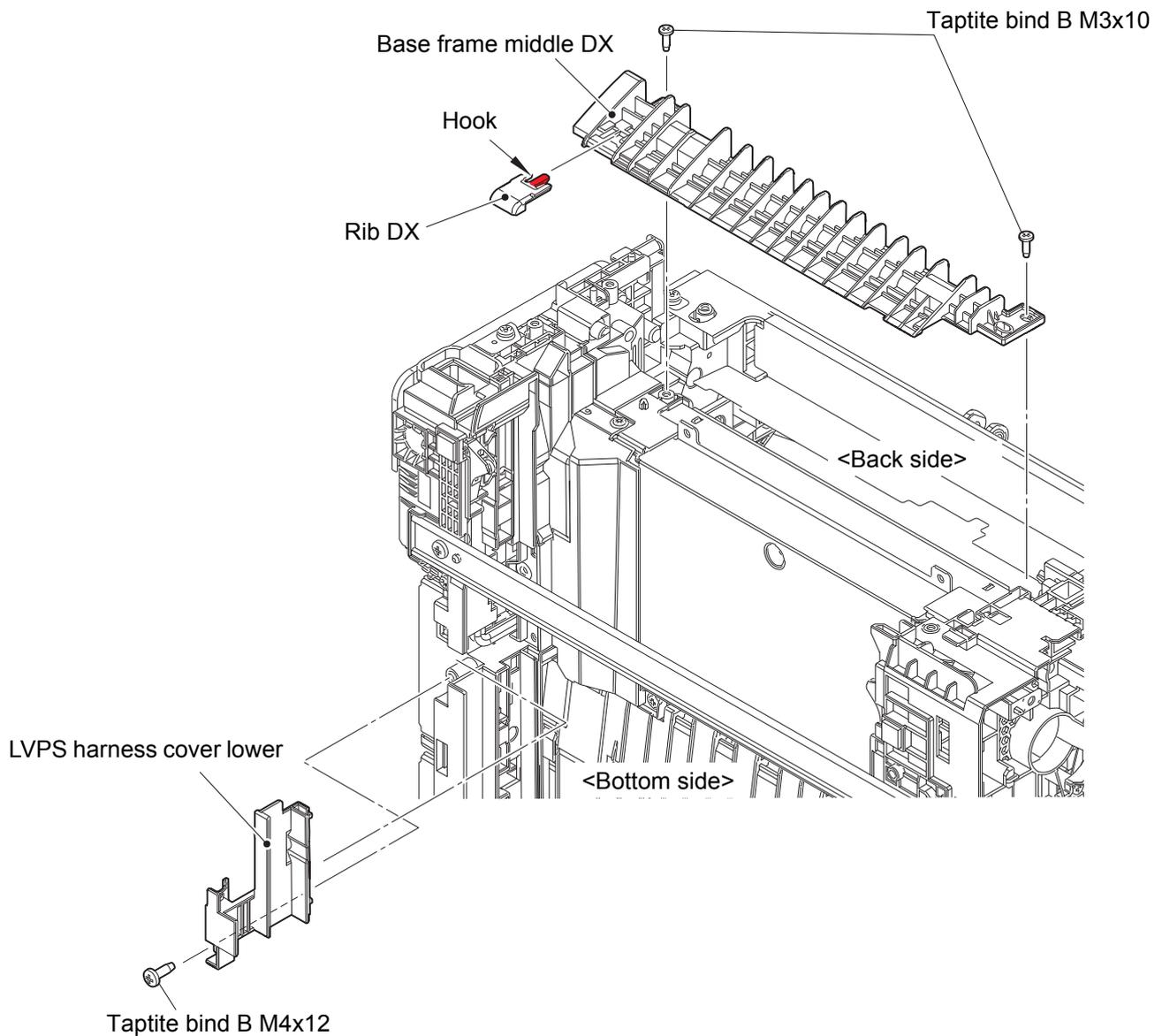


Fig. 3-108

(4) **Remove** > LVPS harness cover upper

- Fixtures & Fittings**
- Screw cup M3x6 (x 2)

Point:

- Remove the LVPS harness cover upper in the order of the arrows.

(5) **Remove** > LVPS FG harness

- Fixtures & Fittings**
- Screw pan M4x8 (x 1)
 - Washer spring 2-4 (x 1)
 - Washer 5 (x 1)

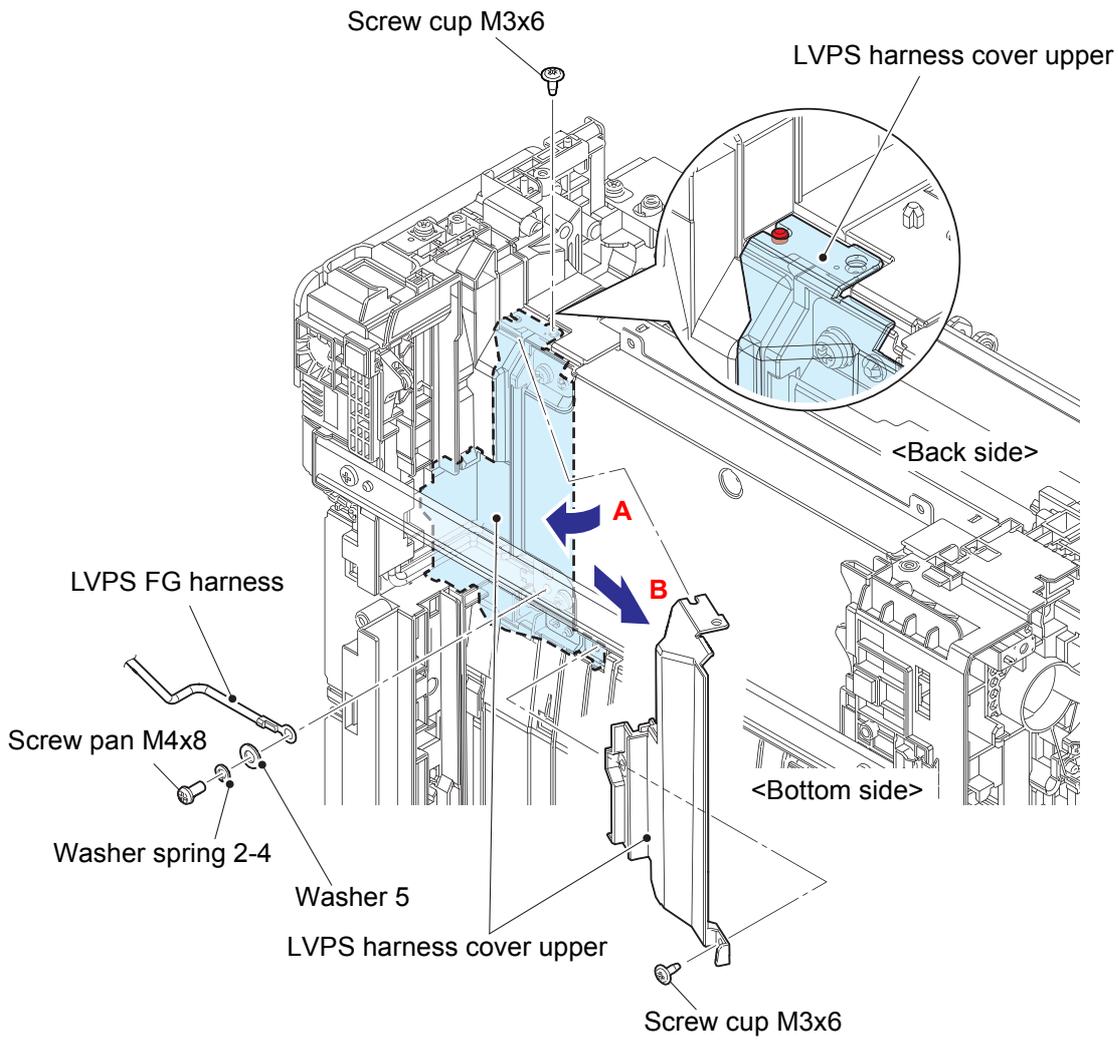


Fig. 3-109

(6) **Remove** > HVPS ground plate rear

 **Fixtures & Fittings**

- Taptite pan (washer) B M4x12DA (x 1)

(7) **Remove** > Fan ground plate, LVPS ground plate rear

 **Fixtures & Fittings**

- Taptite pan (washer) B M4x12DA (x 2)

(8) **Wiring** > Fan FG harness

(9) **Remove** > LVPS harness cap

 **Fixtures & Fittings**

- Hook (x 2)

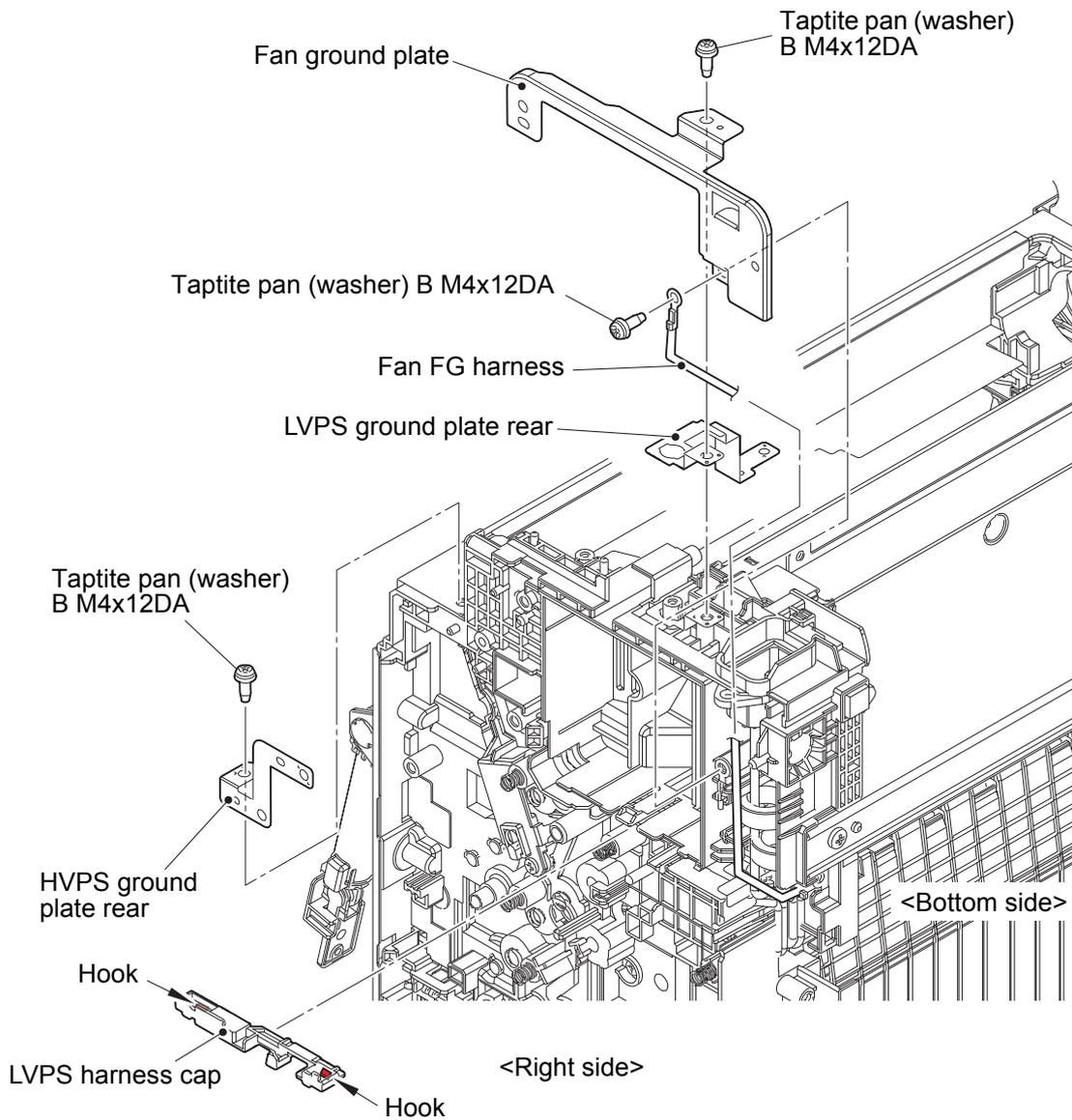


Fig. 3-110

Harness routing: Refer to "8. Fan harness, Fan FG harness".

(10) **Remove** > Inlet

(11) **Wiring** > Inlet harness ASSY, LVPS heater harness

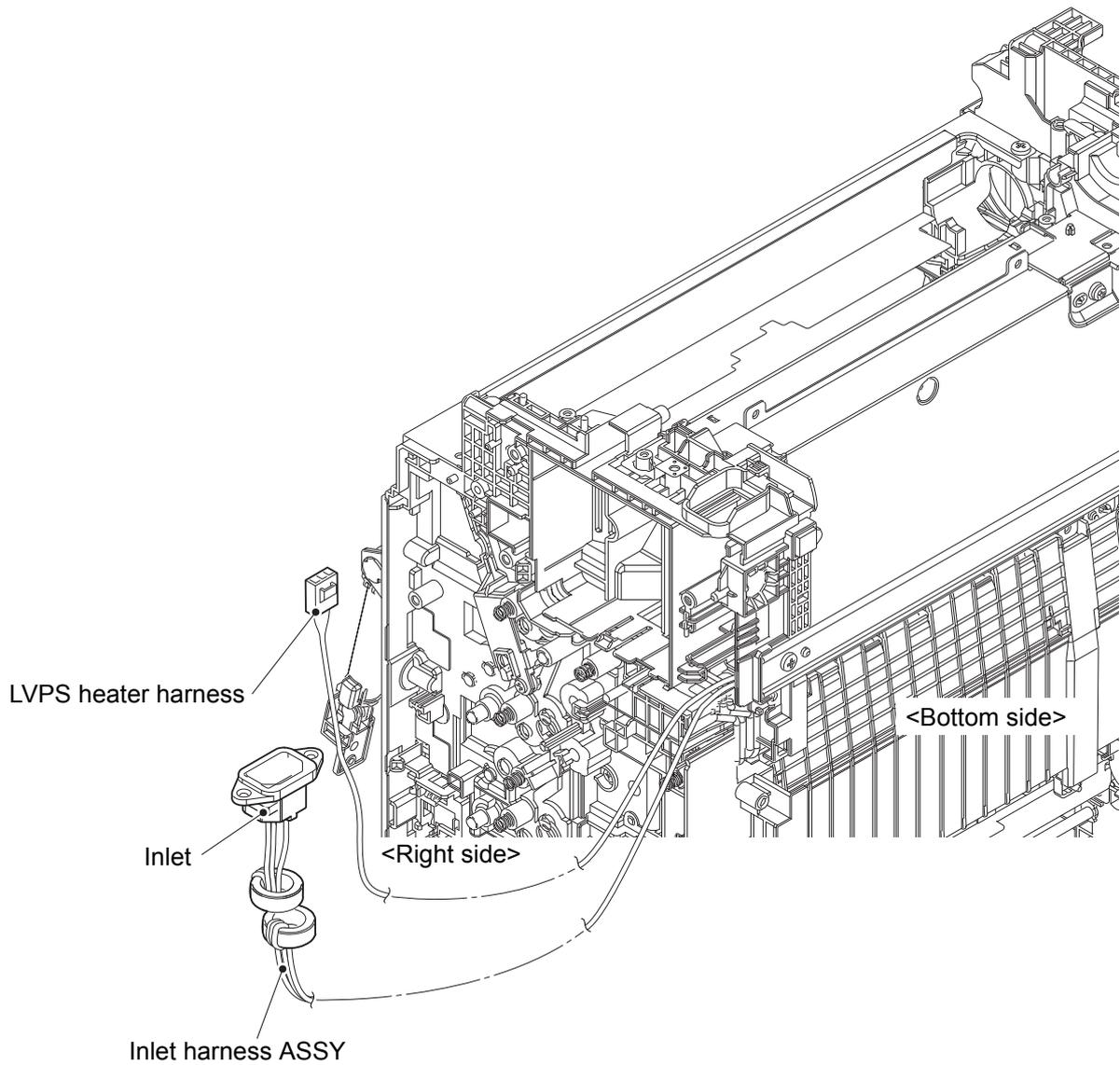


Fig. 3-111

Harness routing: Refer to "11. Inlet harness ASSY, LVPS heater harness, LVPS harness".

(12) **Wiring** > LVPS harness

(13) **Remove** > LVPS shield plate

 **Fixtures & Fittings**

- Taptite pan (washer) B M4x12DA (x 4)
- Screw cup M3x6 (x 3)

(14) **Remove** > LVPS PCB insulation sheet

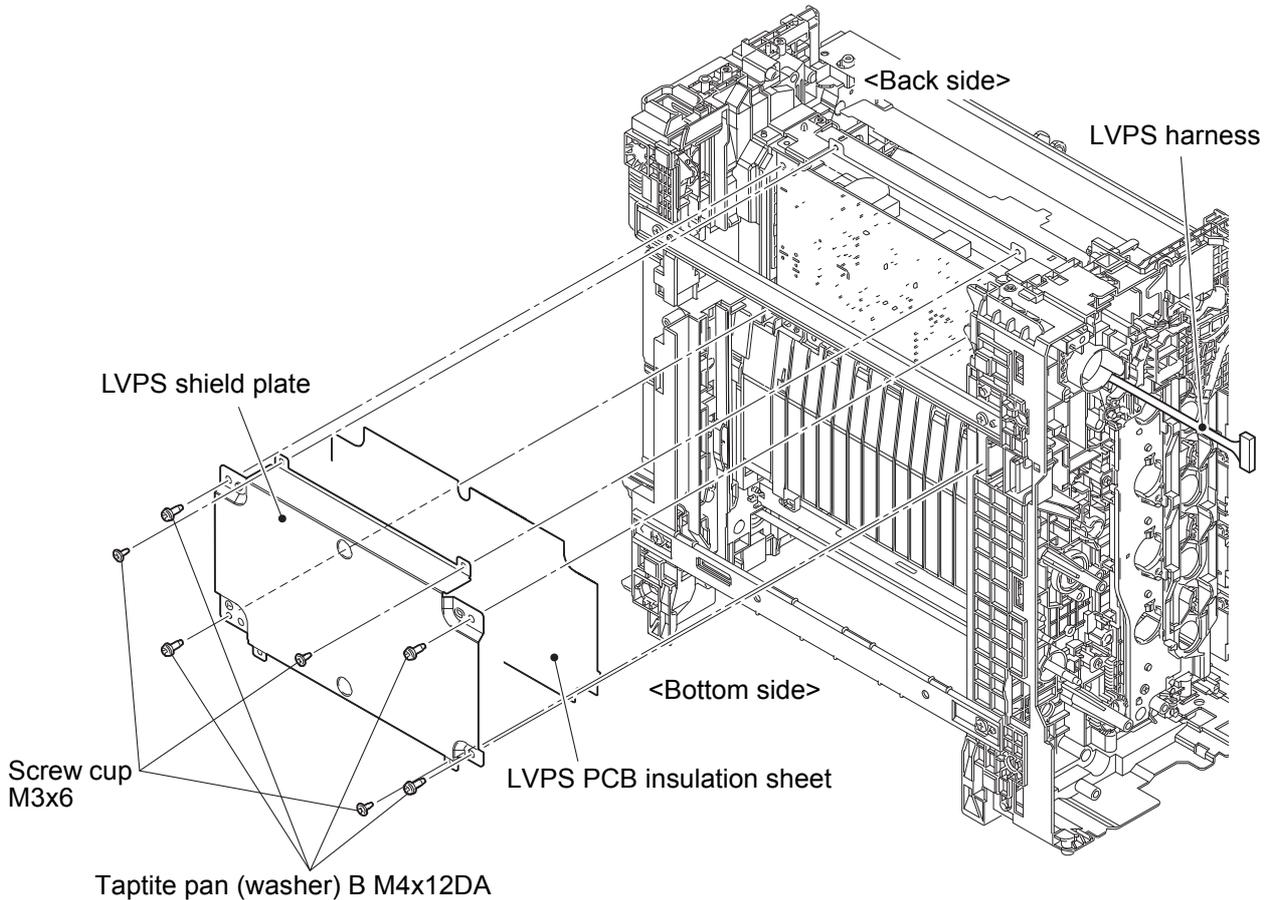


Fig. 3-112

Harness routing: Refer to "11. Inlet harness ASSY, LVPS heater harness, LVPS harness".

(15) **Remove** > LVPS PCB



Point:

- Pull out the LVPS harness through the hole.

(16) **Disconnect** > LVPS harness

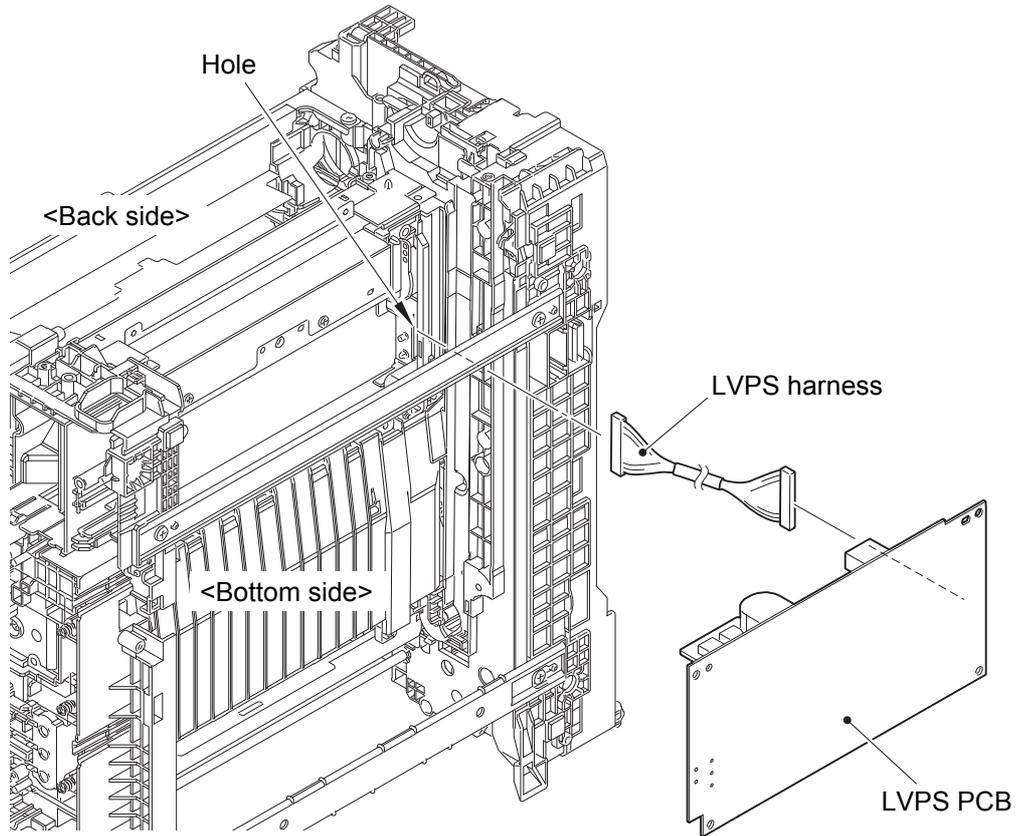


Fig. 3-113

8.53 REG mark sensor L PCB, REG mark sensor R PCB

- (1) **Wiring** > REG mark sensor L harness, REG mark sensor R harness
- (2) **Remove** > REG mark sensor ASSY

Fixtures & Fittings

- Taptite bind S M3x5 (x 1)
- Hook (x 1)

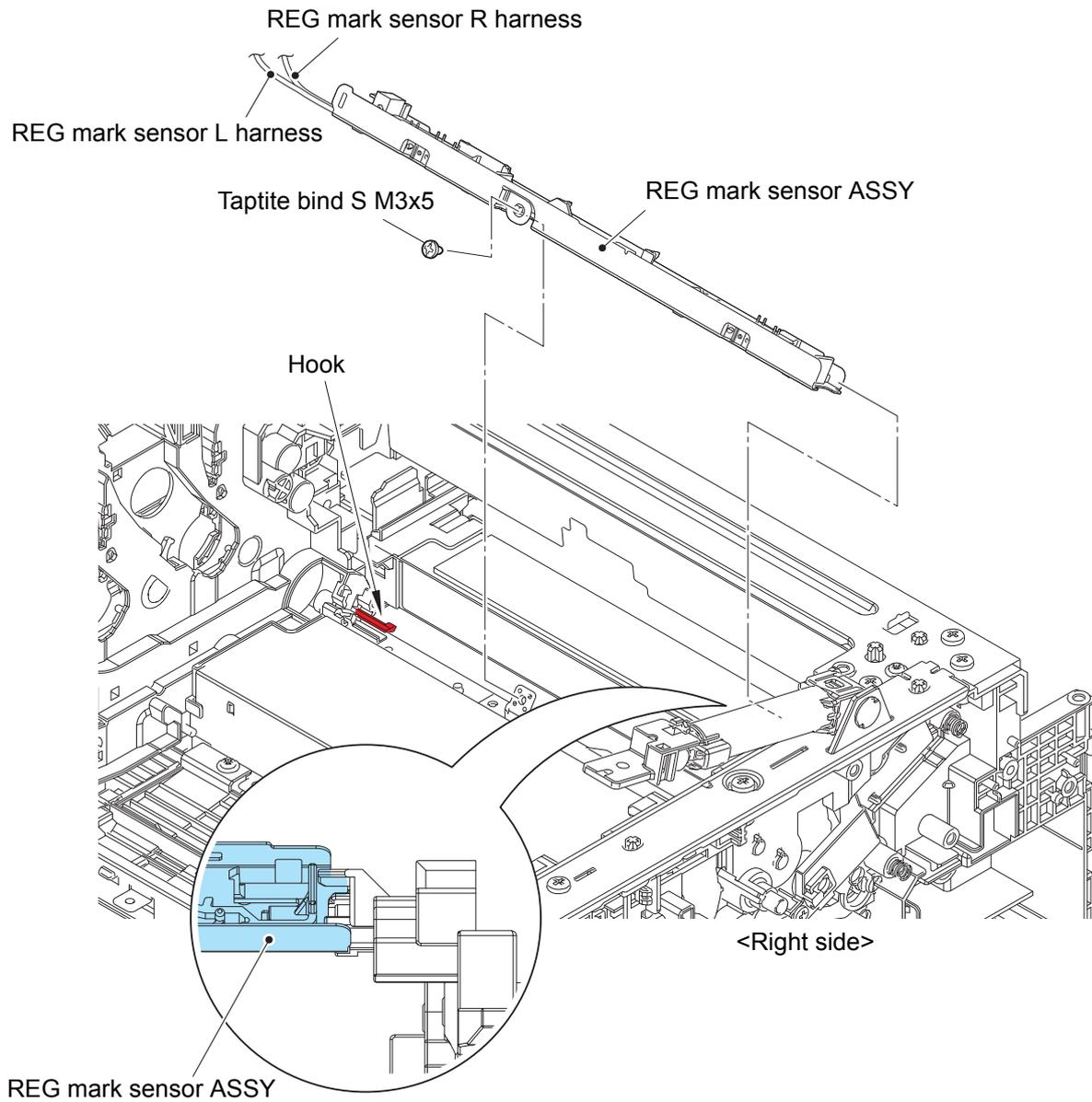


Fig. 3-114

Harness routing: Refer to "28. REG mark sensor L harness, REG mark sensor R harness".

(3) **Remove** > REG mark sensor L PCB

-  **Fixtures & Fittings**
- Boss (x 1)

 **Point:**
• Remove the REG mark sensor L PCB in the order of arrows A and B.

(4) **Wiring** > REG mark sensor R harness

(5) **Remove** > REG mark sensor R PCB

-  **Fixtures & Fittings**
- Boss (x 1)

 **Point:**
• Remove the REG mark sensor R PCB in the order of arrows C and D.

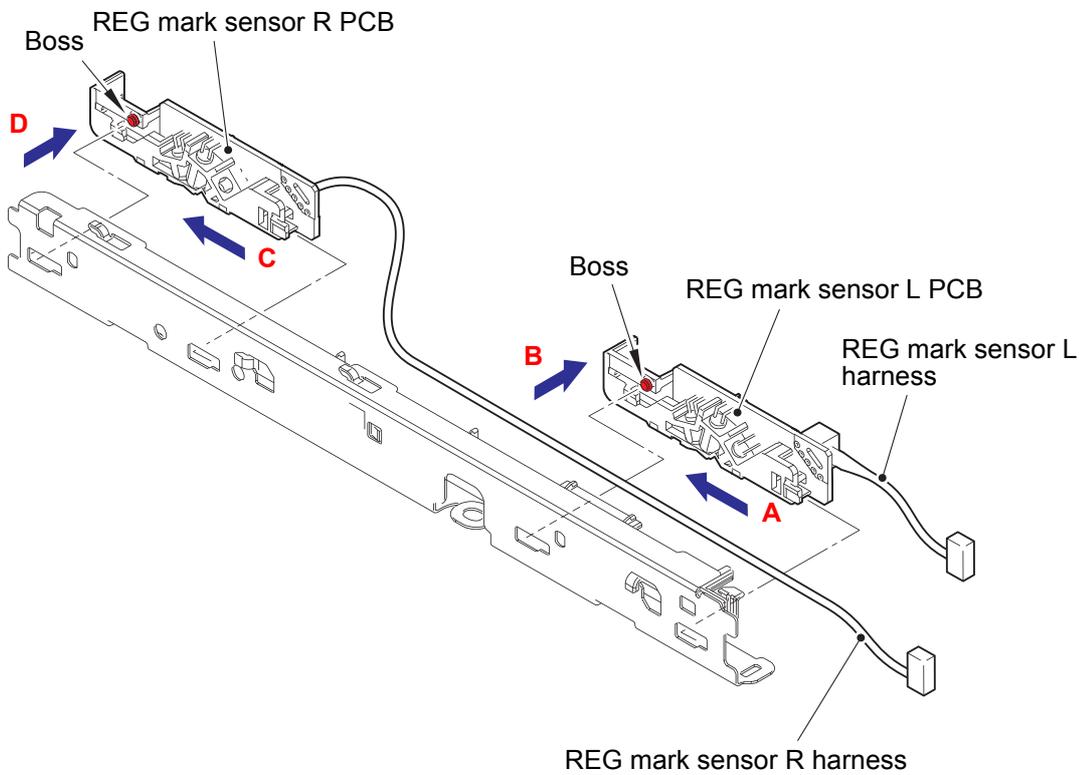


Fig. 3-115

Harness routing: Refer to "28. REG mark sensor L harness, REG mark sensor R harness".

