



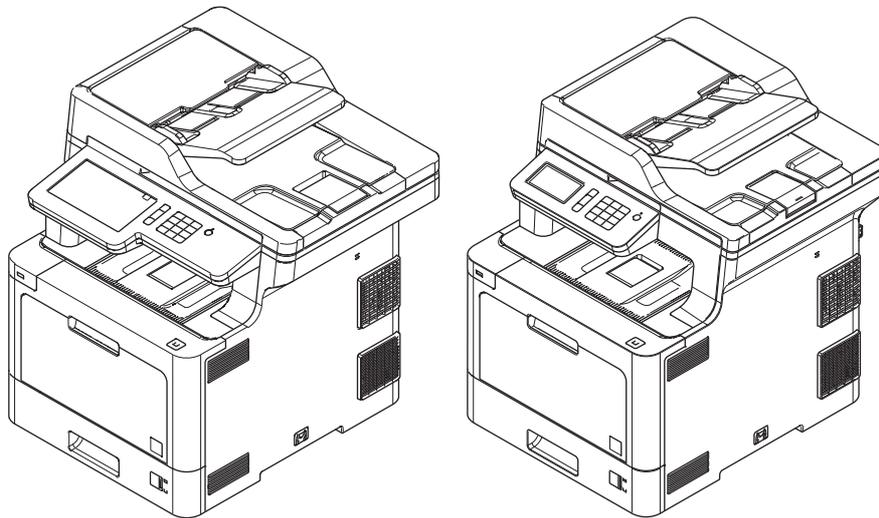
Brother Color Laser MFC SERVICE MANUAL

MODEL

**DCP- L8410CDW
MFC- L8610CDW/L8690CDW/L8900CDW/
L9570CDW**

OPTION

LT : Lower Tray	LT-330CL/340CL
TC : Tower Tray Connector	TC-4000
TT : Tower Tray	TT-4000



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

February 2017
SM-FAX179
8CE8*
(4)

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APPENDIX 1 SERIAL NUMBERING SYSTEM

APPENDIX 2 DELETING USER SETTING INFORMATION

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**

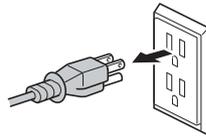
  **ELECTRICAL HAZARDS**

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 telephone line cord first (MFC models only) and then the power cord from the AC power outlet, as well as any telephone/RJ-11 (MFC models only) or Ethernet/RJ-45 cables (Network models only) from the product.

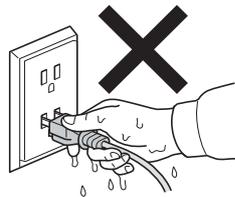
DO NOT push objects of any kind into this product through slots or openings in the product, as they may touch dangerous voltage points or short-out parts.



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.



(MFC models only)

Use caution when installing or modifying telephone lines. Never touch telephone wires or terminals that are not insulated unless the telephone line has been unplugged from the wall jack.

Never install telephone wiring during a thunderstorm. Never install a telephone wall jack in a location that is wet or may become wet, for example, near a refrigerator or other appliance that produces condensation.



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 unit 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.



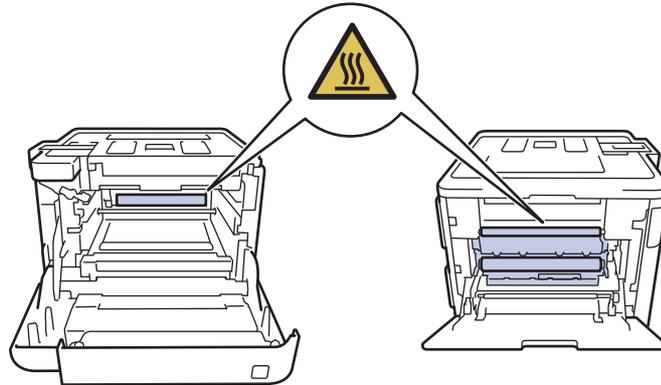
DO NOT place the following objects on the product.
If these objects contact the electrical parts inside the product, it may cause a fire or electrical shock.

- 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.



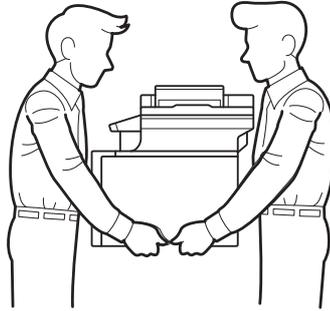
CAUTION

Machine weight: over 27 kg
Tower tray weight: over 46 kg

Be careful when carrying the machine or options for your safety.
If the additional paper tray is used, carry it separately.

 **CAUTION**

This product is heavy and weighs more than 60 lb. (27 kg) including paper. To prevent possible injuries at least two people should lift the product by holding it from the front and back.



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.



(MFC models only)

Use caution when installing or modifying telephone lines. Never touch telephone wires or terminals that are not insulated unless the telephone line has been unplugged from the wall jack.

Never install telephone wiring during a thunderstorm. Never install a telephone wall jack in a location that is wet or may become wet, for example, near a refrigerator or other appliance that produces condensation.



(MFC models only)

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to people. These important safety precautions include the following:

- (1) DO NOT use this product near water or locations that may become wet, for example, near a bathtub, wash bowl, kitchen sink or washing machine, in a wet basement, or near a swimming pool.
- (2) Avoid using this product during a thunderstorm. There may be a remote risk of an electrical shock from lightning.
- (3) DO NOT use this product to report a gas leak in the vicinity of the leak.
- (4) Use only the power cord provided with the product.

Read all of the instructions. Save them for later reference.

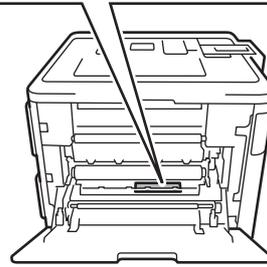
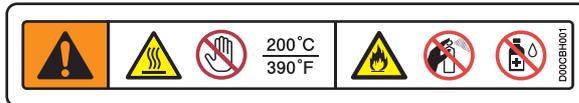
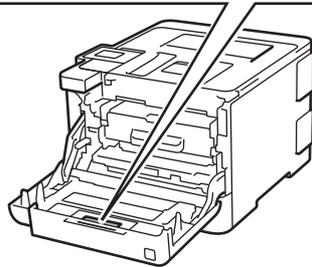


(MFC models only)

To reduce the risk of fire, electrical shock, and injury to people;
Use only a No. 26 AWG or larger telecommunication line cord.

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.

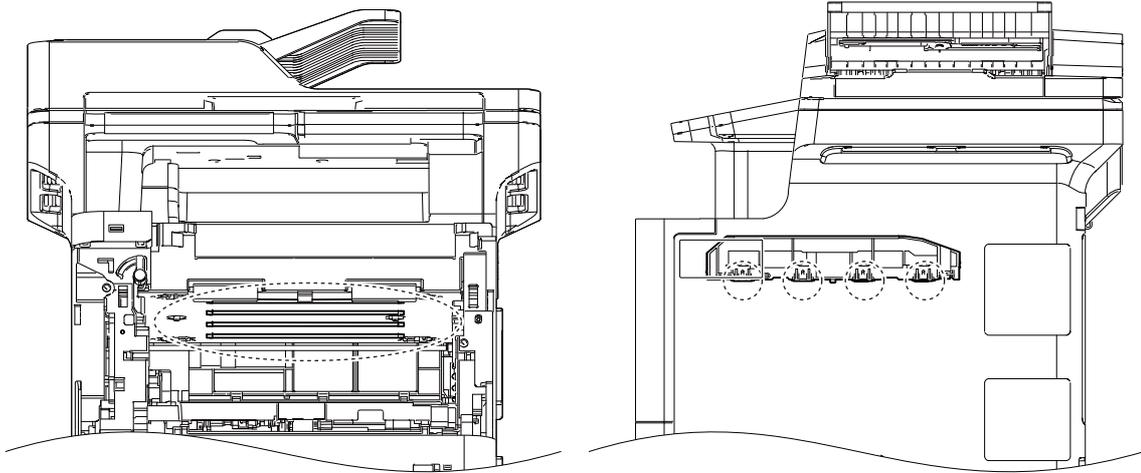
■ **Caution for Laser Product (WARNHINWEIS für Laser drucker)**

CAUTION: When the machine during servicing is operated with the cover open, the regulations of VBG 93 and the performance instructions for VBG 93 are valid.

CAUTION: In case of any trouble with the laser unit, replace the laser unit itself. To prevent direct exposure to the laser beam, do not try to open the enclosure of the laser unit.

ACHTUNG: Im Falle von Störungen der Lasereinheit muß diese ersetzt werden. Das Gehäuse der Lasereinheit darf nicht geöffnet werden, da sonst Laserstrahlen austreten können.

<Location of the laser beam window>



■ **Additional Information**

When servicing the optical system of the machine, be careful not to place a screwdriver or other reflective object in the path of the laser beam. Be sure to take off any personal accessories such as watches and rings before working on the machine. A reflected beam, though invisible, can permanently damage the eyes.

Since the beam is invisible, the following caution in print is attached on the laser unit.

In print



CHAPTER 1 SUPPLEMENTAL SPECIFICATIONS

1. GENERAL

The function comparative table for models as described in this Service Manual are shown below.

Model	DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Wired/ Wireless LAN	Wired/Wireless				
Duplex Printing	✓				
Auto Duplex Copy	N/A		✓		
Duplex Scan	N/A		✓		
Scanning method	CIS		Dual CIS		
LCD type	3.7" TFT ColorLCD (9.3 cm / 93.4 mm)			5.0" TFT ColorLCD (12.6 cm / 125.9 mm)	7.0" TFT ColorLCD (17.6 cm / 176.1 mm)
FAX	N/A		✓		
FB	Up to A4/LTR			Up to LGL	
USB Host (front)	✓				
USB Host (rear)	N/A				✓
NFC	N/A			✓	
PCL/PS	✓				
Paper Input/ Standard Tray	250 sheets				
Lower Tray (Option)	250 sheets (LT-330CL) x 3 pcs (Max. 750 sheets)	250 sheets (LT-330CL) x 3 pcs (Max. 750 sheets) (except for Asia) 250 sheets (LT-330CL) x 3 pcs or 500 sheets (LT-340CL) x 2 pcs or 250 sheets (LT-330CL) x 1 pcs + 500 sheets (LT-340CL) x 1 pcs (Max. 1,000 sheets) (for Asia)		250 sheets (LT-330CL) x 3 pcs or 500 sheets (LT-340CL) x 2 pcs or 250 sheets (LT-330CL) x 1 pcs + 500 sheets (LT-340CL) x 1 pcs (Max. 1,000 sheets)	
Tower Tray (Option)	N/A			✓	

Specifications are subject to change without notice.

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Warm-up time	From Sleep mode	Less than 31 sec. at 73.4F / 50% (23°C / 50%)				
	From Power OFF → ON	Less than 34 sec. at 73.4F / 50% (23°C / 50%)				
First print time	From Ready mode	Less than 15 secs (Mono/Color) at 73.4F (23°C)				
	From Sleep mode	Less than 35 secs (Mono/Color) at 73.4F (23°C)				
Printing speed (A4/Letter)		Up to 31/33 ppm (Quiet Mode: 15/16 ppm)				
CPU		Main: 800MHz Sub: 133MHz				
Backup Clock		Up to 60 hours				
Dimensions (W x D x H)	Carton size	663 x 542 x 654 mm (26.1 x 21.3 x 25.7 inch)	663 x 542 x 654 mm (26.1 x 21.3 x 25.7 inch) (except for Brazil) 663 x 542 x 698 mm (26.1 x 21.3 x 27.5 inch) (for Brazil)	663 x 542 x 654 mm (26.1 x 21.3 x 25.7 inch) (except for Asia and Gulf) 663 x 542 x 654 mm (26.1 x 21.3 x 25.7 inch) (for Asia) 663 x 542 x 698 mm (26.1 x 21.3 x 27.5 inch) (For Gulf)	665 x 595 x 654 mm (26.2 x 23.4 x 25.7 inch) (for Asia, Europe, Oceania and the U.S.A.) 675 x 652 x 726 mm (26.6 x 25.7 x 28.6 inch) (for Brazil, China, Korea and Latin America)	675 x 652 x 726 mm (26.6 x 25.7 x 28.6 inch)
	Machine size	435 x 526 x 539 mm (17.1 x 20.7 x 21.2 inch)			495 x 526 x 549 mm (19.5 x 20.7 x 21.6 inch)	

Specifications are subject to change without notice.

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Weights	with carton	33.3 kg / 73.4 lb	33.3 kg / 73.4 lb (for the U.S.A.) 33.4 kg / 73.6 lb (for Brazil)	33.7 kg / 74.3 lb (for Europe) 33.7 kg / 74.2 lb (for Oceania) 34.1 kg / 75.1 lb (for Asia) 34.3 kg / 75.6 lb (for Gulf)	34.7 kg / 76.5 lb (for the U.S.A.) 35.0 kg / 77.1 lb (for Europe) 34.97 kg / 77.0lb (for Oceania) 35.3 kg / 77.9 lb (for Latin America) 35.3 kg / 77.8 lb (for Brazil) 35.4 kg / 78.0 lb (for Asia and Korea) 35.1 kg / 77.3 lb (for China)	36.0 kg / 79.3 lb (for the U.S.A. and Brazil) 36.1 kg / 79.6 lb (for Europe) 36.1 kg / 79.5 lb (for Oceania) 36.8 kg / 81.1 lb (for Asia)
	without carton, with toner/ drum	27.6 kg / 60.7 lb	27.7 kg / 61.1 lb (for the U.S.A.) 28.0 kg / 61.8 lb (for Brazil)	27.9 kg / 61.4 lb (except for Asia and Gulf) 28.1 kg / 61.9 lb (for Asia) 28.7 kg / 63.2 lb (for Gulf)	28.6 kg / 63.1 lb (for the U.S.A.) 28.7 kg / 63.2 lb (for Europe and Oceania) 29.0 kg / 63.9 lb (for Latin America) 28.9 kg / 63.8 lb (for Brazil) 28.9 kg / 63.7 lb (for Asia) 29.0 kg / 63.9 lb (for Korea) 28.7 kg / 63.2 lb (for China)	29.7 kg / 65.4 lb (for the U.S.A. and Europe) 29.6 kg / 65.3 lb (for Brazil) 29.7 kg / 65.5 lb (for Oceania) 30.2 kg / 66.5 lb (for Asia)
	without carton and toner/drum	22.3 kg / 49.2 lb	22.5 kg / 49.6 lb	22.6 kg / 49.8 lb	23.4 kg / 51.6 lb	24.1 kg / 53.1 lb

Specifications are subject to change without notice.

■ Option

Model	LT		TC	TT
	LT-330CL (250 sheets)	LT-340CL (500 sheets)	TC-4000	TT-4000
Dimensions (W x D x H)	410 x 486 x 97 mm (16.1 x 19.1 x 3.8 inch)	410 x 486 x 133 mm (16.1 x 19.1 x 5.2 inch)	444 x 486 x 103 mm (17.5 x 19.1 x 4.1 inch)	660 x 660 x 717.4 mm (26.0 x 26.0 x 28.2 inch)
Weights	5.1 kg / 11.2 lb	6.6 kg / 14.6 lb	5.5 kg / 12.1 lb	46.6 kg / 102.7 lb 47.7 kg / 105.2 lb with AC cord

Specifications are subject to change without prior notice.

2. NETWORK CONNECTIVITY

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Wired network	Network node type	NC-9200h type2				
Wireless network	Network node type	NC-8700w type2				

Specifications are subject to change without notice.

3. SERVICE INFORMATION

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Machine life		200,000 pages (A4/LTR) or 5 years				
Part life (ADF)		50,000 pages or 5 years				
Part life (Document scanner unit)		50,000 pages or 5 years				
MTBF		4,000 hours				
MTTR		0.5 hours				
Maximum monthly print volume		Up to 40,000 pages			Up to 60,000 pages	Up to 80,000 pages
Periodical maintenance parts ^{*1}	Fuser unit	Up to 100,000 pages				
	Laser unit	Up to 100,000 pages				
	PF kit 1	Up to 100,000 pages				
	PF kit 2	Up to 100,000 pages				
	PF kit 3	Up to 100,000 pages				
	PF kit 4	Up to 100,000 pages				
	PF kit 5	Up to 100,000 pages				
	PF kit MP	Up to 50,000 pages				

^{*1} As for replacement of the periodical maintenance parts, refer to "PERIODICAL MAINTENANCE" in Chapter 7.

Specifications are subject to change without notice.

4. SUPPLIES

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Toner cartridge	Starter Toner *1	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages (except for Brazil) BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (for Brazil)	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages (except for Gulf) BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (for Gulf)	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages (except for Latin America and Brazil) BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (for Latin America and Brazil)	BK: Approx. 6,500 pages CMY: Approx. 6,500 pages
	Standard Toner	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages	BK: Approx. 3,000 pages CMY: Approx. 1,800 pages (except for the U.S.A., Oceania and Europe) N/A (for the U.S.A., Oceania and Europe)
	High Capacity Toner	BK: Approx. 6,500 pages CMY: Approx. 4,000 pages	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for Oceania) BK: Approx. 6,500 pages CMY: Approx. 4,000 pages (for Europe) N/A (for Asia)	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (except for Europe) BK: Approx. 6,500 pages CMY: Approx. 4,000 pages (for Europe) N/A (for Asia)	BK: Approx. 4,500 pages CMY: Approx. 4,000 pages (for Brazil) N/A (except for Brazil)
	Super High Capacity Toner	N/A	BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (for Brazil) N/A (except for Brazil)	BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (for Asia) N/A (for Oceania and Europe)	BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (except for Europe) BK: Approx. 9,000 pages CMY: Approx. 6,500 pages (for Europe)	BK: Approx. 6,500 pages CMY: Approx. 6,500 pages (except for Europe) N/A (for Europe)
	Ultra High Capacity Toner	N/A	BK: Approx. 9,000 pages CMY: Approx. 9,000 pages (for Brazil) N/A (except for Brazil)	BK: Approx. 9,000 pages CMY: Approx. 9,000 pages (for Asia) N/A (except for Asia)	BK: Approx. 9,000 pages CMY: Approx. 9,000 pages (for Asia, Brazil and Latin America) N/A (except for Asia, Brazil and Latin America)	BK: Approx. 9,000 pages CMY: Approx. 9,000 pages

Model	DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
When printing A4/Letter size one sided pages in accordance with ISO/IEC19798 Shelf life: 2 years without opening (6 months after opening)					
Drum unit	Life expectancy: Approximately 30,000 pages (1page/job), Approximately 50,000 pages (3page/job) The life expectancy varies according to the use condition. Shelf life: 2 years				
The shelf life 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 40 to 50 °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 (1 page/job) Approx. 130,000 pages (3 page/job) The life expectancy varies according to the use condition.				
Waste toner box	Approx. 50,000 pages				

*1 Toner supplied with the machine.

Specifications are subject to change without notice.

5. MEDIA SPECIFICATIONS

Model		All model
Media types	ADF	Plain Paper, Recycled Paper
Media weight	ADF	64 to 90 g/m ² (17 to 24 lb)
Media size	ADF	Width 105 to 215.9 mm, Length 147.3 to 355.6 mm (Width 4.1 inch to 8.5 inch, Length 5.8 inch to 14.0 inch)

Specifications are subject to change without notice.

6. FAX (ONLY FOR THE MODELS WITH FAX FUNCTION)

Model	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Modem speed	33,600 bps (Fax)			
Transmission speed	Approximately. 2.5 sec. (ITU-T Test Chart, Std resolution, JBIG)			
ITU-T group	Super G3			
Color FAX (Sending/Receiving)	N/A			
Internet FAX (ITU T.37 simple mode)	Yes (Download only)		Yes	

Specifications are subject to change without notice.

7. COPY

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Copy speed (A4/Letter)		Up to 31/33 ppm (Quiet Mode: 15/16 ppm)				
First copy out time	From Ready mode and Paper tray	Less than 16/17 secs (Mono/Color) at 73.4F (23°C)				
First copy out time	From Sleep mode and Paper tray	Less than 35/35 secs (Mono/Color) at 73.4F (23°C)				
Print resolution (dpi)		Max. 1200 x 600				
Auto duplex scanning copy		N/A			Yes	

Specifications are subject to change without notice.

8. SCANNER

Model		DCP-L8410CDW	MFC-L8610CDW	MFC-L8690CDW	MFC-L8900CDW	MFC-L9570CDW
Resolution (Optical)	FB	Max. 1,200 x 2,400 dpi				
	ADF	Max. 1,200 x 600 dpi				
Resolution (Interpolated)		Max. 19,200 x 19,200 dpi				
Scanning speed (Mono/Color) in accordance with ISO/IEC17991	Single (images/minute)	28/28 ipm (A4) 29/29 ipm (LTR)			50/50 ipm (A4) 52/52 ipm (LTR)	
	Duplex (images/minute)	N/A		56/56 ipm (A4) 58/58 ipm (LTR)		100/100 ipm (A4) 104/104 ipm (LTR)

Specifications are subject to change without notice.

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.

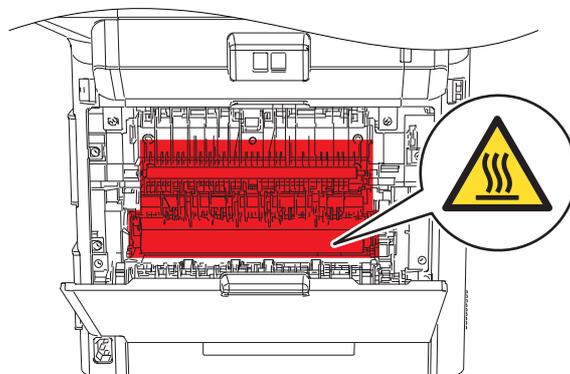
1.1 Precautions

Be sure to observe and follow all the precautions to prevent any secondary problems from happening during troubleshooting.

- (1) Always turn OFF the power and unplug the power cable before removing any covers or PCBs, adjusting the machine and so on. If you need to take voltage measurements with the power switched on, take the greatest of care not to receive an electric shock.
- (2) When connecting or disconnecting cable connectors, make sure that you hold the connector body and not the cables.
- (3) Static electricity charged in your body may damage electronic parts. Before handling the PCBs, touch a metal portion of the machine to discharge static electricity charged in your body. When transporting PCBs, be sure to wrap them in conductive sheets. When replacing the PCBs, put on a grounding wrist band and perform the job on a antistatic mat. Also take care not to touch the conductor sections on the flat cables.
- (4) Follow the warning by all means.

WARNING

Hazard labels as shown below are attached to the machine. Fully understand the descriptions on the hazard labels and observe them during troubleshooting. Take extreme care not to remove or damage the hazard labels.



 **WARNING**

DO NOT use any flammable spray or flammable solvent such as alcohol, benzine, or thinner in or around the machine. Otherwise a fire or electric shock may result.



- (5) Check again that the portions and parts repaired or removed during the repair work function properly when the repair is completed.

A certain interface or function could be set to invalid to serve the needs of customers. Ask sales representative if this is the case before performing the check.

1.2 Checks before Commencing Troubleshooting

Check the following items before attempting to repair the machine.

■ 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 32.5 °C (90.5 °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.

■ Power supply

- (1) The AC input power supply described on the rating plate of the machine should be within ± 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.

■ 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.

■ Consumable parts

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

■ 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. This is due to there being too much load to drive each unit. In this case, increase the room temperature.

■ 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

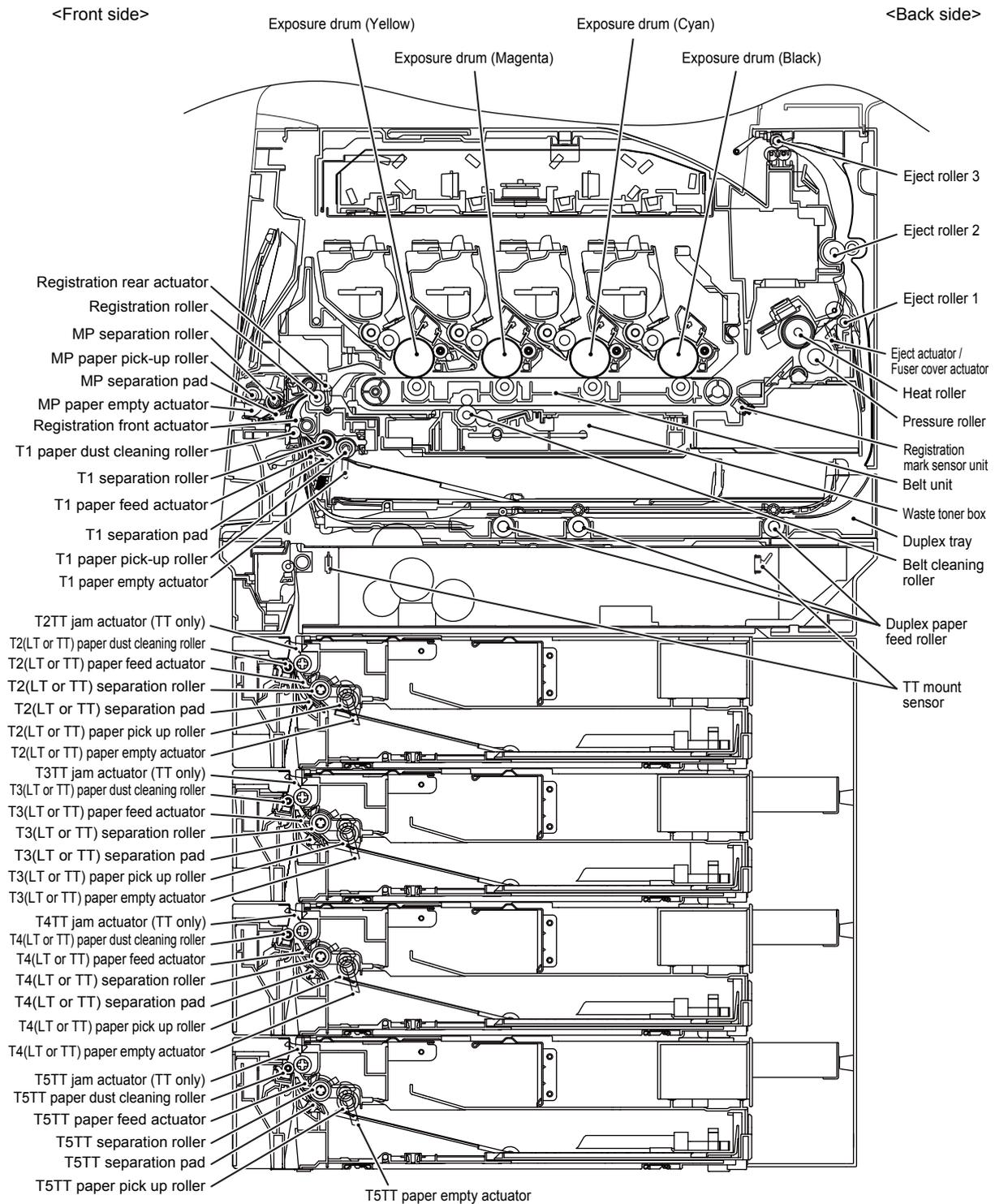


Fig. 2-1

2.1.2 Scanner part

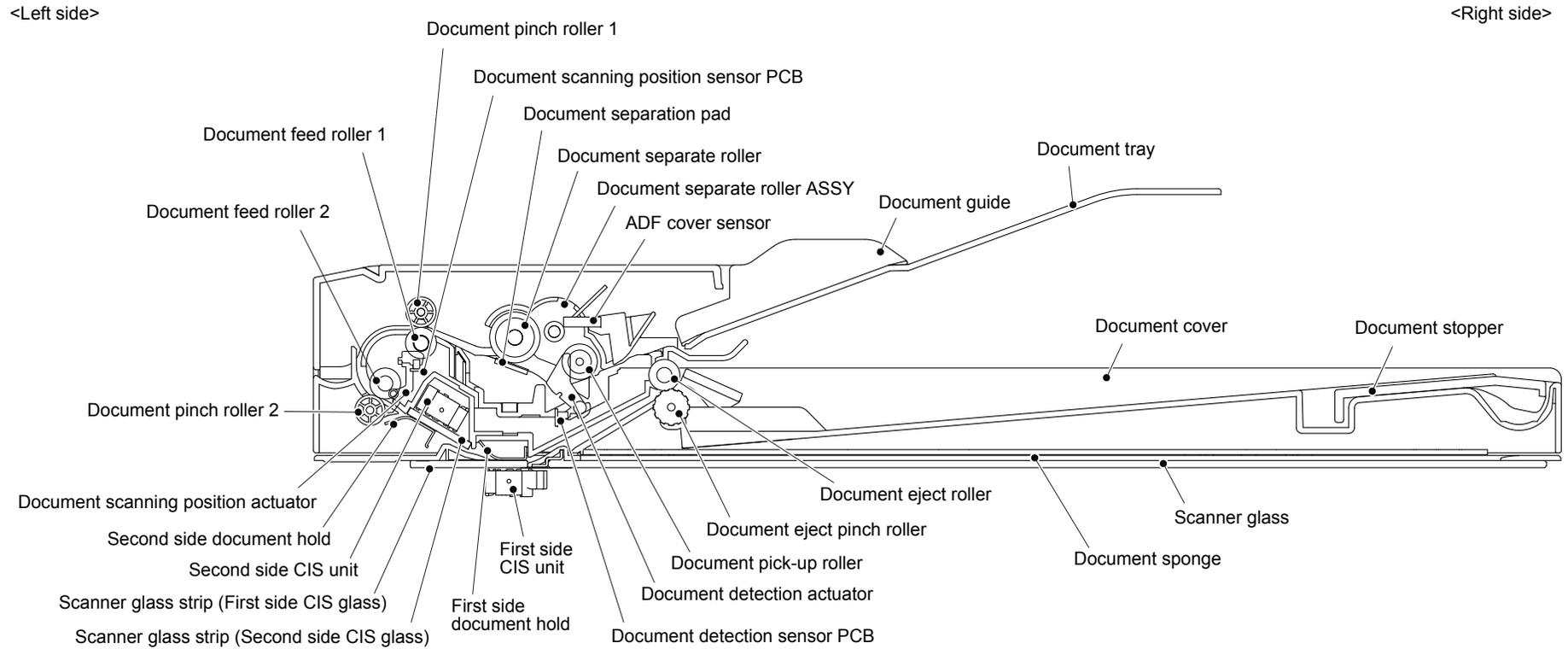


Fig. 2-2

2.2 Paper Feeding

2.2.1 Printer part

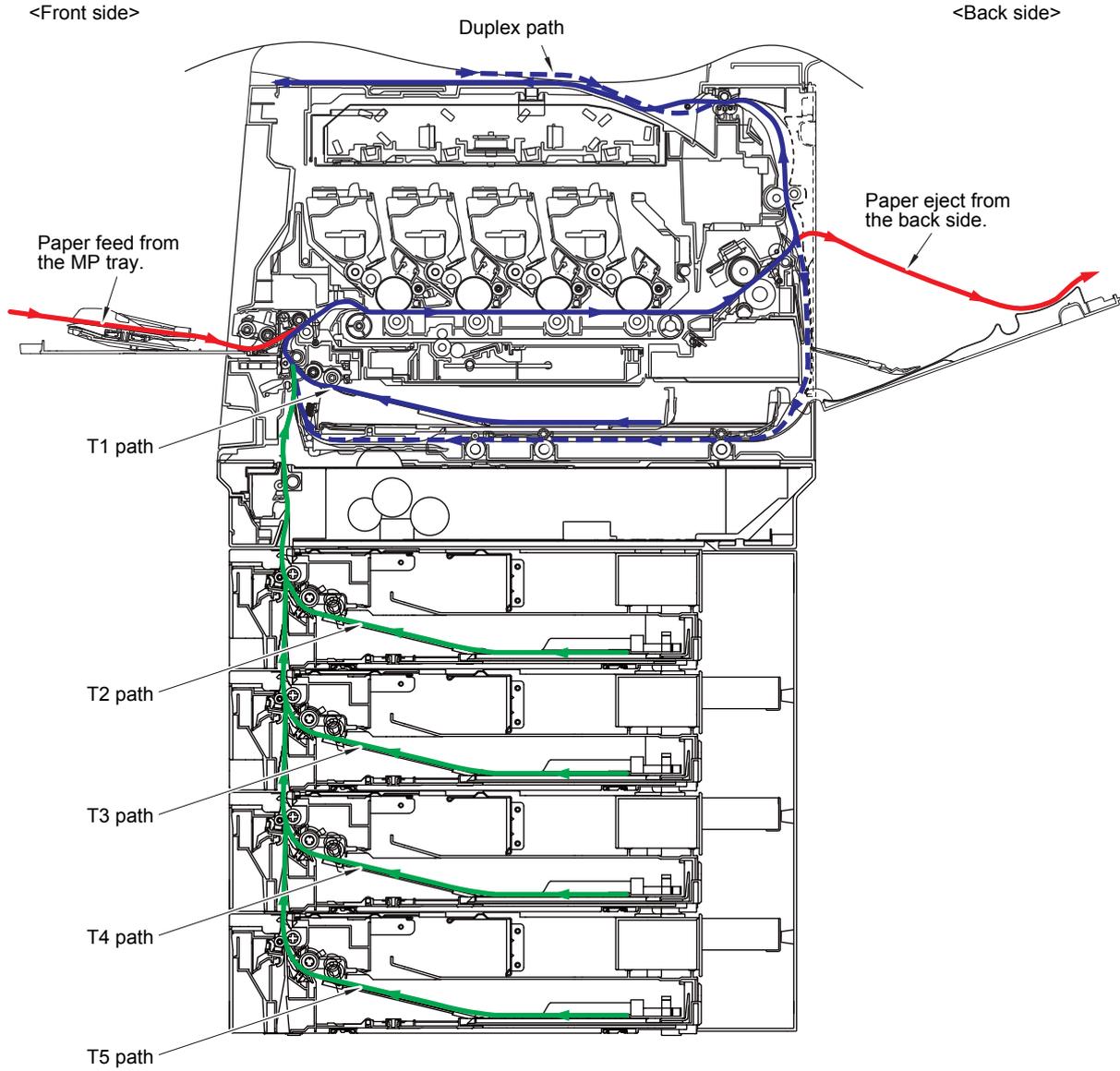


Fig. 2-3

2.2.2 Scanner part

<Left side>

<Right side>

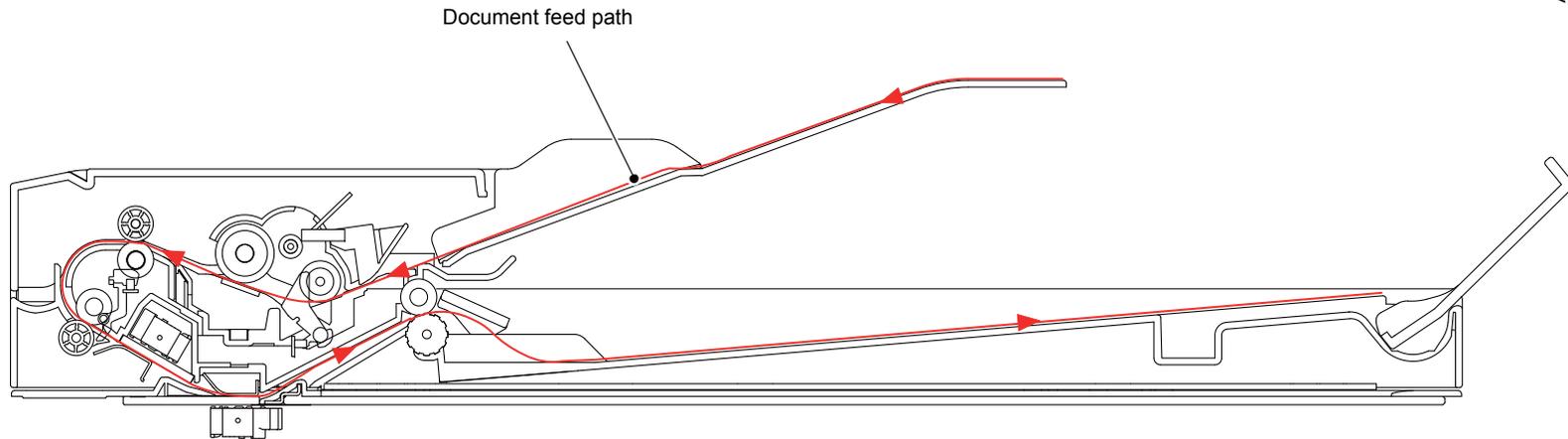


Fig. 2-4

2.3 Operation of Each Part and Location of Parts

Part name	Operation
Separation roller, Separation pad	Separates paper fed from the paper tray into single sheets.
Paper feed actuator (Paper feed sensor)	Detects paper trays (open / closed). Detects paper jams in paper trays. Determines whether paper is fed from the paper tray.
TT jam actuator (TT jam sensor)	Detects paper jams in the front section of the tray. (TT only)
TT mount sensor 1/2/3/4	Detects if the TT is mounted properly. (TT only)
TT balance sensor L/R	The machine has the sensor but it does not operate.
Registration front actuator (Registration front sensor)	Detects the front edge of the paper to control the registration roller drive. Detects paper jams in the front section of the machine. Determines whether paper is fed from the paper tray.
Registration roller	Corrects the paper alignment when the paper makes contact with the stopped registration roller. After the correction, it rotates to feed the paper to the belt unit.
Registration rear actuator (Registration rear sensor)	Detects paper pass and adjusts the writing start position for the paper. Detects paper jams in the front or center section of the machine. Detects the rear edge of the paper to determine the paper size.
Belt unit	Feed the paper to the drum unit and transfer toner on the paper.
Heat roller, Pressure roller	Fuses the toner transferred to paper by heat and pressure, and feeds paper to the eject roller 1.
Eject actuator (Eject sensor)/ Fuser cover actuator (Fuser cover sensor)	Detect whether or not paper is ejected from the fuser unit. In the case of the 2-sided printing, detect the rear edge of paper and adjust the timing of the eject roller 2 and 3 switching. Detects paper jam in the rear section of the machine. Detects open fuser cover.
Eject roller 1	Feeds the paper ejected from the fuser unit to eject roller 2.
Eject roller 2	Feed the paper to the eject roller 3. In the case of the 2-sided printing, after the front 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 duplex tray.
Eject roller 3	Eject the paper to the face-down output tray. In the case of the 2-sided printing, after the front of the sheet is printed and the paper is fed up to a certain point, eject roller 3 rotates conversely, and the paper is fed to the eject roller 2.
Duplex paper feed roller	Feeds the paper passing through the duplex tray to the registration roller
Belt cleaning roller	Feeds the collected waste toner to the belt unit.
Front cover sensor	Detects open / closed front cover.
MP paper pick-up roller	Feeds paper from the MP tray to the MP separation roller.

Part name	Operation
MP separation roller, MP separation pad	Separates the paper fed from the MP tray into single sheets.
MP paper empty actuator (MP paper empty sensor)	Detects the paper in the MP tray. Detects paper jams in the MP tray.
MP registration front actuator (MP registration front sensor)	Detects paper jams in MP part.
Paper eject origin sensor	Detects the eject/reverse position state of the gear of the paper eject ASSY.
Document pick-up roller	Feeds document from the document tray.
Document separate roller, ADF separation pad	Separates the document fed from the document tray into single sheets.
Document detection actuator (Document detection sensor)	Detects whether a document is set in the ADF.
Document scanning position actuator (Document scanning position sensor)	Detects the document scanning start position. Detects a document jam in the ADF.
Document eject roller	Feeds the document to the output tray.
ADF cover sensor	Detects open / closed ADF cover.
Back cover sensor	Detects open / closed back cover.
Registration mark sensor L/R	Check a phase of each color.
Develop release sensor	Detects the develop roller is separated from the exposure drum.
New toner sensor x4	When exchange to the new toner cartridge, detects the kinds of toner and add 1 to the reset of the developing bias and to the exchange count.
Toner sensor x4	Detects the toner cartridge is set.
Waste toner sensor	Detects a certain amount of waste toner in the Waste toner box.
External temperature/humidity sensor	Detects external temperature and humidity around the machine.
Pickup clutch	Drives the Pick up roller at the timing of paper feeding.
Registration clutch	Controls the activation of the Registration roller for the paper alignment adjustment.
Develop release clutch	Controls the disengagement of the Develop roller (all colors).
Develop release clutch K	Controls the rotation of the Develop roller.
MP solenoid	Presses the MP paper pick-up roller against the paper when feeding from the MP tray.
Switch back solenoid	Reverses the Eject roller 2/3 when duplex printing.

■ Location of sensors and clutches

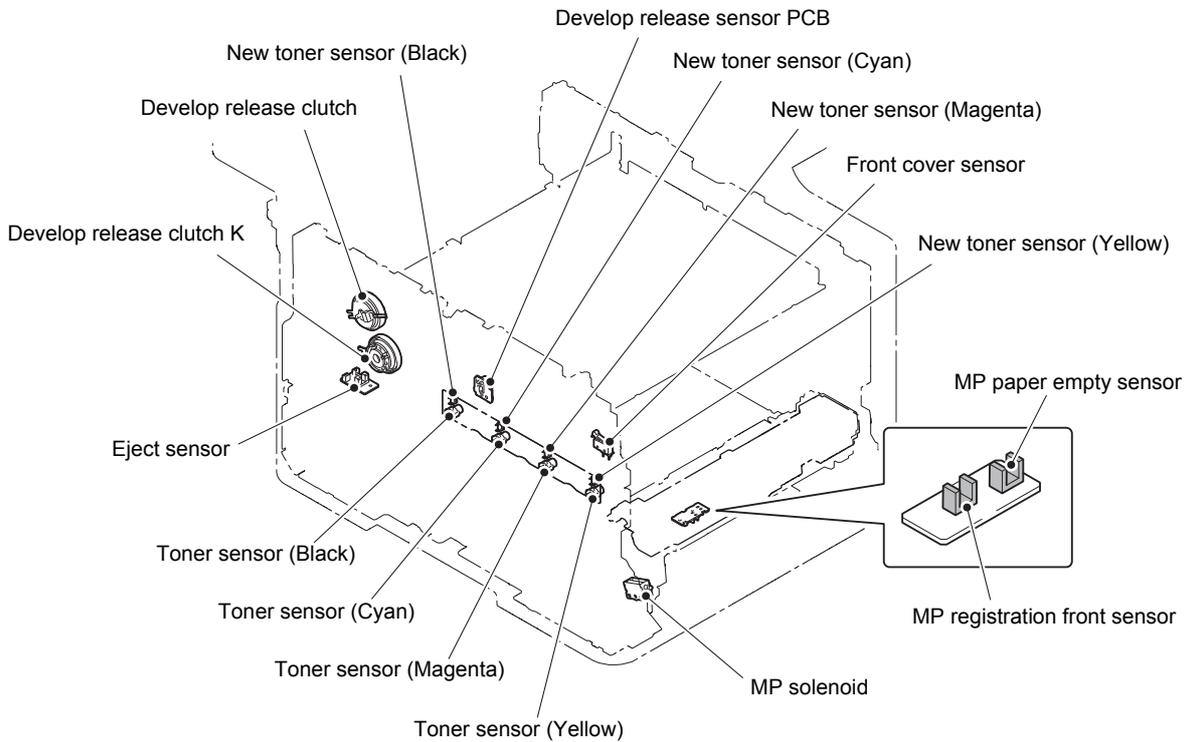
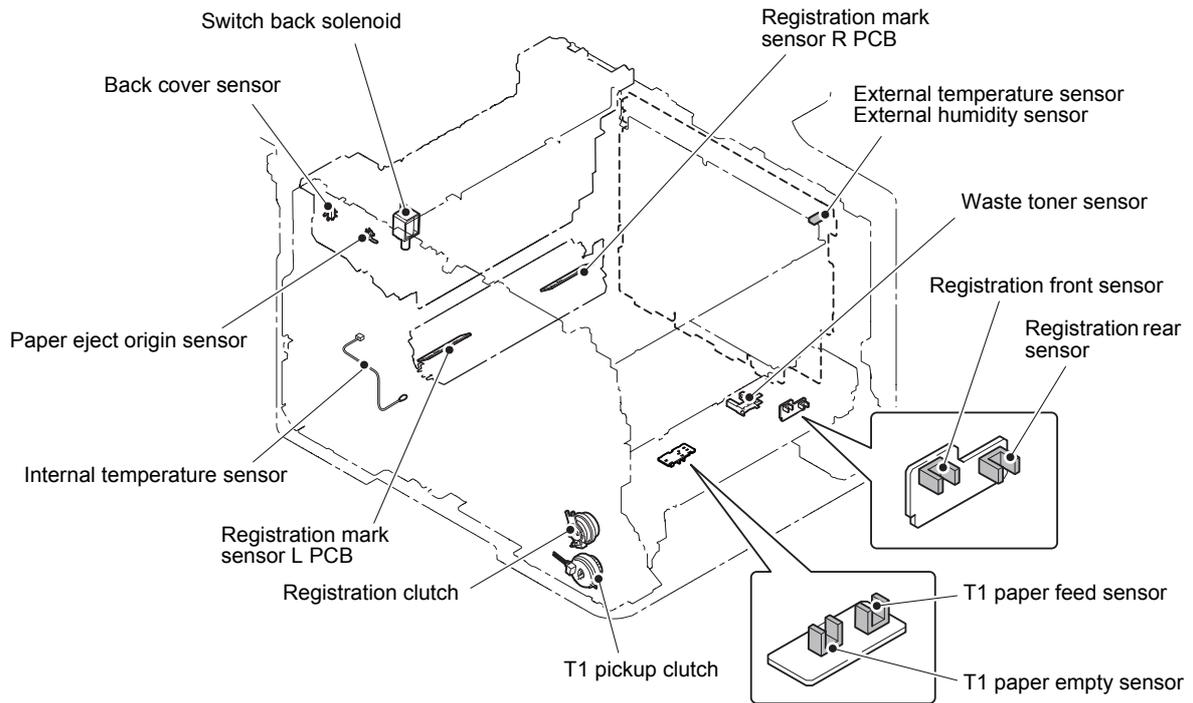


Fig. 2-5

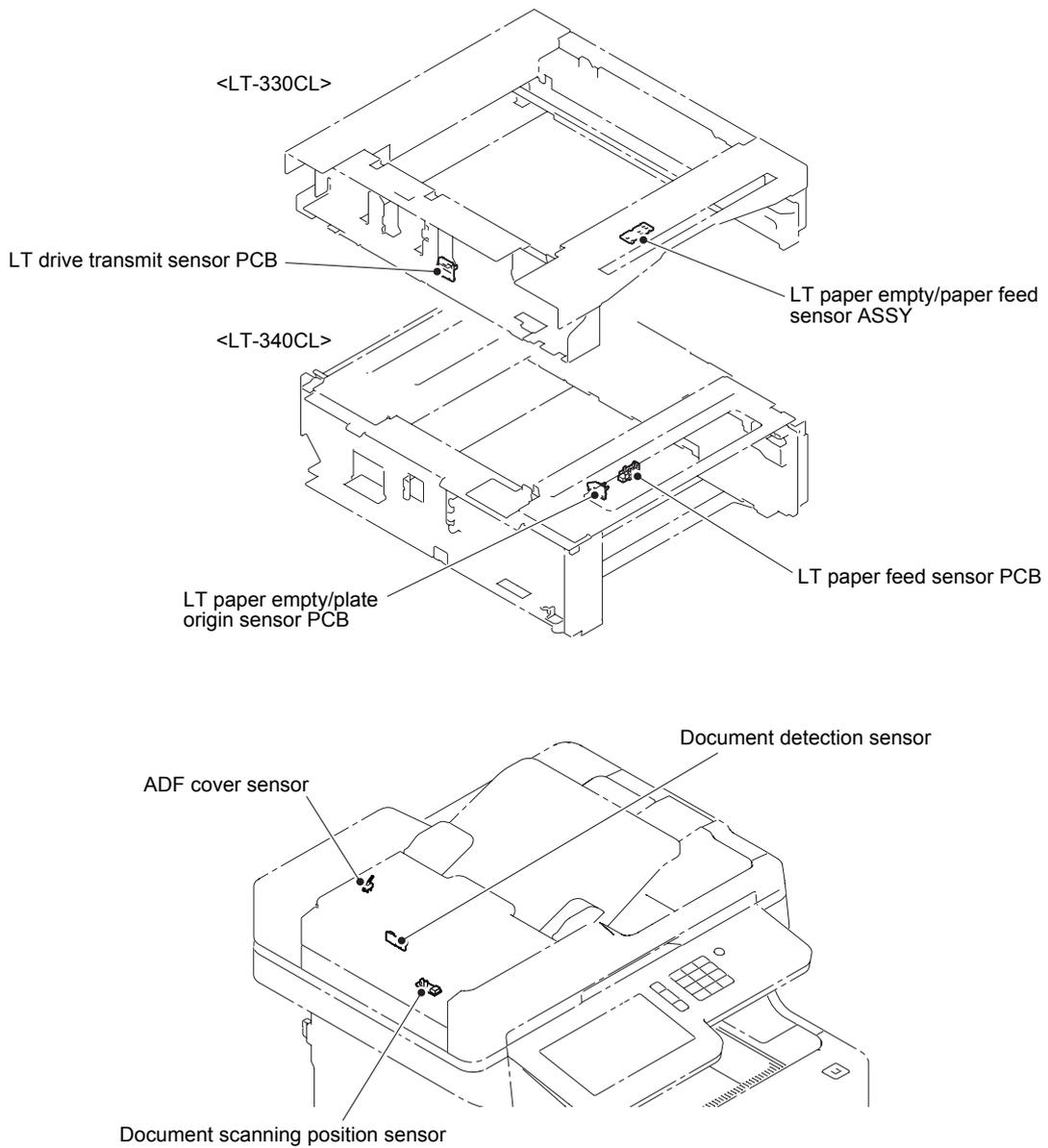


Fig. 2-6

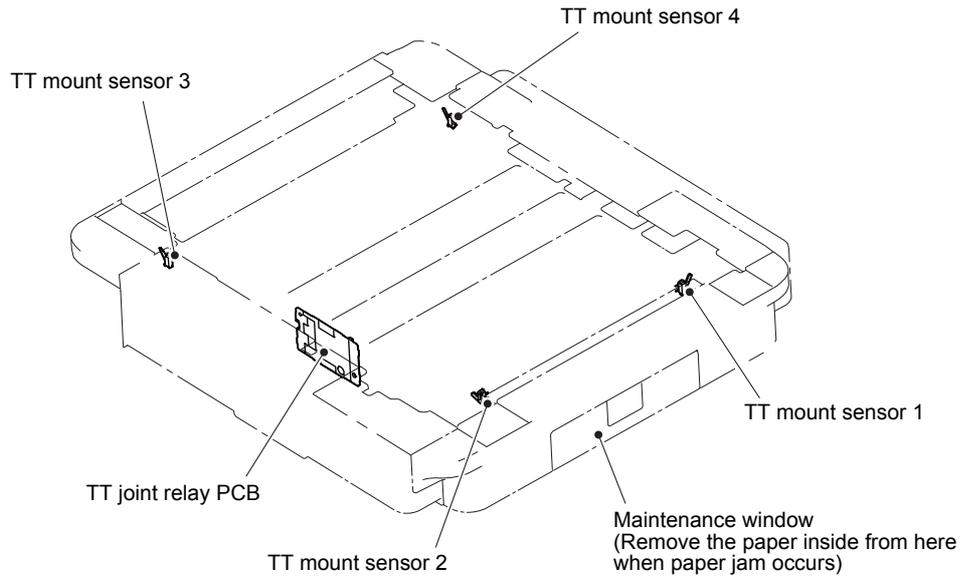


Fig. 2-7

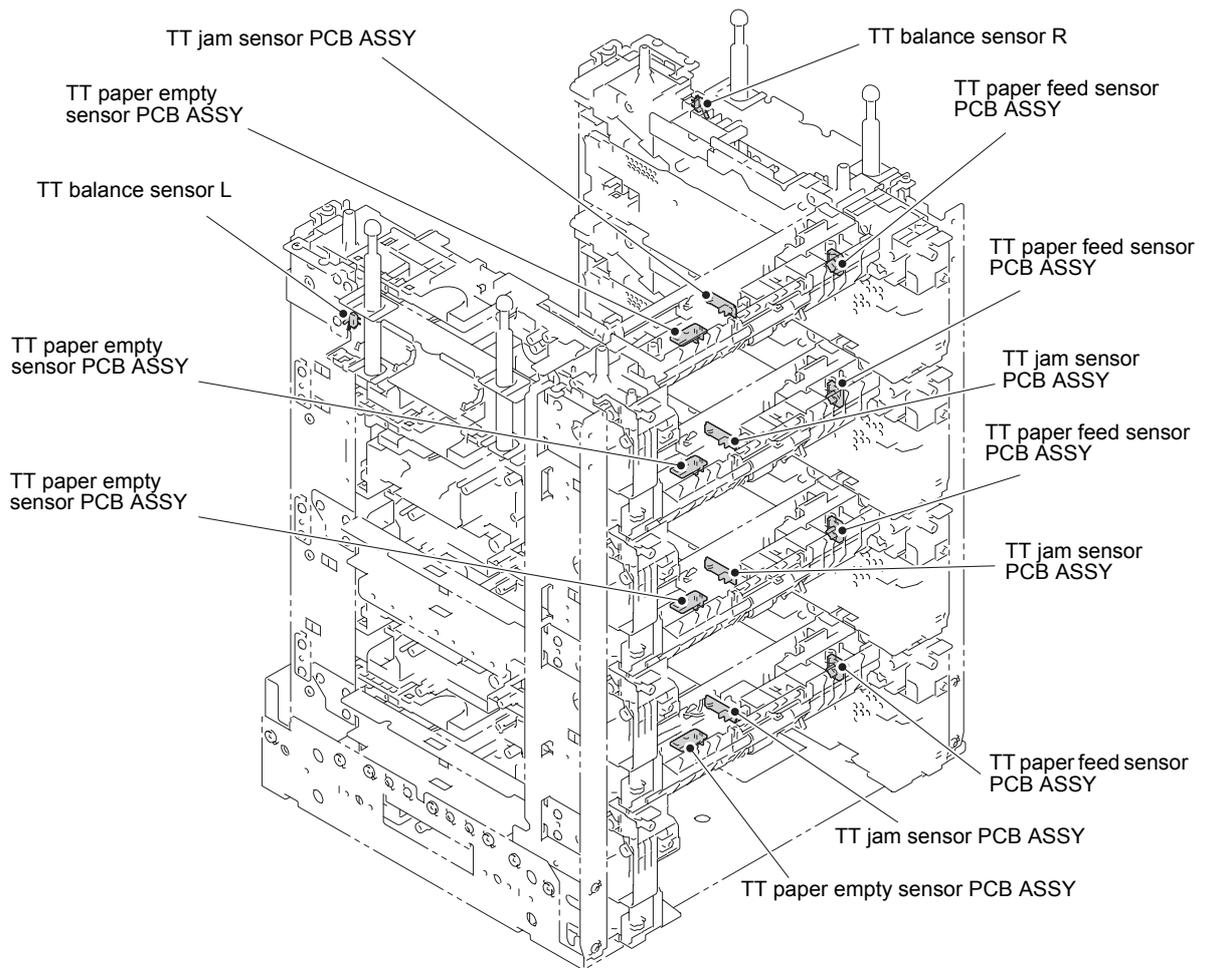


Fig. 2-8

2.4 Block Diagram

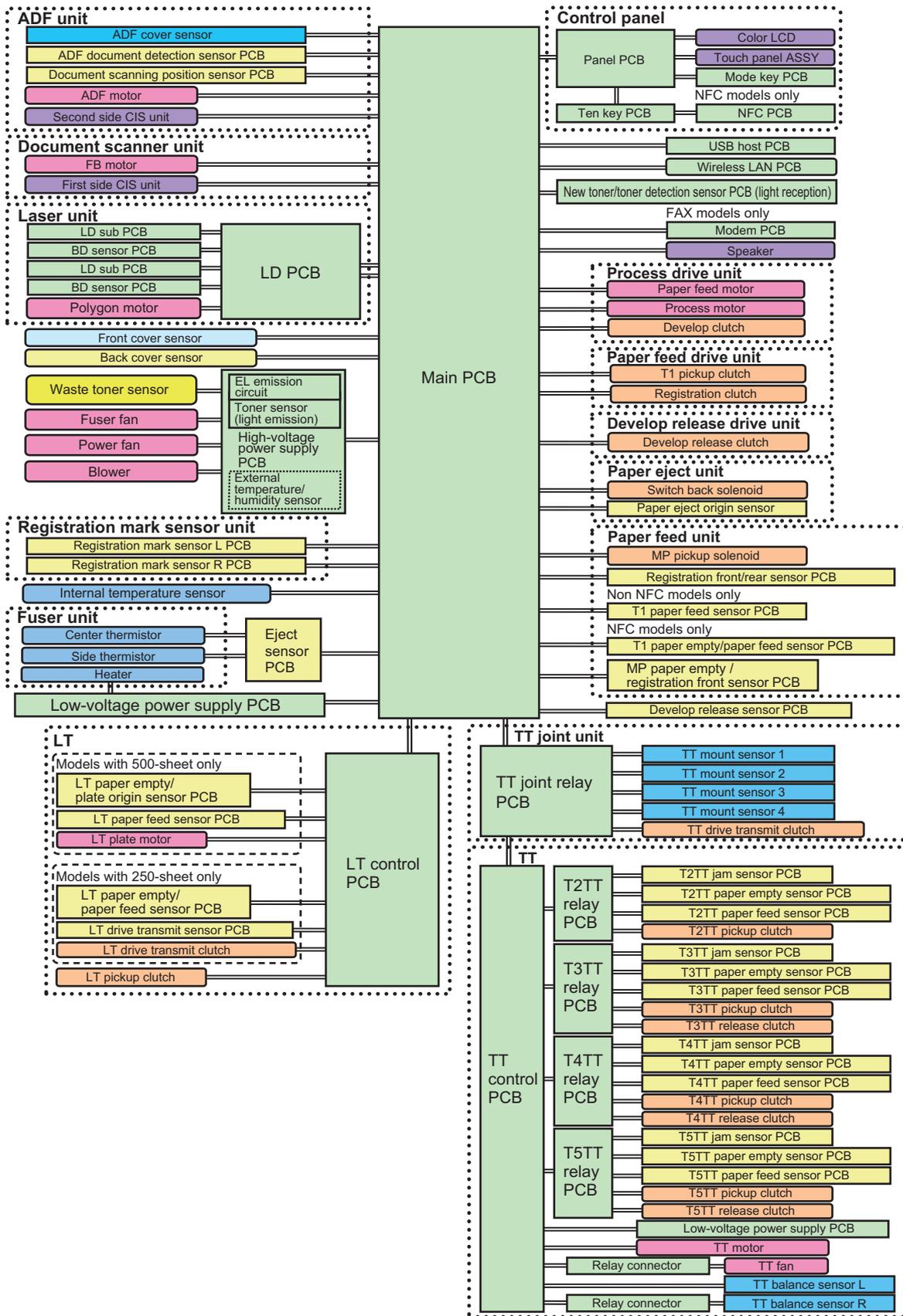


Fig. 2-9

2.5 Main Components

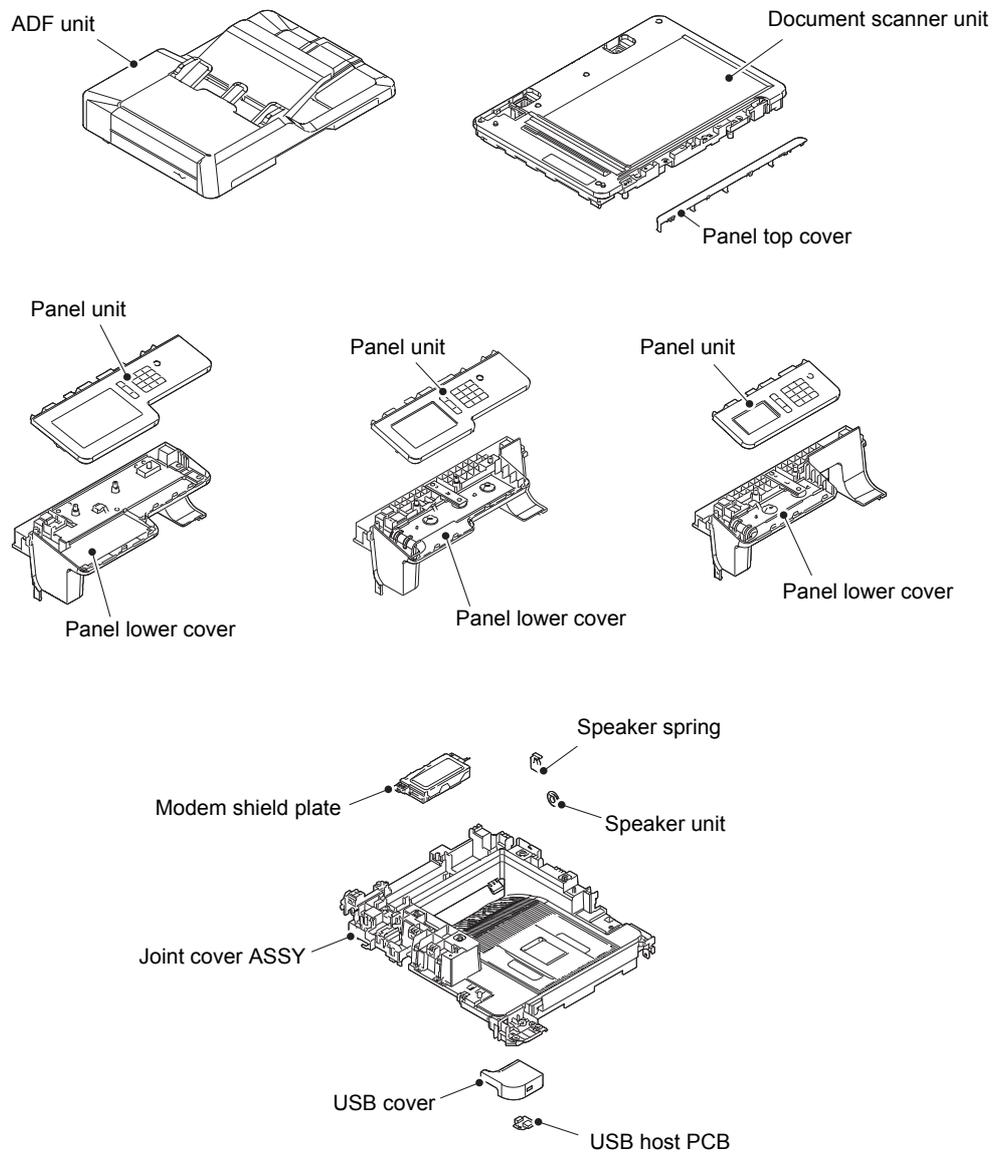


Fig. 2-10

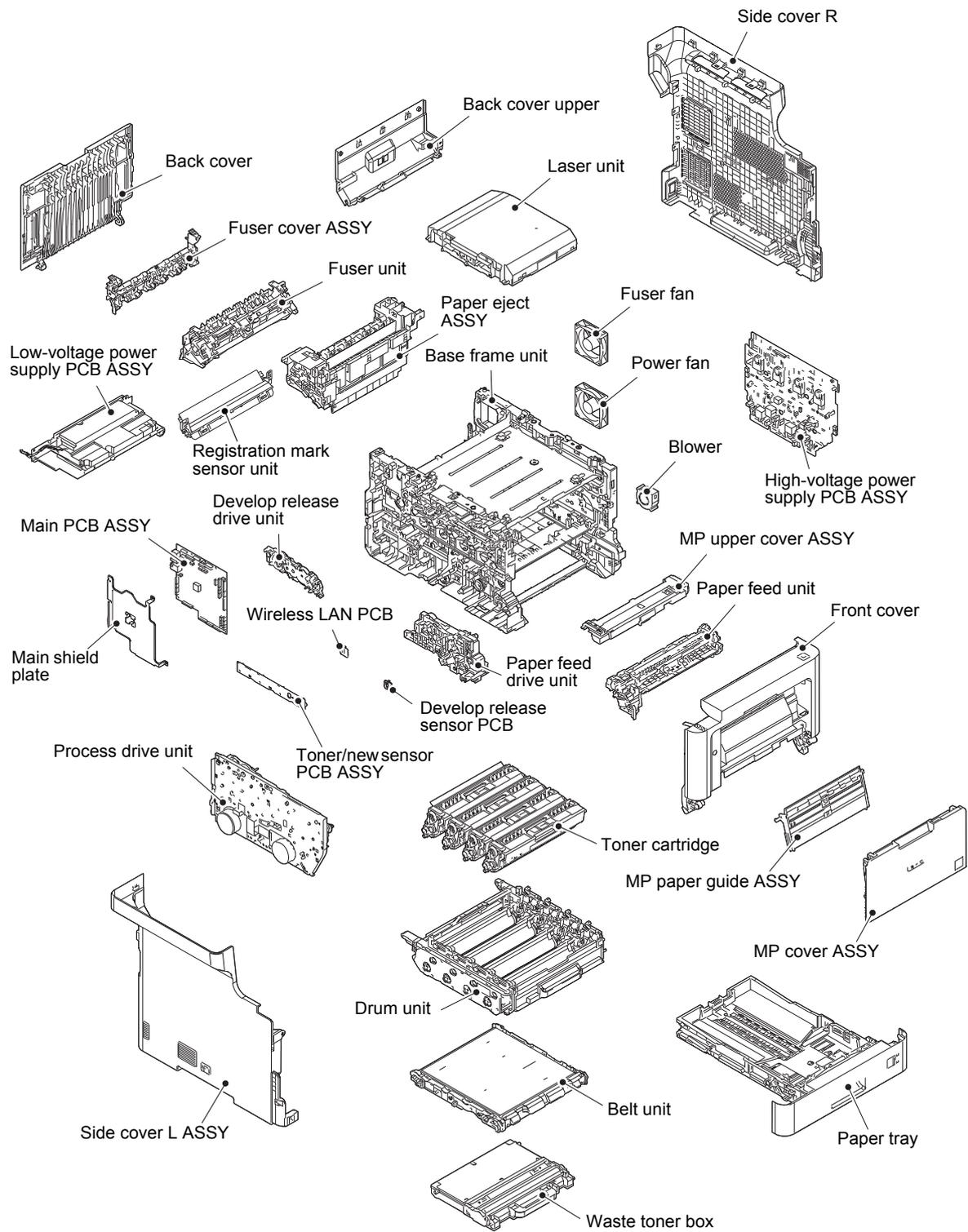


Fig. 2-11

3. ERROR INDICATIONS

This machine includes a self-diagnosis function. If the machine does not work normally it judges that an error has occurred, and indicates the corresponding error message on the LCD, which in turn helps the service personnel to quickly find out the problem.

3.1 Error Codes

The shaded errors hardly occur under normal use. They may be caused by noise around the installation site, variation in power supply voltage, or software failure.

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
0101	ASIC error or motor driver error occurred.	2-52	0504	After the heat unit was heated normally, the center thermistor of the fuser unit detected a temperature lower than the specified value.	2-54
0102	---		0505	The center thermistor of the fuser unit detected a temperature rise greater than the specified value within the specified time.	2-54
0201	Cannot detect the synchronized signal of the paper feed motor. The speed of the paper feed motor does not stabilize within the specified time.	2-52	0506	The center thermistor of the fuser unit detected a temperature fall greater than the specified value within the specified time.	2-54
0202	Cannot detect the synchronized signal of the process motor. The speed of the process motor does not stabilize within the specified time.	2-52	0508	---	
0203	---		050A	The hardware detected a temperature error through the center thermistor or the side thermistor of the fuser unit.	2-55
0300	Cannot detect the lock signal of the polygon motor for the laser unit.	2-53	050B	When the center thermistor of the fuser unit was lower than the idle temperature, the side thermistor detected a temperature higher than the specified temperature.	2-55
0305	---		050C	When the center thermistor of the fuser unit was higher than the idle temperature, the side thermistor detected a temperature lower than the specified temperature.	2-55
0401	BD sensor 1 failure	2-53	050D	---	
0402	BD sensor 4 failure	2-53	050F	---	
0405	---		0800	An error occurred in the internal temperature sensor.	2-55
0501	The center thermistor of the fuser unit has not reached the specified temperature within the specified time.	2-54	0900	Detected irregular power supply for more than 100 times.	2-56
0502	The center thermistor of the fuser unit has not reached the specified temperature within the specified time after it was heated normally to the certain level.	2-54	0A01	Detected a blower failure.	2-56
0503	The center thermistor of the fuser unit detected a temperature higher than the specified value.	2-54	0A02	Detected a fuser fan failure.	2-56
			0A03	Detected a power fan failure.	2-57

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
0B01	An error occurred in the high-voltage power supply PCB ASSY while operating.	2-57	2004	---	
0B02	An error occurred in the high-voltage power supply PCB ASSY when the machine was in the ready state.	2-57	2005	---	
0C00	An error occurred in the density sensor.	2-58	2006	---	
0D01	---		2101	---	
0D02	---		2102	---	
0D03	---		2103	---	
0D04	---		2104	---	
0E00	---		2105	---	
1003	The registration mark sensor R is dirty and cannot normally receive reflected light.	2-58	2201	---	
1004	The registration mark sensor L is dirty and cannot normally receive reflected light.	2-58	2202	---	
1100	---		2203	---	
1200	---		2204	---	
1300	---		2205	---	
1400	Condensation occurred in the machine.	2-59	2206	---	
1500	An error occurred in the paper eject origin sensor.	2-59	2207	---	
1701	Detected a TT fan failure.	2-59	2301	---	
1801	A communication error occurred between the main PCB and T2LT control PCB ASSY. (LT only)	2-60	2302	---	
1802	A communication error occurred between the main PCB and T3LT control PCB ASSY. (LT only)	2-60	2401	---	
1803	A communication error occurred between the main PCB and T4LT control PCB ASSY. (LT only)	2-60	2402	---	
1808	A communication error occurred between the main PCB and TT control PCB ASSY.	2-61	2403	---	
1901	Detected a TT motor failure.	2-61	2404	---	
1A01	---		2405	---	
1B01	---		2408	---	
1C00	Unable to detect scan signal of laser unit EEPROM.	2-61	2409	---	
1D01	---		2501	---	
1D02	---		2502	---	
1D03	---		2503	---	
1D04	---		2504	---	
1E01	---		2601	---	
1E02	---		2602	---	
1F00	---		2603	---	
1F02	TT mount sensor 1 to 4 detected that screw was not tighten surely when connecting TT.	2-62	2604	---	
2001	---		2605	---	
2002	---		2701	---	
2003	---		2702	---	

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
2703	---		2F07	---	
2801	---		2F08	---	
2802	---		2F0A	---	
2803	---		3001	---	
2804	---		3002	---	
2805	---		3003	---	
2806	---		3102	---	
2901	---		3202	---	
2902	---		3301	---	
2903	---		3302	---	
2904	---		3401	---	
2905	---		3402	---	
2906	---		3501	---	
2A01	---		3601	---	
2A02	---		3701	---	
2A03	---		3702	---	
2A04	---		3703	---	
2A05	---		3801	A temperature error occurred in the external temperature/humidity sensor.	2-62
2B01	---		3802	---	
2B02	---		3900	---	
2C01	---		3A00	A communication error occurred between the controller and engine in main PCB.	2-62
2C02	---		3B01	T2 drive transmit sensor detected that the error occurred in connection of machine drive.	2-63
2D01	---		3B02	T3 drive transmit sensor detected that the error occurred in connection of machine drive.	2-63
2E01	---		3B03	T4 drive transmit sensor detected that the error occurred in connection of machine drive.	2-63
2E02	---		4000	Number of the drum unit rotations reaches the upper limit soon.	2-63
2E03	---		4001	---	
2E04	---		4002	---	
2E05	---		4003	---	
2E06	---		4004	---	
2E07	---		4200	Number of the drum unit rotations has reached the upper limit.	2-63
2E08	---		4201	---	
2E0A	---		4202	---	
2F01	---		4203	---	
2F02	---		4204	---	
2F03	---		4300	Number of pages printed with the belt unit will reach the upper limit soon. (90%)	2-63
2F04	---		4400	Number of pages printed with the belt unit has reached the upper limit.	2-63
2F05	---		4500	Number of used pages for the fuser unit has reached the upper limit.	2-64
2F06	---		4600	Number of pages printed with the laser unit has reached the upper limit.	2-64

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
4700	The waste toner sensor detected that the waste toner box is almost full.	2-64	5002	Number of used pages for the PF kit 1 has reached the upper limit.	2-66
4800	After the waste toner sensor detected that the waste toner box was almost full, pages more than the specified number have been printed.	2-64	5003	Number of used pages for the PF kit 2 has reached the upper limit.	2-67
4900	Belt cleaner detected that smaller voltage than the specified one and detected almost end of life of the waste toner box.	2-64	5004	Number of used pages for the PF kit 3 has reached the upper limit.	2-67
4A00	---		5005	Number of used pages for the PF kit 4 has reached the upper limit.	2-67
4B01	Dot counter of the toner cartridge (Black) or develop roller counter reaches the upper limit soon.	2-65	5006	Number of used pages for the PF kit 5 has reached the upper limit.	2-67
4B02	Dot counter of the toner cartridge (Yellow) or develop roller counter reaches the upper limit soon.	2-65	5100	---	
4B03	Dot counter of the toner cartridge (Magenta) or develop roller counter reaches the upper limit soon.	2-65	5200	---	
4B04	Dot counter of the toner cartridge (Cyan) or develop roller counter reaches the upper limit soon.	2-65	5301	---	
4C01	Dot counter of the toner cartridge (Black) or develop roller counter has reached the upper limit was detected.	2-65	5302	---	
4C02	Dot counter of the toner cartridge (Yellow) or develop roller counter has reached the upper limit was detected.	2-65	5401	---	
4C03	Dot counter of the toner cartridge (Magenta) or develop roller counter has reached the upper limit was detected.	2-65	5402	---	
4C04	Dot counter of the toner cartridge (Cyan) or develop roller counter has reached the upper limit was detected.	2-65	5406	---	
4C05	During printing, dot counter of color toner cartridge or develop roller counter has reached the upper limit was detected.	2-65	5502	---	
4D01	---		5602	---	
4E01	---		5702	---	
4F01	The new toner sensor of the toner cartridge (Black) could not detect a new cartridge properly.	2-66	5801	---	
4F02	The new toner sensor of the toner cartridge (Yellow) could not detect a new cartridge properly.	2-66	5802	---	
4F03	The new toner sensor of the toner cartridge (Magenta) could not detect a new cartridge properly.	2-66	5902	---	
4F04	The new toner sensor of the toner cartridge (Cyan) could not detect a new cartridge properly.	2-66	5A02	---	
5001	Number of used pages for the PF kit MP has reached the upper limit.	2-66	5B02	---	

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
5C02	---		6400	The registration mark sensor detected that no belt unit was set.	2-71
5D02	---		6602	---	
6001	The front cover sensor detected that the front cover was open.	2-68	6701	---	
6002	---		6801	The internal temperature sensor detected a temperature higher than the specified value.	2-71
6003	---		6802	---	
6004	The eject sensor detected that the fuser cover was open.	2-68	6901	Some fuser unit errors occurred at power-ON or upon recovery from sleep mode.	2-72
6007	---		6902	After the error was detected at the fuser unit, power was turned ON again and the error is being checked. (If power is turned OFF and ON after error code 6901 occurred, this code is displayed for about 15 minutes.)	2-72
6101	The toner amount detection sensor detected that no toner cartridge (Black) was set.	2-69	6A00	Electric discharge that may be caused by dirt on the corona wire of the drum unit was detected.	2-72
6102	The toner amount detection sensor detected that no toner cartridge (Yellow) was set.	2-69	6B01	Electric discharge was detected when the number of the drum unit rotations had become more than twice of the upper limit.	2-72
6103	The toner amount detection sensor detected that no toner cartridge (Magenta) was set.	2-69	6B02	---	
6104	The toner amount detection sensor detected that no toner cartridge (Cyan) was set.	2-69	6B03	---	
6200	The high-voltage output error of the corona charging terminal was detected and detected that the drum unit was not set.	2-69	6B04	---	
6201	---		6B0A	---	
6202	---		6C01	---	
6203	---		6C02	After the T2 is opened and closed or the power is turned ON, the T2 plate origin sensor detects that lift-up of the plate of the T2 is not completed within the specified period of time.	2-73
6204	---		6C03	After the T3 is opened and closed or the power is turned ON, the T3 plate origin sensor detects that lift-up of the plate of the T3 is not completed within the specified period of time.	2-73
6208	---		6C04	---	
6209	---		6D00	Detected more LTs than connectible limit, or the model unconnectable to TT connected to TT.	2-73
620A	---		6E00	The develop release sensor detected the develop roller disengagement or engagement failure.	2-74
6300	The waste toner sensor detected that no waste toner box was set.	2-71	6F00	Detected that supply power is unstable. (less than 100 times)	2-74

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
7000	After the registration rear sensor detects paper pass, the eject sensor does not detect paper pass.	2-74	7301	When printing from the T1, the T1 paper feed sensor does not detect paper pass within the specified time while the T1 paper empty sensor detects some paper set.	2-77
7001	---		7302	When printing from the T1, the registration front sensor does not detect paper pass within the specified time after the T1 paper feed sensor detected paper pass.	2-77
7002	---		7400	---	
7003	---		7401	When printing from the T2, the T2(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T2(LT or TT) paper empty sensor detects some paper set.	2-78
7004	---		7402	When printing from T2, the registration front sensor does not detect paper pass within the specified time after the T2(LT or TT) paper feed sensor detected paper pass.	2-79
7100	After the registration rear sensor detects the end of paper pass and the specified period of time has passed, the eject sensor continues to detect paper pass.	2-75	7500	---	
7101	---		7501	When printing from the T3, the T3(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T3(LT or TT) paper empty sensor detects some paper set.	2-80
7102	---		7502	When printing from T3, the registration front sensor does not detect paper pass within the specified time after the T3(LT or TT) paper feed sensor detected paper pass.	2-81
7103	---		7601	When printing from the T4, the T4(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T4(LT or TT) paper empty sensor detects some paper set.	2-82
7104	---		7602	When printing from T4, the registration front sensor does not detect paper pass within the specified time after the T4(LT or TT) paper feed sensor detected paper pass.	2-83
7105	---		7701	When printing from the T5, the T5TT paper feed sensor does not detect paper pass within the specified time while the T5TT paper empty sensor detects some paper set.	2-84
7106	---		7702	When printing from T5, the registration front sensor does not detect paper pass within the specified time after the T5TT paper feed sensor detected paper pass.	2-85
7200	When the paper is fed from the MP tray, after the MP registration front sensor detects paper pass, the registration rear sensor does not detect paper pass after a set period of time.	2-76	7800	After the first side is printed in 2-sided printing mode, the registration front sensor does not detect paper pass after a set period of time.	2-86
7201	---		7801	---	
7300	---		7802	---	

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
7803	---		8601	---	
7804	---		8602	---	
7805	---		8603	---	
7900	---		8604	---	
7A01	---		8701	---	
7A02	---		8702	---	
7B01	---		8703	---	
7B02	---		8708	---	
7B03	---		8709	---	
7B04	---		870A	---	
7B05	---		870B	---	
7C00	---		870C	---	
7D00	---		870D	---	
7E00	---		870E	---	
7F00	---		870F	---	
8000	---		8801	---	
8100	---		8802	---	
8401	---		8808	---	
8402	---		8809	---	
8403	---		880A	---	
8501	The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (before the registration of printing in the engine).	2-87	8901	---	
			8902	---	
8502	The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (before the registration of printing in the engine).	2-87	8903	The back cover sensor detected the open state when 2-sided printing is started (before the registration of printing in the engine).	2-88
8503	The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (before the registration of printing in the engine).	2-87	8904	The back cover sensor detected the open state during 2-sided printing (after the registration of printing in the engine).	2-88
8504	The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (before the registration of printing in the engine).	2-87	8A01	The registration rear sensor detected that the paper fed was smaller or larger than the specified size in duplex printing mode.	2-89
8505	The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (after the registration of printing in the engine).	2-88	8A02	The registration rear sensor detected that the length of the paper is too long and it may hit within the machine in 2-sided printing.	2-89
8506	The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (after the registration of printing in the engine).	2-88	8B01	Detected that the TT was not turned ON.	2-89
8507	The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (after the registration of printing in the engine).	2-88	8C00	---	
8508	The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (after the registration of printing in the engine).	2-88	8D01	The registration rear sensor detected that the paper loaded in the paper tray was smaller than the specified size.	2-90

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
8D02	---		9201	When printing from the MP tray, paper type setting in the machine does not match the setting in the driver.	2-92
8E01	---		9202	When printing from the T1, paper type setting in the machine does not match the setting in the driver.	2-92
8E02	Detected that the size of paper set in the paper tray was over 10 mm shorter than letter size during receiving fax data or printing a list or report.	2-90	9203	When printing from the T2, paper type setting in the machine does not match the setting in the driver.	2-92
8E03	---		9204	When printing from the T3, paper type setting in the machine does not match the setting in the driver.	2-92
8F01	---		9205	When printing from the T4, paper type setting in the machine does not match the setting in the driver.	2-92
8F02	---		9206	When printing from the T5, paper type setting in the machine does not match the setting in the driver.	2-92
8F03	---		9301	When paper was fed from the MP tray, the MP paper empty sensor detected that no paper was in the MP tray.	2-92
9001	The size of paper loaded in the MP tray and the one specified from the driver are not same when paper is fed from the MP tray.	2-91	9302	When paper was fed from the T1, the T1 paper empty sensor or T1 paper feed sensor detected that no paper was in the T1.	2-93
9002	The size of paper loaded in the T1 and the one specified from the driver are not same when paper is fed from the T1.	2-91	9303	When paper was fed from the T2, the T2(LT or TT) paper empty sensor detected that no paper was in the T2.	2-93
9003	The size of paper loaded in the T2 and the one specified from the driver are not same when paper is fed from the T2.	2-91	9304	When paper was fed from the T3, the T3(LT or TT) paper empty sensor detected that no paper was in the T3.	2-93
9004	The size of paper loaded in the T3 and the one specified from the driver are not same when paper is fed from the T3.	2-91	9305	When paper was fed from the T4, the T4(LT or TT) paper empty sensor detected that no paper was in the T4.	2-93
9005	The size of paper loaded in the T4 and the one specified from the driver are not same when paper is fed from the T4.	2-91	9306	When paper was fed from the T5, the T5 paper empty sensor detected that no paper was in the T5.	2-93
9006	The size of paper loaded in the T5 and the one specified from the driver are not same when paper is fed from the T5.	2-91	9309	Detected that there was no paper set in all trays when TrayAuto was selected for printing.	2-94
9102	---		930A	Paper ran out during Fax / List continuous printing.	2-95
9103	---		9501	---	
9104	---		9502	---	
9105	---		9701	For 2-sided printing, paper size setting of the printer driver that was not supported by 2-sided printing was selected.	2-96
9200	---		9702	For printing by feeding paper from the T1, the size of paper specified from the driver set the size which was not supported by the T1.	2-96

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
9703	For printing by feeding paper from the T2, the size of paper specified from the driver set the size which was not supported by the T2.	2-96	9C06	---	
9704	For printing by feeding paper from the T3, the size of paper specified from the driver set the size which was not supported by the T3.	2-96	9C07	---	
9705	For printing by feeding paper from the T4, the size of paper specified from the driver set the size which was not supported by the T4.	2-96	9D02	---	
9706	For printing by feeding paper from the T5, the size of paper specified from the driver set the size which was not supported by the T5.	2-96	9D03	---	
9801	An error occurred with the value measured during color density adjustment performed from the control panel.	2-97	9D04	---	
9802	Dot counter or develop roller counter of color toner has reached the upper limit during color density adjustment performed from the control panel.	2-97	9D05	---	
9803	Density patch measurement ended unsuccessfully during color density adjustment performed from the control panel.	2-98	A000	Image processing was not completed correctly because the number of pixels required for image processing is insufficient in the scanned second side data.	2-102
9804	An error occurred with the value measured during density sensor sensitivity calibration.	2-98	A200	The document scanning position sensor detected that the document length was 90 cm or more during the one-side scanning.	2-103
9901	An error occurred with the value measured during manual color registration performed from the control panel.	2-99	A300	The document scanning position sensor has not detected the document passing even after the document has been fed for the specified time.	2-103
9902	Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.	2-99	A400	The ADF cover sensor detected that the ADF cover is open.	2-104
9903	An error occurred during patch data printing in manual color registration performed from the control panel.	2-100	A500	---	
9A01	An error occurred with the value measured during auto color registration performed from the control panel.	2-101	A600	When scanning the fax, white or black correction data for the first side CIS unit was not within the correct range (second time).	2-104
9A02	Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.	2-101	A700	Color parameter in the ROM does not match the first side or second side CIS.	2-105
9A03	An error occurred during patch data printing in auto color registration performed from the control panel.	2-102	A800	---	
9C02	---		A900	A scanning error occurred while processing the scanned image.	2-105
9C03	---		AB00	---	

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
AC00	When scanning the fax, white or black correction data for the second side CIS was not within the correct range (first time).	2-105	D100	An error occurred while initializing the modem.	2-109
AD00	Image processing cannot be completed correctly because the number of pixels required for image processing is insufficient in the scanned first side data.	2-105	D200	Detected that the modem PCB is not connected.	2-109
AE00	Unit home position could not be detected after the power switch was turned ON.	2-106	D800	An error occurred while initializing the touch panel.	2-109
AF00	Home position is still being detected even after the first side CIS unit was moved.	2-106	D900	---	
B000	Detected that the first side CIS flat cable or second side CIS flat cable was not inserted correctly when function code 55 was executed.	2-106	DA00	---	
B700	---		DB00	A communication error occurred between the main ASIC and the recording ASIC.	2-110
B800	---		E000	An error occurred in the ROM check sum.	2-110
B900	---		E002	---	
BB00	A white level not within the standard was scanned when function code 55 was executed.	2-107	E100	Program error	2-110
BC00	When scanning the fax, white or black correction data for the second side CIS was not within the correct range (second time).	2-107	E500	An error occurred during access to the DRAM in the Main PCB ASSY.	2-110
BD00	A black level not within the standard was scanned when function code 55 was executed.	2-107	E600	Write error in the EEPROM of the Main PCB ASSY	2-110
BF00	The document scanning position sensor detected that the document length was 400 mm or longer and could not be fed to ADF (double-side restoration).	2-108	E701	System error in the flash ROM	2-110
C001	Timeout occurred with access request sent to server due to incorrect server address, network disconnection, or inactive server.	2-108	E702	Read error in the flash ROM	2-110
C002	User authentication is unavailable due to incorrect user name, incorrect password, or asynchronous date and time between the machine and server.	2-108	E900	An error occurred while initializing the NFC.	2-110
C003	Cannot access to the file because the directory name is wrong, writing into directory is not permitted, or writing into file is locked or not permitted.	2-108	EC00	Overcurrent was caused because a USB device that did not meet the specifications was inserted into the USB port.	2-111
C004	Cannot acquire current time which is required for user authentication because the time has not been acquired.	2-108	ED00	---	
C100	---		EE00	---	
C700	The memory is insufficient to expand the data of PC-Print.	2-109	F900	The spec code was not entered correctly.	2-111
C800	The memory used to store secure print data exceeded the memory size for secure print data.	2-109	FA01	---	
C900	---		FA02	---	
CA00	---		FA03	---	

Error Codes	Description	Refer to:	Error Codes	Description	Refer to:
FB01	---		FB0B	---	
FB02	---		FB0C	---	
FB03	---		FB0D	---	
FB04	---		FB0E	---	
FB05	---		FB0F	---	
FB06	---		FC01	---	
FB07	---		FC02	---	
FB08	---		FC03	---	
FB09	---		FC04	---	
FB0A	---		FC05	---	

3.2 Error Message

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

Error message		Description	Error codes	Refer to:
First line	Second line			
Attachment Error	Connect the Tower Tray Connector with all four Screws.	Detected that TT connector screw was not tightened when connecting TT.	1F02	2-62
Calibration	Calibration failed. Insufficient Toner for Calibration.	Dot counter or develop roller counter of color toner has reached the upper limit during color density adjustment performed from the control panel.	9802	2-97
	Calibration failed. Press [OK]	Density patch measurement ended unsuccessfully during color density adjustment performed from the control panel.	9803	2-98
		An error occurred with the value measured during density sensor sensitivity calibration.	9804	2-98
	Calibration failed. Turn the power off and then back on again.	An error occurred with the value measured during color density adjustment performed from the control panel.	9801	2-97
Cartridge Error	Put the Black (BK) Toner Cartridge back in.	The new toner sensor of the toner cartridge (Black) could not detect a new cartridge properly.	4F01	2-66
	Put the Cyan (C) Toner Cartridge back in.	The new toner sensor of the toner cartridge (Cyan) could not detect a new cartridge properly.	4F04	2-66
	Put the Magenta (M) Toner Cartridge back in.	The new toner sensor of the toner cartridge (Magenta) could not detect a new cartridge properly.	4F03	2-66
	Put the Yellow (Y) Toner Cartridge back in.	The new toner sensor of the toner cartridge (Yellow) could not detect a new cartridge properly.	4F02	2-66
Condensation	Leave switched ON. Fully open the Front Cover. Wait 30 minutes, switch OFF and close cover, then switch ON.	Condensation occurred in the machine.	1400	2-59

Error message		Description	Error codes	Refer to:
First line	Second line			
Cooling Down	Wait for a while	The internal temperature sensor or side thermistor of the fuser unit detected a temperature higher than the specified value.	6801	2-71
Cover is Open	Close the ADF Cover.	The ADF cover sensor detected that the ADF cover is open in the ready state.	A400	2-104
	Close the ADF Cover, then press Stop[x].	The ADF cover sensor detected that the ADF cover is open during scanning.		
	Close the Back Cover of the Machine	The eject sensor detected that the fuser cover was open.	6004	2-68
	Close the Front Cover.	The front cover sensor detected that the front cover was open.	6001	2-68
Document Jam	Clear the scanner jam, then press Stop[x].	The document scanning position sensor detected that the document length was 90 cm or more during the one-side scanning.	A200	2-103
		The document scanning position sensor has not detected the document passing even after the document has been fed for the specified time.	A300	2-103
Drum !	Slide the Green tab on Drum Unit.	Electric discharge that may be caused by dirt on the corona wire of the drum unit was detected.	6A00	2-72
Drum Stop	Replace the Drum Unit.	Electric discharge was detected when the number of the drum unit rotations had become more than twice of the upper limit.	6B01	2-72
Ignore Data	Ignore Data	Detected undecodable data during printing. Received undecodable PS data.	---	4.14.1
	Press Stop [x]	Undecodable PS data is received.		
Jam 2-sided	Pull out the 2-sided Tray at the back of the machine and remove the jammed paper.	After the first side is printed in 2-sided printing mode, the registration front sensor does not detect paper pass after a set period of time.	7800	2-86
Jam Inside	Open the Front Cover, pull out the Drum Unit completely and remove the jammed paper.	After the registration rear sensor detects paper pass, the eject sensor does not detect paper pass.	7000	2-74

Error message		Description	Error codes	Refer to:
First line	Second line			
Jam MP Tray	Remove the jammed paper from MP Tray and press [Retry].	When the paper is fed from the MP tray, after the MP registration front sensor detects paper pass, the registration rear sensor does not detect paper pass after a set period of time.	7200	2-76
Jam Rear	Open the Back Cover and remove the jammed paper, then press [Retry].	After the registration rear sensor detects the end of paper pass and the specified period of time has passed, the eject sensor continues to detect paper pass.	7100	2-75
Jam Tray 1	Remove the jammed paper from Tray 1.	When printing from the T1, the registration front sensor does not detect paper pass within the specified time after the T1 paper feed sensor detected paper pass.	7302	2-77
Jam Tray 2	Remove the jammed paper from Tray 2.	When printing from the T2, the registration front sensor or the T2TT jam sensor does not detect paper pass within the specified time after the T2(LT or TT) paper feed sensor detected paper pass.	7402	2-79
Jam Tray 3	Remove the jammed paper from Tray 3.	When printing from the T3, the registration front sensor or the T2/T3TT jam sensor does not detect paper pass within the specified time after the T3(LT or TT) paper feed sensor detected paper pass.	7502	2-81
Jam Tray 4	Remove the jammed paper from Tray 4.	When printing from the T4, the registration front sensor or the T2/T3/T4TT jam sensor does not detect paper pass within the specified time after the T4(LT or TT) paper feed sensor detected paper pass.	7602	2-83
Jam Tray5	Remove the jammed paper from Tray 5.	When printing from the T5, the registration front sensor or the T2/T3/T4/T5TT jam sensor does not detect paper pass within the specified time after the T5TT paper feed sensor detected paper pass.	7702	2-85

Error message		Description	Error codes	Refer to:
First line	Second line			
Log Access Error	Authentication error, contact your administrator.	User authentication is unavailable due to incorrect user name, incorrect password, or asynchronous date and time between the machine and server.	C002	2-108
	File Access Error, contact your administrator.	Cannot access to the file because the directory name is wrong, writing into directory is not permitted, or writing into file is locked or not permitted.	C003	2-108
	Server Timeout, contact your administrator.	Timeout occurred with access request sent to server due to incorrect server address, network disconnection, or inactive server.	C001	2-108
	Wrong Date&Time, contact your administrator.	Cannot acquire current time which is required for user authentication because the time has not been acquired.	C004	2-108
Machine Error	-	Detected that the modem PCB is not connected.	D200	2-109
Machine Error F9	-	The spec code was not entered correctly.	F900	2-111
Maintenance	Replace Fuser	Number of used pages for the fuser unit has reached the upper limit.	4500	2-64
	Replace Laser	Number of pages printed with the laser unit has reached the upper limit.	4600	2-64
	Replace PF Kit MP	Number of used pages for the PF kit MP has reached the upper limit.	5001	2-66
	Replace PF Kit 1	Number of used pages for the PF kit 1 has reached the upper limit.	5002	2-66
	Replace PF Kit 2	Number of used pages for the PF kit 2 has reached the upper limit.	5003	2-67
	Replace PF Kit 3	Number of used pages for the PF kit 3 has reached the upper limit.	5004	2-67
	Replace PF Kit 4	Number of used pages for the PF kit 4 has reached the upper limit.	5005	2-67
	Replace PF Kit 5	Number of used pages for the PF kit 5 has reached the upper limit.	5006	2-67

Error message		Description	Error codes	Refer to:
First line	Second line			
Media Type Mismatch	Reload correct paper in MP Tray, then press [Retry].	When printing from the MP tray, paper type setting in the machine does not match the setting in the driver.	9201	2-92
	Reload correct paper in Tray1, then press [Retry].	When printing from the T1, paper type setting in the machine does not match the setting in the driver.	9202	2-92
	Reload correct paper in Tray2, then press [Retry].	When printing from the T2, paper type setting in the machine does not match the setting in the driver.	9203	2-92
	Reload correct paper in Tray3, then press [Retry].	When printing from the T3, paper type setting in the machine does not match the setting in the driver.	9204	2-92
	Reload correct paper in Tray4, then press [Retry].	When printing from the T4, paper type setting in the machine does not match the setting in the driver.	9205	2-92
	Reload correct paper in Tray5, then press [Retry].	When printing from the T5, paper type setting in the machine does not match the setting in the driver.	9206	2-92
No Belt Unit	Open the Front Cover, pull out the Drum Unit completely and install the Belt Unit.	The registration mark sensor detected that no belt unit was set.	6400	2-71
No Drum Unit	Open the Front Cover, then install the Drum Unit.	The high-voltage output error of the corona charging terminal was detected and detected that the drum unit was not set.	6200	2-69
No HUB Support	No HUB Support.	USB host HUB connection error	---	4.14.2

Error message		Description	Error codes	Refer to:
First line	Second line			
No Paper	No Paper T1	Detected that there was no paper set in the T1 when printing from the T1.	---	4.2.1
	No Paper T2	Detected that there was no paper set in the T2 when printing from the T2.	---	4.2.1
	No Paper T3	Detected that there was no paper set in the T3 when printing from the T3.	---	4.2.1
	No Paper T4	Detected that there was no paper set in the T4 when printing from the T4.	---	4.2.1
	No Paper T5	Detected that there was no paper set in the T5 when printing from the T5.	---	4.2.1
	Reload paper in Tray.	Detected that there was no paper set in all trays when TrayAuto was selected for printing. (At Fax / List printing)	---	4.2.1
		Detected that there was no paper set in all trays when TrayAuto was selected for printing.	9309	2-94
No Paper Fed T1	Reload paper in Tray1, then press [Retry].	When printing from the T1, the T1 paper feed sensor does not detect paper pass within the specified time while the T1 paper empty sensor detects some paper set.	7301	2-77
No Paper Fed T2	Reload paper in Tray2, then press [Retry].	When printing from the T2, the T2(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T2(LT or TT) paper empty sensor detects some paper set.	7401	2-78
No Paper Fed T3	Reload paper in Tray3, then press [Retry].	When printing from the T3, the T3(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T3(LT or TT) paper empty sensor detects some paper set.	7501	2-80
No Paper Fed T4	Reload paper in Tray4, then press [Retry].	When printing from the T4, the T4(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T4(LT or TT) paper empty sensor detects some paper set.	7601	2-82

Error message		Description	Error codes	Refer to:
First line	Second line			
No Paper Fed Tray5	Reload paper in Tray5, then press [Retry].	When printing from the T5, the T5TT paper feed sensor does not detect paper pass within the specified time while the T5TT paper empty sensor detects some paper set.	7701	2-84
No Paper MP	Reload paper in MP Tray.	When paper was fed from the MP tray, the MP paper empty sensor detected that no paper was in the MP tray. (At Fax / List printing)	---	4.2.4
		When paper was fed from the MP tray, the MP paper empty sensor detected that no paper was in the MP tray.	9301	2-92
No Paper T1	Reload paper in Tray 1.	When paper was fed from the T1, the T1 paper empty sensor detected that no paper was in the T1. (At Fax / List printing)	---	4.2.1
		When paper was fed from the T1, the T1 paper empty sensor detected that no paper was in the T1.	9302	2-93
No Paper T2	Reload paper in Tray 2.	When paper was fed from the T2, the T2(LT or TT) paper empty sensor detected that no paper was in the T2. (At Fax / List printing)	---	4.2.1
		When paper was fed from the T2, the T2(LT or TT) paper empty sensor detected that no paper was in the T2.	9303	2-93
No Paper T3	Reload paper in Tray 3.	When paper was fed from the T3, the T3(LT or TT) paper empty sensor detected that no paper was in the T3. (At Fax / List printing)	---	4.2.1
		When paper was fed from the T3, the T3(LT or TT) paper empty sensor detected that no paper was in the T3.	9304	2-93

Error message		Description	Error codes	Refer to:
First line	Second line			
No Paper T4	Reload paper in Tray 4.	When paper was fed from the T4, the T4(LT or TT) paper empty sensor detected that no paper was in the T4. (At Fax / List printing)	---	4.2.1
		When paper was fed from the T4, the T4(LT or TT) paper empty sensor detected that no paper was in the T4.	9305	2-93
No Paper T5	Reload paper in Tray 5.	When paper was fed from the T5, the T5 paper empty sensor detected that no paper was in the T5. (At Fax / List printing)	---	4.2.1
		When paper was fed from the T5, the T5 paper empty sensor detected that no paper was in the T5.	9306	2-93
No Toner	Open the Front Cover, then install Toner Cartridge. Black(BK).	The toner amount detection sensor detected that no toner cartridge (Black) was set.	6101	2-69
	Open the Front Cover, then install Toner Cartridge. Cyan(C).	The toner amount detection sensor detected that no toner cartridge (Cyan) was set.	6104	2-69
	Open the Front Cover, then install Toner Cartridge. Magenta(M).	The toner amount detection sensor detected that no toner cartridge (Magenta) was set.	6103	2-69
	Open the Front Cover, then install Toner Cartridge. Yellow(Y).	The toner amount detection sensor detected that no toner cartridge (Yellow) was set.	6102	2-69
No Tray T1	Reinstall Tray 1.	The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (before the registration of printing in the engine).	8501	2-87
		The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (after the registration of printing in the engine).	8505	2-88

Error message		Description	Error codes	Refer to:
First line	Second line			
No Tray T2	Reinstall Tray 2.	The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (before the registration of printing in the engine).	8502	2-87
		The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (after the registration of printing in the engine).	8506	2-88
No Tray T3	Reinstall Tray 3.	The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (before the registration of printing in the engine).	8503	2-87
		The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (after the registration of printing in the engine).	8507	2-88
No Tray T4	Reinstall Tray 4.	The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (before the registration of printing in the engine).	8504	2-87
		The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (after the registration of printing in the engine).	8508	2-88
No Waste Toner	Install the Waste Toner Box.	The waste toner sensor detected that no waste toner box was set.	6300	2-71
Out of Fax Memory	Delete unwanted fax data.	The memory becomes full when Fax preview is ON.	---	4.10.2
	Print fax data from All settings > Fax > Print Fax	The memory becomes full when Fax preview is OFF and memory reception is ON.	---	4.10.2
Out of Memory	Press Stop[x].	The memory is insufficient to expand the data of PC-Print.	C700	2-109

Error message		Description	Error codes	Refer to:
First line	Second line			
Paper Low	Paper Low T1	Detected that the paper is running out when the paper feed motor drive and T1 paper empty sensor turned ON.	---	4.14.4
	Paper Low T2	Detected that the paper is running out when the paper feed motor, TT motor drive and T2(LT or TT) paper empty sensor turned ON.	---	4.14.4
	Paper Low T3	Detected that the paper is running out when the paper feed motor, TT motor drive and T3(LT or TT) paper empty sensor turned ON.	---	4.14.4
	Paper Low T4	Detected that the paper is running out when the TT motor drive and T4TT paper empty sensor turned ON.	---	4.14.4
	Paper Low T5	Detected that the paper is running out when the TT motor drive and T5TT paper empty sensor turned ON.	---	4.14.4
Print Data Full	Print Data is full. Press Stop[x] and delete the previously stored data.	The memory used to store secure print data exceeded the memory size for secure print data.	C800	2-109
Print Unable 01	Turn the power off and then back on again.	ASIC error or motor driver error occurred.	0101	2-52
Print Unable 02	Turn the power off and then back on again.	Cannot detect the synchronized signal of the paper feed motor. The speed of the paper feed motor does not stabilize within the specified time.	0201	2-52
		Cannot detect the synchronized signal of the process motor. The speed of the process motor does not stabilize within the specified time.	0202	2-52
Print Unable 03	Turn the power off and then back on again.	Main PCB detected an error at the polygon motor in the laser unit.	0300	2-53
Print Unable 04	Turn the power off and then back on again.	Main PCB detected an error at the polygon motor in the laser unit.	0401	2-53
			0402	2-53

Error message		Description	Error codes	Refer to:
First line	Second line			
Print Unable 05	Turn the power off and then back on again.	Detected the fuser unit temperature error.	0501	2-54
			0502	2-54
			0503	2-54
			0504	2-54
			0505	2-54
			0506	2-54
			050A	2-55
			050B	2-55
050C	2-55			
Print Unable 08	Turn the power off and then back on again.	An error occurred in the internal temperature sensor.	0800	2-55
Print Unable 09	Turn the power off and then back on again.	Detected irregular power supply for more than 100 times.	0900	2-56
Print Unable 0A	Turn the power off and then back on again.	Main PCB detected the blower failure.	0A01	2-56
		Main PCB detected the fuser fan failure.	0A02	2-56
		Main PCB detected the power fan failure.	0A03	2-57
Print Unable 0B	Turn the power off and then back on again.	An error occurred in the high-voltage power supply PCB ASSY during the operation.	0B01	2-57
		An error occurred in the high-voltage power supply PCB ASSY when the machine was in the ready state.	0B02	2-57
Print Unable 0C	Turn the power off and then back on again.	An error occurred in the density sensor.	0C00	2-58
Print Unable 10	Turn the power off and then back on again.	The registration mark sensor R is dirty and cannot normally receive reflected light.	1003	2-58
		The registration mark sensor L is dirty and cannot normally receive reflected light.	1004	2-58
Print Unable 15	Turn the power off and then back on again.	An error occurred in the paper eject origin sensor.	1500	2-59
Print Unable 17	Turn the power off and then back on again.	Detected a TT fan failure.	1701	2-59

Error message		Description	Error codes	Refer to:
First line	Second line			
Print Unable 18	Turn the power off and then back on again.	A communication error occurred between the main PCB and T2LT control PCB ASSY.	1801	2-60
		A communication error occurred between the main PCB and T3LT control PCB ASSY.	1802	2-60
		A communication error occurred between the main PCB and T4LT control PCB ASSY.	1803	2-60
		A communication error occurred between the main PCB and TT control PCB ASSY.	1808	2-61
Print Unable 19	Turn the power off and then back on again.	Detected a TT motor failure.	1901	2-61
Print Unable 1C	Turn the power off and then back on again.	Unable to detect scan signal of laser unit EEPROM.	1C00	2-61
Print Unable 38	Turn the power off and then back on again.	A temperature error occurred in the external temperature/humidity sensor.	3801	2-62
Print Unable 3A	Turn the power off and then back on again.	A communication error occurred between the controller and engine in main PCB.	3A00	2-62
Print Unable 3B	Turn the power off and then back on again.	T2 drive transmit sensor detected that the error occurred in connection of machine drive.	3B01	2-63
		T3 drive transmit sensor detected that the error occurred in connection of machine drive.	3B02	2-63
		T4 drive transmit sensor detected that the error occurred in connection of machine drive.	3B03	2-63
Print Unable 8B	Turn the power off and then back on again.	Detected that the TT was not turned ON.	8B01	2-89
Print Unable A7	Turn the power off and then back on again.	Color parameter in the ROM does not match the first side or second side CIS.	A700	2-105
Print Unable D1	Turn the power off and then back on again.	An error occurred while initializing the modem.	D100	2-109
Print Unable DB	Turn the power off and then back on again.	A communication error occurred between the main ASIC and the recording ASIC.	DB00	2-110

Error message		Description	Error codes	Refer to:
First line	Second line			
Print Unable E0	Turn the power off and then back on again.	An error occurred at the ROM check sum in the firmware.	E000	2-110
Print Unable E1	Turn the power off and then back on again.	Program error	E100	2-110
Print Unable E5	Turn the power off and then back on again.	Detected an error in main PCB.	E500	2-110
Print Unable E6	Turn the power off and then back on again.	Detected an error in main PCB.	E600	2-110
Print Unable E7	Turn the power off and then back on again.	Detected an error in main PCB.	E701	2-110
			E702	2-110
Print Unable E9	Turn the power off and then back on again.	An error occurred while initializing the NFC.	E900	2-110
Print Unable ZC	Turn the power off and then back on again.	Detected that supply power is unstable (less than 100 times).	6F00	2-74

Error message		Description	Error codes	Refer to:
First line	Second line			
Registration	Registration failed. Insufficient Toner for Registration.	Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.	9A02	2-101
	Registration failed. Press [OK]	Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.	9902	2-99
		An error occurred during patch data printing in manual color registration performed from the control panel.	9903	2-100
		An error occurred during patch data printing in auto color registration performed from the control panel.	9A03	2-102
	Registration failed. Turn the power off and then back on again.	An error occurred with the value measured during manual color registration performed from the control panel.	9901	2-99
		An error occurred with the value measured during auto color registration performed from the control panel.	9A01	2-101
Replace Toner	Open the Front Cover, replace Toner Cartridge.	Dot counter of the toner cartridge (Black) or develop roller counter has reached the upper limit was detected.	4C01	2-65
		Dot counter of the toner cartridge (Yellow) or develop roller counter has reached the upper limit was detected.	4C02	2-65
		Dot counter of the toner cartridge (Magenta) or develop roller counter has reached the upper limit was detected.	4C03	2-65
		Dot counter of the toner cartridge (Cyan) or develop roller counter has reached the upper limit was detected.	4C04	2-65
		During printing, dot counter of color toner cartridge or develop roller counter has reached the upper limit was detected.	4C05	2-65

Error message		Description	Error codes	Refer to:
First line	Second line			
Replace WT Box	Replace the Waste Toner Box inside the machine.	After the waste toner sensor detected that the waste toner box was almost full, pages more than the specified number have been printed.	4800	2-64
Scan Unable A0	Remove the original document. Turn the power off, then on again.	Image processing was not completed correctly because the number of pixels required for image processing is insufficient in the scanned second side data.	A000	2-102
Scan Unable A9	Turn the power off and then back on again.	A scanning error occurred while processing the scanned image.	A900	2-105
Scan Unable AD	Remove the original document. Turn the power off, then on again.	Image processing cannot be completed correctly because the number of pixels required for image processing is insufficient in the scanned first side data.	AD00	2-105
Scan Unable AE	Turn the power off and then back on again.	Unit home position could not be detected after the power switch was turned ON.	AE00	2-106
Scan Unable AF	Turn the power off and then back on again.	Home position is still being detected even after the first side CIS unit was moved.	AF00	2-106
Scan Unable BF	Document is too long for 2-sided scanning. Press Stop[x].	The document scanning position sensor detected that the document length was 400 mm or longer and could not be fed to ADF (double-side restoration).	BF00	2-108
Scanner Error BB	-	A white level not within the standard was scanned when function code 55 was executed.	BB00	2-107
Scanner Error BD	-	A black level not within the standard was scanned when function code 55 was executed.	BD00	2-107
Self-Diagnostic	Turn the power off, then on again. Leave the machine for 15 min.	Some fuser unit errors occurred at power-ON or upon recovery from sleep mode.	6901	2-72
	Will Automatically Restart within 15 minutes.	After the error was detected at the fuser unit, power was turned ON again and the error is being checked. (If power is turned OFF and ON after error code 6901 occurred, this code is displayed for about 15 minutes.)	6902	2-72

Error message		Description	Error codes	Refer to:
First line	Second line			
Short paper	Open the Back Cover and then press [Retry].	The registration rear sensor detected that the paper loaded in the paper tray was smaller than the specified size.	8D01	2-90
Size Error	Specify the correct paper size for Tray 1.	For printing by feeding paper from the T1, the size of paper specified from the driver set the size which was not supported by the T1.	9702	2-96
	Specify the correct paper size for Tray 2.	For printing by feeding paper from the T2, the size of paper specified from the driver set the size which was not supported by the T2.	9703	2-96
	Specify the correct paper size for Tray 3.	For printing by feeding paper from the T3, the size of paper specified from the driver set the size which was not supported by the T3.	9704	2-96
	Specify the correct paper size for Tray 4.	For printing by feeding paper from the T4, the size of paper specified from the driver set the size which was not supported by the T4.	9705	2-96
	Specify the correct paper size for Tray 5.	For printing by feeding paper from the T5, the size of paper specified from the driver set the size which was not supported by the T5.	9706	2-96
Size Error 2-sided	Press [OK]. Specify the correct paper and load the same size paper as the Printer driver setting.	For 2-sided printing, paper size setting of the printer driver that was not supported by 2-sided printing was selected.	9701	2-96
	Specify the correct paper	The registration rear sensor detected that the paper fed was smaller or larger than the specified size in duplex printing mode.	8A01	2-89

Error message		Description	Error codes	Refer to:
First line	Second line			
Size mismatch	Reload correct paper in MP Tray, then press [Retry].	The size of paper loaded in the MP tray and the one specified from the driver are not same when paper is fed from the MP tray.	9001	2-91
	Reload correct paper in Tray1, then press [Retry].	The size of paper loaded in the T1 and the one specified from the driver are not same when paper is fed from the T1.	9002	2-91
	Reload correct paper in Tray2, then press [Retry].	The size of paper loaded in the T2 and the one specified from the driver are not same when paper is fed from the T2.	9003	2-91
	Reload correct paper in Tray3, then press [Retry].	The size of paper loaded in the T3 and the one specified from the driver are not same when paper is fed from the T3.	9004	2-91
	Reload correct paper in Tray4, then press [Retry].	The size of paper loaded in the T4 and the one specified from the driver are not same when paper is fed from the T4.	9005	2-91
	Reload correct paper in Tray5, then press [Retry].	The size of paper loaded in the T5 and the one specified from the driver are not same when paper is fed from the T5.	9006	2-91
	Reload correct paper.	Detected that the size of paper set in the paper tray was over 10 mm shorter than letter size during receiving fax data or printing a list or report.	8E02	2-90

Error message		Description	Error codes	Refer to:
First line	Second line			
Supplies	Belt End Soon	Number of pages printed with the belt unit will reach the upper limit soon.	4300	2-63
	Drum End Soon	Number of the drum unit rotations reaches the upper limit soon.	4000	2-63
	Replace Belt	Number of pages printed with the belt unit has reached the upper limit.	4400	2-63
	Replace Drum	Number of the drum unit rotations has reached the upper limit.	4200	2-63
	Toner Low: BK	Dot counter of the toner cartridge (Black) or develop roller counter reaches the upper limit soon.	4B01	2-65
	Toner Low: C	Dot counter of the toner cartridge (Cyan) or develop roller counter reaches the upper limit soon.	4B04	2-65
	Toner Low: M	Dot counter of the toner cartridge (Magenta) or develop roller counter reaches the upper limit soon.	4B03	2-65
	Toner Low: Y	Dot counter of the toner cartridge (Yellow) or develop roller counter reaches the upper limit soon.	4B02	2-65
	WT Box End Soon	The waste toner sensor detected that the waste toner box is almost full.	4700	2-64
Belt cleaner detected that smaller voltage than the specified one and detected almost end of life of the waste toner box.		4900	2-64	
Toner Error	One or more Toner Cartridges are not detected. Pull out and reinsert all 4 Toner Cartridges.	The develop release sensor detected the develop roller disengagement or engagement failure.	6E00	2-74
Too Many Trays	Turn the power off and remove additional trays.	Detected more LTs than connectible limit, or the model unconnectable to TT connected to TT.	6D00	2-73

Error message		Description	Error codes	Refer to:
First line	Second line			
Touchscreen Initialization Failed	Remove any material which is on the touchscreen.	An error occurred while initializing the touch panel.	D800	2-109
Tray 2 Error	Take out Tray 2 and push it back in firmly.	After the T2 is opened and closed or the power is turned ON, the T2 plate origin sensor detects that lift-up of the plate of the T2 is not completed within the specified period of time.	6C02	2-73
Tray 3 Error	Take out Tray 3 and push it back in firmly.	After the T3 is opened and closed or the power is turned ON, the T3 plate origin sensor detects that lift-up of the plate of the T3 is not completed within the specified period of time.	6C03	2-73
Unable to Update:0001	Check the firmware update file and try again.	Unable to receive the system needed during the automatic firmware update with USB flash memory.	---	4.14.3
Unable to Update:0002		There is no "FIRM" folder in the USB flash memory during the automatic firmware update with USB flash memory.		
Unable to Update:0003		There is no target file in "FIRM" folder during the automatic firmware update with USB flash memory.		
Unable to Update:0004		Unable to access to the USB flash memory during the automatic firmware update with USB flash memory.		
Unable to Update:0005		Failed to analyze the firmware during the automatic firmware update with USB flash memory.		
Unable to Update:0006		There is a file that contains more than 119 words in "FIRM" folder during the automatic firmware update with USB flash memory.		
Unable to Update:0007		There is a firmware not for the machine model during the automatic firmware update with USB flash memory.		
Unable to Update:0008		Unable to update the firmware because other function is working during the automatic firmware update with USB flash memory.		

Error message		Description	Error codes	Refer to:
First line	Second line			
Unusable Device	Remove the Device. Turn the power off and back on again.	Overcurrent was caused because a USB device that did not meet the specifications was inserted into the USB port.	EC00	2-111
	-	A USB device that did not meet the specifications was inserted into the USB port.	---	4.14.1
Wrong Paper Size MP	Reload correct paper in MP Tray or press [Retry].	When printing from the MP tray, the size of paper set in the MP tray does not match the size specified by the driver.	---	4.14.1
Wrong Paper Size T1	Reload correct paper in Tray 1 or press [Retry].	When printing from the T1, the size of paper set in the T1 does not match the size specified by the driver.	---	4.14.1
Wrong Paper Size T2	Reload correct paper in Tray 2 or press [Retry].	When printing from the T2, the size of paper set in the T2 does not match the size specified by the driver.	---	4.14.1
Wrong Paper Size T3	Reload correct paper in Tray 3 or press [Retry].	When printing from the T3, the size of paper set in the T3 does not match the size specified by the driver.	---	4.14.1
Wrong Paper Size T4	Reload correct paper in Tray 4 or press [Retry].	When printing from the T4, the size of paper set in the T4 does not match the size specified by the driver.	---	4.14.1
Wrong Paper Size T5	Reload correct paper in Tray 5 or press [Retry].	When printing from the T5, the size of paper set in the T5 does not match the size specified by the driver.	---	4.14.1
2-sided Disabled	Close the Back Cover of the machine.	The back cover sensor detected the open state when 2-sided printing is started (before the registration of printing in the engine).	8903	2-88
		The back cover sensor detected the open state during 2-sided printing (after the registration of printing in the engine).	8904	2-88
	Reload paper, then press Start.	The registration rear sensor detected that the length of the paper is too long and it may hit within the machine in 2-sided printing.	8A02	2-89

3.3 Communication Errors

Code 1	Code 2	Cause	Refer to:
10	07	No document set when calling.	4.11.1
10	08	Wrong fax number called.	4.13.1
11	01	No dial tone detected before dialing.	4.13.1
11	02	Busy tone detected before dialing.	4.13.1
11	03	2nd dial tone not detected.	4.13.1
11	05	No loop current detected.	4.13.1
11	06	Busy tone detected after dialing or receiving a call.	4.13.1
11	07	No response from the receiver in sending.	4.13.1
11	08	No response from the remote station in sending Session Initiation Protocol (SIP).	4.13.3
11	10	No tone detected after dialing.	4.13.1
11	11	No acknowledgement returned after Fax2 net command was sent.	4.13.1
13	12	Error signal received after Fax2 net command was sent.	4.13.1
16	09	No Cipher registration	4.13.1
17	01	Called using a dial number that cannot be used for the NGN line (33 digits or longer or non numeric characters).	4.13.2
17	07	No response from the caller in receiving.	4.13.2
1C	01	Detected that access to the NGN line was not authorized. (T38: 403 Forbidden)	4.13.3
1C	02	No file or folder (directory) found as a result of search via the NGN line. (T38: 404 Not Found)	4.13.3
1C	03	Remote station does not support the NGN line. (T38: 488 Not Acceptable Here)	4.13.3
1C	04	SIP (Session Initiation Protocol) connection not possible. (T38) USW NGN fax setting is OFF or calling attempted before acquisition of SIP information.	4.13.3
1C	05	Internal error detected in the communication network. (T38)	4.13.3
1C	06	SIP Server timeout (T38)	4.13.3
1C	08	An error other than 1C01,1C02,1C03,1C04,1C06,1D01,1D02 or 1D04 was detected.	4.13.3
1D	01	Detected that the NGN line was busy. (T38: 486 Busy)	4.13.3
1D	02	Detected that the NGN line was temporarily unavailable. (T38: 480 Temporarily Unavailable)	4.13.3
1D	04	Network cable not connected (Link Down detected) or not connected to the Network. (T38)	4.13.3

Code 1	Code 2	Cause	Refer to:
20	01	Unable to detect flag field.	4.13.3
20	02	Carrier was OFF for 200 ms or longer.	4.13.3
20	03	Abort detected ("1" in succession for 7 bits or more).	4.13.3
20	04	Overrun detected.	4.13.3
20	05	A frame received for 3 seconds or more.	4.13.3
20	06	CRC error in answerback.	4.13.3
20	07	Echo command received.	4.13.3
20	08	Invalid command received.	4.13.3
20	09	Command ignored in document setting or damping-out at turn-around transmission.	4.13.3
20	0A	T5 time-out error	4.13.3
20	0B	CRP received.	4.13.3
20	0C	EOR or NULL received.	4.13.3
20	0D	Corresponding command not received although the FIF command sending bit is ON.	4.13.3
20	0E	EOR command received.	4.13.3
20	13	Line disconnected without receiving DCN after receiving the last page. (After receiving EOP and sending CFR, received BYE before receiving DCN.) (T38)	4.13.3
32	01	Remote terminal only with V.29 capability in 2,400 or 4,800 bps transmission.	4.13.3
32	02	Remote terminal not ready for polling.	4.13.3
32	10	Remote terminal not equipped with password function or its password switch is OFF.	4.13.3
32	11	Remote terminal not equipped with or not ready for confidential mailbox function.	4.13.3
32	12	Remote terminal not equipped with or not ready for relay broadcasting function.	4.13.3
32	13	No confidential mail in the remote terminal.	4.13.3
32	14	Available memory space of the remote terminal is less than that required for reception of confidential mails or relay broad-casting instruction.	4.13.3
32	15	Remote terminal not equipped with Cipher receiving function.	4.13.3
32	16	Remote terminal not equipped with SEP function.	4.13.3
32	17	Remote terminal not equipped with SUB function.	4.13.3
32	18	Remote terminal not equipped with color function.	4.13.3
40	02	Illegal coding system requested.	4.13.3
40	03	Illegal recording width requested.	4.13.3

Code 1	Code 2	Cause	Refer to:
40	05	ECM requested although not allowed.	4.13.3
40	06	Polled while not ready.	4.13.3
40	07	No document to be sent when polled.	4.11.1
40	10	Nation code or manufacturer code not correct.	4.13.1
40	11	Group number not registered for relay broad-casting was specified or the number of addressees specified exceeded the maximum allowable number.	4.13.1
40	12	Retrieval attempted while not ready for retrieval.	4.13.1
40	13	Polled by any other manufacturers' terminal while waiting for secure polling.	4.13.1
40	14	Common key not registered although it needs to be used.	4.13.1
40	15	Black / Red data reception is requested when Black / Red receiving function is disabled.	4.13.3
40	16	Cipher transmission is requested when Cipher receiving function is disabled.	4.13.3
40	17	Invalid resolution selected.	4.13.3
40	20	Invalid full color mode selected.	4.13.3
50	01	Vertical resolution capability changed after compensation of background color.	4.13.3
63	01	"Password + last 4 digits of telephone number" does not match.	4.13.1
63	02	Password not correct	4.13.1
63	03	Polling ID not correct	4.13.1
63	04	Specified confidential ID and MailBox ID do not match.	4.13.1
63	05	Relay broad-casting ID not correct	4.13.1
63	06	Specified Retrieval ID and MailBox Retrieval ID do not match.	4.13.1
63	07	Select receiving ID not correct	4.13.2
63	08	Cipher Key not correct	4.13.2
74	xx	DCN received	4.13.3
80	01	Fallback impossible.	4.13.3
90	01	Unable to detect video signals or commands within 6 seconds after CFR is transmitted.	4.13.3
90	02	Received PPS containing invalid page count or block count.	4.13.3
A0	03	Error correction sequence not terminated even at final transmission speed after fallback.	4.13.3
A0	11	Receive buffer empty (5-second time-out)	4.13.2
A0	12	Receive buffer full during operation except receiving into memory.	4.13.4
A0	13	Decoding error continued on 500 lines or more.	4.13.3

Code 1	Code 2	Cause	Refer to:
A0	14	Decoding error continued for 15 seconds or more.	4.13.3
A0	15	Time-out: 13 seconds or more for one-line transmission.	4.13.3
A0	16	RTC not found or carrier OFF detected for 6 seconds.	4.13.3
A0	17	RTC found but no command detected for 60 seconds or longer.	4.13.3
A0	19	No video data to be sent.	4.13.3
A0	20	Cannot continue receiving color fax (remaining ink low).	4.13.3
A8	01	RTN, PIN, or ERR received (sending terminal).	4.13.3
A9	01	RTN, PIN, or ERR sent (receiving terminal).	4.13.3
AA	18	Receive buffer full during receiving data into memory.	4.13.4
B0	01	Polarity reversion detected.	4.13.2
B0	02	Unable to receive the next-page data.	4.13.2
B0	03	Unable to receive polling during turn-around transmission due to call reservation.	4.13.2
B0	04	PC interface error	4.13.2
C0	01	No common modulation mode or failed to poll.	4.13.3
C0	02	Unable to detect JM.	4.13.3
C0	03	Unable to detect CM.	4.13.3
C0	04	Unable to detect CJ.	4.13.3
C0	10	Cannot finish V. 34 negotiation or training.	4.13.3
C0	11	Modem error detected during V. 34 negotiation or training.	4.13.3
C0	20	Modem error detected while sending commands.	4.13.3
C0	21	Modem error detected while receiving commands.	4.13.3
C0	22	Control channel connection time-out.	4.13.3
C0	30	Modem error detected while sending video signals.	4.13.3
C0	31	Modem error detected while receiving video signals.	4.13.3
E0	01	Failed to detect 1,300 Hz signal in burn-in operation.	4.13.3
E0	02	Failed to detect PB signals in burn-in operation.	4.13.3
E0	03	Unable to detect commands in burn-in operation when RS232C is used.	4.13.3

4. TROUBLESHOOTING

4.1 Error Cause and Remedy

■ Error code 0101

ASIC error or motor driver error occurred.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0201

Cannot detect the synchronized signal of the paper feed motor. The speed of the paper feed motor does not stabilize within the specified time.

Step	Cause	Remedy
1	Connection failure of the paper feed motor harness	Reconnect the paper feed motor harness.
2	Connection failure of the low-voltage power supply PCB harness	Reconnect the low-voltage power supply PCB harness.
3	Damaged parts in paper feed drive unit	Replace the paper feed drive unit.
4	Damaged fuser unit	Replace the fuser unit.
5	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0202

Cannot detect the synchronized signal of the process motor. The speed of the process motor does not stabilize within the specified time.

Step	Cause	Remedy
1	Connection failure of the process motor harness	Reconnect the process motor harness.
2	Connection failure of the low-voltage power supply PCB harness	Reconnect the low-voltage power supply PCB harness.
3	Damaged parts in process drive unit	Replace the process drive unit.
4	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 0300**

Cannot detect the lock signal of the polygon motor for the laser unit.

Step	Cause	Remedy
1	Connection failure of the polygon motor harness	Reconnect the polygon motor harness.
2	Laser unit failure	Replace the laser unit.
3	Main PCB failure	Replace the main PCB ASSY.

Error code 0401

BD sensor 1 failure

Error code 0402

BD sensor 4 failure

<User Check>

- There is a possibility of condensation. Turn the power switch OFF and ON, then open the front cover and the back cover and leave the machine more than 30 minutes.

Step	Cause	Remedy
1	Connection failure of the LD PCB harness	Reconnect the LD PCB harness.
2	Laser unit failure	Replace the laser unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 0501**

The center thermistor of the fuser unit has not reached the specified temperature within the specified time.

Error code 0502

The center thermistor of the fuser unit has not reached the specified temperature within the specified time after it was heated normally to the certain level.

Error code 0503

The center thermistor of the fuser unit detected a temperature higher than the specified value.

Error code 0504

After the heat unit was heated normally, the center thermistor of the fuser unit detected a temperature lower than the specified value.

Error code 0505

The center thermistor of the fuser unit detected a temperature rise greater than the specified value within the specified time.

Error code 0506

The center thermistor of the fuser unit detected a temperature fall greater than the specified value within the specified time.

<User Check>

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

Step	Cause	Remedy
1	Connection failure of the center or side thermistor harness of the fuser unit	Reconnect the center or side thermistor harness of the fuser unit.
2	Connection failure of the fuser unit heater harness	Reconnect the fuser unit heater harness.
3	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
4	Connection failure of the low-voltage power supply PCB harness	Reconnect the low-voltage power supply PCB harness.
5	Eject sensor PCB failure	Replace the eject sensor PCB ASSY.
6	Fuser unit failure	Replace the fuser unit.
7	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
8	Main PCB failure	Replace the main PCB ASSY.

■ Error code 050A

The hardware detected a temperature error through the center thermistor or the side thermistor of the fuser unit.

Error code 050B

When the center thermistor of the fuser unit was lower than the idle temperature, the side thermistor detected a temperature higher than the specified temperature.

Error code 050C

When the center thermistor of the fuser unit was higher than the idle temperature, the side thermistor detected a temperature lower than the specified temperature.

<User Check>

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

Step	Cause	Remedy
1	Connection failure of the center or side thermistor harness of the fuser unit	Reconnect the center or side thermistor harness of the fuser unit.
2	Connection failure of the fuser unit heater harness	Reconnect the fuser unit heater harness.
3	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
4	Connection failure of the low-voltage power supply PCB harness	Reconnect the low-voltage power supply PCB harness.
5	Eject sensor PCB failure	Replace the eject sensor PCB ASSY.
6	Fuser unit failure	Replace the fuser unit.
7	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
8	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0800

An error occurred in the internal temperature sensor.

Step	Cause	Remedy
1	Connection failure of the internal temperature sensor harness	Reconnect the internal temperature sensor harness.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0900

Detected irregular power supply for more than 100 times.

<User Check>

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

Step	Cause	Remedy
1	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY. Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the irregular power supply detection counter after the replacement.
2	Main PCB failure	Replace the main PCB ASSY.

Note:

The irregular power supply detection error (Error code 0900) of the low-voltage power supply 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 low-voltage power supply PCB ASSY is replaced. For this reason, be sure to ask the user to rearrange the installation environment.

■ Error code 0A01

Detected a blower failure.

Step	Cause	Remedy
1	Foreign object inside the blower	Remove the foreign object.
2	Connection failure of the blower harness	Reconnect the blower harness.
3	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
4	Blower failure	Replace the blower.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0A02

Detected a fuser fan failure.

Step	Cause	Remedy
1	Connection failure of the fuser fan harness	Reconnect the fuser fan harness.
2	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
3	Fuser fan failure	Replace the fuser fan.
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 0A03**

Detected a power fan failure.

Step	Cause	Remedy
1	Connection failure of the power fan harness	Reconnect the power fan harness.
2	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
3	Power fan failure	Replace the power fan.
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 0B01**

An error occurred in the high-voltage power supply PCB ASSY while operating.

Error code 0B02

An error occurred in the high-voltage power supply PCB ASSY when the machine was in the ready state.

<User Check>

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

Step	Cause	Remedy
1	Dirt on the machine, the drum unit, the belt unit and the waste toner box terminal.	Clean the machine, the drum unit, the belt unit and the waste toner box terminal. (Refer to Fig. 2-12 (P2-70), Fig. 2-13 (P2-70), Fig. 2-18 (P2-127) and Fig. 2-19 (P2-132).)
2	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
3	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ Error code 0C00

An error occurred in the density sensor.

Step	Cause	Remedy
1	Connection failure of the registration mark sensor L PCB harness	Reconnect the registration mark sensor L PCB harness.
2	Registration mark sensor L PCB failure	Replace the registration mark sensor unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code 1003

The registration mark sensor R is dirty and cannot normally receive reflected light.

<User Check>

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

Step	Cause	Remedy
1	Dirt on the registration mark sensor R	Clean the registration mark sensor R part of the registration mark sensor R PCB.
2	Dirt by toner inside the machine	Clean inside of the machine.
3	Registration mark sensor R PCB failure	Replace the registration mark sensor unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ Error code 1004

The registration mark sensor L is dirty and cannot normally receive reflected light.

<User Check>

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

Step	Cause	Remedy
1	Dirt on the registration mark sensor L	Clean the registration mark sensor L part of the registration mark sensor L PCB.
2	Dirt by toner inside the machine	Clean inside of the machine.
3	Registration mark sensor L PCB failure	Replace the registration mark sensor unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ Error code 1400

Condensation occurred in the machine.

<User Check>

- Open the front and back covers and leave them for 30 minutes or more with the power ON. After that, close the front and back covers and turn OFF and ON the power switch.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.
2	Laser unit failure	Replace the laser unit.

■ Error code 1500

An error occurred in the paper eject origin sensor.

Step	Cause	Remedy
1	Connection failure of the paper eject origin sensor harness	Reconnect the paper eject origin sensor harness.
2	Paper eject origin sensor failure	Replace the paper eject origin sensor.
3	Paper eject ASSY failure	Replace the paper eject ASSY.

■ Error code 1701

Detected a TT fan failure.

Step	Cause	Remedy
1	Malfunction of the TT control PCB	Install the latest main firmware.
2	Connection failure of the TT fan harness	Reconnect the TT fan harness.
3	LT/TT connector failure (machine side or TT side)	Replace the LT/TT connector of the machine side or TT side.
4	TT fan failure	Replace the TT fan.
5	TT control PCB failure	Replace the TT control PCB.
6	TT joint relay PCB failure	Replace the TT joint unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 1801**

A communication error occurred between the main PCB and T2LT control PCB ASSY. (LT only)

Error code 1802

A communication error occurred between the main PCB and T3LT control PCB ASSY. (LT only)

Error code 1803

A communication error occurred between the main PCB and T4LT control PCB ASSY. (LT only)

Step	Cause	Remedy
1	Malfunction of the LT control PCB	Install the latest main firmware.
2	An LT/TT connector failure (machine side or LT side)	Replace the appropriate LT/TT connector of the machine side or LT side.
3	An LT control PCB failure	Replace the appropriate LT control PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 1808**

A communication error occurred between the main PCB and TT control PCB ASSY.

Step	Cause	Remedy
1	Malfunction of the TT control PCB	Install the latest main firmware.
2	LT/TT connector failure (machine or LT/TT joint unit side)	Replace the LT/TT connector on the machine side or LT/TT joint unit side.
3	TT control PCB failure	Replace the TT control PCB.
4	TT joint relay PCB failure	Replace the TT joint unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 1901**

Detected a TT motor failure.

Step	Cause	Remedy
1	Malfunction of the TT control PCB	Install the latest main firmware.
2	Connection failure of the TT motor harness	Reconnect the TT motor harness.
3	LT/TT connector failure (machine or LT/TT joint unit side)	Replace the LT/TT connector on the machine side or LT/TT joint unit side.
4	TT motor failure	Replace the TT motor.
5	TT control PCB failure	Replace the TT control PCB.
6	TT joint relay PCB failure	Replace the TT joint unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 1C00**

Unable to detect scan signal of Laser unit EEPROM.

Step	Cause	Remedy
1	Connection failure of the laser unit flat cable	Reconnect the laser unit flat cable.
2	Laser unit flat cable failure	Replace the laser unit flat cable.
3	Laser unit failure	Replace the laser unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 1F02**

TT mount sensor 1 to 4 detected that screw was not tighten surely when connecting TT.

Step	Cause	Remedy
1	Connection failure of the TT mount sensor 1 to 4 harness	Reconnect the TT mount sensor 1 to 4 harness.
2	Connection failure of the TT joint relay PCB harness	Reconnect the TT joint relay PCB harness.
3	TT mount sensor 1 to 4 attachment failure	Reattach the TT mount sensor 1 to 4.
4	LT/TT connector failure (machine or TT joint unit side)	Replace the LT/TT connector on the machine side or TT joint unit side.
5	TT mount sensor 1 to 4 failure	Replace the TT joint unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 3801**

A temperature error occurred in the external temperature/humidity sensor.

Step	Cause	Remedy
1	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
2	External temperature/humidity sensor failure	Replace the high-voltage power supply PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 3A00**

A communication error occurred between the controller and engine in main PCB.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 3B01**

T2 drive transmit sensor detected that the error occurred in connection of machine drive.

Error code 3B02

T3 drive transmit sensor detected that the error occurred in connection of machine drive.

Error code 3B03

T4 drive transmit sensor detected that the error occurred in connection of machine drive.

Step	Cause	Remedy
1	Connection failure of the LT drive transmit sensor PCB harness	Reconnect the LT drive transmit sensor PCB harness.
2	Connection failure of the LT control PCB harness	Reconnect the LT control PCB harness.
3	LT drive transmit sensor PCB failure	Replace the LT drive transmit sensor PCB.
4	LT control PCB failure	Replace the LT control PCB ASSY.
5	LT drive gear failure	Replace the LT unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 4000**

Number of the drum unit rotations reaches the upper limit soon.

Error code 4200

Number of the drum unit rotations has reached the upper limit. (Printing does not stop.)

<User Check>

- Prepare a new drum unit.

Step	Cause	Remedy
1	Replace the drum unit with a new one and reset the drum counter. If the error display is not cleared, the main PCB is faulty.	Replace the main PCB ASSY.

■ **Error code 4300**

Number of pages printed with the belt unit will reach the upper limit soon. (90%)

Error code 4400

Number of pages printed with the belt unit has reached the upper limit. (Printing does not stop.)

<User Check>

- Prepare a new belt unit.

Step	Cause	Remedy
1	Replace the belt unit with a new one and reset the belt counter. If the error display is not cleared, the main PCB is faulty.	Replace the main PCB ASSY.

■ **Error code 4500**

Number of used pages for the fuser unit has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the fuser unit	Replace the fuser unit. Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the fuser unit counter after the replacement.
2	Replace the fuser unit with a new one and reset the fuser unit counter. If the error display is not cleared, the main PCB is faulty.	Replace the main PCB ASSY.

■ **Error code 4600**

Number of pages printed with the laser unit has reached the upper limit.

Step	Cause	Remedy
1	End of life of the laser unit	Replace the laser unit. Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the laser unit counter after the replacement.
2	Replace the laser unit with a new one and reset the laser unit counter. If the error display is not cleared, the main PCB is faulty.	Replace the main PCB ASSY.

■ **Error code 4700**

The waste toner sensor detected that the waste toner box is almost full.

Error code 4800

After the waste toner sensor detected that the waste toner box was almost full, pages more than the specified number have been printed.

Error code 4900

Belt cleaner detected that smaller voltage than the specified one and detected almost end of life of the Waste toner box.

<User Check>

- Replace the waste toner box.

Step	Cause	Remedy
1	Connection failure of the waste toner sensor harness	Reconnect the waste toner sensor harness.
2	Connection failure of the high-voltage power supply PCB harness	Reconnect the high-voltage power supply PCB harness.
3	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 4B01**

Dot counter of the toner cartridge (Black) or develop roller counter reaches the upper limit soon.

Error code 4B02

Dot counter of the toner cartridge (Yellow) or develop roller counter reaches the upper limit soon.

Error code 4B03

Dot counter of the toner cartridge (Magenta) or develop roller counter reaches the upper limit soon.

Error code 4B04

Dot counter of the toner cartridge (Cyan) or develop roller counter reaches the upper limit soon.

<User Check>

- Prepare a new toner cartridge.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 4C01**

Dot counter of the toner cartridge (Black) or develop roller counter has reached the upper limit was detected.

Error code 4C02

Dot counter of the toner cartridge (Yellow) or develop roller counter has reached the upper limit was detected.

Error code 4C03

Dot counter of the toner cartridge (Magenta) or develop roller counter has reached the upper limit was detected.

Error code 4C04

Dot counter of the toner cartridge (Cyan) or develop roller counter has reached the upper limit was detected.

Error code 4C05

During printing, dot counter of color toner cartridge or develop roller counter has reached the upper limit was detected.

<User Check>

- Replace the toner cartridge whose counter reached the upper limit.

Step	Cause	Remedy
1	Replace the toner cartridge with a new one and reset the toner counter. If the error display is not cleared, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 4F01

The new toner sensor of the toner cartridge (Black) could not detect a new cartridge properly.

■ Error code 4F02

The new toner sensor of the toner cartridge (Yellow) could not detect a new cartridge properly.

■ Error code 4F03

The new toner sensor of the toner cartridge (Magenta) could not detect a new cartridge properly.

■ Error code 4F04

The new toner sensor of the toner cartridge (Cyan) could not detect a new cartridge properly.

<User Check>

- Replace the toner cartridge with a new toner cartridge again.
- If the machine is on the uneven surface, place it on a level surface.

Step	Cause	Remedy
1	Connection failure of the toner/new sensor PCB harness	Reconnect the toner/new sensor PCB harness.
2	New toner actuator coming off or caught in some sections of the machine	Reattach the new toner actuator.
3	New toner sensor failure	Replace the toner/new sensor PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ Error code 5001

Number of used pages for the PF kit MP has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit MP	Replace the PF kit MP. Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the PF kit MP counter after the replacement.
2	If the error display is not cleared after the PF kit MP counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 5002

Number of used pages for the PF kit 1 has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit 1	Replace the PF kit 1. Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the PF kit 1 counter after the replacement.
2	If the error display is not cleared after the PF kit 1 counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 5003

Number of used pages for the PF kit 2 has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit 2	Replace the PF kit 2. Refer to “1.3.35 Reset counters for consumable parts (Function code 88)” in Chapter 5 to reset the PF kit 2 counter after the replacement.
2	If the error display is not cleared after the PF kit 2 counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 5004

Number of used pages for the PF kit 3 has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit 3	Replace the PF kit 3. Refer to “1.3.35 Reset counters for consumable parts (Function code 88)” in Chapter 5 to reset the PF kit 3 counter after the replacement.
2	If the error display is not cleared after the PF kit 3 counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 5005

Number of used pages for the PF kit 4 has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit 4	Replace the PF kit 4. Refer to “1.3.35 Reset counters for consumable parts (Function code 88)” in Chapter 5 to reset the PF kit 4 counter after the replacement.
2	If the error display is not cleared after the PF kit 4 counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ Error code 5006

Number of used pages for the PF kit 5 has reached the upper limit. (Printing does not stop.)

Step	Cause	Remedy
1	End of life of the PF kit 5	Replace the PF kit 5. Refer to “1.3.35 Reset counters for consumable parts (Function code 88)” in Chapter 5 to reset the PF kit 5 counter after the replacement.
2	If the error display is not cleared after the PF kit 5 counter has been reset, the main PCB is faulty.	Replace the main PCB ASSY.

■ **Error code 6001**

The front cover sensor detected that the front cover was open.

<User Check>

- Close the front cover.

Step	Cause	Remedy
1	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
2	Front cover failure	Replace the front cover.
3	Front cover sensor failure	Replace the front cover sensor.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6004**

The eject sensor detected that the fuser cover was open.

<User Check>

- Close the fuser cover.

Step	Cause	Remedy
1	Eject actuator coming off or caught in some sections of the machine	Reattach the eject actuator.
2	Fuser cover attachment failure	Reattach the fuser cover.
3	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
4	Eject sensor PCB failure	Replace the eject sensor PCB ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6101**

The toner amount detection sensor detected that no toner cartridge (Black) was set.

Error code 6102

The toner amount detection sensor detected that no toner cartridge (Yellow) was set.

Error code 6103

The toner amount detection sensor detected that no toner cartridge (Magenta) was set.

Error code 6104

The toner amount detection sensor detected that no toner cartridge (Cyan) was set.

<User Check>

- Set the toner cartridge correctly.

Step	Cause	Remedy
1	Connection failure of the toner amount detection sensor PCB (light reception) harness	Reconnect the toner amount detection sensor PCB (light reception) harness.
2	Toner amount detection sensor PCB (light reception) failure	Replace the toner/new sensor PCB ASSY.
3	Toner sensor (light emission) failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6200**

The high-voltage output error of the corona charging terminal was detected and detected that the drum unit was not set.

<User Check>

- Set the drum unit correctly.

Step	Cause	Remedy
1	Dirt on the charge (corona wire) terminal of the drum unit and those of the machine	Clean the charge (corona wire) terminal of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the high-voltage power supply PCB terminal	Clean the high-voltage power supply PCB terminal.
3	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ Electrodes location of main body

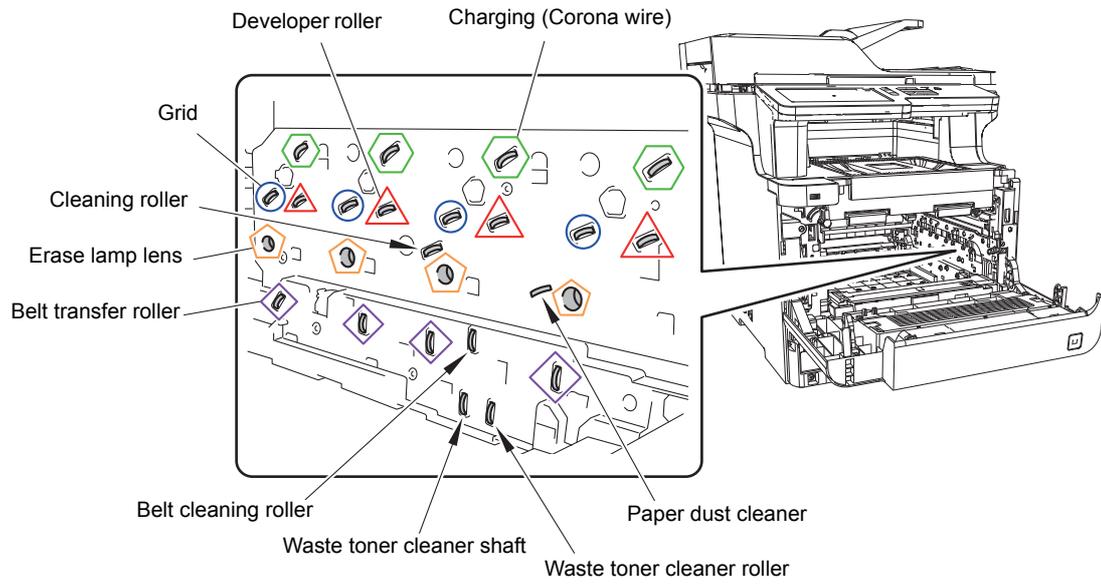


Fig. 2-12

■ Electrodes location of the drum unit

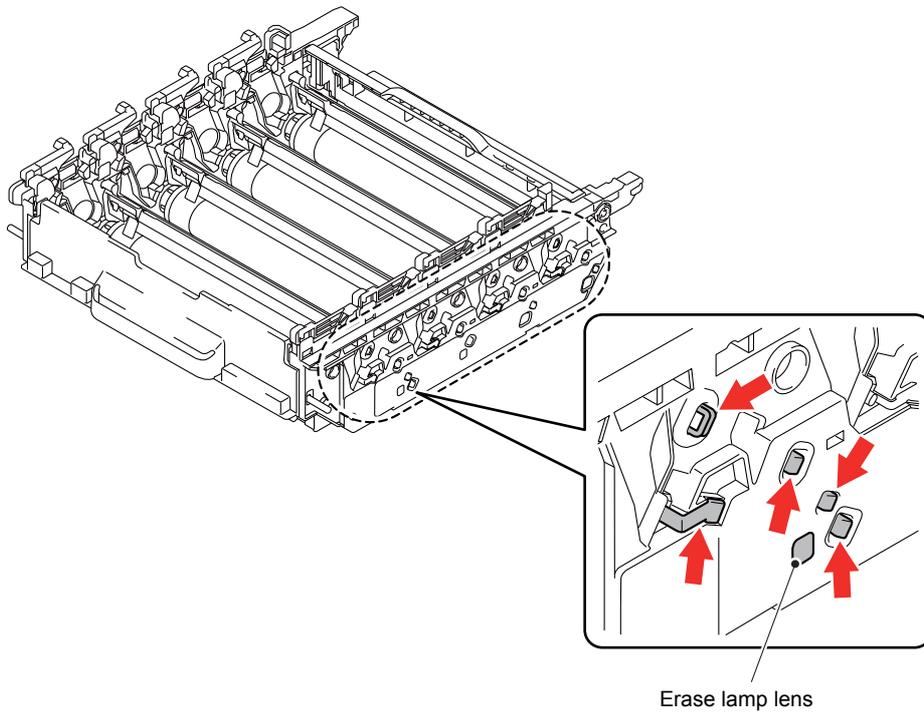


Fig. 2-13

■ Error code 6300

The waste toner sensor detected that no waste toner box was set.

<User Check>

- Re-insert the waste toner box in the correct position.

Step	Cause	Remedy
1	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code 6400

The registration mark sensor detected that no belt unit was set.

<User Check>

- Re-insert the belt unit.

Step	Cause	Remedy
1	Connection failure of the registration mark sensor L PCB harness	Reconnect the registration mark sensor L PCB harness.
2	Registration mark sensor L failure	Replace the registration mark sensor unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code 6801

The internal temperature sensor detected a temperature higher than the specified value.

<User Check>

- Lower the room temperature.
- Keep the machine away from heating appliances.
- Check that the fan is not clogged.

Step	Cause	Remedy
1	Connection failure of the internal temperature sensor harness	Reconnect the internal temperature sensor harness.
2	Fuser unit thermistor failure	Replace the fuser unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code 6901

Some fuser unit errors occurred at power-ON or upon recovery from sleep mode.

Error code 6902

After the error was detected at the fuser unit, power was turned ON again and the error is being checked. (If power is turned OFF and ON after error code 6901 occurred, this code is displayed for about 15 minutes.)

Step	Cause	Remedy
1	Connection failure of a fuser unit harness	Reconnect the fuser unit harness.
2	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
3	Fuser unit failure	Replace the fuser unit.
4	Eject sensor PCB failure	Replace the eject sensor PCB ASSY.
5	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

Note:

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

■ Error code 6A00

Electric discharge that may be caused by dirt on the corona wire of the drum unit was detected.

Error code 6B01

Electric discharge was detected when the number of the drum unit rotations had become more than twice of the upper limit.

<User Check>

- Slide the green tab of the drum unit to left and right for two to three times to clean the corona wire of all 4 colors.
- Clean the electrode of the drum unit. (Refer to [Fig. 2-13 \(P2-70\)](#))
- Replace the drum unit.

Step	Cause	Remedy
1	Dirt on the GRID terminals of the machine	Clean the GRID terminals of the machine. (Refer to Fig. 2-12 (P2-70) .)
2	Dirt on the high-voltage power supply PCB terminal	Clean the high-voltage power supply PCB terminal.
3	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6C02**

After the T2 is opened and closed or the power is turned ON, the T2 plate origin sensor detects that lift-up of the plate of the T2 is not completed within the specified period of time.

Error code 6C03

After the T3 is opened and closed or the power is turned ON, the T3 plate origin sensor detects that lift-up of the plate of the T3 is not completed within the specified period of time.

<User Check>

- Open the T2 or T3 and close the T2 or T3 correctly.

Step	Cause	Remedy
1	Connection failure of the LT paper empty/plate origin sensor PCB harness	Reconnect the LT paper empty/plate origin sensor PCB harness.
2	Connection failure of the LT connector upper/lower harness	Reconnect the LT connector upper/lower harness.
3	LT control PCB failure	Replace the LT control PCB ASSY.
4	Plate origin sensor failure	Replace the LT paper empty/plate origin sensor PCB.
5	LT drive gear failure	Replace the LT unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6D00**

Detected more LTs than connectible limit, or the model unconnectable to TT connected to TT.

<User Check>

- Reduce LTs to acceptable numbers.
- Reconnect LTs.

Step	Cause	Remedy
1	Dust around the LT/TT connector	Clean the LT/TT connector.
2	Malfunction of the LT control PCB or TT control PCB	Install the latest main firmware.
3	Machine or LT/TT connector failure	Replace the machine or LT/TT connector.
4	An LT control PCB failure	Replace an LT control PCB ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6E00**

The develop release sensor detected the develop roller disengagement or engagement failure.

Step	Cause	Remedy
1	Connection failure of the develop release sensor harness	Reconnect the develop release sensor harness.
2	Develop release sensor failure	Replace the develop release sensor PCB.
3	Develop release clutch failure	Replace the develop release drive unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 6F00**

Detected that supply power is unstable. (less than 100 times)

<User Check>

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

Step	Cause	Remedy
1	The power supply waveform is incorrect	Install a voltage stabilizer in the power supply part.

■ **Error code 7000**

After the registration rear sensor detects paper pass, the eject sensor does not detect paper pass.

<User Check>

- Remove the jammed paper.

Step	Cause	Remedy
1	Foreign object inside the machine	Remove the foreign object.
2	Eject actuator coming off or caught in some sections of the machine	Reattach the eject actuator.
3	Fuser cover attachment failure	Reattach the fuser cover.
4	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
5	Damaged fuser drive gear Z25	Replace the fuser drive gear Z25.
6	Damaged gears in the process drive system	Replace the process drive unit.
7	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
8	Eject sensor failure	Replace the eject sensor PCB ASSY.
9	Fuser unit failure	Replace the fuser unit.
10	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7100

After the registration rear sensor detects the end of paper pass and the specified period of time has passed, the eject sensor continues to detect paper pass.

<User Check>

- Remove the jammed paper.
- Check if the back cover is open during duplex printing.

Step	Cause	Remedy
1	Foreign object in the rear of the machine	Remove the foreign object.
2	Eject actuator caught in some sections of the machine	Reattach the eject actuator.
3	Fuser cover attachment failure	Reattach the fuser cover.
4	Back cover attachment failure	Reattach the back cover.
5	Eject sensor failure	Replace the eject sensor PCB ASSY.
6	Back cover failure	Replace the back cover.
7	Damaged fuser drive gear Z25	Replace the fuser drive gear Z25.
8	Paper eject ASSY failure	Replace the paper eject ASSY.
9	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
10	Fuser unit failure	Replace the fuser unit.
11	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7200

When the paper is fed from the MP tray, after the MP registration front sensor detects paper pass, the registration rear sensor does not detect paper pass after a set period of time.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the MP tray paper guide.
- 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 front cover correctly.
- Check if the machine is used with the MP tray support and MP flap are in closed state.

Step	Cause	Remedy
1	Foreign object in the rear of the machine	Remove the foreign object.
2	Registration rear actuator coming off or caught in some sections of the machine	Reattach the registration rear actuator.
3	Connection failure of the registration front/rear sensor PCB harness	Reconnect the registration front/rear sensor PCB harness.
4	MP unit attachment failure	Reattach the MP unit.
5	MP separation pad worn out	Replace the PF kit MP.
6	Registration rear sensor failure	Replace the registration front/rear sensor PCB.
7	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
8	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 7301**

When printing from the T1, the T1 paper feed sensor does not detect paper pass within the specified time while the T1 paper empty sensor detects some paper set.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T1 paper guide.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	T1 paper pick up roller holder attachment failure	Reattach the T1 paper pick up roller holder.
3	T1 paper feed actuator attachment failure	Reattach the T1 paper feed actuator.
4	Connection failure of the T1 pickup clutch harness	Reconnect the T1 pickup clutch harness.
5	Connection failure of the T1 paper empty/paper feed sensor PCB	Reconnect the T1 paper empty/paper feed sensor PCB.
6	PF kit 1 failure	Replace the PF kit 1.
7	T1 paper empty/paper feed sensor PCB failure	Replace the T1 paper empty/paper feed sensor PCB.
8	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
9	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 7302**

When printing from the T1, the registration front sensor does not detect paper pass within the specified time after the T1 paper feed sensor detected paper pass.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T1 paper guide.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Registration front actuator attachment failure	Reattach the registration front actuator.
3	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
4	Registration front/rear sensor PCB failure	Replace the registration front/rear sensor PCB ASSY.
5	Damaged gears in the paper feeding system	Replace the paper feed drive unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7401

When printing from the T2, the T2(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T2(LT or TT) paper empty sensor detects some paper set.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T2 paper guide.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	T2(LT or TT) paper feed actuator attachment failure	Reattach the T2(LT or TT) paper feed actuator.
3	T2(LT or TT) paper pick up roller holder attachment failure	Reattach the T2(LT or TT) paper pick up roller holder.
4	Connection failure of the T2TT paper feed sensor harness	Reconnect the T2TT paper feed sensor harness.
5	Connection failure of the LT paper feed sensor harness (Models with 500-sheet only)	Reconnect the LT paper feed sensor harness.
6	Connection failure of the LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the LT paper empty/paper feed sensor harness.
7	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
8	Connection failure of the T2LT control PCB harness	Reconnect the T2LT control PCB harness.
9	Connection failure of the T2(LT or TT) pickup clutch harness	Reconnect the T2(LT or TT) pickup clutch harness.
10	Connection failure of LT drive transmit sensor harness (Models with 250-sheet only)	Reconnect the LT drive transmit sensor harness.
11	Connection failure of the LT drive transmit clutch harness (Models with 250-sheet only)	Reconnect the LT drive transmit clutch harness.
12	T2TT paper feed sensor failure	Replace the T2TT paper feed sensor PCB.
13	LT paper feed sensor failure (Models with 500-sheet only)	Replace the LT paper feed sensor PCB.
14	LT paper feed sensor failure (Models with 250-sheet only)	Replace the LT paper empty/paper feed sensor PCB.
15	LT drive transmit sensor PCB failure (Models with 250-sheet only)	Replace the LT drive transmit sensor PCB.
16	Damaged gears in the paper feed drive unit (LT only)	Replace the paper feed drive unit.
17	Damaged gears in the LT paper feeding system	Replace the LT.
18	Damaged gears in the TT paper feeding system	Replace the TT.
19	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7402

When printing from T2, the registration front sensor does not detect paper pass within the specified time after the T2(LT or TT) paper feed sensor detected paper pass.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T2 paper guide.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Registration front actuator attachment failure	Reattach the registration front actuator.
3	T2TT jam sensor attachment failure	Reattach the T2TT jam sensor.
4	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
5	Connection failure of the T2TT jam sensor harness	Reconnect the T2TT jam sensor harness.
6	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
7	Connection failure of the T2LT control PCB harness	Reconnect the T2LT control PCB harness.
8	Registration front/rear sensor PCB failure	Replace the registration front/rear sensor PCB ASSY.
9	T2TT jam sensor PCB failure	Replace the T2TT jam sensor PCB ASSY.
10	TT control PCB failure	Replace the TT control PCB ASSY.
11	T2LT control PCB failure	Replace the T2LT control PCB ASSY.
12	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
13	TT drive transmit clutch failure	Replace the TT joint unit.
14	Damaged gears in the LT paper feeding system	Replace the LT.
15	Damaged gears in the TT paper feeding system	Replace the TT.
16	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7501

When printing from the T3, the T3(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T3(LT or TT) paper empty sensor detects some paper set.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T3 paper guide.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	T3(LT or TT) paper feed actuator attachment failure	Reattach the T3(LT or TT) paper feed actuator.
3	T3(LT or TT) paper pick up roller holder attachment failure	Reattach the T3(LT or TT) paper pick up roller holder.
4	Connection failure of the T3TT paper feed sensor harness	Reconnect the T3TT paper feed sensor harness.
5	Connection failure of the LT paper feed sensor harness (Models with 500-sheet only)	Reconnect the LT paper feed sensor harness.
6	Connection failure of the LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the LT paper empty/paper feed sensor harness.
7	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
8	Connection failure of the T3LT control PCB harness	Reconnect the T3LT control PCB harness.
9	Connection failure of the T3(LT or TT) pickup clutch harness	Reconnect the T3(LT or TT) pickup clutch harness.
10	Connection failure of LT drive transmit sensor harness (Models with 250-sheet only)	Reconnect the LT drive transmit sensor harness.
11	Connection failure of the LT drive transmit clutch harness (Models with 250-sheet only)	Reconnect the LT drive transmit clutch harness.
12	T3TT paper feed sensor failure	Replace the T3TT paper feed sensor PCB.
13	LT paper feed sensor failure (Models with 500-sheet only)	Replace the LT paper feed sensor PCB.
14	LT paper feed sensor failure (Models with 250-sheet only)	Replace the LT paper empty/paper feed sensor PCB.
15	LT drive transmit sensor PCB failure (Models with 250-sheet only)	Replace the LT drive transmit sensor PCB.
16	Damaged gears in the paper feed drive unit (LT only)	Replace the paper feed drive unit.
17	Damaged gears in the LT paper feeding system	Replace the LT.
18	Damaged gears in the TT paper feeding system	Replace the TT.
19	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7502

When printing from T3, the registration front sensor does not detect paper pass within the specified time after the T3(LT or TT) paper feed sensor detected paper pass.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T3 paper guide.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Registration front actuator attachment failure	Reattach the registration front actuator.
3	T2/T3TT jam sensor attachment failure	Reattach the T2/T3TT jam sensor.
4	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
5	Connection failure of the T2/T3TT jam sensor harness	Reconnect the T2/T3TT jam sensor harness.
6	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
7	Connection failure of the T2/T3LT control PCB harness	Reconnect the T2/T3LT control PCB harness.
8	Connection failure of the T3TT release clutch harness	Reconnect the T3TT release clutch harness.
9	T3TT release clutch failure	Replace the T3TT release clutch.
10	Registration front/rear sensor PCB failure	Replace the registration front/rear sensor PCB ASSY.
11	T2/T3TT jam sensor PCB failure	Replace the T2/T3TT jam sensor PCB ASSY.
12	TT control PCB failure	Replace the TT control PCB ASSY.
13	T2/T3LT control PCB failure	Replace the T2/T3LT control PCB ASSY.
14	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
15	TT drive transmit clutch failure	Replace the TT joint unit.
16	Damaged gears in an LT paper feeding system	Replace the LT.
17	Damaged gears in the TT paper feeding system	Replace the TT.
18	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7601

When printing from the T4, the T4(LT or TT) paper feed sensor does not detect paper pass within the specified time while the T4(LT or TT) paper empty sensor detects some paper set.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T4 paper guide.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	T4(LT or TT) paper feed actuator attachment failure	Reattach the T4(LT or TT) paper feed actuator.
3	T4(LT or TT) paper pick up roller holder attachment failure	Reattach the T4(LT or TT) paper pick up roller holder.
4	Connection failure of the T4TT paper feed sensor harness	Reconnect the T4TT paper feed sensor harness.
5	Connection failure of the LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the LT paper empty/paper feed sensor harness.
6	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
7	Connection failure of the T4LT control PCB harness	Reconnect the T4LT control PCB harness.
8	Connection failure of the T4(LT or TT) pickup clutch harness	Reconnect the T4(LT or TT) pickup clutch harness.
9	Connection failure of LT drive transmit sensor harness (Models with 250-sheet only)	Reconnect the LT drive transmit sensor harness.
10	Connection failure of the LT drive transmit clutch harness (Models with 250-sheet only)	Reconnect the LT drive transmit clutch harness.
11	T4TT paper feed sensor failure	Replace the T4TT paper feed sensor PCB.
12	LT paper feed sensor failure (Models with 250-sheet only)	Replace the LT paper empty/paper feed sensor PCB.
13	LT drive transmit sensor PCB failure (Models with 250-sheet only)	Replace the LT drive transmit sensor PCB.
14	Damaged gears in the paper feed drive unit (Models with 250-sheet only)	Replace the paper feed drive unit.
15	Damaged gears in the LT paper feeding system	Replace the LT.
16	Damaged gears in the TT paper feeding system	Replace the TT.
17	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7602

When printing from T4, the registration front sensor does not detect paper pass within the specified time after the T4(LT or TT) paper feed sensor detected paper pass.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T4 paper guide.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Registration front actuator attachment failure	Reattach the registration front actuator.
3	T2/T3/T4TT jam sensor attachment failure	Reattach the T2/T3/T4TT jam sensor.
4	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
5	Connection failure of the T2/T3/T4TT jam sensor harness	Reconnect the T2/T3/T4TT jam sensor harness.
6	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
7	Connection failure of the T2/T3/T4LT control PCB harness	Reconnect the T2/T3/T4LT control PCB harness.
8	Connection failure of the T3/T4TT release clutch harness	Reconnect the T3/T4TT release clutch harness.
9	T3/T4TT release clutch failure	Replace the T3/T4TT release clutch.
10	Registration front/rear sensor PCB failure	Replace the registration front/rear sensor PCB ASSY.
11	T2/T3/T4TT jam sensor PCB failure	Replace the T2/T3/T4TT jam sensor PCB ASSY.
12	TT control PCB failure	Replace the TT control PCB ASSY.
13	T2/T3/T4LT control PCB failure	Replace the T2/T3/T4LT control PCB ASSY.
14	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
15	TT drive transmit clutch failure	Replace the TT joint unit.
16	Damaged gears in an LT paper feeding system	Replace the LT.
17	Damaged gears in the TT paper feeding system	Replace the TT.
18	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7701

When printing from the T5, the T5TT paper feed sensor does not detect paper pass within the specified time while the T5TT paper empty sensor detects some paper set.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T5 paper guide.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Malfunction of the TT control PCB	Install the latest main firmware.
3	T5TT paper pick up roller holder attachment failure	Reattach the T5TT paper pick up roller holder.
4	T5TT paper feed actuator attachment failure	Reattach the T5TT paper feed actuator.
5	Connection failure of the T5TT pickup clutch harness	Reconnect the T5TT pickup clutch harness.
6	Connection failure of the T5TT paper feed sensor harness	Reconnect the T5TT paper feed sensor harness.
7	PF kit 5 failure	Replace the PF kit 5.
8	T5TT pickup clutch failure	Replace the T5TT pickup clutch.
9	T5TT paper feed sensor PCB failure	Replace the T5TT paper feed sensor PCB ASSY.
10	T5TT paper empty sensor PCB failure	Replace the T5TT paper empty sensor PCB ASSY.
11	TT control PCB failure	Replace the TT control PCB ASSY.
12	TT drive transmit clutch failure	Replace the TT joint unit.
13	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7702

When printing from T5, the registration front sensor does not detect paper pass within the specified time after the T5TT paper feed sensor detected paper pass.

<User Check>

- Remove the jammed paper.
- Add the paper properly using the T5 paper guide.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object in the front of the machine	Remove the foreign object.
2	Registration front actuator attachment failure	Reattach the registration front actuator.
3	T2/T3/T4/T5TT jam sensor attachment failure	Reattach the T2/T3/T4/T5TT jam sensor.
4	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
5	Connection failure of the T2/T3/T4/T5TT jam sensor harness	Reconnect the T2/T3/T4/T5TT jam sensor harness.
6	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
7	Connection failure of the T3/T4/T5TT release clutch harness	Reconnect the T3/T4/T5TT release clutch harness.
8	T3/T4/T5TT release clutch failure	Replace the T3/T4/T5TT release clutch.
9	Registration front/rear sensor PCB failure	Replace the registration front/rear sensor PCB ASSY.
10	T2/T3/T4/T5TT jam sensor PCB failure	Replace the T2/T3/T4/T5TT jam sensor PCB ASSY.
11	TT control PCB failure	Replace the TT control PCB ASSY.
12	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
13	TT drive transmit clutch failure	Replace the TT joint unit.
14	Damaged gears in the TT paper feeding system	Replace the TT.
15	Main PCB failure	Replace the main PCB ASSY.

■ Error code 7800

After the first side is printed in 2-sided printing mode, the registration front sensor does not detect paper pass after a set period of time.

<User Check>

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

Step	Cause	Remedy
1	Foreign object in the rear of the machine or duplex tray	Remove the foreign object.
2	Back flapper holder attachment failure	Reattach the back flapper holder.
3	Twisted TT frame	Loosen the nine screws shown in the figure below and tighten them again.
4	Connection failure of the switch back solenoid harness	Reconnect the switch back solenoid harness.
5	Paper eject roller failure	Replace the paper eject ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

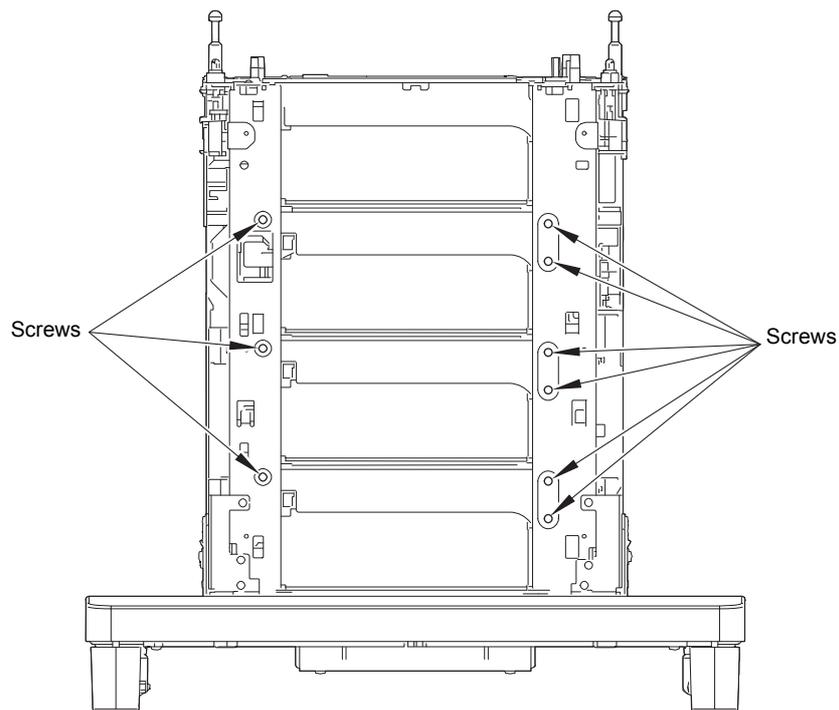


Fig. 2-14

■ **Error code 8501**

The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (before the registration of printing in the engine).

Error code 8502

The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (before the registration of printing in the engine).

Error code 8503

The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (before the registration of printing in the engine).

Error code 8504

The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (before the registration of printing in the engine).

<User Check>

- Close the appropriate paper tray correctly.

Step	Cause	Remedy
1	Malfunction of an LT control PCB or TT control PCB	Install the latest main firmware.
2	An LT/TT paper feed actuator coming off or caught in some sections of the machine	Reattach the appropriate LT/TT paper feed actuator.
3	An LT/TT paper feed sensor failure	Replace the appropriate LT/TT paper feed sensor PCB ASSY.
4	An LT control PCB failure	Replace the appropriate LT control PCB ASSY.
5	TT relay PCB failure	Replace a TT relay PCB ASSY.
6	TT control PCB failure	Replace the TT control PCB ASSY.
7	Main PCB failure	Replace the main PCB ASSY.

■ Error code 8505

The T1 paper feed sensor detected that the T1 is open when printing from T1, 2, 3, 4 or 5 (after the registration of printing in the engine).

Error code 8506

The T2(LT or TT) paper feed sensor detected that the T2 is open when printing from T2, 3, 4 or 5 (after the registration of printing in the engine).

Error code 8507

The T3(LT or TT) paper feed sensor detected that the T3 is open when printing from T3, 4 or 5 (after the registration of printing in the engine).

Error code 8508

The T4(LT or TT) paper feed sensor detected that the T4 is open when printing from T4 or 5 (after the registration of printing in the engine).

<User Check>

- Close the appropriate paper tray correctly.

Step	Cause	Remedy
1	Malfunction of an LT control PCB or TT control PCB	Install the latest main firmware.
2	An LT/TT paper feed sensor failure	Replace the appropriate LT/TT paper feed sensor PCB ASSY.
3	An LT control PCB failure	Replace the appropriate LT control PCB ASSY.
4	TT relay PCB failure	Replace a TT relay PCB ASSY.
5	TT control PCB failure	Replace the TT control PCB ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

■ Error code 8903

The back cover sensor detected the open state when 2-sided printing is started (before the registration of printing in the engine).

Error code 8904

The back cover sensor detected the open state during 2-sided printing (after the registration of printing in the engine).

<User Check>

- Close the back cover correctly.

Step	Cause	Remedy
1	Connection failure of the back cover sensor harness	Reconnect the back cover sensor harness.
2	Back cover sensor attachment failure	Reattach the back cover sensor.
3	Breakage of boss that presses the back cover sensor	Replace the back cover.
4	Back cover sensor failure	Replace the back cover sensor.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code 8A01

The registration rear sensor detected that the paper fed was smaller or larger than the specified size in duplex printing mode.

Error code 8A02

The registration rear sensor detected that the length of the paper is too long and it may hit within the machine in 2-sided printing.

<User Check>

- Use specified paper.

Step	Cause	Remedy
1	Registration rear actuator caught in some sections of the machine	Reattach the registration rear actuator.
2	Registration rear sensor failure	Replace the registration front/rear sensor PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code 8B01

Detected that the TT was not turned ON.

<User Check>

- Turn ON the TT.
- Reconnect the AC cord of the TT.

Step	Cause	Remedy
1	Malfunction of the TT control PCB	Install the latest main firmware.
2	Connection failure of the TT low-voltage power supply PCB harness	Reconnect the TT low-voltage power supply PCB harness.
3	TT AC cord breakage	Replace the AC cord.
4	LT/TT connector failure (machine or LT/TT joint unit side)	Replace the LT/TT connector on the machine side or LT/TT joint unit side.
5	TT low-voltage power supply PCB failure	Replace the TT low-voltage power supply PCB ASSY.
6	TT control PCB failure	Replace the TT control PCB ASSY.
7	TT joint relay PCB failure	Replace the TT joint unit.
8	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 8D01**

The registration rear sensor detected that the paper loaded in the paper tray was smaller than the specified size.

<User Check>

- Open the back cover and print using the straight paper path.
- Length of the paper is 114 mm or more.

Step	Cause	Remedy
1	Registration rear actuator caught in some sections of the machine	Reattach the registration rear actuator.
2	Registration rear sensor failure	Replace the registration front/rear sensor PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 8E02**

Detected that the size of paper set in the paper tray was over 10 mm shorter than letter size during receiving fax data or printing a list or report.

<User Check>

- Set A4 or Letter-size paper.

Step	Cause	Remedy
1	Registration rear actuator caught in some sections of the machine	Reattach the registration rear actuator.
2	Registration rear sensor failure	Replace the registration front/rear sensor PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9001**

The size of paper loaded in the MP tray and the one specified from the driver are not same when paper is fed from the MP tray.

Error code 9002

The size of paper loaded in the T1 and the one specified from the driver are not same when paper is fed from the T1.

Error code 9003

The size of paper loaded in the T2 and the one specified from the driver are not same when paper is fed from the T2.

Error code 9004

The size of paper loaded in the T3 and the one specified from the driver are not same when paper is fed from the T3.

Error code 9005

The size of paper loaded in the T4 and the one specified from the driver are not same when paper is fed from the T4.

Error code 9006

The size of paper loaded in the T5 and the one specified from the driver are not same when paper is fed from the T5.

<User Check>

- Change the driver setting to be matched with the size of the paper set in the paper tray.

Step	Cause	Remedy
1	Registration rear actuator caught in some sections of the machine	Reattach the registration rear actuator.
2	Registration rear sensor failure	Replace the registration front/rear sensor PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9201**

When printing from the MP tray, paper type setting in the machine does not match the setting in the driver.

Error code 9202

When printing from the T1, paper type setting in the machine does not match the setting in the driver.

Error code 9203

When printing from the T2, paper type setting in the machine does not match the setting in the driver.

Error code 9204

When printing from the T3, paper type setting in the machine does not match the setting in the driver.

Error code 9205

When printing from the T4, paper type setting in the machine does not match the setting in the driver.

Error code 9206

When printing from the T5, paper type setting in the machine does not match the setting in the driver.

<User Check>

- Use the same paper type setting for the machine and driver.

Step	Cause	Remedy
1	Malfunction of the main PCB	Install the latest main firmware.
2	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9301**

When paper was fed from the MP tray, the MP paper empty sensor detected that no paper was in the MP tray.

<User Check>

- Load paper to the MP tray.

Step	Cause	Remedy
1	MP paper empty actuator caught in some sections of the machine	Reattach the MP paper empty actuator.
2	Connection failure of the MP paper empty/registration front sensor PCB harness	Reconnect the MP paper empty/registration front sensor PCB harness.
3	MP paper empty sensor failure	Replace the MP paper empty/registration front sensor PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9302**

When paper was fed from the T1, the T1 paper empty sensor or T1 paper feed sensor detected that no paper was in the T1.

Error code 9303

When paper was fed from the T2, the T2(LT or TT) paper empty sensor detected that no paper was in the T2.

Error code 9304

When paper was fed from the T3, the T3(LT or TT) paper empty sensor detected that no paper was in the T3.

Error code 9305

When paper was fed from the T4, the T4(LT or TT) paper empty sensor detected that no paper was in the T4.

Error code 9306

When paper was fed from the T5, the T5 paper empty sensor detected that no paper was in the T5.

<User Check>

- Set paper in the appropriate paper tray.

Step	Cause	Remedy
1	Malfunction of an LT control PCB or TT control PCB	Install the latest main firmware.
2	Connection failure of an LT paper empty/plate origin sensor harness (Models with 500-sheet only)	Reconnect the appropriate LT paper empty/plate origin sensor harness.
3	Connection failure of an LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the appropriate LT paper empty/paper feed sensor harness.
4	Connection failure of an TT paper empty sensor harness	Reconnect the appropriate TT paper empty sensor harness.
5	Connection failure of the T1 paper empty/paper feed sensor PCB (non NFC models only)	Reconnect the T1 paper empty/paper feed sensor PCB.
6	Connection failure of the T1 paper empty/paper feed sensor harness (NFC models only)	Reconnect the T1 paper empty/paper feed sensor harness.
7	Connection failure of the T1 solenoid harness (non NFC models only)	Reconnect the T1 solenoid harness.
8	An LT/TT paper empty actuator caught in some sections of the machine	Reattach the appropriate LT/TT paper empty actuator.
9	T1 paper feed actuator caught in some sections of the machine (non NFC models only)	Reattach the T1 paper feed actuator.
10	T1 paper empty actuator caught in some sections of the machine (NFC models only)	Reattach the T1 paper empty actuator.
11	Abrasion of the PF kit 1 (non NFC models only)	Replace the PF kit 1.
12	A T1/LT/TT paper empty sensor PCB failure	Replace the appropriate T1 paper empty/paper feed sensor, LT paper empty/plate origin sensor (Models with 500-sheet only), LT paper empty/paper feed sensor (Models with 250-sheet only) or TT paper empty sensor PCB ASSY.
13	T1 paper feed sensor PCB failure (non NFC models only)	Replace the T1 paper feed sensor PCB ASSY.
14	T1 solenoid failure (non NFC models only)	Replace the T1 solenoid.
15	An LT control PCB failure	Replace the appropriate LT control PCB ASSY.
16	TT relay PCB failure	Replace a TT relay PCB ASSY.
17	TT control PCB failure	Replace the TT control PCB ASSY.
18	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
19	Paper feed motor failure	Replace the process drive unit.
20	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9309

Detected that there was no paper set in all trays when TrayAuto was selected for printing.

<User Check>

- Set paper in the paper tray.

Step	Cause	Remedy
1	Malfunction of an LT control PCB or TT control PCB	Install the latest main firmware.
2	Connection failure of an LT paper empty/plate origin sensor harness (Models with 500-sheet only)	Reconnect the appropriate LT paper empty/plate origin sensor harness.
3	Connection failure of an LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the appropriate LT paper empty/paper feed sensor harness.
4	Connection failure of a TT paper empty sensor harness	Reconnect the appropriate TT paper empty sensor harness.
5	Connection failure of the MP paper empty/registration front sensor PCB harness	Reconnect the MP paper empty/registration front sensor PCB harness.
6	Connection failure of the T1 paper empty/paper feed sensor PCB (non NFC models only)	Reconnect the T1 paper empty/paper feed sensor PCB.
7	Connection failure of the T1 paper empty/paper feed sensor harness (NFC models only)	Reconnect the T1 paper empty/paper feed sensor harness.
8	Connection failure of the T1 solenoid harness (non NFC models only)	Reconnect the T1 solenoid harness.
9	A T1/MP/LT/TT paper empty actuator caught in some sections of the machine	Reattach the appropriate T1/MP/LT/TT paper empty actuator.
10	T1 paper feed actuator caught in some sections of the machine (non NFC models only)	Reattach the T1 paper feed actuator.
11	Abrasion of the PF kit 1 (NFC models only)	Replace the PF kit 1.
12	A T1/MP/LT/TT paper empty sensor PCB failure	Replace the appropriate T1 paper empty/paper feed sensor, MP paper empty/registration front sensor, LT paper empty/plate origin sensor (Models with 500-sheet only), LT paper empty/paper feed sensor (Models with 250-sheet only) or TT paper empty sensor PCB ASSY.
13	T1 paper feed sensor PCB failure (non NFC models only)	Replace the T1 paper feed sensor PCB ASSY.
14	T1 solenoid failure (non NFC models only)	Replace the T1 solenoid.
15	An LT control PCB failure	Replace the appropriate LT control PCB ASSY.
16	TT relay PCB failure	Replace a TT relay PCB ASSY.
17	TT control PCB failure	Replace the TT control PCB ASSY.
18	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
19	Paper feed motor failure	Replace the process drive unit.
20	Main PCB failure	Replace the main PCB ASSY.

■ Error code 930A

Paper ran out during Fax / List continuous printing.