9. DISASSEMBLY PROCEDURE (LT unit)

9.1 Preparation

- (1) Remove > LT paper tray

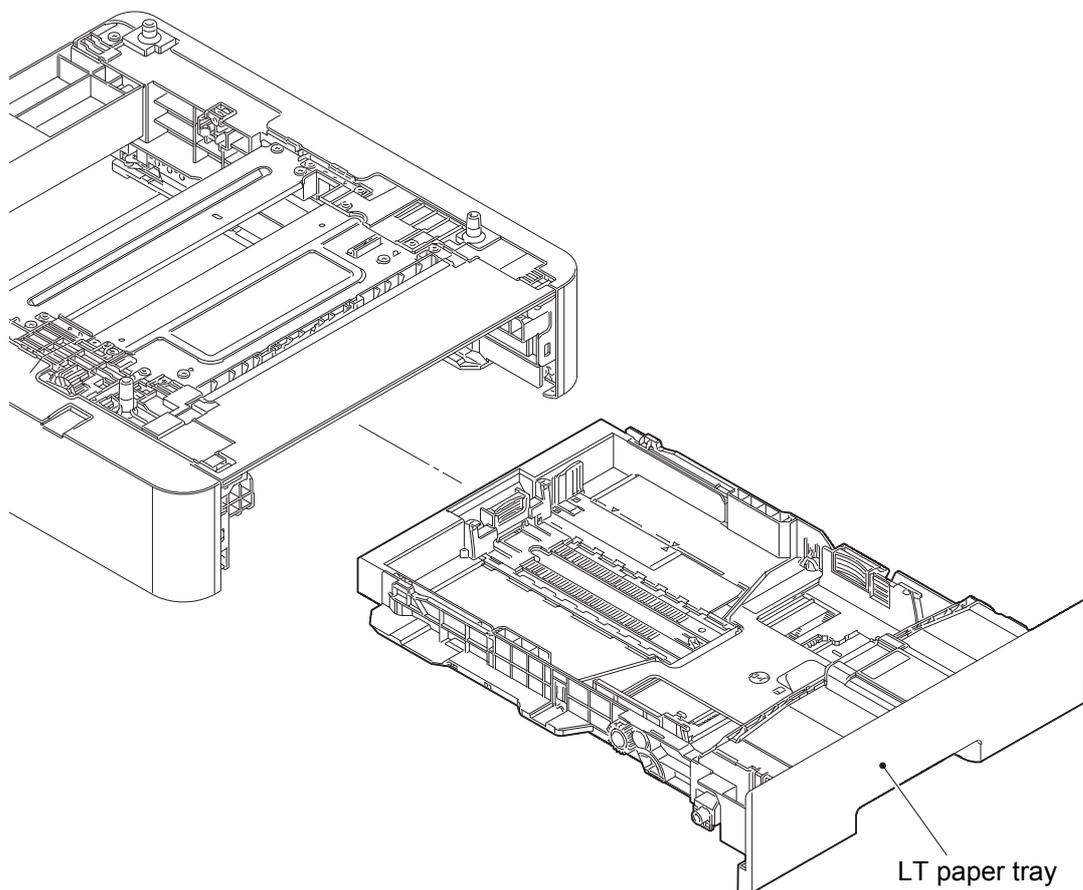


Fig. 3-116

9.2 LT separation pad

(1) **Remove** > LT separation pad

 **Fixtures & Fittings**

- Hook (x 2)

- Boss (x 2)

(2) **Remove** > LT Separation pad spring

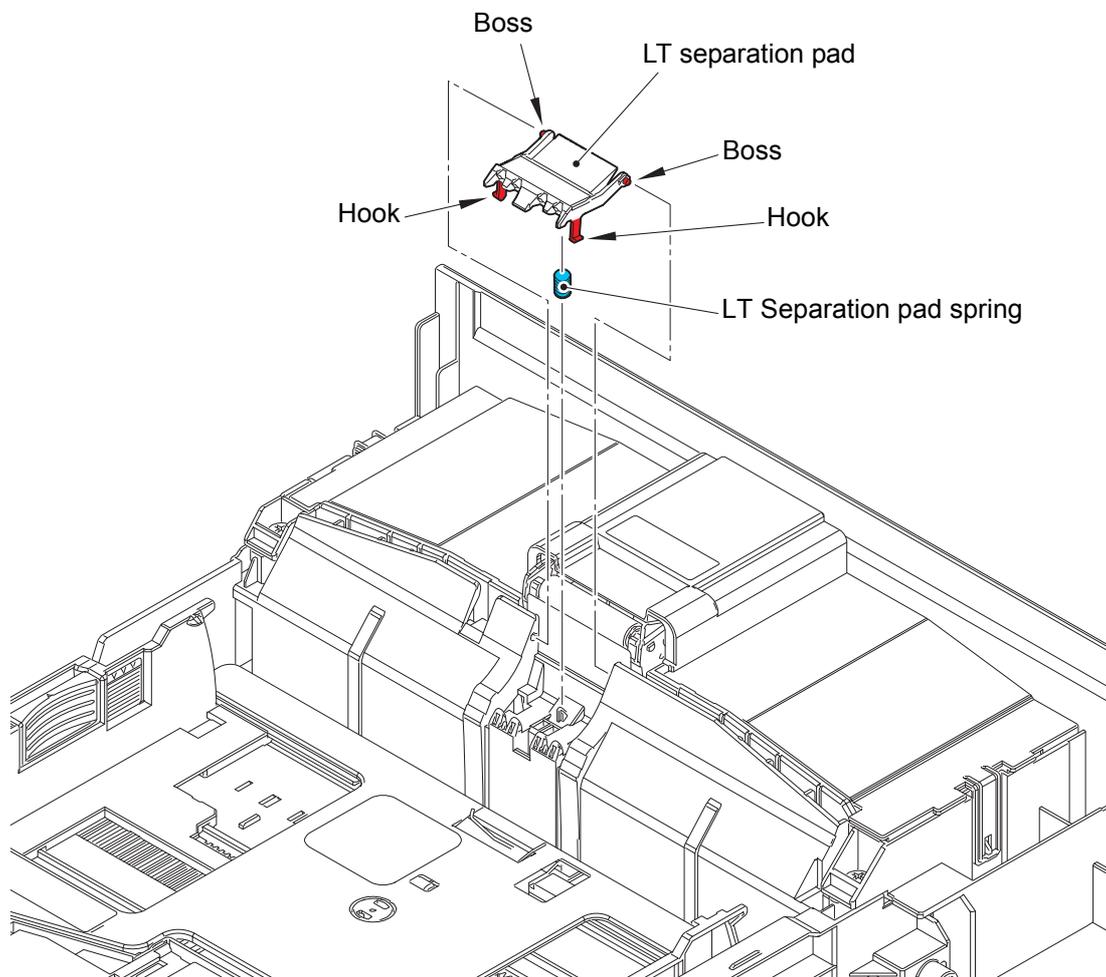


Fig. 3-117

9.3 LIFT GEAR Z27M10, GEAR Z22M10, IDLE GEAR Z18M10

(1) **Remove** > LIFT GEAR Z27M10

 **Fixtures & Fittings**
- Hook (x 1)

(2) **Remove** > GEAR Z22M10

(3) **Remove** > IDLE GEAR Z18M10

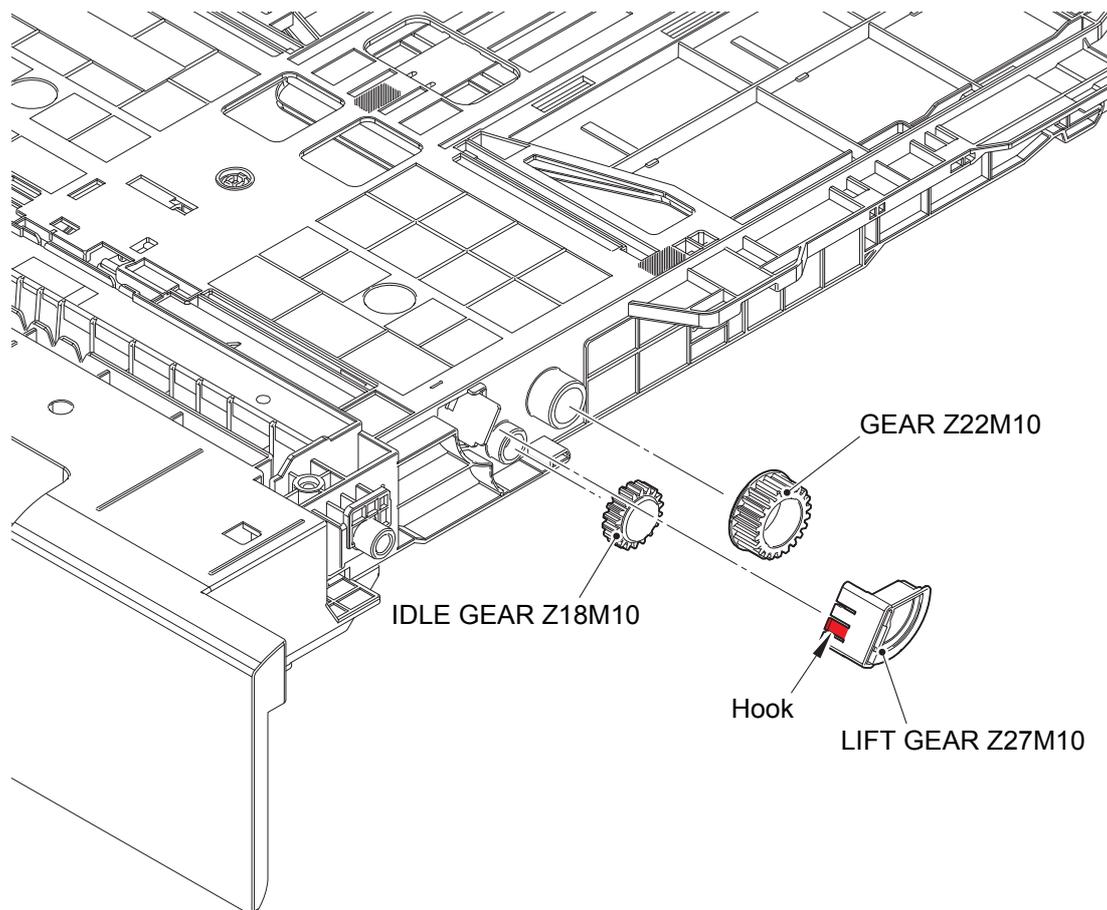


Fig. 3-118

9.4 LT roller holder ASSY

(1) **Remove** > LT roller holder ASSY

 **Fixtures & Fittings**
- Lift arm (x 1)



Point:

- Remove the LT roller holder ASSY in the order of the arrows.

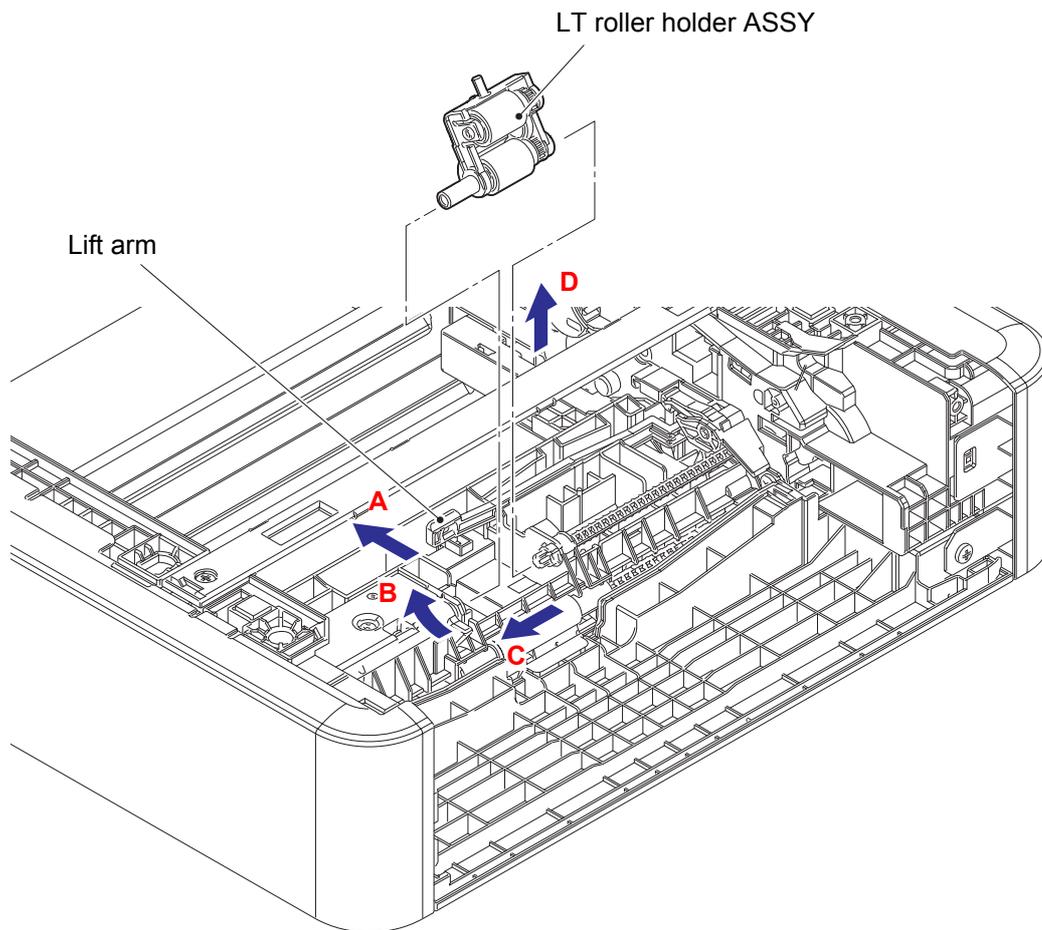


Fig. 3-119



Assembling note:

- After replacing the LT roller holder ASSY, reset the counter.
(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

9.5 LT side cover L

(1) **Remove** > LT side cover L



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Hook (x 8)



Point:

- Release the hooks in the order of the arrows.

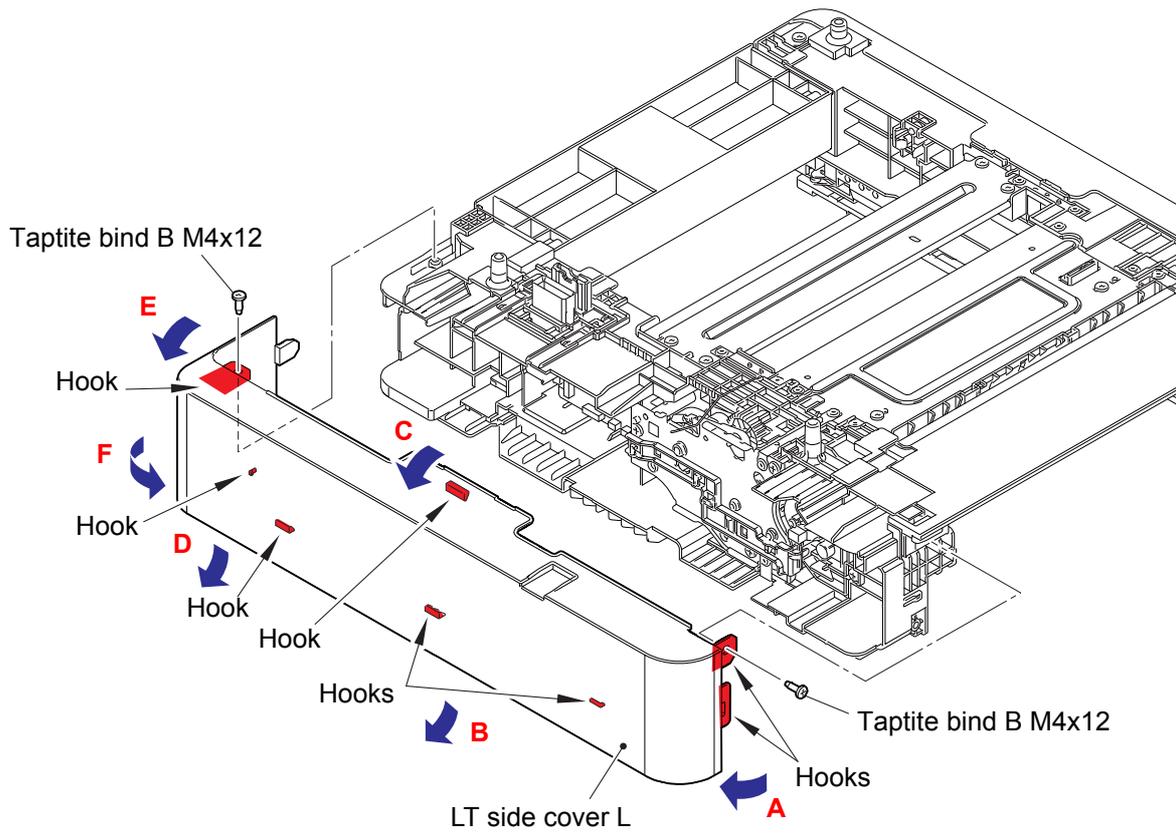


Fig. 3-120

9.6 LT side cover R

(1) **Remove** > LT side cover R



Fixtures & Fittings

- Taptite bind B M4x12 (x 2)
- Hook (x 8)



Point:

- Release the hooks in the order of the arrows.

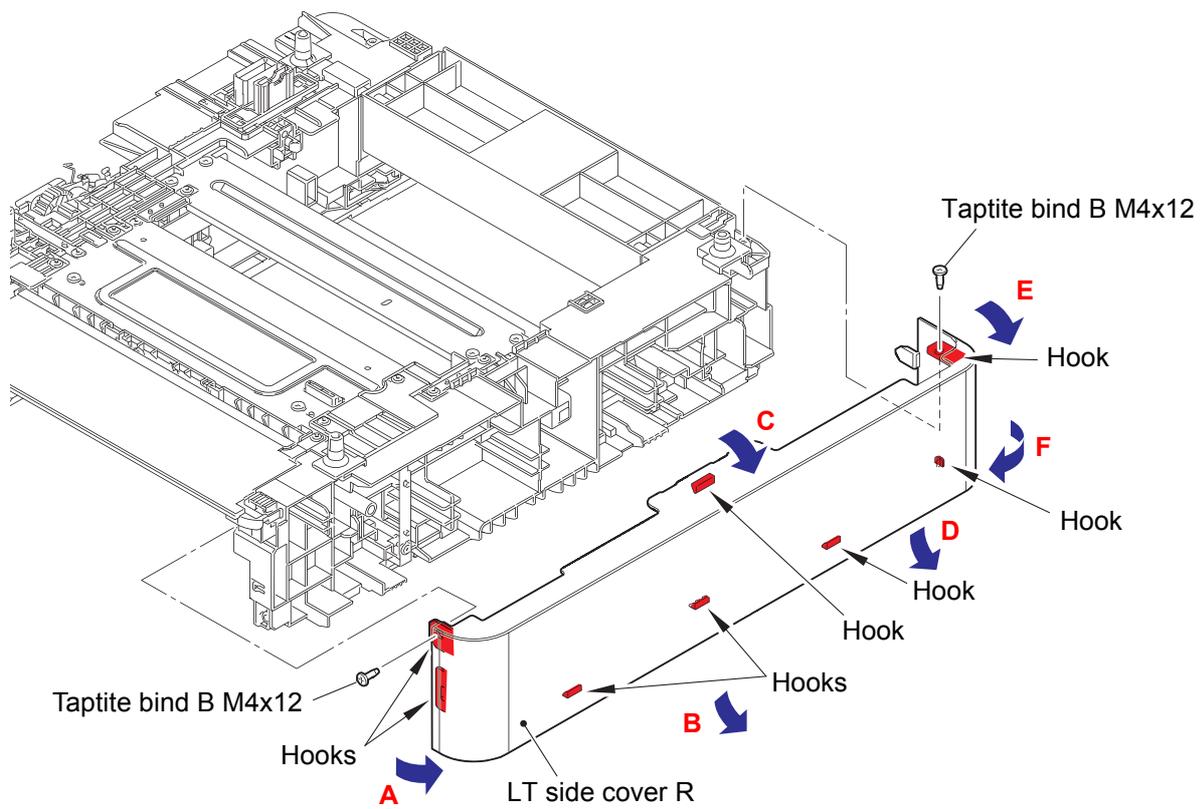


Fig. 3-121

9.7 LT front cover ASSY

(1) **Remove** > LT front cover ASSY

Fixtures & Fittings

- Taptite cup S M3x8 SR (x 1)
- Hook (x 2)

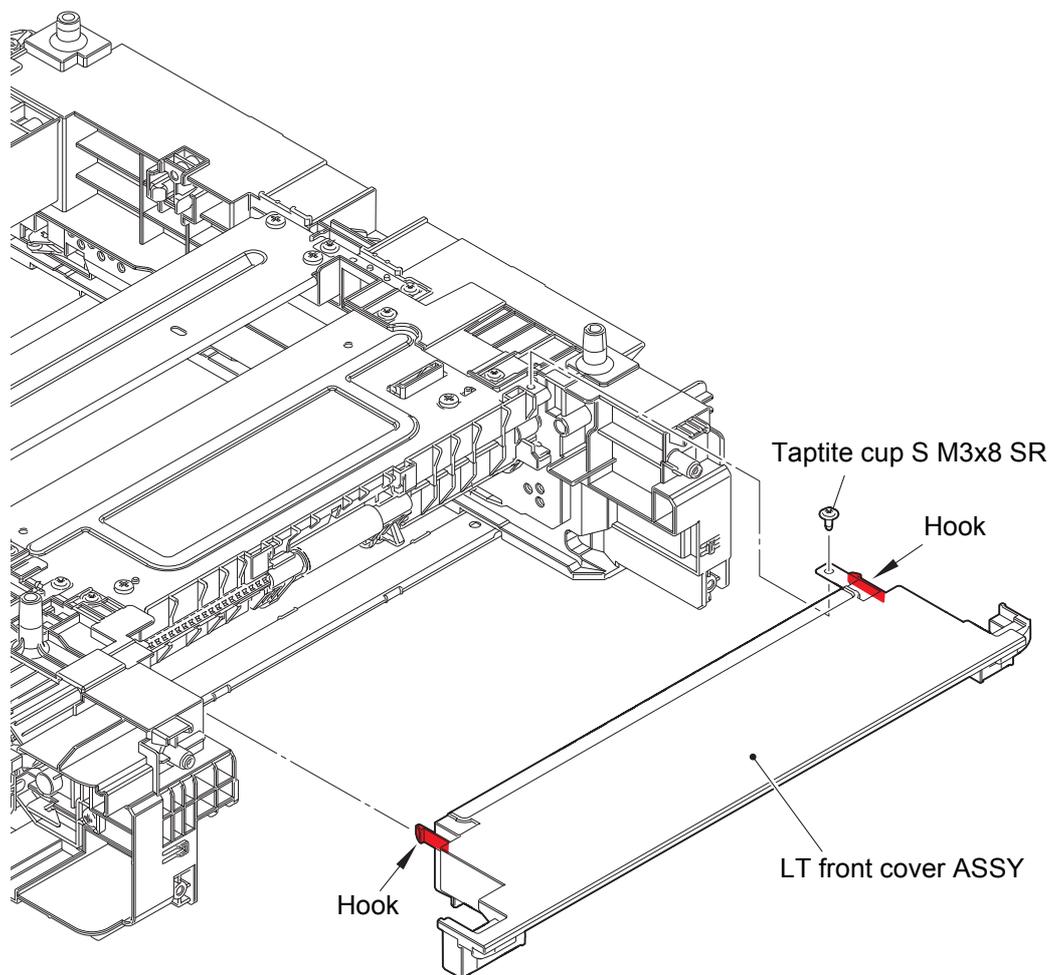


Fig. 3-122

9.8 LT control PCB

- (1) **Disconnect** > LT connector harness, LT release clutch harness, LT PF sensor harness, T1 CLUTCH 30 harness

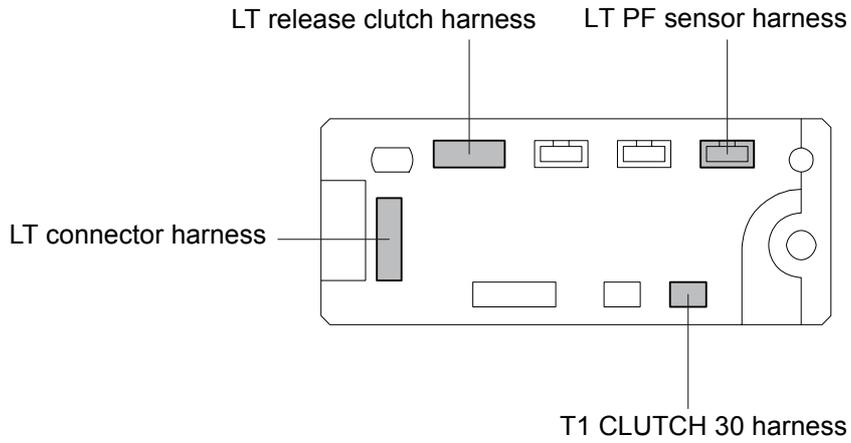


Fig. 3-123

- (2) **Remove** > LT control PCB

-  **Fixtures & Fittings**
- Hook (x 1)

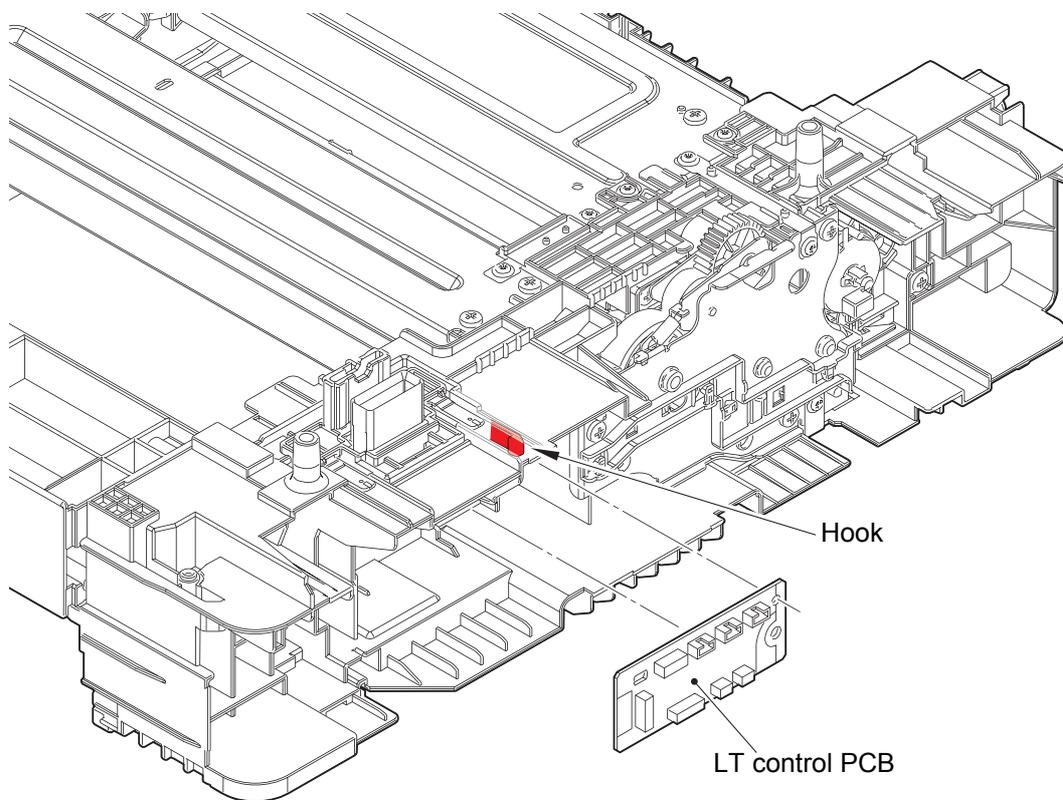


Fig. 3-124

9.9 T1 CLUTCH 30

- (1) **Wiring** > T1 CLUTCH 30 harness
- (2) **Remove** > T1 CLUTCH 30

-  **Fixtures & Fittings**
 - Hook (x 1)

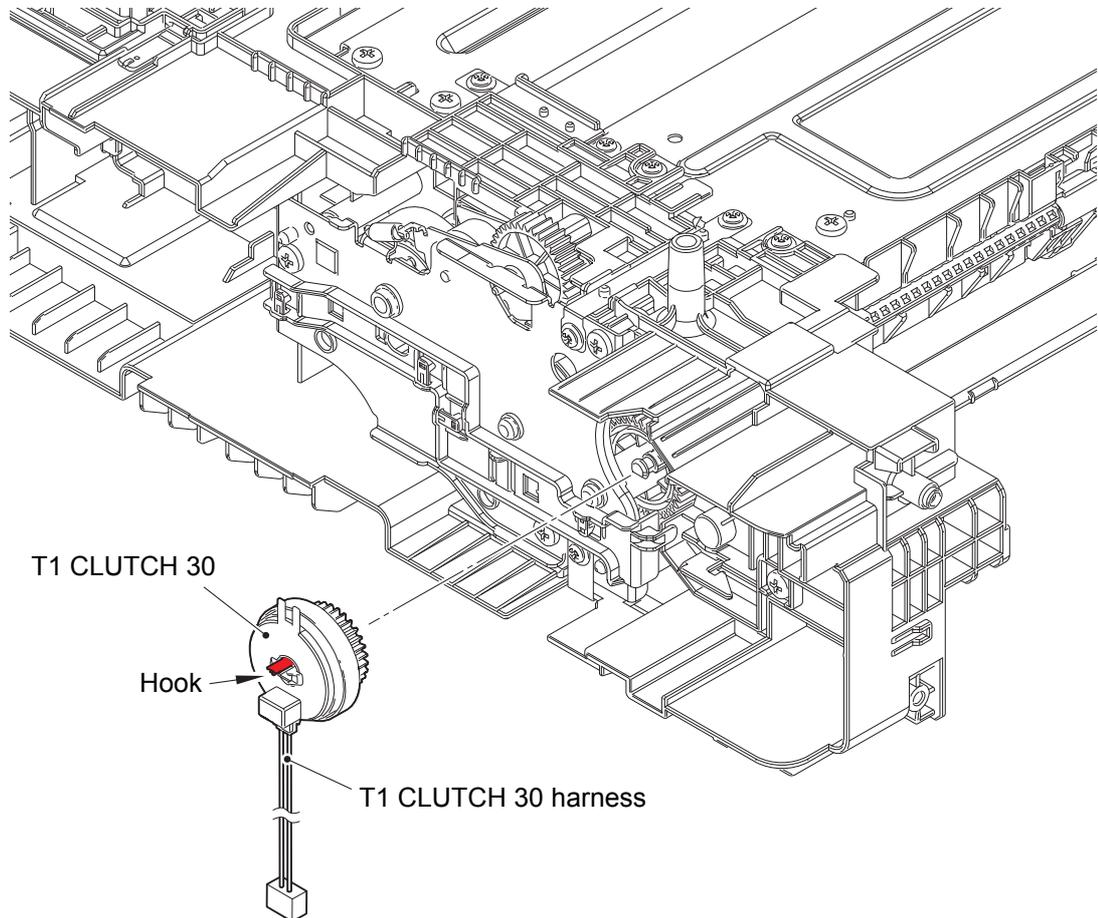


Fig. 3-125

Harness routing: Refer to ["29. T1 CLUTCH 30 harness"](#).

9.10 LT RELEASE CLUTCH

(1) **Remove** > LT under bar ground plate L



Fixtures & Fittings

- Taptite cup S M3x8 SR (x 2)

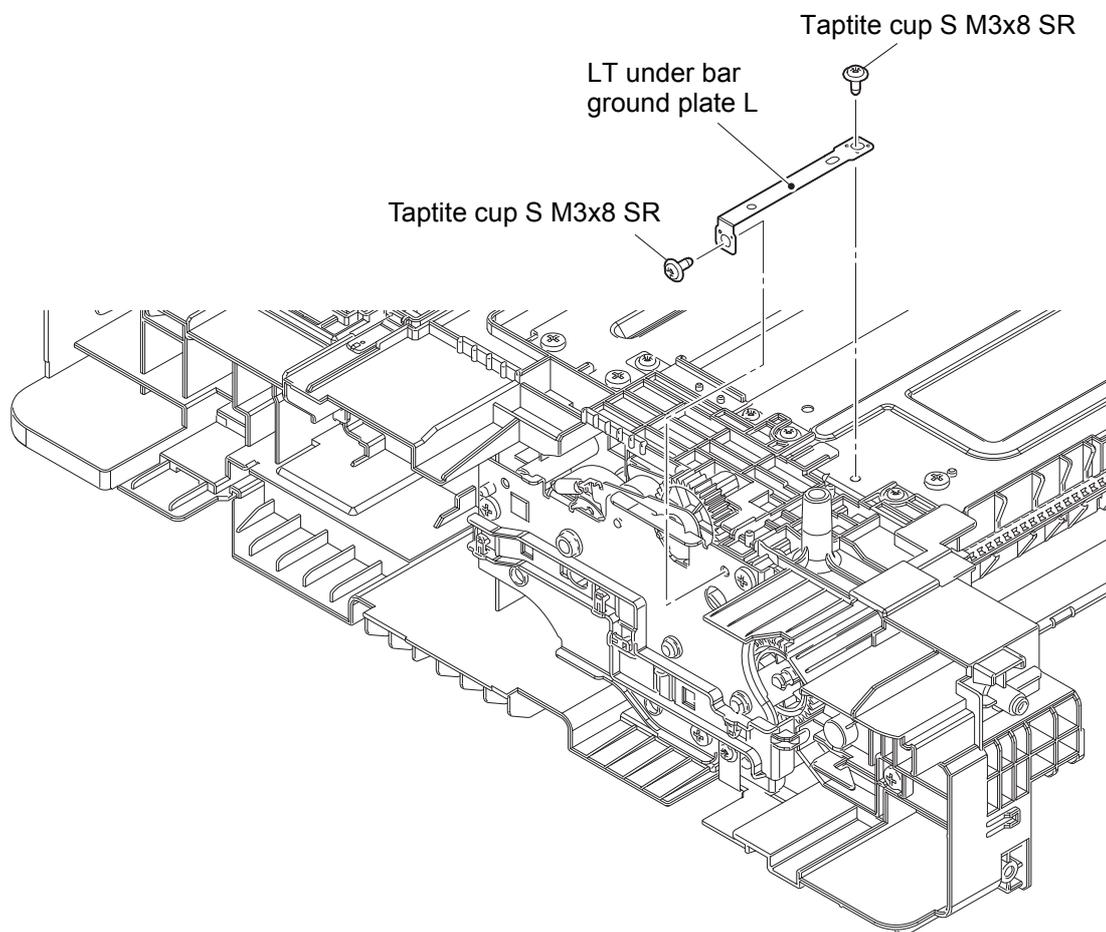


Fig. 3-126

(2) **Remove** > LT under bar front

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (a) (x 1)
- Taptite cup S M3x8 SR (b) (x 1)
- Taptite bind B M4x12 (x 2)

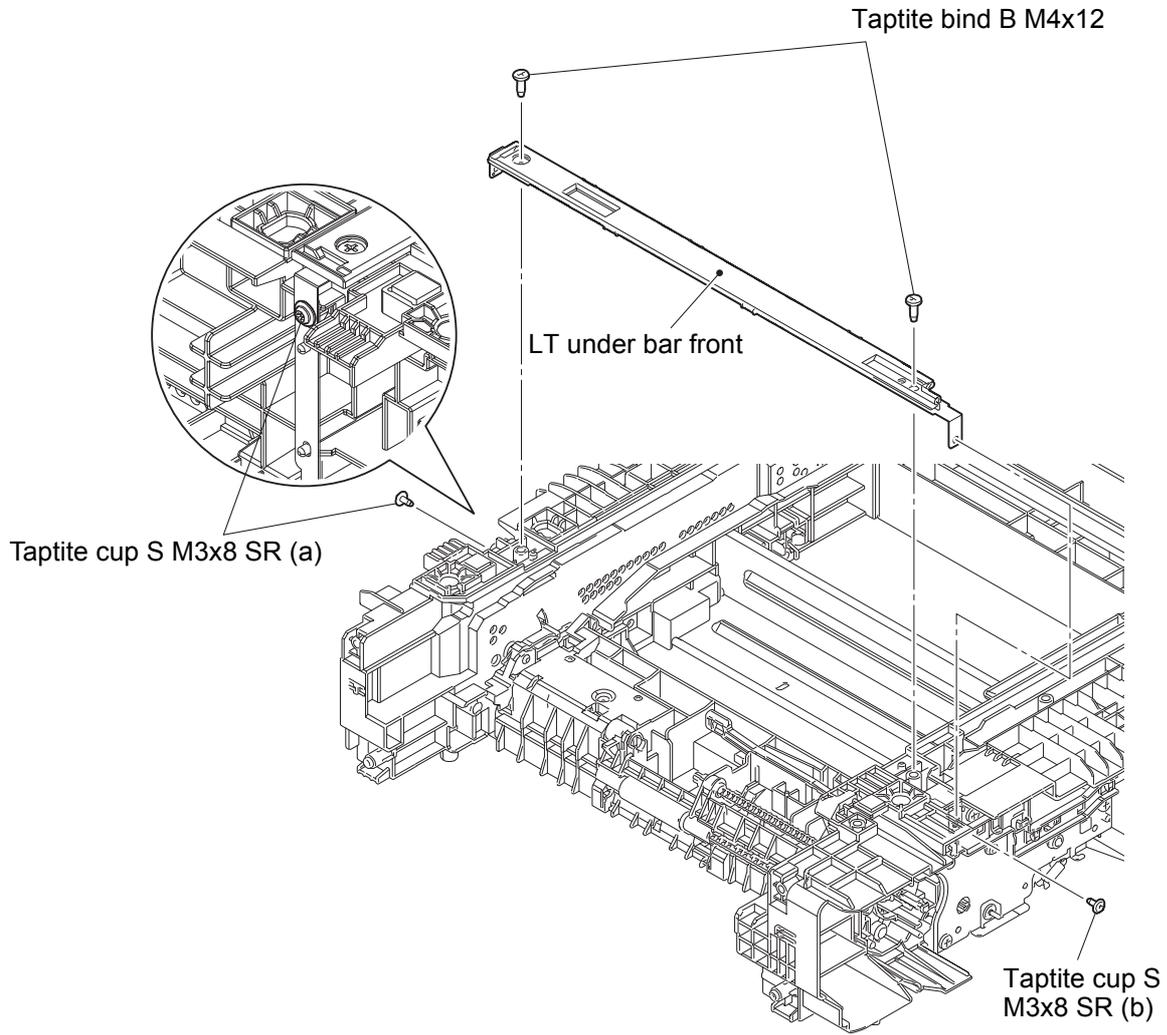


Fig. 3-127

(3) **Wiring** > LT release clutch harness

(4) **Remove** > LT drive ASSY

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 3)



Point:

- Pull out the LT release clutch harness through the hole.