<User Check>

- Set paper in the appropriate paper tray.

Step	Cause	Remedy
1	A T1/MP/LT/TT paper empty actuator caught in some sections of the machine	Reattach the appropriate T1/MP/LT/TT paper empty actuator.
2	T1 paper feed actuator caught in some sections of the machine (non NFC models Only)	Reattach the T1 paper feed actuator.
3	A T1/MP/LT/TT paper empty sensor PCB failure	Replace the appropriate T1 paper empty/paper feed sensor, MP paper empty/registration front sensor, LT paper empty/plate origin sensor (Models with 500-sheet only), LT paper empty/paper feed sensor (Models with 250-sheet only), TT paper empty sensor PCB ASSY.
4	T1 paper feed sensor PCB failure (non NFC models only)	Replace the T1 paper feed sensor PCB ASSY.
5	T1 solenoid failure (non NFC models only)	Replace the T1 solenoid.
6	Damaged paper feed gears/motor	Replace the paper feed drive unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9701**

For 2-sided printing, paper size setting of the printer driver that was not supported by 2-sided printing was selected.

Error code 9702

For printing by feeding paper from the T1, the size of paper specified from the driver set the size which was not supported by the T1.

Error code 9703

For printing by feeding paper from the T2, the size of paper specified from the driver set the size which was not supported by the T2.

Error code 9704

For printing by feeding paper from the T3, the size of paper specified from the driver set the size which was not supported by the T3.

Error code 9705

For printing by feeding paper from the T4, the size of paper specified from the driver set the size which was not supported by the T4.

Error code 9706

For printing by feeding paper from the T5, the size of paper specified from the driver set the size which was not supported by the T5.

<User Check>

- Select the specified paper size in the driver and set paper with the same size to the specified paper tray.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9801**

An error occurred with the value measured during color density adjustment performed from the control panel.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L	Clean the registration mark sensor L.
2	Failure in printed measurement	If failure occurs when printing “2D3S YMCBWKW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
3	Connection failure of the registration mark sensor L PCB harness	Reconnect the registration mark sensor L PCB harness.
4	Density sensor failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ **Error code 9802**

Dot counter or develop roller counter of color toner has reached the upper limit during color density adjustment performed from the control panel.

<User Check>

- Replace the corresponding toner cartridge.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9803

Density patch measurement ended unsuccessfully during color density adjustment performed from the control panel.

Error code 9804

An error occurred with the value measured during density sensor sensitivity calibration.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L	Clean the registration mark sensor L.
2	Failure in printed measurement	If failure occurs when printing “2D3S YMCBWKW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
3	Connection failure of the registration mark sensor L PCB harness	Reconnect the registration mark sensor L PCB harness.
4	Density sensor failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9901

An error occurred with the value measured during manual color registration performed from the control panel.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L / registration mark sensor R	Clean the registration mark sensor L / registration mark sensor R.
2	Connection failure of the registration mark sensor L PCB / registration mark sensor R PCB harness	Reconnect the registration mark sensor L PCB / registration mark sensor R PCB harness.
3	Failure in printed measurement	If failure occurs when printing “2D3S YMCBWKW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
4	Registration mark sensor L or registration mark sensor R failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9902

Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.

<User Check>

- Replace the corresponding toner cartridge.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9903

An error occurred during patch data printing in manual color registration performed from the control panel.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L / registration mark sensor R	Clean the registration mark sensor L / registration mark sensor R.
2	Connection failure of the registration mark sensor L PCB / registration mark sensor R PCB harness	Reconnect the registration mark sensor L PCB / registration mark sensor R PCB harness.
3	Failure in printed measurement	If failure occurs when printing “2D3S YM CBW KW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
4	Registration mark sensor L or registration mark sensor R failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9A01

An error occurred with the value measured during auto color registration performed from the control panel.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L / registration mark sensor R	Clean the registration mark sensor L / registration mark sensor R.
2	Connection failure of the registration mark sensor L PCB / registration mark sensor R PCB harness	Reconnect the registration mark sensor L PCB / registration mark sensor R PCB harness.
3	Failure in printed measurement	If failure occurs when printing “2D3S YM CBW KW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
4	Registration mark sensor L or registration mark sensor R failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9A02

Dot counter or develop roller counter of color toner has reached the upper limit during auto color registration performed from the control panel.

<User Check>

- Replace the corresponding toner cartridge.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ Error code 9A03

An error occurred during patch data printing in auto color registration performed from the control panel.

<User Check>

- Check if the toner cartridges are set in the correct order of colors.
- Replace the toner cartridge.
- Replace the drum unit.
- If the belt unit has a scratch, replace it.
- If “WT Box End Soon” is displayed on the LCD and the belt unit has dirt, replace the waste toner box.

Step	Cause	Remedy
1	Dirt on the registration mark sensor L / registration mark sensor R	Clean the registration mark sensor L / registration mark sensor R.
2	Connection failure of the registration mark sensor L PCB / registration mark sensor R PCB harness	Reconnect the registration mark sensor L PCB / registration mark sensor R PCB harness.
3	Failure in printed measurement	If failure occurs when printing “2D3S YMCBWKW_A” in “Function code 71”, refer to “4.3 Troubleshooting for Image Defects” in this chapter and take a measure.
4	Registration mark sensor L or registration mark sensor R failure	Replace the registration mark sensor unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code A000

Image processing was not completed correctly because the number of pixels required for image processing is insufficient in the scanned second side data.

Step	Cause	Remedy
1	Incorrect correction data for second side CIS unit	Execute “Set CIS scan area (Function code 55)”.
2	Second side CIS unit failure	Replace the second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code A200

The document scanning position sensor detected that the document length was 90 cm or more during the one-side scanning.

<User Check>

- Use the paper less than A4 size.
- Remove the jammed document.

Step	Cause	Remedy
1	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.
2	Document scanning position sensor failure	Replace the ADF unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code A300

The document scanning position sensor has not detected the document passing even after the document has been fed for the specified time.

<User Check>

- Adjust the document guide to suit the document size.
- Remove the jammed document.

Step	Cause	Remedy
1	Foreign object inside the ADF	Remove the foreign objects inside the ADF.
2	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.
3	Connection failure of the document scanning position sensor harness	Reconnect the document scanning position sensor harness.
4	Document scanning position sensor failure	Replace the ADF unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code A400

The ADF cover sensor detected that the ADF cover was open.

<User Check>

- Close the ADF cover correctly.

Step	Cause	Remedy
1	ADF cover actuator caught in some sections of the machine	Reattach the ADF cover actuator.
2	ADF cover sensor attachment failure	Reattach the ADF cover sensor.
3	ADF cover attachment failure	Reattach the ADF cover.
4	Connection failure of the ADF cover sensor harness.	Reconnect the ADF cover sensor harness.
5	Damage of the ADF cover	Replace the ADF cover.
6	ADF cover sensor failure	Replace the ADF cover sensor.
7	Main PCB failure	Replace the main PCB ASSY.

■ Error code A600

When scanning the fax, white or black correction data for the first side CIS unit was not within the correct range (second time).

Step	Cause	Remedy
1	Incorrect correction data for first side CIS unit	Execute "Acquire white level data (Function code 55)".
2	Dirt on the white tape on the second side document hold	Clean the white tape on the second side document hold.
3	Damaged first side CIS flat cable	Replace the first side CIS flat cable.
4	First side CIS unit failure	Replace the first side CIS unit.
5	White tape failure	Replace the document scanner unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code A700**

Color parameter in the ROM does not match the first side or second side CIS.

■ **Error code A900**

A scanning error occurred while processing the scanned image.

Step	Cause	Remedy
1	Incorrect correction data for first side or second side CIS unit	Execute "Set CIS scan area (Function code 55)".
2	Damaged first side CIS flat cable	Replace the first side CIS flat cable.
3	Damaged second side CIS flat cable	Replace the second side CIS flat cable.
4	First side CIS unit failure	Replace the first side CIS unit.
5	Second side CIS unit failure	Replace the second side CIS unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code AC00**

When scanning the fax, white or black correction data for the second side CIS was not within the correct range (first time).

Step	Cause	Remedy
1	Incorrect correction data for second side CIS unit	Execute "Acquire white level data (Function code 55)".
2	Dirt on the white tape on the second side document hold	Clean the white tape on the second side document hold.
3	Damaged second side CIS flat cable	Replace the second side CIS flat cable.
4	Second side CIS unit failure	Replace the second side CIS unit.
5	White tape failure	Replace the ADF unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code AD00**

Image processing cannot be completed correctly because the number of pixels required for image processing is insufficient in the scanned first side data.

Step	Cause	Remedy
1	Incorrect correction data for first side CIS unit	Execute "Set CIS scan area (Function code 55)".
2	Connection failure of the first side CIS flat cable	Reconnect the first side CIS flat cable.
3	First side CIS unit failure	Replace the first side CIS unit.
4	White tape failure	Replace the document scanner unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Error code AE00

Unit home position could not be detected after the power switch was turned ON.

Step	Cause	Remedy
1	Incorrect correction data for first side CIS unit	Execute "Acquire white level data (Function code 55)".
2	First side CIS unit drive belt coming off	Reattach the first side CIS unit drive belt.
3	Connection failure of the first side CIS flat cable	Reconnect the first side CIS flat cable.
4	First side CIS unit failure	Replace the first side CIS unit.
5	FB motor failure	Replace the document scanner unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ Error code AF00

Home position is still being detected even after the first side CIS unit was moved.

Step	Cause	Remedy
1	Dust on the CIS guide shaft	Remove the dust on the CIS guide shaft.
2	CIS drive belt coming off	Reattach the CIS drive belt.
3	Wrong wiring of the first side CIS flat cable	Reattach the first side CIS flat cable.
4	Connection failure of the FB motor harness	Reconnect the FB motor harness.
5	Damaged first side CIS flat cable	Replace the first side CIS flat cable.
6	First side CIS unit failure	Replace the first side CIS unit.
7	FB motor failure	Replace the document scanner unit.
8	Main PCB failure	Replace the main PCB ASSY.

■ Error code B000

Detected that the first side CIS flat cable or second side CIS flat cable was not inserted correctly when function code 55 was executed.

Step	Cause	Remedy
1	Connection failure of the first side CIS flat cable	Reconnect the first side CIS flat cable.
2	Connection failure of the second side CIS flat cable	Reconnect the second side CIS flat cable.
3	Damaged first side CIS flat cable	Replace the first side CIS flat cable.
4	Damaged second side CIS flat cable	Replace the second side CIS flat cable.
5	First side CIS unit failure	Replace the first side CIS unit.
6	Second side CIS unit failure	Replace the second side CIS unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Error code BB00**

A white level not within the standard was scanned when function code 55 was executed.

Step	Cause	Remedy
1	Dirt on the second side document hold	Clean the second side document hold.
2	Dirt on the white tape	Clean the white tape.
3	First side CIS unit failure	Replace the first side CIS unit.
4	Second side CIS unit failure	Replace the second side CIS unit.
5	Second side document hold failure	Replace the ADF unit.
6	White tape failure	Replace the document scanner unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Error code BC00**

When scanning the fax, white or black correction data for the second side CIS was not within the correct range (second time).

Step	Cause	Remedy
1	Incorrect correction data for second side CIS unit	Execute "Acquire white level data (Function code 55)".
2	Dirt on the white tape on the second side document hold	Clean the white tape on the second side document hold.
3	Damaged second side CIS flat cable	Replace the second side CIS flat cable.
4	Second side CIS unit failure	Replace the second side CIS unit.
5	White tape failure	Replace the ADF unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code BD00**

A black level not within the standard was scanned when function code 55 was executed.

Step	Cause	Remedy
1	Dirt on the second side document hold	Clean the second side document hold.
2	Dirt on the white tape	Clean the white tape.
3	First side CIS unit failure	Replace the first side CIS unit.
4	Second side CIS unit failure	Replace the second side CIS unit.
5	Second side document hold failure	Replace the ADF unit.
6	White tape failure	Replace the document scanner unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ Error code BF00

The document scanning position sensor detected that the document length was 400 mm or longer and could not be fed to ADF (double-side restoration).

<User Check>

- Set the specified size paper.

Step	Cause	Remedy
1	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.
2	Document scanning position sensor failure	Replace the document scanning position sensor.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code C001

Timeout occurred with access request sent to server due to incorrect server address, network disconnection, or inactive server.

Error code C002

User authentication is unavailable due to incorrect user name, incorrect password, or asynchronous date and time between the machine and server.

Error code C003

Cannot access to the file because the directory name is wrong, writing into directory is not permitted, or writing into file is locked or not permitted.

Error code C004

Cannot acquire current time which is required for user authentication because the time has not been acquired.

<User Check>

- Refer to the online User's Guide to set the network again.
- Check the LAN cable routing.
- Check the wireless LAN settings.

Step	Cause	Remedy
1	Connection failure of the wireless LAN PCB connector	Reconnect the wireless LAN PCB connector.
2	Wireless LAN PCB failure	Replace the wireless LAN PCB.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Error code C700**

The memory is insufficient to expand the data of PC-Print.

Error code C800

The memory used to store secure print data exceeded the memory size for secure print data.

<User Check>

- Print the print data stored in the memory.
- Divide the print data and print them separately.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code D100**

An error occurred while initializing the modem.

Error code D200

Detected that the modem PCB is not connected.

Step	Cause	Remedy
1	Connection failure of the modem flat cable	Reconnect the modem flat cable.
2	Modem flat cable failure	Replace the modem flat cable.
3	Modem PCB failure	Replace the modem PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Error code D800**

An error occurred while initializing the touch panel.

Step	Cause	Remedy
1	Connection failure of the panel flat cable	Reconnect the panel flat cable.
2	Connection failure of the LCD flat cable	Reconnect the LCD flat cable.
3	Touch panel ASSY failure	Replace the touch panel ASSY.
4	Panel PCB failure	Replace the panel PCB ASSY.
5	LCD panel ASSY failure	Replace the LCD panel ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

■ **Error code DB00**

A communication error occurred between the main ASIC and the recording ASIC.

Error code E000

An error occurred in the ROM check sum.

Error code E100

Program error

<User Check>

- Install the latest main firmware.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code E500**

An error occurred during access to the DRAM in the Main PCB ASSY.

Error code E600

Write error in the EEPROM of the Main PCB ASSY

Error code E701

System error in the flash ROM

Error code E702

Read error in the flash ROM

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

■ **Error code E900**

An error occurred while initializing the NFC.

Step	Cause	Remedy
1	Connection failure of the panel flat cable	Reconnect the panel flat cable.
2	Connection failure of the NFC flat cable	Reconnect the NFC flat cable.
3	Connection failure of the ten key PCB flat cable	Reconnect the ten key PCB flat cable.
4	Panel PCB failure	Replace the panel PCB ASSY.
5	NFC PCB failure	Replace the NFC PCB ASSY.
6	Ten key PCB failure	Replace the ten key PCB ASSY.
7	Main PCB failure	Replace the main PCB ASSY.

■ Error code EC00

Overcurrent was caused because a USB device that did not meet the specifications was inserted into the USB port.

<User Check>

- Disconnect the USB device from the USB flash memory port and turn the machine OFF. Turn the machine ON again after a while.
- Replace the USB device with a different one.

Step	Cause	Remedy
1	USB host PCB failure	Replace the USB host PCB ASSY.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code F900

The spec code was not entered correctly.

Step	Cause	Remedy
1	The power was turned OFF while function code 74 was running.	Reenter the spec code. (Refer to "1.3.27 Configure for country/region and model (Function code 74)" in Chapter 5.)
2	Main PCB failure	Replace the main PCB ASSY.

4.2 Troubleshooting for Paper Feeding Problems

Problems related to paper feeding are end user recoverable if following the User Check items. If the same problem occurs again, follow each procedure in the order of the number described in the Step column in the tables below.

4.2.1 No paper feeding from T1

<User Check>

- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set 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 105 g/m².
- Check that the MP tray, LT or TT is not set as the paper tray.
- Flip through the paper and reset it in the paper tray.
- Open the T2 and close the T2 correctly.
- Clean the paper pick up roller.

Step	Cause	Remedy
1	Dirt on the paper dust cleaning roller of the paper tray	Refer to the figure below to clean the paper dust cleaning roller and inside of the paper dust cleaning roller cover.
2	T1 roller holder ASSY attachment failure	Reattach the T1 roller holder ASSY correctly.
3	Connection failure of the paper feed motor harness (non NFC models only)	Reconnect the paper feed motor harness.
4	Connection failure of the T1 paper feed sensor harness (non NFC models only)	Reconnect the T1 paper feed sensor harness.
5	Connection failure of the T1 solenoid harness (non NFC models only)	Reconnect the T1 solenoid harness.
6	Connection failure of the T1 paper empty/paper feed sensor harness (NFC models only)	Reconnect the T1 paper empty/paper feed sensor harness.
7	T1 paper empty actuator coming off	Reattach the T1 paper empty actuator.
8	Abrasion of the paper pick up roller	Replace the PF kit 1.
9	T1 paper feed sensor failure (non NFC models only)	Replace the T1 paper feed sensor PCB ASSY.
10	T1 paper empty sensor failure (NFC models only)	Replace the T1 paper empty sensor PCB ASSY.
11	Damaged gear/lift gear (non NFC models only)	Replace the gear/lift gear.
12	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
13	Paper feed motor failure	Replace the process drive unit.
14	Paper feed unit failure	Replace the paper feed unit.
15	Damaged fuser unit	Replace the fuser unit.
16	Main PCB failure	Replace the main PCB ASSY.

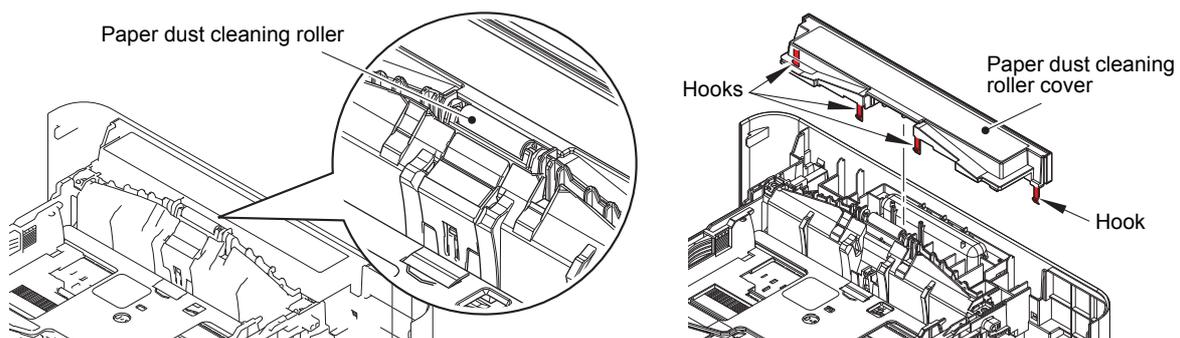


Fig. 2-15

4.2.2 No paper feeding from the LT

<User Check>

- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set 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 105 g/m² (T2, 3 or 4).
- Check that the MP tray, T1 is not set as the paper tray.
- Flip through the paper and reset it in the paper tray.
- Clean the paper pick up roller.
- Check whether the T1 is closed correctly.

Step	Cause	Remedy
1	Dirt on a paper dust cleaning roller of the paper tray	Clean the appropriate paper dust cleaning roller. (Refer to Fig. 2-15 (P2-112) .)
2	A roller holder ASSY attachment failure	Reattach the appropriate roller holder ASSY correctly.
3	Connection failure of the paper feed motor harness	Reconnect the paper feed motor harness.
4	Connection failure of an LT paper empty/plate origin sensor harness (Models with 500-sheet only)	Reconnect the appropriate LT paper empty/plate origin sensor harness.
5	Connection failure of an LT paper empty/paper feed sensor harness (Models with 250-sheet only)	Reconnect the appropriate LT paper empty/paper feed sensor harness.
6	Connection failure of an LT control PCB flat cable	Reconnect the appropriate LT control PCB flat cable.
7	Connection failure of an LT pickup clutch harness	Reconnect the appropriate LT pickup clutch harness.
8	An LT paper empty actuator coming off	Reattach the appropriate LT paper empty actuator.
9	Abrasion of a paper pick up roller	Replace the appropriate PF kit.
10	An LT pickup clutch failure	Replace the appropriate LT pickup clutch.
11	An LT paper empty sensor failure	Replace the appropriate LT paper empty sensor PCB ASSY.
12	An LT drive transmit sensor failure (Models with 250-sheet only)	Replace the appropriate LT drive transmit sensor PCB ASSY.
13	Damaged fuser gear	Replace the fuser gear.
14	Damaged an LT/TT connector or an LT connector	Replace the appropriate LT/TT connector or an LT connector.
15	LT control PCB failure	Replace the appropriate LT control PCB ASSY.
16	LT plate motor failure	Replace the LT plate motor.
17	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
18	Paper feed motor failure	Replace the process drive unit.
19	Damaged fuser unit	Replace the fuser unit.
20	LT drive gear failure	Replace the LT unit.
21	Main PCB failure	Replace the main PCB ASSY.

4.2.3 No paper feeding from the TT

<User Check>

- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set 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 105 g/m² (T2, 3, 4 or 5).
- Check that the MP tray, T1 is not set as the paper tray.
- Flip through the paper and reset it in the paper tray.
- Clean the paper pick up roller.
- Install the latest main firmware.
- Replace the relay AC cord.
- Turn the power switch of TT OFF and then back ON again.
- Check whether the each TT paper trays are closed correctly.

Step	Cause	Remedy
1	Dirt on a paper dust cleaning roller of the paper tray	Clean the appropriate paper dust cleaning roller. (Refer to Fig. 2-15 (P2-112).)
2	A roller holder ASSY attachment failure	Reattach the appropriate roller holder ASSY correctly.
3	Connection failure of the TT motor harness	Reconnect the TT motor harness.
4	Connection failure of a TT paper feed sensor harness	Reconnect the appropriate TT paper feed sensor harness.
5	Connection failure of an TT paper empty sensor harness	Reconnect the appropriate TT paper empty sensor harness.
6	Connection failure of a TT relay PCB harness	Reconnect the appropriate TT relay PCB harness.
7	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
8	Connection failure of the TT joint relay PCB harness	Reconnect the TT joint relay PCB harness.
9	Connection failure of the TT low-voltage power supply PCB harness	Reconnect the TT low-voltage power supply PCB harness.
10	Connection failure of a TT release clutch harness	Reconnect the appropriate TT release clutch harness.
11	Connection failure of a TT pickup clutch harness	Reconnect the appropriate TT pickup clutch harness.
12	Connection failure of the TT drive transmit clutch harness	Reconnect the TT drive transmit clutch harness.
13	Connection failure of a TT jam sensor harness	Reconnect the appropriate TT jam sensor harness.
14	A TT paper empty actuator coming off	Reattach the appropriate TT paper empty actuator.
15	Abrasion of a paper pick up roller	Replace the appropriate PF kit.
16	A TT release clutch failure	Replace the appropriate TT release clutch.
17	A TT pickup clutch failure	Replace the appropriate TT pickup clutch.
18	A TT paper feed sensor failure	Replace the appropriate TT paper feed sensor PCB ASSY.
19	A TT paper empty sensor failure	Replace the appropriate TT paper empty sensor PCB ASSY.
20	A TT mount sensor failure	Replace the appropriate TT mount sensor.
21	A TT jam sensor failure	Replace the appropriate TT jam sensor PCB ASSY.
22	Damaged a plate gear	Replace the appropriate plate gear.
23	Damaged an LT/TT connector	Replace the appropriate LT/TT connector.
24	TT motor failure	Replace the TT motor.
25	A TT relay PCB failure	Replace the appropriate TT relay PCB ASSY.
26	TT control PCB failure	Replace the TT control PCB ASSY.
27	TT low-voltage power supply PCB failure	Replace the TT low-voltage power supply PCB ASSY.
28	TT joint relay PCB failure	Replace the TT joint unit.
29	Main PCB failure	Replace the main PCB ASSY.

4.2.4 No paper feeding from MP tray

<User Check>

- Check that the paper is set in the MP tray deeply.
- Check that too much paper is not 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.
- Check that the T1, 2, 3, 4 or 5 is not set as the paper tray by the printer driver.
- Flip through the paper and reset it in the MP tray.
- Clean the MP paper pick-up roller.
- Check whether the paper tray is closed correctly.

Step	Cause	Remedy
1	MP roller holder ASSY attachment failure	Reattach the MP roller holder ASSY correctly.
2	Connection failure of the paper feed motor harness	Reconnect the paper feed motor harness.
3	Connection failure of the MP paper empty/registration front sensor PCB harness	Reconnect the MP paper empty/registration front sensor PCB harness.
4	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
5	Abrasion of the MP paper pick-up roller	Replace the PF kit MP.
6	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
7	Paper feed motor failure	Replace the process drive unit.
8	Paper feed unit failure	Replace the paper feed unit.
9	Damaged fuser unit	Replace the fuser unit.
10	Main PCB failure	Replace the main PCB ASSY.

4.2.5 Multiple sheets of paper are fed

<User Check>

- Check that there is not too much paper set in each paper tray.
- Check that the paper is set in each paper tray correctly.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Check that the thickness of the paper is 60 to 105 g/m² for T1, 2, 3, 4 or 5, and 60 to 163 g/m² for the MP tray.
- Flip through the paper and reset it in the paper tray.

Step	Cause	Remedy
1	Abrasion of a separation pad	Replace the appropriate PF kit.

4.2.6 Paper becomes wrinkled

<User Check>

- Check that the paper is set in each paper tray correctly.
- 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 the paper is 60 to 105 g/m² for T1, 2, 3, 4 or 5, and 60 to 163 g/m² for the MP tray.
- Check that the paper is not damp.
- Check that there is no dust stuck to the fuser unit.
- Check that the type of paper is appropriate.

Step	Cause	Remedy
1	Paper eject ASSY failure	Replace the paper eject ASSY.
2	Fuser unit failure	Replace the fuser unit.

4.2.7 Paper is fed at an angle

<User Check>

- Check that the paper is set in each paper tray correctly.
- 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 the paper is 60 to 105 g/m² for T1, 2, 3, 4 or 5, and 60 to 163 g/m² for the MP tray.
- Check that there is not too much paper set in the paper tray.
- Check that the type of paper is appropriate.
- Clean each paper pick up roller.
- Check that the green envelope lever is not lowered on only one side.

Step	Cause	Remedy
1	One-side abrasion of the paper pick up rollers	Replace the appropriate PF kit.
2	Paper feed unit failure	Replace the paper feed unit.

4.2.8 Paper curls

<User Check>

- Change the driver setting to be matched with the size of the paper set in the paper tray.
- Select "Reduce Paper Curl" in the driver.
- Check that the paper is set in each paper tray correctly.
- Open the back cover and try printing with straight paper ejection mode.

Step	Cause	Remedy
1	Fuser unit failure	Replace the fuser unit.
2	Main PCB failure	Replace the main PCB ASSY.

4.2.9 Unable to perform 2-sided printing

<User Check>

- Close the back cover completely.
- Close the paper tray completely.
- Set the driver setting to duplex printing.
- Use A4 or Letter paper specified by the manufacturer.

Step	Cause	Remedy
1	Eject actuator coming off	Reattach the eject actuator.
2	Back cover failure	Replace the back cover.
3	Eject sensor failure	Replace the eject sensor PCB ASSY.
4	Paper eject origin sensor failure	Replace the paper eject origin sensor.
5	Paper eject ASSY failure	Replace the paper eject ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

4.2.10 Paper jam

■ Paper jam at the T1

<User Check>

- Check that the paper is set in the paper tray correctly.
- Flip over the paper in the paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check that there is not too much paper set.
- Check that the thickness of the paper is 60 to 105 g/m² for T1.
- Flip through the paper and reset it in the paper tray.

Step	Cause	Remedy
1	Foreign object around the paper tray	Remove the foreign object.
2	Paper dust cleaning roller attachment failure	Reattach the paper dust cleaning roller.
3	Paper feed actuator coming off	Reattach the paper feed actuator.
4	Registration front actuator coming off	Reattach the registration front actuator.
5	Connection failure of the registration front/rear sensor harness	Reconnect the registration front/rear sensor harness.
6	Connection failure of the registration solenoid harness	Reconnect the registration solenoid harness.
7	Connection failure of the T1 paper feed sensor harness	Reconnect the T1 paper empty/paper feed sensor harness.
8	Registration front sensor failure	Replace the registration front/rear sensor PCB ASSY.
9	T1 paper feed sensor failure	Replace the T1 paper feed sensor PCB ASSY.
10	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
11	Paper feed motor failure	Replace the process drive unit.
12	Paper feed unit failure	Replace the paper feed unit.
13	Damaged fuser unit	Replace the fuser unit.
14	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam at the LT

<User Check>

- Check that the paper is set in each LT correctly.
- Flip over the paper in each LT or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check that there is not too much paper set.
- Check that the thickness of the paper is 60 to 105 g/m² for T2, 3 or 4.
- Flip through the paper and reset it in each LT.
- Install the latest main firmware.

Step	Cause	Remedy
1	Foreign object around an LT	Remove the foreign object.
2	A paper dust cleaning roller attachment failure	Reattach the appropriate paper dust cleaning roller.
3	An LT paper feed actuator coming off	Reattach the appropriate LT paper feed actuator.
4	Registration front actuator coming off	Reattach the registration front actuator.
5	Connection failure of an LT paper feed sensor harness	Reconnect the appropriate LT paper feed sensor harness.
6	Connection failure of an LT control PCB harness	Reconnect the appropriate LT control PCB harness.
7	An LT paper feed sensor failure	Replace the appropriate LT paper feed sensor.
8	Damaged gears in the paper feed drive unit	Replace the paper feed drive unit.
9	Paper feed motor failure	Replace the process drive unit.
10	Paper feed unit failure	Replace the paper feed unit.
11	Damaged fuser unit	Replace the fuser unit.
12	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam at the TT

<User Check>

- Check that the paper is set in each tray in the TT correctly.
- Flip over the paper or rotate the paper 180°.
- Adjust each paper guide according to each paper size.
- Check that there is not too much paper set.
- Check that the thickness of the paper is 60 to 105 g/m² for T2, 3, 4 or 5.
- Flip through the paper and reset it in the paper tray.
- Install the latest main firmware.
- Remove the jammed paper in each tray or inside the joint unit in the TT.

Step	Cause	Remedy
1	Foreign object in the TT paper feeding path	Remove the foreign object.
2	Twisted TT frame	Loosen the nine screws shown in Fig. 2-14 (P2-86) and tighten them again.
3	A paper dust cleaning roller attachment failure	Reattach the appropriate paper dust cleaning roller.
4	A TT paper feed actuator coming off	Reattach the appropriate TT paper feed actuator.
5	A TT jam actuator coming off	Reattach the appropriate TT jam actuator.
6	Connection failure of a TT jam sensor harness	Reconnect the appropriate TT jam sensor harness.
7	Connection failure of a TT paper feed sensor harness	Reconnect the appropriate TT paper feed sensor harness.
8	Connection failure of a TT release clutch harness	Reconnect the appropriate TT release clutch harness.
9	Connection failure of a TT relay PCB harness	Reconnect the appropriate TT relay PCB harness.
10	Connection failure of the TT control PCB harness	Reconnect the TT control PCB harness.
11	Connection failure of the TT drive transmit clutch harness	Reconnect the TT drive transmit clutch harness.
12	A TT paper feed sensor failure	Replace the appropriate TT paper feed sensor.
13	A TT release clutch failure	Replace the appropriate TT release clutch.
14	TT balance sensor L/R failure	Replace the TT balance sensor L/R.
15	A TT jam sensor failure	Replace the appropriate TT jam sensor PCB ASSY.
16	TT motor failure	Replace the TT motor.
17	TT relay PCB failure	Replace the appropriate TT relay PCB ASSY.
18	TT control PCB failure	Replace the TT control PCB ASSY.
19	TT drive transmit clutch failure	Replace the TT joint unit.
20	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam at the MP tray

<User Check>

- Check that the paper is set in the MP tray correctly.
- Flip over the paper in the MP tray or rotate the paper 180°.
- Adjust each paper guide according to each paper size.
- Check that there is not too much paper set.
- Check that the thickness of the paper is 60 to 163 g/m².
- Flip through the paper and reset it in the MP tray.

Step	Cause	Remedy
1	Foreign object around the MP tray	Remove the foreign object.
2	Connection failure of the MP paper empty/registration front sensor harness	Reconnect the MP paper empty/registration front sensor harness.
3	MP registration front actuator coming off	Reattach the MP registration front actuator.
4	Connection failure of the registration solenoid harness	Reconnect the registration solenoid harness.
5	MP paper empty/registration front sensor failure	Replace the MP paper empty/registration front sensor.
6	Paper feed motor failure	Replace the process drive unit.
7	Paper feed unit failure	Replace the paper feed unit.
8	Damaged fuser unit	Replace the fuser unit.
9	Main PCB failure	Replace the main PCB ASSY.

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

<User Check>

- Check that the paper is set in each paper tray correctly.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check that there is not too much paper set in each paper tray.
- Check that the thickness of the paper is 60 to 105 g/m² for T1, 2, 3, 4 or 5, and 60 to 163 g/m² for the MP tray.
- Flip through the paper and reset it in the paper tray.
- Check that the belt unit is installed correctly.
- Replace the drum unit.
- Replace the belt unit.

Step	Cause	Remedy
1	Foreign object inside the machine	Remove the foreign object.
2	Eject actuator coming off	Reattach the eject actuator.
3	Connection failure of the eject sensor harness	Reconnect the eject sensor harness.
4	Fuser cover attachment failure	Reattach the fuser cover.
5	Damaged fuser drive gear	Replace the fuser drive gear.
6	Eject sensor failure	Replace the eject sensor PCB ASSY.
7	Registration rear sensor failure	Replace the registration front/rear sensor PCB ASSY.
8	Paper feed motor or process motor failure	Replace the process drive unit.
9	Damaged fuser unit	Replace the fuser unit.
10	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam at the eject section

<User Check>

- Check that the paper is set in each paper tray correctly.
- Flip over the paper in each paper tray or rotate the paper 180°.
- Adjust each paper guide according to the paper size.
- Check that there is not too much paper set in each paper tray.
- Check that the thickness of the paper is 60 to 105 g/m² for T1, 2, 3, 4 or 5, and 60 to 163 g/m² for the MP tray.
- Flip through the paper and reset it in the paper tray.

Step	Cause	Remedy
1	Foreign object in the rear of the machine	Remove the foreign object.
2	Eject actuator coming off	Reattach the eject actuator.
3	Connection failure of the eject sensor harness	Reconnect the eject sensor harness.
4	Fuser cover attachment failure	Reattach the fuser cover.
5	Eject sensor failure	Replace the eject sensor PCB ASSY.
6	Paper feed motor or process motor failure	Replace the process drive unit.
7	Paper eject unit failure	Replace the paper eject unit.
8	Damaged fuser unit	Replace the fuser unit.
9	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam at the duplex tray

<User Check>

- Flip over the paper in each paper tray or rotate the paper 180°.
- Check that the thickness of the paper is 60 to 105 g/m² for the duplex tray.
- Flip through the paper and reset it in the paper tray.
- Use A4 or Letter paper specified by the manufacturer.

Step	Cause	Remedy
1	Foreign object in the duplex paper feeding system	Remove the foreign object.
2	Fuser cover attachment failure	Reattach the fuser cover.
3	Back cover failure	Replace the back cover.
4	T1 duplex paper feeding system failure	Replace the T1.
5	Main PCB failure	Replace the main PCB ASSY.

4.3 Troubleshooting for Image Defects

4.3.1 Image defect examples

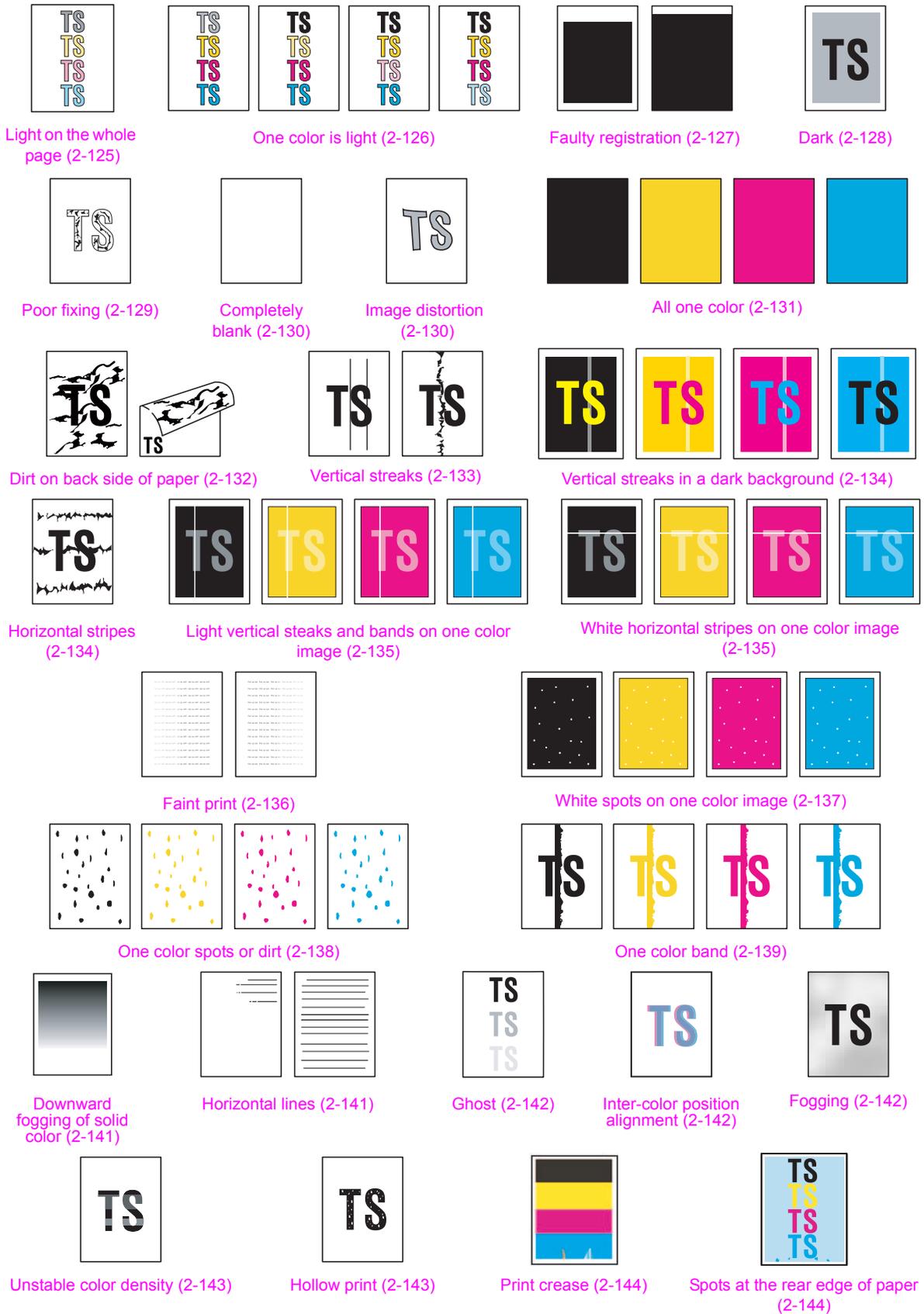


Fig. 2-16

4.3.2 Troubleshooting image defect

Image defect related problems are end user recoverable if following the User Check items. If the same problem occurs again, follow each procedure in the order of the number described in the Step column in the tables below.

■ Light on the whole page

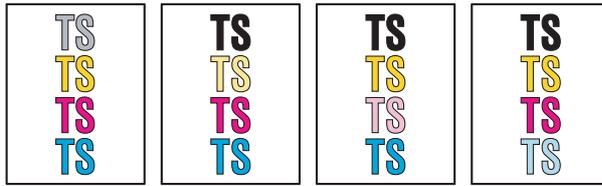


<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- If the whole page is light, toner save mode may be ON. Turn OFF the toner save mode.
- Adjust the color calibration from the control panel.
- 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 scanner windows of the laser unit with a soft, lint-free cloth.
- Turn ON the power switch, and leave the machine for a while (condensation).
- Check if paper is not damp.
- Use specified paper.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-17 (P2-126).)
3	Dirt on the electrodes of the high-voltage power supply PCB and those of the machine	Clean the electrodes of the high-voltage power supply PCB and those of the machine.
4	Dirt on the density sensor	Clean the registration mark sensor L.
5	Density sensor failure	Replace the registration mark sensor unit.
6	Fuser unit failure	Replace the fuser unit.
7	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
8	Main PCB failure	Replace the main PCB ASSY.

■ One color is light



<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Adjust the color calibration from the control panel.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Wipe the scanner windows of the laser unit of the appropriate color with a soft, lint-free cloth.
- Use specified paper.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and below.)
3	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
4	Dirt on the electrodes of the high-voltage power supply PCB	Clean the electrodes of the high-voltage power supply PCB.
5	Density sensor failure	Replace the registration mark sensor unit.
6	Fuser unit failure	Replace the fuser unit.
7	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
8	Main PCB failure	Replace the main PCB ASSY.

■ Electrodes location of the toner cartridge

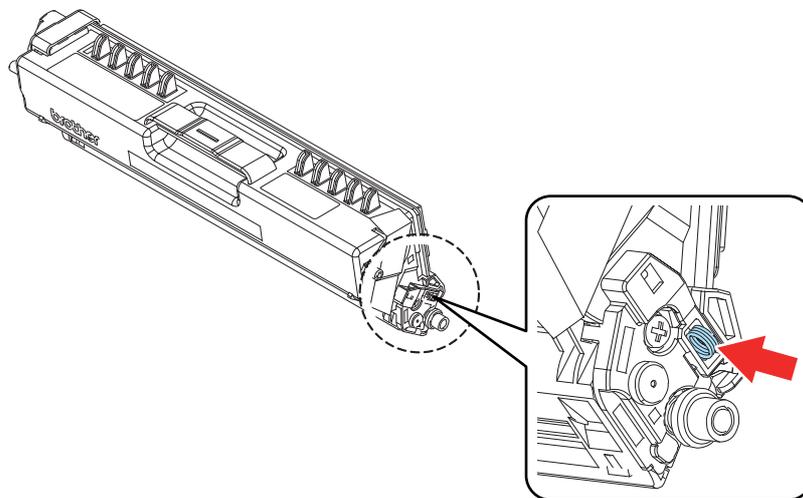


Fig. 2-17

■ Electrodes location of belt unit

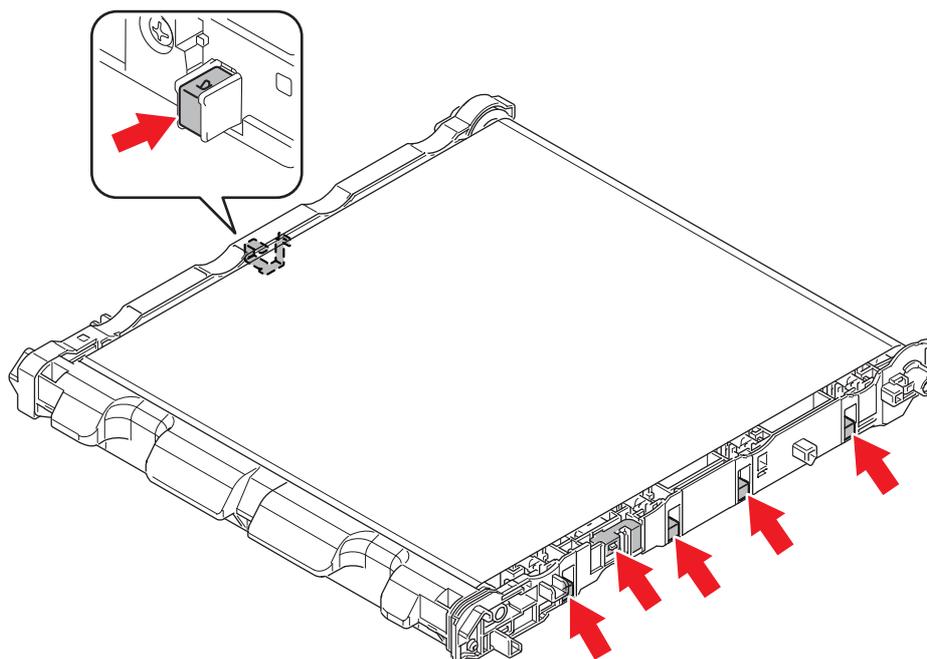
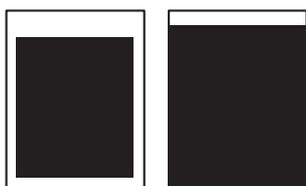


Fig. 2-18

■ Faulty registration

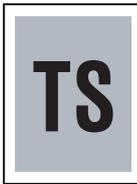


<User Check>

- Check whether appropriate paper type is selected on the driver.
- Install the latest main firmware.

Step	Cause	Remedy
1	Registration rear actuator coming off	Reattach the registration rear actuator.
2	Wrong adjusted value of TT entered	Refer to "1.3.13 Change USB No. return value / Switching Dither Pattern / Switching of ON/OFF of DirectPrint Color mode-Improve Gray Color / Switching of timing to execute Auto Registration / Adjust left-end print position / Adjust upper-end print position / Change of the transfer current setting / Change of ghost reduction setting (Function code 45)" in Chapter 5 to adjust the writing start position.
3	Distortion at TT assembly	Reattach the TT.
4	Laser unit failure	Replace the laser unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Dark

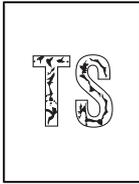


<User Check>

- Check the usage environment of the machine. 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 wire of 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.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-17 (P2-126).)
3	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
4	Dirt on the electrodes of the high-voltage power supply PCB	Clean the electrodes of the high-voltage power supply PCB.
5	Density sensor failure	Replace the registration mark sensor unit.
6	Fuser unit failure	Replace the fuser unit.
7	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
8	Laser unit failure	Replace the laser unit.
9	Main PCB failure	Replace the main PCB ASSY.

■ Poor fixing



<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Clean the corona wire of 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 scanner windows of the laser unit with a soft, lint-free cloth.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-17 (P2-126) .)
3	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127) .)
4	Fuser unit failure	Replace the fuser unit.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
6	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
7	Laser unit failure	Replace the laser unit.
8	Main PCB failure	Replace the main PCB ASSY.

■ **Completely blank**

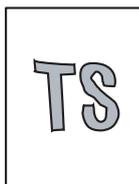


<User Check>

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

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-17 (P2-126).)
3	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
4	Connection failure of the laser unit flat cable	Reconnect the laser unit flat cable.
5	Laser unit attachment failure	Reattach the laser unit.
6	Laser unit flat cable failure	Replace the laser unit flat cable.
7	Dirt on the electrodes of the high-voltage power supply PCB and those of the machine	Clean the electrodes of the high-voltage power supply PCB and those of the machine.
8	Laser unit failure	Replace the laser unit.
9	Main PCB failure	Replace the main PCB ASSY.

■ **Image distortion**

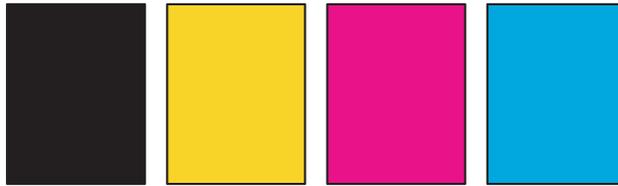


<User Check>

- Replace the belt unit with a new one.

Step	Cause	Remedy
1	Laser unit attachment failure	Reattach the laser unit.
2	Laser unit failure	Replace the laser unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ All one color

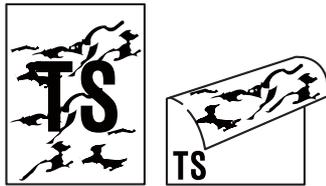


<User Check>

- Clean the corona wire of the drum unit.
- Replace the drum unit with a new one.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
3	Laser unit flat cable failure	Replace the laser unit flat cable.
4	Dirt on the electrodes of the high-voltage power supply PCB and those of the machine	Clean the electrodes of the high-voltage power supply PCB and those of the machine.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
6	Laser unit failure	Replace the laser unit.
7	Main PCB failure	Replace the main PCB ASSY.

■ **Dirt on back side of paper**



<User Check>

- This problem may disappear after printing multiple sheets of paper.
- Replace the drum unit with a new one.
- Replace the belt unit.
- Replace the waste toner box

Step	Cause	Remedy
1	Dirt in the paper feed system	Wipe dirt off.
2	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
3	Dirt on the electrodes of the waste toner box and those of the machine	Clean the electrodes of the waste toner box and those of the machine. (Refer to Fig. 2-12 (P2-70) and below.)
4	Dirt on the cleaner pinch roller of the fuser cover	Replace the cleaner pinch roller S ASSY.
5	Dirt on the fuser unit	Replace the fuser unit.
6	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ **Electrodes location of waste toner box**

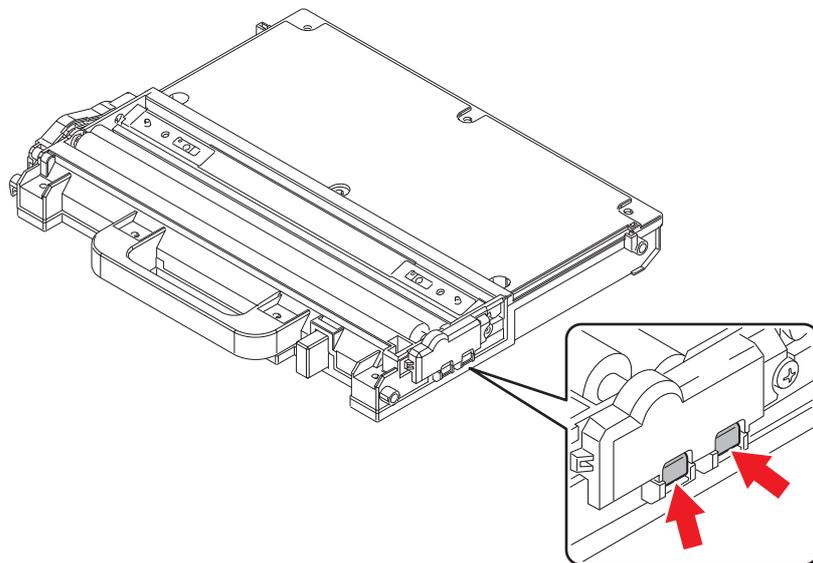
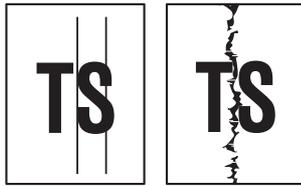


Fig. 2-19

■ Vertical streaks



<User Check>

- Clean the corona wire of the drum unit.
- Return the corona wire cleaning tab to the “▲” position.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Wipe the scanner windows of the laser unit with a soft, lint-free cloth.

Step	Cause	Remedy
1	Dirt in the paper feed system	Wipe dirt off.
2	A ground wire or ground plate installation failure (Grounding is not performed correctly.)	Retighten the screws of each ground wire or ground plate. Repair the bend of the tray ground spring of the paper tray. (Refer to the figure below.)
3	Dirt on the exposure drum	Perform drum cleaning. (Refer to “2.1 Drum Cleaning” in Chapter 5.)
4	Dirt on the cleaner pinch roller of the fuser cover	Replace the cleaner pinch roller S ASSY.
5	Dirt on the fuser unit	Replace the fuser unit.
6	Laser unit failure	Replace the laser unit.

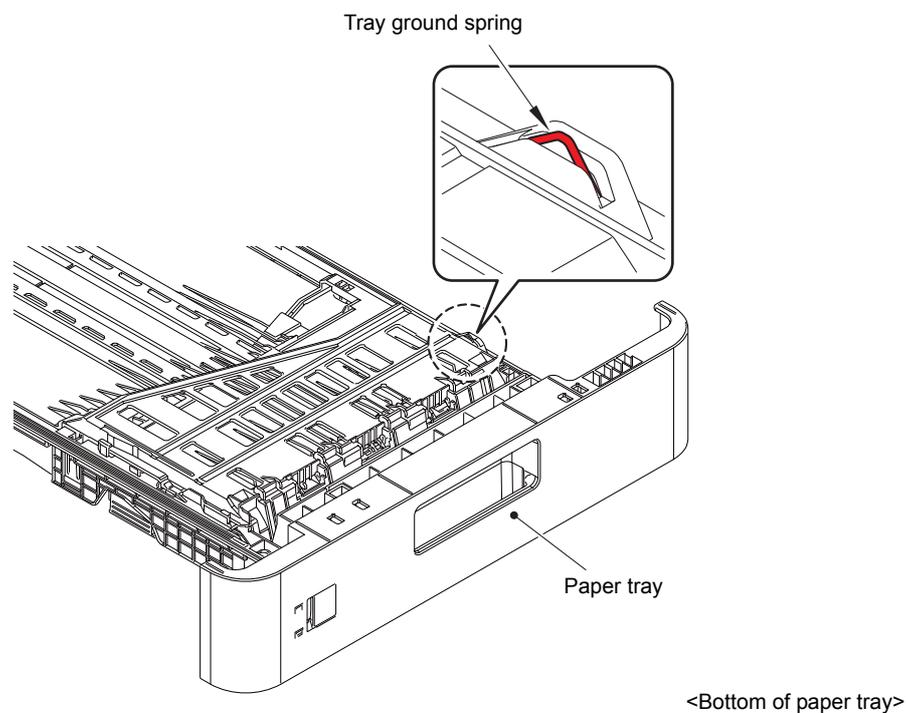
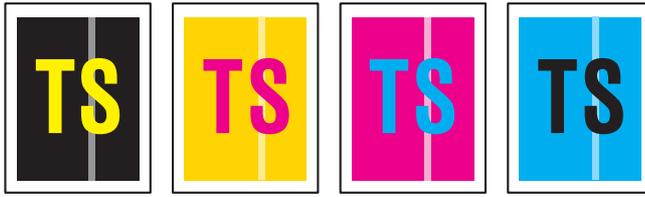


Fig. 2-20

■ **Vertical streaks in a dark background**

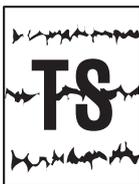


<User Check>

- Clean the corona wire of the drum unit.
- This problem may disappear after printing multiple sheets of paper.
- Refer to **<How to clean the drum unit>** to remove the dirt from the exposure drum using a cotton applicator.
- Turn ON the power switch, and leave the machine for a while.
- Wipe the scanner windows of the laser unit with a soft, lint-free cloth.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Dirty charge electrodes	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5 .)
3	Laser unit failure	Replace the laser unit.

■ **Horizontal stripes**

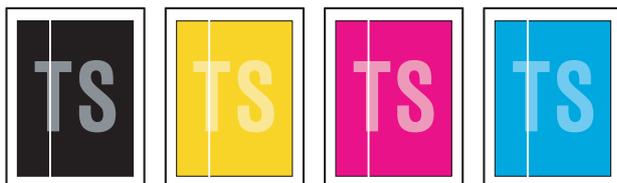


<User Check>

- Clean the corona wire of the drum unit.
- This problem may disappear after printing multiple sheets of paper.
- Refer to **<How to clean the drum unit>** to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Dirty charge electrodes	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5 .)
3	A ground wire or ground plate installation failure (Grounding is not performed correctly.)	Retighten the screws of each ground wire or ground plate. Repair the bend of the tray ground spring of the paper tray. (Refer to Fig. 2-20 (P2-133) .)
4	Scratch or dirt on the fuser unit	Replace the fuser unit.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ **Light vertical steaks and bands on one color image**

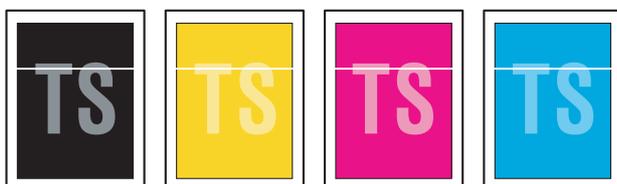


<User Check>

- Clean the corona wire of the drum unit.
- Check that there is no dust on the toner cartridge.
- Refer to [<How to clean the drum unit>](#) to remove the dirt from the exposure drum using a cotton applicator.
- Wipe the scanner windows of the laser unit with a soft, lint-free cloth.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Dirty charge electrodes	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to “2.1 Drum Cleaning” in Chapter 5.)
3	Laser unit failure	Replace the laser unit.

■ **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.

Step	Cause	Remedy
1	Dirty charge electrodes	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to “2.1 Drum Cleaning” in Chapter 5.)
3	Scratch or dirt on the fuser unit	Replace the fuser unit.
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ Faint print

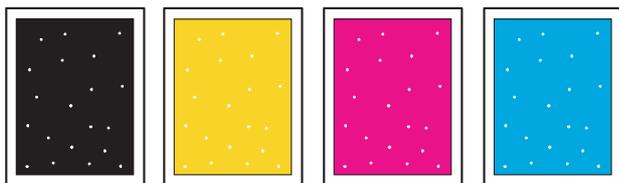


<User Check>

- Check that the machine is positioned on a level surface.
- Wipe the scanner windows of the laser unit with a soft, lint-free cloth.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Laser unit failure	Replace the laser unit.
2	Fuser unit failure	Replace the fuser unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ **White spots on one color image**



<User Check>

- Check that the Fuser fan and Blower is not clogged.
- Refer to [<How to clean the drum unit>](#) to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.

Step	Cause	Remedy
1	Dirt on the paper dust cleaning roller of the paper tray	Refer to the Fig. 2-15 (P2-112) to clean the paper dust cleaning roller.
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to “2.1 Drum Cleaning” in Chapter 5.)
3	Clogged filter	Clean the filter.
4	Scratch or dirt on the fuser unit	Replace the fuser unit.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

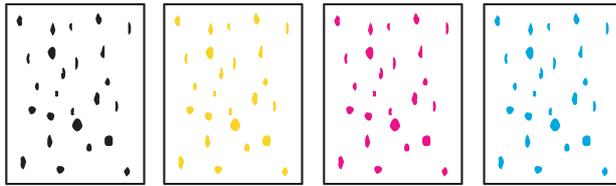
Note:

Image defects which appear periodically may be caused by failure of rollers. Refer to the table below and determine the cause based on the diameter of the rollers or the pitch at which defects appear on the image.

<itches on images caused by rollers>

Part name	The pitch which appears in the image
Develop roller	29 mm
Exposure drum	94.5 mm
Heat roller of the fuser unit	78.5 mm
Pressure roller of the fuser unit	78.5 mm

■ One color spots or dirt



<User Check>

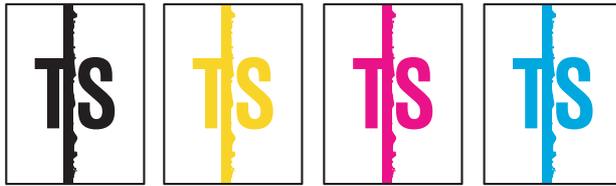
- Check if damp paper is used.
- Refer to <How to clean the drum unit> to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.
- Replace the belt unit with a new one.

Step	Cause	Remedy
1	Dirt on the paper dust cleaning roller of the paper tray	Refer to the Fig. 2-15 (P2-112) to clean the paper dust cleaning roller.
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5.)
3	Clogged filter	Clean the filter.
4	Scratch or dirt on the fuser unit	Replace the fuser unit.
5	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

Note:

Image defects which appear periodically may be caused by failure of rollers. Refer to <Pitches on images caused by rollers> and determine the cause based on the diameter of the rollers or the pitch at which defects appear on the image.

■ One color band



<User Check>

- Clean the corona wire of the drum unit.
- Clean the corona wire by sliding the green tab of the drum unit to the left end.
- This problem may disappear after printing multiple sheets of paper.
- Refer to <How to clean the drum unit> to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	A ground wire or ground plate installation failure (Grounding is not performed correctly.)	Retighten the screws of each ground wire or ground plate. Repair the bend of the tray ground spring of the paper tray. (Refer to Fig. 2-20 (P2-133).)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5.)
3	Laser unit failure	Replace the laser unit.

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

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

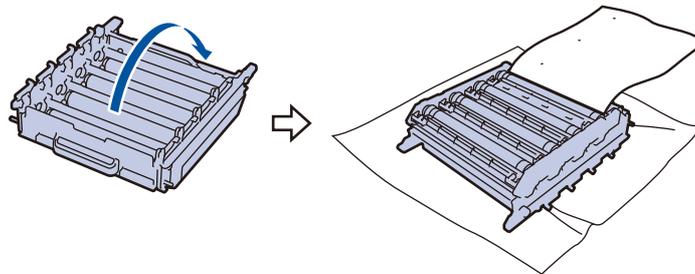
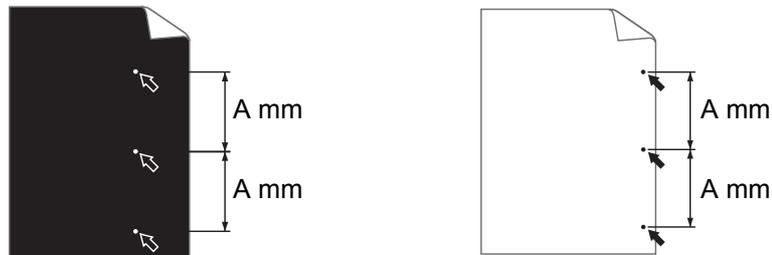


Fig. 2-21

< 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 on 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.

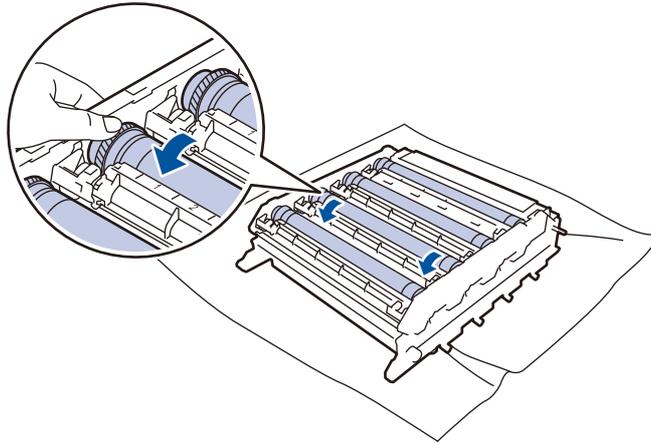


Fig. 2-23

- (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.

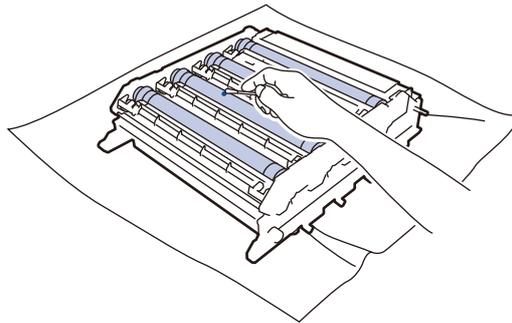


Fig. 2-24

Note:

Do not clean the exposure drum surface with anything sharp like a ball pointed pen.

■ **Downward fogging of solid color**

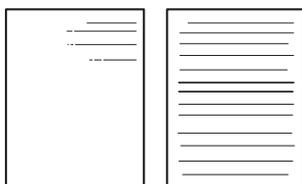


<User Check>

- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
2	Main PCB failure	Replace the main PCB ASSY.

■ **Horizontal lines**



<User Check>

- This problem may disappear after printing multiple sheets of paper.
- Refer to **<How to clean the drum unit>** to remove the dirt from the exposure drum using a cotton applicator.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Dirty charge electrodes	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5.)
3	Scratch or dirt on the fuser unit	Replace the fuser unit.
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ Ghost



<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check whether appropriate paper type is selected on the driver.
- Select “Improve Toner Fixing” in the driver.
- Make a print in the color mode.
- Replace the drum unit with a new one.
- Clean the Erase lamp lens of the Drum unit.

Step	Cause	Remedy
1	Scratch or dirt on the fuser unit	Replace the fuser unit.
2	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ 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.

Step	Cause	Remedy
1	Registration mark sensor L or registration mark sensor R failure	Replace the registration mark sensor unit.
2	Main PCB failure	Replace the main PCB ASSY.

■ Fogging



<User Check>

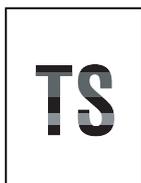
- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check if the acid paper is not used.
- This problem may disappear after printing multiple sheets of paper.
- Replace the toner cartridge with a new one.
- Replace the drum unit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

Step	Cause	Remedy
1	New toner/toner amount detection sensor PCB (light reception) failure	Replace the new toner/toner amount detection sensor PCB ASSY (light reception).
2	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

Note:

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

■ Unstable color density

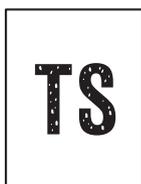


<User Check>

- 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.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70).)
2	Dirt on the electrodes of the toner cartridge and those of the machine	Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-17 (P2-126).)
3	Dirt on the electrodes of the belt unit and those of the machine	Clean the electrodes of the belt unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-18 (P2-127).)
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
5	Laser unit failure	Replace the laser unit.
6	Main PCB failure	Replace the main PCB ASSY.

■ Hollow print



<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Refer to <How to clean the drum unit> to remove the dirt from the exposure drum using a cotton applicator.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

Step	Cause	Remedy
1	Dirt on the paper dust cleaning roller of the paper tray	Refer to the Fig. 2-15 (P2-112) to clean the paper dust cleaning roller.
2	Dirt on the exposure drum	Perform drum cleaning. (Refer to "2.1 Drum Cleaning" in Chapter 5.)
3	Scratch or dirt on the fuser unit	Replace the fuser unit.
4	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.

■ **Print crease**



<User Check>

- Check the usage environment of the machine. 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.
- Print with the envelope lever is lowered. (Refer to the figure below.)

Step	Cause	Remedy
1	Fuser unit failure	Replace the fuser unit.

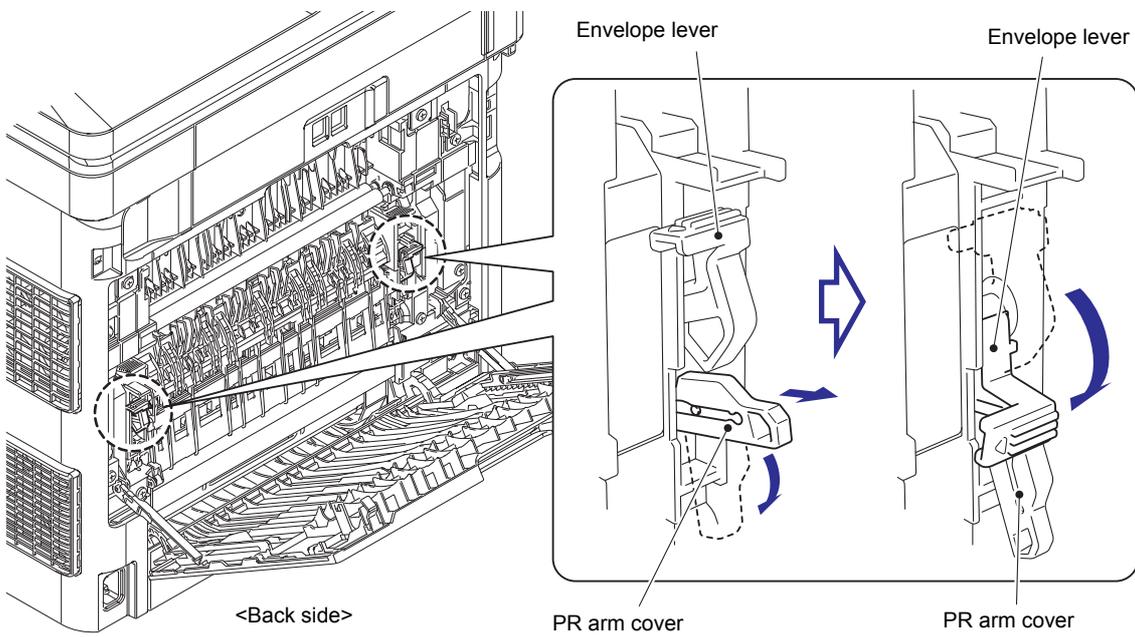


Fig. 2-25

■ **Spots at the rear edge of paper**



<User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Print with the envelope lever is lowered. (See the figure above.)

Step	Cause	Remedy
1	Fuser unit failure	Replace the fuser unit.

4.4 Troubleshooting for Software Problems

The end user can solve problems pertaining to software, for instance, print cannot be made from a computer although test print and printer setting print can be made from the machine, by following the User Check items. If the same problem occurs again, follow each procedure in the order of the number described in the Step column in the tables below.

4.4.1 Unable to receive data

<User Check>

- Check that the USB cable or LAN cable is not damaged.
- When using an interface switch, check that the correct machine is selected.
- Check the relevant section in the online User's Guide.
- Check the driver settings.
- Reset the machine to the default settings. (Refer to the online User's Guide.)

Step	Cause	Remedy
1	Machine connection	For Macintosh, check the Product ID*. When it is wrong, update the firmware.
2	Main PCB failure	Replace the main PCB ASSY.

* Follow the procedures below to verify the product ID in Macintosh.

- (1) Select [About This Mac] from the [Apple] menu.
- (2) Click the [More Info...] button in the [About This Mac] dialog box.
- (3) Select [USB] under the [Hardware] in [Contents] on the left side.
- (4) Select the machine [MFC-XXXX] from [USB Device Tree].
- (5) Check [Product ID] in [MFC-XXXX].

■ Product ID (Hexadecimal)

DCP-L8410CDW : 03F7h

MFC-L8610CDW : 03F6h

MFC-L8690CDW : 03F5h

MFC-L8900CDW : 03F4h

MFC-L9570CDW : 03F3h

4.5 Troubleshooting for Network Problems

4.5.1 Cannot make a print through network connection

<User Check>

- Check the relevant section in the Network Setting Guide.
- Check the network connection.
- Reset the network. (Refer to the online User's Guide.)
- Check the LAN cable.

Step	Cause	Remedy
1	Connection failure of the wireless LAN PCB connector	Reconnect the wireless LAN PCB connector.
2	Wireless LAN PCB failure	Replace the wireless LAN PCB.
3	LAN terminal pin deformation Main PCB failure	Replace the main PCB ASSY.

4.5.2 Cannot connect to access point

<User Check>

- Check the wireless LAN settings.
- Check the access point settings.
- Change the machine installation location.
- Set the access point manually.

Step	Cause	Remedy
1	Wireless LAN PCB failure	Replace the wireless LAN PCB.
2	Main PCB failure	Replace the main PCB ASSY.

4.6 Troubleshooting for Control Panel Problems

4.6.1 Nothing is displayed on the LCD

<User Check>

- Turn the power switch OFF and then back ON again.
- Unplug the AC cord and then plug it again.

Step	Cause	Remedy
1	Connection failure of the panel flat cable	Reconnect the panel flat cable.
2	Connection failure of the low-voltage power supply harness	Reconnect the low-voltage power supply harness.
3	Connection failure of the LCD flat cable	Reconnect the LCD flat cable.
4	AC cord failure	Replace the AC cord.
5	Panel flat cable failure	Replace the panel flat cable.
6	LCD failure	Replace the panel unit.
7	Panel PCB ASSY failure	Replace the panel PCB ASSY.
8	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
9	Main PCB failure	Replace the main PCB ASSY.

4.6.2 Nothing is displayed on the LED

<User Check>

- Turn the power switch OFF and then back ON again.

Step	Cause	Remedy
1	Connection failure of the ten key PCB flat cable	Reconnect the ten key PCB flat cable.
2	Panel flat cable failure	Replace the panel flat cable.
3	Ten key PCB failure	Replace the ten key PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

4.6.3 Unable to perform panel operation

<User Check>

- Turn the power switch OFF and then back ON again.

Step	Cause	Remedy
1	Connection failure of the panel flat cable	Reconnect the panel flat cable.
2	Connection failure of the LCD flat cable	Reconnect the LCD flat cable.
3	Panel PCB failure	Replace the panel PCB ASSY.
4	LCD panel ASSY failure	Replace the LCD panel ASSY.
5	Main PCB failure	Replace the main PCB ASSY.

4.7 Troubleshooting for Toner Cartridge and Drum Unit Problems

4.7.1 New toner not detected

<User Check>

- Check if the supplied toner cartridge is installed.
- Be sure to set a new toner cartridge.
- Check that the genuine toner cartridge is set.

Step	Cause	Remedy
1	New toner actuator coming off	Reattach the new toner actuator.
2	Connection failure of the new toner/toner amount detection sensor PCB harness (light reception)	Reconnect the new toner/toner amount detection sensor PCB harness (light reception).
3	New toner/toner amount detection sensor PCB (light reception) failure	Replace the new toner/toner amount detection sensor PCB ASSY (light reception).
4	Main PCB failure	Replace the main PCB ASSY.

4.7.2 Toner cartridge not detected

<User Check>

- Re-assemble the toner cartridge.
- Replace the toner cartridge with a new one.

Step	Cause	Remedy
1	Toner sensor (light emission) failure	Replace the high-voltage power supply PCB ASSY.
2	New toner/toner amount detection sensor PCB (light reception) failure	Replace the new toner/toner amount detection sensor PCB ASSY (light reception).
3	Main PCB failure	Replace the main PCB ASSY.

4.7.3 Toner replacement message displayed on LCD is not cleared

<User Check>

- Be sure to set a new toner cartridge.
- Check that the genuine toner cartridge is set.

Step	Cause	Remedy
1	New toner actuator coming off	Reattach the new toner actuator.
2	Connection failure of the new toner/toner amount detection sensor PCB harness (light reception)	Reconnect the new toner/toner amount detection sensor PCB harness (light reception).
3	New toner/toner amount detection sensor PCB (light reception) failure	Replace the new toner/toner amount detection sensor PCB ASSY (light reception).
4	Main PCB failure	Replace the main PCB ASSY.

4.7.4 Drum error

<User Check>

- Clean the corona wire of the drum unit.
- Replace the drum unit with a new one.

Step	Cause	Remedy
1	Dirt on the electrodes of the drum unit and those of the machine	Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 2-12 (P2-70) and Fig. 2-13 (P2-70) .)
2	Dirt on the electrodes of the high-voltage power supply PCB and those of the machine	Clean the electrodes of the high-voltage power supply PCB and those of the machine.
3	High-voltage power supply PCB failure	Replace the high-voltage power supply PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

4.7.5 Drum replacement message displayed on LCD is not cleared

<User Check>

- Reset the drum counter according to the manual.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

4.8 Troubleshooting for Fuser Unit Problems

4.8.1 Fuser unit failure

Step	Cause	Remedy
1	Connection failure of the center thermistor harness	Reconnect the center thermistor harness.
2	Connection failure of the side thermistor harness	Reconnect the side thermistor harness.
3	Connection failure of the heater harness	Reconnect the heater harness.
4	Connection failure of the eject sensor PCB harness	Reconnect the eject sensor PCB harness.
5	Eject sensor PCB failure	Replace the eject sensor PCB ASSY.
6	Low-voltage power supply PCB failure	Replace the low-voltage power supply PCB ASSY.
7	Fuser unit failure	Replace the fuser unit.
8	Main PCB failure	Replace the main PCB ASSY.

Note:

- Turn the power switch OFF and then ON again. Leave the machine for 15 minutes. This problem may then be cleared.
- The machine may recover from the error, when the test printing of the maintenance mode for service personnel is started. However, conducting this operation while the heater has not yet cooled may cause the fuser unit to melt. Be careful.

4.9 Troubleshooting for Laser Unit Problems

4.9.1 Laser unit failure

<User Check>

- Turn ON the power switch, then open the front cover and the back cover. Leave the machine for a while to remove condensation.

Step	Cause	Remedy
1	Laser unit attachment failure	Reattach the laser unit.
2	Connection failure of the laser unit flat cable	Reconnect the laser unit flat cable.
3	Connection failure of the polygon motor harness	Reconnect the polygon motor harness.
4	Laser unit failure	Replace the laser unit.
5	Main PCB failure	Replace the main PCB ASSY.

4.10 Troubleshooting for PCB Problems

4.10.1 Main PCB failure

<User Check>

- Turn the power switch OFF and then back ON again.
- Install the latest main firmware.
- Check the print limit ID.
- Check that the print data is not damaged.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

4.10.2 Full memory

<User Check>

- Print the accumulated data.
- Reduce the amount or resolution of the data.

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

4.11 Troubleshooting for Document Feeding Problems

4.11.1 No document is fed

<User Check>

- Set the document properly and check that the display on the LCD changes.
- Check that the number of paper set has not exceeded the upper limit in the document tray.
- Check that the ADF cover is closed correctly.

Step	Cause	Remedy
1	Document detection actuator coming off	Reattach the document detection actuator.
2	Connection failure of the ADF motor harness	Reconnect the ADF motor harness.
3	Boss to push the ADF cover sensor of the ADF cover	Replace the ADF cover ASSY.
4	ADF cover sensor failure	Replace the ADF cover sensor ASSY.
5	Document detection sensor failure	Replace the document detection sensor PCB.
6	Document separate roller failure	Replace the document separate roller ASSY.
7	ADF motor failure	Replace the ADF motor.
8	Damaged ADF drive gear	Replace the ADF unit.
9	Main PCB failure	Replace the main PCB ASSY.

4.11.2 Multiple documents are fed

<User Check>

- Check that the thickness of the document is 64 to 90 g/m².
- Check that the number of paper set has not exceeded the upper limit in the document tray.

Step	Cause	Remedy
1	Abrasion of ADF separation pad	Replace the ADF separation pad.

4.11.3 Document jam

■ Paper jam in the ADF cover

<User Check>

- Check that the thickness of the document is 64 to 90 g/m².
- Check that the paper used for the document is not shorter than 147.3 mm.
- Check that the ADF cover is closed correctly.
- Check that the number of paper set has not exceeded the upper limit in the document tray.

Step	Cause	Remedy
1	Foreign object inside the area around ADF cover	Remove the foreign object.
2	Document pinch roller 1 coming off	Reattach the document pinch roller 1.
3	ADF cover sensor failure	Replace the ADF cover sensor ASSY.
4	Damaged ADF drive gear	Replace the ADF unit.
5	Main PCB failure	Replace the main PCB ASSY.

■ Paper jam in the ADF

<User Check>

- Check that the thickness of the document is 64 to 90 g/m².
- Check whether the document is smaller or larger than the specifications.
- Check whether the document is wet or wrinkled.
- Check that the document guide is adjusted to suit the document size.

Step	Cause	Remedy
1	Foreign object inside the ADF	Remove the foreign object.
2	Document scanning position actuator coming off	Reattach the document scanning position actuator.
3	Document pinch roller 2 coming off	Reattach the document pinch roller 2.
4	Connection failure of the document scanning position sensor harness	Check the connection of the document scanning position sensor harness, and reconnect it if necessary.
5	Second side document hold coming off	Reattach the second side document hold.
6	First side document hold coming off	Reattach the first side document hold.
7	Fed at an angle and jammed due to abrasion of document separate roller	Replace the document separate roller ASSY.
8	Document scanning position sensor failure	Replace the ADF unit.
9	Main PCB failure	Replace the main PCB ASSY.

■ **Paper jam in the paper eject section of the ADF**

<User Check>

- Check that the thickness of the document is 64 to 90 g/m².

Step	Cause	Remedy
1	Foreign object in the ADF document eject path	Remove the foreign object.
2	Document pinch roller coming off	Reattach the document pinch roller.
3	Abrasion of document eject roller	Replace the ADF unit.
4	Main PCB failure	Replace the main PCB ASSY.

4.11.4 Document becomes wrinkled

<User Check>

- Check that the document is not curled.
- Check that the document guide is adjusted to suit the document size.

Step	Cause	Remedy
1	Abrasion of document separate roller	Replace the document separate roller ASSY.
2	Abrasion of document feed roller	Replace the ADF unit.

4.11.5 Document size is not detected correctly

<User Check>

- Check that the document size is within the standard.

Step	Cause	Remedy
1	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.
2	ADF motor failure	Replace the ADF unit.
3	Main PCB failure	Replace the main PCB ASSY.

4.12 Troubleshooting for Image Defects

4.12.1 Defect examples

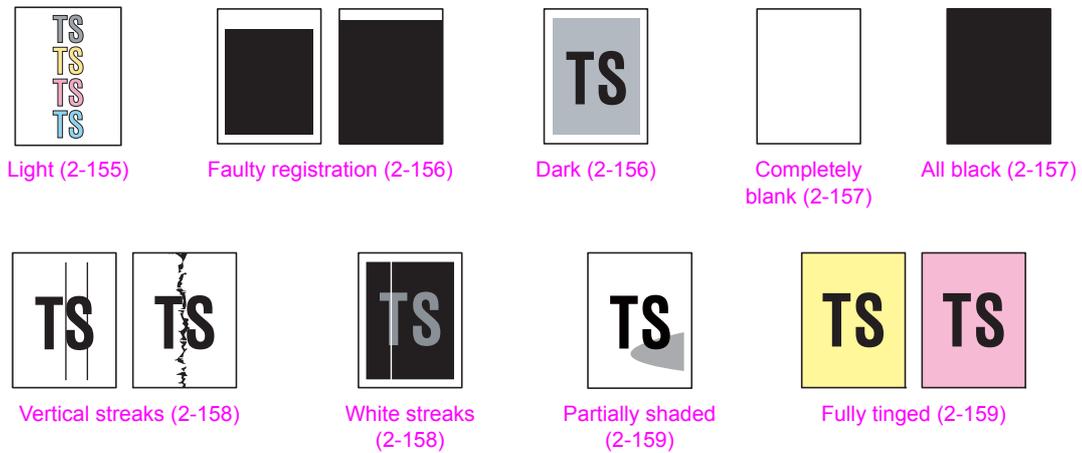
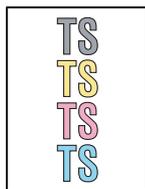


Fig. 2-26

4.12.2 Troubleshooting according to image defect

■ Light

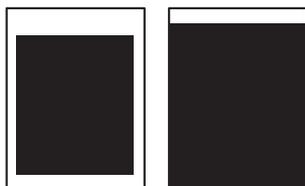


<User Check>

- Check that the contrast setting is not too light.
- Clean the scanner glass or first side/second side scanner glass strip.
- Clean the document hold.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute "Acquire white level data (Function code 55)".
2	First or second side CIS unit failure	Replace the first or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Faulty registration



- First side (Document scanner unit)

Step	Cause	Remedy
1	Deviation of the scanning start position	Execute "Fine adjustment of scan start position (Function code 54)".
2	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.

- Second side (ADF unit)

Step	Cause	Remedy
1	Deviation of the scanning start position	Execute "Fine adjustment of scan start position (Function code 54)".
2	Document scanning position actuator caught in some sections of the machine	Reattach the document scanning position actuator.

■ Dark



<User Check>

- Check that the contrast setting is not too dark.
- Clean the document hold.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute "Acquire white level data (Function code 55)".
2	First or second side CIS unit failure	Replace the first or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ **Completely blank**



<User Check>

- Check that the document is not reversed.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute "Acquire white level data (Function code 55)".
2	First or second side CIS flat cable failure	Replace the first or second side CIS flat cable.
3	First or second side CIS unit failure	Replace the first or second side CIS unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ **All black**

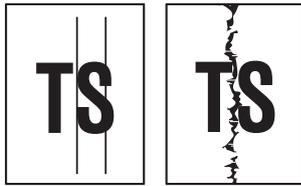


<User Check>

- Install all the latest firmwares.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute "Acquire white level data (Function code 55)".
2	First or second side CIS flat cable failure	Replace the first or second side CIS flat cable.
3	First or second side CIS unit failure	Replace the first or second side CIS unit.
4	Main PCB failure	Replace the main PCB ASSY.

■ **Vertical streaks**



<User Check>

- Clean the scanner glass or first side/second side scanner glass strip.
- Clean the document hold.

Step	Cause	Remedy
1	Dirt inside of scanner glass	Clean the inside of the scanner glass.
2	Dirt inside of first side/second side scanner glass strip	Clean the inside of the first side/second side scanner glass strip.
3	First or second side CIS unit failure	Replace the first or second side CIS unit.
4	Scratch on scanner glass	Replace the document scanner unit.
5	Scratch on second side scanner glass strip	Replace the ADF unit.

■ **White streaks**



<User Check>

- Clean the scanner glass or first side/second side scanner glass strip.
- Clean the document hold.

Step	Cause	Remedy
1	Dirt inside of scanner glass	Clean the inside of the scanner glass.
2	Dirt inside of first side/second side scanner glass strip	Clean the inside of the first side/second side scanner glass strip.
3	First or second side CIS unit failure	Replace the first or second side CIS unit.
4	Scratch on scanner glass	Replace the document scanner unit.
5	Scratch on second side scanner glass strip	Replace the ADF unit.

■ Partially shaded

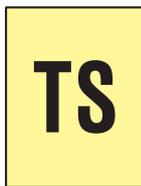


<User Check>

- Clean the scanner glass.

Step	Cause	Remedy
1	Dirt inside of scanner glass	Clean the inside of scanner glass.
2	Deformed document sponge	Replace the document scanner unit.

■ Fully tinged



<User Check>

- Clean the scanner glass or first side/second side scanner glass strip.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute "Acquire white level data (Function code 55)".
2	First or second side CIS unit failure	Replace the first or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

4.13 Troubleshooting for Fax Problems

4.13.1 Fax cannot be sent

<User Check>

- Check that the line cord is inserted into the socket correctly.
- Check that the dial function setting (tone/pulse) is correct.
- Check that the fax document is set in the ADF correctly.
- Check that the number to be dialed is saved correctly in the telephone directory.
- Check that the receiver's machine works normally or the function you want to perform is equipped with the receiver's machine.
- Move the machine to the other place to check whether there is any noise source near the machine.
- Replace the telephone line.

Step	Cause	Remedy
1	Connection failure of the modem flat cable	Reconnect the modem flat cable.
2	Connection failure of the CIS flat cable	Reconnect the CIS flat cable.
3	Connection failure of the panel flat cable	Reconnect the panel flat cable.
4	Connection failure of the touch panel flat cable	Reconnect the touch panel flat cable.
5	Connection failure of the ten key PCB flat cable	Reconnect the ten key PCB flat cable.
6	Connection failure of the ADF document detection sensor PCB harness	Reconnect the ADF document detection sensor PCB harness.
7	Document detection actuator coming off	Reattach the document detection actuator.
8	First or second side CIS flat cable failure	Replace the first or second side CIS flat cable.
9	First or second side CIS unit failure	Replace the first or second side CIS unit.
10	ADF drive gear failure	Replace the ADF unit.
11	Document scanner unit failure	Replace the document scanner unit.
12	Panel PCB failure	Replace the panel PCB ASSY.
13	Key PCB failure	Replace the panel unit.
14	Modem PCB failure	Replace the modem PCB ASSY.
15	Main PCB failure	Replace the main PCB ASSY.

4.13.2 Fax cannot be received

<User Check>

- Check that the line cord is inserted into the socket correctly.
- Check that the receiving mode setting is correct.
- Check that the receiver's machine works normally or the function you want to perform is equipped with the receiver's machine.
- Move the machine to the other place to check whether there is any noise source near the machine.
- Replace the telephone line.

Step	Cause	Remedy
1	Connection failure of the modem flat cable	Reconnect the modem flat cable.
2	Modem PCB failure	Replace the modem PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

4.13.3 Communication error occurs

<User Check>

- Check whether there is any noise source near the machine.
- Replace the telephone line.

Step	Cause	Remedy
1	Connection failure of the modem flat cable	Reconnect the modem flat cable.
2	Modem PCB failure	Replace the modem PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

4.13.4 Receive buffer full during receiving into memory

<User Check>

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

Step	Cause	Remedy
1	Main PCB failure	Replace the main PCB ASSY.

4.14 Troubleshooting for Other Problems

4.14.1 Cannot make print

<User Check>

- Turn the power switch OFF and then back ON again.
- Check that the USB cable is connected to the host correctly.
- Check that the LAN cable is connected to the host correctly.
- Replace the USB cable.
- Replace the LAN cable.
- Check that the maximum printable page number has not been exceeded.
- Check that the PC Print is not forbidden.
- Check the print limit ID.
- Check the network connection.
- Check the relevant section in the Network Setting Guide.
- Check that the print data is not damaged.
- Install the latest main firmware.
- Match the document size with the one specified in the driver.

Step	Cause	Remedy
1	Connection failure of the wireless LAN connector	Reconnect the wireless LAN connector.
2	Wireless LAN PCB failure	Replace the wireless LAN PCB.
3	Main PCB failure	Replace the main PCB ASSY.

4.14.2 Problem of USB direct interface

<User Check>

- Wait for one minute while connecting the USB flash memory and check if it works normally.
- Connect the USB flash memory again.
- Replace the USB flash memory.
- Check that the extension of data in the USB flash memory is correct.
- Check that the USB device out of specification is not connected.
- Check that the multiple USB devices are not connected to the machine.

Step	Cause	Remedy
1	Connection failure of the USB host harness	Reconnect the USB host harness.
2	USB host PCB failure	Replace the USB host PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

4.14.3 Cannot update firmware

<User Check>

- Make sure that there is no other function running.
- Turn the power switch OFF and then back ON again.

Step	Cause	Remedy
1	Firmware version does not match	Reinstall the latest sub firmware and main firmware in this order.
2	In case of update failure by interruption, the firmware might not correctly written in the ROM	Update the firmware again by the following procedure.* 1) Turn OFF the machine. 2) Turn ON the machine while pressing the  key. 3) Double-click the "Filedg32.exe" to start, and select "Brother Maintenance USB Printer". 4) Drag and drop the firmware (upd file) in the FILEDG32 screen. Update is started.
3	Main PCB failure	Replace the main PCB ASSY.

* By the above update procedure, the other models firmware can be updated to the machine. Check that the firmware is right and update correctly. If the other models firmware was updated by mistake, the machine may repeat power ON/OFF or not powered ON. In such case, replace the main PCB.

4.14.4 "Paper Low" message does not disappear

<User Check>

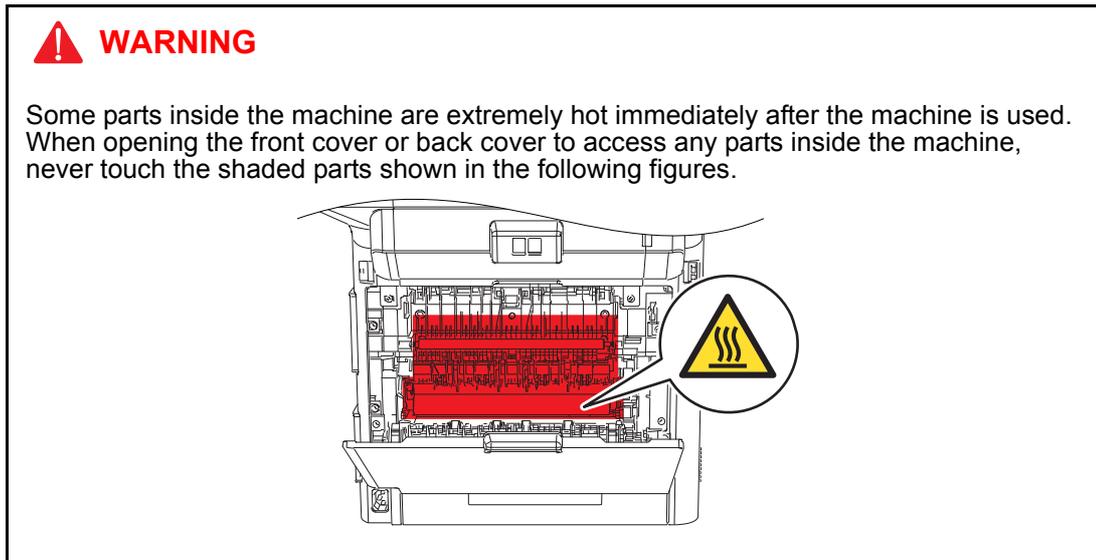
- Turn the power switch OFF and then back ON again.
- Refill the paper in the appropriate paper tray.

Step	Cause	Remedy
1	Damaged plate-up plate in the paper tray	Replace the paper tray.
2	Paper feed motor failure	Replace the process drive unit.
3	Damaged plate push-up mechanism in the machine	Replace the paper feed drive unit.
4	Main PCB failure	Replace the main PCB ASSY.

CHAPTER 3 DISASSEMBLY AND ASSEMBLY

1. SAFETY PRECAUTIONS

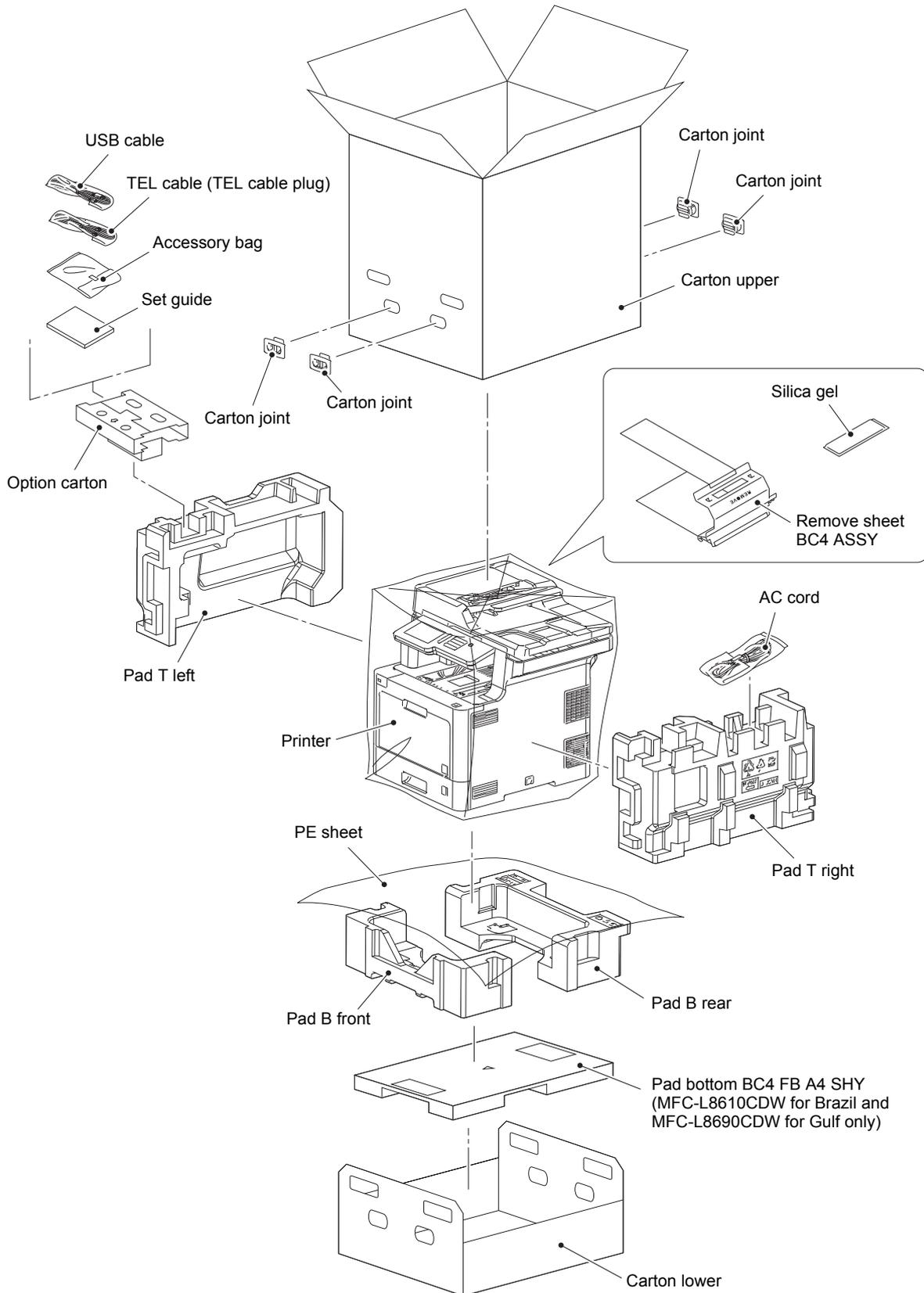
To avoid creating secondary problems by mishandling, follow the warnings and precautions below during maintenance work.



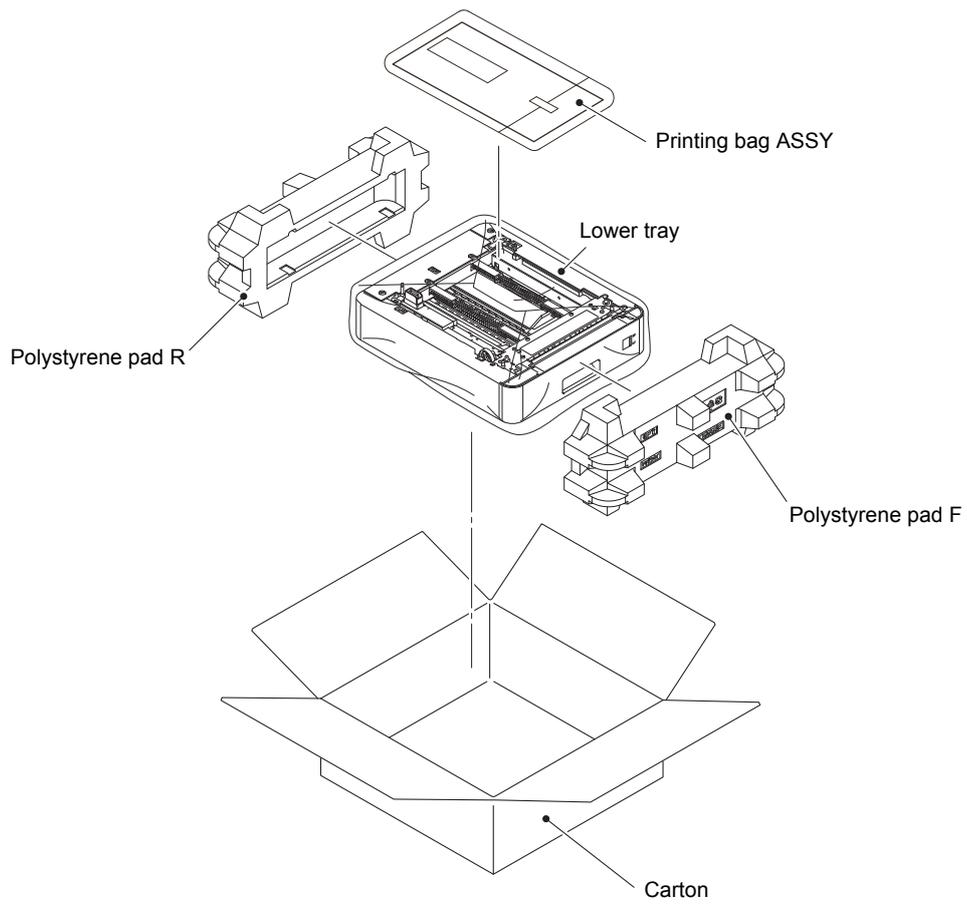
- Be careful not to lose screws, washers, or other parts removed.
- Be sure to apply grease to the gears and applicable positions specified in this chapter.
- When using soldering irons or other heat-generating tools, take care not to accidentally damage parts such as wires, PCBs and covers.
- Static electricity charged in your body may damage electronic parts. When transporting PCBs, be sure to wrap them in conductive sheets.
- When replacing the PCB and all the other related parts, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on the flat cables or on the wire harness.
- 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.
- When connecting or disconnecting harnesses, hold the connector body, not the cables. If the connector is locked, release it first.
- After a repair, check not only the repaired portion but also handling of harnesses. Also check that other related portions are functioning properly before operational checks.
- There must be no damage in the insulation sheet.
- After a repair, update the firmware to the latest version.
- Forcefully closing the front cover without mounting the toner cartridge and the drum unit can damage the machine.
- When replacing the PCB, clear the component side and solder side from foreign objects.

2. PACKING

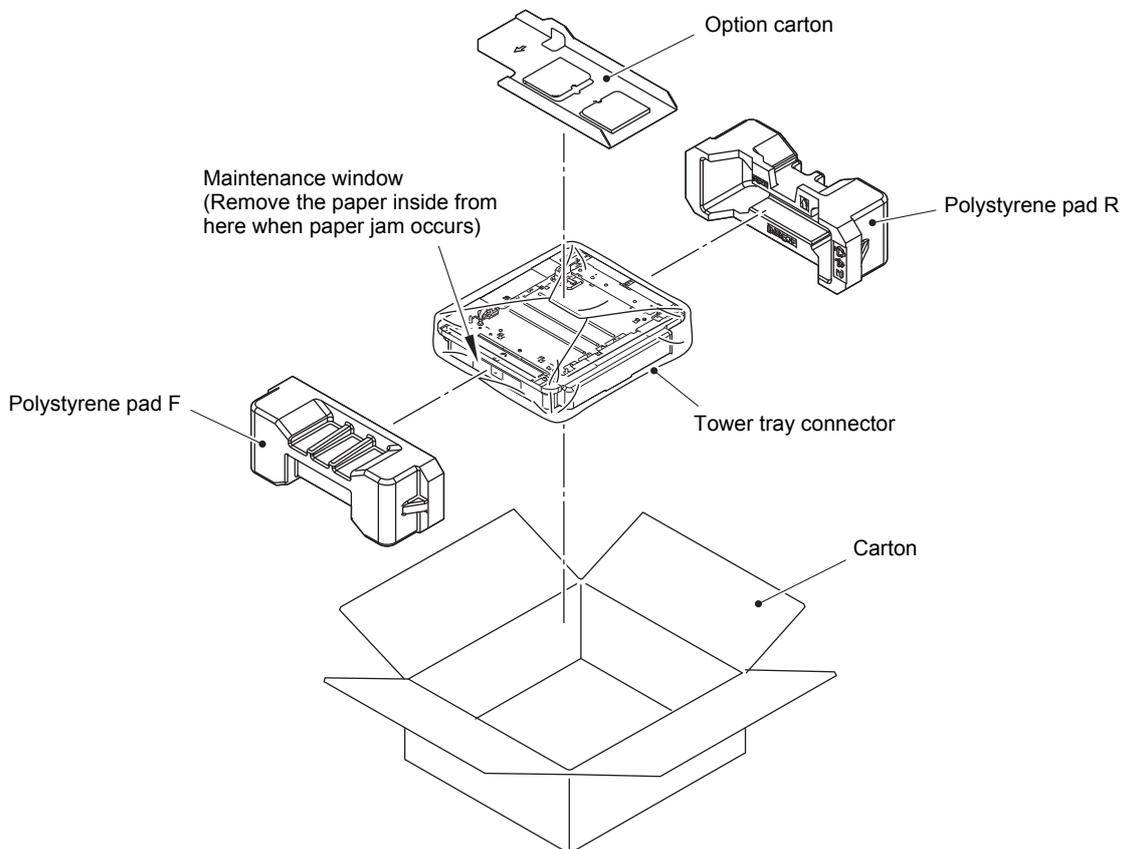
Machine

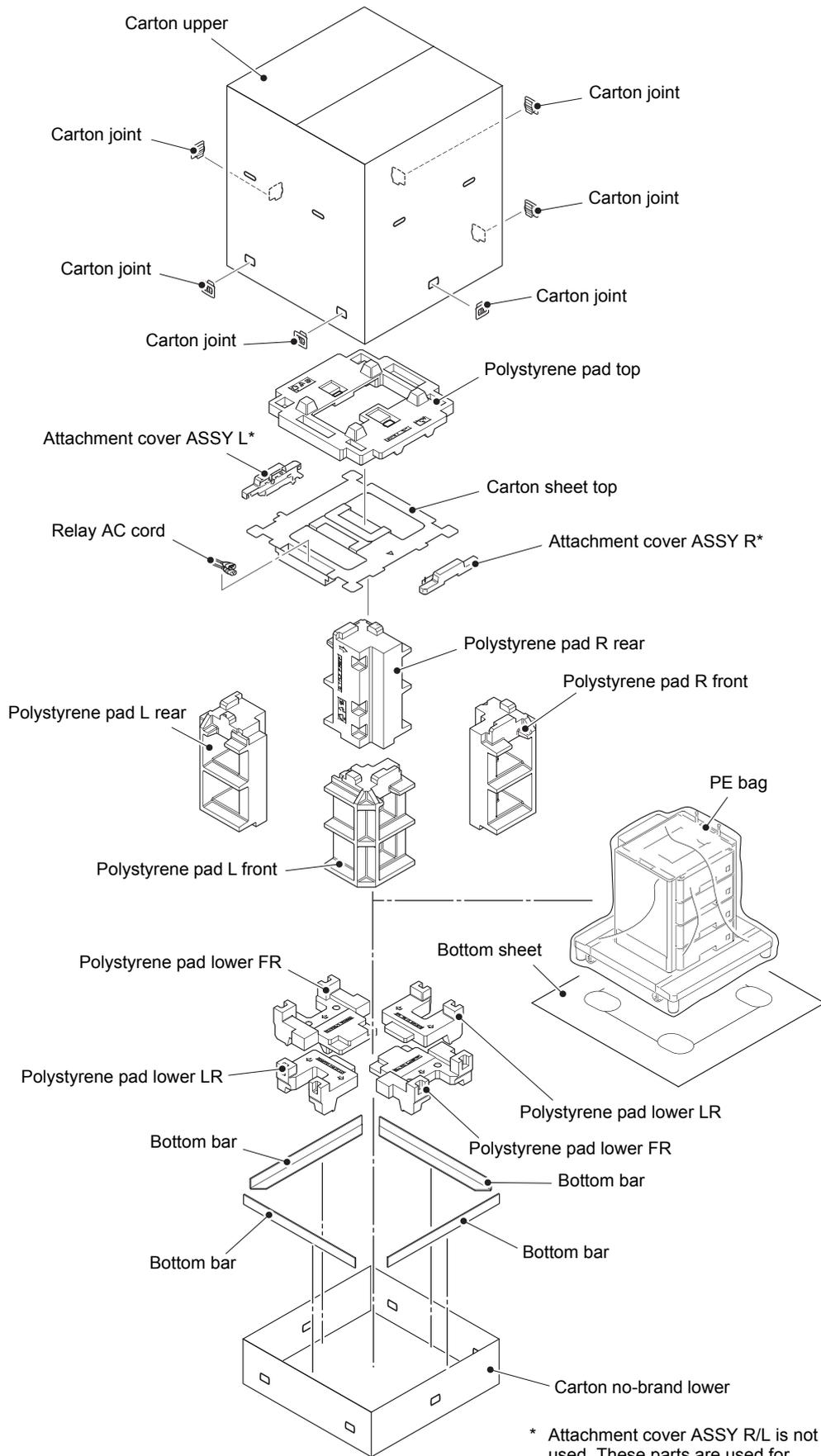


■LT



■TC





* Attachment cover ASSY R/L is not used. These parts are used for other Laser product series.

3. SCREW CATALOGUE

Taptite bind B

Taptite bind B M3x8	
Taptite bind B M3x10	
Taptite bind B M3x12	
Taptite bind B M4x10	
Taptite bind B M4x12	
Taptite bind B M4x30	

Taptite pan B

Taptite pan B M3x8	
Taptite pan B M3x10	
Taptite pan B M4x14	

Taptite pan (washer)

Taptite pan (washer) B M4x12 DA	
------------------------------------	--

Taptite cup B

Taptite cup B M3x8	
Taptite cup B M3x10	
Taptite cup B M3x12	

Screw cup

Screw cup M3x8	
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Taptite cup S

Taptite cup S M3x6 SR	
Taptite cup S M3x8 SR	

Taptite flat B

Taptite flat B M3x10	
-------------------------	--

Screw pan (S/P washer)

Screw pan (S/P washer) M3.5x6	
----------------------------------	--

Shoulder screw

Shoulder screw M3	
Shoulder screw	
Shoulder screw (black)	

Screw bind

Screw bind M3x4	
Screw bind M5x8	

4. SCREW TORQUE LIST

Location of screw		Screw type	Q' ty	Tightening torque N·m (kgf·cm)
Fuser unit line cover L		Taptite bind B M4x12	2	0.8±0.1 (8±1)
Fuser unit line cover R		Taptite bind B M4x12	2	0.8±0.1 (8±1)
Fuser unit		Taptite pan B M4x14	2	0.8±0.1 (8±1)
Side cover L ASSY		Taptite cup B M3x8	1	0.5±0.1 (5±1)
		Taptite bind B M4x12	4	0.8±0.1 (8±1)
Side cover R		Taptite cup B M3x8	1	0.5±0.1 (5±1)
		Taptite bind B M4x12	3	0.8±0.1 (8±1)
Front cover		Taptite bind B M4x12	2	0.8±0.1 (8±1)
Front cover arm L		Taptite pan B M4x14	1	0.8±0.1 (8±1)
Front cover arm R		Taptite pan B M4x14	1	0.8±0.1 (8±1)
Front cover damper spring		Taptite cup B M3x8	1	0.45±0.05 (4.5±0.5)
Back cover upper		Taptite bind B M4x12	2	0.8±0.1 (8±1)
Panel ground wire		Screw cup M3x8 (black)	1	0.5±0.05 (5±0.5)
Panel unit		Taptite bind B M4x12	4	0.5±0.05 (5±0.5)
Ten key PCB pressure		Taptite cup B M3x10	4	0.5±0.1 (5±1)
Mode key pressure		Taptite cup B M3x10	2	0.5±0.1 (5±1)
Panel PCB shield cover	3.7 inch	Taptite cup B M3x10	4	0.5±0.1 (5±1)
	5.0 inch	Taptite cup S M3x6 SR	4	0.7±0.05 (7±0.5)
	7.0 inch	Taptite cup S M3x6 SR	4	0.7±0.05 (7±0.5)
Panel ground wire		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Panel PCB shield plate	3.7 inch	Taptite cup B M3x10	1	0.5±0.1 (5±1)
	5.0 inch	Taptite cup B M3x10	3	0.5±0.1 (5±1)
	7.0 inch	Taptite cup B M3x10	5	0.5±0.1 (5±1)
Main shield plate		Screw cup M3x8 (black)	4	0.5±0.05 (5±0.5)
ADF ground wire		Screw cup M3x8 (black)	1	0.5±0.05 (5±0.5)
FB ground wire		Screw cup M3x8 (black)	1	0.5±0.05 (5±0.5)
Document scanner unit		Taptite bind B M4x12	7	0.8±0.1 (8±1)
Hinge L ASSY (ADF unit rear side)		Taptite bind B M4x12	1	0.8±0.1 (8±1)
Hinge L ASSY		Taptite bind B M4x12	3	0.8±0.1 (8±1)
Hinge R support		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Hinge arm		Taptite cup B M3x10	3	0.5±0.1 (5±1)
ADF front cover	LGL models	Taptite bind B M3x10	2	0.5±0.1 (5±1)
	A4 models	Taptite bind B M3x12	4	0.5±0.1 (5±1)
ADF separation holder ASSY		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Upper document chute		Taptite cup B M3x10	6	0.5±0.1 (5±1)
Scanner top cover		Taptite bind B M4x12	8	0.8±0.1 (8±1)
Panel lower cover		Taptite bind B M4x12	6	0.8±0.1 (8±1)
Modem ground wire R		Taptite pan B M3x10	1	0.5±0.05 (5±0.5)
Modem ground wire L		Screw pan (S/P washer) M3.5x6	1	0.5±0.05 (5±0.5)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
USB host ground wire	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
Joint cover ASSY	Taptite bind B M4x12	9	0.8±0.1 (8±1)
Modem shield plate	Taptite bind B M4x12	2	0.7±0.1 (7±1)
Modem shield cover	Screw pan (S/P washer) M3.5x6	1	0.5±0.05 (5±0.5)
Modem PCB ASSY	Taptite cup S M3x6 SR	2	0.5±0.05 (5±0.5)
USB cover	Taptite bind B M4x12	3	0.6±0.05 (6±0.5)
USB host ground wire	Taptite bind B M4x12	1	0.6±0.05 (6±0.5)
Main PCB ASSY	Screw cup M3x8 (black)	2	0.5±0.05 (5±0.5)
High-voltage power supply PCB ASSY	Taptite pan B M3x10	1	0.5±0.1 (5±1)
Scanner cover plate	Taptite bind B M4x12	6	0.8±0.1 (8±1)
	Taptite cup S M3x6 SR	4	0.8±0.1 (8±1)
Scanner holder	Taptite cup S M3x6 SR	5	0.8±0.1 (8±1)
Side ground plate L	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
Main PCB plate	Screw cup M3x8 (black)	2	0.5±0.05 (5±0.5)
PF cable rack	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
Under bar ground spring	Taptite cup S M3x8 SR	1	
Process drive unit	Taptite bind B M4x12	5	0.8±0.1 (8±1)
	Taptite pan (washer) B M4x12 DA	1	0.8±0.1 (8±1)
	Screw pan (S/P washer) M3.5x6	1	0.5±0.05 (5±0.5)
Paper feed drive unit	Taptite bind B M4x12	4	0.8±0.1 (8±1)
Develop release drive unit	Taptite bind B M4x12	3	0.8±0.1 (8±1)
Paper eject ASSY	Taptite bind B M4x12	4	0.8±0.1 (8±1)
Registration mark sensor unit	Taptite bind B M3x10	2	0.5±0.1 (5±1)
Ground wire	Screw pan (S/P washer) M3.5x6	1	0.5±0.05 (5±0.5)
Inlet	Taptite flat B M3x10	1	0.5±0.05 (5±0.5)
Drive ground plate	Screw pan (S/P washer) M3.5x6	1	0.5±0.05 (5±0.5)
LVPS plate	Taptite cup S M3x8 SR	2	0.5±0.05 (5±0.5)
	Taptite bind B M4x12	2	0.8±0.1 (8±1)
Low-voltage power supply PCB ASSY	Taptite cup S M3x6 SR	5	0.5±0.05 (5±0.5)
MP upper cover ASSY	Taptite bind B M3x10	2	0.4±0.1 (4±1)
MP paper empty/ registration front sensor PCB ASSY	Taptite bind B M3x8	1	0.4±0.1 (4±1)
Paper feed unit	Taptite cup B M3x12	1	0.4±0.1 (4±1)
	Taptite bind B M4x12	2	0.8±0.1 (8±1)
Registration front/rear sensor PCB holder	Taptite bind B M3x10	1	0.5±0.1 (5±1)
MP drive frame	Taptite bind B M3x10	3	0.5±0.1 (5±1)

■ Screw torque list (LT-330CL)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
LT side cover L	Shoulder screw M3	2	0.8±0.1 (8±1)
	Taptite pan B M3x8	1	0.5±0.1 (5±1)
LT control PCB ASSY	Screw cup M3x8 (black)	1	0.8±0.1 (8±1)
LT side cover R	Shoulder screw M3	2	0.8±0.1 (8±1)
LT drive unit	Taptite cup S M3x8 SR	5	0.8±0.1 (8±1)
Handle	Taptite bind B M4x12	4	0.8±0.1 (8±1)
LT front cover	Shoulder screw M3	3	0.8±0.1 (8±1)
Top beam front plate	Taptite cup S M3x8 SR	8	0.8±0.1 (8±1)
	Taptite bind B M4x12	4	0.8±0.1 (8±1)

■ Screw torque list (LT-340CL)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
LT cover rear	Shoulder screw M3	1	0.8±0.1 (8±1)
LT cover left	Shoulder screw M3	2	0.8±0.1 (8±1)
LT control PCB ASSY	Taptite cup S M3x6 SR	1	0.8±0.1 (8±1)
LT cover right	Shoulder screw M3	2	0.8±0.1 (8±1)
Handle	Taptite bind B M4x12	4	0.8±0.1 (8±1)
LT beam F ASSY	Taptite cup S M3x6 SR	5	0.8±0.1 (8±1)
LT beam rear	Taptite cup S M3x6 SR	8	0.8±0.1 (8±1)
LT paper feed frame unit	Taptite bind B M4x10	1	0.8±0.1 (8±1)
Sensor PCB holder	Taptite bind B M3x8	1	0.5±0.1 (5±1)

■ Screw torque list (TT)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
Top cover TT	Shoulder screw	8	0.8±0.1 (8±1)
	Taptite bind B M4x10	2	0.8±0.1 (8±1)
Side cover L	Taptite bind B M4x10	7	0.8±0.1 (8±1)
Side cover R	Taptite bind B M4x10	7	0.8±0.1 (8±1)
Back cover	Shoulder screw (black)	6	0.8±0.1 (8±1)
PCB cover plate	Screw cup M3x8 (black)	3	0.5±0.1 (5±1)
TT control PCB ASSY	Screw cup M3x8 (black)	4	0.5±0.1 (5±1)
PCB shield plate	Screw cup M3x8 (black)	6	0.8±0.1 (8±1)
Attach sensor holder (L side)	Taptite cup S M3x8 SR	1	1.0±0.1 (10±1)
Attach sensor holder (R side)	Taptite cup S M3x8 SR	1	1.0±0.1 (10±1)
FG plate L	Taptite cup S M3x8 SR	4	1.0±0.1 (10±1)
Motor plate calking ASSY	Taptite bind B M4x10	4	0.8±0.1 (8±1)
TT motor	Screw bind M3x4	3	0.65±0.05 (6.5±0.5)
Reinforcing plate top L	Taptite cup S M3x8 SR	6	1.0±0.1 (10±1)
Air duct	Taptite bind B M4x10	1	0.8±0.1 (8±1)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
T2TT unit	Taptite cup S M3x8 SR	8	1.0±0.1 (10±1)
	Taptite bind B M4x10	2	0.8±0.1 (8±1)
	Screw cup M3x8 (black)	6	0.8±0.1 (8±1)
TT ground plate right	Screw pan (S/P washer) M3.5x6	1	0.5±0.1 (5±1)
	Screw cup M3x8 (black)	1	0.8±0.1 (8±1)
TT ground plate rear	Screw cup M3x8 (black) (Left)	1	0.8±0.1 (8±1)
	Screw cup M3x8 (black) (Right)	1	0.5±0.1 (5±1)
Positioning plate calking ASSY (Four parts)	Taptite cup S M3x8 SR	8	1.0±0.1 (10±1)
Reinforcing plate L (1/2)	Taptite cup S M3x8 SR	6	1.0±0.1 (10±1)
FG plate L	Taptite cup S M3x8 SR	4	1.0±0.1 (10±1)
Calking gear plate ASSY	Taptite bind B M4x12	4	0.8±0.1 (8±1)
T3TT unit	Taptite cup S M3x8 SR	3	0.8±0.1 (8±1)
	Taptite bind B M4x10	2	0.8±0.1 (8±1)
LV shield plate cover	Screw pan (S/P washer) M3.5x6	1	0.5±0.1 (5±1)
	Screw cup M3x8 (black)	2	0.5±0.1 (5±1)
Ground harness	Screw pan (S/P washer) M3.5x6	1	0.5±0.1 (5±1)
Inlet	Taptite flat B M3x10	2	0.5±0.1 (5±1)
Inlet cover	Taptite bind B M3x10	1	0.5±0.1 (5±1)
Low-voltage power supply PCB ASSY	Screw cup M3x8 (black)	2	0.5±0.1 (5±1)
Positioning plate calking ASSY (Four parts)	Taptite cup S M3x8 SR	8	1.0±0.1 (10±1)
Reinforcing plate L (2/2)	Taptite cup S M3x8 SR (Left)	3	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR (Right)	3	1.0±0.1 (10±1)
	Screw bind M5x8	3	0.8±0.1 (8±1)
	Screw cup M3x8 (black)	4	0.8±0.1 (8±1)
Reinforcing plate R	Taptite cup S M3x8 SR	1	1.0±0.1 (10±1)
FG plate L	Taptite cup S M3x8 SR	4	1.0±0.1 (10±1)
Calking gear plate ASSY	Taptite bind B M4x12	4	0.8±0.1 (8±1)
T4TT unit	Taptite cup S M3x8 SR	3	1.0±0.1 (10±1)
	Taptite bind B M4x10	2	0.8±0.1 (8±1)
Positioning plate calking ASSY (Four parts)	Taptite cup S M3x8 SR	8	1.0±0.1 (10±1)
T5TT unit	Taptite cup S M3x8 SR	3	1.0±0.1 (10±1)
	Taptite bind B M4x10	2	0.8±0.1 (8±1)
TT ground plate	Taptite cup S M3x8 SR	2	0.8±0.1 (8±1)
Under bar (Front side)	Taptite bind B M4x12	2	0.8±0.1 (8±1)
Under bar ground plate L	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
Drive ASSY	Taptite bind B M4x12	3	0.8±0.1 (8±1)

Location of screw	Screw type	Q' ty	Tightening torque N·m (kgf·cm)
TT front cover	Taptite cup B M4x12	2	0.8±0.1 (8±1)
	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
Under bar (Rear side)	Taptite bind B M4x12	2	0.8±0.1 (8±1)
Frame L	Taptite cup S M3x8 SR	2	0.8±0.1 (8±1)
	Taptite bind B M4x12	1	0.8±0.1 (8±1)
UB earth plate R	Taptite cup S M3x8 SR	1	0.8±0.1 (8±1)
TT paper feed frame	Taptite cup S M3x8 SR	2	0.8±0.1 (8±1)
TT front beam	Taptite bind B M4x12	2	0.8±0.1 (8±1)
TT paper feed actuator holder ASSY	Taptite bind B M3x10	1	0.5±0.1 (5±1)
TT paper empty sensor PCB ASSY	Taptite bind B M3x10	1	0.5±0.1 (5±1)

5. LUBRICATION

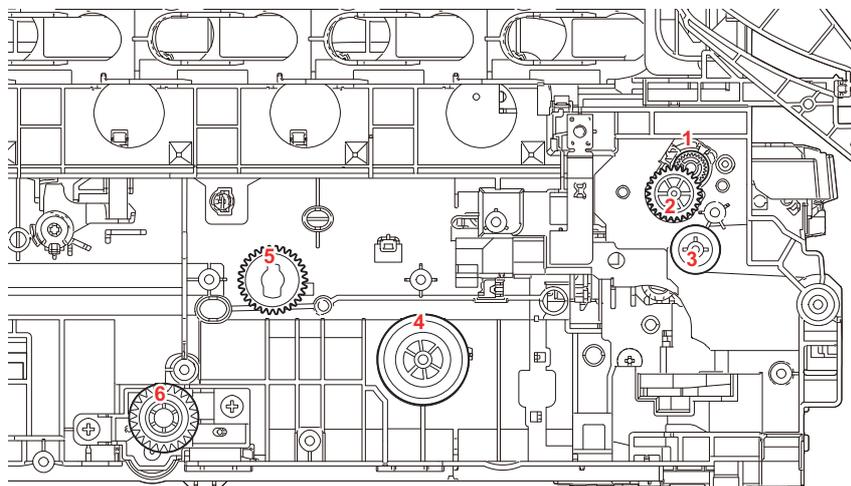
There are no applicable parts for lubrication.

6. OVERVIEW OF GEARS

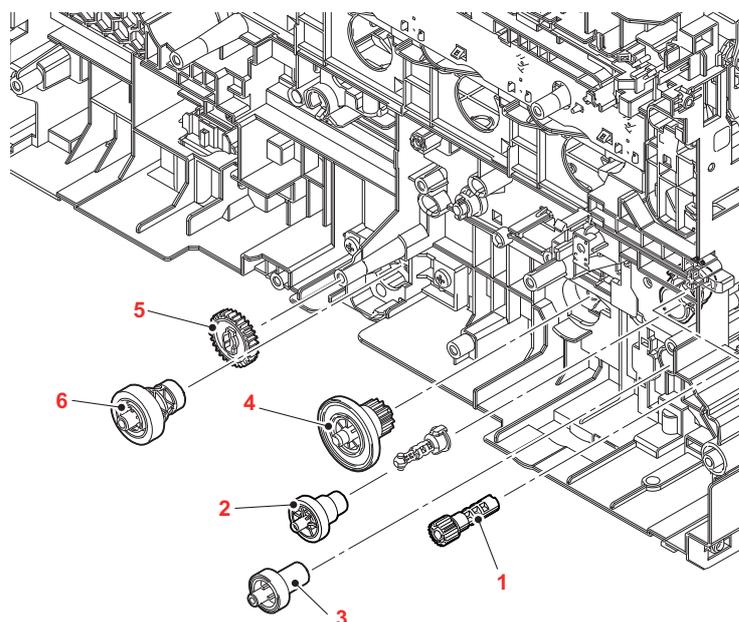
When ordering spare parts, please refer to Parts reference list.

■ Main frame L ASSY

<Layout view>



<Development view>



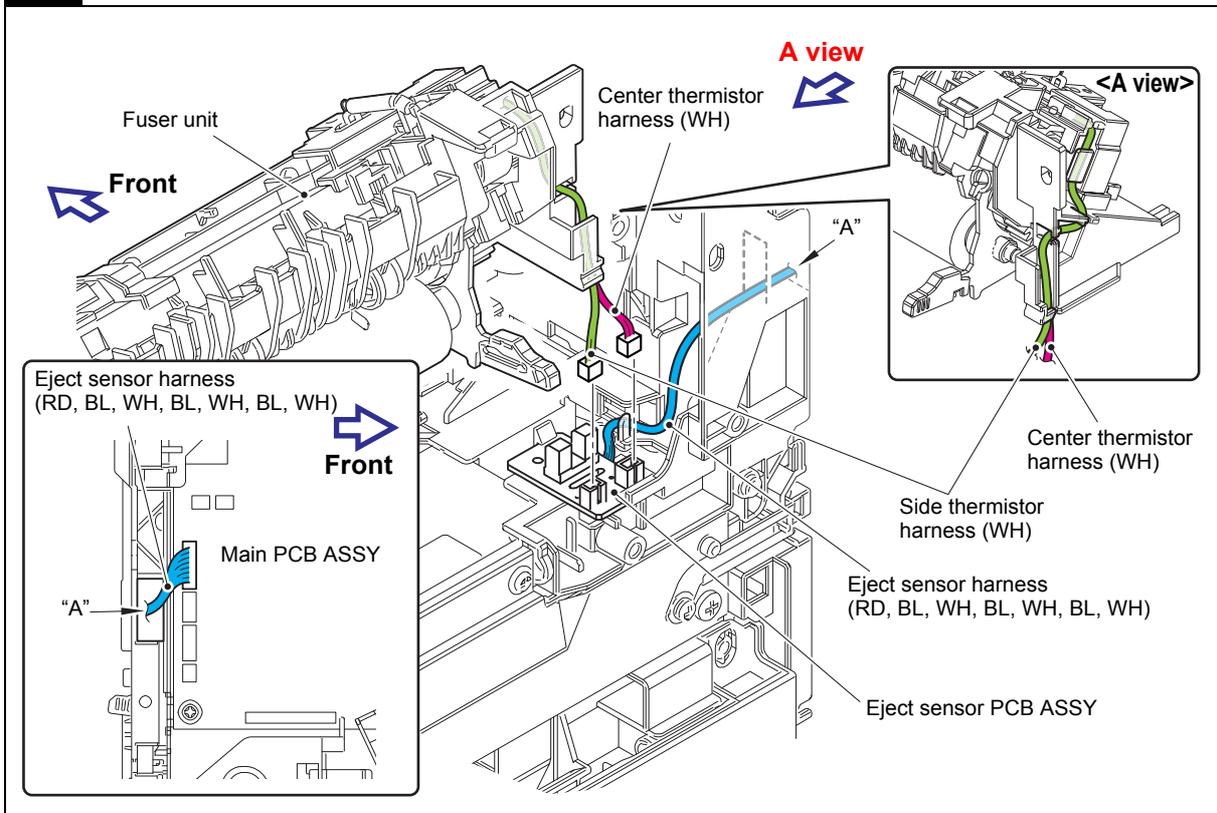
<Name of gears>

1	LY0299	Pinch roller drive gear Z21M05
2	D008NJ	REGI gear Z32-23
3	LY0164	PF drive gear 21
4	LY0166	PP gear 14 55
5	LY6128	Cleaner drive gear Z30
6	D008L2	DX drive gear Z15-23

* These parts are subject to change without notice.

7. HARNESS ROUTING

1 Fuser unit, Eject sensor PCB ASSY

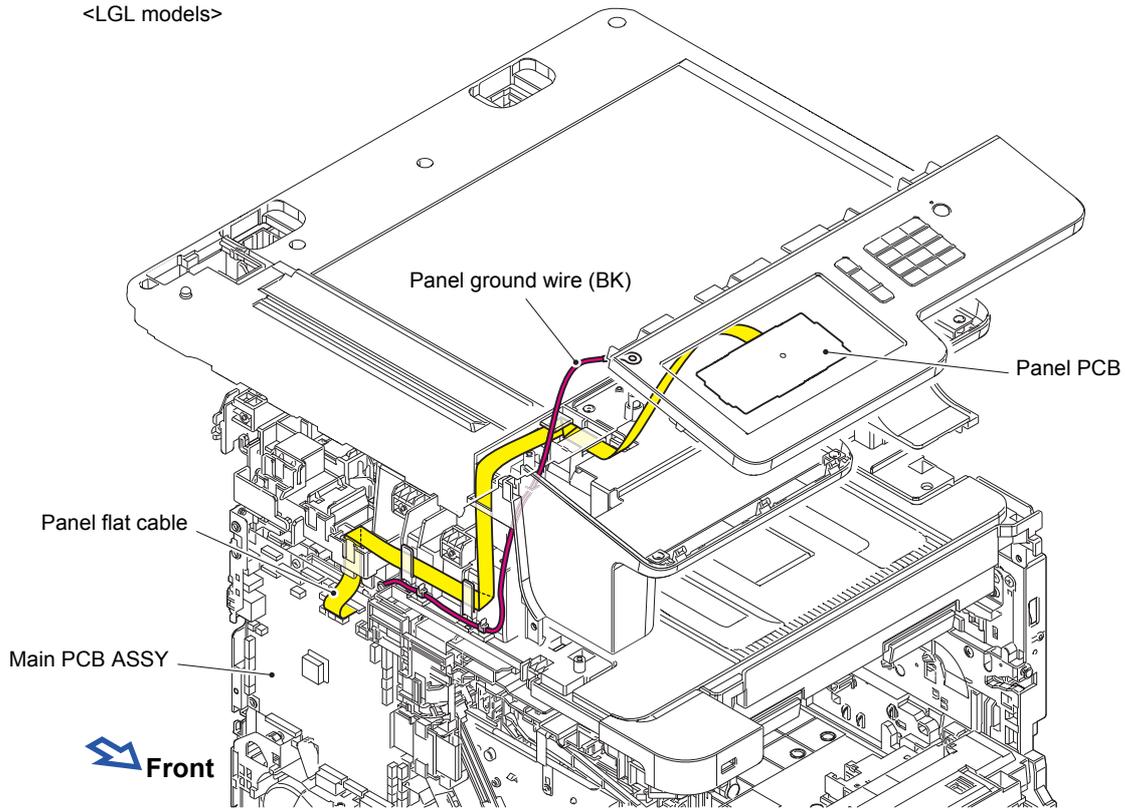


Harness colors may be changed for any reason.

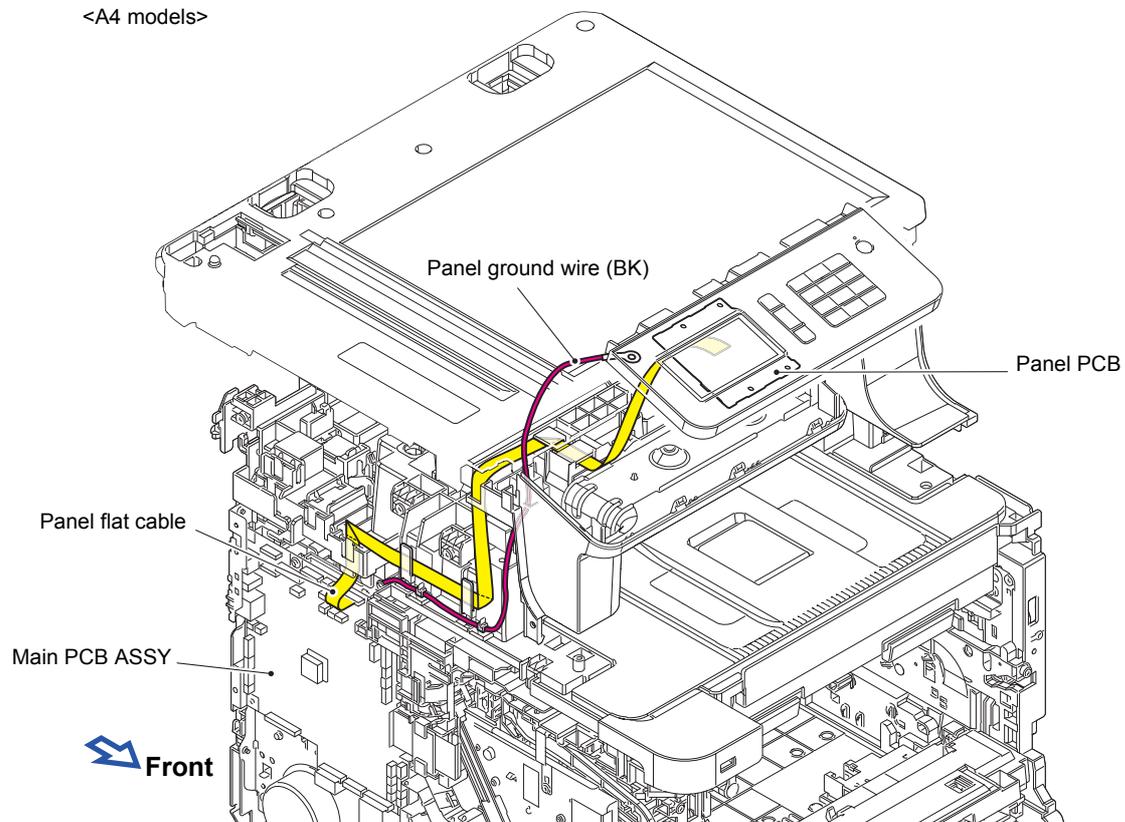
2

Panel unit

<LGL models>



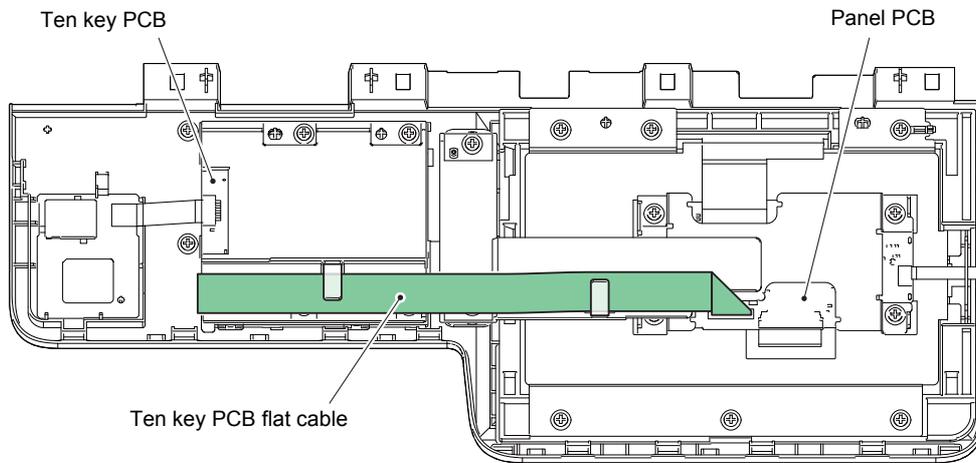
<A4 models>



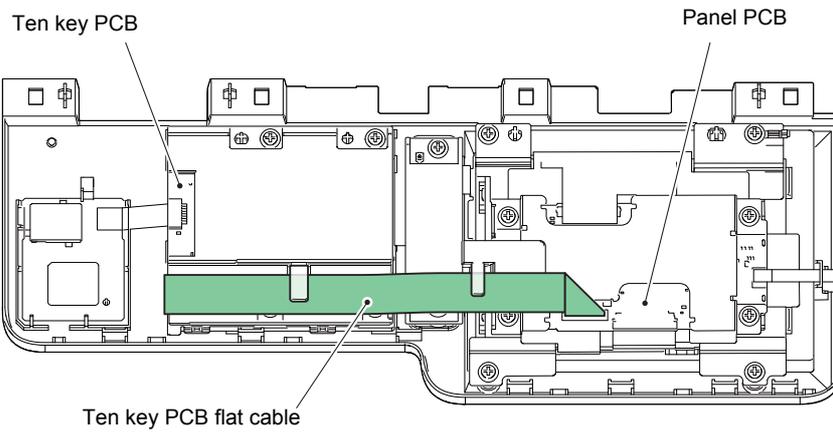
Harness colors may be changed for any reason.

3 Bottom side of the Panel unit

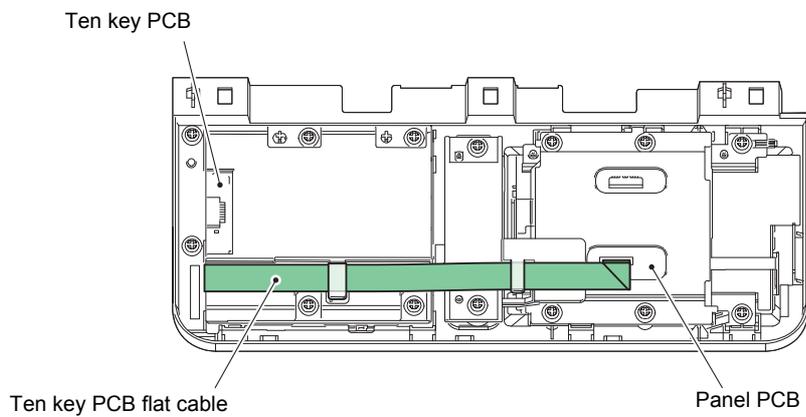
<7.0 inch>



<5.0 inch>

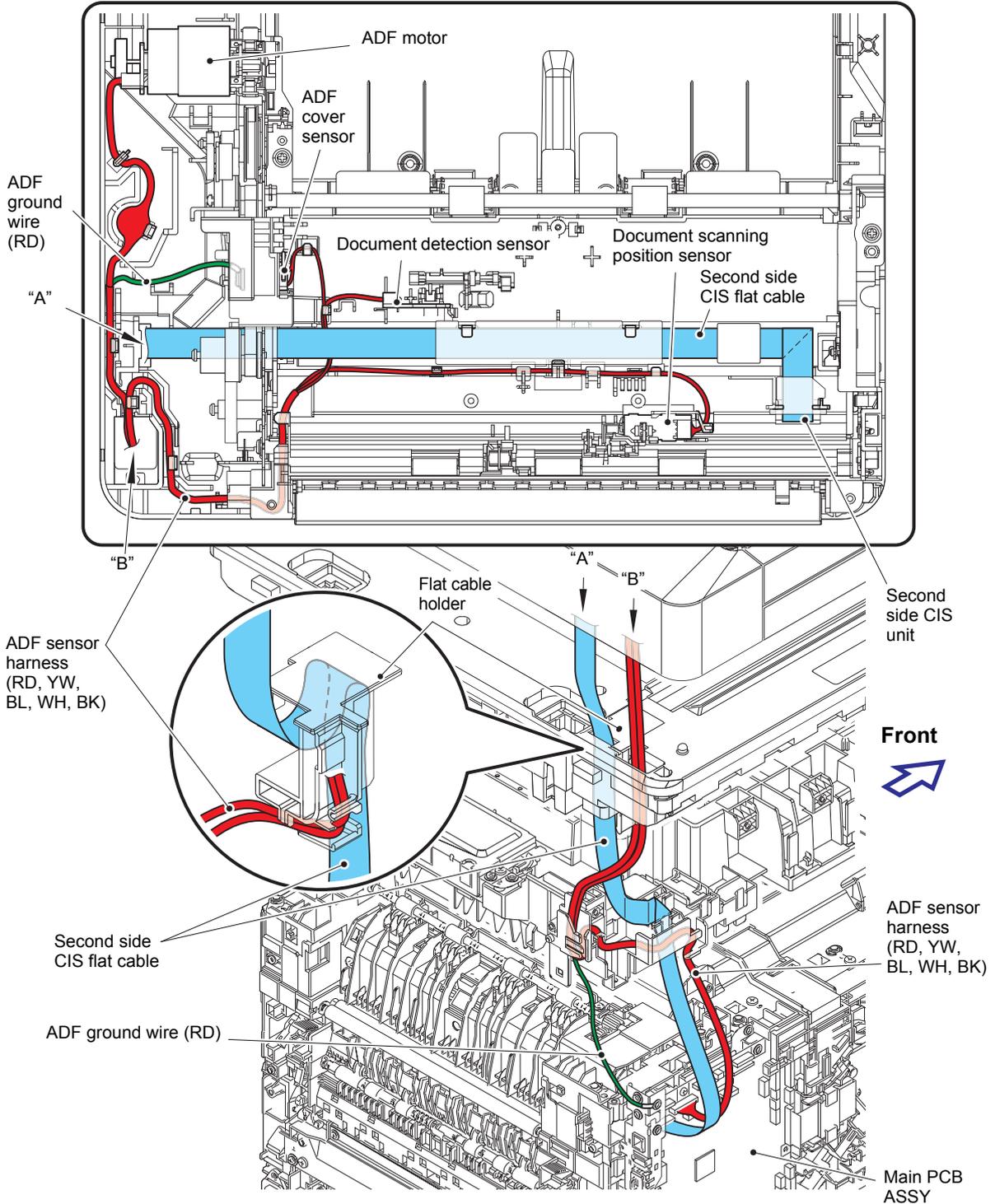


<3.7 inch>



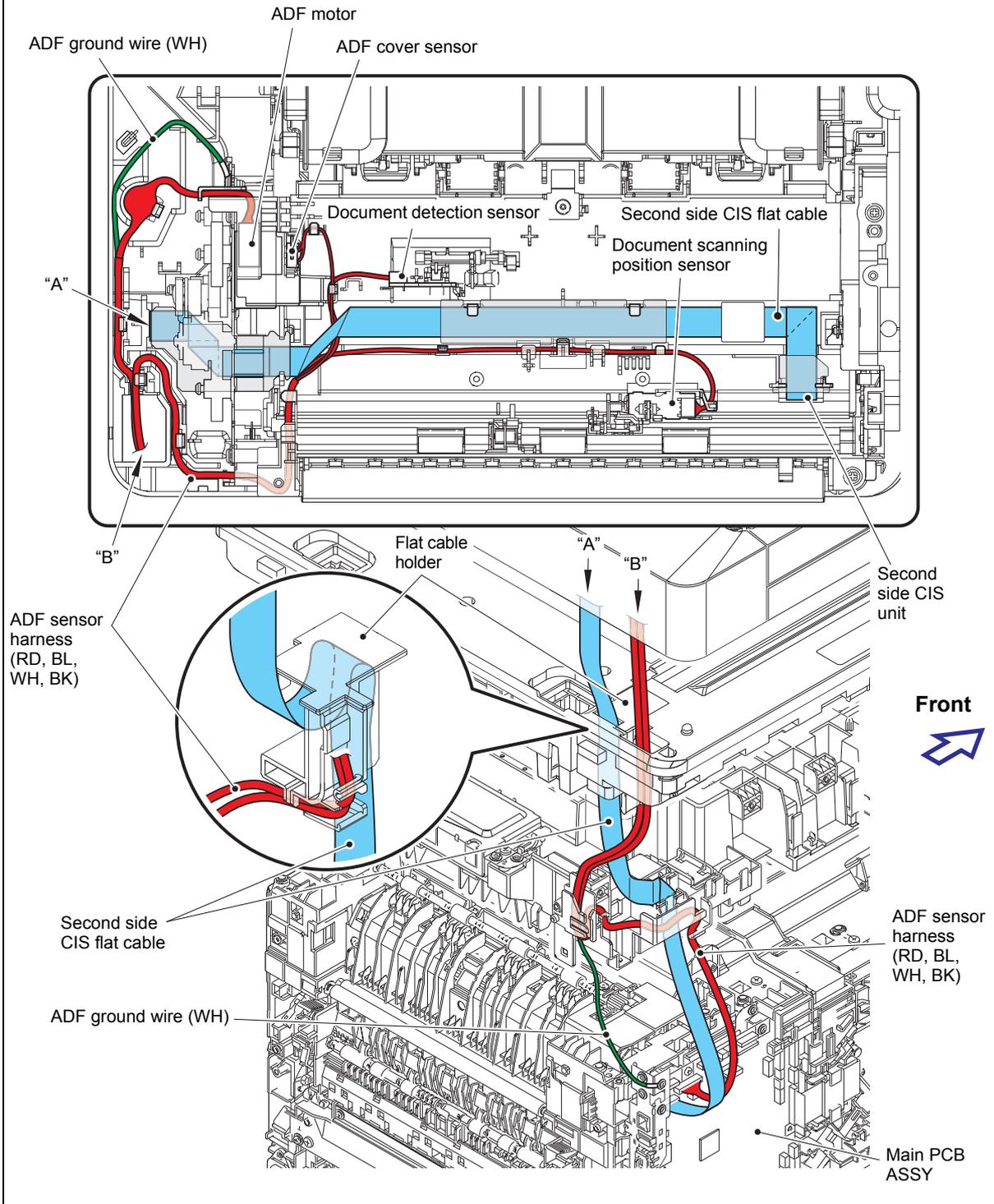
Harness colors may be changed for any reason.

4 ADF unit (7.0 inch models)



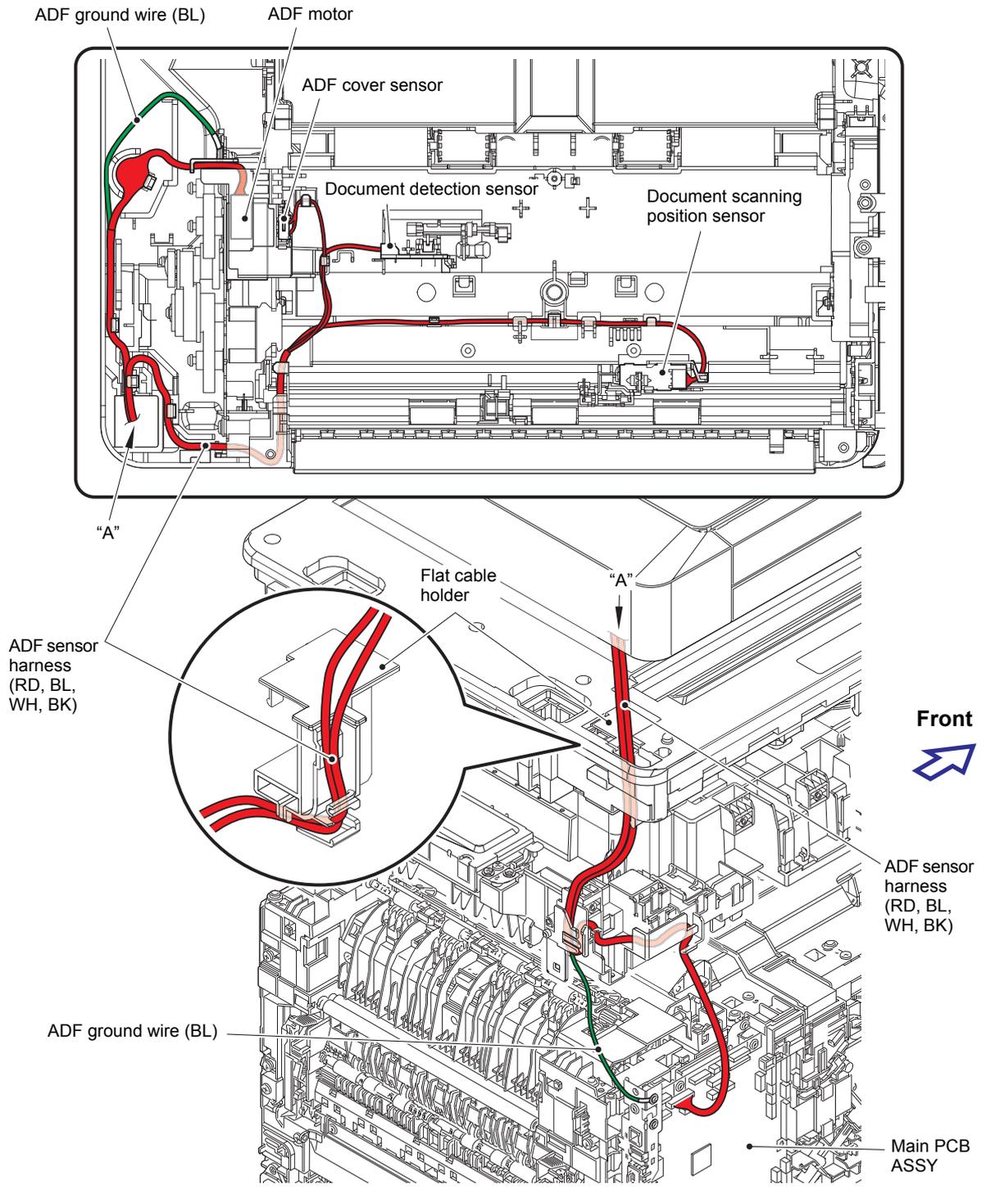
Harness colors may be changed for any reason.

5 ADF unit (5.0 / 3.7 inch models (Duplex scanning models only))

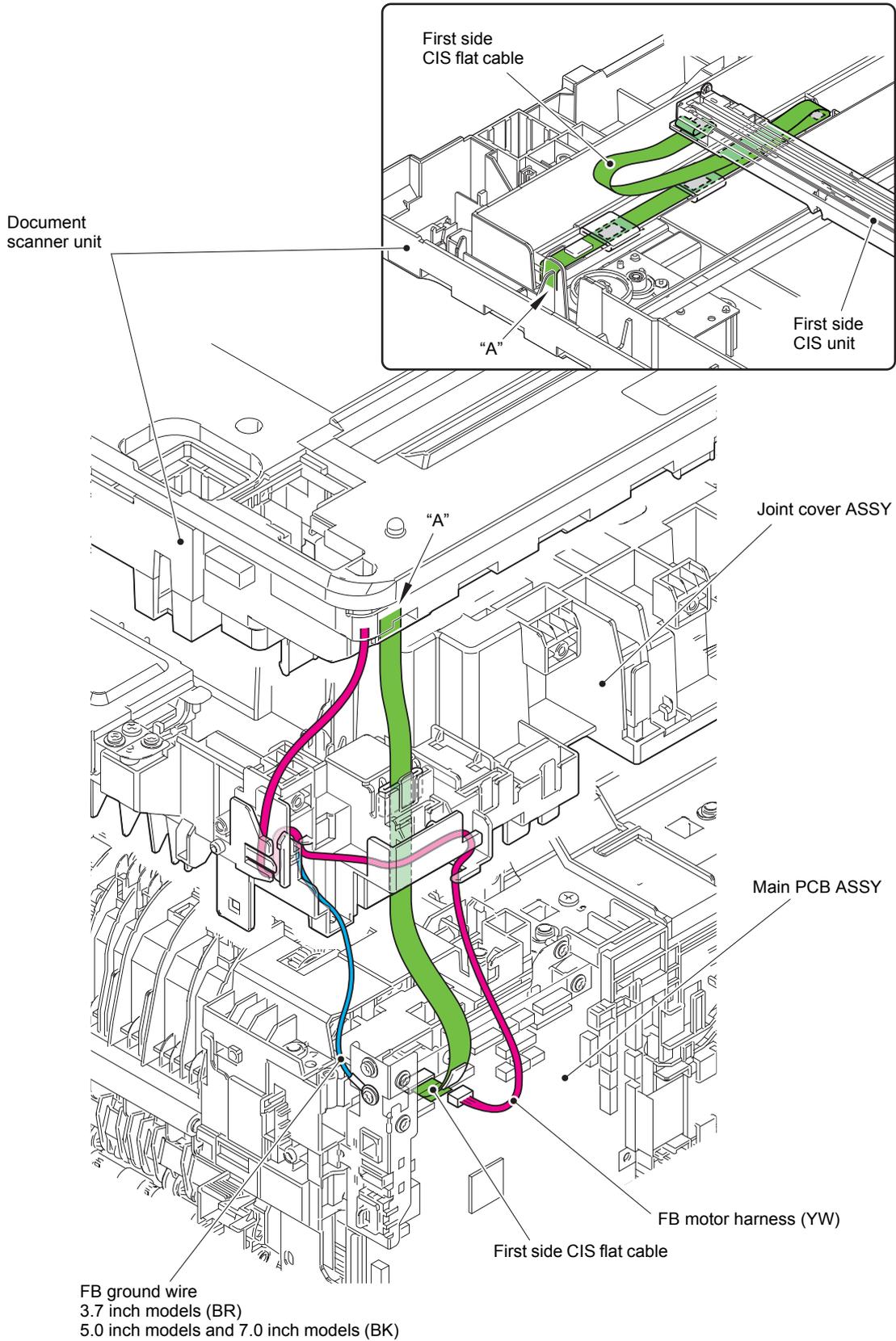


Harness colors may be changed for any reason.

6 ADF unit (3.7 inch models (Single-side scanning models only))

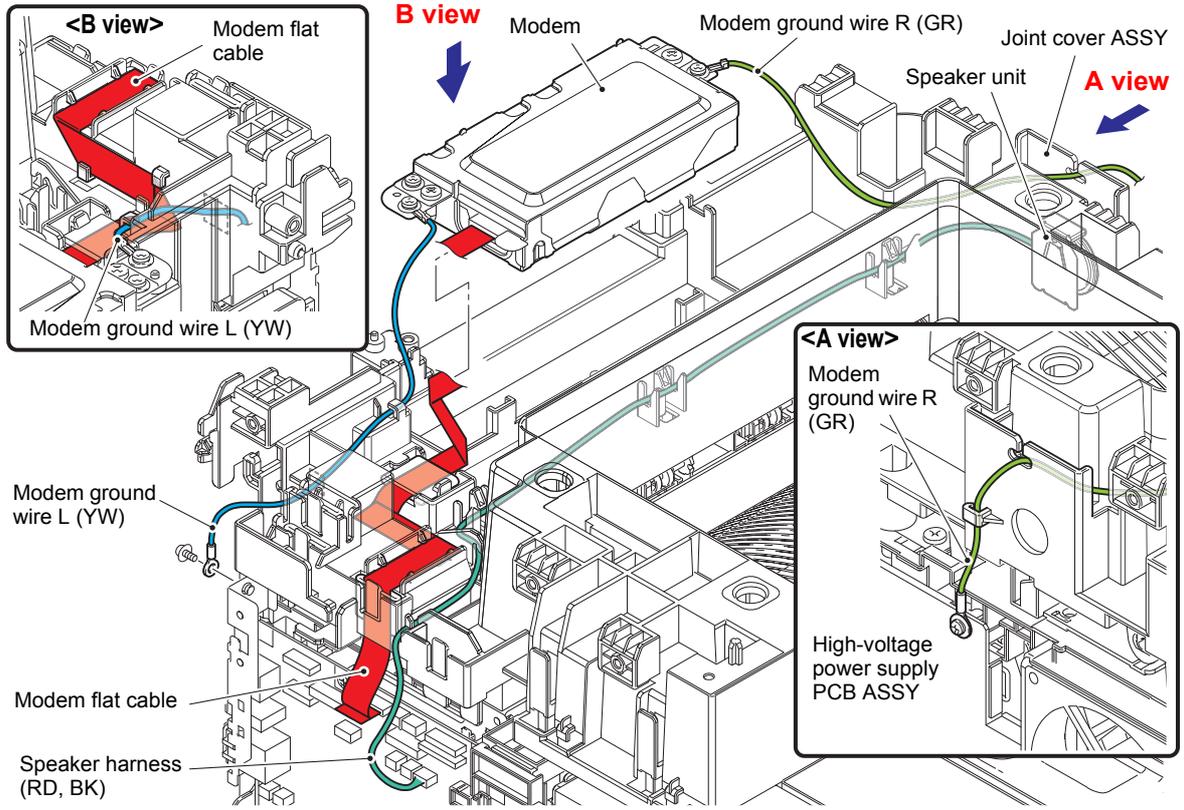


Harness colors may be changed for any reason.

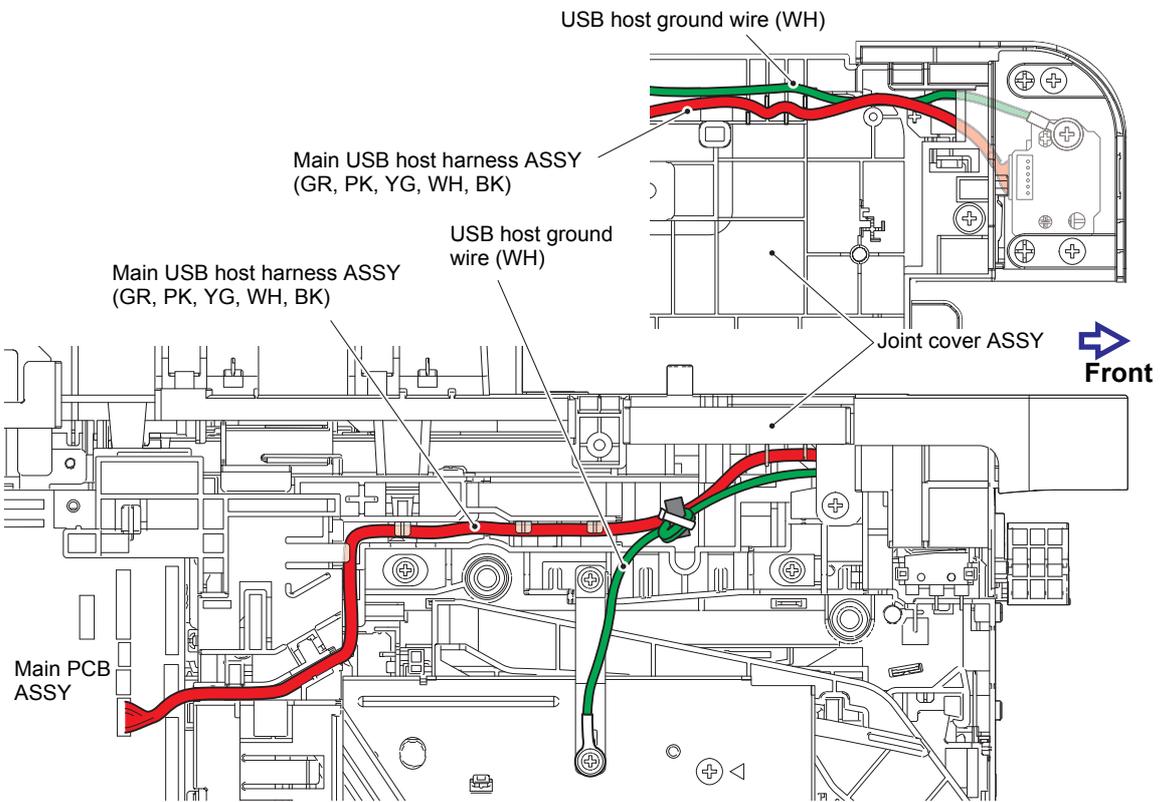


Harness colors may be changed for any reason.

8 Modem, Speaker unit

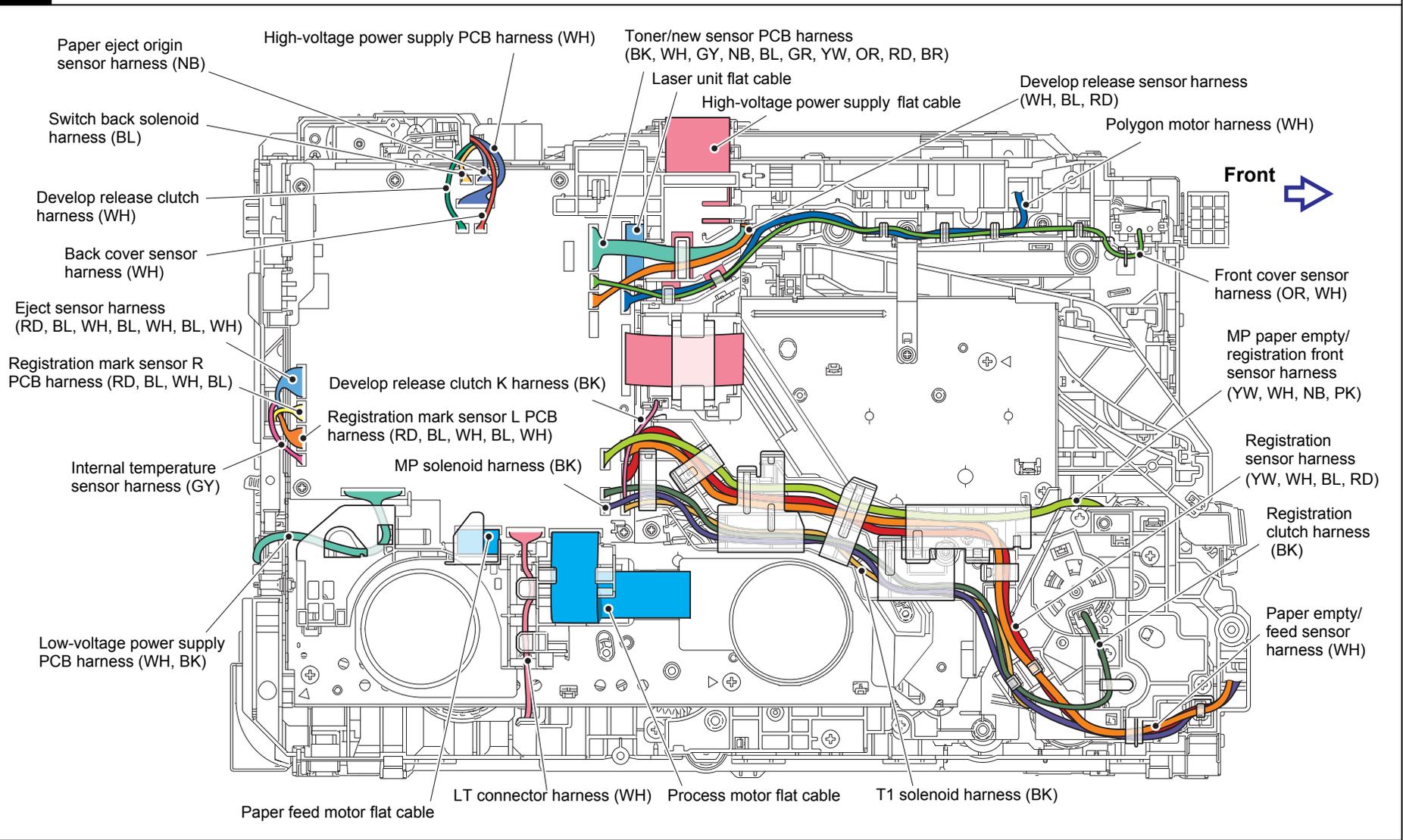


9 Main USB host harness ASSY



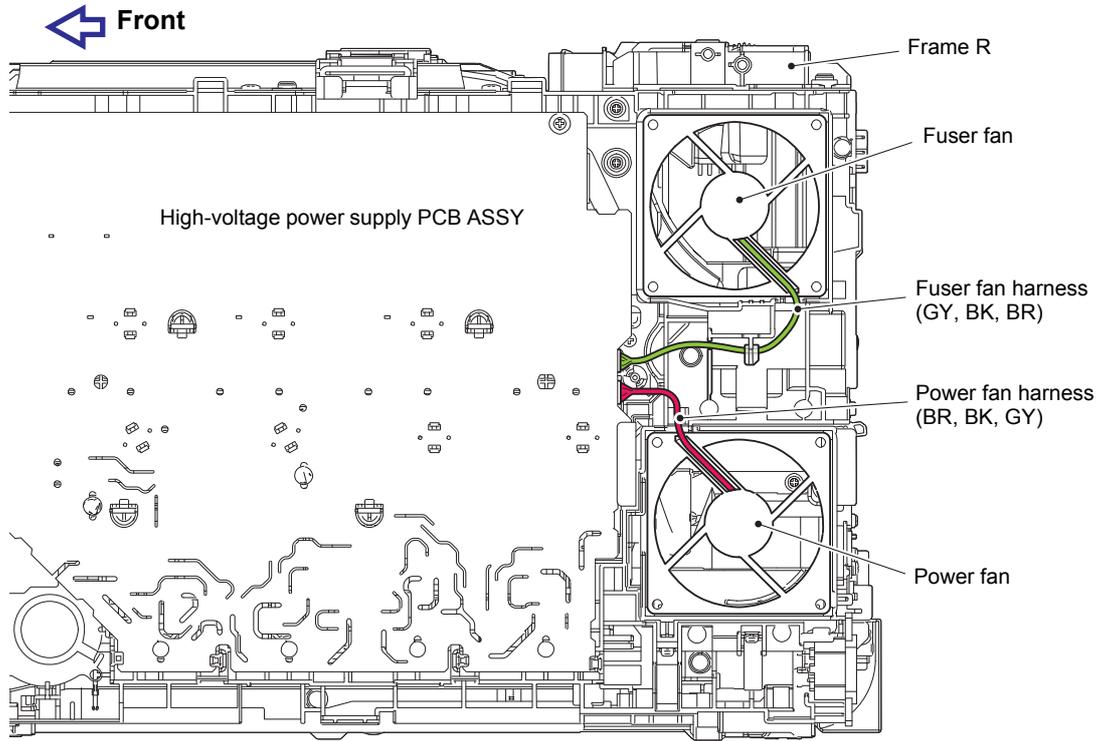
Harness colors may be changed for any reason.

10 Main PCB ASSY

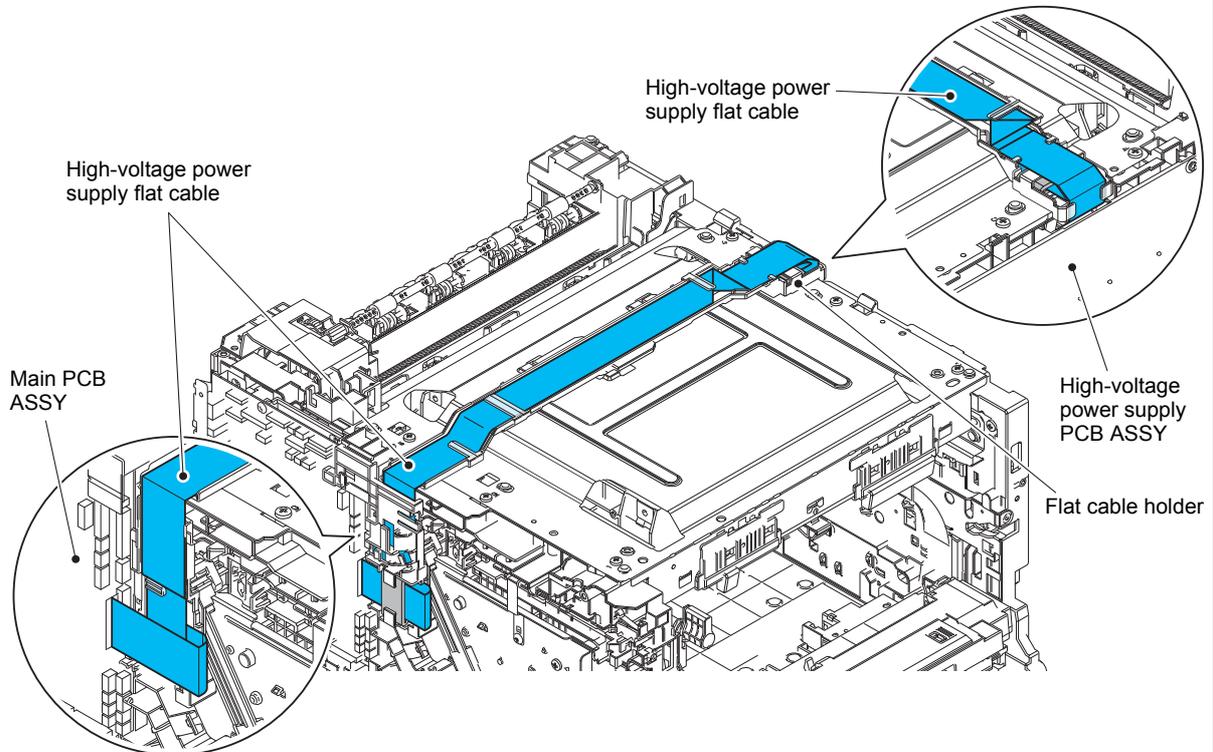


Harness colors may be changed for any reason.

11 Fuser fan, Power fan

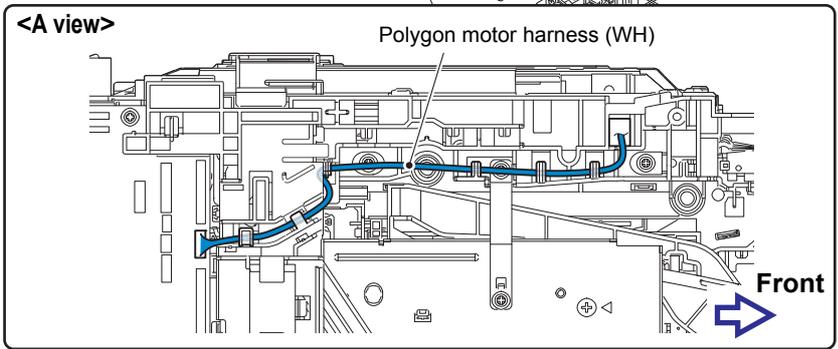
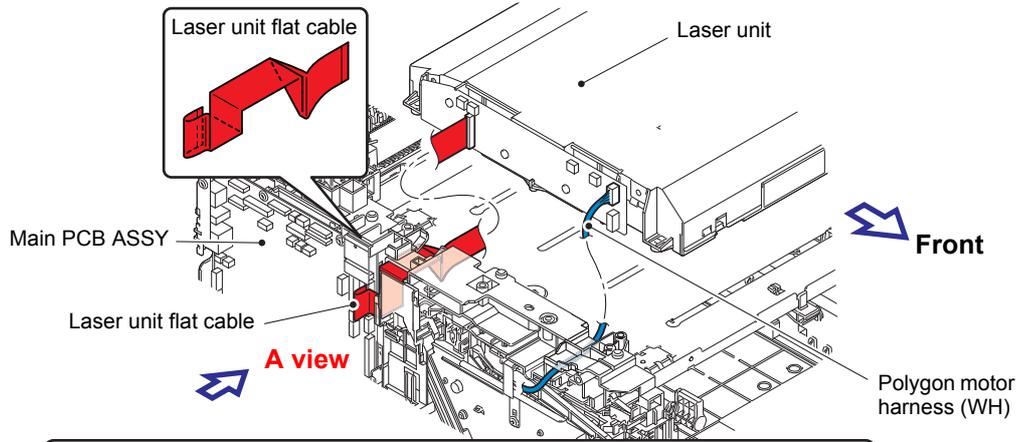


12 High-voltage power supply flat cable

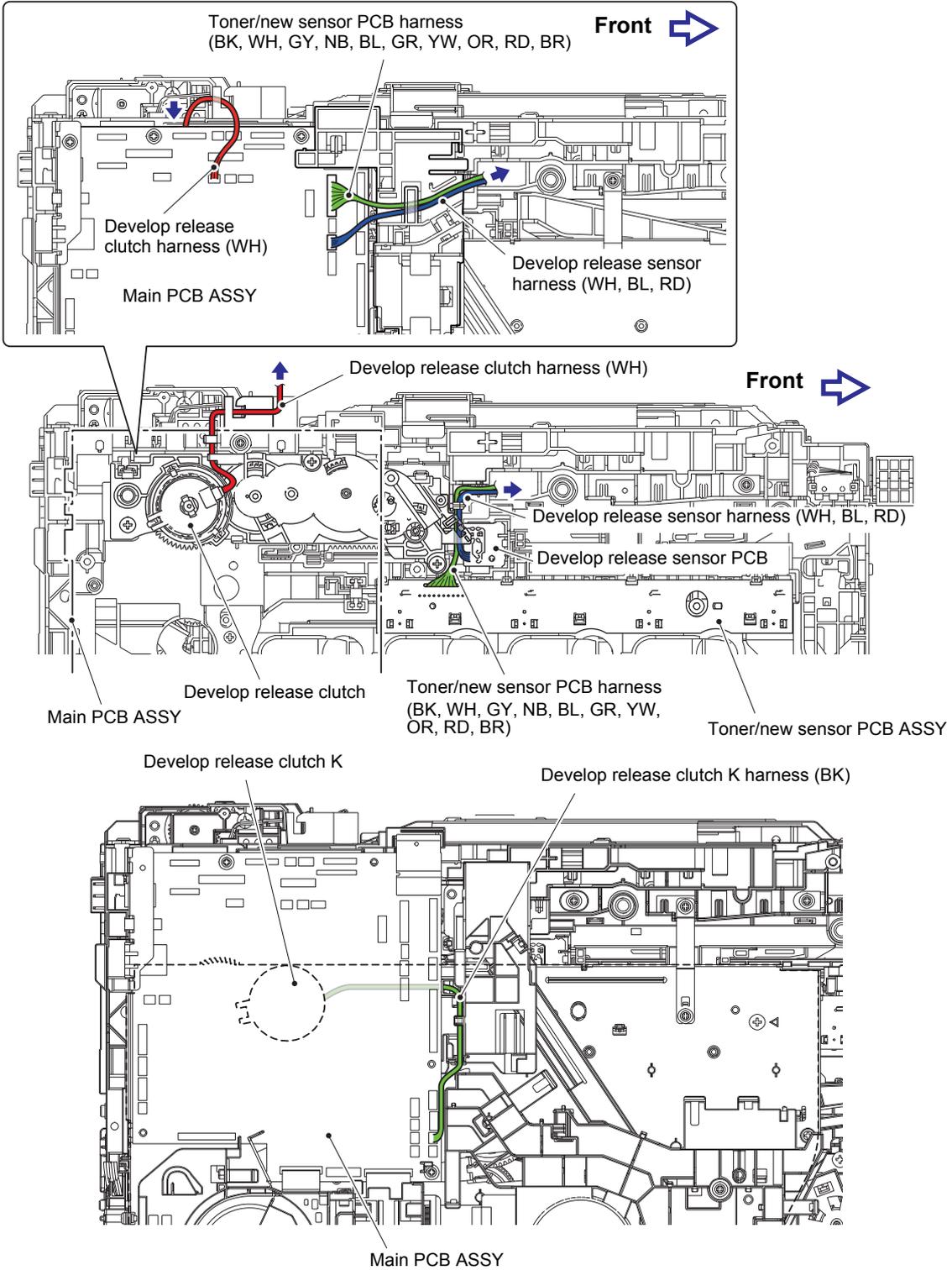


Harness colors may be changed for any reason.

13 Laser unit

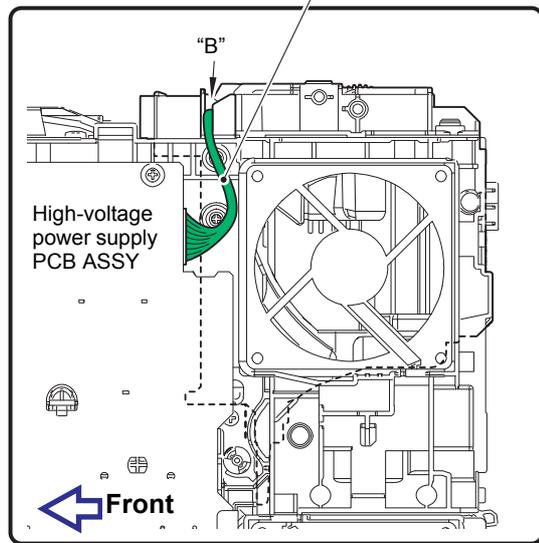
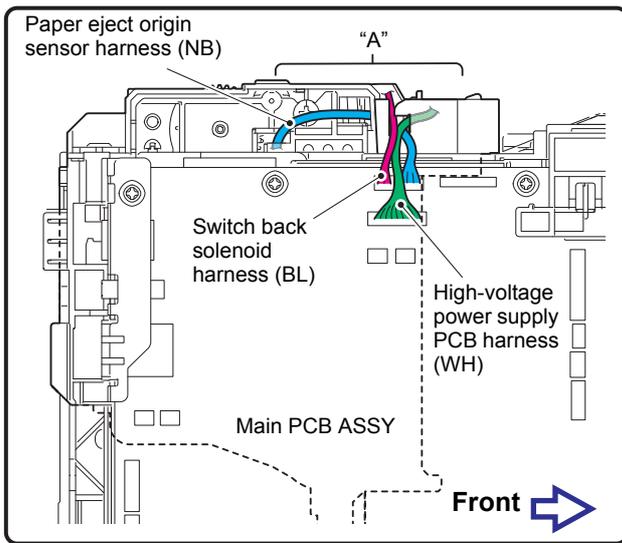
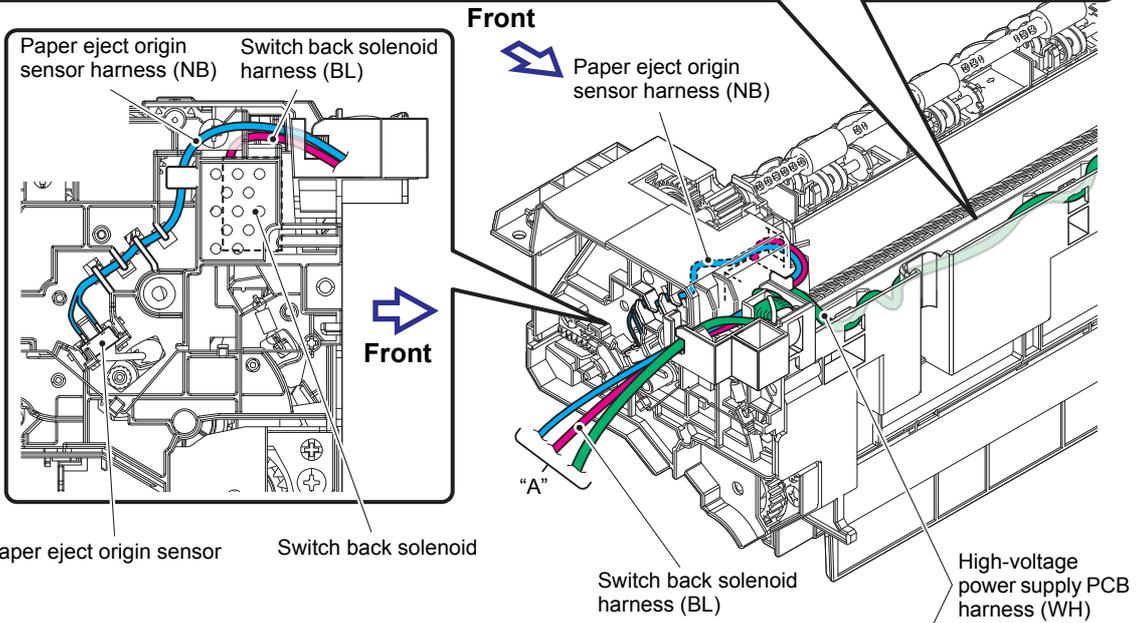
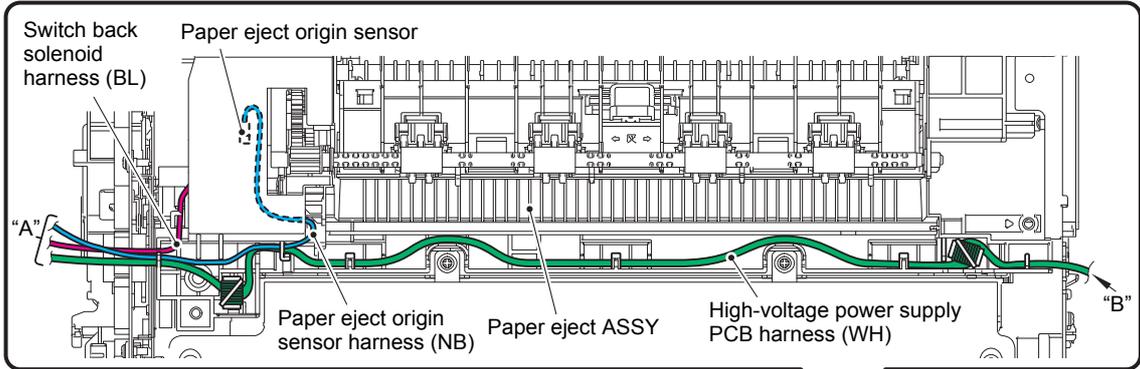


Harness colors may be changed for any reason.