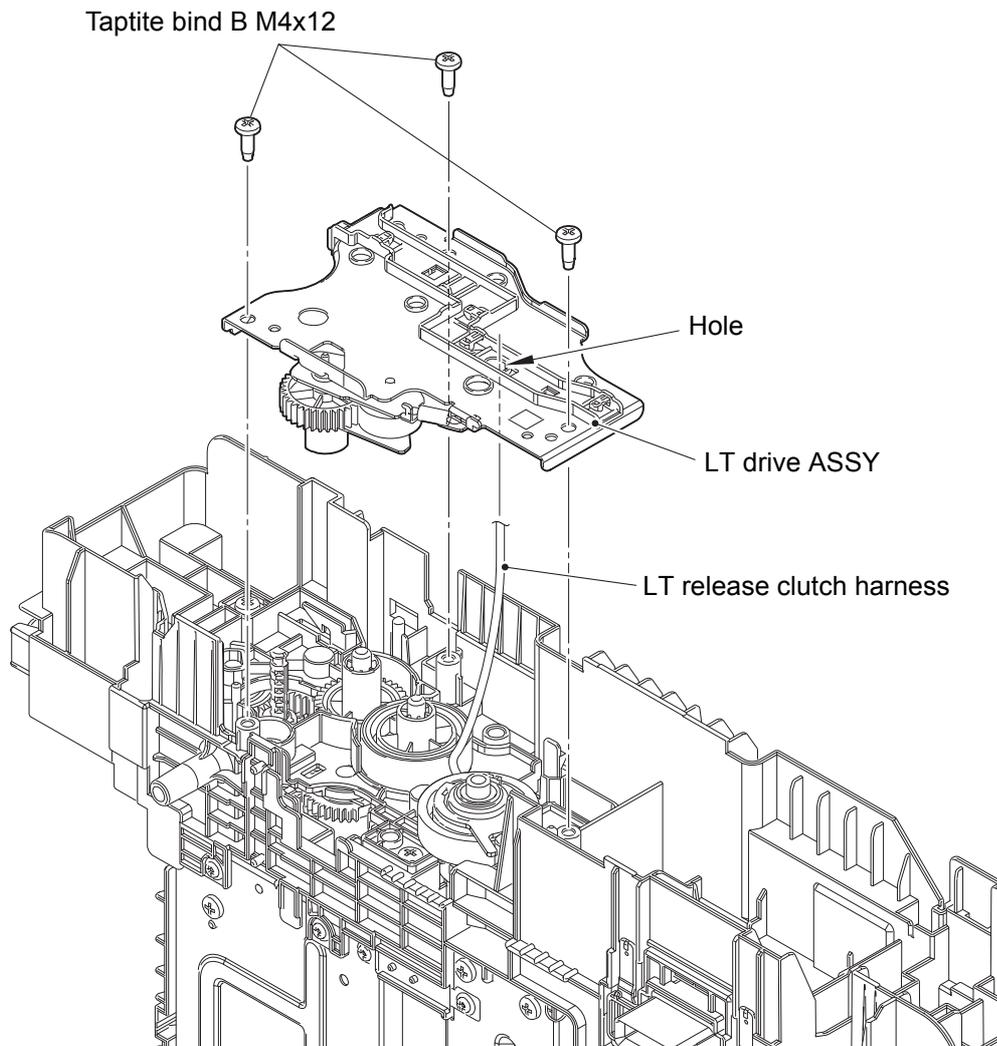


Fig. 3-128

Harness routing: Refer to "19. LT release clutch harness".

- (5) **Remove** > LT clutch shaft
- (6) **Remove** > LT RELEASE CLUTCH

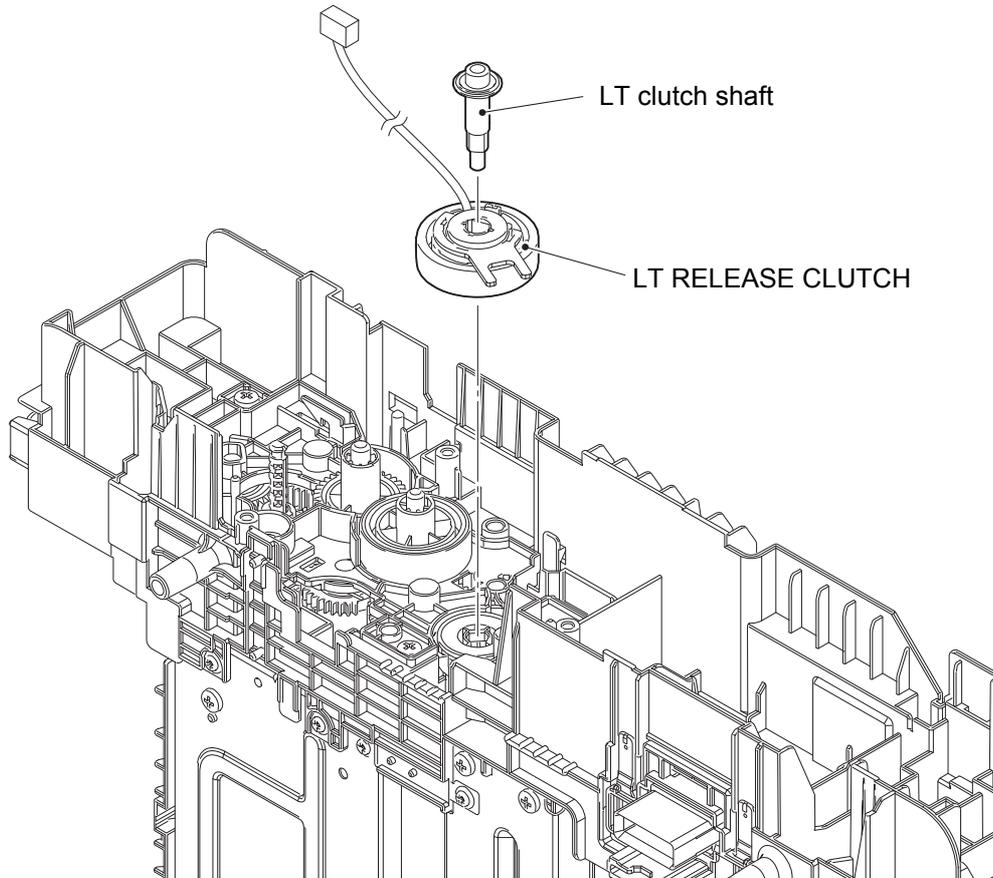


Fig. 3-129



Note:

- Be careful not to lose gears.

9.11 LT connector

(1) **Release** > LT connector harness

 **Fixtures & Fittings**

- Hook (x 1)

(2) **Remove** > LT connector

 **Fixtures & Fittings**

- Hook (x 2)

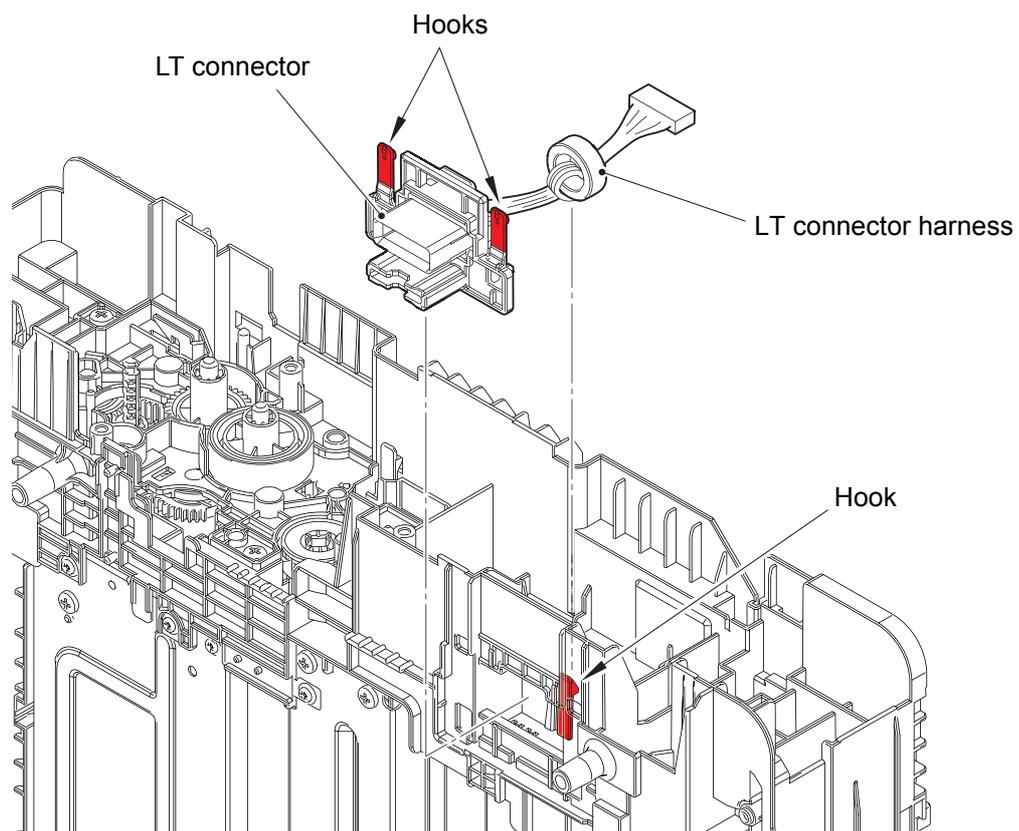


Fig. 3-130

9.12 LT PF sensor PCB

(1) **Remove** > LT under bar

-  **Fixtures & Fittings**
- Taptite bind B M4x12 (x 2)

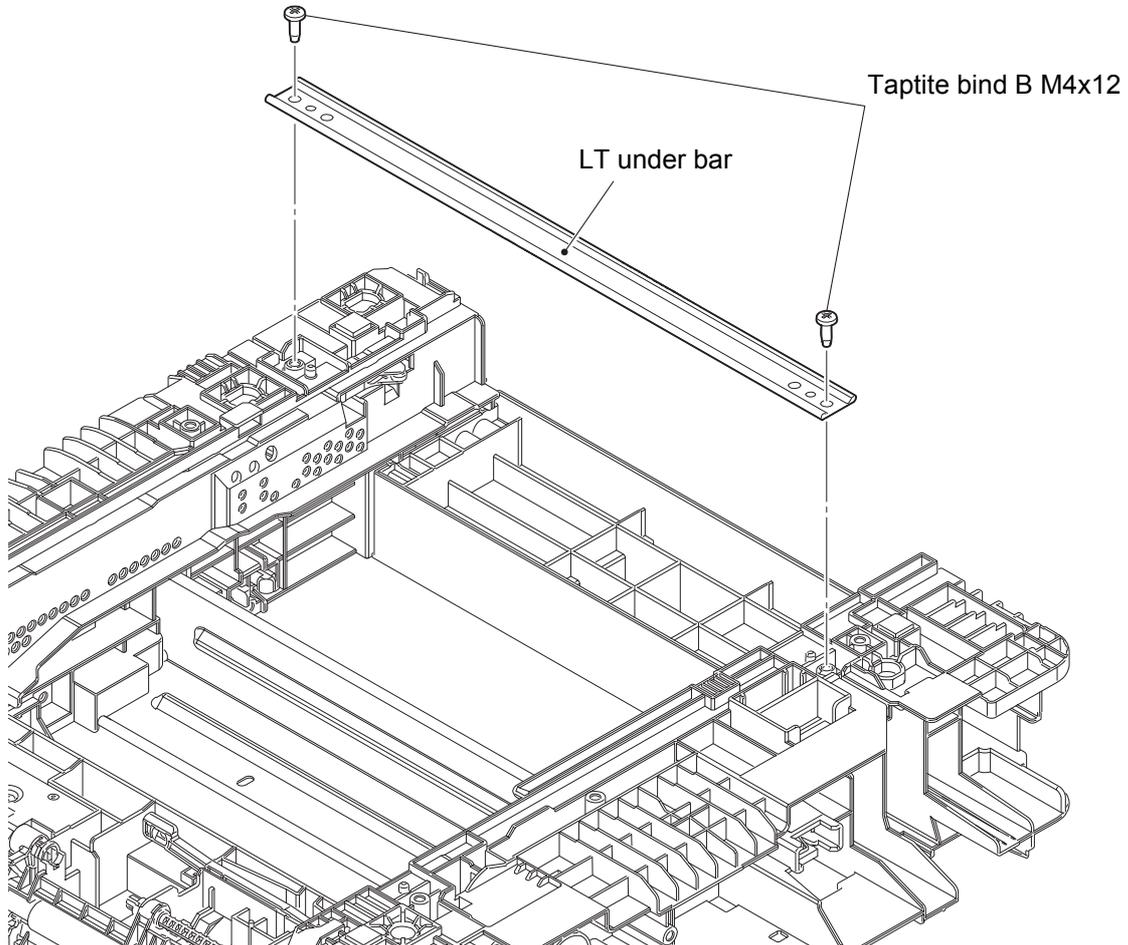


Fig. 3-131

(2) **Remove** > LT PF frame FG plate R

- Fixtures & Fittings**
 - Taptite cup S M3x8 SR (x 1)

(3) **Remove** > Screws

- Fixtures & Fittings**
 - Taptite cup S M3x8 SR (i) (x 2)

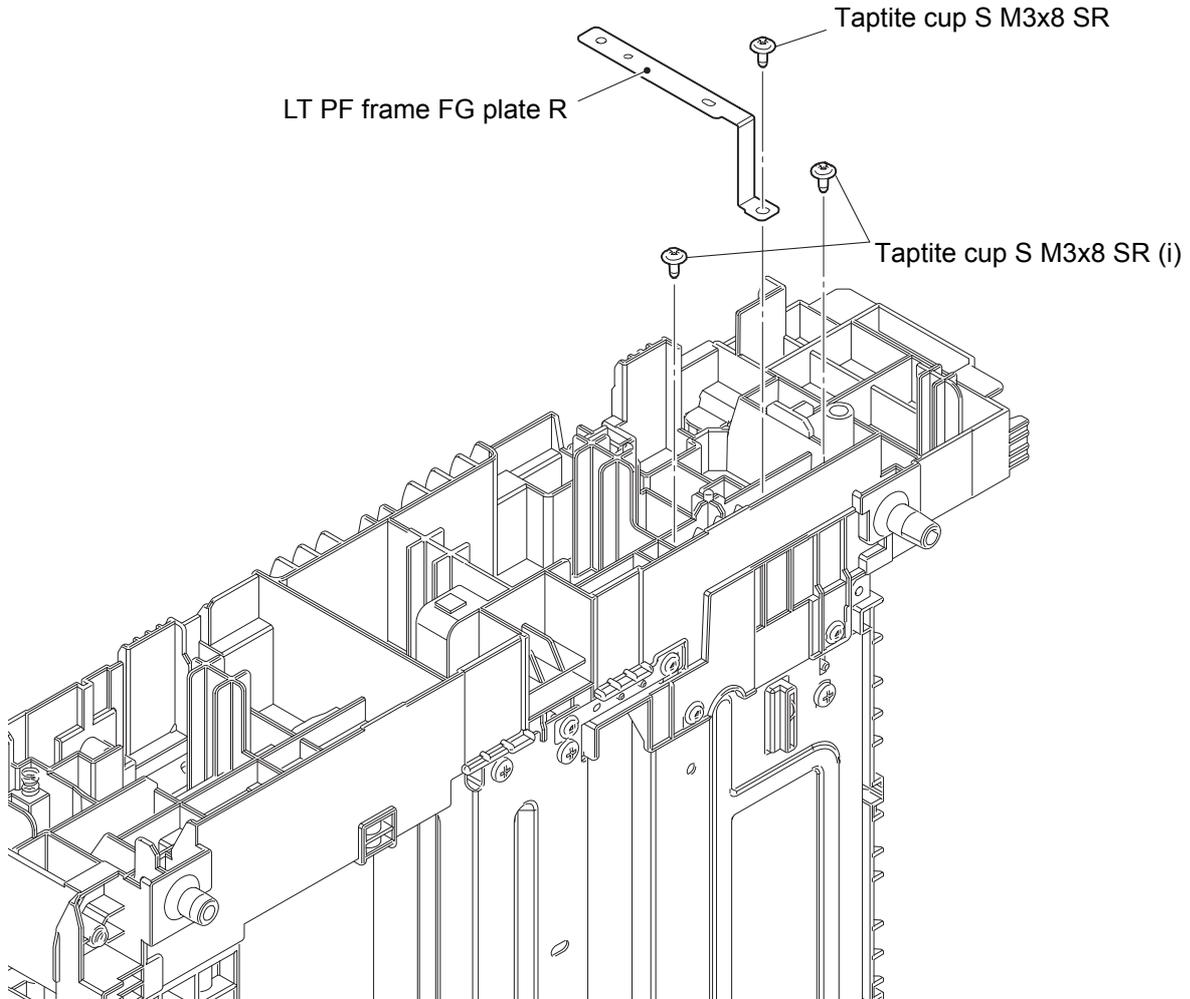


Fig. 3-132

(4) **Remove** > LT center FG plate L

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (c) (x 1)
- Taptite cup S M3x8 SR (d) (x 1)

(5) **Remove** > LT center FG plate R

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (e) (x 1)
- Taptite cup S M3x8 SR (f) (x 1)

(6) **Remove** > Screws

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (g) (x 2)
- Taptite cup S M3x8 SR (j) (x 2)
- Taptite bind B M4x12 (x 2)

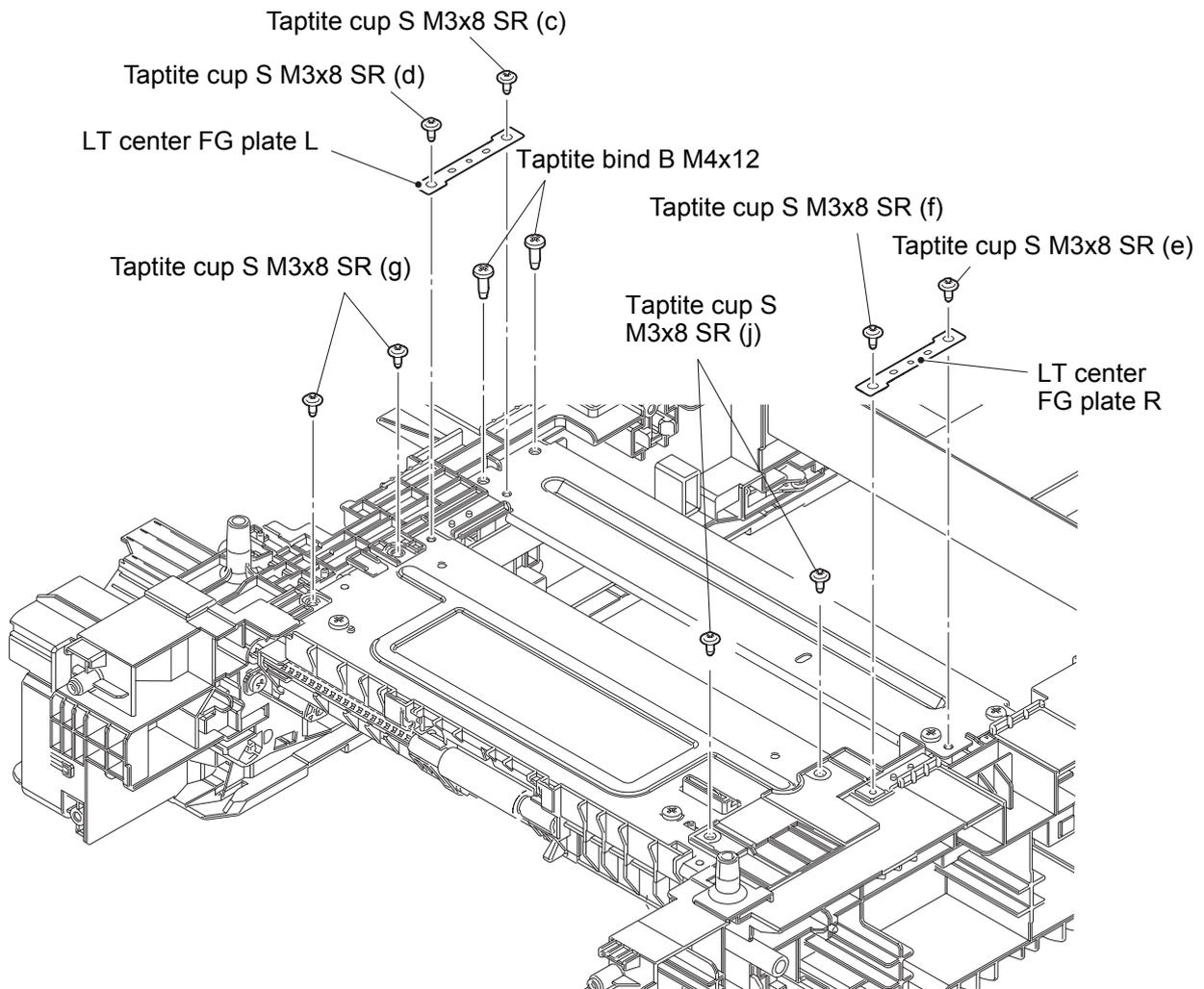


Fig. 3-133

(7) **Remove** > LT frame L unit

 **Fixtures & Fittings**

- Taptite cup S M3x8 SR (h) (x 4)
- Taptite bind B M4x12 (x 2)

 **Point:**

- Pull out the LT PF sensor harness through the hole.

(8) **Remove** > LT PF frame ASSY

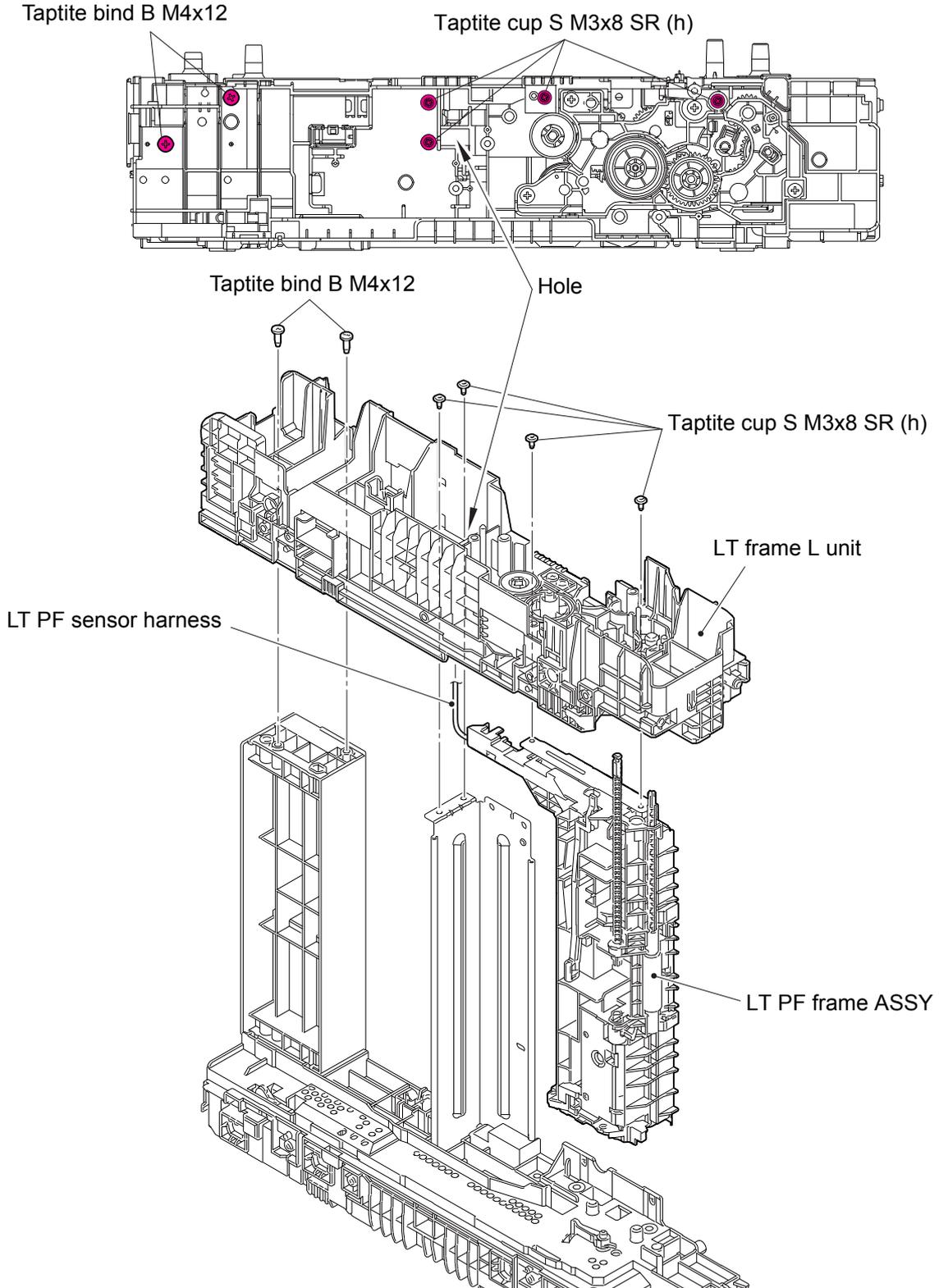


Fig. 3-134

(9) **Remove** > LT front beam

 **Fixtures & Fittings**

- Taptite bind B M4x12 (x 2)

(10) **Wiring** > LT PF sensor harness

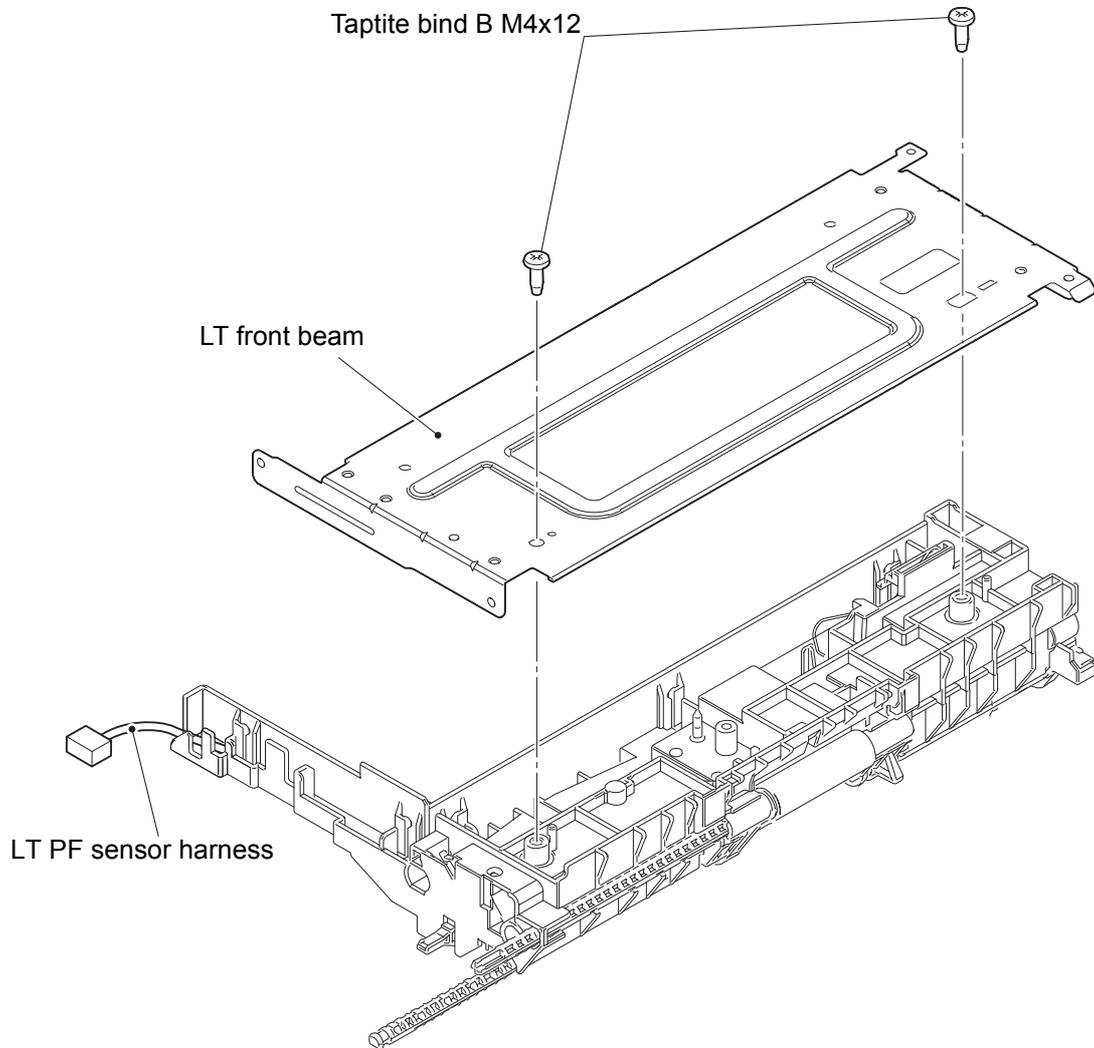


Fig. 3-135

Harness routing: Refer to "18. LT PF sensor harness".

(11) **Remove** > LT PF actuator holder ASSY

- Fixtures & Fittings**
- Taptite cup B M3x10 (x 1)

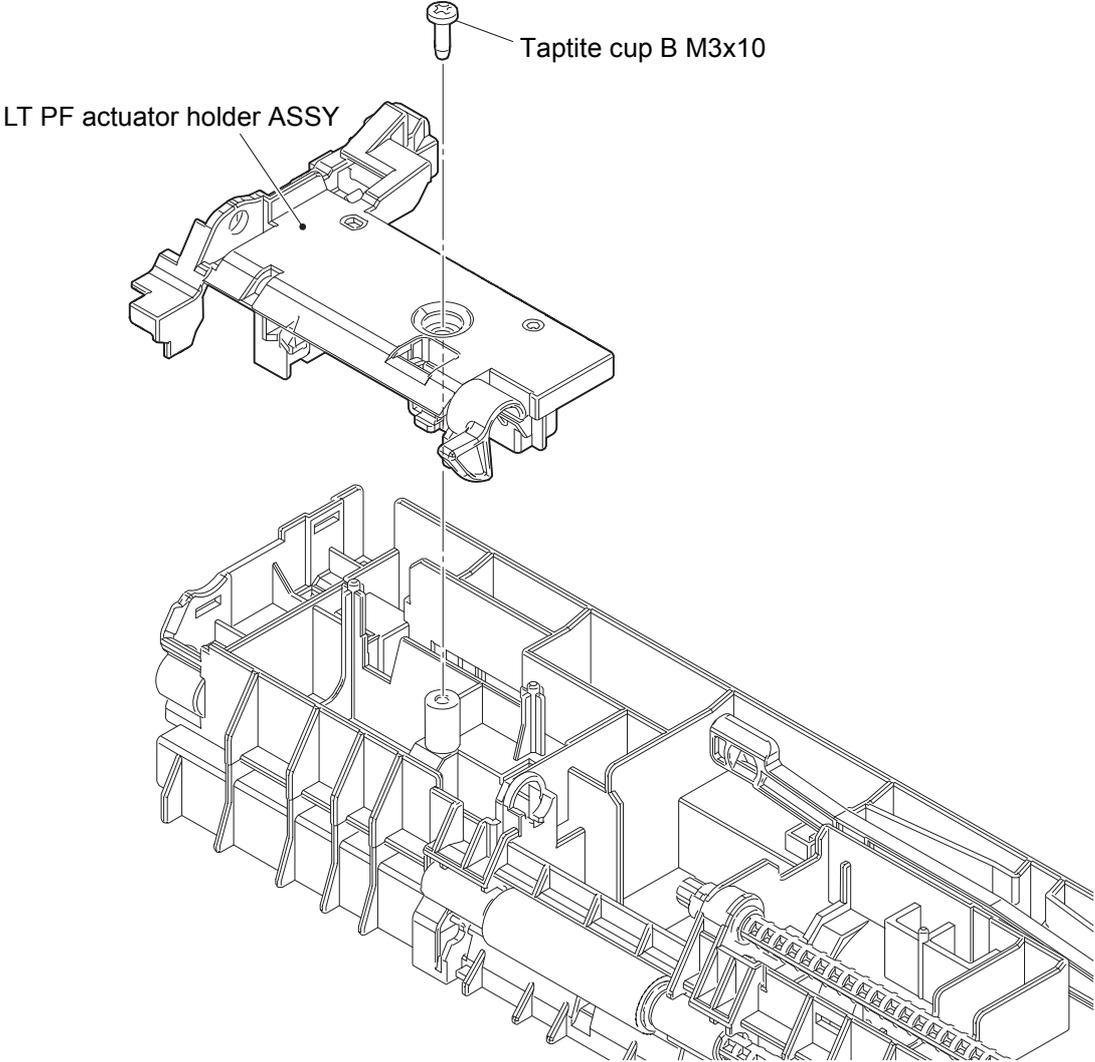


Fig. 3-136

(12) **Wiring** > LT PF sensor harness

(13) **Remove** > LT PF sensor PCB

 **Fixtures & Fittings**

- Hook (x 1)

 **Point:**

- Rotate the LT PF actuator in the direction of the arrow.