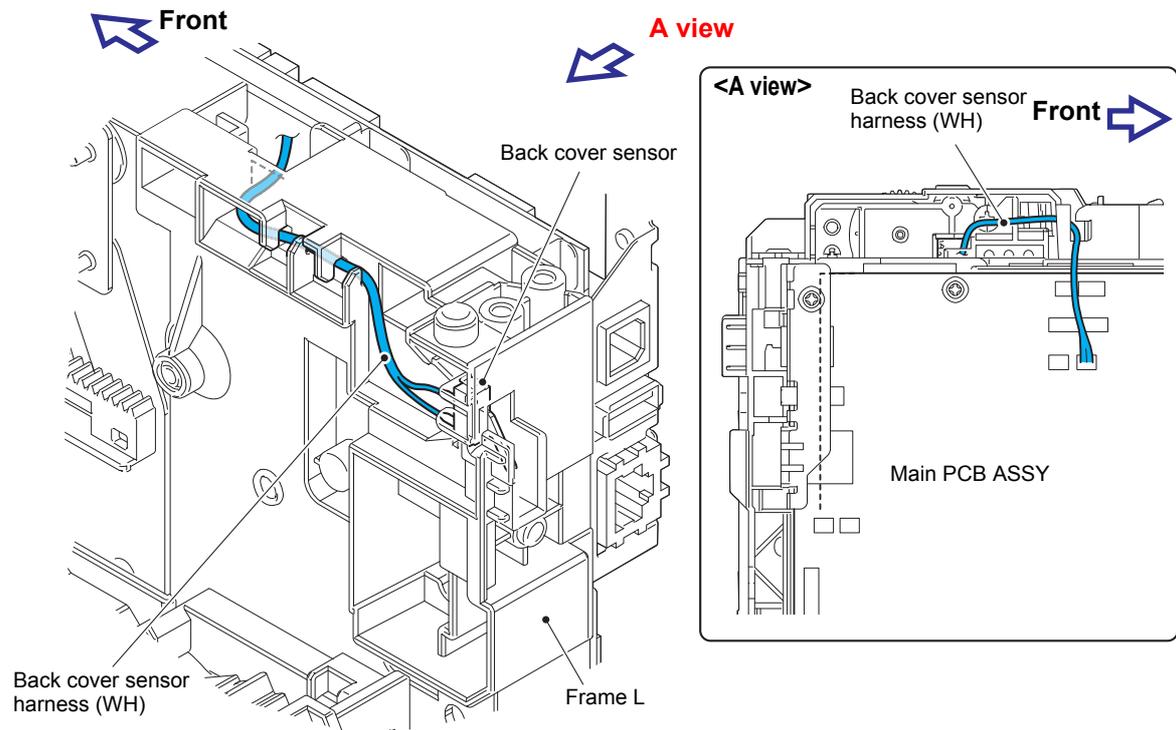
Harness colors may be changed for any reason.

15 Paper eject ASSY

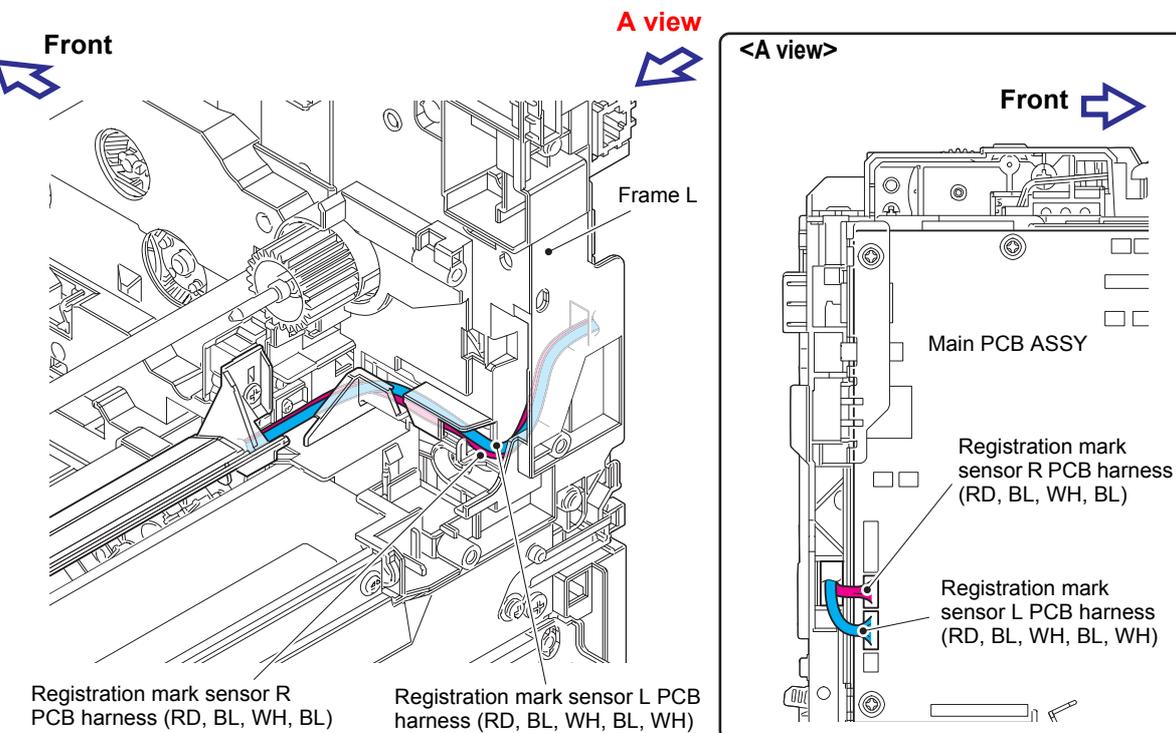


Harness colors may be changed for any reason.

16 Back cover sensor

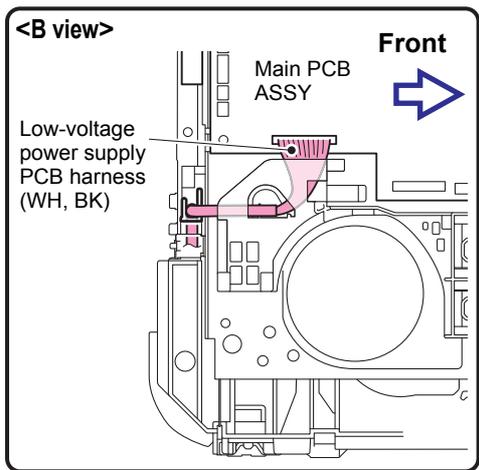
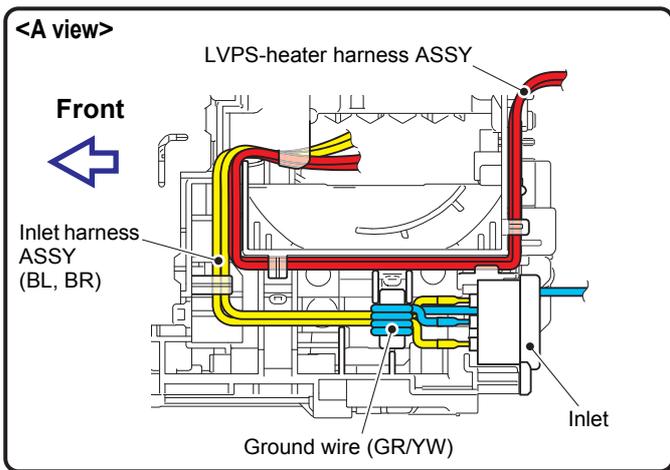
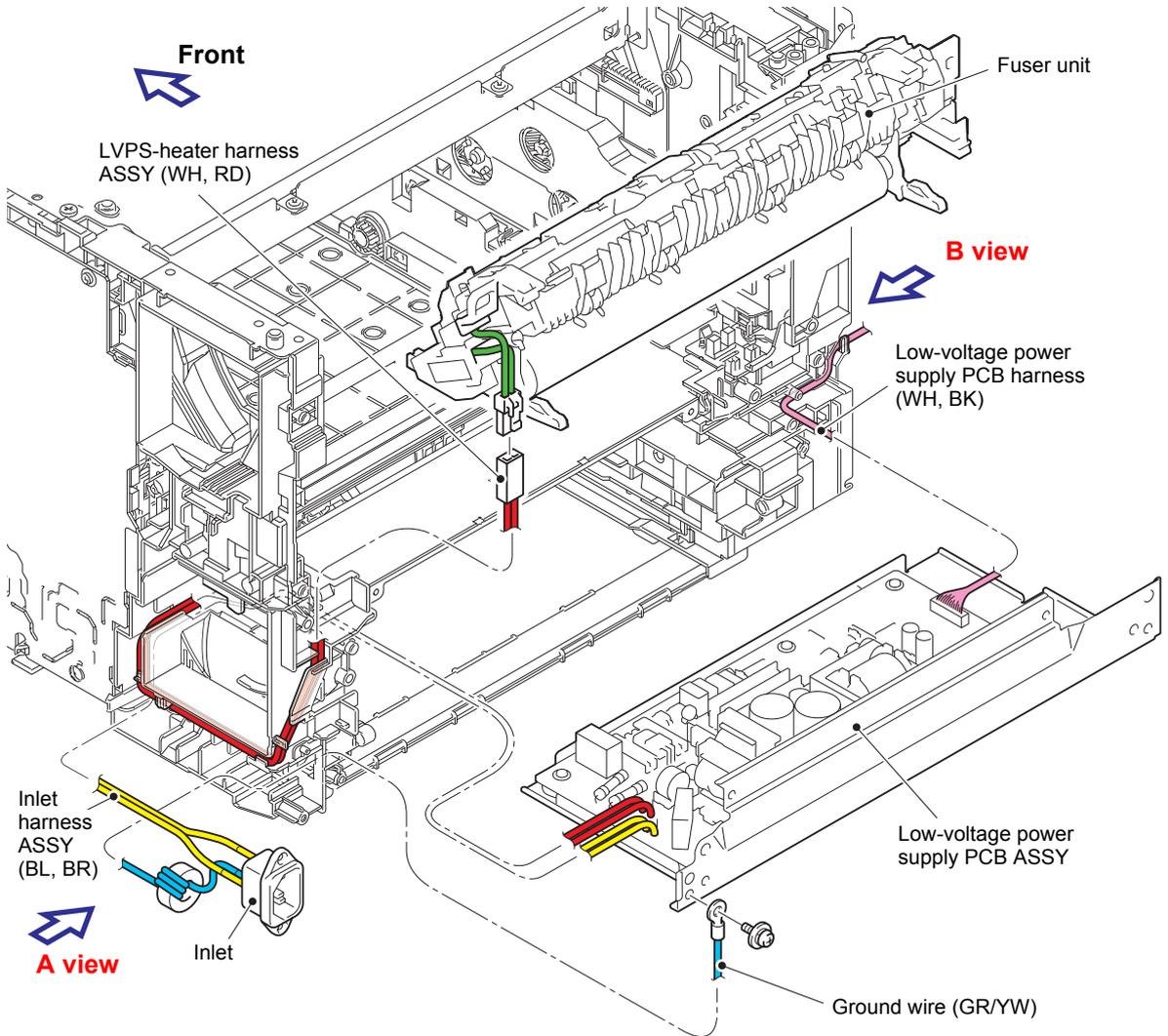


17 Registration mark sensor unit



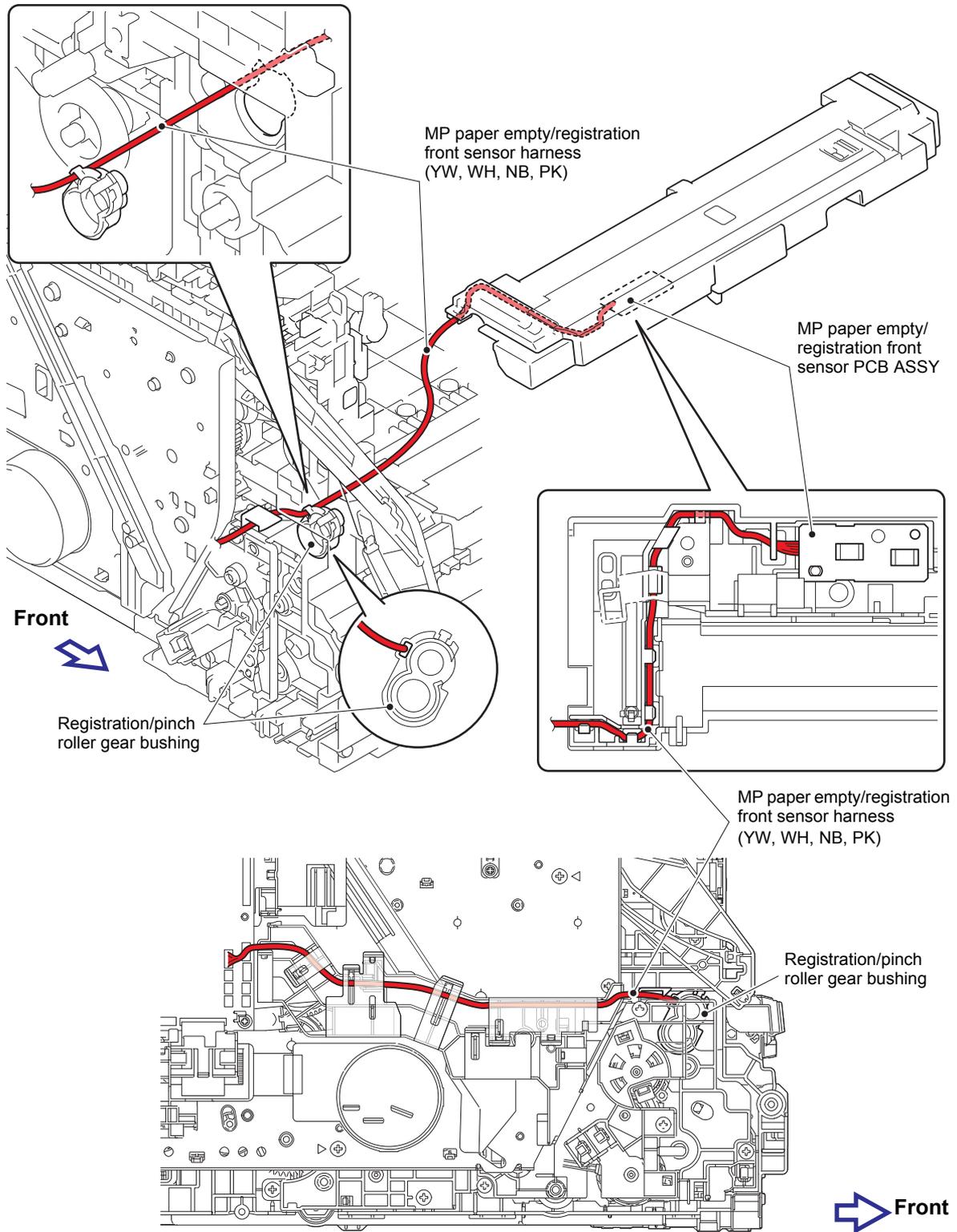
Harness colors may be changed for any reason.

18 Low-voltage power supply PCB ASSY



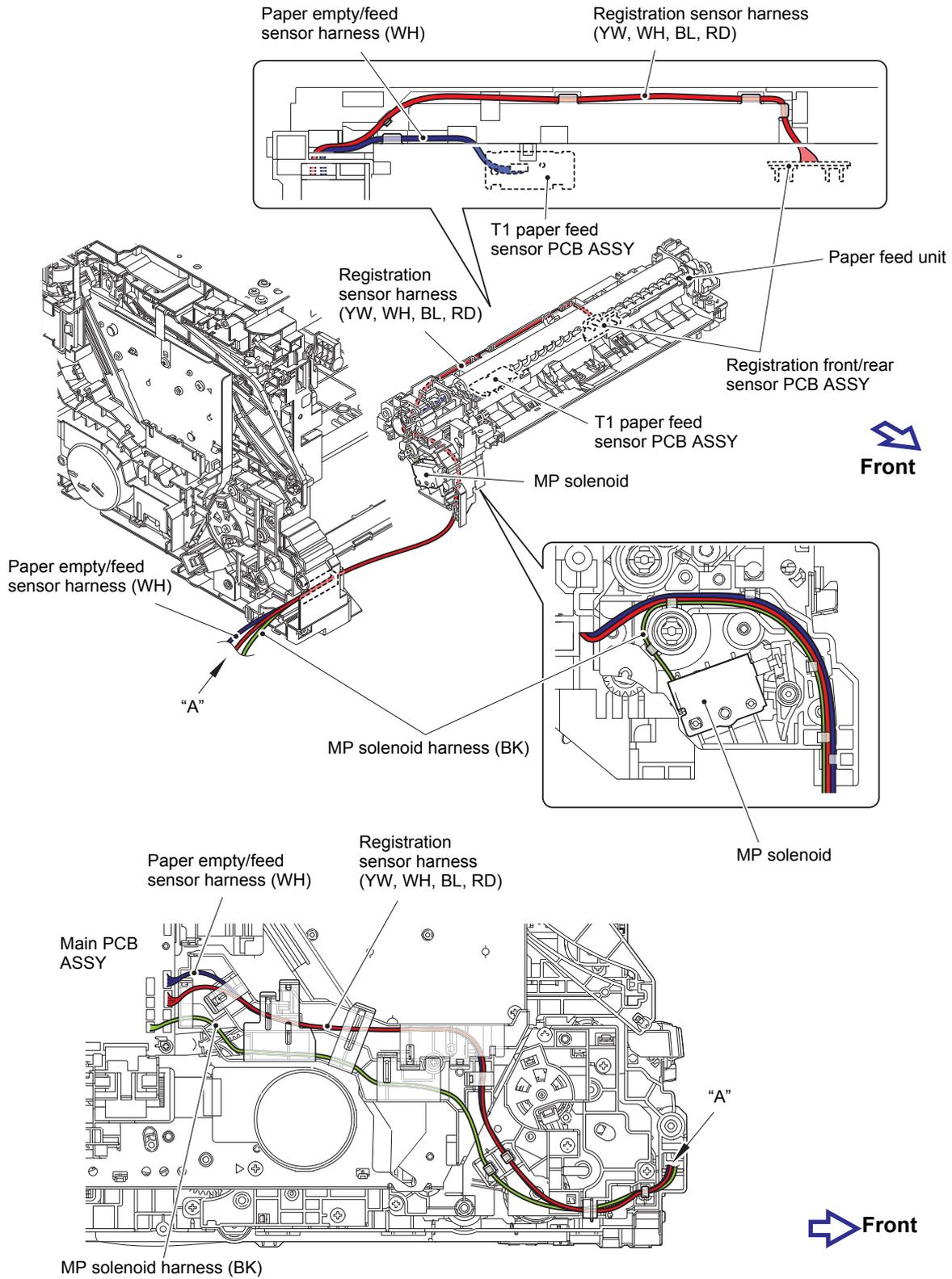
Harness colors may be changed for any reason.

19 MP paper empty/registration front sensor PCB ASSY



Harness colors may be changed for any reason.

20 Paper feed unit



Harness colors may be changed for any reason.

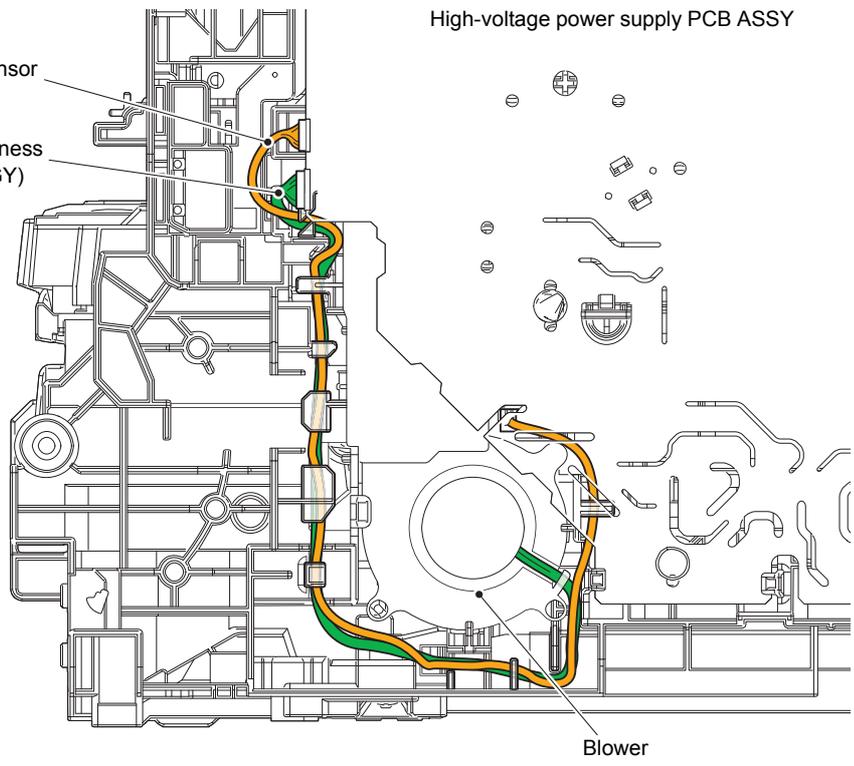
21 Blower

← **Front**

Waste toner sensor harness (WH)

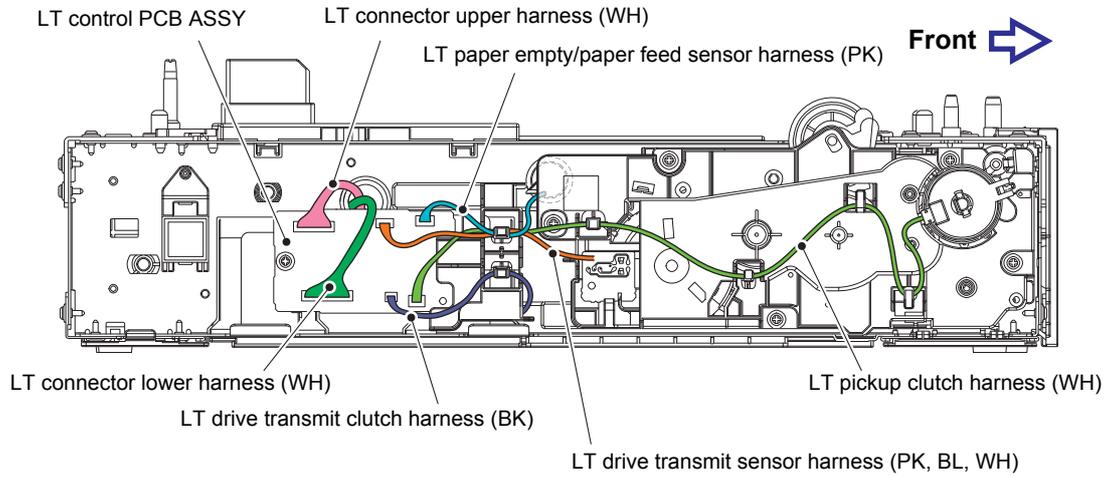
Blower harness (RD, BK, GY)

High-voltage power supply PCB ASSY

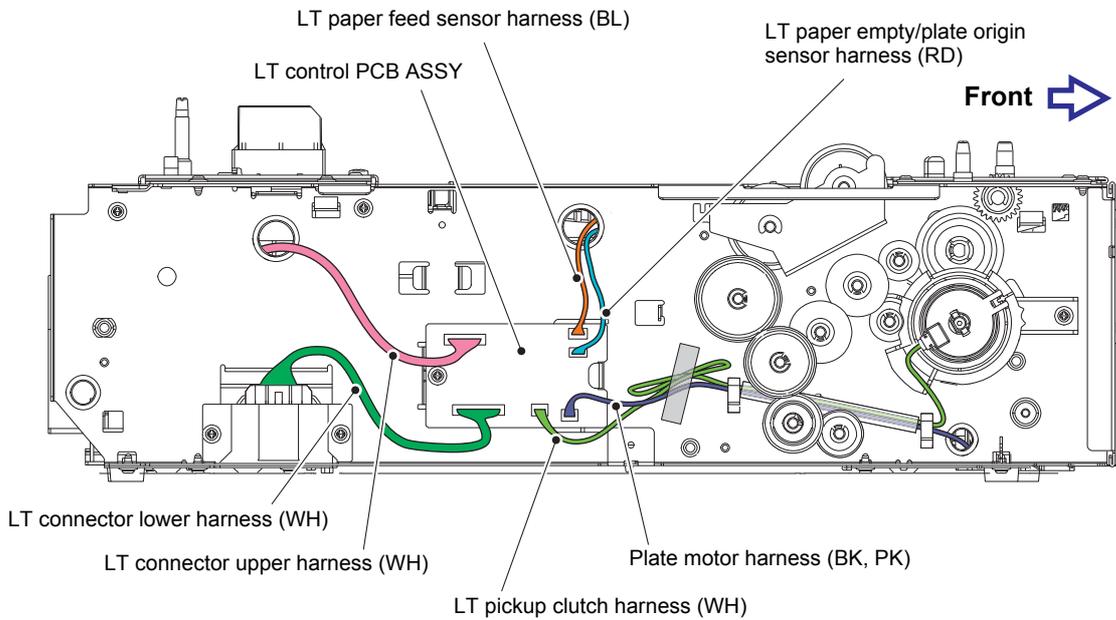


Harness colors may be changed for any reason.

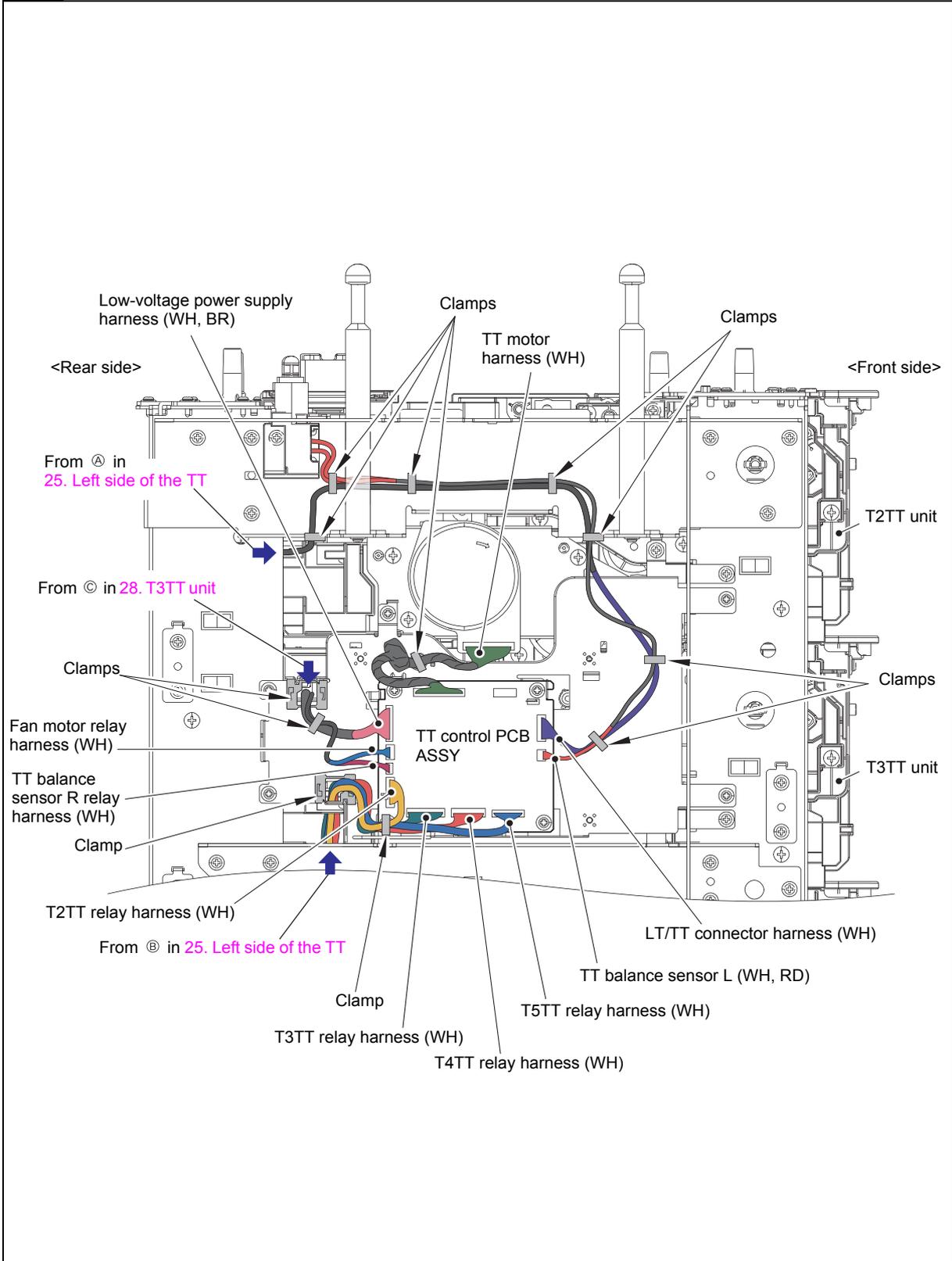
22 LT-330CL



23 LT-340CL

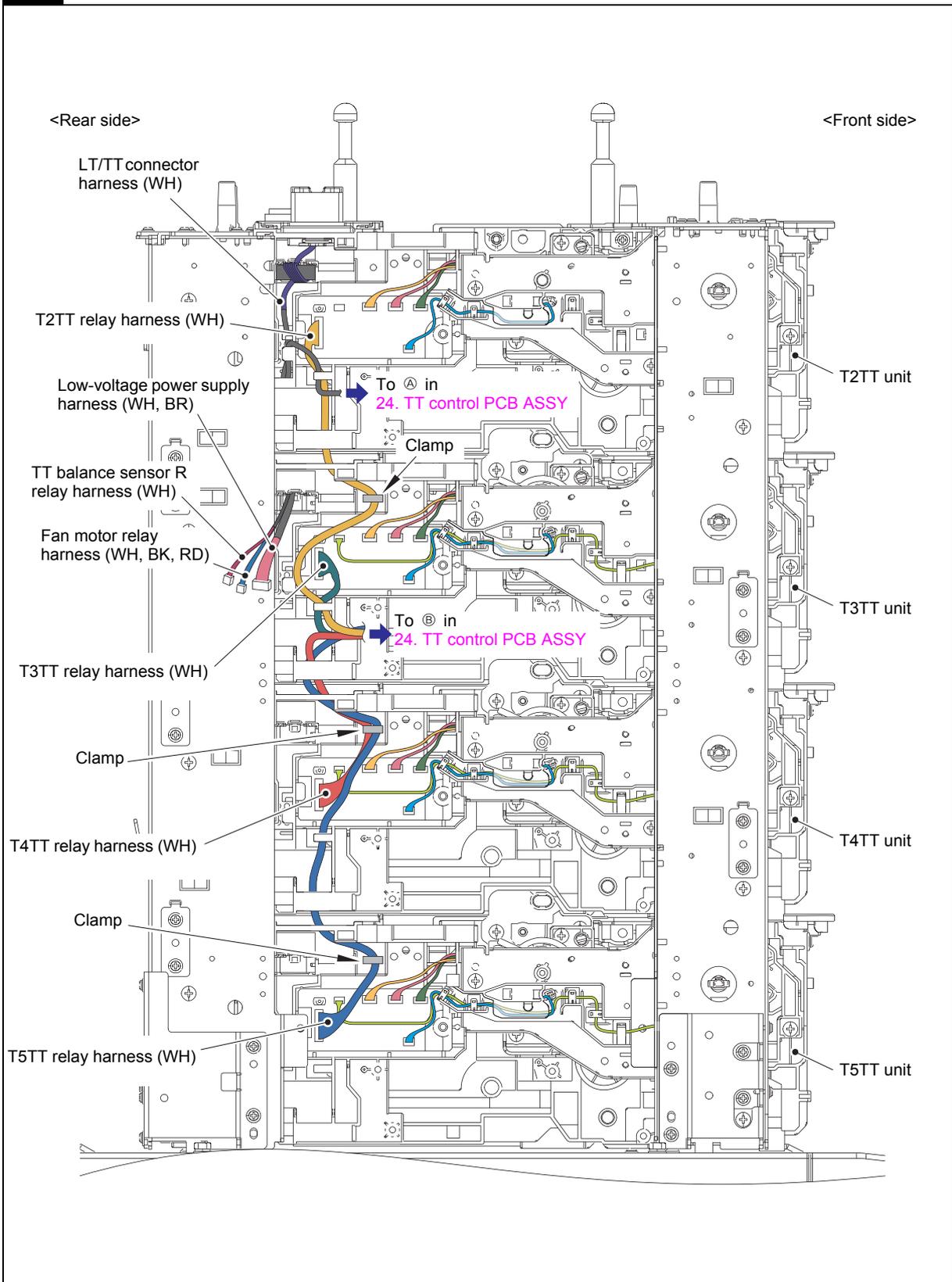


Harness colors may be changed for any reason.

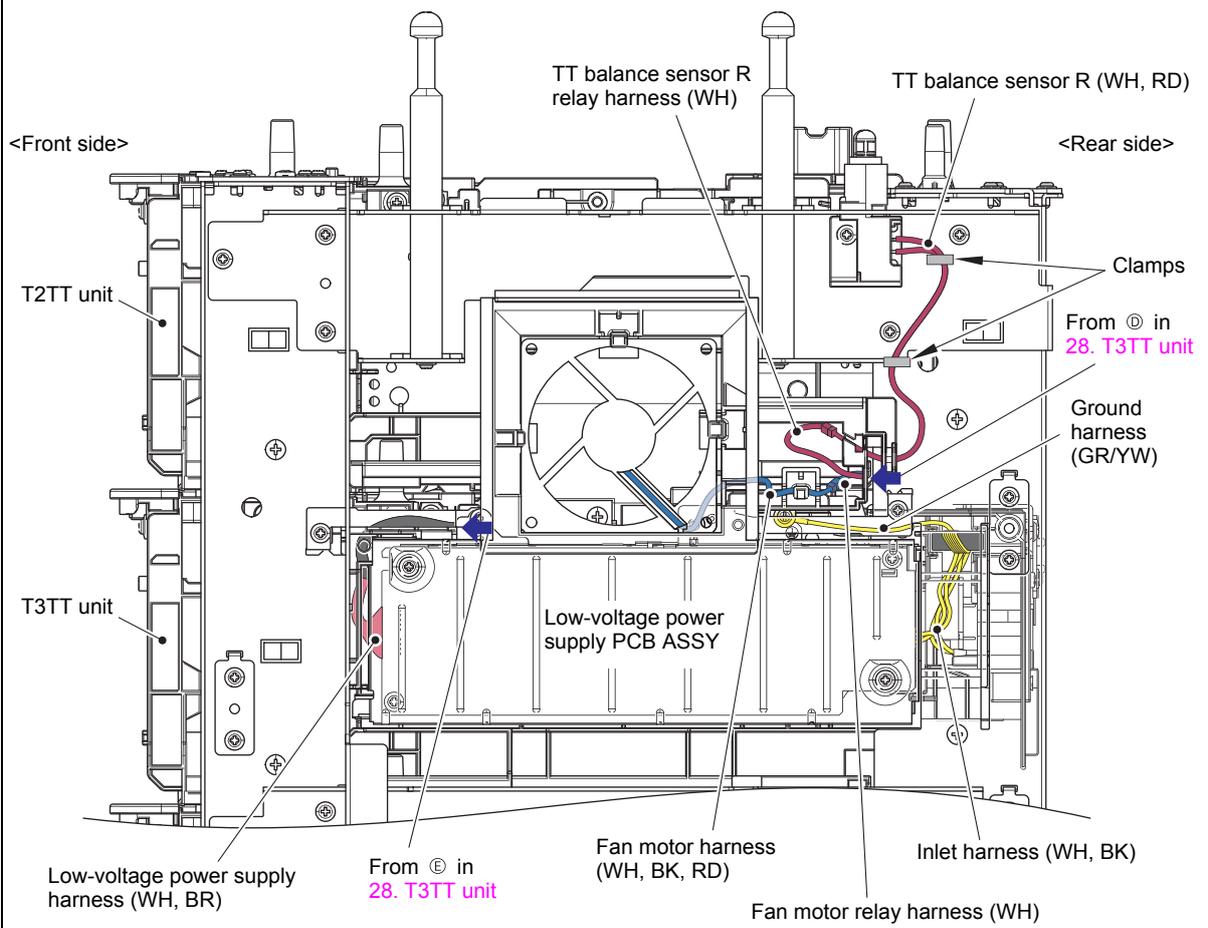


Harness colors may be changed for any reason.

25 Left side of the TT

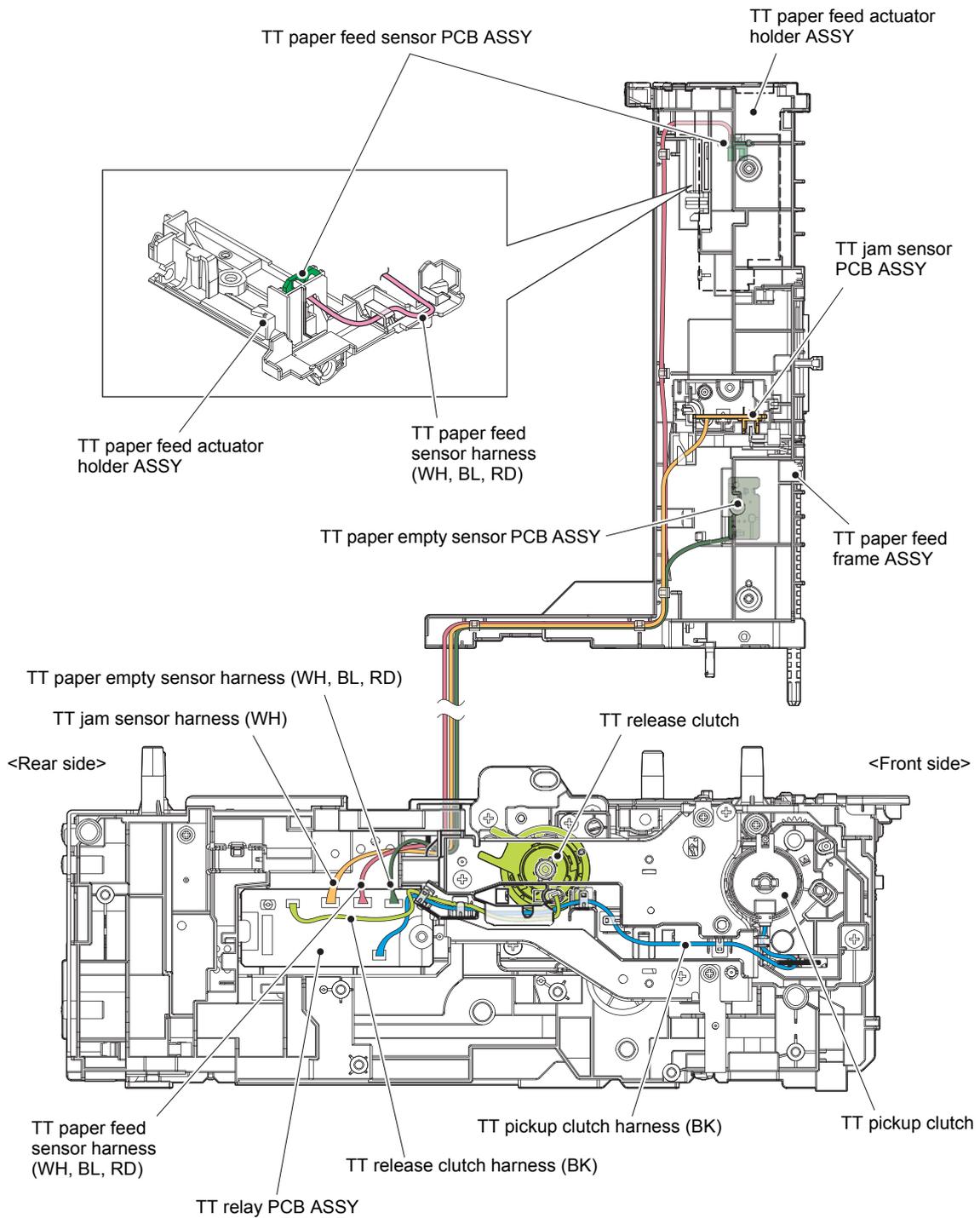


Harness colors may be changed for any reason.

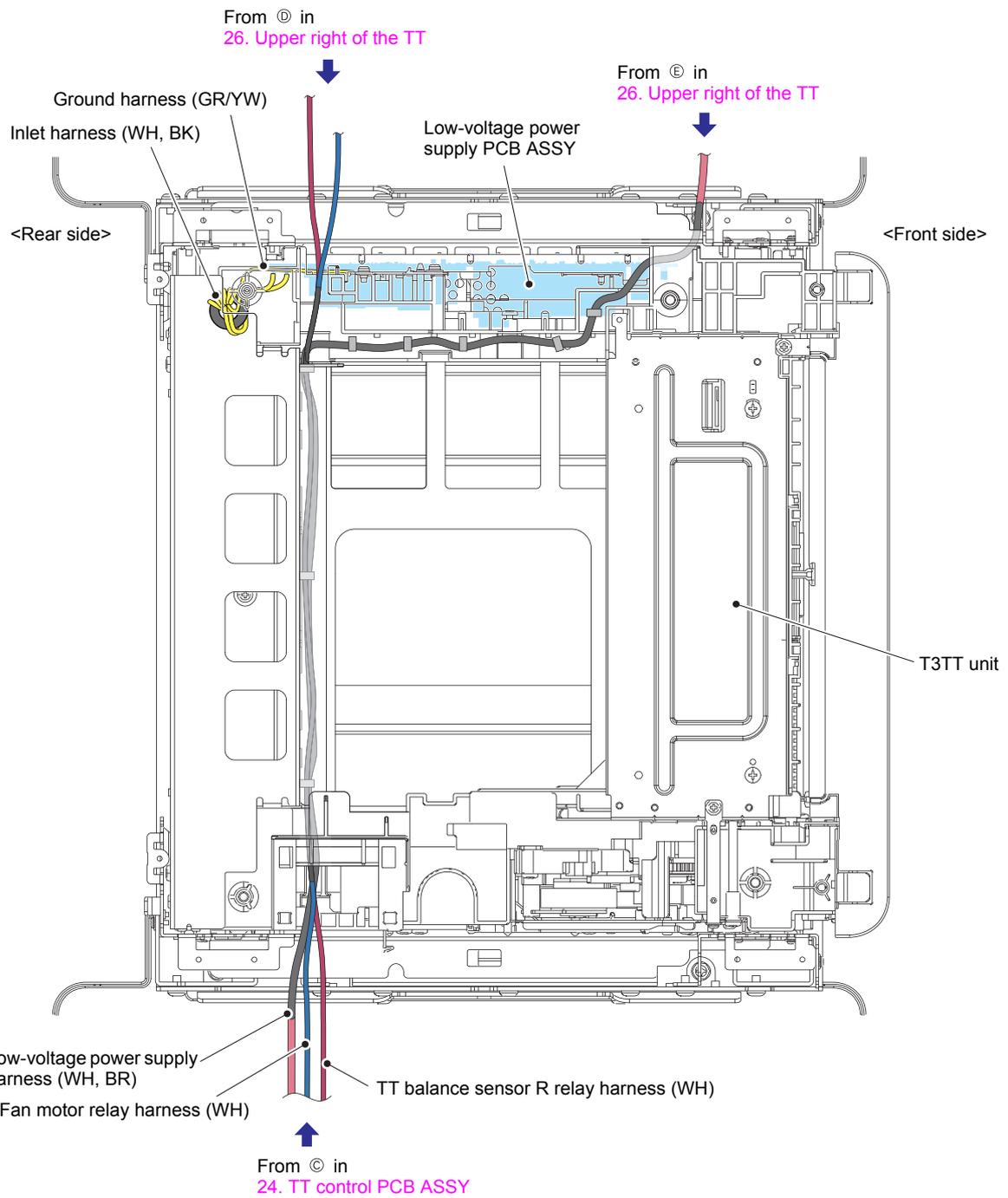


Harness colors may be changed for any reason.

27 TT relay PCB ASSY (Each TT unit)



Harness colors may be changed for any reason.

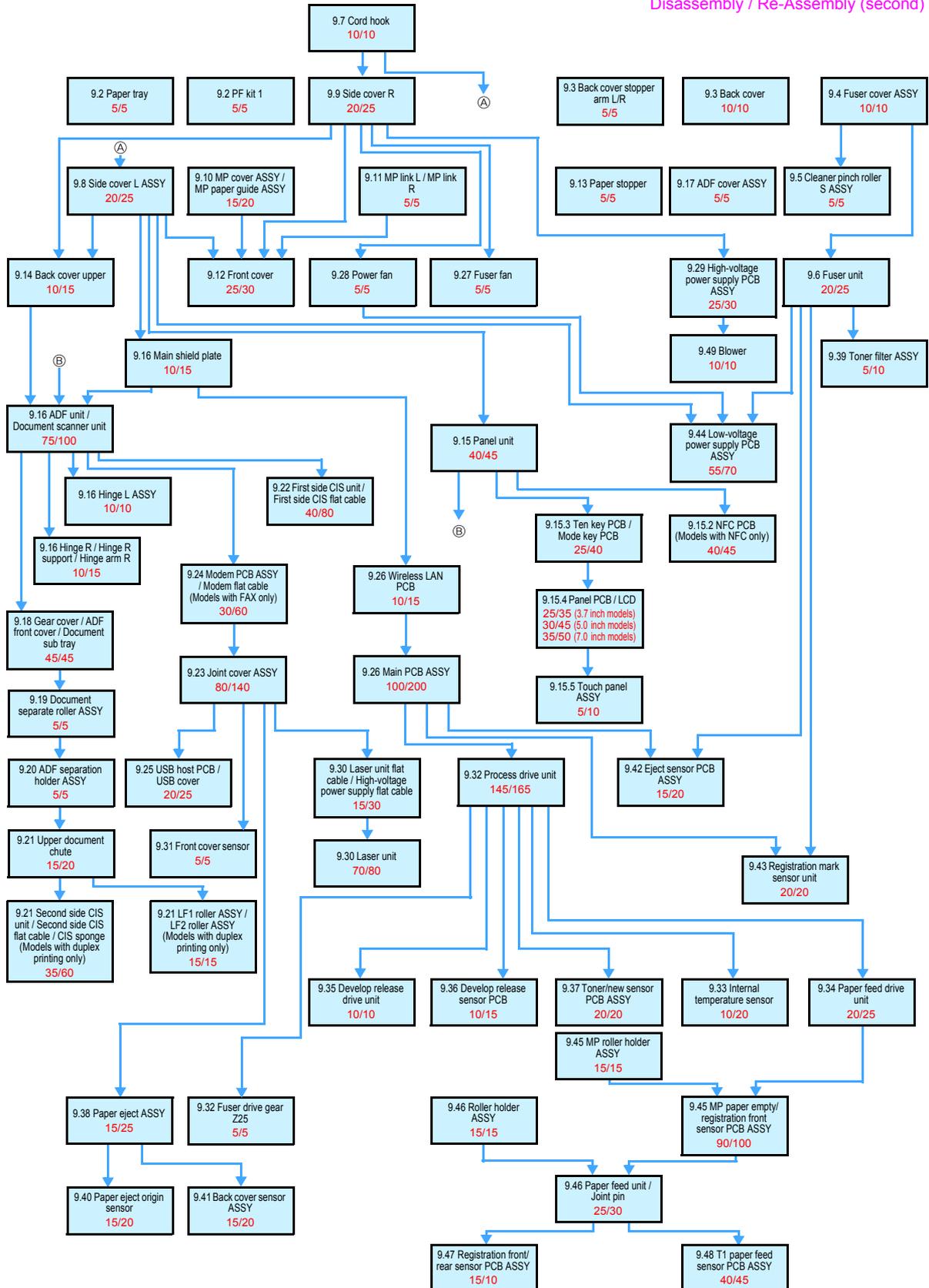


Harness colors may be changed for any reason.

8. DISASSEMBLY FLOW

8.1 Machine

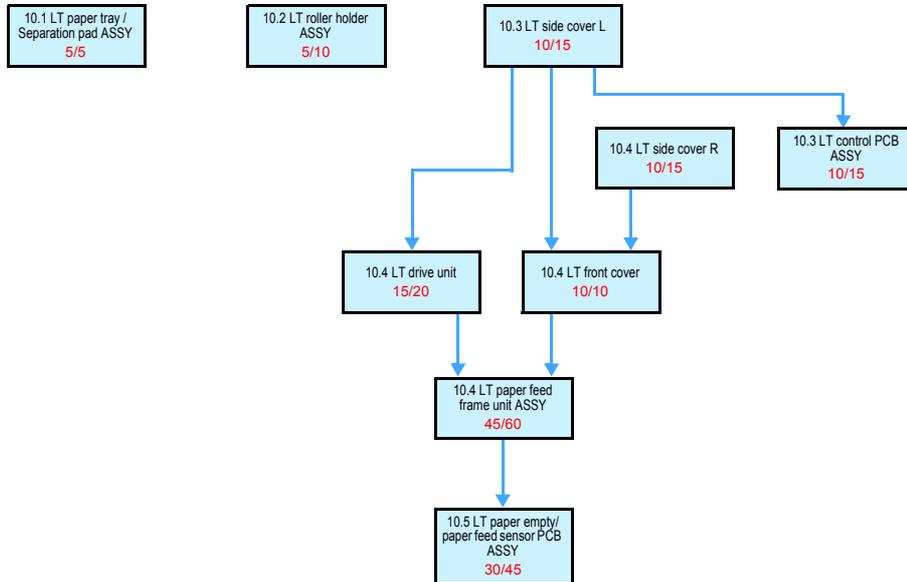
Disassembly / Re-Assembly (second)



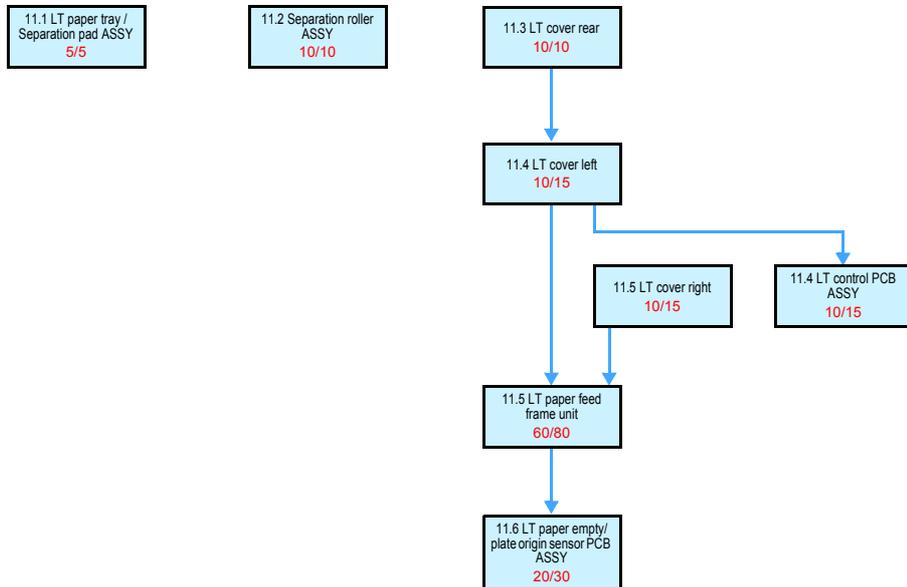
8.2 LT

■ LT-330CL

Disassembly / Re-Assembly (second)

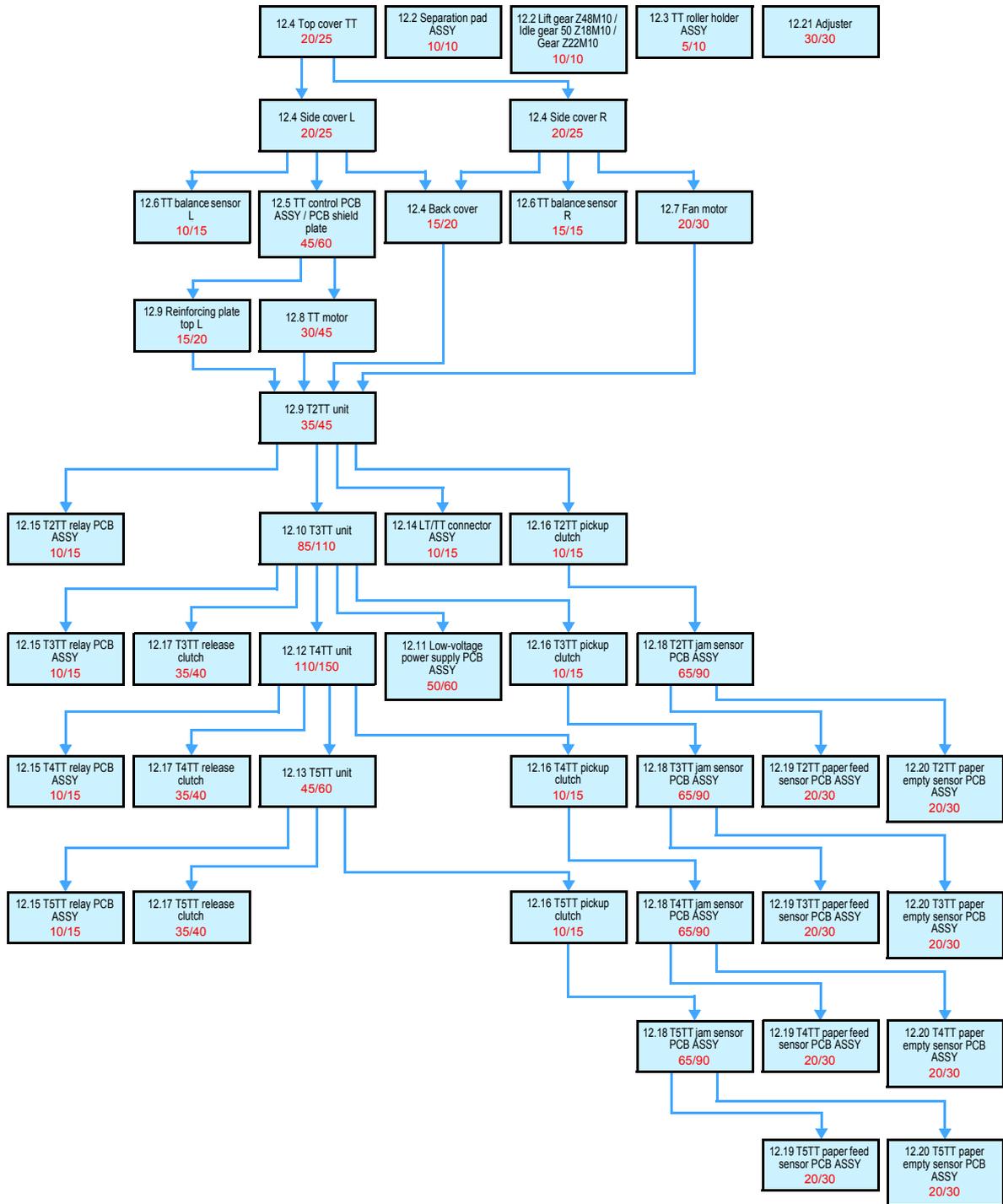


■ LT-340CL



8.3 TT

Disassembly / Re-Assembly (second)



9. DISASSEMBLY PROCEDURE

9.1 Preparation

■ Disconnecting cables and removing accessories

Prior to proceeding with the disassembly procedure,

- (1) Unplug
 - the AC cord,
 - the Telephone line cord, if connected,
 - the USB cable, if connected,
 - the LAN cable, if connected, and
 - USB flash memory drive, if connected.
- (2) Remove
 - the Toner cartridge,
 - the Drum unit,
 - the Belt unit,
 - the Waste toner box,
 - the Paper tray
 - the LAN port cap, and
 - EXT cap.

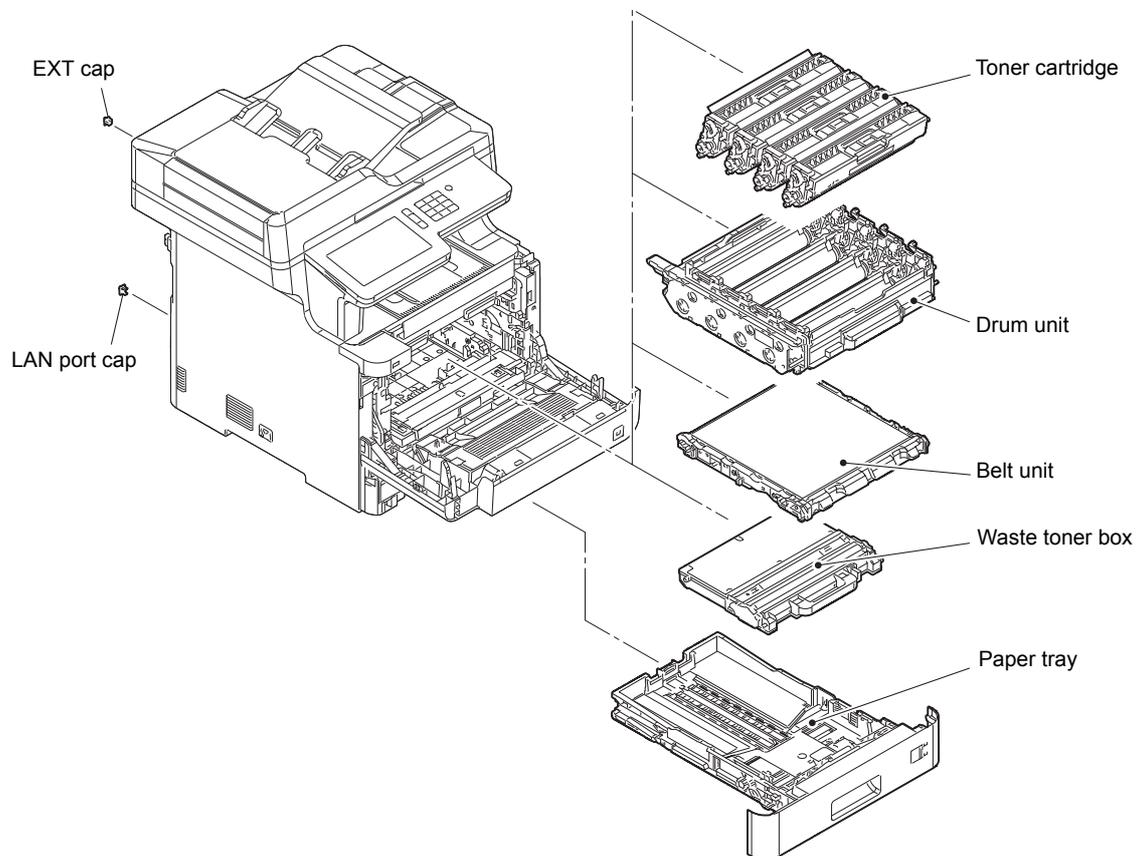


Fig. 3-1

9.2 Paper tray (PF kit 1)

- (1) Release the Hook and remove the Separation pad ASSY from the Paper tray.
- (2) Remove the Separation pad spring from the Paper tray.

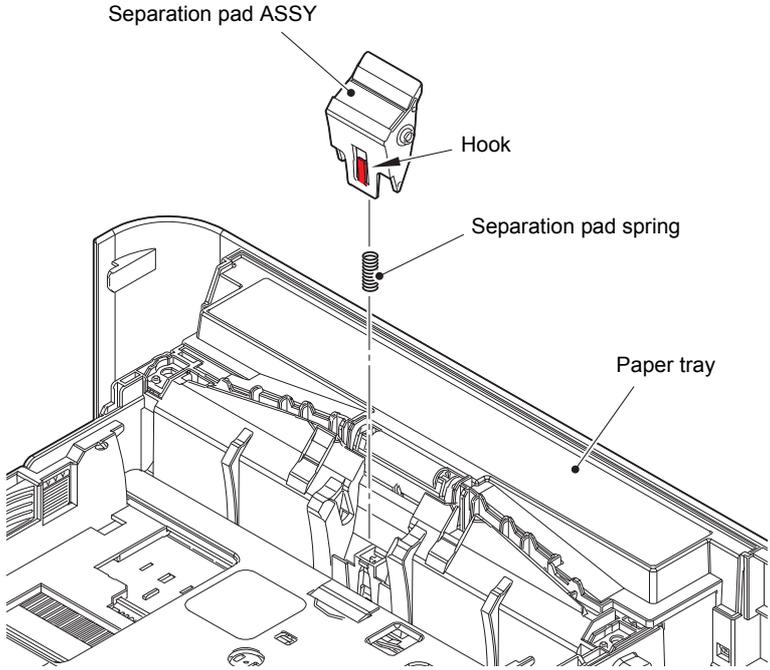


Fig. 3-2

9.3 Back cover / Back cover stopper arm L/R

(1) Open the Back cover.

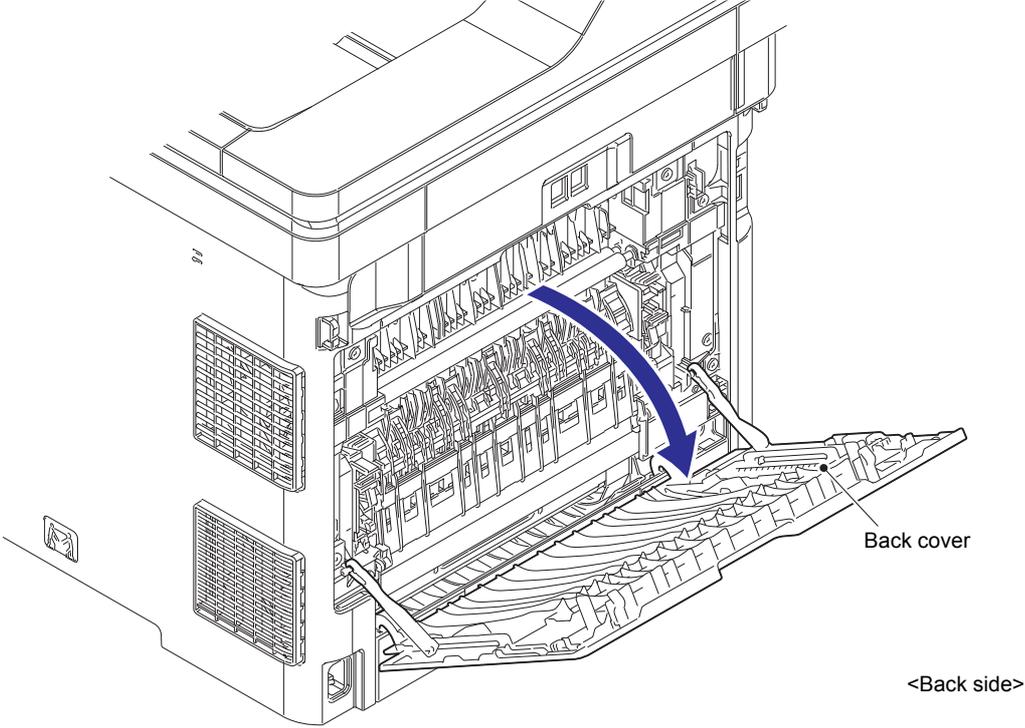


Fig. 3-3

(2) Remove the Back cover stopper arm L/R from the Boss.

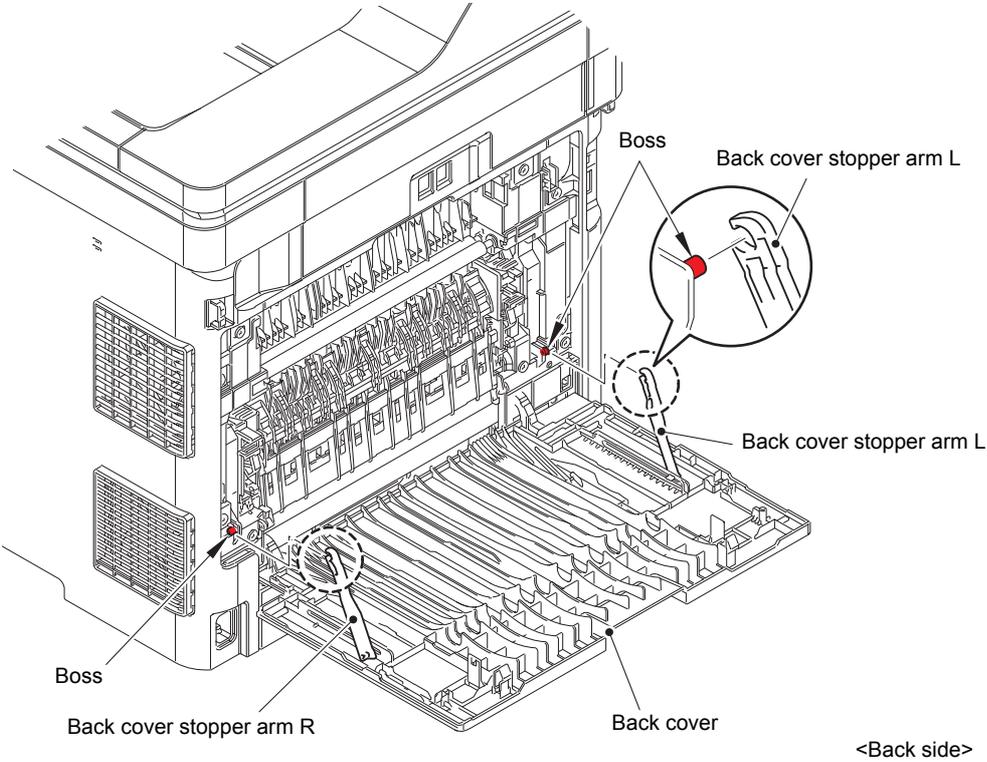


Fig. 3-4

(3) Remove the Boss of the Back cover from the Bush on the Frame R.

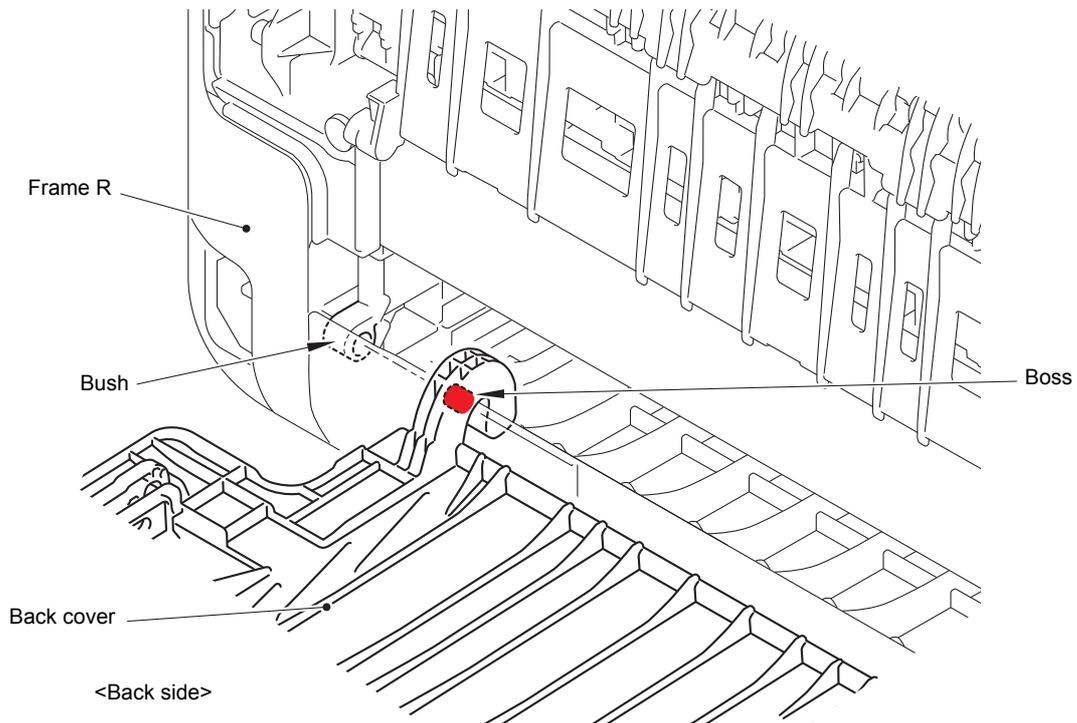


Fig. 3-5

(4) Remove the Back cover. (4a → 4b)

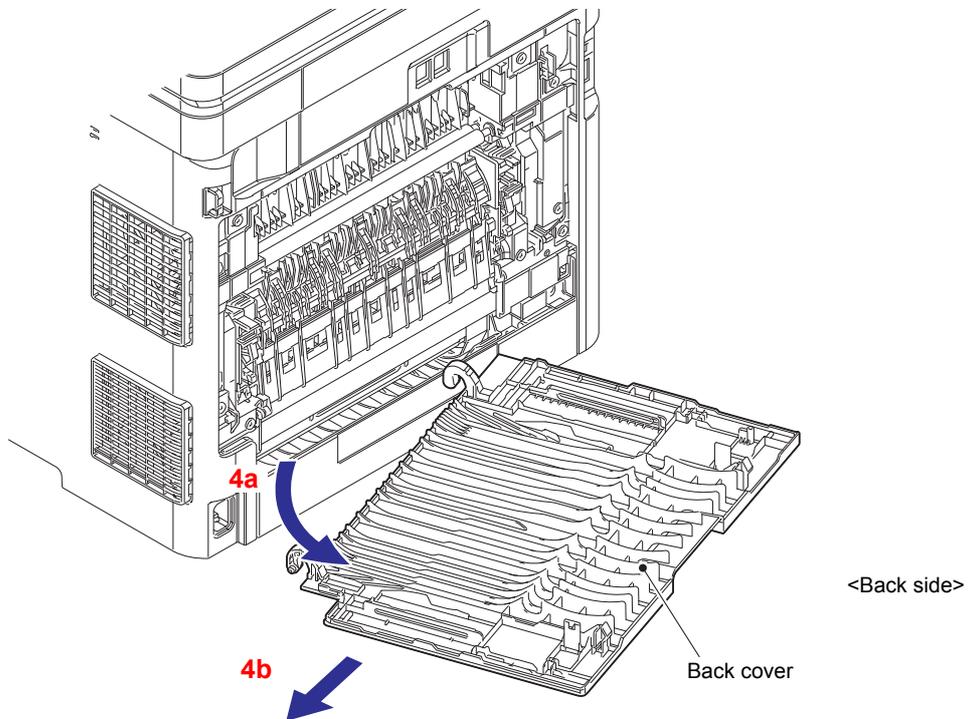


Fig. 3-6

- (5) Remove the Back cover stopper arm L from the Back cover.
- (6) Remove the Back cover stopper arm R from the Back cover.

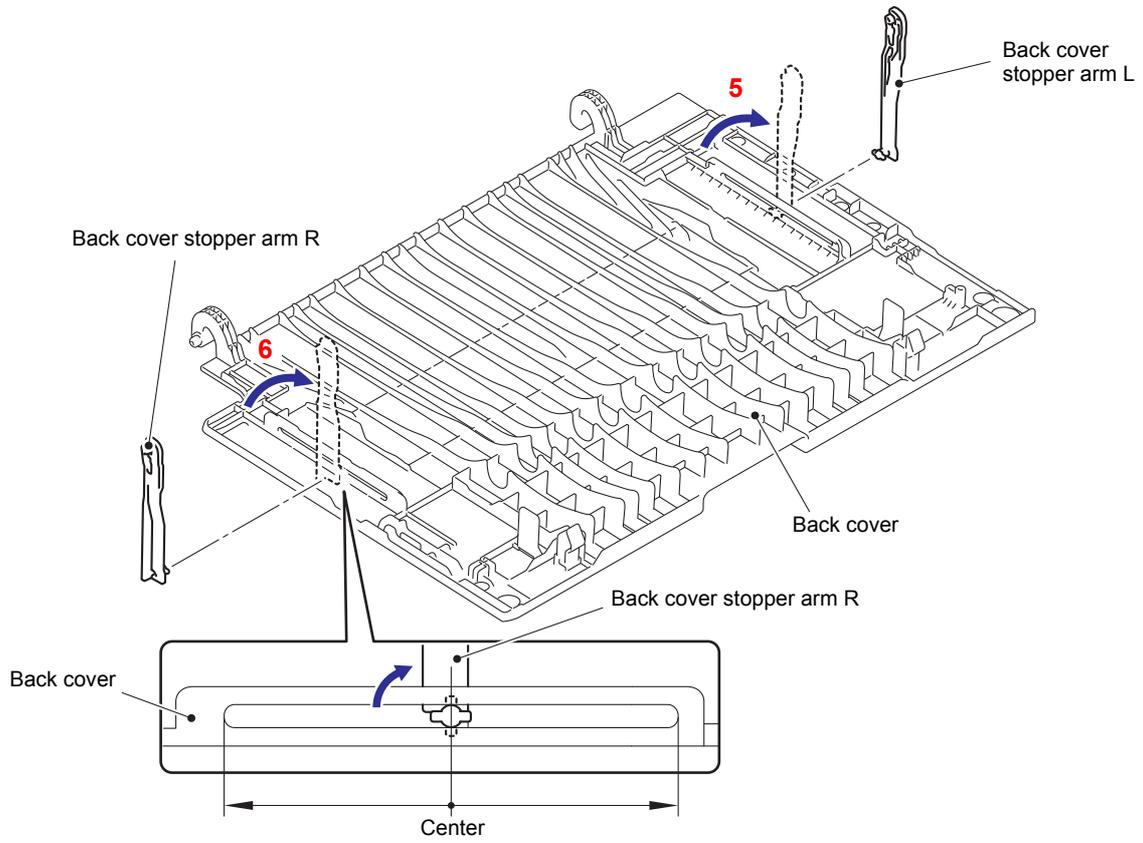


Fig. 3-7

9.4 Fuser cover ASSY

(1) Open the Back flapper holder. Release each Boss and remove the Back flapper holder.

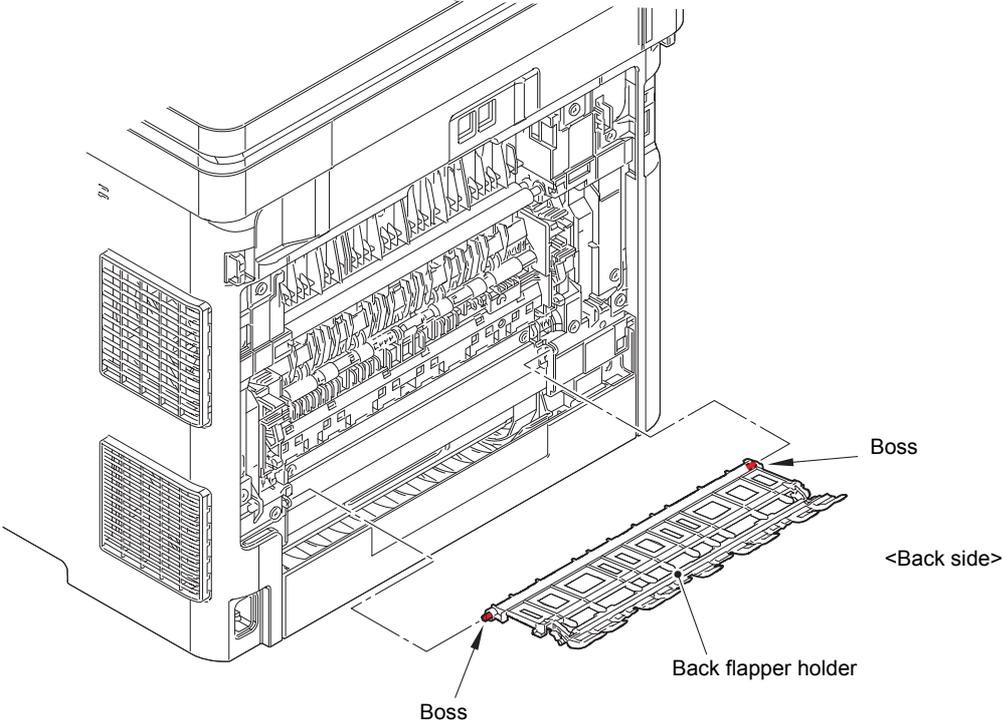


Fig. 3-8

- (2) Remove the two Taptite bind B M4x12 screws from the Fuser unit line cover L.
- (3) Release the Hook and Boss and remove the Fuser unit line cover L.

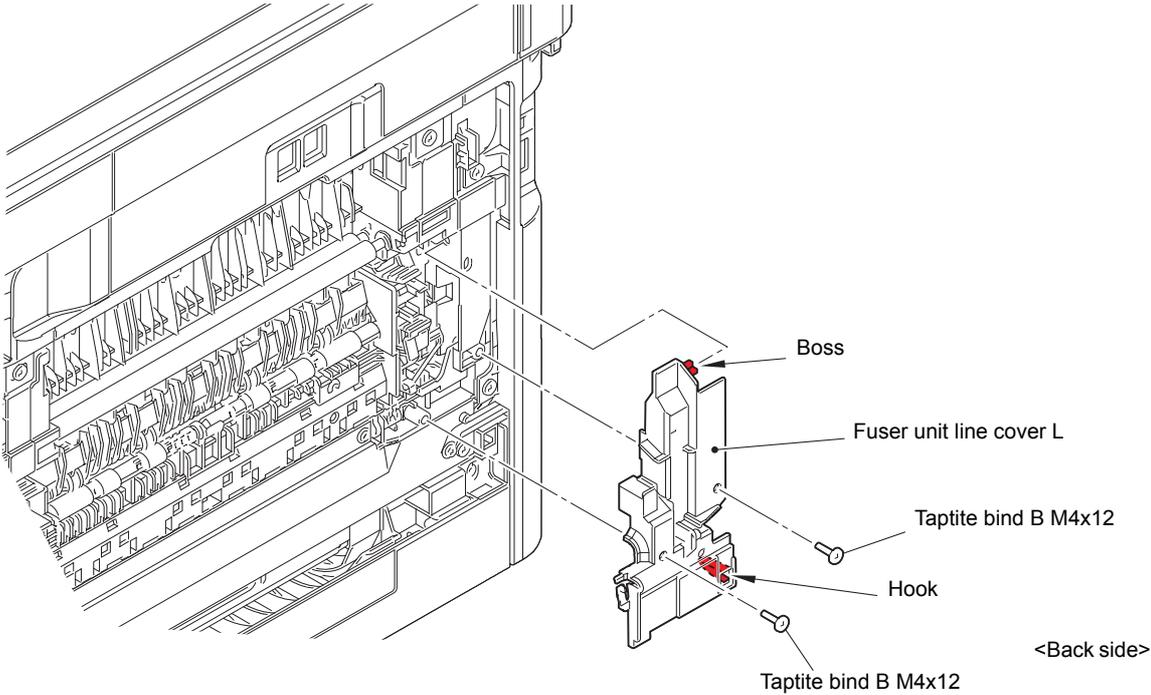


Fig. 3-9

(4) Release the lock of the Fuser cover lock lever L/R to open the Fuser cover ASSY.

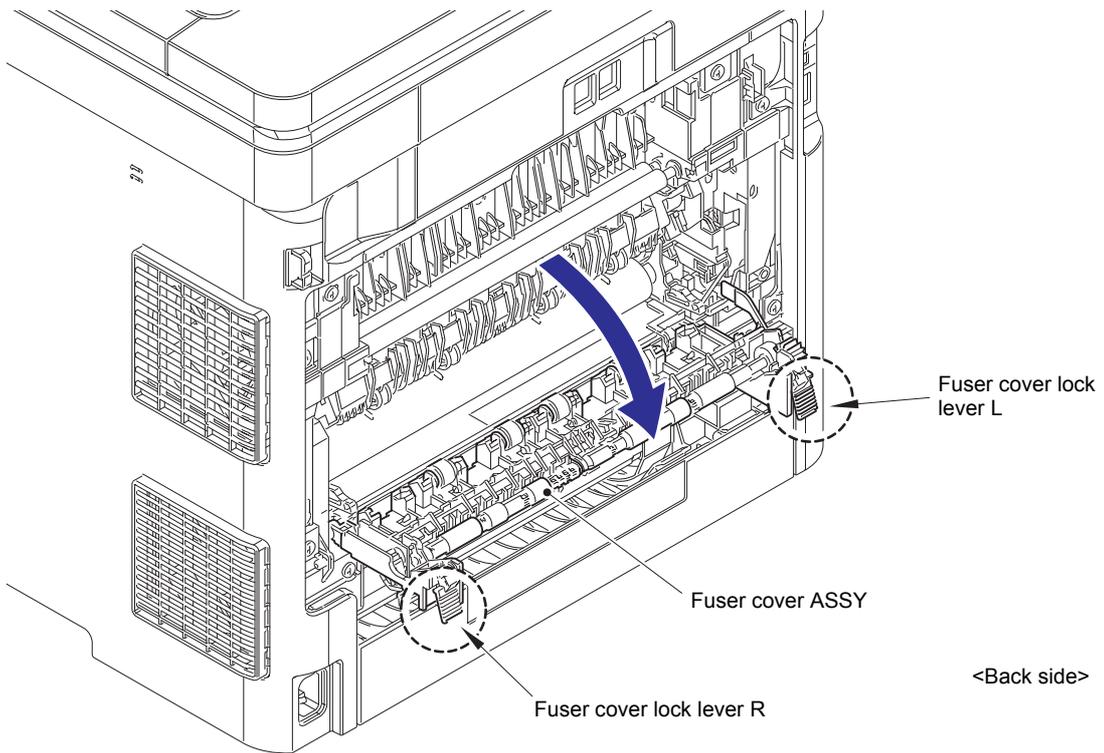


Fig. 3-10

(5) Slide the Fuser cover ASSY in the direction of the arrow and remove it to the front.

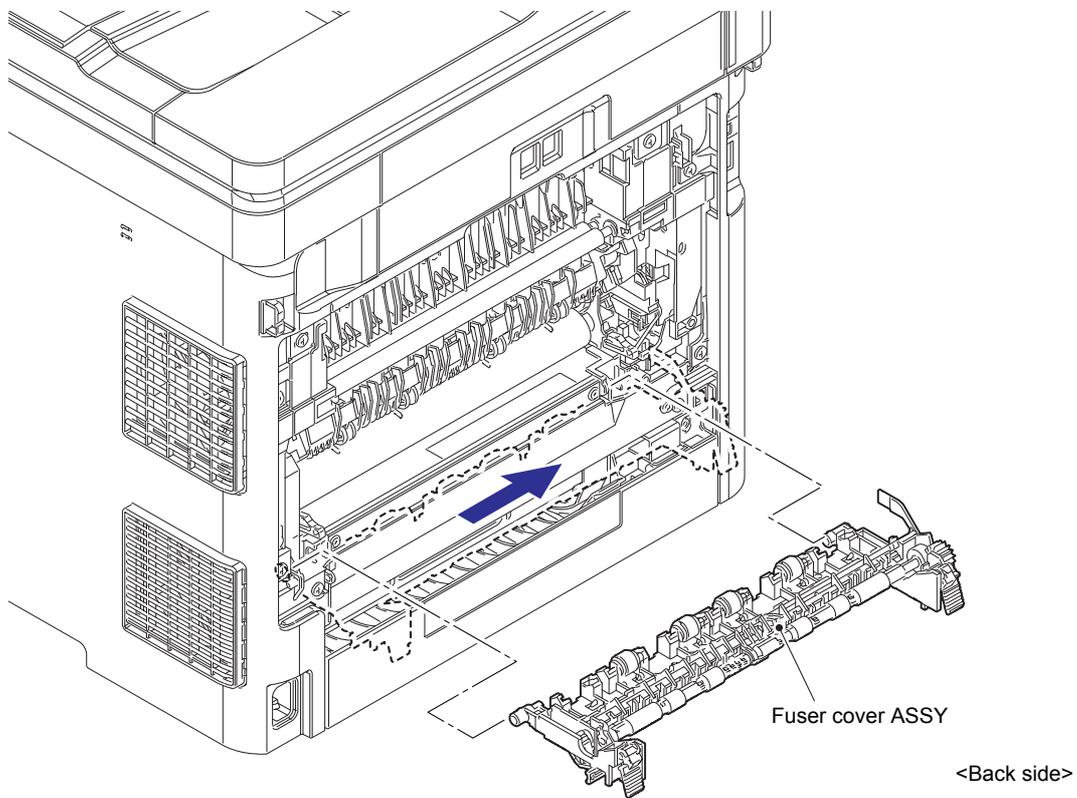


Fig. 3-11

9.5 Cleaner pinch roller S ASSY

(1) Remove the Cleaner roller spring from the Hook of the Fuser cover ASSY.

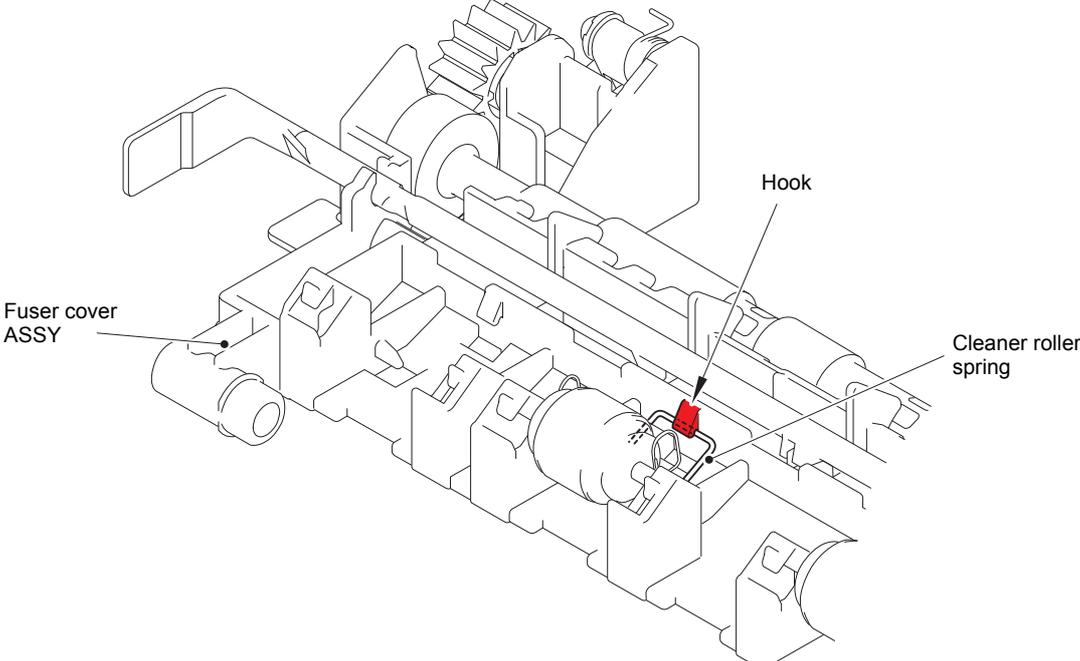


Fig. 3-12

(2) Remove the Cleaner roller spring from each Boss of the Fuser cover ASSY. Remove the Cleaner pinch roller S ASSY and Cleaner roller spring from the Fuser cover ASSY.

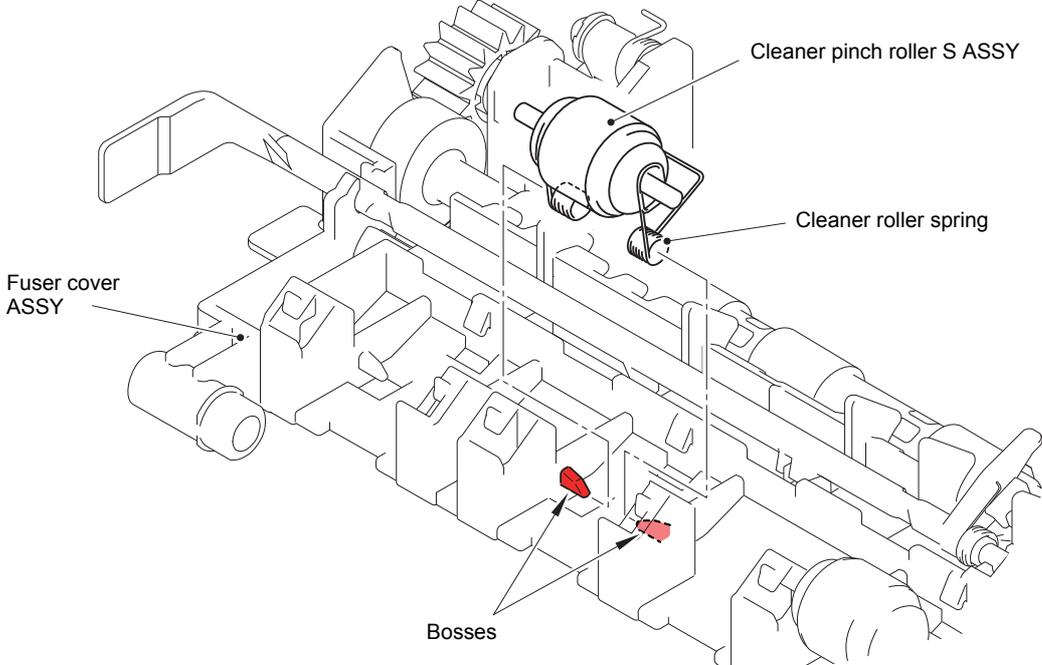


Fig. 3-13

(3) Remove the Cleaner pinch roller S ASSY from the Cleaner roller spring.

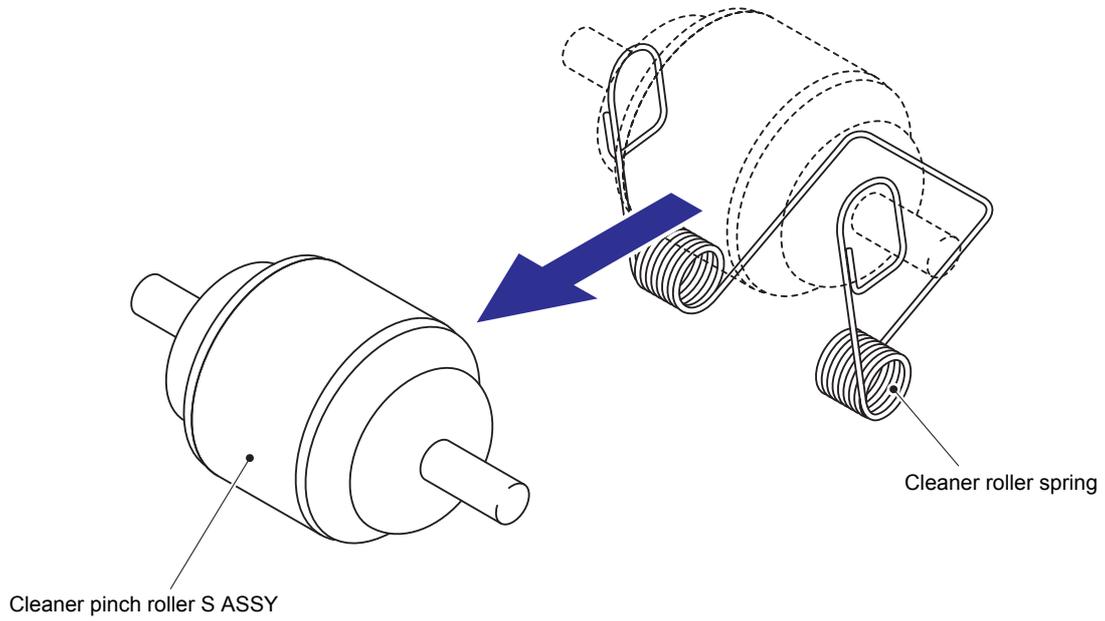


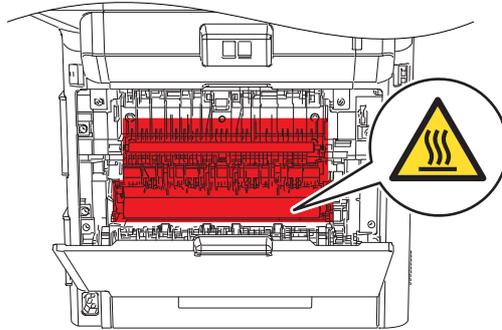
Fig. 3-14

(4) Remove the other three Cleaner pinch roller S ASSYs in the same way.

9.6 Fuser unit

CAUTION

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



- (1) Remove the two Taptite bind B M4x12 screws from the Fuser unit line cover R.
- (2) Release each Hook and remove the Fuser unit line cover R.

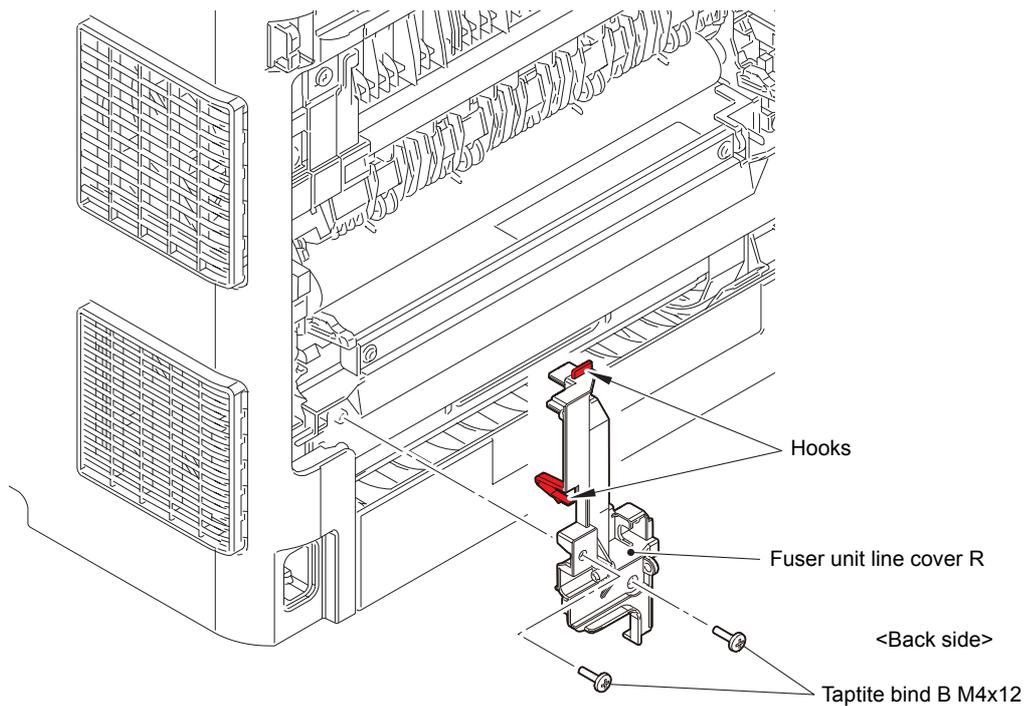


Fig. 3-15

- (3) Disconnect the Center thermistor harness and Side thermistor harness from the Eject sensor PCB ASSY.

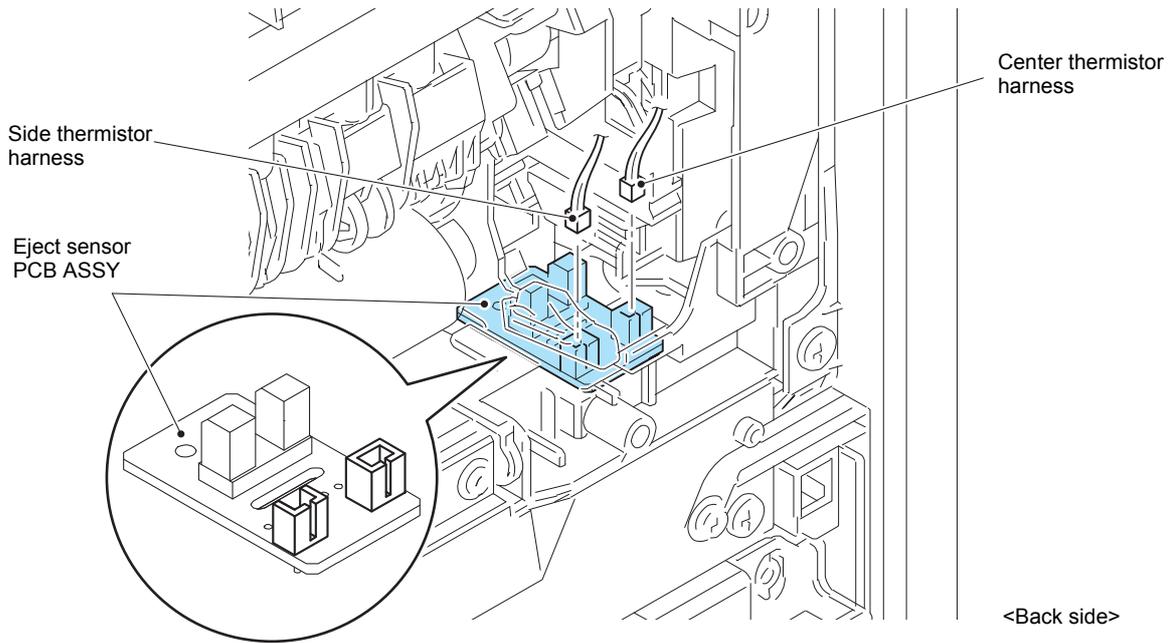


Fig. 3-16

- (4) Disconnect the Heater harness of the Fuser unit from the LVPS-heater harness ASSY.

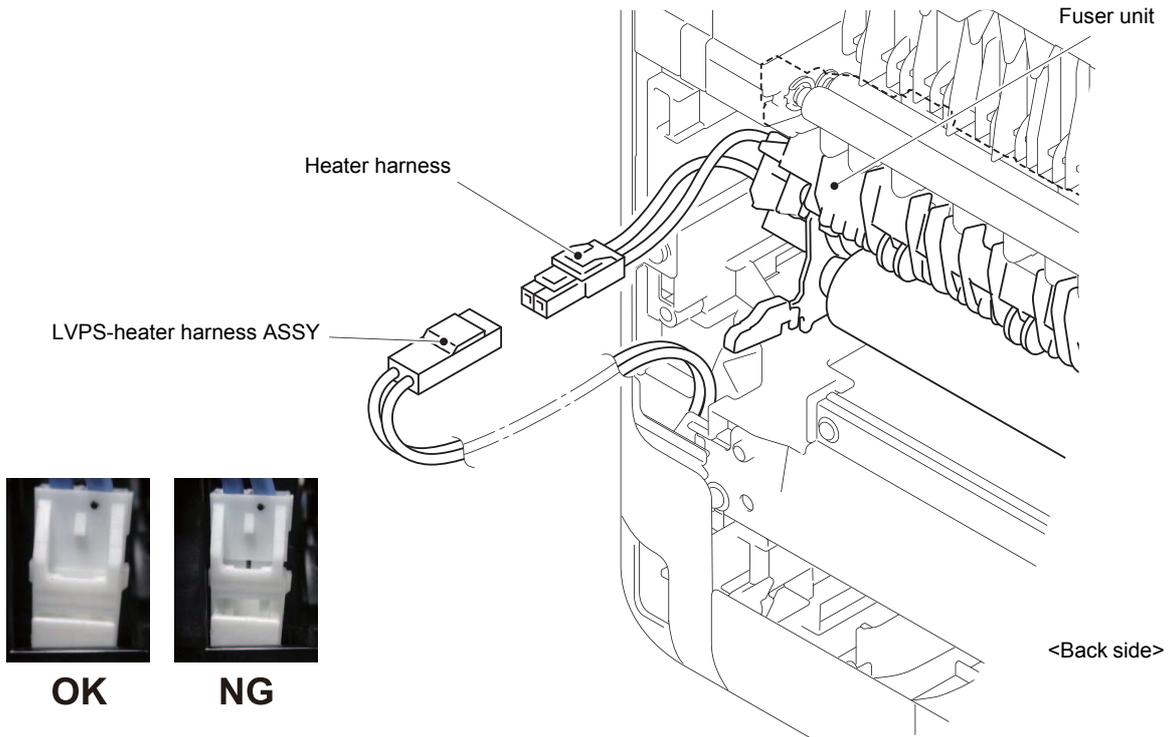


Fig. 3-17

Harness routing: Refer to "1. Fuser unit, Eject sensor PCB ASSY".

Note:

After connecting the Heater harness, pull the Connector on the Heater harness side while holding the Connector on the LVPS-heater harness ASSY side to make sure it is locked.

(5) Remove the two Taptite pan B M4x14 screws to remove the Fuser unit.

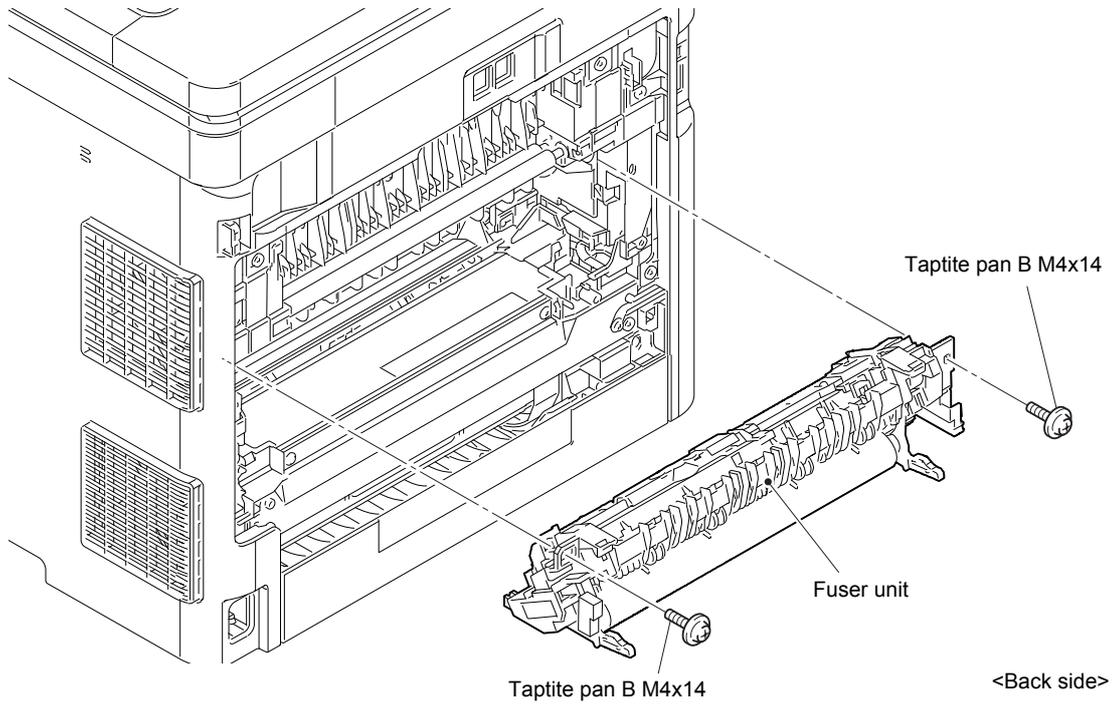


Fig. 3-18

Note:

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

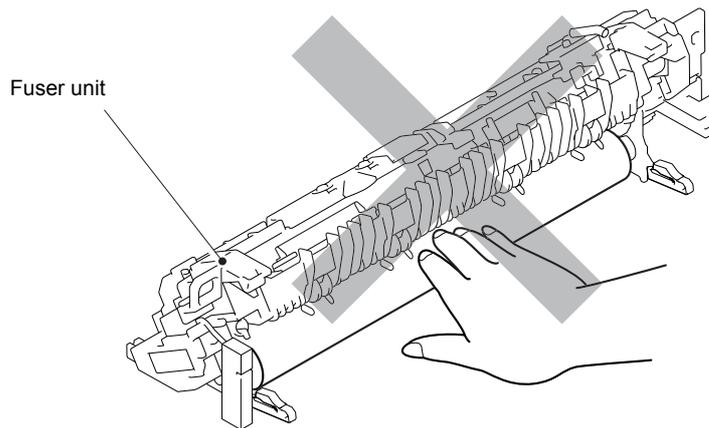


Fig. 3-19

9.7 Cord hook

- (1) Rotate the Cord hook in the direction of the arrow and remove it from the Main body.
- (2) Remove the other Cord hook in the same way.

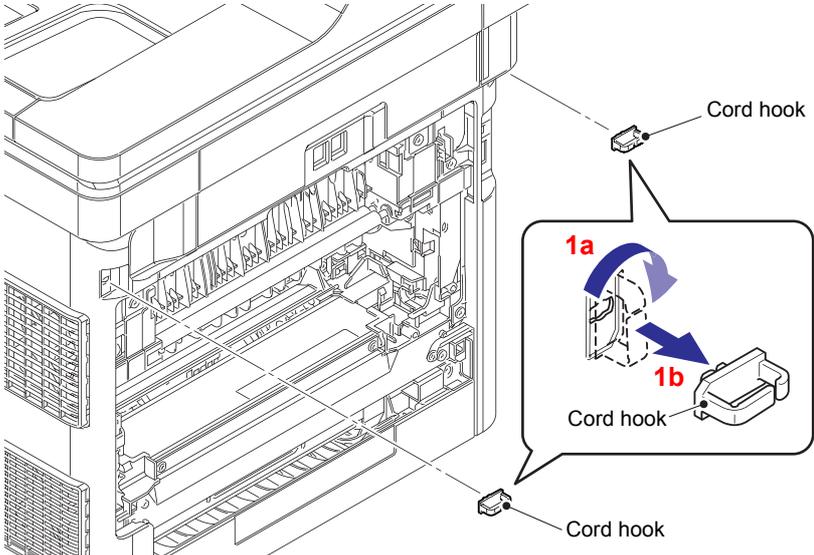


Fig. 3-20

9.8 Side cover L ASSY

- (1) Make the Front cover half open. (When fully opened, the Front cover arm will touch to the Side cover L ASSY and Side cover L ASSY cannot be removed.)
- (2) Remove the Taptite cup B M3x8 screw and the Taptite bind B M4x12 screw from the front of the Side cover L ASSY.
- (3) Remove the Taptite bind B M4x12 screw from the side of the Side cover L ASSY.

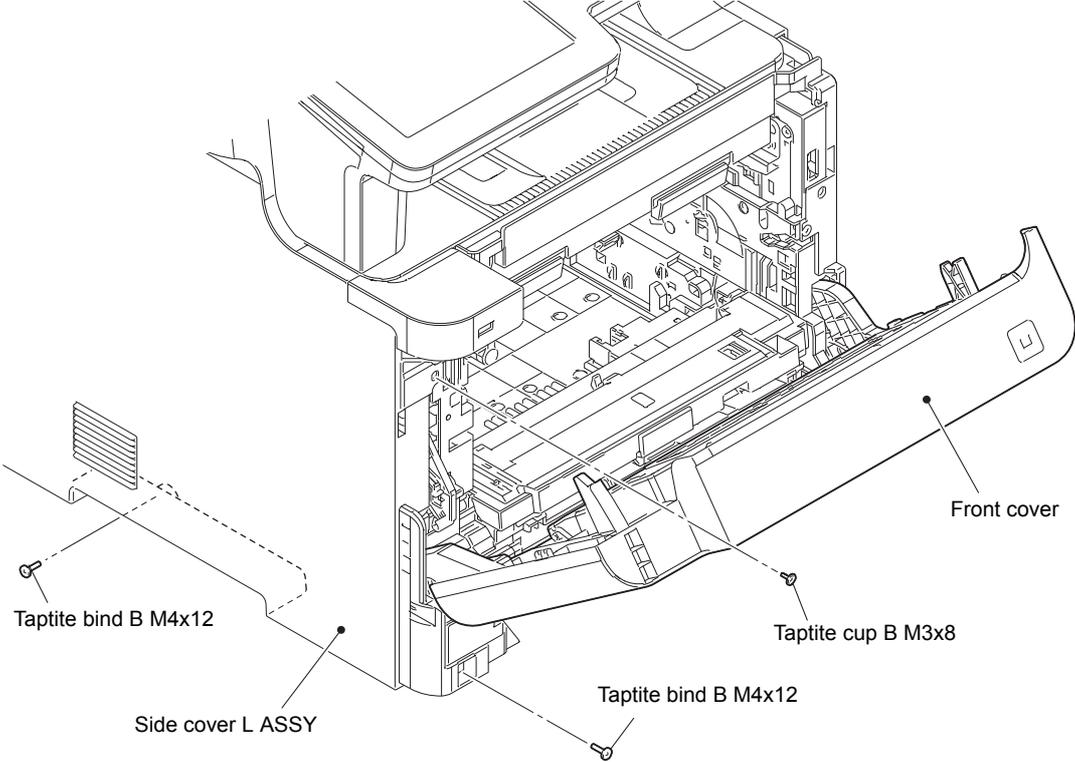


Fig. 3-21

- (4) Remove the two Taptite bind B M4x12 screws from the back of the Side cover L ASSY.

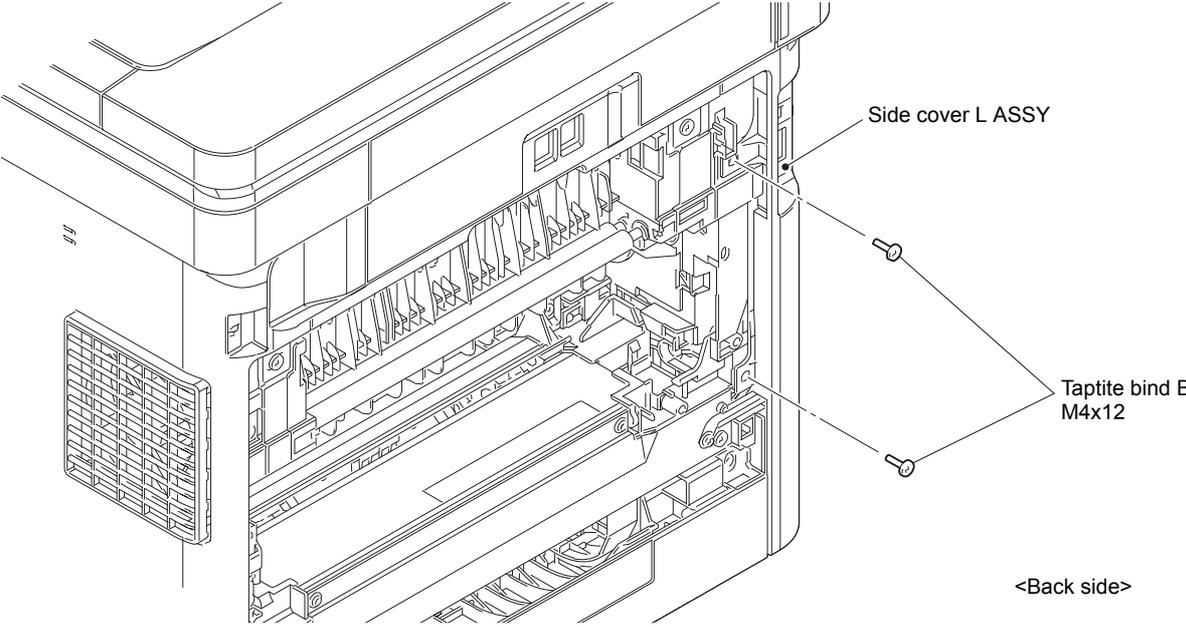


Fig. 3-22

- (5) Release the Hooks A, B, C and D in order of the arrow A, B, C and D, then remove the Side cover L ASSY upward.

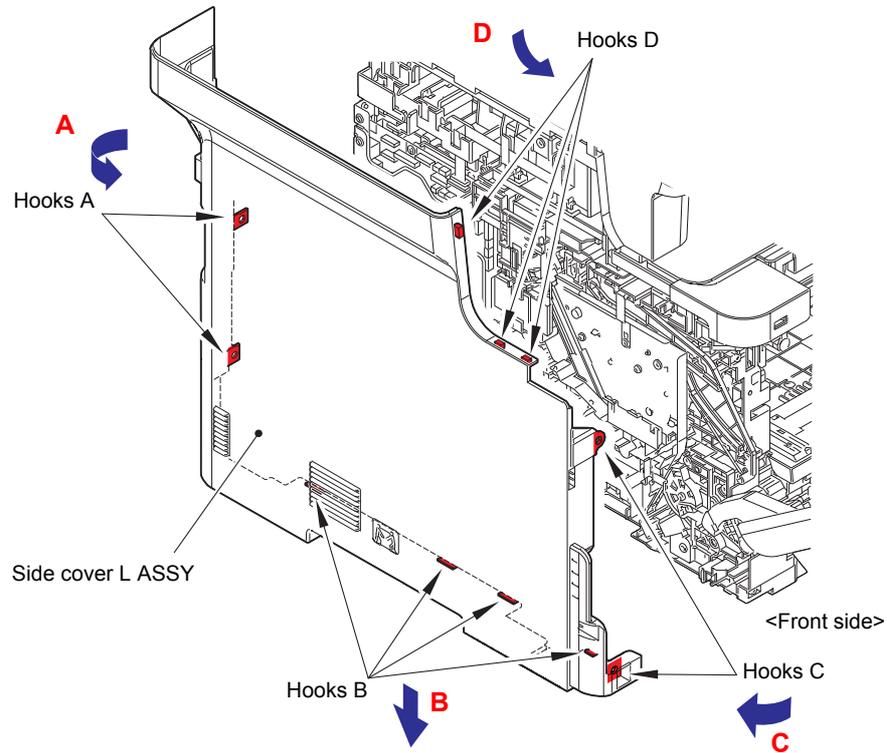


Fig. 3-23

* Inside of Side cover L ASSY

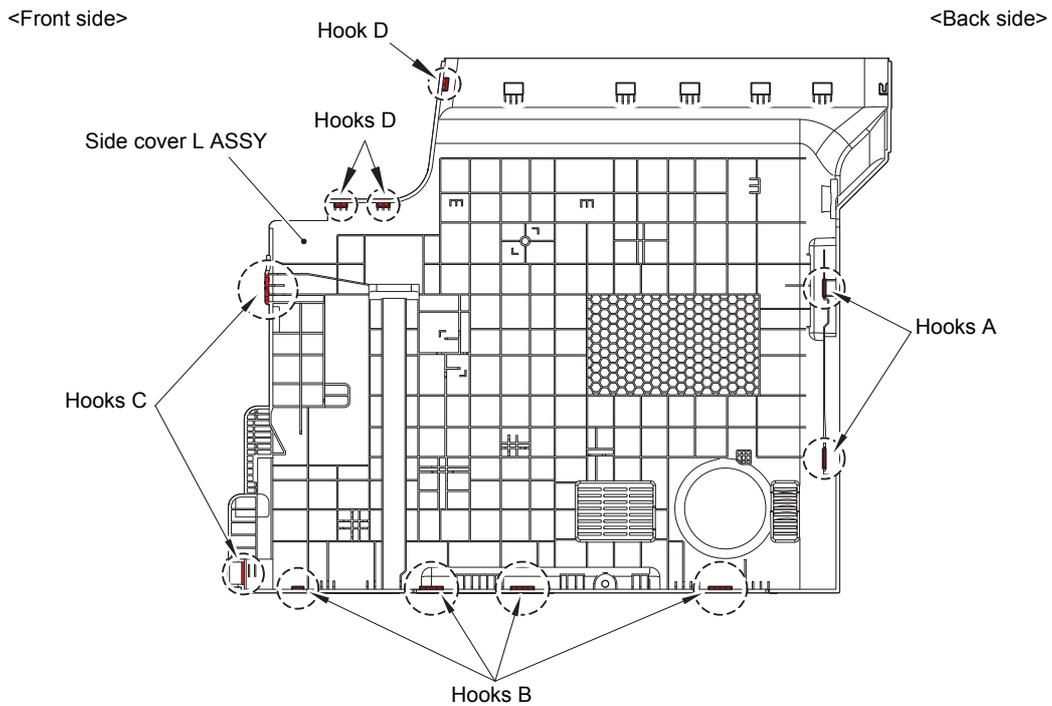


Fig. 3-24

9.9 Side cover R

- (1) Remove the Taptite cup B M3x8 screw and the Taptite bind B M4x12 screw from the front of the Side cover R.

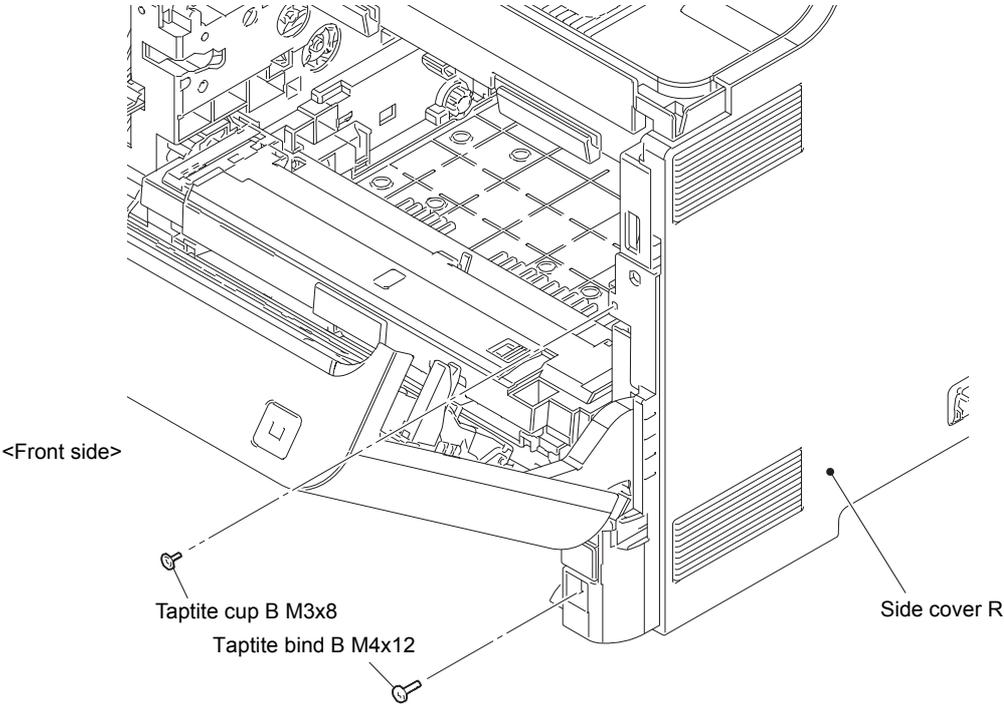


Fig. 3-25

- (2) Remove the two Taptite bind B M4x12 screws from the back of the Side cover R.

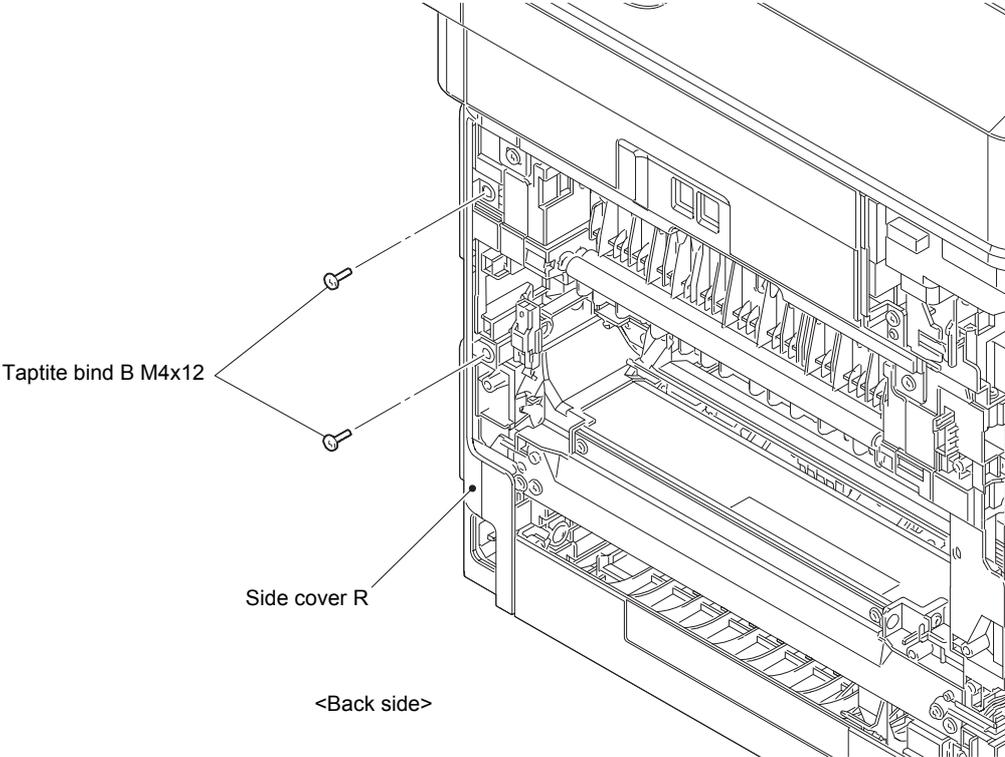


Fig. 3-26

- (3) Check that the Front cover is half opened. (When fully opened, the Front cover arm will touch to the Side cover R and Side cover R cannot be removed.) Release the Hooks A, B, C and D in order of the arrow A, B, C and D, then remove the Side cover R upward.

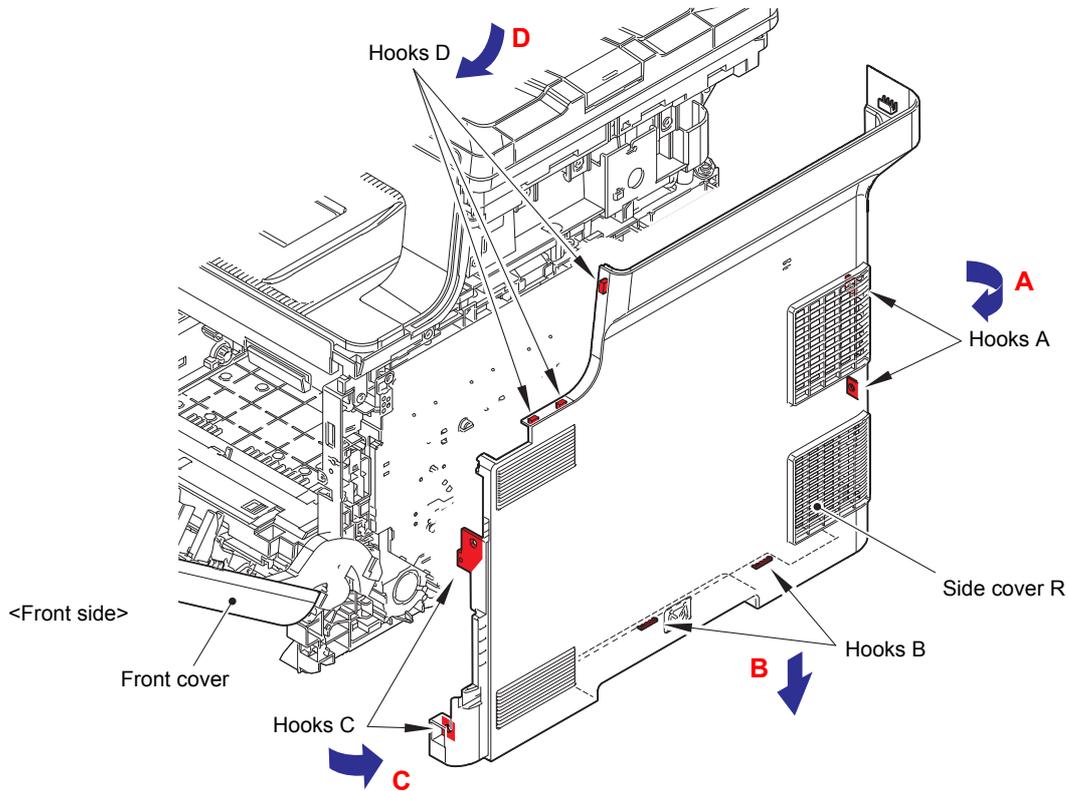


Fig. 3-27

* Inside of Side cover R

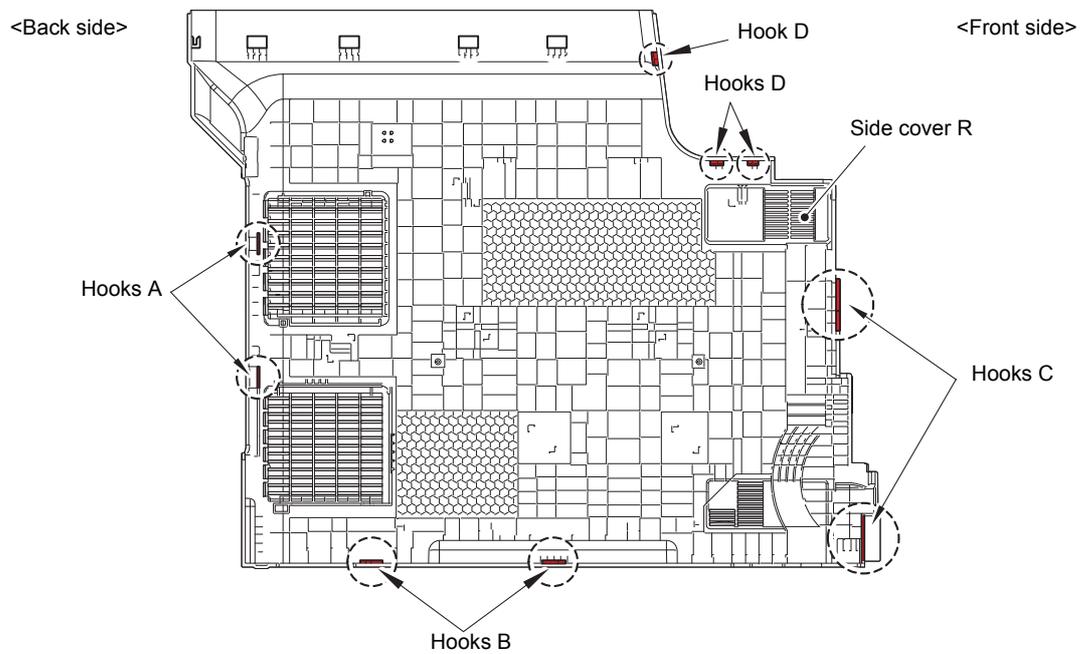


Fig. 3-28

Note:

As the Spacer tends to come off, be careful not to lose it.

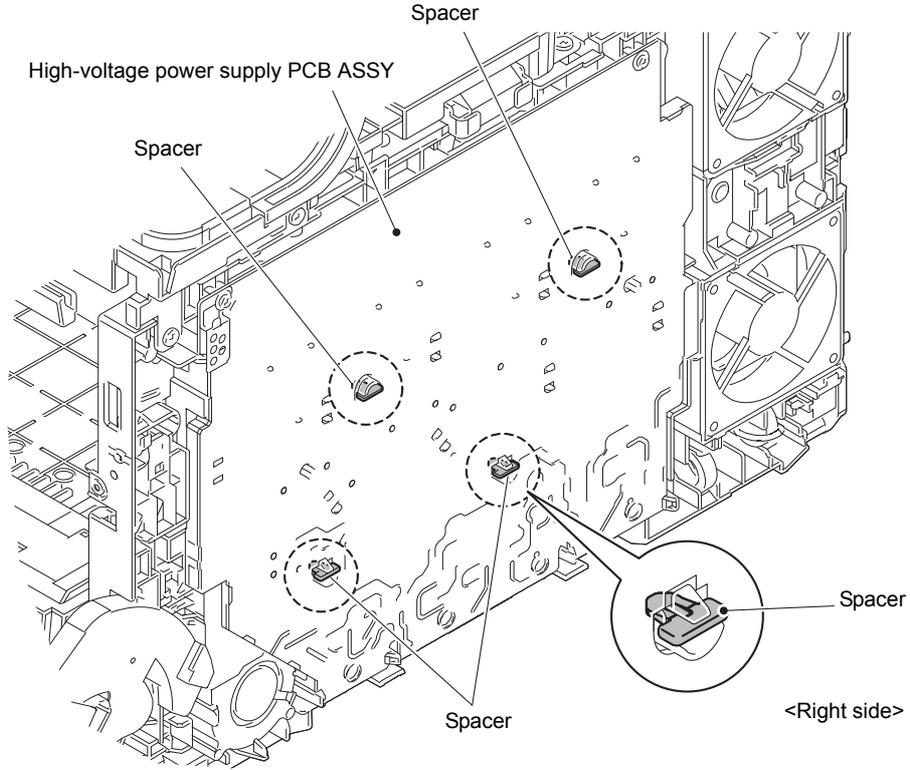


Fig. 3-29

9.10 MP cover ASSY / MP paper guide ASSY

- (1) Open the Front cover fully, release the Hook of the MP damper spring from the Front cover and fasten it to the Rib of MP cover ASSY.

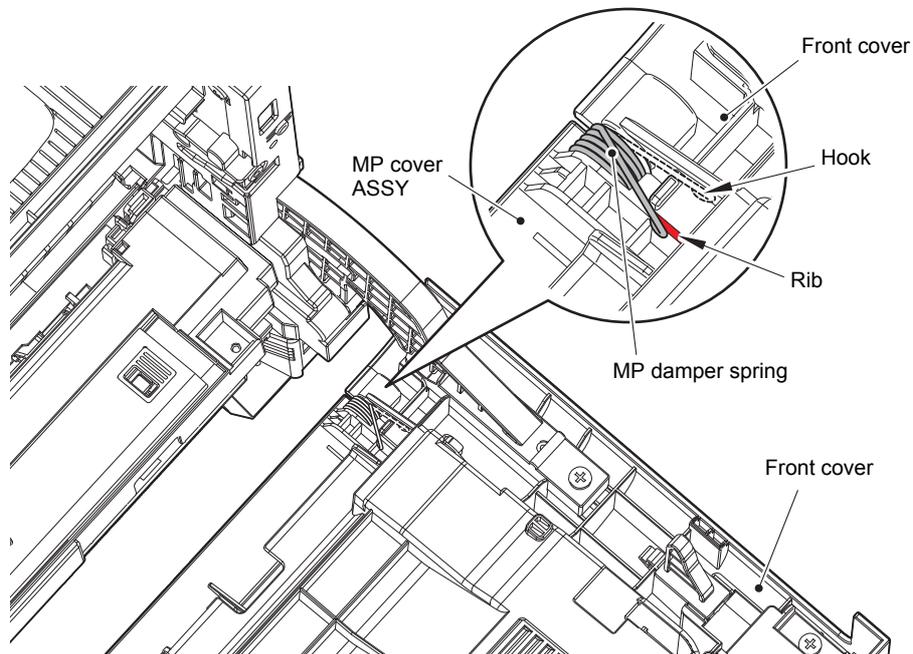


Fig. 3-30

- (2) Close the Front cover.
- (3) Open the MP cover ASSY.
- (4) Release the MP link L from the Boss of the MP paper guide ASSY.
- (5) Release the MP link R from the Boss of the MP paper guide ASSY.

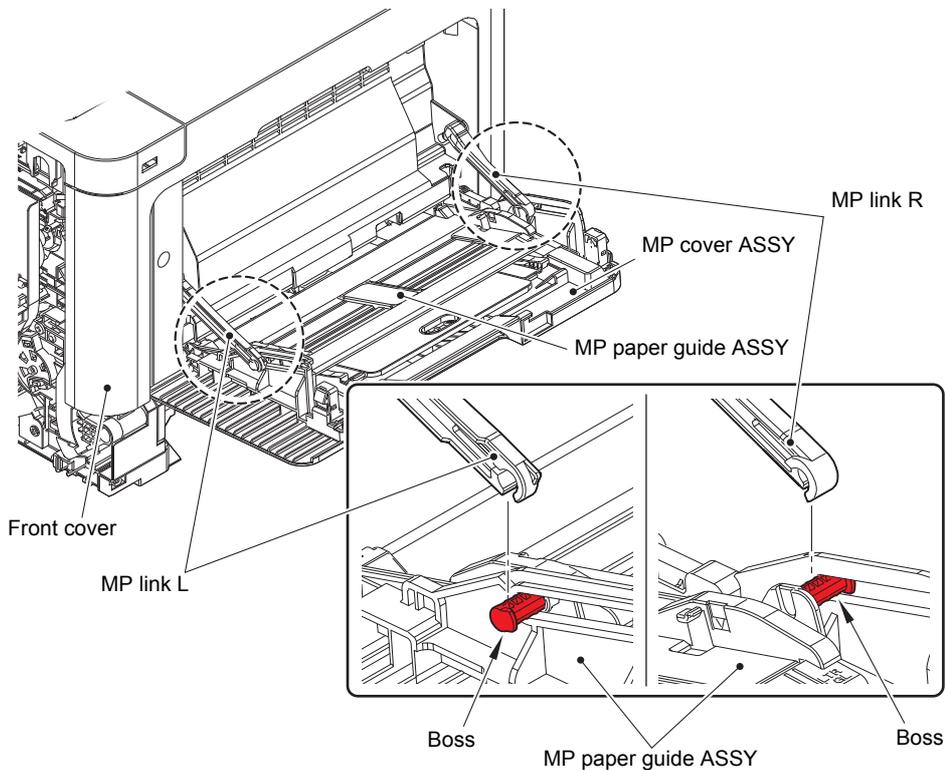


Fig. 3-31

- (6) Pull the MP paper guide ASSY to the front, tilt the left side slightly to the front and pull out the Boss of the left side from the MP cover ASSY. Then pull out the Boss of the right side from the MP cover ASSY and remove the MP guide ASSY.

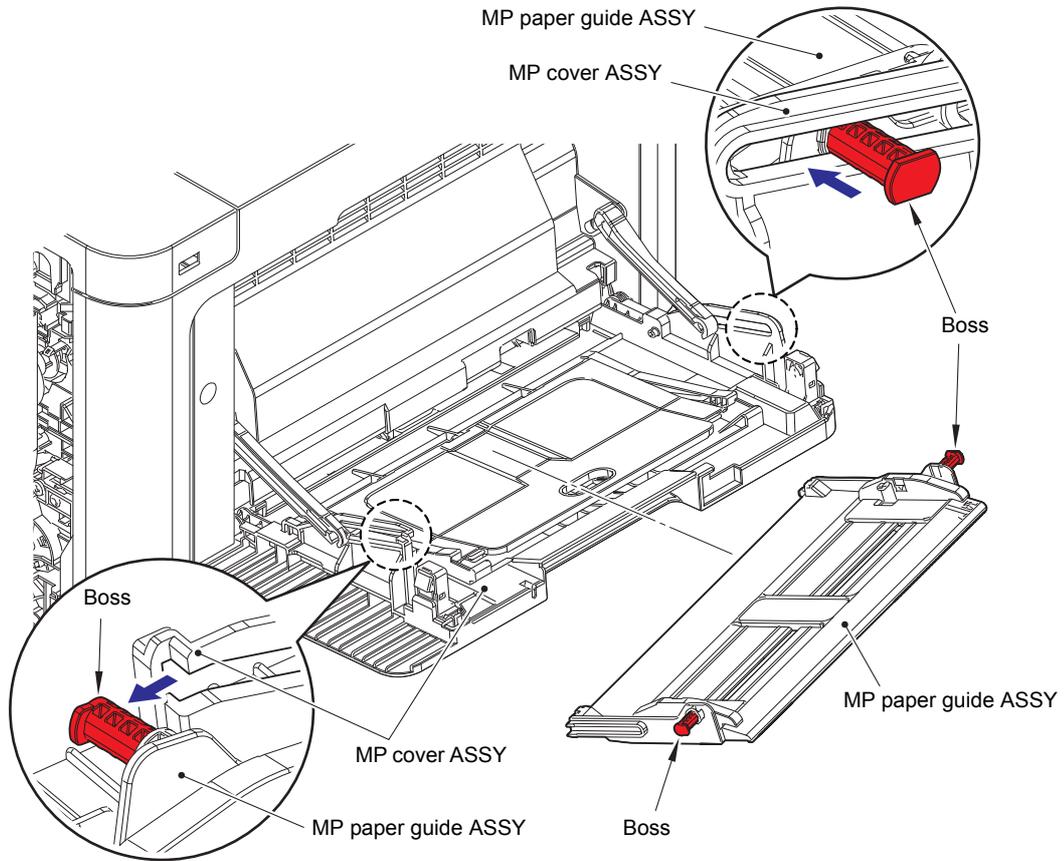


Fig. 3-32

- (7) Release each Boss and remove the MP cover ASSY from the Front cover.
- (8) Remove the MP damper spring from the MP cover ASSY.

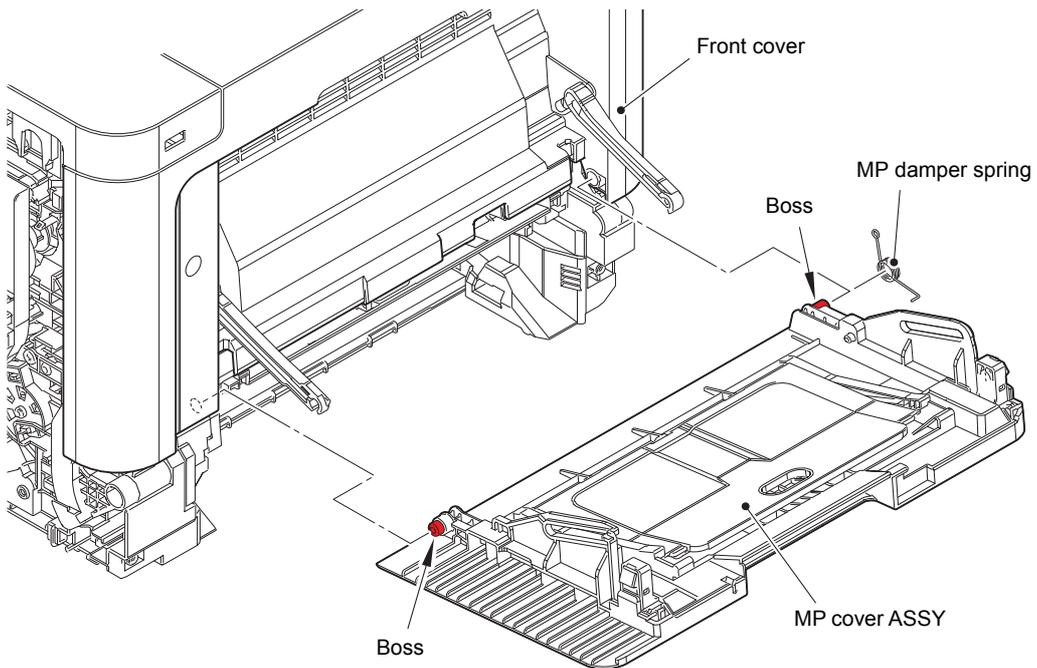


Fig. 3-33

9.11 MP link L / MP link R

- (1) Remove the MP link L from the Front cover.
- (2) Remove the MP link R from the Front cover.

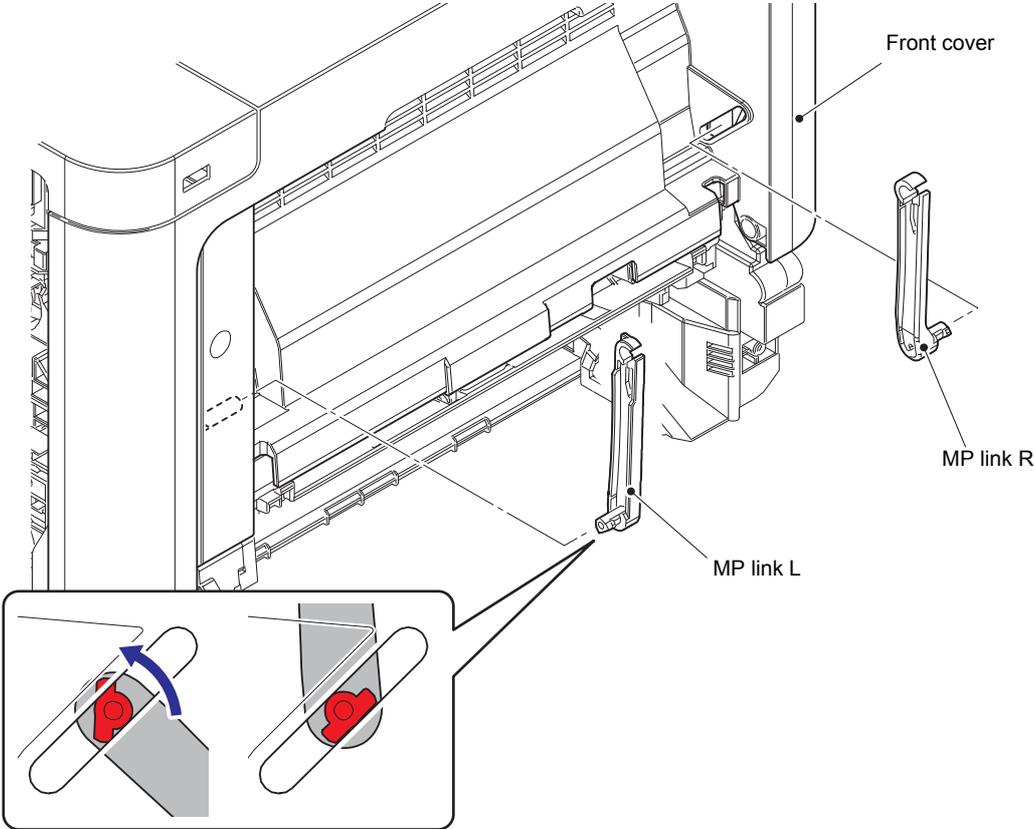


Fig. 3-34

9.12 Front cover

- (1) Remove the Front cover damper spring from the Spring hook of the Frame R.

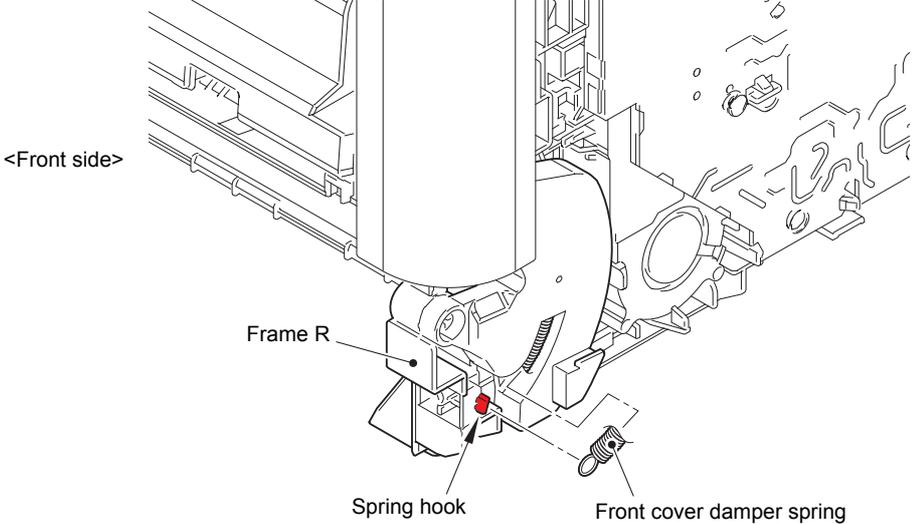


Fig. 3-35

- (2) Open the Front cover.
- (3) Release the Hook, pull the Forced develop release link to the direction of the arrow and remove it from the Front cover arm L.

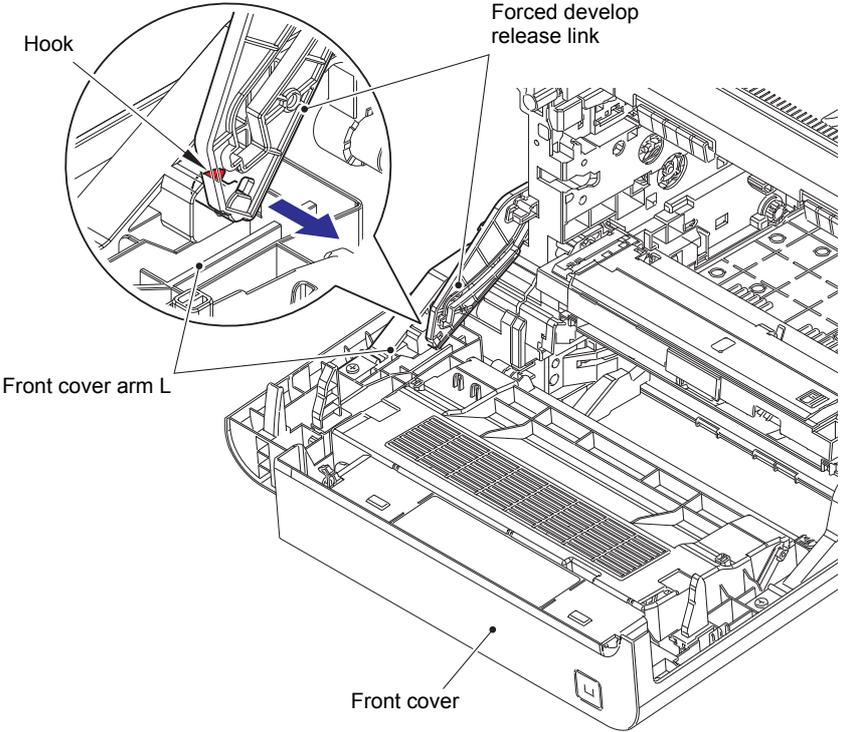


Fig. 3-36

- (4) Remove the two Taptite bind B M4x12 screws and remove the Front cover from the Front cover arm L/R.

Assembling Note:

Screw up the Front cover after inlay the Hooks of the Front cover arm L/R to it. If each Hook are not inlaid correctly, the Front cover will come of when closing.

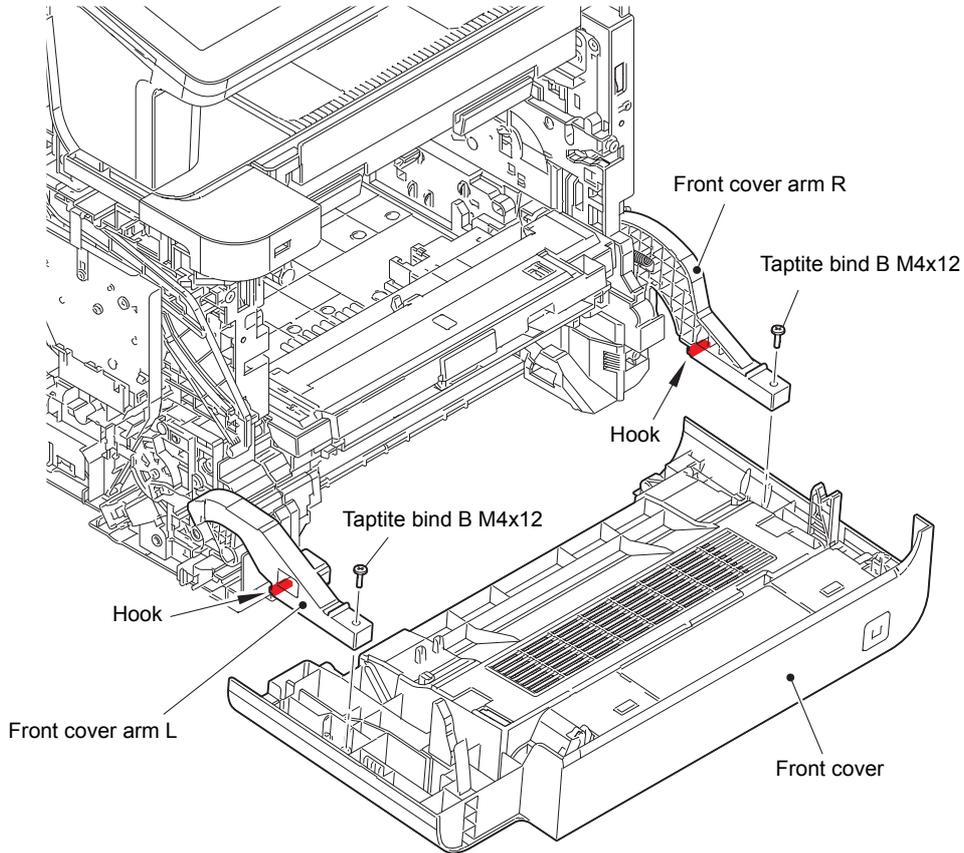


Fig. 3-37

- (5) Remove the Taptite pan B M4x14 screw and remove the Front cover arm L.

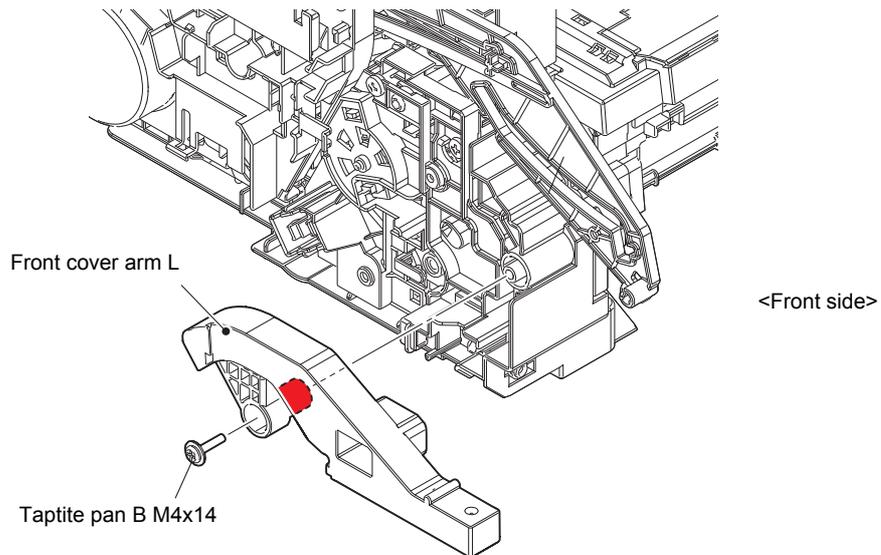


Fig. 3-38

- (6) Remove the Taptite pan B M4x14 screw and remove the Front cover arm R.
(7) Remove the Taptite cup B M3x8 screw and remove the Front cover damper spring from the Front cover arm R.

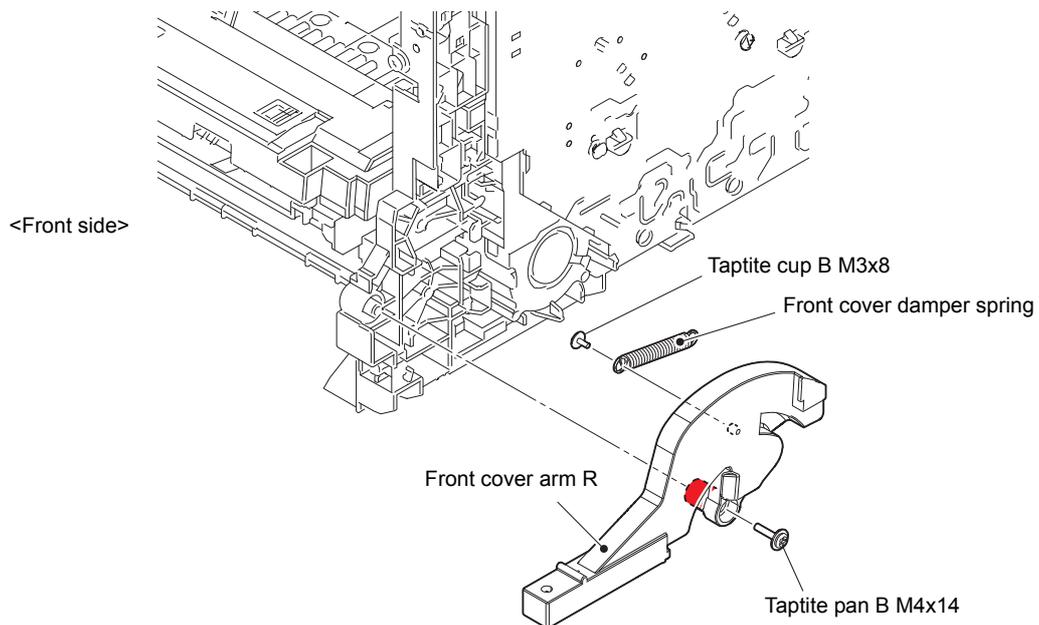


Fig. 3-39

Assembling Note:

- Front cover spare part will be delivered with Front cover arm L/R connected.
- Before replacing the Front cover to the machine, make sure to remove the Front cover arm L/R.

9.13 Paper stopper

- (1) Release each Boss and remove the Paper stopper from the ADF unit.
(Paper stopper ASSY for A4 models)

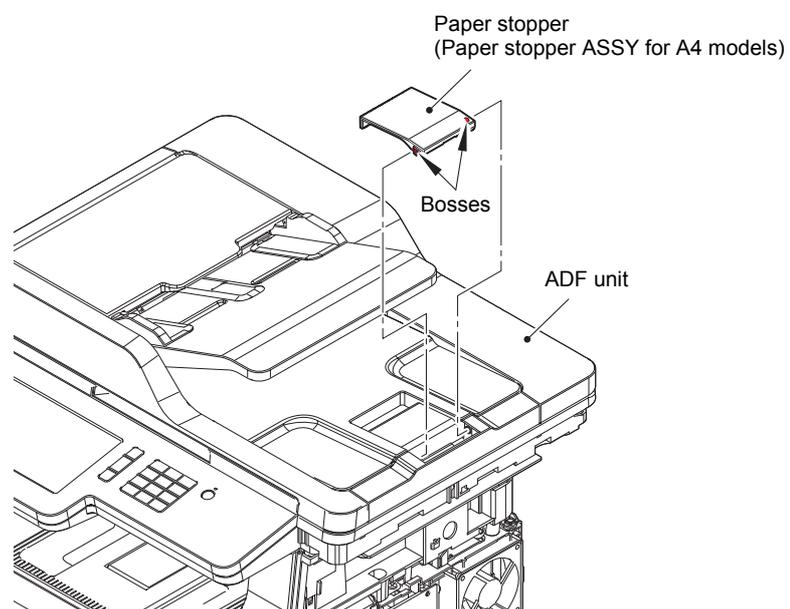


Fig. 3-40

9.14 Back cover upper

- (1) Remove the two Taptite bind B M4x12 screws from the Back cover upper.
- (2) Removes each Hook while pushing down and release the Back cover upper.

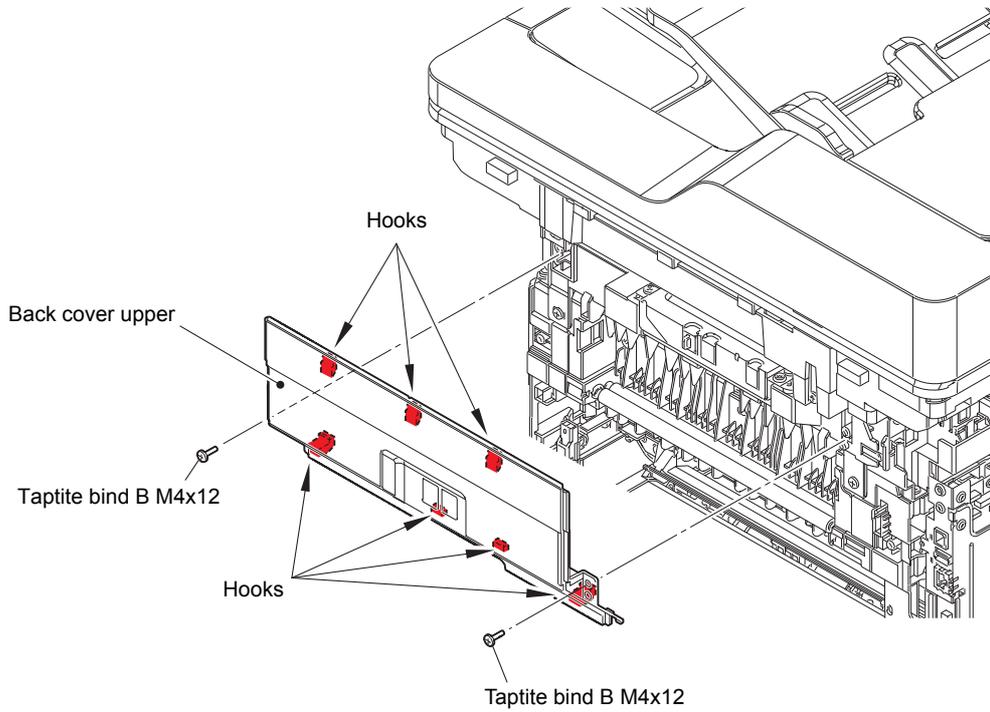


Fig. 3-41

9.15 Panel unit

9.15.1 Panel unit

- (1) Open the ADF unit. Release the Hook A of the Panel top cover from the Hole of the Panel lower cover. Lift the left end of the Panel top cover to release the other Hooks of the Panel top cover. Pull up the Panel top cover to the upper-left, then remove the Panel top cover from the Scanner unit.

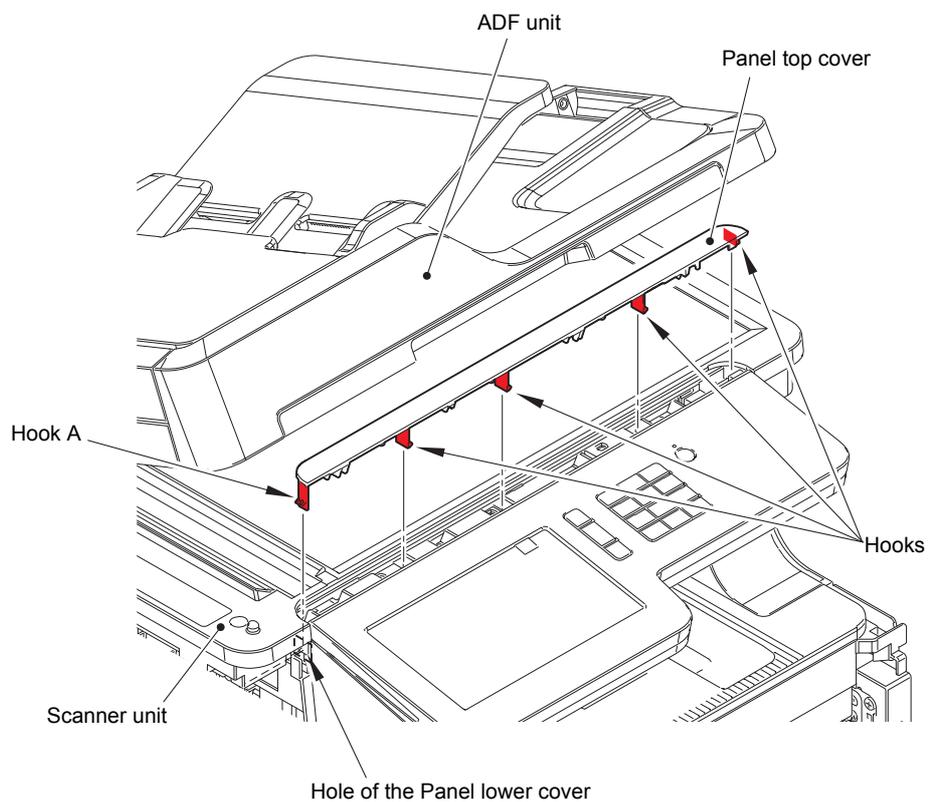


Fig. 3-42

- (2) Disconnect the Panel flat cable from the Main PCB ASSY.
- (3) Remove the Screw cup M3x8 (black) screw and release the Panel ground wire from the securing fixtures.

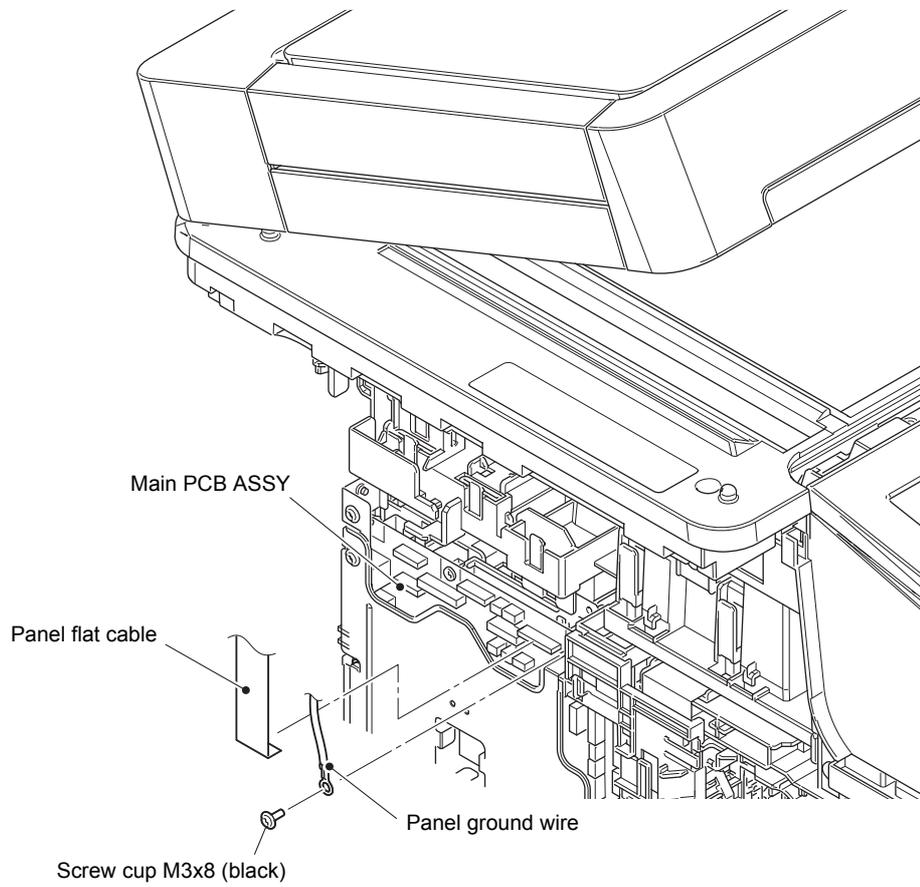


Fig. 3-43

Harness routing: Refer to "2. Panel unit".

- (4) Remove the four Taptite bind B M4x12 screws. Release each Hook, and remove the Panel unit from the Panel lower cover. (For 3.7 inch models: Remove the three screws and the screw A is not removed.)
- (5) Release the Connector lock and remove the Panel flat cable from the Panel PCB. (There is no Connector lock for 3.7 inch models.)
Pull out the Panel ground wire from the Hole of the Panel lower cover.

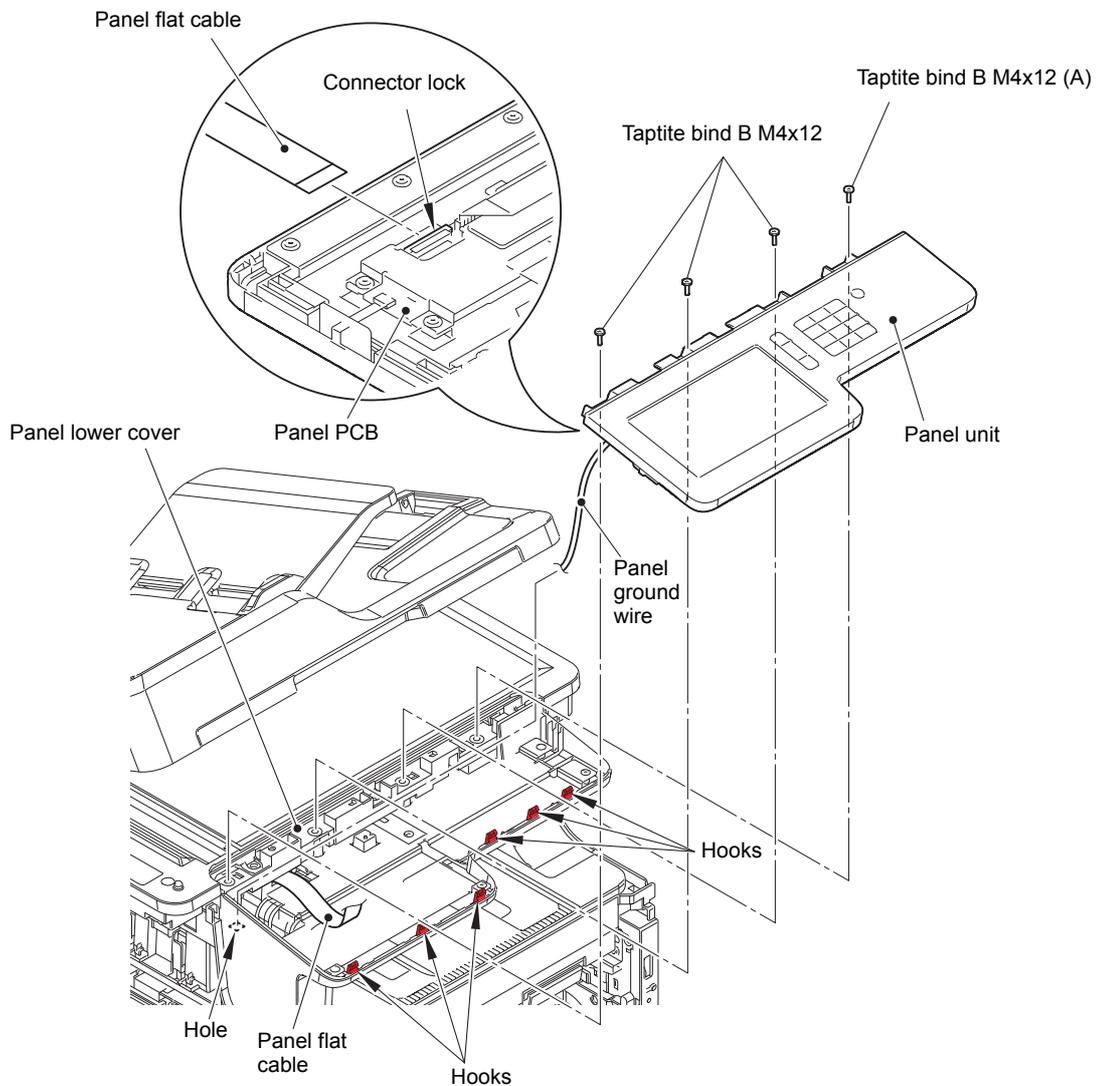


Fig. 3-44

9.15.2 NFC PCB (Models with NFC only)

- (1) Remove the NFC flat cable from the Ten key PCB.
- (2) Release the Hook to remove the NFC PCB from the Panel unit.

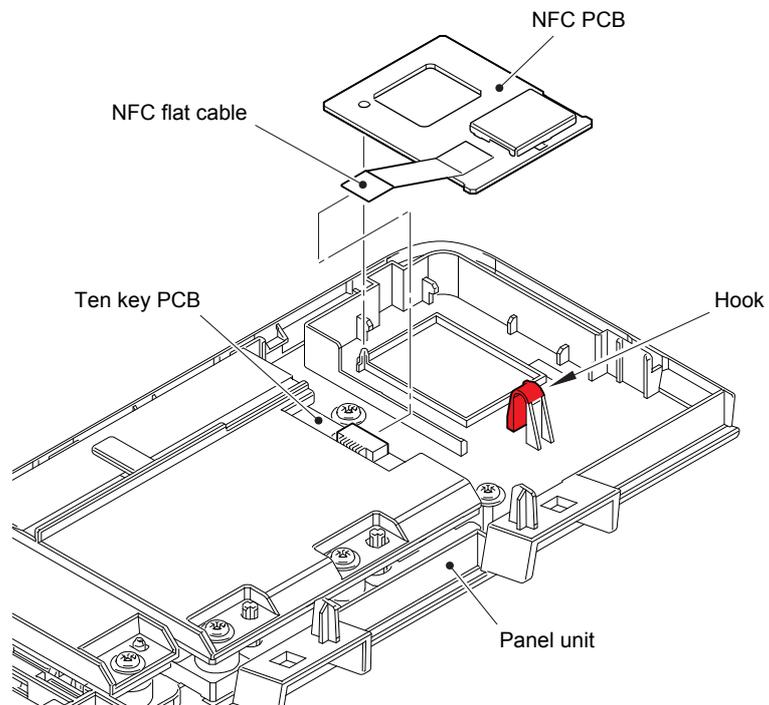


Fig. 3-45

9.15.3 Ten key PCB / Mode key PCB

- (1) Remove the Ten key PCB flat cable from the Panel PCB and release the Ten key PCB flat cable from the securing fixtures.
- (2) Remove the four Taptite cup B M3x10 screws, and remove the Ten key PCB pressure from the Panel unit.
- (3) Release the Ten key PCB from the panel unit.

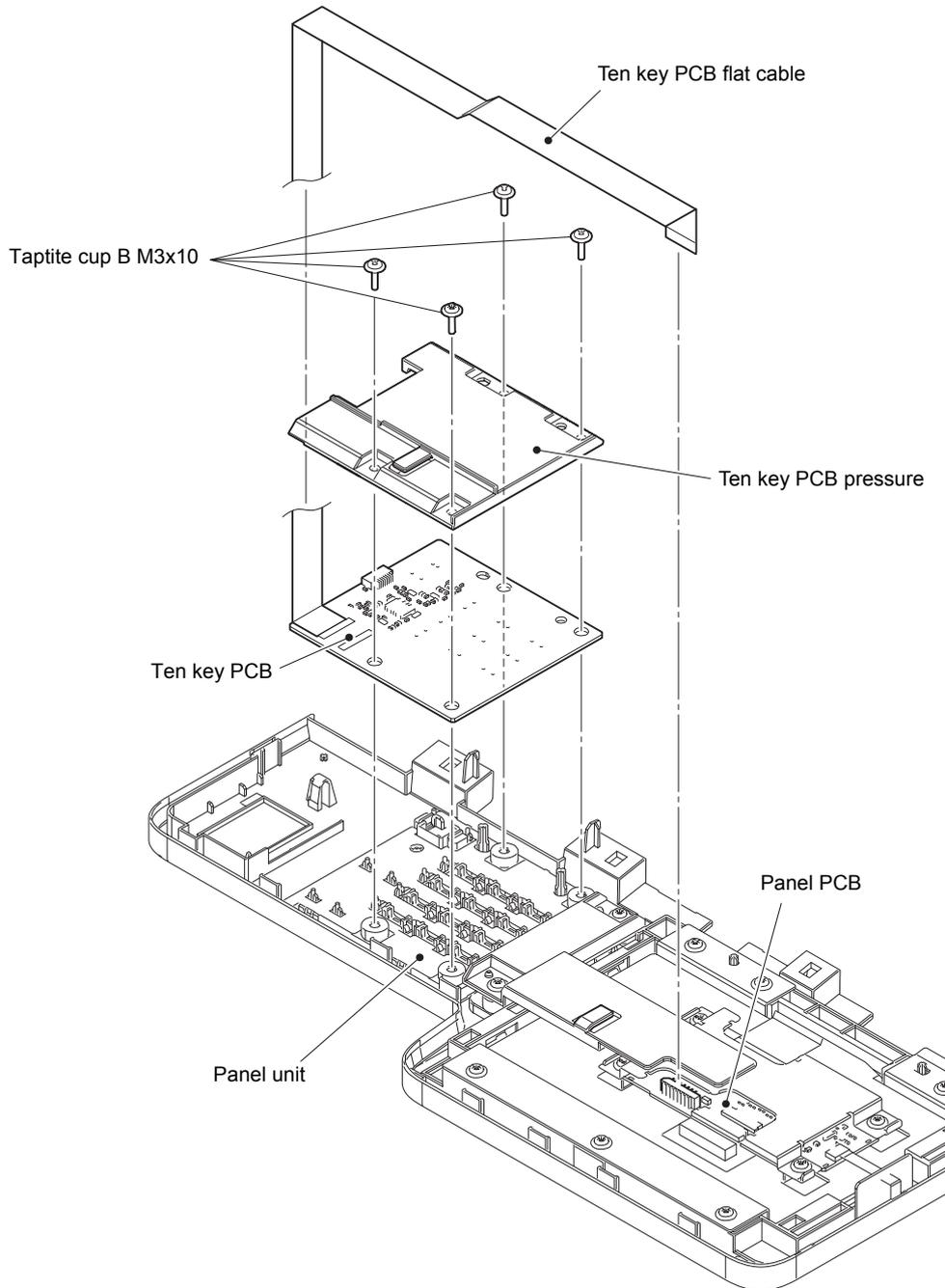


Fig. 3-46

Harness routing: Refer to "3. Bottom side of the Panel unit".

<The folding diagram of the ten key PCB flat cable>

■ For 3.7 inch models

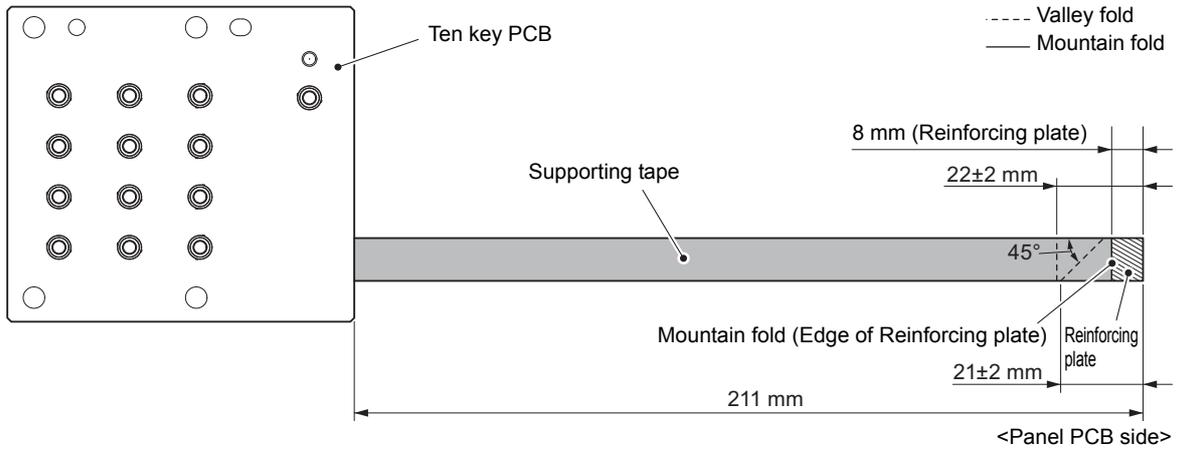


Fig. 3-47

■ For 5.0 inch models

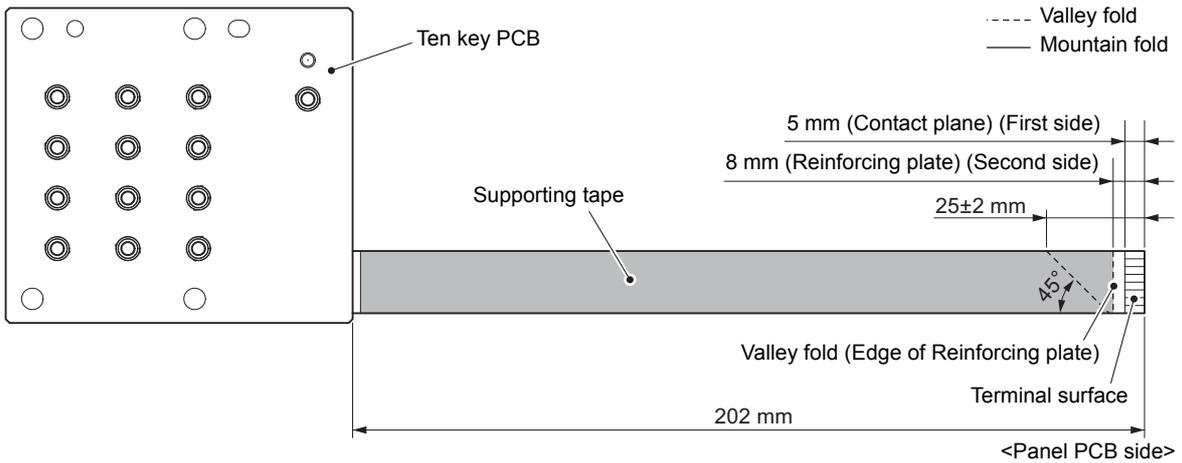


Fig. 3-48

■ For 7.0 inch models

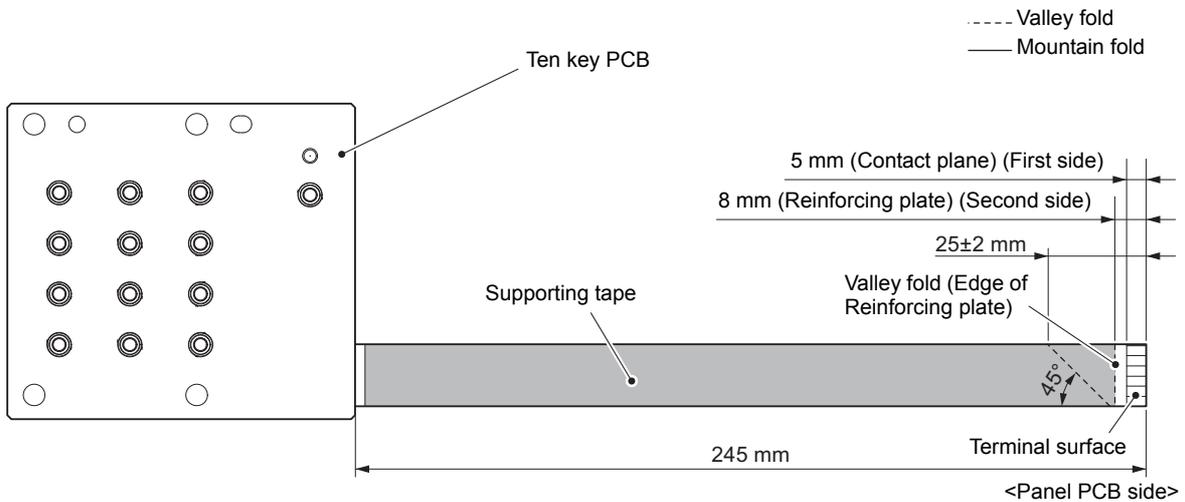


Fig. 3-49

- (4) Release the two Taptite cup B M3x10 screws and remove the Mode key pressure from the Panel unit.
- (5) Pull out the Mode key flat cable from the Panel PCB and remove the Mode key PCB from the Panel unit.

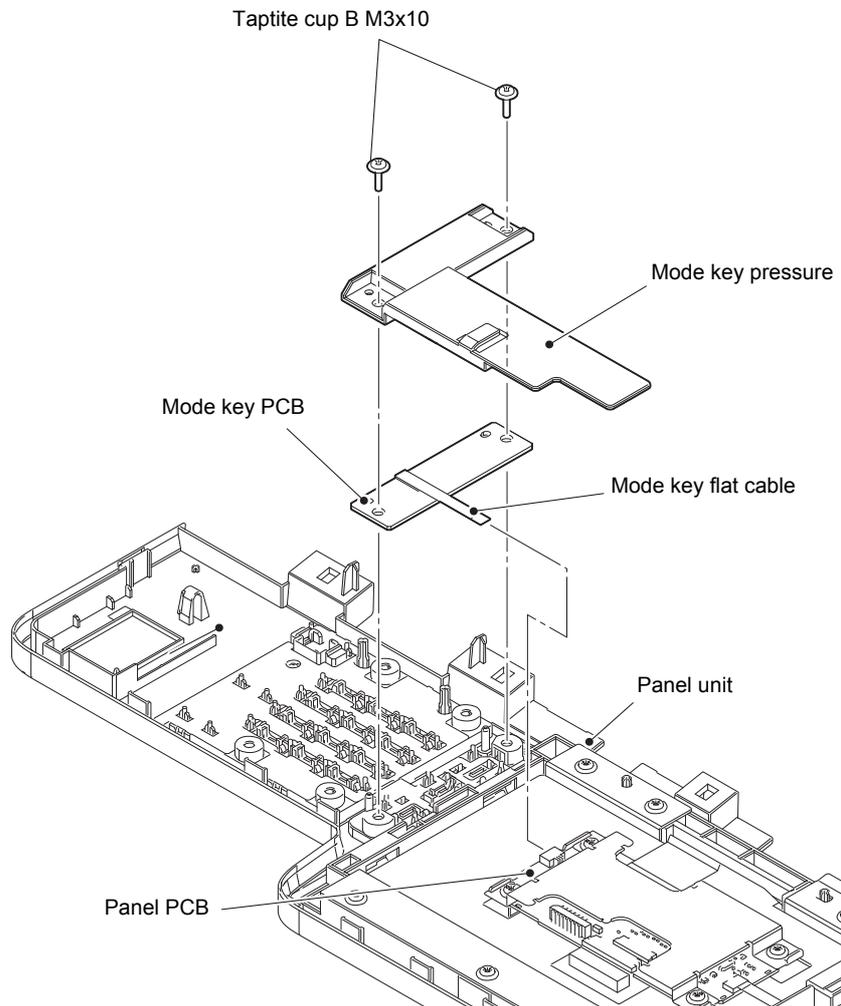


Fig. 3-50

9.15.4 Panel PCB / LCD

■ For LCD: 3.7 inch models

- (1) Disconnect the Touch panel flat cable from the Panel PCB.
- (2) Remove the four Taptite cup B M3x10 screws, and remove the Panel PCB shield cover from the Panel unit.
- (3) Release the Connector lock and remove the LCD flat cable from the Panel PCB.
- (4) Remove the Panel PCB from the Panel unit.

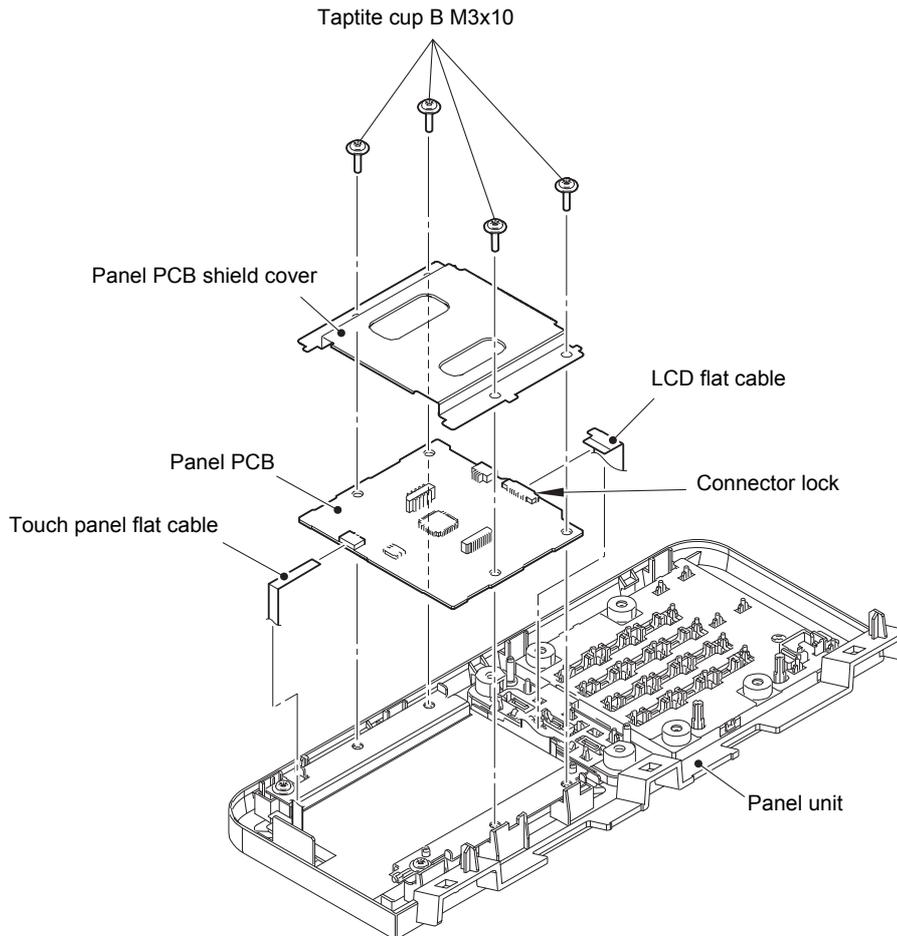


Fig. 3-51

- (5) Remove the Taptite cup B M3x10 screw, and remove the Panel ground wire.
- (6) Remove the Taptite cup B M3x10 screw, and remove the Panel PCB shield plate from the Panel unit.
- (7) Release LCD from the Panel unit.

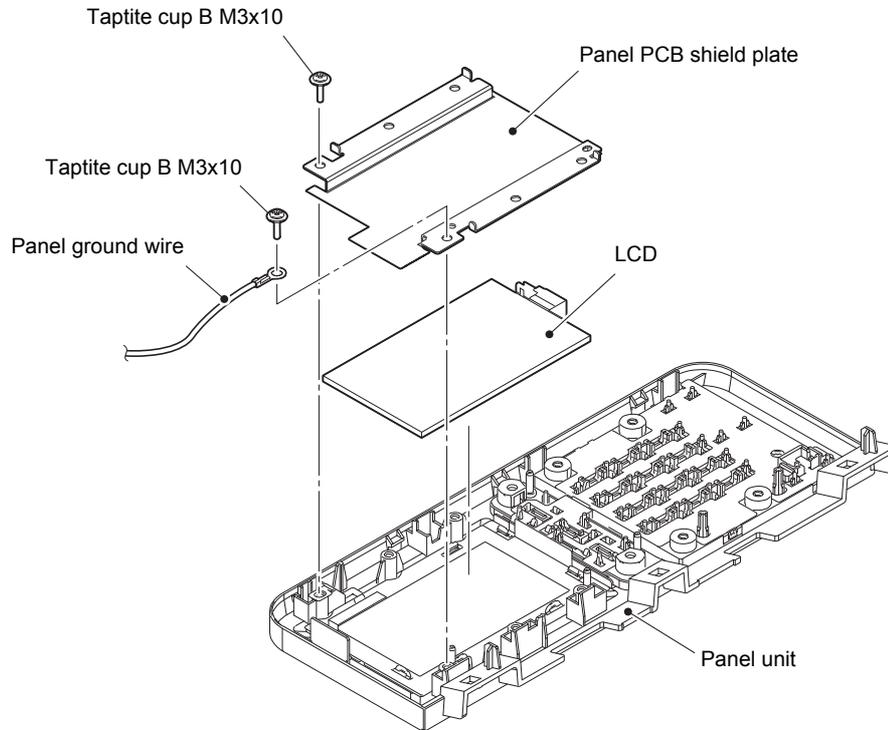


Fig. 3-52

■ **For LCD: 5.0 inch models**

- (1) Disconnect the Touch panel flat cable from the Panel PCB.
- (2) Release the Connector lock and remove the LCD flat cable from the Panel PCB.
- (3) Remove the four Taptite cup S M3x6 SR screws, and remove the Panel PCB shield plate cover from the Panel unit.
- (4) Remove the Panel PCB from the Panel unit.

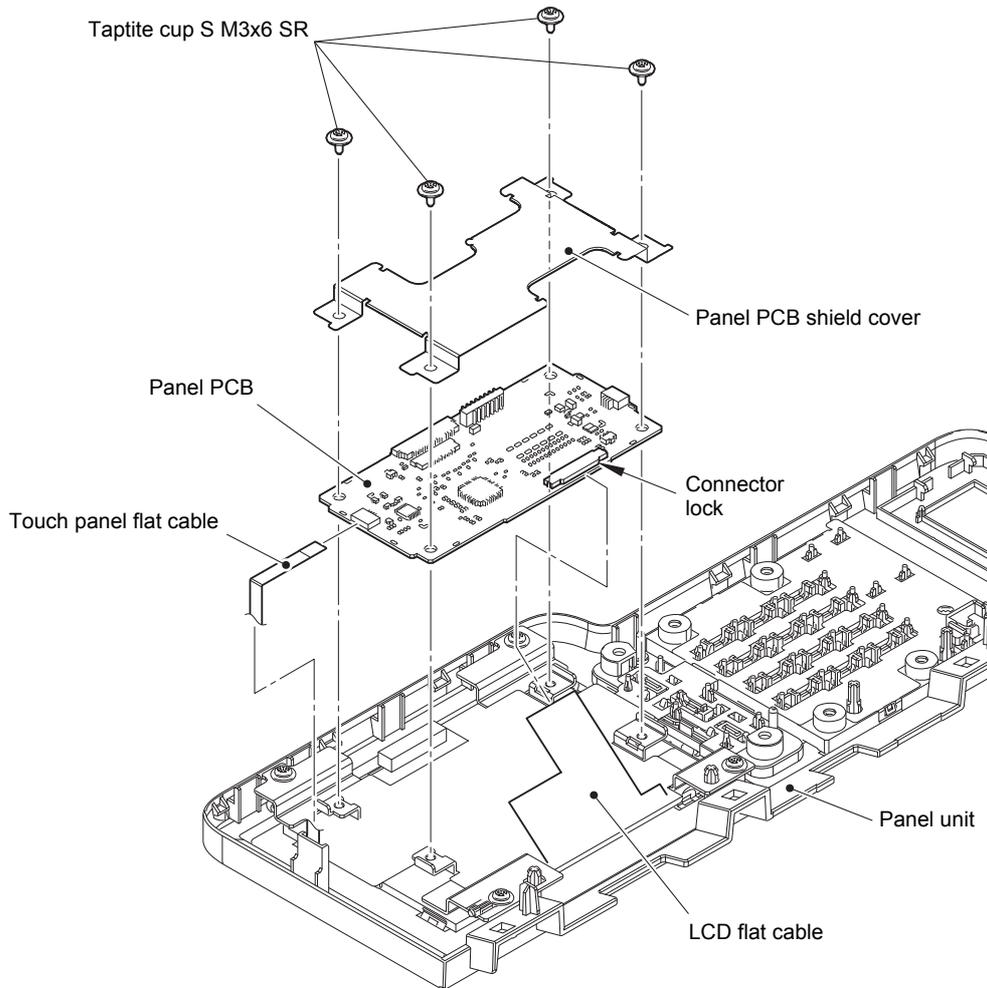


Fig. 3-53

- (5) Remove the screw of Taptite cup B M3x10 screws, and remove the Panel ground wire.
- (6) Remove the three Taptite cup B M3x10 screws, and remove the Panel PCB shield plate from the Panel unit.
- (7) Release LCD from the Panel unit.

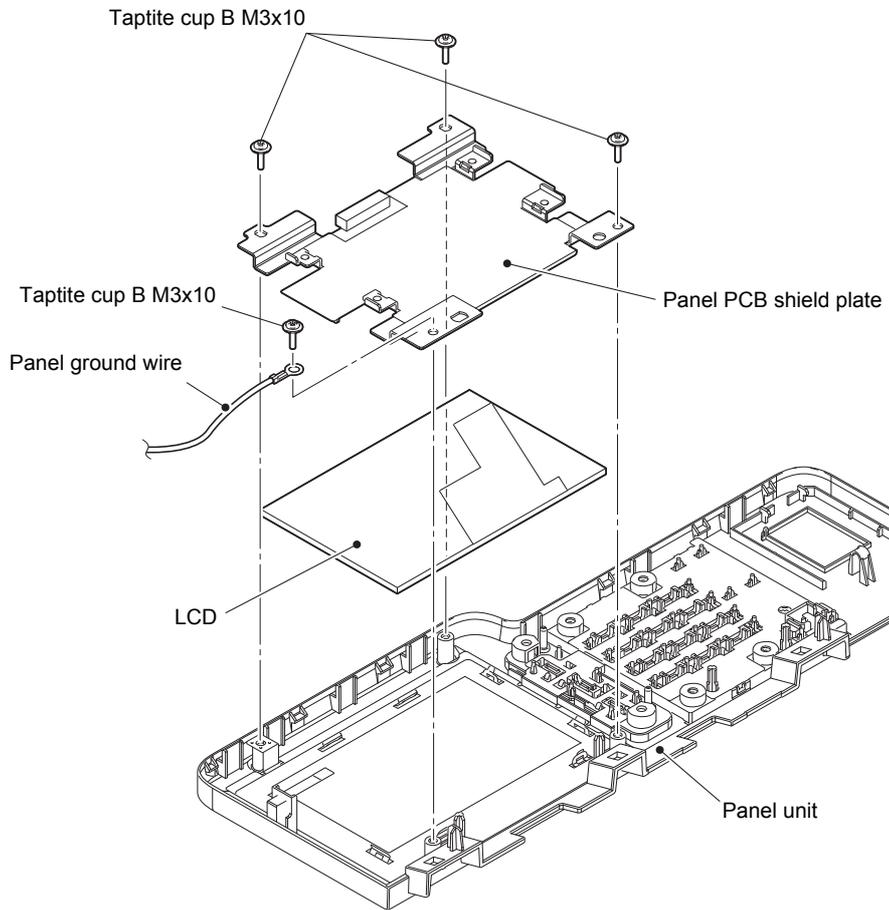


Fig. 3-54

■ **For LCD: 7.0 inch models**

- (1) Disconnect the Touch panel flat cable from the Panel PCB.
- (2) Release the Connector lock and remove the LCD flat cable from the Panel PCB.
- (3) Remove the four Taptite cup S M3x6 SR screws, and remove the Panel PCB shield plate cover from the Panel unit.
- (4) Remove the Panel PCB from the Panel unit.

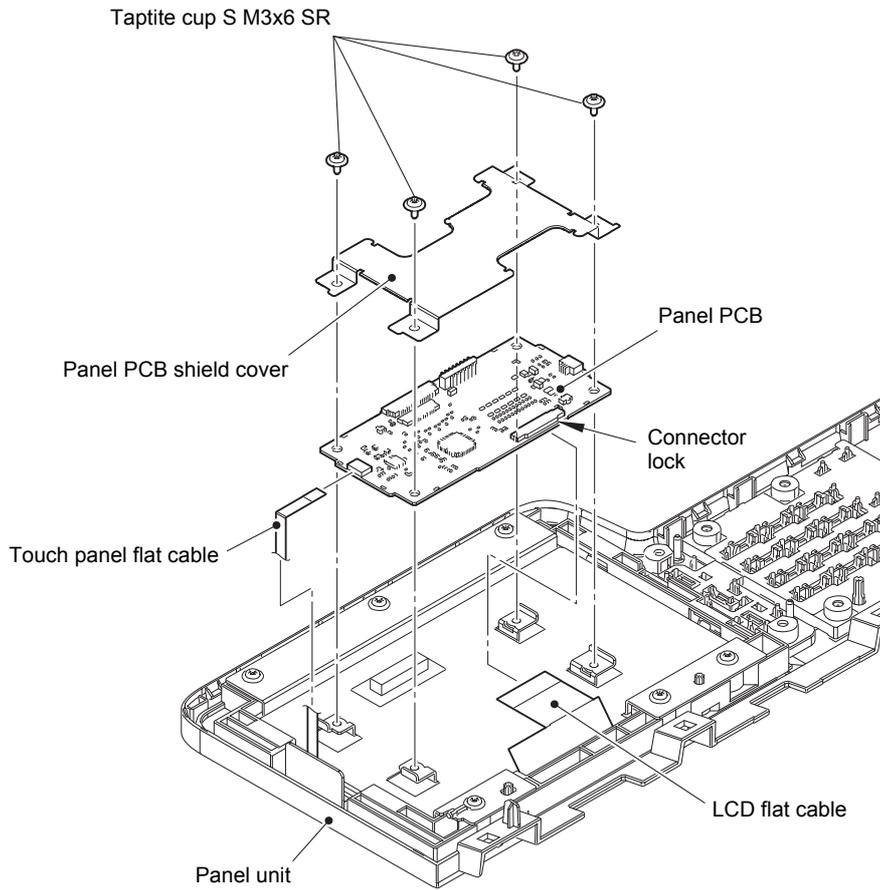


Fig. 3-55

- (5) Remove the Taptite cup B M3x10 screw, and remove the Panel ground wire.
- (6) Remove the five Taptite cup B M3x10 screws, and remove the Panel PCB shield plate from the Panel unit.

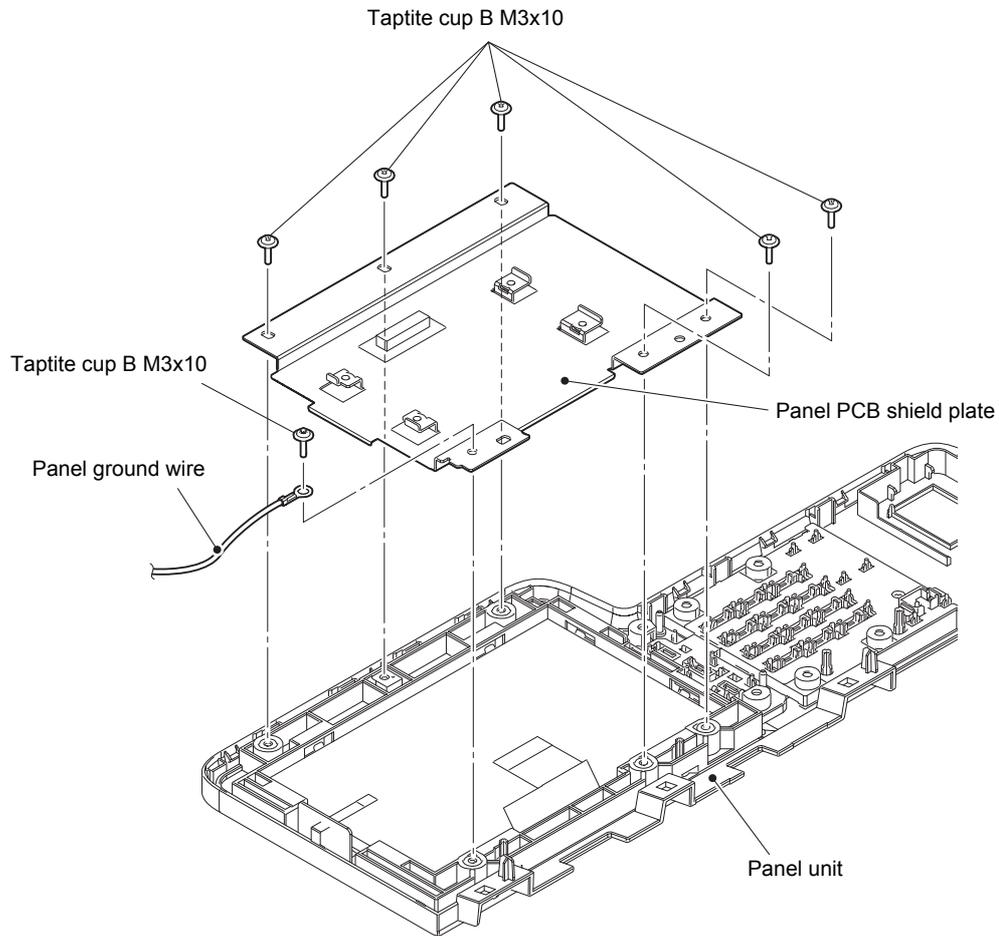


Fig. 3-56

- (7) Remove the Touch panel pressure from the Panel unit.
- (8) Release the LCD from the Panel unit.

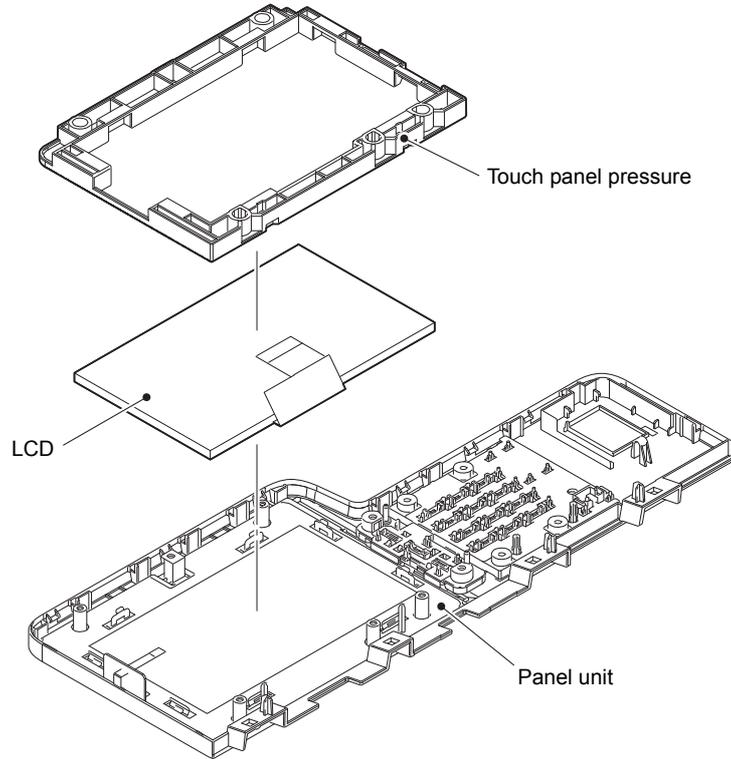


Fig. 3-57

9.15.5 Touch panel ASSY

- (1) Remove the LCD blind film from the Panel unit.
- (2) Remove the Connecting part of the Touch panel ASSY with the Ten key antistatic plate, then remove the Touch panel ASSY from the Panel unit.

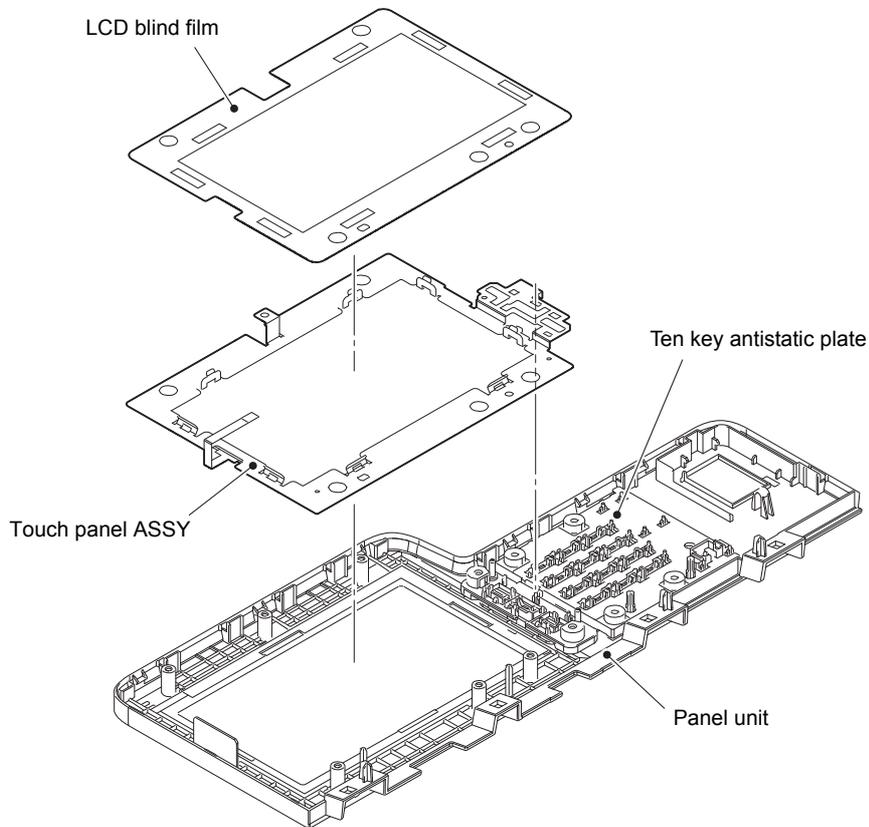


Fig. 3-58

9.16 ADF unit / Hinge L ASSY / Hinge R / Hinge R support / Hinge arm R / Document scanner unit

- (1) Remove the four Screw cup M3x8 (black) screws, and remove the Main shield plate from the Frame L.
- (2) Remove the Thermally conductive sheet from the Main PCB ASSY.

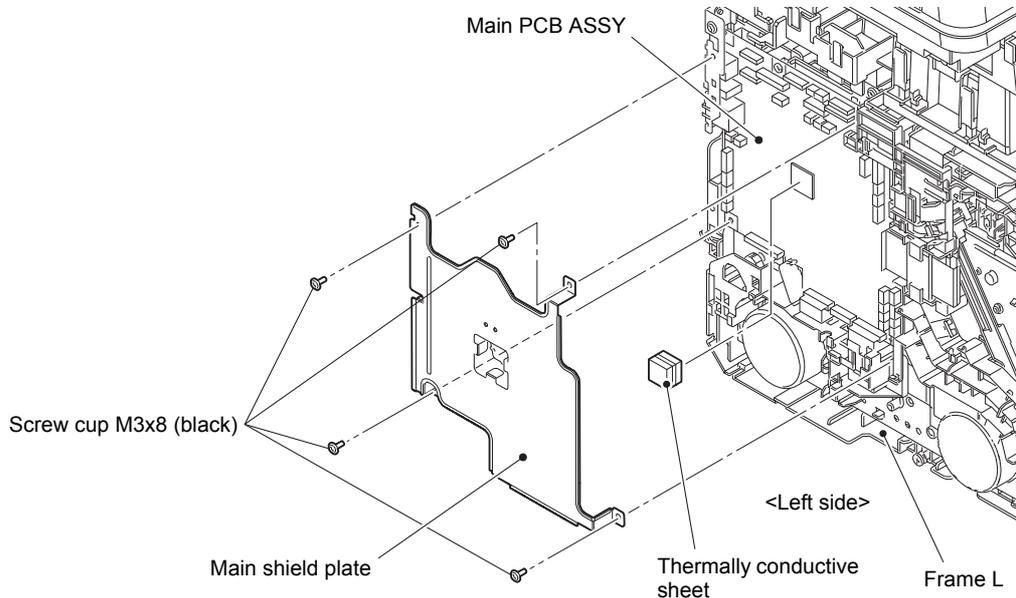


Fig. 3-59

Note:

The Thermally conductive sheet is attached on the Main PCB ASSY or the Main shield plate. Be careful not to lose it.

Assembling Note:

When assembling the Main shield plate, attach the Thermally conductive sheet on the Main PCB ASSY as shown in the illustration below. If you forget to attach the Thermally conductive sheet on it, there is the possibility that the short circuit occurs on the Main PCB or the Main PCB leads to the potential for the thermal runaway.

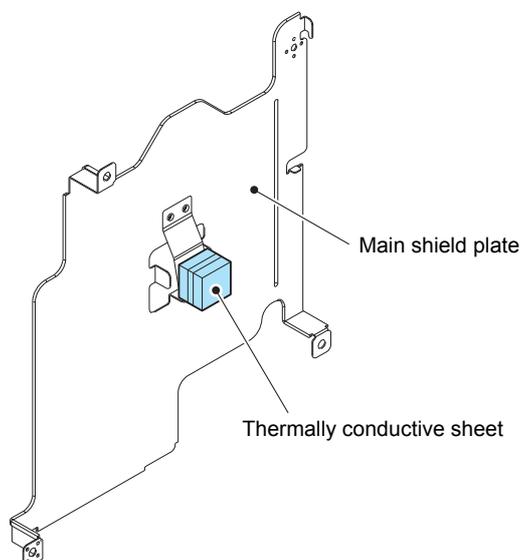


Fig. 3-60

- (3) Remove the two Screw cup M3x8 (black) screws, and remove the ADF ground wire and the FB ground wire from the Main PCB plate.

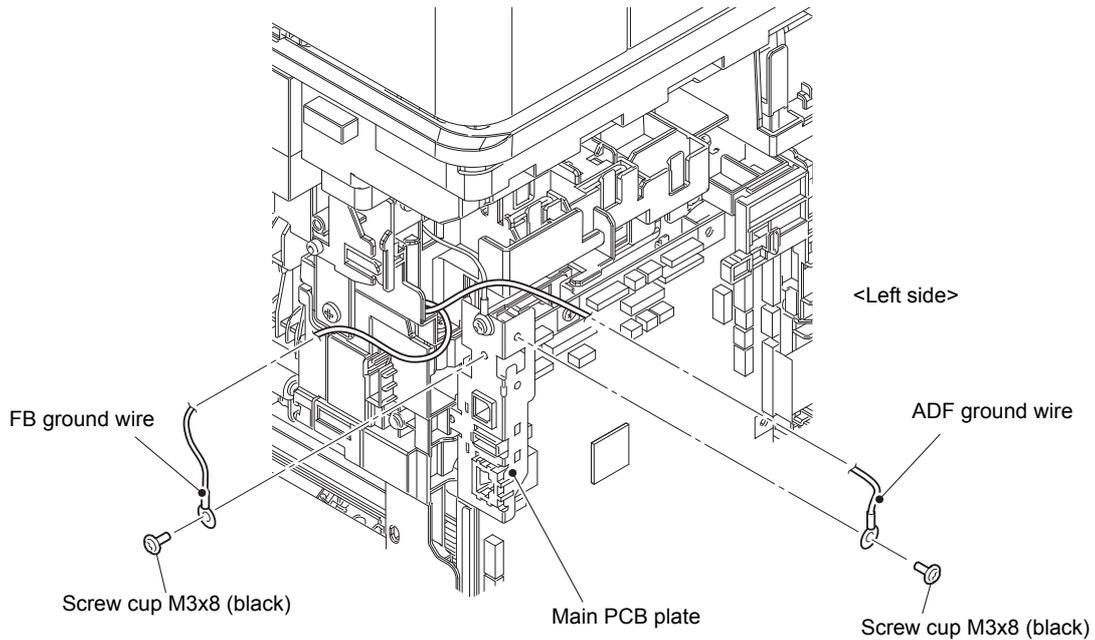


Fig. 3-61

- (4) Disconnect the ADF sensor harness and the FB motor harness from the Main PCB ASSY, and release them from the securing fixtures.
- (5) Disconnect the First side CIS flat cable and Second side CIS flat cable (Models with duplex printing only) from the Main PCB ASSY.

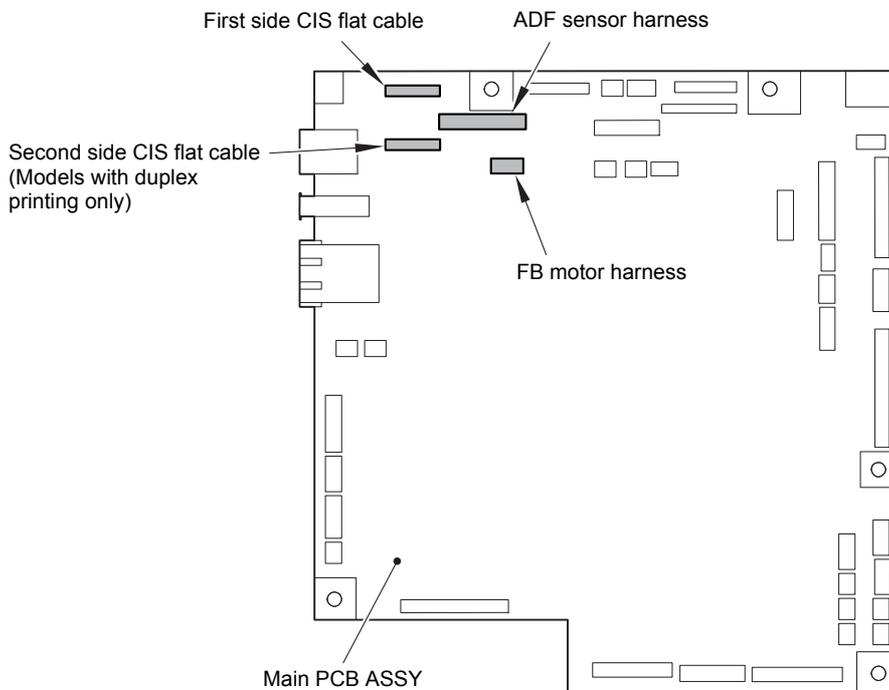


Fig. 3-62

Harness routing: Refer to "4. ADF unit (7.0 inch models)", "5. ADF unit (5.0 / 3.7 inch models (Duplex scanning models only))", "6. ADF unit (3.7 inch models (Single-side scanning models only))", "7. Document scanner unit".

- (6) Release each Hook and remove the Flat core of First side CIS flat cable and the Flat core of Second side CIS flat cable (Models with duplex printing only) from the Joint cover ASSY.

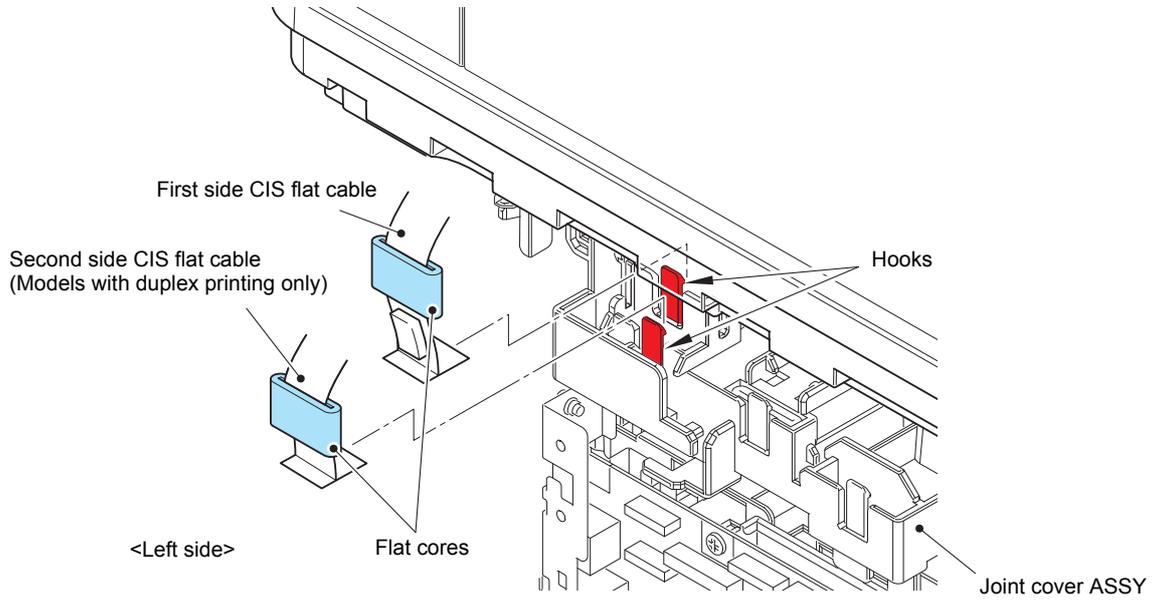


Fig. 3-63

- (7) Remove the seven Taptite bind B M4x12 screws.
 (8) Release each Hook to remove the Document scanner unit.

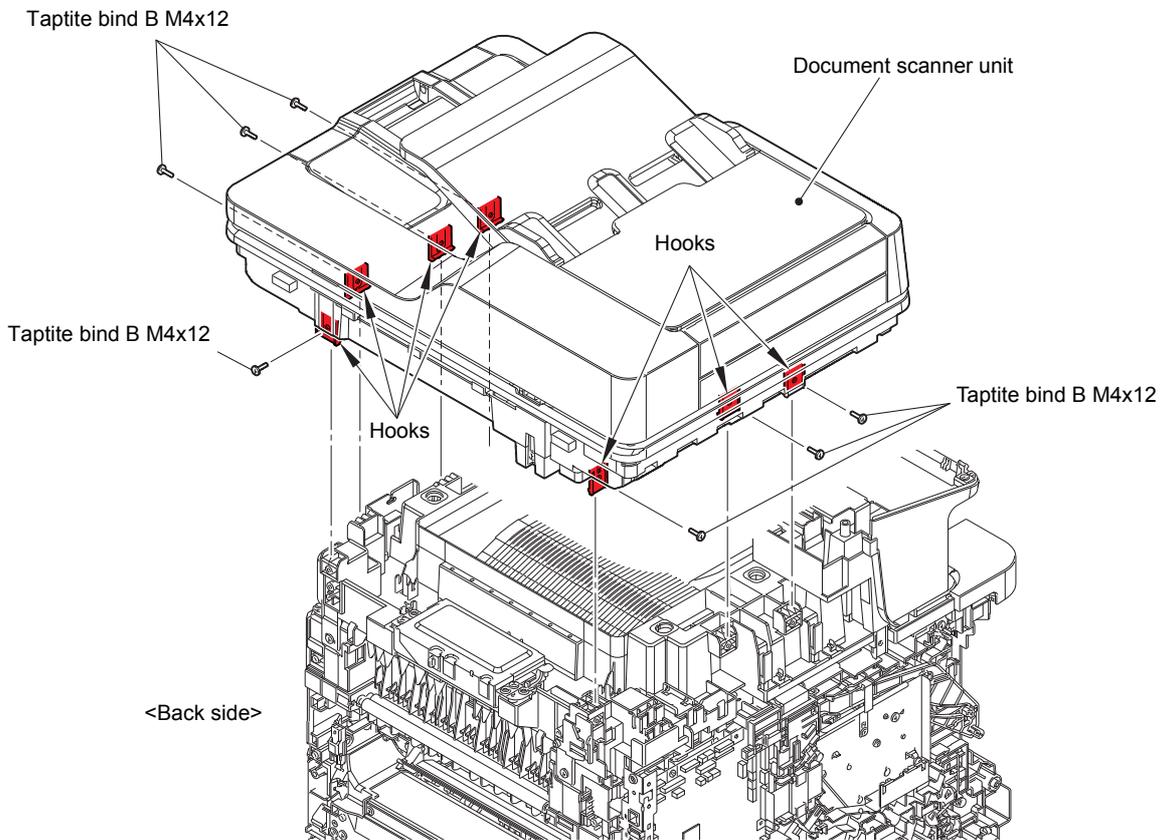


Fig. 3-64

- (9) Remove the Taptite bind B M4x12 screw from the Hinge L ASSY.
- (10) Open the ADF unit.
- (11) Lift slightly the ADF unit from the Document scanner unit. Release each Hook to remove the Flat cable holder from the Document scanner unit.
- (12) Pull out the ADF sensor harness and the Second side CIS flat cable (Models with duplex printing only) from the Hole.
- (13) Release the Hinge R hook, and remove the ADF unit from the Document scanner unit.
- (14) Flip over the ADF unit, and release the ADF sensor harness and the Second side CIS flat cable (Models with duplex printing only) from the Flat cable holder.

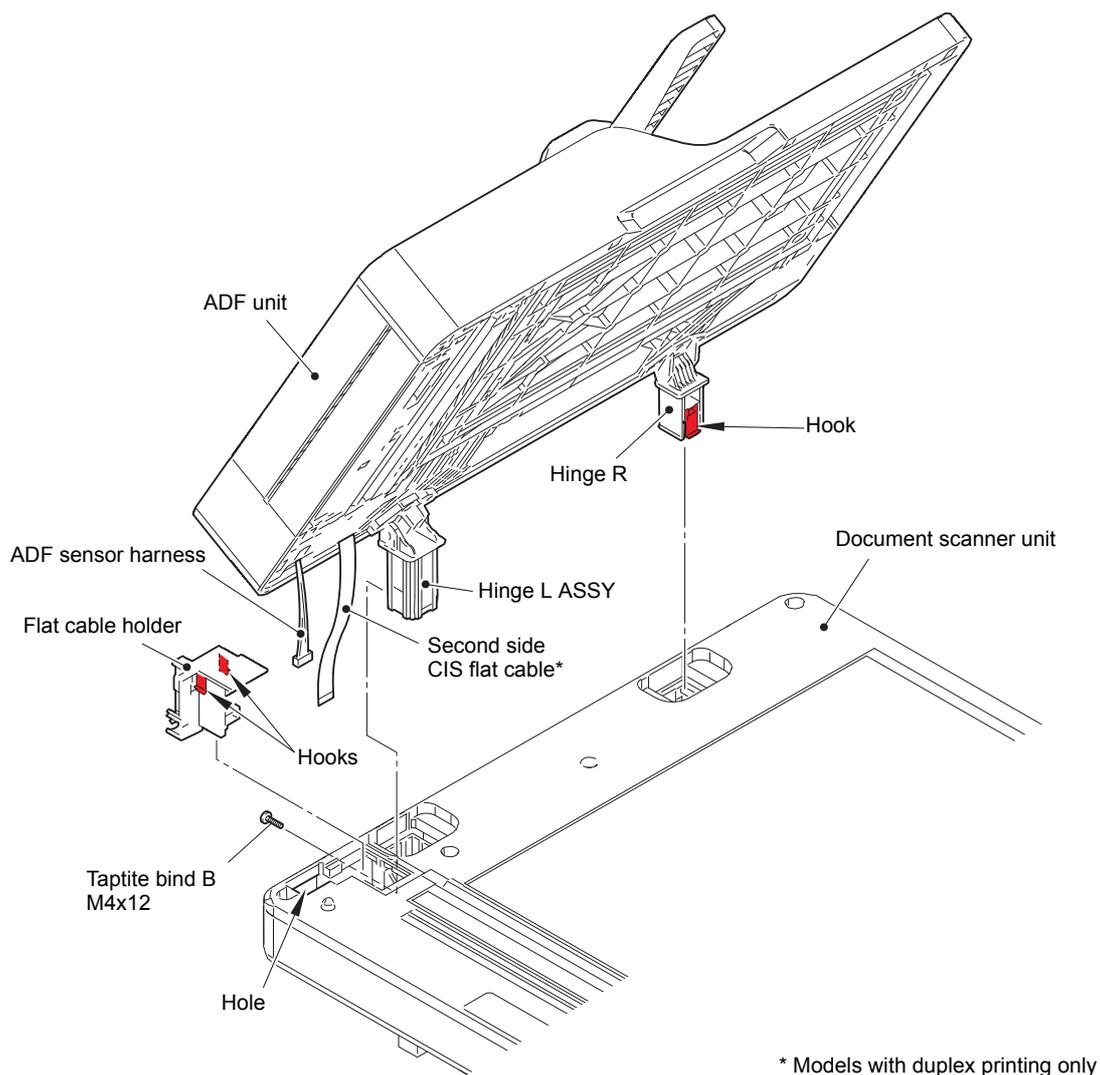
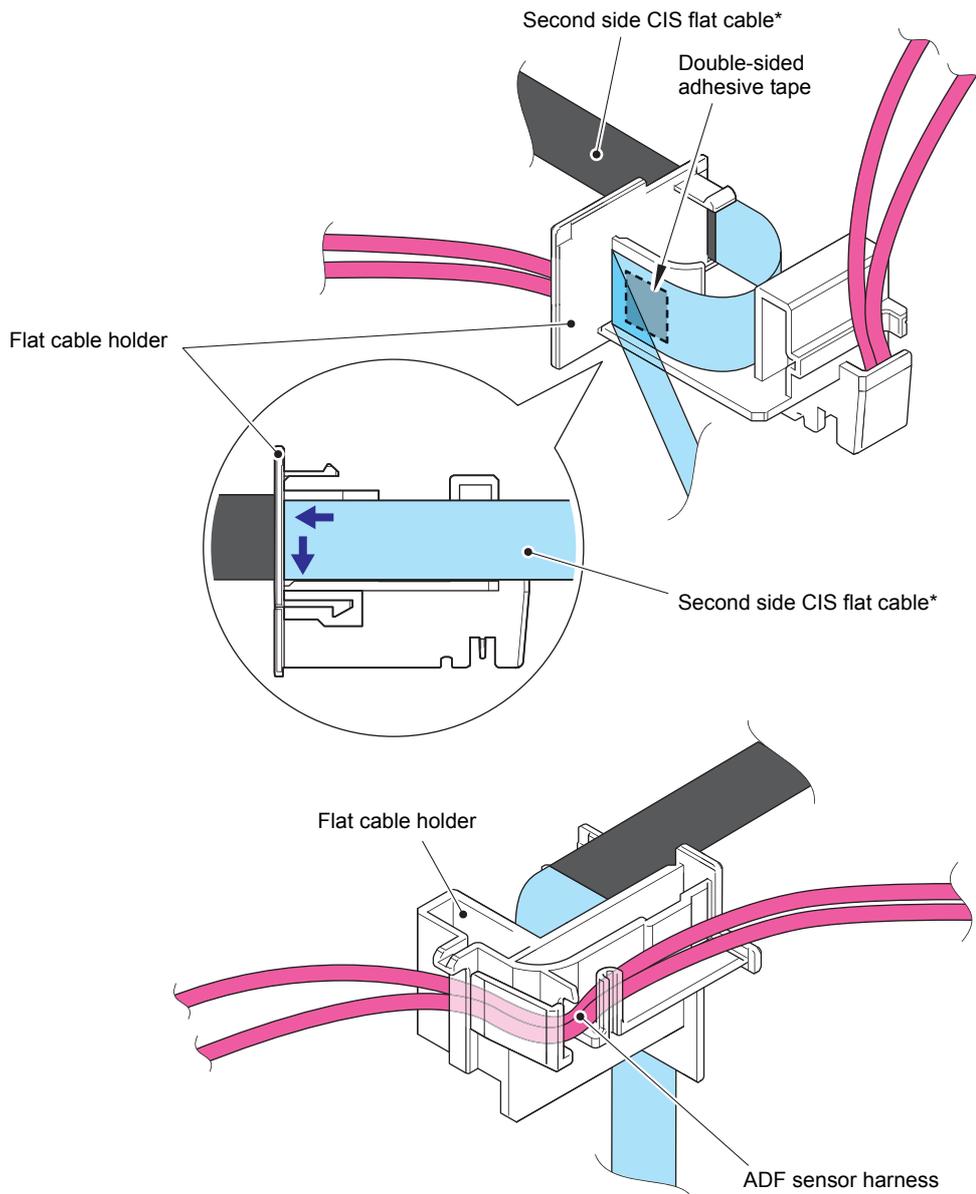


Fig. 3-65

Harness routing: Refer to “4. ADF unit (7.0 inch models)”, “5. ADF unit (5.0 / 3.7 inch models (Duplex scanning models only))”, “6. ADF unit (3.7 inch models (Single-side scanning models only))”, “7. Document scanner unit”.

Assembling Note:

- Connect the ADF sensor harness and Second side CIS flat cable* to the Flat cable holder as described in the figure below.
- If you replaced the ADF unit, connect the Second side CIS flat cable which is folded as described in the figure below.
- After disconnecting flat cables, check that each cable is not damaged at its end or shortcircuited.
- When connecting flat cables, do not insert them at an angle. After insertion, check that the cable is not at an angle.



* Models with duplex printing only

Fig. 3-66

(15) Remove the three Taptite bind B M4x12 screws to remove the Hinge L ASSY from the ADF unit.

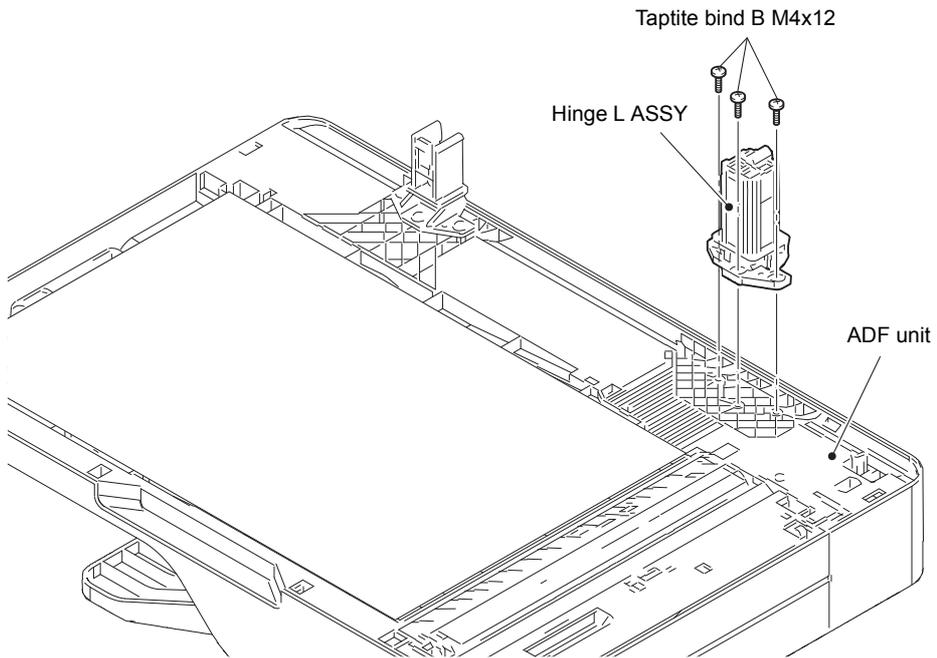


Fig. 3-67

- (16) Remove the Taptite cup B M3x10 screw to remove the Hinge R support and Hinge R from the Hinge arm R.
- (17) Remove the three Taptite cup B M3x10 screws to remove the Hinge arm R from the ADF unit.

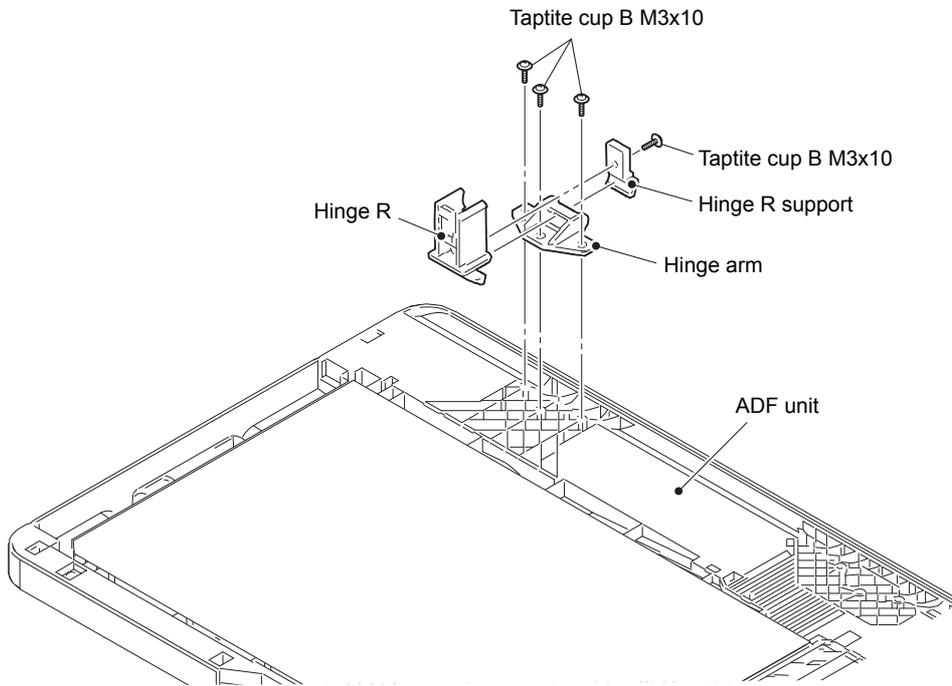


Fig. 3-68

9.17 ADF cover ASSY

- (1) Open the ADF cover ASSY. Release the two Bosses to remove the ADF cover ASSY from the ADF unit.

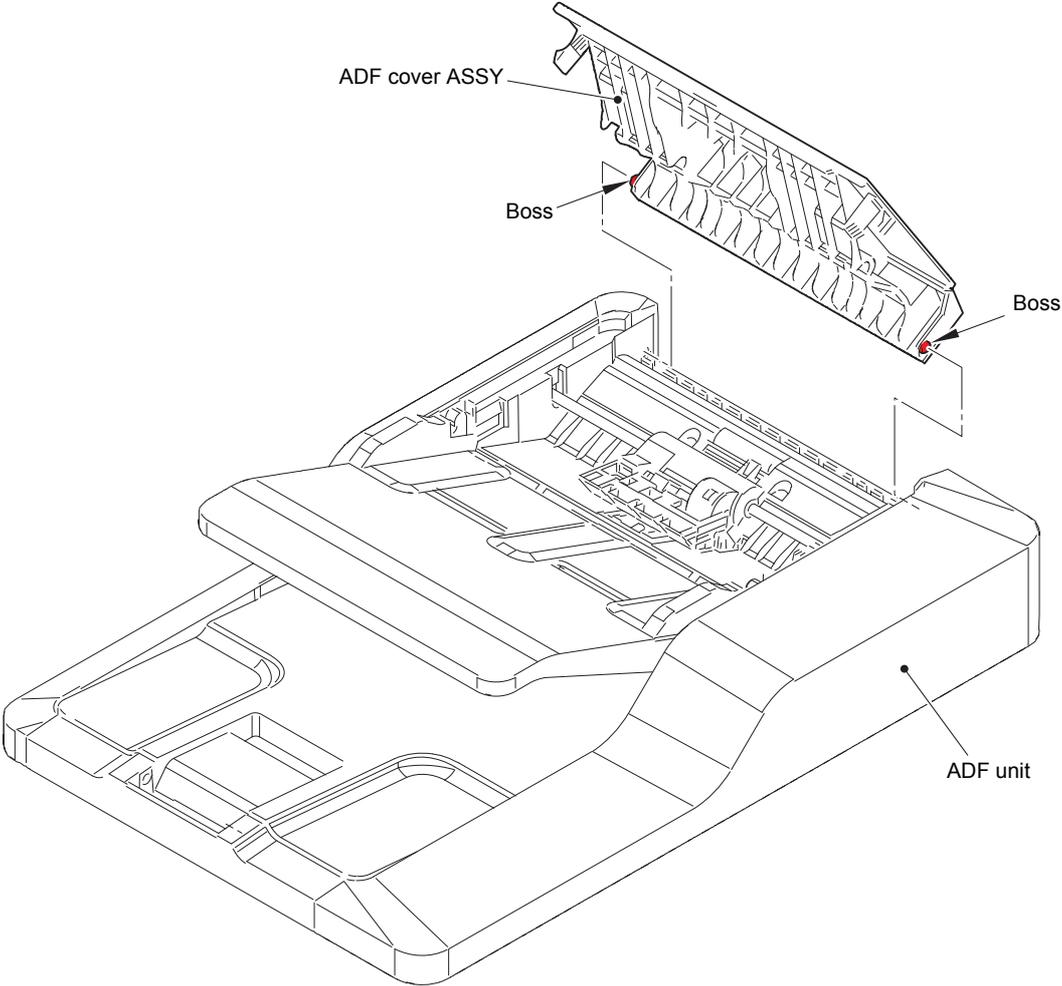


Fig. 3-69

9.18 Gear cover / ADF front cover / Document sub tray

■ For LGL models

- (1) Release each Hook to remove the Gear cover from the ADF unit.
- (2) Remove the two Taptite bind B M3x10 screws. Release each Hook to remove the ADF front cover from the ADF unit.

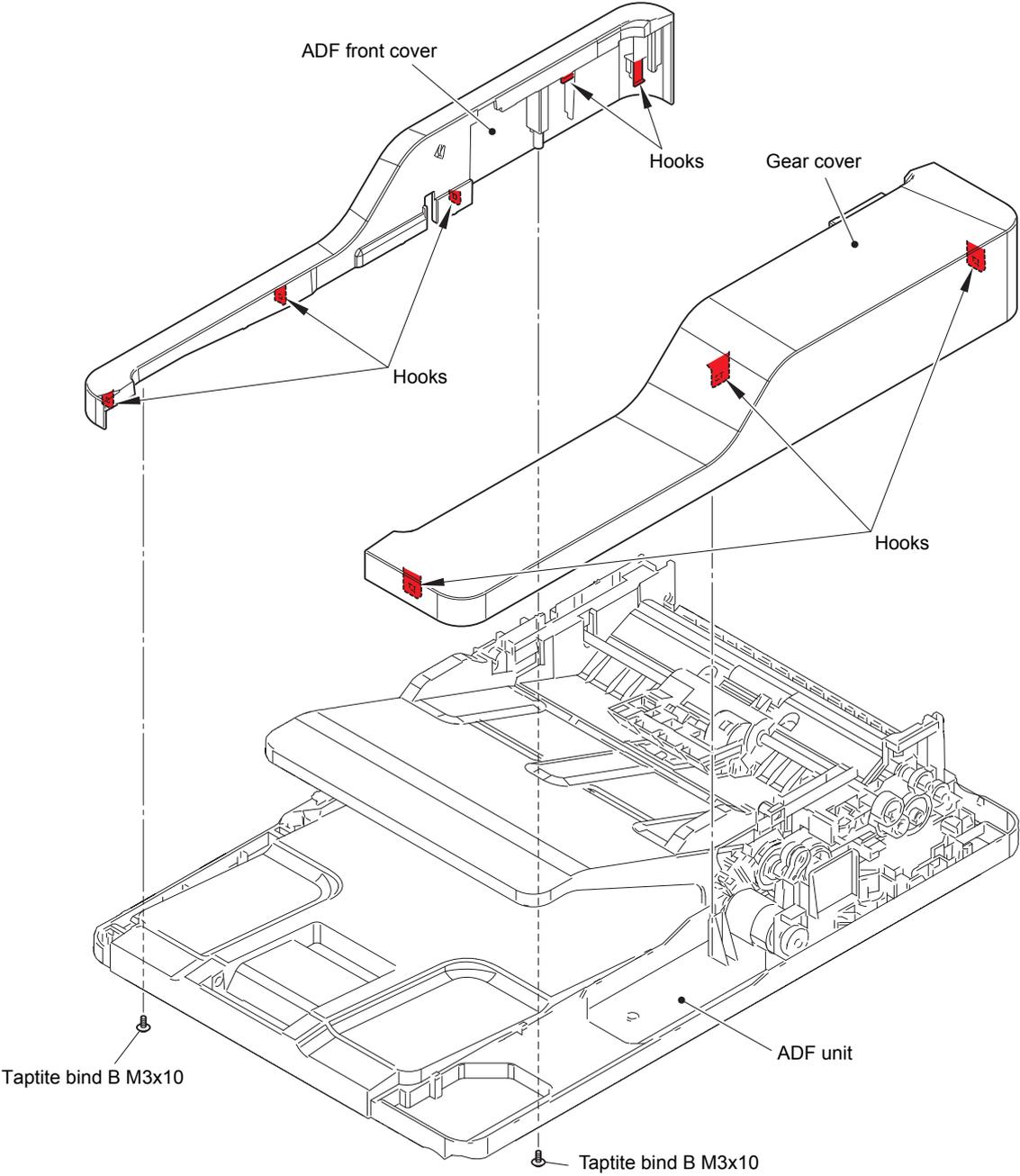


Fig. 3-70

■ For A4 models

- (3) Release each Hook to remove the Gear cover from the ADF unit.
- (4) Remove the four Taptite bind B M3x12 screws. Release each Hook to remove the ADF front cover and the Grip cover from the ADF unit.

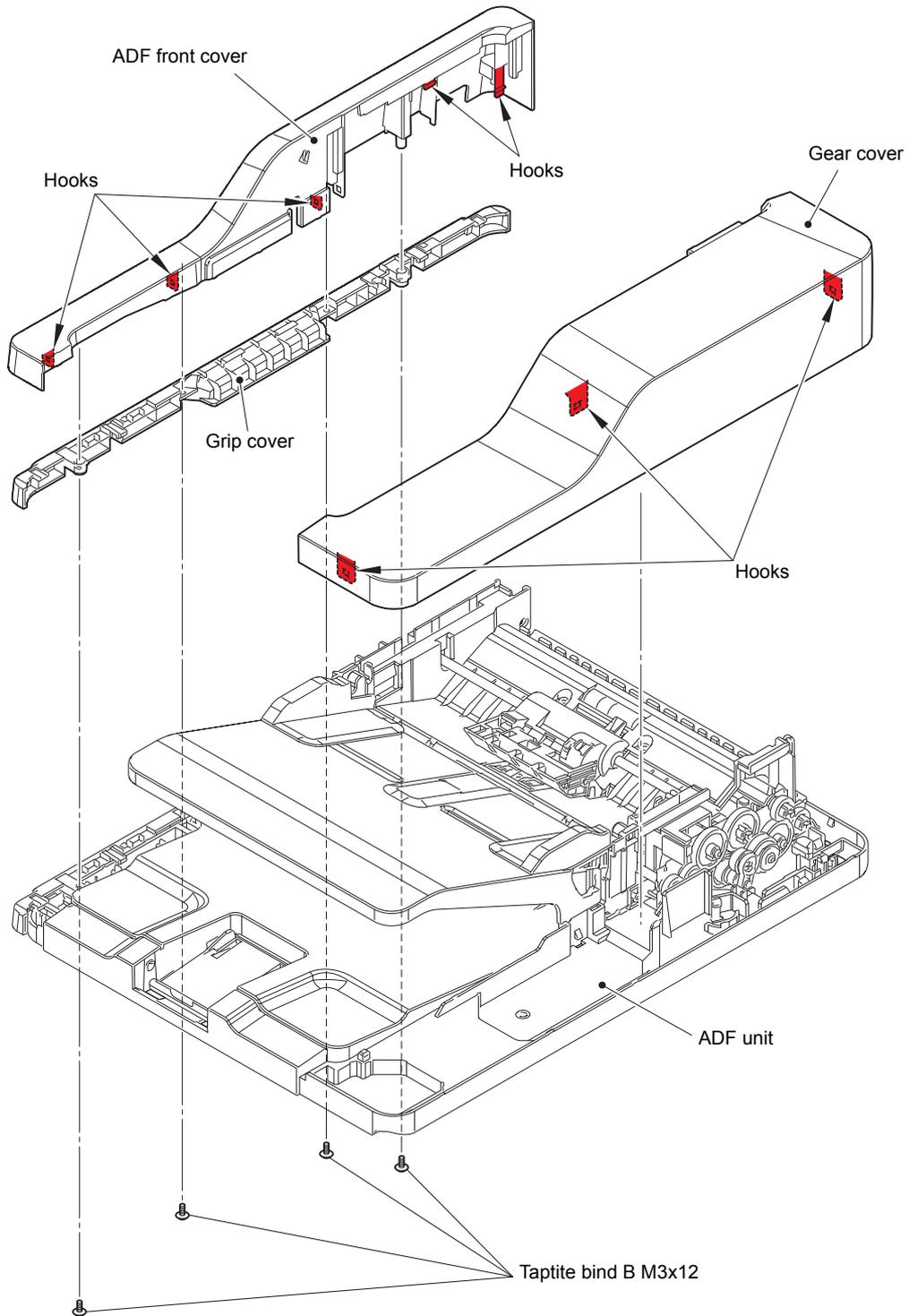


Fig. 3-71

■ Common to all models

(5) Open the Document sub tray to remove it from the ADF unit by aligning the Boss position.

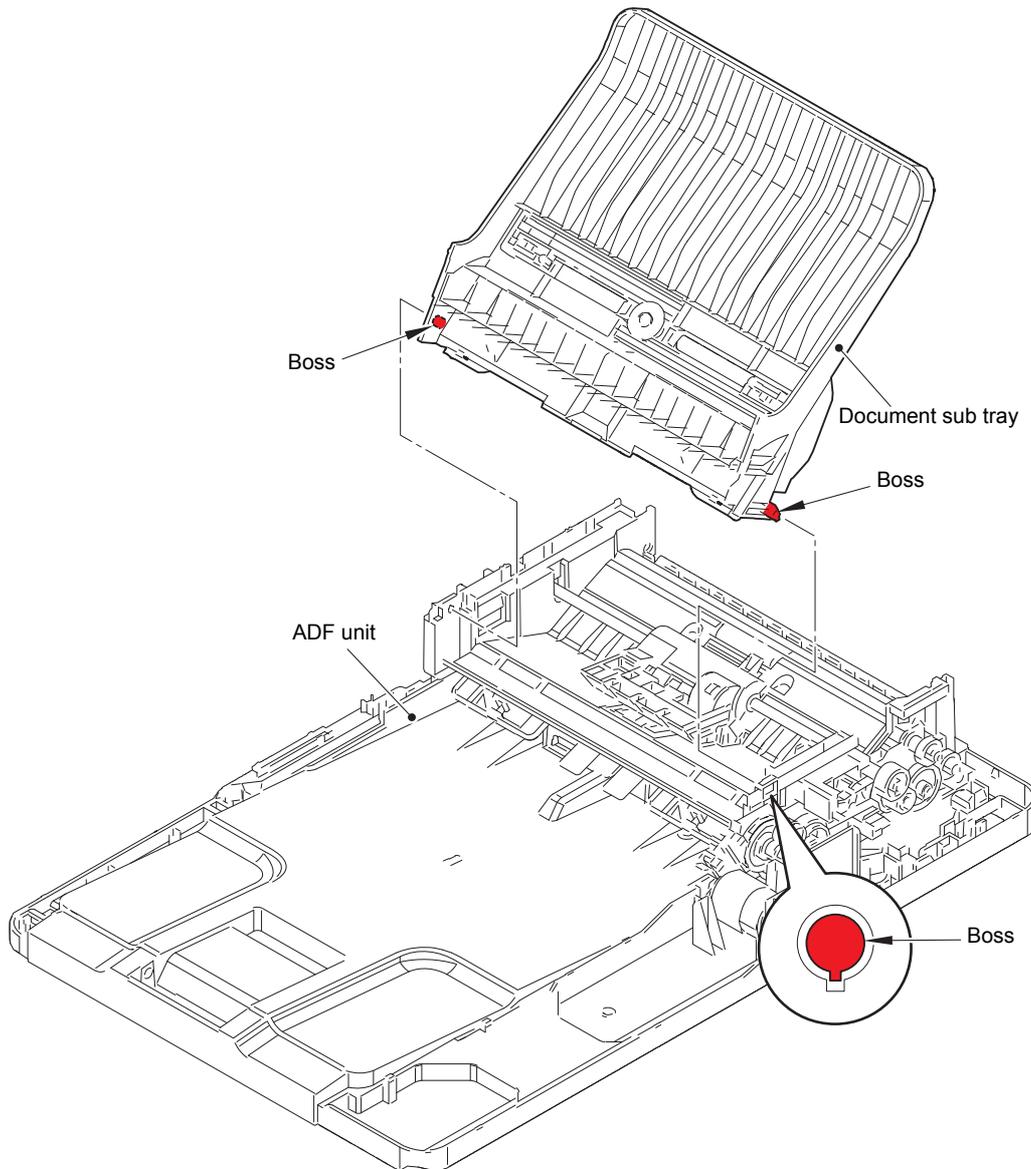


Fig. 3-72

9.19 Document separate roller ASSY

- (1) Release the Lock of the Conductive bushing to remove the Document separate roller ASSY from the ADF unit.

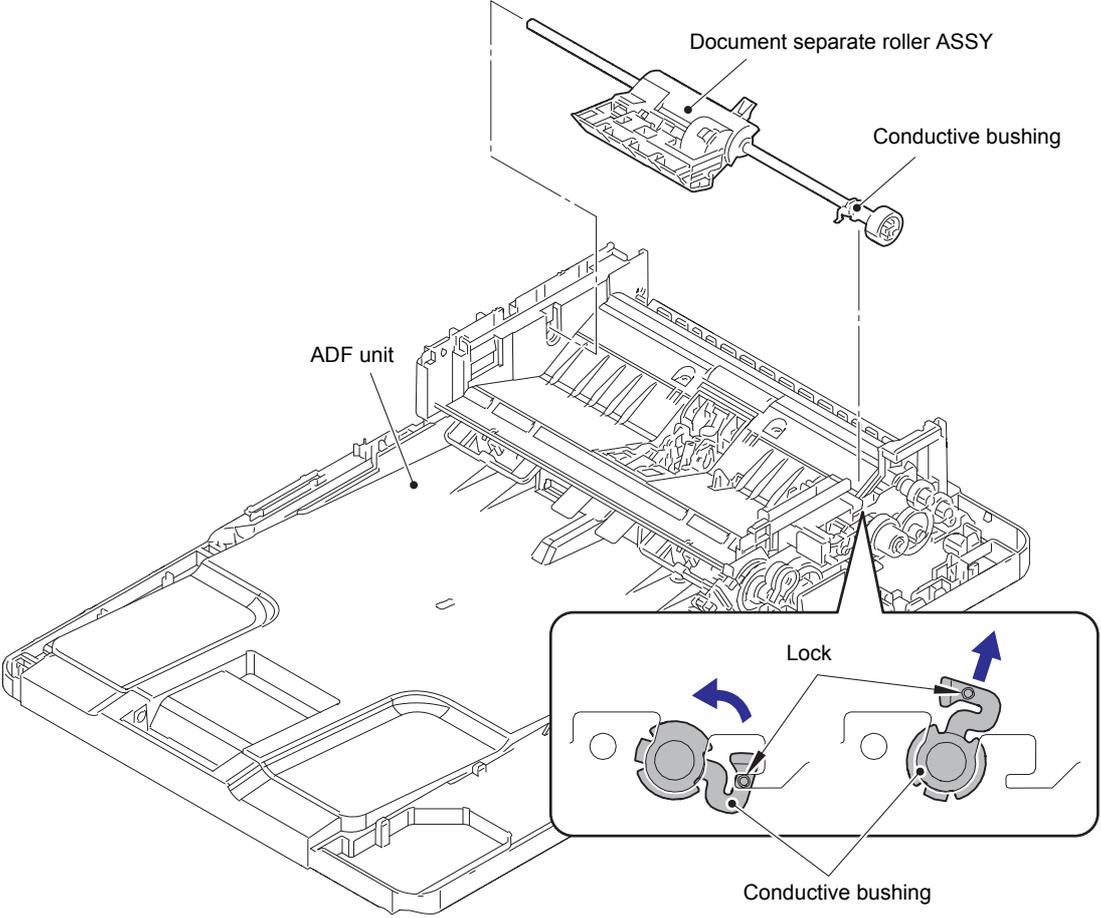


Fig. 3-73

9.20 ADF separation holder ASSY

- (1) Remove the Taptite cup B M3x10 screw to remove the ADF separation holder ASSY from the ADF unit.

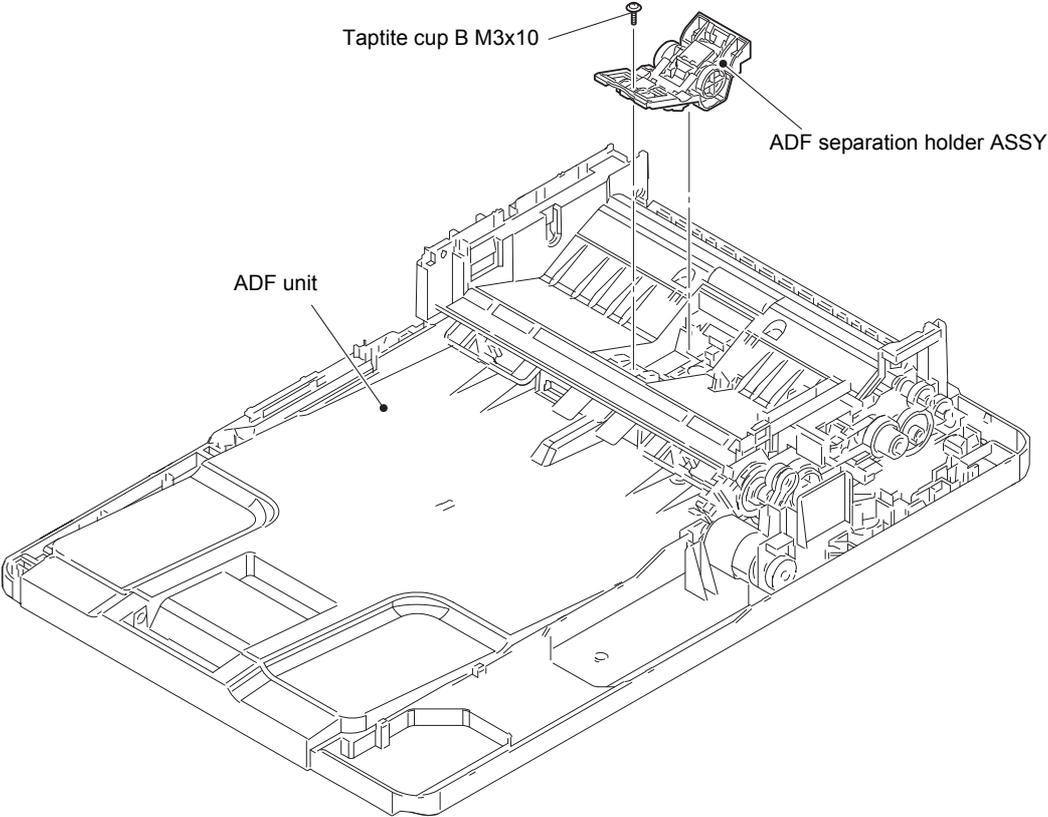


Fig. 3-74

9.21 Second side CIS unit / Second side CIS flat cable / CIS sponge / LF1 roller ASSY / LF2 roller ASSY (Models with duplex printing only)

- (1) Remove the six Taptite cup B M3x10 screws to remove the Upper document chute from the ADF unit.

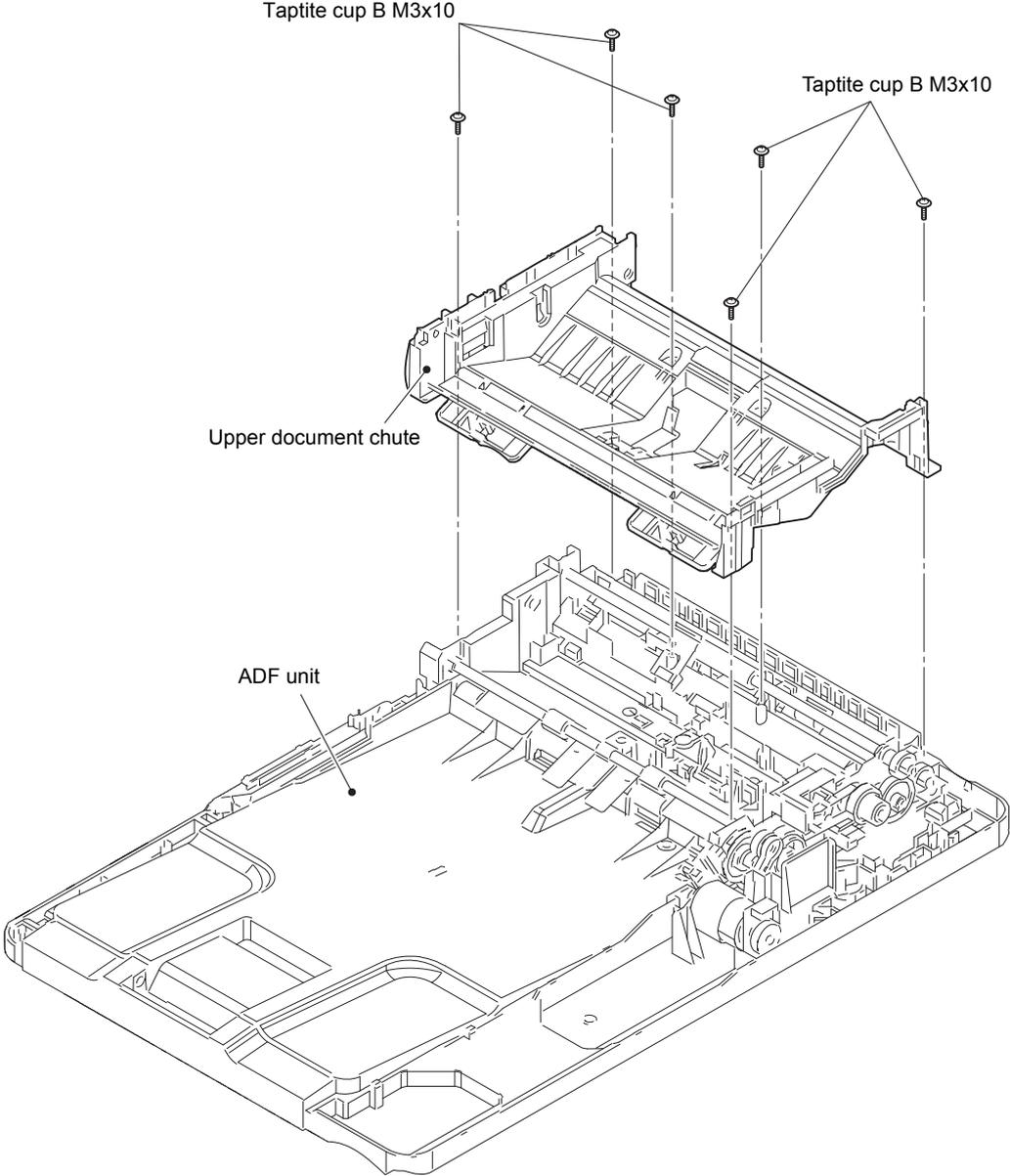


Fig. 3-75

- (2) Release the ADF sensor harness from the securing fixtures, and pull it out from the Hole of the Document cover.
- (3) Remove the FFC film 1, 2 from the Lower document chute.
- (4) Remove the Film from the Lower document chute. (MFC-L8900CDW/L8690CDW only)
- (5) Remove the Flat core from the Second side CIS flat cable, and remove the Second side CIS flat cable from the Double-sided tape, and then pull it out from the Hole of the Document cover.

Note:

Once the Double-sided tape is removed from the Second side CIS flat cable, replace it with a new one.

- (6) Remove the Lower document chute from the Document cover.

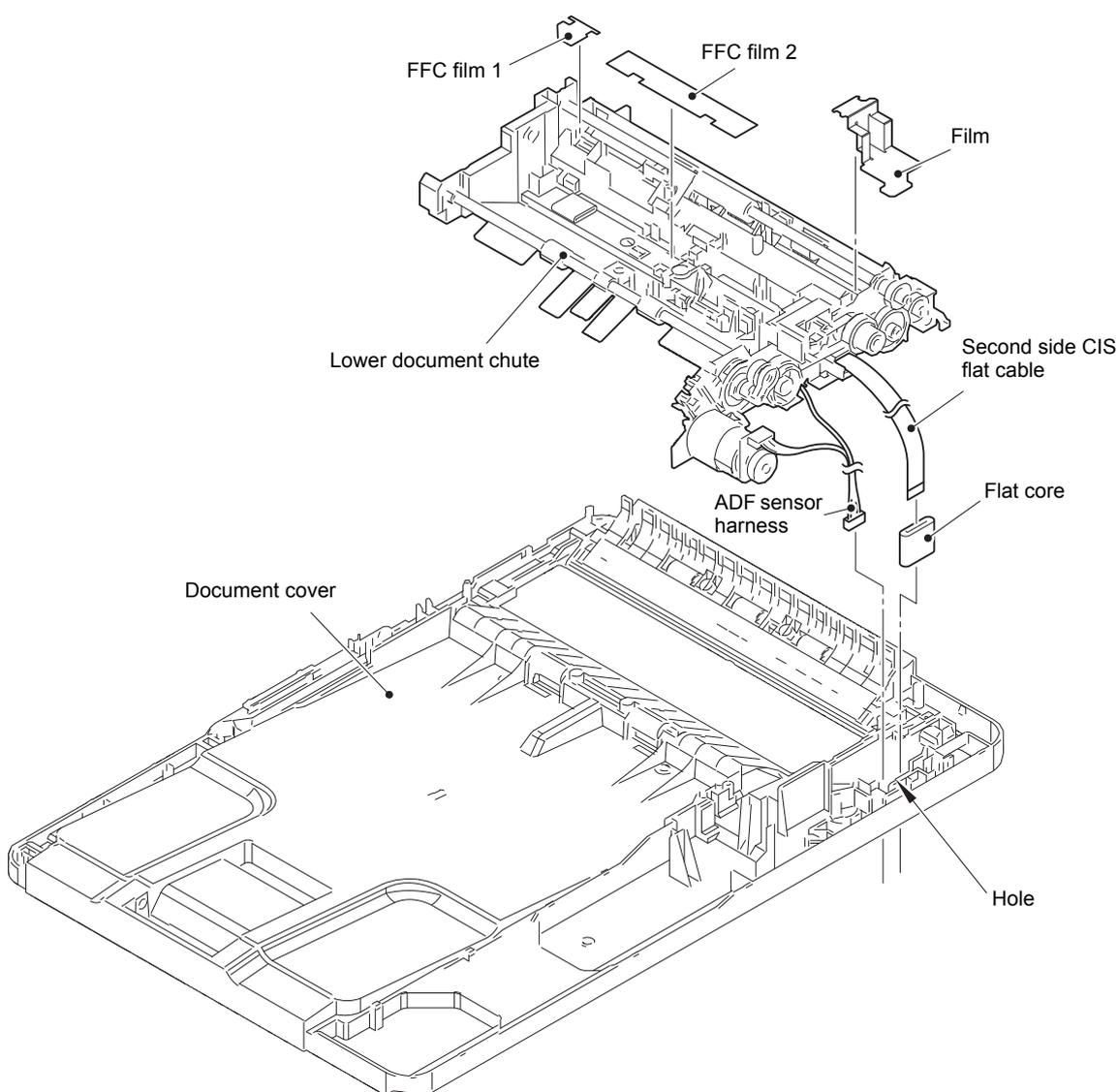


Fig. 3-76

Harness routing: Refer to "4. ADF unit (7.0 inch models)", "5. ADF unit (5.0 / 3.7 inch models (Duplex scanning models only))", "6. ADF unit (3.7 inch models (Single-side scanning models only))".

- (7) Lift the Hook and slide the Second side scanner glass strip in the direction of the arrow 7a. Lift the right end of the Second side scanner glass strip to remove it in the direction of the arrow 7b.

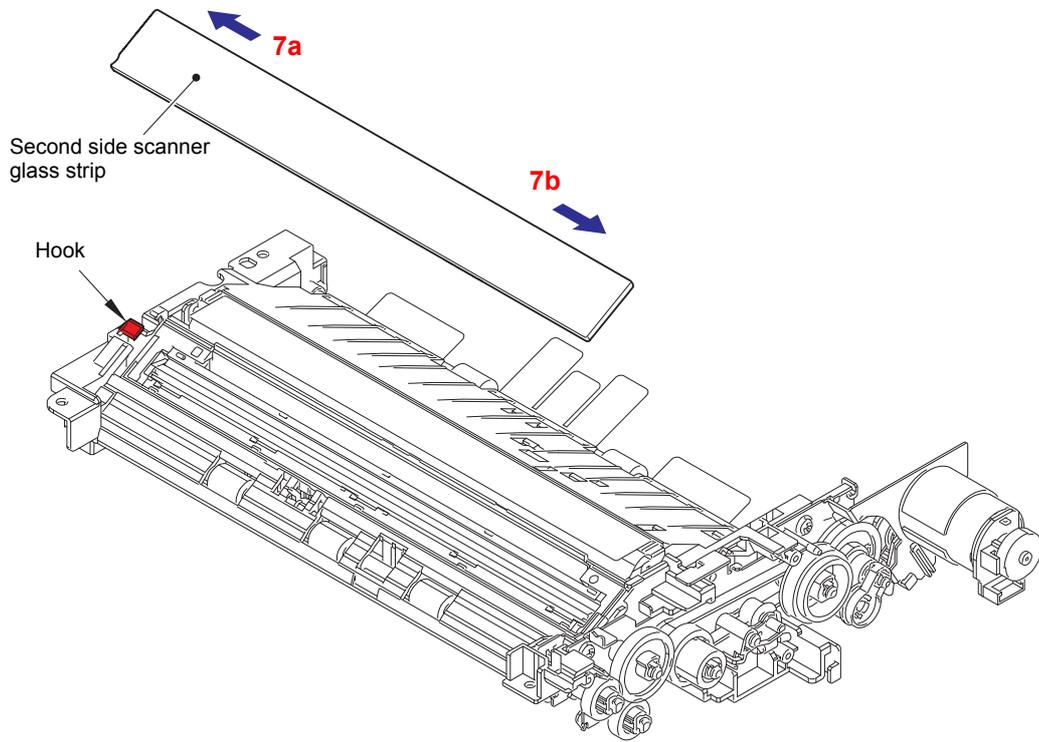


Fig. 3-77

- (8) Remove the CIS spacer R and CIS spacer F from the Second side CIS unit.
- (9) Remove the Second side CIS unit from the Lower document chute.
- (10) Release the Second side CIS flat cable from the securing fixtures, and remove the Flat core from the Second side CIS flat cable.
- (11) Pull out the Second side CIS flat cable from the Hole of the Lower document chute.
- (12) Disconnect the Second side CIS flat cable from the Second side CIS unit.
- (13) Remove the two CIS sponges from the Lower document chute.

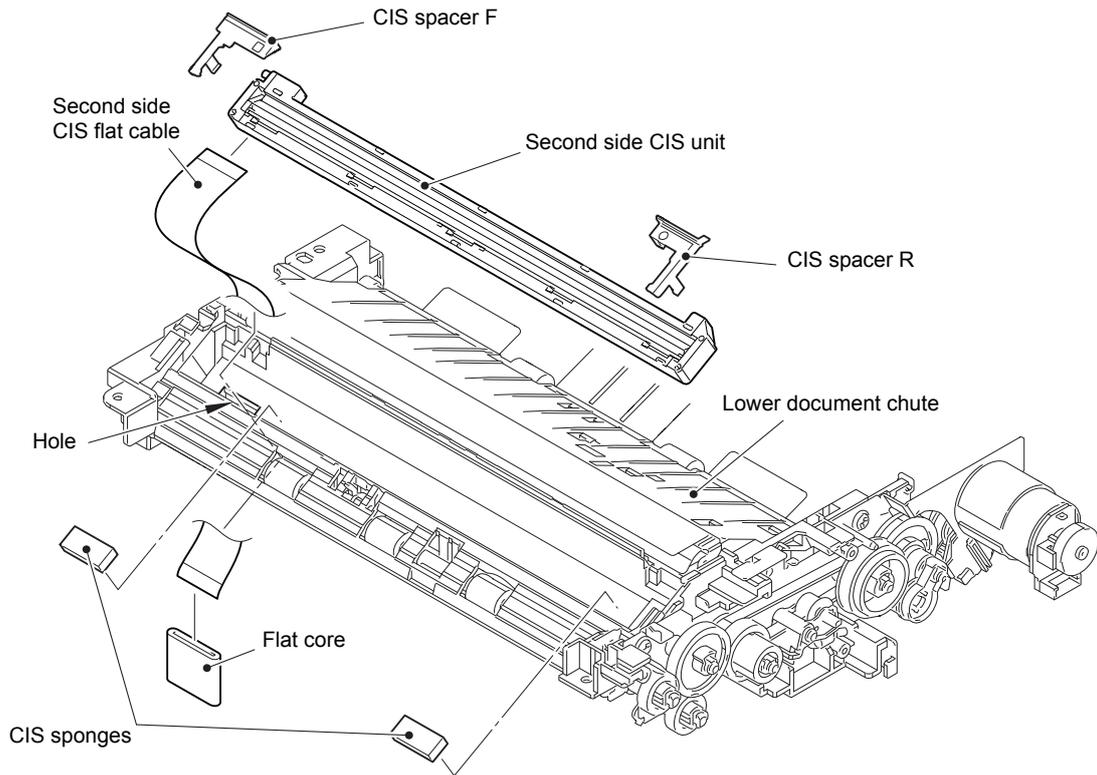


Fig. 3-78

Assembling Note:

Fold the Second side CIS flat cable at the positions shown in the figure below.

■ **For 3.7 inch models**

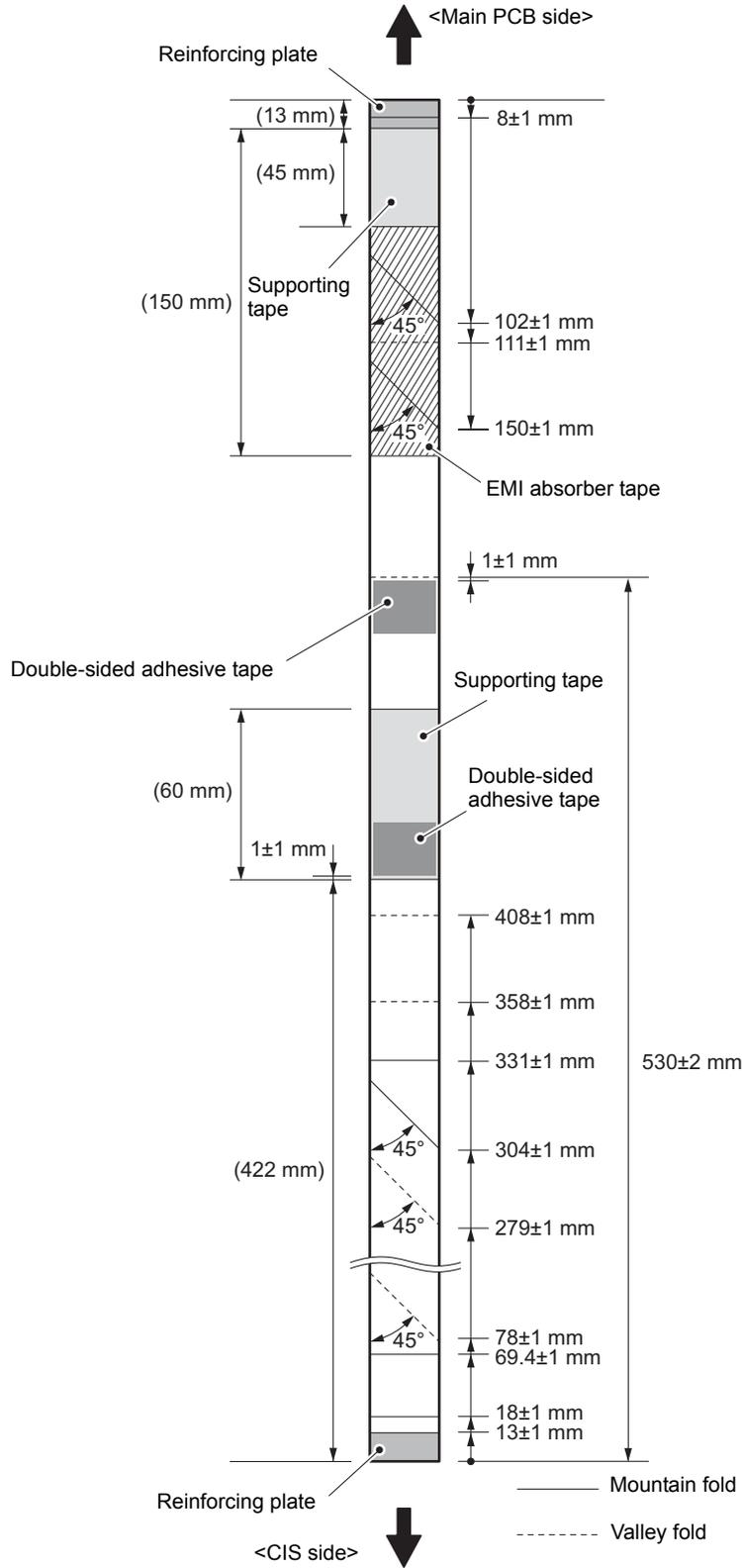


Fig. 3-79

■ For 5.0 inch models

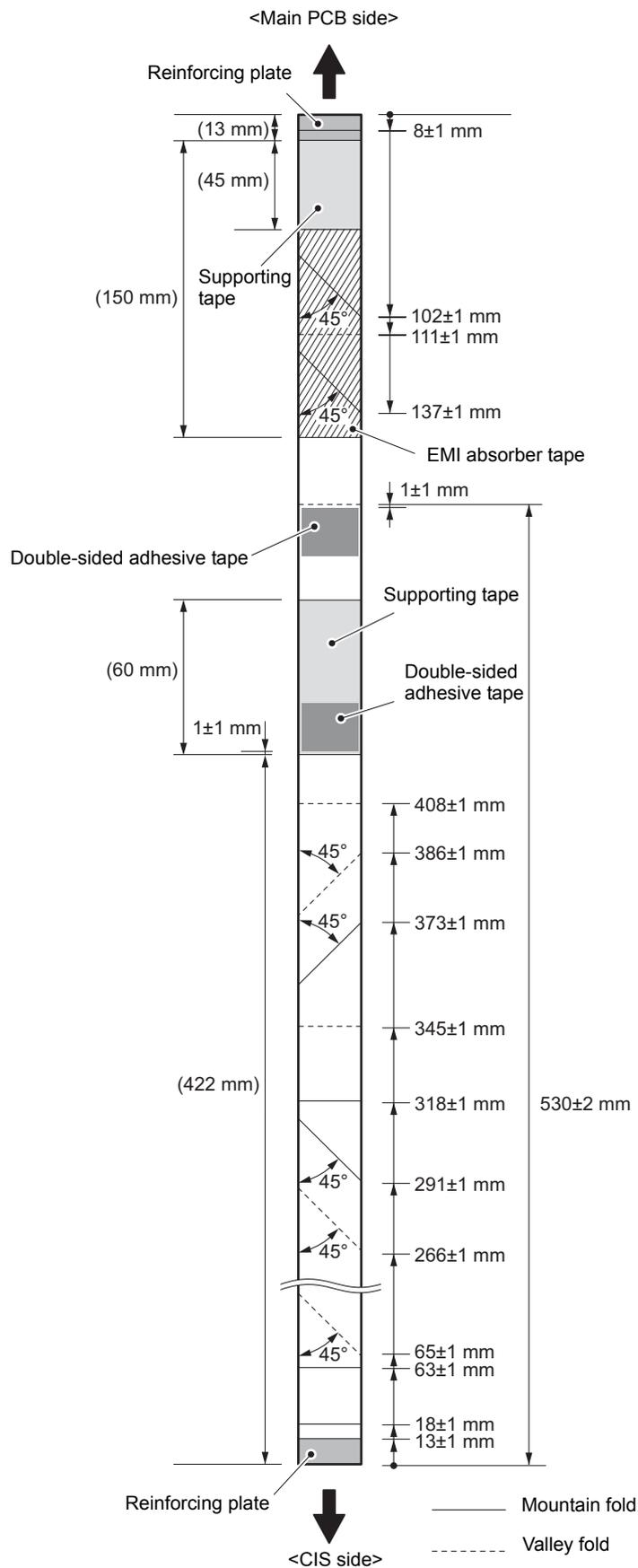


Fig. 3-80

■ For 7.0 inch models

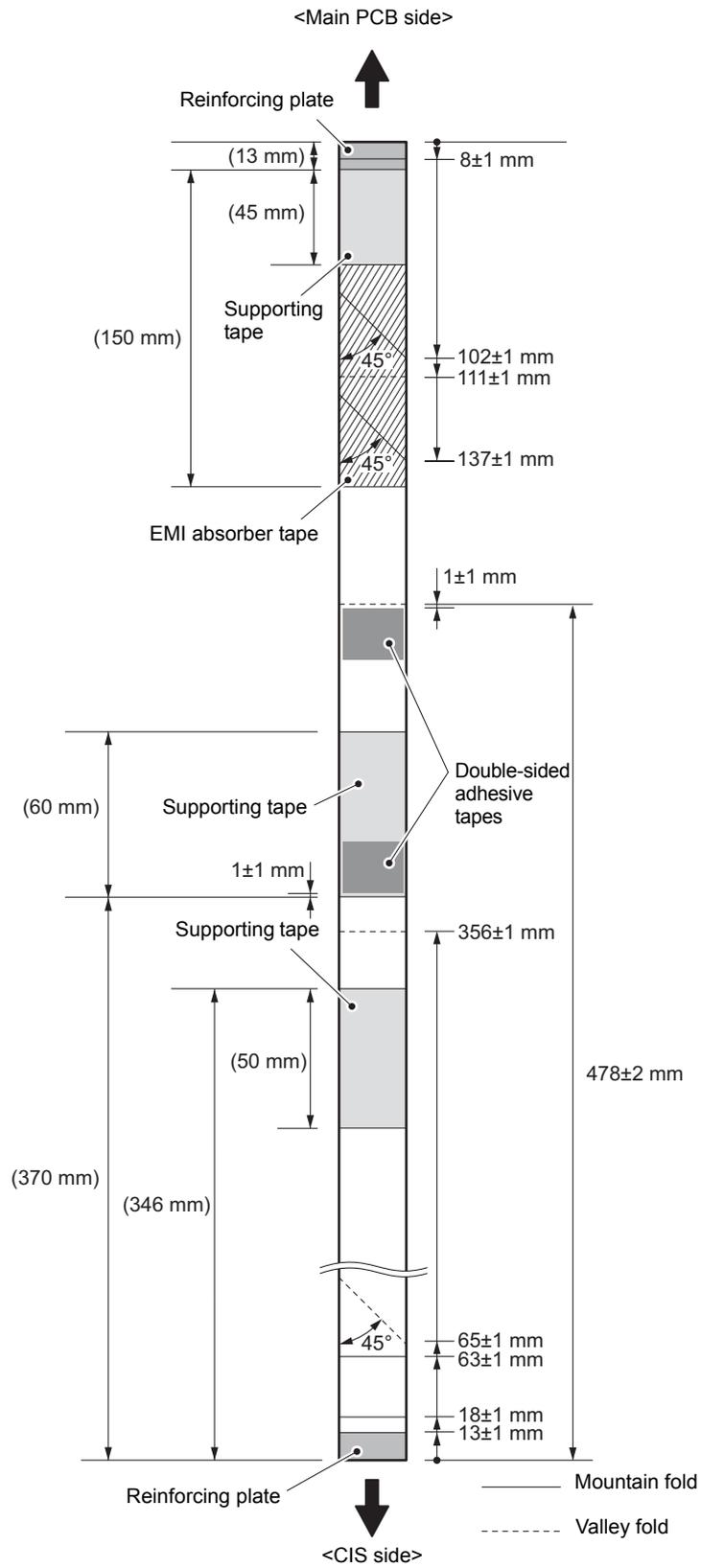


Fig. 3-81

Assembling Note:

Attach the Second side CIS flat cable to the Document cover at the position shown in the following figure using a Double-sided tape.

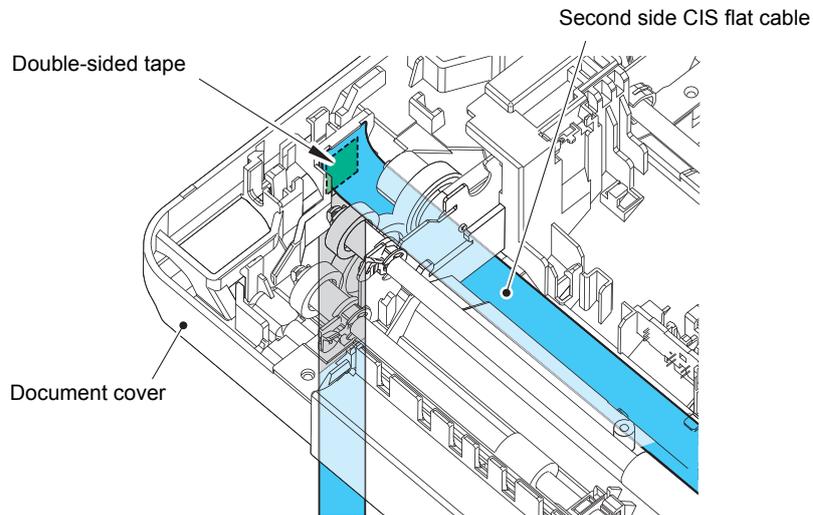


Fig. 3-82

(14) Release the Lock of the Conductive bushing to remove the LF1 roller ASSY from the Lower document chute. Release the Hook to remove the Lock bushing, and release the Lock of the Conductive bushing to remove the LF2 roller ASSY from the Lower document chute.

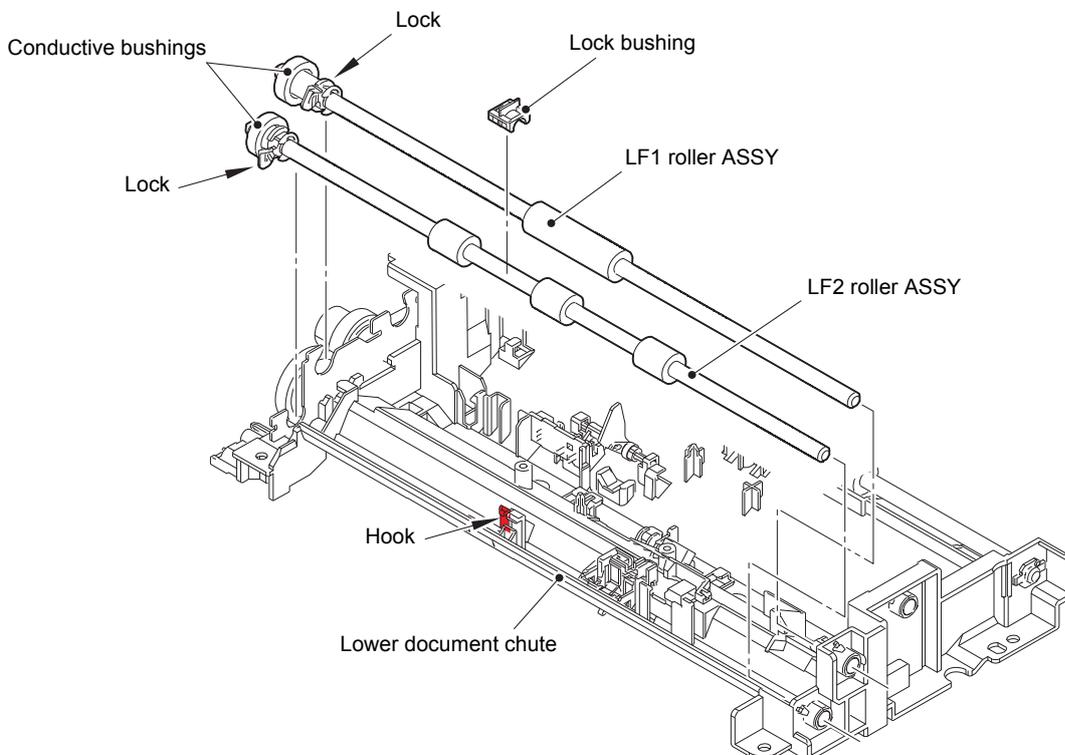


Fig. 3-83

9.22 First side CIS unit / First side CIS flat cable

- (1) Remove the eight Taptite cup B M4x12 screws to remove the Scanner top cover from the Document scanner unit.
- (2) Remove the CIS roller holder L ASSY and CIS roller holder R ASSY from the First side CIS unit.

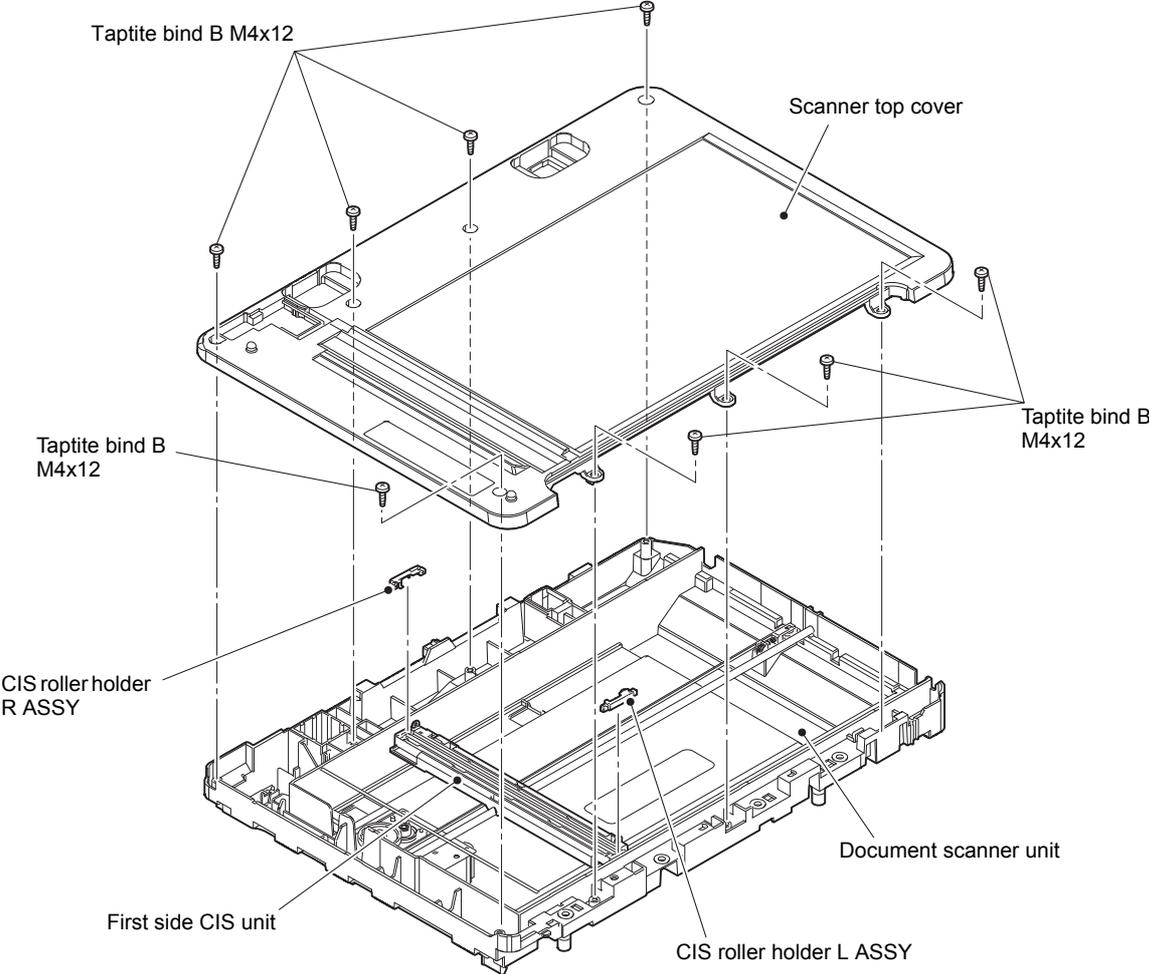


Fig. 3-84

- (3) Slide the CIS carriage slowly to the position described below.
- (4) Raise the First side CIS unit from the CIS carriage for 90 degrees. Slide the First side CIS unit in the direction of the arrow and release the Boss to remove it. Disconnect the First side CIS flat cable from the First side CIS unit.

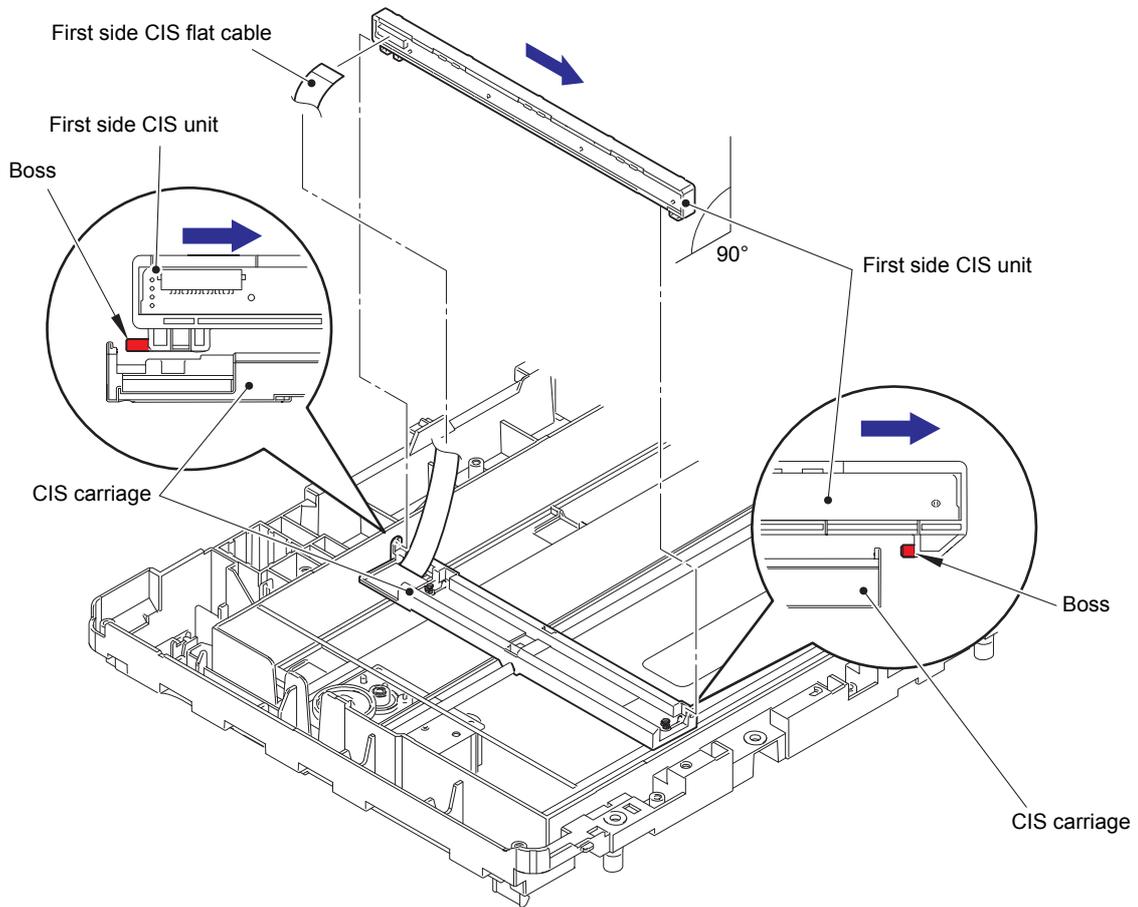


Fig. 3-85

- (5) Remove the First side CIS flat cable behind the CIS carriage from the Double-sided tape.
- (6) Remove the First side CIS flat cable from the Document scanner unit.

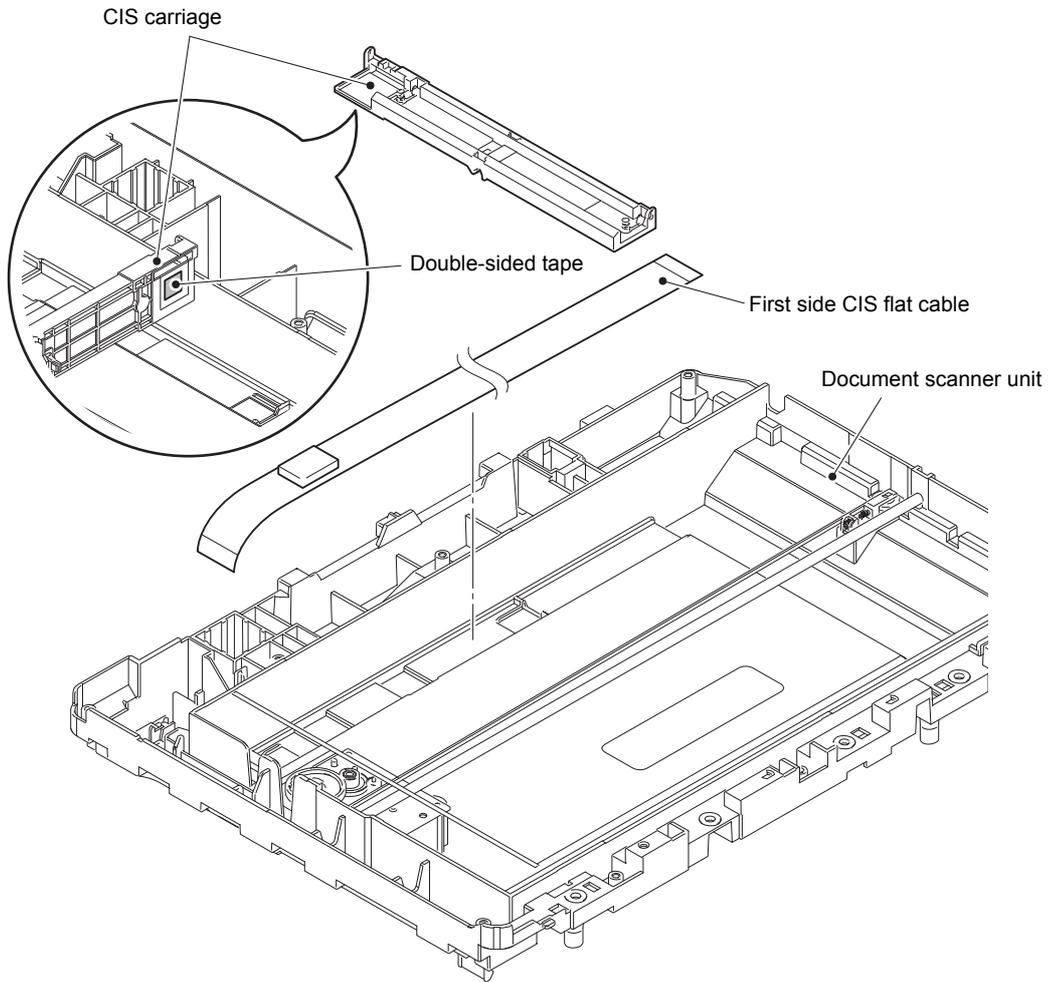


Fig. 3-86

Assembling Note:

If you replaced the First side CIS unit, attach the First side flat cable to the Document scanner unit by following the procedure below.

<Attachment Procedure>

- 1) Fold the First side CIS flat cable as shown in the illustration below.

■ For A4 models

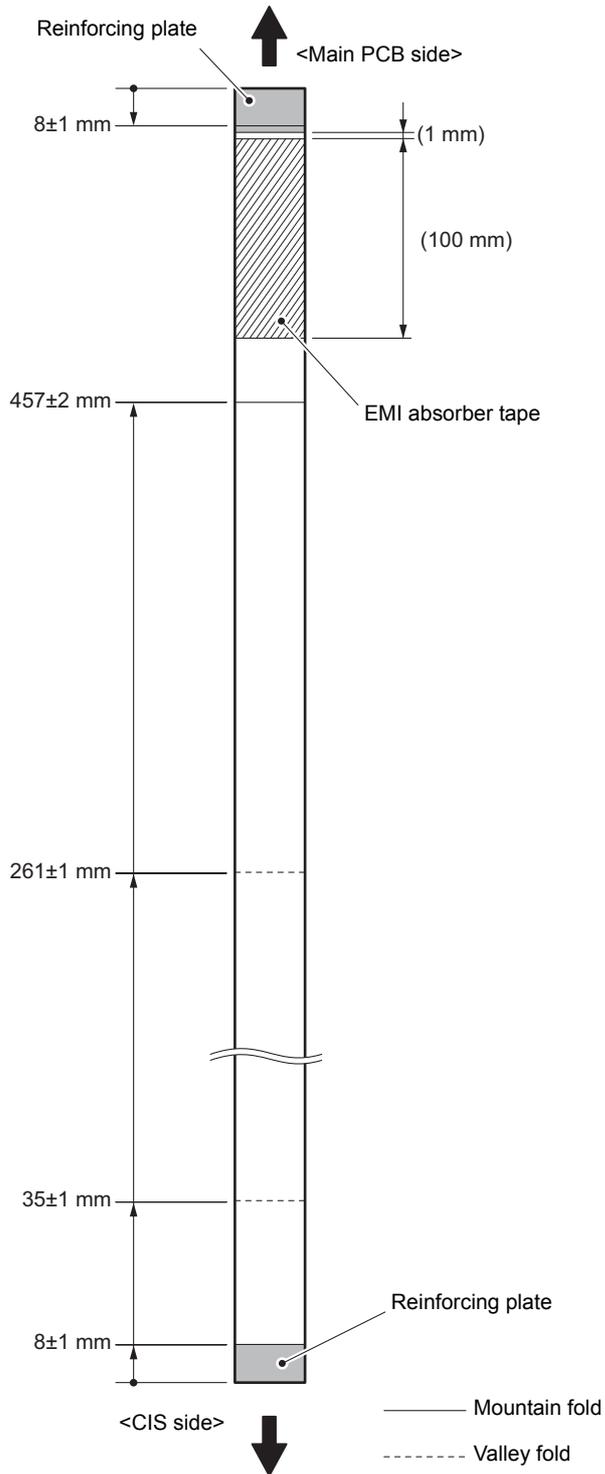


Fig. 3-87

■ For LGL models

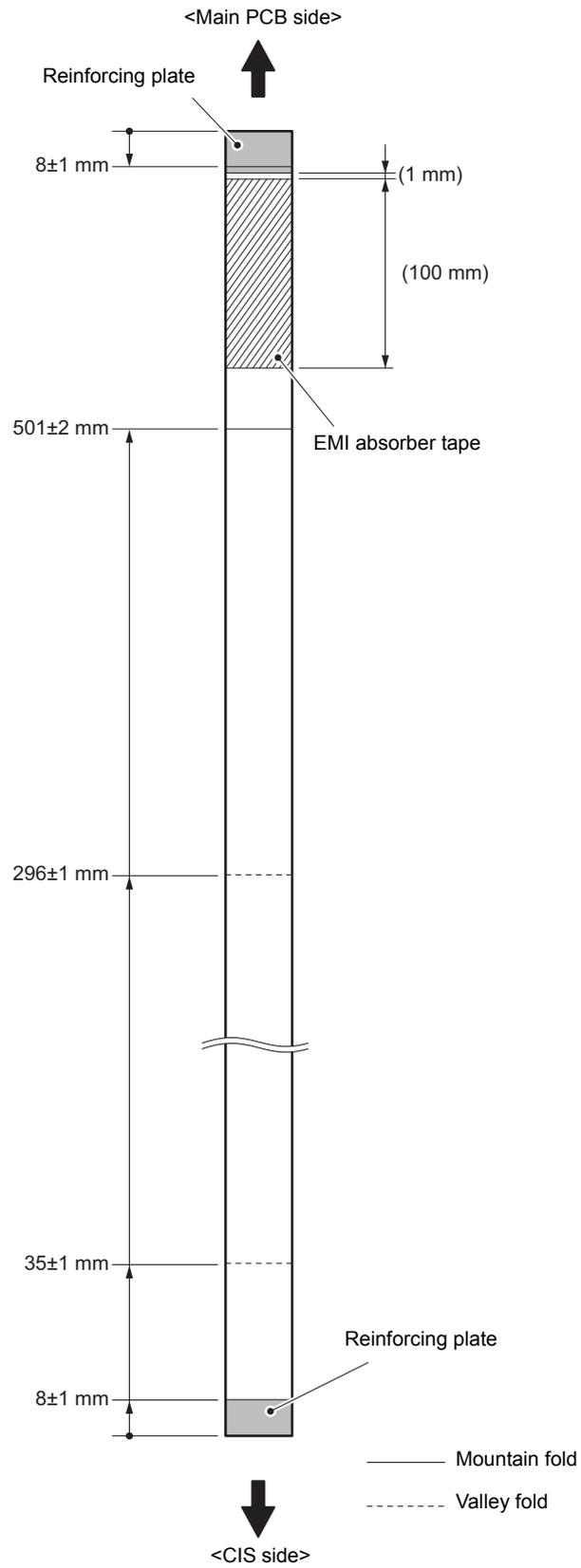


Fig. 3-88

- 2) Attach the two pieces of 12 mm x 12 mm Double-sided tape on the Document scanner unit at positions shown in the illustration below. (If the old Double-sided tape remains attached, replace it with a new one.)

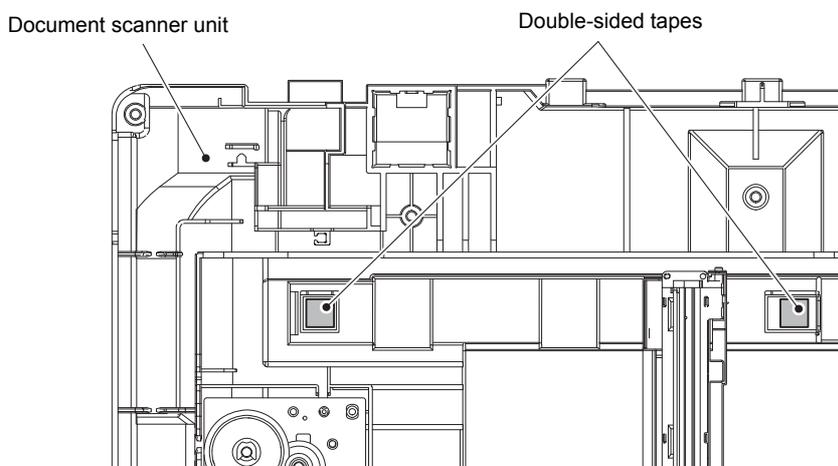


Fig. 3-89

- 3) Attach the 12 mm x 12 mm Double-sided tape to the CIS carriage at the position shown in the illustration below. (If the old Double-sided tape remains attached, replace it with a new one.)
- 4) Connect the First side CIS flat cable to the First side CIS unit.
- 5) Attach the first side CIS unit to the CIS carriage.
- 6) Peel the Release liner of the Double-sided tape attached to the CIS carriage, and secure the First side CIS flat cable with the tape as shown in the illustration below.

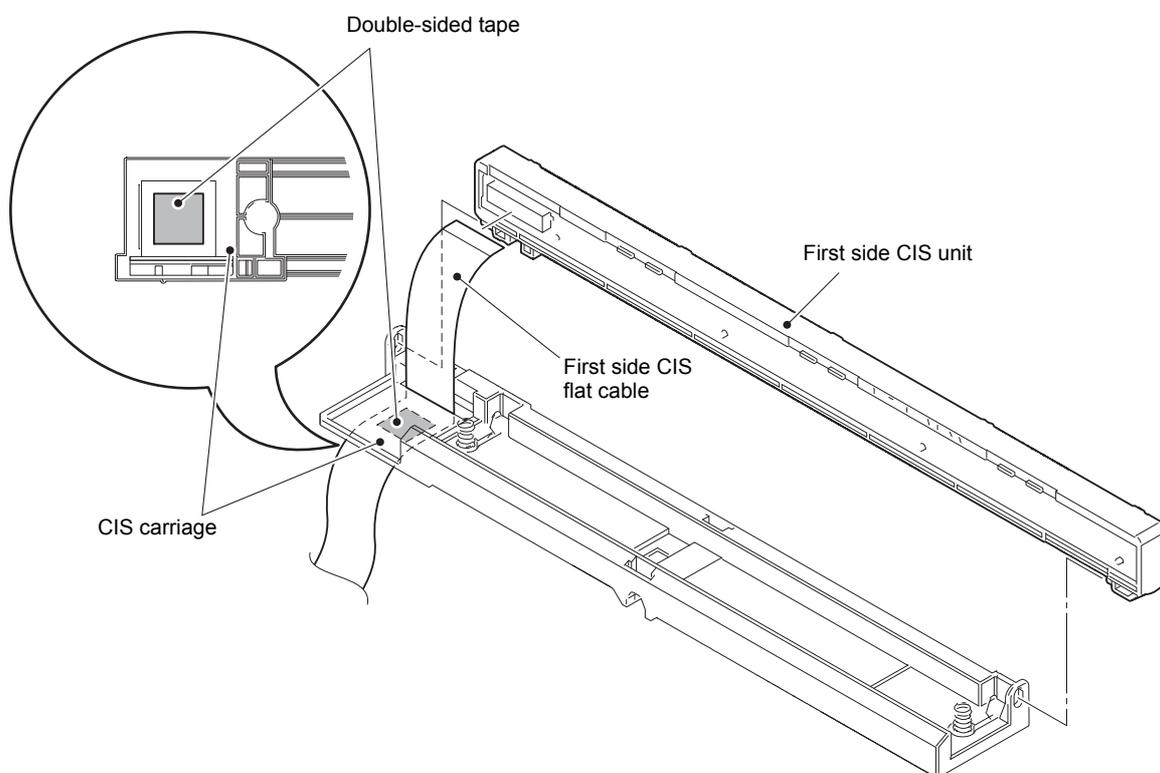


Fig. 3-90

7) Pass the First side CIS flat cable through the Flat core.

8) Peel the Release liner of the two pieces of Double-sided tape attached to the Document scanner unit, and secure the First side CIS flat cable with the tape as shown in the illustration below.

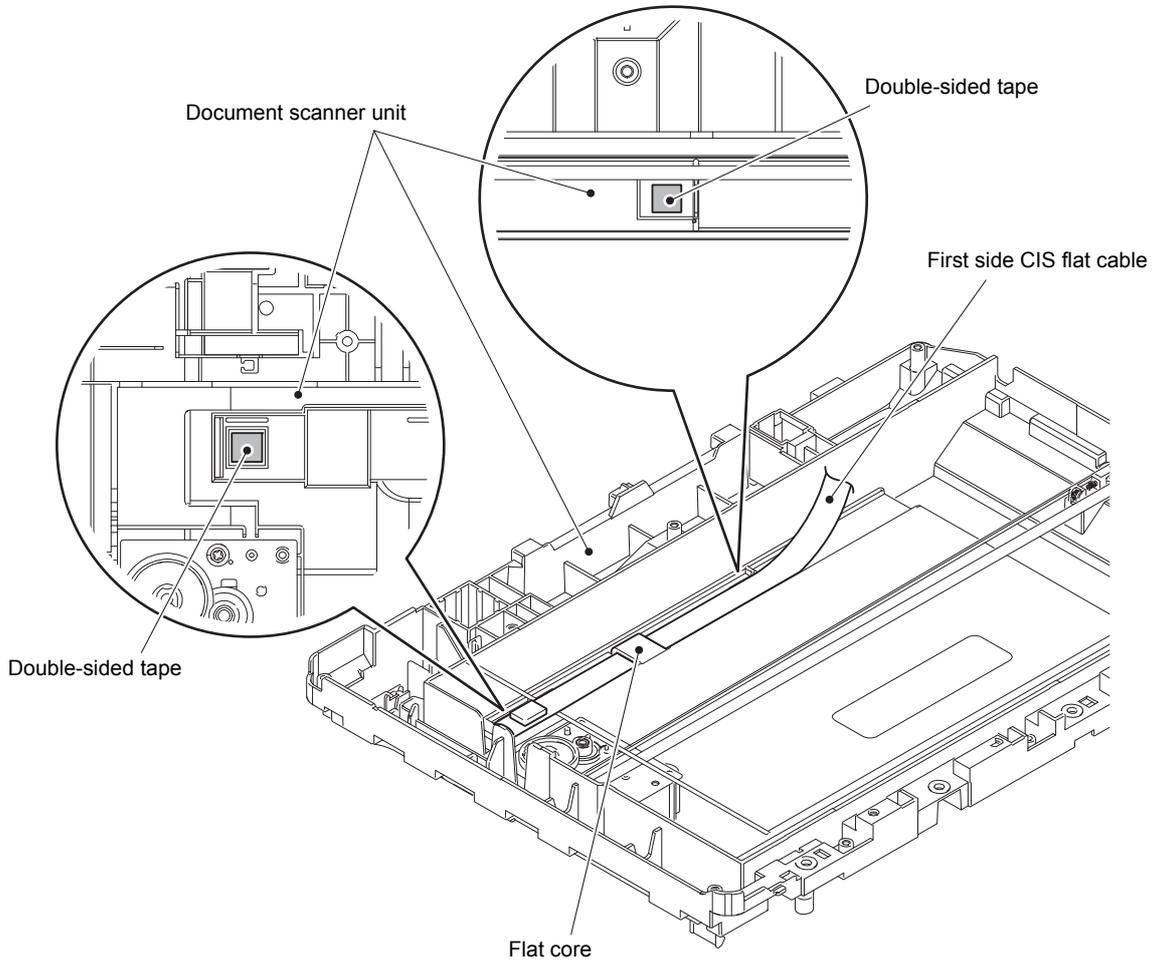


Fig. 3-91

Harness routing: Refer to "7. Document scanner unit".

9.23 Joint cover ASSY

- (1) Release the Panel flat cable from the securing fixtures.
- (2) Remove the six Taptite bind B M4x12 screws. Release each Hook to remove the Panel lower cover.
- (3) Remove the two Bosses, and remove the Paper stopper from the Joint cover ASSY.

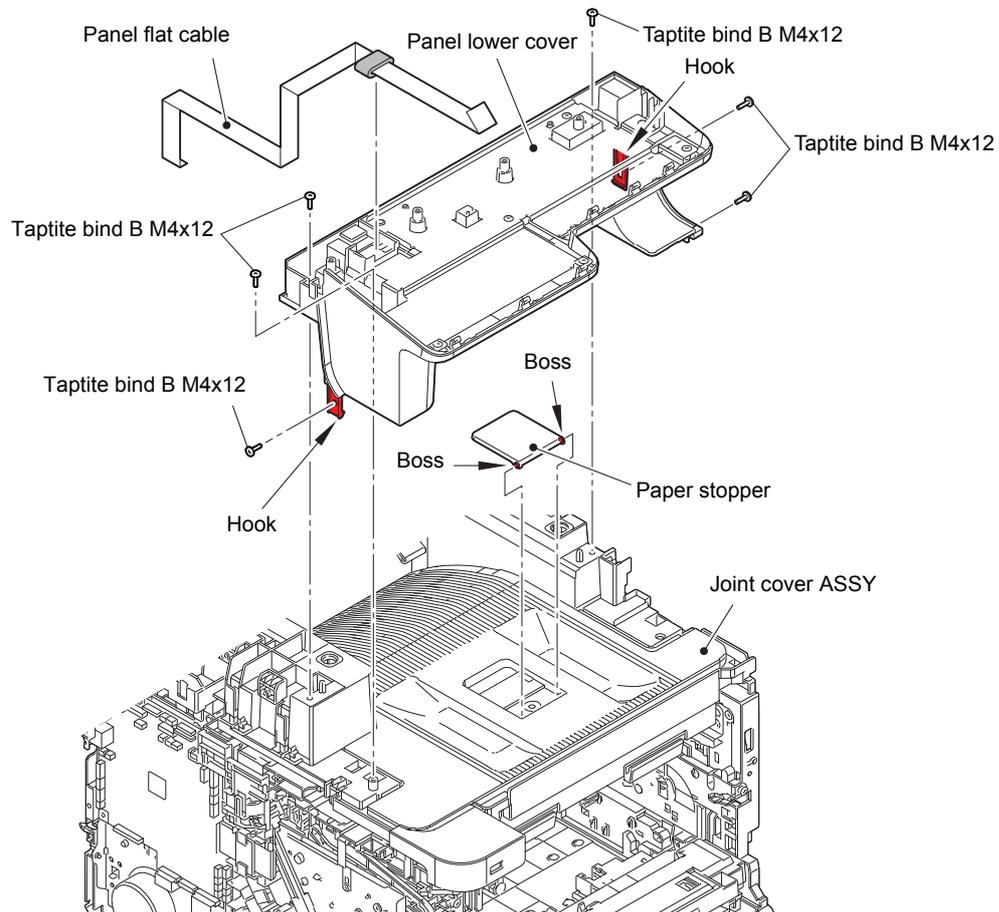


Fig. 3-92

Harness routing: Refer to "2. Panel unit".

<How to fold the Panel flat cable>

■ For 3.7 inch models

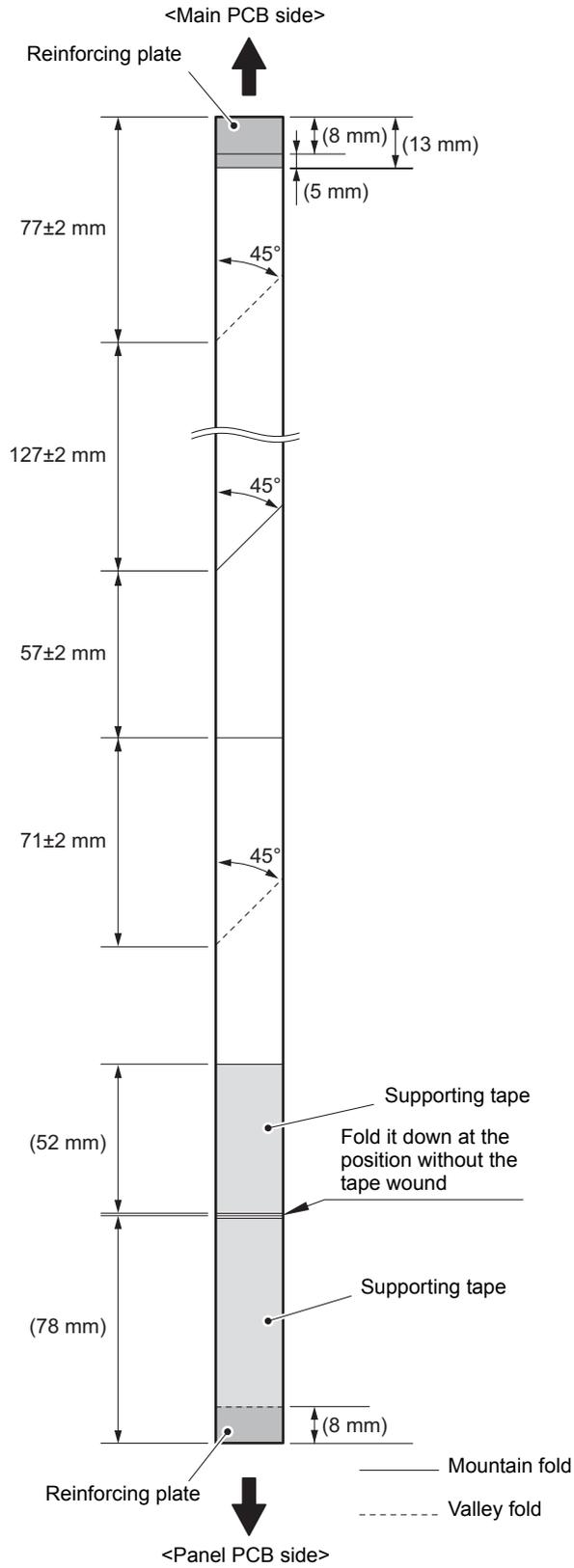


Fig. 3-93

■ For 5.0 inch models

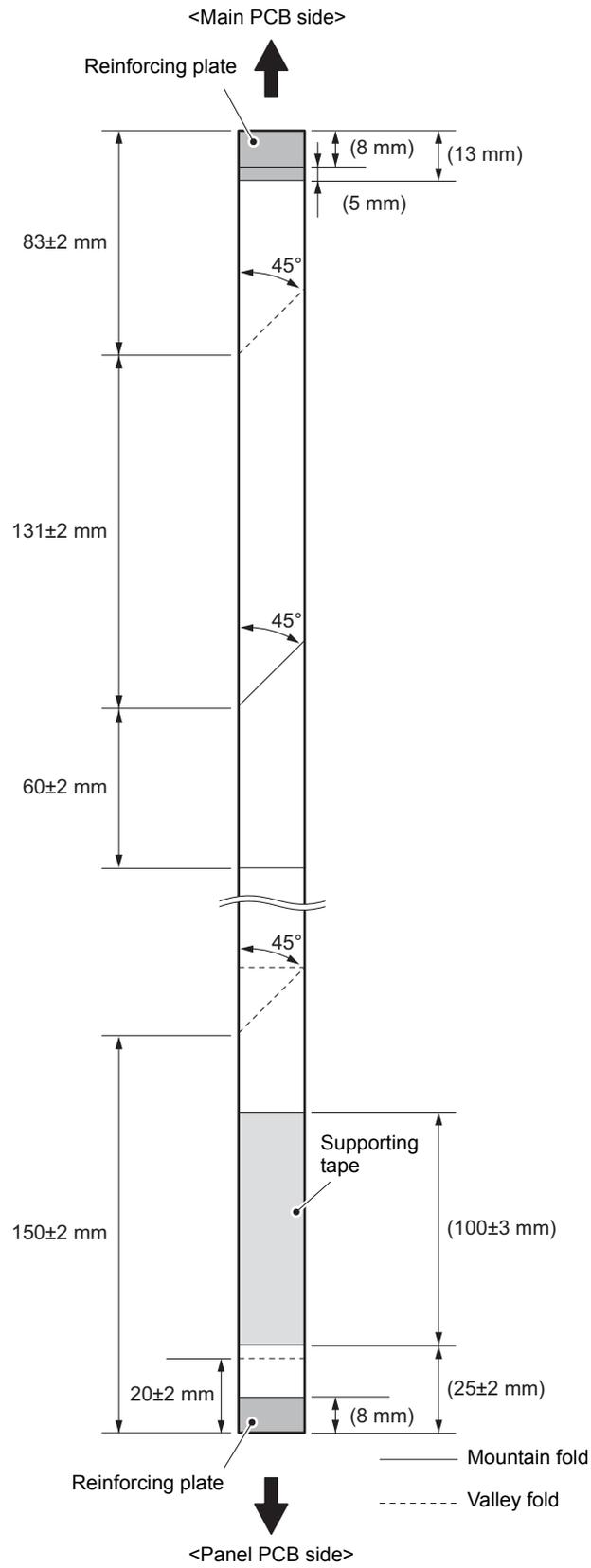


Fig. 3-94

■ For 7.0 inch models

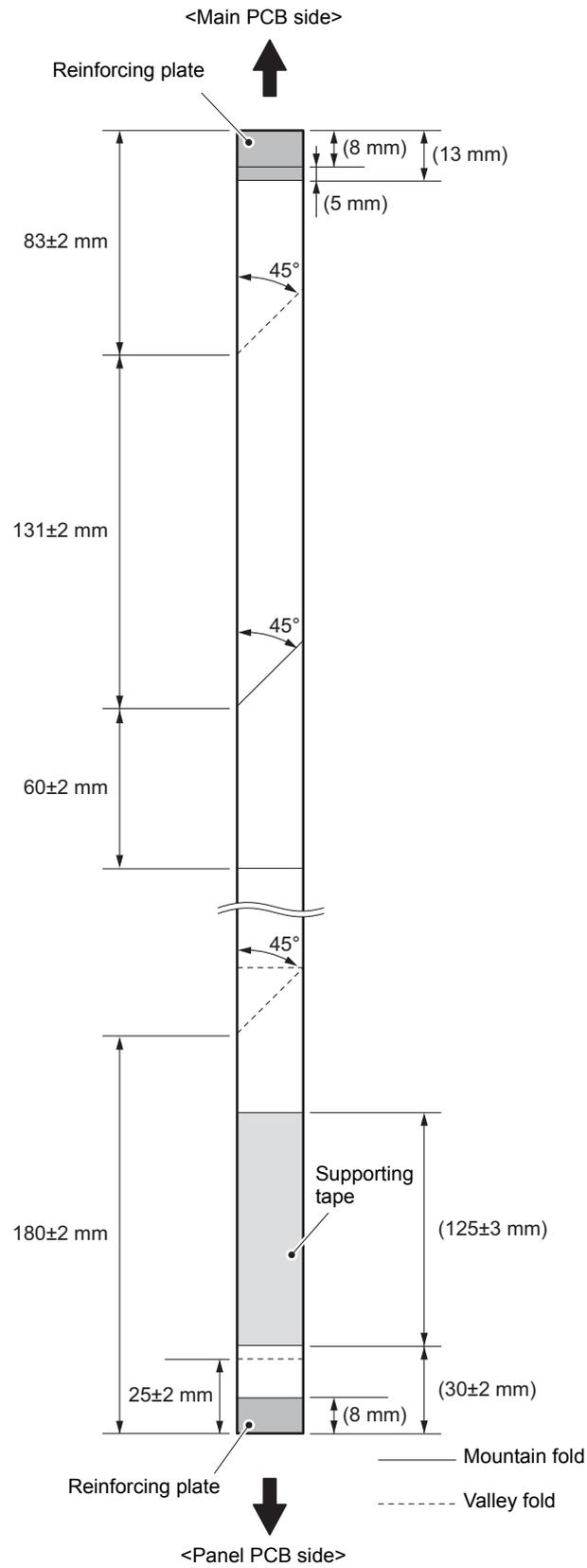


Fig. 3-95

- (4) Remove the Taptite pan B M3x10 screw to remove the Modem ground wire R from the High-voltage power supply ASSY.

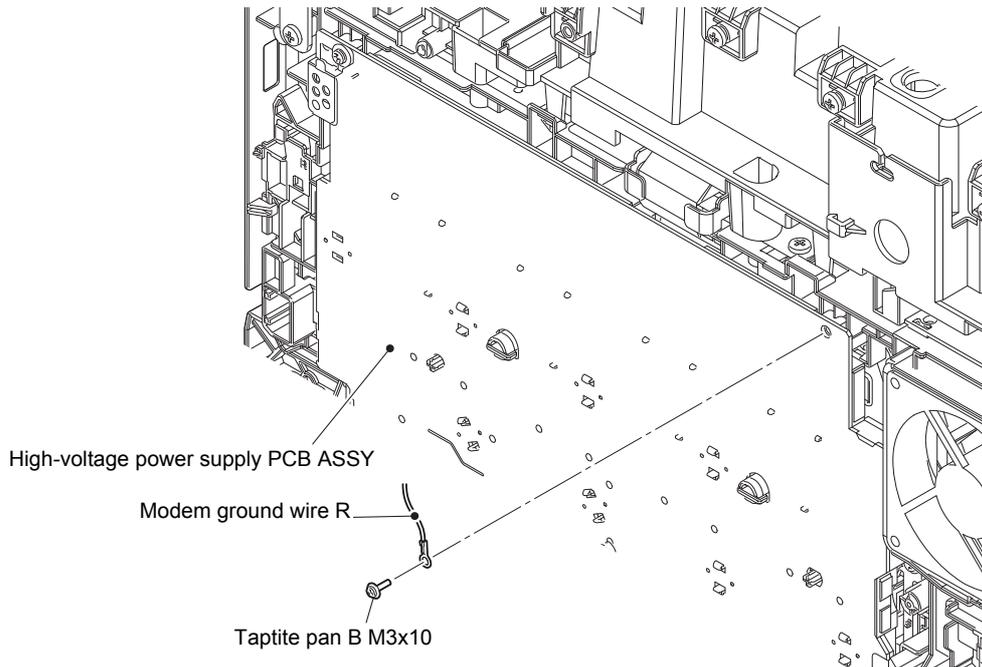


Fig. 3-96

- (5) Remove the Screw pan (S/P washer) M3.5x6 screw to remove the Modem ground wire L from the Main PCB plate.
- (6) Remove the Taptite cup S M3x8 SR screw from the Side ground plate L to remove the USB host ground wire.

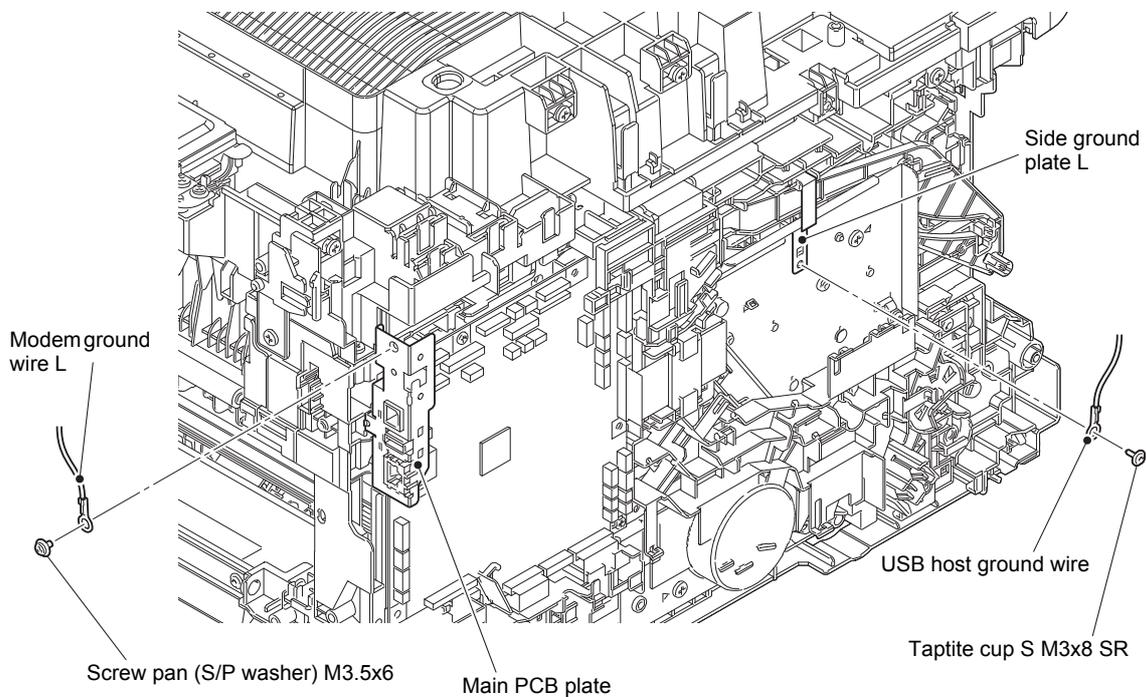


Fig. 3-97

Harness routing: Refer to "8. Modem, Speaker unit", "9. Main USB host harness ASSY".

- (7) Disconnect the Modem flat cable, Speaker harness, and Main USB host harness ASSY from the Main PCB ASSY.

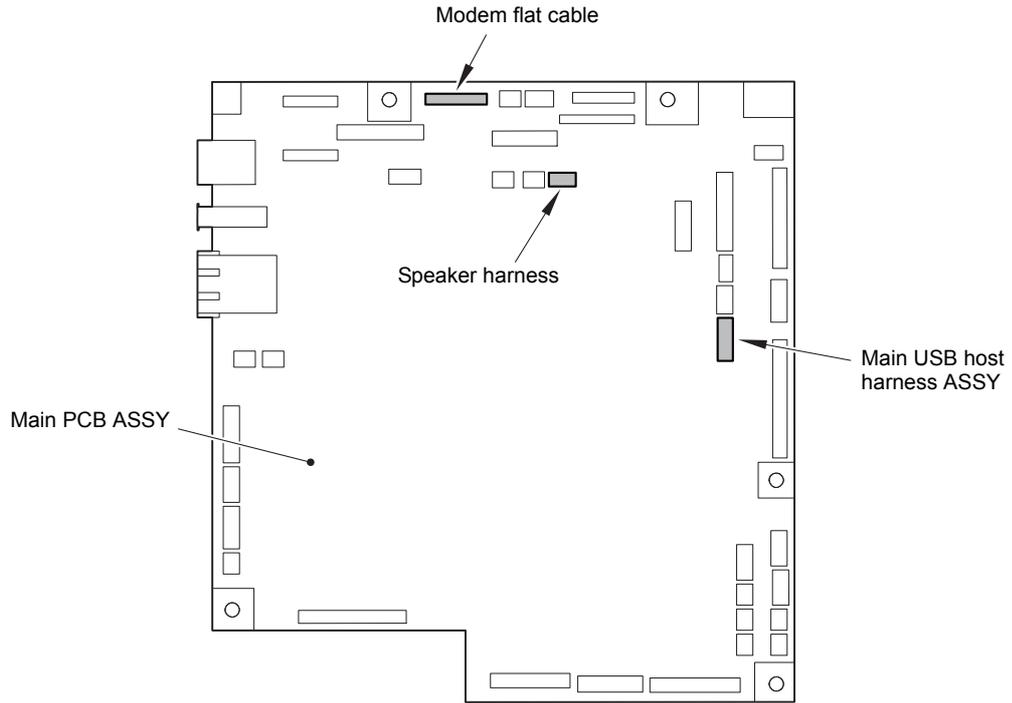


Fig. 3-98

- (8) Release the Main USB host harness ASSY from the securing fixtures.
- (9) Remove the nine Taptite cup B M3x10 screws. Release each Hook to remove the Joint cover ASSY.

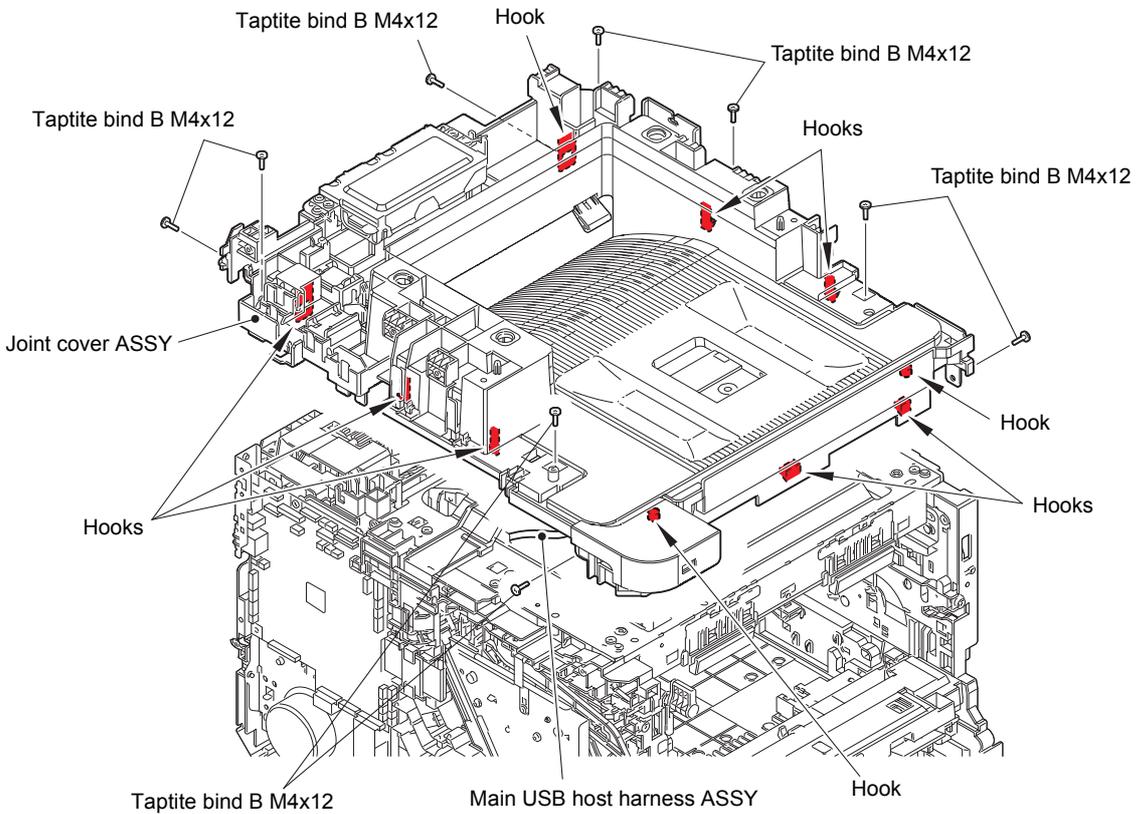


Fig. 3-99

(10) Release the Speaker harness from the securing fixtures.

(11) Remove the Speaker spring to remove the Speaker unit from the Joint cover ASSY.

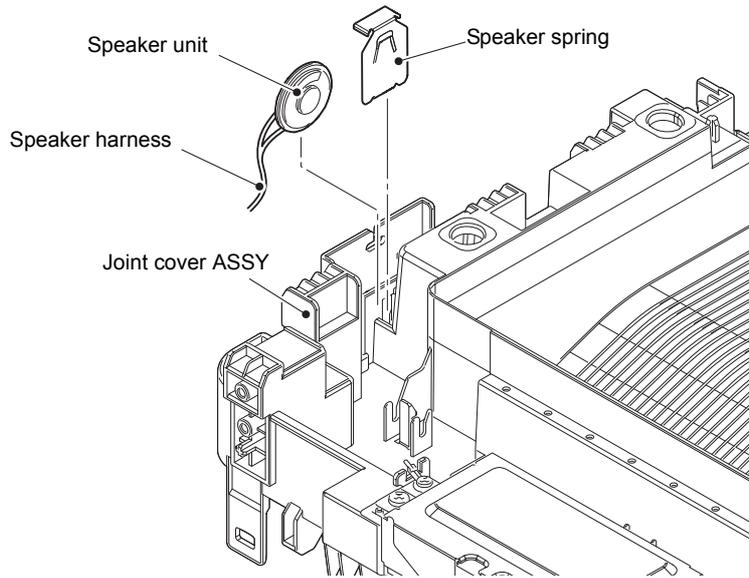


Fig. 3-100

Harness routing: Refer to "8. Modem, Speaker unit".

9.24 Modem PCB ASSY / Modem flat cable (Models with FAX only)

- (1) Release the Modem flat cable from the securing fixtures. Release each Hook, and remove the Flat core attached to the Modem flat cable from the Joint cover ASSY.
- (2) Disconnect the Modem flat cable from the Modem PCB ASSY, and remove the Flat core from the Modem flat cable.

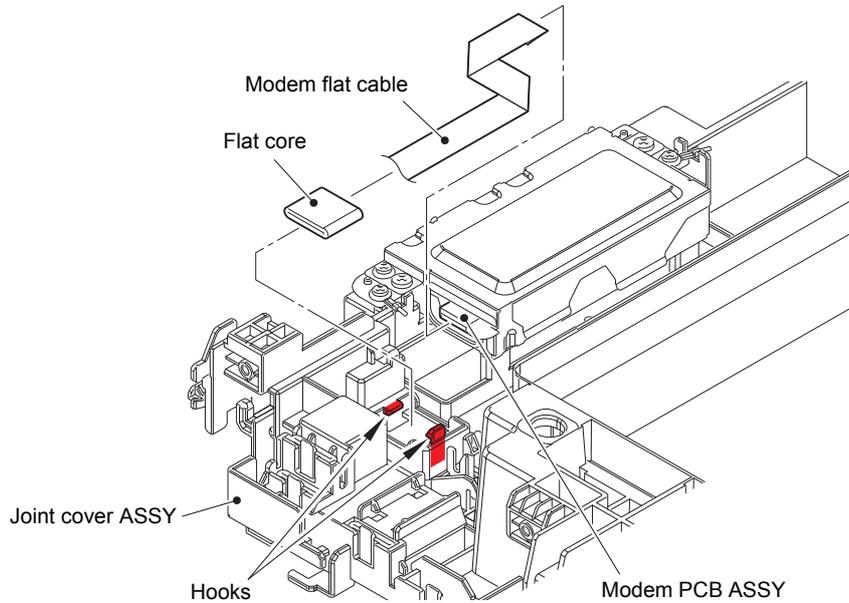


Fig. 3-101

Harness routing: Refer to "8. Modem, Speaker unit".

Note:

- After disconnecting flat cables, check that each cable is not damaged at its end or shortcircuited.
- When connecting flat cables, do not insert them at an angle. After insertion, check that the cable is not at an angle.

<How to fold the Modem flat cable>

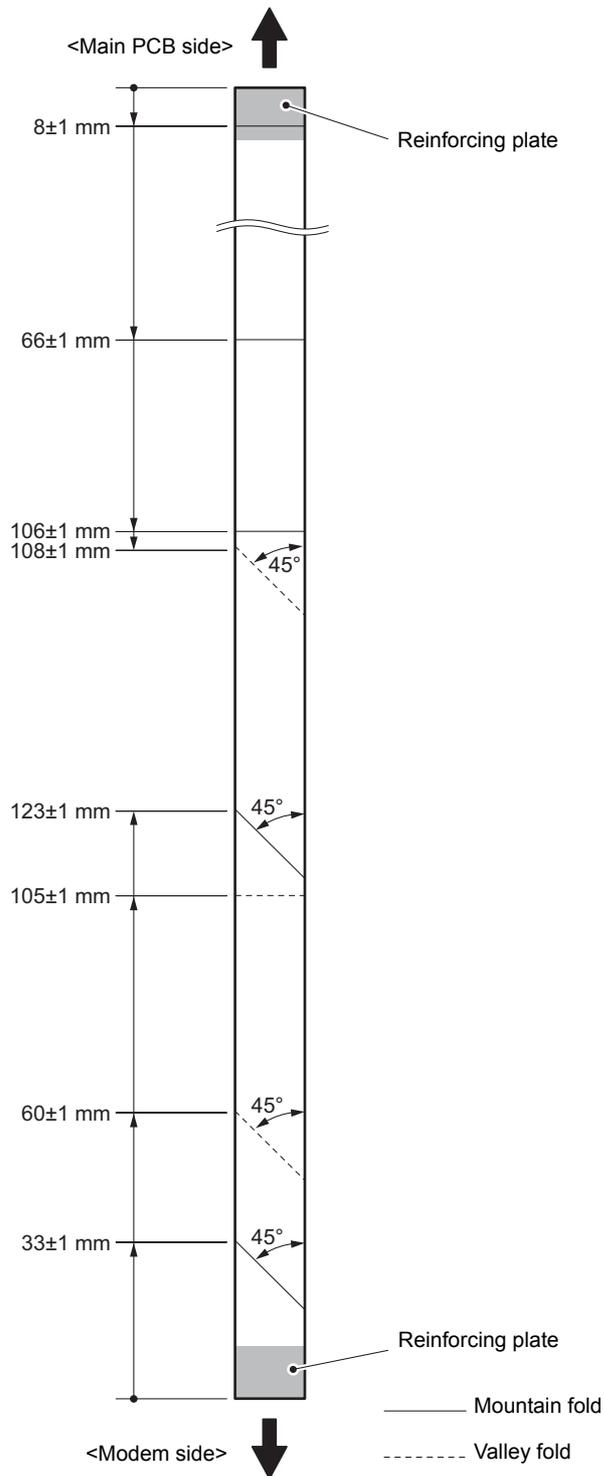


Fig. 3-102

- (3) Release the Modem ground wire L and Modem ground wire R from the securing fixtures.
- (4) Remove the two Taptite bind B M4x12 screws, and remove the Modem shield plate from the Joint cover ASSY.

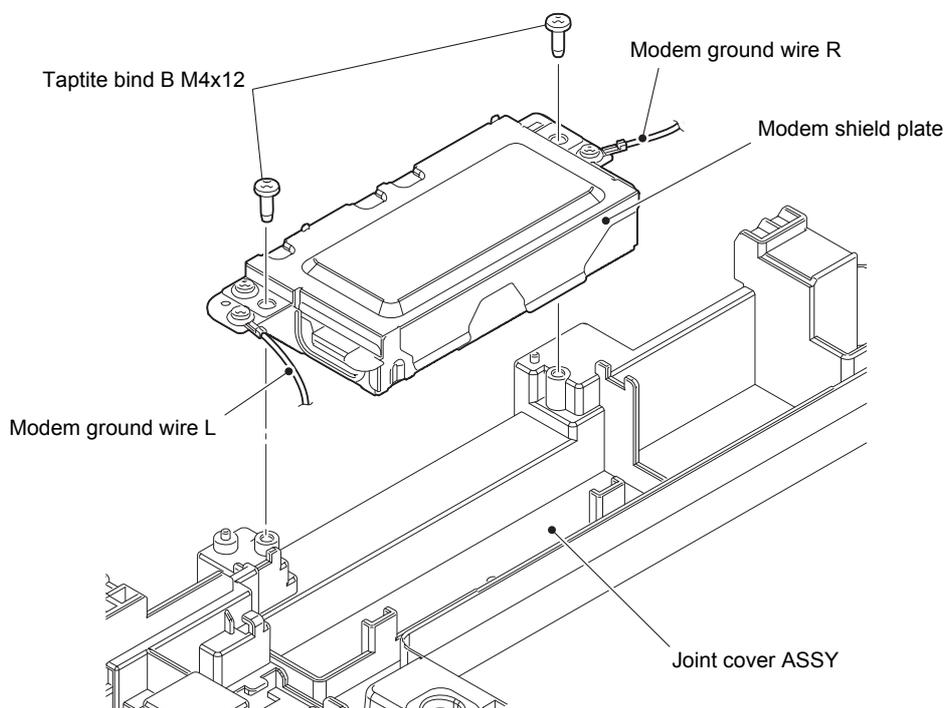


Fig. 3-103

- (5) Remove the Screw pan (S/P washer) M3.5x6 screw to remove the Modem shield cover from the Modem shield plate.

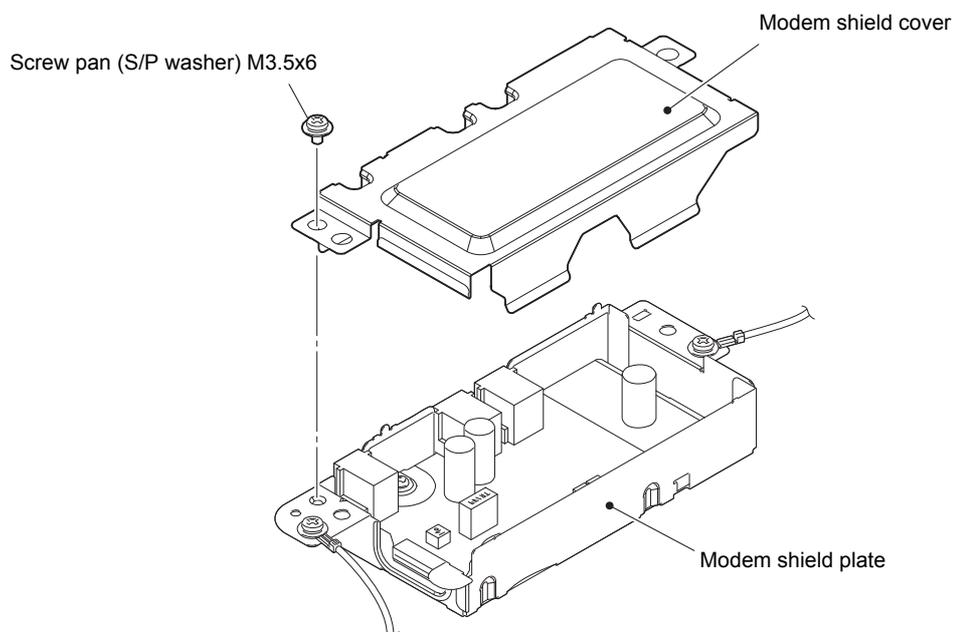


Fig. 3-104

Harness routing: Refer to "8. Modem, Speaker unit".

- (6) Remove the two Taptite cup S M3x6 SR screws to remove the Modem PCB ASSY from the Modem shield plate.
- (7) Remove the Insulation sheet from the Modem shield plate.

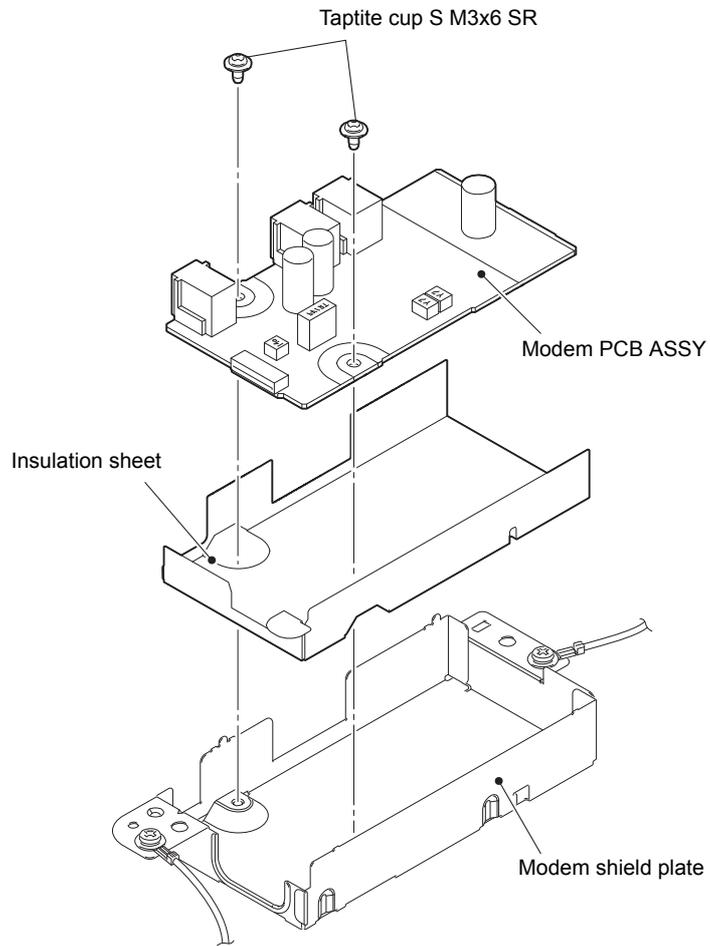


Fig. 3-105

9.25 USB host PCB / USB cover

- (1) Release the Main USB host harness ASSY from the securing fixtures.
- (2) Remove the three Taptite bind B M4x12 screws. Release the Hook to remove the USB cover from the Joint cover ASSY.
- (3) Pull out the Main USB host harness ASSY and USB host ground wire from the Hole of the Joint cover ASSY.

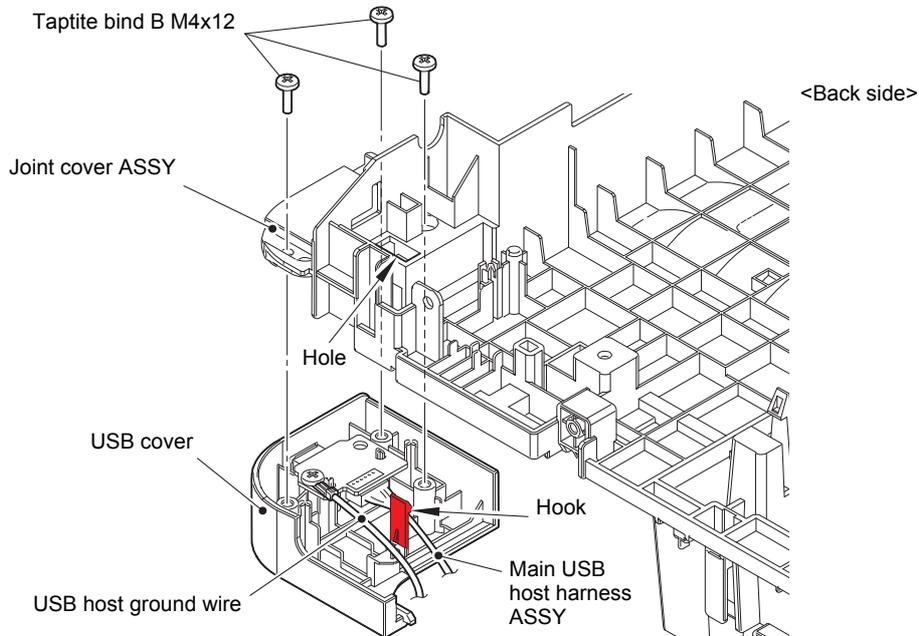


Fig. 3-106

- (4) Remove the Taptite bind B M4x12 screw, and remove the USB host ground wire. Remove the USB host PCB from the USB cover.
- (5) Release the Main USB host harness ASSY from the USB host PCB.

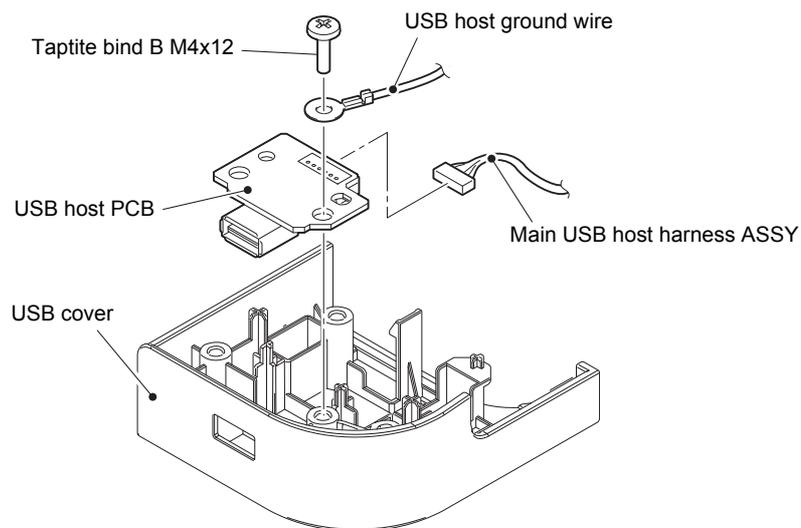


Fig. 3-107

Harness routing: Refer to "9. Main USB host harness ASSY".

9.26 Main PCB ASSY / Wireless LAN PCB

- (1) Disconnect the Toner/new sensor PCB harness, Front cover sensor harness, Develop release sensor harness, Polygon motor harness and High-voltage power supply flat cable from the Main PCB ASSY and release the wiring.
- (2) Release the Hook and remove the WLAN cap from Upper cable holder.
- (3) Disconnect the Wireless LAN PCB from the Main PCB ASSY.

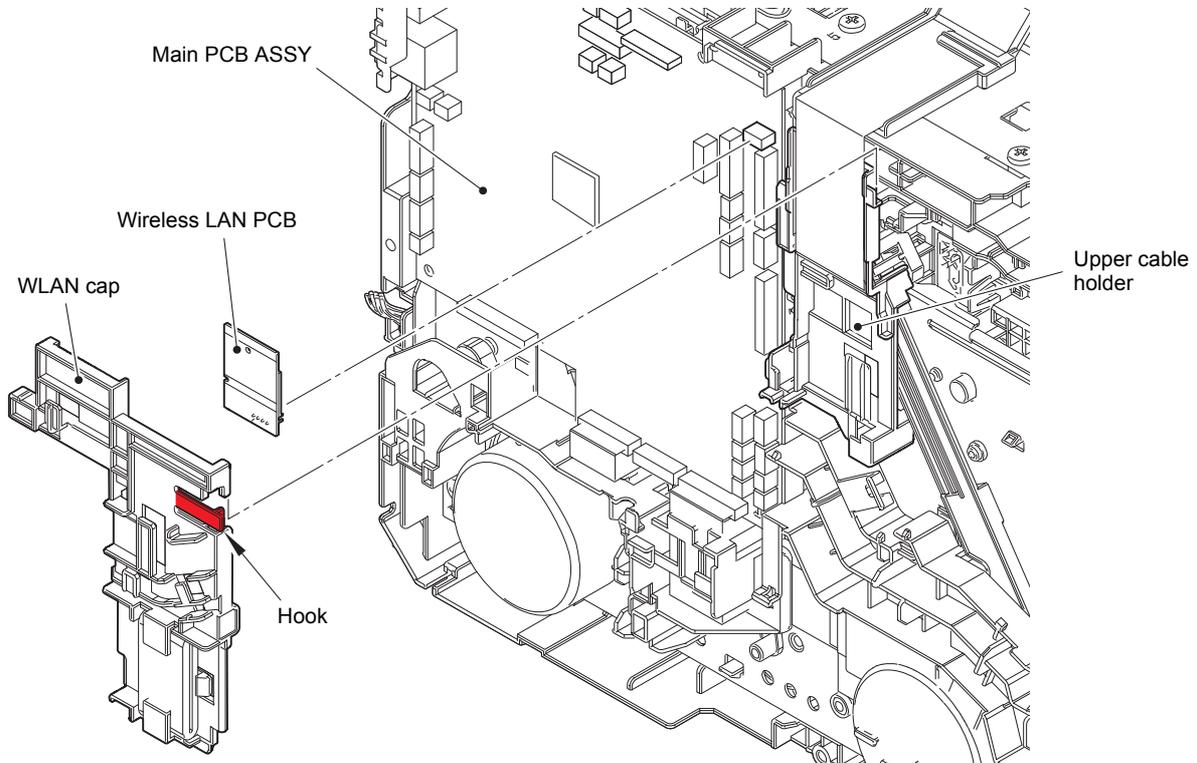


Fig. 3-108

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.

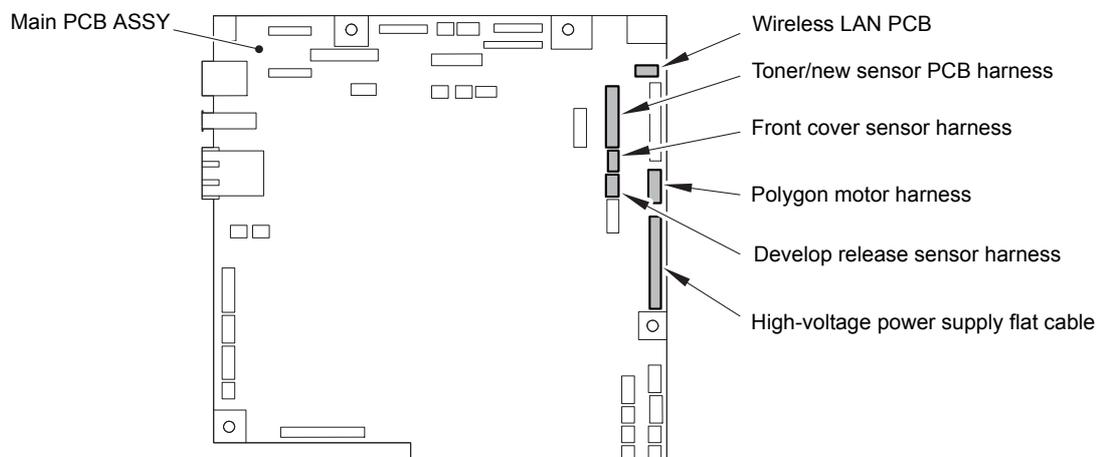


Fig. 3-109

Harness routing: Refer to "10. Main PCB ASSY".

- (4) Release the Clamp of the PF cable rack.
- (5) Release the Clamp of the Cable rack.

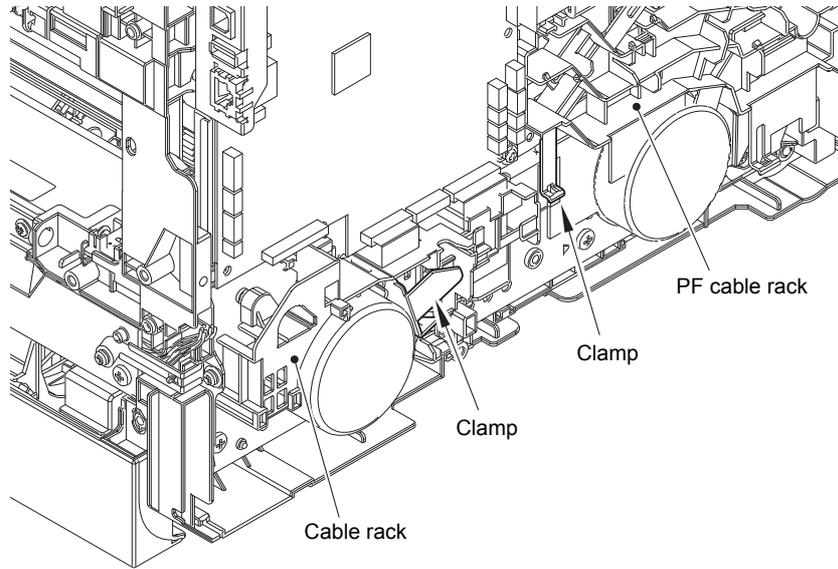


Fig. 3-110

- (6) Disconnect all harnesses and flat cables from the main PCB ASSY.

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.

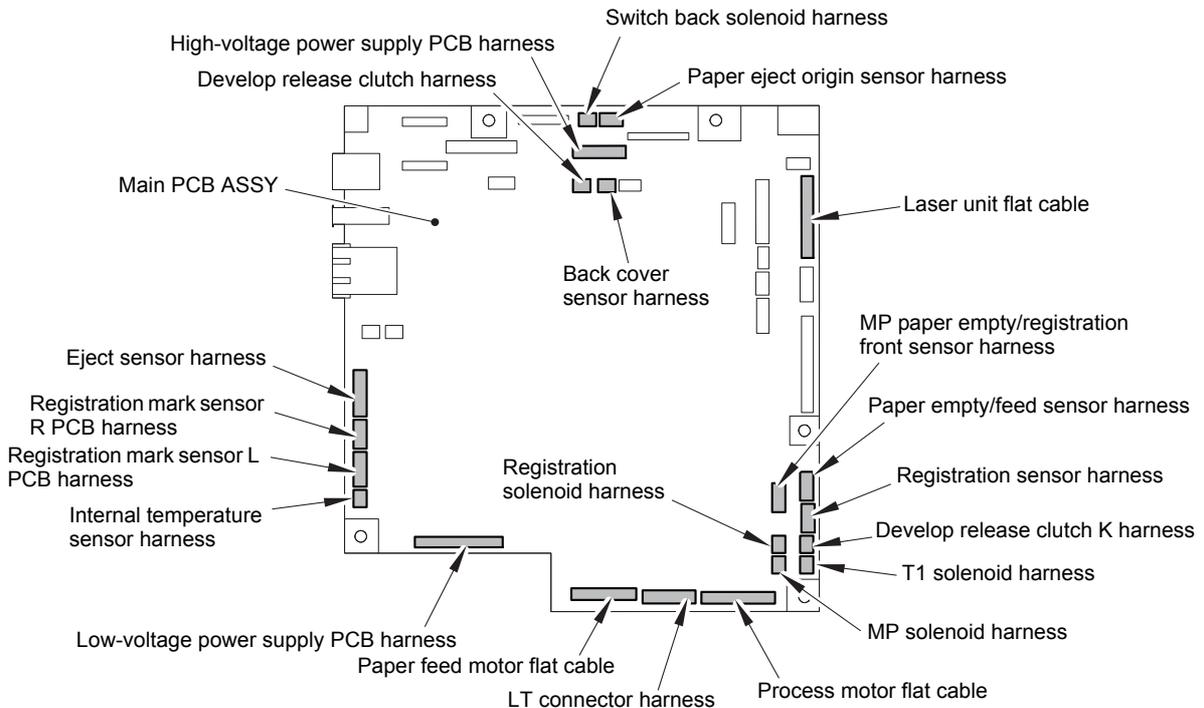


Fig. 3-111

Harness routing: Refer to "10. Main PCB ASSY".

- (7) Remove the two Screw cup M3x8 (black) screws and remove the Main PCB ASSY from the Frame L.

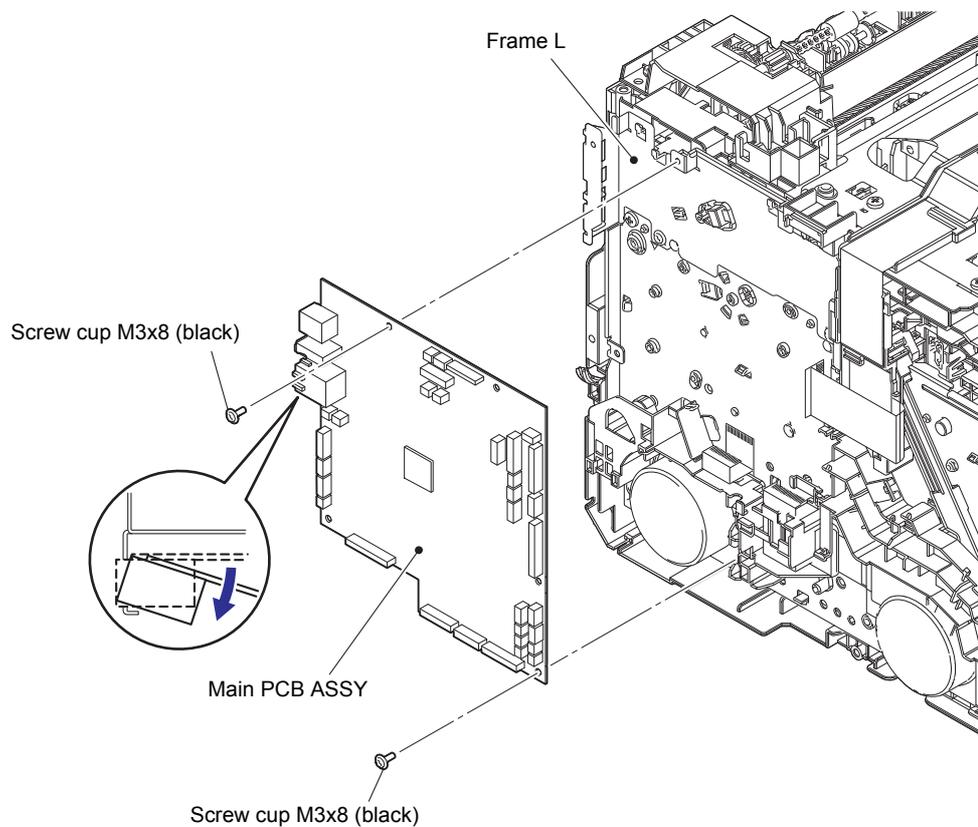


Fig. 3-112

9.27 Fuser fan

- (1) Disconnect the Fuser fan harness from the High-voltage power supply PCB ASSY and release the wiring.
- (2) Remove the Fuser fan.