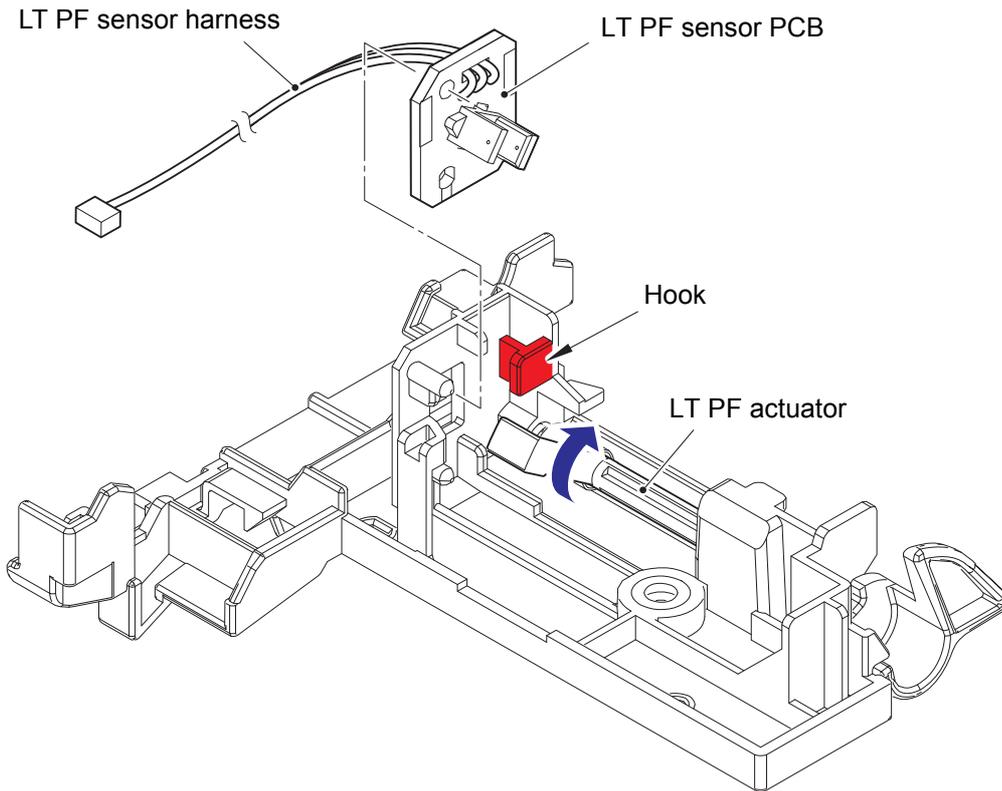


Fig. 3-137

Harness routing: Refer to "18. LT PF sensor harness".

CHAPTER 4 ADJUSTMENTS AND UPDATING OF SETTINGS, REQUIRED AFTER PARTS REPLACEMENT

1. IF YOU REPLACE THE MAIN PCB

Note:

Always observe the following operation orders for the settings.

The settings cannot be completed correctly when the setting operations are not done in order or be omitted. The settings cannot be completed correctly when turning OFF the power that is not instructed or rebooting the machine due to the maintenance function, etc.

When recycling the Main PCB to repair due to special circumstances, in order to ensure that personal information is deleted, you must perform Function Code 01 and confirm that the information has been deleted.

■ **What to do after replacement**

- Setting by Spec (Function Code 74)
- Quit Maintenance Mode (Function Code 99)
- Installing Firmware (Sub Firmware, Main Firmware)
- Initializing the EEPROM of the Main PCB (Function Code 01)
- Adjusting Touch Panel (Function Code 61)
- Continuous Adjustments of Density and Registration Sensor (Function Code 73)
- Setting the Serial Number (Function Code 80)
- Resetting to Factory Shipping State (Function Code 03)

■ **What you need to prepare**

- Firmware (Sub Firmware, Main Firmware - djf file)
- Touch pen

<Using a USB Flash Memory>

- USB flash memory (To save the latest firmware)

<Using a computer>

- Computer (To save the latest firmware)
- USB cable
- Filedg32.exe (Download utility)
- Maintenance printer driver
(Refer to **"APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER"** for how to install the driver.)

<**Explanation**>

If pressing a key operation is needed, the key operation and the LCD display are described as follows. Common Example:

A key or Keys pressed	Message appears on the LCD
-----------------------	----------------------------

<Operating Procedure>

For models with touch panel

The display on the right* appears on the LCD and the machine automatically enters the maintenance mode only when replacing the main PCB with a new spare one.



For models without touch panel

“■■■■MAINTENANCE■■■C■■”* appears on the LCD and the machine automatically enters the maintenance mode only when replacing the main PCB with a new spare one.

Note:

- This “■■■■MAINTENANCE■■■C■■” will be released after “1.1 Setting by Spec (Function Code 74)” and “1.2 Quit Maintenance Mode (Function Code 99)”.

* The letter “C” in “■■■■MAINTENANCE■■■C■■” differs depending on the product model.

1.1 Setting by Spec (Function Code 74)

Perform setting by spec in accordance with “1.3.23 Setting by Spec (Function Code 74)” in Chapter 5.

1.2 Quit Maintenance Mode (Function Code 99)

Reboot the machine once and enter the maintenance mode again.

1.3 Installing Firmware (Sub Firmware, Main Firmware)

1.3.1 Checking firmware version

Check if the firmware is the latest or not. There is no need to install the firmware if it is the latest.

<How to check firmware version>

For models with touch panel (Sub firmware and Main firmware only)

- The machine enters into the initial state of maintenance mode. (Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[2] [5]	Main firmware version
(3)	[Mono Start]	Sub firmware version
(4)	[X]	To the initial state of maintenance mode

Note:

- You can check the firmware version even in Function Code 77. (Refer to “1.3.24 Print Maintenance Information (Function Code 77)” in Chapter 5.)

For models without touch panel (Main firmware)

- The machine enters into the initial state of maintenance mode. (Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 25”
(3)	[OK]	Main firmware version
(4)	[Cancel]	To the initial state of maintenance mode

Note:

- You can check the firmware version even in Function Code 77. (Refer to “1.3.24 Print Maintenance Information (Function Code 77)” in Chapter 5.)

1.3.2 Installing firmware

Note:

- The LT firmware is included in the main firmware of the machine. After connecting the LT to the machine, the LT firmware is automatically synchronized when the power is turned ON.
- Release the deep sleep mode before installation.
- Install the sub firmware, and the main firmware in this order.
- DO NOT turn the printer or your computer OFF during installation.
- DO NOT disconnect the USB flash memory or the USB cable during installation.

1.3.2.1 (USB flash memory) Manual selective installation for firmware

<Operating Procedure>

- (1) The machine is in the ready state.
- (2) Save the djf file of firmware in the root folder of the USB flash memory.
- (3) Insert the USB flash memory into the USB host (front).
- (4)

[▲], or [▼]	Select the firmware name to be installed on the LCD.
-------------	--
- (5) Press the firmware name. Installation starts.
- (6) The machine restarts.
- (7) Repeat steps from (4) to (6) to install the required firmware.
- (8) Disconnect the USB flash memory from the USB host (front).

Note:

- Failure to install the firmware using the USB flash memory. (Error display) (Refer to “4.8.3 Firmware installation mode” in Chapter 2.)
- Install the firmware according to “1.3.2.3 Firmware installation using a computer”.

1.3.2.2 (USB flash memory) Automatic installation for all firmware of a model

Note:

- Be sure to save firmware for one model.
- Saving firmware for multiple models causes an error.

<Operating Procedure>

- (1) Save the following file to the root folder of the USB flash memory.
File Name: _\$@UPD\$OP0.8080
File Type: A blank text file
- (2) Save the following folder to the root of the USB flash memory.
Folder Name: FIRM
- (3) Save the djf file of firmware in the FIRM folder.
- (4) The machine is in the ready state.
- (5) Insert the USB flash memory into the USB host (front).
“Program Updating.Do not turn off.” appears on the LCD.
- (6) Installation starts. The backlight blinks.
- (7) Installation is completed. The machine restarts.
- (8) Repeat steps from (6) to (7) to install the required firmware.
- (9) Disconnect the USB flash memory from the USB host (front).

Note:

- “Unable to Update:*****” means installation failure. (***** represents an error code.)
- After troubleshooting and turning the power of the machine OFF and then back ON, perform the procedure again.

1.3.2.3 Firmware installation using a computer

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)
- (2) Connect the machine to your computer with a USB cable.
- (3) Double-click the Filedg32.exe to start, and select the Brother Maintenance USB Printer icon.
(If the Brother Maintenance USB Printer is invalid, reconnect the USB cable.)
- (4) Drag and drop the djf file of firmware onto the selected icon.
- (5) Installation starts.
- (6) The installation is completed. The machine restarts.
- (7) The machine returns to the ready state.
- (8) Repeat steps from (1) to (7) to install the required firmware.

Note:

- Installation failure.
Restarting the machine enters into firmware installation mode.
Perform the procedure again.

1.4 Initializing the EEPROM of the Main PCB (Function Code 01)

Perform initializing the EEPROM of the Main PCB in accordance with “1.3.1 Initialize EEPROM Parameters (Function Code 01, 91)” in Chapter 5.

1.5 Adjusting Touch Panel (Function Code 61)

Perform adjusting touch panel in accordance with “1.3.14 Adjust Touch Panel (Function Code 61)” in Chapter 5.

1.6 Continuous Adjustments of Density and Registration Sensor (Function Code 73)

Perform continuous adjustments of density and registration sensor in accordance with “1.3.22 Adjustment of Color Registration + Sensitivity Adjustment of Density Sensor + Developing Bias Voltage Correction (Function Code 73)” in Chapter 5.

1.7 Setting the Serial Number (Function Code 80)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2) [8] [0] "MACERR_01.****" **** represents an error code.
- (3) [Mono Start], or [Color Start] (several times) "USB:*****"
- (4) [9] [4] [7] [5] The first digit of the serial number starts flashing.

(5) Enter the serial number from the first digit to the fifteenth digit. (Numeric key)
(Repeatedly press the corresponding numeric key other than 0 to 9, A to F to enter the desired alphanumeric character. See the table below.)

Numeric key	Assigned characters
4	4→G→H→I→4...
5	5→J→K→L→5...
6	6→M→N→O→6...
7	7→P→Q→R→S→7...
8	8→T→U→V→8...
9	9→W→X→Y→Z→9...

- (6) [Mono Start] The serial number is written.
- (7) The machine returns to in the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2) [▲], or [▼] "MAINTENANCE 80"
- (3) [OK] "MACERR_01:(****)" **** represents an error code.
- (4) [Go] (several times) "USB:*****"
- (5) [▲], or [▼] "9"
- (6) [OK]
- (7) Repeat the procedures (5) and (6) to enter "4", "7", and "5" respectively.
- (8) The first digit of the serial number starts flashing.
- (9) [▲], or [▼] Enter the first digit.
- (10) [OK] The cursor moves to the second digit.
- (11) Repeat the procedures (9) and (10) to enter the 15-digit serial number from the second digit to the last.
- (12) [Go] The serial number is written.
- (13) The machine returns to in the initial state of maintenance mode.

1.8 Resetting to Factory Shipping State (Function Code 03)

- When the machine is not in the factory shipping state, its security is weak, such as the risk of information leakage.
- Perform this operating procedure since a new spare main PCB is not in the factory shipping state.
- A factory-shipped machine cannot be changed into a non-factory-shipped one.
- Perform the function of <Transfer to the shipping state> after performing the function of <Switch special operations at startup>.

<Operating Procedure>

For models with touch panel

<Switch special operations at startup> - Disable machine's manufacturing functions

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[0] [3]	"1.LT1 MN LOAD?"
(3)	[<<]	
(4)	[▲], or [▼]	"8.PowerOnFunc ?"
(5)	[SET]	"FUNC ENABLE", or "FUNC DISABLE"
"FUNC ENABLE": Enables the function for manufacturing. "FUNC DISABLE": Disables the function for manufacturing.		
(6)	[▲], or [▼]	"FUNC DISABLE"
(7)	[SET]	To the initial state of maintenance mode

<Transfer to the shipping state>

(8)	[0] [3]	"1.LT1 MN LOAD?"
(9)	[<<]	
(10)	[▲], or [▼]	"9.ShippingStat?"
(11)	[SET]	"OFF: Change OK?", or "ON"
"OFF: Change OK?": Not in the factory shipping state. "ON": Already in the factory shipping state.		
(12)	[SET]	To the initial state of maintenance mode The machine that was not in the factory shipping state is changed into the factory shipping state.

For models without touch panel

<Switch special operations at startup> - Disable machine's manufacturing functions

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 03"
(3)	[OK]	"1.SWSUM?"
(4)	[▲], or [▼]	"2.PowerOnFunc ?"
(5)	[OK]	"FUNC ENABLE", or "FUNC DISABLE"
"FUNC ENABLE": Enables the function for manufacturing. "FUNC DISABLE": Disables the function for manufacturing.		
(6)	[▲], or [▼]	"FUNC DISABLE"
(7)	[OK]	To the initial state of maintenance mode

<Transfer to the shipping state>

(8)	[▲], or [▼]	"MAINTENANCE 03"
(9)	[OK]	"1.SWSUM?"
(10)	[▲], or [▼]	"3.ShippingStat?"
(11)	[OK]	"OFF: Change OK?", or "ON"
"OFF: Change OK?": Not in the factory shipping state. "ON": Already in the factory shipping state.		
(12)	[OK]	To the initial state of maintenance mode The machine that was not in the factory shipping state is changed into the factory shipping state.

2. IF YOU REPLACE THE REG MARK SENSOR ASSY OR LED ASSY

■ What to do after replacement

- Continuous Adjustments of Density and Registration Sensor (Function Code 73)

■ What you need to prepare

None

2.1 Continuous Adjustments of Density and Registration Sensor (Function Code 73)

Perform continuous adjustments of density and registration sensor in accordance with “1.3.22 Adjustment of Color Registration + Sensitivity Adjustment of Density Sensor + Developing Bias Voltage Correction (Function Code 73)” in Chapter 5.

3. IF YOU REPLACE THE LVPS PCB

■ What to do after replacement

- Resetting Irregular Power Supply detection Counter of the LVPS PCB
(Reset Counters after Parts Replacement (Function Code 88))

■ What you need to prepare

None

3.1 Resetting Irregular Power Supply Detection Counter of the LVPS PCB (Reset Counters after Parts Replacement (Function Code 88))

Perform resetting irregular power supply detection counter of the LVPS PCB in accordance with [“1.3.29 Reset Counters after Parts Replacement \(Function Code 88\)”](#) in Chapter 5.

4. IF YOU REPLACE THE LCD, PANEL UNIT OR PANEL PCB

■ What to do after replacement

- Adjusting Touch Panel (Function Code 61)
- Checking LCD Operation (Function Code 12)

■ What you need to prepare

- Touch pen

4.1 Adjusting Touch Panel (Function Code 61)

Perform adjusting the touch panel in accordance with “1.3.14 Adjust Touch Panel (Function Code 61)” in Chapter 5.

4.2 Checking LCD Operation (Function Code 12)

Perform checking the LCD operation in accordance with “1.3.5 Check LCD Operation (Function Code 12)” in Chapter 5.

5. IF YOU REPLACE THE FUSER

■ What to do after replacement

- Resetting Printed Pages Counter for the Fuser
(Reset Counters after Parts Replacement (Function Code 88))

■ What you need to prepare

None

5.1 Resetting Printed Pages Counter for the Fuser (Reset Counters after Parts Replacement (Function Code 88))

Perform resetting the printed pages counter for the Fuser in accordance with “[1.3.29 Reset Counters after Parts Replacement \(Function Code 88\)](#)” in Chapter 5.

6. IF YOU REPLACE A PF KIT

■ What to do after replacement

- Resetting Printed Pages Counter of a PF Kit
(Reset Counters after Parts Replacement (Function Code 88))

■ What you need to prepare

None

6.1 Resetting Printed Pages Counter of a PF Kit (Reset Counters after Parts Replacement (Function Code 88))

Perform resetting the printed pages counter of the appropriate PF kit in accordance with [“1.3.29 Reset Counters after Parts Replacement \(Function Code 88\)”](#) in Chapter 5.

7. IF YOU REPLACE LT OR LT CONTROL PCB

■ What to do after replacement

- Installing Main Firmware
(The LT firmware is included in the main firmware.)

■ What you need to prepare

- Main firmware - djf file

<Using a USB flash memory>

- USB flash memory (To save the latest firmware)

<Using a computer>

- Computer (To save the latest firmware)
- USB cable
- Filedg32.exe (Download utility)
- Maintenance printer driver
(Refer to “APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER” for how to install the driver.)

<Explanation>

If pressing a key operation is needed, the key operation and the LCD display are described as follows.
Common Example:

A key or Keys pressed	Message appears on the LCD
-----------------------	----------------------------

7.1 Installing Main Firmware

7.1.1 Checking firmware version

Check if the main firmware including the LT firmware is the latest or not. There is no need to install the main firmware if it is the latest.

<How to check firmware version>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[2] [5]	Main firmware version
(3)	[X]	To the initial state of maintenance mode

Note:

- You can check the firmware version even in Function Code 77. (Refer to “1.3.24 Print Maintenance Information (Function Code 77)” in Chapter 5.)

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 25”
(3)	[OK]	Main firmware version
(4)	[Cancel]	To the initial state of maintenance mode

Note:

- You can check the firmware version even in Function Code 77. (Refer to “1.3.24 Print Maintenance Information (Function Code 77)” in Chapter 5.)

7.1.2 Installing Main Firmware

Note:

- The LT firmware is included in the main firmware of the machine.
After connecting the LT to the machine, the LT firmware is automatically synchronized when the power is turned ON.
- Release the deep sleep mode before installation.
- DO NOT turn the printer or your computer OFF during installation.
- DO NOT disconnect the USB flash memory or the USB cable during installation.

7.1.2.1 (USB flash memory) Manual selective installation for firmware

<Operating Procedure>

- (1) The machine is in the ready state.
- (2) Save the djf file of firmware in the root folder of the USB flash memory.
- (3) Insert the USB flash memory into the USB host (front).
- (4)

[▲], or [▼]	Select the main firmware name on the LCD.
-------------	---
- (5) Press the firmware name. Installation starts.
- (6) The machine restarts.
- (7) Disconnect the USB flash memory from the USB host (front).

Note:

- Failure to install the firmware using the USB flash memory. (Error display)
(Refer to "4.8.3 Firmware installation mode" in Chapter 2.)
- Install the firmware according to "7.1.2.2 Firmware installation using a computer".

Error display	Description	Remedy
Unable to Update:0001	Memory full (Failed to secure the work area for update.)	Delete some data saved in the machine and install it again.
Unable to Update:0002	No specified folder	Save the firmware in the root folder of the USB flash memory.
Unable to Update:0003	The specified folder does not have a file.	
Unable to Update:0004	File access failure	Change the USB flash memory and install it again.
Unable to Update:0005	File data parsing error	Acquire the firmware from the data bank again.
Unable to Update:0006	The file name has exceeded the character limit.	Shorten the file name to be 119 Byte or less.
Unable to Update:0007	An unsupported DJF file is detected.	Acquire the firmware from the data bank again.
Unable to Update:0008	Another function is in use.	Perform it again after finishing the running function.

7.1.2.2 Firmware installation using a computer

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2) Connect the machine to your computer with a USB cable.
- (3) Double-click the Filedg32.exe to start, and select the Brother Maintenance USB Printer icon.
(If the Brother Maintenance USB Printer is invalid, reconnect the USB cable.)
- (4) Drag and drop the djf file of firmware onto the selected icon.
- (5) Installation starts.
- (6) The installation is completed. The machine restarts.
- (7) The machine returns to the ready state.
- (8) Repeat steps from (1) to (7) to install the required firmware.

Note:

- Installation failure.
Restarting the machine enters into firmware installation mode.
Perform the procedure again.

CHAPTER 5 SERVICE FUNCTIONS

1. MAINTENANCE MODE

Maintenance mode: A mode that uses functions for repair or maintenance.

Maintenance mode for service personnel: Exclusive to service personnel

End user-accessible maintenance mode: End users are able to use some functions under the guidance of service personnel over the phone.

The available functions are fewer than maintenance mode functions for service personnel.

1.1 List of Maintenance-mode Functions

Function No.	Function	Refer to (Page):
01	Initialize EEPROM Parameters	1.3.1 (5-4)
03	Transition to Shipping State	1.3.2 (5-5)
09	Monochrome Image Quality Test Pattern	1.3.3 (5-7)
10	Set Worker Switch (WSW)	1.3.4.1 (5-8)
11	Print WSW Setting Data	1.3.4.2 (5-11)
12	Check LCD Operation	1.3.5 (5-12)
13	Check Control Panel Key Operation (Models without Touch Panel Only)	1.3.6 (5-14)
18	Save NetConfig Information (Models with USB Host Only)	1.3.7 (5-14)
25	Display Software Version	1.3.8 (5-15)
32	Check Sensor Operation	1.3.9 (5-16)
33	Display Wired LAN Connection Status	1.3.10 (5-18)
45	Switch USB No. Return Value / Switch ON/OFF Setting of Direct Print Color Mode-Improve Gray Color (Models with USB Host Only) / Switch Timing to Execute Auto Registration / Adjust Left-end Print Position / Adjust Upper-end Print Position / Change Transfer Current Setting / Switch Ghost (SX) Reduction Setting / Switch ON/OFF Setting of HEXDUMP-Mode / Disable SSW / Switch Firmware Downgrade Setting / Switch Fogging (left/right edge) Reduction Setting / Switch Ghost (DX) Reduction Setting / Additional Setting for Drum Warm-up before Starting Printing / Setting Drum Cleaning Time Extension During/after Printing	1.3.11 (5-19)
46	Adjust Printing on Scale	1.3.12 (5-34)
57	Check Consumables Function	1.3.13 (5-36)
61	Adjust Touch Panel	1.3.14 (5-46)
66	Adjustment of Color Registration (Adjustment of Inter-color Position Alignment)	1.3.15 (5-47)
67	Continuous Print Test	1.3.16 (5-51)
68	LED ASSY Test Pattern Print	1.3.17 (5-56)
69	Print Frame Pattern (1-sided Printing)	1.3.18 (5-58)
70	Print Frame Pattern (2-sided Printing)	1.3.19 (5-60)
71	Print Color Test Pattern	1.3.20 (5-62)
72	Sensitivity Adjustment of Density Sensor	1.3.21 (5-66)
73	Adjustment of Color Registration + Sensitivity Adjustment of Density Sensor + Developing Bias Voltage Correction	1.3.22 (5-67)
74	Setting by Spec	1.3.23 (5-68)
77	Print Maintenance Information	1.3.24 (5-69)
78	Check Fan Operation	1.3.25 (5-74)
80	Display Machine Log Information	1.3.26 (5-75)
82	Display Machine Error Code	1.3.27 (5-78)
83	Developing Bias Voltage Correction	1.3.28 (5-79)
88	Reset Counters after Parts Replacement	1.3.29 (5-80)
91	Initialize EEPROM Parameters	1.3.1 (5-4)
99	Quit Maintenance Mode	1.3.30 (5-80)

* The functions shaded in the table above are end user-accessible.

1.2 How to Enter the Maintenance Mode

<Explanation>

If pressing a key operation is needed, the key operation and the LCD display are described as follows.
Common Example:

A key or Keys pressed	Message appears on the LCD
-----------------------	----------------------------

1.2.1 How to Enter Maintenance Mode for Service Personnel

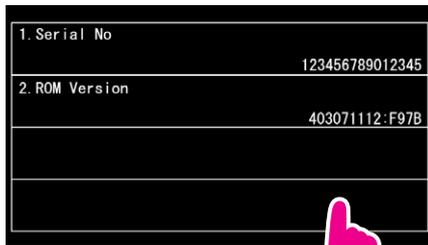
<Operating Procedure>

For models with touch panel

(1) The machine is in the ready state.

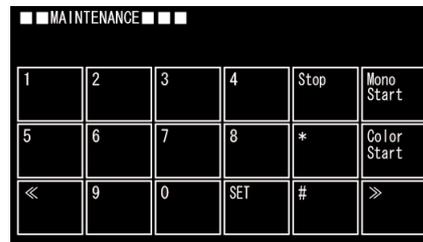
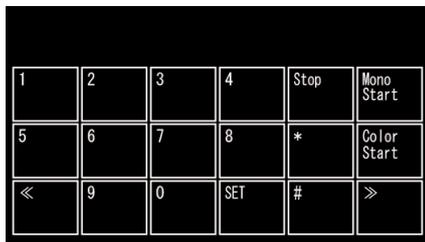
(2) Press the [] for five seconds.

(3) Press the blank field at the bottom.



(4) [*] [2] [8] [6] [4]

To the initial state of maintenance mode



(5) Enter a function No. to use the function.

For models without touch panel

(1) The machine is in the ready state.

(2) [OK] [Go] [▲] [▲] [▲] [▲]

To the initial state of maintenance mode

(3) [▲], or [▼]

Enter a function No. to use the function.

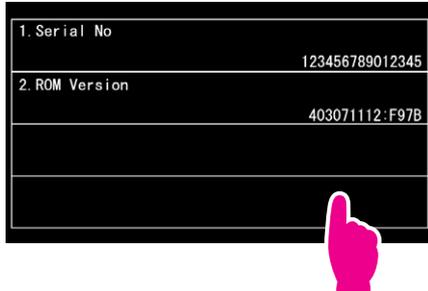
1.2.2 How to Enter the End User-accessible Maintenance Mode

<Operating Procedure>

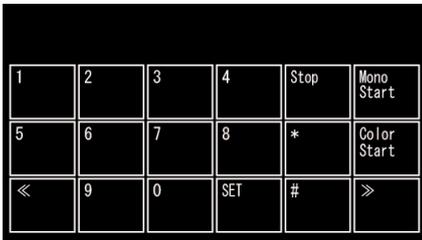
For models with touch panel

- (1) The machine is in the ready state.
- (2) Press the [] for five seconds.
- (3) Press the blank field at the bottom.

(2) Press the [] for five seconds.	
---	--



- (4) [*] [0] [#] To the initial state of maintenance mode for end users



- (5) Enter a function No. to use the function.

Note:

- Each time the maintenance mode function ends, the machine will return to the ready state.

For models without touch panel

- (1) The machine is in the ready state.
- (2) [OK] [Go] [OK] "0"
- (3) [▲], or [▼] Enter a function No. to use the function.

Note:

- Each time the maintenance mode function ends, the machine will return to the ready state.

1.3 Details of Maintenance-mode Functions

<Explanation>

If pressing a key operation is needed, the key operation and the LCD display are described as follows.
Common Example:

A key or Keys pressed	Message appears on the LCD
-----------------------	----------------------------

1.3.1 Initialize EEPROM Parameters (Function Code 01, 91)

<Function>

- This function is used to initialize the parameters registered in the EEPROM in the table below.

<Operating Procedure>

For models with touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[0] [1], or [9] [1]	"SELECT 01?", or "SELECT 91?"
(3)	[SET]	"PARAMETER INIT"

- The initialization is performed.
- The machine returns to in the initial state of maintenance mode.

For models without touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 01", or "MAINTENANCE 91"
(3)	[OK]	"SELECT 01?", or "SELECT 91?"
(4)	[OK]	"PARAMETER INIT"

- The initialization is performed.
- The machine returns to in the initial state of maintenance mode.

Data Item	Function Code 01	Function Code 91
Printer switch (Counter information)	These not to be initialized	These not to be initialized
Error history		
MAC address (Ethernet Address)		
Continuity counter		
Worker switches	These to be initialized	These to be initialized
Password for control panel operation lock		
Secure function lock		
User switches (Items to be initialized when resetting to the factory default settings)		
Function settings except user switches (settings not subject to "Factory Reset")		
• Language		
• Interface		
LAN setting		
PCL core area (Emulation setting values)		

1.3.2 Transition to Shipping State (Function Code 03)

The following functions are not used in normal repair and maintenance.

Firmware Update function for LT, Check sum display function for soft switch, and Firmware type display function.

1.3.2.1 Firmware Update Function for LT (Not Used)

This function is for sales special correspondence. The followings are displayed on the LCD.

“1.LT1 MN LOAD?” to “3.LT3 MN LOAD?”, “4.MB1 MN LOAD?”, “5.TT MN LOAD?”, “6.STF MN LOAD?”

1.3.2.2 Check Sum Display Function for Soft Switch (Not Used)

This function is used to display soft switch check SUM such as WSW. The following is displayed on the LCD.

“1.SWSUM?”, “7.SWSUM?”

1.3.2.3 Special Operations Switching Function at Startup

<Function>

- This function is used to switch between enabling and disabling special functions used at startup during machine manufacturing.

<Operating Procedure>

For models with touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[0] [3]	“1.LT1 MN LOAD?”
(3)	[<<]	
(4)	[▲], or [▼]	“8.PowerOnFunc ?”
(5)	[SET]	“FUNC ENABLE”, or “FUNC DISABLE”
“FUNC ENABLE”: Enables the function for manufacturing. “FUNC DISABLE”: Disables the function for manufacturing.		
(6)	[▲], or [▼]	“FUNC DISABLE”
(7)	[SET]	To the initial state of maintenance mode

For models without touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 03”
(3)	[OK]	“1.SWSUM?”
(4)	[▲], or [▼]	“2.PowerOnFunc ?”
(5)	[OK]	“FUNC ENABLE”, or “FUNC DISABLE”
“FUNC ENABLE”: Enables the function for manufacturing. “FUNC DISABLE”: Disables the function for manufacturing.		
(6)	[▲], or [▼]	“FUNC DISABLE”
(7)	[OK]	To the initial state of maintenance mode

1.3.2.4 Transfer to the Shipping State

- When the machine is not in the factory shipping state, its security is weak, such as the risk of information leakage.
- Perform this operating procedure since a new spare main PCB is not in the factory shipping state.
- A factory-shipped machine cannot be changed into a non-factory-shipped one.
- Perform this operating procedure after disabling special operations at [“1.3.2.3 Special Operations Switching Function at Startup”](#).

<Operating Procedure>

For models with touch panel

(1)	[0] [3]	“1.LT1 MN LOAD?”
(2)	[<<]	
(3)	[▲], or [▼]	“9.ShippingStat?”
(4)	[SET]	“OFF: Change OK?”, or “ON”
<p>“OFF: Change OK?”: Not in the factory shipping state. “ON”: Already in the factory shipping state.</p>		
(5)	[SET]	To the initial state of maintenance mode
<p>The machine that was not in the factory shipping state is changed into the factory shipping state.</p>		

For models without touch panel

(1)	[▲], or [▼]	“MAINTENANCE 03”
(2)	[OK]	“1.SWSUM?”
(3)	[▲], or [▼]	“3.ShippingStat?”
(4)	[OK]	“OFF: Change OK?”, or “ON”
<p>“OFF: Change OK?”: Not in the factory shipping state. “ON”: Already in the factory shipping state.</p>		
(5)	[OK]	To the initial state of maintenance mode
<p>The machine that was not in the factory shipping state is changed into the factory shipping state.</p>		

1.3.2.5 Firmware Type Display Function (Not Used)

This function is used to display the firmware type (unencrypted / prototype / mass production). The following is displayed on the LCD.

“10. Firm Kind?”

1.3.3 Monochrome Image Quality Test Pattern (Function Code 09)

<Function>

- This function is used to print a sheet of monochrome test pattern. (See the figure below.)
(This print is available even Cyan, Magenta and Yellow toner cartridge is empty or “No toner” status.)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)
- (2)

[0] [9]	“MAINTENANCE 09”
---------	------------------
- (3) The test pattern printing is started.
- (4) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)
- (2)

[▲], or [▼]	“MAINTENANCE 09”
-------------	------------------
- (3)

[OK]	
------	--
- (4) The test pattern printing is started.
- (5) The machine returns to the initial state of maintenance mode.

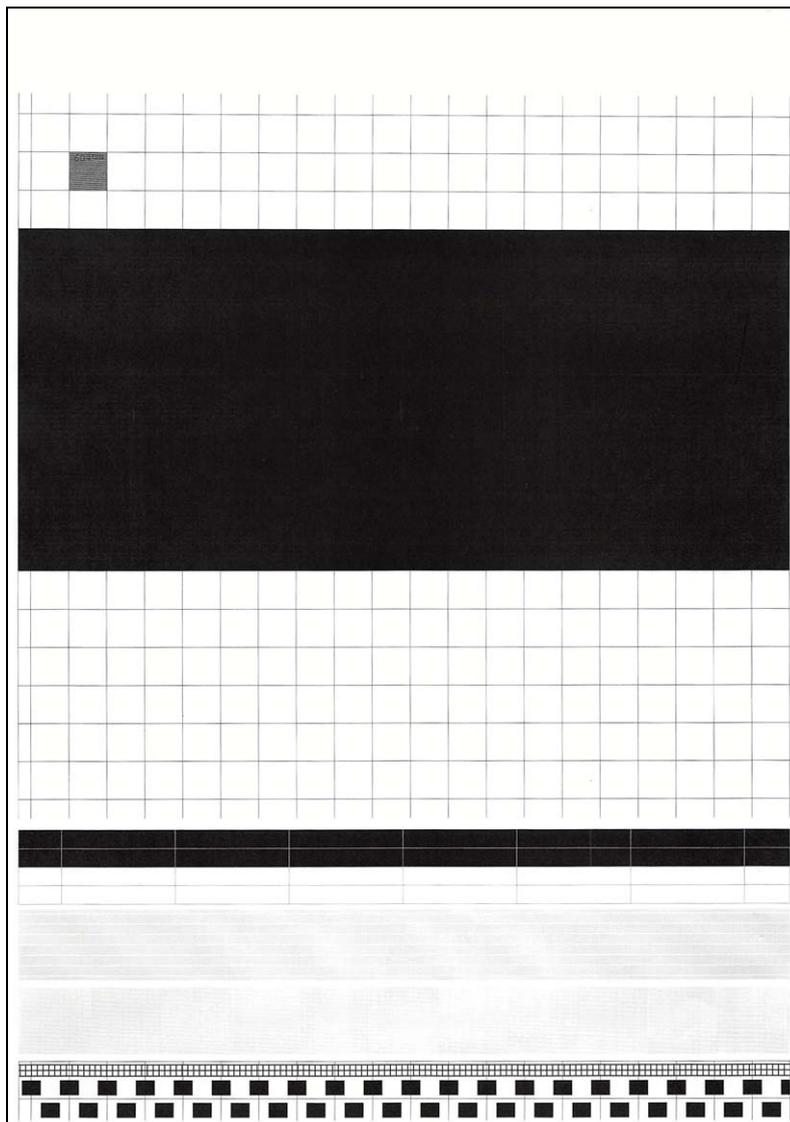


Fig. 5-1

1.3.4 Set Worker Switch (WSW) and Print WSW Setting Data (Function Code 10, 11)

1.3.4.1 Set Worker Switch (WSW) (Function Code 10)

<Function>

- The worker switches shown in the table below can be used to set the function.
- Refer to the separate Reference Manual for details of worker switches.