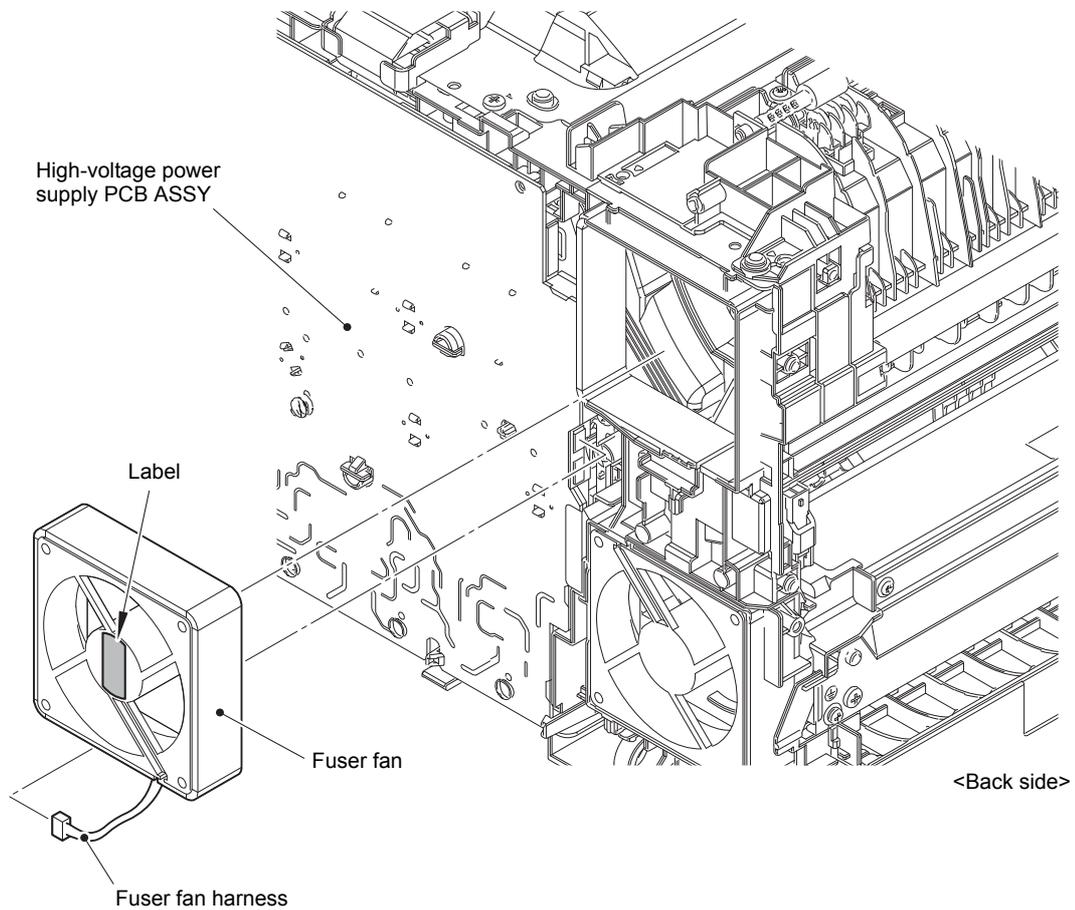


Fig. 3-113

Assembling Note:

When assembling the Fuser fan, be sure to assemble it in a way that the Label side faces out.

Harness routing: Refer to "11. Fuser fan, Power fan".

9.28 Power fan

- (1) Disconnect the Power fan harness from the High-voltage power supply PCB ASSY.
- (2) Remove the Power fan.

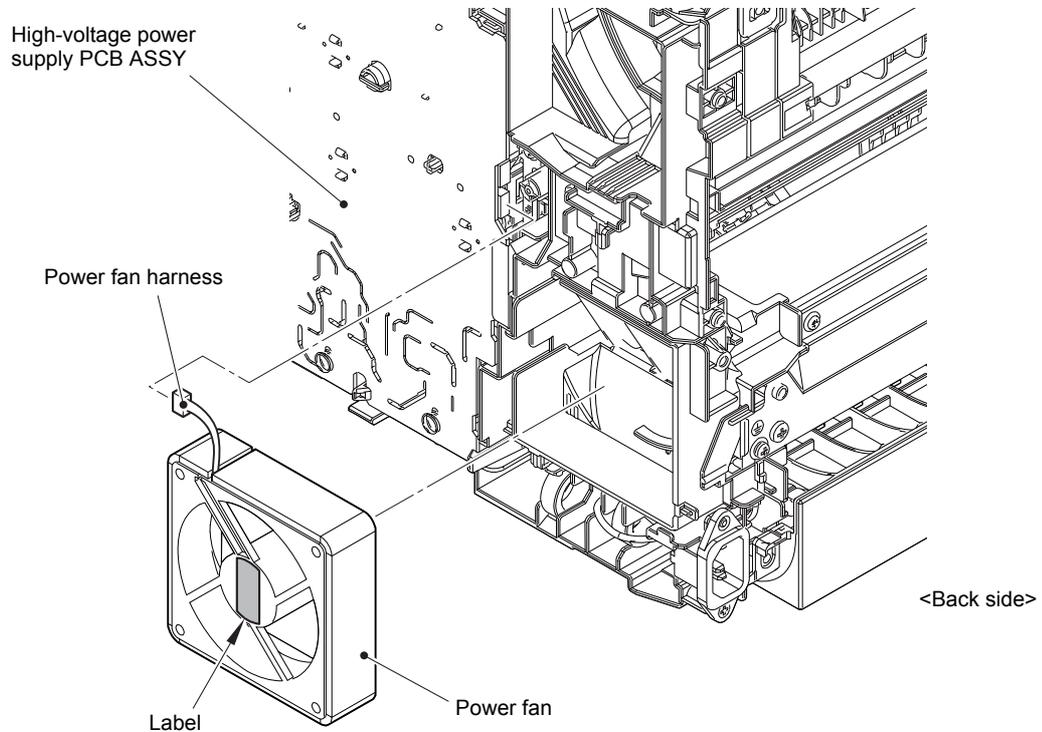


Fig. 3-114

Assembling Note:

When assembling the Power fan, be sure to assemble it in a way that the Label side faces out.

Harness routing: Refer to "11. Fuser fan, Power fan".

9.29 High-voltage power supply PCB ASSY

- (1) Remove the four Spacers from the Frame R.
- (2) Disconnect the Blower harness, Waste toner sensor harness and High-voltage power supply PCB harness from the High-voltage power supply PCB ASSY.
- (3) Remove the HVPS shading film from the Frame R.

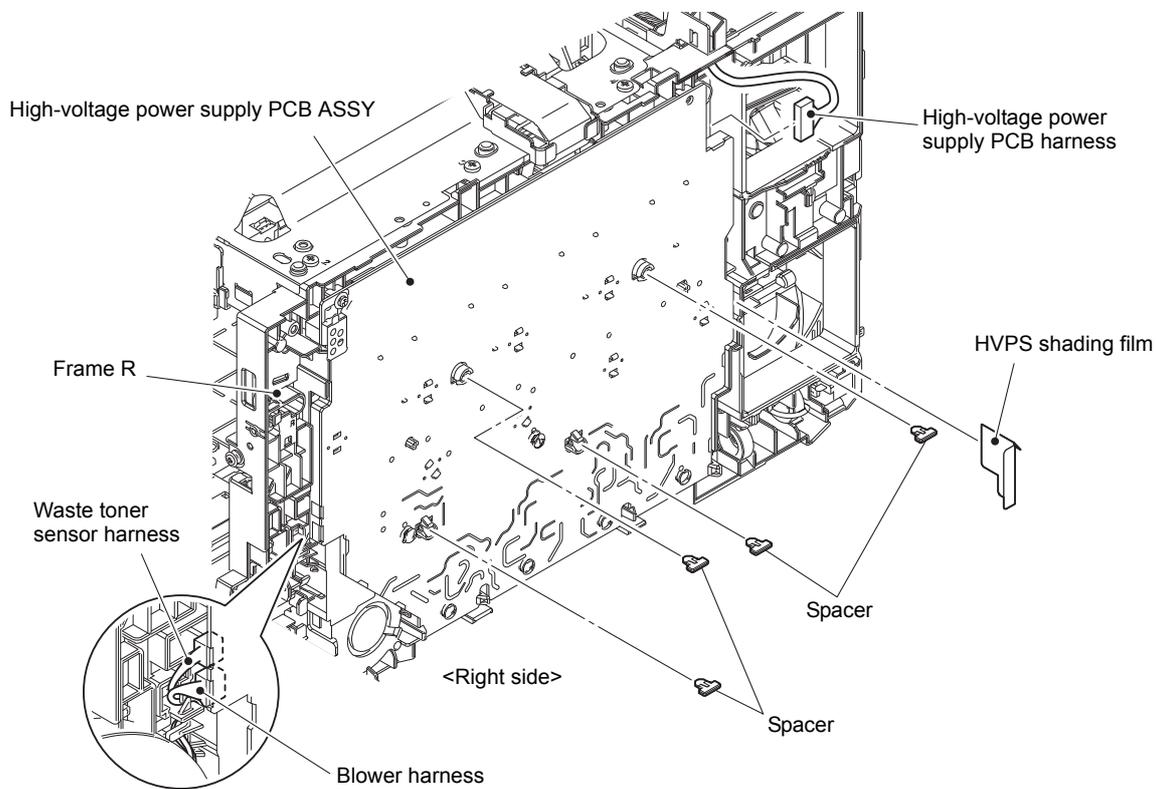


Fig. 3-115

- (4) Remove the Taptite pan B M3x10 screw from the High-voltage power supply PCB ASSY. Release each Hook and remove the High-voltage power supply PCB ASSY from the Frame R.

Note:

If the Modem ground wire R has not been removed yet , remove the Taptite pan B M3x10 (A) screw.

- (5) Disconnect the High-voltage power supply flat cable from the High-voltage power supply PCB ASSY.

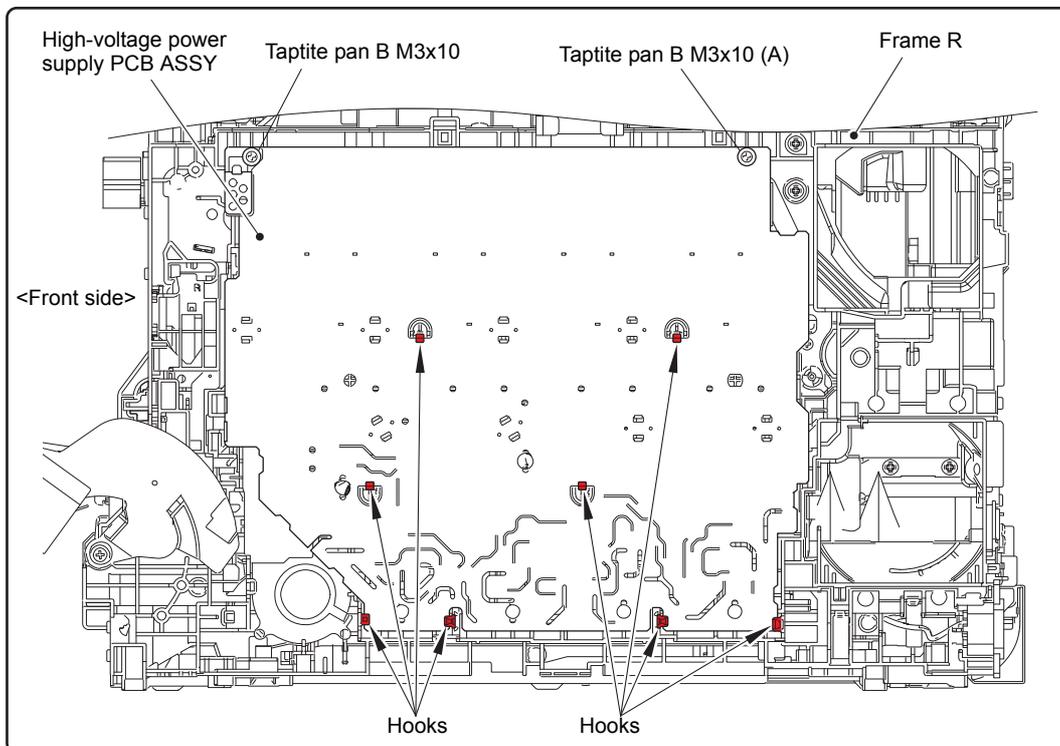
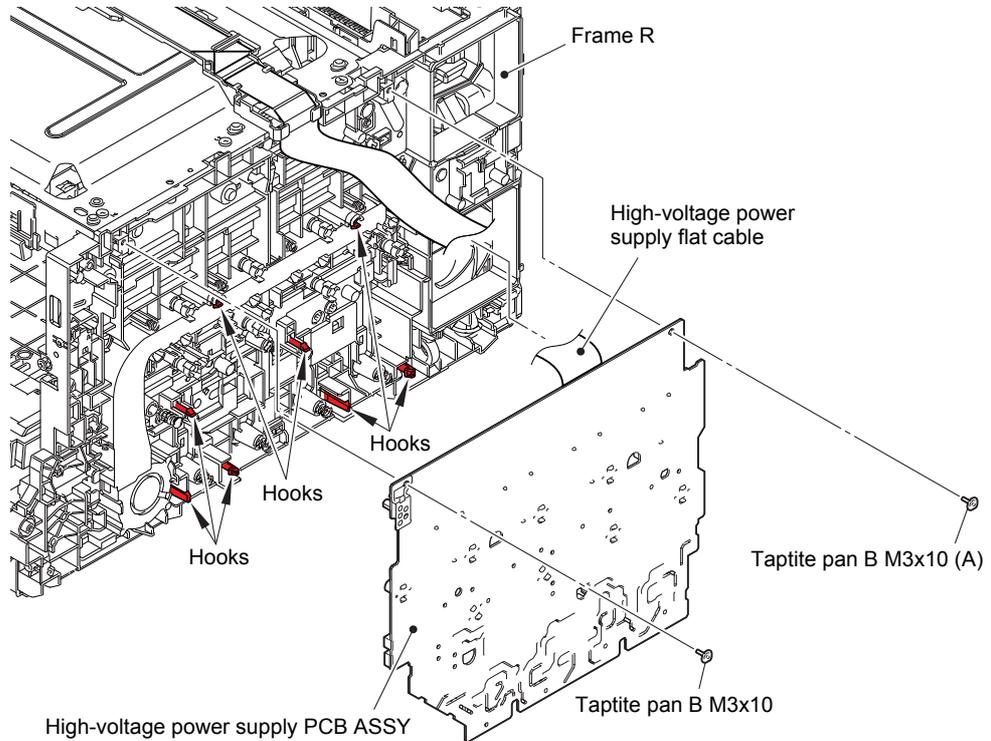


Fig. 3-116

Harness routing: Refer to "12. High-voltage power supply flat cable".

- (6) Release the Hook and remove the HVPS shield ASSY from the High-voltage power supply PCB ASSY.

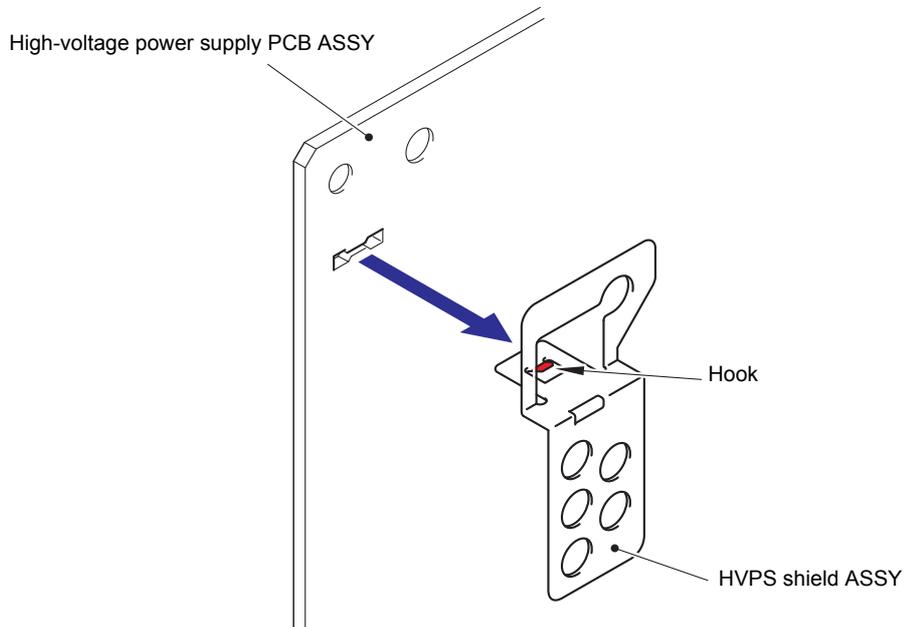


Fig. 3-117

Assembling Note:

After assembling the High-voltage power supply PCB ASSY, check that the Electrode inside the machine does not fall and that you do not feel that the Electrode gets caught when you press it.

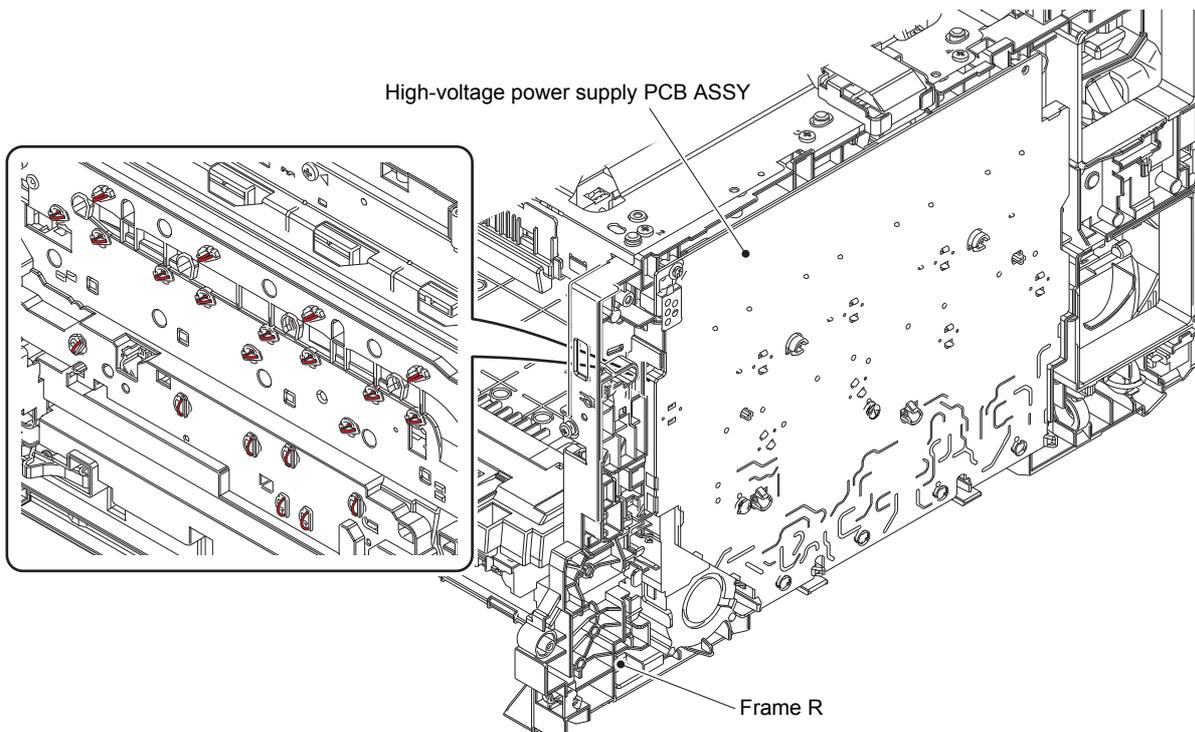


Fig. 3-118

9.30 Laser unit flat cable / Laser unit / High-voltage power supply flat cable

- (1) Release the wiring of High-voltage power supply flat cable and remove the High-voltage power supply flat cable from the Flat cable holder.

Assembling Note:

- After removed the High-voltage power supply flat cable from the Flat cable holder, be sure to replace with brand-new High-voltage power supply flat cable.
- For the positions of the Double-sided adhesive tape, refer to below figure and put on to the Flat cable holder.

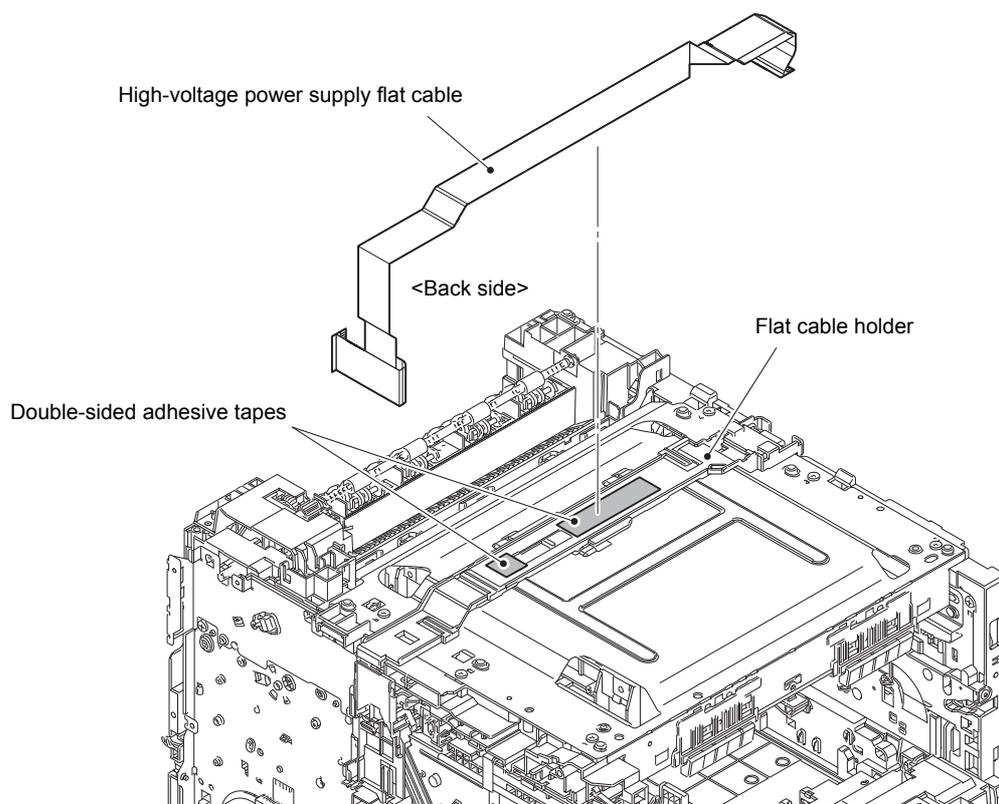


Fig. 3-119

Harness routing: Refer to "12. High-voltage power supply flat cable".

<How to fold the High-voltage power supply flat cable>

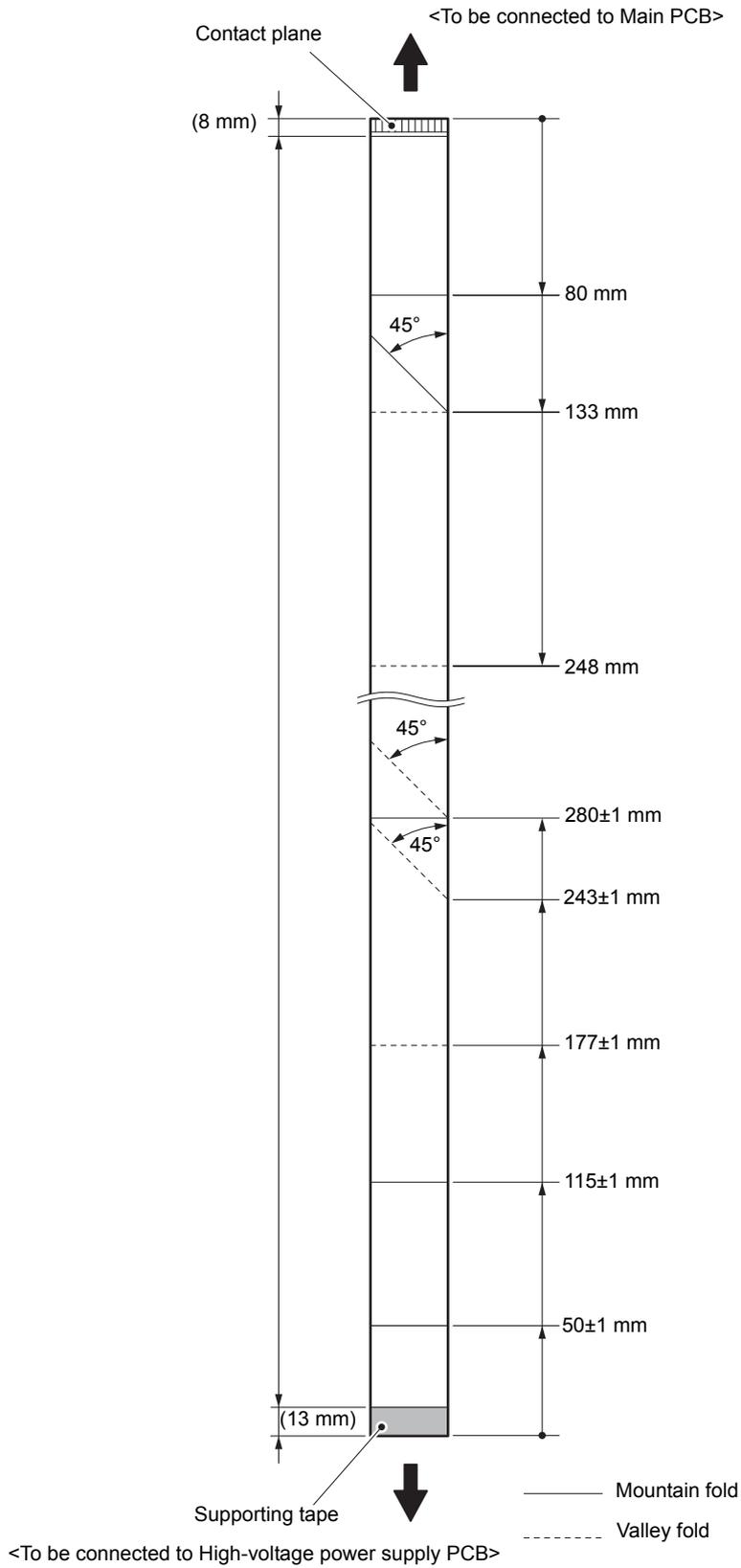


Fig. 3-120

- (2) Release the Hook of Plate cover L and slide to left side to remove. Release the Hook of Plate cover R and slide to left side to remove.

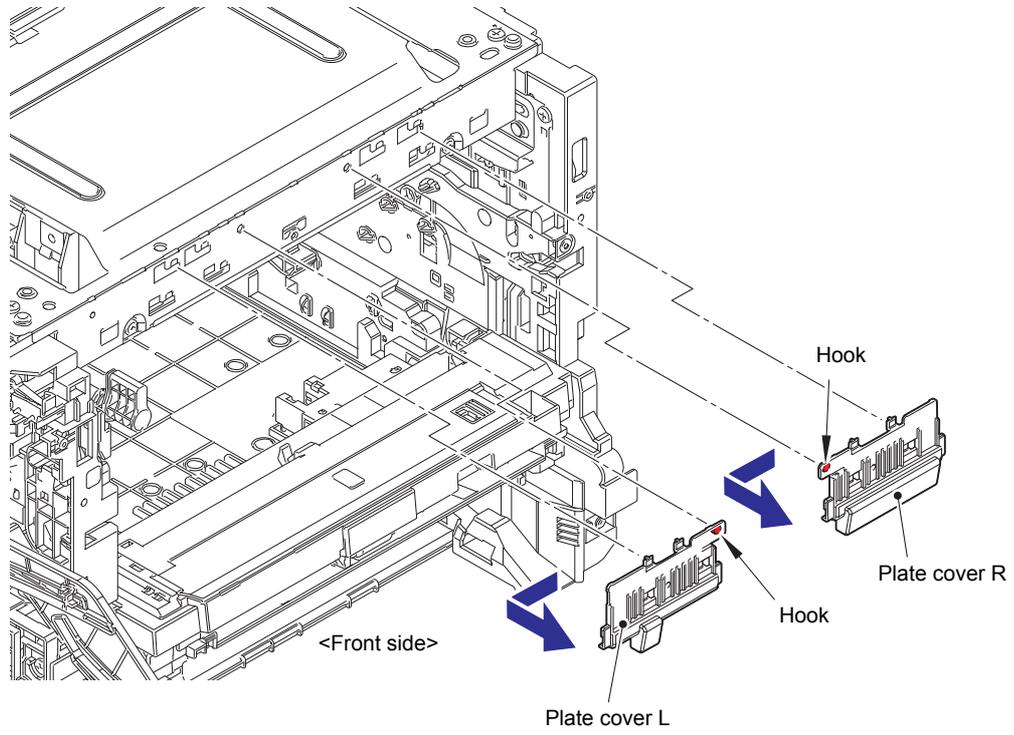


Fig. 3-121

- (3) Remove the six Taptite bind B M4x12 screws and four Taptite cup S M3x6 SR screws, and remove the Scanner cover plate.

Assembling Note:

When assembling the six screws of the Taptite bind B M4x12, be sure to assemble them in the order shown in the figure.

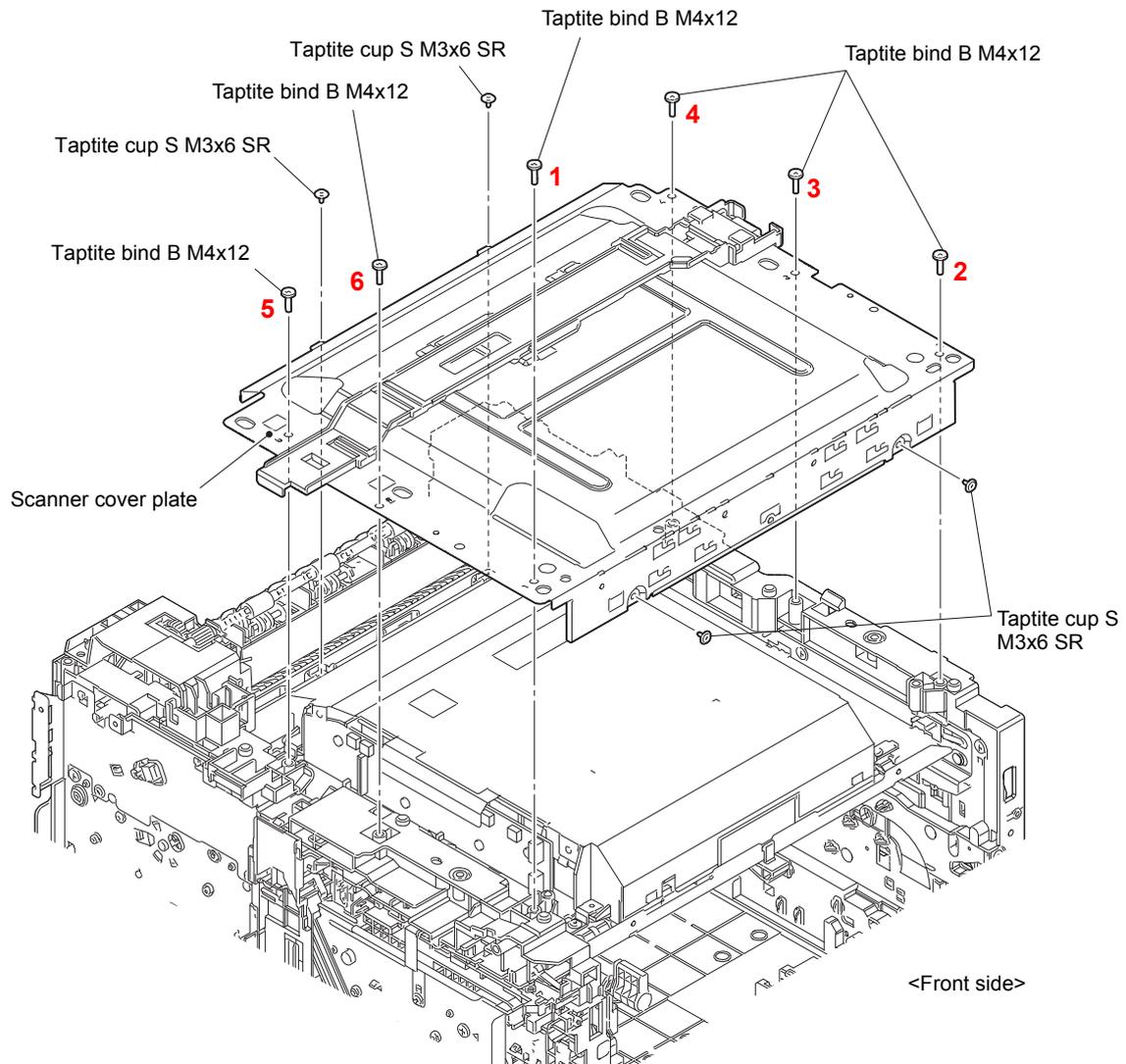


Fig. 3-122

- (4) Disconnect the Laser unit flat cable from the Laser unit and release the wiring.
- (5) Disconnect the Polygon motor harness from the Laser unit.

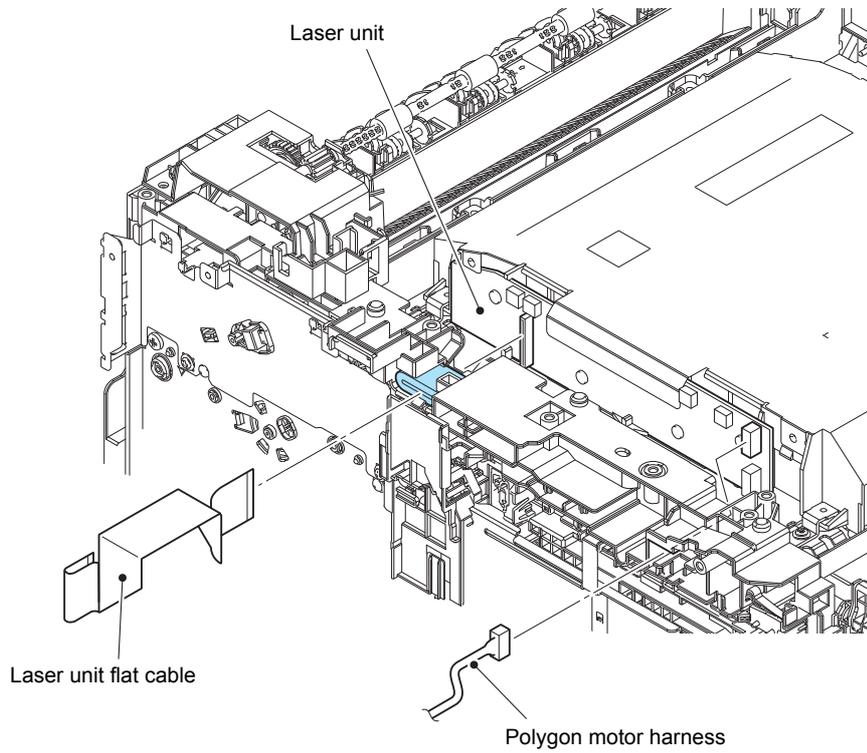


Fig. 3-123

Harness routing: Refer to "13. Laser unit".

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.

<How to fold the Laser unit flat cable>

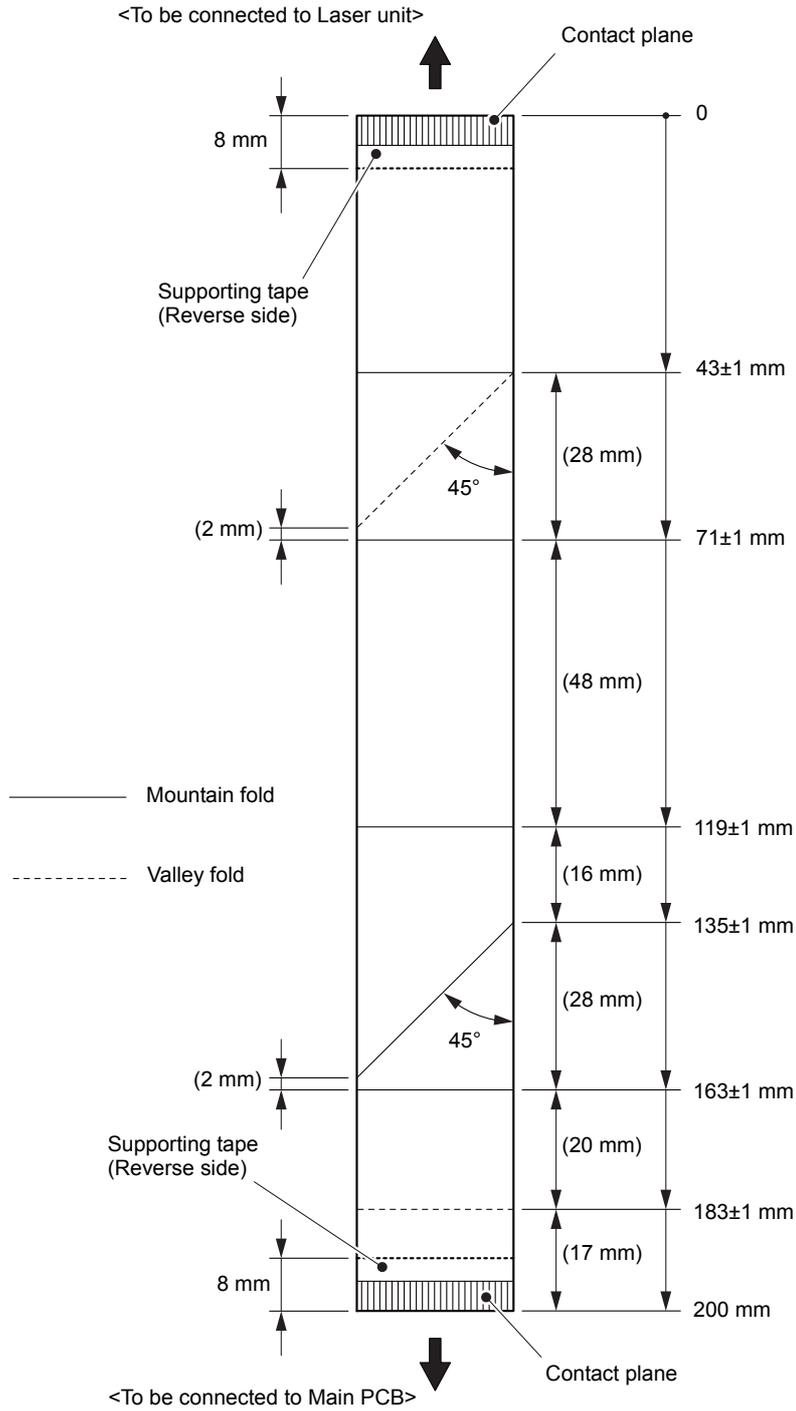


Fig. 3-124

- (6) Remove the five Taptite cup S M3x6 SR screws and remove the four Scanner holders from the Scanner plate.

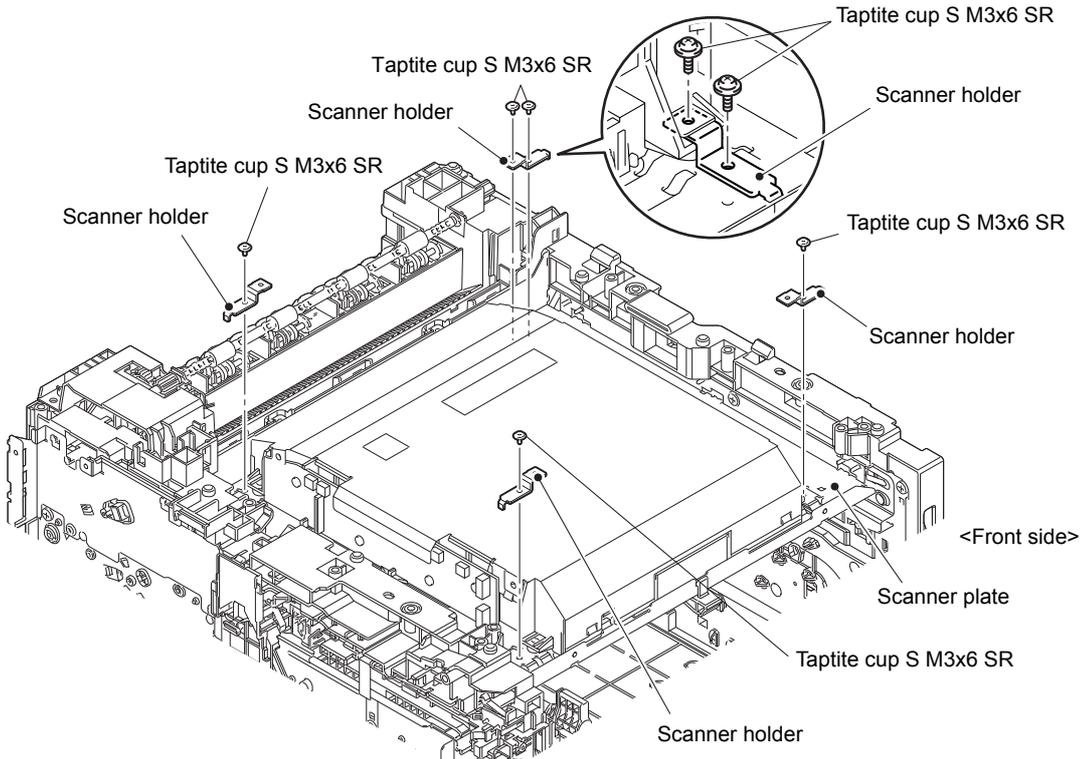


Fig. 3-125

Assembling Note:

- When assembling the Scanner holder to “A” of the Laser unit, be sure to use the Scanner holder of which “B” is a screw and not to use other Scanner holders.
- When assembling the Scanner holder to “A” of the Laser unit, be sure that the Scanner holder is placed as shown in the figure.

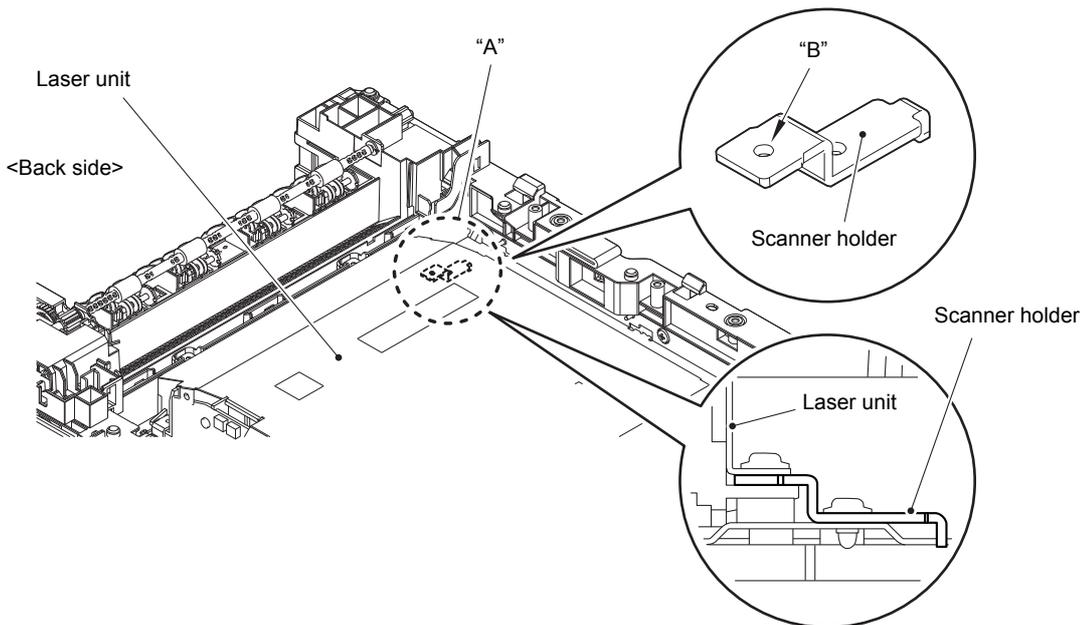


Fig. 3-126

(7) Remove the Laser unit from the Scanner plate.

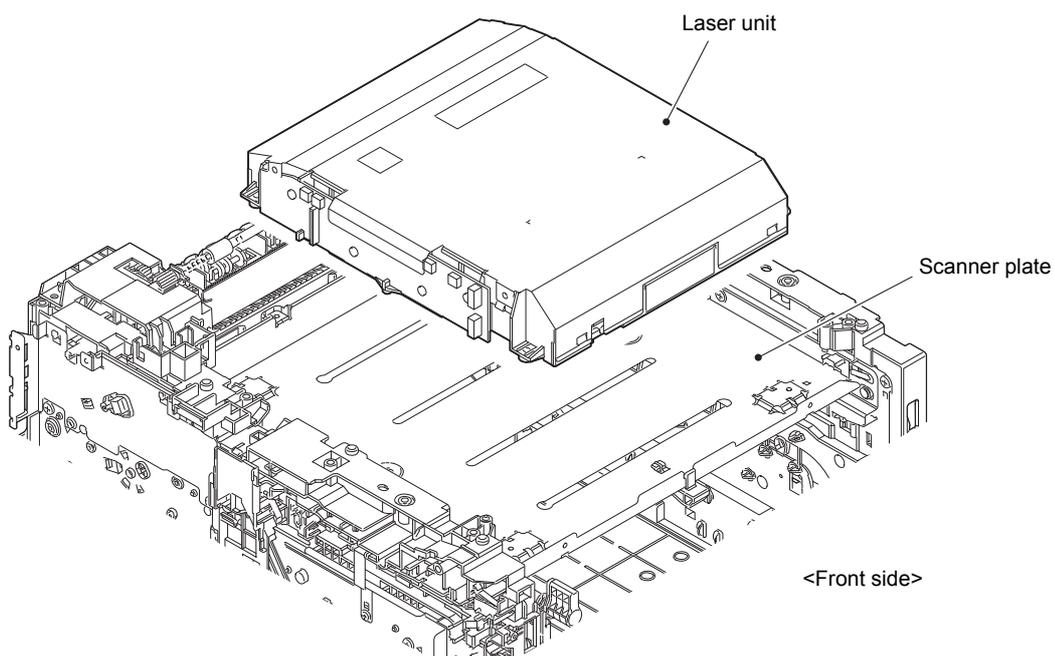


Fig. 3-127

9.31 Front cover sensor

- (1) Release the wiring of Front cover sensor harness.
- (2) Release each Hook and remove the Front cover sensor from the Frame L.

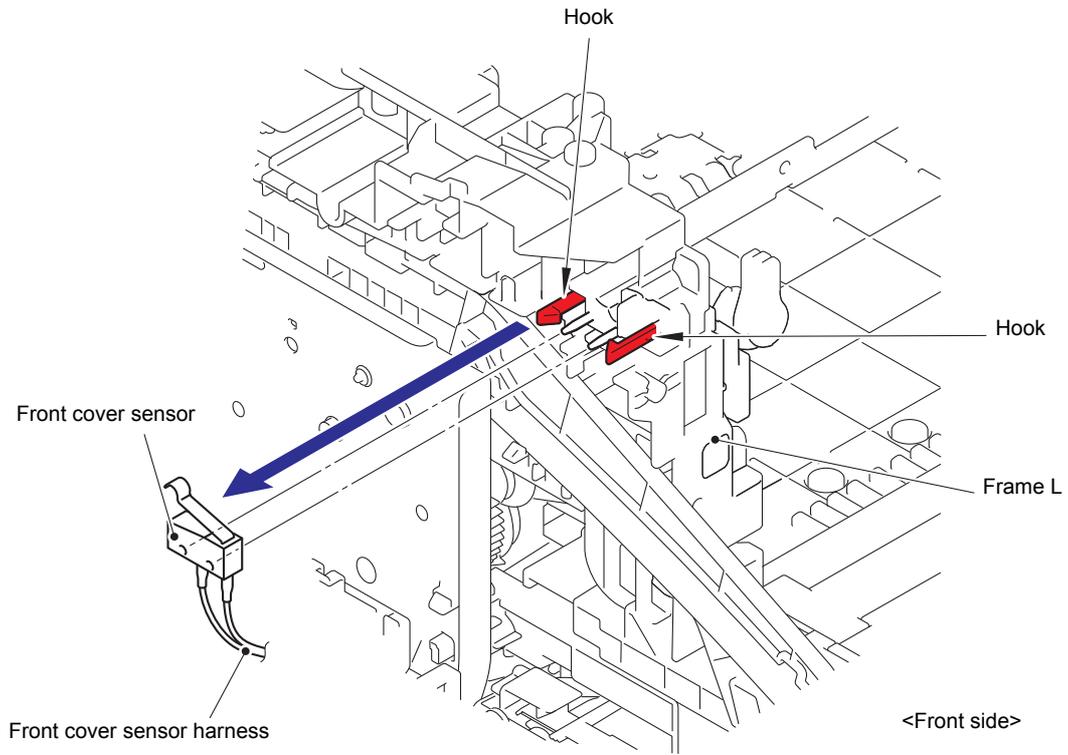


Fig. 3-128

Harness routing: Refer to "10. Main PCB ASSY".

9.32 Process drive unit / Fuser drive gear Z25

- (1) Release the wiring of Develop release clutch K harness.
- (2) Release each Hook and remove the Upper cable holder from the Frame L.

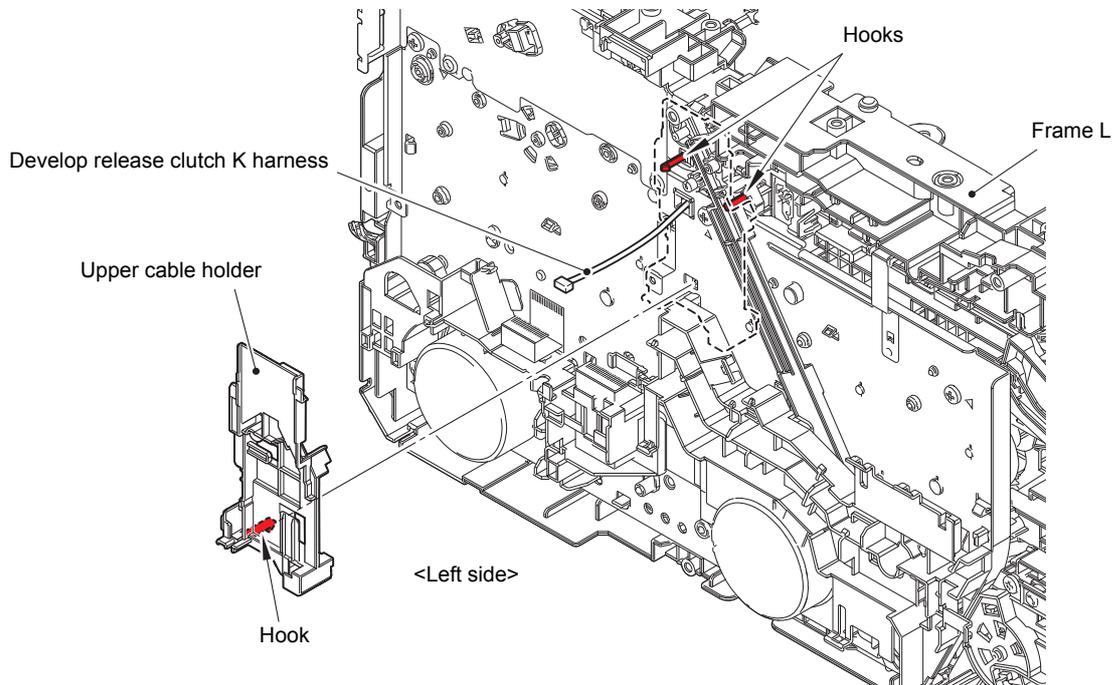


Fig. 3-129

Harness routing: Refer to "14. Develop release clutch, Develop release clutch K, Toner/new sensor PCB ASSY".

- (3) Remove the Taptite cup S M3x8 SR screw and remove the Side ground plate L from the Frame L.

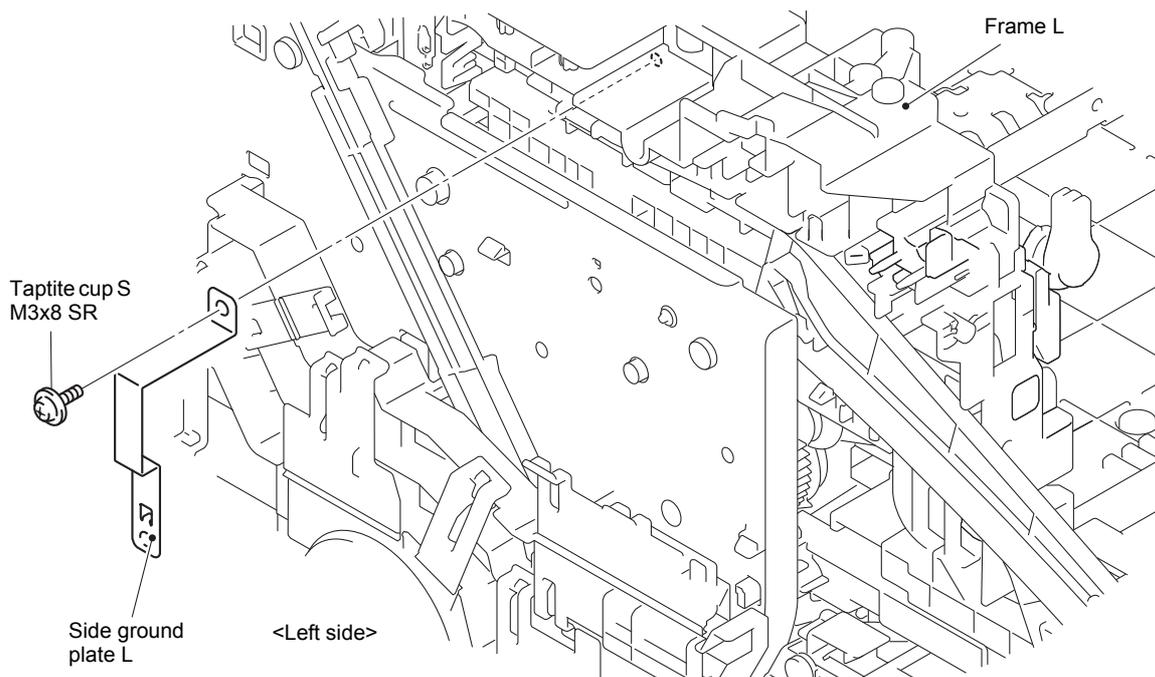


Fig. 3-130

- (4) Remove the two Screw cup M3x8 (black) screws and remove the Main PCB plate from the Frame L.

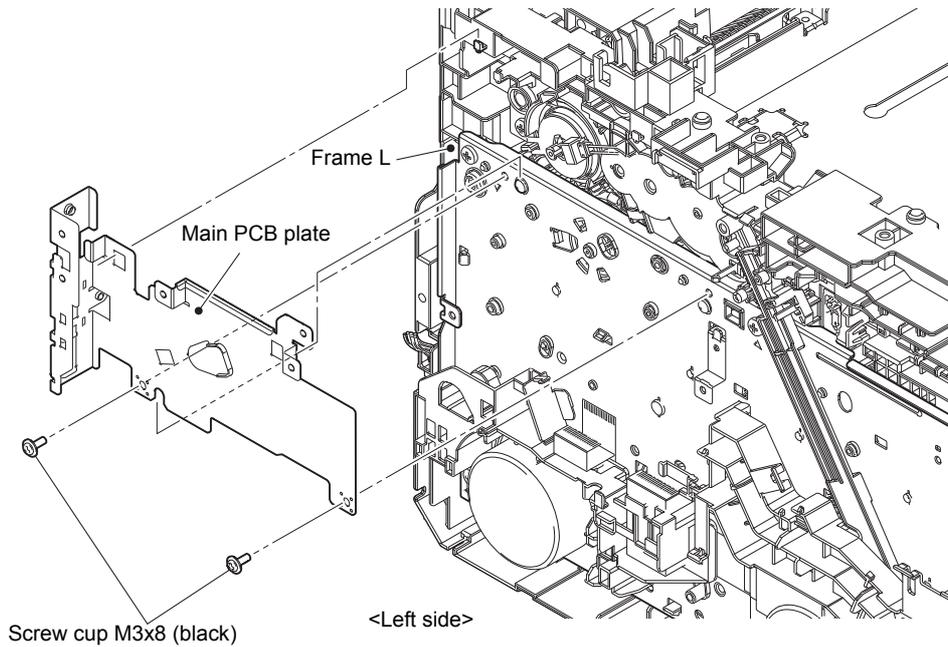


Fig. 3-131

- (5) Release all the Clamps and release all the harness wiring from the PF cable rack.
- (6) Remove the Taptite cup S M3x8 SR screw from the PF cable rack. Release the Boss and slide the PF cable rack in the direction of the arrow and remove it from the Process drive unit.

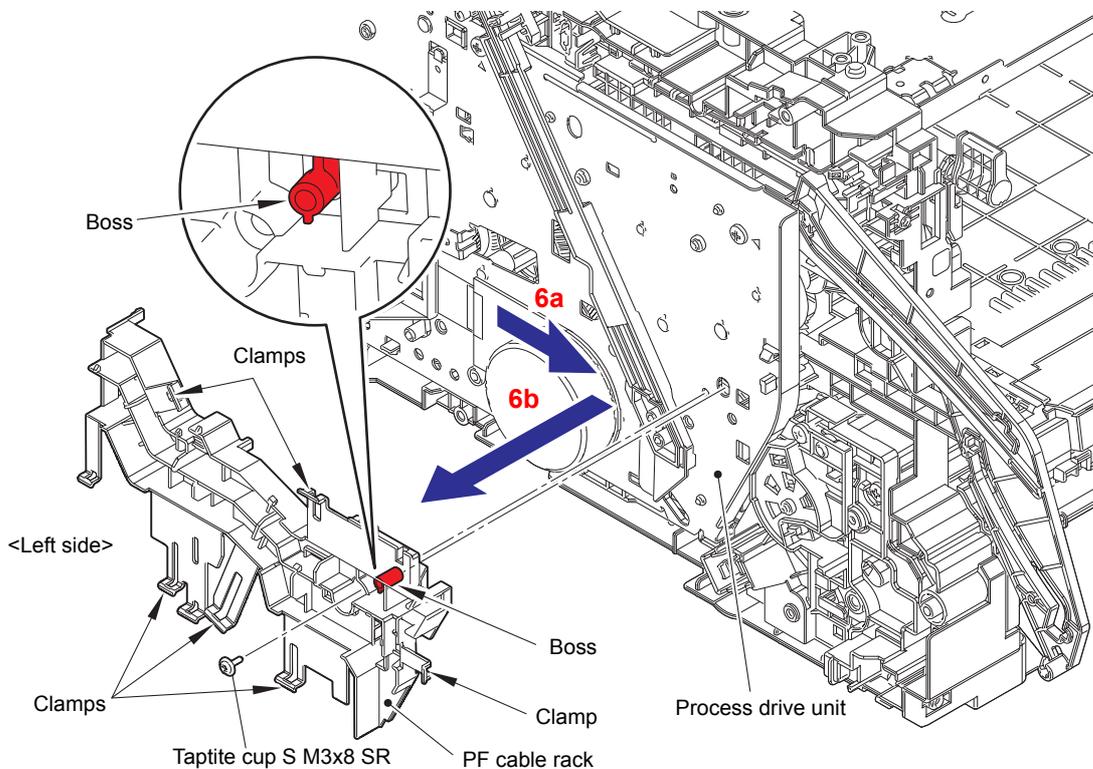


Fig. 3-132

Harness routing: Refer to "10. Main PCB ASSY".

(7) Remove the Mono color cam from the Frame L.

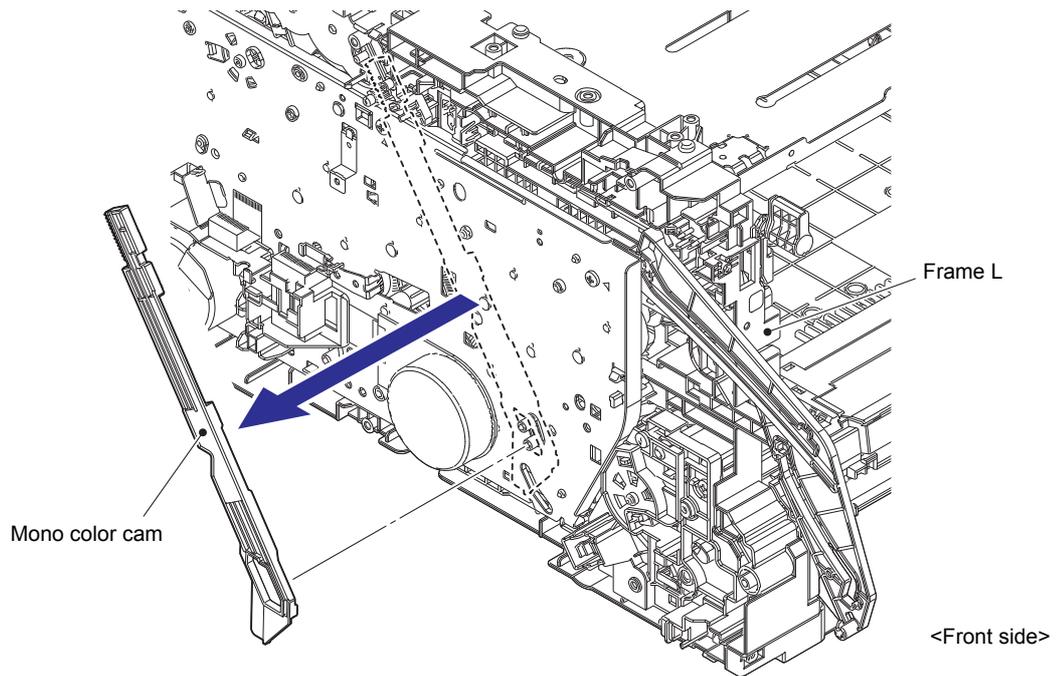


Fig. 3-133

Assembling Note:

When assembling the Mono color cam, be sure to check that the Forced develop release link is at "A" position. If you attach the Mono color cam as the Forced develop release link is at "B" position, the Mono color cam may be damaged.

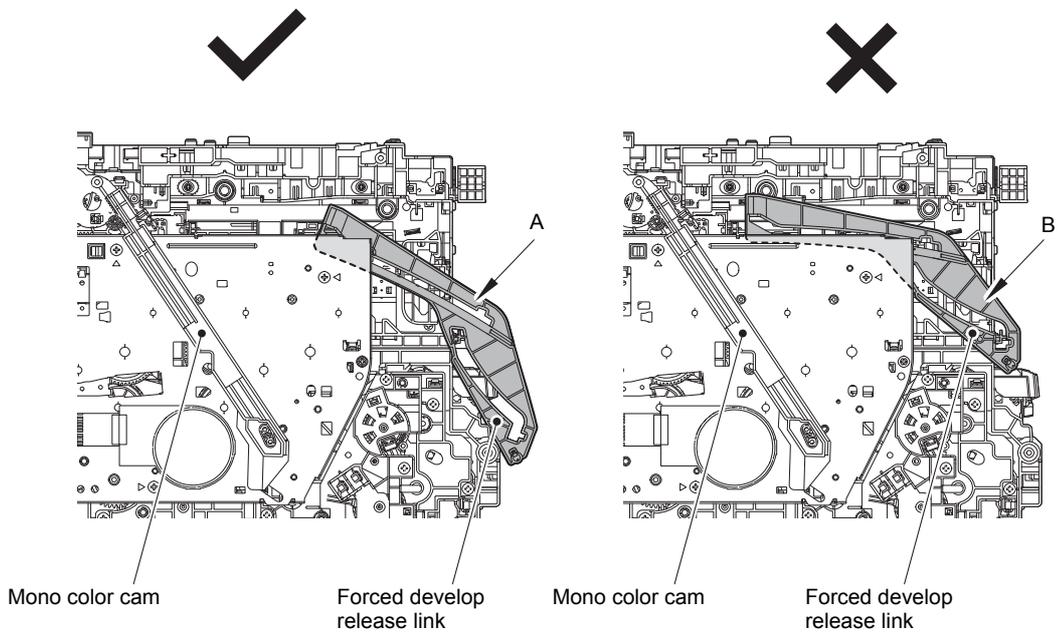


Fig. 3-134

- (8) Release the Clamp and release all the harness wiring from the Cable rack.
- (9) Release each Boss, slide the Cable rack in the direction of the arrow and remove it from the Process drive unit.

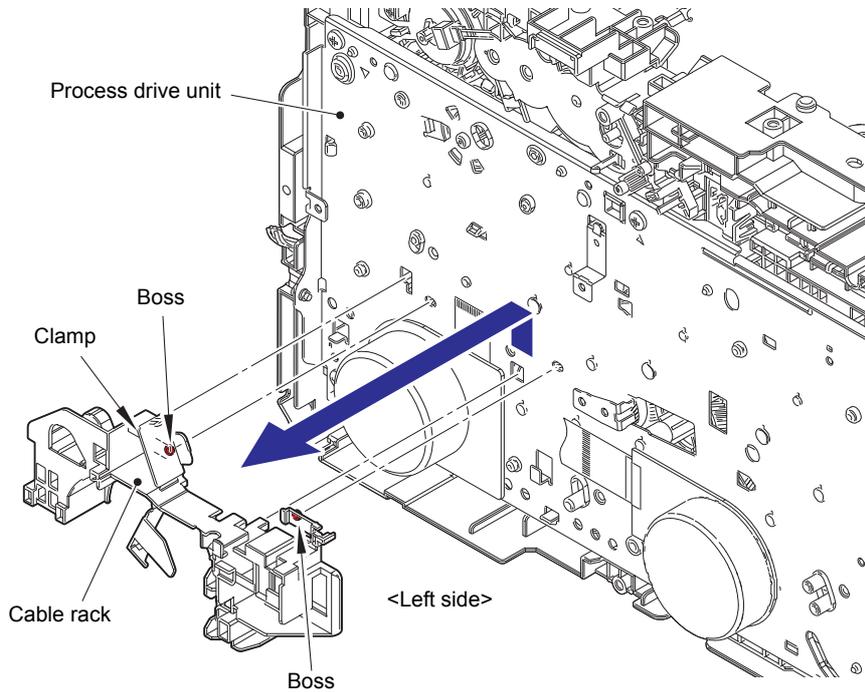


Fig. 3-135

Harness routing: Refer to "10. Main PCB ASSY".

- (10) Remove the Taptite cup S M3x8 SR screw and fasten the Under bar ground spring to the Rib of the Frame L.

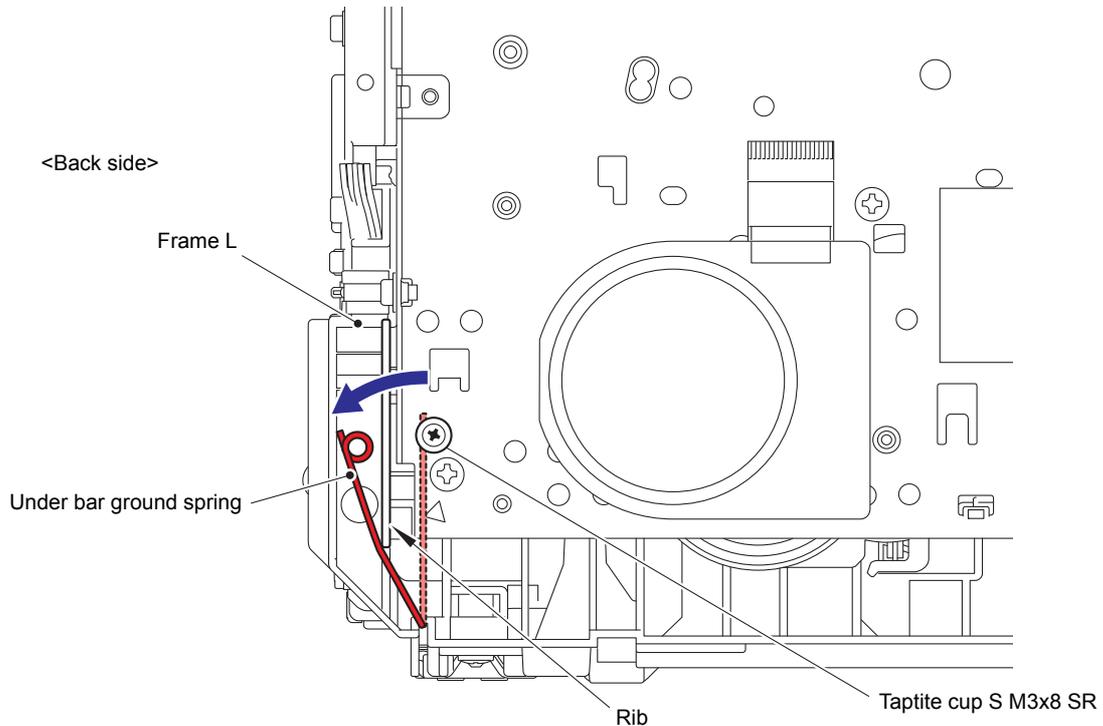


Fig. 3-136

- (11) Remove the five Taptite bind B M4x12 screws, one Taptite pan (washer) B M4x12 DA screw, and one Screw pan (S/P washer) M3.5x6 screw from the Process drive unit. Release each Hook and remove the Process drive unit from the Frame L.

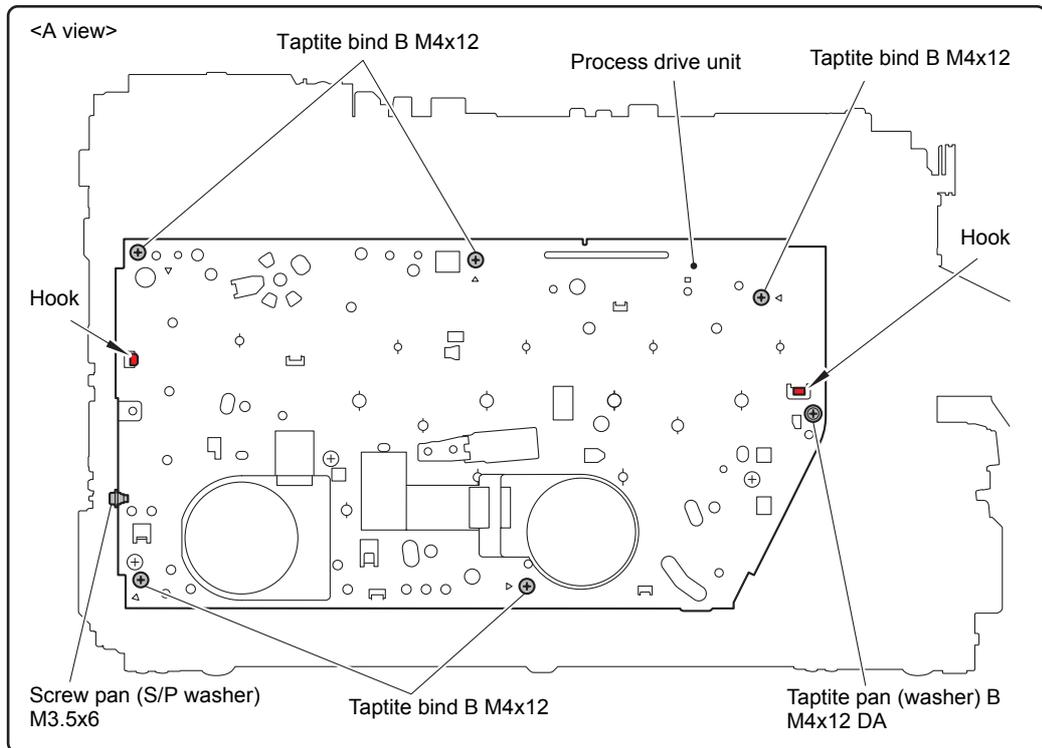
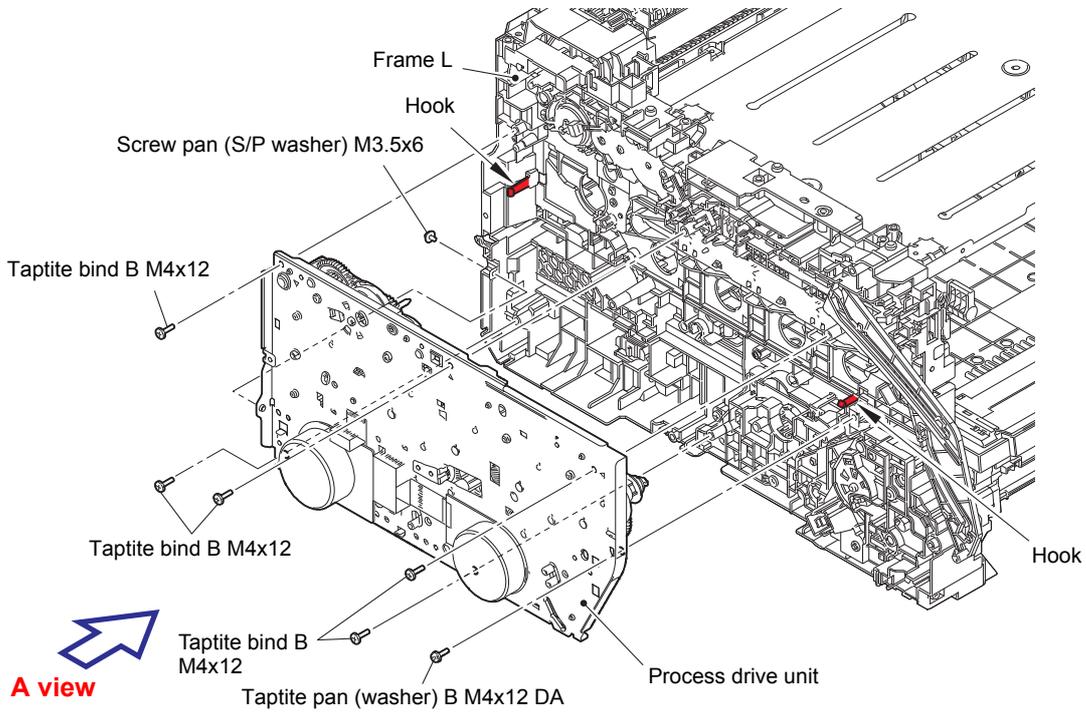


Fig. 3-137

(12) Release the Hook and remove the Fuser gear Z25 from the Process drive unit.

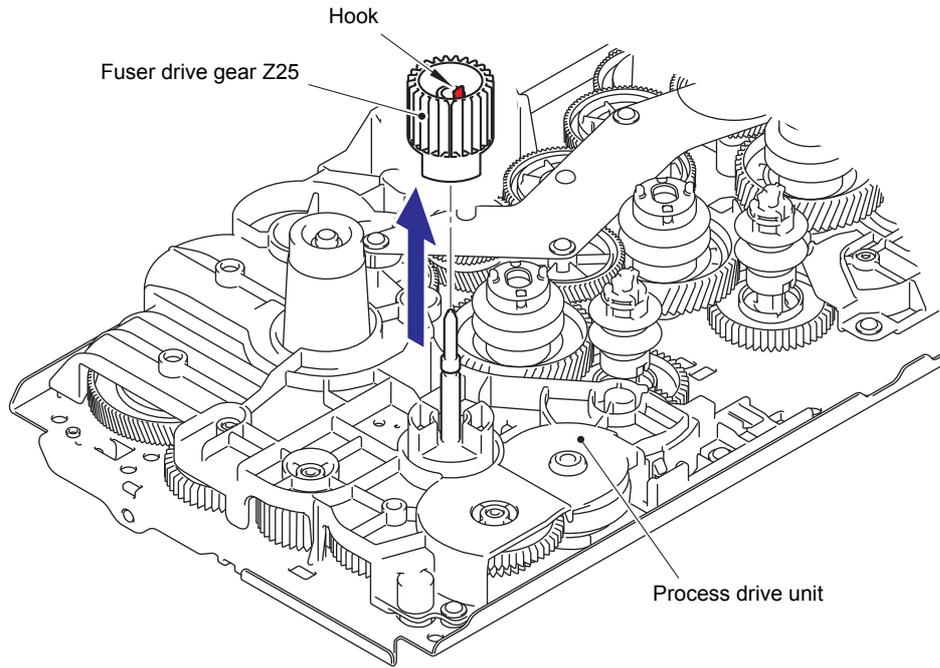


Fig. 3-138

9.33 Internal temperature sensor

- (1) Release the wiring of Internal temperature sensor harness and remove the Internal temperature sensor from the Frame L.

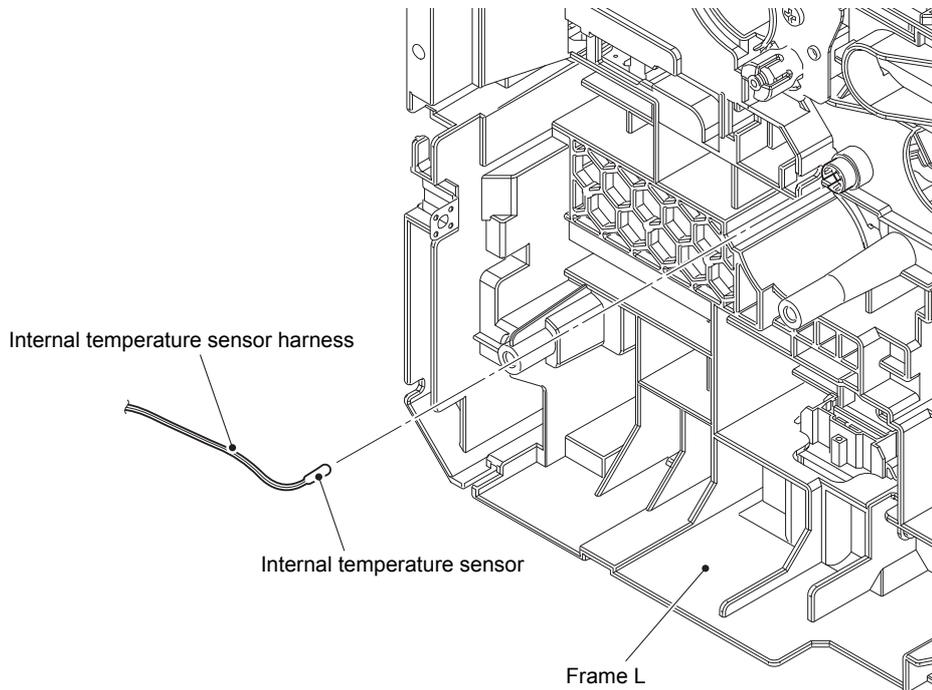


Fig. 3-139

Harness routing: Refer to "14. Develop release clutch, Develop release clutch K, Toner/new sensor PCB ASSY".

9.34 Paper feed drive unit

- (1) Release all the harness wiring from the Paper feed drive unit.
- (2) Remove the four Taptite bind B M4x12 screws from the Paper feed drive unit. Release the Hook and remove the Paper feed drive unit from the Frame L.

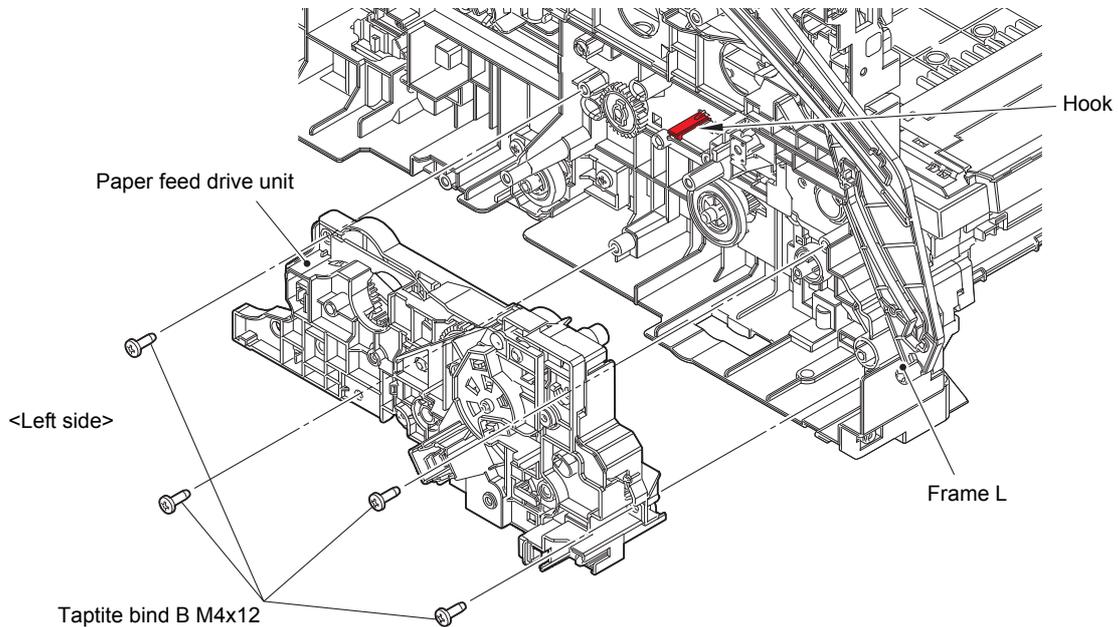


Fig. 3-140

Note:

As the DX drive gear Z15-23, Cleaner drive gear Z30, REGI gear Z32-23, PF drive gear 21, PF drive joint, Pinch roller drive gear Z21M05, Registration roller drive joint, and PP gear 14 55 tend to come off, be careful not to lose them.

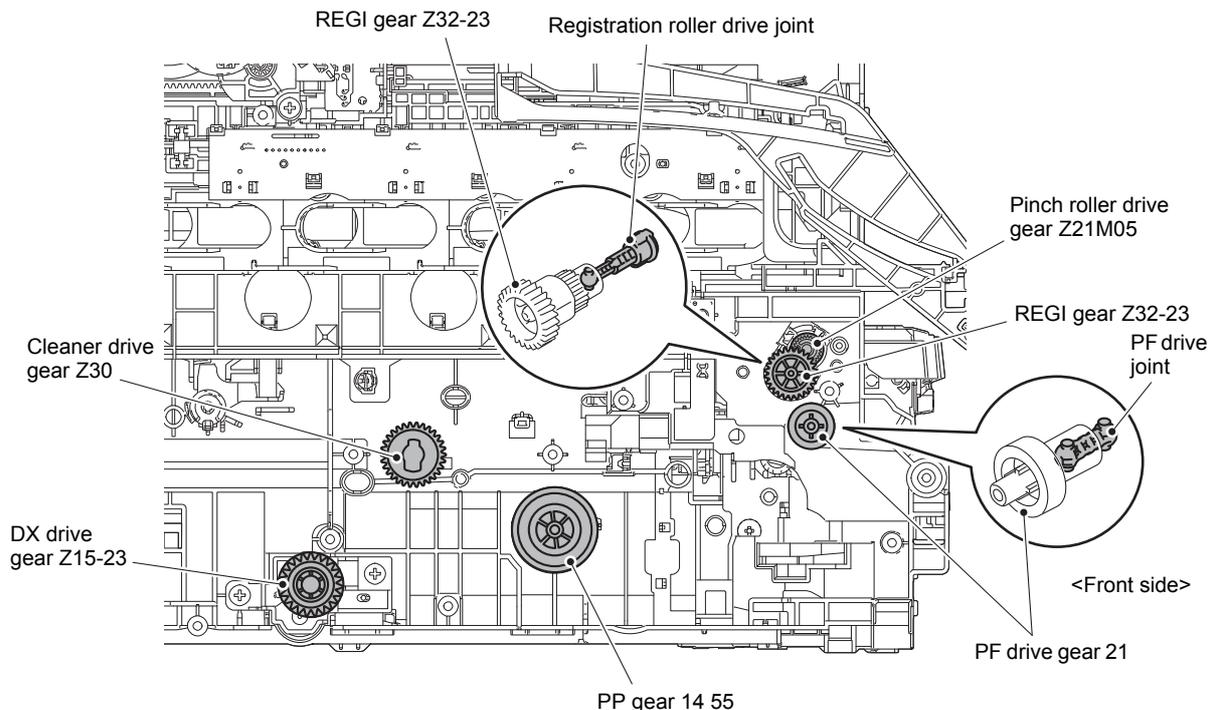


Fig. 3-141

Harness routing: Refer to "10. Main PCB ASSY".

9.35 Develop release drive unit

- (1) Release the wiring of Develop release clutch harness.
- (2) Remove the three Taptite bind B M4x12 screws from the Develop release drive unit. Release each Hook and remove the Develop release drive unit from the Frame L.

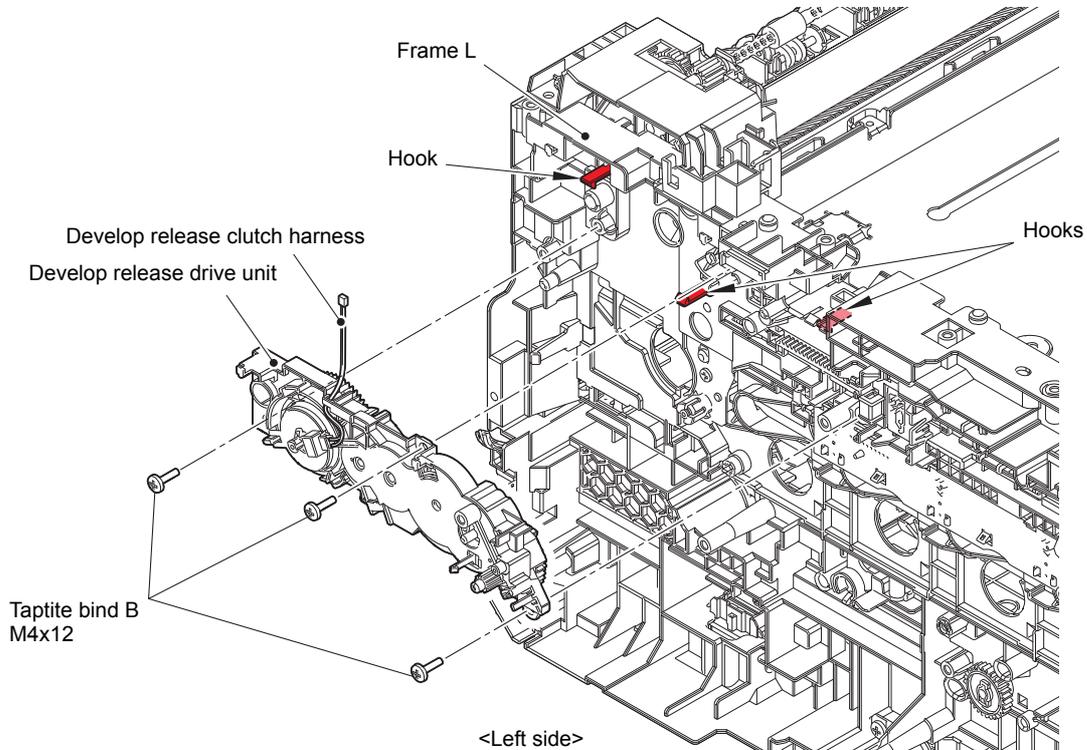


Fig. 3-142

Harness routing: Refer to "14. Develop release clutch, Develop release clutch K, Toner/new sensor PCB ASSY".

9.36 Develop release sensor PCB

- (1) Release the wiring of Develop release sensor PCB harness. Release the Hook and remove the Develop release sensor PCB from the Frame L.

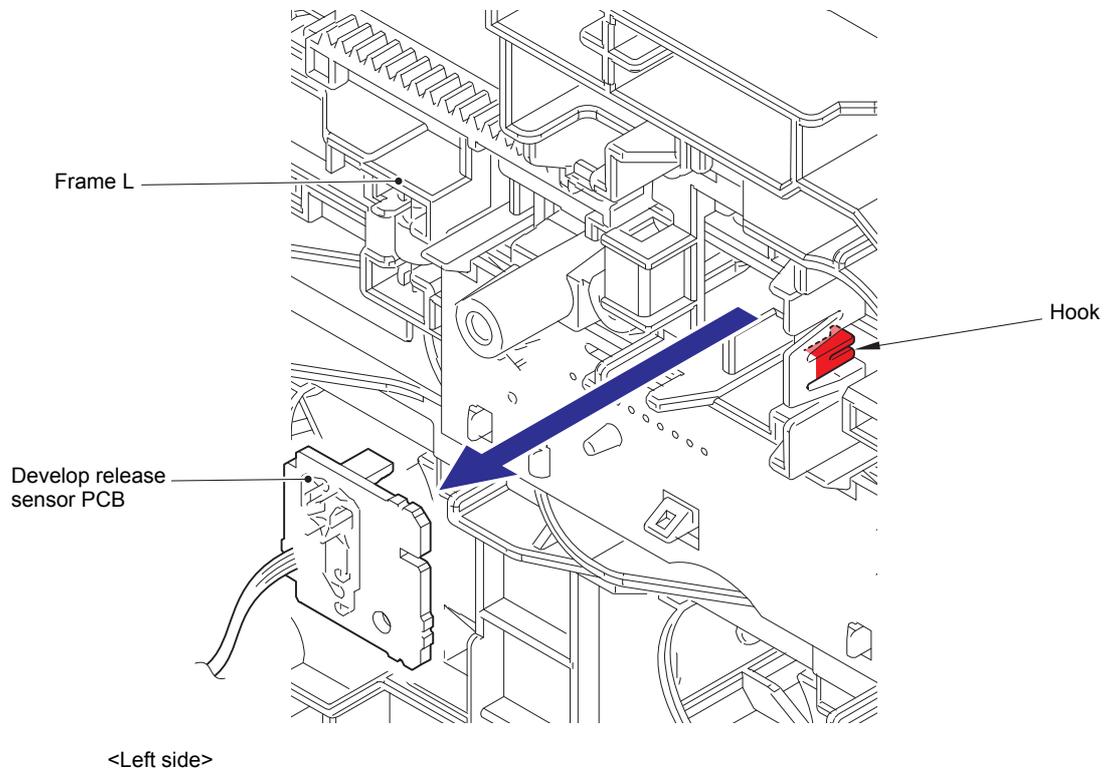


Fig. 3-143

Harness routing: Refer to "14. Develop release clutch, Develop release clutch K, Toner/new sensor PCB ASSY".

9.37 Toner/new sensor PCB ASSY

- (1) Release each Hook and remove the Forced develop release link from the Frame L.

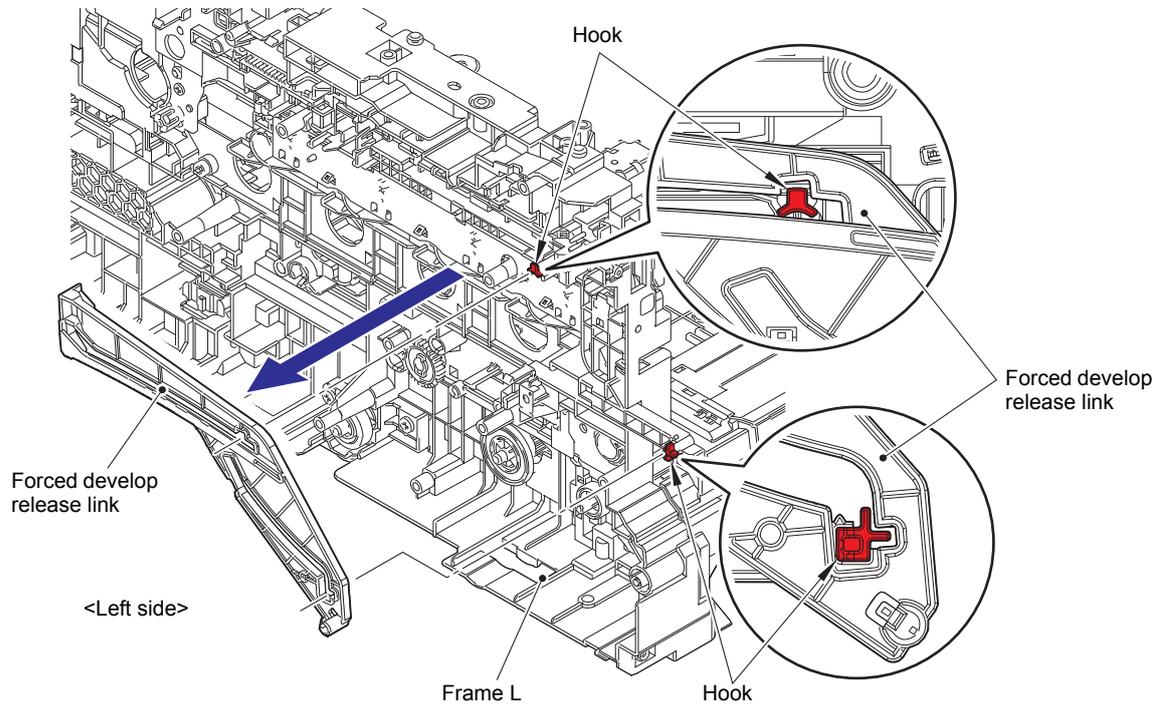


Fig. 3-144

- (2) Release the wiring of Toner/new sensor PCB harness. Release each Hook and remove the Toner/new sensor PCB ASSY from the Frame L.

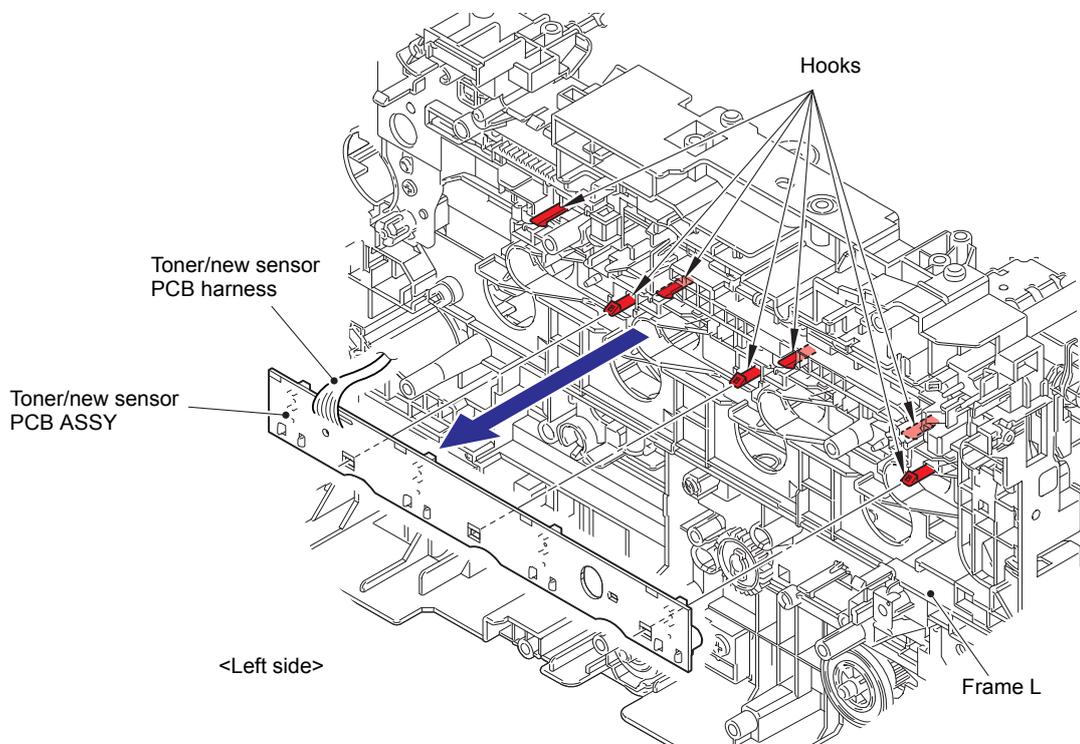


Fig. 3-145

Harness routing: Refer to "14. Develop release clutch, Develop release clutch K, Toner/new sensor PCB ASSY".

9.38 Paper eject ASSY

- (1) Release the wiring of Back cover sensor harness from the Paper eject ASSY.
- (2) Remove the four Taptite bind B M4x12 screws and High-voltage power supply PCB harness, and remove the Paper eject ASSY.

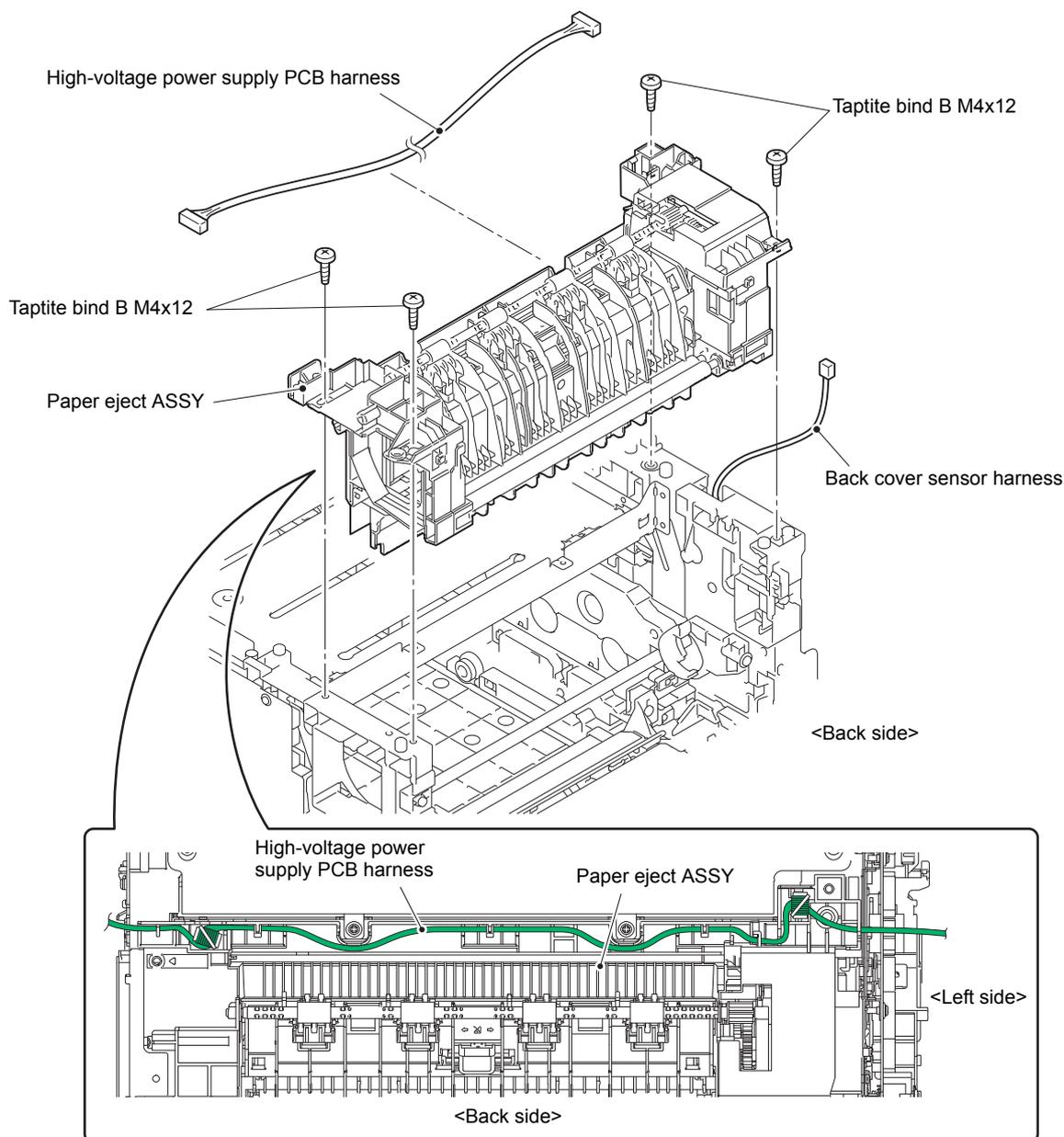


Fig. 3-146

Harness routing: Refer to "15. Paper eject ASSY", "16. Back cover sensor".

9.39 Toner filter ASSY

(1) Release each Hook and remove the Toner filter ASSY from the Paper eject ASSY.

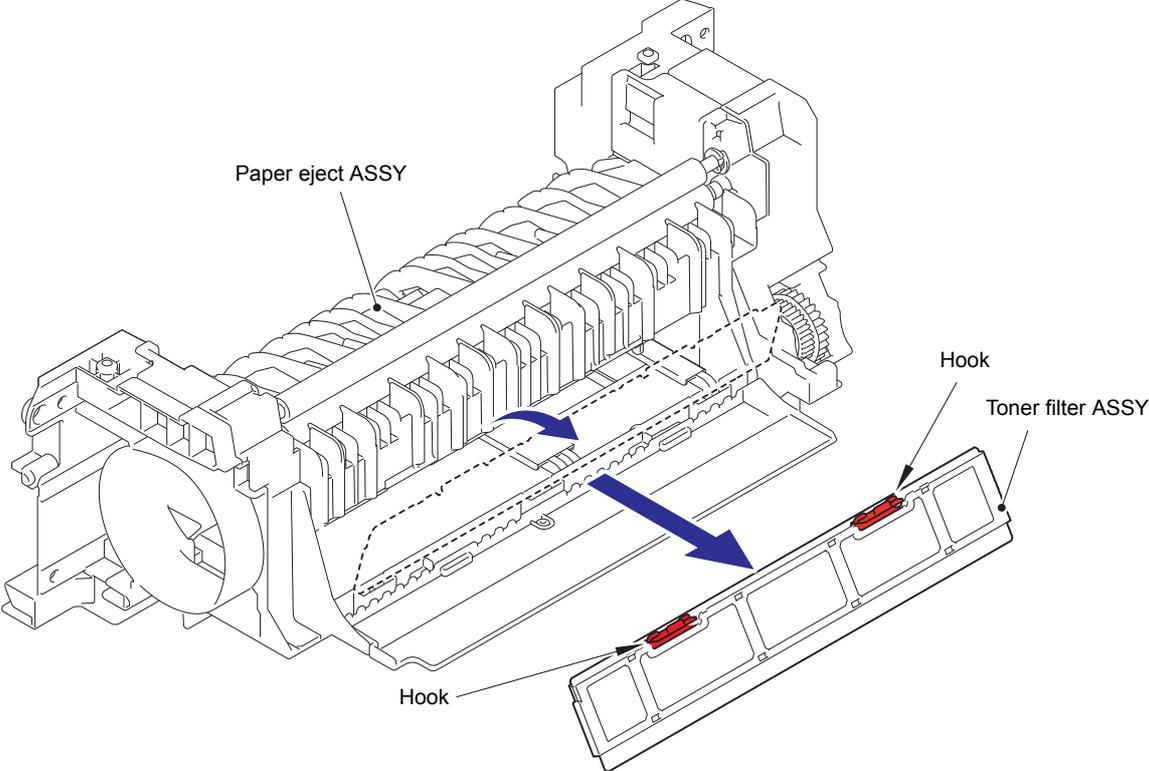


Fig. 3-147

9.40 Paper eject origin sensor

- (1) Release the wiring of Paper eject origin sensor harness.
- (2) Release each Hook and remove the Paper eject origin sensor from the Paper eject ASSY.

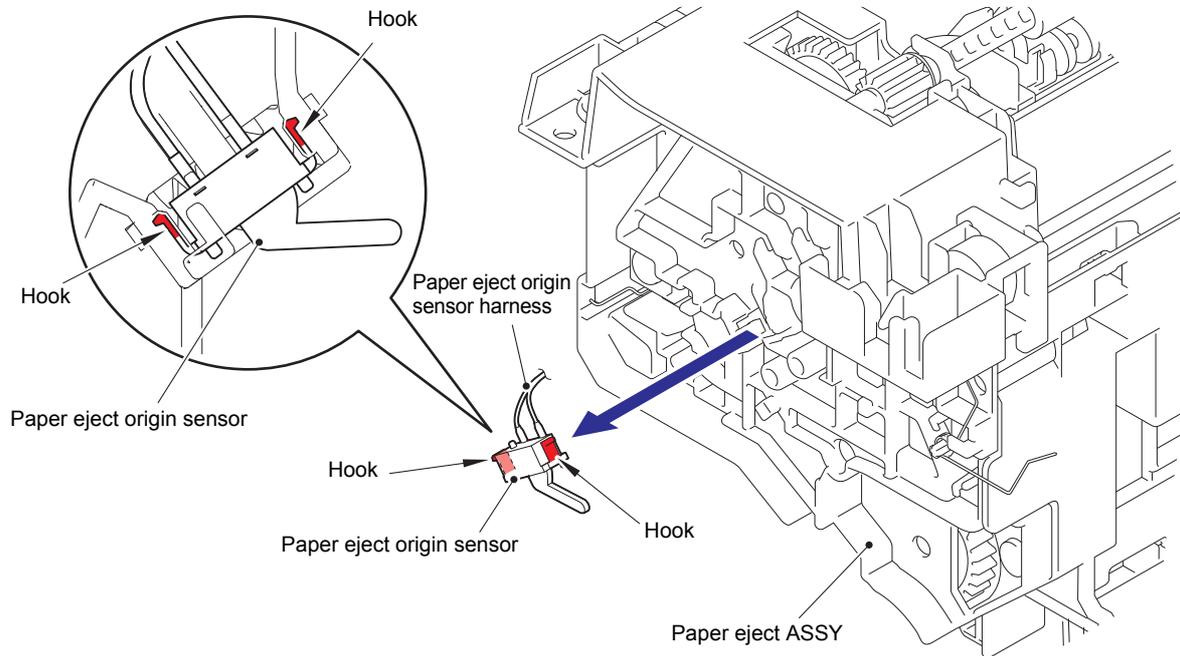


Fig. 3-148

Harness routing: Refer to "15. Paper eject ASSY".

9.41 Back cover sensor ASSY

- (1) Release the wiring of Back cover sensor harness.
- (2) Release each Hook and remove the Back cover sensor ASSY from the Frame L.

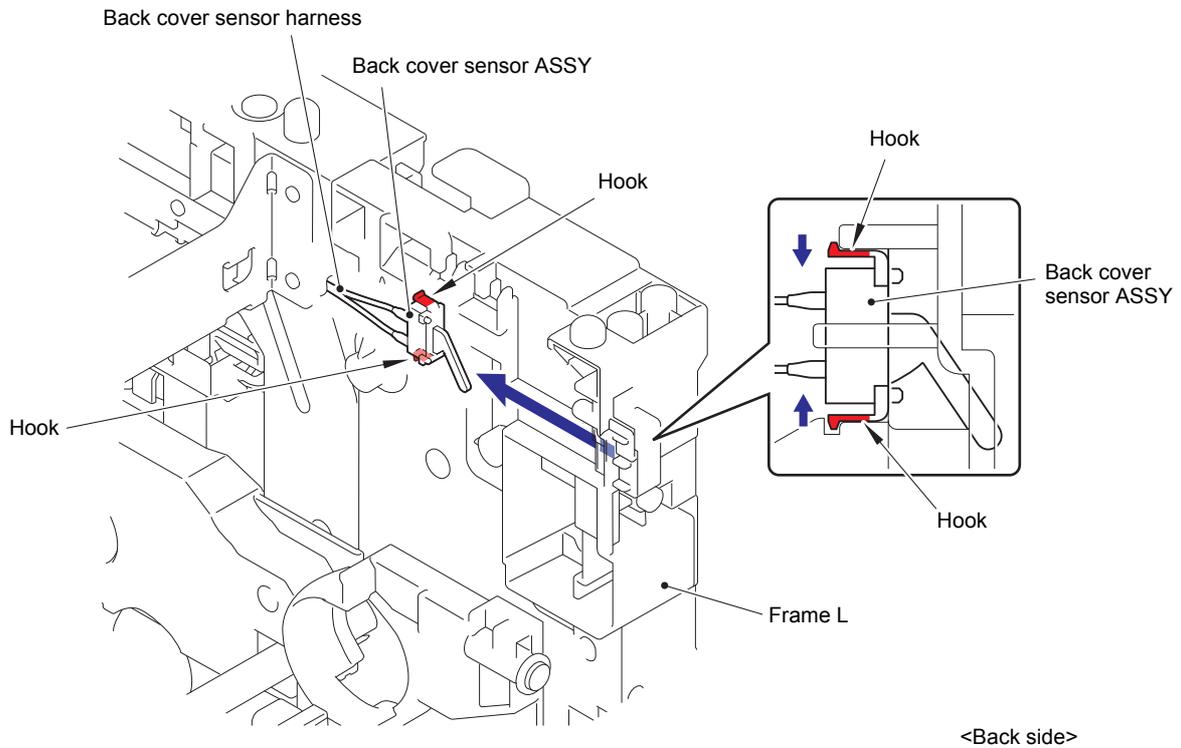


Fig. 3-149

Harness routing: Refer to "15. Paper eject ASSY".

9.42 Eject sensor PCB ASSY

- (1) Release the wiring of Eject sensor PCB harness.
- (2) Release the Hook and remove the Eject sensor PCB ASSY from the Frame L.

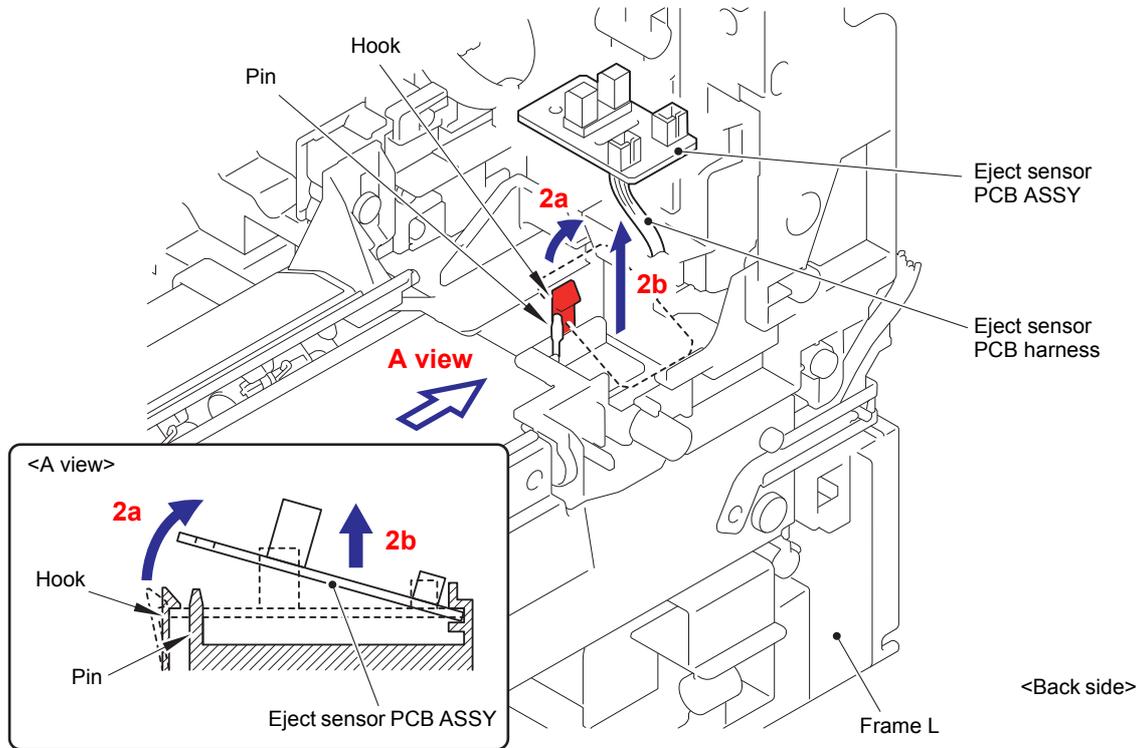


Fig. 3-150

Harness routing: Refer to "1. Fuser unit, Eject sensor PCB ASSY".

9.43 Registration mark sensor unit

- (1) Release the wiring of Registration mark sensor harness.
- (2) Remove the two Taptite bind B M3x10 screws from the Registration mark sensor unit. Release each Boss and remove the Registration mark sensor unit.

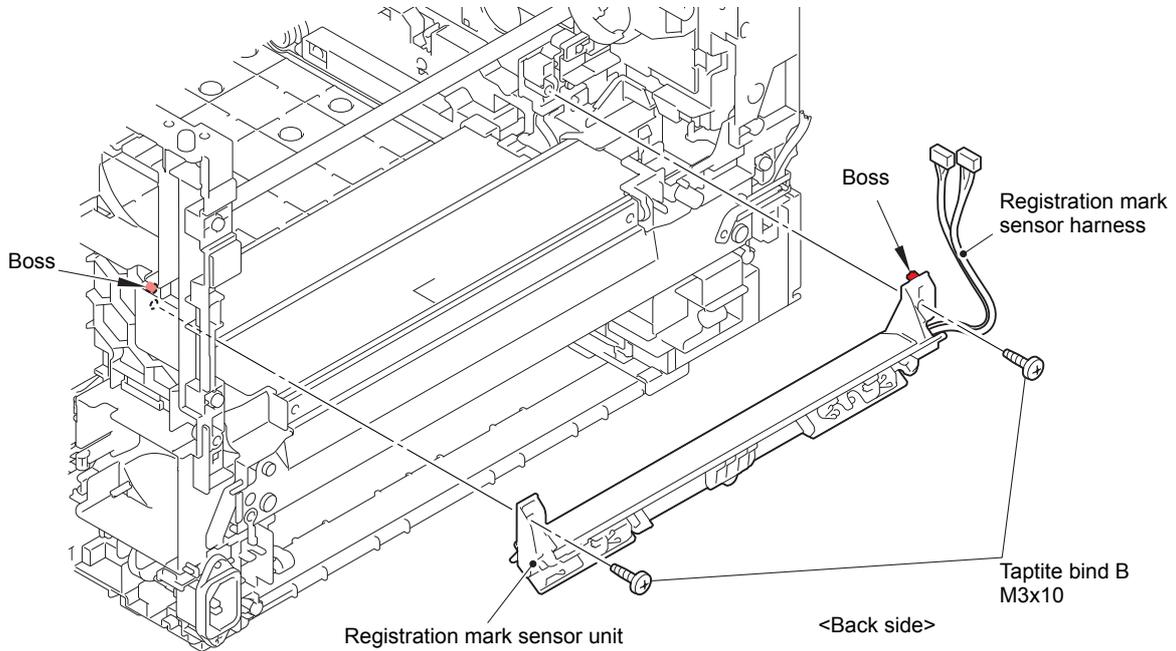


Fig. 3-151

Harness routing: Refer to "17. Registration mark sensor unit".

Assembling Note:

- When attaching the Registration mark sensor unit, make sure that the Registration ground spring is placed as shown in the figure.
- After assembling the Registration mark sensor unit, make sure that the Front chute flapper moves.

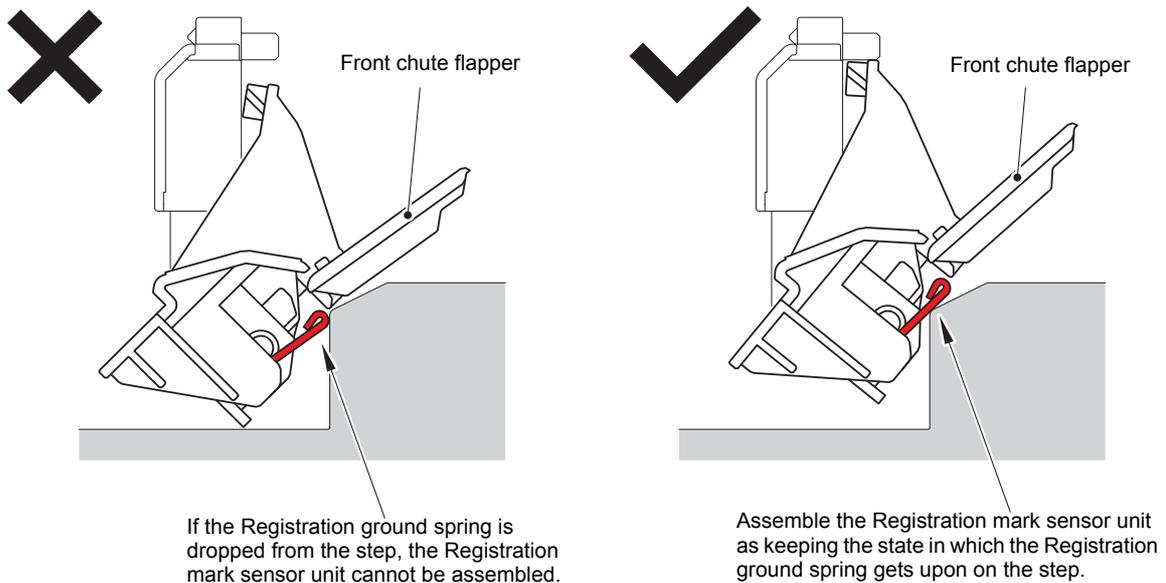


Fig. 3-152

9.44 Low-voltage power supply PCB ASSY

- (1) Remove the Screw pan (S/P washer) M3.5x6 screw and remove the Ground wire from the Low-voltage power supply PCB ASSY.
- (2) Remove the Taptite flat B M3x10 screw. Pull the Inlet backwards in the direction of arrow A to pull out from the Boss of Frame R and remove it towards the direction of arrow B. Pull out the Ground wire from the Hole of Frame R.
- (3) Release the wiring of Inlet harness ASSY.
- (4) Release the wiring of LVPS-heater harness ASSY.

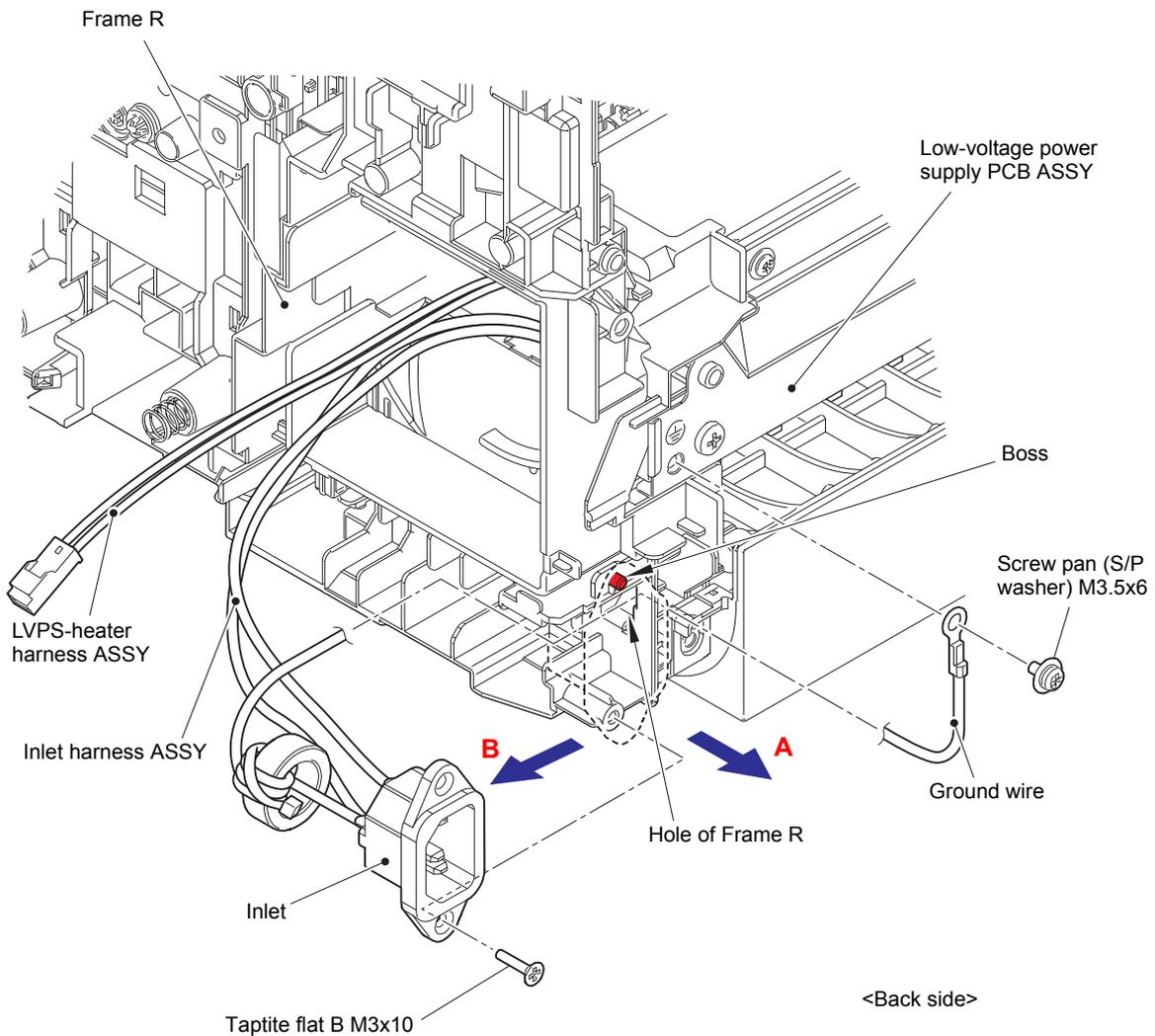


Fig. 3-153

Harness routing: Refer to "18. Low-voltage power supply PCB ASSY".

- (5) Remove the Screw pan (S/P washer) M3.5x6 screw from the Drive ground plate.
- (6) Release the Boss and remove the Drive ground plate from the Low-voltage power supply PCB ASSY.

Assembling Note:

If you forget to screw the Drive ground plate or Drive ground plate, it may create the risk of an electrical shock.

- (7) Release the wiring of Low-voltage power supply PCB harness.

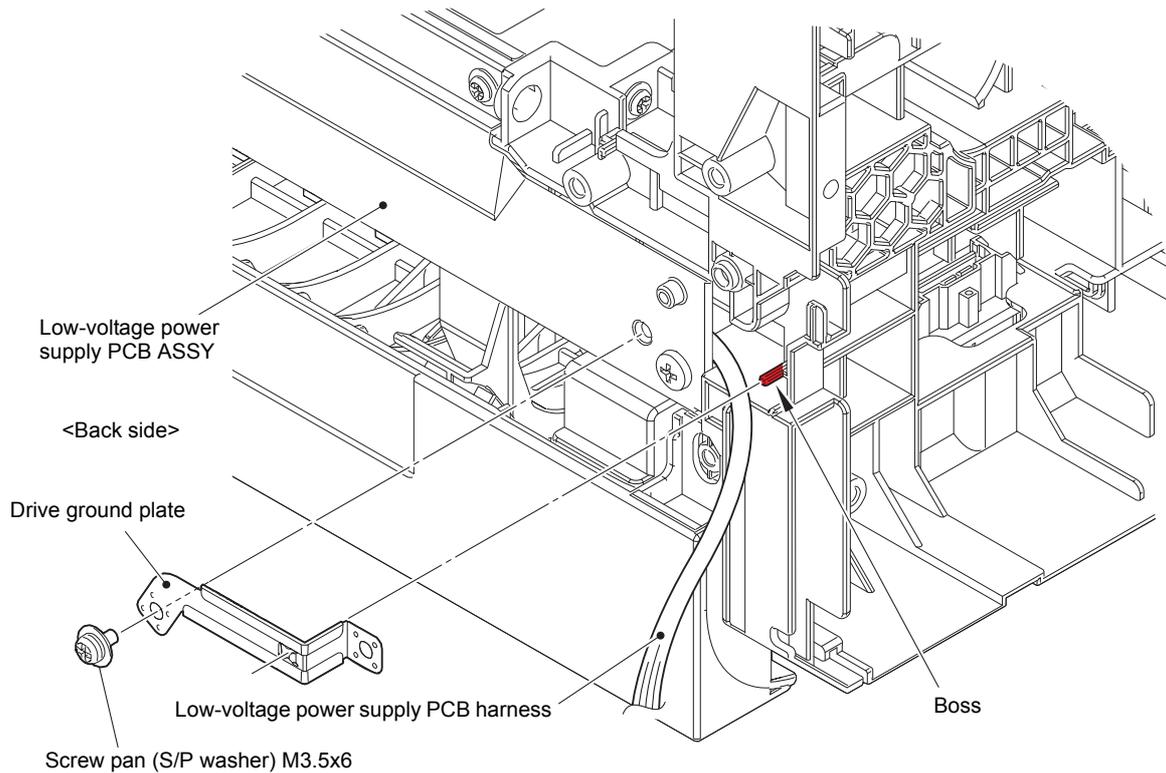


Fig. 3-154

Harness routing: Refer to "18. Low-voltage power supply PCB ASSY".

- (8) Remove the two Taptite cup S M3x8 SR screws and two Taptite bind B M4x12 screws, and remove the Low-voltage power supply PCB ASSY. Pull out each harness from the hole of Frame R.

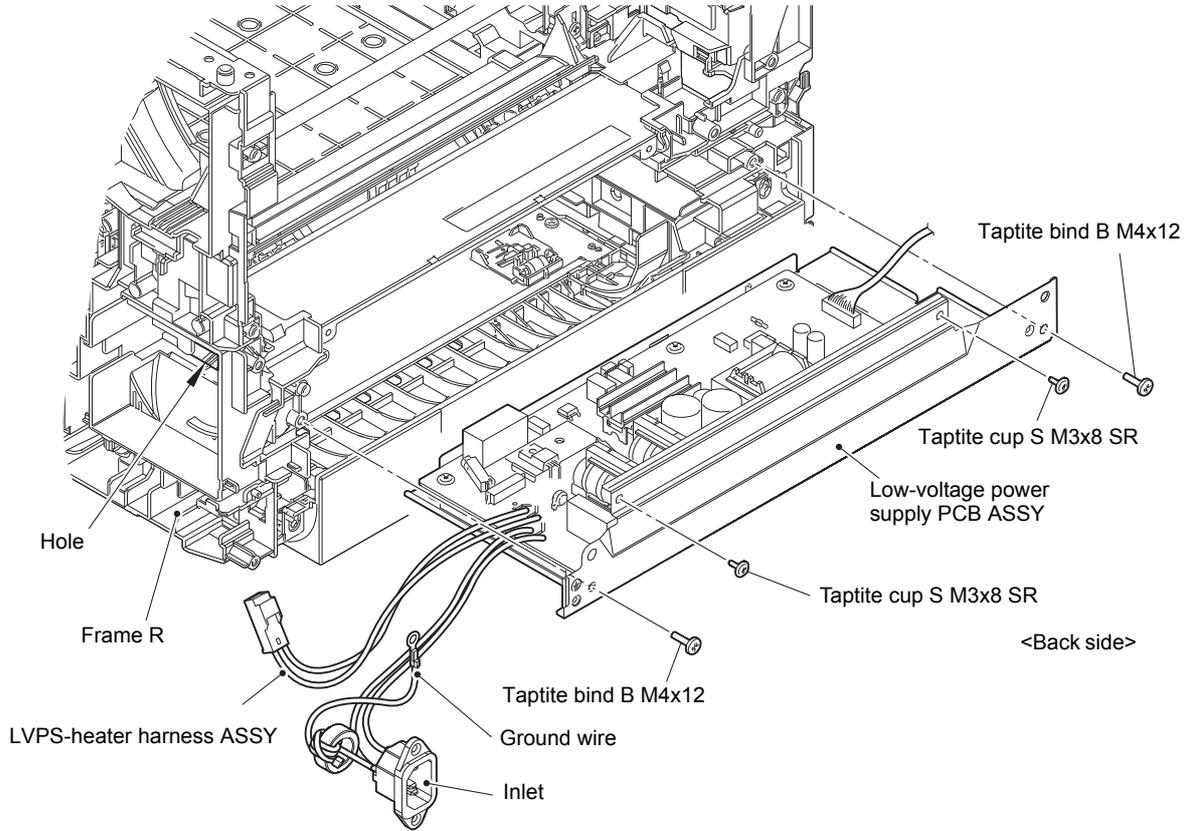


Fig. 3-155

- (9) Disconnect the Low-voltage power supply PCB harness from the Low-voltage power supply PCB ASSY.

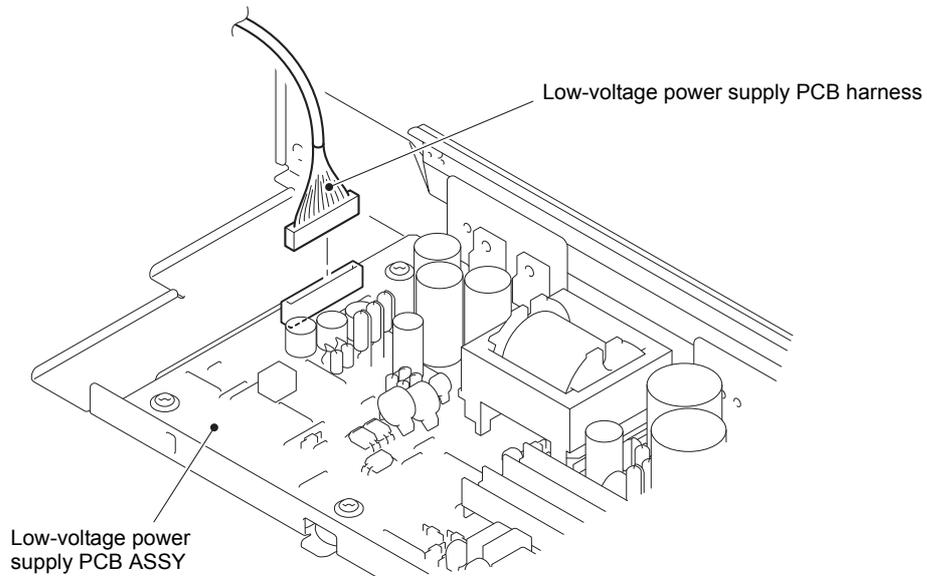


Fig. 3-156

Harness routing: Refer to "18. Low-voltage power supply PCB ASSY".

(10) Remove the five Taptite cup S M3x6 SR screws and remove the Low-voltage power supply PCB ASSY from the LVPS plate.

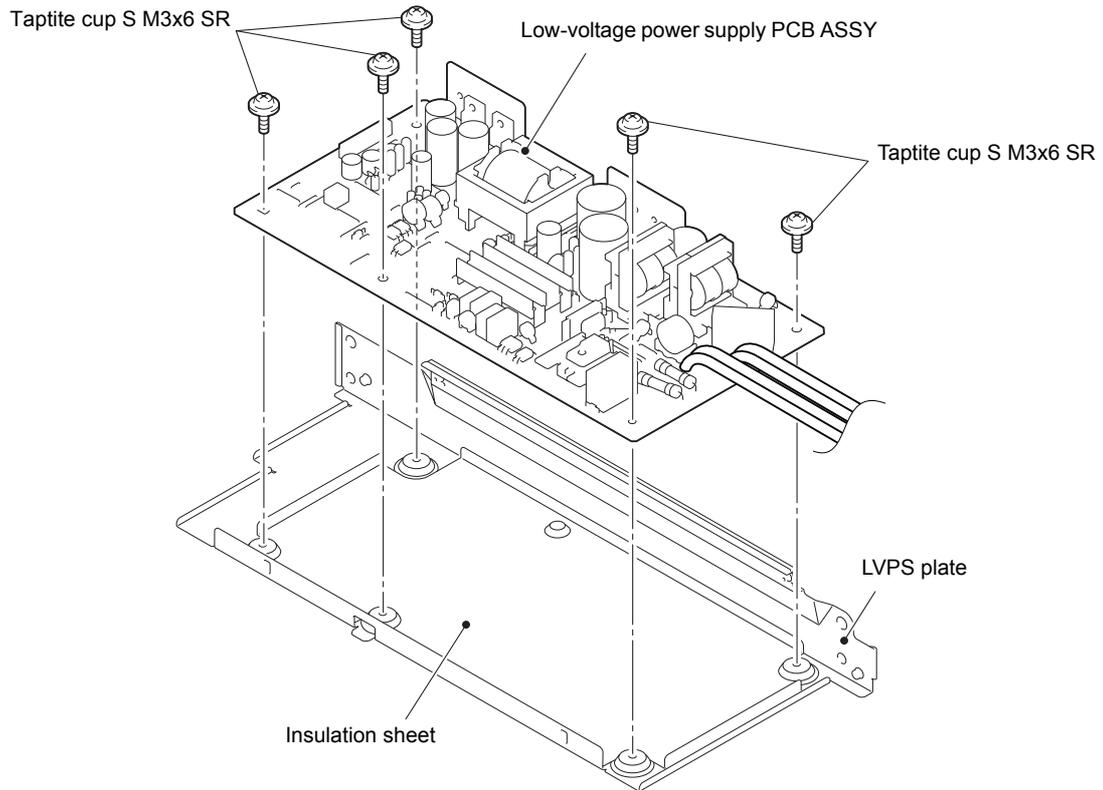


Fig. 3-157

Assembling Note:

Do not forget the Insulation sheet under the Low-voltage power supply PCB. Otherwise it may catch fire.

9.45 MP paper empty/registration front sensor PCB ASSY

- (1) Press "A" to release the Hook and remove the MP upper frame cover from the MP upper cover ASSY.

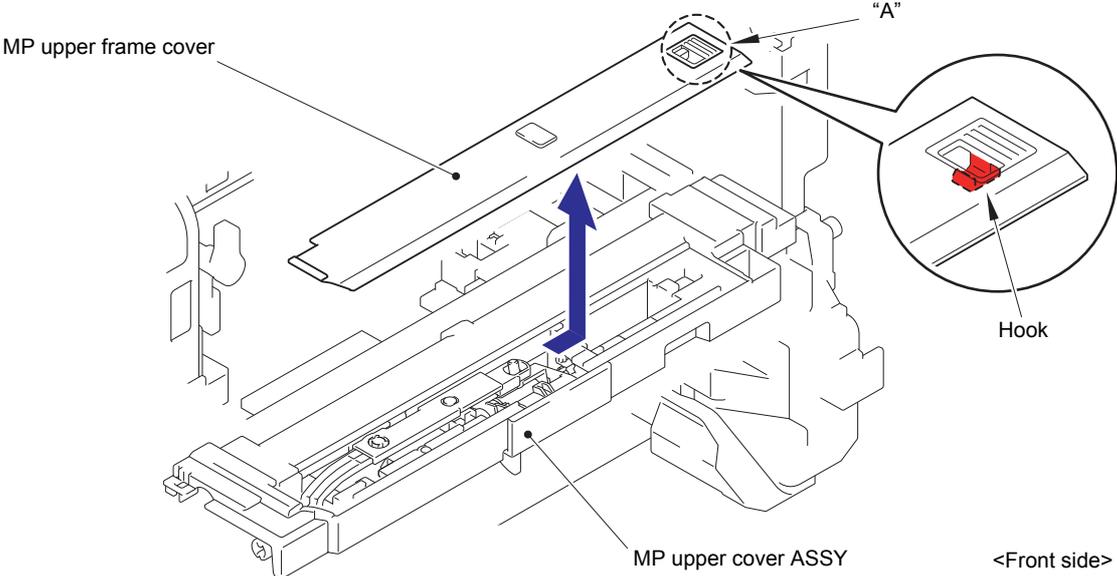


Fig. 3-158

- (2) Remove the MP lift arm B from the MP upper cover ASSY.

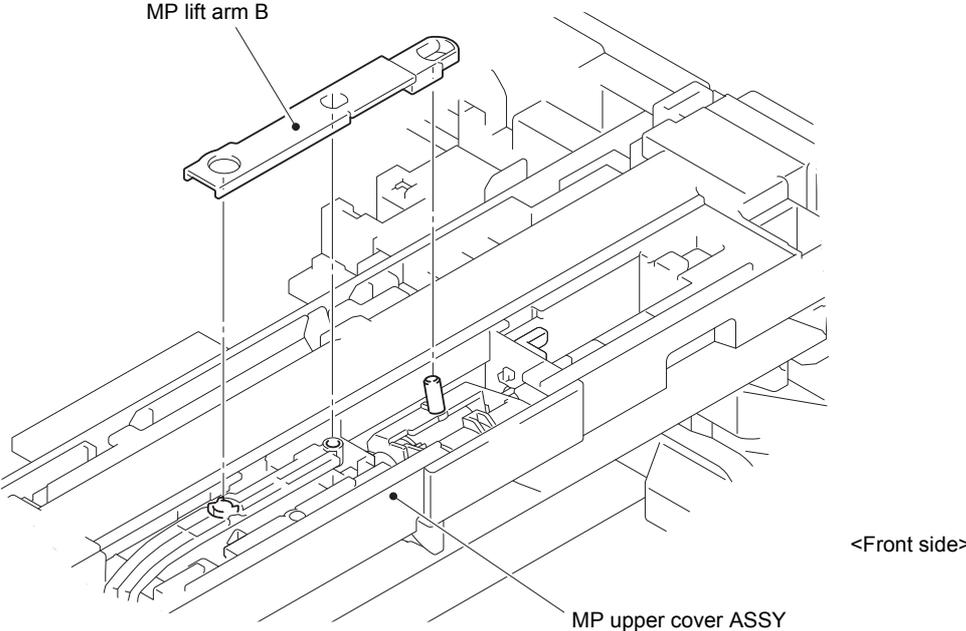


Fig. 3-159

- (3) Release the Hook 1 and rotate the MP holder bushing in the direction of the arrow.
- (4) Release the Hook 2 and remove the MP holder bushing from the MP upper cover ASSY.

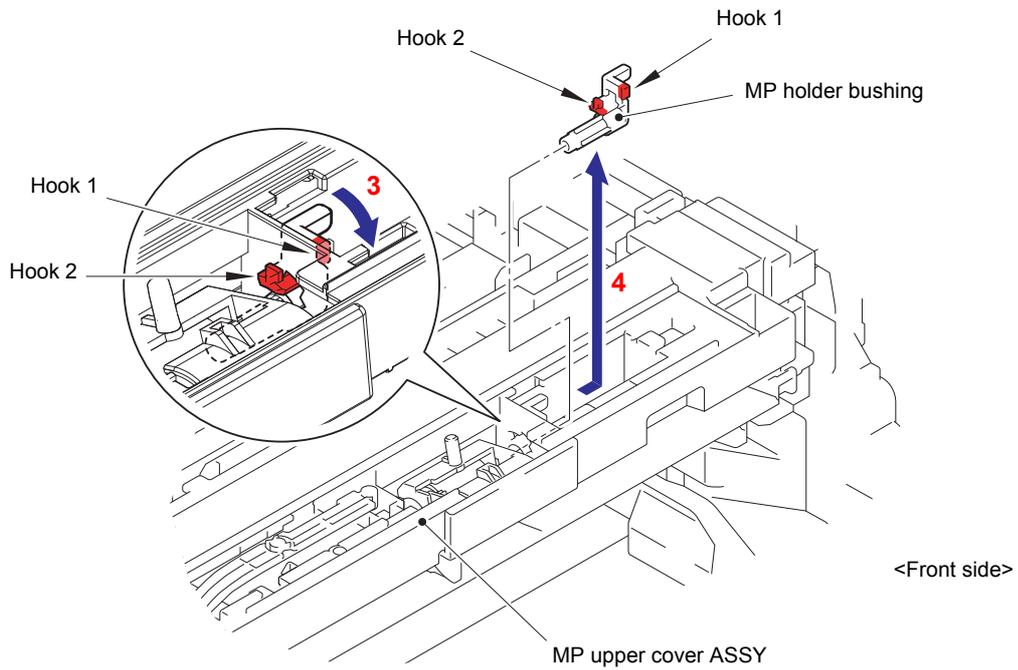


Fig. 3-160

- (5) Remove the MP roller holder ASSY from the MP upper cover ASSY.

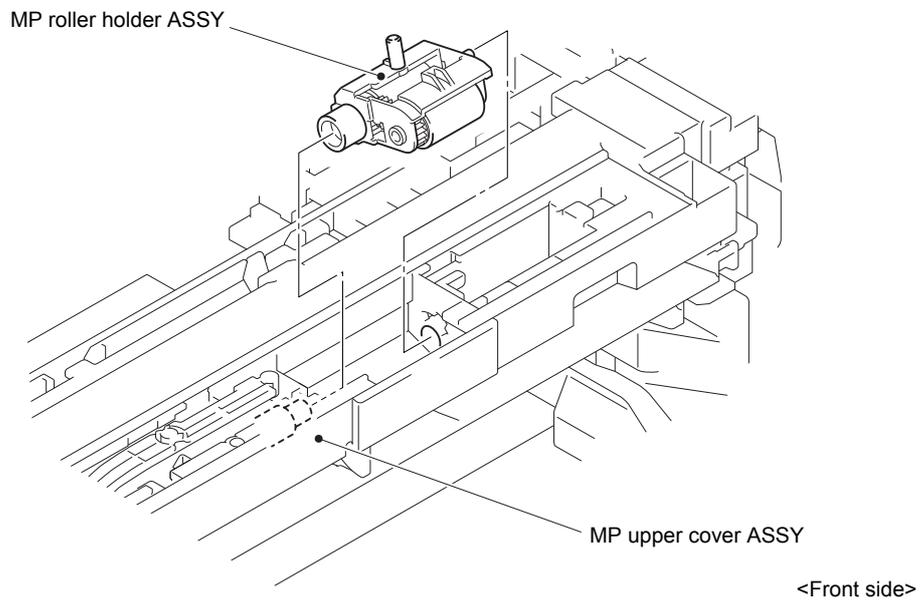


Fig. 3-161

- (6) Remove the REGI gear Z32-23 from the Registration/pinch roller gear bushing.

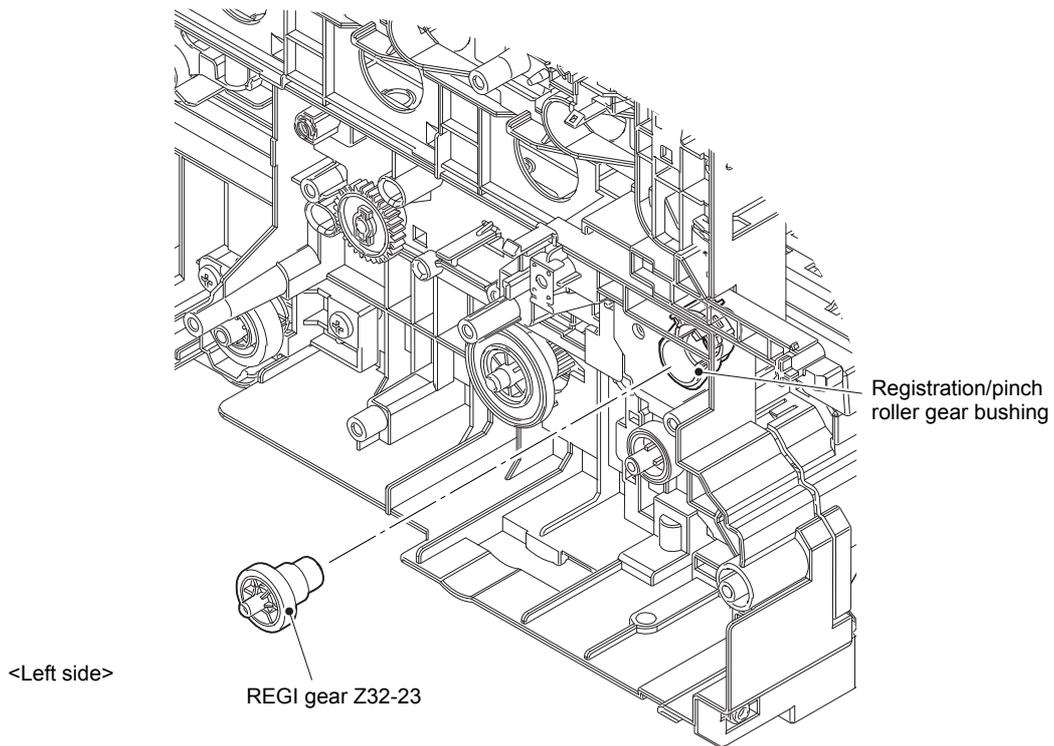


Fig. 3-162

- (7) Remove the Pinch roller drive gear Z21M05 from the Registration/pinch roller gear bushing.

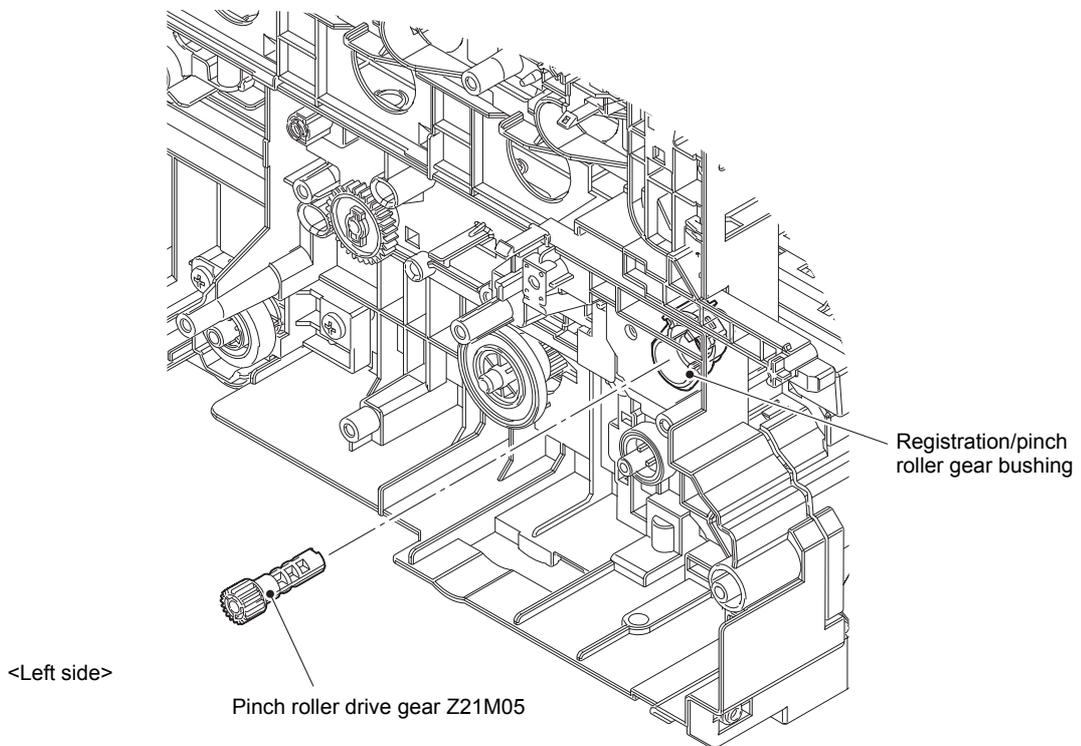


Fig. 3-163

- (8) Release the Hook and remove the Registration/pinch roller gear bushing from the Frame L.
- (9) Release the wiring of MP paper empty/registration front sensor harness from the Registration/pinch roller gear bushing.

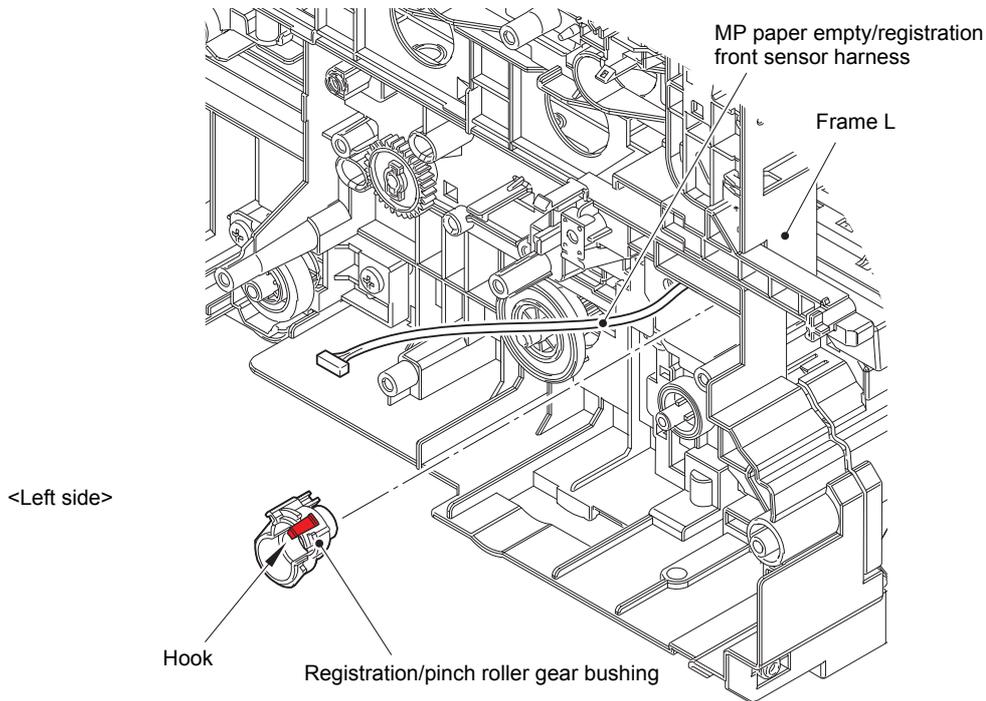


Fig. 3-164

Harness routing: Refer to "19. MP paper empty/registration front sensor PCB ASSY".

- (10) Slide the MP drive shaft in the direction of the arrow.
- (11) Remove the two Taptite bind B M3x10 screws from the MP upper cover ASSY. Release each Hook and remove the MP upper cover ASSY from the MP lower chute ASSY. Pull out the MP paper empty/registration front sensor harness through the Hole.

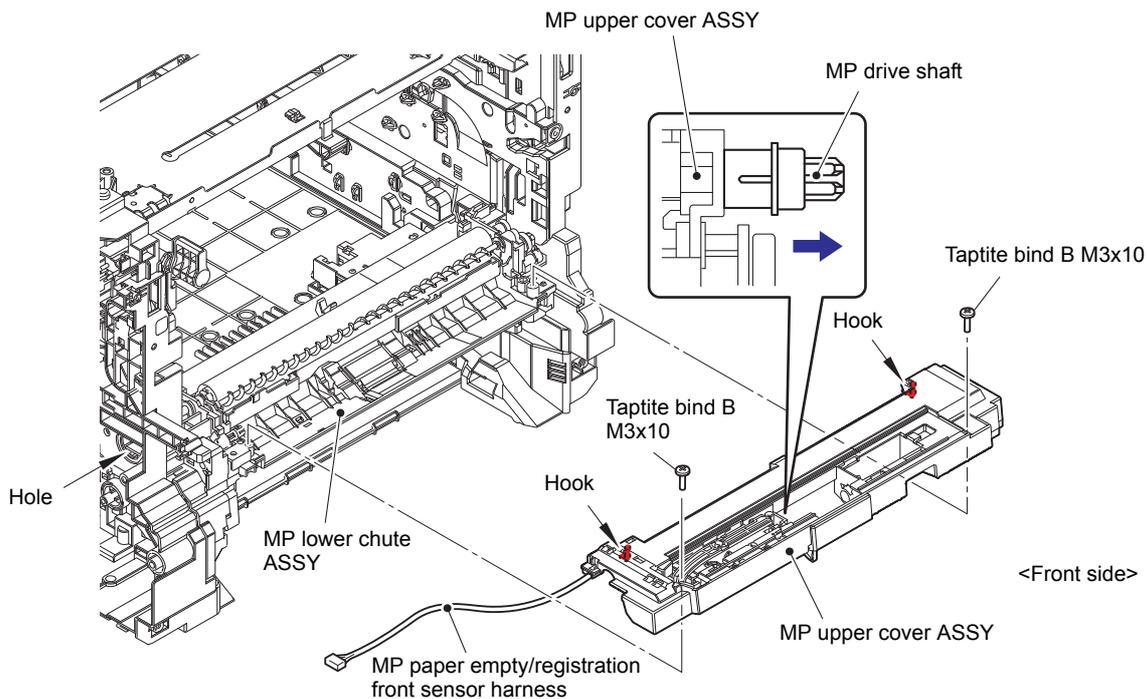


Fig. 3-165

Assembling Note:

When assembling the MP upper cover ASSY, attach "A" of the MP lift arm A to the MP lift lever.

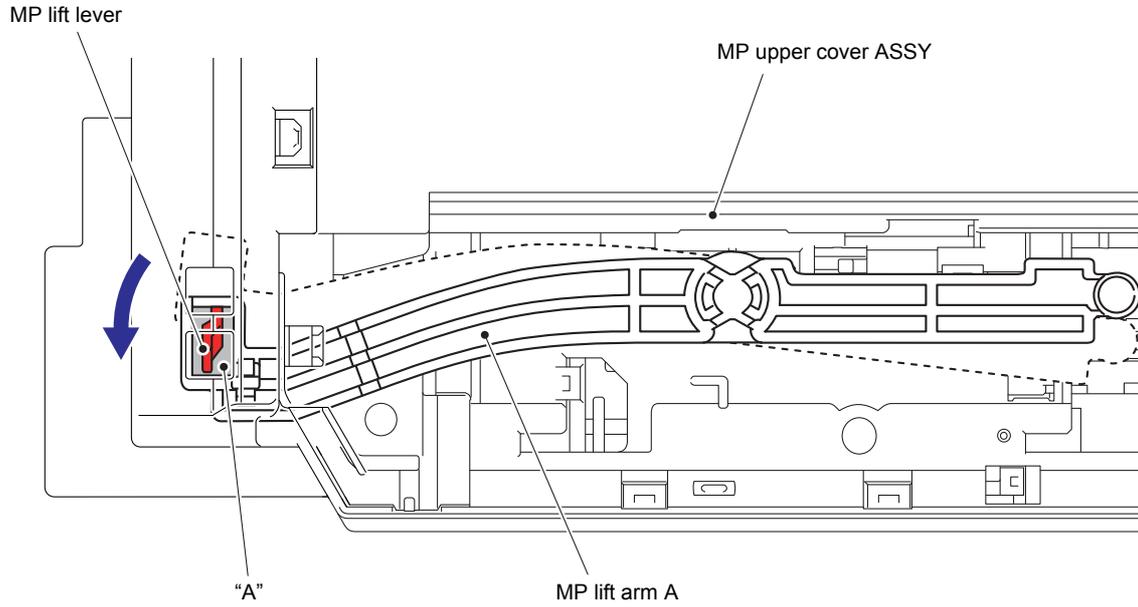


Fig. 3-166

(12) Release each Hook and remove the Sensor cover MP from the MP upper cover ASSY.

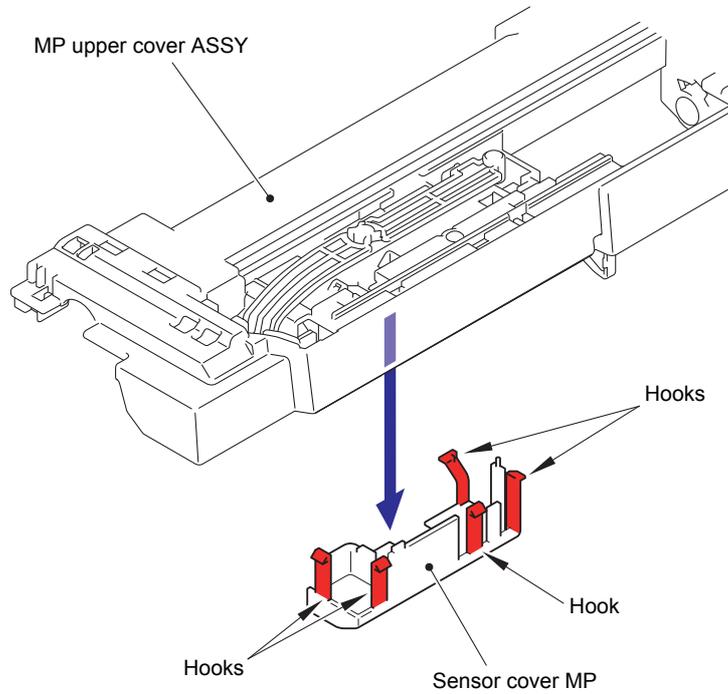


Fig. 3-167

(13) Release each Hook and remove the MP paper empty actuator A ASSY from the MP upper cover ASSY.

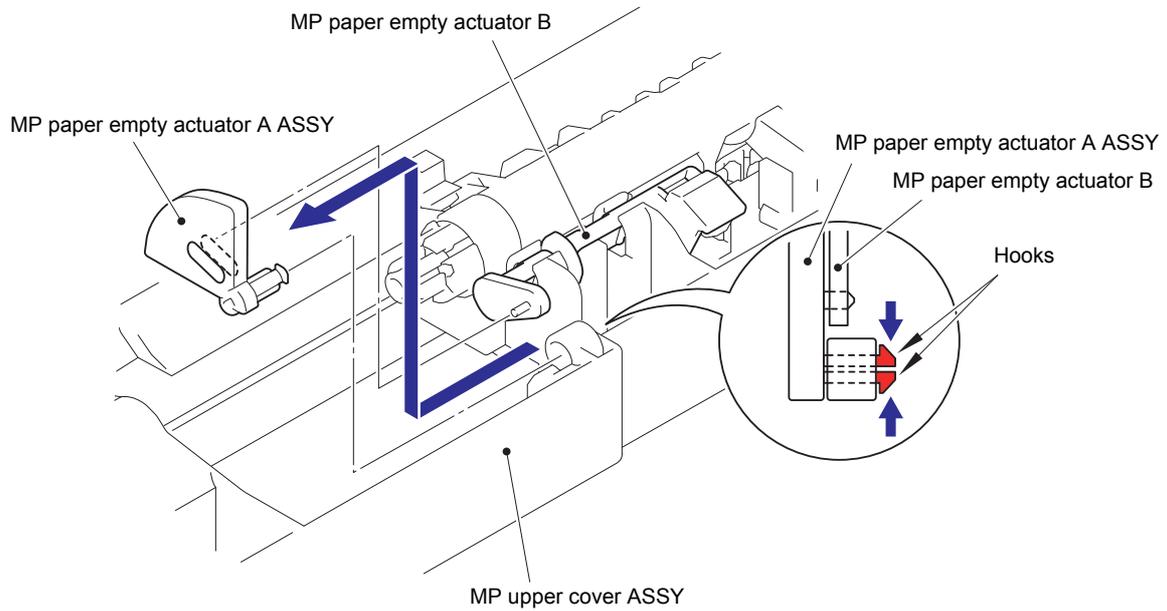


Fig. 3-168

(14) Release the Hook and remove the MP paper empty actuator B from the MP upper cover ASSY.

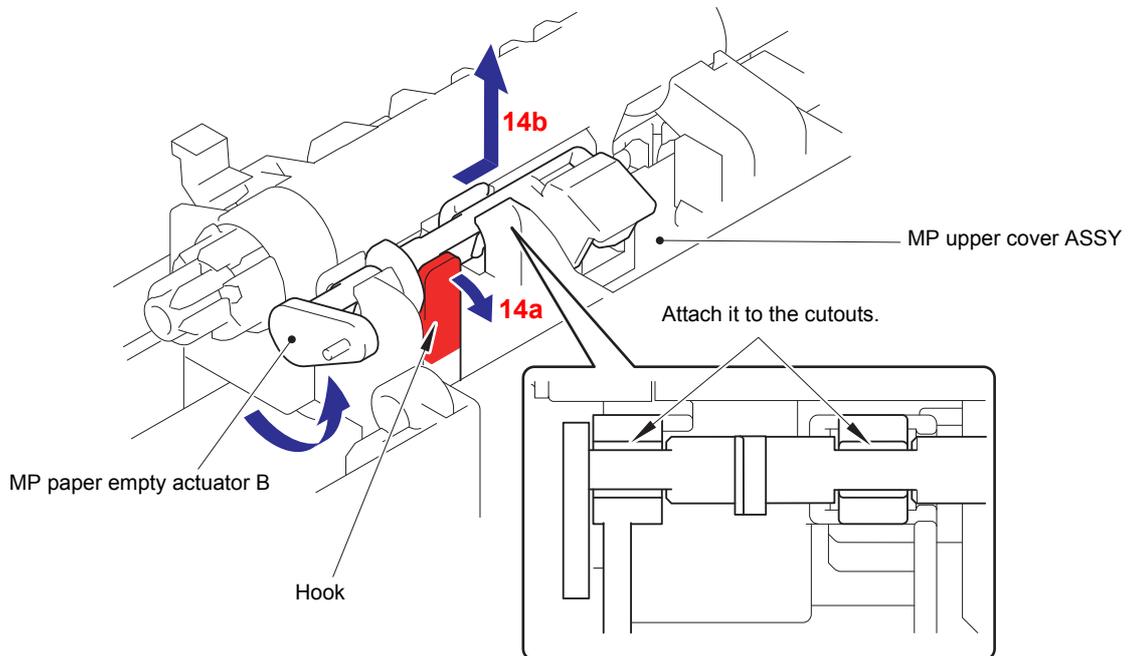


Fig. 3-169

(15) Release the Hook and remove the MP separation roller bushing from the MP drive shaft.

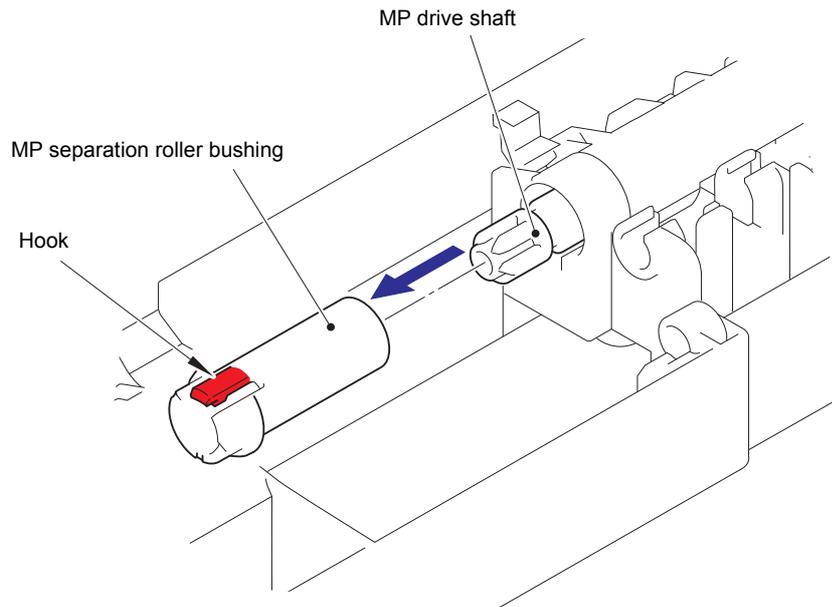


Fig. 3-170

(16) Release each Hook and remove the MP registration front actuator spring from the MP registration front actuator.

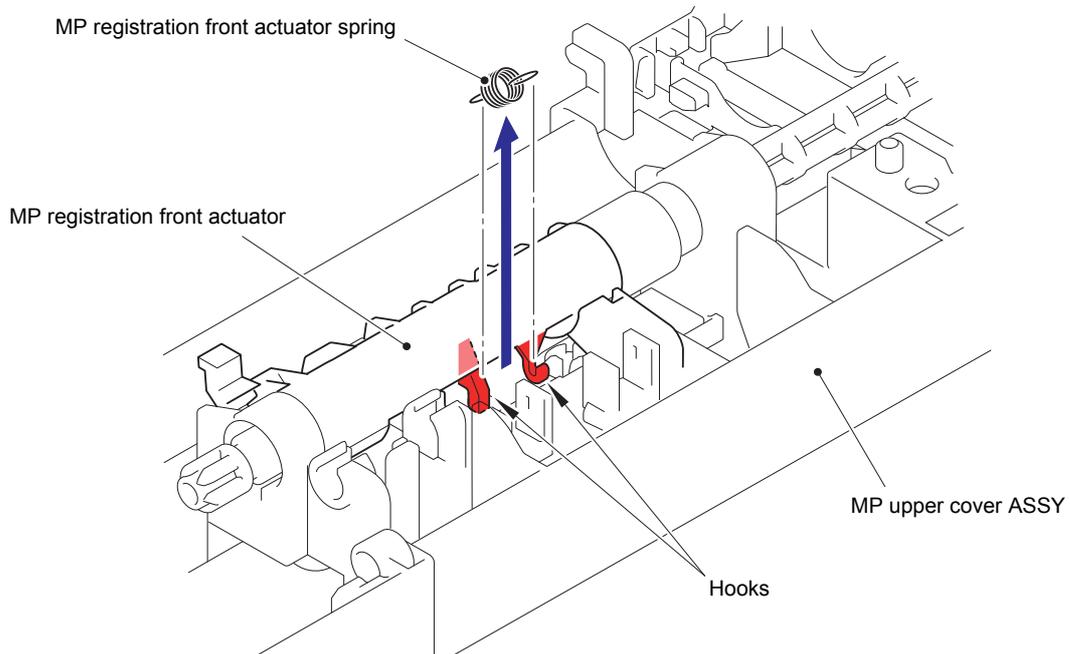


Fig. 3-171

(17) Pull out the MP drive shaft and remove the MP registration front actuator from the MP upper cover ASSY.

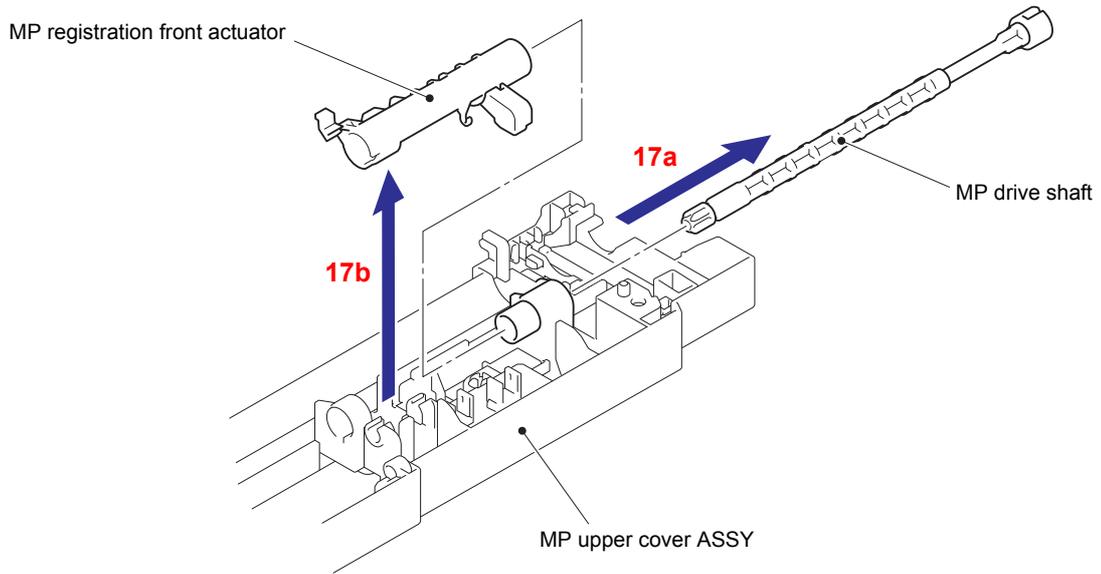


Fig. 3-172

(18) Release the wiring of MP paper empty/registration front sensor harness.

(19) Remove the Taptite bind B M3x8 screw and remove the MP paper empty/registration front sensor PCB ASSY from the MP upper cover ASSY.

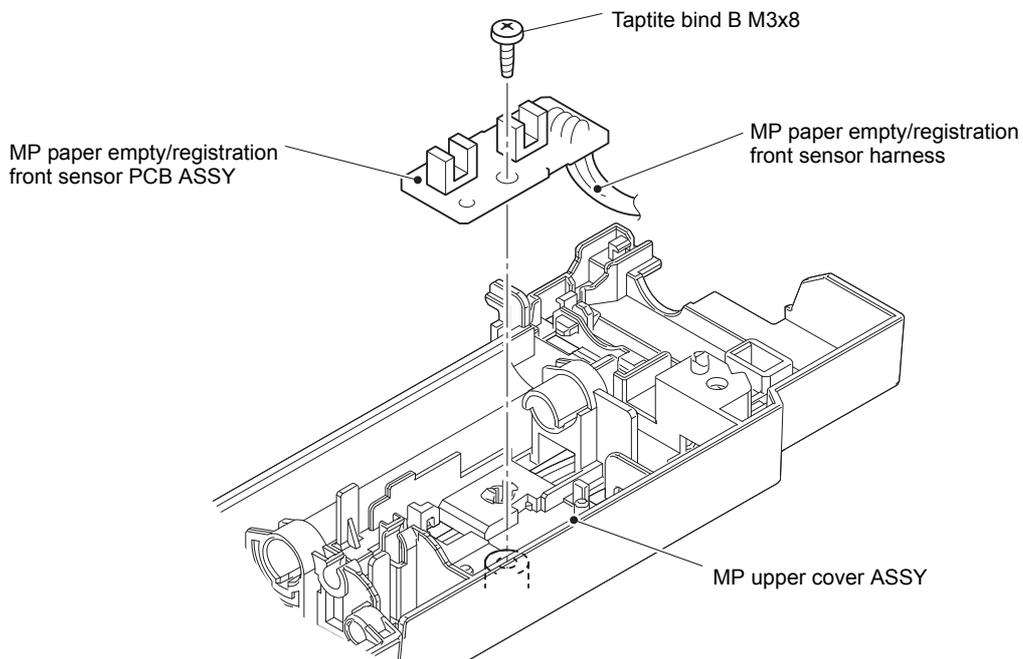


Fig. 3-173

Harness routing: Refer to "19. MP paper empty/registration front sensor PCB ASSY".

9.46 Paper feed unit / Joint pin

- (1) Push the T1 lift arm to the back and remove "B" of the Roller holder ASSY from "A" of the T1 lift arm.

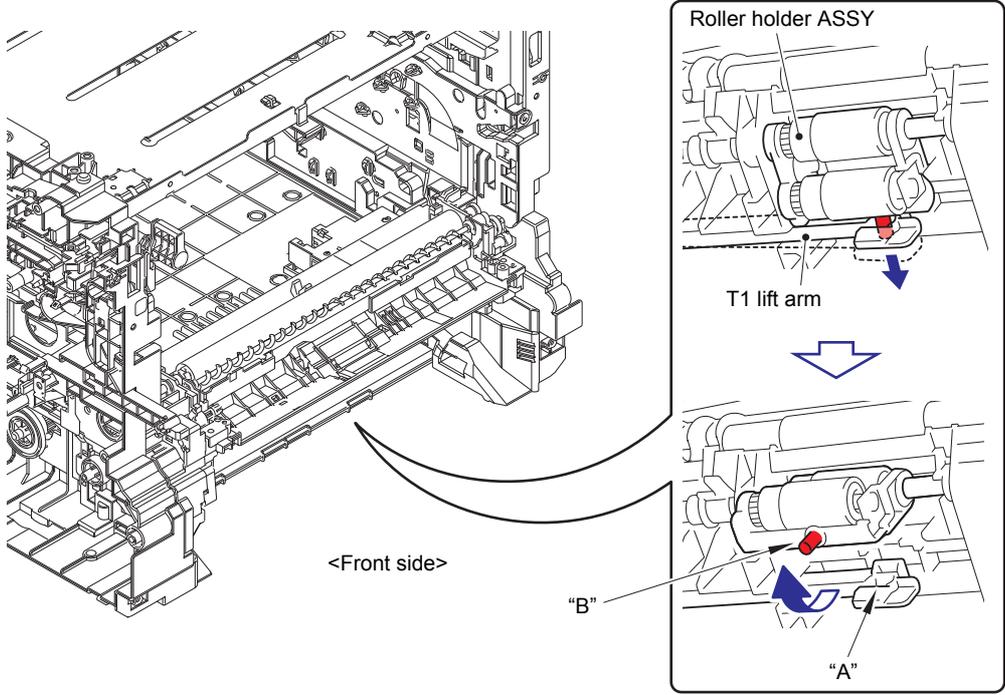


Fig. 3-174

- (2) Slide the Roller holder ASSY in the direction of the arrow and remove it from the T1 drive shaft gear Z17M07.
- (3) Slide the Roller holder ASSY in the direction of the arrow 3a and 3b in this order and remove it from the Paper feed unit.

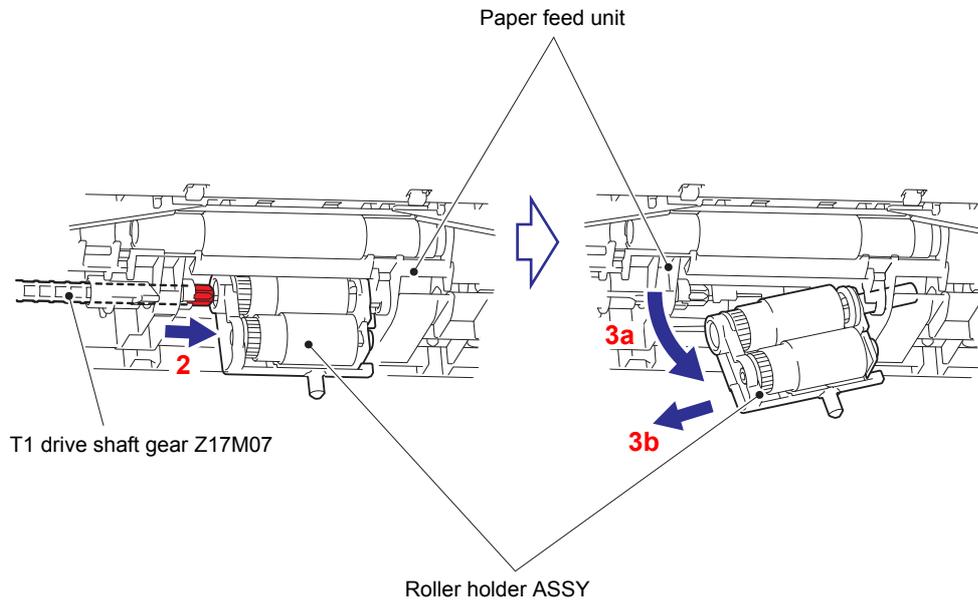


Fig. 3-175

Assembling Note:

Align the Hole of the Paper feed unit to the Shaft of the Roller holder ASSY and insert it into the Hole.

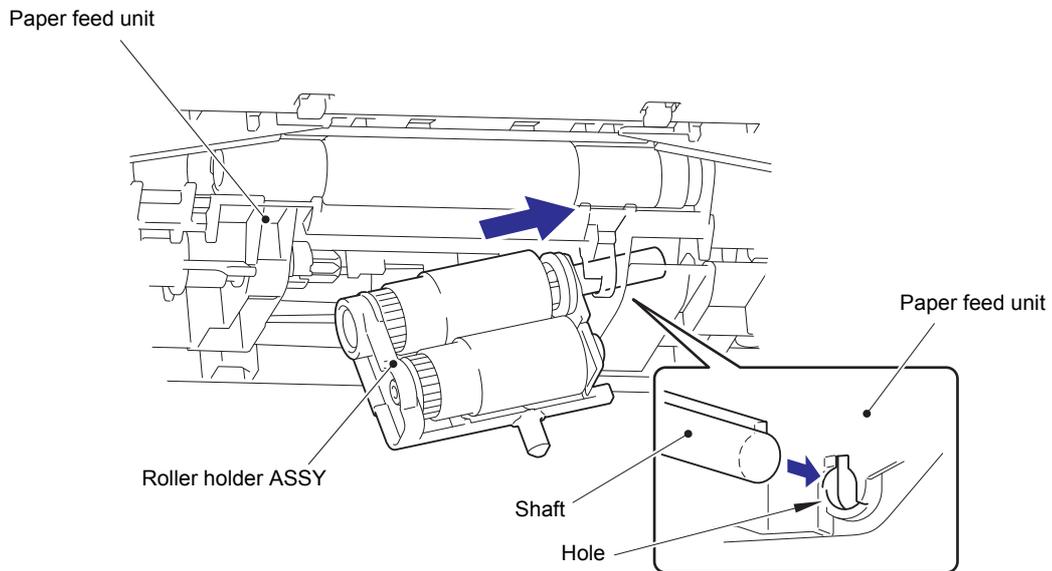


Fig. 3-176

- (4) Remove the PF drive gear 21 and PF drive joint from the Frame L.

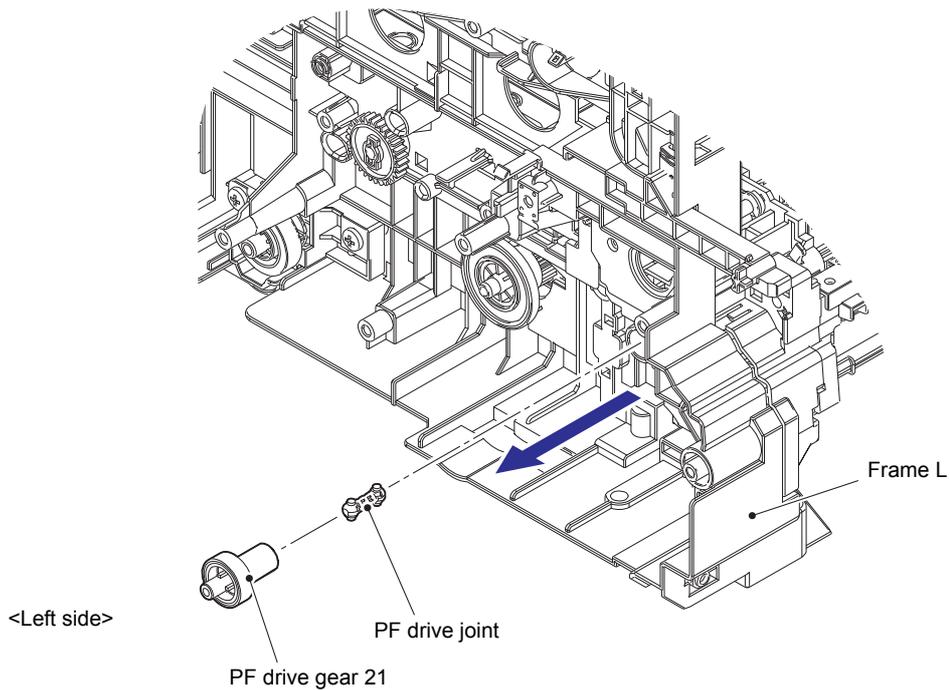


Fig. 3-177

- (5) Remove the Taptite cup B M3x12 screw from the Paper feed unit.
- (6) Remove the two Taptite bind B M4x12 screws, then shift the Paper feed unit to the right, and remove it. Pull out each harness from the Hole of Frame L.

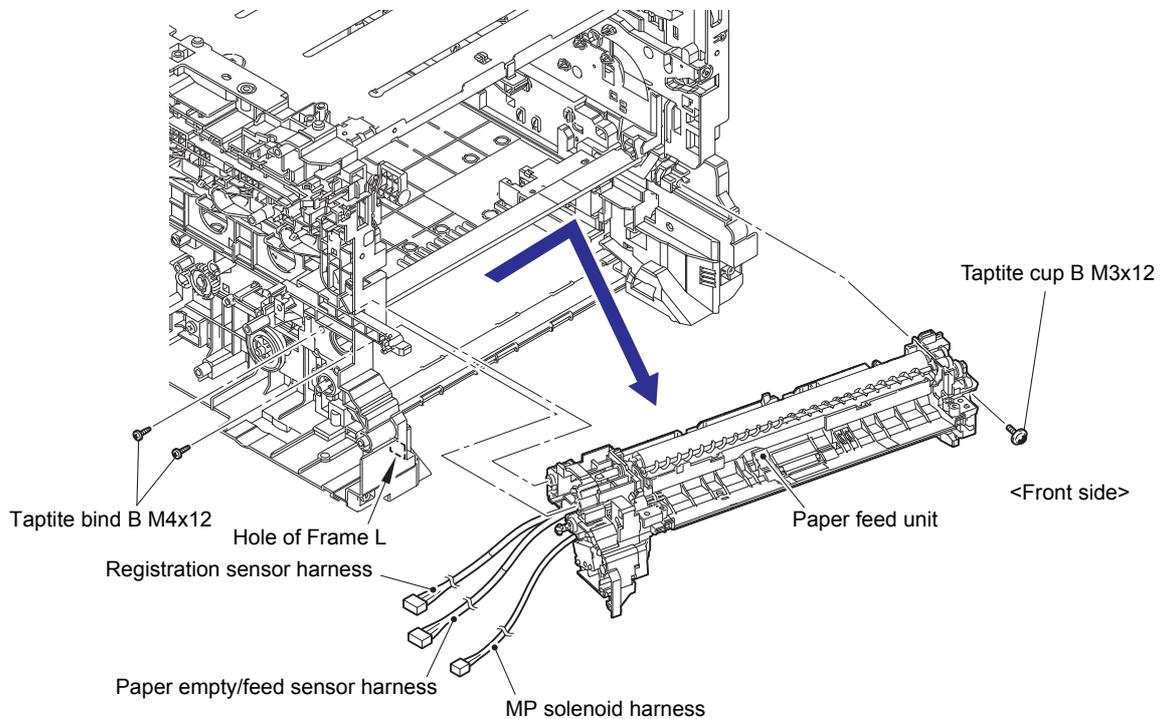


Fig. 3-178

Harness routing: Refer to "20. Paper feed unit".

- (7) Remove the Registration roller drive joint from the PF registration roller shaft.
- (8) Remove the Joint pin from the PF registration roller shaft.

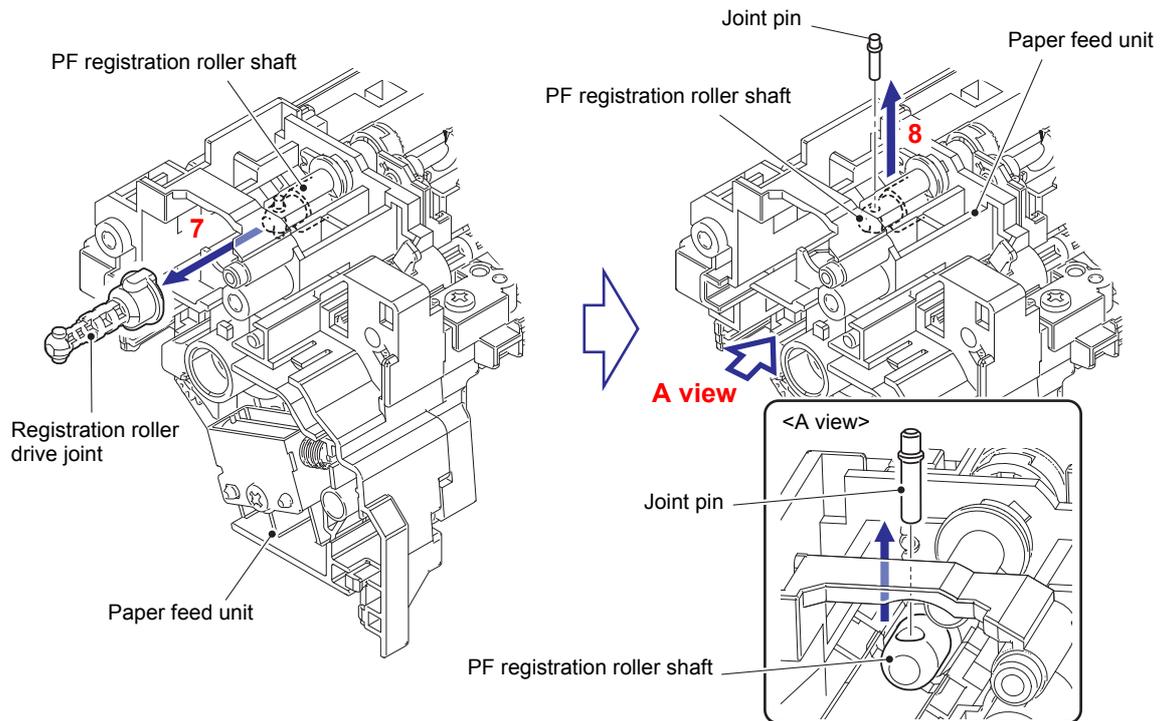


Fig. 3-179

9.47 Registration front/rear sensor PCB ASSY

- (1) Release the wiring of Registration sensor harness.
- (2) Remove the Taptite bind B M3x10 screw and remove the Registration front/rear sensor PCB holder from the Paper feed unit.

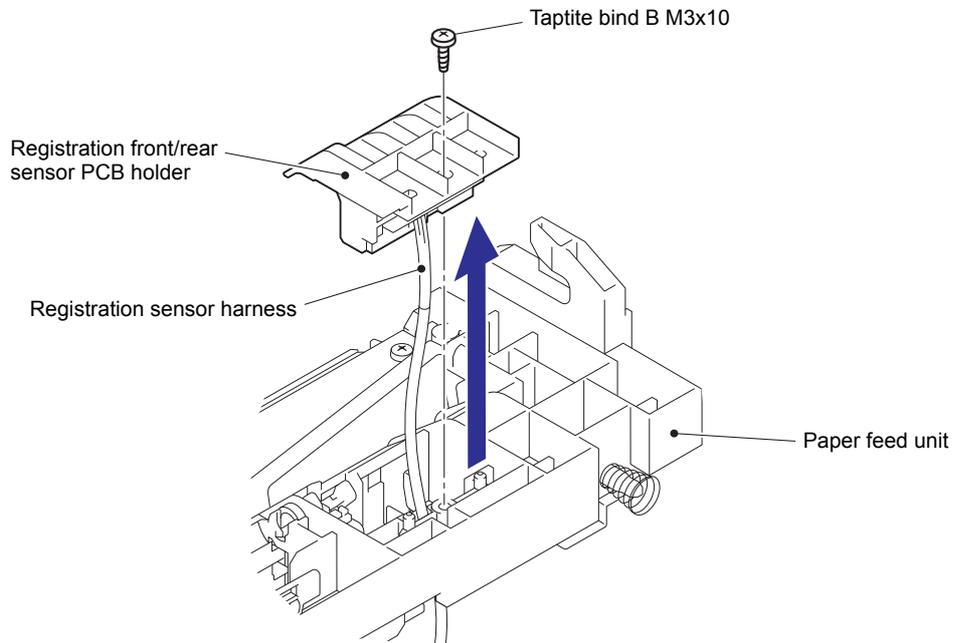


Fig. 3-180

Harness routing: Refer to "20. Paper feed unit".

- (3) Release each Hook and remove the Registration front/rear sensor PCB ASSY from the Registration front/rear sensor PCB holder.

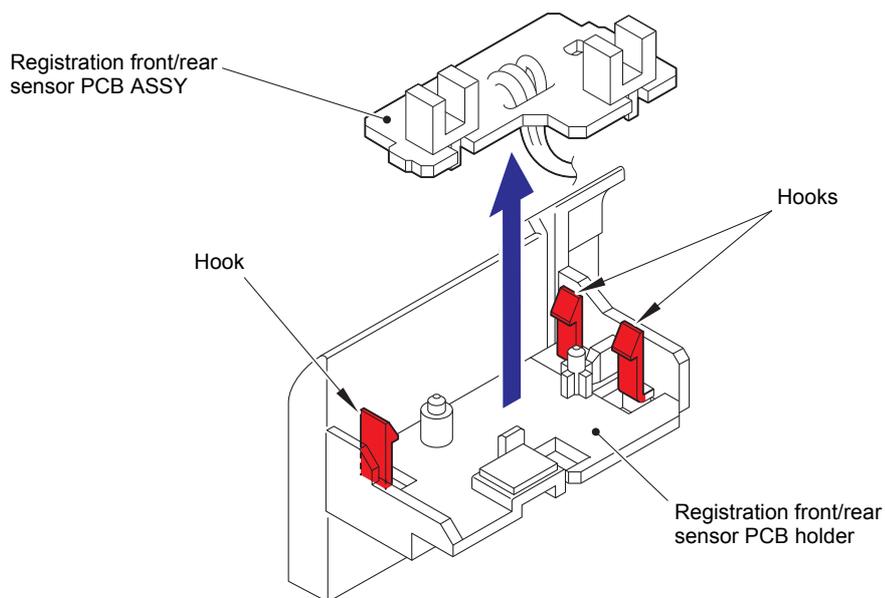


Fig. 3-181

9.48 T1 paper feed sensor PCB ASSY

- (1) Release all the wiring from the MP drive frame.
- (2) Remove the three Taptite bind B M3x10 screws and remove the MP drive frame from the Paper feed unit.

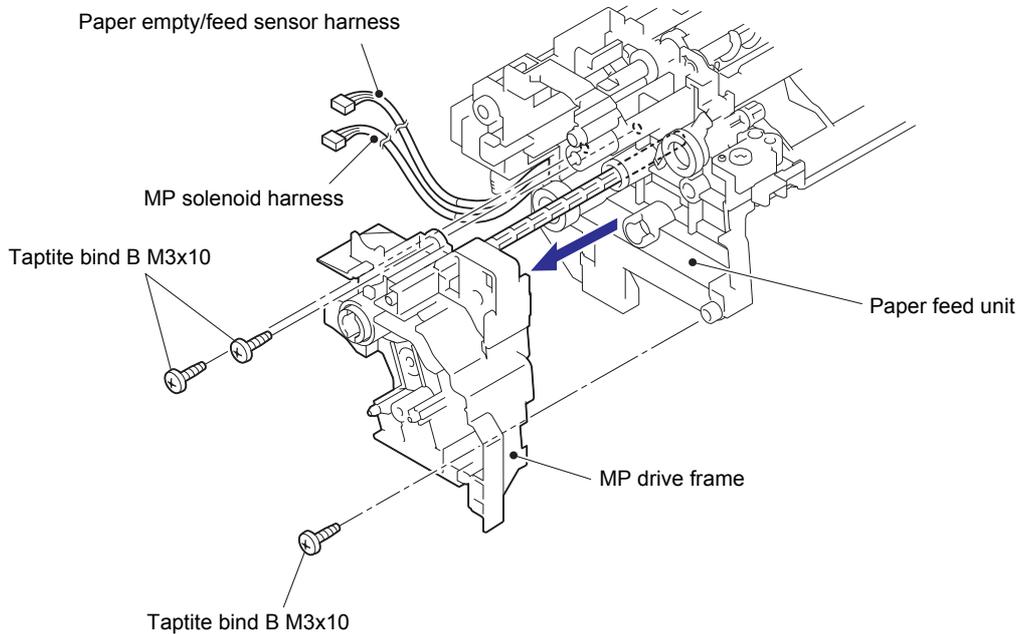


Fig. 3-182

Harness routing: Refer to "20. Paper feed unit".

Note:

- As the MP drive shaft gear Z17M07, MP lift lever and Registration roller drive joint tend to come off, be careful not to lose them.
- When the MP drive shaft gear Z17M07 and MP lift lever come off, assemble them as shown in the figure.

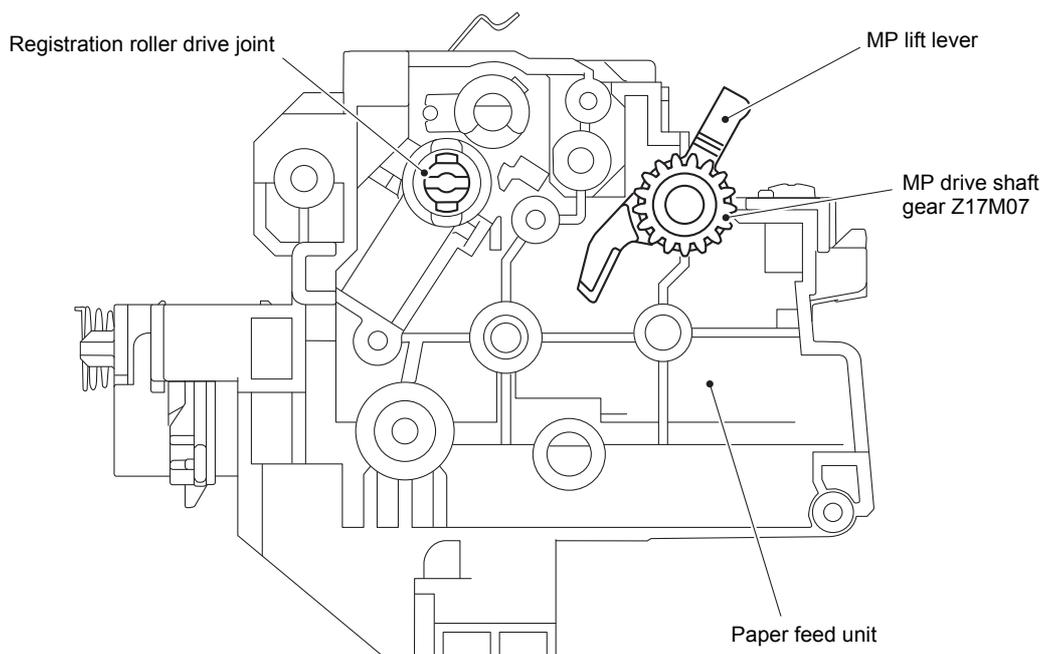


Fig. 3-183

- (3) Release the Hook and remove the Separation roller bushing from the T1 drive shaft gear Z17M07.

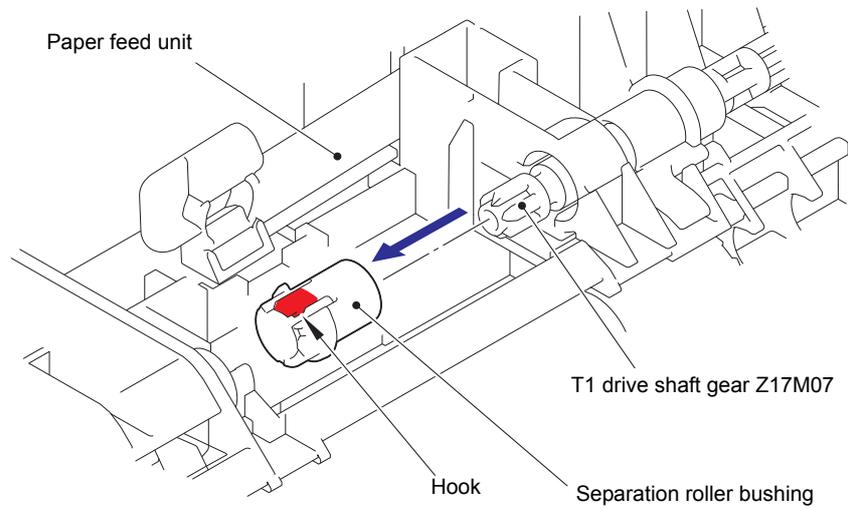


Fig. 3-184

- (4) Remove the Edge actuator spring from the Hook of the Paper feed unit and the Hook of the Edge actuator.

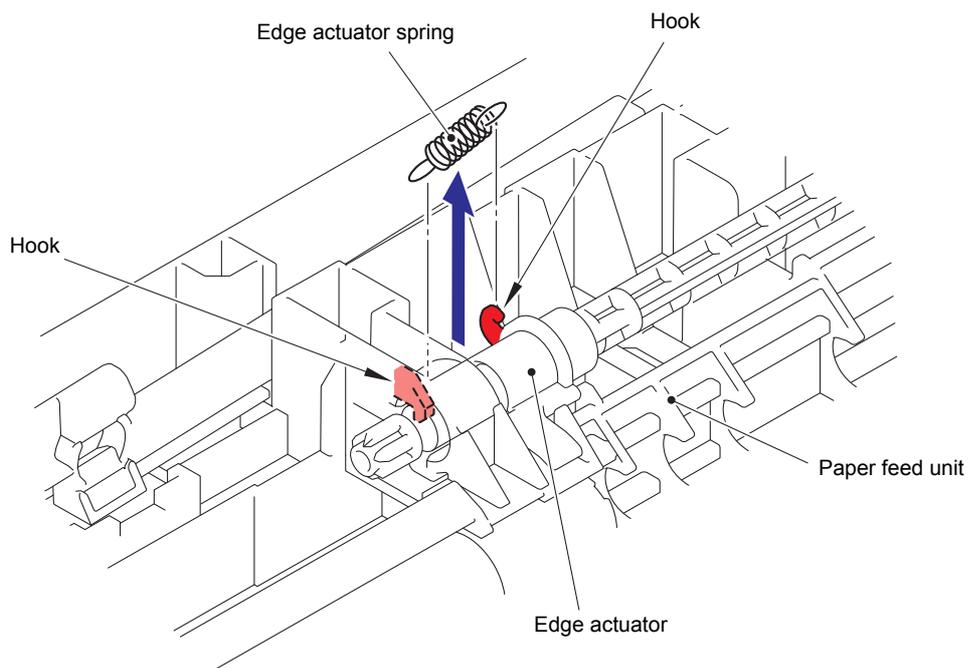


Fig. 3-185

- (5) Pull out the T1 drive shaft gear Z17M07 from the Paper feed unit and remove the Edge actuator.

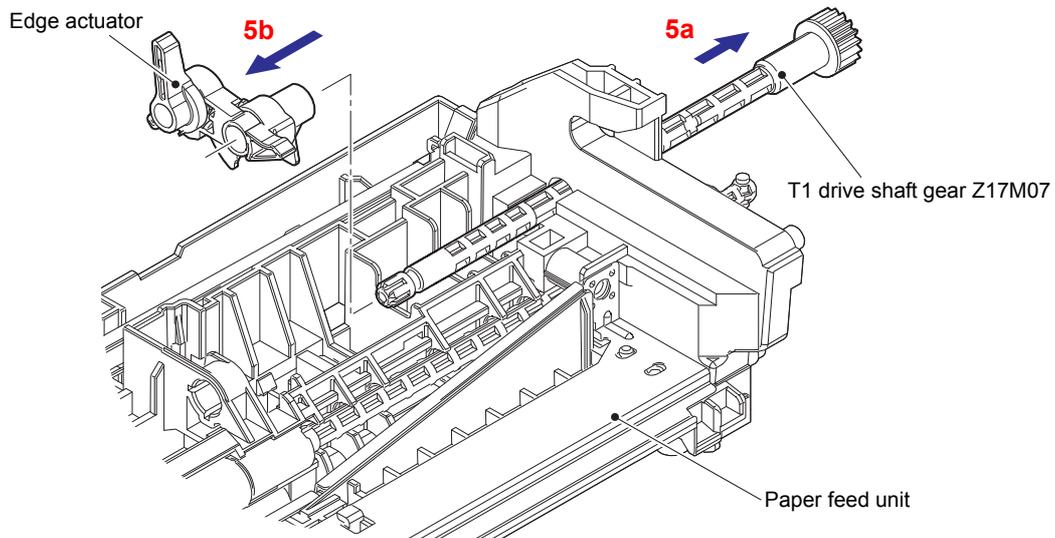


Fig. 3-186

- (6) Release the wiring of T1 paper feed sensor PCB ASSY.
- (7) Release each Hook and remove the T1 paper feed sensor PCB ASSY from the Paper feed unit.

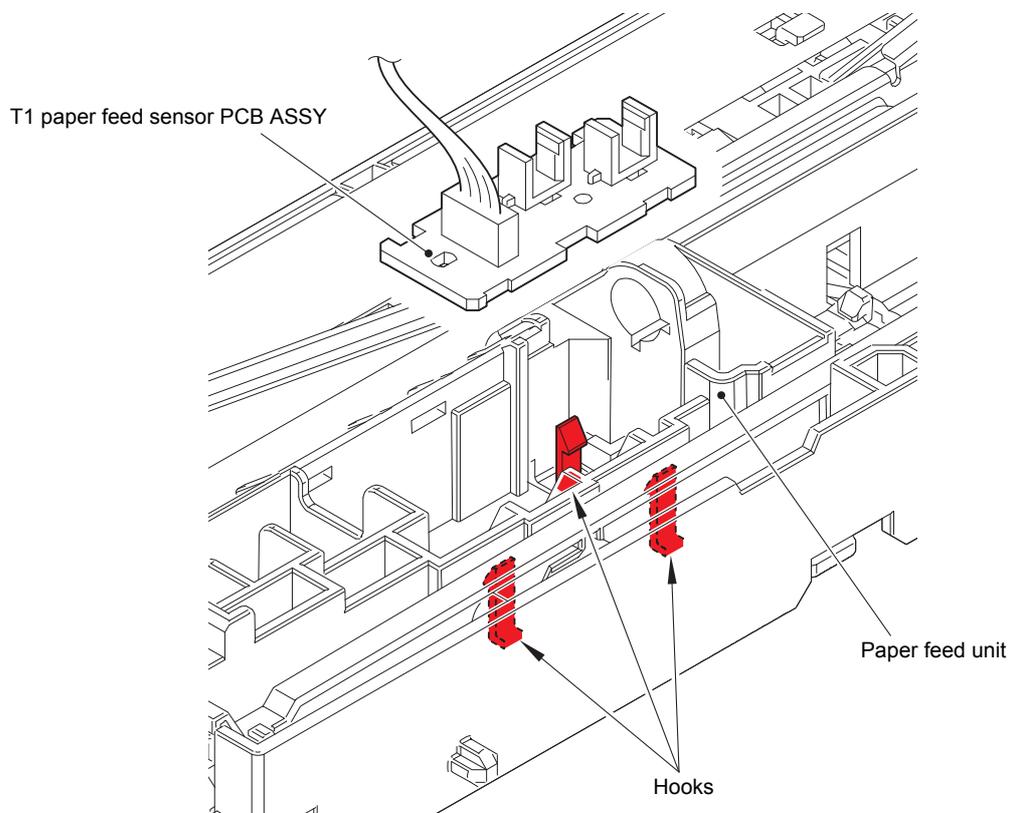


Fig. 3-187

Harness routing: Refer to "20. Paper feed unit".

9.49 Blower

- (1) Remove the double-sided adhesive tape of the Air duct film where the Blower is putted on.
- (2) Release the wiring of Blower harness.
- (3) Release each Hook and remove the Blower from the Frame R.

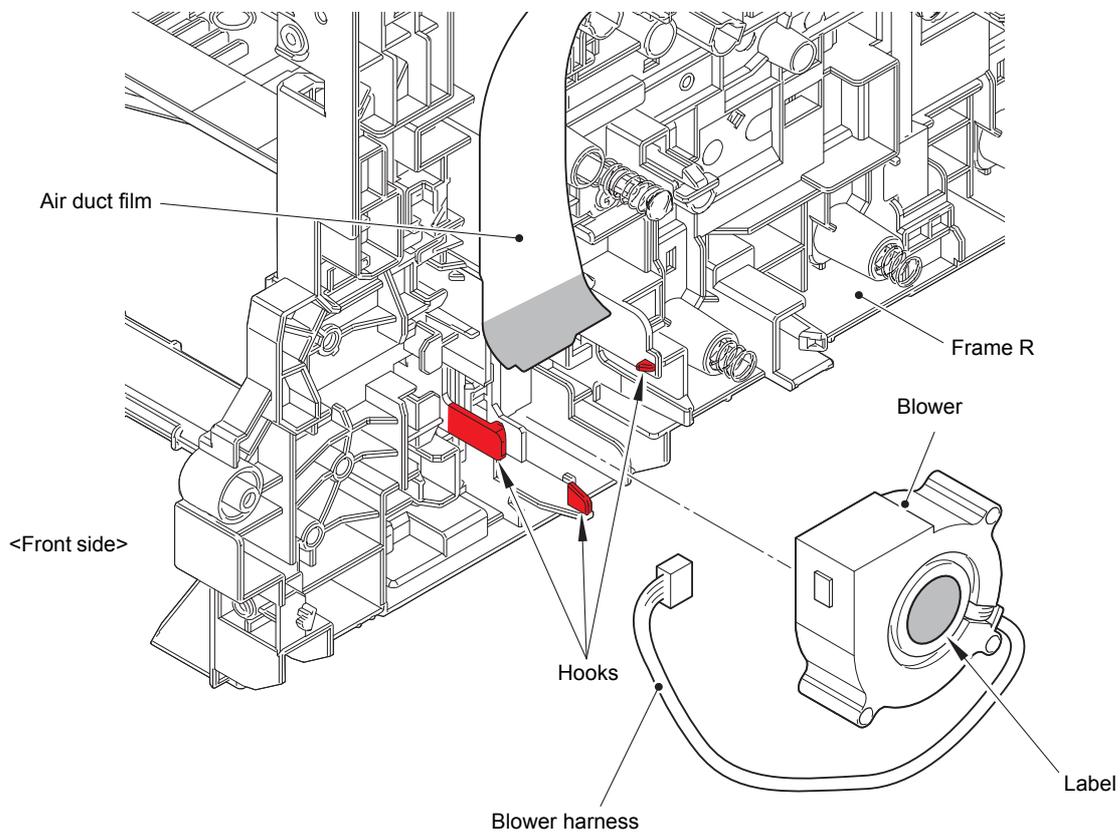


Fig. 3-188

Assembling Note:

When assembling the Blower, be sure to assemble it in a way that the Label side faces out.

Harness routing: Refer to "21. Blower".

10. DISASSEMBLY PROCEDURE (LT-330CL)

10.1 LT paper tray / Separation pad ASSY

- (1) Take out the LT paper tray unit from the LT unit.

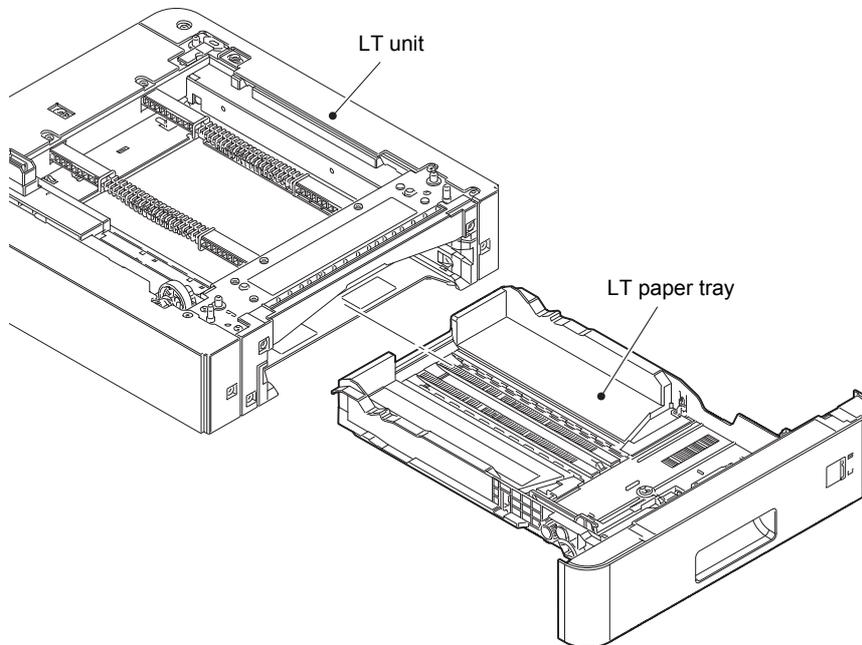


Fig. 3-189

- (2) Release each Hook of the Separation pad ASSY from the Paper tray.
- (3) Push both side Arms on the Separation pad ASSY inwards to remove the Pins, and remove the Separation pad ASSY from the Paper tray.
- (4) Remove the Separation pad spring from the Separation pad ASSY.

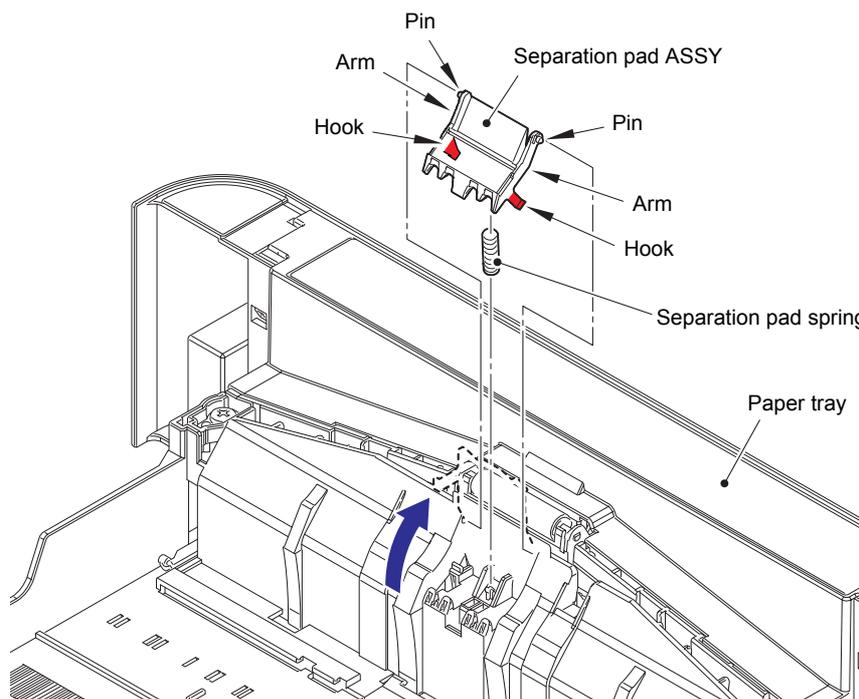


Fig. 3-190

10.2 LT roller holder ASSY

- (1) Push the Link arm in the direction of the arrow A, and turn the LT roller holder ASSY to remove the Boss.
- (2) Slide the LT roller holder ASSY in the direction of the arrow B to remove it from the Shaft, and remove the LT roller holder ASSY.

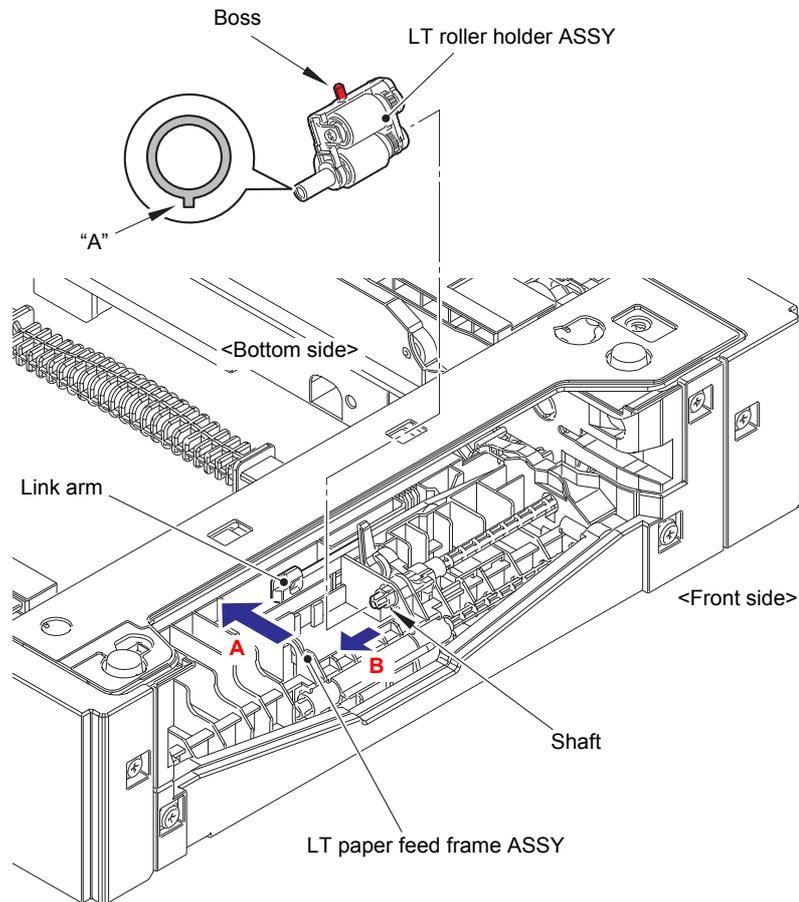


Fig. 3-191

Assembling Note:

When attaching the LT roller holder ASSY, engage "A" on the Shaft of the LT roller holder ASSY with the Hole on the LT paper feed frame ASSY, and insert the Shaft into the Hole.

10.3 LT control PCB ASSY

- (1) Remove the two Shoulder screws M3 and the Taptite pan B M3x8 screw. Release each Hook and Boss, and remove the LT side cover L from the LT unit.

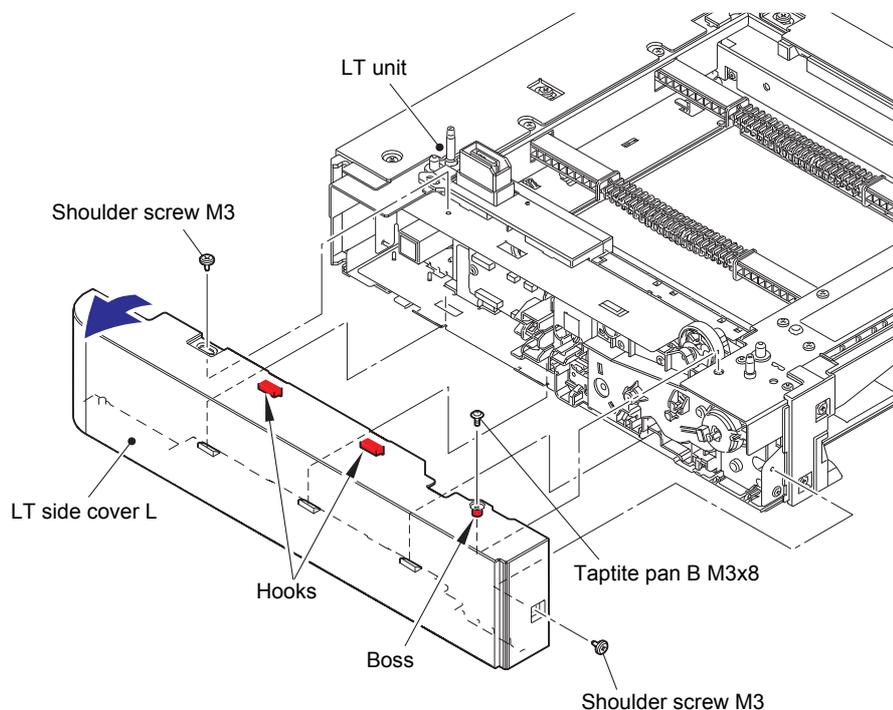


Fig. 3-192

- (2) Disconnect all harnesses from the LT control PCB ASSY.

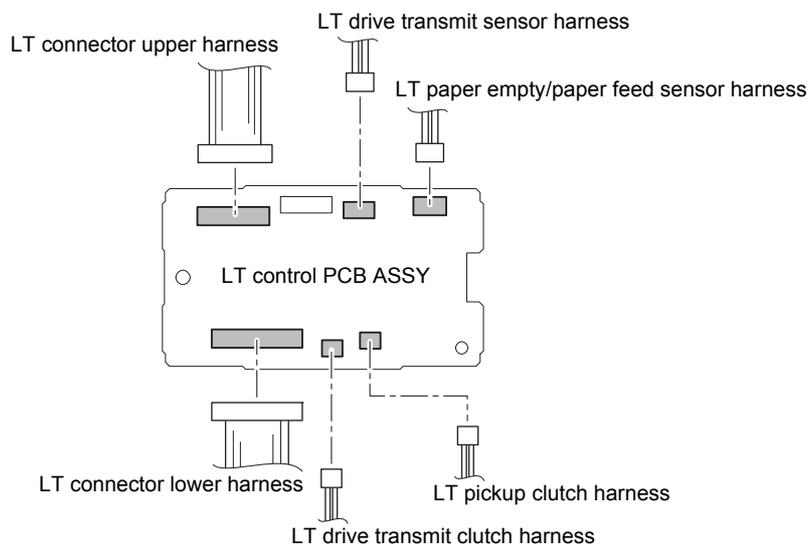


Fig. 3-193

Harness routing: Refer to "22. LT-330CL".

- (3) Remove the Screw cup S M3x8 (black) screw and remove the LT control PCB ASSY from the LT unit.

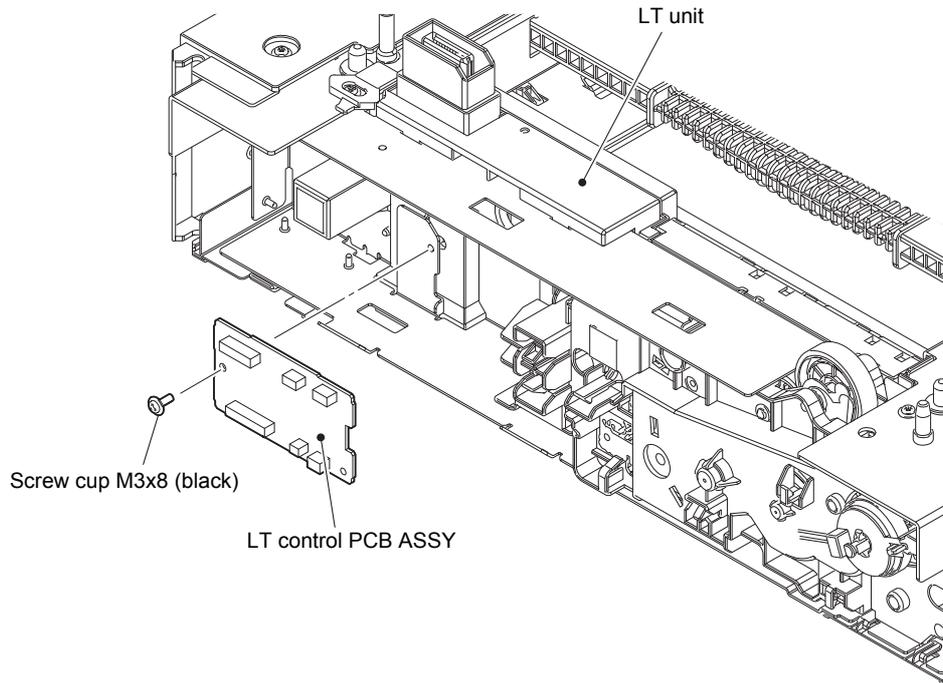


Fig. 3-194

10.4 LT paper feed unit

- (1) Remove the two Shoulder screws M3. Release each Hook and Boss, and remove the LT side cover R from the LT unit.

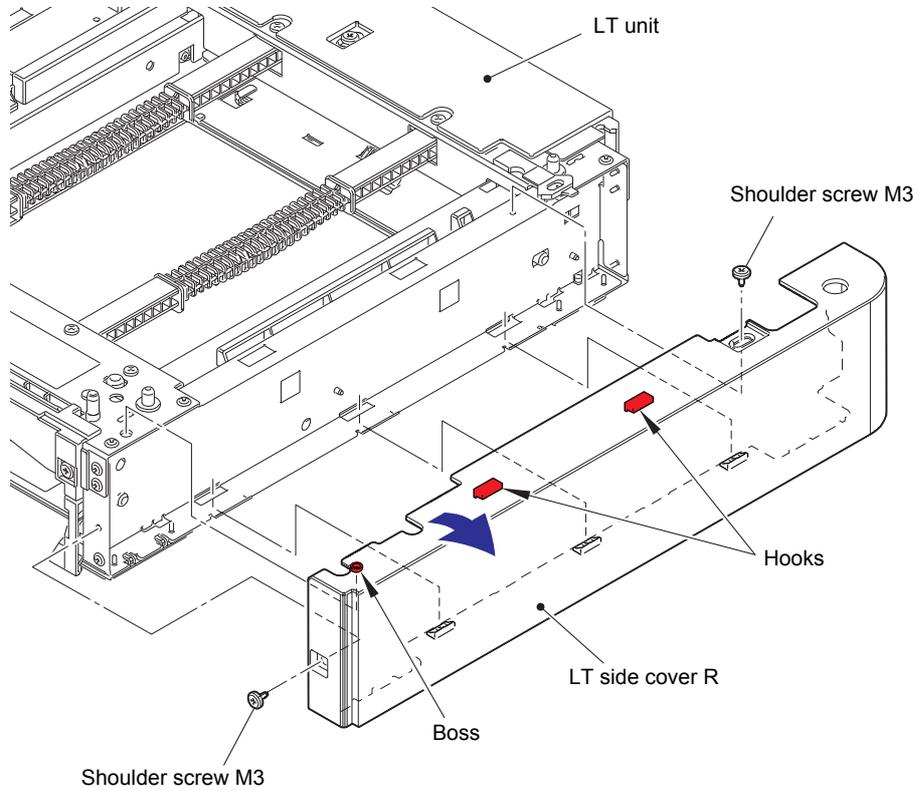


Fig. 3-195

- (2) Release the LT paper empty/paper feed sensor harness from the securing fixtures.
- (3) Remove the five Taptite cup S M3x8 SR screws and remove the LT drive unit from the LT frame L unit.
- (4) Remove the LT paper feed drive shaft from the LT frame L unit.

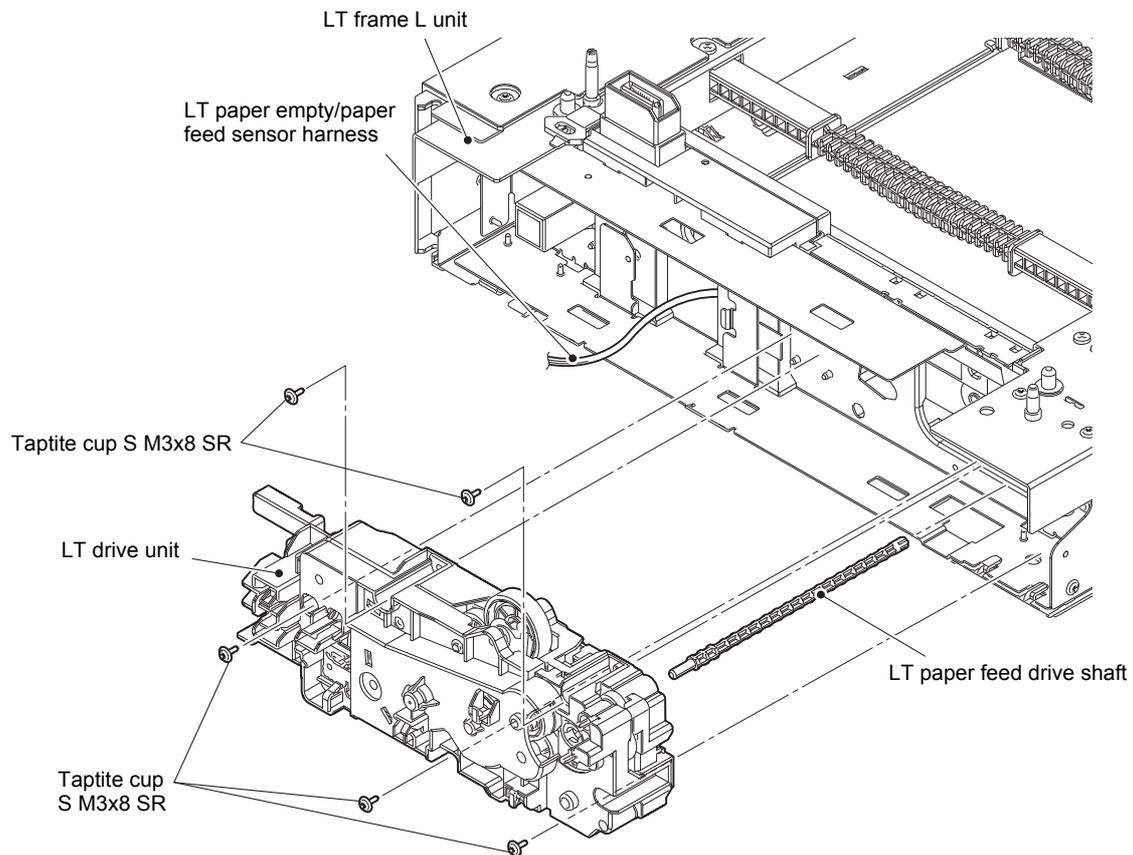


Fig. 3-196

Harness routing: Refer to ["22. LT-330CL"](#).

(5) Remove the four Taptite bind B M4x12 screws and remove the two Handles.

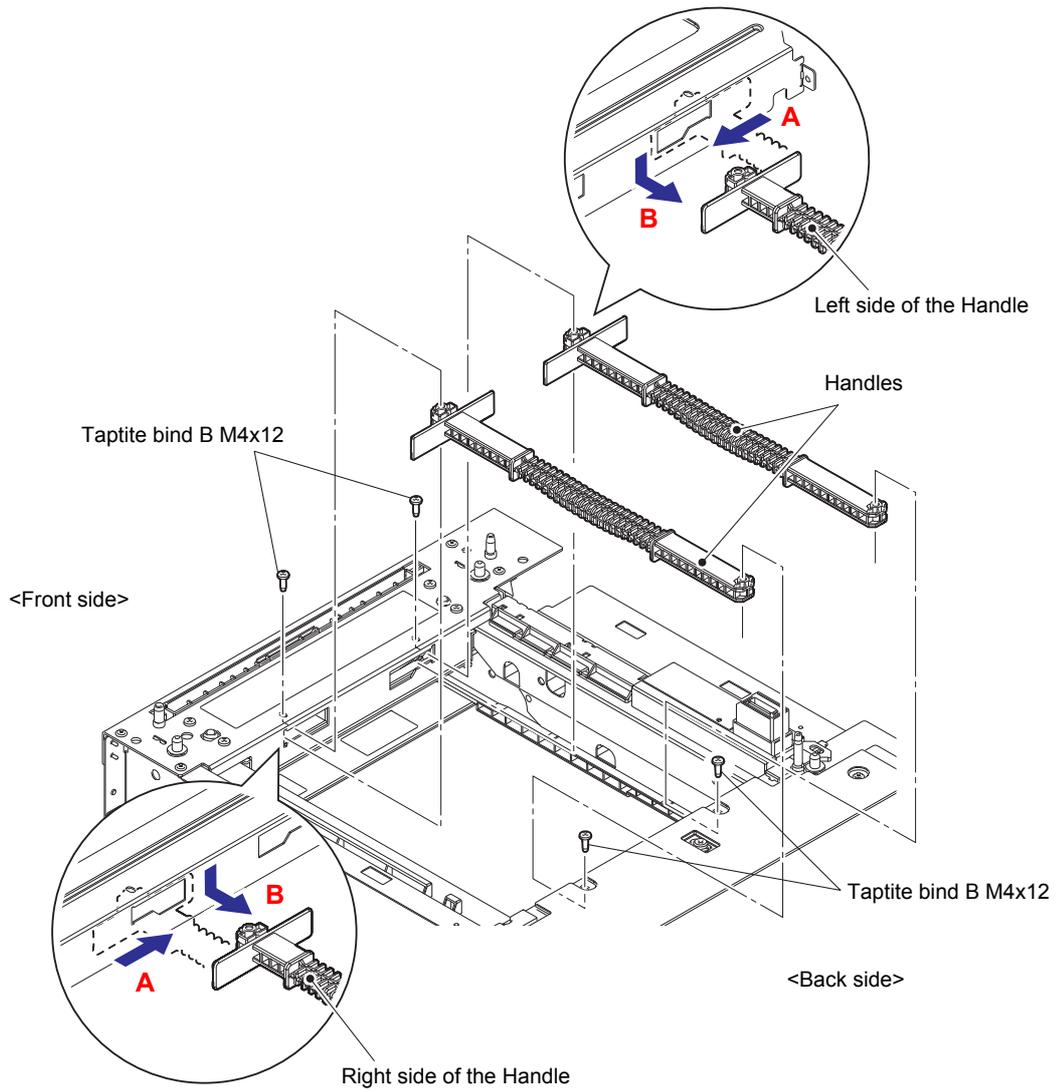


Fig. 3-197

(6) Remove the three Shoulder screws M3 and remove the LT front cover from the LT unit.

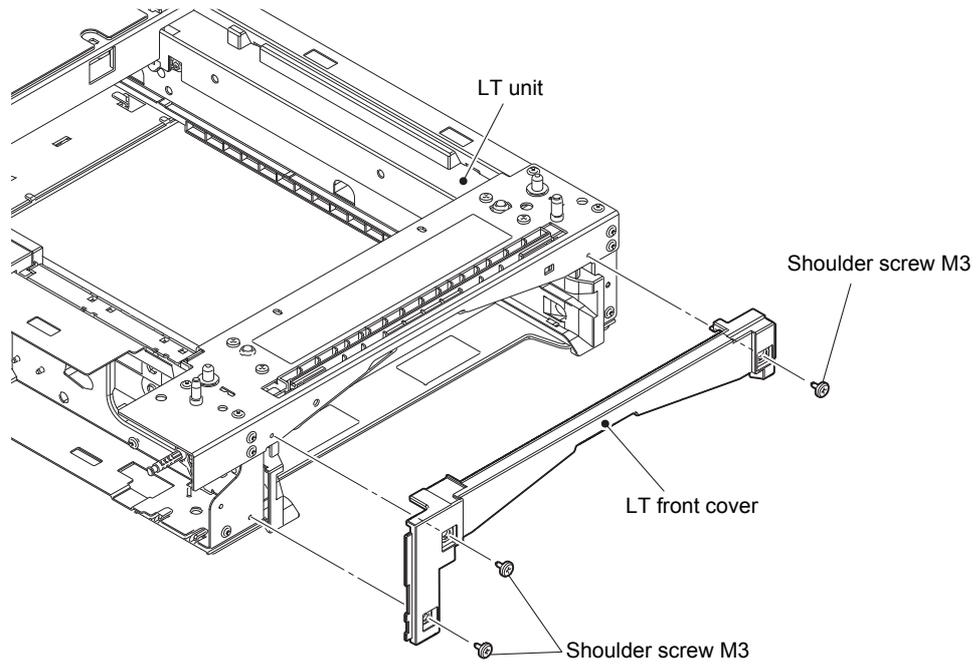


Fig. 3-198

- (7) Release each Hook of the Cable cover and remove the Cable cover from the LT frame L unit.
- (8) Remove the eight Taptite cup S M3x8 SR screws and four Taptite bind B M4x12 screws to remove the Top beam front plate from the LT unit.
- (9) Release the LT paper empty/paper feed sensor harness from the securing fixtures.
- (10) Remove the LT paper feed frame unit ASSY from the LT unit.

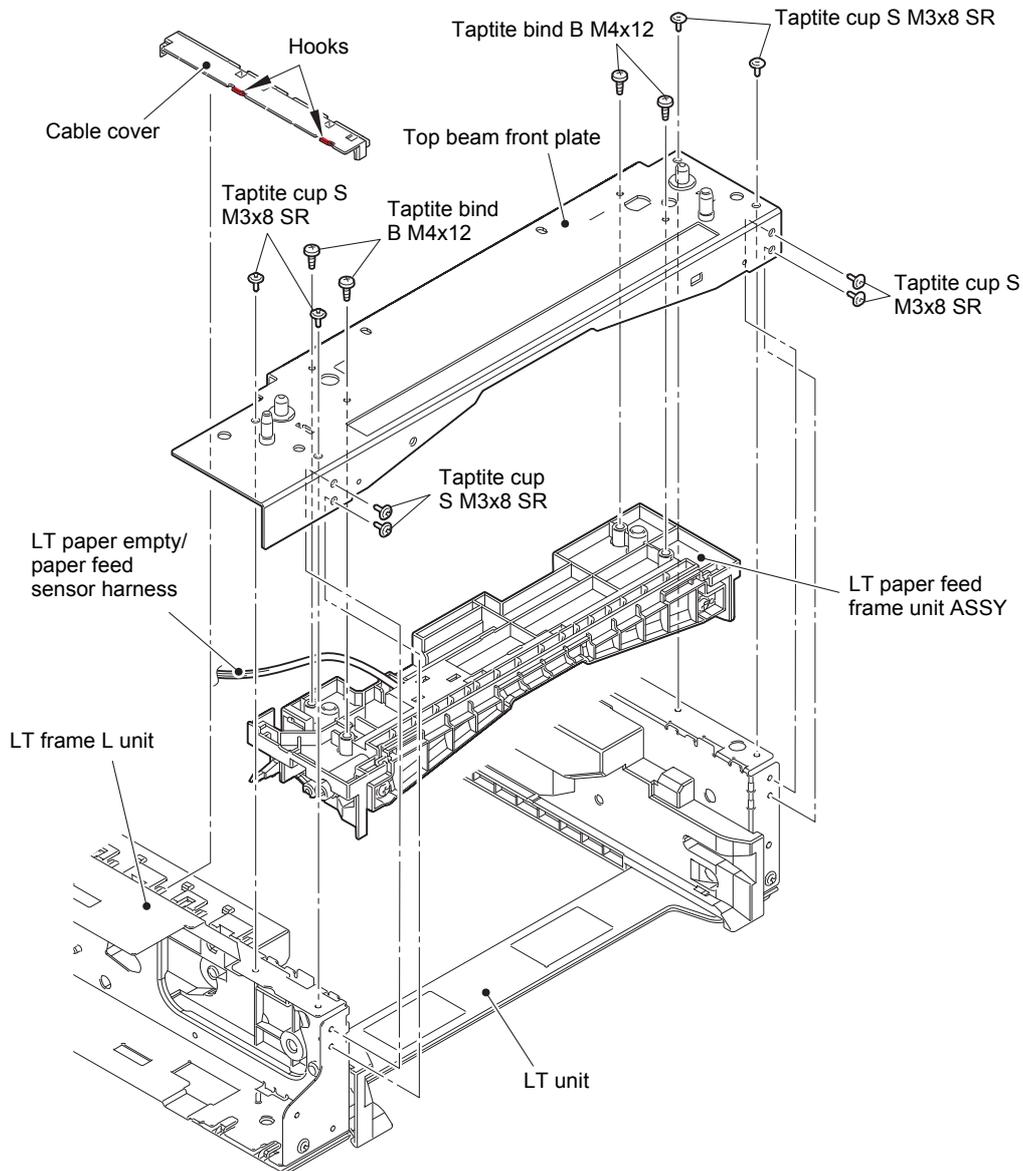


Fig. 3-199

Harness routing: Refer to "22. LT-330CL".

10.5 LT paper empty/paper feed sensor PCB ASSY

- (1) Remove the LT edge actuator spring from the Hook of LT paper feed frame unit ASSY and LT edge actuator.
- (2) Release the Hook on the Bushing, and pull out the LT separation roller shaft to remove the LT edge actuator and LT paper empty actuator.
- (3) Release the LT paper empty/paper feed sensor harness from the securing fixtures. Remove each Hook, and remove the LT paper empty/paper feed sensor PCB ASSY from the LT paper feed frame unit ASSY.

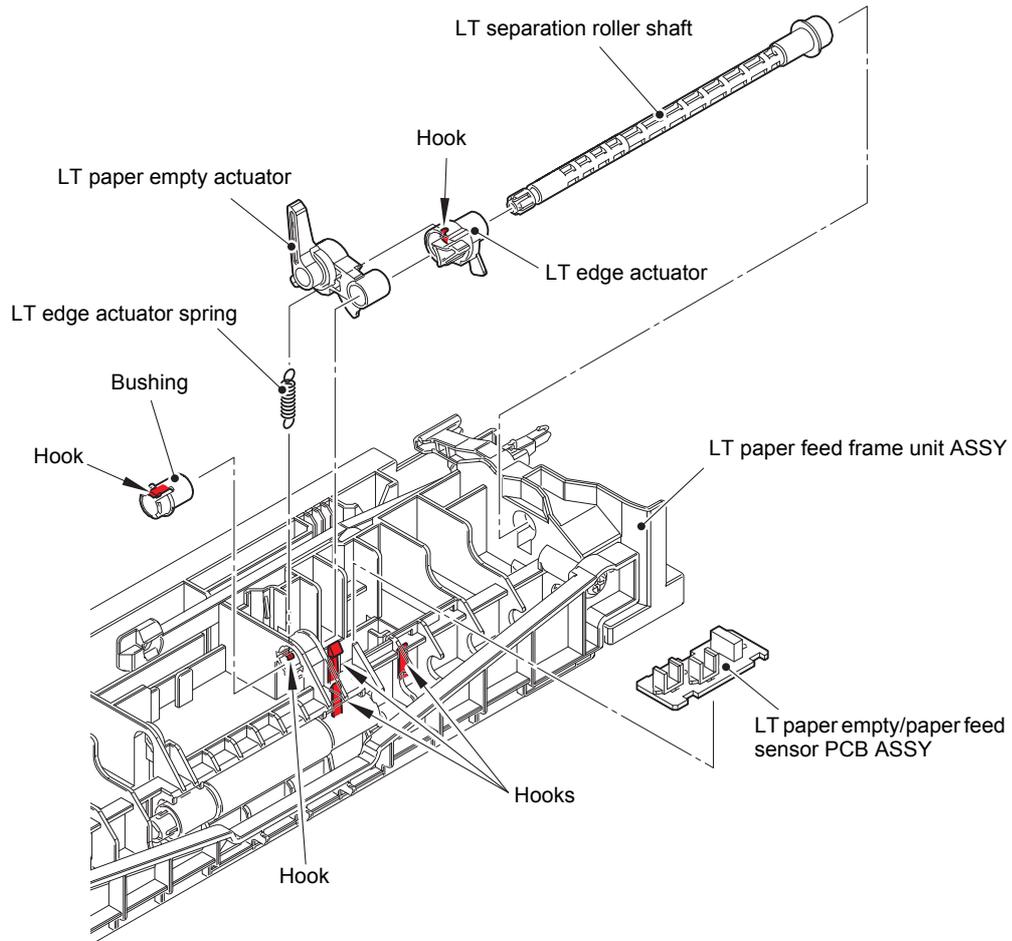


Fig. 3-200

11. DISASSEMBLY PROCEDURE (LT-340CL)

11.1 LT paper tray / Separation pad ASSY

- (1) Take out the LT paper tray unit from the LT unit.

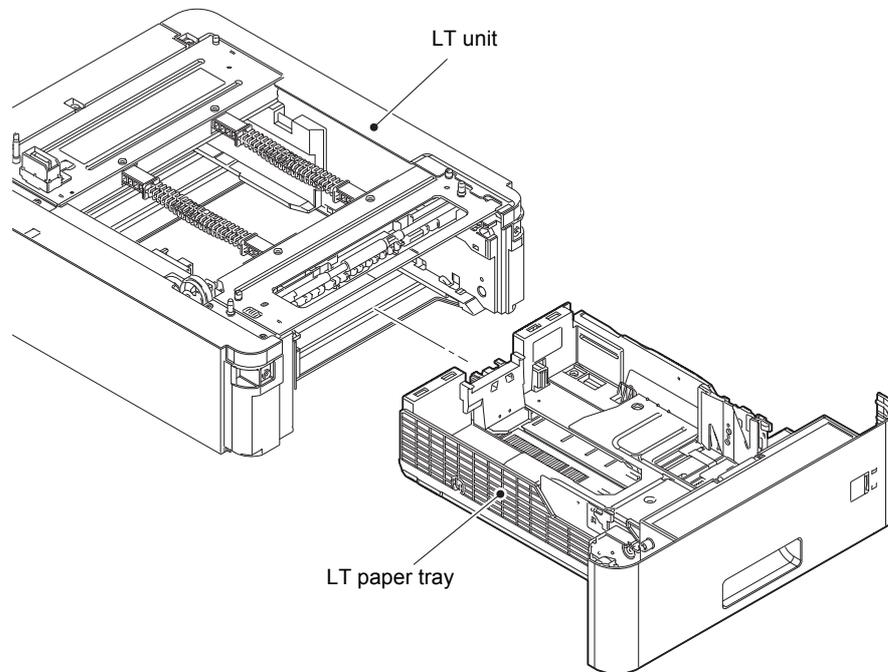


Fig. 3-201

- (2) Release each Hook of the Separation pad ASSY from the Paper tray.
- (3) Push both side Arms on the Separation pad ASSY inwards to remove the Pins, and remove the Separation pad ASSY from the paper tray.
- (4) Remove the Separation pad spring from the Separation pad ASSY.

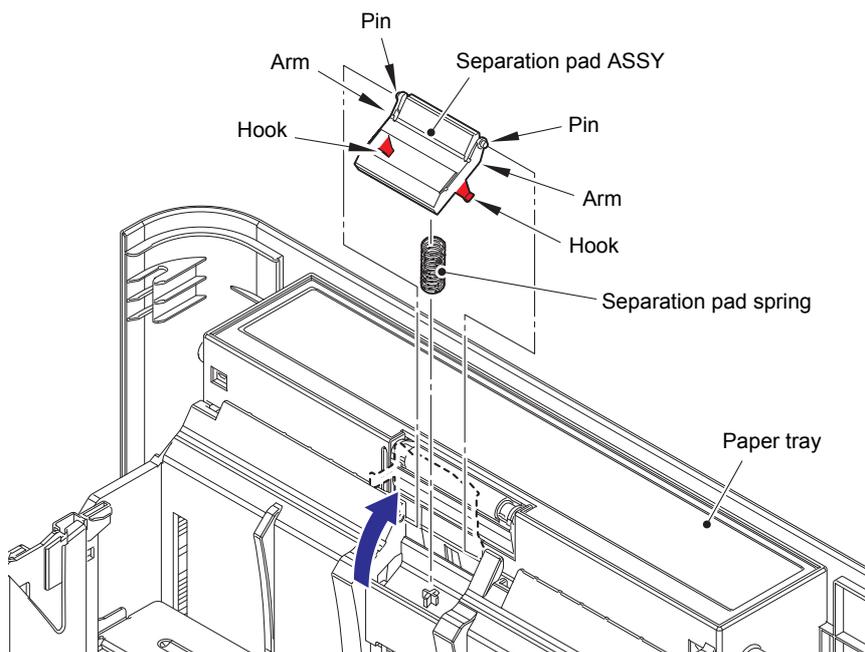


Fig. 3-202

11.2 Separation roller ASSY

- (1) Release the Hook and slide the Separation roller ASSY in the direction of the arrow.
- (2) Turn the Separation roller ASSY in the direction of the arrow 2a. Remove the Separation roller ASSY from the Paper feed drive shaft in the direction of the arrow 2b.

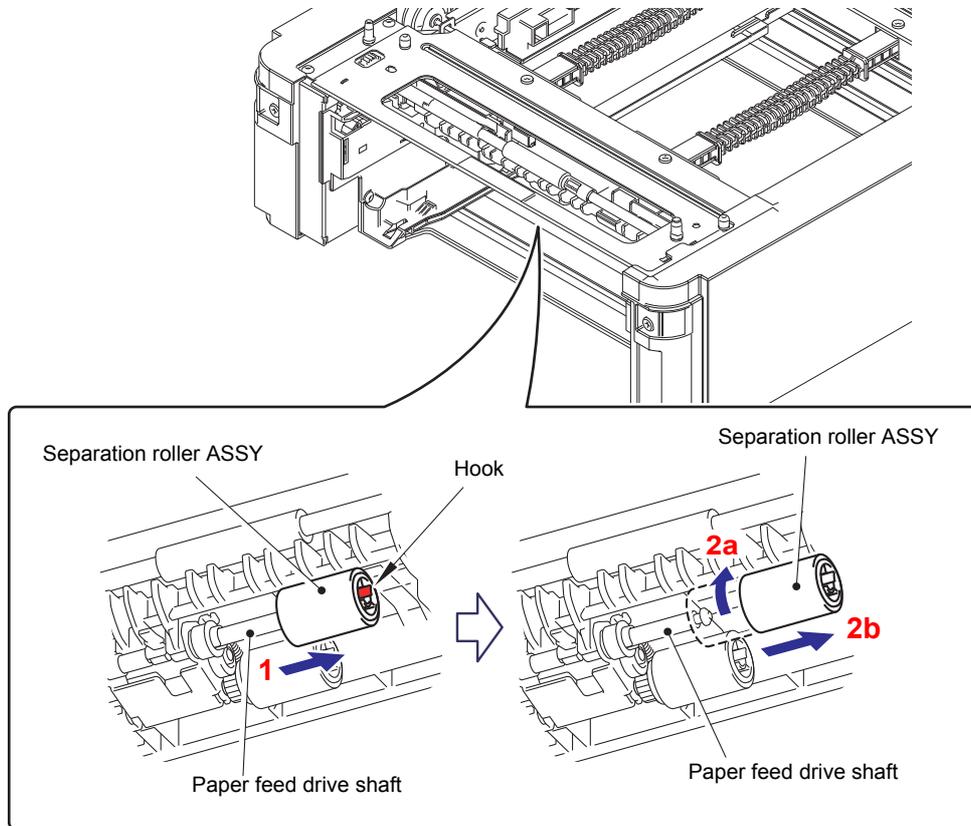


Fig. 3-203

Assembling Note:

- When assembling the Separation roller ASSY, assemble it by sliding it in the direction of the arrow b as rotating the Separation roller ASSY in the direction of the arrow a.

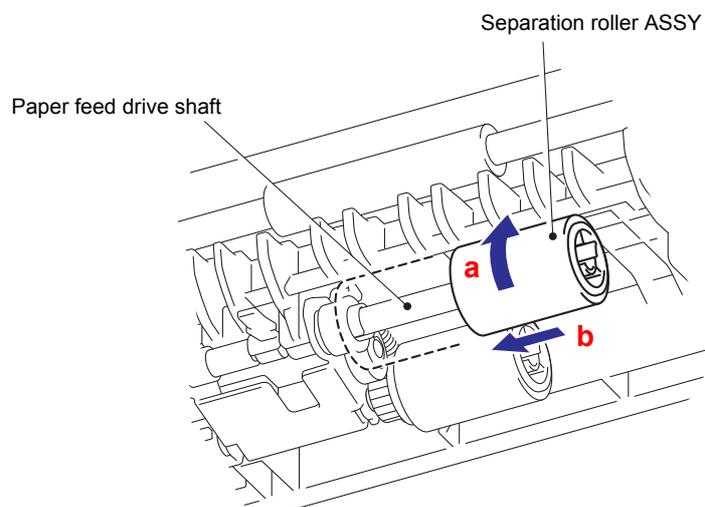


Fig. 3-204

11.3 LT cover rear

(1) Remove the Shoulder screw M3. Release each Boss, and remove the LT cover rear.

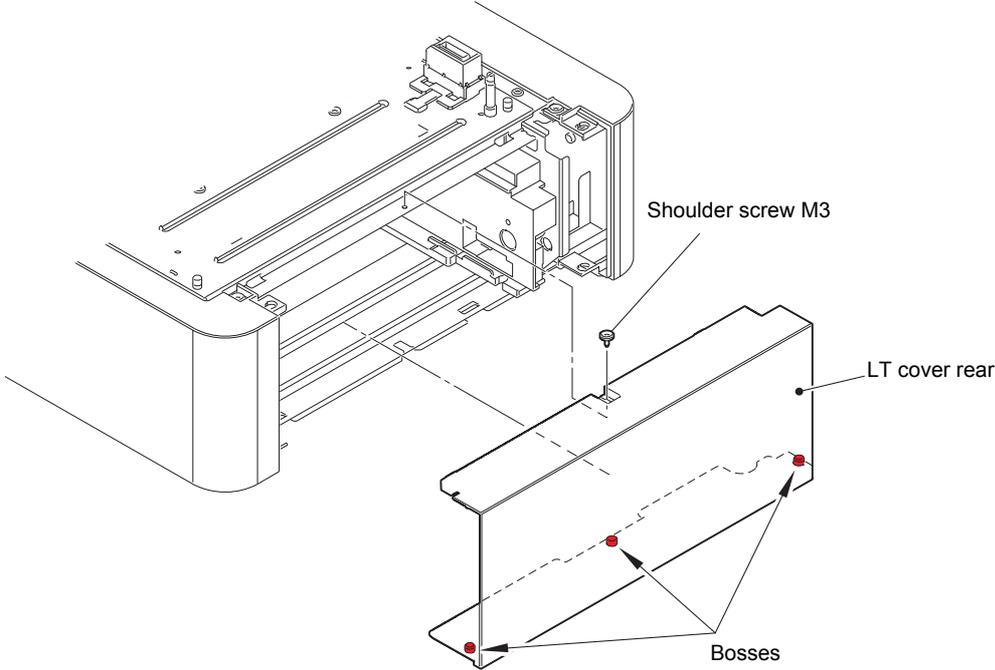


Fig. 3-205

11.4 LT control PCB ASSY

- (1) Remove the two Shoulder screws M3. Release each Hook, and remove the LT cover left.

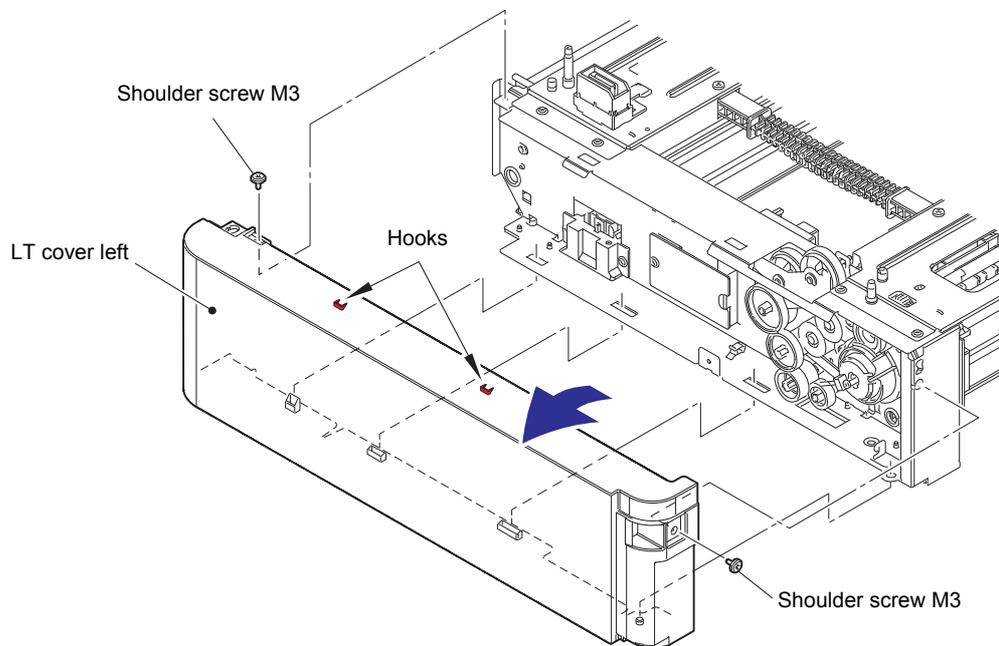


Fig. 3-206

- (2) Disconnect all harnesses from the LT control PCB ASSY.
(Remove the Plate motor harness after release the Connector lock.)

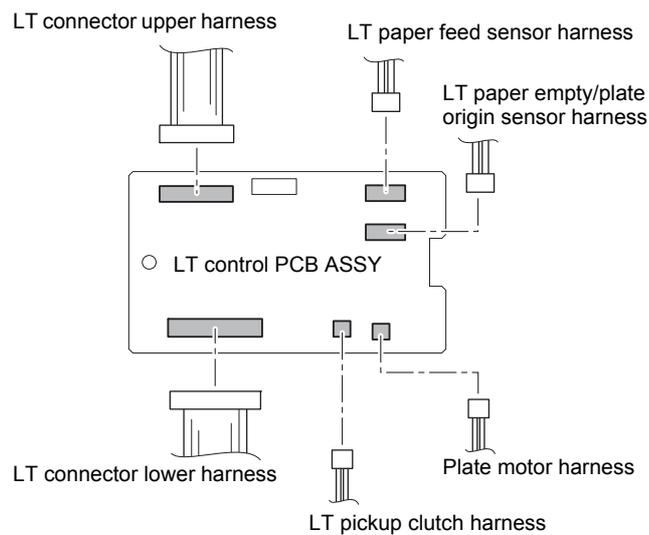


Fig. 3-207

Harness routing: Refer to "23. LT-340CL".

- (3) Remove the Taptite cup S M3x6 SR screw and remove the LT control PCB ASSY from the LT frame L unit.

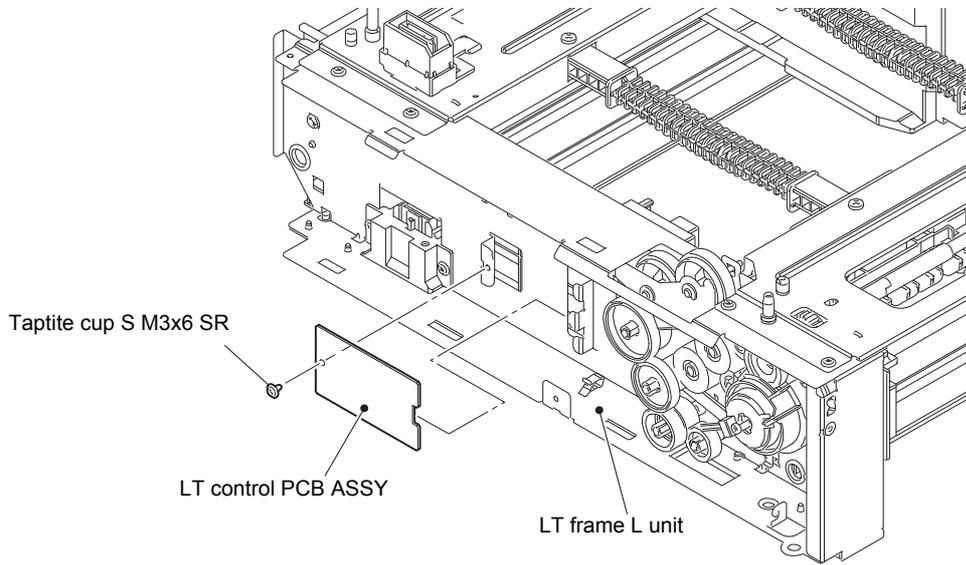


Fig. 3-208

11.5 LT paper feed frame unit

- (1) Remove the two Shoulder screws M3. Release each Hook, and remove the LT cover right.

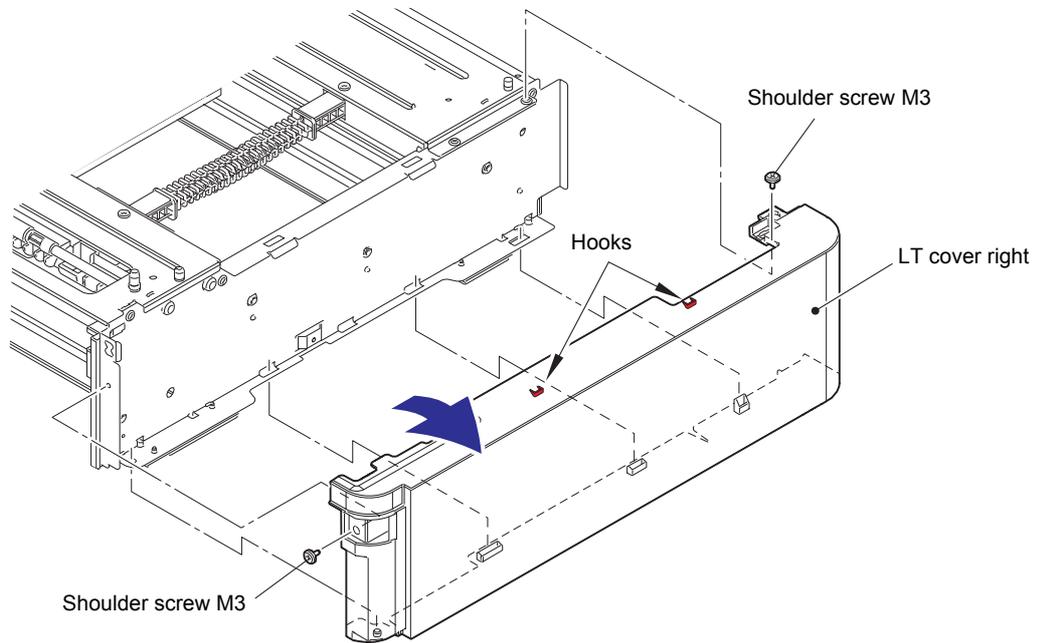


Fig. 3-209

- (2) Remove the Clutch spring from the Hook of Clutch arm ASSY and the Hook of LT frame L unit.

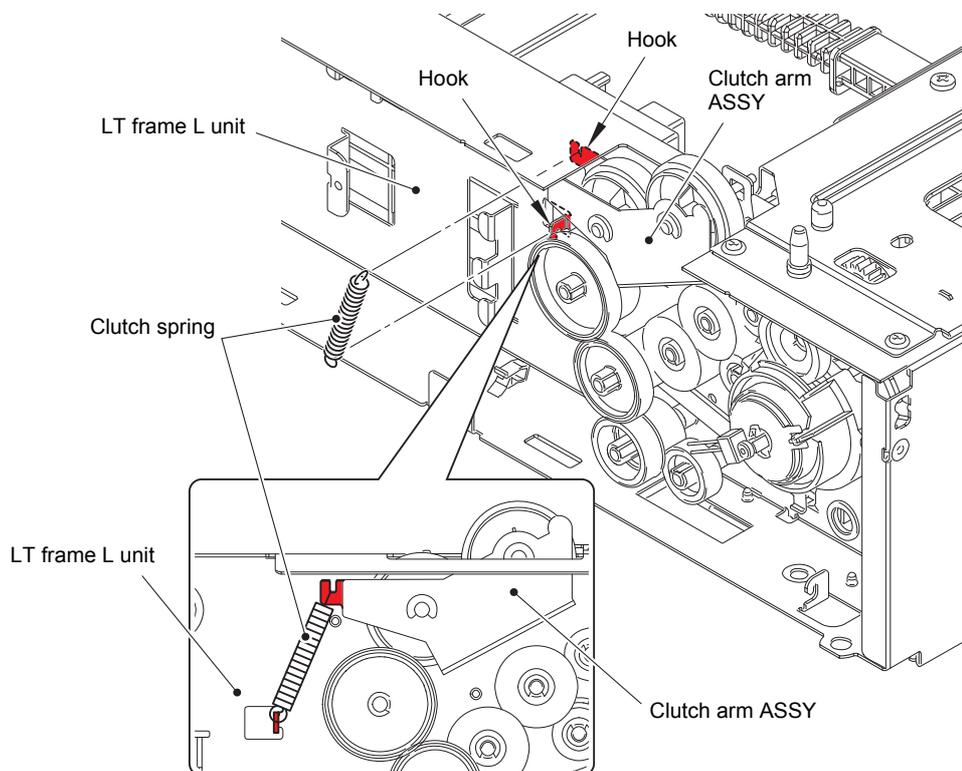


Fig. 3-210

(3) Release the Hook and remove the Gear 45/40 from the LT frame L unit.

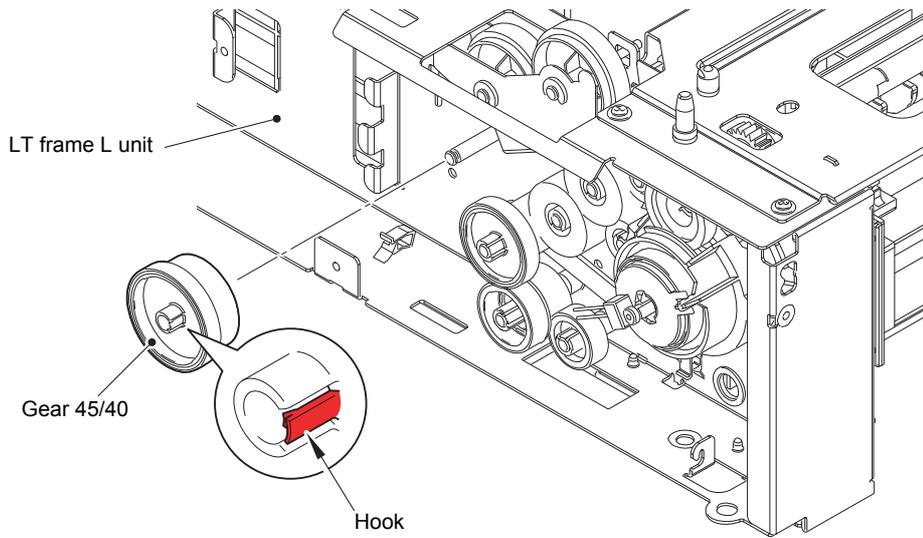


Fig. 3-211

(4) Remove the Collar 6, and remove the Clutch arm ASSY from the LT frame L unit.

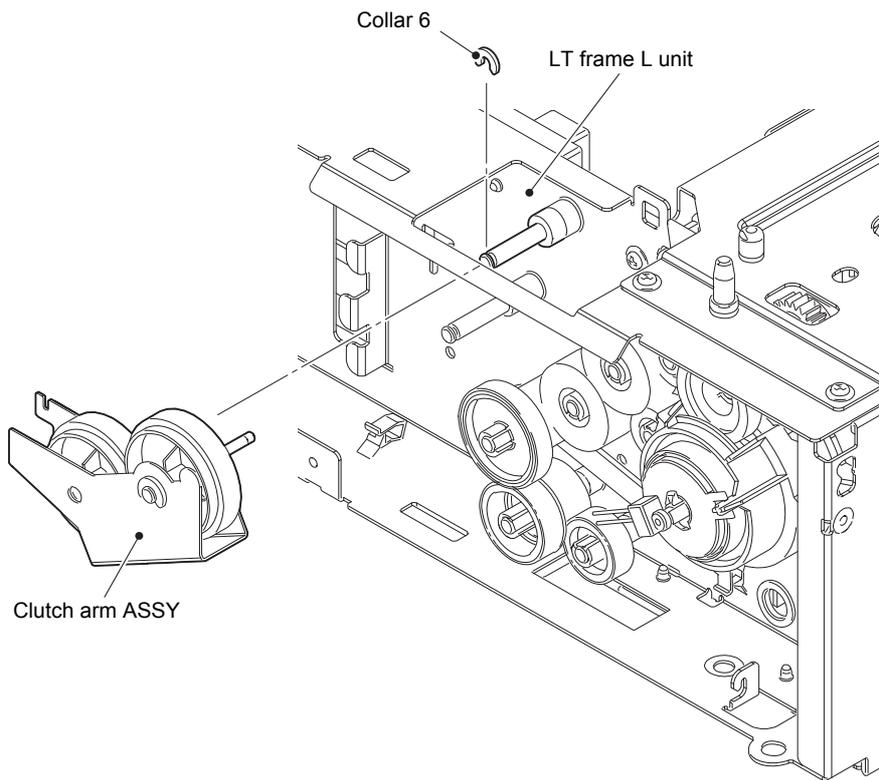


Fig. 3-212

(5) Remove the four Taptite bind B M4x12 screws and remove the two Handles.

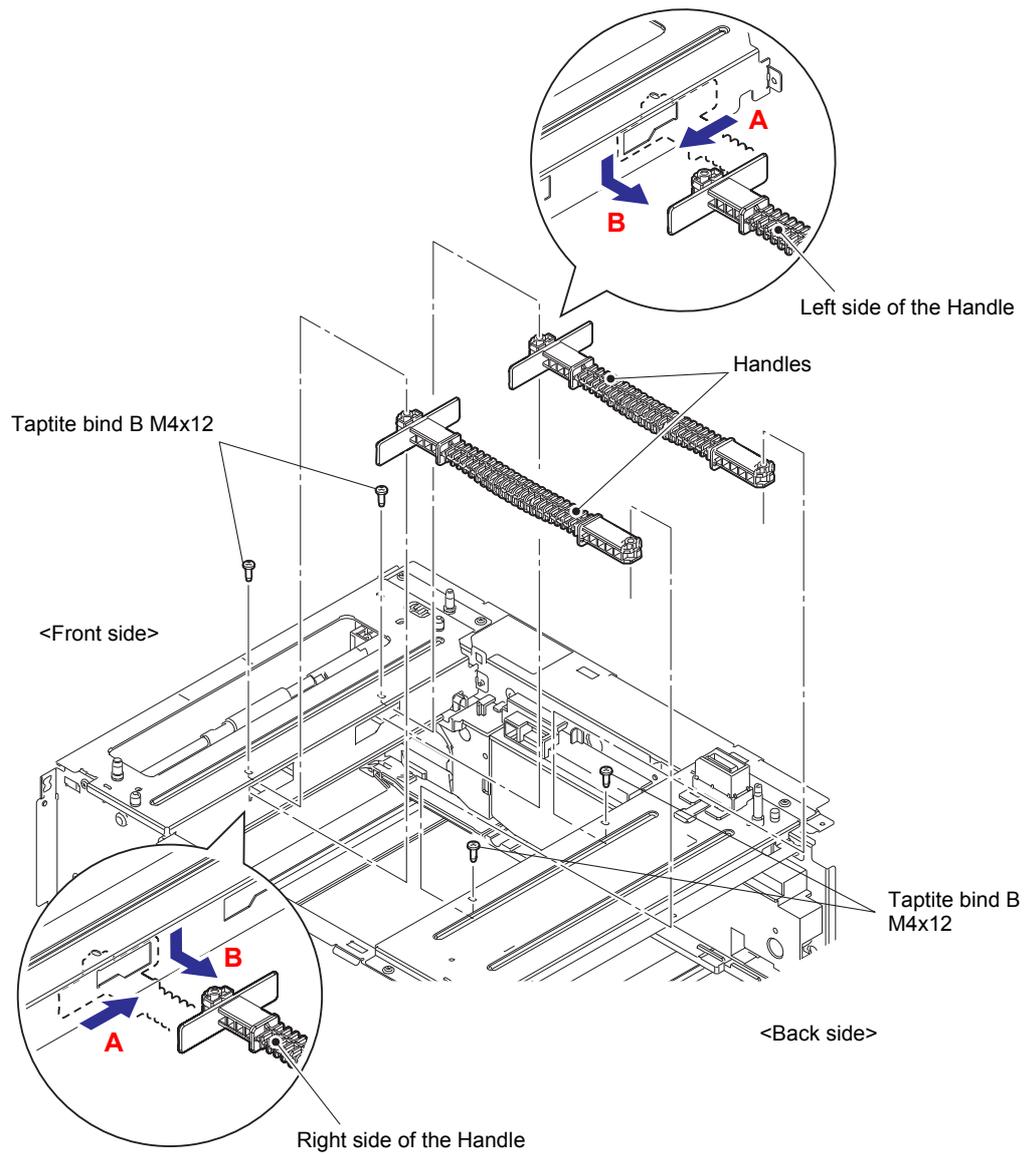


Fig. 3-213

- (6) Remove the five Taptite cup S M3x6 SR screws and remove the LT beam F ASSY.

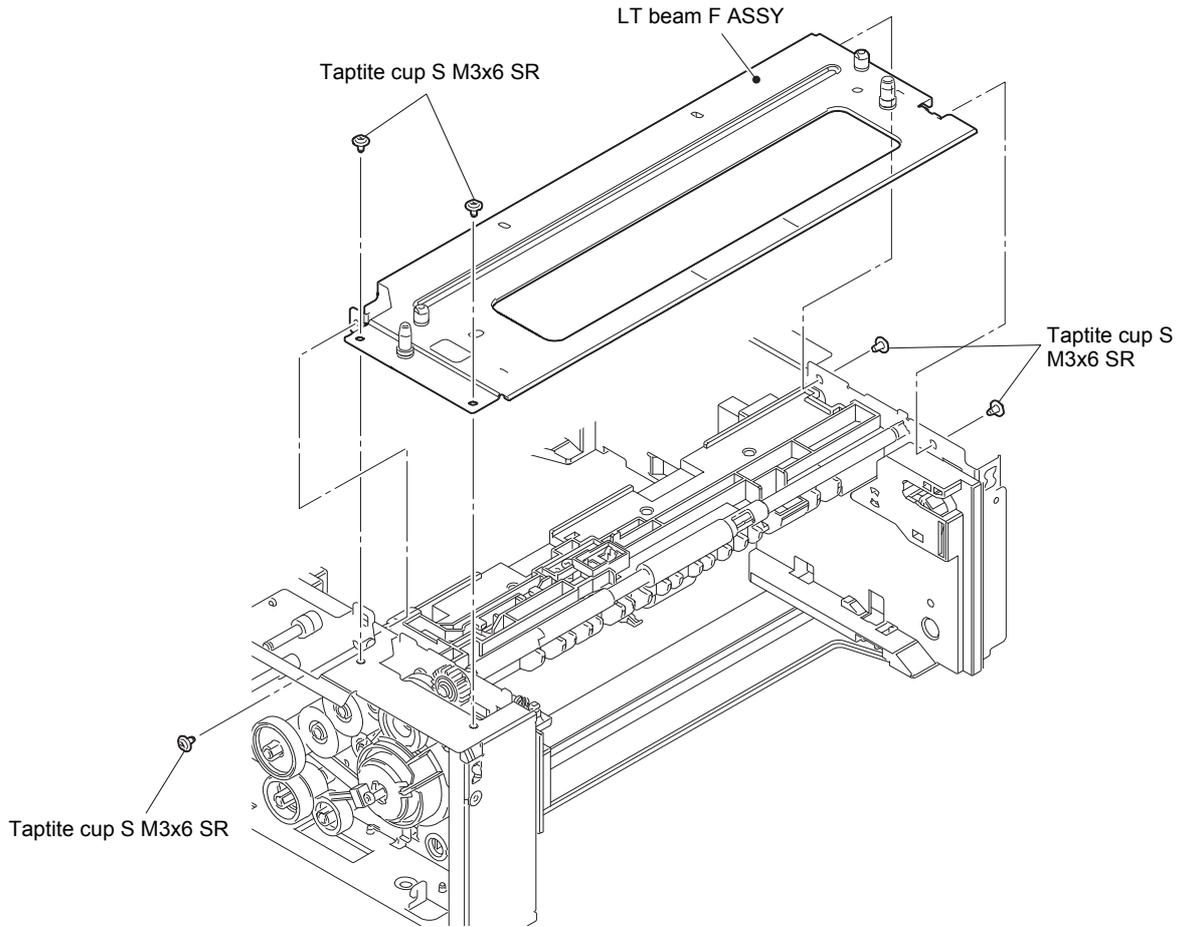


Fig. 3-214

- (7) Remove the Retaining ring E4 from the Feed roller and remove the Gear 24 and Feed roller bushing.

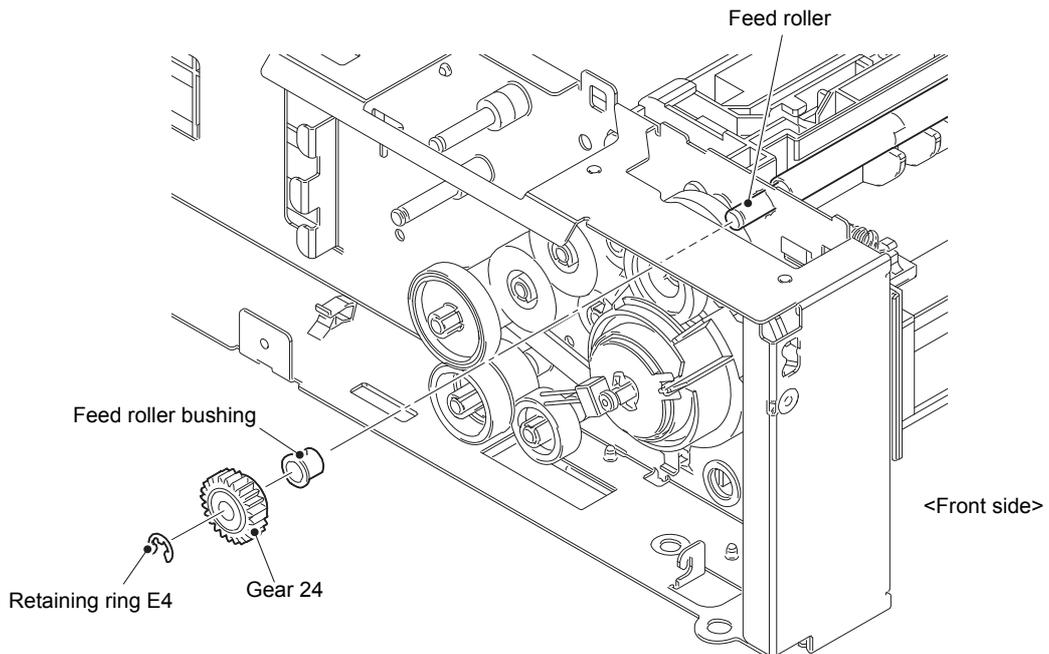


Fig. 3-215

- (8) Remove the Retaining ring E3 from the Feed roller and remove the Feed roller bushing TR.
- (9) Remove the Lift spring from the Hook of the Lift lever A and the Hook of the LT unit.
- (10) Remove the Feed roller in the directions of the arrows 10a and 10b in this order.

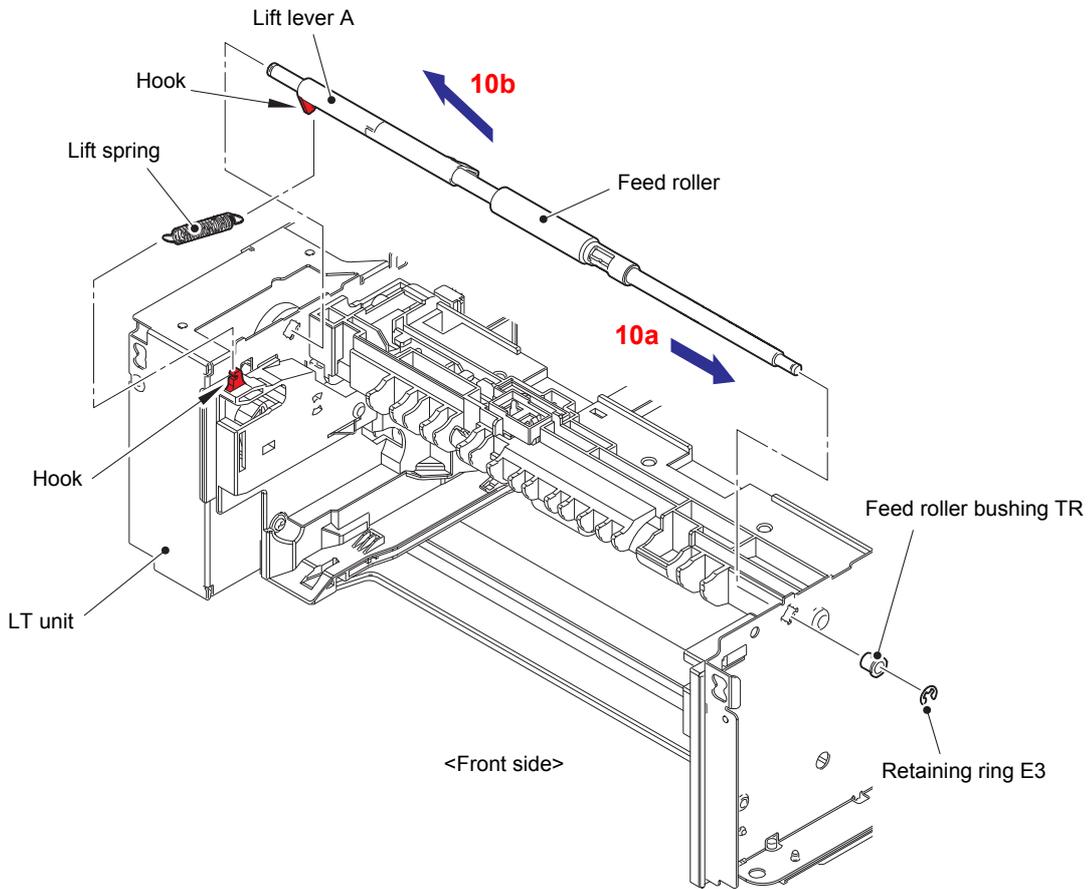


Fig. 3-216

Assembling Note:

When assembling the Feed roller, be sure to assemble it in a way that the LT paper feed frame unit comes between "A" and "B" of the Lift lever B, and the Lever of the LT paper feed holder comes in front of "B".

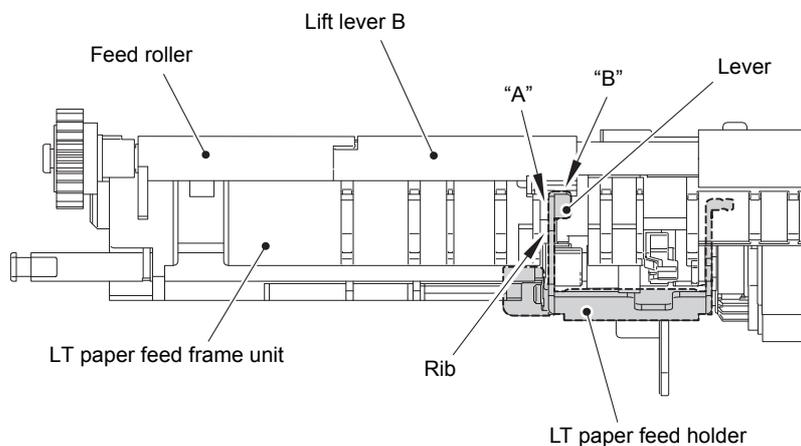


Fig. 3-217

- (11) Release the LT pickup clutch harness from the securing fixtures. Release the Hook of LT pickup clutch and the Hook of Gear cover, then remove the LT pickup clutch.

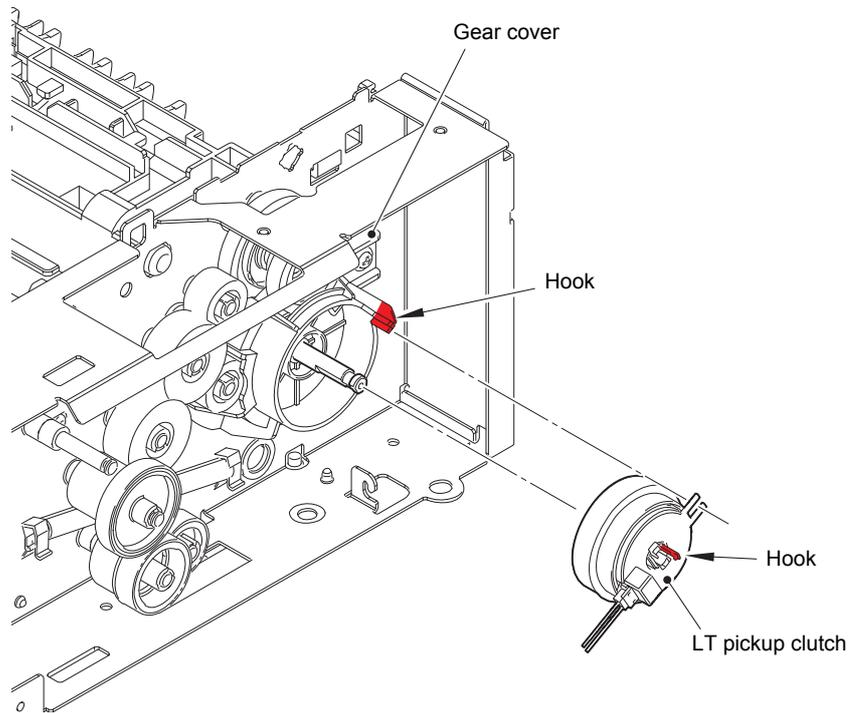


Fig. 3-218

Harness routing: Refer to "23. LT-340CL".

- (12) Release the Hook and remove the Gear 32 from the LT frame L unit.
(13) Release the Hook and remove the Gear 20A from the LT frame L unit.
(14) Remove the two Taptite cup S M3x6 SR screws. Release the Hook and remove the Gear cover from the LT frame L unit.

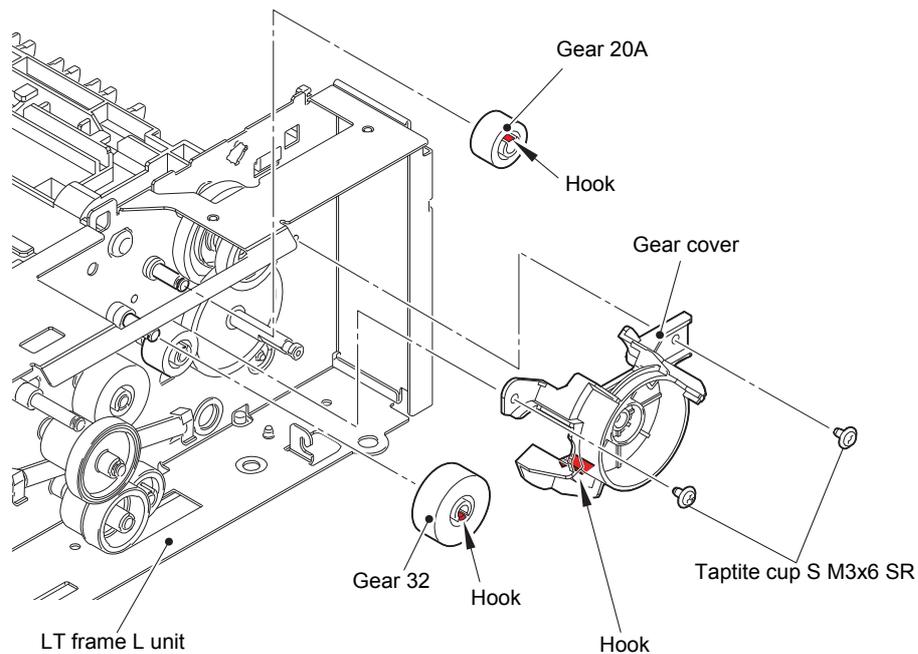


Fig. 3-219

- (15) Release the Hook and remove the Gear 33 from the LT frame L unit.
- (16) Remove the Gear M80 55 from the LT frame L unit.
- (17) Remove the Gear 46 from the LT frame L unit.
- (18) Remove the Bushing from the LT frame L unit.

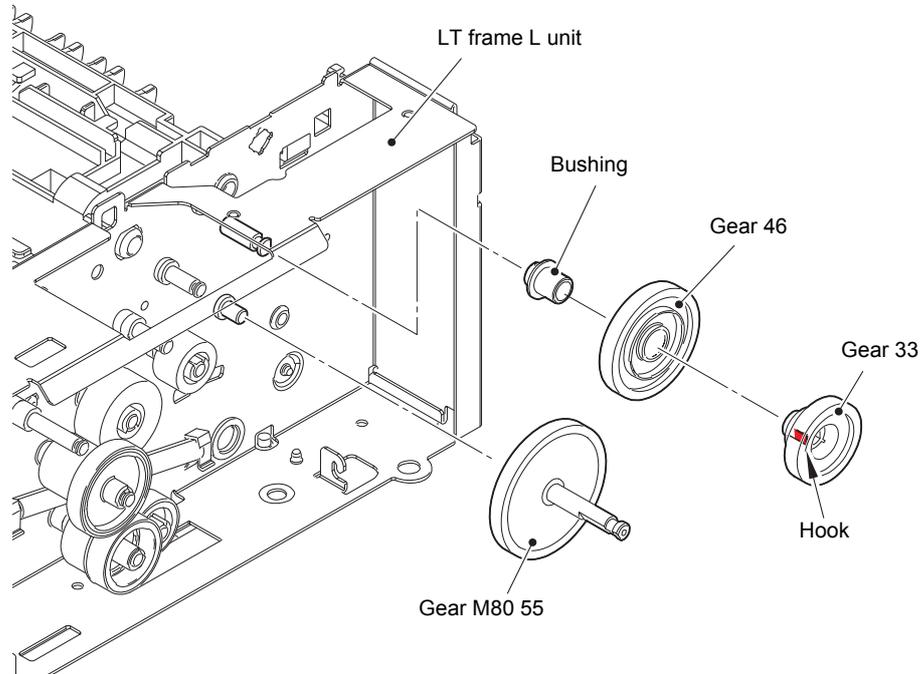


Fig. 3-220

- (19) Remove the eight Taptite cup S M3x6 SR screws and lift the LT beam rear from the two Ribs slightly.

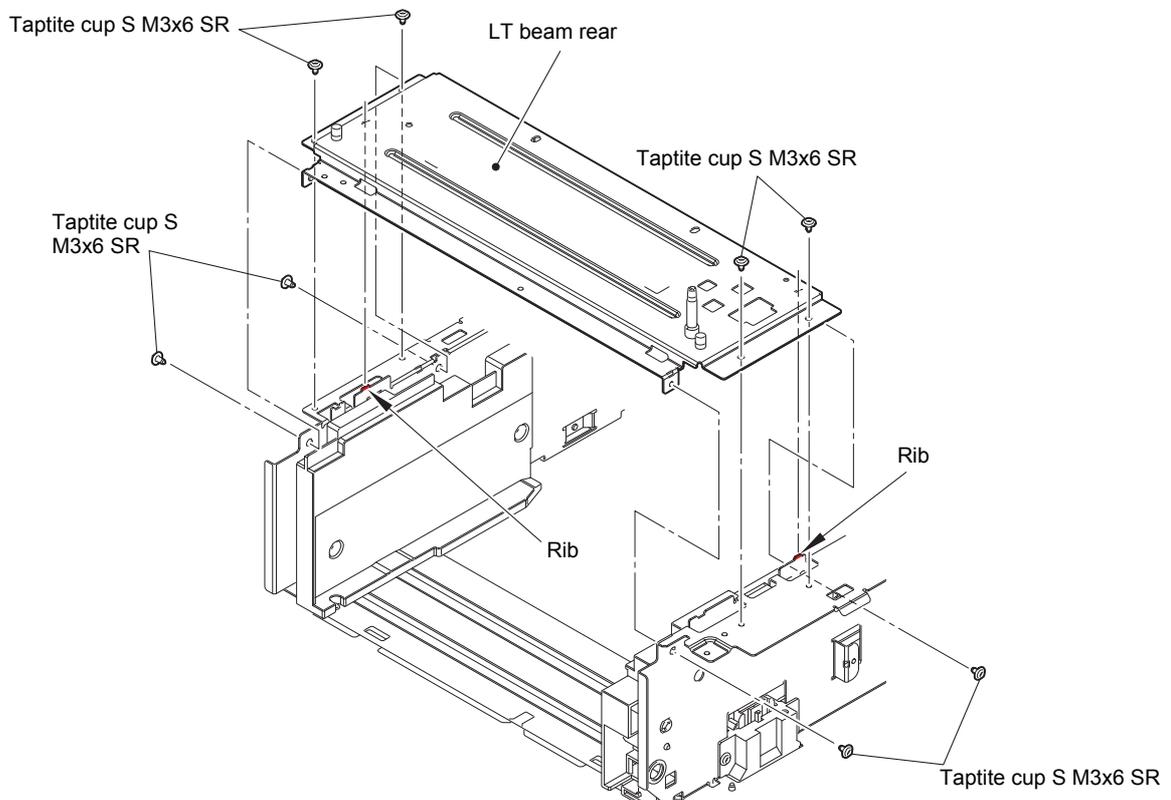


Fig. 3-221

(20) Release the LT paper feed sensor harness and LT paper empty/plate origin sensor harness from the securing fixtures.

(21) Remove the Taptite bind B M4x10 screw. Remove the LT paper feed frame unit as figure below.

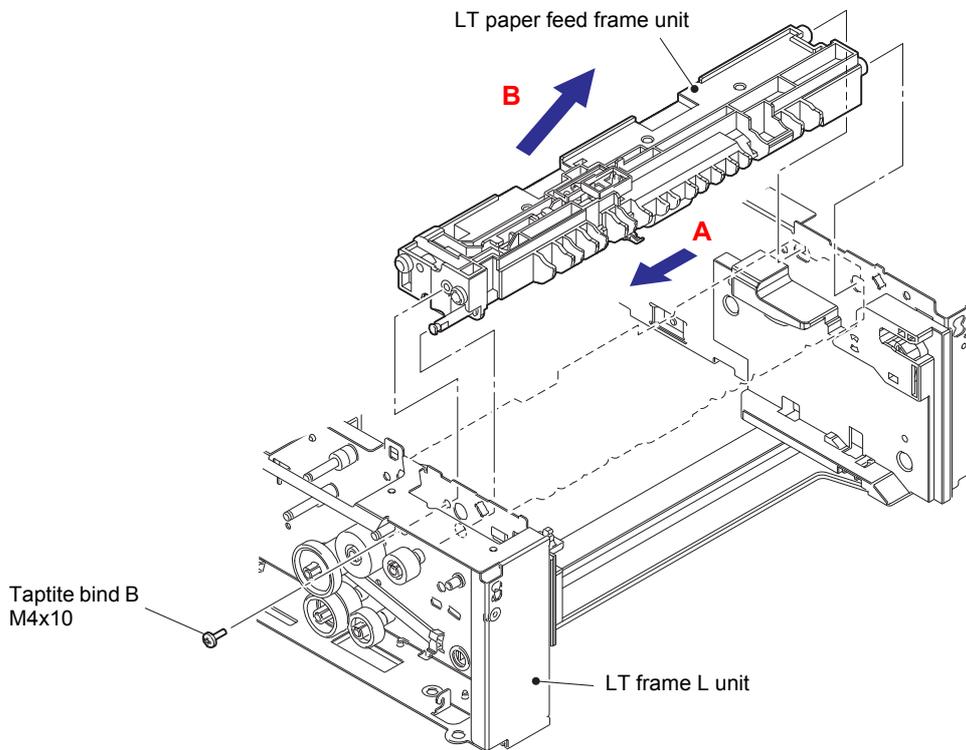


Fig. 3-222

Harness routing: Refer to "23. LT-340CL".

11.6 LT paper empty/plate origin sensor PCB ASSY

- (1) Release the LT paper empty/plate origin sensor PCB harness from the securing fixtures.
- (2) Remove the Taptite bind B M3x8 screw and remove the Sensor PCB holder from the LT plate feed frame unit.
- (3) Remove each Hook, and remove the LT paper empty/plate origin sensor PCB ASSY from the Sensor PCB holder.

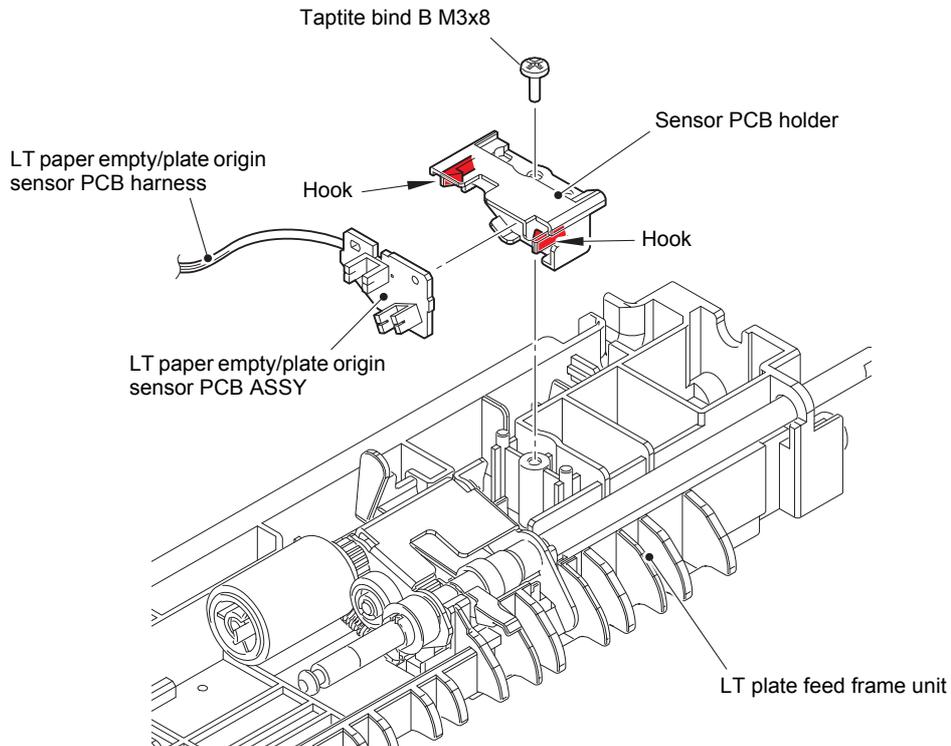


Fig. 3-223

Harness routing: Refer to "23. LT-340CL".

12. DISASSEMBLY PROCEDURE (TT UNIT)

12.1 Preparation

■ Disconnecting Cables and Removing Accessories

Prior to proceeding with the disassembly procedure,

(1) Disconnect the following:

- AC cord
- Relay AC cord

(2) Remove the following:

- TT paper trays

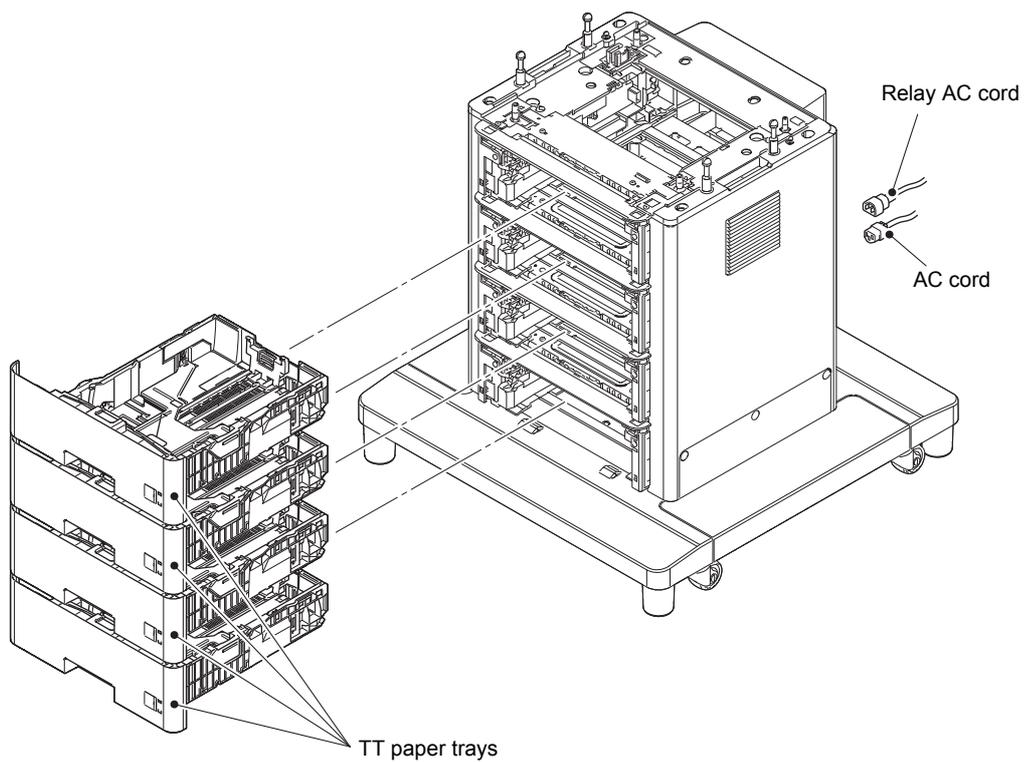


Fig. 3-224

12.2 TT paper tray

- (1) Release the two hooks on the separation pad ASSY from the TT paper tray.
- (2) Push both arms of the separation pad ASSY inwards and release the pins to remove the separation pad ASSY from the TT paper tray.
- (3) Remove the separation pad spring from the separation pad ASSY.

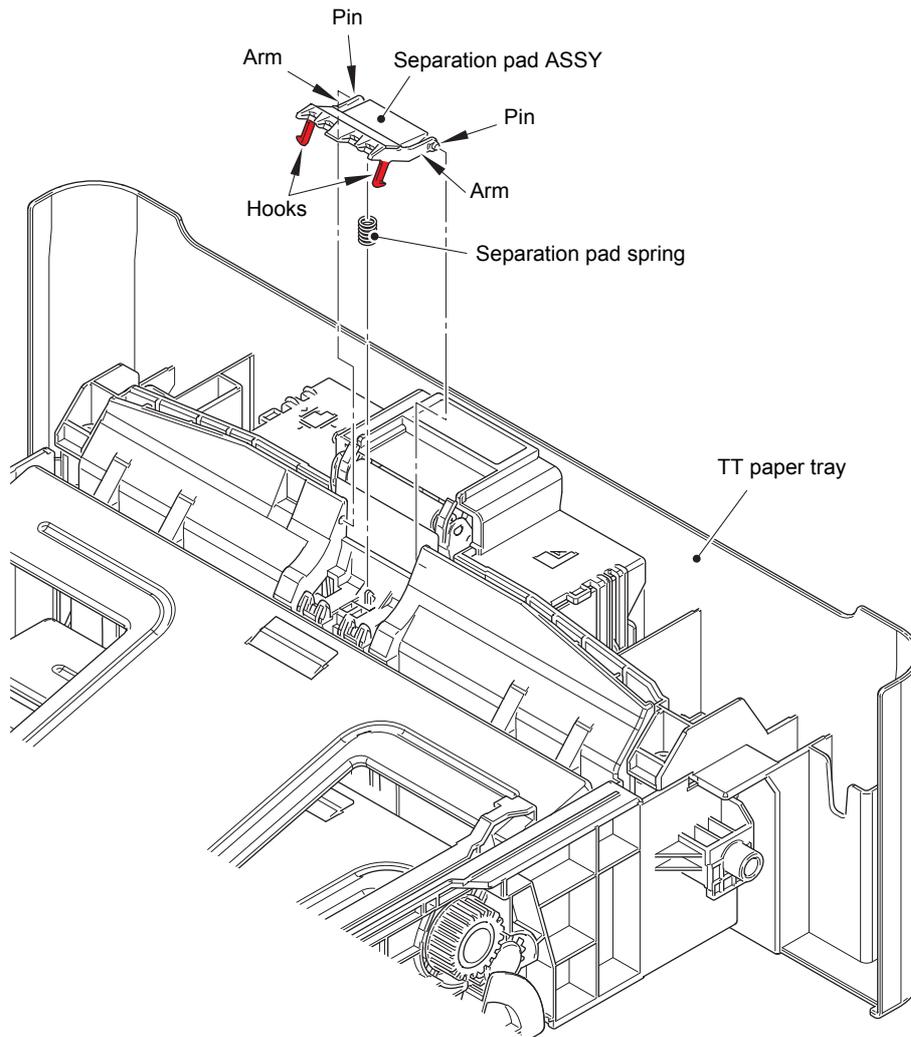


Fig. 3-225

- (4) Press the hook on the lift gear Z48M10 while lifting the plate-up plate to remove the lift gear Z48M10 from the TT paper tray.
- (5) Remove the gear Z22M10 and idle gear 50 Z18M10 from the TT paper tray.

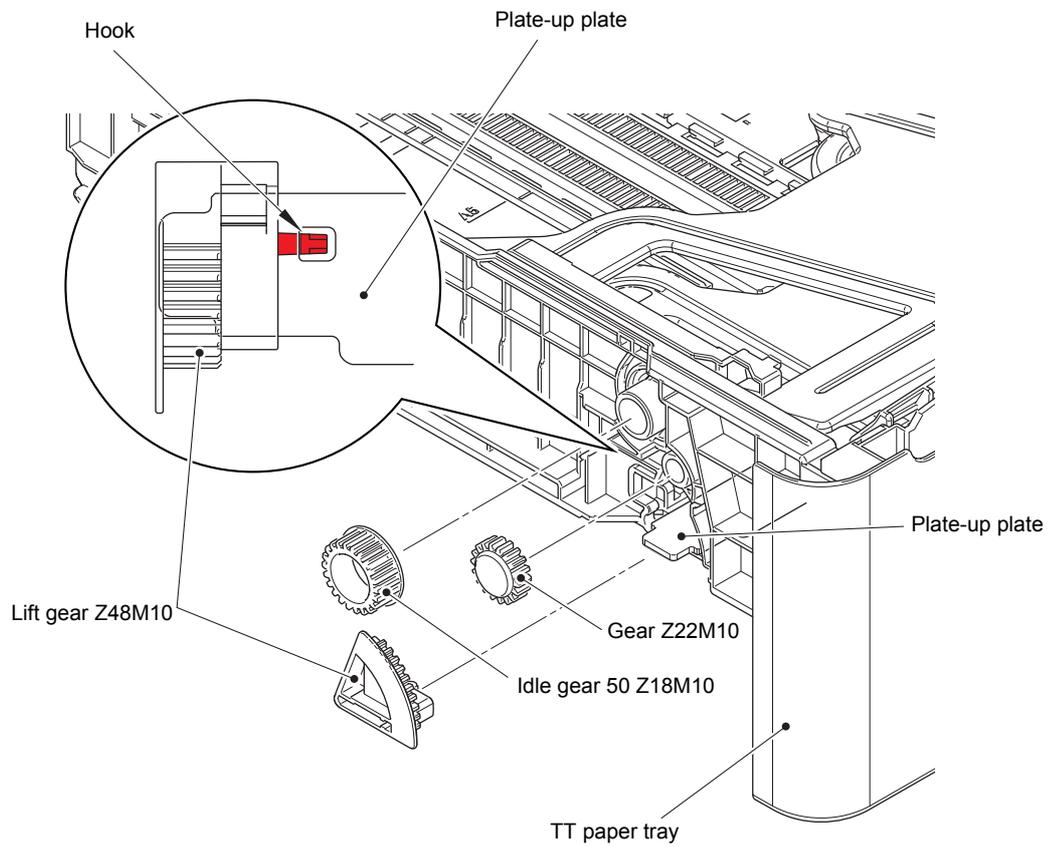


Fig. 3-226

12.3 TT roller holder ASSY

- (1) Push the link arm in the direction of the arrow A, and turn the TT roller holder ASSY to remove the boss.
- (2) Slide the TT roller holder ASSY in the direction of the arrow B to remove it from the shaft, and remove the TT roller holder ASSY.

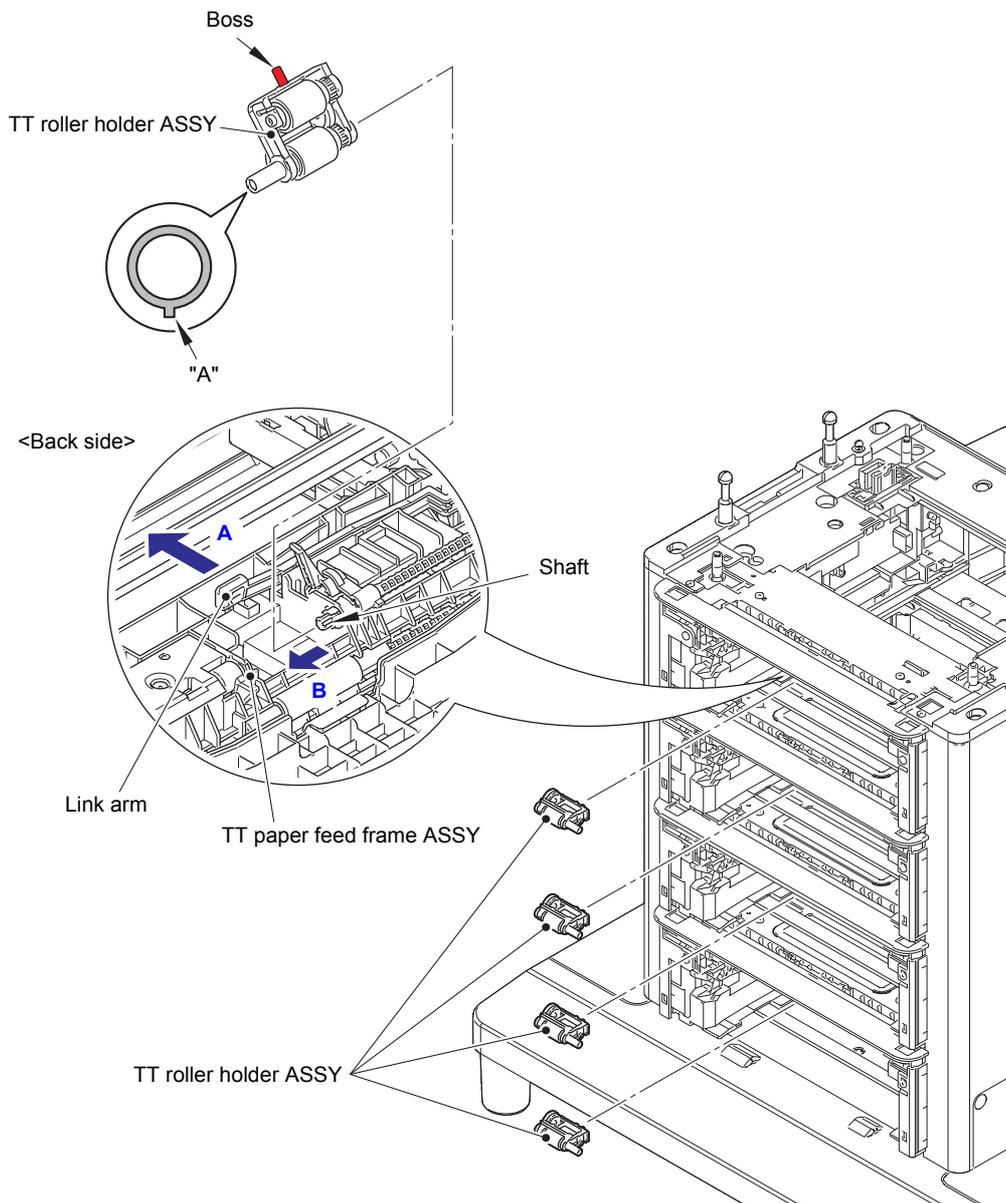


Fig. 3-227

Assembling Note:

- When assembling the TT roller holder ASSY, engage the hole of the TT paper feed frame ASSY with the "A" part of the shaft on the TT roller holder ASSY.

12.4 Covers

- (1) Remove the eight shoulder screws and two taptite bind B M4x10 screws. Release the two hooks to remove the top cover TT.

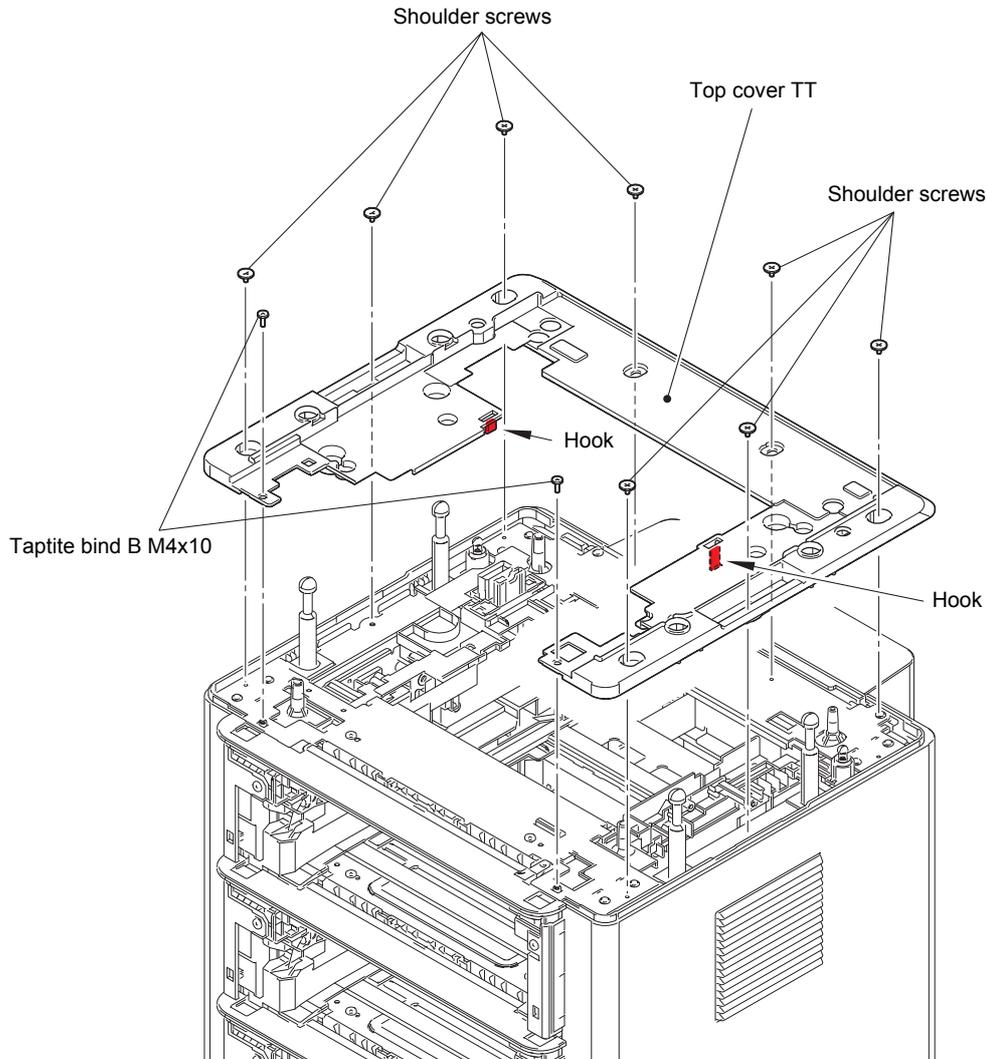


Fig. 3-228

- (2) Remove the seven taptite bind B M4x10 screws. Release the front hooks, and remove the boss while pushing the rear top in the direction of the arrow A. Release the inner hook while sliding it in the direction of the arrow B to remove the side cover L.

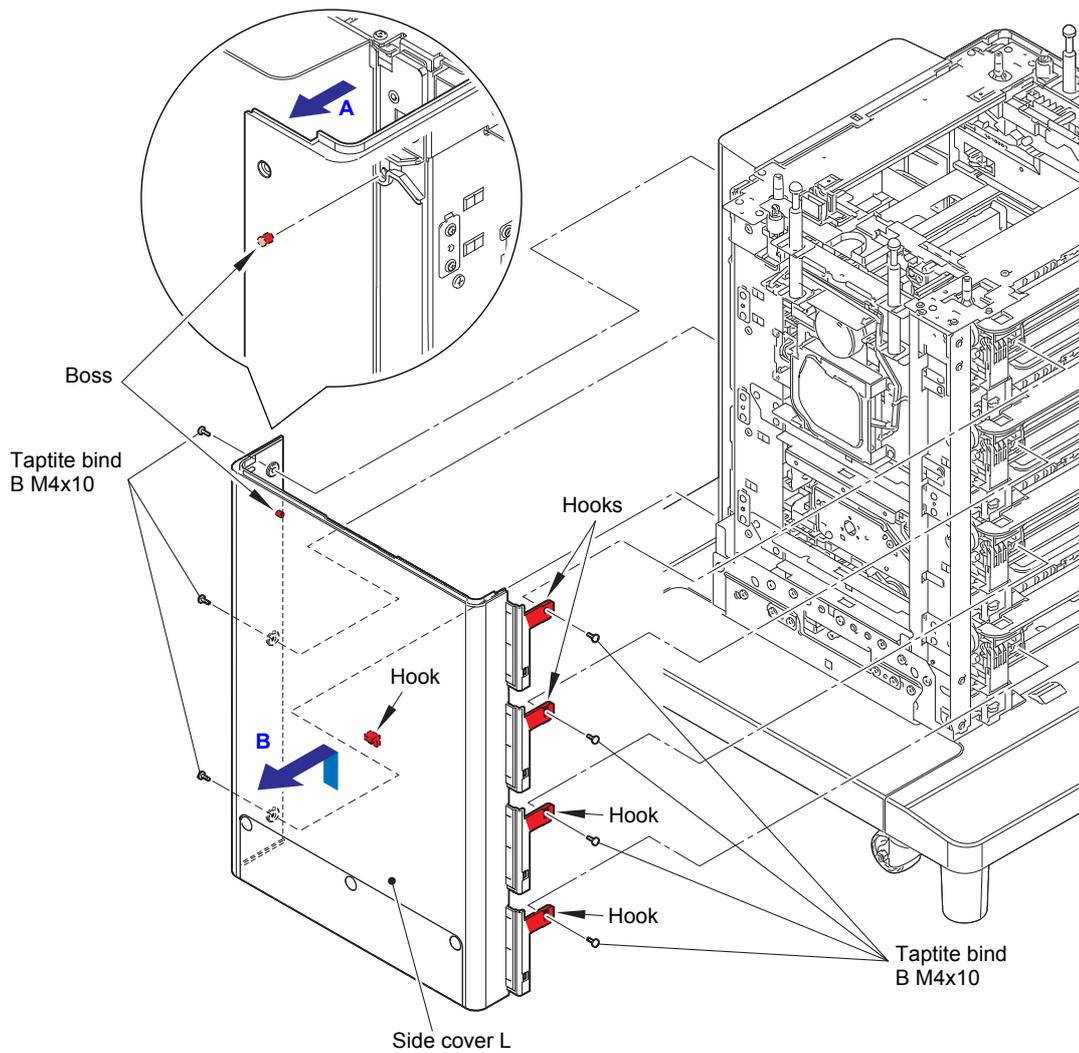


Fig. 3-229

- (3) Remove the seven taptite bind B M4x10 screws. Release the front hooks, and remove the boss while pushing the rear top in the direction of the arrow A. Release the inner hook while sliding it in the direction of the arrow B to remove the side cover R.

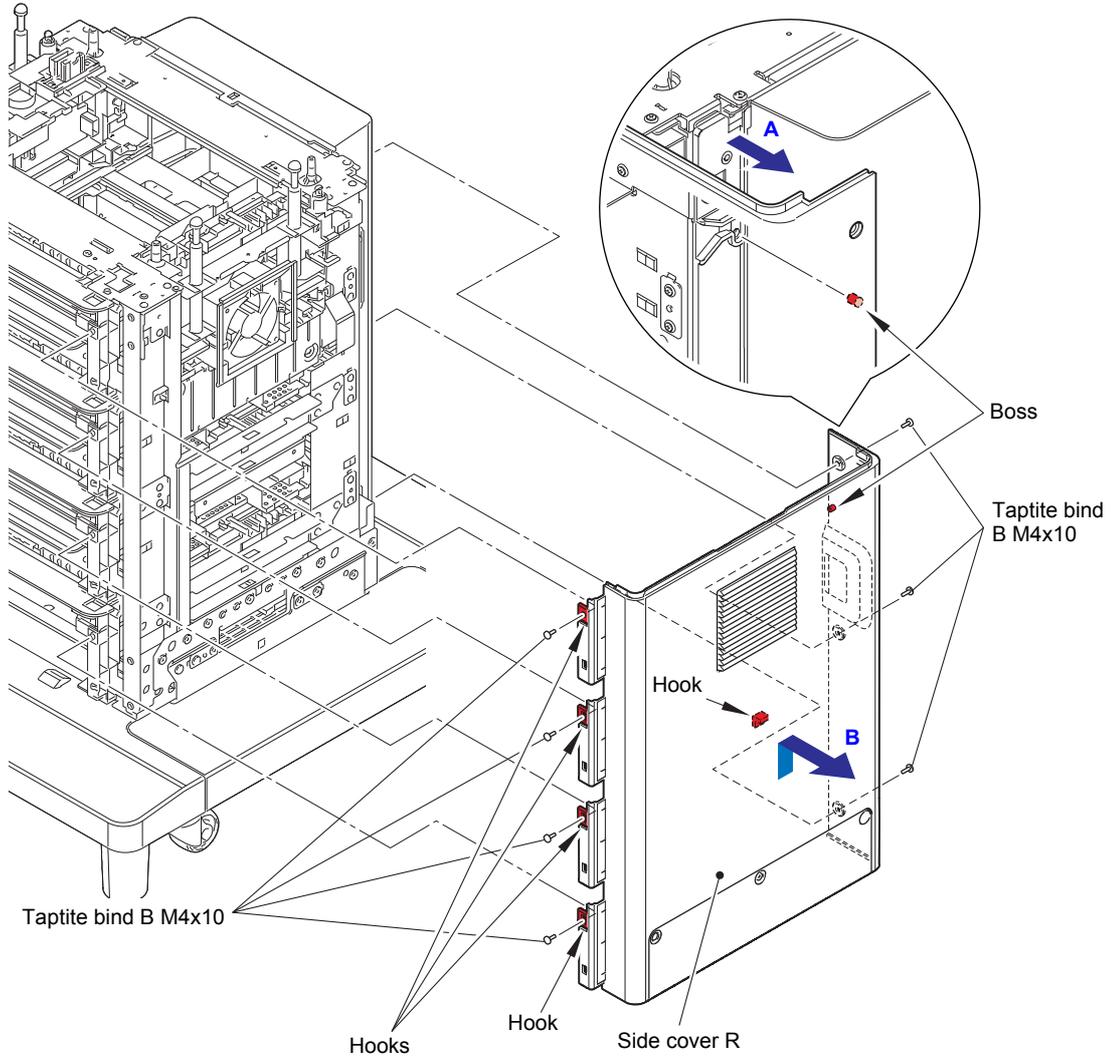


Fig. 3-230

- (4) Remove the six shoulder screws (black).
- (5) Remove the four bosses while pushing the back cover top in the direction of the arrow, slide it up to release the two hooks, and remove the back cover.

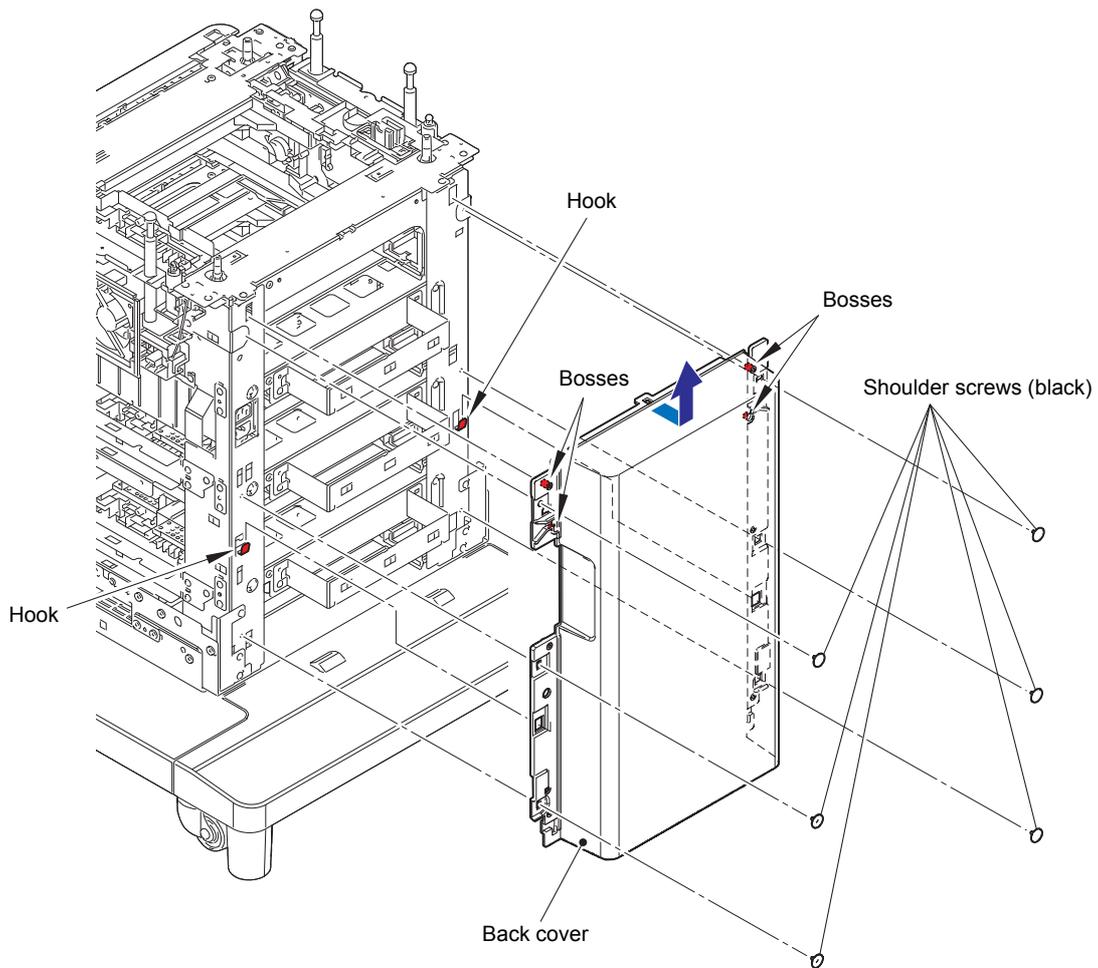


Fig. 3-231

12.5 TT control PCB ASSY

- (1) Remove the three screw cup M3x8 (black) screws to remove the PCB cover plate.

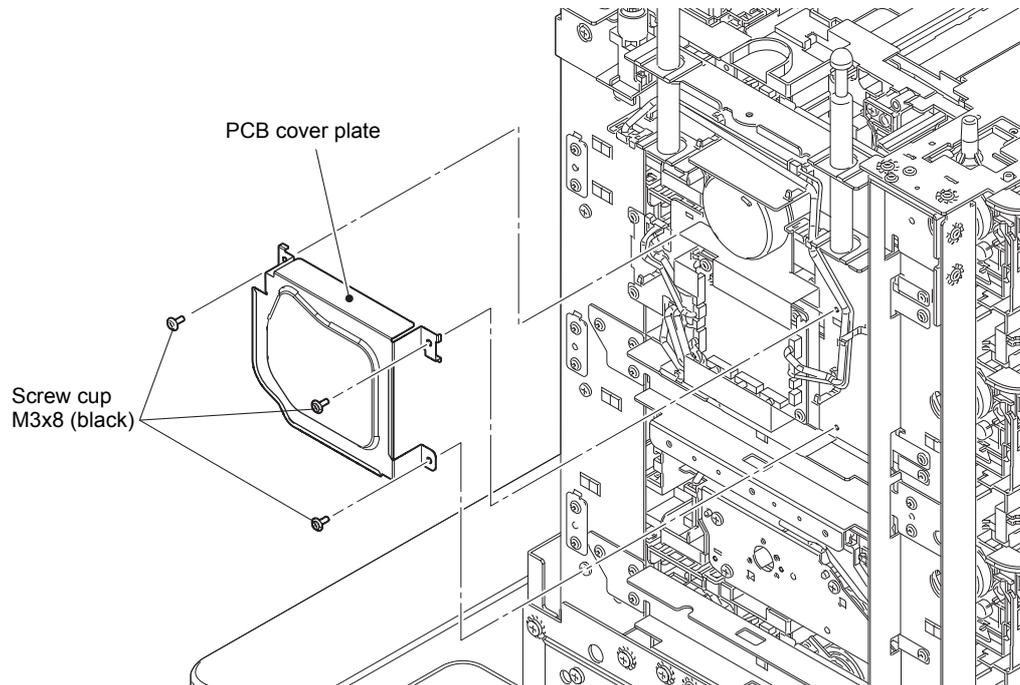


Fig. 3-232

- (2) Disconnect all harnesses connected to the TT control PCB ASSY.

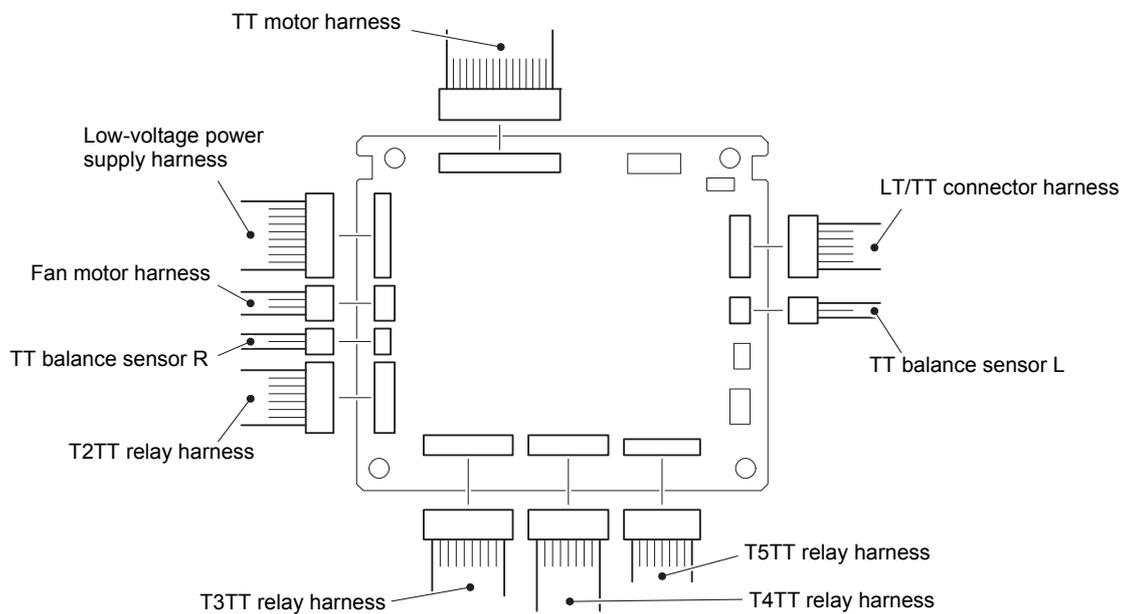


Fig. 3-233

- (3) Remove the four screw cup M3x8 (black) screws to remove the TT control PCB ASSY.
- (4) Loosen all clamps and release them from the securing fixtures.
- (5) Remove the six screw cup M3x8 (black) screws to remove the PCB shield plate. Pull out the TT motor harness through the insulation sheet hole.

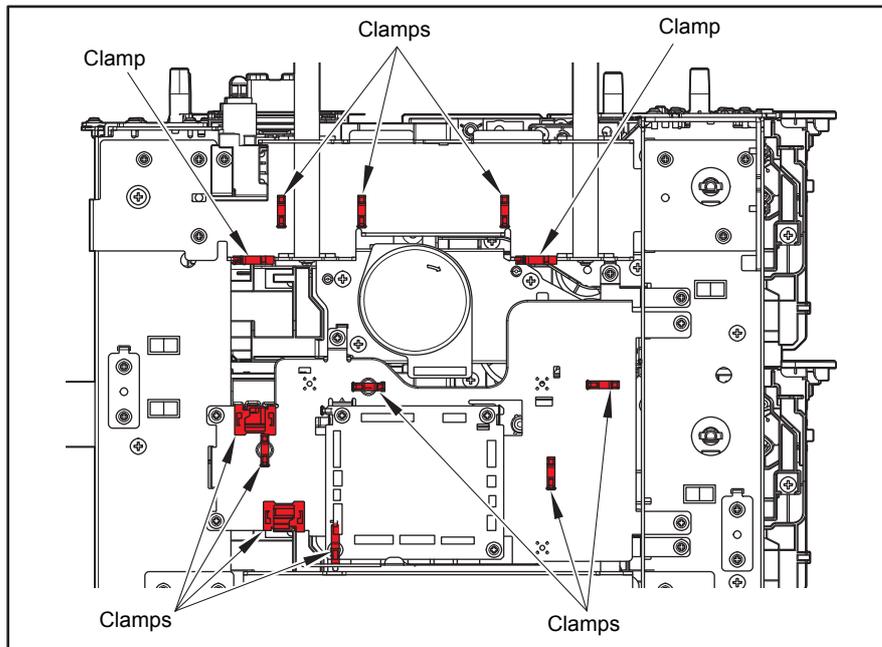
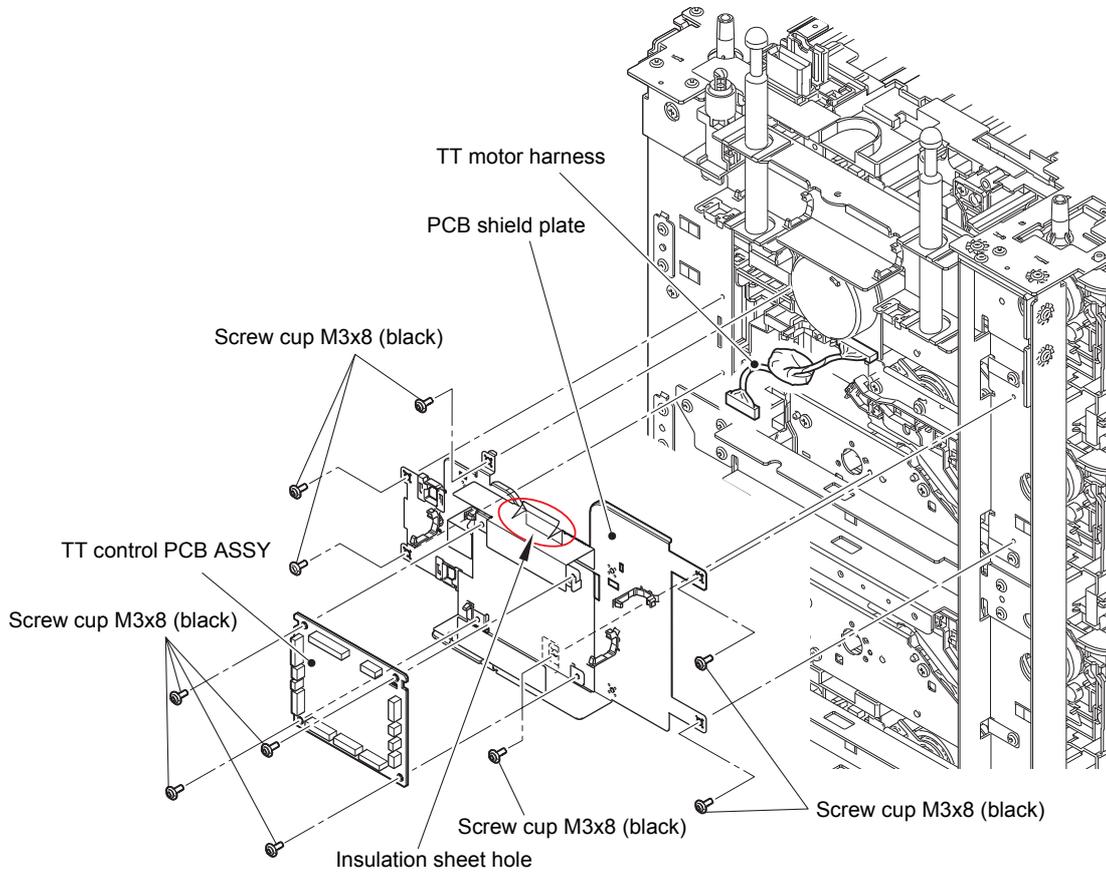


Fig. 3-234

Harness routing: Refer to "24. TT control PCB ASSY".

12.6 TT balance sensor L / TT balance sensor R

- (1) Remove the taptite cup S M3x8 SR screw to remove the attach sensor holder.
- (2) Release the two hooks to remove the TT balance sensor L from the attach sensor holder.

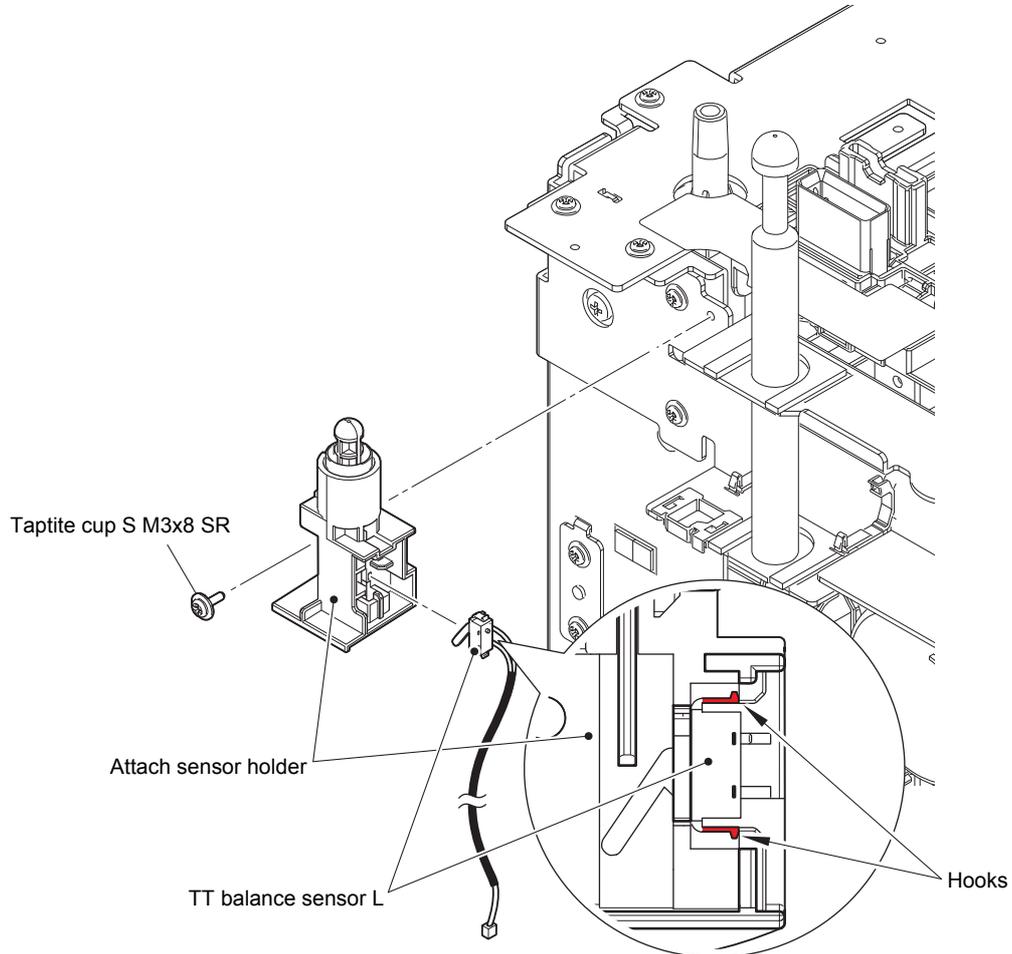


Fig. 3-235

- (3) Loosen each clamp, release the TT balance sensor R harness from the securing fixtures, and disconnect it from the TT balance sensor R relay harness.
- (4) Remove the taptite cup S M3x8 SR screw to remove the attach sensor holder.
- (5) Release the two hooks to remove the TT balance sensor R from the attach sensor holder.

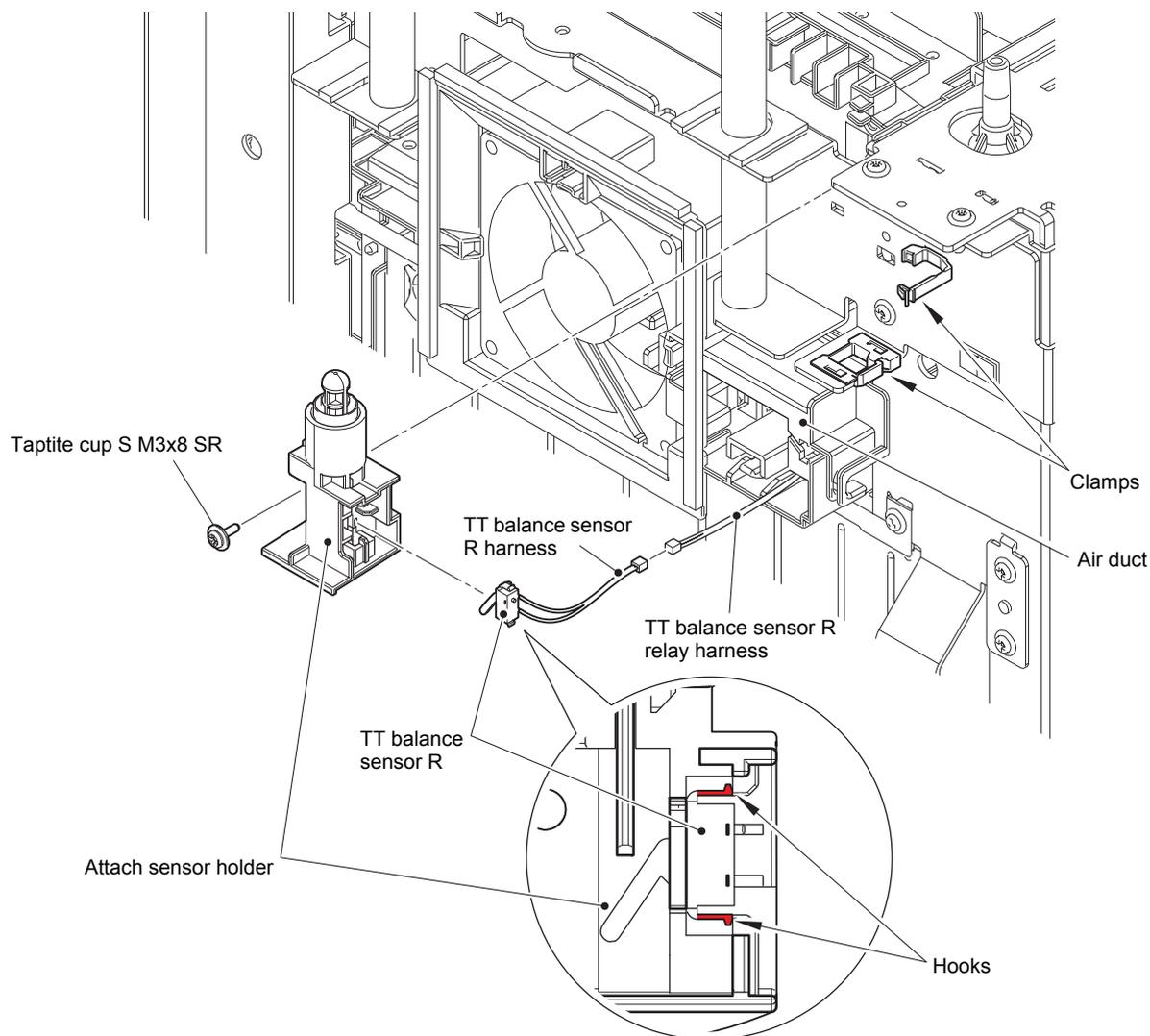


Fig. 3-236

Harness routing: Refer to "26. Upper right of the TT".

Assembling Note:

- Do not pull the TT balance sensor R relay harness too much, it may cause a connection failure with the TT control PCB ASSY.
- When wiring, make sure that the TT balance sensor R harness does not come out of the air duct.

12.7 Fan motor

- (1) Release the fan motor harness from the securing fixtures, and disconnect it from the fan motor relay harness.
- (2) Release all hooks to remove the fan motor from the air duct.

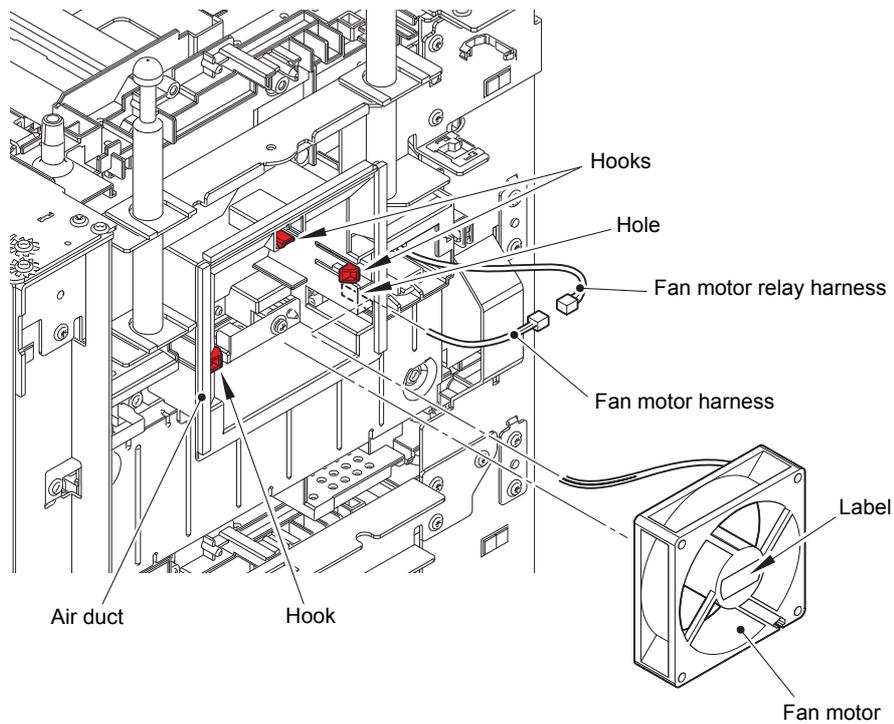


Fig. 3-237

Harness routing: Refer to "26. Upper right of the TT".

Assembling Note:

- Place the fan motor so that the attached label faces outwards.
- Do not pull the fan motor relay harness too much, it may cause a connection failure with the TT control PCB ASSY.
- When wiring, make sure that the fan motor harness does not come out of the air duct.

12.8 TT motor

- (1) Remove the four taptite cup S M3x8 SR screws to remove the FG plate L.
- (2) Remove the four taptite bind B M4x10 screws to remove the motor plate calking ASSY.

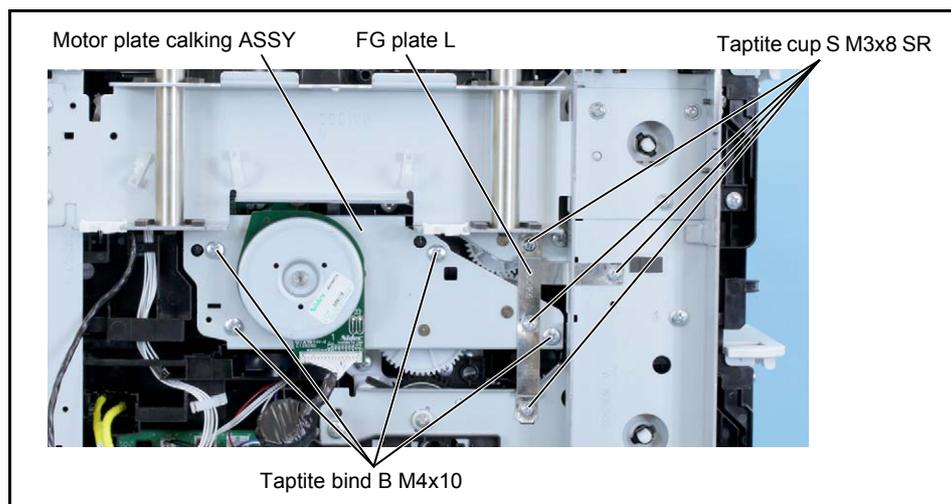
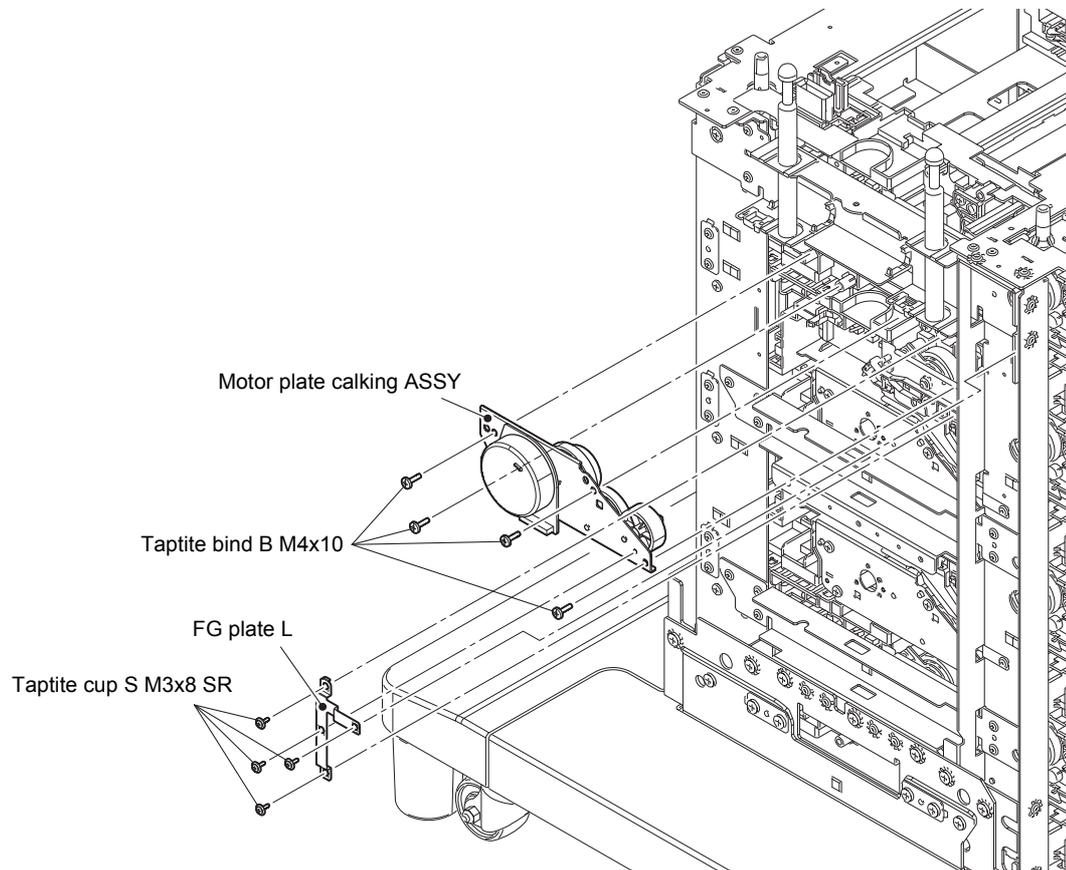


Fig. 3-238

- (3) Remove the collar 6 to remove the SPUR gear idle TT Z53 from the motor plate calking ASSY.
- (4) Remove the helical gear TT Z88/Z41 from the motor plate calking ASSY.
- (5) Remove the three screw bind M3x4 screws to remove the TT motor from the motor plate calking ASSY.

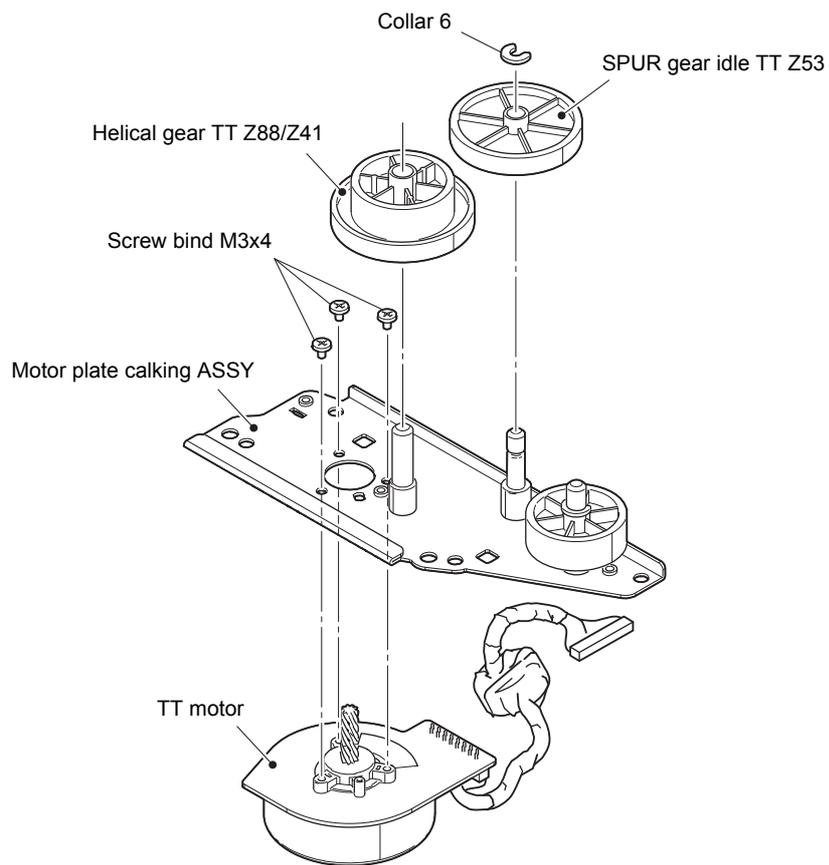


Fig. 3-239

12.9 T2TT unit

- (1) Remove the six taptite cup S M3x8 SR screws to remove the reinforcing plate top L.

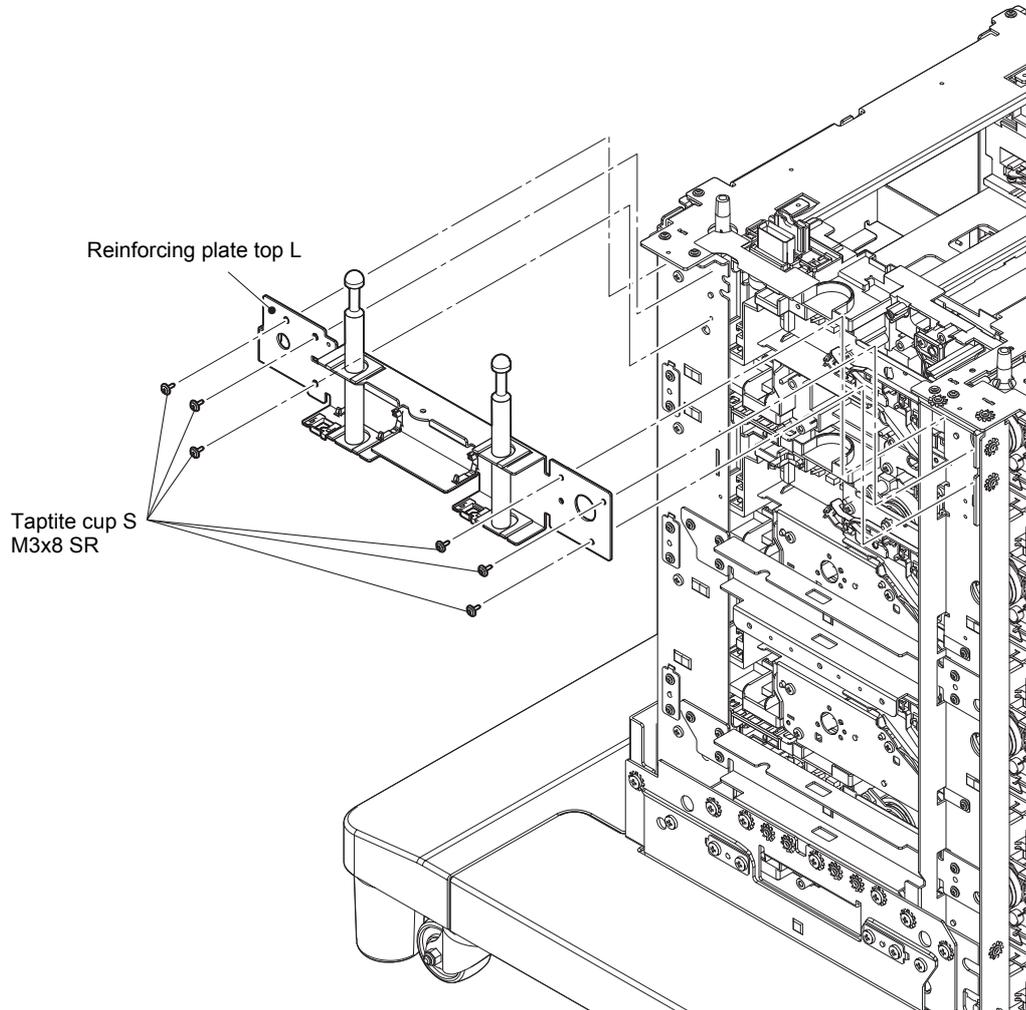


Fig. 3-240

- (2) Remove the taptite bind B M4x10 screw to remove the air duct. Pull out the two harnesses through the air duct hole.

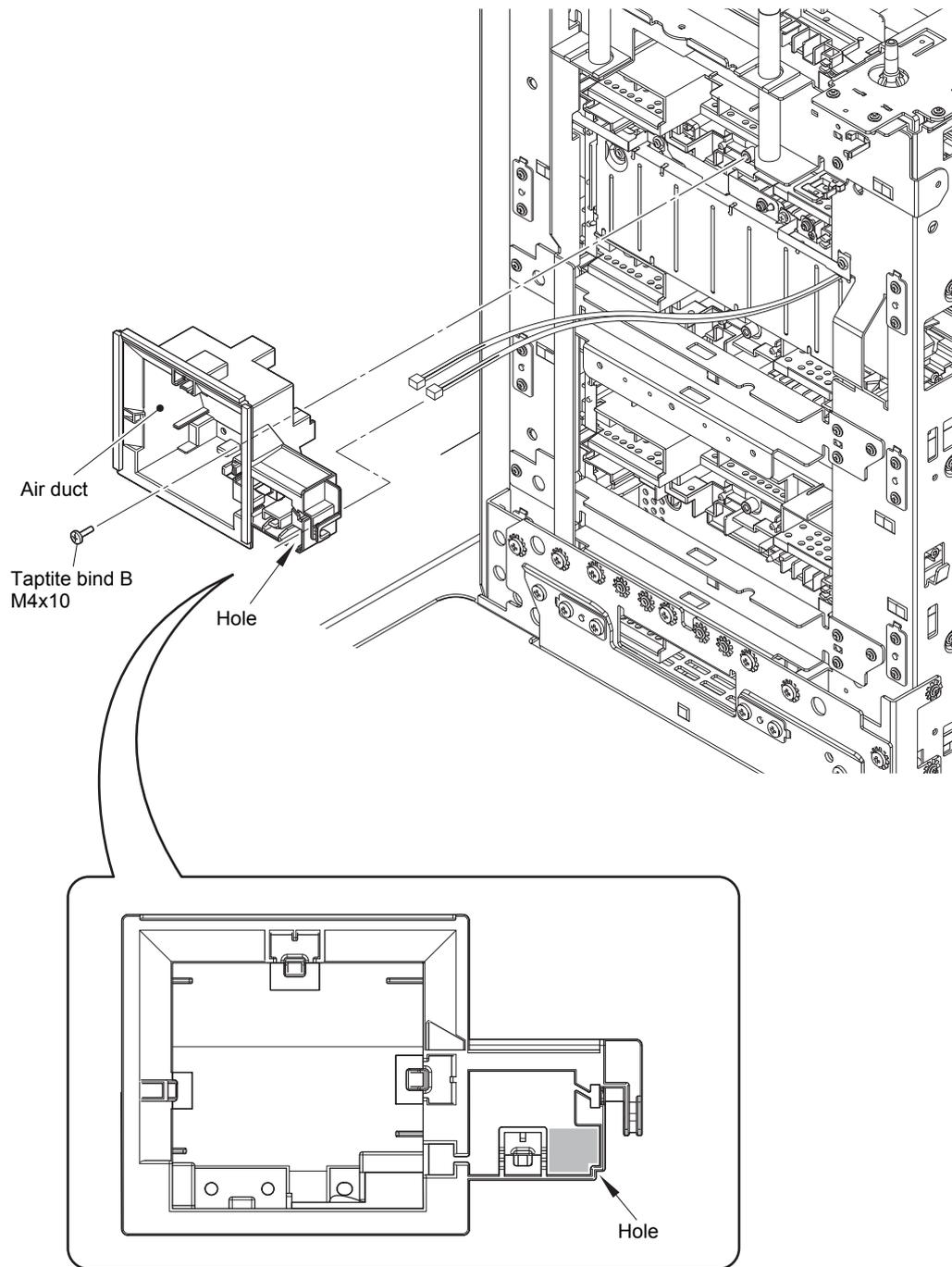


Fig. 3-241

Assembling Note:

- When assembling the T2TT after disassembling the whole TT unit, the top plate front or top plate rear may not be attachable. Loosen the screw securing each TT unit to attach the top plate front or rear and tighten all screws after attaching the T2TT without fail.

- (3) Loosen the clamp, and release the T2TT relay harness from the securing fixtures.
- (4) Remove the four screw cup M3x8 (black) screws and the four flywheel lock washers from the Top plate front. Remove the eight taptite cup S M3x8 SR screws, the two taptite bind B M4x10 screws, and the two screw cup M3x8 (black) screws to remove the T2TT unit.

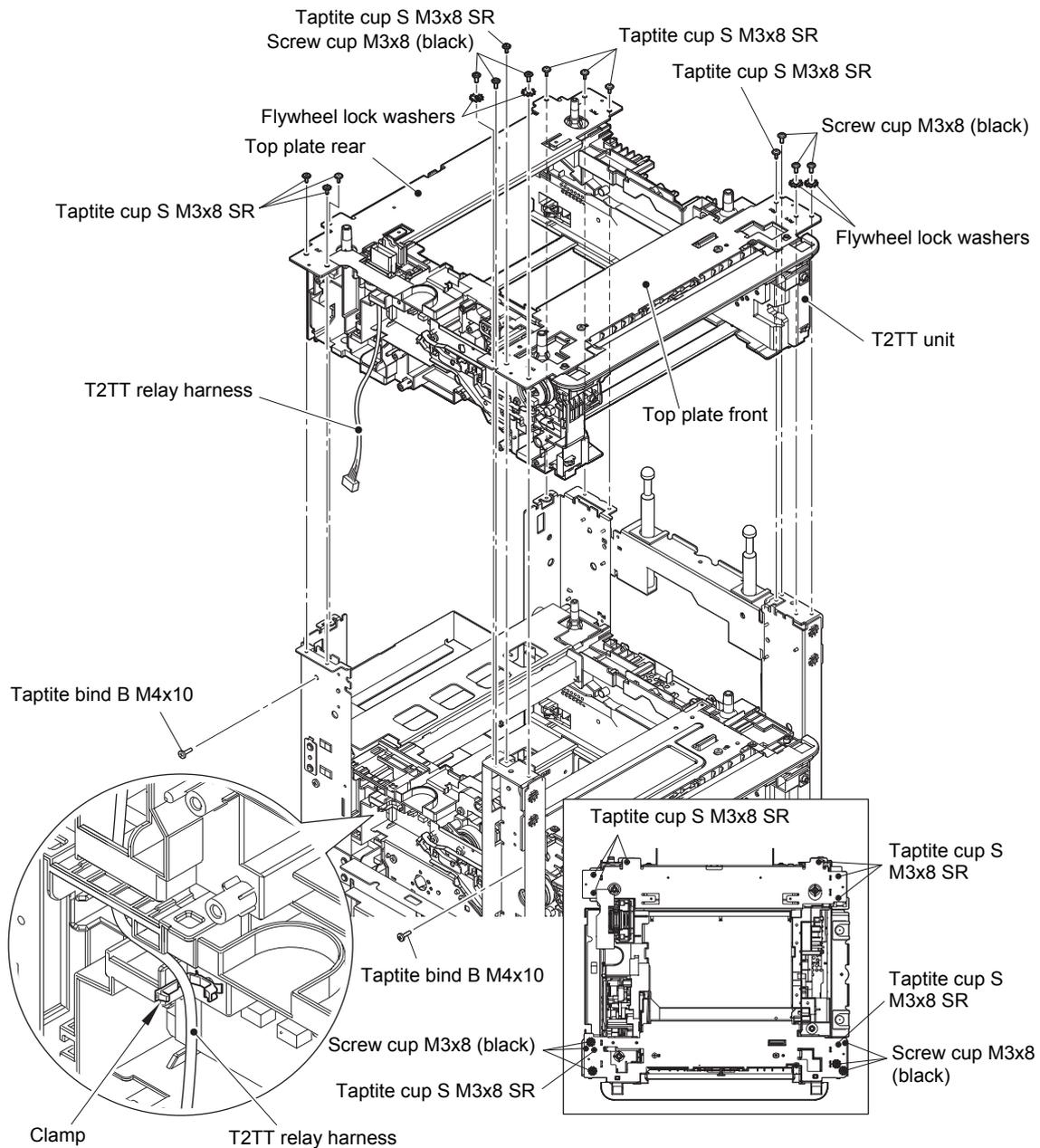


Fig. 3-242

Harness routing: Refer to "25. Left side of the TT".

12.10 T3TT unit

- (1) Remove the screw pan (S/P washer) M3.5x6 screw and screw cup M3x8 (black) screw to remove the TT ground plate right.
- (2) Remove the two screw cup M3x8 (black) screws to remove the TT ground plate rear.

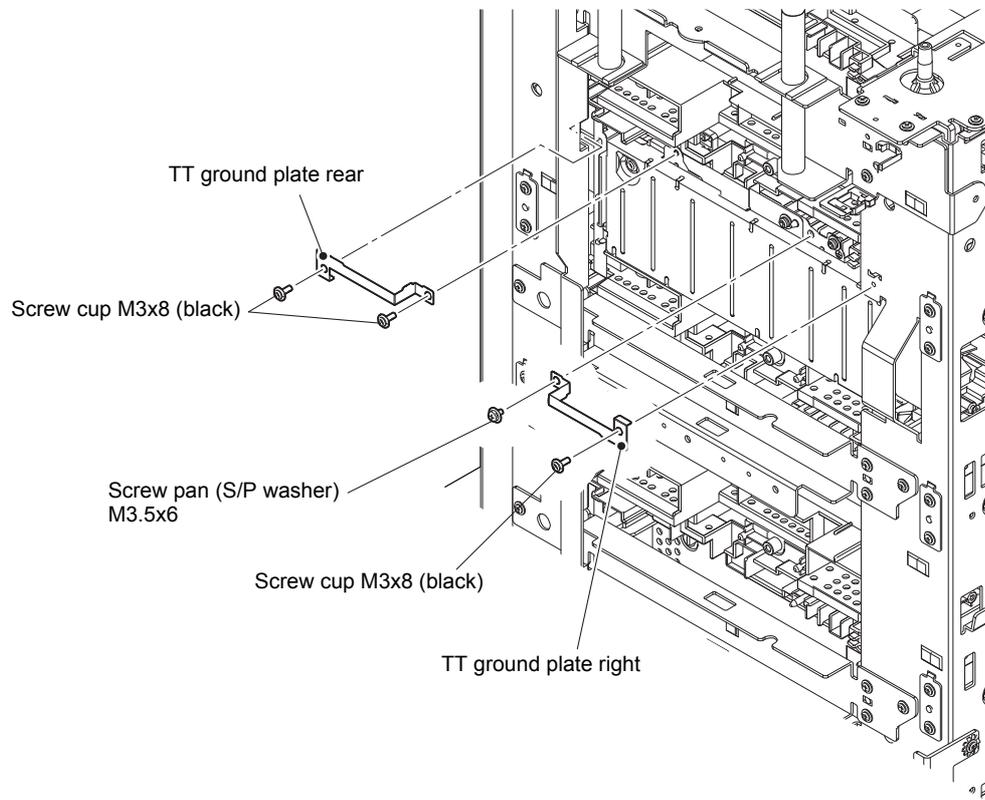


Fig. 3-243

- (3) Remove the two taptite cup S M3x8 SR screws to remove the positioning plate calking ASSY. (Four places)
- (4) Remove the six taptite cup S M3x8 SR screws to remove the reinforcing plate L (1/2).
- (5) Remove the four taptite cup S M3x8 SR screws to remove the FG plate L.
- (6) Remove the four taptite bind B M4x12 screws to remove the calking gear plate ASSY.
- (7) Remove the three taptite cup S M3x8 SR screws and the two taptite bind B M4x10 screws. Lift the T3TT unit slightly, and pull the T4TT relay harness and T5TT relay harness from the T3TT unit hole to remove the T3TT unit in the direction of the arrow.