WSW No.	Function	WSW No.	Function
WSW01	Dial pulse setting	WSW35	Function setting 13
WSW02	Tone signal setting	WSW36	Function setting 14
WSW03	PABX mode setting	WSW37	Function setting 15
WSW04	Transfer facility setting	WSW38	V.34 transmission settings
WSW05	1st dial tone and busy tone detection	WSW39	V.34 transmission speed
WSW06	[Redial/Pause] key and 2nd dial tone detection	WSW40	V.34 modem settings
		WSW41	ON-duration of the scanning light source
WSW07	Dial tone setting 1	WSW42	Internet mail settings
WSW08	Dial tone setting 2	WSW43	Function setting 16
WSW09	Protocol definition 1	WSW44	Speeding up scanning-1
WSW10	Protocol definition 2	WSW45	Speeding up scanning-2
WSW11	Busy tone setting	WSW46	PC power monitoring and parallel port settings
WSW12	Signal detection condition setting		
WSW13	Modem setting	WSW47	Switching between USB2.0 High-Speed and USB 1.1 Full-Speed
WSW14	AUTO ANS facility setting		
WSW15	Redial facility setting	WSW48	USB setup latency
WSW16	Function setting 1	WSW49	End-of-copying beep
WSW17	Function setting 2	WSW50	SDAA setting
WSW18	Function setting 3	WSW51	Function setting 17
WSW19	Transmission speed setting	WSW52	Function setting 18
WSW20	Overseas communication mode setting	WSW53	Function setting 19
		WSW54	Function setting 20
WSW21	TAD setting 1	WSW55	Interval for regular developing bias value correction
WSW22	ECM and call waiting caller ID		
WSW23	Communications setting	WSW56	Function setting 21
WSW24	TAD setting 2	WSW57	Function setting 22
WSW25	TAD setting 3	WSW58	Function setting 23
WSW26	Function setting 4	WSW59	Function setting 24
WSW27	Function setting 5	WSW60	Function setting 25
WSW28	Function setting 6	WSW61	Scanning light intensity to judge to be stable 1
WSW29	Function setting 7		
WSW30	Function setting 8	WSW62	Scanning light intensity to judge to be stable 2
WSW31	Function setting 9		
WSW32	Function setting 10	WSW63	Function setting 26
WSW33	Function setting 11	WSW64	Language / default paper size setting
WSW34	Function setting 12	WSW65	Paper support setting

WSW No.	Function	WSW No.	Function
WSW66	Change of the setting is prohibited	WSW83	Change of the setting is prohibited
WSW67	Change of the setting is prohibited	WSW84	Change of the setting is prohibited
WSW68	Change of the setting is prohibited	WSW85	Function setting 29
WSW69	Change of the setting is prohibited	WSW86	Change of the setting is prohibited
WSW70	Change of the setting is prohibited	WSW87	Change of the setting is prohibited
WSW71	Change of the setting is prohibited	WSW88	Detection of the threshold of remaining T1 amount
WSW72	Change of the setting is prohibited		
WSW73	Change of the setting is prohibited	WSW89	Change of the setting is prohibited
WSW74	ADF stop control	WSW90	Detection of the threshold of remaining T2 amount
WSW75	Switch back ejection distance	WSW91	Change of the setting is prohibited
WSW76	Set the limit for the number of documents to be ejected in reverse order for 1-sided scanning from ADF	WSW92	Change of the setting is prohibited
WSW77	Set the limit for the number of documents to be ejected in reverse order for 2-sided scanning from ADF	WSW93	Detection of the threshold of remaining T3 amount
WSW78	Recording stop function when the drum reaches the end of life	WSW94	Detection of the threshold of remaining T4 amount
WSW79	Function setting 28	WSW95	Detection of the threshold of remaining T5 amount
WSW80	Copying speed control function	WSW96	Change of the setting is prohibited
WSW81	Changing emulation function enable/disable setting	WSW97	Font type in Remote Setup display
		WSW98	Function setting 29
WSW82	AirPrint Icon No. setting	WSW99	Change of the setting is prohibited

1.3.4.2 Print WSW Setting Data (Function Code 11)

<Function>

- This function is used to print the current worker switch settings and details.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2)

[1] [1]	The printing is started.
---------	--------------------------
- (3) The machine returns to in the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2)

[▲], or [▼]	"MAINTENANCE 11"
-------------	------------------
- (3)

[OK]	The printing is started.
------	--------------------------
- (4) The machine returns to the initial state of maintenance mode.

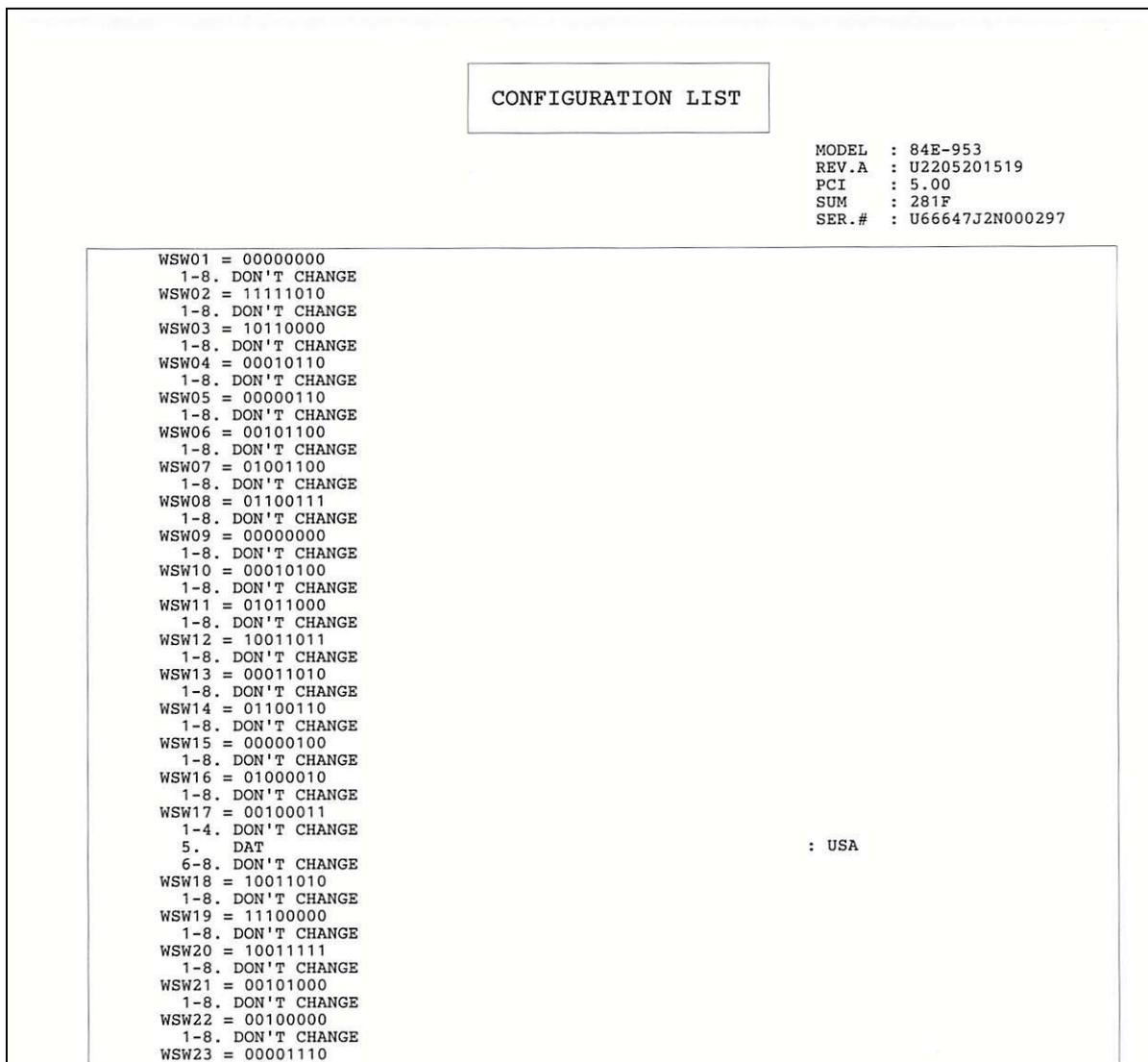


Fig. 5-2

1.3.5 Check LCD Operation (Function Code 12)

<Function>

- This function is used to check that the LCD on the control panel is operating normally.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[1] [2]	A<1> in the figure below shows.
-----	---------	---------------------------------

[⏻]: LCD switches Column A and Column B in the figure below, and shows each <1>. Pressing this key at A<8> is invalid.

[🏠]: LCD moves to the next display of each column in the figure below. Pressing this key at A<8> is invalid. Pressing this key at B<8> returns the display to B<1>.

(3)	[X]	To the initial state of maintenance mode. (Pressing the [X] at A<1> to A<7> is invalid.)
-----	-----	---

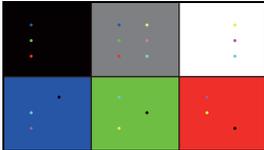
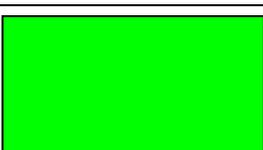
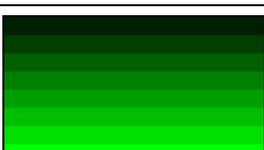
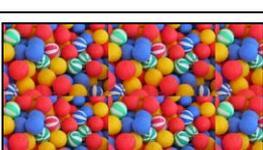
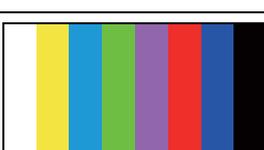
A<1> all white		B<1> bright point/ down point	
A<2> all black		B<2> bright point	
A<3> all gray		B<3> white gradual	
A<4> all red		B<4> red gradual	
A<5> all green		B<5> green gradual	
A<6> all blue		B<6> blue gradual	
A<7> picture data		B<7>	
A<8> white surrounded by a red frame		B<8> Displays BMP file in the Media by rotation	

Fig. 5-3

For models without touch panel

(1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 12"
(3)	[OK]	Display 1 in the figure below shows. [Go]: LCD moves to the next display in the figure below.
(4)	[Cancel]	To the initial state of maintenance mode

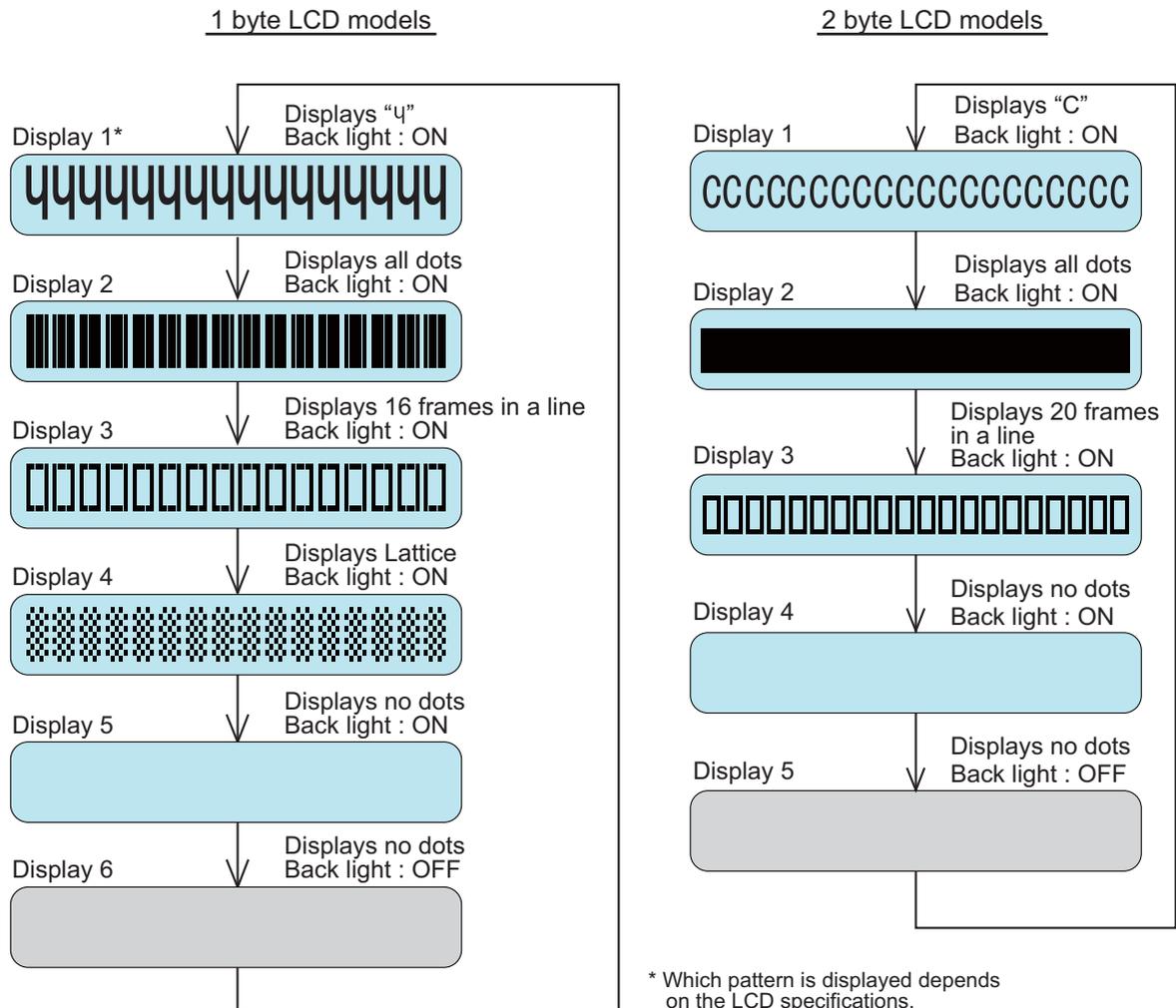


Fig. 5-4

1.3.6 Check Control Panel Key Operation (Models without Touch Panel Only) (Function Code 13)

<Function>

- This function is used to check that keys on the control panel are operating normally.

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 13”
(3)	[OK]	“00”
(4)	Press the key in the order of ① through ⑨ in the figure below.	“(The key number pressed)”
1)	At the time of an error	“INVALID OPERATE”

- 2) Press the [Cancel] and try again with the correct key.
- (5) The machine returns to the initial state of maintenance mode.



Fig. 5-5

1.3.7 Save NetConfig Information (Models with USB Host Only) (Function Code 18)

<Function>

- This function is used to save the NetConfig information into the USB flash memory.

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[1] [8]	“NETCONFIG”
(3)	Insert the USB flash memory into the USB host (front).	
(4)	[SET]	“SAVE TO USB”
(5)	[SET]	“USB SAVING”

- Create the NetConfig folder in the USB flash memory.
 - Save data to the “CFG-PAGE_**.txt” file in the folder.
 - ** represents a 2-digit number. Default value = 00. If there is a file with the same name in the folder, the number is another one.
- (6) The machine returns to the initial state of maintenance mode.

1.3.8 Display Software Version (Function Code 25)

<Function>

- This function is used to check versions of firmware and program, or check sum information.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[2] [5]	"MAIN:Ver **"
(3)	[<<]	
(4)	[▲], or [▼]	To other items
	[SET]	Switches between Ver and Check Sum
(5)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 25"
(3)	[OK]	"MAIN:Ver **"
(4)	[▲], or [▼]	To other items
	[OK]	Switches between Ver and Check Sum
(5)	[Cancel]	To the initial state of maintenance mode

LCD	Check Sum	Description
MAIN:Ver1.00 A	○	Main firmware version information
EMU :Ver1.00 (P)	N/A	Emulation firmware version information ((P): Identifier for PCL/PS)
SUB3:M0612312359	○	MainData2 firmware version information *1
ENG :Ver1.00	N/A	Engine program version information
ENGS :1.00 (1.00a)	N/A	Engs firmware version information
LT1 :Ver1.00	N/A	LT1 firmware version information *1 (Displays only when the LT is installed.)
B0612312359:1234	○	Boot program creation date
U0612312359:1234	○	Main firmware creation date
M0612312359:1234	○	SUB3 firmware creation date *1
C1606021159:1234	N/A	UI custom data version information *2
c1906101530:1234	N/A	Color profile data version information *2
ROM Check Sum *3	○	Check sum self-diagnosis function

*1 Whether the item exists differs depending on the model.

*2 Only when the solution is supported.

*3 Calculates the check sum of the actual firmware (Boot, Main, SUB) and checks if it is the correct value or not. If the check sum is correct, "OK" is displayed. Otherwise, "NG" is displayed. When all the check sums are correct, "ROM Check Sum OK" is displayed.

1.3.9 Check Sensor Operation (Function Code 32)

<Function>

- This function is used to check that the sensors are operating normally.
For example: Checks if the display/non-display of “C1” changes by opening/closing T1.
If it changes, the T1 PF sensor is normal.

<Operating Procedure>

For models with touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)
- | | |
|---|--------------------------------|
| Press the [3] [2] to display sensor status and the machine beeps. | For example “RCCVC1MPMRPORMRA” |
|---|--------------------------------|
- Note:**
• To stop beeping, press the [SET].
- | | |
|--------------|--------------|
| [Mono Start] | To next item |
|--------------|--------------|
- | | |
|-----|---|
| [X] | To the initial state of maintenance mode. |
|-----|---|

For models without touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)
- | | |
|-------------|------------------|
| [▲], or [▼] | “MAINTENANCE 32” |
|-------------|------------------|
- | | |
|--|--------------------------------|
| Press the [OK] to display sensor status and the machine beeps. | For example “RCCVC1MPMRPORMRA” |
|--|--------------------------------|
- Note:**
• To stop beeping, press the [OK].
- | | |
|------|--------------|
| [Go] | To next item |
|------|--------------|
- | | |
|----------|---|
| [Cancel] | To the initial state of maintenance mode. |
|----------|---|

<Sensor Code, Sensor Name and Detection Status displayed on the LCD>

Sensor Code	Sensor Name	Detection Status	
		ON	OFF
RC	Back cover sensor	Cover closed	Cover open
CV	Top cover sensor	Cover closed	Cover open
C1	T1 PF sensor	Tray 1 cassette closed and No paper	Tray 1 cassette open or paper set
MP	MP PE sensor / MF PE sensor	No paper	Paper set
MR or ** *1	MP REG sensor	No paper	Paper set
PO	Eject sensor (Also use: Fuser cover sensor)	No paper / Cover closed	Paper set / Cover open
RM	REG front sensor (Also use: REG front sensor DX)	No paper	Paper set
RA	REG rear sensor	No paper	Paper set
MAxx	Internal temperature sensor	xx: Temperature value measured	xx: NG
OTxx	External temperature sensor	xx: Temperature value measured	xx: NG
OHxx	External humidity sensor	xx: Humidity value measure	xx: NG
LVxx or **** *1	LVPS temperature sensor	xx: Temperature value measured	xx: NG
C2	LT PF sensor (When LT is in use)	Tray 2 (LT) cassette closed and No paper	Tray 2 (LT) cassette open or paper set

*1 “**” denotes that the item does not exist.

■ Locations of sensors

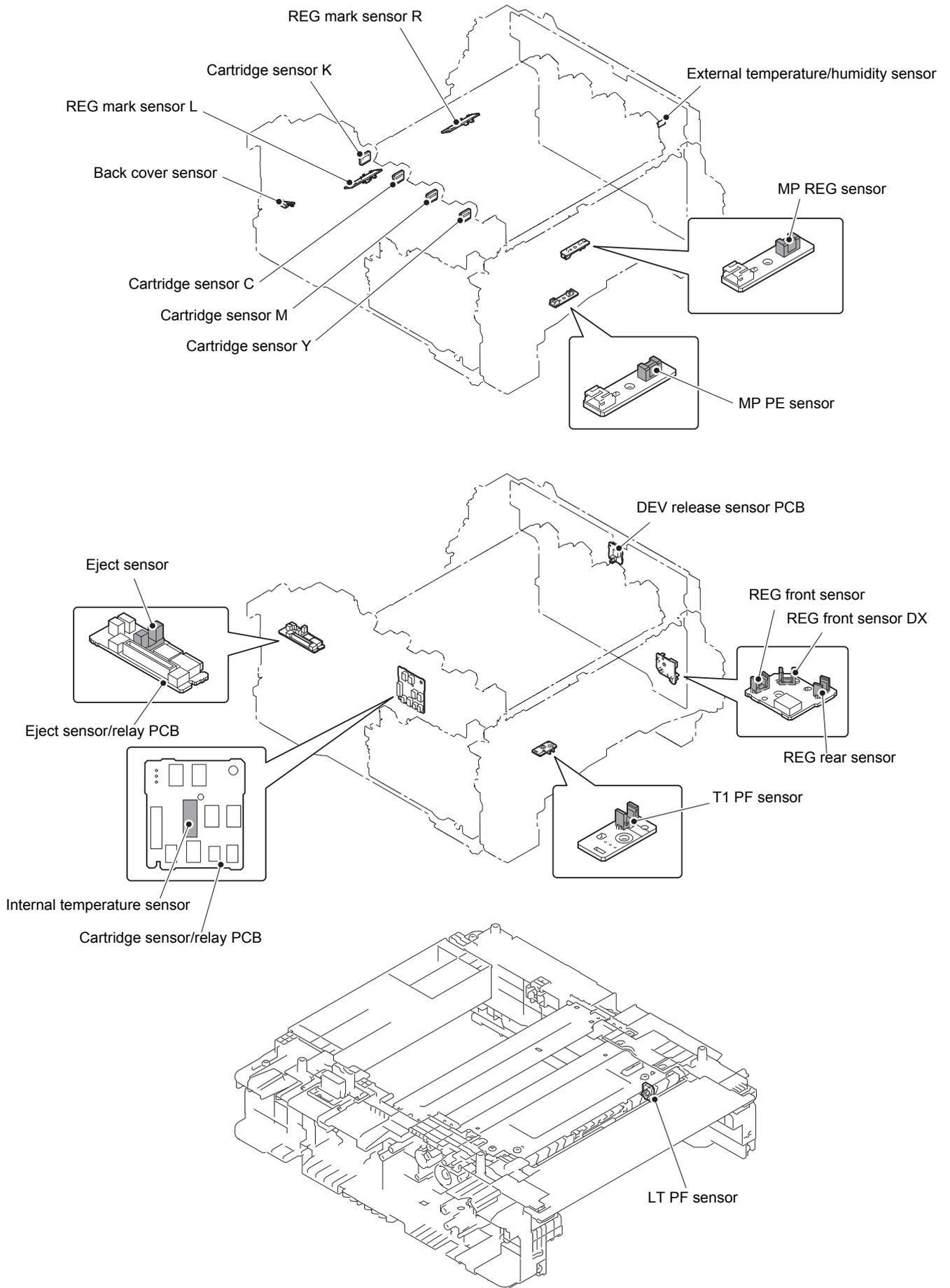


Fig. 5-6

1.3.10 Display Wired LAN Connection Status (Function Code 33)

<Function>

- This function is used to check the connection status of the wired LAN.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[3] [3]	Connection status (See the table below.)
(3)	[X]	To the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 33”
(3)	[OK]	Connection status (See the table below.)
(4)	[Cancel]	To the initial state of maintenance mode.

LCD	Wired LAN connection status
Active 100B-FD	100Mbps-Full Duplex
Active 100B-HD	100Mbps-Half Duplex
Active 10B-FD	10Mbps-Full Duplex
Active 10B-HD	10Mbps-Half Duplex
Inactive	Not connected

1.3.11 Various Settings (Function Code 45)

- Switch Various USB No. Return Value
- Switch ON/OFF Setting of Improve Gray Color (Models with USB Host Only)
- Switch Timing to Execute Auto Registration
- Adjust Left-end / Upper-end Print Position
- Change Transfer Current Setting
- Switch Ghost (SX) Reduction Setting
- Switch ON/OFF Setting of HEXDUMP-Mode
- Disable SSW
- Switch Firmware Downgrade Setting
- Switch Fogging (left/right edge) Reduction Setting
- Switch Ghost (DX) Reduction Setting
- Additional Setting for Drum Warm-up before Starting Printing
- Setting Drum Cleaning Time Extension During/after Printing

1.3.11.1 Switch USB No. Return Value

<Function>

- This function is to perform changing USB serial No. return value.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to [“1.2 How to Enter the Maintenance Mode” in Chapter 5.](#))

(2)	[4] [5]	“USBNo.”
(3)	[SET] (Press the [◀] to cancel the operation.)	“USB No.=(Selected Value)”
(4)	[<<]	
(5)	[▲], or [▼]	Select the desired value.
(6)	[SET]	“Accepted”

- (7) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to [“1.2 How to Enter the Maintenance Mode” in Chapter 5.](#))

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[OK]	“USB No.=(Selected Value)”
(5)	[▲], or [▼]	Select the desired value.
(6)	[OK]	“Accepted”

- (7) The machine returns to the initial state of maintenance mode.

1.3.11.2 Switch ON/OFF Setting of DirectPrint Color Mode-Improve Gray Color (Models with USB Host Only)

<Function>

- This function is used to change the print control for the gray color.
- And use this function when the print is light or the gray color is uneven upon printing.

LCD	Description
DP.ImpGray=ON	DirectPrint Color mode - Improve Gray Color. (Print control for gray color) ON (Improves the symptom that other colors are slightly blended in the gray color.) (default)
DP.ImpGray=OFF	DirectPrint Color mode - Improve Gray Color. (Print control for gray color) OFF (Improves the unevenness of the gray color.)

“*” is displayed at the end of the currently specified function in the LCD display.

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to [“1.2 How to Enter the Maintenance Mode” in Chapter 5.](#))

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“DP.ImpGray”
(5)	[SET] (Press the [◀] to cancel the operation.)	“DP.ImpGray=(Selected Value)”
(6)	[▲], or [▼]	Select the desired value.
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.3 Switch Timing to Execute Auto Registration

<Function>

- This function is used to switch the frequency of Auto Registration.
- Auto Registration: Relative displacement between Cyan, Magenta, Yellow, and Black is detected using the REG mark sensor, and the Auto Registration is executed if the displacement value is large.

LCD	Description
Regi Freq=Mid	The frequency to execute Auto Registration is middle. (default)
Regi Freq=High	The frequency to execute Auto Registration is high.
Regi Freq=Low	The frequency to execute Auto Registration is low.

“**” is displayed at the end of the currently specified function in the LCD display.

Note:

- It can be set regardless of the Auto Registration switching function in the function menu. Even if this function is switched, it does not affect the timing to execute Auto Registration in the function menu.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“Regi Freq”
(5)	[SET] (Press the [◀] to cancel the operation.)	“Regi Freq=(Selected Value)”
(6)	[▲], or [▼]	Select the desired value.
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[▲], or [▼]	“Regi Freq”
(5)	[OK]	“Regi Freq=(Selected Value)”
(6)	[▲], or [▼]	Select the desired value.
(7)	[OK]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.4 Adjust Left-end Print Position

<Function>

- This function is used to adjust the left-end print position. (Left or Right)
- The adjustable range is -100 to 750. (1 unit = 0.084 mm = 1/300")
(Shifted to the left when the value is negative.)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"X Adjust"
(5)	[SET] (Press the [◀] to cancel the operation.)	"XAdjust (Adjustment Option)"
(6)	[▲], or [▼] (See the table below.)	Select the desired value.
(7)	[SET]	"XAdj. (Adjustment Option)= (Set Value)"
(8)	Press the [▲], or [▼] to change the set value.	"XAdj. (Adjustment Option)= (Set Value)"
(9)	[SET]	"Accepted"
(10)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"X Adjust"
(5)	[OK]	"XAdjust (Adjustment Option)"
(6)	[▲], or [▼] (See the table below.)	Select the desired value.
(7)	[OK]	"XAdj. (Adjustment Option)= (Set Value)"
(8)	Press the [▲], or [▼] to change the set value.	"XAdj. (Adjustment Option)= (Set Value)"
(9)	[OK]	"Accepted"
(10)	[Cancel]	To the initial state of maintenance mode

<Adjustment option table>

1-sided printing

Adjustment option	LCD
MP tray 1st side	XAdjust MP
T1 1st side	XAdjust T1
T2 1st side	XAdjust T2
N/A (disabled)	XAdjust DX
N/A (disabled)	XAdjust DXMP
N/A (disabled)	XAdjust DXT1
N/A (disabled)	XAdjust DXT2

2-sided printing

Adjustment option	LCD
MP tray 2nd side	XAdjust MP
T1 2nd side	XAdjust T1
T2 2nd side	XAdjust T2
*1	XAdjust DX
MP tray 1st side	XAdjust DXMP
T1 1st side	XAdjust DXT1
T2 1st side	XAdjust DXT2

*1 Adjusts 1st side print start position of all trays (T1, 2 and MP tray).

The value entered in "XAdjust DX" is added to the value entered in each tray.

For example, when printing from T1, it is adjusted by "XAdjust DXT1 value" + "XAdjust DX value" and printed.

In addition, if the added value is out of the adjustable range (-100 to 750), it will be -100 in the negative direction and be 750 in the positive direction. It is always within the adjustable range.

1.3.11.5 Adjust Upper-end Print Position

<Function>

- This function is used to adjust the upper-end print position. (Up or Down)
- The adjustable range is -50 to 50. (1 unit = 0.084 mm = 1/300")
(Shifted Up when the value is negative.)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"Y Adjust"
(5)	[SET] (Press the [◀] to cancel the operation.)	"YAdjust (Adjustment Option)"
(6)	[▲], or [▼] (Refer to the table on the next page.)	Select the desired value.
(7)	[SET]	"YAdj. (Adjustment Option)= (Set Value)"
(8)	Press the [▲], or [▼] to change the set value.	"YAdj. (Adjustment Option)= (Set Value)"
(9)	[SET]	"Accepted"
(10)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"Y Adjust"
(5)	[OK]	"YAdjust (Adjustment Option)"
(6)	[▲], or [▼] (Refer to the table on the next page.)	Select the desired value.
(7)	[OK]	"YAdj. (Adjustment Option)= (Set Value)"
(8)	Press the [▲], or [▼] to change the set value.	"YAdj. (Adjustment Option)= (Set Value)"
(9)	[OK]	"Accepted"
(10)	[Cancel]	To the initial state of maintenance mode

<Adjustment option table>

1-sided printing

Adjustment option	LCD
MP tray 1st side	YAdjust MP
T1 1st side	YAdjust T1
T2 1st side	YAdjust T2
*1	YAdjust TRAY
N/A (disabled)	YAdjust DX
N/A (disabled)	YAdjust DXMP
N/A (disabled)	YAdjust DXT1
N/A (disabled)	YAdjust DXT2

2-sided printing

Adjustment option	LCD
MP tray 2nd side	YAdjust MP
T1 2nd side	YAdjust T1
T2 2nd side	YAdjust T2
*2	YAdjust TRAY
*1	YAdjust DX
MP tray 1st side	YAdjust DXMP
T1 1st side	YAdjust DXT1
T2 1st side	YAdjust DXT2

*1 Adjusts 1st side print start position of all trays (T1, 2 and MP tray).

The value entered in “YAdjust TRAY”, or “YAdjust DX” is added to the value entered in each tray.

For example, when printing from T1, it is adjusted by “YAdjust T1 value” + “YAdjust TRAY value”, or “YAdjust DXT1 value” + “YAdjust DX value” and printed.

In addition, if the added value is out of the adjustable range (-50 to 50), it will be -50 in the negative direction and be 50 in the positive direction. It is always within the adjustable range.

*2 Adjusts second side print start position of all trays (T1, 2 and MP tray).

The value entered in “YAdjust TRAY” is added to the value entered in each tray.

For example, when printing from T1, it is adjusted by “YAdjust T1 value” + “YAdjust TRAY value” and printed.

In addition, if the added value is out of the adjustable range (-50 to 50), it will be -50 in the negative direction and be 50 in the positive direction. It is always within the adjustable range.

1.3.11.6 Change Transfer Current Setting

<Function>

- This function is used to change the transfer current setting.
- Not used for maintenance.
- The set value: The initial value is automatically set to “default”.
Small Current “HAGAKI1” < “HAGAKI2” < “HAGAKI3” Large Current

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“Special Printing”
(5)	[SET] (Press the [◀] to cancel the operation.)	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[▲], or [▼]	“Special Printing”
(5)	[OK]	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[OK]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.7 Switch Ghost (SX) Reduction Setting

<Function>

- This function is used to reduce ghost in simplex printing by reducing the light intensity of the erase lamp.
- If this function is turned ON, spots and dirt may appear on print.

LCD	Description
ON	Turn ON the ghost reduction function.
OFF	Turn OFF the ghost reduction function. (default)

“*” is displayed at the end of the currently specified function in the LCD display.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“Ghost Reduction”
(5)	[SET] (Press the [◀] to cancel the operation.)	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[▲], or [▼]	“Ghost Reduction”
(5)	[OK]	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[OK]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.8 Switch ON/OFF Setting of HEXDUMP-Mode

<Function>

- This function is used to switch ON/OFF setting of HEXDUMP-Mode at the next startup.
- ON: At the next startup, the HEXDUMP-Mode is enabled.
After rebooting, the HEXDUMP-Mode is automatically switched to OFF.
- OFF: At the next startup, the HEXDUMP-Mode is disabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"HEXDUMP Setting"
(5)	[SET] (Press the [◀] to cancel the operation.)	"HEXDUMP (Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"HEXDUMP (Set Value)"
(7)	[SET]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"HEXDUMP Setting"
(5)	[OK]	"HEXDUMP (Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"HEXDUMP (Set Value)"
(7)	[OK]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.9 Disable SSW

<Function>

- This function is used to disable any SSW.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"FUNC INVALID"
(5)	[SET] (Press the [◀] to cancel the operation.)	"FUNC = 0"
(6)	Press the [▲] or [▼] to select the SSW No. (The digit of No.10)	"FUNC = (SSW No.)"
(7)	Press the [SET] to confirm the digit of the SSW No.10. (Press the [◀] to cancel the operation.)	"FUNC = (SSW No.)"
(8)	Press the [▲] or [▼] to select the SSW No. (The digit of No.1)	"FUNC = (SSW No.)"
(9)	Press the [SET] to confirm the digit of the SSW No.1. (Press the [◀] to cancel the operation.)	"FUNC = (SSW No.)"
(10)	[SET]	"Accepted"

- (11) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"FUNC INVALID"
(5)	[OK]	"FUNC = 0"
(6)	Press the [▲] or [▼] to select the SSW No. (The digit of No.10)	"FUNC = (SSW No.)"
(7)	Press the [OK] to confirm the digit of the SSW No.10.	"FUNC = (SSW No.)"
(8)	Press the [▲] or [▼] to select the SSW No. (The digit of No.1)	"FUNC = (SSW No.)"
(9)	Press the [OK] to confirm the digit of the SSW No.1.	"FUNC = (SSW No.)"
(10)	[OK]	"Accepted"

- (11) The machine returns to the initial state of maintenance mode.