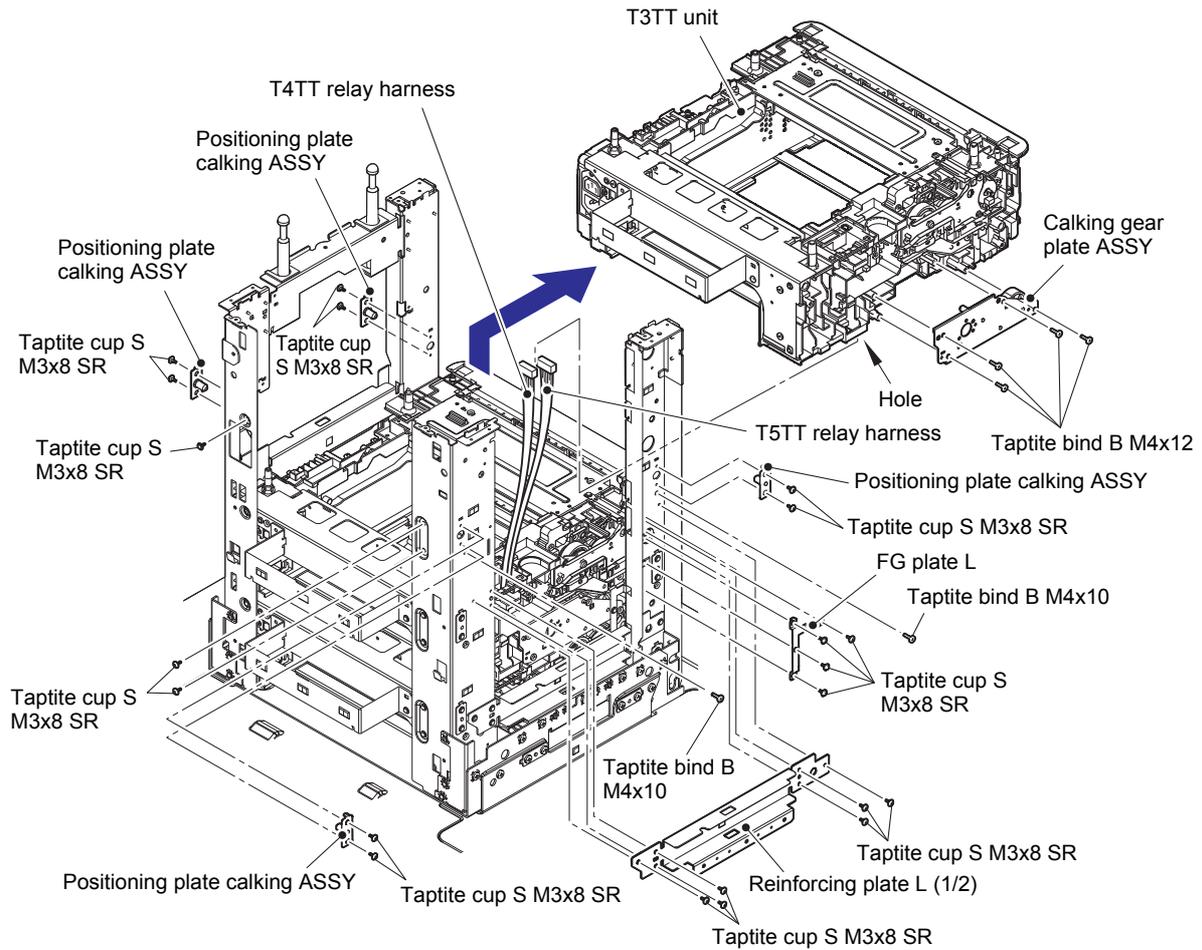


Fig. 3-244

Harness routing: Refer to "25. Left side of the TT".

12.11 Low-voltage power supply PCB ASSY

- (1) Remove the screw pan (S/P washer) M3.5x6 screw and the two screw cup M3x8 (black) screws to remove the LV shield plate cover.
- (2) Remove the LV insulation sheet.

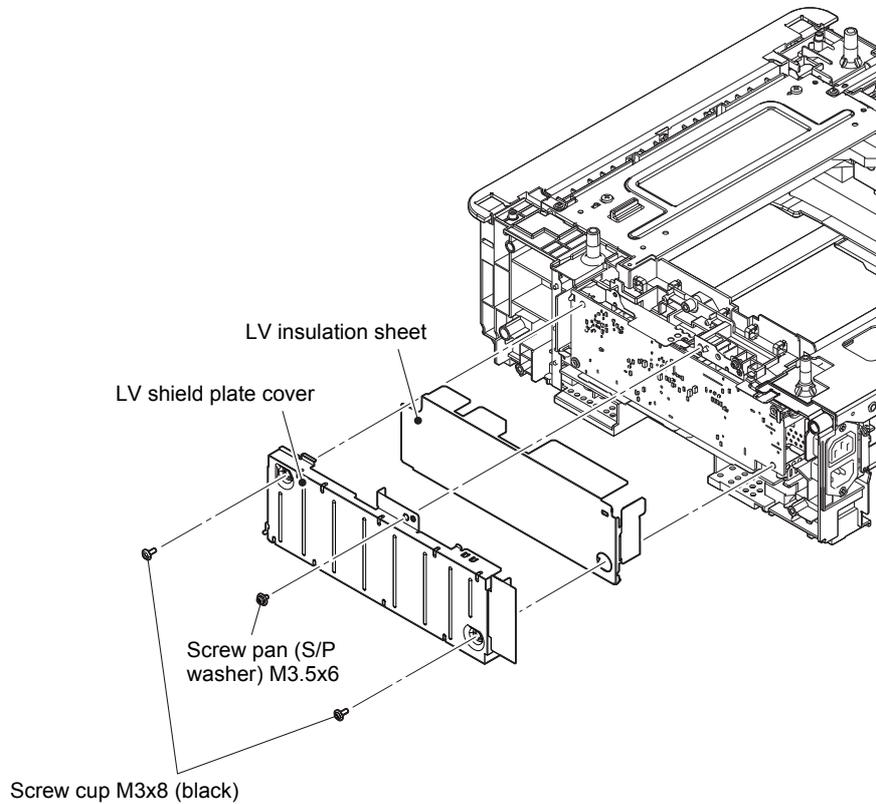


Fig. 3-245

- (3) Remove the screw pan (S/P washer) M3.5x6 screw to disconnect the ground harness.
- (4) Remove the two taptite flat B M3x10 screws from the inlet.
- (5) Remove the taptite bind B M3x10 screw to remove the inlet cover by pulling the inlet forwards.
- (6) Pull out the inlet through the TT unit hole.

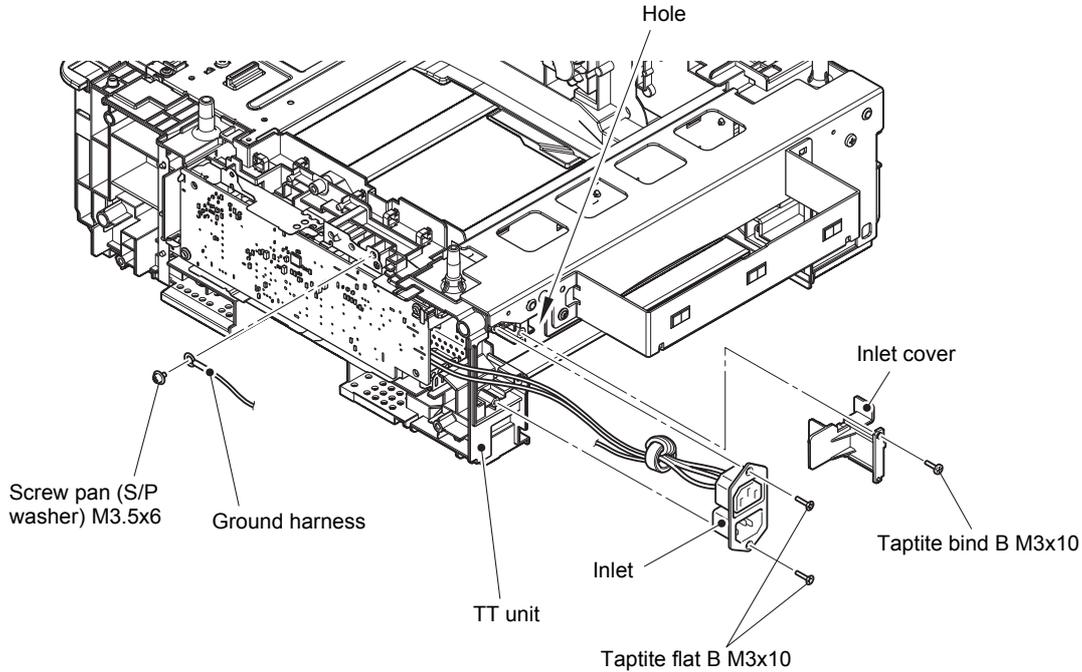


Fig. 3-246

Harness routing: Refer to "26. Upper right of the TT", "28. T3TT unit".

Assembling Note:

- When assembling the low-voltage power supply PCB ASSY, engage the notch of the low-voltage power supply PCB ASSY with the hook.
- Check that the inlet harness is housed in the frame R as shown in the illustration below. Otherwise the harness may be caught in some sections of the machine, and may catch fire.

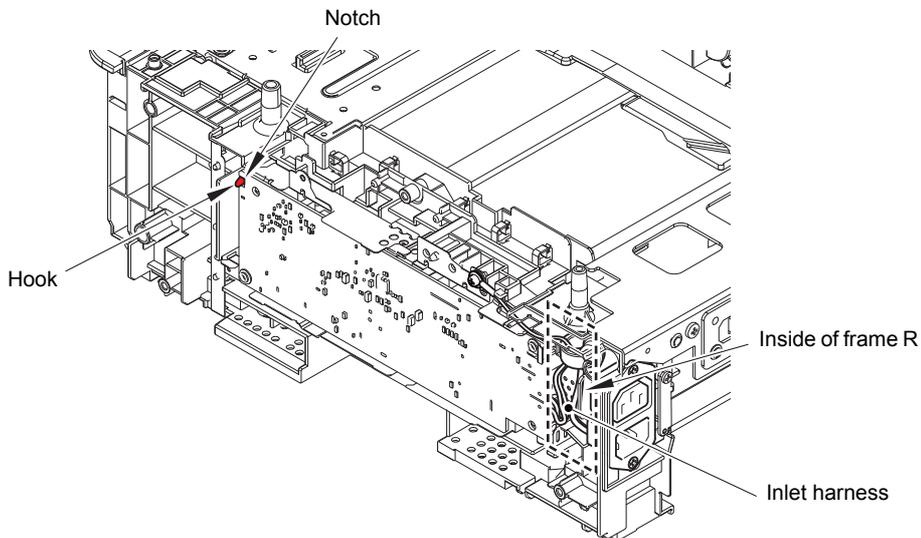


Fig. 3-247

- (7) Remove the two screw cup M3x8 (black) screws to remove the low-voltage power supply PCB ASSY. Disconnect the low-voltage power supply harness from the low-voltage power supply PCB ASSY.

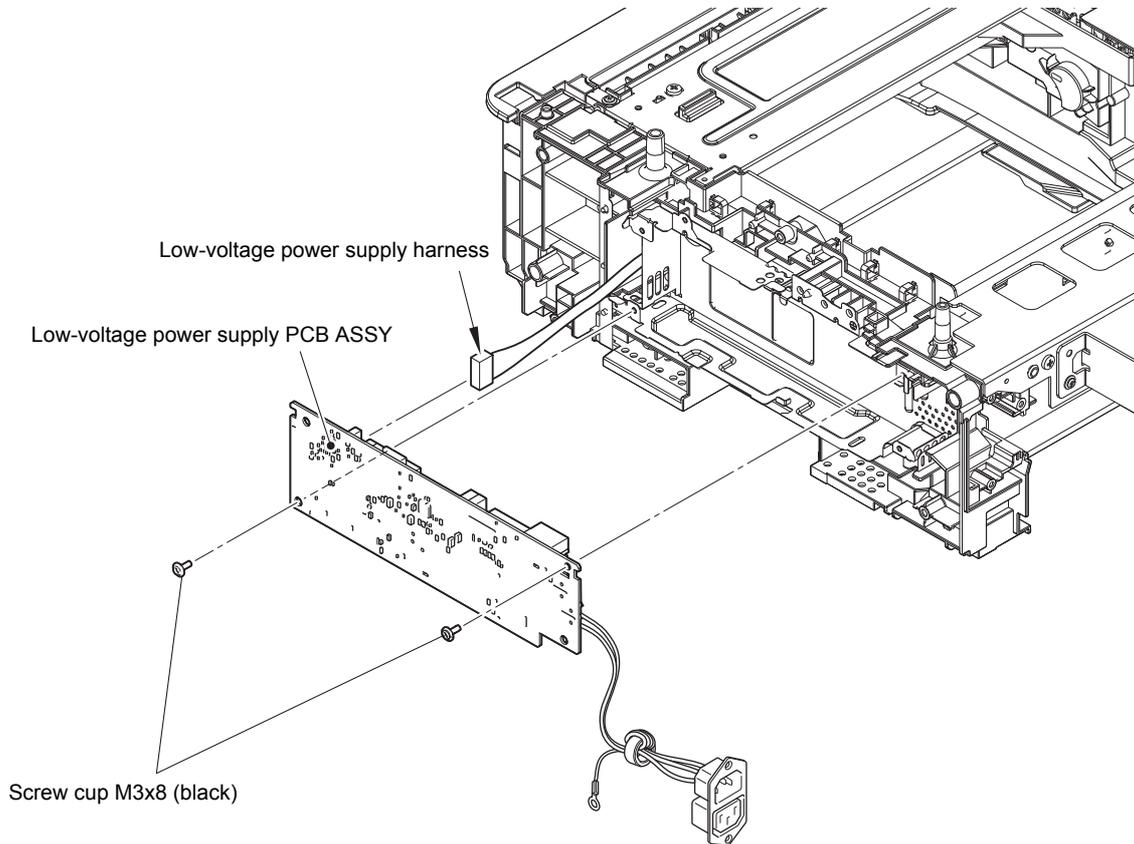


Fig. 3-248

- (4) Loosen the clamp, and release the T4TT relay harness and the T5TT relay harness from the securing fixtures.
- (5) Remove the four taptite cup S M3x8 SR screws to remove the FG plate L.
- (6) Remove the four taptite bind B M4x12 screws to remove the calking gear plate ASSY.
- (7) Remove the three taptite cup S M3x8 SR screws and the two taptite bind B M4x10 screws. Lift the T4TT unit slightly, and pull the T5TT relay harness from the T4TT unit hole to remove the T4TT unit in the direction of the arrow.

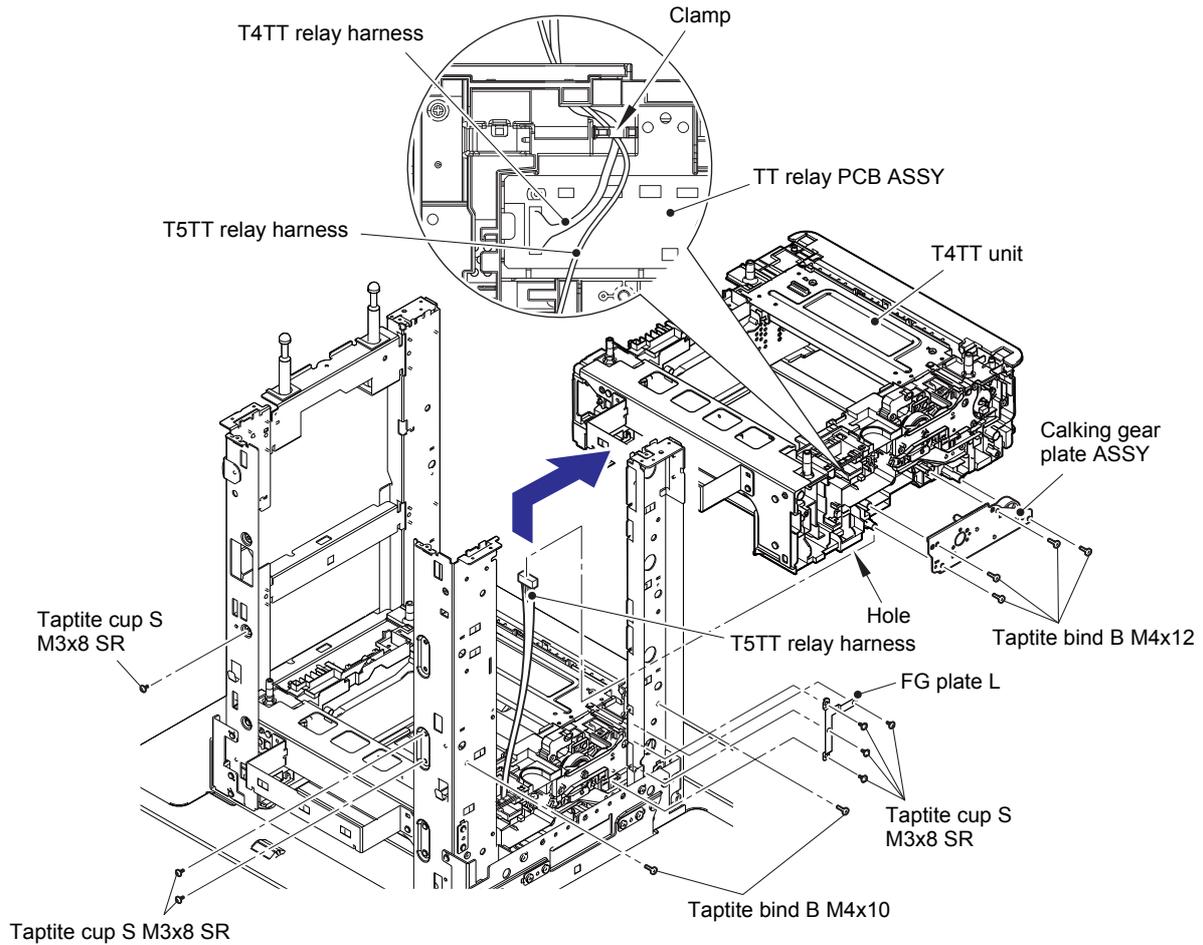


Fig. 3-250

Harness routing: Refer to "25. Left side of the TT".

12.13 T5TT unit

- (1) Remove the two taptite cup S M3x8 SR screws to remove the positioning plate calking ASSY. (Four places)
- (2) Remove the three taptite cup S M3x8 SR screws and the two taptite bind B M4x10 screws. Remove the T5TT unit in the direction of the arrow.

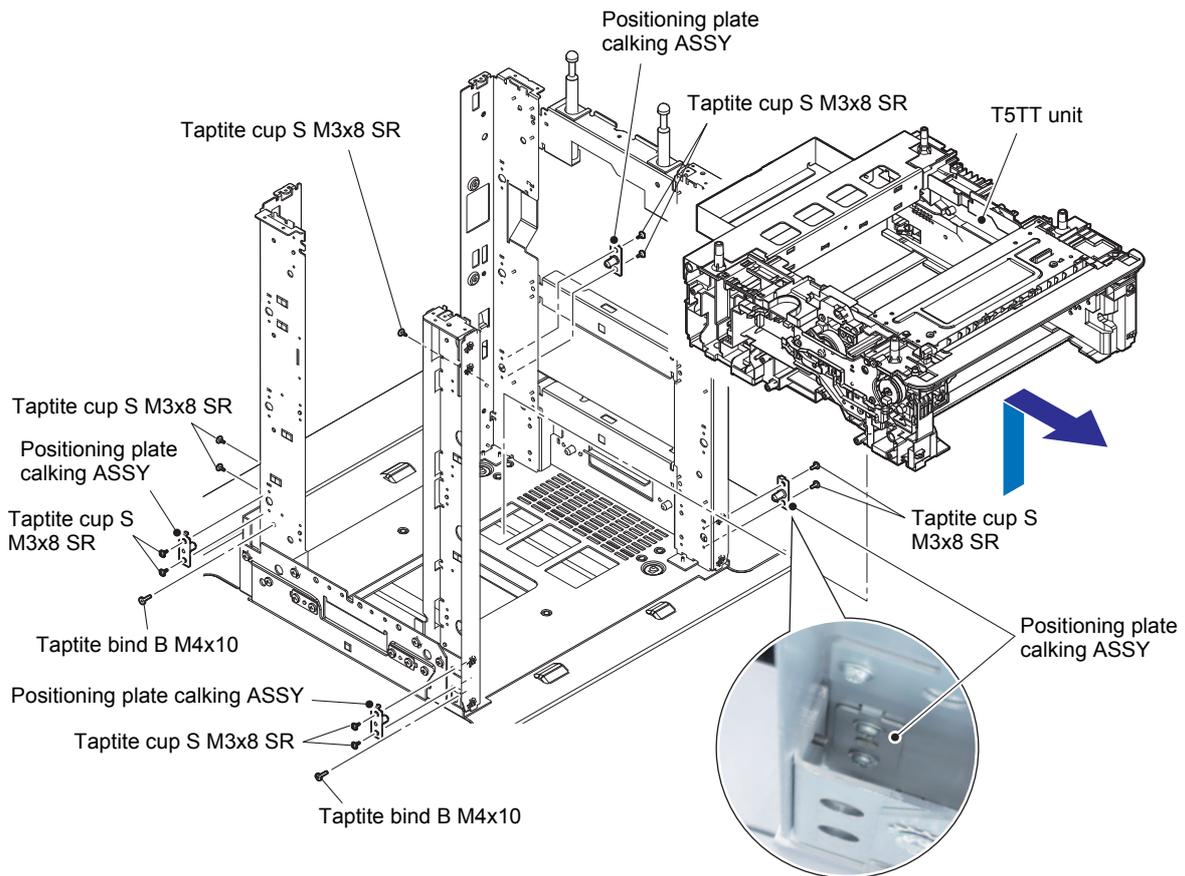


Fig. 3-251

Assembling Note:

- It's easier to attach the positioning plate calking ASSY on the right side with a magnet due to the narrow work space.

12.14 LT/TT connector ASSY (T2TT only)

- (1) Release the LT/TT connector harness from the securing fixtures.
- (2) Release the hook A to remove the ferrite core.
- (3) Release the two hooks B, and slide the LT/TT connector ASSY in the direction of the arrow to remove it. Pull out the LT/TT connector harness through the frame L hole.

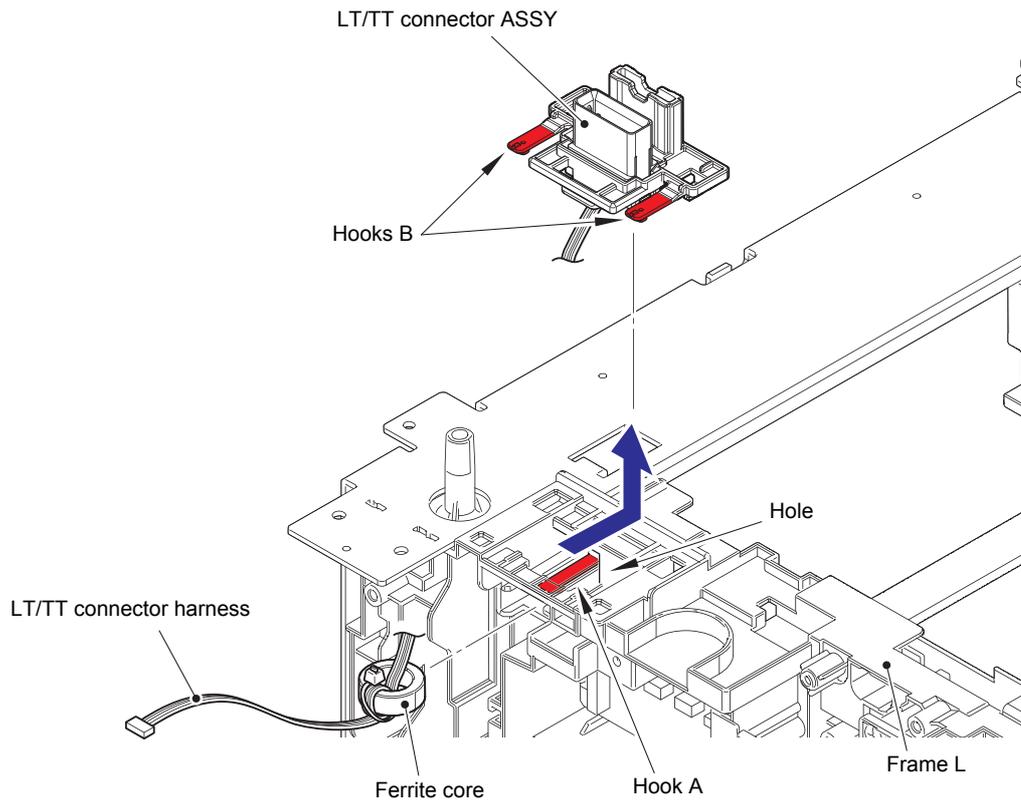


Fig. 3-252

Harness routing: Refer to "25. Left side of the TT".

12.15 TT relay PCB ASSY (Common to all TT)

- (1) Loosen the clamp and release the TT relay harness from the securing fixtures. Pull out the TT relay harness through the frame L hole.

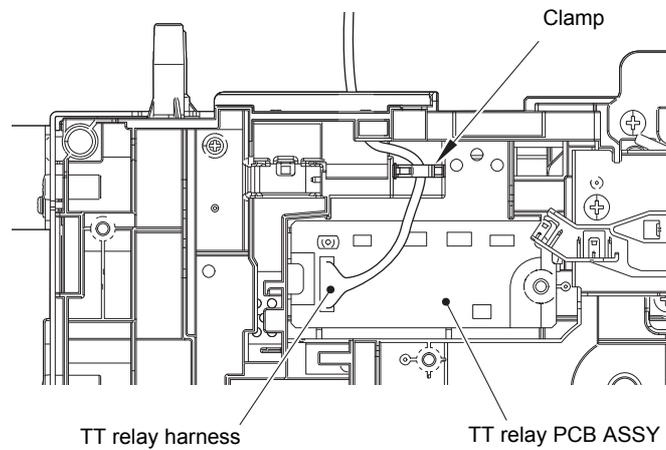


Fig. 3-253

Harness routing: Refer to "25. Left side of the TT".

- (2) Disconnect all harnesses connected to the TT relay PCB ASSY.

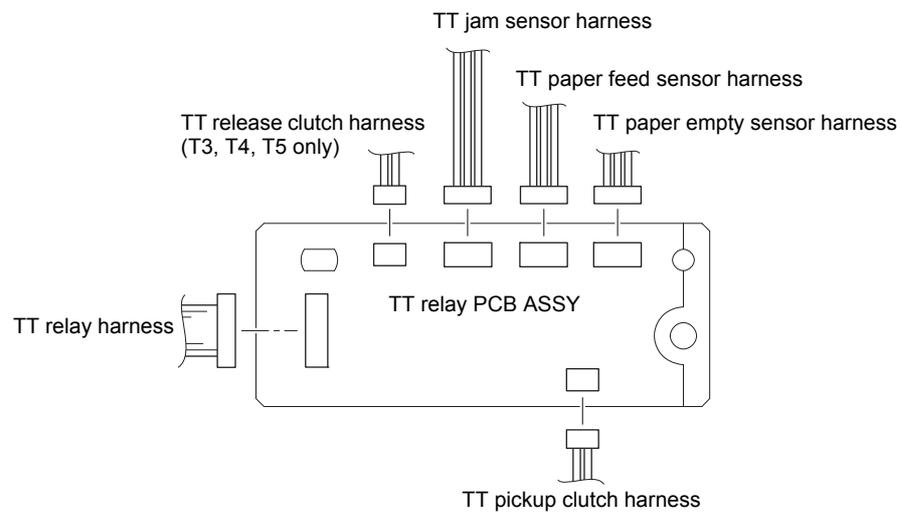


Fig. 3-254

(3) Release the hook to remove the TT relay PCB ASSY from the frame L.

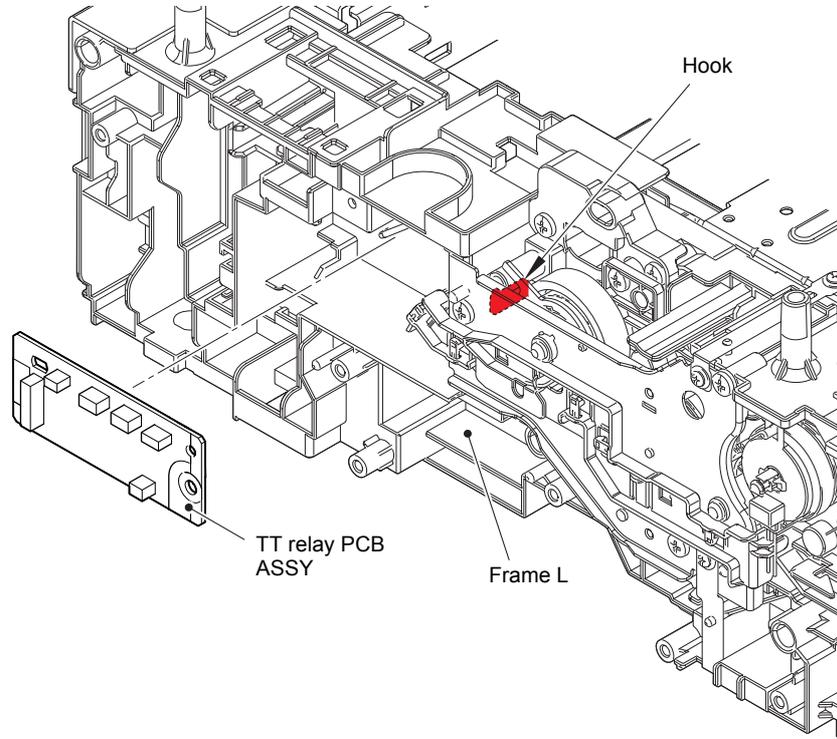


Fig. 3-255

12.16 TT pickup clutch (Common to all TT)

- (1) Release the TT pickup clutch harness from the securing fixtures. Release the hook to remove the TT pickup clutch from the frame L.

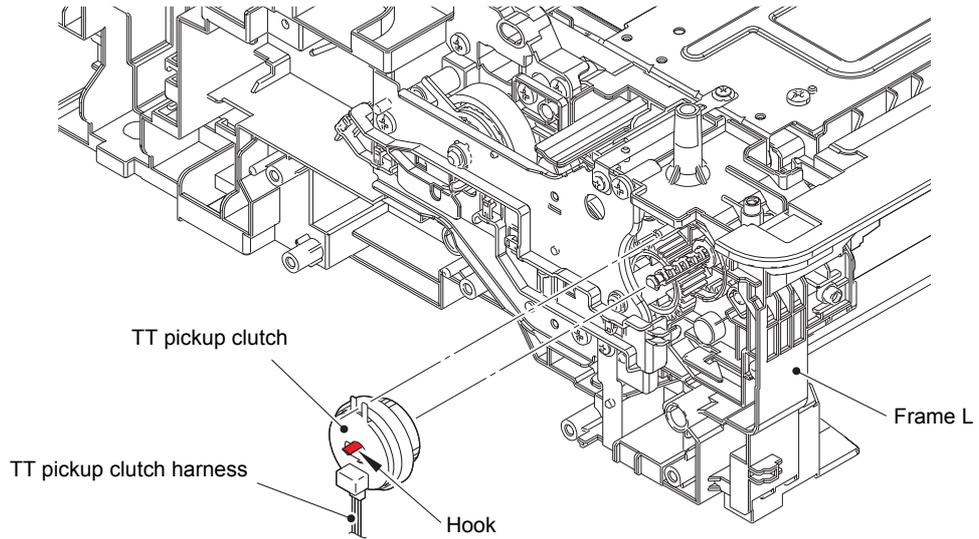


Fig. 3-256

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)".

12.17 TT release clutch (Common to all TT)

- (1) Remove the two taptite cup S M3x8 SR screws to remove the TT ground plate.
- (2) Remove the two taptite bind B M4x12 screws to remove the front under bar.
- (3) Remove the taptite cup S M3x8 SR screw to remove the under bar ground plate L.

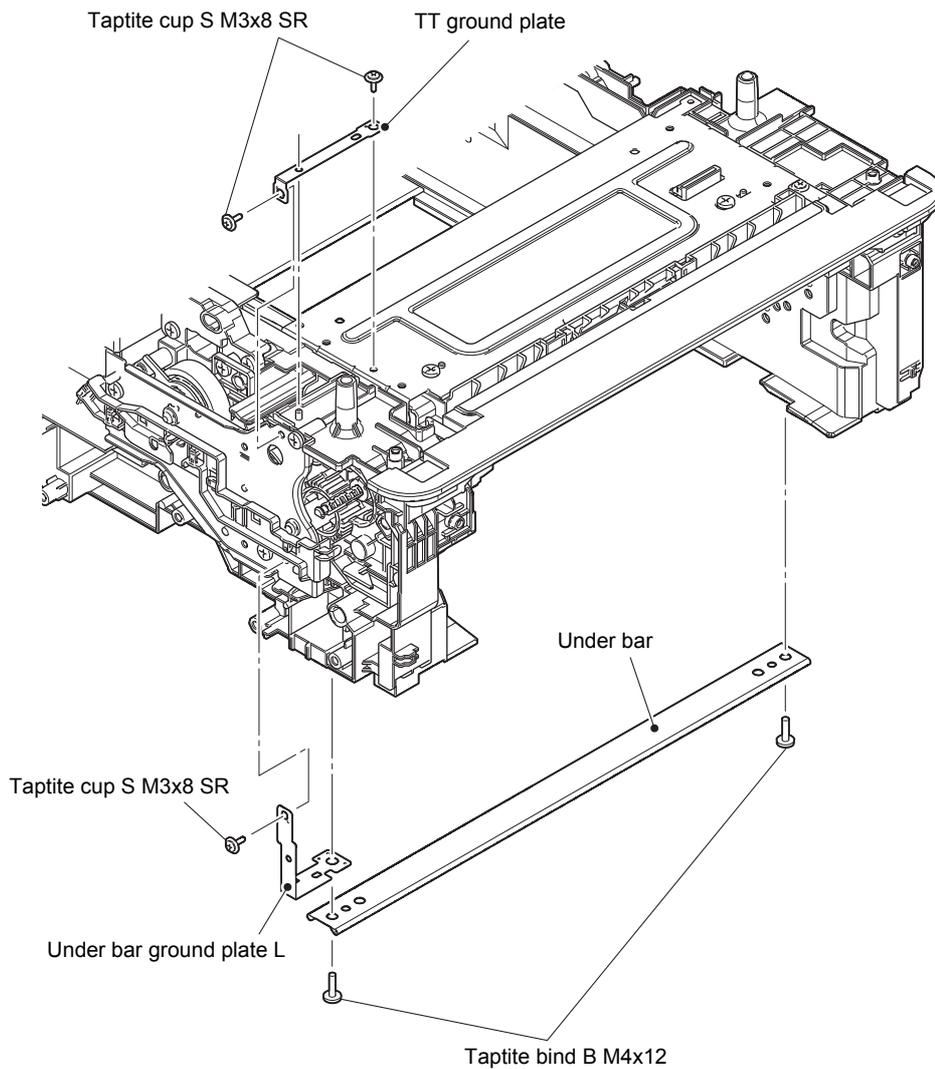


Fig. 3-257

- (4) Release the TT release clutch harness* from the securing fixtures. Remove the three taptite bind B M4x12 screws. Remove the drive ASSY and pull out the TT release clutch harness* through the hole.
- (5) Remove the TT release clutch*, the TT gear Z20/Z44, and the idle gear 37.

Note:

- The T2TT unit does not have the TT release clutch*.

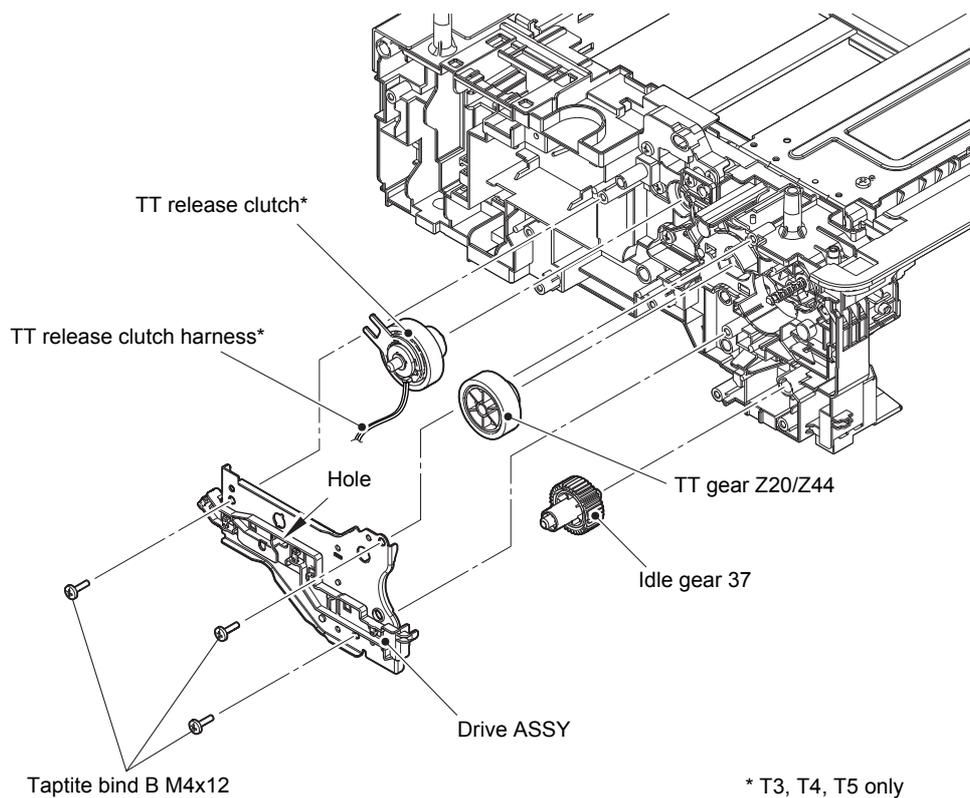


Fig. 3-258

12.18 TT jam sensor PCB ASSY (Common to all TT)

- (1) Remove the two taptite cup B M4x12 screws and the taptite cup S M3x8 SR screw to remove the TT front cover.

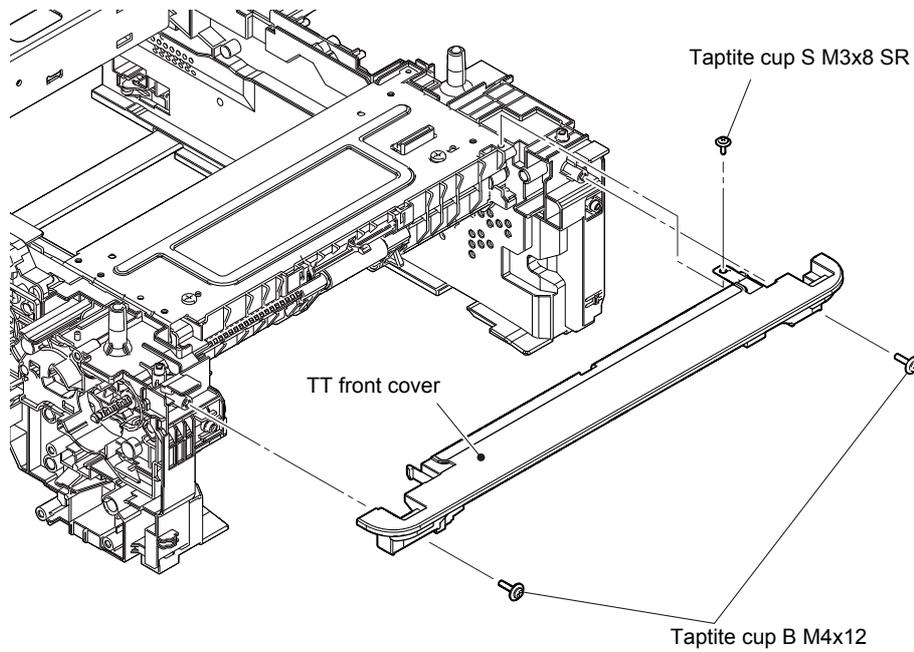


Fig. 3-259

- (2) Remove the two taptite bind B M4x12 screws to remove the rear under bar.
- (3) Remove the two taptite cup S M3x8 SR screws and the taptite bind B M4x12 screw. Remove the Frame L, and pull out the low-voltage power supply harness*, the fan motor relay harness*, the TT balance sensor R relay harness*, the TT jam sensor harness, the TT paper feed sensor harness and the TT paper empty sensor harness through the two holes.

Note:

- Three harnesses for T2TT, T4TT, and T5TT.

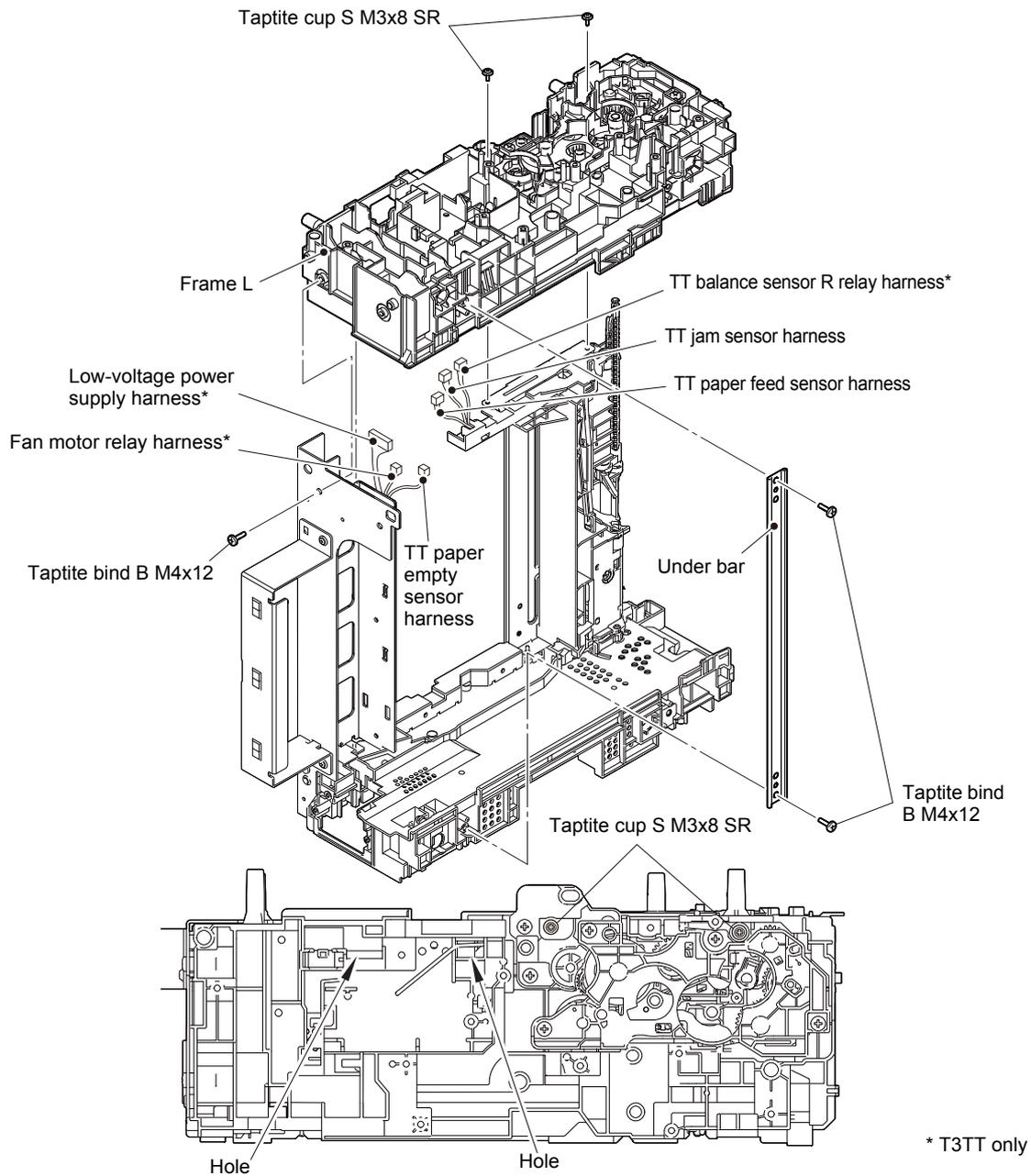


Fig. 3-260

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)", "28. T3TT unit".

- (4) Remove the taptite cup S M3x8 SR screw to remove the UB earth plate R.
- (5) Remove the two taptite cup S M3x8 SR screws to remove the TT paper feed frame.

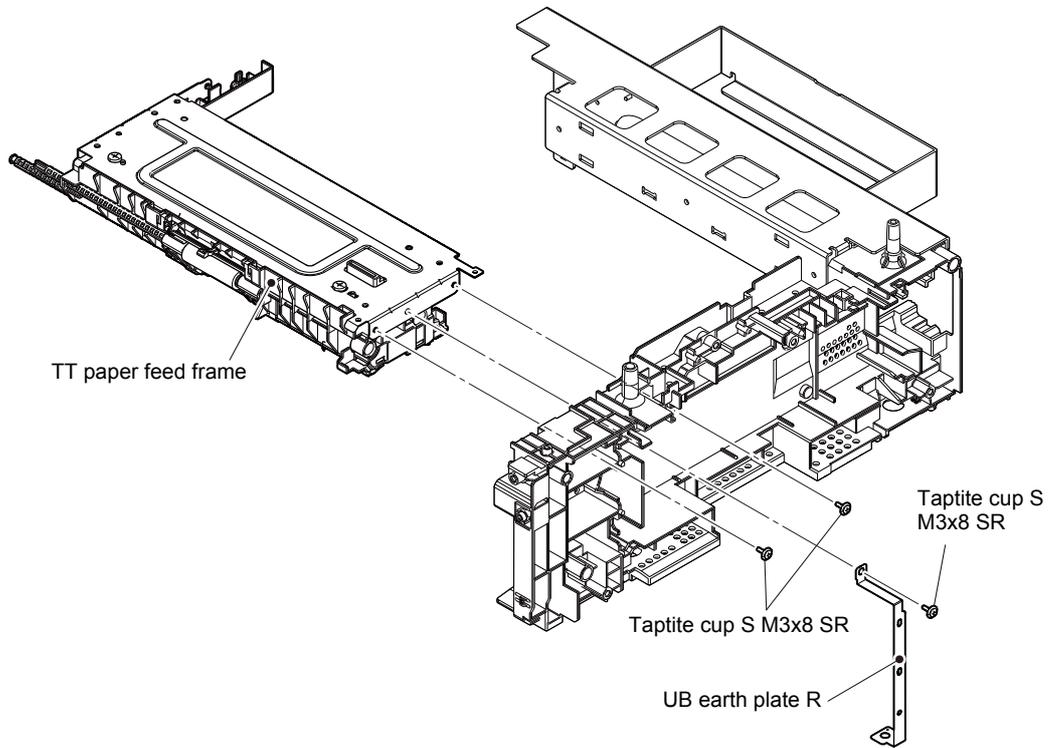


Fig. 3-261

- (6) Remove the two taptite bind B M4x12 screws to remove the TT front beam from the TT paper feed frame ASSY.
- (7) Release the TT jam sensor harness from the securing fixtures.
- (8) Release the hook to remove the TT jam sensor PCB ASSY.

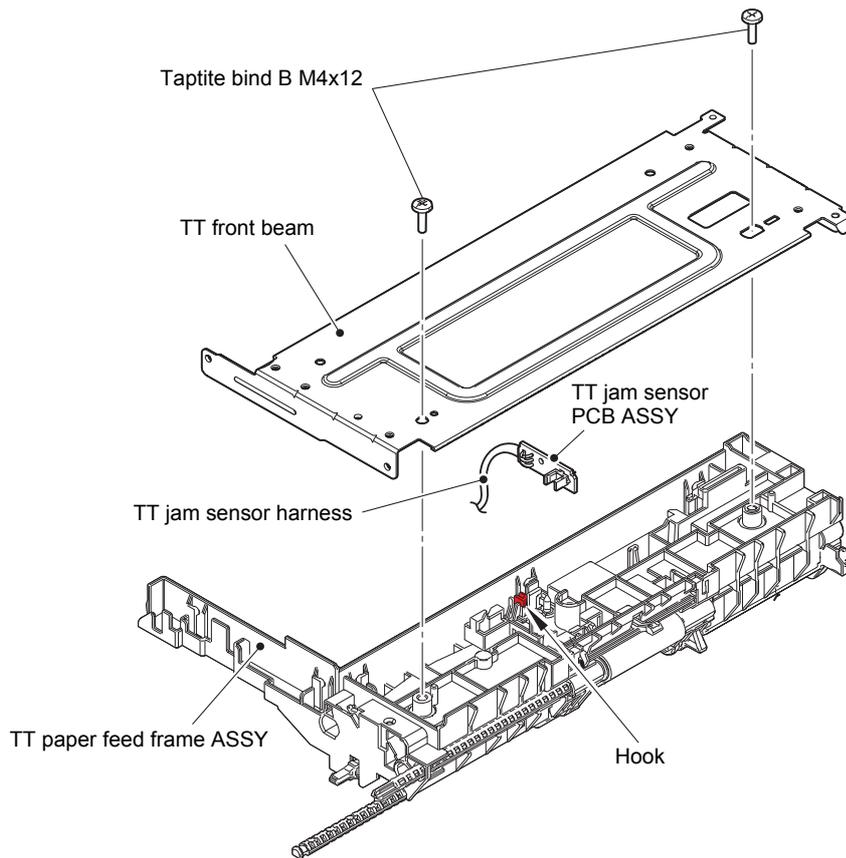


Fig. 3-262

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)".

12.19 TT paper feed sensor PCB ASSY (Common to all TT)

- (1) Release the TT paper feed sensor harness from the securing fixtures.
- (2) Remove the taptite bind B M3x10 screw to remove the TT paper feed actuator holder ASSY from the TT paper feed frame ASSY. Disconnect the TT paper feed sensor harness from the TT paper feed frame ASSY.

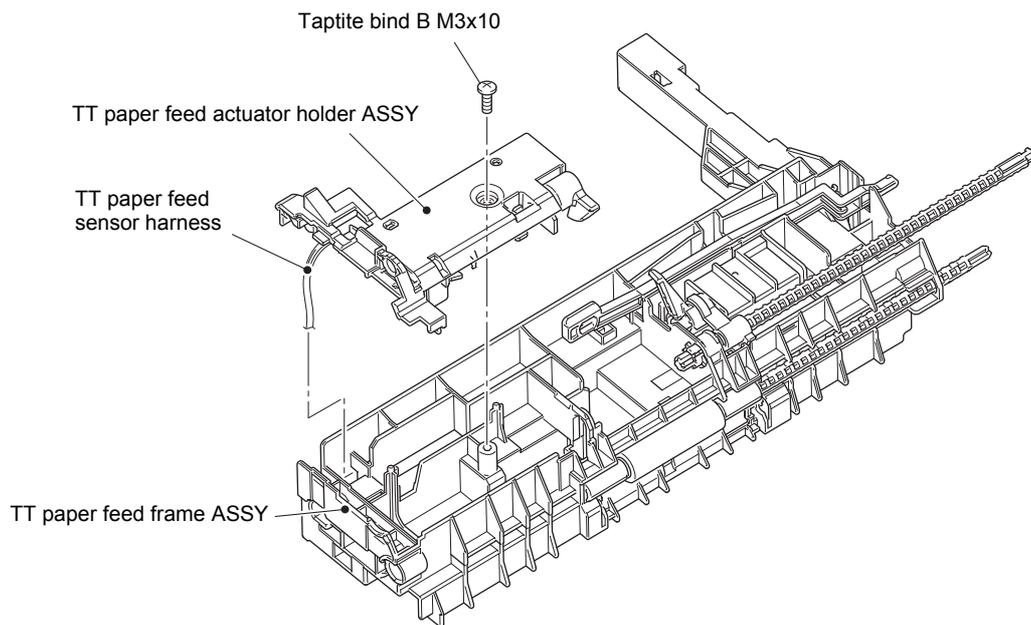


Fig. 3-263

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)".

- (3) Turn the TT paper feed actuator in the direction of the arrow A and press the hook on the TT paper feed actuator holder ASSY. Slide the TT paper feed actuator in the direction of the arrow B to remove it from the TT paper feed actuator holder ASSY.
- (4) Release the TT paper feed sensor harness from the securing fixtures of the TT paper feed actuator holder ASSY, and release the hook to remove the TT paper feed sensor PCB ASSY from the TT paper feed actuator holder ASSY.

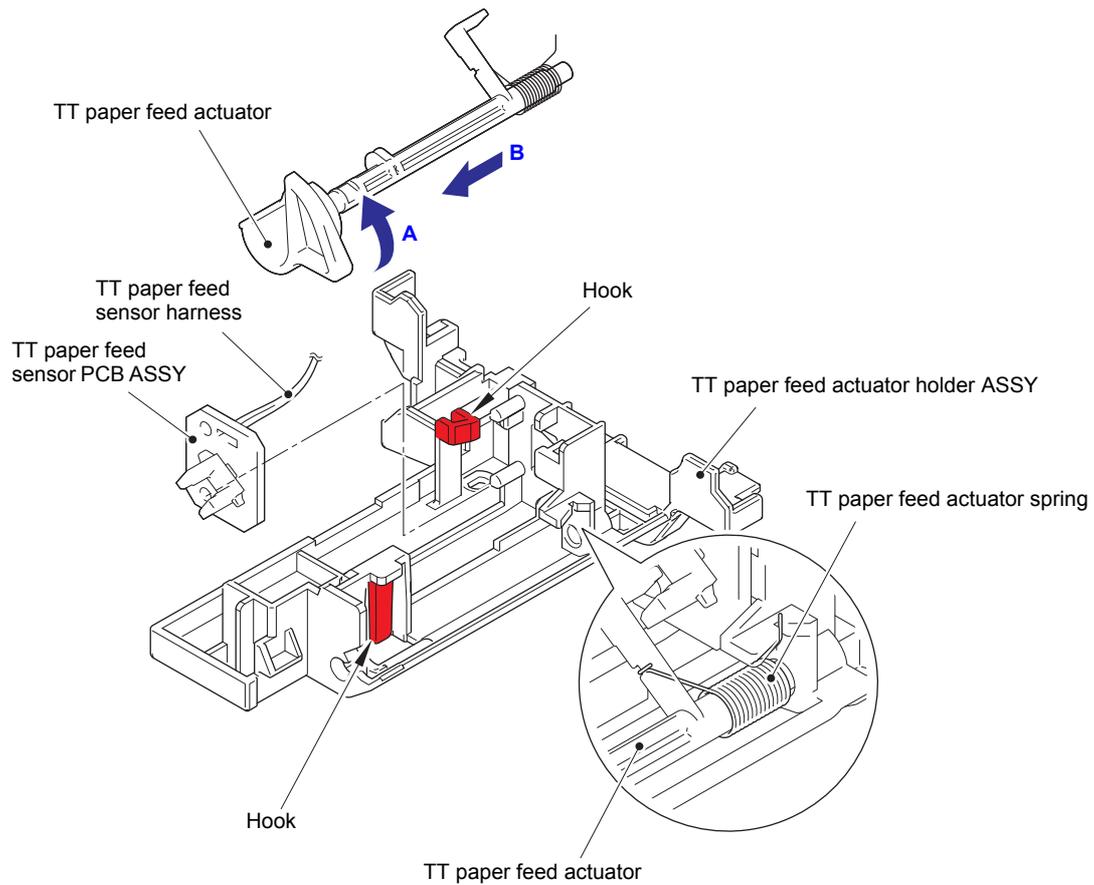


Fig. 3-264

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)".

12.20 TT paper empty sensor PCB ASSY (Common to all TT)

- (1) Release the hook on the bushing, and pull out the TT separation roller shaft to remove the TT paper empty actuator.
- (2) Release the hook to remove the TT paper empty actuator cover.
- (3) Release the TT paper empty sensor harness from the securing fixtures.
- (4) Remove the taprite bind B M3x10 screw to remove the TT paper empty sensor PCB ASSY.

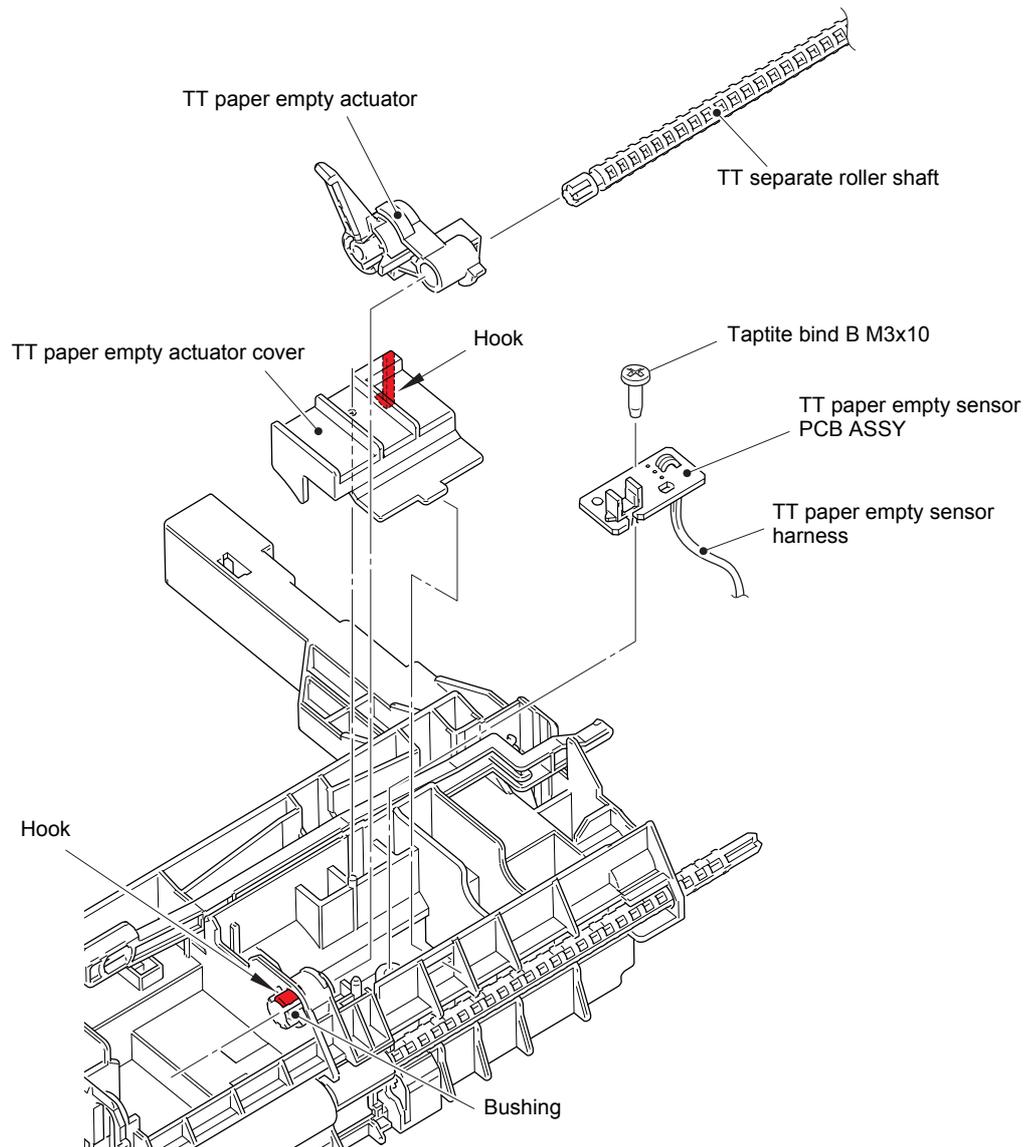


Fig. 3-265

Harness routing: Refer to "27. TT relay PCB ASSY (Each TT unit)".

12.21 Adjuster

- (1) Remove the four adjusters.

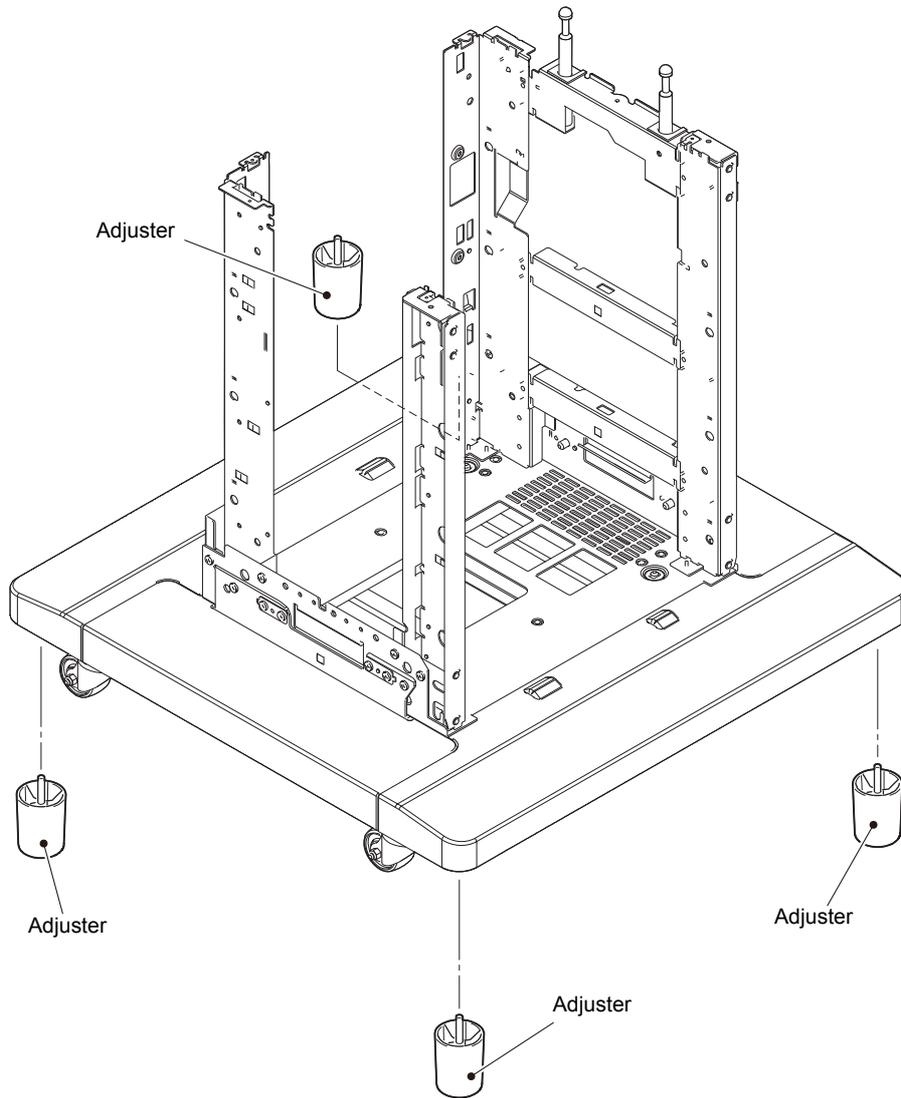


Fig. 3-266

CHAPTER 4 ADJUSTMENTS AND UPDATING OF SETTINGS, REQUIRED AFTER PARTS REPLACEMENT

1. IF YOU REPLACE THE MAIN PCB ASSY

■ What to do after replacement

- Installing the Firmware (Sub Firmware and Main Firmware)
- Adjusting Touch Panel (Function code 61)
- Initializing the EEPROM of the Main PCB ASSY (Function code 01)
- Configure for Country/Region and Model (Function code 74)
- Continuous Adjustments of Density and Registration Sensor (Function code 73)
- Acquisition of White Level Data (Function code 55)
- Setting the Serial Number (Function code 80)
- Adjusting Left-end and Upper-end Print Position (Function code 45) (TT only)
- Resetting to Factory Shipping State (Function code 03)

■ What you need to prepare

- (1) USB flash memory
- (2) One USB cable
(Only when installing the firmware and setting the Serial Number using computer.)
- (3) Create a temporary folder on the C drive of the computer (Windows® XP or later).
- (4) Download utility (FileDg32.exe)
(Only when installing the firmware using computer.)
Copy it into the temporary folder that has been created in the C drive.
- (5) Maintenance printer driver (Maintenance_driver.zip)
(Only when installing the firmware and setting the Serial Number using computer.)
When the maintenance printer driver is not installed, copy this file into the temporary folder created on the C drive, and extract the copied file. Refer to **"APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER"** to install the driver.
- (6) Firmware

Sub firmware	djf or upd file (ex. D009UH_A.djf or D009UH_A.upd)
Main firmware	djf or upd file (ex. D009UD_A.djf or D009UD_A.upd)

- (7) Touch pen

1.1 Installing the Firmware (Sub Firmware and Main Firmware)

1.1.1 Checking firmware version

Check whether the firmware installed on the machine is the latest version. If it is the latest version, there is no need to install the firmware. If it is not, be sure to install the firmware to the machine as described in [“1.1.2 Installing firmware” in this chapter](#).

<How to check firmware version>

- (1) Press and hold the  key for approximately five seconds while the machine is in the ready state.
- (2) Press the blank field at the bottom.
- (3) Press the [*], [2], [8], [6], and [4] key on the LCD in this order, and the machine enters into maintenance mode.
- (4) Press the [2], and then the [5] key in the initial state of maintenance mode. Then, the Main firmware version information is displayed on the LCD.
- (5) Next, press the [Start] or [Mono Start] key to display the version information of the Sub firmware on the LCD and check the information.

Memo:

You can also check the Sub firmware and Main firmware version by implementing “Print maintenance information (Function code 77)” (refer to [“1.3.28 Print maintenance information \(Function code 77\)” in Chapter 5](#)).

1.1.2 Installing firmware

■ Firmware installation using USB flash memory

Note:

TT and LT have their own firmware respectively. They are included in the main firmware. When connecting the options to the machine and turning on the power switch, the firmwares of these options will be updated with the main firmware version of the machine.

Memo:

- Firmware installation using USB flash memory is inoperable when the machine is in deep sleep mode. Release the deep sleep mode by opening / closing the front cover before the operation.
- Be sure to reinstall the sub firmware and then the main firmware in this order.
- Do not disconnect the power cord, USB flash memory from the machine or computer during installing.
- When the firmware installation using USB flash memory is failed and the error message or no character appears on the LCD, refer to ["■ Firmware installation using PC" in this chapter](#) to install firmware using PC.

<Operating procedure>

■ Firmware files installation for some models selecting manually

- (1) Save the program files (ex: D009UD_A.djf) which are necessary for installing the firmware to just below the USB flash memory.
- (2) While the machine is in the ready state, connect the USB flash memory drive to the USB direct interface on the front of the machine.
- (3) When the machine detects the USB flash memory, the program names are displayed on the LCD. Press the [▲] or [▼] key to display the program name that you want to install.
- (4) Press the program name that you want to install on the LCD to start installing.
- (5) When installation is completed, the machine automatically restarts.
- (6) Repeat the procedures (3) to (5) to install necessary firmware.
- (7) When all firmware installation has been completed, remove the USB flash memory from the USB direct interface.

■ Firmware files installation for one model automatically

Memo:

You can install simultaneously the Sub firmware and Main firmware for one model. However, if you save firmware for some different models to the USB flash memory, an error will be occurred.

- (1) Create and save a file for automatic firmware update under the USB flash memory. Create a blank file of text format and title the file name “_@\$UPD\$OP0.8080”.
- (2) Create the “FIRM” folder under the USB flash memory, and save the program file needed for firmware install (ex: D009UD_A.djf) in the “FIRM” folder.
- (3) Connect the USB flash memory to the USB flash memory port at the side of the machine while the machine is in the ready state. “Program Updating.Do not turn off.” appears on the LCD and installation starts automatically. Back light blinks during the installation.
- (4) When installing is completed, the machine restarts automatically and “Completed...” appears on the LCD. Remove the USB flash memory. If multiple program files are saved in the USB flash memory, other installations start automatically after the restart. If the installation fails, “Unable to Update:***” appears on the LCD. (“***” indicates the error code.) Refer to the remedy and eliminate the error. Then reboot the machine and start from the procedure (1).

■ Firmware installation using PC

Memo:

- Be sure to reinstall the sub firmware and then the main firmware in this order.
- Do not disconnect the power cord, USB flash memory or USB cable from the machine or computer during installing.
- If the installation is failed, turn OFF the machine and turn it back on. The machine enters the firmware install mode automatically. Continue the operation procedure below.

<Operating procedure>

- (1) If the computer and machine are connected with a USB cable, disconnect the USB cable and enter the maintenance mode. (Refer to “1.1 How to Enter Maintenance Mode” in Chapter 5.)
- (2) Connect the computer to the machine with the USB cable.
- (3) Open the temporary folder, double-click the “Filedg32.exe” to start, and select “Brother Maintenance USB Printer”.
- (4) Drag and drop a necessary program file (ex: D009UD_A.djf) located in the same folder to the Brother Maintenance USB Printer icon located within the FILEDG32 screen. The files are sent to the machine and installation into the flash ROM is started.
- (5) When installation is completed, the machine reboots and returns to the ready state.
- (6) Turn OFF the power of the machine, and repeat the procedures (1) to (5) to install necessary firmware.
- (7) Turn OFF the power of the machine, and disconnect the USB cable.

1.2 Adjusting Touch Panel (Function code 61)

Perform adjustment of touch panel in accordance with “1.3.18 Adjust touch panel (Function code 61)” in Chapter 5.

1.3 Initializing the EEPROM of the Main PCB ASSY (Function code 01)

Note:

Skip the operation procedure when “1.9 Resetting to Factory Shipping State (Function code 03)” has been executed after replacement of the Main PCB ASSY with a new one.

Initialize the EEPROM of the main PCB ASSY in accordance with “1.3.1 Initialize EEPROM parameters (Function code 01, 91)” in Chapter 5.

1.4 Configure for Country/Region and Model (Function code 74)

Perform settings for a country/region as described in “1.3.27 Configure for country/region and model (Function code 74)” in Chapter 5.

1.5 Continuous Adjustments of Density and Registration Sensor (Function code 73)

Perform Continuous Adjustments of Density and Registration sensor in accordance with “1.3.26 Continuous adjustments of density / registration sensor (Function code 73)” in Chapter 5.

1.6 Acquisition of White Level Data (Function code 55)

Perform Acquisition of white level data in accordance with “1.3.17 Acquire white level data and set CIS scan area (Function code 55)” in Chapter 5.

1.7 Setting the Serial Number (Function code 80)

<Operating procedure>

- (1) Press the [8], and then the [0] key in the initial state of maintenance mode.
“MACERR_01:****” is displayed on the LCD.
- (2) Press the [Start] or [Mono Start] key several times until “USB:*****” is displayed on the LCD.
- (3) Press the [9], [4], [7], and [5] key in this order to enter the edit mode.
- (4) Use the keypad to enter the first digit of the serial number. Enter the second digit to the 15th digit similarly.

Memo:

When you enter alphanumeric characters other than A, B, C, D, E and F, see the right table and press the corresponding key until the desired character is displayed.

Keypad	Assigned characters
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

- (5) Press the [SET] key, and the new serial number is saved. The machine returns to the initial state of maintenance mode.

1.8 Adjusting Left-end and Upper-end Print Position (Function code 45) (TT only)

This procedure is for adjusting the printing position according to the tray displacement happened in the TT assembly.

Acceptable displacement quantity against the T1 is 3.5 mm or less.

If the displacement quantity is 3.5 mm or less, adjustment is not necessary. Even the displacement quantity is 3.5 mm or less, adjust the position in response to the customer's request.

<Operating procedure>

■ Lattice printing from each paper tray

- (1) Set A4 or Letter size paper in all paper trays (T1, 2, 3, 4 or 5).
- (2) Enter the maintenance mode. (Refer to “1.1 How to Enter Maintenance Mode” in Chapter 5.)
- (3) Press the [6], and then the [7] key. “SELECT: K 100%” is displayed on the LCD.
- (4) Press the [▲] or [▼] key to display “SELECT:Lattice” on the LCD, and press the [SET] key. “SELECT:A4” is displayed on the LCD.
- (5) Press the [▲] or [▼] key to select the paper size of the paper set in the paper tray, and press the [SET] key. “SELECT: PLAIN” is displayed on the LCD.
- (6) Press the [▲] or [▼] key to select the desired media specifications of the paper set in the paper tray, and press the [SET] key. “SELECT: TRAY1 SX” is displayed on the LCD.
- (7) Press the [▲] or [▼] key to display “SELECT:TRAY1 DX” on the LCD, and press the [SET] key. “SELECT:1PAGE” is displayed on the LCD.
- (8) Press the [▲] or [▼] key to display “SELECT: 1PAGE” on the LCD, and press the [SET] key. “PAPER FEED TEST” is displayed on the LCD, and Lattice printing test pattern starts. When printing the test pattern is completed, the machine returns to the initial state of maintenance mode.
- (9) Perform the test printing for all trays by repeating the procedure (3) to (8) while changing the paper tray setting in the procedure (6) from T1, 2, 3, 4 or 5.

■ Measuring a displacement of each paper tray

- (10) Measure the left and top margin of the Lattice pattern printed from each tray.
- (11) Compare the measurements with the margin of T1 as a standard and calculate the left and top margin difference for all paper trays. Calculate the second side similarly.

For example,

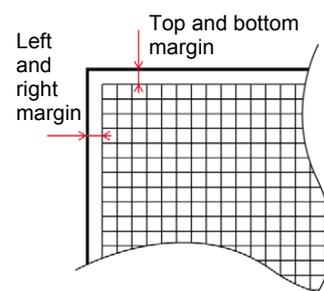
T1: the top and bottom margin 4.2 mm / the left and right margin 4.2 mm

T2: the top and bottom margin 5.3 mm / the left and right margin 3.5 mm

In this case, T2 margin differences are as follows.

the top and bottom margin 1.1 mm

the left and right margin 0.7 mm



■ Adjusting each paper tray

- (12) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD, and then the screen shifts to function selecting menu of the function code 45.
- When operating adjust left-end print position
- (13) Press the [▲] or [▼] key to display "X Adjust" on the LCD, and press the [SET] key. "XAdjust MP" is displayed on the LCD.
- (14) Press the [▲] or [▼] key to display "X Adjust T2" on the LCD, and press the [SET] key. "XAdj. T2= 0" is displayed on the LCD.
- (15) To shift the writing start position to the left, press the [▼] key to decrease the value. To shift the position to the right, press the [▲] key to increase the value. (It shifts by 0.085 mm for a count.)
- In the example, the T2 left and right margin is 0.7 mm to the left side, then display "XAdj. T2= 8" on the LCD and press the [SET] key. "Accepted" is displayed, and then "XAdj. T2= 0" is displayed on the LCD and the machine returns to the selection state of paper tray. Press the [X] key to finish this operation.
- When operating adjust left-end print position from T3, 4 or 5, press the [▲] or [▼] key to select paper tray to adjust and enter the value in the same way as the procedure (14) and (15).
- When operating adjust upper-end print position press the [◀] key. "X Adjust" is displayed on the LCD, and then the screen shifts to function selecting menu of the function code 45. Press the [▼] key to display "Y Adjust" on the LCD.
 - When operating adjust upper-end print position

(16) About the top and bottom margin, press the [▲] or [▼] key to display "Y Adjust" on the LCD, and press the [SET] key. Enter the value by selecting T2 in the same way as the procedure (13) to (15).

(17) Similarly adjust left-end and upper-end print position for all trays.

1.9 Resetting to Factory Shipping State (Function code 03)

Memo:

- When using the new main PCB ASSY, be sure to perform the procedure after repair. Otherwise security level (e.g., against information leakage risk) would be low.
- If you use the main PCB ASSY has been used even once in the market, there is no need to follow the procedure.

<Operating procedure>

- (1) Be sure to enter the maintenance mode. (Refer to “1.1 How to Enter Maintenance Mode” in Chapter 5.)
- (2) Press the [0], and then the [3] key in the initial state of maintenance mode. “1.LT1 MN LOAD?” is displayed on the LCD.
- (3) Press the [▲] or [▼] key to select “7.PowerOnFunc ?” and then press the [Start] or [Mono Start] key. “FUNC_ENABLE” or “FUNC_DISABLE” is displayed on the LCD.
- (4) When “FUNC_DISABLE” is displayed on the LCD, the machine is at shipping state. Press the [X] key to return to the initial state of the maintenance mode.
When “FUNC_ENABLE” is displayed on the LCD, press the [▲] or [▼] key to select “FUNC_DISABLE” and then press the [SET] key.
“1.LT1 MN LOAD?” is displayed on the LCD.
- (5) Press the [▲] or [▼] key to display “8.ShippingStat?” on the LCD, and press the [OK] key.
“ON” or “OFF:Change OK?” is displayed on the LCD.
- (6) When “ON” is displayed on the LCD, turn OFF the power switch of the machine and quit. When “OFF:Change OK?” is displayed on the LCD, press the [SET] key. The machine is reset to a factory shipping state. Turn the power off and then unplug the AC cord of the machine to finish the procedure.

2. IF YOU REPLACE THE REGISTRATION MARK SENSOR UNIT

■ 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 [“1.3.26 Continuous adjustments of density / registration sensor \(Function code 73\)”](#) in Chapter 5.

3. IF YOU REPLACE THE LOW-VOLTAGE POWER SUPPLY PCB ASSY

■ What to do after replacement

- Resetting Irregular Power Supply Counter of the Low-voltage Power Supply PCB (Reset counters for consumable parts (Function code 88))

■ What you need to prepare

None

3.1 Resetting Irregular Power Supply Counter of the Low-voltage Power Supply PCB (Reset counters for consumable parts (Function code 88))

Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5 to reset the irregular power supply counter of the low-voltage power supply PCB.

4. IF YOU REPLACE LCD, CONTROL PANEL ASSY OR PANEL PCB ASSY

■ What to do after replacement

- Adjusting Touch Panel (Function code 61)
- Checking LCD Operation (Function code 12)

■ What you need to prepare

- (1) Touch pen

4.1 Adjusting Touch Panel (Function code 61)

Adjust the touch panel as described in “1.3.18 Adjust touch panel (Function code 61)” in Chapter 5.

4.2 Checking LCD Operation (Function code 12)

Check LCD operation as described in “1.3.6 Check LCD operation (Function code 12)” in Chapter 5.

5. IF YOU REPLACE THE LASER UNIT

■ What to do after replacement

- Continuous Adjustments of Density and Registration Sensor (Function code 73)
- Resetting Printed Pages Counter of the Laser Unit (Reset counters for consumable parts (Function code 88))

■ What you need to prepare

None

5.1 Continuous Adjustments of Density and Registration Sensor (Function code 73)

Perform continuous adjustments of density and registration sensor in accordance with [“1.3.26 Continuous adjustments of density / registration sensor \(Function code 73\)”](#) in Chapter 5.

5.2 Resetting Printed Pages Counter of the Laser Unit (Reset counters for consumable parts (Function code 88))

Refer to [“1.3.35 Reset counters for consumable parts \(Function code 88\)”](#) in Chapter 5 to reset the printed pages counter of the laser unit.

6. IF YOU REPLACE THE ADF UNIT, FIRST SIDE CIS UNIT, SECOND SIDE CIS UNIT OR DOCUMENT SCANNER UNIT

■ What to do after replacement

- Acquisition of White Level Data (Function code 55)
- Scanning and Printing Check

■ What you need to prepare

None

6.1 Acquisition of White Level Data (Function code 55)

Perform Acquisition of white level data in accordance with “1.3.17 Acquire white level data and set CIS scan area (Function code 55)” in Chapter 5.

6.2 Scanning and Printing Check

Scan the proper document on the scanner glass and the ADF unit, and check if there is any problem on the printed image.

Check if there is any problem on the document scanner unit, the ADF unit and the performance of recording part.

7. IF YOU REPLACE THE FUSER UNIT

■ What to do after replacement

- Resetting Printed Pages Counter of the Fuser Unit
(Reset counters for consumable parts (Function code 88))

■ What you need to prepare

None

7.1 Resetting Printed Pages Counter of the Fuser Unit (Reset counters for consumable parts (Function code 88))

Refer to ["1.3.35 Reset counters for consumable parts \(Function code 88\)"](#) in Chapter 5 to reset the printed pages counter of the fuser unit.

8. IF YOU REPLACE A PF KIT

■ What to do after replacement

- Resetting Printed Pages Counter of a PF Kit
(Reset counters for consumable parts (Function code 88))

■ What you need to prepare

None

8.1 Resetting Printed Pages Counter of a PF Kit (Reset counters for consumable parts (Function code 88))

Refer to [“1.3.35 Reset counters for consumable parts \(Function code 88\)”](#) in Chapter 5 to reset the printed pages counter of the appropriate PF kit.

9. IF YOU REPLACE THE TT / LT AND TT/LT CONTROL PCB

■ What to do after replacement

- Installing Firmware (Main Firmware)
- Adjusting Left-end and Upper-end Print Position (Function code 45) (TT only)

■ What you need to prepare

- (1) One USB cable (only for when Firmware installation using PC)
- (2) USB flash memory
- (3) Create a temporary folder on the C drive of the computer (Windows® XP or later).
- (4) Download utility (Filedg32.exe)
Copy this file into the temporary folder created on the C drive.
- (5) Maintenance driver (Maintenance_driver.zip) (only for when Firmware installation using PC)
When the maintenance driver is not installed on the computer, copy this file into the temporary folder created on the C drive, and extract the copied file. Refer to **“APPENDIX 3 INSTALLING THE MAINTENANCE PRINTER DRIVER”** to install the driver.
- (6) Firmware

Sub firmware	djf or upd file (ex. D009UH_A.djf or D009UH_A.upd)
Main firmware	djf or upd file (ex. D009UD_A.djf or D009UD_A.upd)

9.1 Installing Firmware (Main Firmware)

9.1.1 Checking firmware version

Check whether the firmwares installed on the machine are the latest version, refer to **“9.1.2 Installing firmware”** in this chapter. If they are the latest version, there is no need to install the firmware. If they are not, be sure to install all firmwares to the machine.

<How to check firmware version>

- (1) Press the [2], and then the [5] key in the initial state of maintenance mode.
“MAIN:Ver*.**(#)” is displayed on the LCD.
- (2) Pressing the [▲] or [Mono Start] key changes the display to the next item.
- (3) When you press the [X] key, this operation is finished and the machine returns to the initial state of maintenance mode.

Memo:

You can also check the sub firmware and main firmware versions by implementing “Print maintenance information (Function code 77)” (refer to **“1.3.28 Print maintenance information (Function code 77)”** in Chapter 5).

9.1.2 Installing firmware

Note:

TT and LT have their own firmware respectively. They are included in the main firmware. When connecting the options to the machine and turning on the power switch, the firmwares of these options will be updated with the main firmware version of the machine.

Memo:

- Do not disconnect the power cord, USB flash memory or USB cable from the machine or computer during installing.
- If the installation is failed, turn OFF the machine and turn it back on. The machine enters the firmware install mode automatically. Continue the operation procedure below.
- Firmware installation using USB flash memory is inoperable when the machine is in deep sleep mode. Release the deep sleep mode by opening / closing the front cover before the operation.
- When the firmware installation using USB flash memory is failed and the error message or no character appears on the LCD, refer to ["■ Firmware installation using PC" in this chapter](#) to install firmware using PC.

<Operating procedure>

■ Firmware installation using USB flash memory

- (1) Create and save a file for automatic firmware update (file name: "_@\$UPD\$OP0.8080") under the USB flash memory.
- (2) Create the "FIRM" folder under the USB flash memory, and save the program file needed for firmware install (ex: D009UD_A.djf) in the "FIRM" folder.
- (3) Connect the USB flash memory to the USB flash memory port at the side of the machine while the machine is in the ready state. "Program Updating.Do not turn off." appears on the LCD and installation starts automatically. Back light blinks during the installation.
- (4) When installing is completed, the machine restarts automatically and "Completed..." appears on the LCD. Remove the USB flash memory. If multiple program files are saved in the USB flash memory, other installations start automatically after the restart. If the installation fails, "Unable to Update:***" appears on the LCD. ("***" indicates the error code.) Refer to the remedy and eliminate the error. Then reboot the machine and start from the procedure (1).

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 again.
Unable to Update:0002	No folder is specified	Save the firmware in the root folder (just below the USB flash memory).
Unable to Update:0003	Specified folder does not have a file	
Unable to Update:0004	File access failure	Change the USB flash memory and install again.
Unable to Update:0005	File data parsing error	Acquire the firmware from the data bank again.
Unable to Update:0006	File name has exceeded the character limit	Shorten the file name to be less than 119 Byte.
Unable to Update:0007	Unsupported DJF file detected	Acquire the firmware from the data bank again.
Unable to Update:0008	Other function is in use	Perform it again after finishing the running function.

■ Firmware installation using PC

- (1) Press and hold the  key for approximately five seconds while the machine is in the ready state.
- (2) Press and hold the blank field at the bottom on the LCD.
- (3) Press the [*], [2], [8], [6], and [4] key on the LCD in this order. The machine enters the maintenance mode.
- (4) Connect the machine to your computer using the USB cable.
- (5) Open the temporary folder and double-click “Filedg32.exe” to start it, and select “Brother Maintenance USB Printer”.
- (6) Drag and drop the required program file (ex. D009UD_A.djf) in the same folder onto the “Brother Maintenance USB Printer” icon in the Filedrgs screen. The file is loaded to the machine, and installing to the flash ROM starts.
- (7) When installing is completed, the machine restarts and returns to the ready state automatically.
- (8) Repeat the procedures (1) to (5) to install required firmwares.
- (9) Turn OFF the power switch of the machine, and disconnect the USB cable.

9.2 Adjusting Left-end and Upper-end Print Position (Function code 45) (TT only)

Follow the instruction in [“1.8 Adjusting Left-end and Upper-end Print Position \(Function code 45\) \(TT only\)”](#) in this chapter to adjust left-end or upper-end print position.

CHAPTER 5 SERVICE FUNCTIONS

1. MAINTENANCE MODE

Maintenance mode is exclusively designed for checking, setting and adjusting the machine using the keys on the control panel. Using maintenance mode functions, you can conduct operational checks of sensors or test printing, display the log information or error codes, and change the worker switches (WSW) etc.

1.1 How to Enter Maintenance Mode

1.1.1 Method of entering maintenance mode for service personnel

< Operating Procedure >

- (1) Press and hold the  key for approximately five seconds while the machine is in the ready state. The display shown on the right appears on the LCD.

1. Serial No	123456789012345
2. ROM Version	403071112:F97B

- (2) Press the blank field at the bottom. The display shown on the below appears on the LCD.

(For LCD: 5.0 / 7.0 inch models)

1	2	3	A	B	C	Mono CopyS	Mono CopyD
4	5	6	D	E	F	Color CopyS	Color CopyD
7	8	9	◀	▶	▲		
*	0	#	Set	Clear	▼	Start	Stop

(For LCD: 3.7 inch models)

1	2	3	4	Stop	Mono Start
5	6	7	8	*	Color Start
<<	9	0	SET	#	>>

- (3) Press the [*], [2], [8], [6], and [4] keys in this order. The display shown on the below appears on the LCD, and the machine enters into maintenance mode.

(For LCD: 5.0 / 7.0 inch models)

■■ MAINTENANCE ■■ ■■							
1	2	3	A	B	C	Mono CopyS	Mono CopyD
4	5	6	D	E	F	Color CopyS	Color CopyD
7	8	9	◀	▶	▲		
*	0	#	Set	Clear	▼	Start	Stop

(For LCD: 3.7 inch models)

■■ MAINTENANCE ■■ ■■					
1	2	3	4	Stop	Mono Start
5	6	7	8	*	Color Start
<<	9	0	SET	#	>>

- (4) To select any of the maintenance mode functions shown in the ["1.2 List of Maintenance Mode Functions"](#), use the keypad to enter the maintenance mode function code to be executed.

1.1.2 Method of entering end-user accessible maintenance mode

The maintenance mode functions should only be accessed by service personnel. However, end users are allowed to use some of these functions under the guidance of service personnel over the phone. End users can only use the functions shaded in the table “1.2 List of Maintenance Mode Functions” (Function code 09, 10, 11, 12, 18, 25, 43, 45, 53, 54, 61, 66, 68, 72, 77, 79, 80, 82, 87, 91).

< Operating Procedure >

- (1) Press and hold the  key for approximately five seconds while the machine is in the ready state. The display shown on the right appears on the LCD.

1. Serial No	123456789012345
2. ROM Version	403071112:F97B

- (2) Press the blank field at the bottom on the LCD. The display shown on the below appears on the LCD.

(For LCD: 5.0 / 7.0 inch models)

1	2	3	A	B	C	Mono CopyS	Mono CopyD
4	5	6	D	E	F	Color CopyS	Color CopyD
7	8	9	◀	▶	▲		
*	0	#	Set	Clear	▼	Start	Stop

(For LCD: 3.7 inch models)

1	2	3	4	Stop	Mono Start
5	6	7	8	*	Color Start
<<	9	0	SET	#	>>

- (3) Press the [*], [0], and [#] keys on the LCD in this order. The machine enters into ready state to accept function code entry, so press the function code you want to execute.
- (4) Each time the selected maintenance mode function is completed, the machine returns to the ready state automatically.

1.2 List of Maintenance Mode Functions

Function code	Function	Refer to:
01	Initialize EEPROM parameters	1.3.1 (5-4)
03	Transition to shipping state	1.3.2 (5-5)
08	ADF performance test	1.3.3 (5-6)
09	Print quality test pattern	1.3.4 (5-7)
10	Set worker switches (WSW)	1.3.5 (5-8)
11	Print worker switch (WSW) setting data	1.3.5 (5-8)
12	Check LCD operation	1.3.6 (5-11)
13	Check control panel key operation	1.3.7 (5-12)
18	Save the NetConfig information	1.3.8 (5-12)
25	Display software version	1.3.9 (5-13)
32	Check sensor operation	1.3.10 (5-14)
33	Display LAN connection status	1.3.11 (5-19)
43	Set PC print functions	1.3.12 (5-20)
45	Change USB No. return value / Switching Dither Pattern / Change ON/OFF setting of Direct Print Color mode- Improve Gray Color / Switching of timing to execute Auto Registration / Adjust left-end print position / Adjust upper-end print position / Change of the transfer current setting / Change of ghost reduction setting	1.3.13 (5-23)
46	Adjust printable range for each speed level	1.3.14 (5-29)
53	Transfer received fax data / log information (fax models only)	1.3.15 (5-31)
54	Fine-tune scanning position	1.3.16 (5-33)
55	Acquire white level data and set CIS scan area	1.3.17 (5-34)
61	Adjust touch panel	1.3.18 (5-35)
66	Adjustment of color registration (Adjustment of inter-color position alignment)	1.3.19 (5-36)
67	Continuous print test	1.3.20 (5-40)
68	Laser unit test pattern print	1.3.21 (5-44)
69	Print frame pattern (single-side printing)	1.3.22 (5-45)
70	Print frame pattern (duplex printing)	1.3.23 (5-46)
71	Color test pattern	1.3.24 (5-47)
72	Sensitivity adjustment of density sensor	1.3.25 (5-50)
73	Continuous adjustments of density / registration sensor	1.3.26 (5-51)
74	Configure for country / region and model	1.3.27 (5-51)
77	Print maintenance information	1.3.28 (5-55)
78	Check fan operation	1.3.29 (5-58)
79	Delete fax data	1.3.30 (5-58)
80	Display machine log information	1.3.31 (5-59)
82	Display machine error code	1.3.32 (5-63)
83	Developing bias voltage correction	1.3.33 (5-64)
87	Send communication log information to telephone line	1.3.34 (5-65)
88	Reset counters for consumable parts	1.3.35 (5-65)
91	Initialize EEPROM parameters	1.3.1 (5-4)
99	Quit maintenance mode	1.3.36 (5-66)

* The maintenance mode functions shaded in the table can be used by end users.

1.3 Details of Maintenance Mode Functions

1.3.1 Initialize EEPROM parameters (Function code 01, 91)

< Function >

This function is used to initialize the setting values for operation parameters, user switches, and worker switches (WSW) registered in the EEPROM. Entering function code 01 initializes most EEPROM areas. Entering function code 91 initializes only the specified areas as shown in the table below.

Data item	01	91
Printer switch (Counter information)	Areas not to be initialized	Areas not to be initialized
Error history		
Mac Address (Ethernet Address)		
Password for control panel operation lock	Areas to be initialized	Areas to be initialized
Telephone function registration/ Telephone book		
Clock (RTC)		
Worker switches		
User switches (items initialized when Factory Reset is executed)		
Secure function lock		
Function settings except user switches (settings not subject to "Factory Reset") • Language • Interface		
LAN setting	Areas to be initialized	
PCL core area (Emulation setting values)		

< Operating Procedure >

- (1) Press the [0], and then the [1] key (or press the [9], and then the [1] key as required) in the initial state of maintenance mode. "PARAMETER INIT" is displayed on the LCD.
- (2) When initializing parameters is completed, the machine returns to the initial state of maintenance mode.

Note:

Function code 01 is for service personnel. Function code 91 is for user support.

1.3.2 Transition to shipping state (Function code 03)

This function contains update of TT/LT firmware, display soft switch Check SUM, change ON/OFF setting of special function at start up and transfer to the shipping state. Update of TT/LT firmware, display soft switch Check SUM and change ON/OFF setting of special function at start up are function for sales correspondence or production process and not used for the service. Only transfer to the shipping state can be used for the service.

■ Update of TT/LT firmware

< Function >

This function is for sales special correspondence, and not used for the service. Usually, when update the main firmware of the machine while connecting the TT and LT, firmware of TT and LT will be updated to the latest version automatically.

These functions are displayed on LCD after entering function code 03 as "1.LT1 MN LOAD?", "2.LT2 MN LOAD?", "3.LT3 MN LOAD?", "4.MB1 MN LOAD?" and "5.TT MN LOAD?".

■ Display soft switch Check SUM

< Function >

This function is to display soft switch check SUM such as FSW/USW/WSW etc. Only for soft switch display and not used for the service.

This function is displayed on LCD after entering function code 03 as "6.SWSUM?".

■ Change ON/OFF setting of special function at start up

< Function >

By the special function at start up is set to an invalid state, "■ Transfer to the shipping state" in the next item can be used. Be careful it is unable to transfer the machine to the shipping state a valid state.

< Operating Procedure >

- (1) Press the [0], and then the [3] key in the initial state of maintenance mode. "1.LT1 MN LOAD?" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to select "7.PowerOnFunc ?" and then press the [Start] or [Mono Start] key. "FUNC_ENABLE" or "FUNC_DISABLE" is displayed on the LCD.
- (3) When "FUNC_DISABLE" is displayed on the LCD, the machine is at shipping state. Press the [X] key to return to the initial state of the maintenance mode.
When "FUNC_ENABLE" is displayed on the LCD, Press the [▲] or [▼] key to select "FUNC_DISABLE" and then press the [SET] key.
"1.LT1 MN LOAD?" is displayed on the LCD.

■ Transfer to the shipping state

< Function >

This function is to transfer the machine to the shipping state when used new spare Main PCB for repair, etc. When not perform this function to the new spare Main PCB and leave, some software will be unavailable such as MPS applications or BrAdmin tool. Also, the machine keeps poor state of security such as risk of leaking private information. Do not forget to perform this function after replacing the new spare Main PCB. However, this product does not have function for place back to the pre-shipping state from the shipping state.

< Operating Procedure >

Note:

Be careful that if the special function at start up in the preceding item is a valid state, it is unable to transfer the machine to the shipping state.
Be sure to operate after changing to an invalid state.

- (1) Press the [0], and then the [3] key in the initial state of maintenance mode. "1.LT1 MN LOAD?" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to select "8.ShippingStat?" and then press the [Start] or [Mono Start] key. "ON" or "OFF: Change OK?" is displayed on the LCD.
- (3) When "ON" is displayed on the LCD, the machine is at shipping state. Press the [X] key to return to the initial state of the maintenance mode.
When "OFF: Change OK?" is displayed on the LCD, press the [SET] key. The machine will transfer to the shipping state and returns to the initial state of the maintenance mode.

1.3.3 ADF performance test (Function code 08)

< Function >

This function is used to test the performance of the automatic document feeder (ADF). The scanned pages of the documents fed by the ADF are counted and the result is displayed on the LCD.

< Operating Procedure >

- (1) Set the documents in the ADF unit. "DOC. READY" is displayed on the LCD.
- (2) Press the [0], and then the [8] key in the initial state of maintenance mode. "ADF CHECK P.**" is displayed on the LCD, and the documents are ejected while the scanned pages are counted. (** indicates the current count of the scanned pages.)

Note:

For duplex scanning models, as two faces per sheet are scanned, the value increases by two each time a sheet is ejected.

- (3) When the [X] key is pressed, the machine returns to the initial state of maintenance mode.

1.3.4 Print quality test pattern (Function code 09)

< Function >

This function is used to print test patterns to check any missing image and print quality.

< Operating Procedure >

- (1) Press the [0], and then the [9] key in the initial state of maintenance mode.
“MAINTENANCE 09” is displayed on the LCD, and the machine starts printing the print quality test pattern (refer to the figure below).
- (2) When printing is completed, the machine returns to the initial state of maintenance mode.

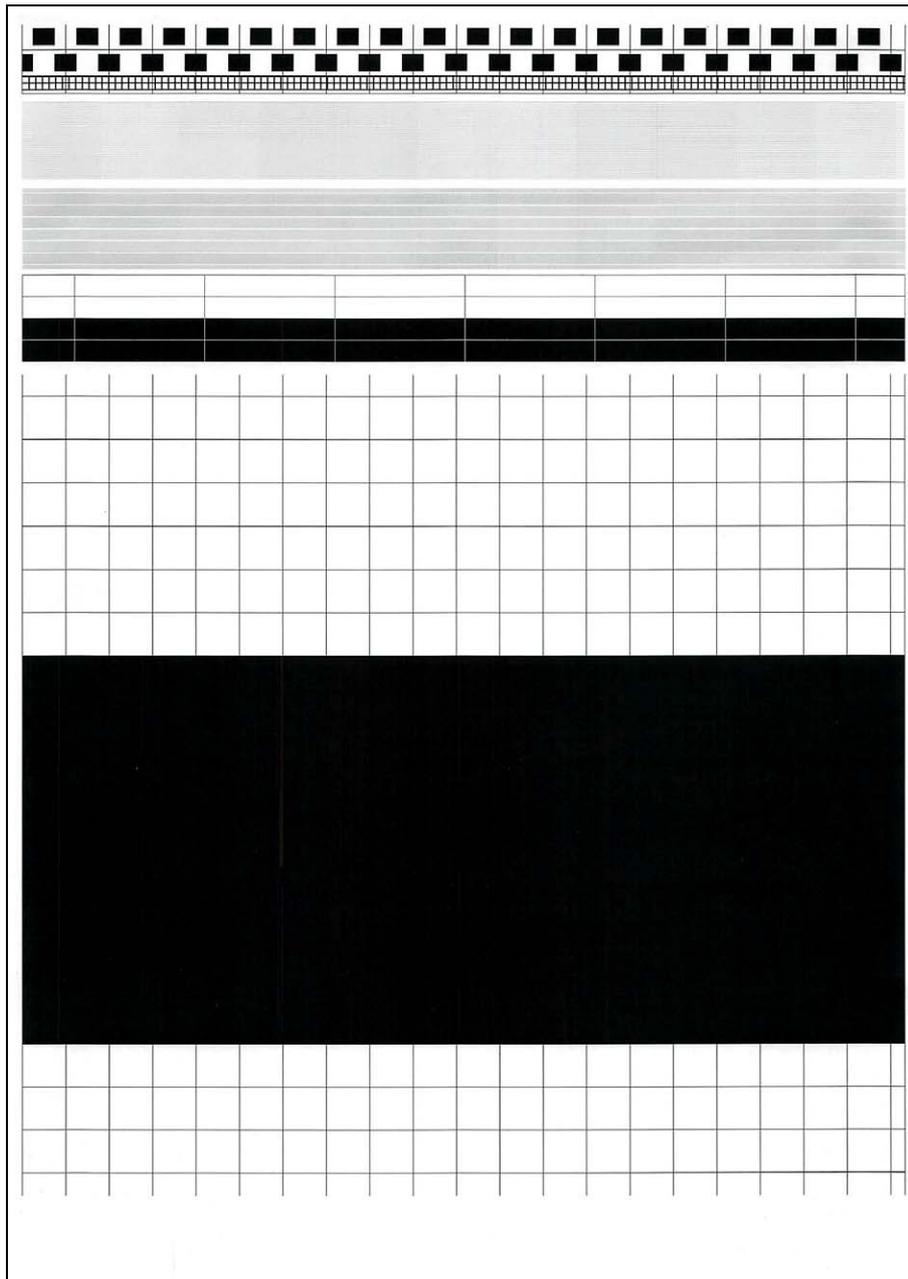


Fig. 5-1

Note:

This print is available even Cyan, Magenta and Yellow toner cartridge is empty or “No toner” status.

1.3.5 Set worker switches (WSW) and print worker switch setting data (Function code 10, 11)

[1] Set worker switches (Function code 10)

< Function >

The worker switches shown in the table below can be used to set the function to satisfy various requirements. These switch settings can be changed using the keys on the control panel. The worker switches are factory set to conform to the laws and regulations of the country the machine is shipped to. Do not change these settings unless necessary.

WSW No.	Function	WSW No.	Function
WSW01	Dial pulse setting	WSW34	Function setting 12
WSW02	Tone signal setting	WSW35	Function setting 13
WSW03	PABX mode setting	WSW36	Function setting 14
WSW04	Transfer facility setting	WSW37	Function setting 15
WSW05	1st dial tone and busy tone detection	WSW38	V.34 transmission settings
		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 high- and full-speed USB
WSW14	AUTO ANS facility setting		
WSW15	Redial facility setting		
WSW16	Function setting 1	WSW48	USB setup latency
WSW17	Function setting 2	WSW49	End-of-copying beep
WSW18	Function setting 3	WSW50	SDAA setting
WSW19	Transmission speed setting	WSW51	Function setting 17
WSW20	Overseas communication mode setting	WSW52	Function setting 18
		WSW53	Function setting 19
WSW21	TAD setting 1	WSW54	Function setting 20
WSW22	ECM and call waiting caller ID	WSW55	Interval for regular developing bias value correction
WSW23	Communication setting		
WSW24	TAD setting 2	WSW56	Function setting 21
WSW25	TAD setting 3	WSW57	Function setting 22
WSW26	Function setting 4	WSW58	Function setting 23
WSW27	Function setting 5	WSW59	Function setting 24
WSW28	Function setting 6	WSW60	Function setting 25
WSW29	Function setting 7		
WSW30	Function setting 8		
WSW31	Function setting 9	WSW61	Scanning light intensity to judge to be stable 1
WSW32	Function setting 10		
WSW33	Function setting 11	WSW62	Scanning light intensity to judge to be stable 2
		WSW63	Function setting 26

[2] Print worker switch (WSW) setting data (Function code 11)

< Function >

This function is used to print the worker switch settings and details.

< Operating Procedure >

- (1) Press the [1] key twice in the initial state of maintenance mode.
- (2) "PRINTING" is displayed on the LCD, and printing the CONFIGURATION LIST (refer to the figure below) starts.
- (3) When printing is completed, the machine returns to the initial state of maintenance mode.



Fig. 5-2

1.3.6 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 >

(1) Press the [1], and then the [2] key in the initial state of maintenance mode. LCD displays shown as the chart below.

(2) Press the  key to switch the display column A and display column B.

By pressing the  key, LCD moves to the next display of the each column according to the chart. When you press the  key at the Display B-7 of the each column, LCD returns to display B-1. Press the  key to return to the last LCD display.

Note:

At <Display A-7>, you cannot switch the display to column B even press the  key.

(3) When you press the [X] key at the Display A-7 or B-1 to 7, the machine returns to the initial state of the maintenance mode.

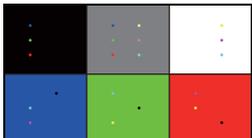
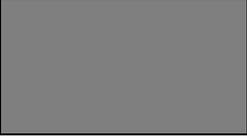
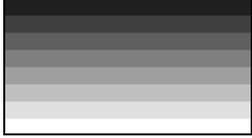
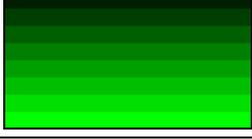
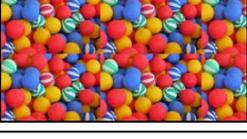
<Display A-1> all white		<Display B-1> bright point/ down point	
<Display A-2> all black		<Display B-2> bright point	
<Display A-3> all gray		<Display B-3> white gradual	
<Display A-4> all red		<Display B-4> red gradual	
<Display A-5> all green		<Display B-5> green gradual	
<Display A-6> all blue		<Display B-6> blue gradual	
<Display A-7> picture data		<Display B-7> Displays BMP file in the Media by rotation	

Fig. 5-3

1.3.7 Check control panel key operation (Function code 13)

< Function >

This function is used to check that keys on the control panel are operating normally.

< Operating Procedure >

- (1) Press the [1], and then the [3] key in the initial state of maintenance mode. "00" is displayed on the LCD.
- (2) Press the keys on the control panel according to the numbers provided in the figure below. Each time the key is pressed, the corresponding figure is displayed on the LCD in decimal notation. Check that the number displayed on the LCD matches the number assigned to the key that has been pressed. If the keys are pressed in the incorrect order, "INVALID OPERATE" is displayed on the LCD. Press the [X] key and try again with the correct key.
- (3) When the key operation is normal, the machine returns to the initial state of maintenance mode when the last key is pressed. To cancel operation and return to the initial state of maintenance mode, press the [X] key.

■ Order of pressing keys

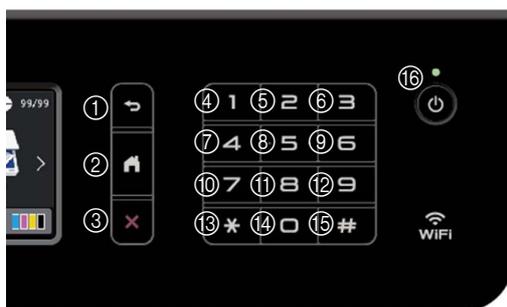


Fig. 5-4

1.3.8 Save the NetConfig information (Function code 18)

< Function >

This function is to save the NetConfig information to USB flash memory.

< Operating Procedure >

- (1) Press the [1], and then the [8] key in the initial state of maintenance mode. "NETCONFIG" is displayed on the LCD.
- (2) Set the USB flash memory to the USB host terminal.
- (3) Press the [SET] key. "SAVE TO USB" is displayed on the LCD.
- (4) Press the [SET] key. "USB SAVING" is displayed on the LCD and "NetConfig" folder is created in the USB flash memory. NetConfig information is saved as "CFG-PAGE_**.txt" in the folder and returns to initial state of the maintenance mode.

"**" in the file name is the number of NetConfig information appearance in the folder.

If there are no NetConfig information in the folder, the file will be saved as "00" and if the same name is already in it, the file will be made as "01".

1.3.9 Display software version (Function code 25)

< Function >

This function is used to check the version information of the firmwares and programs, or check sum information.

< Operating Procedure >

- (1) Press the [2], and then the [5] key in the initial state of maintenance mode. "TOTAL: Ver **" is displayed on the LCD.
- (2) Pressing the [Start] or [Mono Start] key changes the display to the next item.
- (3) Press the [X] key, and the machine returns to the initial state of maintenance mode.

LCD	Description
TOTAL: Ver A ^{*1}	Main firmware version information
SUB1 : Ver1.00 (P) ^{*1}	Sub firmware version information ((P): Identifier for PCL/PS) ^{*2}
ENG : Ver1.00	Engine program version information
NET : Ver1.00	Network program version information
LT1 :Ver1.00	LT1 firmware version information ^{*3}
LT2 :Ver1.00	LT2 firmware version information ^{*3}
LT3 :Ver1.00	LT3 firmware version information ^{*3}
TT :Ver1.00	TT firmware version information ^{*3}
i0801170900:0000	I-FAX version information
B1612312359:1234 ^{*1}	Boot program creation date
U1612312359:1234 ^{*1}	Main firmware creation date
C1606021159:1234	UI custom data version information
P0612271602:BD40 ^{*1}	Sub firmware (PCL/PS) creation date
ROM Check Sum	Check sum self-diagnosis function ^{*4}

^{*1} How to display the check sum information
You can check the check sum information by pressing the [SET] key while each version is displayed. When the [SET] key is pressed again, the LCD returns to the version display.

^{*2} (P), (G), or (-) is displayed at the place of (P).
(P): Supports PCL/PS, (G): Supports GDI, (-): Unrecognized

^{*3} Only displayed when LT/TT is connected.

^{*4} There are two types of check sum information that can be checked with this function. This function checks if the two types of check sum information match each other. When the [SET] key is pressed while "ROM Check Sum" is displayed, check is automatically conducted for each ROM of each software part. When the check sum matches, "OK" is displayed on the LCD. When all ROMs result in "OK", "ROM Check Sum OK" is displayed at the end, and the operation is finished. When the check sum of any ROM does not match, "NG" is displayed, and the display stops.

1.3.10 Check sensor operation (Function code 32)

< Function >

This function is used to check whether the sensors, solenoids, and clutches are operating normally.

< Operating Procedure >

- (1) Press the [3], and then the [2] key in the initial state of maintenance mode. Following example is displayed on the LCD.
e.g.) RCNKNCNMNYCV****
The speaker makes buzzing sound continuously.
Information related to the LT and TT are not displayed on the LCD when those are not connected.

Note:

Press the [SET] key to stop the buzzing sound from the speaker.

- (2) Pressing the [Start] or [Mono Start] key changes the display to the next item.
- (3) Change the conditions subject to sensor detection shown below and check that the display on the LCD changes depending on the sensor status. For example, feed the paper through the registration front/rear sensor, open the front cover or back cover, remove the toner cartridge, or create paper jam at the exit.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

<Sensor check>

The table below summarizes the displays on the LCD, sensor names and detection status.

LCD	Sensor name	Detection status	
		With display	No display
RC	Back cover sensor	Back cover closed	Back cover open
NK	New toner sensor (Black)	OFF	ON
NC	New toner sensor (Cyan)	OFF	ON
NM	New toner sensor (Magenta)	OFF	ON
NY	New toner sensor (Yellow)	OFF	ON
CV	Front cover sensor	Front cover closed	Front cover open
C1	T1 paper feed sensor	T1 closed	T1 open
P1	T1 paper empty sensor	No paper	Paper set
MP	MP paper empty sensor	No paper	Paper set
MR	MP registration front sensor	No paper	Paper set
PO	Eject sensor	No paper	Paper set
RM	Registration front sensor	No paper	Paper set
RA	Registration rear sensor	No paper	Paper set
FW	Waste toner sensor	Waste toner detected	Waste toner not detected
KC	Toner sensor (Black)	Toner detected	Toner not detected
CC	Toner sensor (Cyan)	Toner detected	Toner not detected
MC	Toner sensor (Magenta)	Toner detected	Toner not detected
YC	Toner sensor (Yellow)	Toner detected	Toner not detected
MACxx	Internal temperature sensor	XX °C	NG
OTxx	External temperature sensor	XX °C	NG
OHxx	External humidity sensor	XX%	NG

LCD	Sensor name	Detection status	
		With display	No display
DF	Document detection sensor	No document	Document set
DR	First side document scanning position sensor	No document	Document set
AC	ADF cover sensor	ADF cover closed	ADF cover open
C2	T2LT paper feed sensor (When LT is in use)	T2 closed	T2 open
P2	T2LT paper empty sensor (When LT is in use)	No paper	Paper set
L2	T2 plate origin sensor (When LT is in use)	T2 Plate down	T2 Plate up
C3	T3LT paper feed sensor (When LT is in use)	T3 closed	T3 open
P3	T3LT paper empty sensor (When LT is in use)	No paper	Paper set
L3	T3LT plate origin sensor (When LT is in use)	T3 Plate down	T3 Plate up
C4	T4LT paper feed sensor (When LT is in use)	TT T4 closed	TT T4 open
P4	T4LT paper empty sensor (When LT is in use)	No paper	Paper set
E2	T2TT paper feed sensor	TT T2 closed and No paper	TT T2 open and Paper set
D2	T2TT paper empty sensor	No paper	Paper set
E3	T3TT paper feed sensor	TT T3 closed and No paper	TT T3 open and Paper set
D3	T3TT paper empty sensor	No paper	Paper set
E4	T4TT paper feed sensor	TT T4 closed and No paper	TT T4 open and Paper set
D4	T4TT paper empty sensor	No paper	Paper set
E5	T5TT paper feed sensor	TT T5 closed and No paper	TT T5 open and Paper set
D5	T5TT paper empty sensor	No paper	Paper set
J2	T2TT jam sensor	No paper	Paper set
J3	T3TT jam sensor	No paper	Paper set
J4	T4TT jam sensor	No paper	Paper set
J5	T5TT jam sensor	No paper	Paper set
AL	TT balance sensor L	With attachment	No attachment
AR	TT balance sensor R	With attachment	No attachment
TT	TT connection sensor	TT connected	—

Note:

If the external temperature/humidity sensor detects the unusual value, the machine displays "NG" on the LCD.

■ Location of sensors

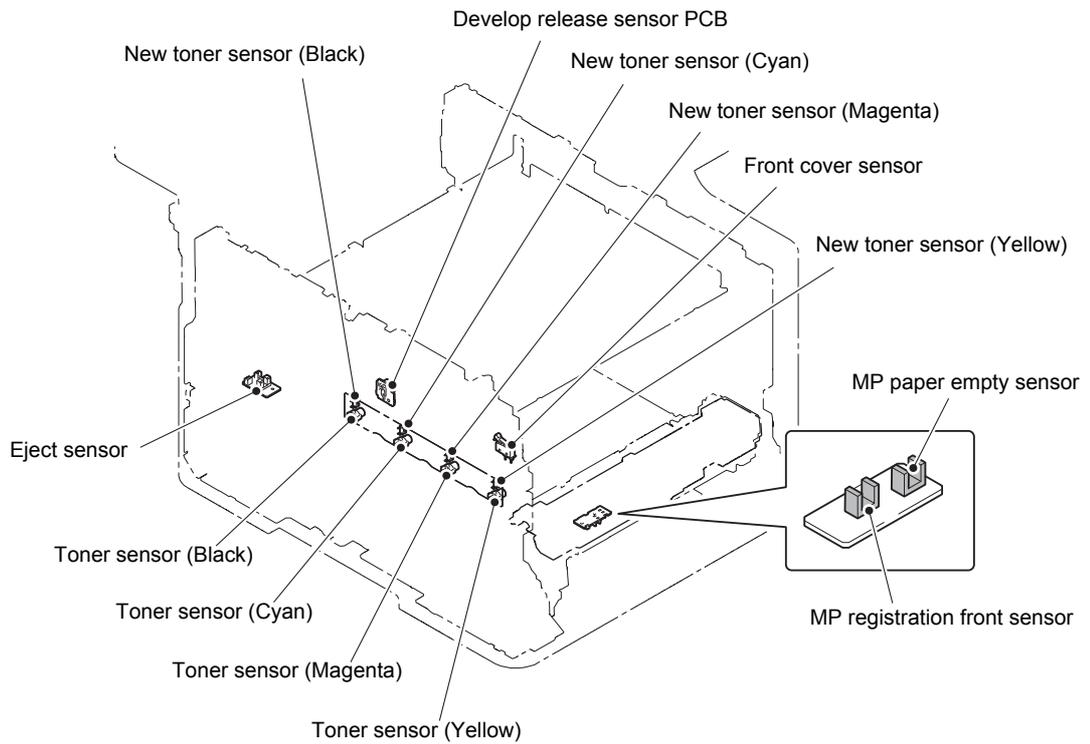
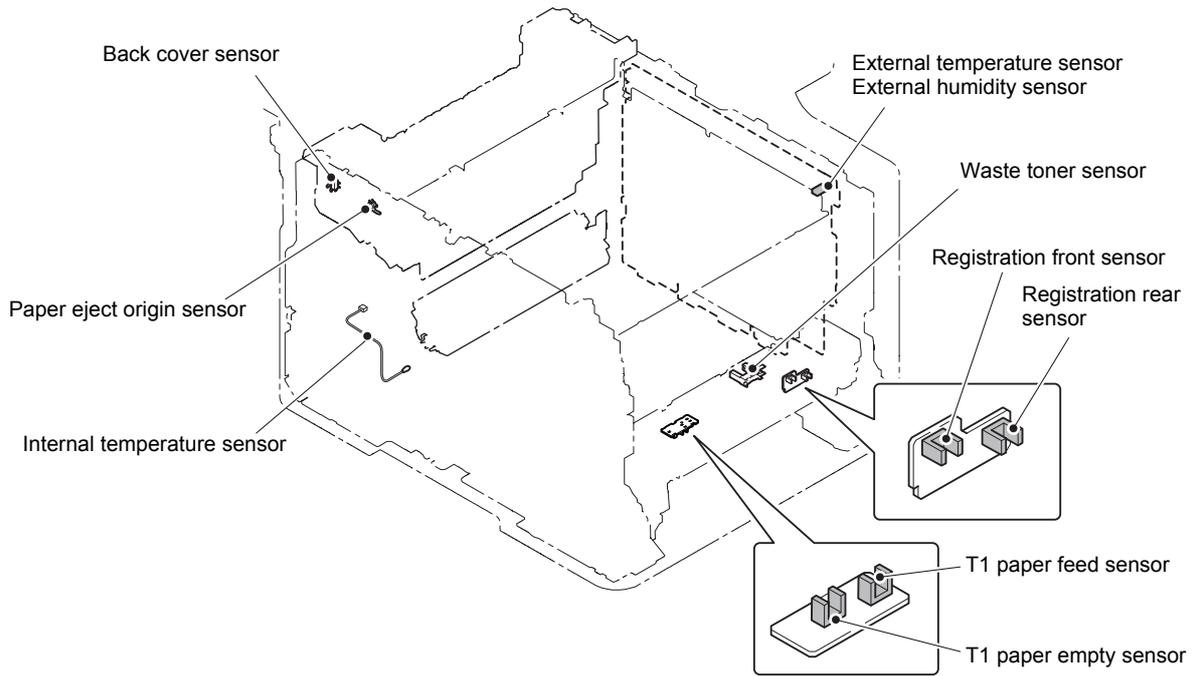


Fig. 5-5

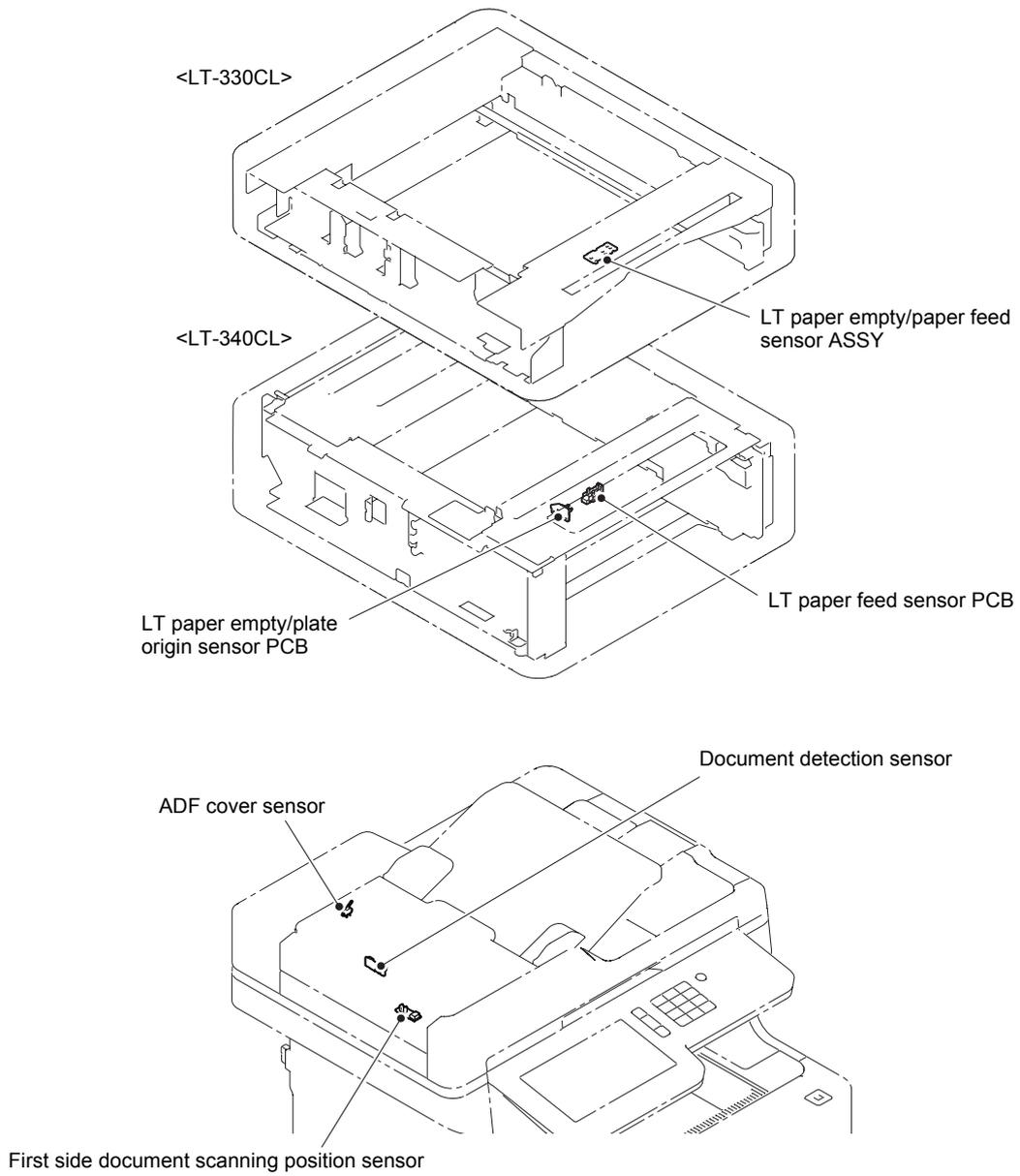


Fig. 5-6

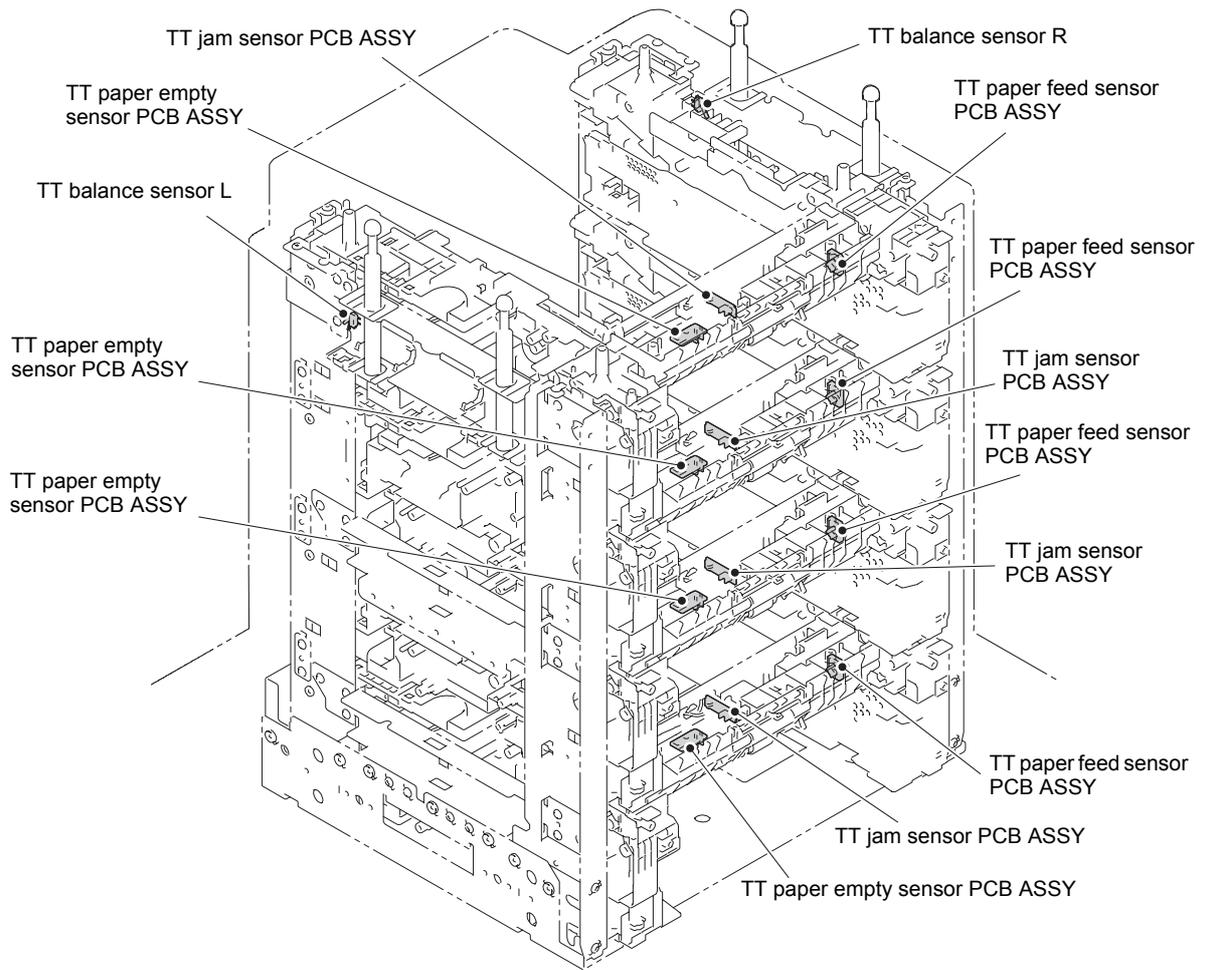


Fig. 5-7

1.3.11 Display LAN connection status (Function code 33)

< Function >

This function is used to check the connection status of the wired LAN.

< Operating Procedure >

- (1) Press the [3] key twice in the initial state of maintenance mode.
- (2) One of the items in the following table is displayed on the LCD depending on the wired LAN connection of the machine.
- (3) Press the [X] key, and the machine returns to the initial state of maintenance mode.

LCD	LAN connection status
Active 1000B-FD	1000B-FD
Active 100B-FD	100B-FD
Active 100B-HD	100B-HD
Active 10B-FD	10B-FD
Active 10B-HD	10B-HD
Inactive	Not connected

1.3.12 Set PC print functions (Function code 43)

< Function >

This function is used to change the settings of the various print functions summarized in the table below.

< Operating Procedure >

- (1) Press the [4], and then the [3] key in the initial state of maintenance mode. "Manual Feed" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display the function you want to change the setting of, and press the [SET] key.
- (3) For fixed parameters (On/Off, etc.), press the [▲] or [▼] key to display the setting you want to apply, and press the [SET] key. For parameters requiring numerical value entry, use the keypad to enter a numerical value directly, and press the [SET] key.
- (4) When the [X] key is pressed, the machine returns to the initial state of maintenance mode.

■ Setting functions

LCD	Description	Set value	Default
Manual Feed	Manual feed setting	On/Off	Off
Resolution	Print resolution	300/600/HQ1200 dpi	600 dpi
Toner Save	Toner save mode setting	On/Off	Off
Density	Print density level	-6 to 6	0
JB-Can Time	Time until host timeout after a job is canceled	0 to 255 seconds	10 seconds
Sleep Time	Time until sleep mode is entered	0 to 99 minutes	1 minute
Page Protection	Page memory setting	Off/LTR/A4/LGL/Auto	Auto
Emulation	Emulation (print language) setting	Auto/PCL/PS	Auto
Auto I/F Time	Interface open time setting	1 to 99 seconds	5 seconds
Media Type	Paper type setting	Thin/Plain/Thick/Thicker/ *Trans/Recycled/Bond/Env/ EnvThin/EnvThick	Plain or Thin
Paper Size	Image development area setting	Letter/Legal/A4/Exec/ISOB5/ JISB5/A5/ISOB6/A6/ Monarch/C5/COM10/DL/ DLL/A4Long/Hagaki/Folio	Letter or A4
Copies	Number of copies	1 to 99 copies	1 copy
Orientation	Print direction setting	Portrait/Landscape	Port/Land
P-Pos X-Offset	Print position offset in X (landscape) direction	-500 to 500 (1/300 dpi)	0 (1/300 dpi)

* When Trans is displayed on the menu, the setting is ignored because of the paper not within the specification.

LCD	Description	Set value	Default
P-Pos Y-Offset	Print position offset in Y (portrait) direction	-500 to 500 (1/300 dpi)	0 (1/300 dpi)
Auto FF	Auto Form Feed setting	On/Off	Off
Auto FF Time	Time until Auto Form Feed timeout	1 to 99 seconds	5 seconds
FF Suppress	Blank page skip setting	On/Off	Off
Auto LF	Auto linefeed (LF) setting	On/Off	Off
Auto CR	Auto carriage return (CR) setting	On/Off	Off
Auto WRAP	Auto CRLF by print width	On/Off	Off
Auto Skip	Back end / tip skip setting	On/Off	On
Left Margin	Left margin setting	0 to 145 columns	0 column
Right Margin	Right margin setting	10 to 155 columns	80 columns
Top Margin	Top margin setting	0 to 2.00 inches	0.5 inches
Bottom Margin	Bottom margin setting	0 to 2.00 inches	0.5 inches
Lines	Text lines per page	5 to 128 lines	60 lines
Error Print	Error Print setting in the event of PostScript error	On/Off	On

■ Detail description

LCD	Detail description
Manual Feed	Valid for printing from the computer, and for printing NetWorkConfig, TestPrint, Fontlist, or Configuration from the panel. When the tray is selected on the computer, the setting on the computer supersedes the setting on the LCD.
Resolution	Valid for printing from the computer only. When the resolution is set on the computer, the setting on the computer supersedes the setting on the LCD.
Toner Save	Valid for all types of printing except copy, and the Function Menu setting will also be changed. When the TonerSave is set on the computer, the setting on the computer supersedes the setting on the LCD.
Density	Valid for printing from the computer, and for printing NetWorkConfig, TestPrint, Fontlist, or Configuration from the panel. Linked with the Toner Save setting, and the density is determined based on both settings. When the Density is set on the computer, the setting on the computer supersedes the setting on the LCD.
JB-Can Time	Sets the time until the host timeout after a job is canceled. The setting unit is on the second time scale.
Sleep Time	Sets the time until the sleep mode is entered. The Function Menu setting will also be changed.
Page Protection	Sets the page memory to be secured for data processing before printing in the computer. As this is a setting in the PCL-Core, this does not affect the memory management of the machine.

LCD	Detail description
Emulation	Changes the print language. The Function Menu setting becomes valid. For data with ENTERLANGUAGE, this setting supersedes the setting on the LCD.
Auto I/F Time	Change the interface open time. This setting becomes valid when PC print is instructed, and becomes invalid when PC-Scan or Remote-SetUp is instructed.
Media Type	Valid for printing from the computer only. When the Paper type is set on the computer, the setting on the computer supersedes the setting on the LCD. The default varies depending on the country setting. "Thin" is the default for China and "Plain" is the default for other countries.
Paper Size	Changes the image development area. Sets the drawing size for PC-Print, instead of the setting for Paper Size in the menu. When the Paper size is set on the computer, the setting on the computer supersedes the setting on the LCD. The default varies depending on the country setting. "Letter" is the default for U.S.A. / Canada and "A4" is the default for other countries.
Copies	Valid for printing from the computer only. When the number of copies is set on the computer, the setting on the computer supersedes the setting on the LCD.
Orientation	Changes the printing direction. Valid for printing from the computer only.
P-Pos X-Offset	Sets the print position offset in the X (landscape) direction. Valid for printing from the computer only. When the X-Offset is set on the computer, the setting on the computer supersedes the setting on the LCD.
P-Pos Y-Offset	Sets the print position offset in the Y (portrait) direction. Valid for printing from the computer only. When the Y-Offset is set on the computer, the setting on the computer supersedes the setting on the LCD.
Auto FF	Sets ON or OFF for AutoFF (automatic form feed). Valid for printing from the computer only.
Auto FF Time	Sets the time until timeout after AutoFF is set to ON.
FF Suppress	Sets whether to skip blank pages. Valid for printing from the computer only. On or Off setting of the blank data for copying or faxing cannot be changed in this setting.
Auto LF	Sets the auto linefeed.
Auto CR	Sets the auto carriage return. Adds CR to the LF code.
Auto WRAP	Sets the auto CRLF by the print width.
Auto Skip	Sets whether to skip at the back end / tip of paper. Adds a blank space.
Left Margin	Sets the column space at the left side.
Right Margin	Set the column space at the right side.
Top Margin	Sets the space at the top.
Bottom Margin	Sets the space at the bottom.
Lines	Sets the number of lines in the PCL.
Error Print	Sets the Error Print in the event of a BR-Script 3 error.

1.3.13 Change USB No. return value / Switching Dither Pattern / Switching of ON/OFF of DirectPrint Color mode-Improve Gray Color / Switching of timing to execute Auto Registration / Adjust left-end print position / Adjust upper-end print position / Change of the transfer current setting / Change of ghost reduction setting (Function code 45)

■ Change USB No. return value

< Function >

When the operating system (OS) installed on the computer is Windows Vista[®], and the machine is connected to this computer using USB2.0FULL, the OS may not be able to obtain the USB device serial number depending on the computer and USB device. If the serial number cannot be obtained, the number of devices increases each time the device is connected to the computer. To avoid this problem, set this function to “USBNo.=ON” and fix the USB No. return value to “0”.

LCD	Description
USBNo. =ON	Returns “0”.
USBNo. =OFF	Returns the serial number of the machine. (default)

The setting currently selected is marked “*” at the end of the display.

< Operating Procedure >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. “USBNo.” is displayed on the LCD.
- (2) Press the [SET] key. “USBNo.=ON” or “USBNo.=OFF” is displayed on the LCD.
- (3) Press the [▲] or [▼] key to select “USBNo.=ON” or “USBNo.=OFF”, and then press the [SET] key.
- (4) “Accepted” is displayed on the LCD, and the machine returns to the initial state of maintenance mode.
- (5) Turn the power switch OFF.

Note:

This setting is applied after the power switch is turned OFF and then ON again.

■ Switching Dither Pattern

< Function >

This function is to switch the dither pattern when printed letters and/or slanted lines are not smooth, and thin lines are rough or uneven.

LCD	Description
PS.DitherType=0	Dither Pattern 0 is selected. (A dither pattern which improves roughness of letters and slanted lines) (default)
PS.DitherType=1	Dither Pattern 1 is selected. (A dither pattern which alleviates banding)

“**” is displayed at the end of the currently specified function in the LCD display.

< Operating Procedure >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. “USBNo.” is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display “PS.DitherType” on the LCD, and press the [SET] key.
- (3) Press the [▲] or [▼] key to select “PS.DitherType = 0” or “PS.DitherType = 1” on the LCD, and press the [SET] key.
- (4) “Accepted” is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

■ Switching of ON/OFF of DirectPrint Color mode-Improve Gray Color

< Function >

This function is to switch ON/OFF of the print control for the gray color when other colors are slightly blended in the gray color 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) Press the [4], and then the [5] key in the initial state of maintenance mode. “USBNo.” is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display “DP ImpGray” on the LCD, and press the [SET] key.
- (3) Press the [▲] or [▼] key to select “DP ImpGray = ON” or “DP ImpGray = OFF” on the LCD, and press the [SET] key.
- (4) “Accepted” is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

■ Switching of timing to execute Auto Registration

Note:

Available by firmware released later than April 2017.

< Function >

Relative displacement between Cyan, Magenta, Yellow, and Black is detected using the registration mark sensor, and the Auto Registration is executed at the timing when the displacement value exceeds the stipulated threshold value.

This function is to switch the threshold value which is used as the timing to execute Auto Registration. The threshold value can be switched in three phases between High, Mid, and Low.

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 >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. “USBNo.” is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display “Regi Freq” on the LCD, and press the [SET] key.
- (3) Press the [▲] or [▼] key to select “Regi Freq = Mid” “Regi Freq = High” or “Regi Freq = Low” on the LCD, and press the [SET] key.
- (4) “Accepted” is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

■ Adjust left-end print position

< Function >

In the event that the left-end print start position deviates, use this function to adjust the position left and right. The adjustable range is -100 to 750 (1 unit = 0.084 mm = 300 dpi).
(Shifted to the left when the value is negative)

< Operating Procedure >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "X Adjust" on the LCD, and press the [SET] key. "XAdjust MP" is displayed on the LCD.
- (3) Refer to <Adjustment option table> in the table below, press the [▲] or [▼] key to select from the adjustment options, and press the [SET] key. "XAdj. **= 0*" is displayed on the LCD. (Selected option is shown for **.)
- (4) To shift the writing start position to the left, press the [▼] key to decrease the value. To shift the position to the right, press the [▲] key to increase the value.
- (5) Press the [Mono Start] or [SET] key after adjusting the value. "Accepted" is displayed on the LCD.
- (6) Press the [X] key, and the machine returns to the initial state of maintenance mode.

<Adjustment option table>

Single-side printing

Adjustment option	LCD
MP tray first side	X Adjust MP
T1 first side	X Adjust T1
T2 first side	X Adjust T2
T3 first side	X Adjust T3
T4 first side	X Adjust T4
T5 first side	X Adjust T5
N/A (disabled)	X Adjust DX
N/A (disabled)	X Adjust DXMP
N/A (disabled)	X Adjust DXT1
N/A (disabled)	X Adjust DXT2
N/A (disabled)	X Adjust DXT3
N/A (disabled)	X Adjust DXT4
N/A (disabled)	X Adjust DXT5

Duplex printing

Adjustment option	LCD
MP tray second side	X Adjust MP
T1 second side	X Adjust T1
T2 second side	X Adjust T2
T3 second side	X Adjust T3
T4 second side	X Adjust T4
T5 second side	X Adjust T5
*1	X Adjust DX
MP tray first side	X Adjust DXMP
T1 first side	X Adjust DXT1
T2 first side	X Adjust DXT2
T3 first side	X Adjust DXT3
T4 first side	X Adjust DXT4
T5 first side	X Adjust DXT5

*1 Adjusts first side print start position of all tray (T1, 2, 3, 4, 5 and MP tray). Value of X Adjust DX is added to each tray adjustment value.

For example, when printing from T1, it adjusts as "X Adjust DXT1 value" + "X Adjust DX value" and print. Besides, when the added value is over than the adjustable range (-100 to 750), adjusted value will be for minimum -100 and maximum 750 and does not become out of adjustable range.

■ Adjust upper-end print position

< Function >

In the event that the upper-end print start position deviates, use this function to adjust the position up and down. Adjustable range is -50 to 50 (1 unit = 0.084 mm = 300 dpi).
(Shifted down when the value is negative)

< Operating Procedure >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "Y Adjust" on the LCD, and press the [SET] key. "YAdjust MP" is displayed on the LCD.
- (3) Refer to <Adjustment option table> in the table below, press the [▲] or [▼] key to select from the adjustment options, and press the [SET] key. "YAdj. **= 0*" is displayed on the LCD. (Selected option is shown for **.)
- (4) To shift the writing start position down, press the [▼] key to decrease the value. To shift the position up, press the [▲] key to increase the value.
- (5) Press the [SET] key after adjusting the value. "Accepted" is displayed on the LCD.
- (6) Press the [X] key, and the machine returns to the initial state of maintenance mode.

<Adjustment option table>

Single-side printing

Adjustment option	LCD
MP tray first side	Y Adjust MP
T1 first side	Y Adjust T1
T2 first side	Y Adjust T2
T3 first side	Y Adjust T3
T4 first side	Y Adjust T4
T5 first side	Y Adjust T5
*1	Y Adjust TRAY
N/A (disabled)	Y Adjust DX
N/A (disabled)	Y Adjust DXMP
N/A (disabled)	Y Adjust DXT1
N/A (disabled)	Y Adjust DXT2
N/A (disabled)	Y Adjust DXT3
N/A (disabled)	Y Adjust DXT4
N/A (disabled)	Y Adjust DXT5

Duplex printing

Adjustment option	LCD
MP tray second side	Y Adjust MP
T1 second side	Y Adjust T1
T2 second side	Y Adjust T2
T3 second side	Y Adjust T3
T4 second side	Y Adjust T4
T5 second side	Y Adjust T5
*2	Y Adjust TRAY
*1	Y Adjust DX
MP tray first side	Y Adjust DXMP
T1 first side	Y Adjust DXT1
T2 first side	Y Adjust DXT2
T3 first side	Y Adjust DXT3
T4 first side	Y Adjust DXT4
T5 first side	Y Adjust DXT5

*1 Adjusts first side print start position of all tray (T1, 2, 3, 4, 5 and MP tray). Value of Y Adjust TRAY and Y Adjust DX is added to each tray adjustment value.

For example, when printing from T1, it adjusts as "Y Adjust T1 value" + "Y Adjust TRAY value" or "Y Adjust DXT1 value" + "Y Adjust DX value" and print. Besides, when the added value is over than the adjustable range (-50 to 50), adjusted value will be for minimum -50 and maximum 50 and does not become out of adjustable range.

*2 Adjusts second side print start position of all tray (T1, 2, 3, 4, 5 and MP tray). Value of Y Adjust TRAY is added to each tray adjustment value.

For example, when printing from T1, it adjusts as "Y Adjust T1 value" + "Y Adjust TRAY value" and print. Besides, when the added value is over than the adjustable range (-50 to 50), adjusted value will be for minimum -50 and maximum 50 and does not become out of adjustable range.

■ Change of the transfer current setting (Only for Japan models)

< Function >

Dots appeared when hagaki printing is performed can be alleviated by changing the transfer current setting.

< Operating Procedure >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "Special Printing" on the LCD, and press the [SET] key. "default" is displayed on the LCD.
- (3) Press the [▲] or [▼] key to change the setting, and press the [SET] key. There are four setting options: "default", "HAGAKI1", "HAGAKI2", and "HAGAKI3". ("*" is displayed at the end of the currently specified function in the LCD display. The initial value is "default".)
- (4) "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.
- (5) Perform hagaki printing again to check if the dot symptom is improved.
- (6) If not, repeat the steps (1) to (4) to set an optimum option, and then perform hagaki printing.

■ Change of ghost reduction setting

< Function >

This function is a mode to reduce the level of ghost when it appears in low temperature and high humidity environment. If this function is turned ON, however, 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 >

- (1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "Ghost Reduction" and then press the [SET] key.
- (3) Press the [▲] or [▼] key to select "ON" or "OFF", and press the [SET] key.
- (4) "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

1.3.14 Adjust printable range for each speed level (Function code 46)

< Function >

This function is to adjust the printing position in horizontal / vertical direction.

Position can be adjusted in 11 steps from -0.5% to 0.5% (Printing width gets smaller when the value is negative).

< Operating Procedure >

- (1) Press the [4], and then the [6] key in the initial state of maintenance mode. "MAIN SIZE SET" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "PRINT TEST PTN" on the LCD, and press the [SET] key. "PRINTING" is displayed on the LCD, and the print adjustment test pattern (refer to the [next page](#)) is printed on a sheet of paper.
- (3) Adjust the line so that the width is 10 mm in horizontal / vertical direction. Press the [▲] or [▼] key to display desired direction on the LCD.
 - Horizontal direction→ "MAIN SIZE SET"
 - Vertical direction→ "SUB SIZE SET"Press the [SET] or [OK] key. "SET: 0.0 %" is displayed on the LCD.
- (4) To make the print width smaller, press the [▼] key to decrease the value. Press the [SET] or [OK] key after adjusting the value.
- (5) After adjustment, repeat the procedure (2) to check if the adjustment was correctly done.
- (6) Press the [X] or [Stop] key to return the machine to the initial state of maintenance mode after adjusting the value.

■ Print adjustment test pattern

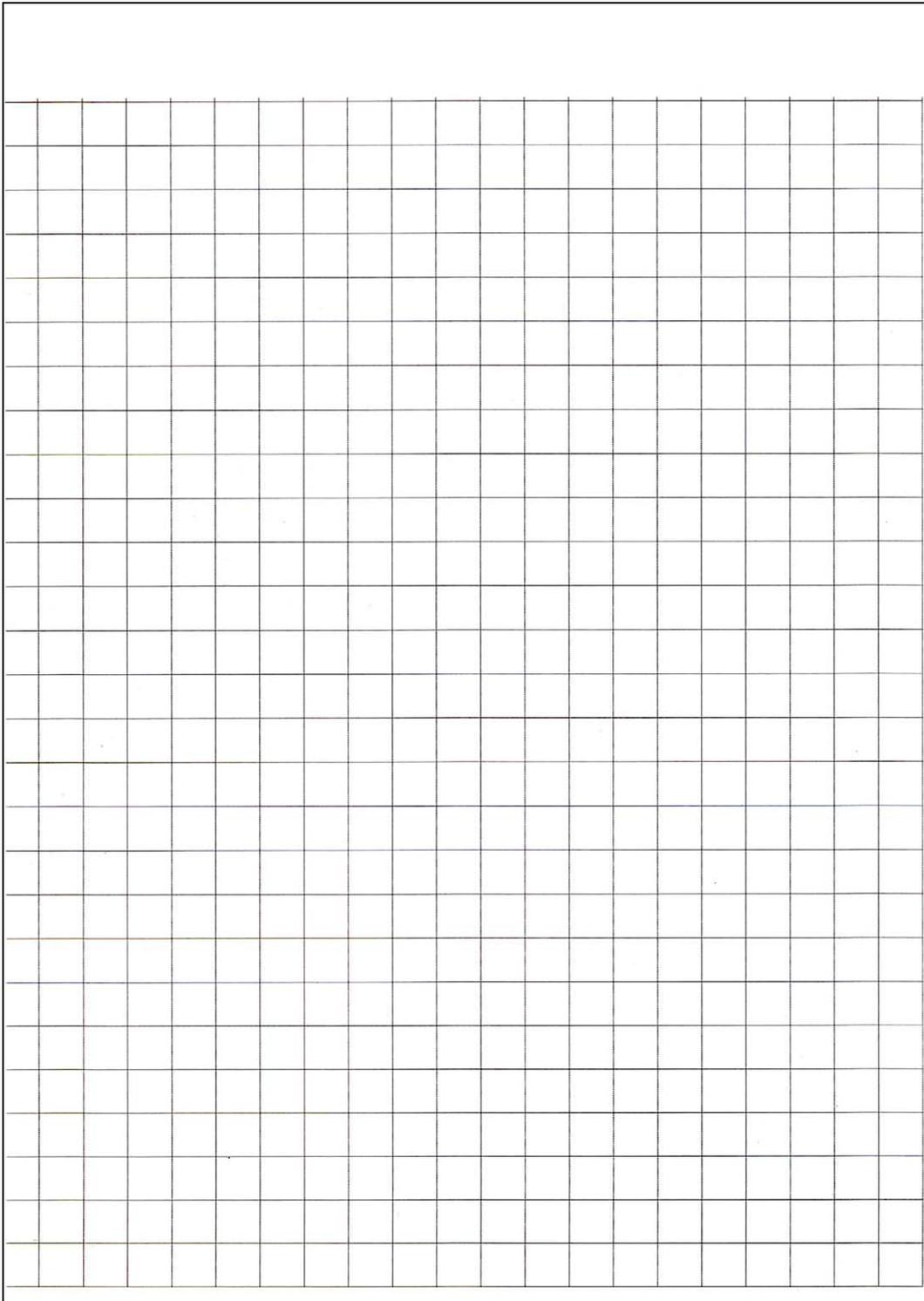


Fig. 5-8

1.3.15 Transfer received fax data / log information (fax models only) (Function code 53)

< Function >

When the machine is unable to print the received fax data due to an error in the printing mechanism, this function is used to transfer the data to another machine. The communication management report, communication list, or machine log information can also be transferred.

Note:

- The number of files that can be transferred in one operation is up to 99. When there are 100 or more files, the operation procedure below must be performed several times to transfer all files.
- When there are both color data files and monochrome data files, monochrome data files are transferred first. When the color function is not supported by the receiver machine, color data files cannot be transferred and an error occurs.

< Operating Procedure >

- (1) Press the [5], and then the [3] key in the initial state of maintenance mode. "FAX TRANSFER" is displayed on the LCD.
 - To check the number of files received, press the [1] key.
"1. NO. OF JOBS" is displayed on the LCD.
Press the [SET] key, and the number of files received is displayed, for example, "NO. OF JOBS: 10".
 - To transfer only the communication management report, press the [2] key.
"2. ACTIVITY" is displayed on the LCD.
 - To transfer the received data, press the [3] key.
(The communication management report is also transferred.)
"3. DOCUMENTS" is displayed on the LCD. If there are no received files, "NO DOCUMENTS" is displayed.
 - To transfer the communication list (latest communication information), press the [4] key.
"4. COM.LIST (NEW)" is displayed on the LCD.
 - To transfer the communication list (information for the past three errors), press the [5] key.
"5. COM.LIST (ERR3)" is displayed on the LCD.
 - To transfer the maintenance information (list printed by function code 77), press the [6] key.
"6. MNT77LIST" is displayed on the LCD.
- (2) Press the [SET] key while either "2.ACTIVITY", "3.DOCUMENTS", "4.COM.LIST (NEW)", "5.COM.LIST (ERR3)", or "6.MNT77LIST" is displayed on the LCD. "ENTER NO. & SET" is displayed on the LCD.
- (3) Enter the telephone number of the receiver machine, and press the [SET] key again.
- (4) "Accepted" is displayed for approximately two seconds, and the machine starts dialing to transfer the received data.

Note:

- Be sure to enter the telephone number directly using the numerical keys. One-touch dialing is not allowed in this procedure.
- No station ID will be attached to the data to be transferred. Instead, a cover page and end page as shown on the [next page](#) will be automatically attached.

■ Cover page example

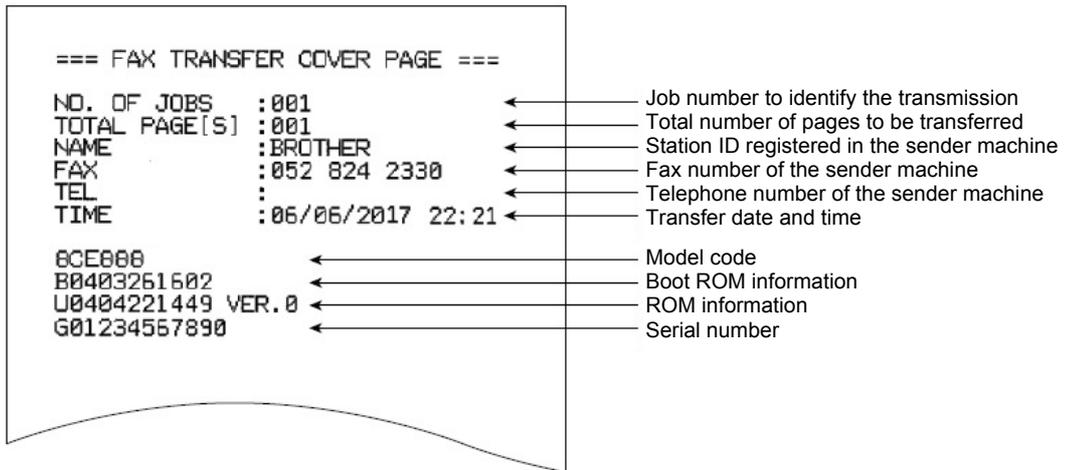


Fig. 5-9

■ End page example

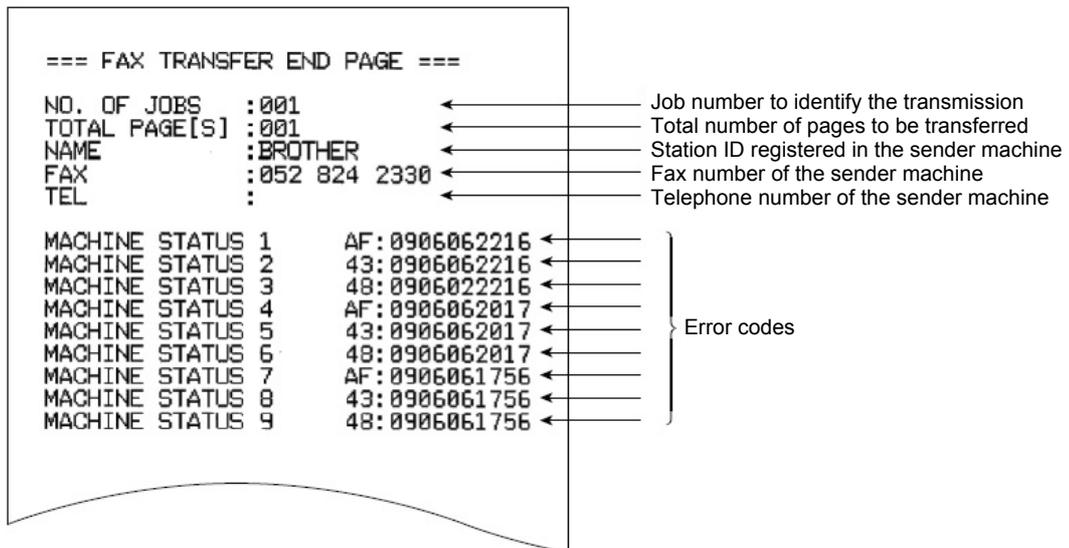


Fig. 5-10

1.3.16 Fine-tune scanning position (Function code 54)

<Function>

This function is used to adjust the scanning start/end positions.

<Operating Procedure>

- (1) Press the [5], and then the [4] key in the initial state of maintenance mode. "SCAN START ADJ" is displayed for two seconds, and then "0: ADF 1: FB" is displayed on the LCD. To adjust the ADF scanning position, press the [0] key and proceed to the procedure (2). To adjust the FB scanning position, press the [1] key and proceed to the procedure (3).
- (2) "0:MAIN 1:TP 2:HP" is displayed on the LCD. Press the [0] key to adjust the main scanning. Press the [1] key to adjust the vertical scanning. Press the [2] key to adjust the rear end side of the vertical scanning.
 - For duplex scanning models
"0:FRONT 1:BACK" is displayed on the LCD. Press the [0] key to adjust the first side. Press the [1] key to adjust the second side.
 - For single-side scanning models
Proceed to the procedure (4).
- (3) "0:MAIN 1:SUB" is displayed on the LCD. Press the [0] key to adjust the main scanning. Press the [1] key to adjust the vertical scanning, and proceed to the procedure (4).
- (4) The currently set value is displayed on the LCD. To increase the adjustment value, press the [▲] key. To decrease the adjustment value, press the [▼] key. (Refer to the figure below)

Note:

When the [X] key is pressed, the machine stops correcting the adjusting value and returns to the initial state of maintenance mode.

- (5) Press the [SET] key after adjusting the value. "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

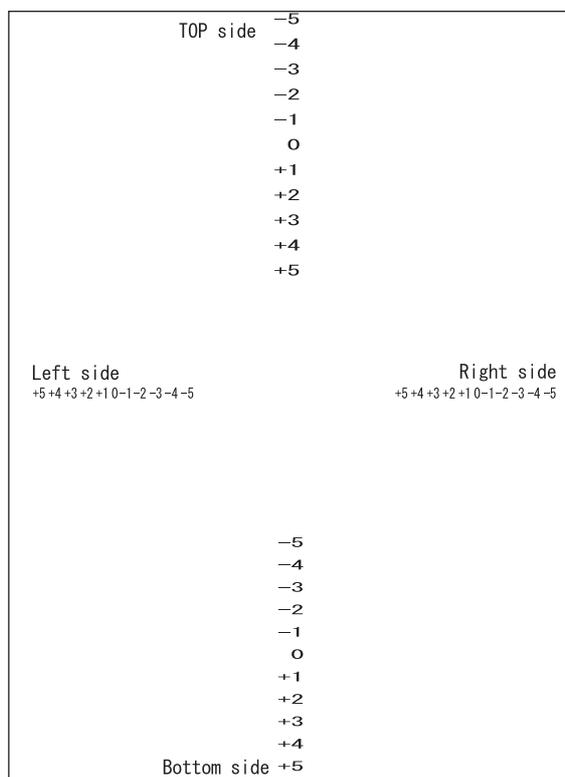


Fig. 5-11

1.3.17 Acquire white level data and set CIS scan area (Function code 55)

<Function>

This function is used to acquire the white level of the CIS unit, and store this data and the scan area in the EEPROM of the main PCB.

<Operating Procedure>

- (1) Press the [5] key twice in the initial state of maintenance mode. "Press START" is displayed on the LCD.
- (2) Press the [Start] or [Mono Start] key. "SCANNER AREA SET" is displayed on the LCD, and the white level data is obtained.
- (3) After several seconds, the compensation value for the white level data/scanning width is stored in the EEPROM, and the machine returns to the initial state of maintenance mode. If any error is detected during this operation, "SCANNER ERROR" is displayed on the LCD for single-side scanning models, and "SCANNER ERR ADF" or "SCANNER ERR FB" is displayed for duplex scanning models.

Pressing the [X] key in this occasion returns the machine to the initial state of maintenance mode.

1.3.18 Adjust touch panel (Function code 61)

< Function >

This function is used to adjust the touch panel.

Note:

This adjustment requires a touch pen with a thin tip. A commercially available touch pen designed for electronic dictionaries or personal digital assistance (PDA) can be used. If one is not available at hand, order a "Touch pen" from Brother's parts list.

< Operating Procedure >

- (1) Press the [6], and then the [1] key in the initial state of maintenance mode. The adjustment screen shown below appears on the LCD.
- (2) Use a touch pen and touch the center on the mark at the upper left corner of the screen. The mark disappears when touched, then touch the mark at the lower left. Similarly touch the mark at the lower right, upper right and center.

Note:

- Do not use any tools other than a touch pen. In particular, never use a pointed tool (e.g., screwdriver). Using such a tool will damage the touch panel.
- Do not touch the touch panel with your fingers. The contact area of a finger is too large to adjust the touch panel precisely.
- If no operation is performed for one minute or the [X] key is pressed, the machine returns to the initial state of maintenance mode.

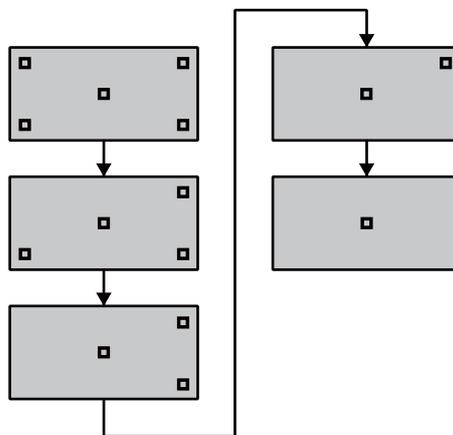


Fig. 5-12

- (3) When the center (the 5th mark) is touched, "OK" is displayed on the LCD if the specified area is adjusted correctly. The machine returns to the initial state of maintenance mode.

Note:

If "NG" is still displayed on the LCD even after this operation is repeated two to three times, check the connection of the touch panel flat cable. If the LCD keeps displaying "NG" even there is no problem, replace the LCD panel ASSY.

1.3.19 Adjustment of color registration (Adjustment of inter-color position alignment) (Function code 66)

< Function >

This function allows service personnel to forcibly activate the adjustment of color registration (adjustment of inter-color position alignment) function which is usually executed automatically under a specified condition. If adjustment of inter-color position alignment (auto) fails because toner reaches its life, etc., you can adjust inter-color position alignment manually. The end users are allowed to perform “Adjustment of inter-color position alignment without registration sensor calibration (auto)” only.

Note:

If an error occurs after executing function code 66, upgrade the firmware to the latest one. (Refer to “1.1 Installing the Firmware (Sub Firmware and Main Firmware)” in Chapter 4.) After upgrading the firmware, execute function code 66 again.

This function 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 misregistration 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

■ Adjustment of inter-color position alignment without registration sensor calibration (auto)

< Operating Procedure >

- (1) Press the [6] key twice in the initial state of the maintenance mode. “REGISTRATION” is displayed on the LCD.
- (2) Press the [SET] key. “PLS WAIT 66-1” is displayed on the LCD, and adjustment of inter-color position alignment is automatically done.
- (3) When this operation is completed without an error, “COMPLETED” is displayed on the LCD.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If the Adjustment of inter-color position alignment without registration sensor calibration (auto) fails while being in process, “ERROR 66-1” is displayed on the LCD. Press [▼] key to see the details of the error, and refer to the error message list in the table on [next page](#) for the troubleshooting.

■ Error message list

Error message	Remedy
FAILED REGIST	Press the [Start] or [Mono Start] key to clear the error. Perform the Adjustment of inter-color position alignment (auto) again. If the error recurs, clean the belt unit and the drum unit and then perform the adjustment again. If the error still recurs, replace the belt unit and the drum unit.
TONER EMPTY # *	Replace the [Start] or [Mono Start] key to clear the error. Perform the Adjustment of inter-color position alignment (auto) again.
NG L:C080 R:M105	Press the [Start] or [Mono Start] key to clear the error. Perform the Adjustment of inter-color position alignment (auto) again.
NG R-L:C030	
NG PWM L120 R180	
NG PWM R-L:080	
NG CNT R100 L100	
NG S-POSI R:080	
NG SKEW:C0120	
NG PWM R-P L:080	
NG XMARGIN:M191	
Cover is Open	

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

■ Adjustment of inter-color position alignment (manual)

< Operating Procedure >

- (1) Press the [6] key twice in the initial state of the maintenance mode. "REGISTRATION" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "SET REGISTRATION" on the LCD.
- (3) Press the [SET] key. "1. MAGENTA=0" is displayed on the LCD. Using the misregistration correction chart printed by "■ Printing of misregistration correction chart", identify the numeric value whose color is the darkest in the pattern of ① (Magenta Left). Press the [▲] or [▼] key to display the identified numeric value.
- (4) Press the [SET] key, and enter each numeric value of the patterns ② to ⑨ in the same way.
- (5) When you enter the numeric value of the pattern ⑨ (Yellow Right), "COMPLETED" is displayed on the LCD.
- (6) Press the [X] key, and the machine returns to the initial state of maintenance mode.

■ Printing of misregistration correction chart

< Operating Procedure >

- (1) Press the [6] key twice in the initial state of the maintenance mode. "REGISTRATION" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "PRINT CHART" on the LCD.
- (3) Press the [SET] key. "PRINTING" is displayed on the LCD, and misregistration correction chart (see the figure below) is printed. When printing is finished, "PRINT CHART" is displayed on the LCD.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

■ Misregistration correction chart

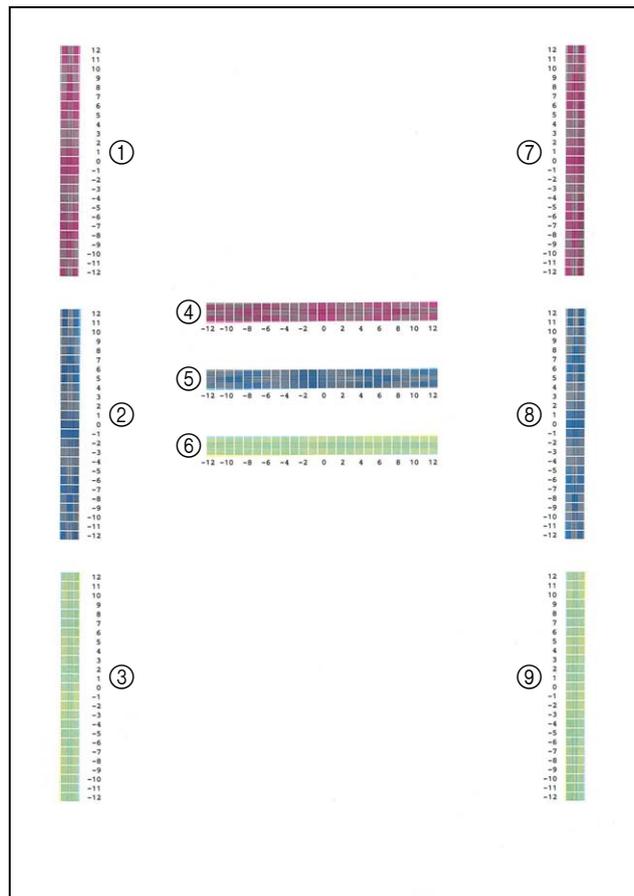


Fig. 5-13

■ Adjustment of inter-color position alignment including registration sensor calibration (auto)

< Operating Procedure >

- (1) Press the [6] key twice in the initial state of the maintenance mode. "REGISTRATION" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display "ADD REGISTRATION" on the LCD.
- (3) Press the [SET] key. "PLS WAIT 66-1" is displayed on the LCD and sensitivity adjustment of registration sensor and adjustment of inter-color position alignment are performed automatically.
- (4) When this operation is completed without an error, "COMPLETED" is displayed on the LCD.
- (5) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If the Adjustment of inter-color position alignment including registration sensor calibration (auto) fails while being in process, "ERROR 66-1" is displayed on the LCD. Press the [▼] key to display the details of the error. Refer to the error message list on (P5-37) for the troubleshooting.

1.3.20 Continuous print test (Function code 67)

< Function >

This function is used to conduct paper feed and eject tests while printing patterns.

< Operating Procedure >

- (1) Press the [6], and then the [7] key in the initial state of maintenance mode. "SELECT: K 100%" is displayed on the LCD.
- (2) Refer to the <Print pattern> table, press the [▲] or [▼] key to select the print pattern, and press the [SET] key. "SELECT: A4" is displayed on the LCD.
- (3) Refer to the <Paper size> table, press the [▲] or [▼] key to select the paper size, and press the [SET] key. "SELECT: PLAIN" is displayed on the LCD.
- (4) Refer to the <Print specification> table, press the [▲] or [▼] key to select the media specification, and press the [SET] key. "SELECT: TRAY1 SX" is displayed on the LCD.
- (5) Refer to the <Print type> table, press the [▲] or [▼] key to select the print type, and press the [SET] key. "SELECT:1 PAGE" is displayed on the LCD.
- (6) Refer to the <Print page> table, press the [▲] or [▼] key to select the pages printing, and press the [SET] key. For intermittent pattern printing, "SELECT: 1P/JOB" is displayed on the LCD. For other printings, or move on to the procedure (8).
- (7) Refer to the <Number of pages per job> table, press the [▲] or [▼] key to select the number of pages for 1 job, and press the [SET] key. (Only for intermittent pattern printing)
- (8) "PAPER FEED TEST" is displayed on the LCD, and printing test pattern starts using the selected conditions.
- (9) When you press the [X] key, test pattern printing is stopped, and the machine returns 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

* Up to 500 sheets in one-sided printing and 1,000 sheets in two-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: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*

* Display appears on LCD, but it is not available.

<Print type>

LCD	Description
SELECT: TRAY1 SX	Single-side printing from T1
SELECT: TRAY2 SX * ¹	Single-side printing from T2
SELECT: TRAY3 SX * ¹	Single-side printing from T3
SELECT: TRAY4 SX * ¹	Single-side printing from T4
SELECT: TRAY5 SX * ¹	Single-side printing from T5
SELECT: MP SX	Single-side printing from MP tray
SELECT: TRAY1 DX * ²	Duplex printing from T1
SELECT: TRAY2 DX * ²	Duplex printing from T2
SELECT: TRAY3 DX * ²	Duplex printing from T3
SELECT: TRAY4 DX * ²	Duplex printing from T4
SELECT: TRAY5 DX * ²	Duplex printing from T5
SELECT: MP DX * ²	Duplex printing from MP tray
SELECT: AUTO SX	Single-side printing to automatically selected tray
SELECT: AUTO DX * ²	Double-side printing to automatically selected tray

*¹ Does not support A5L and A6 size paper.

*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 manual feed slot.

<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: 2I/JOB	Prints 2 images per job * ²
SELECT: 5I/JOB	Prints 5 images per job * ² * ³
SELECT: 10I/JOB	Prints 10 images per job * ²
SELECT: 20I/JOB	Prints 20 images per job * ²

*¹ Selectable only when SX is selected as print type.

*² Selectable only when DX is selected as print type.

*³ One-sided printing for the 5th page.

■ **Print pattern**

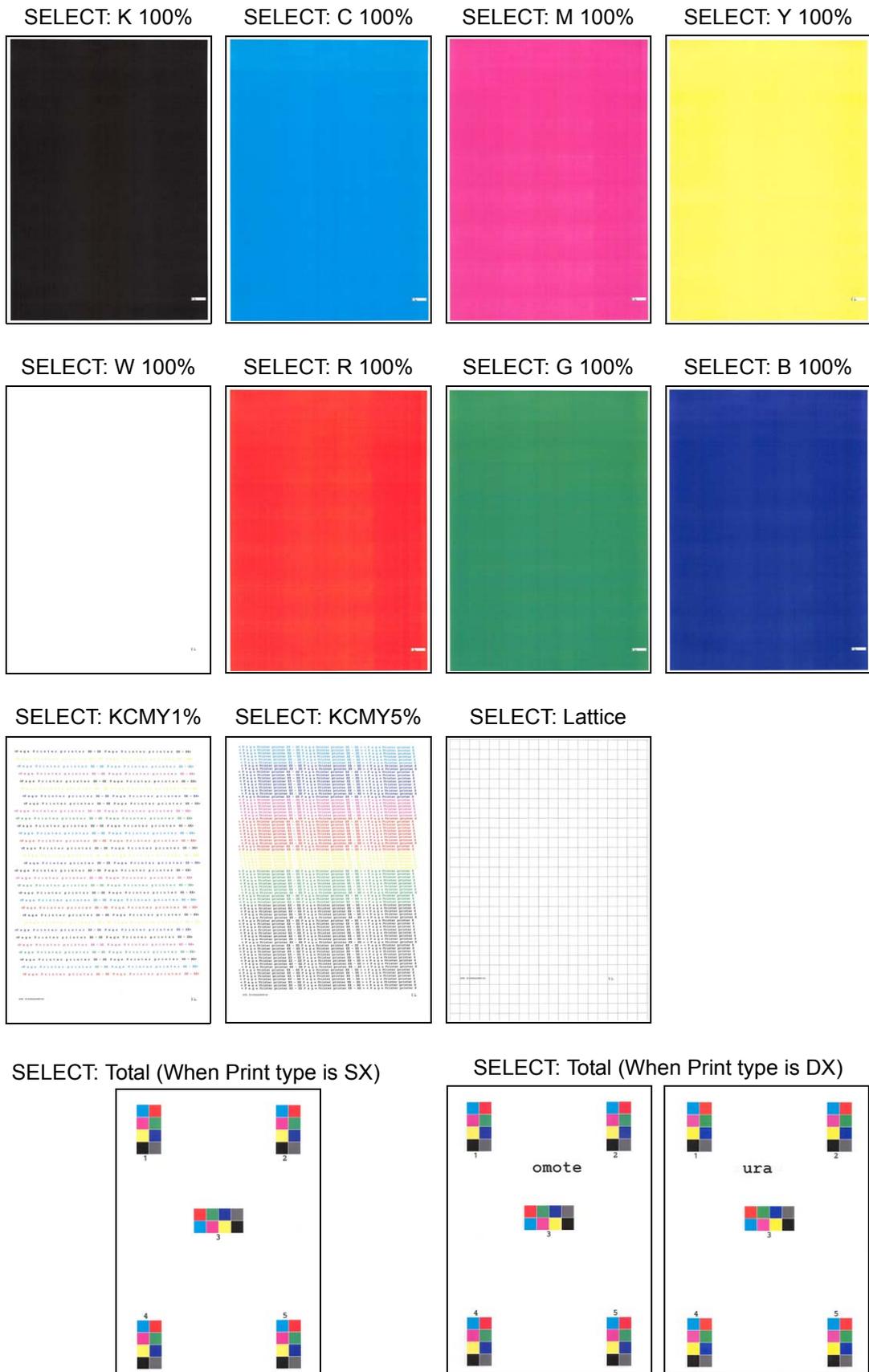


Fig. 5-14

1.3.21 Laser unit test pattern print (Function code 68)

< Function >

This function is used to print the laser unit test patterns and check if there is any failure in the laser unit.

< Operating Procedure >

- (1) Press the [6] and [8] keys in this order in the initial state of the maintenance mode.
“PRINTING” is displayed on the LCD, and one laser unit test pattern (see the figure below) is printed.
- (2) When this operation is completed without an error, “SCANNER CHECK” is displayed on the LCD.
- (3) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

When printing fails, the following error indications are displayed on the LCD. When the error factors are removed, press the [Start] or [Mono Start] key, and the machine automatically recovers to the re-executable state. “PRINTING” is displayed on the LCD, and the laser unit test pattern is printed on a sheet.

Error display	Remedy
Replace Toner #*	Replace the toner cartridge and press [Start] or [Mono Start] key to release the error.
Cover is Open	Close the Front cover.
No Paper	Refill the paper, close the paper tray and press [Start] or [Mono Start] key to release the error.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers, press [Start] or [Mono Start] key to release the error.
Jam Rear	

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

■ Laser unit test pattern

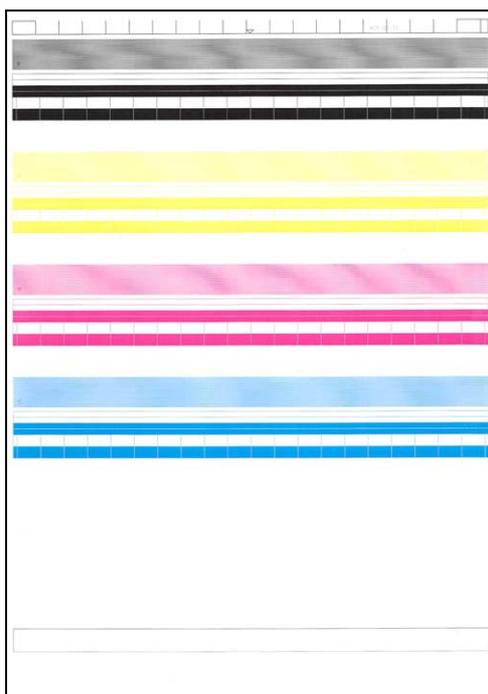


Fig. 5-15

1.3.22 Print frame pattern (single-side printing) (Function code 69)

< Function >

This function is used to print the frame pattern on single side of the paper to check for printing flaws and omission.

< Operating Procedure >

- (1) Set the paper specified in the default paper settings (A4 or Letter) to the paper tray.
- (2) Press the [6], and then the [9] key in the initial state of maintenance mode. "PRINTING" is displayed on the LCD, and the frame pattern (refer to the figure below) is printed on single side of the paper.
- (3) When printing is completed, "WAKU SX" is displayed on the LCD.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If printing fails, printing is stopped with displaying any of the errors shown in the table below. To retry printing, refer to the "Remedy" in the table below and eliminate the error cause and press [Start] or [Mono Start] key. "PRINTING" is displayed on the LCD, and the frame pattern is printed on a single sheet of paper.

Error display	Remedy
Replace Toner	Replace the toner cartridge and press [Start] or [Mono Start] key to release the error.
Cover is Open	Close the Front cover.
No Paper	Refill the paper, close the paper tray and press [Start] or [Mono Start] key to release the error.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers, press [Start] or [Mono Start] key to release the error.
Jam Rear	

■ Frame pattern

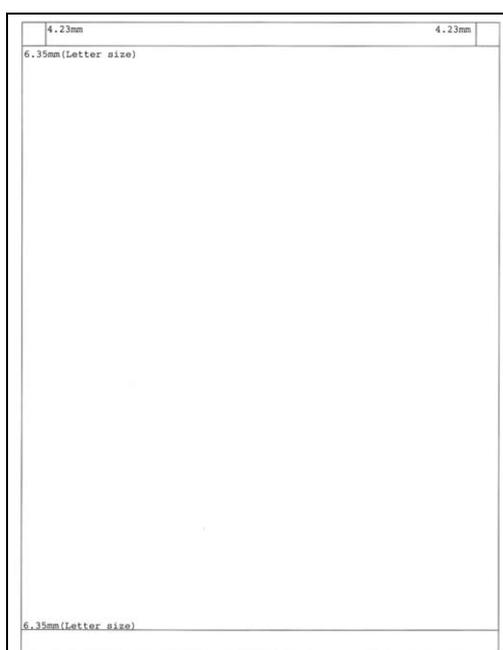


Fig. 5-16

1.3.23 Print frame pattern (duplex printing) (Function code 70)

< Function >

This function is used to print the frame pattern on both sides of the paper to check for printing flaws and omission.

< Operating Procedure >

- (1) Set the paper specified in the default paper settings (A4 or Letter) to the paper tray.
- (2) Press the [7], and then the [0] key in the initial state of maintenance mode. "PRINTING" is displayed on the LCD, and the frame pattern (refer to the figure below) is printed on both sides of the paper.
- (3) When printing is completed, "WAKU DX" is displayed on the LCD.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If printing fails, printing is stopped with displaying any of the errors shown in the table below. To retry printing, refer to the "Remedy" in the table below and eliminate the error cause and press [Start] or [Mono Start] key. "PRINTING" is displayed on the LCD, and the frame pattern is printed on both sides of a sheet of paper.

Error display	Remedy
Replace Toner	Replace the toner cartridge and press [Start] or [Mono Start] key to release the error.
Cover is Open	Close the Front cover.
No Paper	Refill the paper, close the paper tray and press [Start] or [Mono Start] key to release the error.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers, press [Start] or [Mono Start] key to release the error.
Jam Rear	
Jam Duplex	
Duplex Disabled	Refill the paper, then close the paper tray and all covers, press [Start] or [Mono Start] key to release the error.

■ Frame pattern

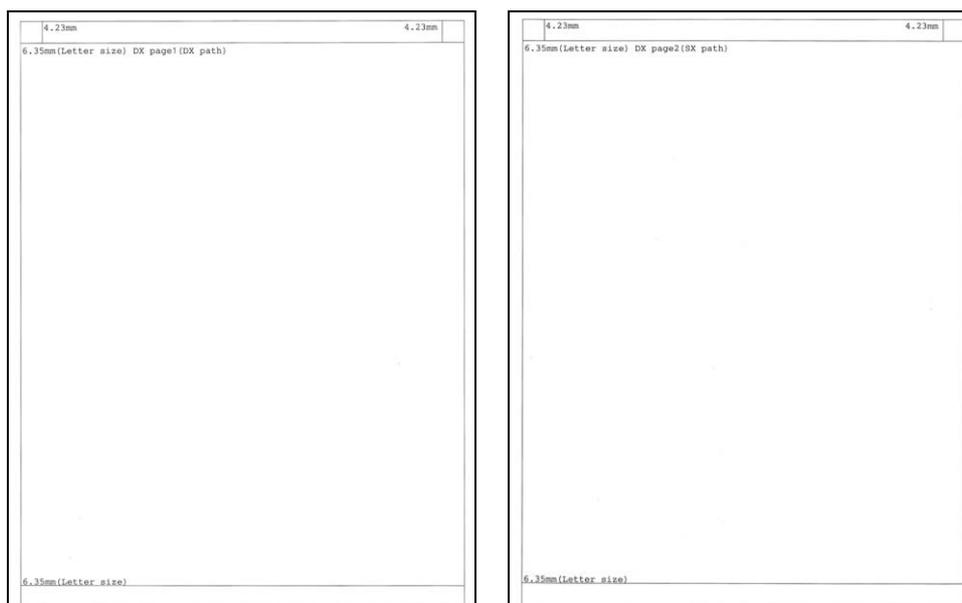


Fig. 5-17

1.3.24 Color test pattern (Function code 71)

< Function >

This function is used to print the test pattern to check whether the develop roller or exposure drum is dirty or damaged.