1.3.11.10 Switch Firmware Downgrade Setting

<Function>

- This function is used to switch the Firm Downgrade settings from an external device.
- ON: The Firm Downgrade from the external device is disabled.
- OFF: The Firm Downgrade from the external device is enabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"FIRMDOWN"
(5)	[SET] (Press the [◀] to cancel the operation.)	"FIRMDOWN = (Set Value)"
(6)	Press the [▲], or [▼] to change the set value.	"FIRMDOWN = (Set Value)"
(7)	[SET]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"FIRMDOWN"
(5)	[OK]	"FIRMDOWN = (Set Value)"
(6)	Press the [▲], or [▼] to change the set value.	"FIRMDOWN = (Set Value)"
(7)	[OK]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.11 Switch Fogging (left/right edge) Reduction Setting

<Function>

- This function is used to reduce fogging (left/right side) by controlling the operation of the exhaust fan.
- ON: Fogging reduction setting is enabled.
- OFF: Fogging reduction setting is disabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"SideFogReduction"
(5)	[SET] (Press the [◀] to cancel the operation.)	"(Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"(Set Value)"
(7)	[SET]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"SideFogReduction"
(5)	[OK]	"(Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"(Set Value)"
(7)	[OK]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.12 Switch Ghost (DX) Reduction Setting

<Function>

- This function is used to reduce ghost in duplex printing by reducing the developing bias voltage in environments below a certain humidity.
- Level4: Lower the developing bias voltage the most.
- Level3: Lower the developing bias voltage a lot.
- Level2: Lower the developing bias voltage.
- Level1: Lower the developing bias voltage a little.
- OFF: Ghost (DX) reduction setting is disabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [5]	"USBNo."
(3)	[<<]	
(4)	[▲], or [▼]	"DX Ghost Improve"
(5)	[SET] (Press the [◀] to cancel the operation.)	"(Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"(Set Value)"
(7)	[SET]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 45"
(3)	[OK]	"USBNo."
(4)	[▲], or [▼]	"DX Ghost Improve"
(5)	[OK]	"(Set Value)"
(6)	Press the [▲] or [▼] to change the set value.	"(Set Value)"
(7)	[OK]	"Accepted"

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.13 Additional Setting for Drum Warm-up before Starting Printing

<Function>

- This mode is used to reduce fogging/spots by adding drum warm-up before printing starts.
- One time: After selecting this mode, this mode is enabled only once at the start of printing.

Note:

- After drum warm-up is completed, the mode setting value automatically switches from “One time” to “OFF”.
- Auto: When the temperature, humidity, and remaining life of the drum reach certain conditions, this mode is enabled.
- OFF: This mode is disabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“DR WarmUp”
(5)	[SET] (Press the [◀] to cancel the operation.)	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[▲], or [▼]	“DR WarmUp”
(5)	[OK]	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[OK]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.11.14 Setting Drum Cleaning Time Extension During/after Printing

<Function>

- This function is used to reduce dirt on back side of paper by extending drum cleaning time during/after printing.
- Level3: Extend drum cleaning time a lot.
- Level2: Extend drum cleaning time.
- Level1: Extend drum cleaning time a little.
- OFF: Setting drum cleaning time extension is disabled.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[4] [5]	“USBNo.”
(3)	[<<]	
(4)	[▲], or [▼]	“Enhance Belt Cln”
(5)	[SET] (Press the [◀] to cancel the operation.)	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[SET]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 45”
(3)	[OK]	“USBNo.”
(4)	[▲], or [▼]	“Enhance Belt Cln”
(5)	[OK]	“(Set Value)”
(6)	Press the [▲] or [▼] to change the set value.	“(Set Value)”
(7)	[OK]	“Accepted”

- (8) The machine returns to the initial state of maintenance mode.

1.3.12 Adjust Printing on Scale (Function Code 46)

<Function>

- This function is used to enlarge/shrink the print in horizontal/vertical direction.
- Adjustable Range = -0.5% to +0.5% (-: Shrink, +: Enlarge)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[4] [6]	"MAIN SIZE SET"
(3)	[<<]	
(4)	[▲], or [▼]	"PRINT TEST PTN"
(5)	[SET] (Refer to the next page.)	"PRINTING"

Follow the steps below to adjust the size of one quadrangle to 10 mm on each side, the top and the bottom.

(6)	Press the [▲], or [▼] to select the adjustment direction.	"MAIN SIZE SET", or "SUB SIZE SET"
-----	---	------------------------------------

"MAIN SIZE SET": Horizontal direction (Main scanning direction)
"SUB SIZE SET": Vertical direction (Vertical scanning direction)

(7)	[SET]	"SET: (Set Value) %"
(8)	Press the [▲], or [▼] to enter the set value.	"SET: (Set Value) %"
(9)	[SET]	
(10)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 46"
(3)	[OK]	"MAIN SIZE SET"
(4)	[▲], or [▼]	"PRINT TEST PTN"
(5)	[OK] (Refer to the next page.)	"PRINTING"

Follow the steps below to adjust the size of one quadrangle to 10 mm on each side, the top and the bottom.

(6)	Press the [▲], or [▼] to select the adjustment direction.	"MAIN SIZE SET", or "SUB SIZE SET"
-----	---	------------------------------------

"MAIN SIZE SET": Horizontal direction (Main scanning direction)
"SUB SIZE SET": Vertical direction (Vertical scanning direction)

(7)	[OK]	"SET: (Set Value) %"
(8)	Press the [▲], or [▼] to enter the set value.	"SET: (Set Value) %"
(9)	[OK]	
(10)	[Cancel]	To the initial state of maintenance mode

<Initialization for the set value>

Both the set values for the main size and the sub size are set to 0.0%.

(11)	[▲], or [▼]	"RESET PARAMETER"
(12)	[SET], or [OK]	"Accepted"

■ Print adjustment test pattern

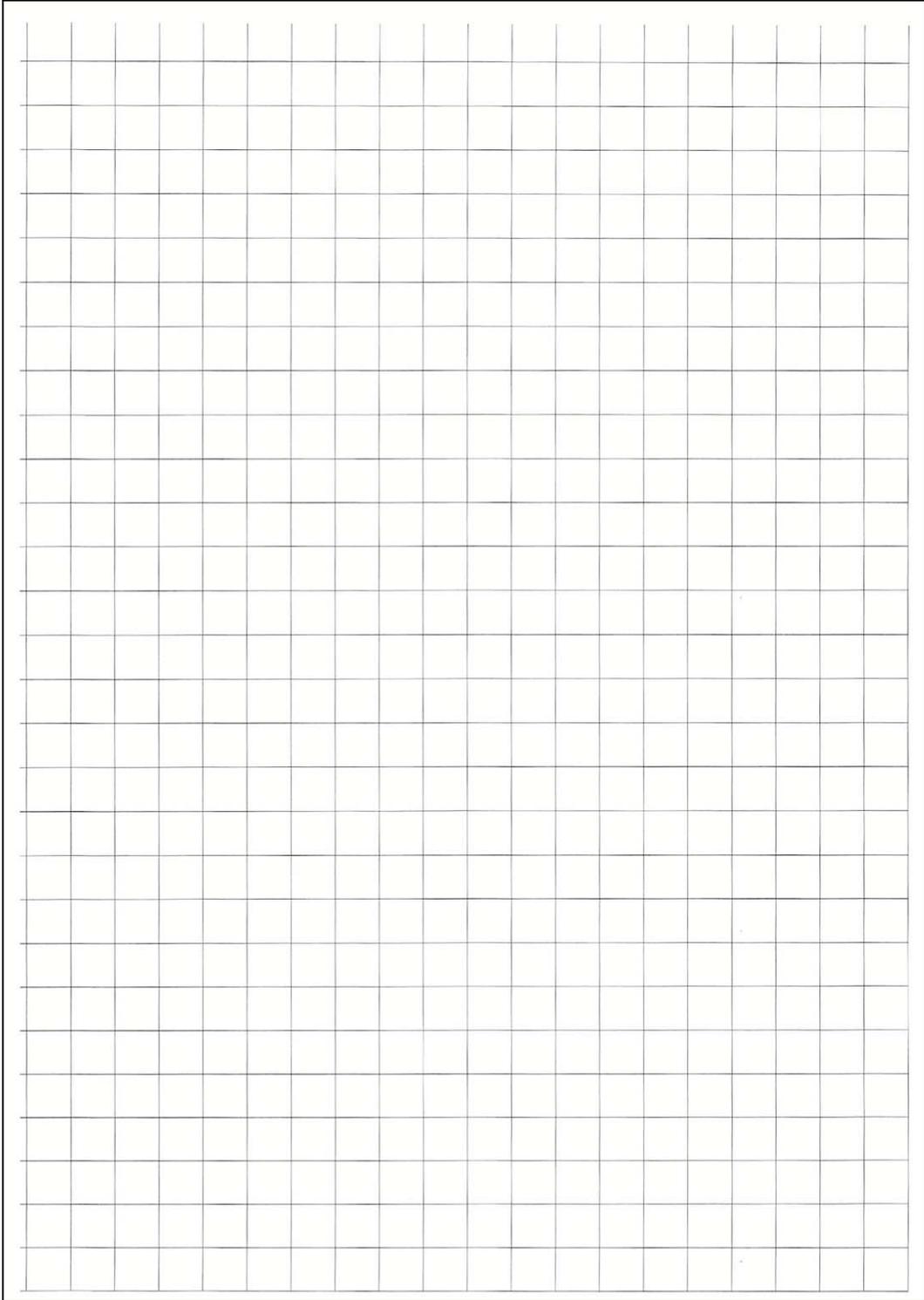


Fig. 5-7

1.3.13 Check Consumables Function (Function Code 57)

<Function>

- This function is used to determine whether the toner cartridge is supported, cartridge's color, destination, and size with the cartridge sensor.

1.3.13.1 Whether the Toner Cartridge is Supported or Not

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[<<]	
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
"IC_ACT ALL": If you want to select all colors "IC_ACT BLACK": If you want to select black "IC_ACT MAGENTA": If you want to select magenta "IC_ACT CYAN": If you want to select cyan "IC_ACT YELLOW": If you want to select yellow		
(5)	[Mono Start]	"IC_ACT OK"
1)	At the time of an error	"IC_ACT NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_ACT ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	[▲], or [▼]	Select the toner cartridge to be authorized.
"IC_ACT ALL": If you want to select all colors "IC_ACT YELLOW": If you want to select yellow "IC_ACT CYAN": If you want to select cyan "IC_ACT MAGENTA": If you want to select magenta "IC_ACT BLACK": If you want to select black		
(5)	[Go]	"IC_ACT OK"
1)	At the time of an error	"IC_ACT NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_ACT ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[OK]	To next item
(7)	[Cancel]	To the initial state of maintenance mode

■ Execution result

LCD	Description
NG*	Each color and the execution result are displayed. The color from left is first Y, then M, then C, and then K. (For the drum unit and the belt unit, one digit is displayed.) 0: Inspection passed. 1: Failed to communicate. No response from consumable chips. It may be caused that no consumable chip is installed, or there is no consumable chip, or consumable chip contacts are unstable or faulty. 2: Although the communication and the authorization passed, it is judged from the consumable chip information to be incompatible. It may be caused that the consumable chip is abnormal, or the cartridge is installed incorrectly. -: No inspection was performed.

1.3.13.2 Check Toner Cartridge's Color

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
 (Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[2]	"IC_COL ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
"IC_COL ALL": If you want to select all colors "IC_COL BLACK": If you want to select black "IC_COL MAGENTA": If you want to select magenta "IC_COL CYAN": If you want to select cyan "IC_COL YELLOW": If you want to select yellow		
(5)	[Mono Start]	"IC_COL OK"
1)	At the time of an error	"IC_COL NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_COL ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
 (Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_COL ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
"IC_COL ALL": If you want to select all colors "IC_COL YELLOW": If you want to select yellow "IC_COL CYAN": If you want to select cyan "IC_COL MAGENTA": If you want to select magenta "IC_COL BLACK": If you want to select black		
(6)	[Go]	"IC_COL OK"
1)	At the time of an error	"IC_COL NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_COL ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.13.3 Check Toner Cartridge's Destination

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[3]	"IC_AREA ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
"IC_AREA ALL": If you want to select all colors "IC_AREA BLACK": If you want to select black "IC_AREA MAGENTA": If you want to select magenta "IC_AREA CYAN": If you want to select cyan "IC_AREA YELLOW": If you want to select yellow		
(5)	[Mono Start]	"IC_AREA OK"
1)	At the time of an error	"IC_AREA NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_AREA ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_AREA ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
"IC_AREA ALL": If you want to select all colors "IC_AREA YELLOW": If you want to select yellow "IC_AREA CYAN": If you want to select cyan "IC_AREA MAGENTA": If you want to select magenta "IC_AREA BLACK": If you want to select black		
(6)	[Go]	"IC_AREA OK"
1)	At the time of an error	"IC_AREA NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_AREA ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.13.4 Check Toner Cartridge's Size

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[4]	"IC_SIZE ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
"IC_SIZE ALL": If you want to select all colors "IC_SIZE BLACK": If you want to select black "IC_SIZE MAGENTA": If you want to select magenta "IC_SIZE CYAN": If you want to select cyan "IC_SIZE YELLOW": If you want to select yellow		
(5)	[Mono Start]	"IC_SIZE OK"
1)	At the time of an error	"IC_SIZE NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_SIZE ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_SIZE ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
"IC_SIZE ALL": If you want to select all colors "IC_SIZE YELLOW": If you want to select yellow "IC_SIZE CYAN": If you want to select cyan "IC_SIZE MAGENTA": If you want to select magenta "IC_SIZE BLACK": If you want to select black		
(6)	[Go]	"IC_SIZE OK"
1)	At the time of an error	"IC_SIZE NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_SIZE ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.13.5 Check Cartridge Sensor's Version

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[5]	"IC_VER BLACK"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
<p>"IC_VER BLACK": If you want to select black "IC_VER MAGENTA": If you want to select magenta "IC_VER CYAN": If you want to select cyan "IC_VER YELLOW": If you want to select yellow</p>		
(5)	[Mono Start]	"IC_VER OK:****" (**** indicates a version.)
	1) At the time of an error	"IC_VER NG*" (*: Class number)
	2) Refer to "Execution result".	The error appears.
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_VER BLACK"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
<p>"IC_VER BLACK": If you want to select black "IC_VER YELLOW": If you want to select yellow "IC_VER CYAN": If you want to select cyan "IC_VER MAGENTA": If you want to select magenta</p>		
(6)	[Go]	"IC_VER OK:****" (**** indicates a version.)
	1) At the time of an error	"IC_VER NG*" (*: Class number)
	2) Refer to "Execution result".	The error appears.
(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.13.6 Check Toner Cartridge's Communication

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2) [5] [7] "IC_ACT ALL"
- (3) [0] "IC_TX ALL"
- (4) [◀], or [▶] Select the toner cartridge to be authorized.
 "IC_TX ALL": If you want to select all colors
 "IC_TX BLACK": If you want to select black
 "IC_TX MAGENTA": If you want to select magenta
 "IC_TX CYAN": If you want to select cyan
 "IC_TX YELLOW": If you want to select yellow
- (5) [Mono Start] "IC_TX OK"
 - 1) At the time of an error "IC_TX NG*" (*: Class number)
 - 2) Refer to "Execution result". The error appears.

Note:

- When NG was displayed after performing the "IC_TX ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

- (6) [X] To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2) [▲], or [▼] "MAINTENANCE 57"
- (3) [OK] "IC_ACT ALL"
- (4) Press the [OK] several times. "IC_TX ALL"
- (5) [▲], or [▼] Select the toner cartridge to be authorized.
 "IC_TX ALL": If you want to select all colors
 "IC_TX YELLOW": If you want to select yellow
 "IC_TX CYAN": If you want to select cyan
 "IC_TX MAGENTA": If you want to select magenta
 "IC_TX BLACK": If you want to select black
- (6) [Go] "IC_TX OK"
 - 1) At the time of an error "IC_TX NG*" (*: Class number)
 - 2) Refer to "Execution result". The error appears.

Note:

- When NG was displayed after performing the "IC_TX ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

- (7) [OK] To next item
- (8) [Cancel] To the initial state of maintenance mode

1.3.13.7 Check Toner Cartridge's Generation

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[6]	"IC_GEN ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized. "IC_GEN ALL": If you want to select all colors "IC_GEN BLACK": If you want to select black "IC_GEN MAGENTA": If you want to select magenta "IC_GEN CYAN": If you want to select cyan "IC_GEN YELLOW": If you want to select yellow
(5)	[Mono Start]	"IC_GEN OK"
	1) At the time of an error	"IC_GEN NG*" (*: Class number)
	2) Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_GEN ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_GEN ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized. "IC_GEN ALL": If you want to select all colors "IC_GEN YELLOW": If you want to select yellow "IC_GEN CYAN": If you want to select cyan "IC_GEN MAGENTA": If you want to select magenta "IC_GEN BLACK": If you want to select black
(6)	[Go]	"IC_GEN OK"
	1) At the time of an error	"IC_GEN NG*" (*: Class number)
	2) Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_GEN ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.13.8 Display Toner Cartridge's Capacity Value

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[7]	"IC_CAPA ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized. "IC_CAPA ALL": If you want to select all colors "IC_CAPA BLACK": If you want to select black "IC_CAPA MAGENTA": If you want to select magenta "IC_CAPA CYAN": If you want to select cyan "IC_CAPA YELLOW": If you want to select yellow
(5)	[Mono Start]	"IC_CAPA :**" (** indicates a size.) (Refer to "Capacity information".)
	1) At the time of an error	"IC_CAPA NG"
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_CAPA ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized. "IC_CAPA ALL": If you want to select all colors "IC_CAPA YELLOW": If you want to select yellow "IC_CAPA CYAN": If you want to select cyan "IC_CAPA MAGENTA": If you want to select magenta "IC_CAPA BLACK": If you want to select black
(6)	[Go]	"IC_CAPA :**" (** indicates a size.) (Refer to "Capacity information".)
	1) At the time of an error	"IC_CAPA NG"
(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

■ Capacity information

The read-out capacity information (Capacity Type) is displayed.	<When colors are individually specified> 11: Low 21: Standard 31: High 41: SuperHigh * In a model that is distinguished by LowA / LowB for each capacity type, use the last digit to represent the A / B type. (In the model that is undistinguished, the last digit is fixed to 1.)
	<When ALL colors are specified> Information for the four colors is shown in the order of K / C / M / Y. For example: For the standard toner with all colors, "IC_CAPA 21212121" is displayed.

1.3.13.9 Display Toner Cartridge's Kind

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[8]	"IC_KIND ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
<p>"IC_KIND ALL": If you want to select all colors "IC_KIND BLACK": If you want to select black "IC_KIND MAGENTA": If you want to select magenta "IC_KIND CYAN": If you want to select cyan "IC_KIND YELLOW": If you want to select yellow</p>		
(5)	[Mono Start]	"IC_KIND :**" (** indicates a size.) (Refer to "Capacity information".)
	1) At the time of an error	"IC_KIND NG"
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_KIND ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
<p>"IC_KIND ALL": If you want to select all colors "IC_KIND YELLOW": If you want to select yellow "IC_KIND CYAN": If you want to select cyan "IC_KIND MAGENTA": If you want to select magenta "IC_KIND BLACK": If you want to select black</p>		
(6)	[Go]	"IC_KIND :**" (** indicates a size.) (Refer to "Capacity information".)
	1) At the time of an error	"IC_KIND NG"
(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

■ Capacity information

The read-out kind information is displayed.	<When colors are individually specified> 01: Normal Toner 02: P Toner 81: Normal Toner (Bundled) 82: P Toner (Bundled)
	<When ALL colors are specified> Information for the four colors is shown in the order of K / C / M / Y. For example: For the normal toner with all colors, "IC_KIND 01010101" is displayed.

1.3.13.10 Inspect Batch Function

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[5] [7]	"IC_ACT ALL"
(3)	[*]	"IC_BATCH ALL"
(4)	[◀], or [▶]	Select the toner cartridge to be authorized.
"IC_BATCH ALL": If you want to select all colors "IC_BATCH BLACK": If you want to select black "IC_BATCH MAGENTA": If you want to select magenta "IC_BATCH CYAN": If you want to select cyan "IC_BATCH YELLOW": If you want to select yellow		
(5)	[Mono Start]	"IC_BATCH OK"
1)	At the time of an error	"IC_BATCH NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_BATCH ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(6)	[X]	To the initial state of maintenance mode
-----	-----	--

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 57"
(3)	[OK]	"IC_ACT ALL"
(4)	Press the [OK] several times.	"IC_BATCH ALL"
(5)	[▲], or [▼]	Select the toner cartridge to be authorized.
"IC_BATCH ALL": If you want to select all colors "IC_BATCH YELLOW": If you want to select yellow "IC_BATCH CYAN": If you want to select cyan "IC_BATCH MAGENTA": If you want to select magenta "IC_BATCH BLACK": If you want to select black		
(6)	[Go]	"IC_BATCH OK"
1)	At the time of an error	"IC_BATCH NG*" (*: Class number)
2)	Refer to "Execution result".	The error appears.

Note:

- When NG was displayed after performing the "IC_BATCH ALL", which color cartridge had error cannot be determined. In that case, select the color individually and perform.

(7)	[OK]	To next item
(8)	[Cancel]	To the initial state of maintenance mode

1.3.14 Adjust Touch Panel (Function Code 61)

<Function>

- This function is used to adjust the detection position of the touch panel.
- This adjustment requires a pen for the touch panel (also known as a touch pen). (Also available in spare parts.)
(Using ballpoint pens etc. will easily damage the touch panel.)

<Operating Procedure>

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2)

[6] [1]	The adjustment screen appears. (See the figure below.)
---------	--
- (3) Touch the marks in the order of No.1 through No.5. (The touched mark will disappear.)
 <Error>
 "NG" appears after touching mark No.1.
 > Reconnect the touch panel FFC.
 > Replace the touch panel or the touch panel FFC.

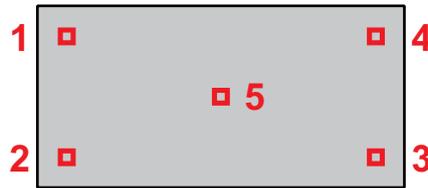


Fig. 5-8

- (4) The result appears.

The adjustment is successful.	"OK"
-------------------------------	------

 <Error> Proceed to (3) after the error appears for three seconds.

The touched position is out of range.	"Point Error"
---------------------------------------	---------------

The distance from the last touched position is NG.	"Distance Error"
--	------------------
- (5) The machine returns to the initial state of maintenance mode.

1.3.15 Adjustment of Color Registration (Adjustment of Inter-color Position Alignment) (Function Code 66)

<Function>

- The adjustment of inter-color position alignment (auto/manual) is described in the table below.
- Printing of correction chart (manual)
- In the end user-accessible maintenance mode, “Adjustment of inter-color position alignment including registration sensor calibration” is not available.

This mode has the following functions.

Function	Description	LCD
Adjustment of inter-color position alignment without registration sensor calibration (auto)	Automatically correct misregistration between colors that occurs as the number of printed pages increases and time passes.	REGISTRATION
Adjustment of inter-color position alignment (manual)	Using the chart, manually correct misregistration between colors that occurs as the number of printed pages increases and time passes. This is performed when automatic adjustment fails.	SET REGISTRATION
Printing of correction chart	Print the chart that you check for an input value when manually correcting misregistration between colors.	PRINT CHART
Adjustment of inter-color position alignment including registration sensor calibration (auto)	After the sensitivity adjustment of registration sensor, correct misregistration between colors that occurs as the number of printed pages increases and time passes.	ADD REGISTRATION

1.3.15.1 Adjustment of Inter-color Position Alignment without Registration Sensor Calibration (Auto)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[6] [6]	“REGISTRATION”
(3)	[SET]	“PLS WAIT 66-1”
(4)	The correction is completed.	“COMPLETED”
1)	At the time of an error	“ERROR 66-1”
2)	Press the [▼] to see the details. (Refer to “Details of errors”.)	The error appears.
(5)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 66”
(3)	[OK]	“REGISTRATION”
(4)	[OK]	“PLS WAIT 66-1”
(5)	The correction is completed.	“COMPLETED”
1)	At the time of an error	“ERROR 66-1”
2)	Press the [▼] to see the details. (Refer to “Details of errors”.)	The error appears.
(6)	[Cancel]	To the initial state of maintenance mode

■ **Details of errors**

- Pressing the [Mono Start], or [Go] clears the error.
- In the automatic adjustment of inter-color alignment, a toner pattern is formed on the belt and measured by the registration sensor to calibrate the color registration. The following errors also occur due to problems with related parts such as the drum dirt and the registration sensor failure.
- After clearing the error, perform “Adjustment of inter-color position alignment with/without registration sensor calibration (auto)”, or “Printing of correction chart” and “Adjustment of inter-color position alignment (manual)” (1.3.15.2).

Error display	
FAILED REGIST	NG PWM R-L:080
TONER EMPTY # *	NG CNT R100 L100
NG L:C080 R:M105	NG S-POSI R:-080
NG R-L:C030	NG SKEW:120
NG PWM L120 R180	NG PWM R-P L:080

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

1.3.15.2 Printing of Correction Chart and Adjustment of Inter-color Position Alignment (Manual)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[6] [6]	“REGISTRATION”
(3)	[<<]	
(4)	[▲], or [▼]	“PRINT CHART”
(5)	Press the [SET] to print the correction chart. (Refer to the next page.)	“PRINTING”
(6)	The printing is completed.	“PRINT CHART”
(7)	[X]	To the initial state of maintenance mode
(8)	[>>]	
(9)	[6] [6]	“REGISTRATION”
(10)	[<<]	
(11)	[▲], or [▼]	“SET REGISTRATION”
(12)	[SET]	“1. MAGENTA=0”
(13)	Identify the numeric value whose color is the darkest in the pattern of ①.	“1. MAGENTA=0”
(14)	Press the [▲], or [▼] to enter the numeric value of (13).	“1. MAGENTA=(Entered value)”
(15)	Press the [SET] to confirm the entered value.	
(16)	For the correction test pattern of ② to ⑨, repeat the steps from (13) to (15).	
(17)	The correction is completed.	“COMPLETED”
(18)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 66"
(3)	[OK]	"REGISTRATION"
(4)	[▲], or [▼]	"PRINT CHART"
(5)	Press the [OK] to print the correction chart. (See the figure below.)	"PRINTING"
(6)	The printing is completed.	"PRINT CHART"
(7)	[Cancel]	To the initial state of maintenance mode
(8)	[▲], or [▼]	"MAINTENANCE 66"
(9)	[OK]	"REGISTRATION"
(10)	[▲], or [▼]	"SET REGISTRATION"
(11)	[OK]	"1. MAGENTA=0"
(12)	Identify the numeric value whose color is the darkest in the pattern of ①.	"1. MAGENTA=0"
(13)	Press the [▲], or [▼] to enter the numeric value of (12).	"1. MAGENTA=(Entered value)"
(14)	Press the [OK] to confirm the entered value.	
(15)	For the correction test pattern of ② to ⑨, repeat the steps from (12) to (14).	
(16)	The correction is completed.	"COMPLETED"
(17)	[Cancel]	To the initial state of maintenance mode

■ Correction chart

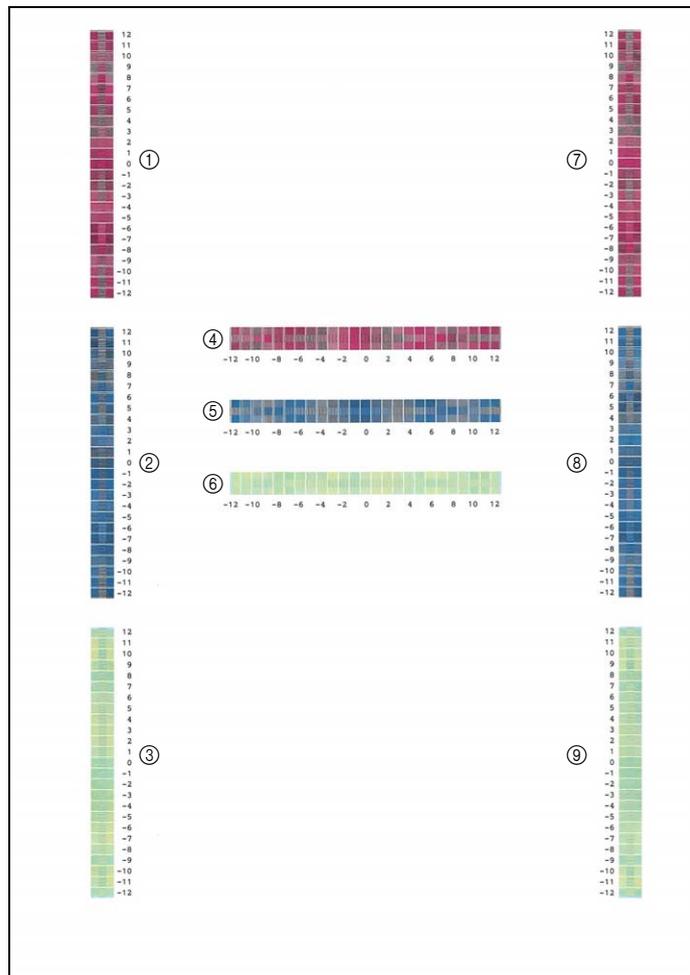


Fig. 5-9

1.3.15.3 Adjustment of Inter-color Position Alignment including Registration Sensor Calibration (Auto)

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[6] [6]	"REGISTRATION"
(3)	[<<]	
(4)	[▲], or [▼]	"ADD REGISTRATION"
(5)	[SET]	"PLS WAIT 66-1"
(6)	The correction is completed.	"COMPLETED"
1)	At the time of an error	"ERROR 66-1"
2)	Press the [▼] to see the details. (Refer to "Details of errors".)	The error appears.
(7)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 66"
(3)	[OK]	"REGISTRATION"
(4)	[▲], or [▼]	"ADD REGISTRATION"
(5)	[OK]	"PLS WAIT 66-1"
(6)	The correction is completed.	"COMPLETED"
1)	At the time of an error	"ERROR 66-1"
2)	Press the [▼] to see the details. (Refer to "Details of errors".)	The error appears.
(7)	[Cancel]	To the initial state of maintenance mode

1.3.16 Continuous Print Test (Function Code 67)

<Function>

- This function is used to print "Print pattern".
- And test the print image quality or the print operation.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[6] [7]	"SELECT: K 100%"
(3)	[<<]	
(4)	Press the [▲], or [▼] to select the print pattern.	Refer to <Print pattern>.
(5)	[SET]	"SELECT: A4"
(6)	Press the [▲], or [▼] to select the print size.	Refer to <Paper size>.
(7)	[SET]	"SELECT: PLAIN"
(8)	Press the [▲], or [▼] to select the print specification.	Refer to <Print specification>.
(9)	[SET]	"SELECT: TRAY1 SX"
(10)	Press the [▲], or [▼] to select TRAY, DX.	Refer to <Print type>.
(11)	[SET]	"SELECT: 1PAGE"
(12)	Press the [▲], or [▼] to select the print page.	Refer to <Print page>.

<SELECT: 1PAGE, CONTINUE >

(13)	Press the [SET] to confirm the item and the printing is started.	"PAPER FEED TEST"
(14)	Press the [X], or the specified number of sheets is completed.	To the initial state of maintenance mode

<SELECT: JOB >

(13)	[SET]	"SELECT: 1P/JOB"
(14)	Press the [▲], or [▼] to select the number of pages per job.	Refer to <Number of pages per job>.
(15)	[SET]	
(16)	(SELECT: xxP(l)/JOB only) Press the [▲], or [▼] to select the xxP(l)/JOB. Enter the image number (Up to 3 digits).	
(17)	(SELECT: xxP(l)/JOB only) Press the [SET] to confirm the item.	
(18)	The printing is started.	"PAPER FEED TEST"
(19)	Press the [X], or the specified number of sheets is completed.	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 67"
(3)	[OK]	"SELECT: K 100%"
(4)	Press the [▲], or [▼] to select the print pattern.	Refer to <Print pattern>.
(5)	[OK]	"SELECT: A4"
(6)	Press the [▲], or [▼] to select the print size.	Refer to <Paper size>.
(7)	[OK]	"SELECT: PLAIN"
(8)	Press the [▲], or [▼] to select the print specification.	Refer to <Print specification>.
(9)	[OK]	"SELECT: TRAY1 SX"
(10)	Press the [▲], or [▼] to select TRAY, DX.	Refer to <Print type>.
(11)	[OK]	"SELECT: 1PAGE"
(12)	Press the [▲], or [▼] to select the print page.	Refer to <Print page>.

<SELECT: 1PAGE, CONTINUE >

(13)	Press the [OK] to confirm the item and the printing is started.	"PAPER FEED TEST"
(14)	Press the [Cancel], or the specified number of sheets is completed.	To the initial state of maintenance mode

<SELECT: JOB >

(13)	[OK]	"SELECT: 1P/JOB"
(14)	Press the [▲], or [▼] to select the number of pages per job.	Refer to <Number of pages per job>.
(15)	[OK]	
(16)	(SELECT: xxP(I)/JOB only) Press the [▲], or [▼] to select the xxP(I)/JOB. Enter the image number (Up to 3 digits).	
(17)	(SELECT: xxP(I)/JOB only) Press the [OK] to confirm the item.	
(18)	The printing is started.	"PAPER FEED TEST"
(19)	Press the [Cancel], or the specified number of sheets is completed.	To the initial state of maintenance mode

<Print pattern>

LCD	Description
SELECT: K 100%	Black 100% solid print
SELECT: C 100%	Cyan 100% solid print
SELECT: M 100%	Magenta 100% solid print
SELECT: Y 100%	Yellow 100% solid print
SELECT: W 100%	White 100% solid print
SELECT: R 100%	Red 100% solid print
SELECT: G 100%	Green 100% solid print
SELECT: B 100%	Blue 100% solid print
SELECT: KCMY1%	Black/Cyan/Magenta/Yellow 1% intermittent pattern print *
SELECT: KCMY5%	Black/Cyan/Magenta/Yellow 5% intermittent pattern print *
SELECT: Lattice	Lattice print
SELECT: Total	Total pattern print (LETTER, PLAIN, T1 SX, Standard paper eject, 1PAGE)
SELECT: DXEJECT	DX eject check (A4/LETTER, PLAIN, TRAY1 DX, Standard paper eject, CONTINUE, 1COPY, 6 image)

* Up to 500 sheets in 1-sided printing and 1,000 sheets in 2-sided printing in the case of job printing.

<Paper size>

LCD	Description
SELECT:A4	A4
SELECT:LETTER	Letter
SELECT:ISOB5	ISO B5
SELECT:JISB5	JIS B5
SELECT:A5	A5
SELECT:A5L	A5L
SELECT:JISB6	JIS B6
SELECT:A6	A6
SELECT:EXECUTE	Executive size
SELECT:LEGAL	Legal size
SELECT: MEXICANLEGAL	Mexico Legal
SELECT:INDIALEGAL	India Legal
SELECT:16K	16K
SELECT:FOLIO	Folio size
SELECT:HAGAKI	Postcard size *

* Supports only for TRAY1 SX, MP TRAY SX, and AUTO SX.

<Print specification>

LCD	Description
SELECT:PLAIN	Plain paper
SELECT:THIN	Plain paper (thin)
SELECT:THICK	Plain paper (thick)
SELECT:THICKER	Plain paper (thicker)
SELECT:RECYCLED	Recycled paper
SELECT:BOND	Bond paper
SELECT:LABEL	Label
SELECT:ENVELOPE	Envelope
SELECT:ENVTHIN	Envelope (thin)
SELECT:ENVTHICK	Envelope (thick)
SELECT:GLOSSY	Glossy paper
SELECT:HAGAKI	Postcard *

* HAGAKI appears on the LCD, but it is not available.

<Print type>

LCD	Description
SELECT: TRAY1 SX	1-sided printing from T1
SELECT: TRAY2 SX ^{*1}	1-sided printing from T2
SELECT: MP SX	1-sided printing from MP tray
SELECT: MF SX	1-sided printing from MF tray
SELECT: TRAY1 DX ^{*2}	2-sided printing from T1
SELECT: TRAY2 DX ^{*2}	2-sided printing from T2
SELECT: MP DX ^{*2}	2-sided printing from MP tray
SELECT: MF DX ^{*2}	2-sided printing from MF tray
SELECT: AUTO SX	1-sided printing to automatically selected tray
SELECT: AUTO DX ^{*2}	2-sided printing to automatically selected tray

^{*1} Does not support paper size for A5L and A6.

^{*2} Supports paper size only for A4, Letter, Legal, and Folio.

<Print page>

LCD	Description
SELECT: 1PAGE	1-page printing
SELECT: CONTINUE	Continuous printing
SELECT: JOB	Intermittent printing per job *

* Selectable only when the printing pattern is set to "KCMY1%" or "KCMY5%", and the print type is not set to the MF tray.

<Number of pages per job> (Only for intermittent pattern printing)

LCD	Description
SELECT: 1P/JOB	Prints 1 page per job ^{*1}
SELECT: 2P/JOB	Prints 2 pages per job ^{*1}
SELECT: 5P/JOB	Prints 5 pages per job ^{*1}
SELECT: 10P/JOB	Prints 10 pages per job ^{*1}
SELECT:xxP/JOB	Prints xx pages per job ^{*1 *3}
SELECT: 2I/JOB	Prints 2 images per job ^{*2}
SELECT: 4I/JOB	Prints 4 images per job ^{*2}
SELECT: 5I/JOB	Prints 5 images per job ^{*2 *4}
SELECT: 10I/JOB	Prints 10 images per job ^{*2}
SELECT: 20I/JOB	Prints 20 images per job ^{*2}
SELECT:xxI/JOB	Prints xx images per job ^{*2 *3}

^{*1} Selectable only when SX is selected as print type.

^{*2} Selectable only when DX is selected as print type.

^{*3} Up to 3 digits can be entered after selection.

^{*4} 1-sided printing for the 5th page.

■ Print pattern

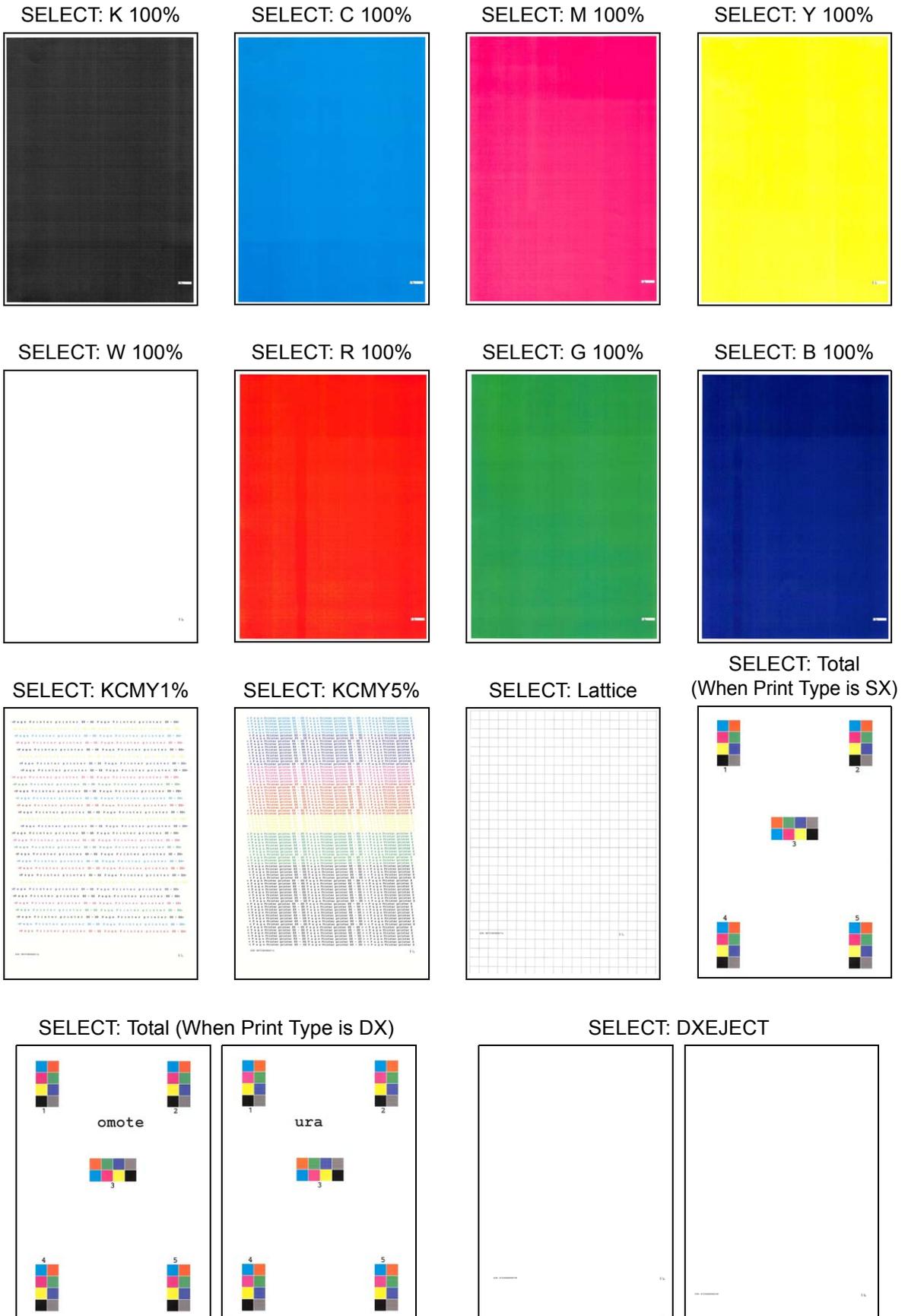


Fig. 5-10

1.3.17 LED ASSY Test Pattern Print (Function Code 68)

<Function>

- This function is used to print the LED ASSY test pattern.
- Test the print image quality or the print operation.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[6] [8]	"M68-L"
(3)		"PRINTING"

- (4) The LED ASSY test pattern (refer to the next page) is printed.

(5)	The printing is completed.	"OK"
1)	At the time of an error	See the "Error display" table below.
2)	Proceed to (5) after clearing the error.	"PRINTING"
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 68"
(3)	[OK]	"M68-L"
(4)		"PRINTING"

- (5) The LED ASSY test pattern (refer to the next page) is printed.

(6)	The printing is completed.	"OK"
1)	At the time of an error	See the "Error display" table below.
2)	Proceed to (6) after clearing the error.	"PRINTING"
(7)	[Cancel]	To the initial state of maintenance mode

Error display	Remedy
Replace Toner # *	Replace the toner cartridge.
Cover is Open	Close the Top cover ASSY.
No Paper	Refill the paper, then close the paper tray.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers.
Jam Rear	

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

■ LED ASSY test pattern



Fig. 5-11

1.3.18 Print Frame Pattern (1-sided Printing) (Function Code 69)

<Function>

- This function is used to print the frame pattern on single side of the paper.
- And test the print image quality or the print operation.

<Operating Procedure>

For models with touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(3)	[6] [9]	"PRINTING"
(4)	The frame pattern (refer to the next page) is printed.	
(5)	The printing is completed.	"WAKU SX"
	1) At the time of an error	See the "Error display" table below.
	2) Proceed to (4) after clearing the error.	"PRINTING"
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(3)	[▲], or [▼]	"MAINTENANCE 69"
(4)	[OK]	"PRINTING"
(5)	The frame pattern (refer to the next page) is printed.	
(6)	The printing is completed.	"WAKU SX"
	1) At the time of an error	See the "Error display" table below.
	2) Proceed to (5) after clearing the error.	"PRINTING"
(7)	[Cancel]	To the initial state of maintenance mode

Error display	Remedy
Replace Toner	Replace the toner cartridge.
Cover is Open	Close the Top cover ASSY.
No Paper	Refill the paper, then close the paper tray.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers.
Jam Rear	

■ **Frame pattern**



Fig. 5-12

1.3.19 Print Frame Pattern (2-sided Printing) (Function Code 70)

<Function>

- This function is used to print the frame pattern on both sides of the paper.
- And test the print image quality or the print operation.

<Operating Procedure>

For models with touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(3)	[7] [0]	"PRINTING"
(4)	The frame pattern (refer to the next page) is printed.	
(5)	The printing is completed.	"WAKU DX"
	1) At the time of an error	See the "Error display" table below.
	2) Proceed to (4) after clearing the error.	"PRINTING"
(6)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(3)	[▲], or [▼]	"MAINTENANCE 70"
(4)	[OK]	"PRINTING"
(5)	The frame pattern (refer to the next page) is printed.	
(6)	The printing is completed.	"WAKU DX"
	1) At the time of an error	See the "Error display" table below.
	2) Proceed to (5) after clearing the error.	"PRINTING"
(7)	[Cancel]	To the initial state of maintenance mode

Error display	Remedy
Replace Toner	Replace the toner cartridge.
Cover is Open	Close the Top cover ASSY.
No Paper	Refill the paper, then close the paper tray.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers.
Jam Rear	
Jam Duplex	
Duplex Disabled	Refill the paper, then close the paper tray and all covers.

■ **Frame pattern**

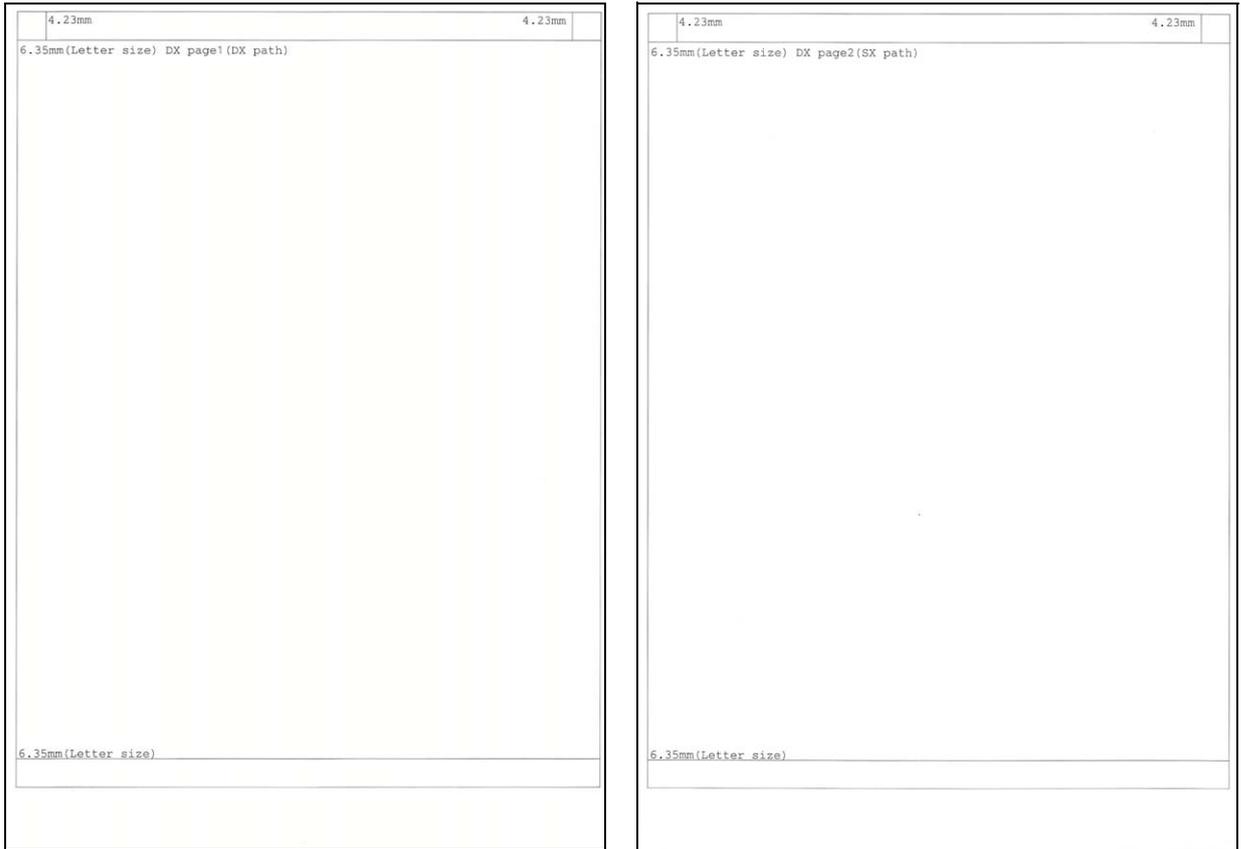


Fig. 5-13

1.3.20 Print Color Test Pattern (Function Code 71)

<Function>

- This function is used to print “Color test pattern”.
- And test the print image quality or the print operation.

<Operating Procedure>

For models with touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(3)	[7] [1]	“Dthr K/W/Y/M/C_A”
(4)	[<<]	
(5)	Press the [▲], or [▼] to select the print pattern.	Refer to <Print pattern>.
(6)	[SET]	“SELECT: LETTER”
(7)	Press the [▲], or [▼] to select the print size.	Refer to <Paper size>.
(8)	[SET]	“SELECT: PLAIN”
(9)	Press the [▲], or [▼] to select the print specification.	Refer to <Print specification>.
(10)	[SET]	“SELECT: SX”
(11)	Press the [▲], or [▼] to select SX/DX.	Refer to <Print type>.
(12)	[SET]	“SELECT: 1PAGE”
(13)	Press the [▲], or [▼] to select the print page.	Refer to <Print page>.
(14)	Press the [SET] to confirm the item and the printing is started.	“PRINTING”
(15)	The printing is completed.	“OK”
1)	At the time of an error	Refer to <Error display>.
2)	Print it again after clearing the error.	
	[Mono Start]	Refer to <Error display>.

* In some cases, printing starts without pressing the [Mono Start].

<Reprinting>

(16)	[Mono Start]	Return to the print pattern.
(17)	[Mono Start]	To (5)
(18)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) Load the paper specified in the default paper settings (A4 or Letter) in the paper tray.
- (2) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(3)	[▲], or [▼]	"MAINTENANCE 71"
(4)	[OK]	"Dthr K/W/Y/M/C_A"
(5)	Press the [▲], or [▼] to select the print pattern.	Refer to <Print pattern>.
(6)	[OK]	"SELECT: LETTER"
(7)	Press the [▲], or [▼] to select the print size.	Refer to <Paper size>.
(8)	[OK]	"SELECT: PLAIN"
(9)	Press the [▲], or [▼] to select the print specification.	Refer to <Print specification>.
(10)	[OK]	"SELECT: SX"
(11)	Press the [▲], or [▼] to select SX/DX.	Refer to <Print type>.
(12)	[OK]	"SELECT: 1PAGE"
(13)	Press the [▲], or [▼] to select the print page.	Refer to <Print page>.
(14)	Press the [OK] to confirm the item and the printing is started.	"PRINTING"
(15)	The printing is completed.	"OK"
1)	At the time of an error	Refer to <Error display>.
2)	Print it again after clearing the error.	
	[Go]	Refer to <Error display>.

* In some cases, printing starts without pressing the [Go].

<Reprinting>

(16)	[Go]	Return to the print pattern.
(17)	[Go]	To (5)
(18)	[Cancel]	To the initial state of maintenance mode

<Print pattern>

LCD	Description
Dthr K/W/Y/M/C_A	Total five sheets of one black sheet + one blank sheet + one sheet for each color with the color mode (auto)
MCYK V	4-color vertical band
MCYK H	4-color horizontal band
2d3s Y	Yellow
2d3s C	Cyan
2d3s K	Black
2d3s M	Magenta
Dthr K	Dither 33% black

* In the full page print mode, the cleaning operation is performed between printing of blank paper and Black.

<Paper size>

LCD	Description
SELECT:LETTER	Letter
SELECT:HAGAKI	Postcard size
SELECT:FOLIO	Folio size
SELECT:LEGAL	Legal size
SELECT:EXECUTE	Executive size
SELECT:A6	A6
SELECT:JISB6	JIS B6
SELECT:A5L	A5L
SELECT:A5	A5
SELECT:JISB5	JIS B5
SELECT:ISOB5	ISO B5
SELECT:A4	A4

<Print specification>

LCD	Description
SELECT:PLAIN	Plain paper
SELECT:HAGAKI	Postcard
SELECT:GLOSSY	Glossy paper
SELECT:ENVTHICK	Envelope (thick)
SELECT:ENVTHIN	Envelope (thin)
SELECT:ENVELOPE	Envelope
SELECT:LABEL	Label
SELECT:BOND	Bond paper
SELECT:RECYCLED	Recycled paper
SELECT:THICKER	Plain paper (thicker)
SELECT:THIN	Plain paper (thin)
SELECT:THICK	Plain paper (thick)

<Print type>

LCD	Description
SELECT: SX	1-sided printing from T1
SELECT: DX*	2-sided printing from T1

* Supports paper size only for A4, Letter, Legal, and Folio in 2-sided printing.

<Print page>

LCD	Description
SELECT: 1PAGE	1-page printing
SELECT: CONTINUE	Continuous printing *

* Press the [Stop] or [Cancel] to end the continuous printing.

<Error display>

LCD	Remedy
Replace Toner	Replace the toner cartridge.
Cover is Open	Close the Top cover ASSY.
No Paper	Refill the paper, then close the paper tray.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers.
Jam Rear	

■ Color test pattern

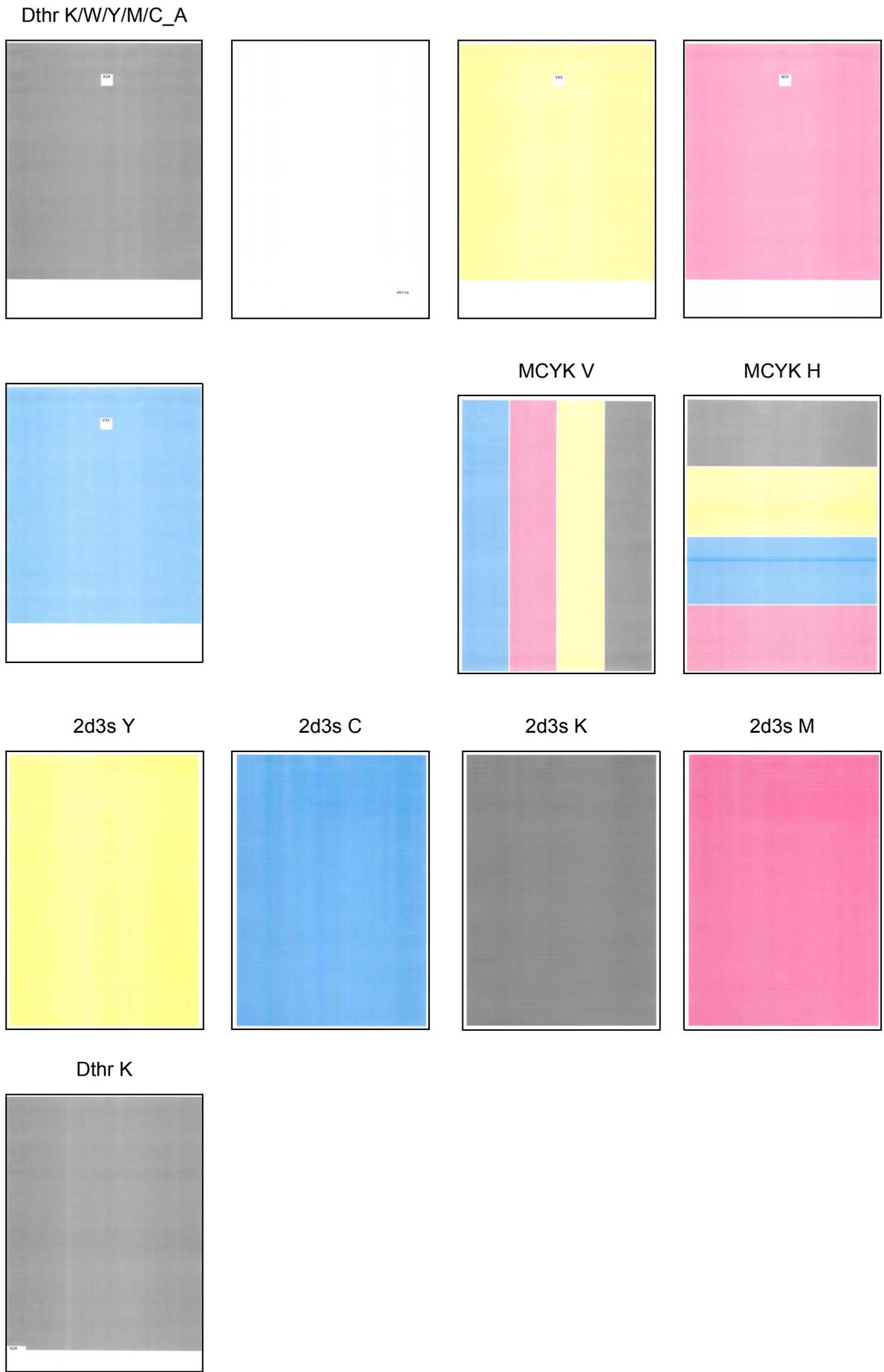


Fig. 5-14

1.3.21 Sensitivity Adjustment of Density Sensor (Function Code 72)

<Function>

- This function is used to adjust the sensitivity of density sensor.
- Developing bias voltage correction

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[7] [2]	"PLS WAIT 72"
(3)	The correction is completed.	"OK"
	1) At the time of an error	"ERROR 72"
	2) Press the [▼] to see the details. (See the "Error display" table below.)	The error appears.
	[Mono Start]	Clear the error.
(4)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 72"
(3)	[OK]	"PLS WAIT 72"
(4)	The correction is completed.	"OK"
	1) At the time of an error	"ERROR 72"
	2) Press the [▼] to see the details. (See the "Error display" table below.)	The error appears.
	[Go]	Clear the error.
(5)	[Cancel]	To the initial state of maintenance mode

Error display	Remedy
I_Dark_Err Belt_Meas Err Gsp_Patch_Err Gsp_Calc_Err LED_Adj_Err Sens_Belt_Err FAILED DEVBIAS	<ul style="list-style-type: none"> • Replace the belt unit. • Replace the waste toner box. • Reconnect the eject sensor/relay harness. • Replace the REG mark sensor ASSY. • Replace the eject sensor/relay PCB. • Replace the Main PCB.
TONER EMPTY # *	Replace the toner cartridge.

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

1.3.22 Adjustment of Color Registration + Sensitivity Adjustment of Density Sensor + Developing Bias Voltage Correction (Function Code 73)

<Function>

- This function is used to consecutively execute Function Code 66 and Function Code 72.
- Function Code 66: Adjustment of color registration (Adjustment of inter-color position alignment) (auto)
- Function Code 72: Sensitivity adjustment of density sensor + Developing bias voltage correction

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[7] [3]	“72/66-1”
(3)	Press the [SET] to execute Function Code 72.	“PLS WAIT 72”
	1) At the time of an error	“ERROR 72”
	2) Press the [▼] to see the details. (Refer to the “Error display” table of Function Code 72.)	The error appears.
	[Mono Start]	Clear the error and return.
(4)	Function Code 66 is executed automatically after Function Code 72 is completed.	“PLS WAIT 66-1”
	1) At the time of an error	“ERROR 66-1”
	2) Press the [▼] to see the details. (Refer to <Error display> of Function Code 66.)	The error appears.
	[Mono Start]	Clear the error and return.
(5)	All operations are completed.	“COMP”
(6)	[<<]	
(7)	Press the [▼] to proceed to (2).	“72/66-1”
(8)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 73”
(3)	[OK]	“72/66-1”
(4)	Press the [OK] to execute Function Code 72.	“PLS WAIT 72”
	1) At the time of an error	“ERROR 72”
	2) Press the [▼] to see the details. (Refer to the “Error display” table of Function Code 72.)	The error appears.
	[Go]	Clear the error and return.
(5)	Function Code 66 is executed automatically after Function Code 72 is completed.	“PLS WAIT 66-1”
	1) At the time of an error	“ERROR 66-1”
	2) Press the [▼] to see the details. (Refer to <Error display> of Function Code 66.)	The error appears.
	[Go]	Clear the error and return.
(6)	All operations are completed.	“COMP”
(7)	Press the [▼] to proceed to (3).	“72/66-1”
(8)	[Cancel]	To the initial state of maintenance mode

1.3.23 Setting by Spec (Function Code 74)

<Function>

- This function is used to customize the machine according language, function settings.
- If there is no entry for one minute or longer, the machine returns to the initial state of maintenance mode.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[7] [4]	The currently set spec code
(3)	Enter the spec code (four digits) you want to set. (See the setting by spec code list below.)	The entered value
(4)	Press the [Mono Start] to confirm the entry.	"PARAMETER INIT"

When an unsupported code is entered, return to (3).

- (5) The machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 74"
(3)	[OK]	The currently set spec code
(4)	[▲], or [▼]	Select the first digit
(5)	[OK]	The cursor moves to the second digit
(6)	Repeat steps (4) through (5), and enter the second digit to the fourth digit (skip the invalid number selected).	
(7)	[Go]	"PARAMETER INIT"

- (8) The machine returns to the initial state of maintenance mode.

■ **Setting by spec code list**

See attachment.

(Refer to "[FCL]SpecCode_(date of issue).pdf".)

1.3.24 Print Maintenance Information (Function Code 77)

<Function>

- This function is used to print the current machine information on maintenance.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2)

[7] [7]	The printing is started.
---------	--------------------------
- (3) When printing is completed, the machine returns to the initial state of maintenance mode.

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (2)

[▲], or [▼]	"MAINTENANCE 77"
-------------	------------------
- (3)

[OK]	The printing is started.
------	--------------------------
- (4) When printing is completed, the machine returns to the initial state of maintenance mode.

■ **Maintenance information**

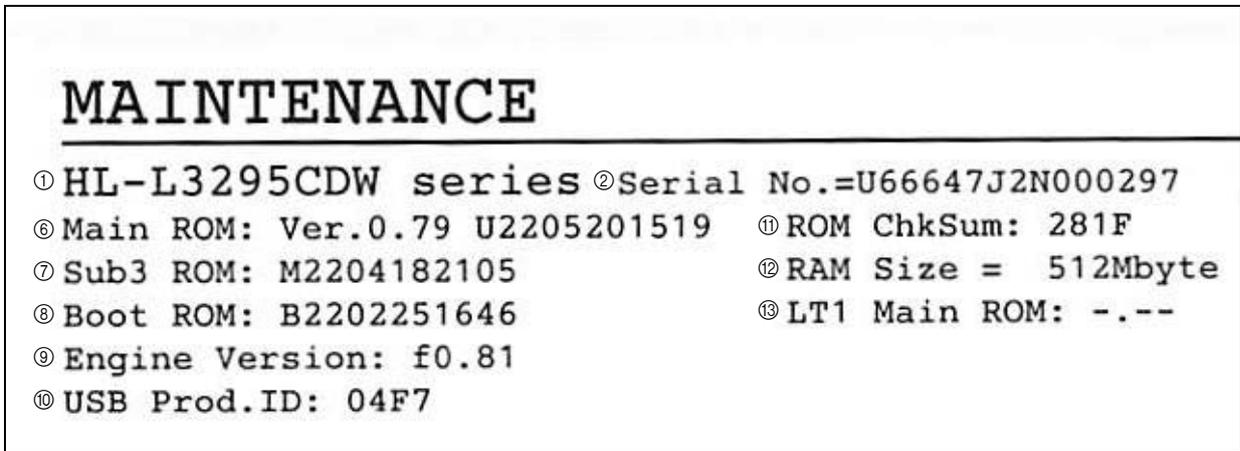


Fig. 5-15

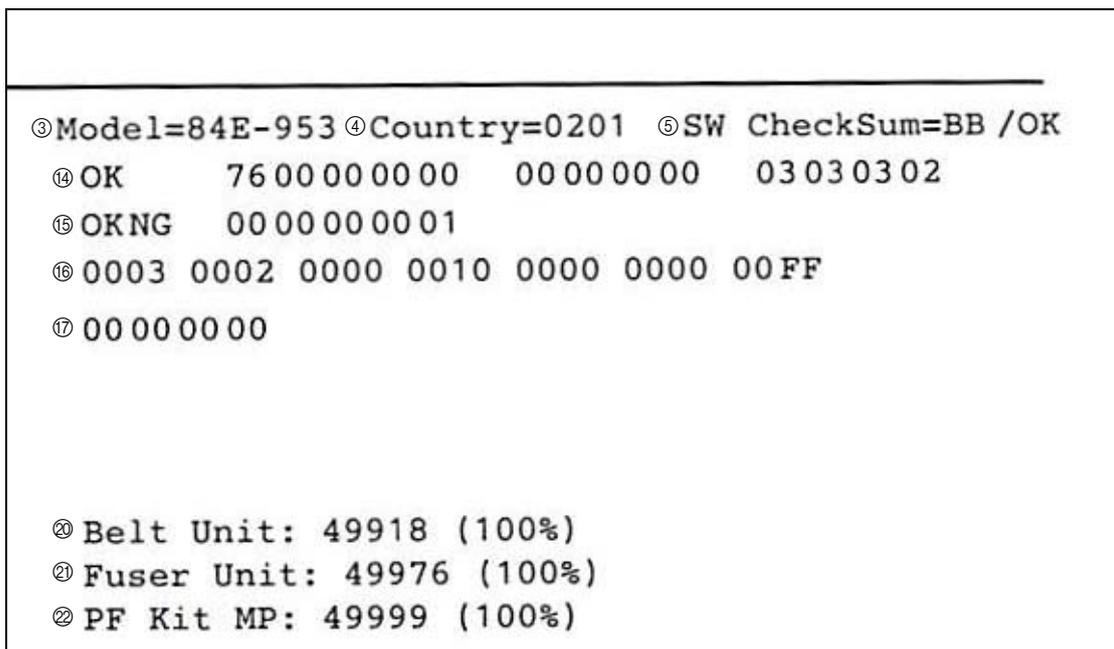


Fig. 5-16

```

Remaining life of:
⑱ *Toner Cartridge
  Cyan(C): 95%
  Magenta(M): 94%
  Yellow(Y): 94%
  Black(BK): 96%
  <Device Status(Total/2-sided)>
⑳ Total Page Count: 24/8
   Color: 5/0          Mono: 19/8
㉑ PC-Print Count: 0/0
   Color: 0/0          Mono: 0/0
㉒ Other Count: 24/8
   Color: 5/0          Mono: 19/8
  ⑲ **Drum Unit
    Cyan(C): 19946 (100%)
    Magenta(M): 19946 (100%)
    Yellow(Y): 19946 (100%)
    Black(BK): 19946 (100%)
  <Error H
    1: 930
    2:
    3:
    4:
    5:
    6:
    7:

```

Fig. 5-17

```

㉓ <Error History (last 10 errors)>
  1: 9309:No Paper          Page (C)  %
                             4  23  41
  2:
  3:
  4:
  5:
  6:
  7:
  8:
  9:
 10:
㉔ <Replace Count>
  Toner Cartridge          Drum Unit
  C: 1                    Cyan(C): 0
  M: 1                    Magenta(M): 0
  Y: 1                    Yellow(Y): 0
  K: 0                    Black(BK): 0
  Waste Toner: 0
  Belt Unit: 0
  PF Kit MP: 0
  Fuser Unit: 0/0
㉕ <Swap Count>Toner C : 1   M : 1   Y : 1   K#: 1

```

Fig. 5-18

```

***Average Coverage(Total)
②⑥ C: 8.50%   M: 9.02%   Y: 10.92%   K: 9.69%
***Average Coverage(Current)*
②⑦ C: 8.50%   M: 9.02%   Y: 10.92%   K: 10.65%
***Average Coverage(Previous)
②⑧ C: 0.00%   M: 0.00%   Y: 0.00%   K: 2.97%
***Average Coverage(Latest)
②⑨ C: 0.00%   M: 0.00%   Y: 0.00%   K: 4.86%
③⑩ <Drum Information (Page/Count)>
      (C): 54/1280           (Y): 54/1280
      (M): 54/1280           (BK): 54/1280
③⑪ <Developing Roller Count(Current/Previous)>
      (C): 1205/139          (Y): 1205/139
      (M): 1205/139          (BK): 1556/0
③⑫ <Total Pages>           24
      MP Tray: 1             2-sided: 4
      Tray 1: 19            Tray 2: 0
      Std.Output: 20
      A4/Letter: 24          Envelope: 0
      Legal/Folio: 0         A5: 0
      B5/Executive: 0        Others: 0
      Plain/Thin/Recycled: 24
      Thick/Thicker/Bond: 0
      Envelope/Env.Thick/Env.Thin: 0
      Label: 0               Hagaki: 0
      Glossy: 0

```

Fig. 5-19

```

③③ Toner (Current/Previous) <Temperature>
    C: 5/0                    Y: 5/0 <Humidity>
    M: 5/0                    K: 21/3 <Power On T.
③④ Waste Toner: 24 <First Date
③⑤ Developing Roller Count (Current/Previous) <Last Media
    (C): 9999999/0          (Y): 9999999/0
    (M): 9999999/0          (BK): 9999999/0
    NGC: 0
③⑥ <Total Paper Jams: 0>
    Jam Tray 1: 0           Jam Inside: 0
    Jam Tray 2: 0
    Jam Rear: 0
    Jam 2-sided: 0
    Jam MP Tray: 0
* Remaining lif
their coverag
** Based on A4/L
*** Calculated co

③⑦ <Function Info: 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000>

```

Fig. 5-20

```

④① <Developing Bias: C:0V M:0V Y:0V K:414V>
④② <Engine Sensor Log>
    KO: 000135/001710      MN: 000320/001740
    RS: 000700/001690      EJ: 002540/001750
④③ <Status Log>
    830100  830100  830100  830100  830100
    854B01  854A01  854901  854801  830100
④④ <Temperature> 25 degrees (C)  (MAX:28 MIN:19)
④⑤ <Humidity> 33% (MAX:56 MIN:41)
④⑥ <Power On Time: 4 hours> <Power On Count: 9>
④⑦ <First Date PC Prn: --/--/-->
④⑧ <Last Media Type: Plain>      ④⑨ <Service Info: 0>

```

Fig. 5-21

1	Model name (Refer to Fig. 5-15.)	26	Accumulated average coverage (Each toner) (Refer to Fig. 5-19.)
2	Serial number (Refer to Fig. 5-15.)	27	Average coverage (Current toner) (Refer to Fig. 5-19.)
3	Model code (Refer to Fig. 5-16.)	28	Average coverage (Previous used toner) (Refer to Fig. 5-19.)
4	Spec code (Refer to Fig. 5-16.)	29	Latest job average coverage (Each toner) (Refer to Fig. 5-19.)
5	Switch check sum (Factory use) and comparison of default / current value (Refer to Fig. 5-16.)	30	Drum page count / Rotations of drum (Refer to Fig. 5-19.)
6	Main firmware version (Refer to Fig. 5-15.)	31	Rotations of DEV roller (Current toner/ Previous used toner) (Refer to Fig. 5-19.)
7	Sub firmware version (Models without touch panel only) (Refer to Fig. 5-15.)	32	Total printed pages per paper tray/paper size/paper type (Refer to Fig. 5-19.)
8	Boot firmware version (Refer to Fig. 5-15.)	33	Printed pages per toner (Current/Previous) (Refer to Fig. 5-20.)
9	Engine archive version (Refer to Fig. 5-15.)	34	Number of pages printed of waste toner box (Refer to Fig. 5-20.)
10	USB ID code (Refer to Fig. 5-15.)	35	Rotations of DEV roller used in printing (Current toner/Previous used toner) (Refer to Fig. 5-20.)
11	ROM check sum (Refer to Fig. 5-15.)	36	Total number of paper jams / Paper jams that have occurred in each section in the machine (Refer to Fig. 5-20.)
12	RAM size (Refer to Fig. 5-15.)		
13	ROM version for T2 control PCB (Refer to Fig. 5-15.)	37	Function information (Refer to Fig. 5-20.)
14	Result of function code 05 / Result of function code 72 / Setting by wireless LAN spec, Wireless LAN output peak, WLAN Setup YES or NO setting / Toner type CMYK (Current) / Toner type CMYK (Previous) (Refer to Fig. 5-16.)	38	Machine error log (Error code: Error message) / Time and Date / Total pages printed / Temperature and Humidity (Refer to Fig. 5-18.)
15	Main PCB inspection log / High voltage inspection log / The number of times that the discharge error / Fuser error / Process status / Irregular power supply detection error occurred (Refer to Fig. 5-16.)	39	Number of times each consumable has been replaced (Refer to Fig. 5-18.)
16	Auto registration / Developing bias voltage correction / Gamma correction / Auto registration (user) / Developing bias voltage correction (user) / Gamma correction (user) / Registration error / Color calibration flag (Refer to Fig. 5-16.)	40	Scanned pages (Refer to Fig. 5-18.)
17	The number of MPS replacement parts used (Toner C/M/Y/K drum) / Genuine toner identification information (Refer to Fig. 5-16.)	41	Each development bias voltage value (Refer to Fig. 5-21.)
18	Estimated remaining toner amount (Refer to Fig. 5-17.)	42	Engine sensor log (Refer to Fig. 5-21.)
19	Remaining life of drum (Refer to Fig. 5-17.)	43	Status log (Refer to Fig. 5-21.)
20	Remaining life of belt unit (Refer to Fig. 5-16.)	44	Current temperature / Highest and lowest temperature in the past (Refer to Fig. 5-21.)
21	Remaining life of fuser (Refer to Fig. 5-16.)	45	Current humidity / Highest and lowest humidity in the past (Refer to Fig. 5-21.)
22	Remaining life of PF kit (Refer to Fig. 5-16.)	46	Total power distribution time / The number of times that the power is turned ON (Refer to Fig. 5-21.)
23	Total printed pages Color/Mono (Total/2-sided) (Refer to Fig. 5-17.)	47	Start date for machine operation / Initial set date of RTC (Refer to Fig. 5-21.)
24	Total PC printed pages Color/Mono (Total/2-sided) (Refer to Fig. 5-17.)	48	Latest paper type used (Refer to Fig. 5-21.)
25	Total pages printed by other methods Color/Mono (Total/2-sided) (Refer to Fig. 5-17.)	49	Subscription mode: Disabled/Enabled (Refer to Fig. 5-21.)

1.3.25 Check Fan Operation (Function Code 78)

<Function>

- This function is used to check if the fan operates normally.
- And check the rotation speeds changed among three settings: 100%, 50%, OFF.

LCD	Name	Details
F	Fan	Evacuates hot air of the fuser.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[7] [8] The fan rotates at 100% speed.	"F100"
(3)	[Mono Start] The fan rotates at 50% speed.	"F50"
(4)	[Mono Start] The fan stops.	"F 0"
(5)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 78"
(3)	[OK] The fan rotates at 100% speed.	"F100"
(4)	[Go] The fan rotates at 50% speed.	"F50"
(5)	[Go] The fan stops.	"F 0"
(6)	[Cancel]	To the initial state of maintenance mode

■ Location of fan

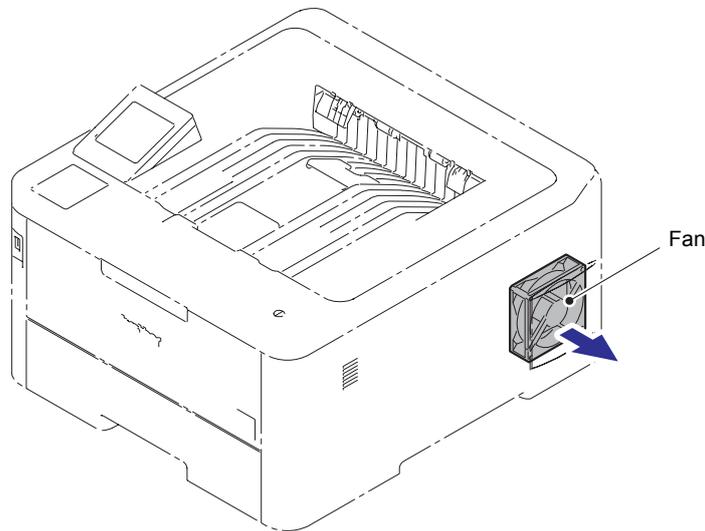


Fig. 5-22

1.3.26 Display Machine Log Information (Function Code 80)

<Function>

- This function is used to display the current machine information on the LCD.

<Operating Procedure>

For models with touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[8] [0]	"MACERR_01:(****)" **** represents an error code.
(3)	[<<]	
(4)	[▼]	To next item
	[▲]	To previous item
(5)	[X]	To the initial state of maintenance mode

For models without touch panel

- The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 80"
(3)	[OK]	"MACERR_01:(****)" **** represents an error code.
(4)	[Go]	To next item
	[Back]	To previous item
(5)	[Cancel]	To the initial state of maintenance mode

■ Maintenance information

LCD	Description
MACERR_##:0000	Machine error log (last ten errors) *1
USB:000G8J000166	Serial number *2
MAC:008077112233	MAC address
PCB:	Main PCB serial number *3
CTN_ERM:78%	Amount of remaining cyan toner estimated from coverage
CTN_RRM:67%	Amount of remaining cyan toner estimated from the number of develop rotations
MTN_ERM:78%	Amount of remaining magenta toner estimated from coverage
MTN_RRM:67%	Amount of remaining magenta toner estimated from the number of develop rotations
YTN_ERM:78%	Amount of remaining yellow toner estimated from coverage
YTN_RRM:67%	Amount of remaining yellow toner estimated from the number of develop rotations
KTN_ERM:87%	Amount of remaining black toner estimated from coverage
KTN_RRM:67%	Amount of remaining black toner estimated from the number of develop rotations
CDRM_PG:00000000	Printed pages for cyan drum unit
M DRM_PG:00000000	Printed pages for magenta drum unit
YDRM_PG:00000000	Printed pages for yellow drum unit
KDRM_PG:00000000	Printed pages for black drum unit
PFMP_PG:00000000	Pages fed from PF kit MP (For models with MP tray only)
FUSR_PG:00000000	Printed pages on Fuser
BELT_PG:00000000	Printed pages on belt unit
TTL_PG:00000000	Total number of pages printed
DX_PG:00000000	Paper input for DX tray
TTL_CO:00000000	Total number of color pages printed
TTL_MO:00000000	Total number of monochrome pages printed
DX_CO:00000000	Total number of two-sided color pages printed
DX_MO:00000000	Total number of two-sided monochrome pages printed
TTLPCPT:00000000	Total number of pages printed via PC
DX_PCPT:00000000	Total number of two-sided pages printed via PC

LCD	Description
CL_PCPT:00000000	Total number of color pages printed via PC
MN_PCPT:00000000	Total number of monochrome pages printed via PC
DX_CPCP:00000000	Total number of two-sided color pages printed via PC
DX_MPCP:00000000	Total number of two-sided monochrome pages printed via PC
TTL_OTH:00000000	Total number of pages printed by other methods
DX_OTH:00000000	Total number of two-sided pages printed by other methods
CL_OTH:00000000	Total number of color pages printed by other methods
MN_OTH:00000000	Total number of monochrome pages printed by other methods
DX_COTH:00000000	Total number of two-sided color pages printed by other methods
DX_MOTH:00000000	Total number of two-sided monochrome pages printed by other methods
CCVRGUSI:4.32%*	Average coverage by the current cyan toner cartridge
CCVRGACC:3.47%	Accumulated average coverage of cyan toner cartridge
MCVRGUSI:4.32%*	Average coverage by the current magenta toner cartridge
MCVRGACC:3.47%	Accumulated average coverage of magenta toner cartridge
YCVRGUSI:4.32%*	Average coverage by the current yellow toner cartridge
YCVRGACC:3.47%	Accumulated average coverage of yellow toner cartridge
KCVRGUSI:4.32%*	Average coverage by the current black toner cartridge
KCVRGACC:3.47%	Accumulated average coverage of black toner cartridge
CDRUM:00000000	Number of cyan drum rotations
MDRUM:00000000	Number of magenta drum rotations
YDRUM:00000000	Number of yellow drum rotations
KDRUM:00000000	Number of black drum rotations
CTN_RND: 00000000	Number of cyan DEV roller rotations
MTN_RND: 00000000	Number of magenta DEV roller rotations
YTN_RND: 00000000	Number of yellow DEV roller rotations
KTN_RND: 00000000	Number of black DEV roller rotations
MP_PG:00000000	Paper input for MP tray (For models with MP tray only)
MN_PG:00000000	Paper input for MF tray (For models with MF tray only)
TR1_PG:00000000	Paper input for T1
TR2_PG:00000000	Paper input for T2
DX_PG:00000000	Paper passed through DX tray
A4+LTR:00000000	Total paper input for A4 and Letter
LG+FOL:00000000	Total paper input for Legal and Folio
B5+EXE:00000000	Total paper input for B5 and Executive
ENVLOP:00000000	Paper input for Envelope
A5: 00000000	Paper input for A5 (including A5 Landscape)
OTHER: 00000000	Paper input for other sizes
PLTNRE:00000000	Total printed pages of plain, thin, and recycled paper
TKTRBD:00000000	Total printed pages of thick, thicker, and bond paper
ENVTYP:00000000	Total printed pages of envelope, thick envelope, and thin envelope
LABEL:00000000	Printed pages on label
HAGAKI:00000000	Printed pages on postcard
GLOSSY:00000000	Printed pages on glossy paper
TTL_JAM:00000000	Total paper jams that have occurred
MP_JAM:00000000	Paper jams that have occurred in the MP tray (For models with MP tray only)
MN_JAM:00000000	Paper jams that have occurred in the MF tray (For models with MF tray only)
TR1_JAM:00000000	Paper jams that have occurred in T1
TR2_JAM:00000000	Paper jams that have occurred in T2
IN_JAM:00000000	Paper jams that have occurred in the machine
RE_JAM:00000000	Paper jams that have occurred at the ejecting section or back cover
DX_JAM:00000000	Paper jams that have occurred in the DX tray
POWER:00000375	Total power distribution time (unit: hour)
PWRCNT:00000001	Number of times that the power is turned ON
CTN_CH:0000	Number of times that the cyan toner cartridge has been replaced
MTN_CH:0000	Number of times that the magenta toner cartridge has been replaced
YTN_CH:0000	Number of times that the yellow toner cartridge has been replaced
KTN_CH:0000	Number of times that the black toner cartridge has been replaced
CDRM_CH:0000	Number of times that the cyan drum unit has been replaced
MDRM_CH:0000	Number of times that the magenta drum unit has been replaced

LCD	Description
YDRM_CH:0000	Number of times that the yellow drum unit has been replaced
KDRM_CH:0000	Number of times that the black drum unit has been replaced
WTNR_CH:0000	Number of times that the waste toner box has been replaced
BELT_CH:0000	Number of times that the belt unit has been replaced
FUSR_CH:0000	Number of times that the Fuser has been replaced
PFMP_CH:0000	Number of times that the PF kit MP has been replaced *4
CTN_SWP:0000	Number of times that the cyan toner has been replaced
MTN_SWP:0000	Number of times that the magenta toner has been replaced
YTN_SWP:0000	Number of times that the yellow toner has been replaced
KTN_SWP:0000	Number of times that the black toner has been replaced
CTN_PG1:00000000	Number of pages printed from the currently installed cyan toner cartridge
CTN_PG2:00000000	Number of pages printed from the previous installed cyan toner cartridge
MTN_PG1:00000000	Number of pages printed from the currently installed magenta toner cartridge
MTN_PG2:00000000	Number of pages printed from the previous installed magenta toner cartridge
YTN_PG1:00000000	Number of pages printed from the currently installed yellow toner cartridge
YTN_PG2:00000000	Number of pages printed from the previous installed yellow toner cartridge
KTN_PG1:00000000	Number of pages printed from the currently installed black toner cartridge
KTN_PG2:00000000	Number of pages printed from the previous installed black toner cartridge
WTNR_PG:00000000	Number of pages printed with the current waste toner box
CDEV_BIAS:400V	Cyan developing bias voltage
MDEV_BIAS:400V	Magenta developing bias voltage
YDEV_BIAS:400V	Yellow developing bias voltage
KDEV_BIAS:400V	Black developing bias voltage value
ENGERR##:000000	Engine error log (last ten errors) *5
HODN_ER:0000	The number of discharge errors occurred
FUSR_ER:0000	The number of Fuser errors occurred
DEVSTATUS_##:00	Log for design analysis *6
FUNC1=0000000000	Function information

*1 01 to 10 will be displayed for “##” in chronological order. Pressing the [SET] or [OK] while the machine error log is displayed shows “PGCNT:00000000” (total pages printed at the time of the error) on the LCD, and pressing the [SET] or [OK] again shows “TMP:000 HUM:000” (TMP: temperature at the time of the error (°C), HUM: humidity at the time of the error (%)) on the LCD.

*2 Last 12 digits of the serial number are displayed.

The serial number can be changed according to the procedures below.

For models with touch panel

- 1) While the serial number is displayed, press the [9], [4], [7], and [5] in this order to enter the edit mode.
- 2) Use the numeric key to enter the first digit of the serial number. The second digit starts to flash. Enter the second digit to the 15th digit similarly.

<Entry method of alphanumeric characters>

See the table below and press the corresponding key until the desired character is displayed.

Numeric key	Assigned characters
2	2 → A → B → C
3	3 → D → E → F
4	4 → G → H → I
5	5 → J → K → L
6	6 → M → N → O
7	7 → P → Q → R → S
8	8 → T → U → V
9	9 → W → X → Y → Z

- 3) Press the [Mono Start]. The serial number is saved and the machine returns to the initial state of maintenance mode.

For models without touch panel

- 1) While "USB:*****" is displayed on the LCD, press the [▲] or [▼] to display "9".
 - 2) Press the [OK]. "USB:*****" is displayed on the LCD again.
 - 3) Repeat the procedures 1) and 2) to enter "4", "7", and "5" respectively.
 - 4) When a cursor appears at the first digit of the serial number on the LCD display, the edit mode is entered.
 - 5) Press the [▲] or [▼] to enter the first digit of the serial number.
 - 6) Press the [OK]. The cursor moves to the second digit. Likewise, repeatedly enter the 15-digit serial number from the second digit to the last.
 - 7) Press the [Go]. The serial number is saved and the machine returns to the initial state of maintenance mode.
- *3 Pressing the [SET] or [OK] while "PCB:" is displayed shows the serial number of the main PCB on the LCD.
- *4 Pressing the [SET] or [OK] two times while the number of each consumable part had replaced is displayed shows "TLPG_XX:0000000" (XX: each consumable part, and the total page count when each consumable part is replaced finally) on the LCD.
- *5 01 to 10 will be displayed for "##" in chronological order. Pressing the [SET] or [OK] while the engine error log is displayed shows "TM:00000 BT:000" (TM: the minutes passed from the previous error, BT: the number of times that the power is turned ON/OFF) on the LCD.
- *6 01 to 10 will be displayed for "##" in chronological order. Pressing the [SET] or [OK] while log for design analysis is displayed shows "PGCNT:00000000" (total pages printed at the time of the error) on the LCD.

1.3.27 Display Machine Error Code (Function Code 82)

<Function>

- This function is used to display the last error code that occurred.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[8] [2]	"MACHINE ERR (****)" **** represents an error code.
(3)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)

(2)	[▲], or [▼]	"MAINTENANCE 82"
(3)	[OK]	"MACHINE ERR (****)" **** represents an error code.
(4)	[Cancel]	To the initial state of maintenance mode

1.3.28 Developing Bias Voltage Correction (Function Code 83)

<Function>

- This function is used to perform developing bias voltage correction. (Fix the density of each color toner.)
The developing bias voltage correction is also executed in Function Code 72 and Function Code 73.

<Operating Procedure>

For models with touch panel

(1)	The machine enters into the initial state of maintenance mode. (Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)	
(2)	Press the [8] and then [3] to start the correction.	"PLS WAIT 83"
(3)	The correction is completed.	
	"MODE KYMC (****)" * represents any number from 0 to 3.	
1)	At the time of an error	"ERROR 83"
2)	Press the [▼] to see the details. (See the "Error display" table below.)	The error appears.
	[Mono Start]	Clear the error.
(4)	[SET]	To the initial state of maintenance mode

For models without touch panel

(1)	The machine enters into the initial state of maintenance mode. (Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)	
(2)	[▲], or [▼]	"MAINTENANCE 83"
(3)	Press the [OK] to start the correction.	"PLS WAIT 83"
(4)	The correction is completed.	
	"MODE KYMC (****)" * represents any number from 0 to 3.	
1)	At the time of an error	"ERROR 83"
2)	Press the [▼] to see the details. (See the "Error display" table below.)	The error appears.
	[Go]	Clear the error.
(5)	[OK]	To the initial state of maintenance mode

Error display	Remedy
I_Dark_Err LED_Adj_Err Belt_Meas_Err Sens_Belt_Err FAILED DEVBIAS	<ul style="list-style-type: none"> • Replace the belt unit. • Replace the waste toner box. • Reconnect the eject sensor/relay harness. • Replace the REG mark sensor ASSY. • Replace the eject sensor/relay PCB. • Replace the Main PCB.
TONER EMPTY # *	Replace the toner cartridge.

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

1.3.29 Reset Counters after Parts Replacement (Function Code 88)

<Function>

- This function is used to clear the counter of each consumable part and count up Replace Count by one.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[8][8]	“Reset-Fuser Unit”
(3)	[<<]	
(4)	[▲], or [▼]	“Reset-(*****)” ***** represents the name of the selected part.
(5)	[SET]	“(*****) OK?”
(6)	Press the [SET] to reset the counter for the selected part and return to (4).	
(7)	[X]	To the initial state of maintenance mode

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 88”
(3)	[OK]	“Reset-Fuser Unit”
(4)	[▲], or [▼]	“Reset-(*****)” ***** represents the name of the selected part.
(5)	[OK]	“(*****) OK?”
(6)	Press the [OK] to reset the counter for the selected part and return to (4).	
(7)	[Cancel]	To the initial state of maintenance mode

LCD	Part name	Counter to be reset
Reset-Fuser Unit	Fuser	Printed pages counter
Reset-LVPS	LVPS PCB	Irregular power supply detection counter
Reset-PF Kit MP	PF kit MP	Printed pages counter

1.3.30 Quit Maintenance Mode (Function Code 99)

<Function>

- This function is used to restart the machine, and return it to the ready state.

<Operating Procedure>

For models with touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[9] [9]	
(3)	The machine returns to the ready state.	

For models without touch panel

- (1) The machine enters into the initial state of maintenance mode.
(Refer to “1.2 How to Enter the Maintenance Mode” in Chapter 5.)

(2)	[▲], or [▼]	“MAINTENANCE 99”
(3)	[OK]	
(4)	The machine returns to the ready state.	

2. OTHER SERVICE FUNCTIONS

<Explanation>

If pressing a key operation is needed, the key operation and the LCD display are described as follows.
Common Example:

A key or Keys pressed	Message appears on the LCD
-----------------------	----------------------------

2.1 Switch ON/OFF setting of color registration

<Function>

- This function switches ON/OFF setting of color registration based on the specified conditions.
- If the correction is required, it will be executed automatically regardless of ON/OFF.

<Operating Procedure>

For models with touch panel

- (1) The machine is in the ready state.

(2)		
(3)	[All Settings]	
(4)	[Printer]	A selection screen
(5)	[^], or [v]	
(6)	[Color Correction]	The selected screen
(7)	[Auto Correction]	[On], or [Off]
Return to (6).		
(8)	[]	To the ready state

For models without touch panel

- (1) The machine is in the ready state.

(2)	[▲], or [▼]	"Printer"
(3)	[OK]	A selection screen
(4)	[▲], or [▼]	"Color Correction"
(5)	[OK]	The selected screen
(6)	[▲], or [▼]	"Auto Correction"
(7)	[OK]	"On"
(8)	[▲], or [▼]	Select the desired value.
(9)	[OK]	"Accepted"
Return to (6).		
(10)	[Cancel]	To the ready state

CHAPTER 6 PERIODICAL MAINTENANCE

1. SAFETY PRECAUTIONS

Refer to "SAFETY INFORMATION".

2. PERIODICAL REPLACEMENT PARTS

2.1 Preparation

Refer to "8.1 Preparation" in Chapter 3.

2.2 Fuser

Refer to "8.7 Fuser" in Chapter 3.

After replacing the Fuser, reset the counter.

(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

2.3 PF kit 1

Refer to "8.49 Roller holder ASSY" in Chapter 3.

After replacing the PF kit 1, reset the counter.

(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

2.4 PF kit 2

Refer to "9.4 LT roller holder ASSY" in Chapter 3.

After replacing the PF kit 2, reset the counter.

(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

2.5 PF kit MP

Refer to "8.23 MP roller holder ASSY (For models with MP tray)" in Chapter 3.

After replacing the PF kit MP, reset the counter.

(Refer to "1.3.29 Reset Counters after Parts Replacement (Function Code 88)" in Chapter 5.)

APPENDIX 1 SERIAL NUMBERING SYSTEM

■ Serial number labels on the printer

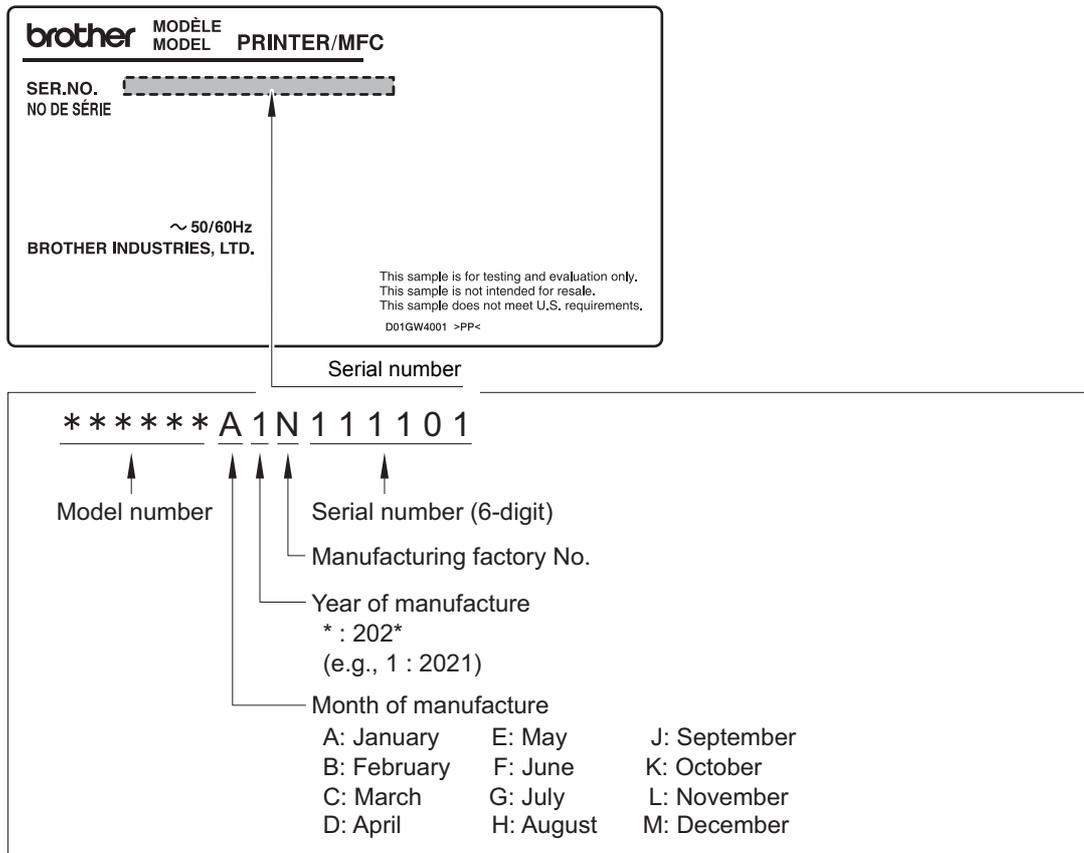


Fig. App 1-1

<Location>

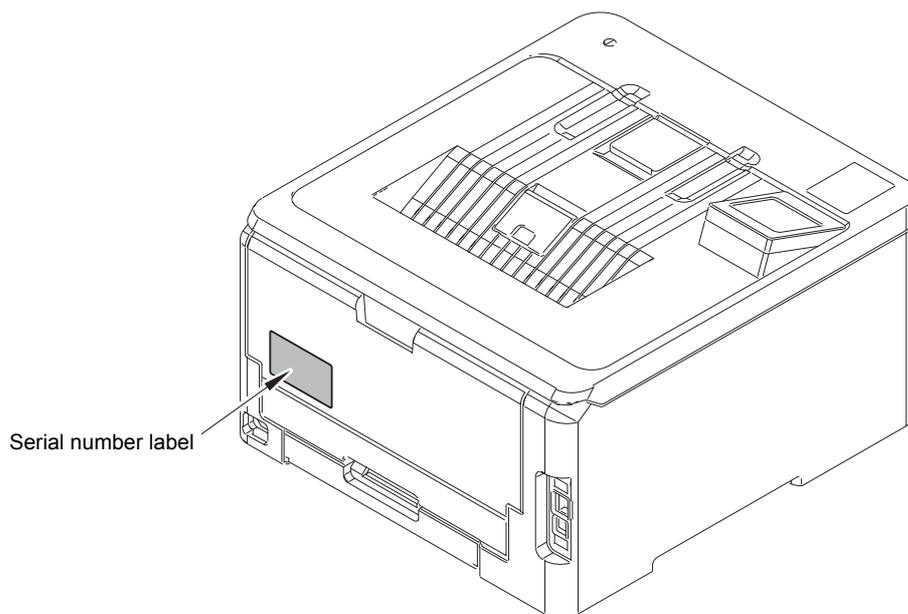


Fig. App 1-2

APPENDIX 2 DELETING USER SETTING INFORMATION

The user setting information for the machine is stored in the main PCB. You can return this to the default settings by following the procedure below.

<Operating Procedure>

For models with touch panel

- (1) The machine is in the ready state.

(2)	[Settings] 	
-----	--	--

Note:

- If your machine displays the [All Settings]  menu on the LCD, start operating from step (3).

(3)	[All Settings]	A selection screen
(4)	[^], or [v]	
(5)	[Initial Setup]	The selected screen
(6)	[Reset]	A selection screen
(7)	[Factory Reset]	“Reboot OK? Press [Yes] for 2 seconds to confirm.”
(8)	Press the [Yes] for two seconds.	Delete the user setting information and return the machine to the ready state.

For models without touch panel

- (1) The machine is in the ready state.

(2)	[▲], or [▼]	“Initial Setup”
(3)	[OK]	“Reset”
(4)	[OK]	“Machine Reset”
(5)	[OK]	“▲ Reset ▼ Exit”
(6)	[▲]	“Reboot OK? ▲ Yes ▼ No”

“▲ Yes”: Reboot the machine. The machine will begin the reset.

“▼ No”: The machine will exit without rebooting.

Note:

- If you do not reboot your machine, the reset process will not finish and your settings will remain unchanged.

APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER

To identify machines connected via USB direct interface, the computer requires the corresponding driver for the virtual USB device. If you connect any number of machines to your computer, the same number of virtual USB devices will be automatically configured on your computer. To prevent many virtual USB devices from being configured, use the unique driver installation procedure described below that enables your computer to identify terminals via one single virtual USB device.

Note:

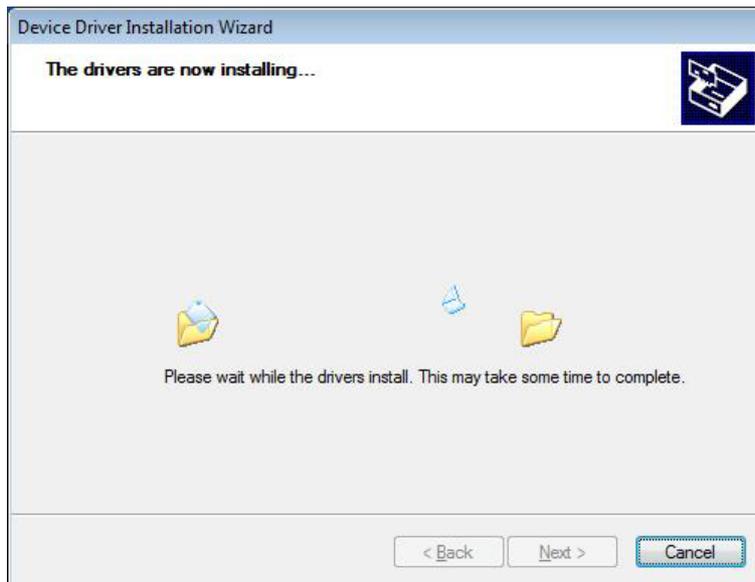
- Once this installation procedure is carried out for a computer, no more driver/software installation will be required for that computer to identify machines. If the Brother Maintenance USB Printer driver has been already installed to your computer according to this procedure, skip this section.
- Before proceeding to the procedure given below, make sure that the Brother Maintenance USB Printer driver is stored in your computer.

■ **Windows 8.1/Windows 10**

- (1) Check that the AC cord of the machine is unplugged from the electrical outlet. Disconnect the USB cable that connects the machine with your computer.
- (2) Turn ON your computer.
- (3) Double-click Setup.exe inside the Brother Maintenance USB Printer folder that was saved in a temporary folder. The following screen appears. Click the [Next].



The following screen is displayed during installation.



- (4) Wait for the following screen to appear and click [Finish].



- (5) Plug the AC cord of the machine into an electrical outlet.
- (6) Enter the maintenance mode.
(Refer to "1.2 How to Enter the Maintenance Mode" in Chapter 5.)
- (7) Connect the machine to your computer using a USB cable and the installation will be performed automatically.