< Operating Procedure >

- (1) Press the [7], and then the [1] key in the initial state of maintenance mode. “2D3S YMCBWKW_A” is displayed on the LCD.
- (2) Refer to the <Print pattern> table, press the [▲] or [▼] key to select the desired print pattern and press the [SET] key. When “2D3S YMCBWKW_A” is selected, “PRINTING” is displayed on the LCD and test pattern printing is started. When a print pattern other than “2D3S YMCBWKW_A” is selected, “SELECT: LETTER” is displayed on the LCD. (Following steps (3) to (6) described below, select an option in each item and perform test pattern printing.)
- (3) Refer to the <Paper size> table, press the [▲] or [▼] key to select the paper size, and press the [SET] key. “SELECT: PLAIN” is displayed on the LCD.
- (4) Refer to the <Print specification> table, press the [▲] or [▼] key to select the media specification, and press the [SET] key. “SELECT: SX” is displayed on the LCD.
- (5) Refer to the <Print type> table, press the [▲] or [▼] key to select the print type, and press the [SET] key. “SELECT: 1PAGE” is displayed on the LCD.
- (6) Refer to the <Print page> table, press the [▲] or [▼] key to select the pages printing, and press the [SET] key. “PRINTING” is displayed on the LCD, and printing test pattern starts using the selected conditions.
- (7) When printing is completed, “OK” is displayed on the LCD.
Press the [Start] or [Mono Start] key to perform this again and it returns to the printing pattern display.
- (8) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If printing fails, printing is stopped with displaying any of the errors shown in the <Error display> table. To retry printing, refer to the “Remedy” in the table, eliminate the error cause and press [Start] or [Mono Start] key. “PRINTING” is displayed on the LCD, and the test pattern is printed.

<Print pattern>

LCD	Description
2D3S YMCBWKW_A	Total seven sheets of one sheet for each color with full page print mode* + two blank sheets + data to check Banding
2D3S M	Magenta
2D3S K	Black
2D3S C	Cyan
2D3S Y	Yellow
2D3S MCKY	4-color horizontal band

* 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: A4	A4
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:FOLIO	Folio size
SELECT:HAGAKI	Postcard size

<Print specification>

LCD	Description
SELECT: PLAIN	Plain paper
SELECT: THICK	Plain paper (thick)
SELECT: THIN	Plain paper (thin)
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

<Print type>

LCD	Description
SELECT: SX	Single-side printing from T1
SELECT: DX *	Duplex printing from T1

* Supports paper size only for A4, Letter, Legal, and Folio in duplex printing.

<Print page>

LCD	Description
SELECT: 1PAGE	1-page printing
SELECT: CONTINUE	Continuous printing *

* Press [Cancel] or [Stop] key to end the continuous printing.

<Error display>

Error display	Remedy
Replace Toner	Replace the toner cartridge and press [Start] or [Mono Start] key to release the error.
Cover is Open	Close the Front cover.
No Paper	Refill the paper, close the paper tray and press [Start] or [Mono Start] key to release the error.
Jam Tray1	Remove the jammed paper, then close the paper tray and all covers, press [Start] or [Mono Start] key to release the error.
Jam Rear	

■ Color test pattern

2D3S YMCBWKW_A

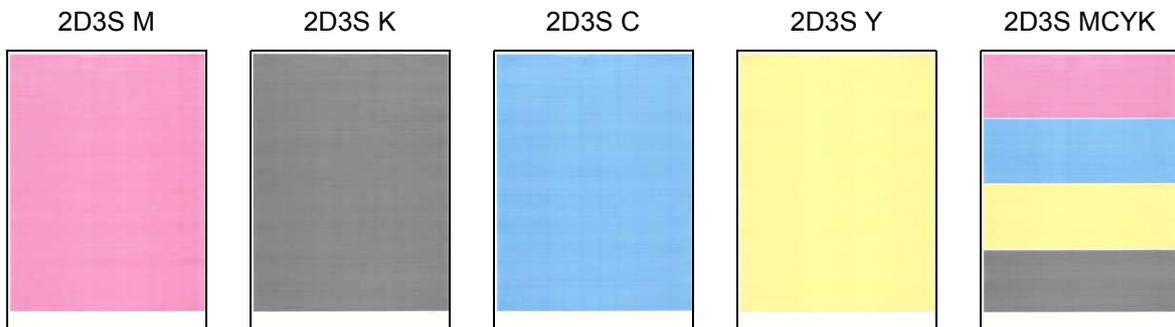
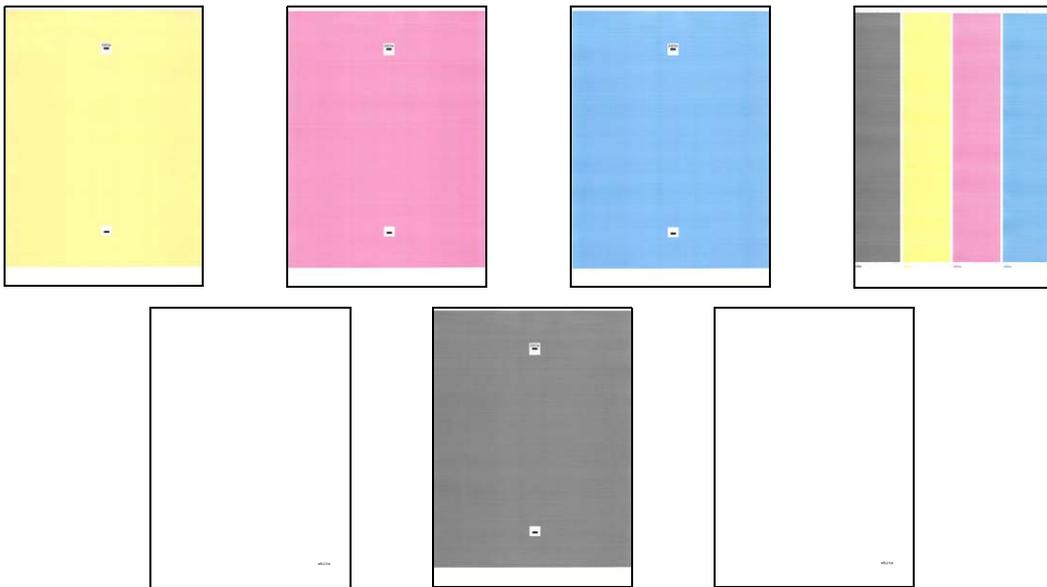


Fig. 5-18

1.3.25 Sensitivity adjustment of density sensor (Function code 72)

< Function >

This function is used to print the patch data for density sensor sensitivity adjustment on the belt unit and measure the density with the density sensor. The characteristics of the density sensor are calculated based on the value measured by the density sensor, and the parameter for correcting developing bias voltage is adjusted.

< Operating Procedure >

- (1) Press the [7] and [2] keys in this order in the initial state of the maintenance mode. "PLS WAIT 72" is displayed on the LCD and performs the sensitivity adjustment of the density sensor.
- (2) When this operation is completed without errors, "OK" is displayed on the LCD.
- (3) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Note:

If the sensitivity adjustment of the density sensor fails, "ERROR 72" is displayed on the LCD. Display the error message by pressing the [▼] key, and take the following remedy that corresponds to the error message.

Error display	Remedy
dens_l_drk_err	<ul style="list-style-type: none"> • Reconnect the harness of the eject sensor PCB. • Replace the registration mark sensor unit. • Replace the main PCB ASSY.
belt_err	<ul style="list-style-type: none"> • Replace the belt unit. • Replace the waste toner box. • Replace the registration mark sensor unit. • Replace the main PCB ASSY.
dens_pat_err dens_calc_err	<ul style="list-style-type: none"> • Check if the toner cartridges are set in the correct order of colors. • Replace the toner cartridges and drum unit. • Replace the registration mark sensor unit. • Replace the main PCB ASSY.
dens_led_adj_err	<ul style="list-style-type: none"> • Replace the belt unit. • Replace the waste toner box. • Replace the registration mark sensor unit. • Replace the main PCB ASSY.
lph_calc_err	<ul style="list-style-type: none"> • Replace the toner cartridges and drum unit. • Securely close the front cover. • Wipe the scanner window of the laser unit with a soft lint-free cloth. • Re-assemble the laser unit.
TONER EMPTY # *	Replace the empty toner cartridge and press the [Start] or [Mono Start] key to clear the error. Perform the sensitivity adjustment of the density sensor again.
Cover is Open	Close the front cover.
Replace Toner	Replace the black toner cartridge and press the [Start] or [Mono Start] key to clear the error. Perform the sensitivity adjustment of the density sensor again.

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

1.3.26 Continuous adjustments of density / registration sensor (Function code 73)

< Function >

This function is used to perform the following functions consecutively:

Sensitivity adjustment of density sensor (Function code 72), Developing bias voltage correction (Function code 83), and Adjustment of color registration (Adjustment of inter-color position alignment) including registration sensor calibration (Function code 66).

< Operating Procedure >

- (1) Press the [7] and [3] keys in this order in the initial state of the maintenance mode. "72/83/66-1" is displayed on the LCD.
- (2) Press the [SET] key. "PLS WAIT 72" is displayed on the LCD and each adjustment is performed in the following order.
 - 1) Sensitivity adjustment of density sensor (Function code 72)
LCD: PLS WAIT 72
 - 2) Developing bias voltage correction (Function code 83)
LCD: PLS WAIT 83
 - 3) Adjustment of color registration (Adjustment of inter-color position alignment) including registration sensor calibration (Function code 66)
LCD: PLS WAIT 66-1
- (3) When all operations are completed, "COMP" is displayed on the LCD. Pressing the [▼] and [X] key in this order and the machine returns to the initial state of the maintenance mode.

Note:

If each adjustment fails, "ERROR**" is displayed on the LCD and the adjustment is stopped. If you press the [▼] key with "ERROR**" displayed, the details of the error are shown. "***" in "ERROR ***" displayed on the LCD indicates corresponding function code number. Make sure to take an appropriate remedy after checking the remedy provided in each function code.

1.3.27 Configure for country/region and model (Function code 74)

< Function >

This function is used to customize the machine according to language, function settings, and worker switch settings.

< Operating Procedure >

- (1) Press the [7], and then the [4] key in the initial state of maintenance mode. The spec code currently set is displayed on the LCD.
- (2) Enter the spec code (four digits) you want to set.
- (3) Press the [Start] or [Mono Start] key to save the new setting, and "PARAMETER INIT" is displayed on the LCD. The machine then returns to the initial state of maintenance mode.

■ Setting by spec code list

MODEL	Spec Code		Spec Code (Detail)	
DCP-L8410CDW	CEE-General	1004	---	---
	France/Belgium/Netherlands	1058	Belgium	1008
			France	7004
			Netherlands	9004
			Others	1004
	Germany	3004	---	---
	Italy/Iberia	1004	---	---
	Pan-Nordic	1004	---	---
	Russia	5048	---	---
	Switzerland	3004	---	---
UK	1004	---	---	
MFC-L8610CDW	Brazil	0142	---	---
	Canada	0102	---	---
	U.S.A	0101	---	---
MFC-L8690CDW	Asia	0240	---	---
	Australia/New Zealand	0256	Australia	0206
			New Zealand	0227
	CEE-General	0288	Bulgaria	0232
			Croatia	0281
			Czecho	0237
			Hungary	0238
			Poland	0239
			Romania	0233
			Slovakia	0286
			Slovenia	0282
			Others	0250
	France/Belgium/Netherlands	0258	Belgium	0208
			France	0205
			Netherlands	0209
			Others	0250
	Germany	0203	---	---
	Gulf	0274	Gulf	0241
			South Africa	0224
			Turkey	0225
	Italy/Iberia	0266	Italy	0216
			Portugal	0218
			Spain	0215
Pan-Nordic	0257	Denmark	0213	
		Finland	0212	
		Norway	0207	
		Sweden	0226	
		Others	0250	
Russia	0248	---	---	
Switzerland	0210	---	---	
UK	0204	---	---	

MODEL	Spec Code		Spec Code (Detail)	
MFC-L8900CDW	Argentina	0036	---	---
	Asia	0040	---	---
	Australia	0006	---	---
	Brazil	0042	---	---
	Canada	0002	---	---
	Chile	0036	---	---
	China	0020	---	---
	EU-Regional	0099	Belgium	0008
			Bulgaria	0032
			Croatia	0081
			Czecho	0037
			France	0005
			Hungary	0038
			Italy	0016
			Netherlands	0009
			Poland	0039
			Portugal	0018
			Romania	0033
			Slovakia	0086
			Slovenia	0082
	Spain	0015		
	Others	0050		
	Germany	0003	---	---
	Korea	0044	---	---
Pan-Nordic	0057	Denmark	0013	
		Finland	0012	
		Norway	0007	
		Sweden	0026	
		Others	0050	
Switzerland	0010	---	---	
Taiwan	0023	---	---	
U.S.A	0001	---	---	
UK	0004	---	---	

MODEL	Spec Code		Spec Code (Detail)	
MFC-L9570CDW	Australia/New Zealand	0156	Australia	0106
			New Zealand	0127
	Brazil	0142	---	---
	Canada	0102	---	---
	Germany	0103	---	---
	Gulf	0174	Gulf	0141
			South Africa	0124
			Turkey	0125
	EU-Regional	0199	Belgium	0108
			Bulgaria	0132
			Croatia	0181
			Czecho	0137
			France	0105
			Hungary	0138
			Italy	0116
			Netherlands	0109
			Poland	0139
			Portugal	0118
			Romania	0133
			Slovakia	0186
			Slovenia	0182
			Spain	0115
	Others	0150		
	Pan-Nordic	0157	Denmark	0113
			Finland	0112
			Norway	0107
			Sweden	0126
Others			0150	
Russia	0148	---	---	
Switzerland	0110	---	---	
U.S.A	0101	---	---	
UK	0104	---	---	

Note:

- If there is no entry for one minute or longer, the machine returns to the initial state of maintenance mode automatically, regardless of the display status.
- The spec code list above is current as of April 2017.
- Please contact Brother distributors for the latest information.

1	Model name	27	Remaining life of fuser unit
2	Serial number	28	Remaining life of laser unit
3	Model code	29	Remaining life of PF kit MP
4	Spec code	30	Remaining life of PF kit 1
5	Switch check sum (factory use) and comparison of default / current value	31	Total printed pages Color / Mono (Total / Duplex)
6	Main firmware version	32	Total copied pages Color / Mono (Total / Duplex)
7	Sub firmware version	33	Total PC printed pages Color / Mono (Total / Duplex)
8	Boot ROM version	34	Total fax pages Color / Mono (Total / Duplex)
9	Engine archive version	35	Total pages printed by other methods Color / Mono (Total / Duplex)
10	ROM version for T2 control PCB	36	Accumulated average coverage by each toner cartridge
11	ROM version for T3 control PCB	37	Average coverage by current each toner cartridge
12	TT firmware version	38	Average coverage by the previous each toner cartridge
13	ROM check sum	39	Latest job average coverage by each toner cartridge
14	RTC (Real Time Clock) check	40	Drum page count / Rotations of the drum
15	RTC (Real Time Clock) backup	41	Total rotations of the develop roller (currently use / previously used toner cartridge)
16	RAM size	42	Total printed pages per paper tray / paper size / paper type
17	Memory version	43	Printed pages per toner cartridge (current / previous)
18	ROM version for T4 control PCB	44	Number of pages printed from the waste toner box
19	USB ID code	45	Total rotations of the develop roller (currently use / previously used toner cartridge)
20	Result of maintenance function 05 / Result of maintenance function 72 / Wireless LAN setting by country / Wireless LAN output peak / WLAN Setup YES/NO setting / Toner type CMYK (current) / Toner type CMYK (previous)	46	Total number of paper jams / Paper jams by sections of the product
21	Main PCB inspection log / High voltage inspection log / The number of times that the discharge error / Fuser unit error / Polygon motor lock error /Process status/ Irregular power supply detection error occurred	47	Machine error log / Total pages printed at the time of the error / Temperature and humidity
22	Auto registration / Developing bias voltage correction / Gamma correction / Auto registration (user) / Developing bias voltage correction (user) / Gamma correction (user) / Registration error / Color calibration flag	48	Number of times each consumable has been replaced
23	Not necessary for maintenance (ADF sensor log)	49	Scanned pages
24	Estimated remaining toner amount	50	Number of fax transmission times
25	Remaining life of drum unit	51	Communication error log
26	Remaining life of belt unit	52	Each Developing bias voltage value

53	Engine sensor log (Not necessary for maintenance)	58	Total power distribution time / The number of times that the power is turned ON
54	Status log (Not necessary for maintenance)	59	Start date for machine operation / Initial set date of RTC
55	Home position detection / Home position error display	60	Latest paper type used
56	Current temperature / Highest and lowest temperature in the past	61	New toner cartridge detection log
57	Current humidity / Highest and lowest humidity in the past		

1.3.29 Check fan operation (Function code 78)

< Function >

This function is used to check that the fan is operating normally. Switch the setting among rotation speed 100%, 50%, and OFF.

LCD	Name	Description
F	Fuser fan	Emits the heat in the fuser unit.
P	Power fan	Emits the heat in the Low-voltage power supply PCB ASSY.
B	Blower	Intake air to prevent a dirt on the corona wire.

< Operating Procedure >

- (1) Press the [7], and then the [8] key in the initial state of maintenance mode. "F100 P100 B100" is displayed on the LCD and all the fan rotates at 100% speed.
- (2) By pressing the [Start] or [Mono Start] key, "F50 P 50 B 0" is displayed on the LCD and the fuser fan and power fan rotates at 50% speed.
- (3) By pressing the [Start] or [Mono Start] key again, "F 0 P 0 B 0" is displayed on the LCD and all the fan stops.
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

■ Location of fans

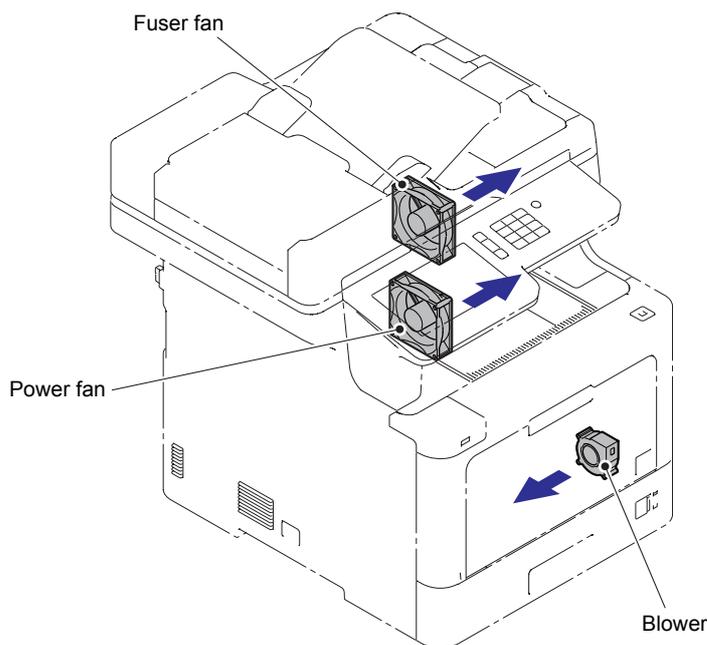


Fig. 5-20

1.3.30 Delete fax data (Function code 79)

< Function >

This function is used to delete fax data in the machine memory.

< Operating Procedure >

- (1) Press the [7], and then the [9] key in the initial state of maintenance mode. "BACKUP CLEAR" is displayed on the LCD and fax data in the machine memory is deleted.
- (2) When deleting is completed, the machine returns to the initial state of maintenance mode.

1.3.31 Display machine log information (Function code 80)

< Function >

This function is used to display the log information on the LCD.

< Operating Procedure >

- (1) Press the [8], and then the [0] key in the initial state of maintenance mode.
"MACERR_01:****" is displayed on the LCD (**** indicates error code).
- (2) Press the [Start] or [Mono Start] key, then the next item is displayed. Press the [▲] key to go back to the previous item.
- (3) Press the [X] key, and the machine returns 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:911309123456	Main PCB serial number
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
DRUM_PG:00000000	Printed pages for drum unit
PFMP_PG:00000000	Pages fed from PF kit MP
PFK1_PG:00000000	Pages fed from PF kit 1
PFK2_PG:00000000	Pages fed from PF kit 2
PFK3_PG:00000000	Pages fed from PF kit 3
PFK4_PG:00000000	Pages fed from PF kit 4
PFK5_PG:00000000	Pages fed from PF kit 5
FUSR_PG:00000000	Printed pages on fuser unit
LASR_PG:00000000	Printed pages on laser unit
BELT_PG:00000000	Printed pages on belt unit
TTL_PG:00000000	Total number of pages printed
DX_PG:00000000	Paper input for duplex 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

LCD	Description
DX_MO:00000000	Total number of two-sided monochrome pages printed
TTLCOPY:00000000	Total pages copied
DX_COPY:00000000	Total pages copied on both sides
CL_COPY:00000000	Total number of color pages copied
MN_COPY:00000000	Total number of monochrome pages copied
DX_CCPY:00000000	Total number of two-sided pages copied
DX_MCPY: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
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_MPCCP:00000000	Total number of two-sided monochrome pages printed via PC
TTLFAX:00000000	Total List / Fax pages printed (For models with FAX only)
DX_FAX:00000000	Total List / Fax pages printed on both sides (For models with FAX only)
CL_FAX:00000000	Total List / Fax pages color printed (For models with FAX only)
MN_FAX:00000000	Total List / Fax pages monochrome printed (For models with FAX only)
DX_CFAX:00000000	Total List / Fax pages color printed on both sides (For models with FAX only)
DX_MFAX:00000000	Total List / Fax pages monochrome printed on both sides (For models with FAX only)
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
DRUM:00000000	Number of drum rotations
CTN_RND: 00000000	Number of cyan develop roller rotations
MTN_RND: 00000000	Number of magenta develop roller rotations
YTN_RND: 00000000	Number of yellow develop roller rotations
KTN_RND: 00000000	Number of black develop roller rotations
MP_PG:00000000	Paper input for MP tray
TR1_PG:00000000	Paper input for T1
TR2_PG:00000000	Paper input for T2

LCD	Description
TR3_PG:00000000	Paper input for T3
TR4_PG:00000000	Paper input for T4
TR5_PG:00000000	Paper input for T5
DX_PG:00000000	Paper passed through duplex 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
COLOR:00000000	Full-color printed pages
LTHD:00000000	Printed pages on letter head
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:00000	Paper jams that have occurred in the MP tray
TR1_JAM:00000000	Paper jams that have occurred in T1
TR2_JAM:00000	Paper jams that have occurred in T2
TR3_JAM:00000	Paper jams that have occurred in T3
TR4_JAM:00000	Paper jams that have occurred in T4
TR5_JAM:00000	Paper jams that have occurred in T5
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 duplex 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 *3
MTN_CH:0000	Number of times that the magenta toner cartridge has been replaced *3
YTN_CH:0000	Number of times that the yellow toner cartridge has been replaced *3
KTN_CH:0000	Number of times that the black toner cartridge has been replaced *3
DRUM_CH:0000	Number of times that the drum unit has been replaced *3
WTNR_CH:0000	Number of times that the waste toner box has been replaced *3
BELT_CH:0000	Number of times that the belt unit has been replaced *3
FUSR_CH:0000	Number of times that the fuser unit has been replaced *3
LASR_CH:0000	Number of times that the laser unit has been replaced *3
PFMP_CH:0000	Number of times that the PF kit MP has been replaced *3
PFK1_CH:0000	Number of times that the PF kit 1 has been replaced *3
PFK2_CH:0000	Number of times that the PF kit 2 has been replaced *3

LCD	Description
PFK3_CH:0000	Number of times that the PF kit 3 has been replaced ^{*3}
PFK4_CH:0000	Number of times that the PF kit 4 has been replaced ^{*3}
PFK5_CH:0000	Number of times that the PF kit 5 has been replaced ^{*3}
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
SCN_PG:00000000	The number of scanned pages (except Fax and Copy)
ADTL_PG:00000000	Total pages of ADSX_PG and ADDX_PG
ADSX_PG:00000000	ADF single-side scanned pages
ADDX_PG:00000000	ADF double-side scanned pages
FB_PG:000000	Total FB scanned pages
ADSX_JAM:000000	Document jams that have occurred on ADF single-side scanning
ADDX_JAM:000000	Document jams that have occurred on ADF duplex scanning (duplex scanning models only)
FXTX_PG:00000000	The number of faxed pages
COMERR#:00000000	Communication error log (past three errors) ^{*4}
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 unit errors occurred
MTLK_ER:0000	The number of polygon motor lock errors occurred in the laser scanner
DEVSTATUS ##:00	Log for design analysis ^{*6}

^{*1} 01 to 10 will be displayed for “##” in chronological order. Pressing the [SET] key 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] key 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. Pressing the [SET] key again returns the LCD display to machine error log.

*2 Last 12 digits of the serial number are displayed.

The serial number can be changed according to the procedures below.

- 1) While the serial number is displayed, press the [9], [4], [7], and [5] key in this order to enter the edit mode.
- 2) Use the keypad to enter the first digit of the serial number. 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.

Keypad	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 [SET] key. The serial number is saved and the machine returns to the initial state of maintenance mode.

*3 Pressing the [SET] key while the number of each consumable part had replaced is displayed shows "DATE_XX:000000" (XX: each consumable part) and the replaced date on the LCD.

*4 Pressing the [SET] key while the communication error is displayed shows "DATE:0000000000" and the date of replacement on the LCD.

*5 01 to 10 will be displayed for "##" in chronological order. Pressing the [SET] key 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] key while log for design analysis is displayed shows "PGCNT:00000000 (total pages printed at the time of the error)" on the LCD.

1.3.32 Display machine error code (Function code 82)

< Function >

This function is used to display the latest error code on the LCD.

< Operating Procedure >

- (1) Press the [8], and then the [2] key in the initial state of maintenance mode. "MACHINE ERR XXXX" is displayed on the LCD.
- (2) Press the [X] key, and the machine returns to the initial state of maintenance mode.

1.3.33 Developing bias voltage correction (Function code 83)

< Function >

This function performs developing bias voltage correction to fix the density of each color toner when printed color is not correct.

Note:

Before this function is performed, there is a need that the “1.3.25 Sensitivity adjustment of density sensor (Function code 72)” in this chapter has been done more than once. When performing this function code 83 after replacing the main PCB ASSY, make sure to perform the “1.3.25 Sensitivity adjustment of density sensor (Function code 72)” in this chapter first.

< Operating Procedure >

- (1) Press the [8] and [3] keys in this order in the initial state of the maintenance mode. The machine displays “PLS WAIT 83” on the LCD and starts the developing bias voltage correction.
- (2) When developing bias voltage correction is completed, “MODE KYMC ****” is displayed on the LCD. When you press the [Start] or [Mono Start] key, the machine returns to the initial state of the maintenance mode. (* represents any number from 0 to 3.)

Note:

If developing bias voltage correction fails, “ERROR 83” is displayed on the LCD. Display the error message by pressing the [▼] key, and take the following remedy that corresponds to the error message.

Error display	Remedy
FAILED DEVBIAS	Remove the error cause with the following operations and press the [Start] or [Mono Start] key to clear the error. <ul style="list-style-type: none"> • Re-insert the toner cartridge in the correct position. • Replace the toner cartridge. • Replace the drum unit. • Replace the waste toner box. • Replace the belt unit. • Replace the registration mark sensor unit.
TONER EMPTY # *	Replace the empty toner cartridge and press the [Start] or [Mono Start] key to clear the error. After the sensitivity adjustment of the density sensor (Function code 72) is performed, the developing bias voltage value is compensated again.
Cover is Open	Close the front cover.
Replace Toner	Replace the black toner cartridge and press the [Start] or [Mono Start] key to clear the error. After the sensitivity adjustment of the density sensor (Function code 72) is performed, the developing bias voltage value is compensated again.

* # indicates the toner color (Y, M, or C) of which cartridge became empty.

1.3.34 Send communication log information to telephone line (Function code 87)

< Function >

This function is used to send the error list to service personnel at a remote service station when a fax communication problem has occurred in the user's machine. Receiving the error list allows the service personnel to analyze the problem current in the user's machine.

< Operating Procedure >

- Service side
 - (1) Make a call from the service side equipment to the user side equipment.
- User side
 - (2) Press the [8] and [7] key in this order. "SENDING P.01" is displayed on the LCD and sending error list starts. When the error list is sent, the machine returns to the ready state.
- Service side
 - (3) Once the user side equipment started sending the error list, press the [Start] or [Mono Start] key.
"Send or Receive? / 1.Send 2.Receive" is displayed on the LCD.
 - (4) Press the [2] key. Receiving the error list starts.

1.3.35 Reset counters for consumable parts (Function code 88)

< Function >

This function is performed to reset the counter for each consumable part in the main PCB after that has been replaced.

< Operating Procedure >

- (1) Press the [8] key twice in the initial state of maintenance mode. "Reset- Laser Unit" is displayed on the LCD.
- (2) Press the [▲] or [▼] key to display the part with the counter to be reset on the LCD, and press the [Start] or [Mono Start] key.
- (3) "*****OK?" is displayed on the LCD. Press the [Start] or [Mono Start] key to reset the counter for the selected part and return the display to the procedure (2). (***** represents the name of the selected part)
- (4) Press the [X] key, and the machine returns to the initial state of maintenance mode.

Selectable parts are shown in the table below.

Error display	Part name	Counter to be reset
Reset-Laser Unit	Laser unit	Printed pages counter
Reset-Fuser Unit	Fuser unit	Printed pages counter
Reset-PF Kit T1	PF kit 1	Printed pages counter
Reset-PF Kit T2	PF kit 2	Printed pages counter
Reset-PF Kit T3	PF kit 3	Printed pages counter
Reset-PF Kit T4	PF kit 4	Printed pages counter
Reset-PF Kit T5	PF kit 5	Printed pages counter
Reset-PF Kit MP	PF kit MP	Printed pages counter
Reset-LVPS	Low-voltage power supply PCB ASSY	Irregular power supply detection counter

1.3.36 Quit maintenance mode (Function code 99)

< Function >

This function is used to quit the maintenance mode, restart the machine, and return it to the ready state. Also forcefully close the fuser unit error.

< Operating Procedure >

- (1) Press the [9] key twice in the initial state of maintenance mode. The machine quits the maintenance mode and returns to the ready state.

2. OTHER SERVICE FUNCTIONS

2.1 Drum Cleaning

< Function >

This function is to attach a special cleaning sheet on the drum unit and perform the cleaning of the drum.

< Operating Procedure >

- (1) Press the  key in the ready state.
- (2) Press the [^] or [v] key to display [Machine Info.] key on the LCD.
- (3) Press the [Parts Life] key on the LCD.
- (4) Press [Drum *%] key on the LCD.
- (5) Press the [X] key for five seconds or more. "Attach the cleaning sheet. Please refer to the included instructions." is displayed on the LCD.
- (6) Open the front cover, take out the drum unit, and attach the cleaning sheet on the drum unit. (For the method of attaching the cleaning sheet, refer to the insertion of the cleaning sheet.)
- (7) Put the drum unit back in the machine and close the front cover. "Please wait" is displayed on the LCD, and then drum cleaning starts.
- (8) When drum cleaning is completed, "Drum Cleaning completed. Remove the cleaning sheet." is displayed on the LCD. Then, open the front cover, take out the drum unit, and remove the cleaning sheet from the drum unit.
- (9) Put the drum unit back in the machine and close the front cover. Then the machine returns to the ready state.

2.2 Change ON/OFF setting of color registration

< Function >

Situation and timing of adjustment of color registration is decided by machine features of each models, and it will be performed by the decided timing. This function switches the registration starts automatically or not. However, registration will be performed when the machine cannot print normally even the auto registration is OFF.

< Operating Procedure >

- (1) Press the  key in the ready state and press the "Printer" on the LCD.
- (2) Press the [^] or [v] key to display "Color Correction" on the LCD then press it.
- (3) Press "Calibration" on the LCD.
- (4) Press the [*] key for five seconds or more to display "Auto Calibration?".
- (5) Press "On" when enabling this function or "Off" when disabling this function and return the display to step (3).
- (6) Press the  key, the machine returns to the ready state.

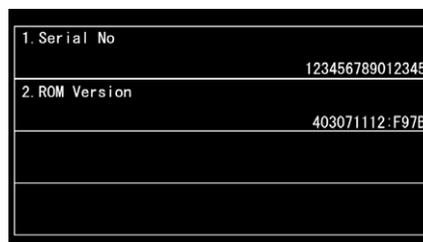
2.3 Print Communication Error List

< Function >

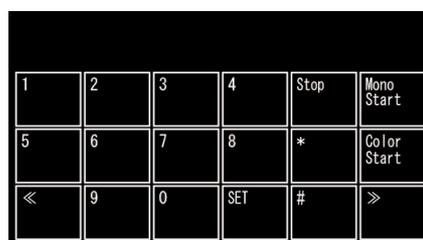
This function is used to print the communication error list (Communication List).

< Operating Procedure >

- (1) Press and hold the  key for approximately five seconds while the machine is in the ready state.
- (2) Press the blank field at the bottom on the LCD. The display shown on the right appears on the LCD.
- (3) Press the [#], [1], [0], [4], [1], and [4] keys in this order in approximately two seconds.
- (4) Communication error list (Communication List) is printed. Press the [X] key, the machine returns to the ready state.



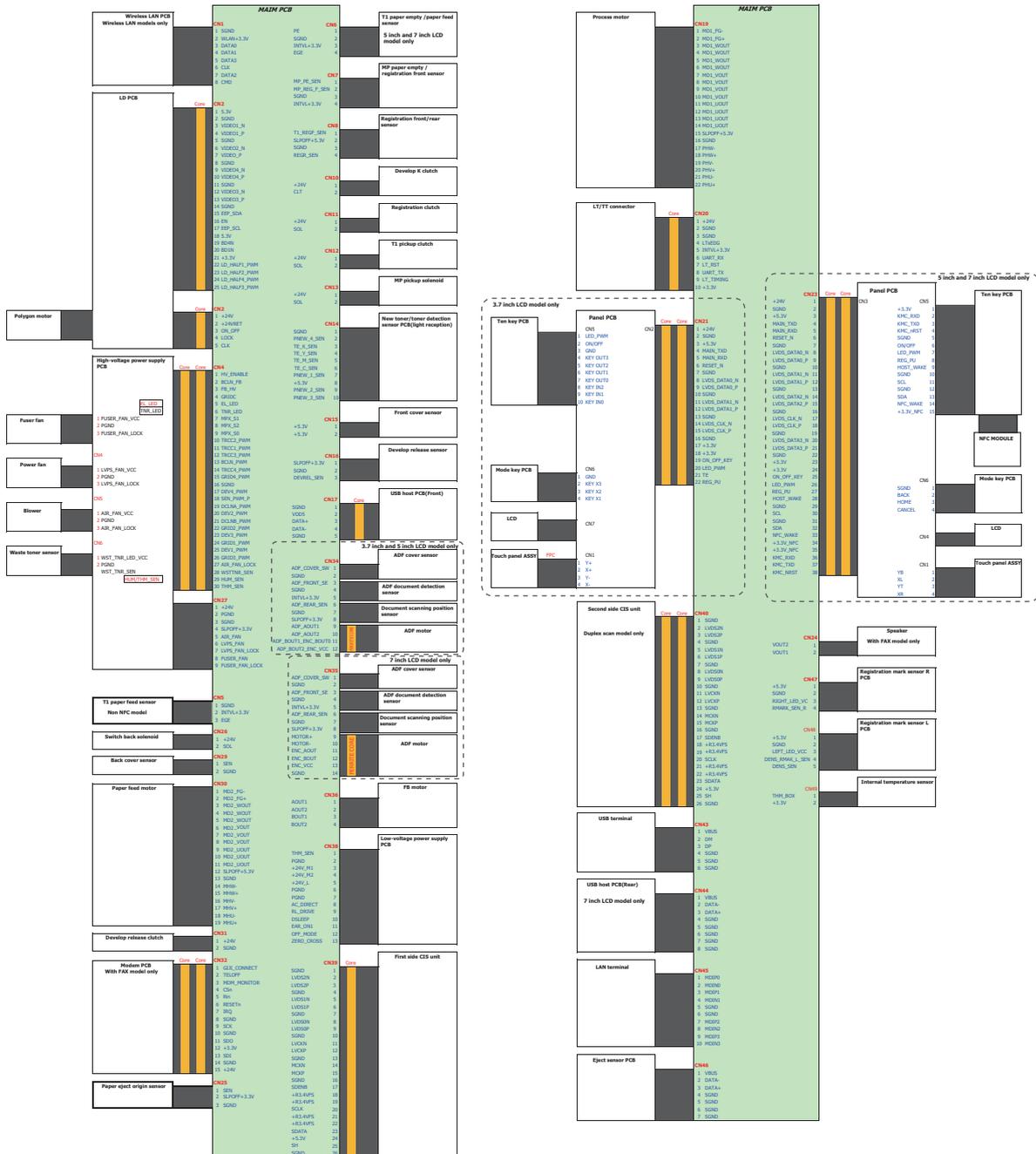
1. Serial No	123456789012345
2. ROM Version	403071112:F97B



1	2	3	4	Stop	Mono Start
5	6	7	8	*	Color Start
<<	9	0	SET	#	>>

CHAPTER 6 WIRING DIAGRAM

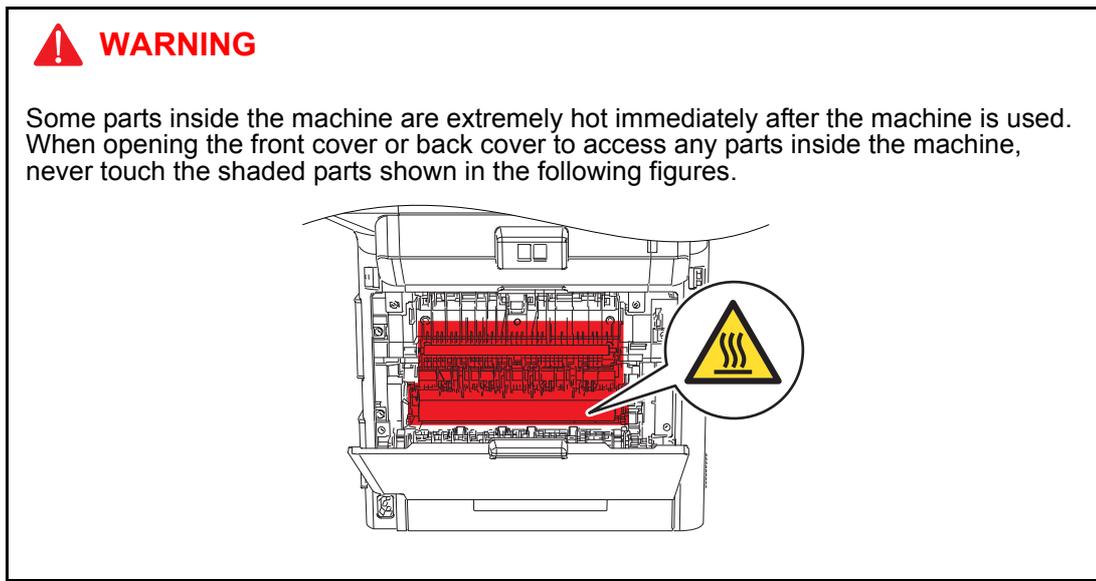
1. WIRING DIAGRAM



CHAPTER 7 PERIODICAL MAINTENANCE

1. SAFETY PRECAUTIONS

To avoid creating secondary problems by mishandling, follow the warnings and precautions below during maintenance work.



- Be careful not to lose screws, washers, or other parts removed.
- Be sure to apply grease to the gears and applicable positions specified in [chapter 3](#).
- When using soldering irons or other heat-generating tools, take care not to accidentally damage parts such as wires, PCBs and covers.
- Static electricity charged in your body may damage electronic parts. When transporting PCBs, be sure to wrap them in conductive sheets.
- When replacing the PCB and all the other related parts, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on the flat cables or on the wire harness.
- 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.
- When connecting or disconnecting harnesses, hold the connector body, not the cables. If the connector is locked, release it first.
- After a repair, check not only the repaired portion but also handling of harnesses. Also check that other related portions are functioning properly before operational checks.
- There must be no damage in the insulation sheet.
- After a repair, update the firmware to the latest version.
- Forcefully closing the front cover without mounting the toner cartridge and the drum unit can damage the machine.

2. PERIODICAL REPLACEMENT PARTS

2.1 Preparation

■ Disconnecting cables and removing accessories

Prior to proceeding with the disassembly procedure,

- (1) Unplug
 - the AC cord,
 - the Telephone line cord, if connected,
 - the USB cable, if connected,
 - the LAN cable, if connected, and
 - USB flash memory drive, if connected.
- (2) Remove
 - the Toner cartridge,
 - the Drum unit,
 - the Belt unit,
 - the Waste toner box,
 - the Paper tray,
 - the LAN port cap, and
 - EXT cap.

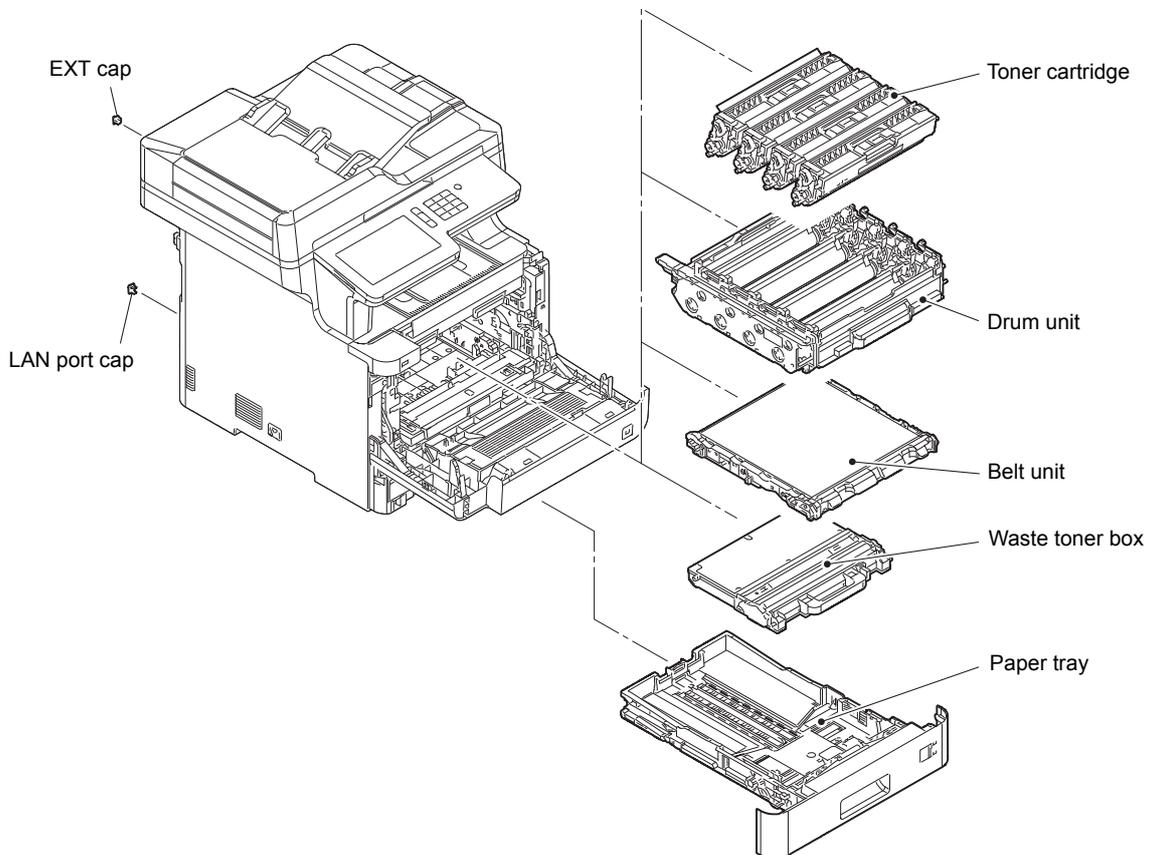


Fig. 7-1

2.2 Fuser unit

(1) Open the Back cover.

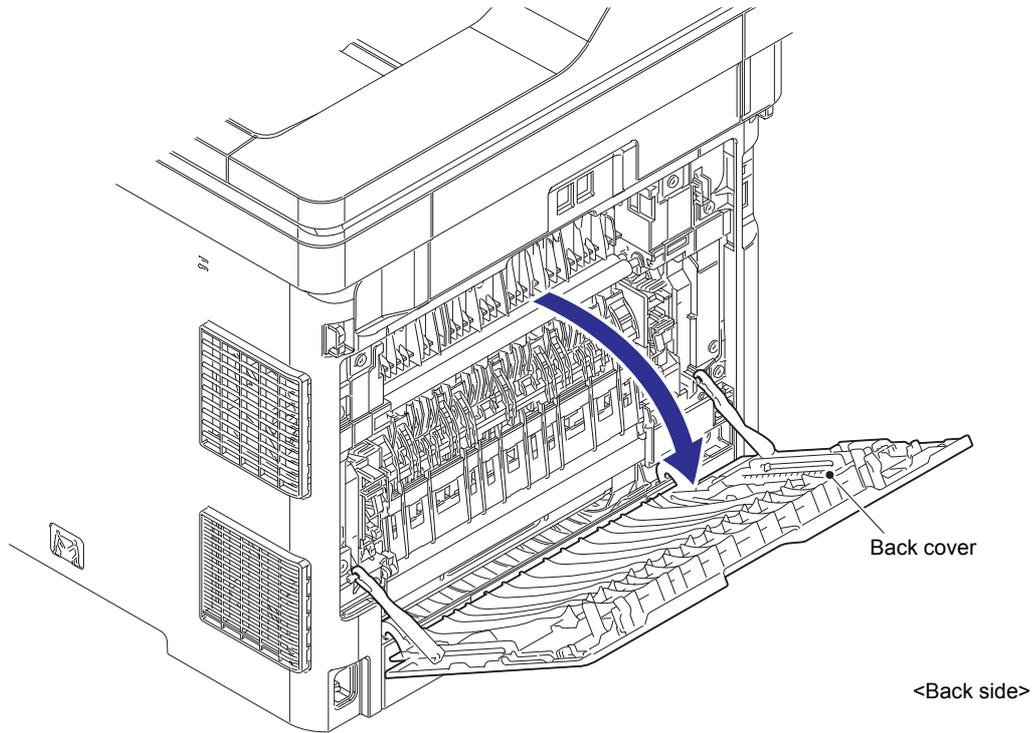


Fig. 7-2

(2) Remove the Back cover stopper arm L/R from the Boss.

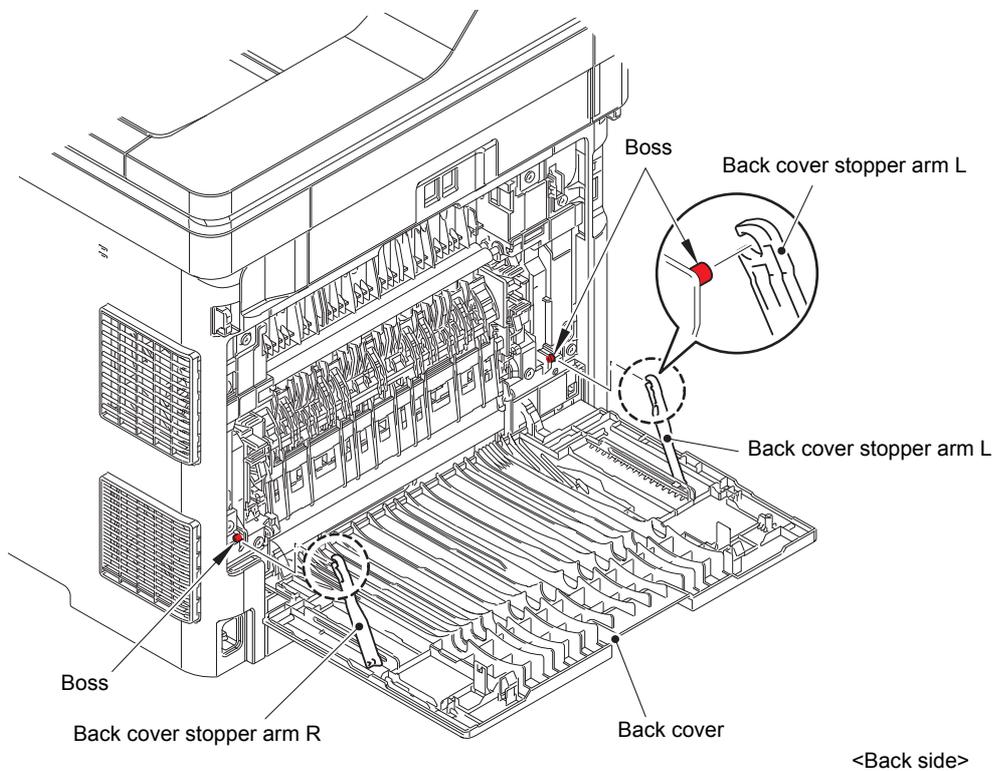


Fig. 7-3

(3) Remove the Boss of the Back cover from the Bush on the Frame R.

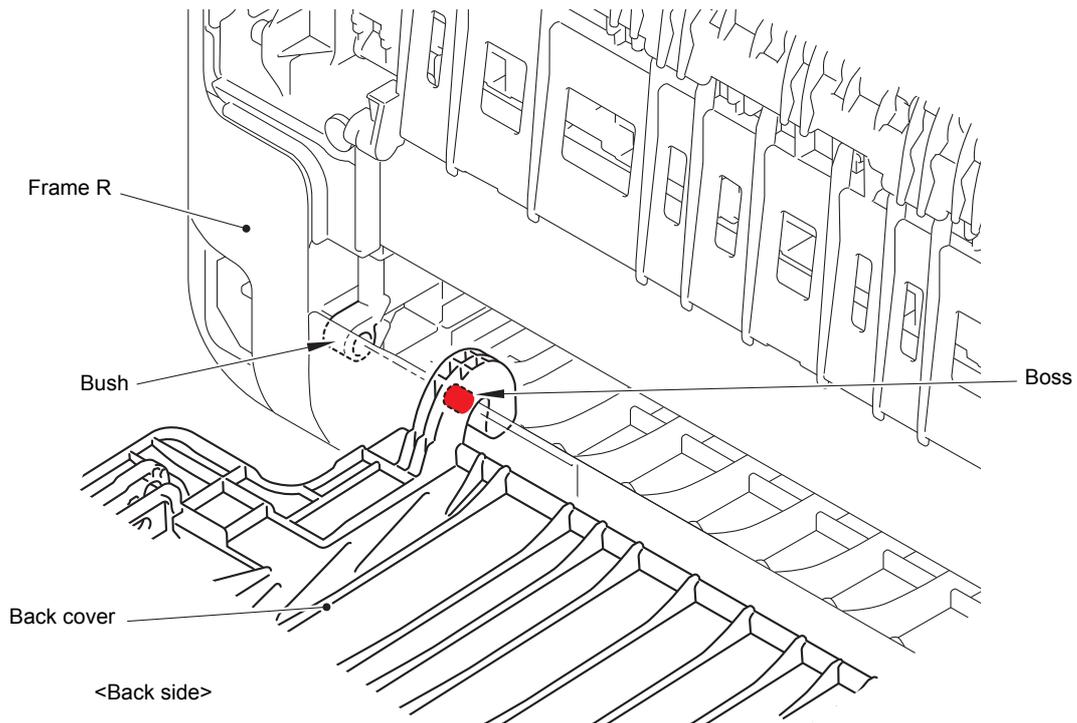


Fig. 7-4

(4) Remove the Back cover. (4a → 4b)

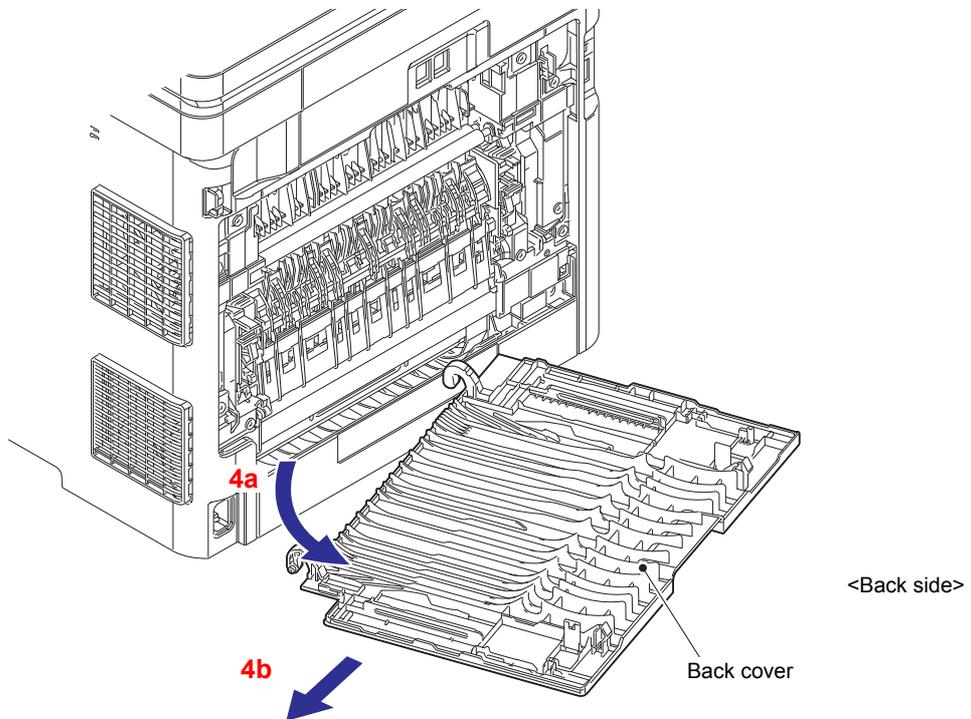


Fig. 7-5

(5) Open the Back flapper holder. Release each Boss and remove the Back flapper holder.

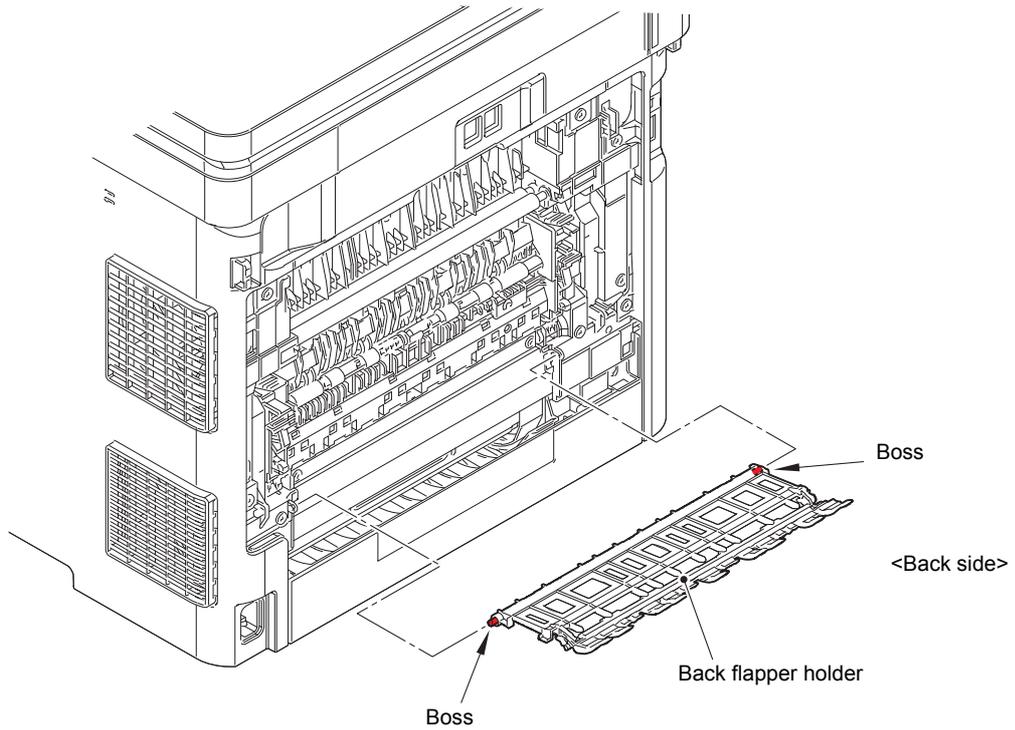


Fig. 7-6

(6) Remove the two Taptite bind B M4x12 screws from the Fuser unit line cover L.

(7) Release the Hook and Boss and remove the Fuser unit line cover L.

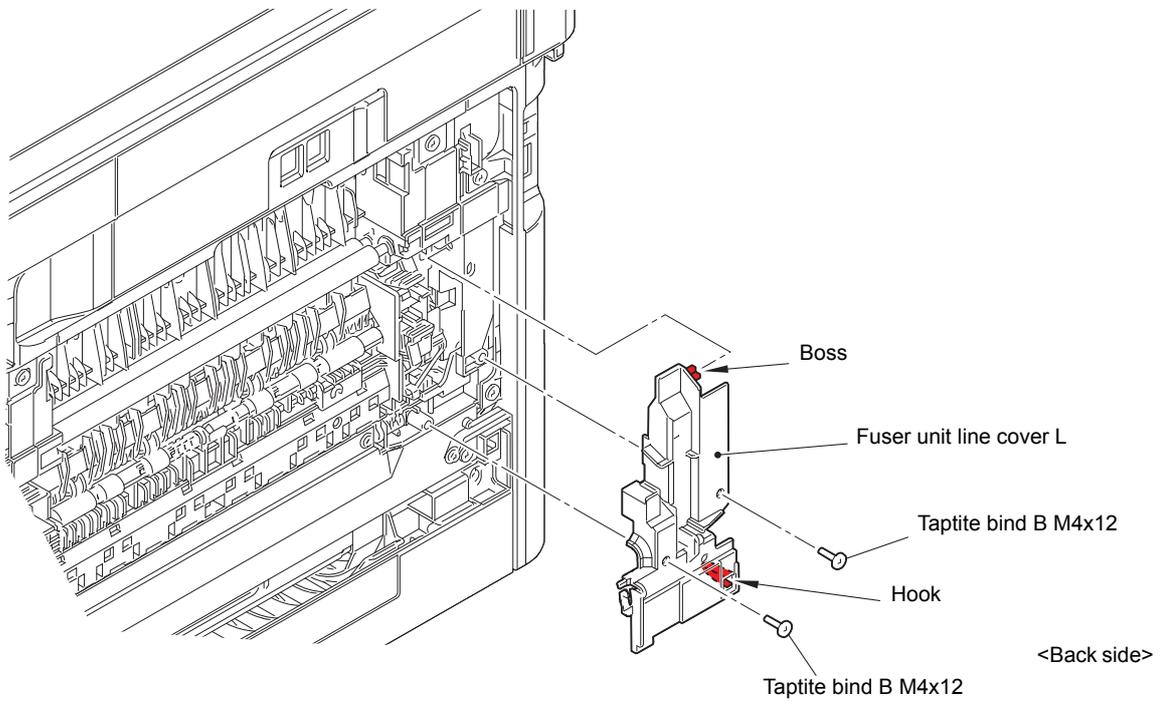


Fig. 7-7

(8) Release the lock of the Fuser cover lock lever L/R to open the Fuser cover ASSY.

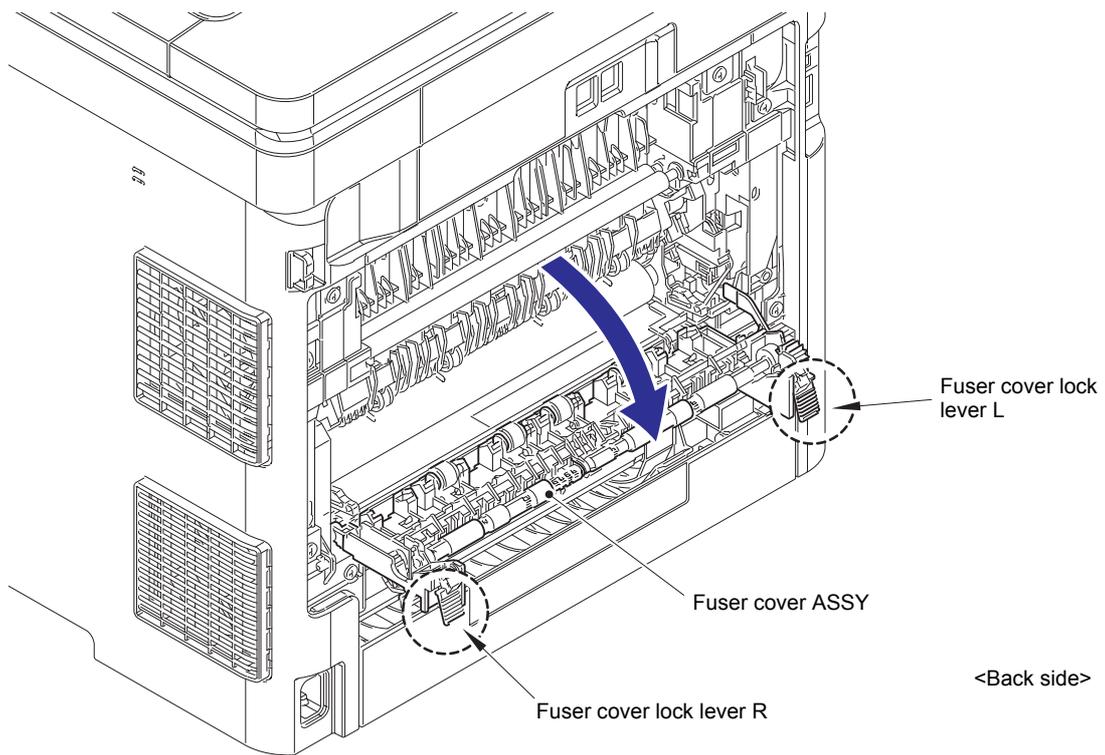


Fig. 7-8

(9) Slide the Fuser cover ASSY in the direction of the arrow and remove it to the front.

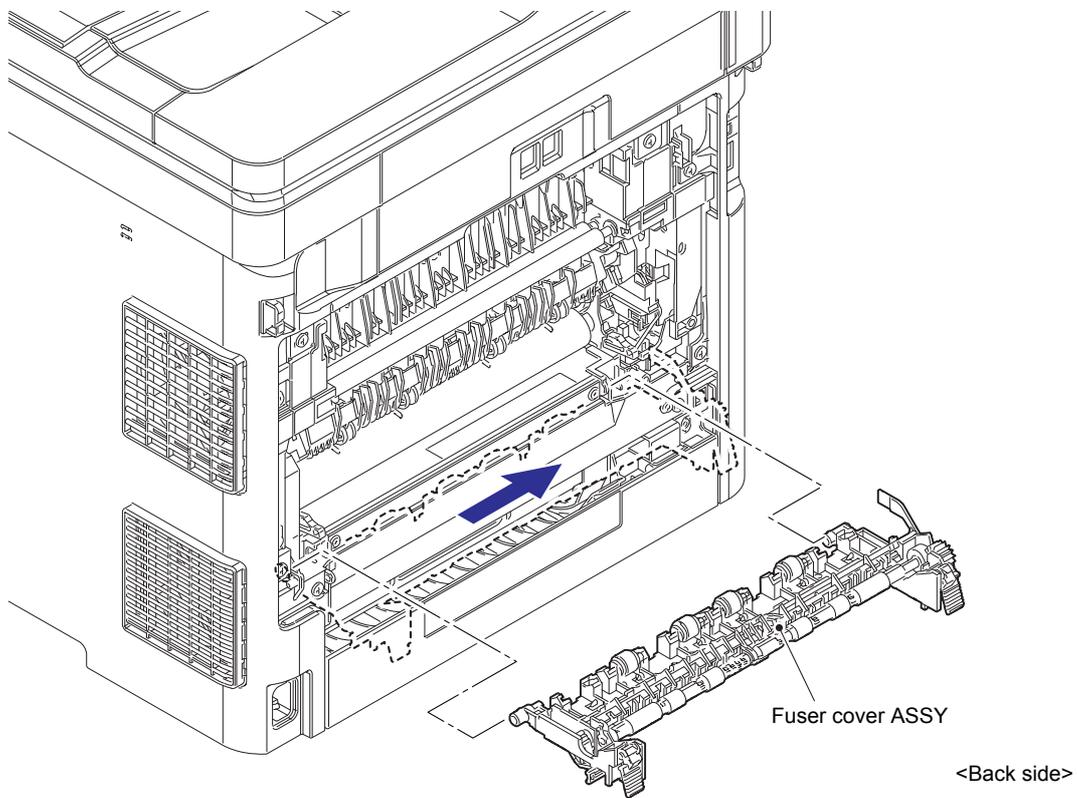
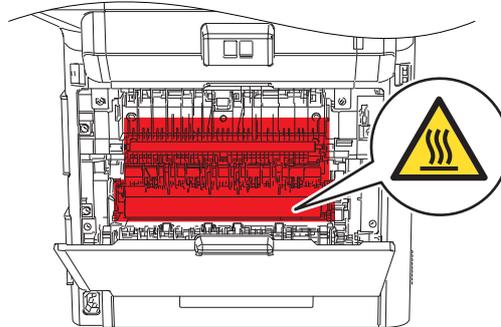


Fig. 7-9

CAUTION

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



(10) Remove the two Taptite bind B M4x12 screws from the Fuser unit line cover R.

(11) Release each Hook and remove the Fuser unit line cover R.

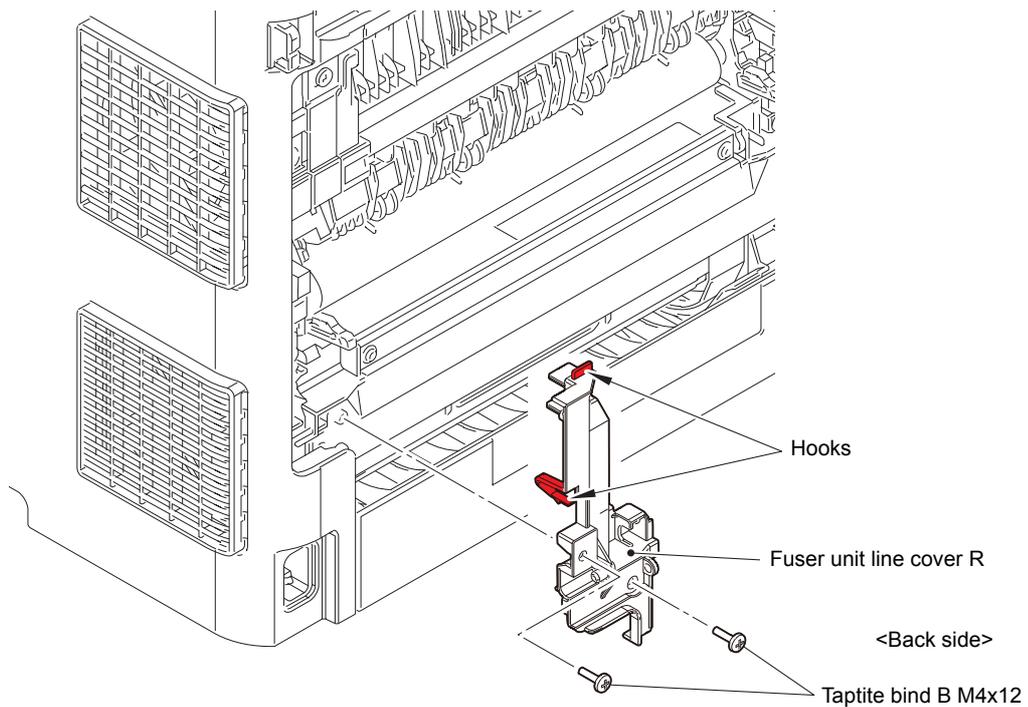


Fig. 7-10

(12) Disconnect the Center thermistor harness and Side thermistor harness from the Eject sensor PCB ASSY.

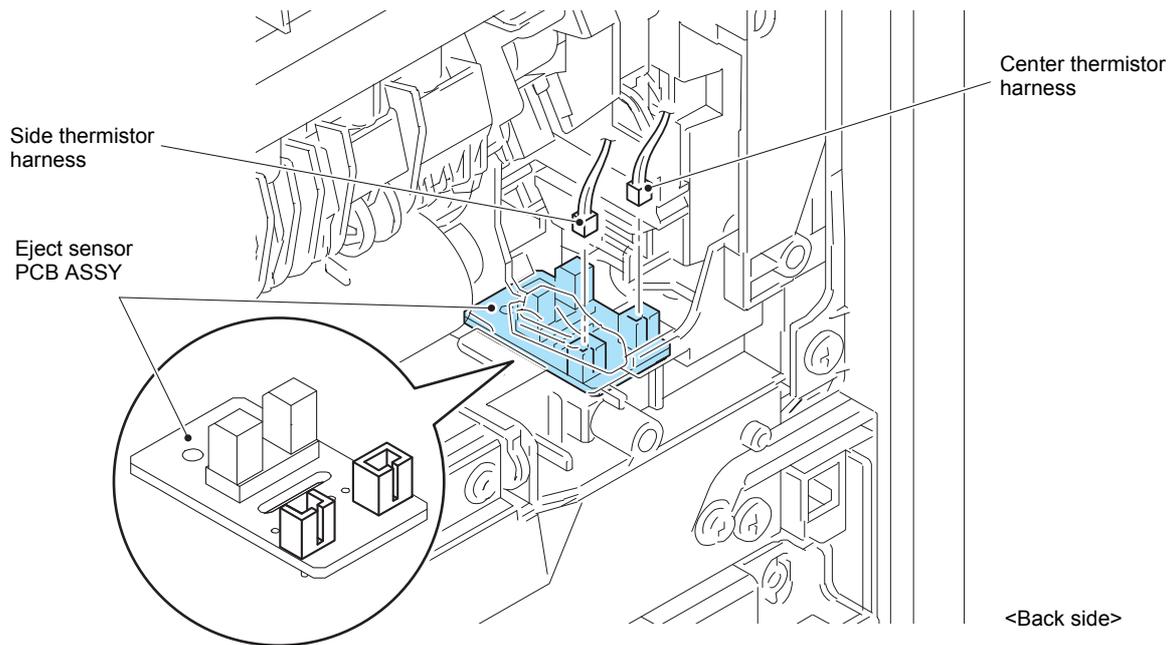


Fig. 7-11

(13) Disconnect the Heater harness of the Fuser unit from the LVPS-heater harness ASSY.

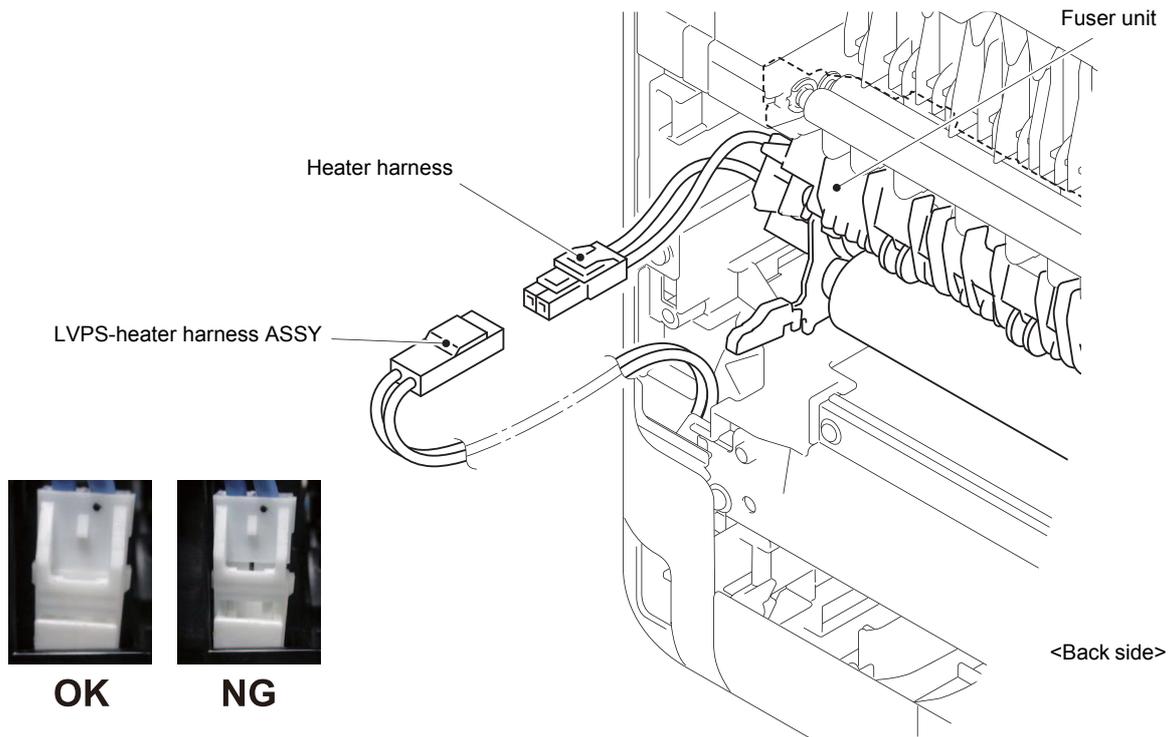


Fig. 7-12

Harness routing: Refer to "1. Fuser unit, Eject sensor PCB ASSY".

Note:

After connecting the Heater harness, pull the Connector on the Heater harness side while holding the Connector on the LVPS-heater harness ASSY side to make sure it is locked.

(14) Remove the two Taptite pan B M4x14 screws to remove the Fuser unit.

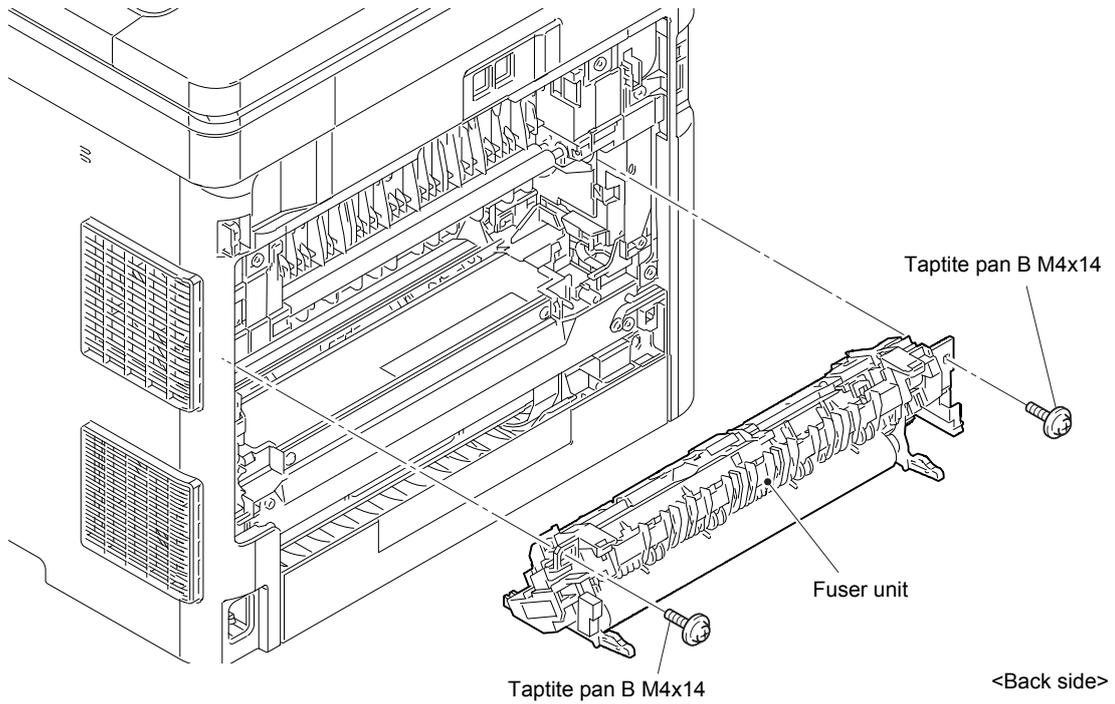


Fig. 7-13

Note:

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

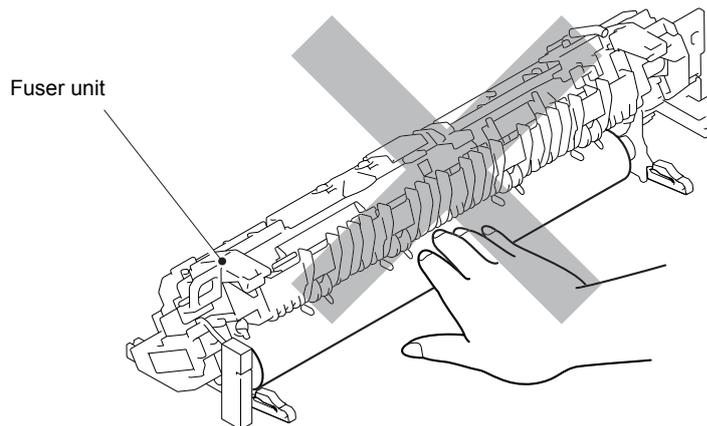


Fig. 7-14

(15) After replacing the Fuser unit, reset the counter.

(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

2.3 Laser unit

- (1) Make the Front cover half open. (When fully opened, the Front cover arm will touch to the Side cover L ASSY and Side cover L ASSY cannot be removed.)

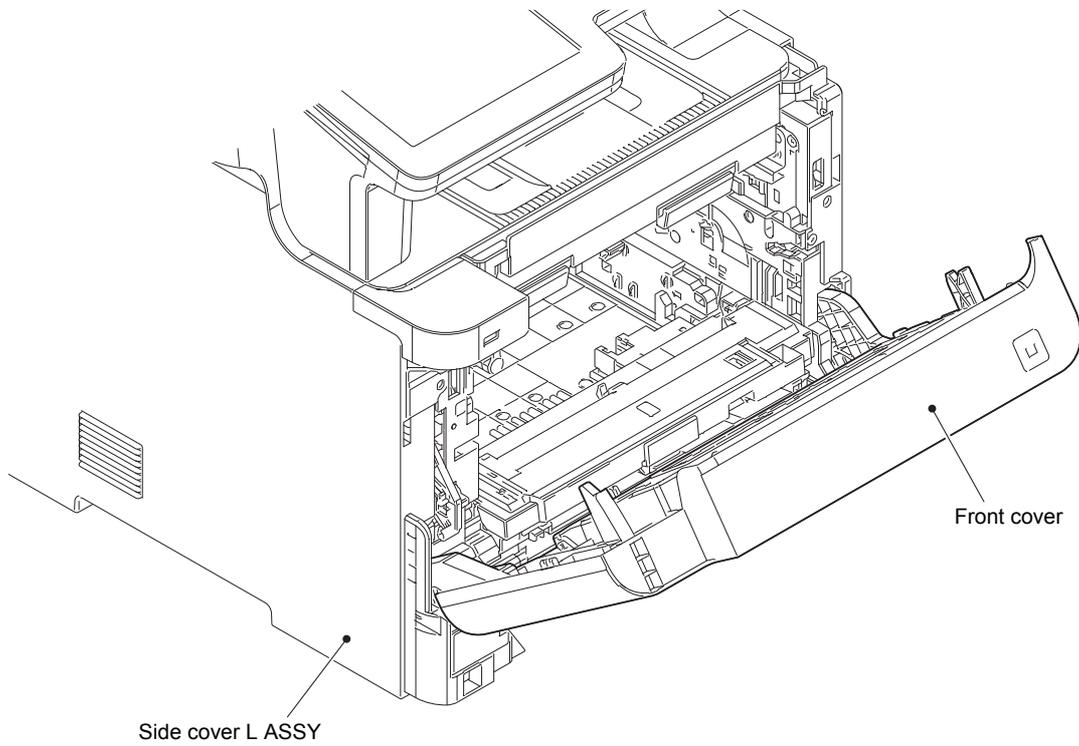


Fig. 7-15

- (2) Open the Back cover.

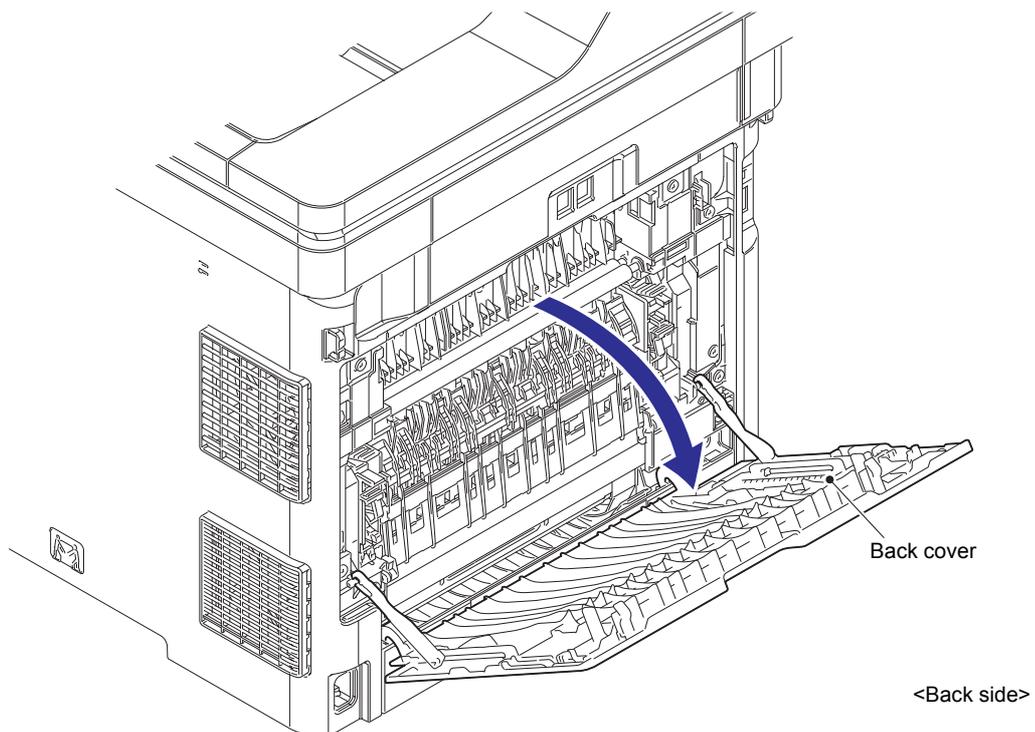


Fig. 7-16

(3) Remove the Back cover stopper arm L/R from the Boss.

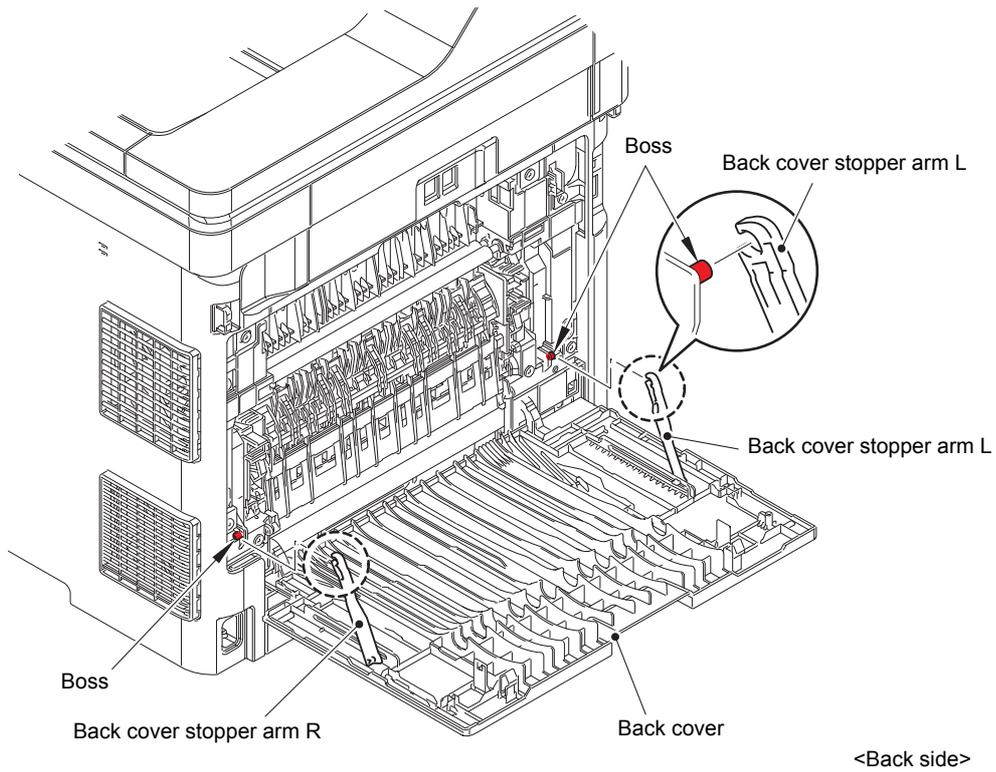


Fig. 7-17

(4) Remove the Boss of the Back cover from the Bush on the Frame R.

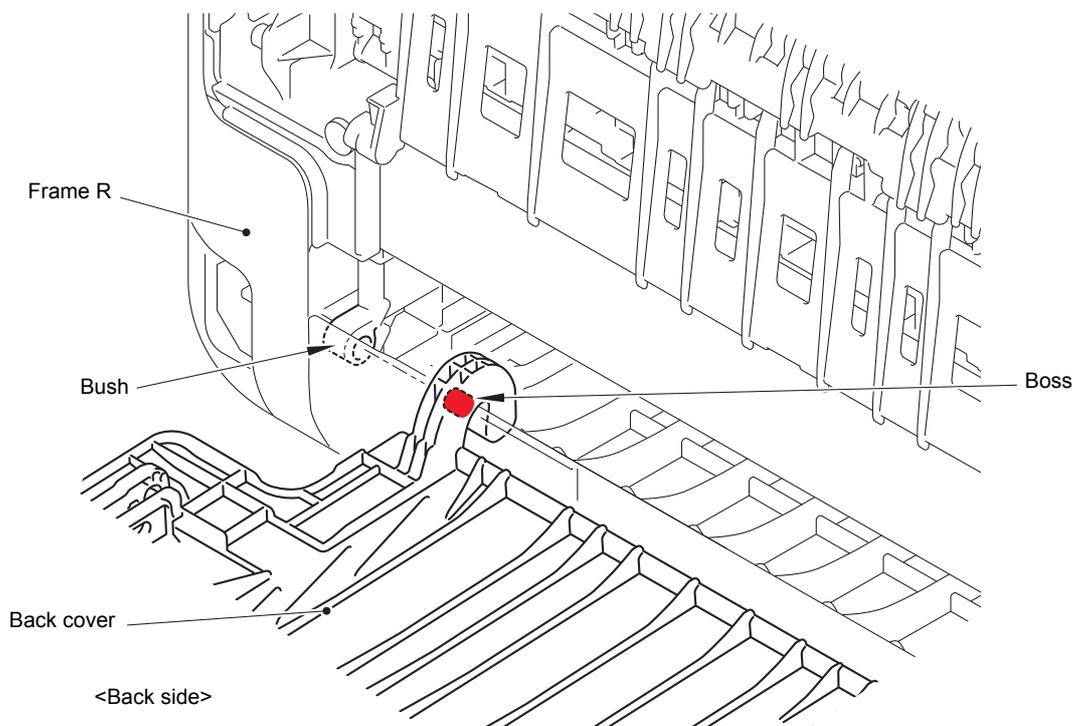


Fig. 7-18

(5) Remove the Back cover.

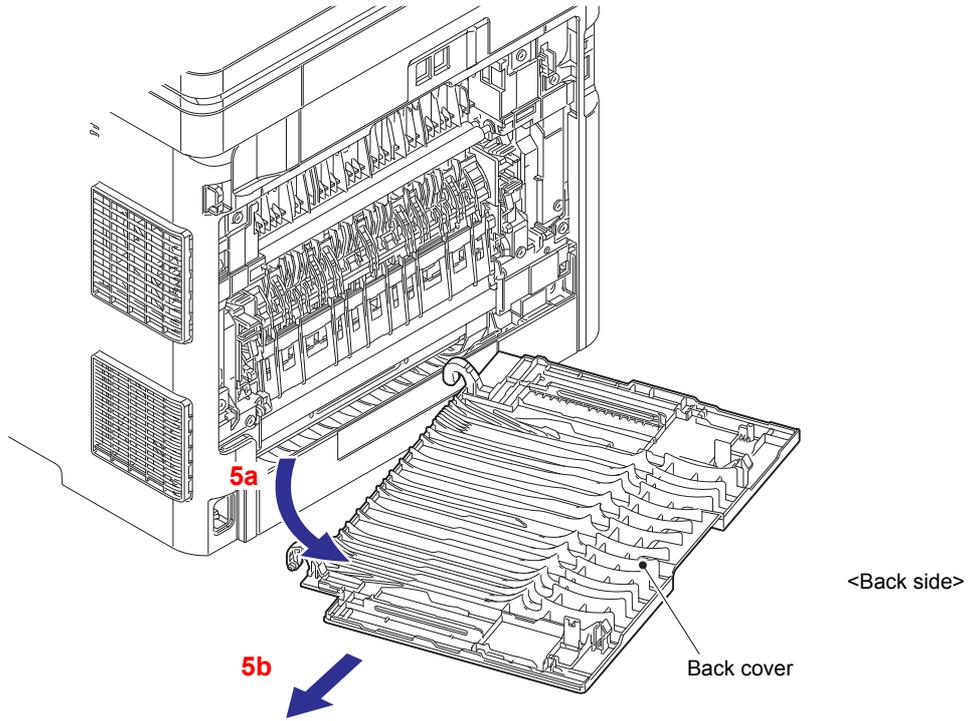


Fig. 7-19

- (6) Remove the Taptite cup B M3x8 screw and the Taptite bind B M4x12 screw from the front of the Side cover L ASSY.
- (7) Remove the Taptite bind B M4x12 screw from the side of the Side cover L ASSY.

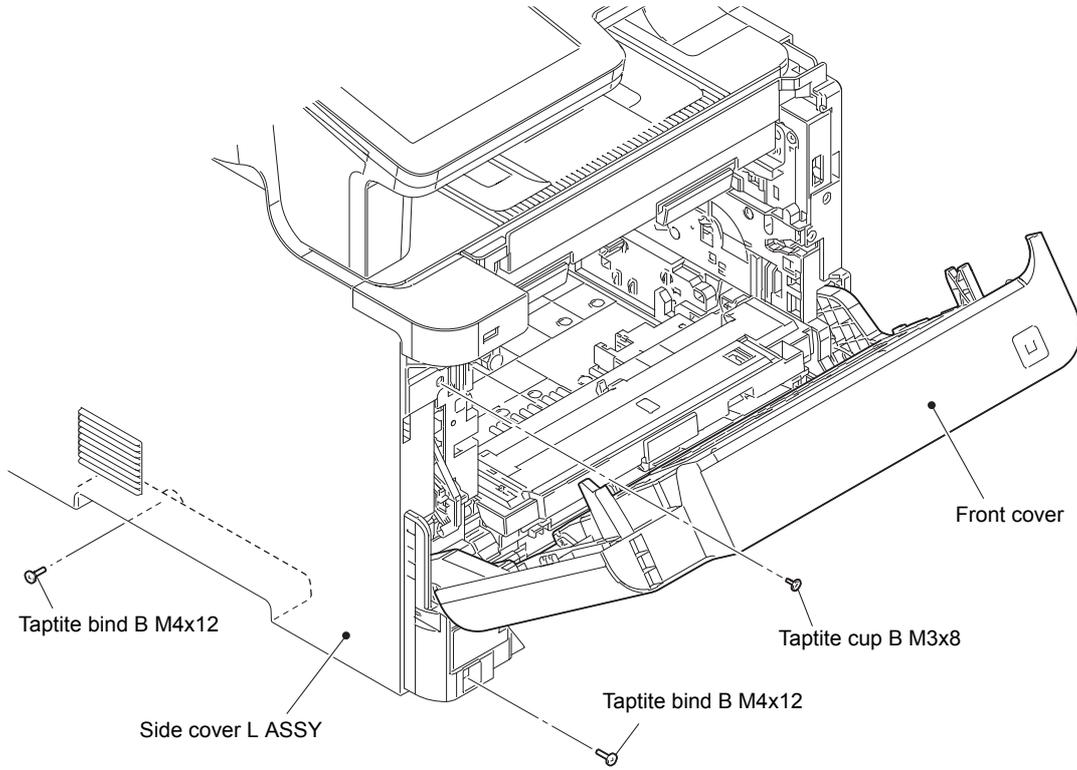


Fig. 7-20

- (8) Remove the two Taptite bind B M4x12 screws from the back of the Side cover L ASSY.

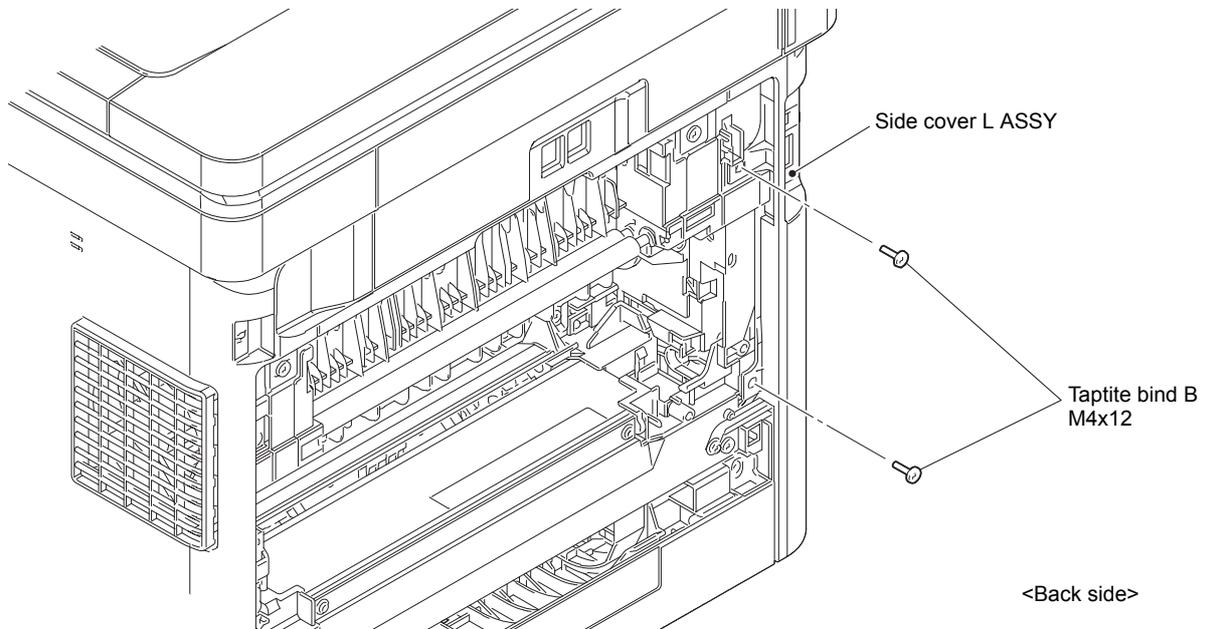


Fig. 7-21

- (9) Release the Hooks A, B, C and D in order of the arrow A, B, C and D, then remove the Side cover L ASSY upward.

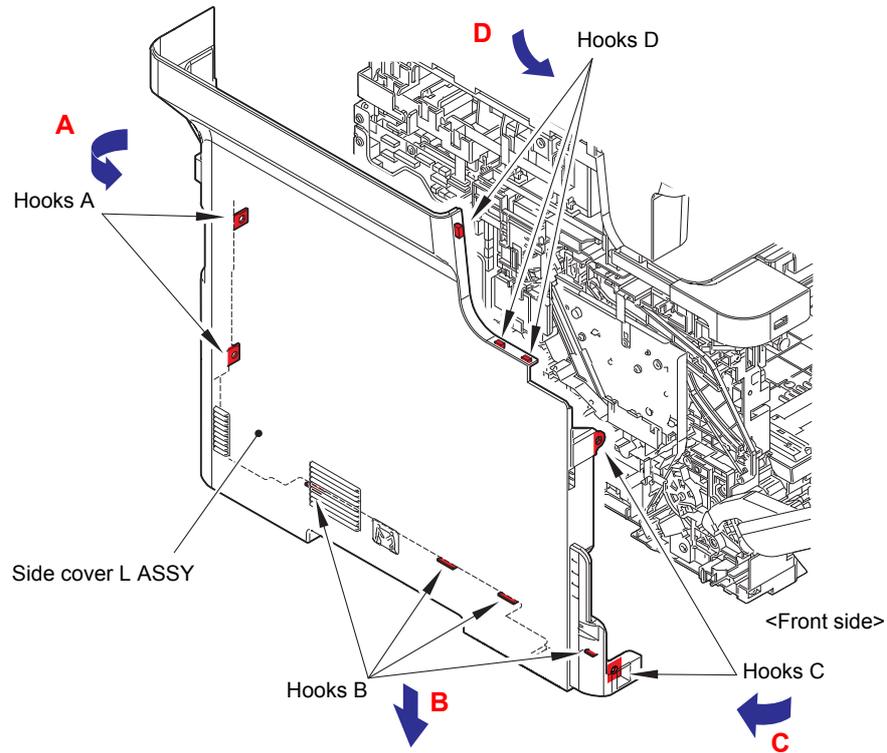


Fig. 7-22

* Inside of Side cover L ASSY

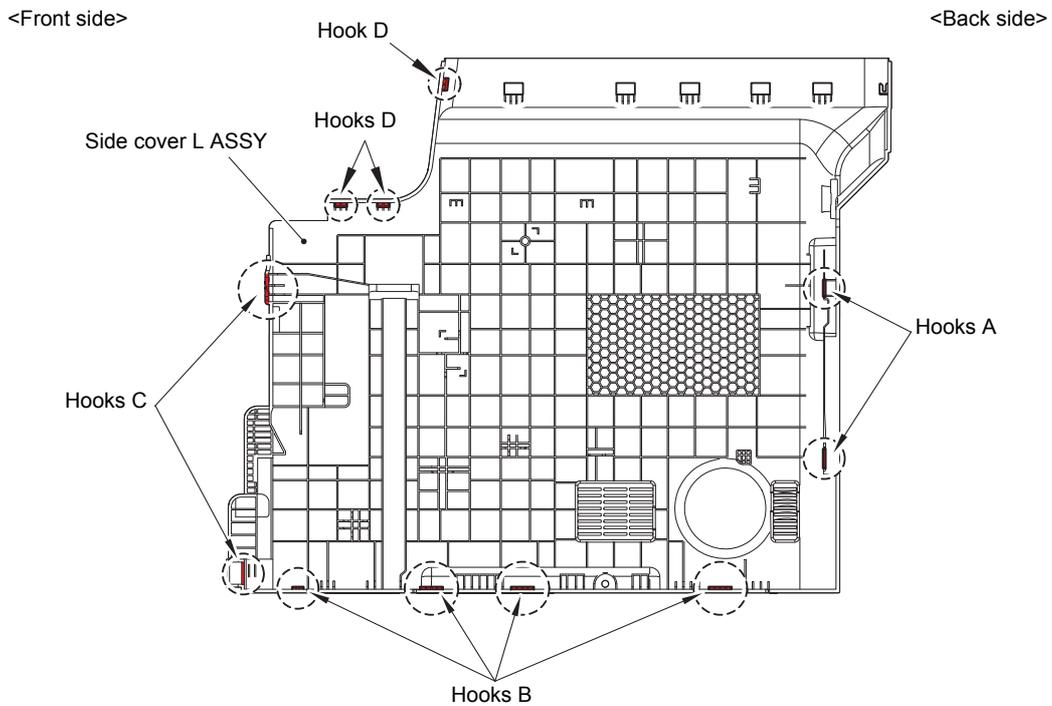


Fig. 7-23

(10) Remove the Taptite cup B M3x8 screw and the Taptite bind B M4x12 screw from the front of the Side cover R.

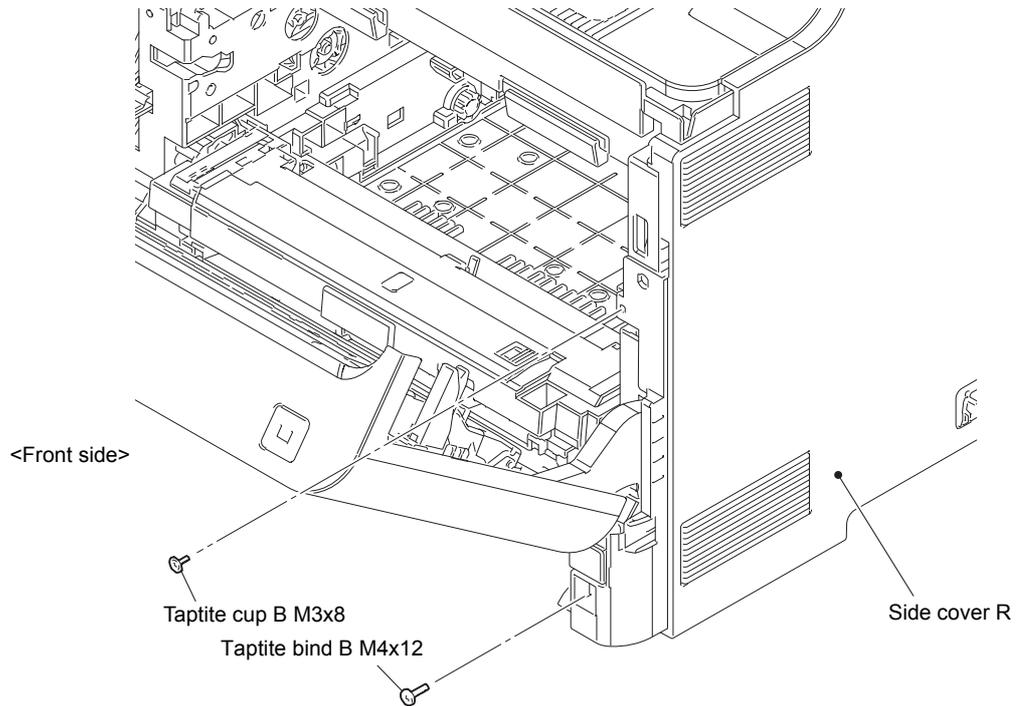


Fig. 7-24

(11) Remove the two Taptite bind B M4x12 screws from the back of the Side cover R.

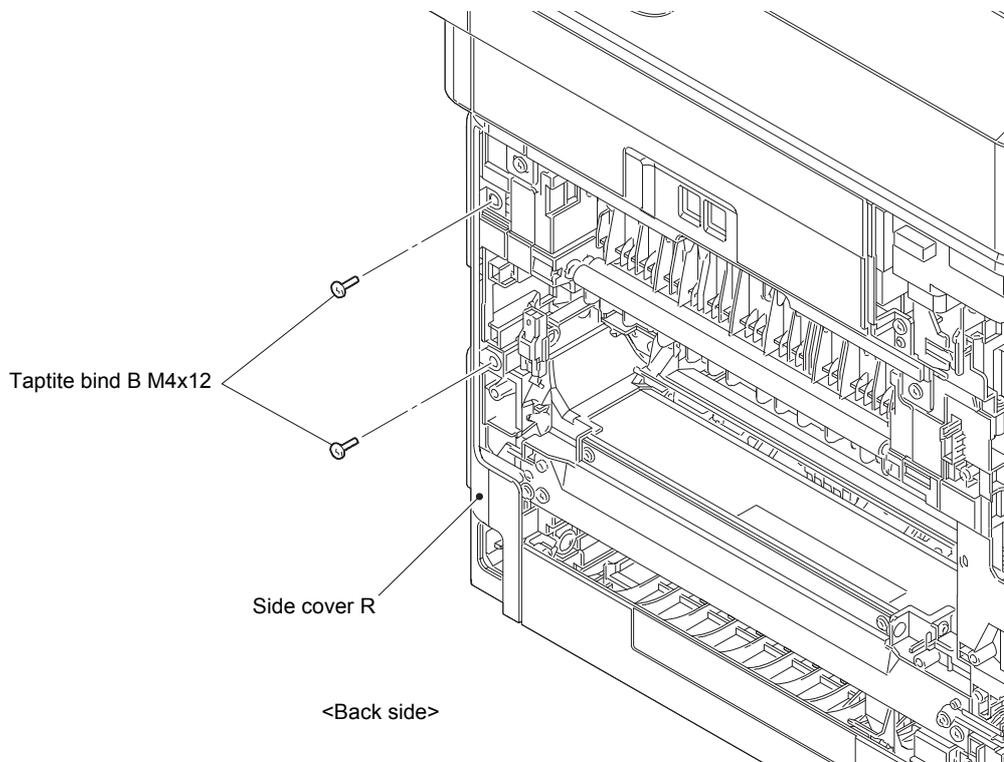


Fig. 7-25

(12) Check that the Front cover is half opened. (When fully opened, the Front cover arm will touch to the Side cover R and Side cover R cannot be removed.) Release the Hooks A, B, C and D in order of the arrow A, B, C and D, then remove the Side cover R upward.

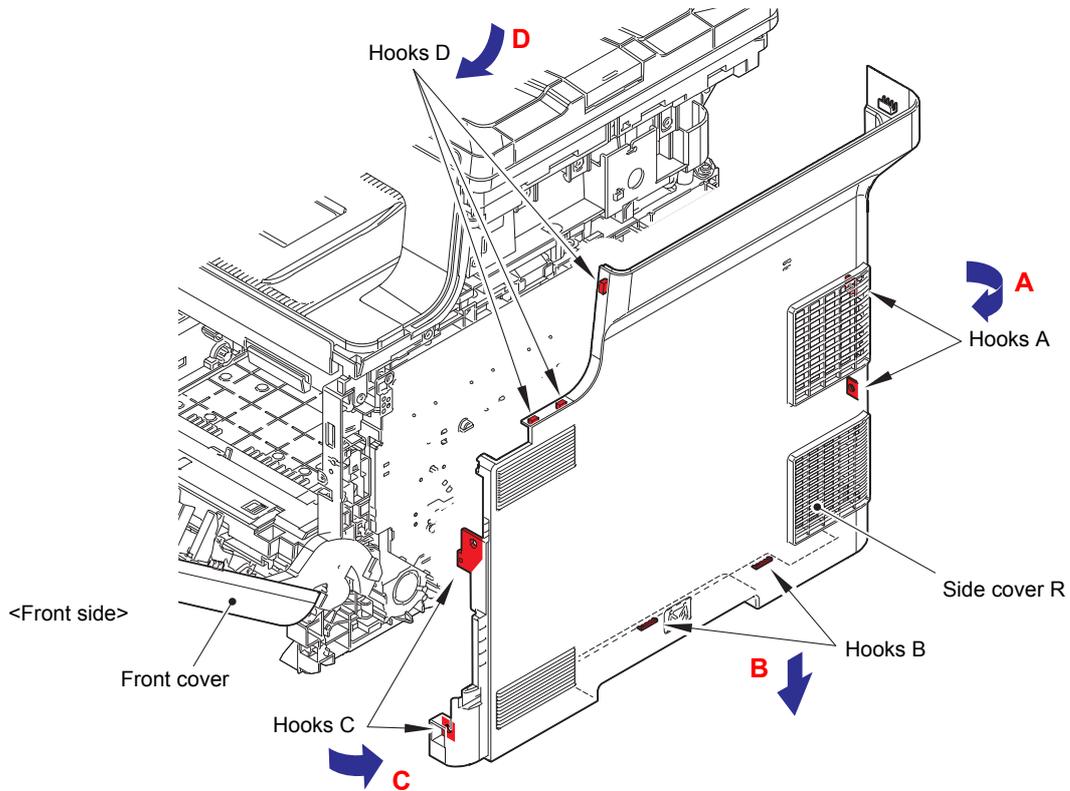


Fig. 7-26

* Inside of Side cover R

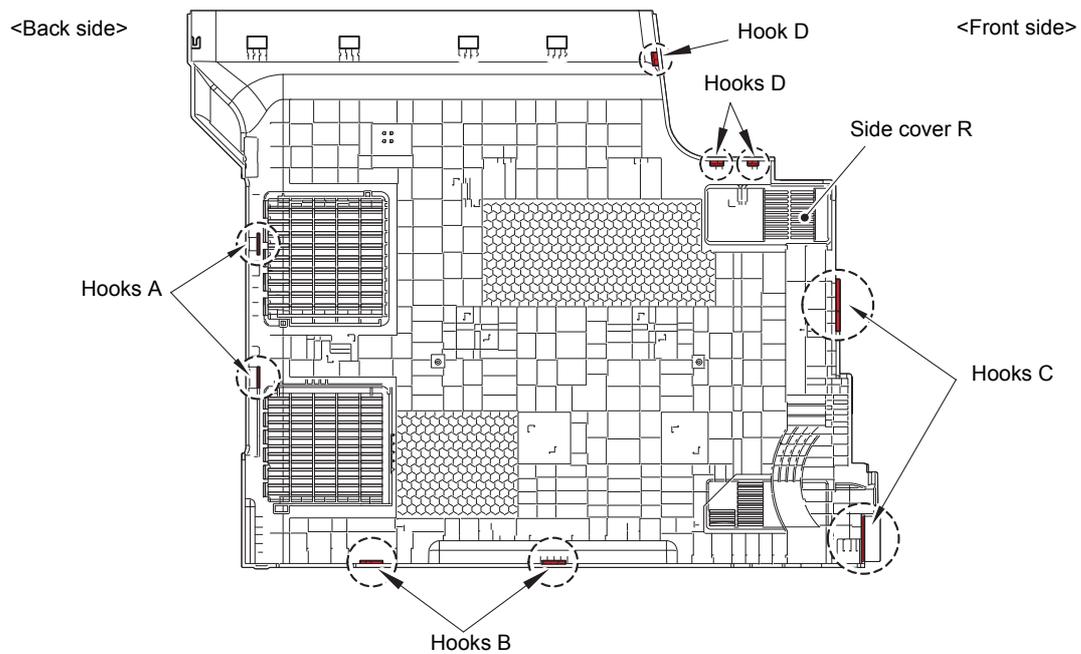


Fig. 7-27

Note:

As the Spacer tends to come off, be careful not to lose it.

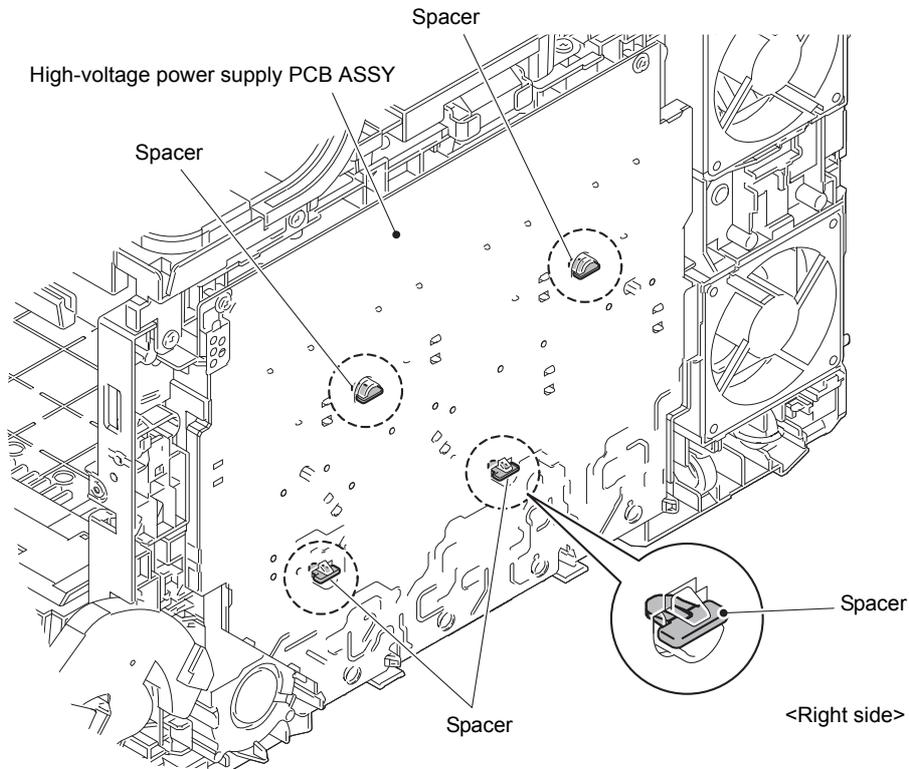


Fig. 7-28

(13) Remove the two Taptite bind B M4x12 screws from the Back cover upper.

(14) Removes each Hook while pushing down and release the Back cover upper.

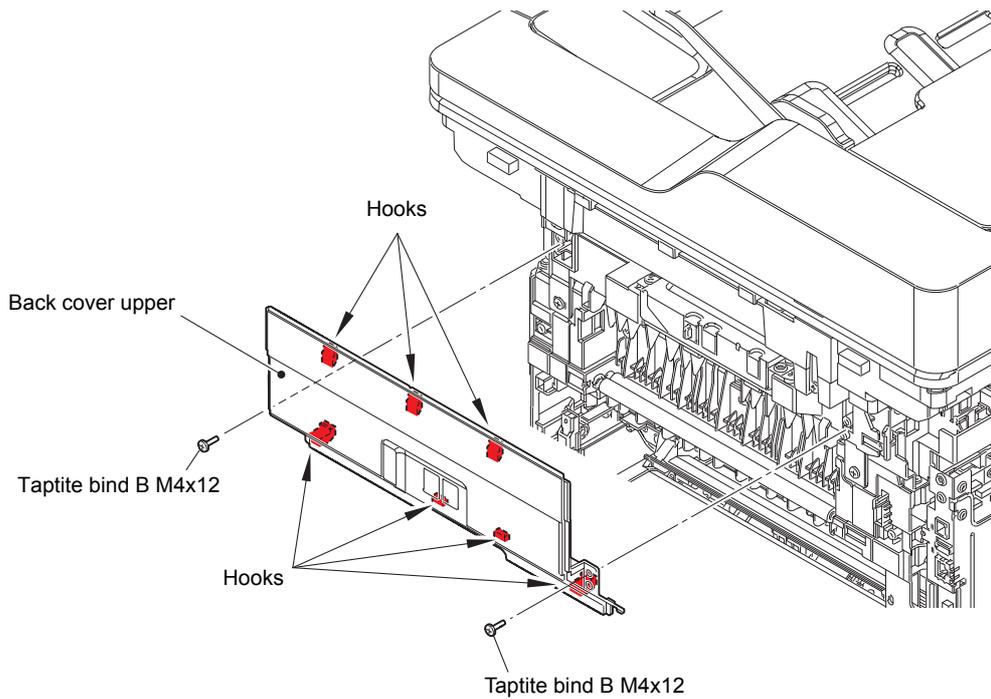


Fig. 7-29

(15) Open the ADF unit. Release the Hook A of the Panel top cover from the Hole of the Panel lower cover. Lift the left end of the Panel top cover to release the other Hooks the Panel top cover. Pull up the Panel top cover to the upper- left, then remove the Panel top cover from the Scanner unit.

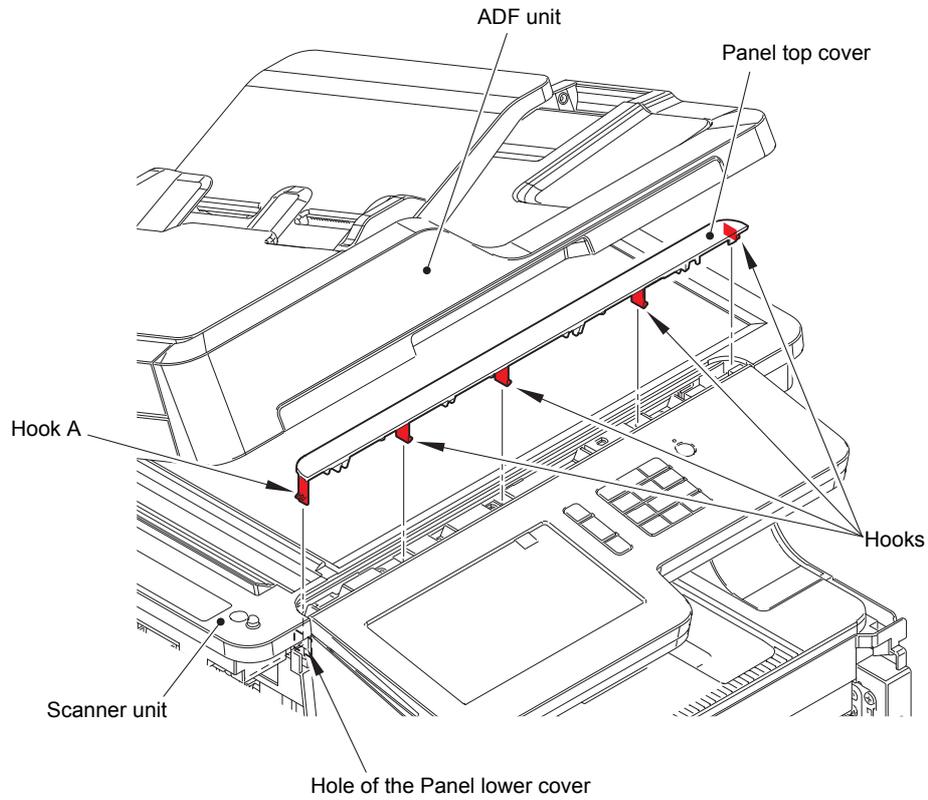


Fig. 7-30

(16) Disconnect the Panel flat cable from the Main PCB ASSY.

(17) Remove the Screw cup M3x8 (black) screw and release the Panel ground wire from the securing fixtures.

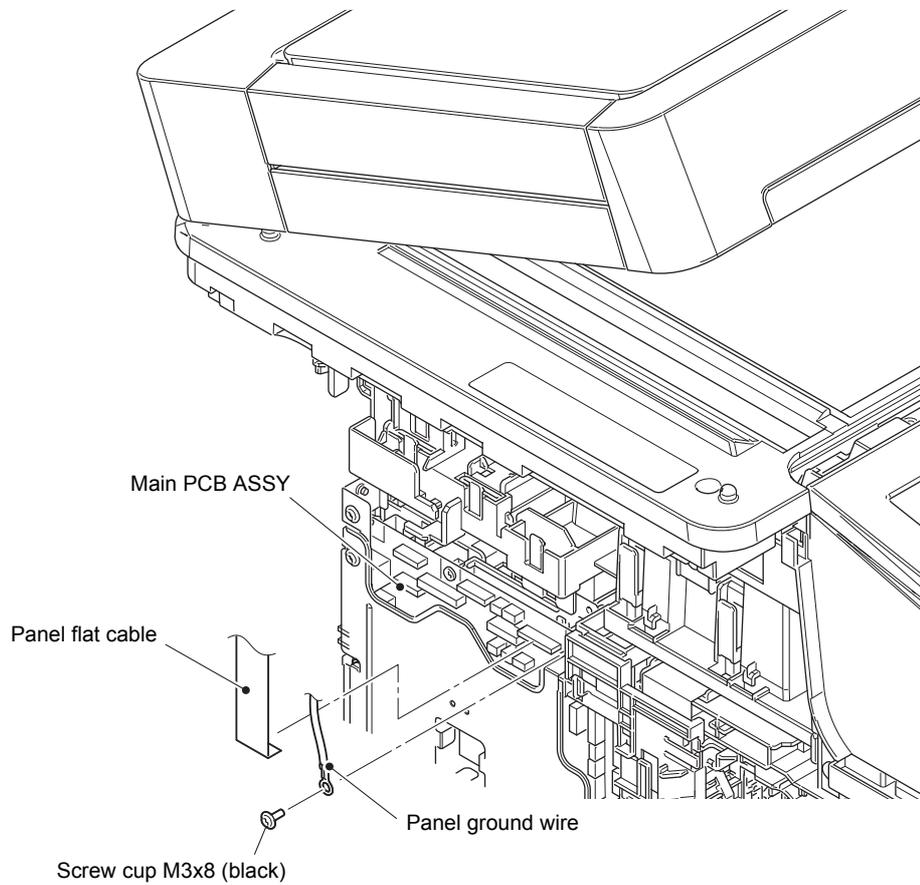


Fig. 7-31

Harness routing: Refer to "2. Panel unit".

- (18) Remove the four Taptite bind B M4x12 screws. Release each Hook, and remove the Panel unit from the Panel lower cover. (For 3.7 inch models: Remove the three screws and the screw A is not removed.)
- (19) Release the Connector lock and remove the Panel flat cable from the Panel PCB.
(There is no Connector lock for 3.7 inch models.)
Pull out the Panel ground wire from the Hole of the Panel lower cover.

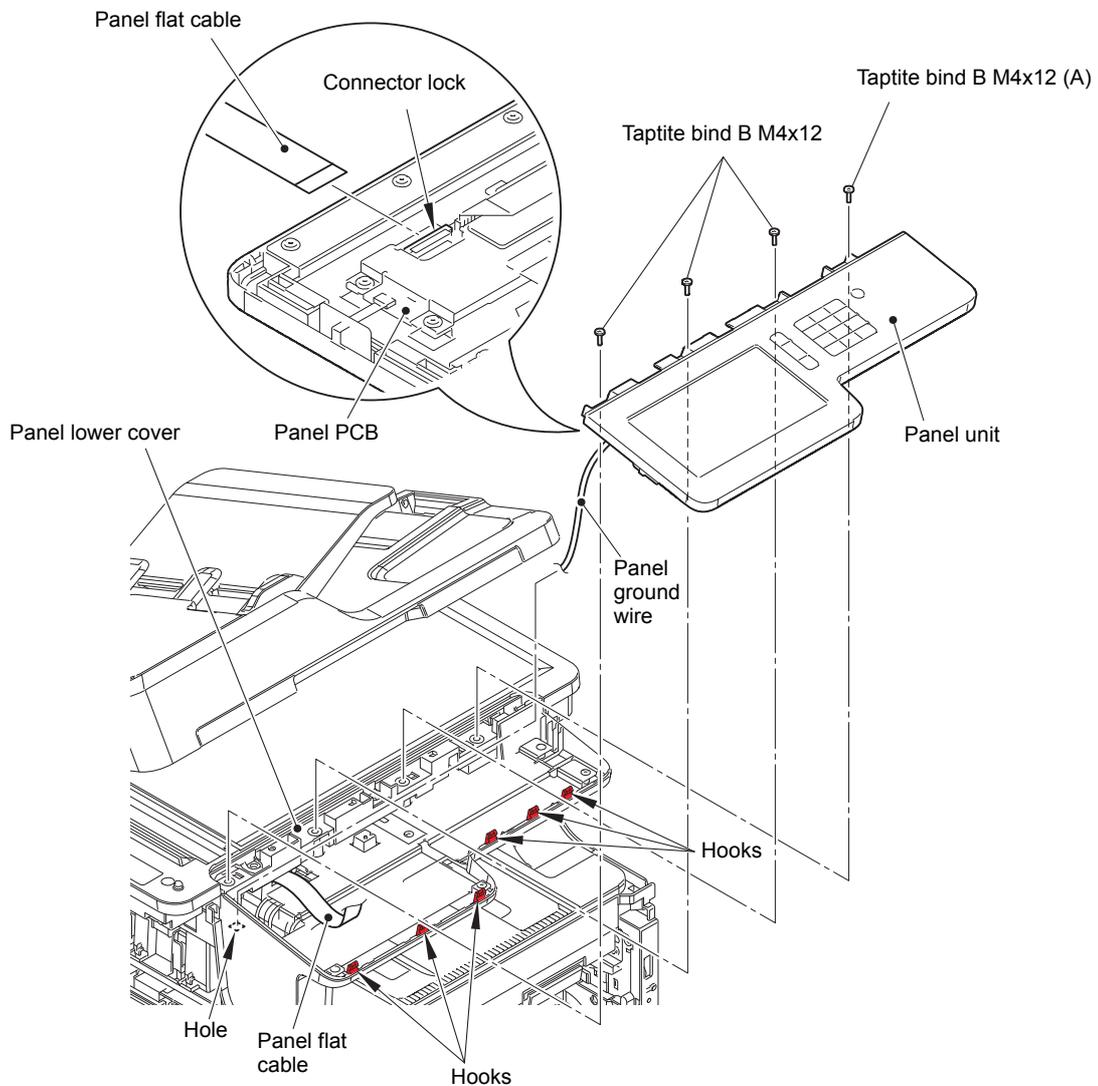


Fig. 7-32

- (20) Remove the four Screw cup M3x8 (black) screws, and remove the Main shield plate from the Frame L.
- (21) Remove the Thermally conductive sheet from the Main PCB ASSY.

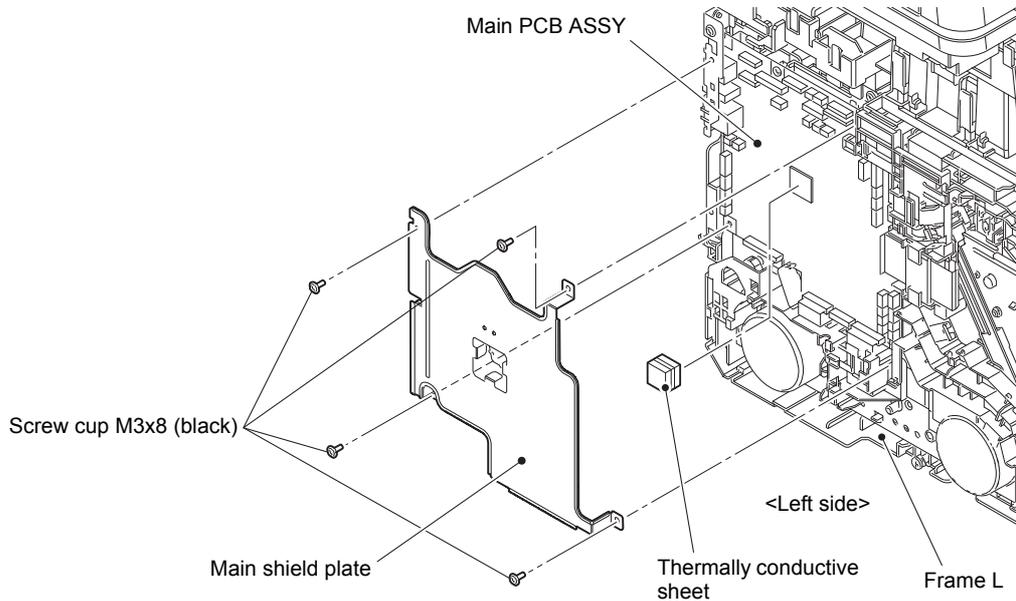


Fig. 7-33

Note:

The Thermally conductive sheet is attached on the Main PCB ASSY or the Main shield plate. Be careful not to lose it.

Assembling Note:

When assembling the Main shield plate, attach the Thermally conductive sheet on the Main PCB ASSY as shown in the illustration below. If you forget to attach the Thermally conductive sheet on it, there is the possibility that the short circuit occurs on the Main PCB or the Main PCB leads to the potential for the thermal runaway.

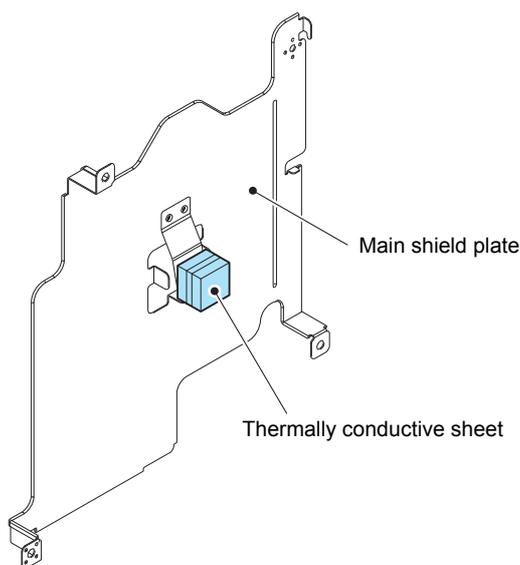


Fig. 7-34

(22) Remove the two Screw cup M3x8 (black) screws, and remove the ADF ground wire and the FB ground wire from the Main PCB plate.

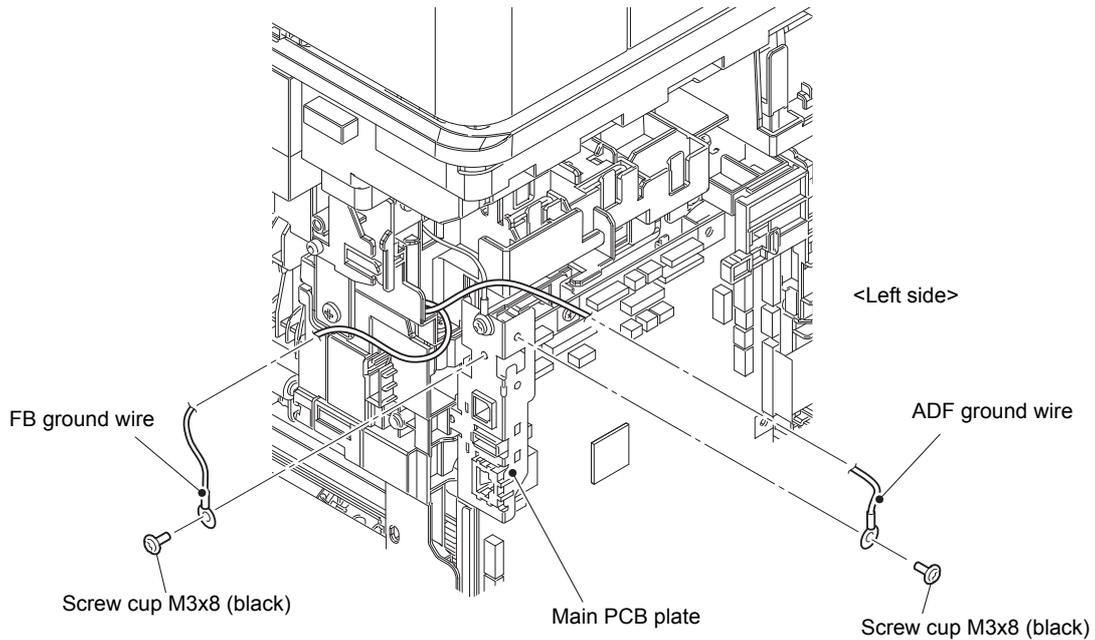


Fig. 7-35

(23) Disconnect the ADF sensor harness and the FB motor harness from the Main PCB ASSY, and release them from the securing fixtures.

(24) Disconnect the First side CIS flat cable and Second side CIS flat cable (Models with duplex printing only) from the Main PCB ASSY.

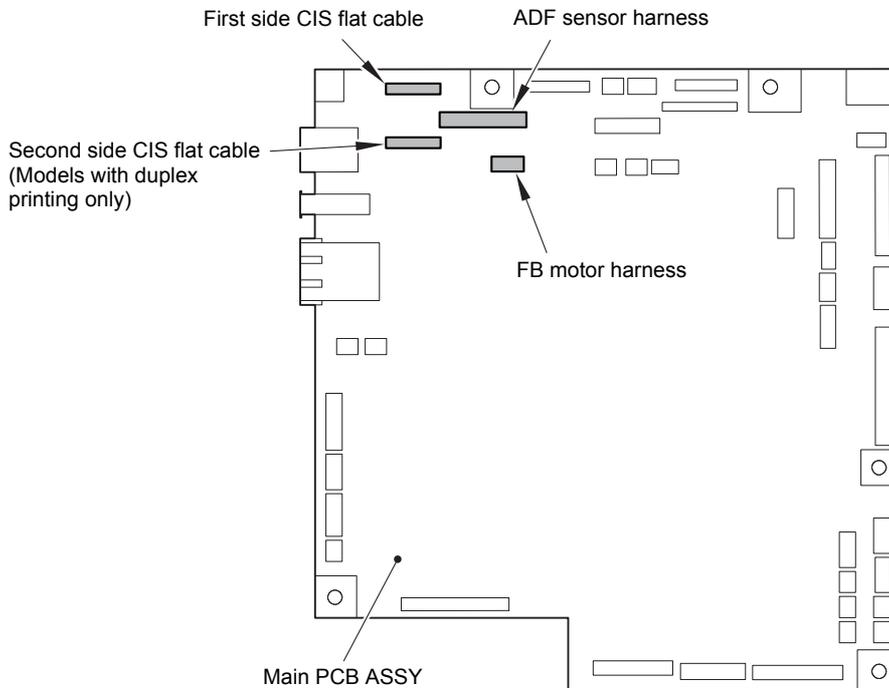


Fig. 7-36

Harness routing: Refer to "4. ADF unit (7.0 inch models)", "5. ADF unit (5.0 / 3.7 inch models (Duplex scanning models only))", "6. ADF unit (3.7 inch models (Single-side scanning models only))", "7. Document scanner unit".

(25) Release the each Hook and remove the Flat core of First side CIS flat cable and Flat core of Second side CIS flat cable (Models with duplex printing only) from the Joint cover ASSY.

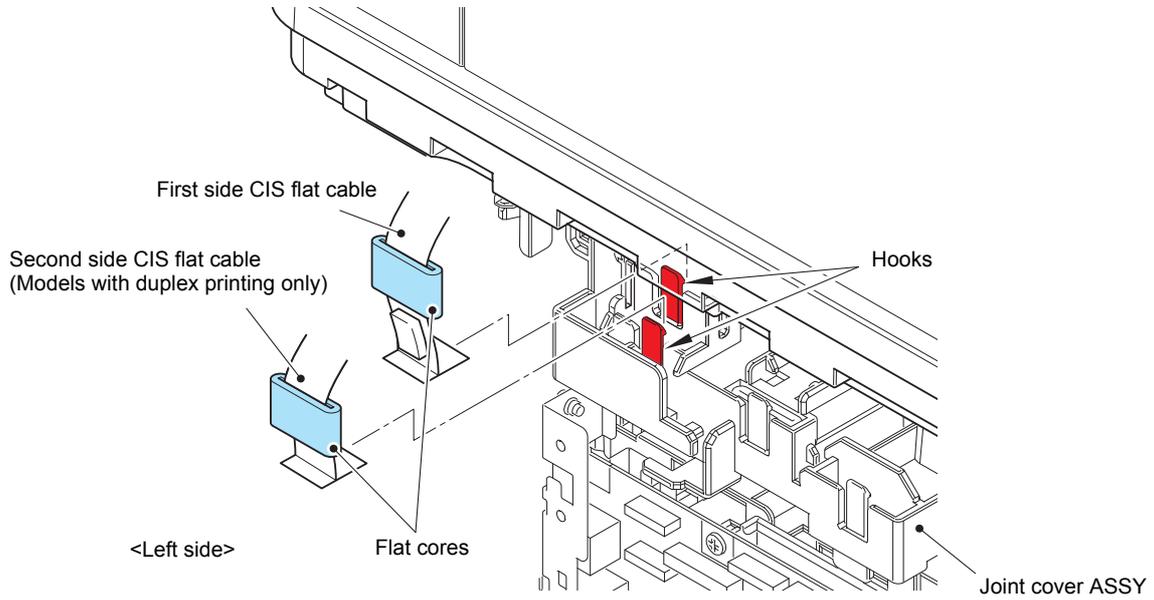


Fig. 7-37

(26) Remove the seven Taptite bind B M4x12 screws.

(27) Release each Hook to remove the Document scanner unit.

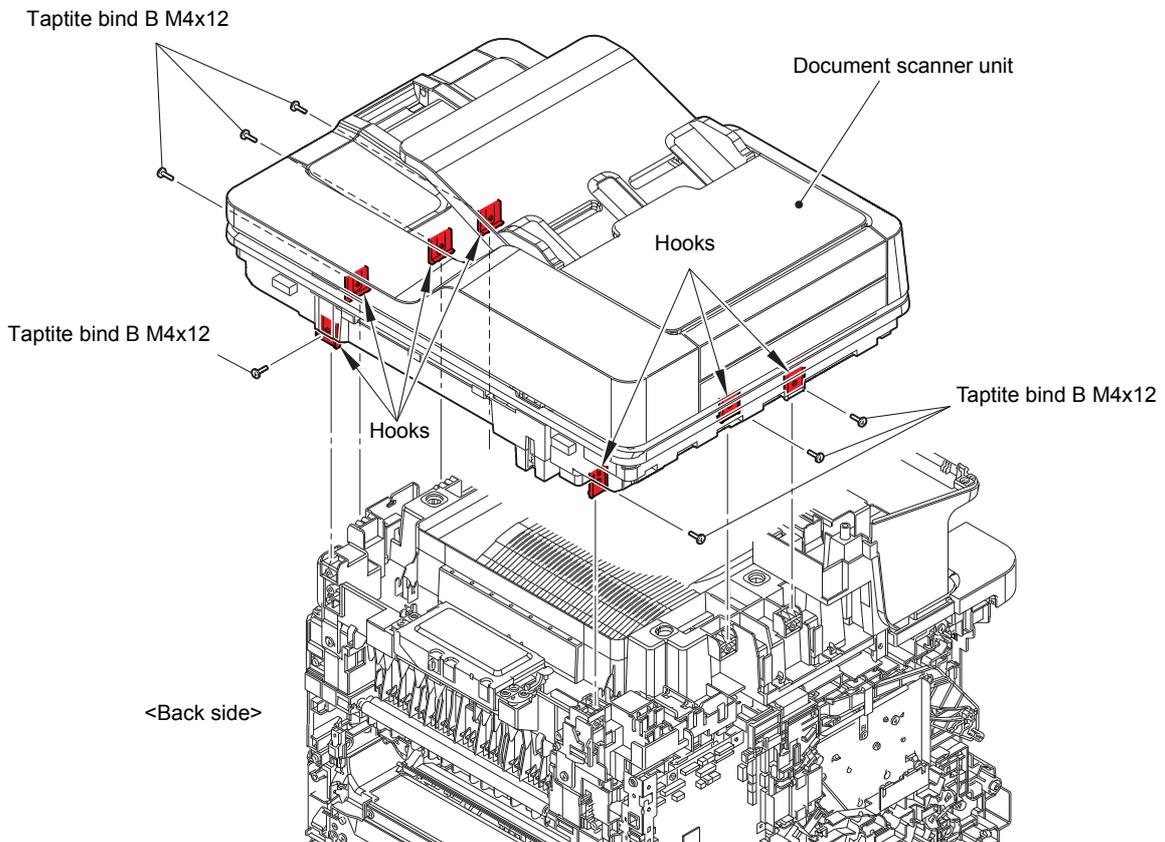


Fig. 7-38

(28) Release the Panel flat cable from the securing fixtures.

(29) Remove the six Taptite bind B M4x12 screws. Release each Hook to remove the Panel lower cover.

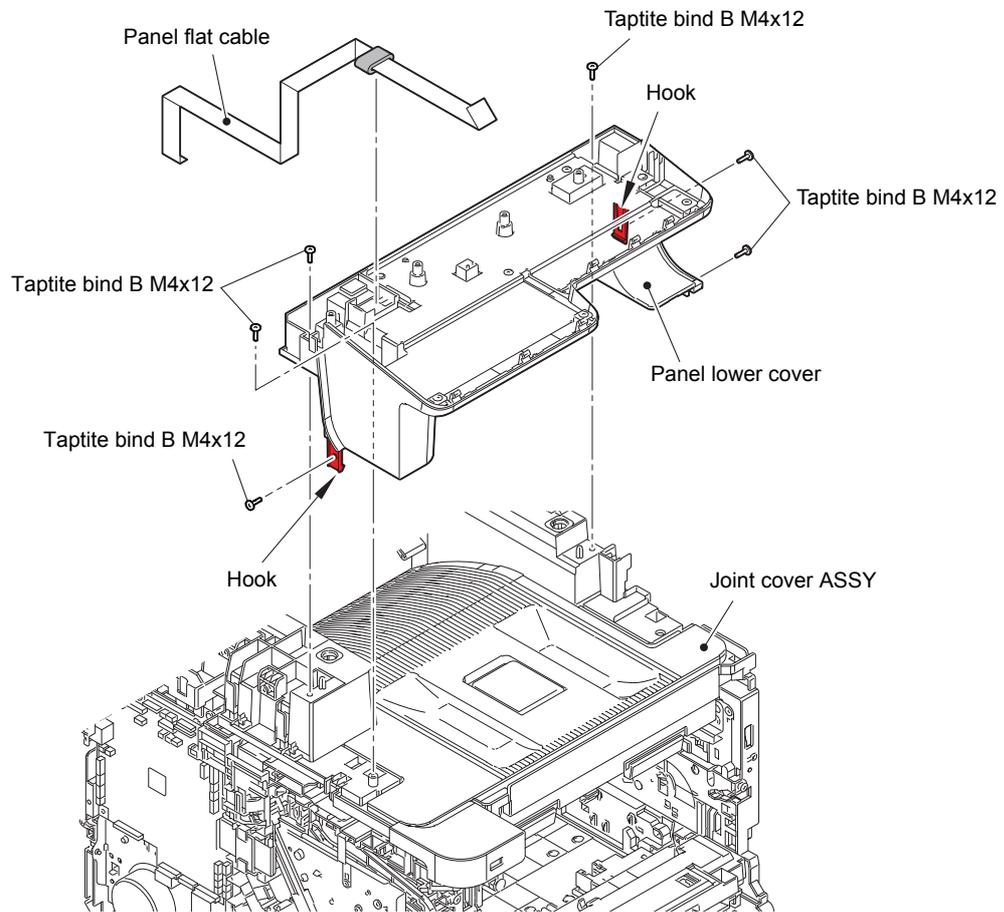


Fig. 7-39

Harness routing: Refer to "2. Panel unit".

(30) Remove the Taptite pan B M3x10 screw to remove the Modem ground wire R from the High-voltage power supply ASSY.

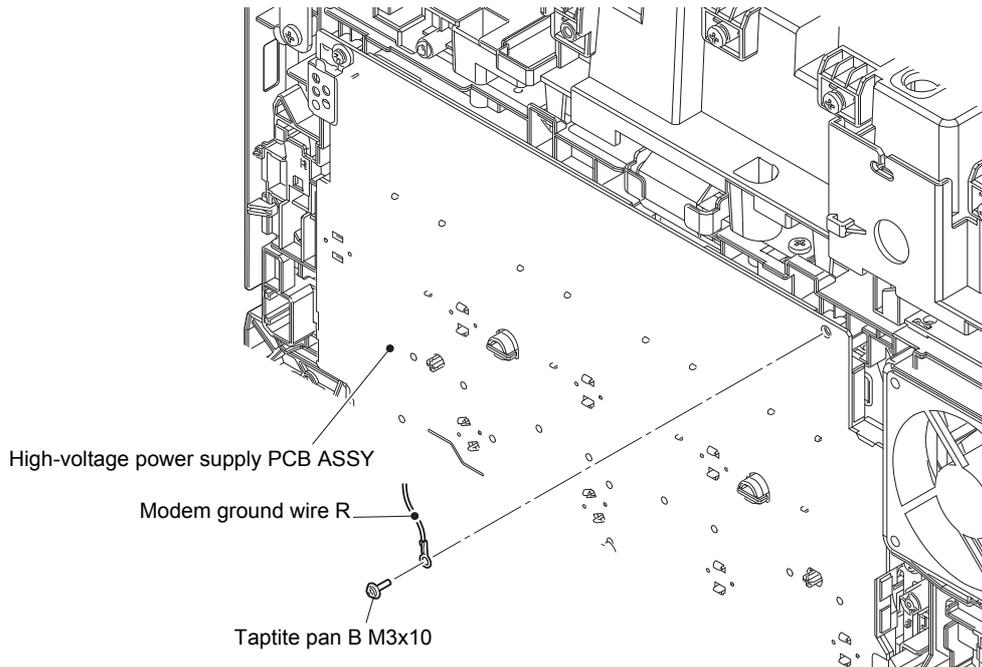


Fig. 7-40

(31) Remove the Screw pan (S/P washer) M3.5x6 screw to remove the Modem ground wire L from the Main PCB plate.

(32) Remove the Taptite cup S M3x8 SR screw from the Side ground plate L to remove the USB host ground wire.

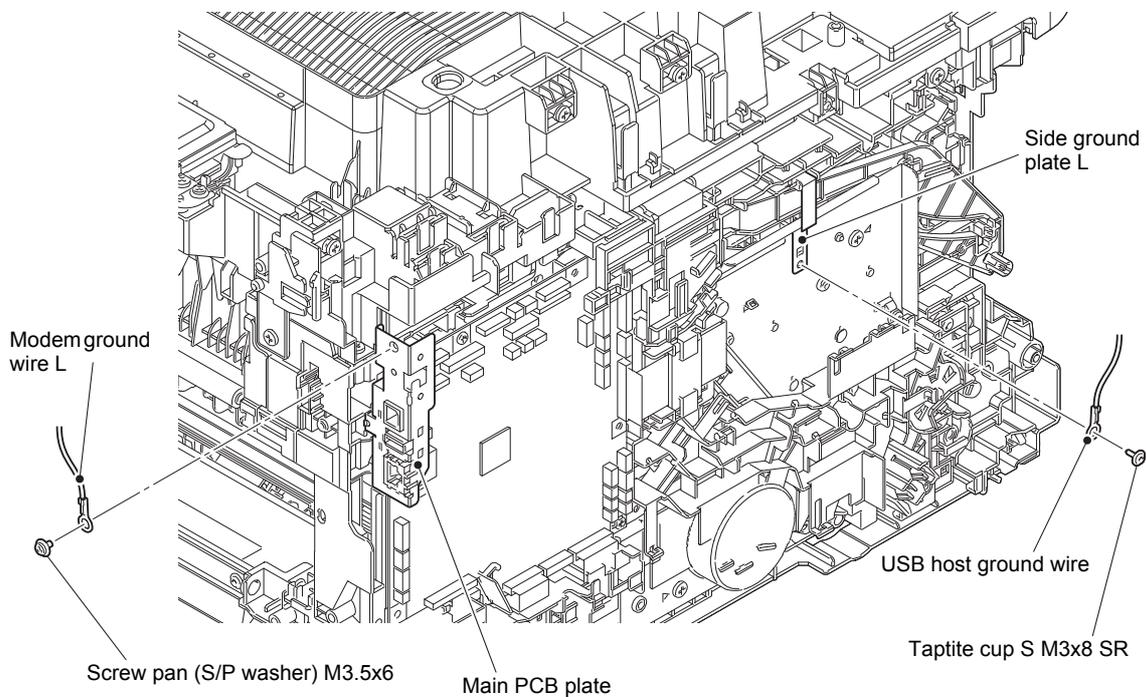


Fig. 7-41

Harness routing: Refer to "8. Modem, Speaker unit", "9. Main USB host harness ASSY".

(33) Disconnect the Modem flat cable, Speaker harness, and Main USB host harness ASSY from the Main PCB ASSY.

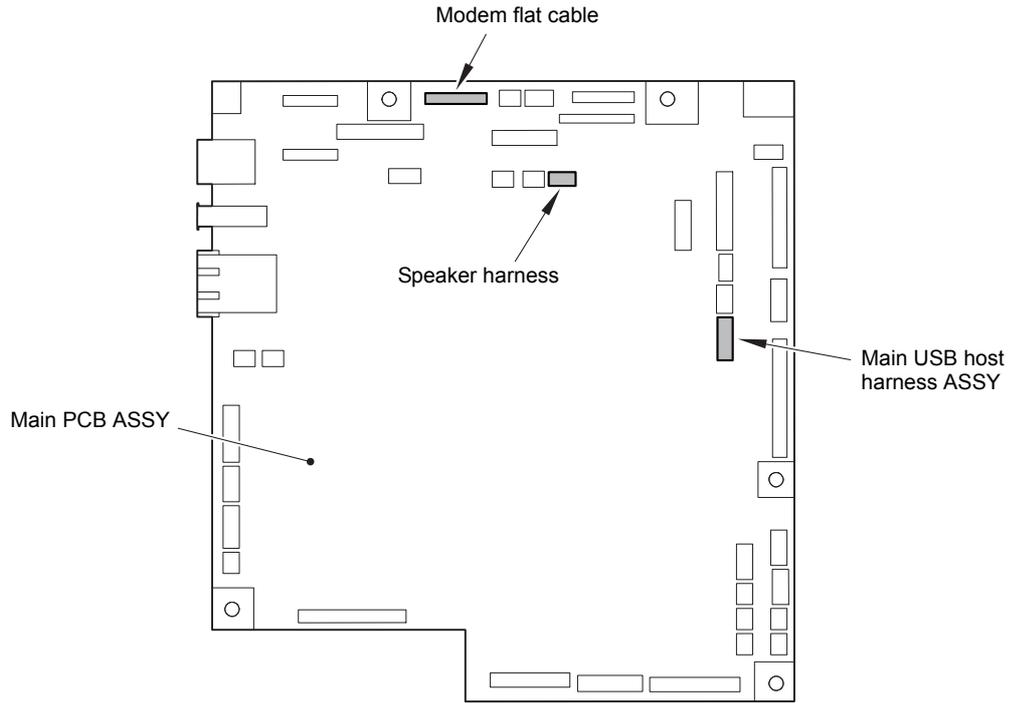


Fig. 7-42

(34) Release the Main USB host harness ASSY from the securing fixtures.

(35) Remove the nine Taptite cup B M3x10 screws. Release each Hook to remove the Joint cover ASSY.

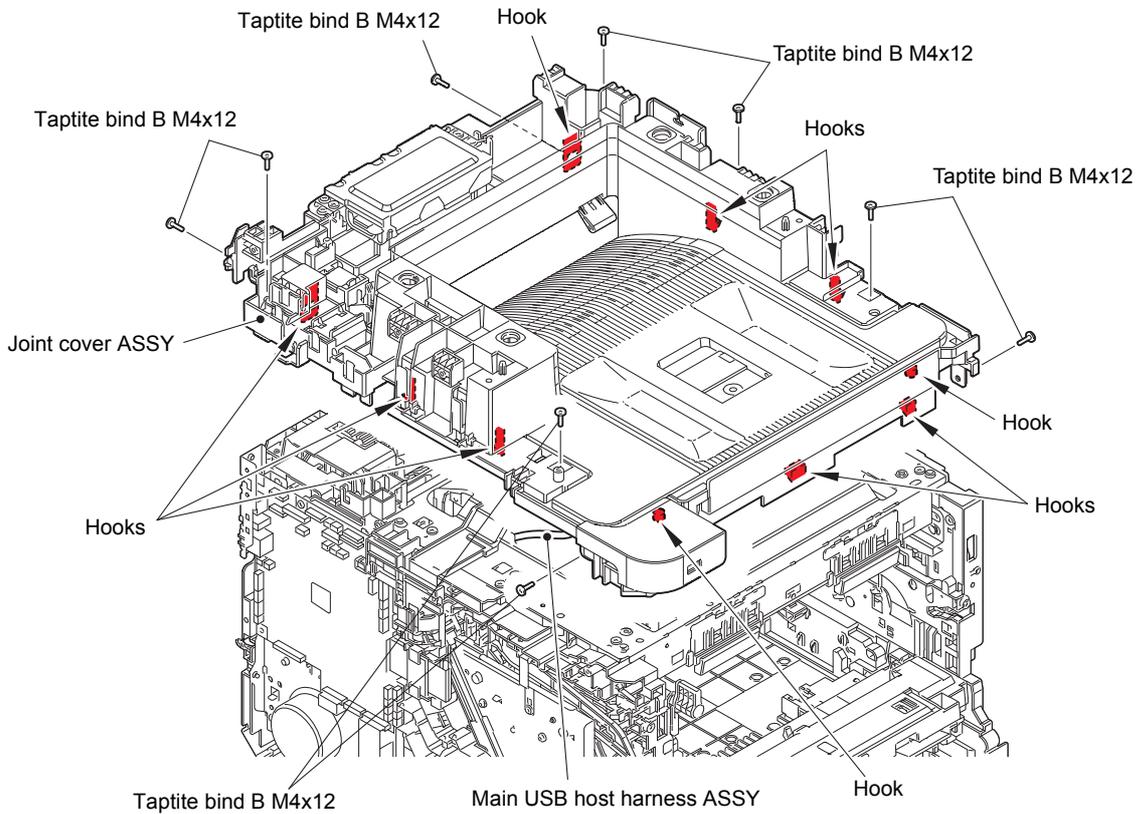


Fig. 7-43

(36) Release the Hook of Plate cover L and slide to left side to remove. Release the Hook of Plate cover R and slide to left side to remove.

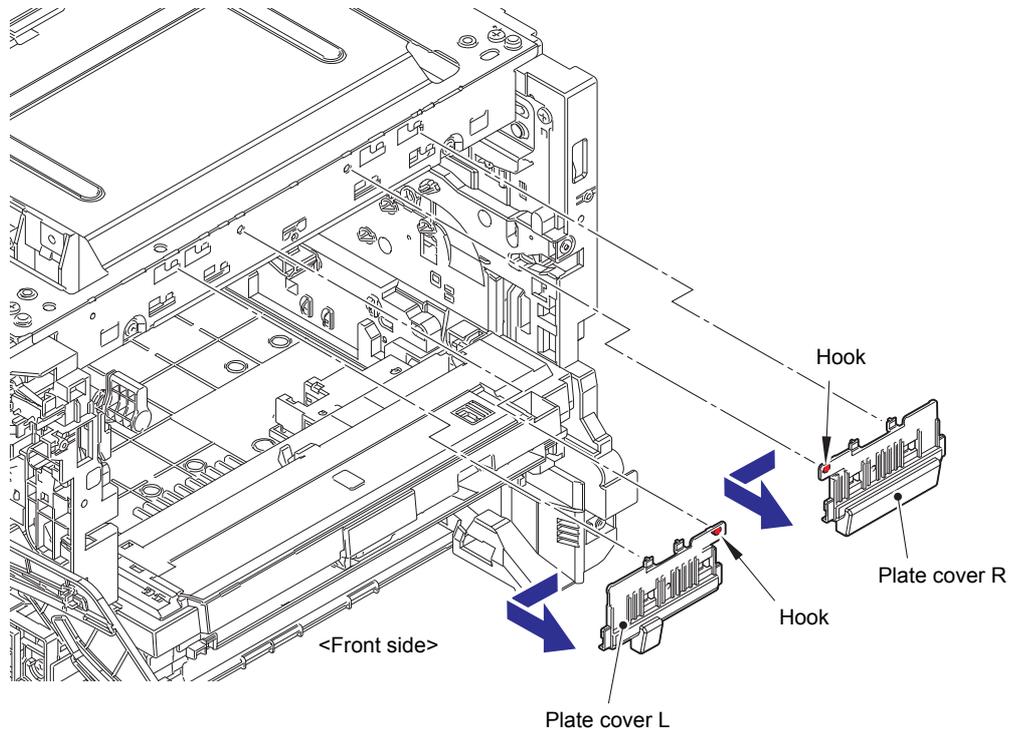


Fig. 7-44

- (37) Release the Hook and remove the WLAN cap.
- (38) Disconnect the High-voltage power supply flat cable from the Main PCB ASSY and the High-voltage power supply PCB ASSY and release the wiring.
- (39) Remove the six Taptite bind B M4x12 screws and four Taptite cup S M3x6 SR screws, and remove the Scanner cover plate.

Assembling Note:

When assembling the six screws of the Taptite bind B M4x12, be sure to assemble them in the order shown in the figure.

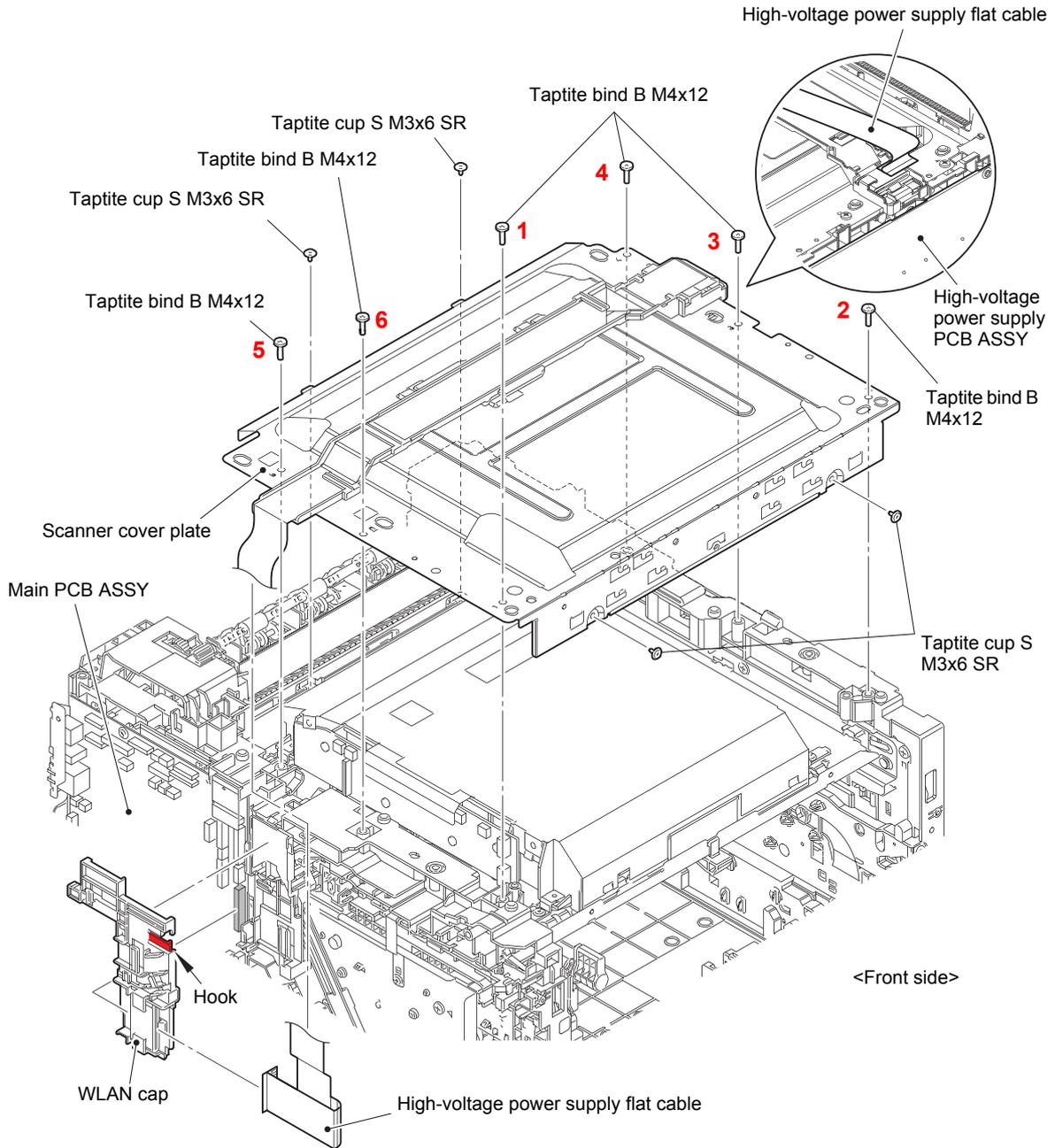


Fig. 7-45

(40) Disconnect the Laser unit flat cable and Polygon motor harness from the Laser unit.

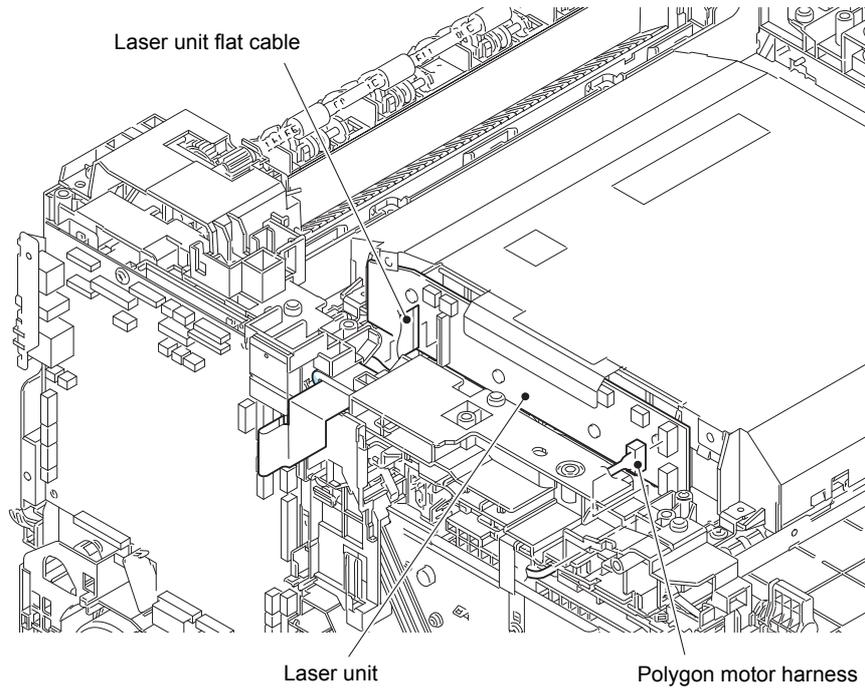


Fig. 7-46

Harness routing: Refer to "13. Laser unit".

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.

(41) Remove the five Taptite cup S M3x6 SR screws and remove the four Scanner holders from the Scanner plate.

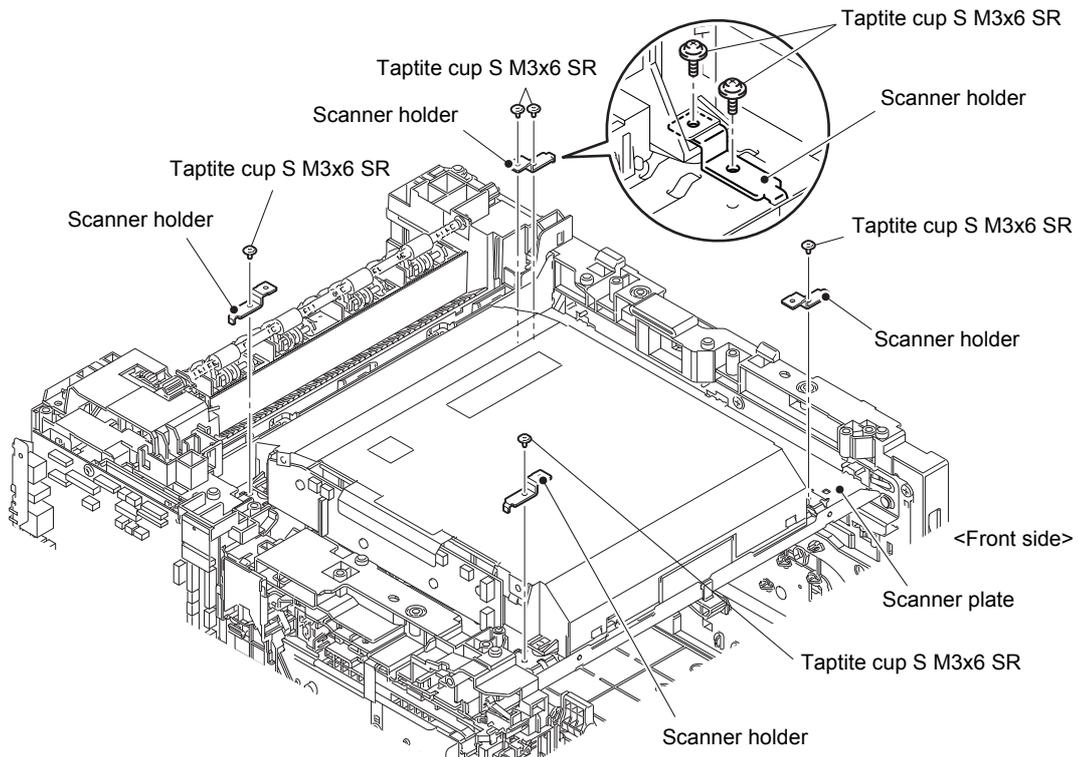


Fig. 7-47

Assembling Note:

- When assembling the Scanner holder to “A” of the Laser unit, be sure to use the Scanner holder of which “B” is a screw and not to use other Scanner holders.
- When assembling the Scanner holder to “A” of the Laser unit, be sure that the Scanner holder is placed as shown in the figure.

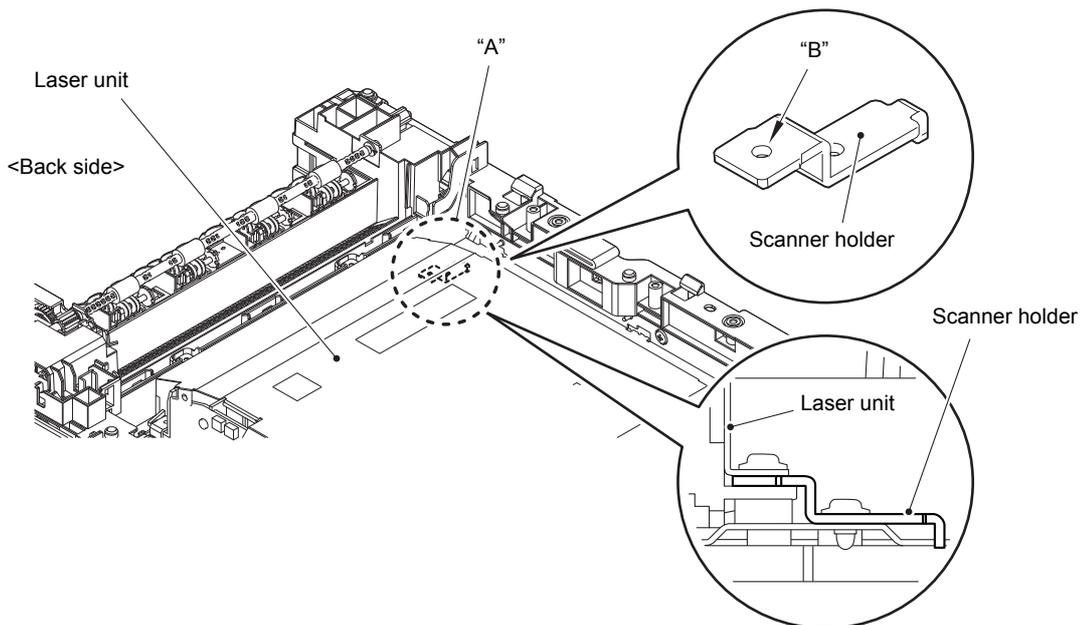


Fig. 7-48

(42) Remove the Laser unit from the Scanner plate.

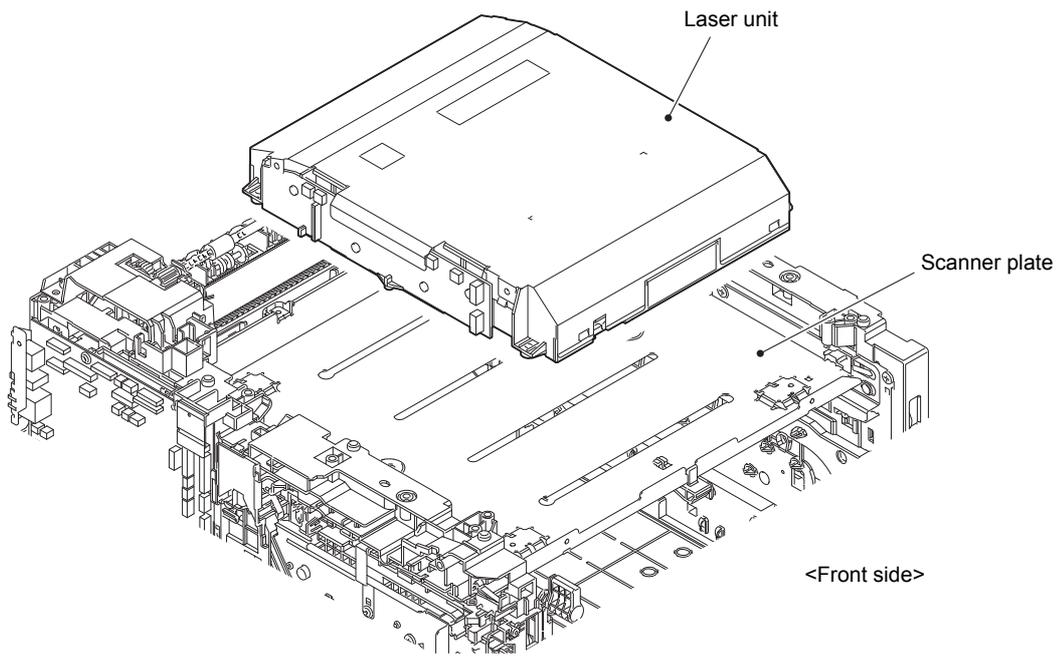


Fig. 7-49

(43) After replacing the Laser unit, reset the counter.

(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

2.4 PF kit 1

- (1) Release the Hook and remove the Separation pad ASSY from the Paper tray.
- (2) Remove the Separation pad spring from the Paper tray.

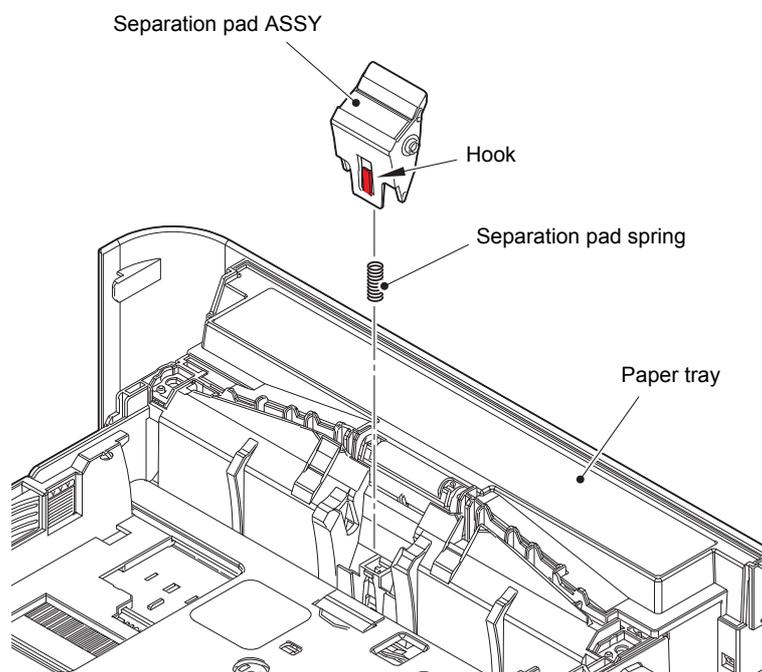


Fig. 7-50

- (3) Push the T1 lift arm to the back and remove "B" of the Roller holder ASSY from "A" of the T1 lift arm.

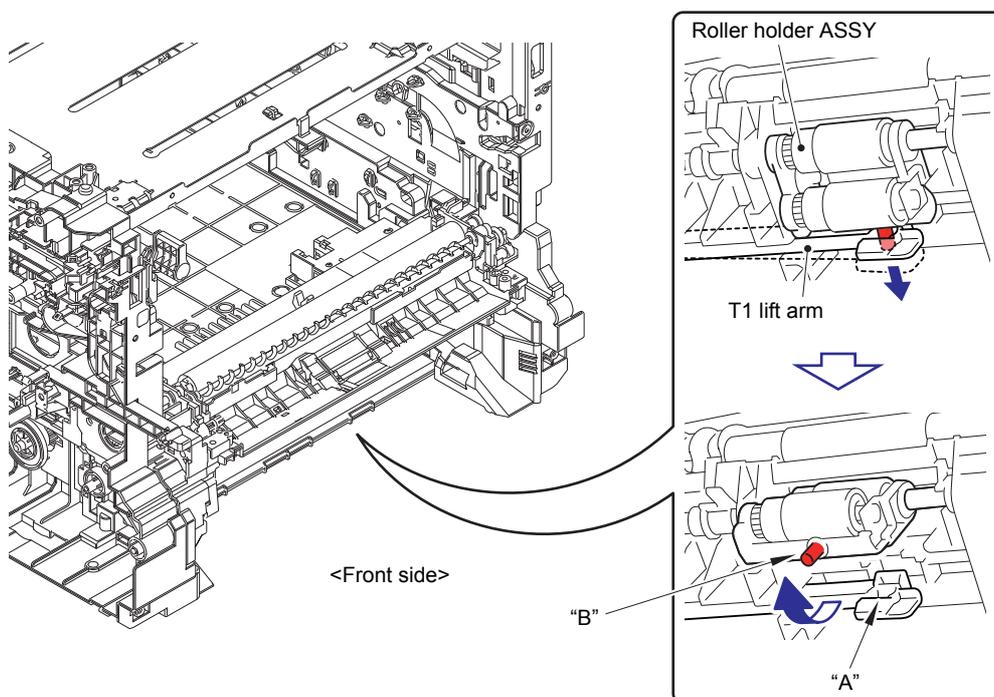


Fig. 7-51

- (4) Slide the Roller holder ASSY in the direction of the arrow and remove it from the T1 drive shaft gear Z17M07.
- (5) Remove the Roller holder ASSY in the direction of the arrow 5a and 5b in this order from the Paper feed unit.

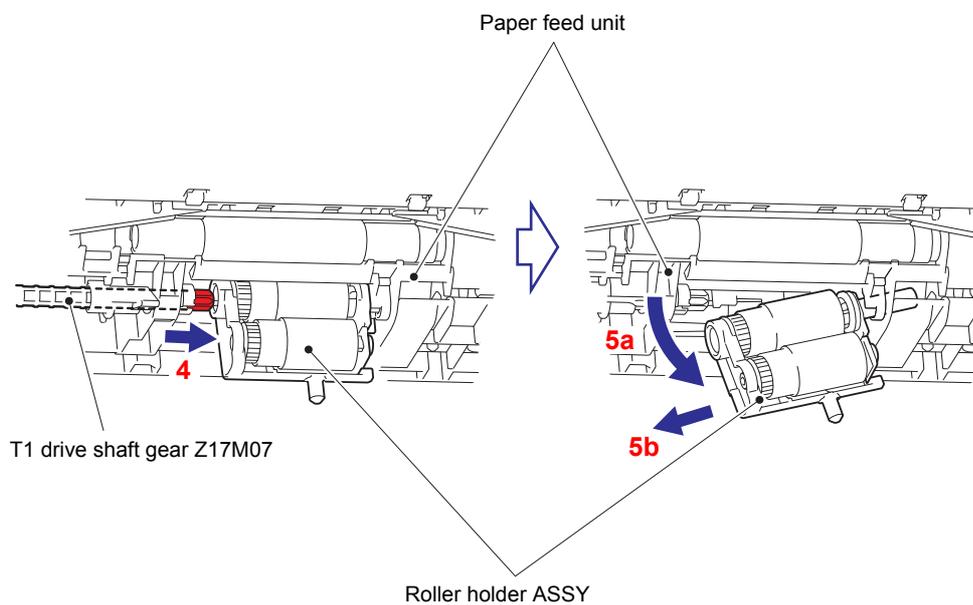


Fig. 7-52

Assembling Note:

Align the Hole of the Paper feed unit to the Shaft of the Roller holder ASSY and insert it into the Hole.

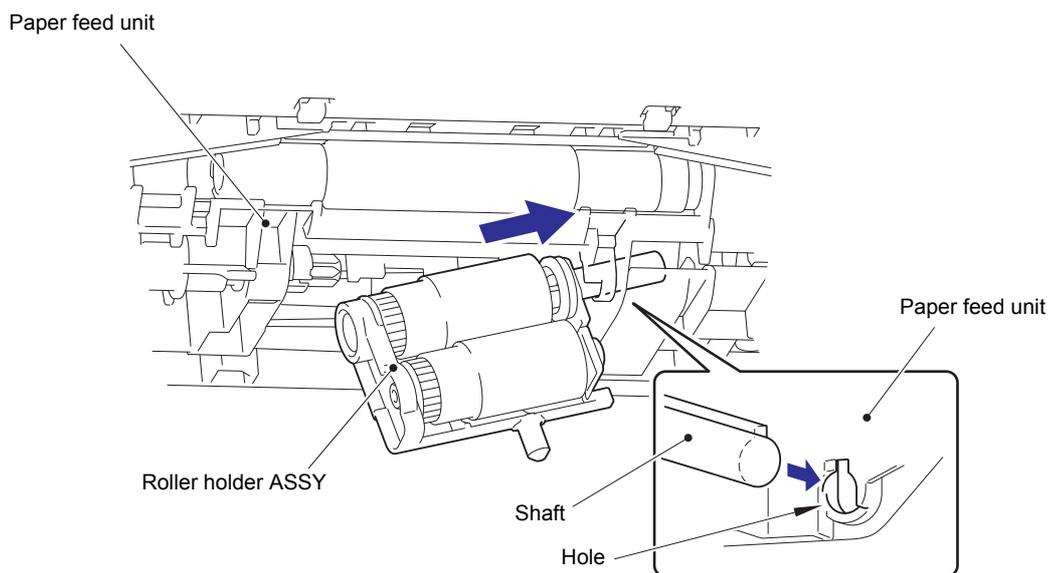


Fig. 7-53

- (6) After replacing the PF kit 1, reset the counter.
(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

2.5 PF kit 2

■ LT-330CL

- (1) Release each Hook of the Separation pad ASSY from the Paper tray.
- (2) Push both side arms on the Separation pad ASSY inwards to remove the Pins, and remove the Separation pad ASSY from the Paper tray.
- (3) Remove the Separation pad spring from the Separation pad ASSY.

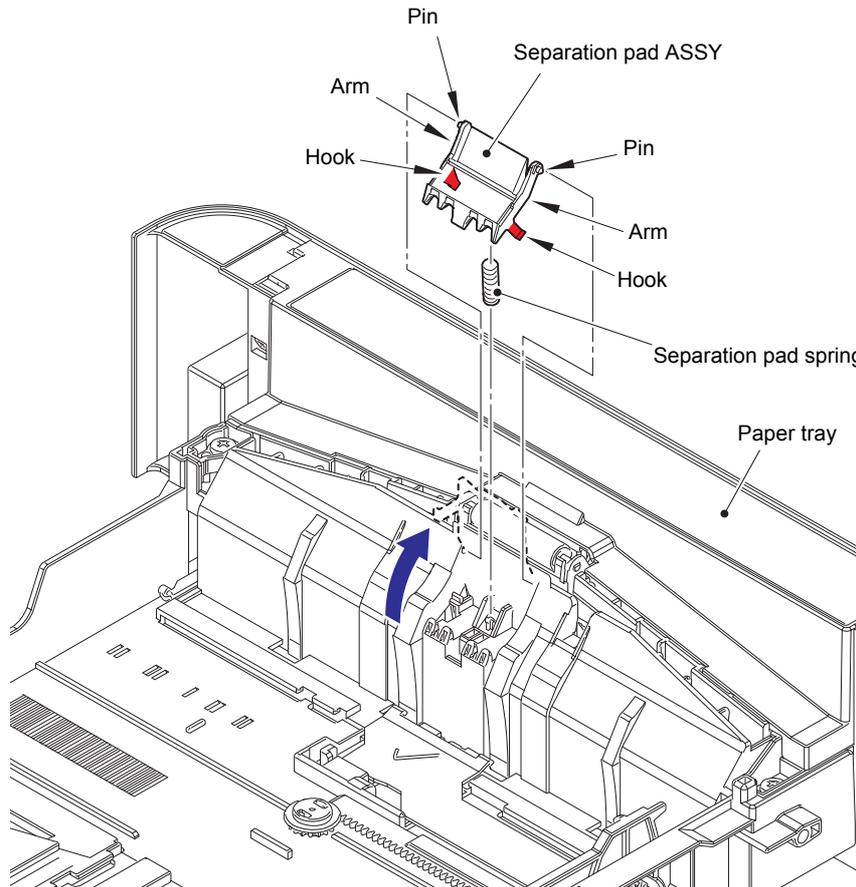


Fig. 7-54

- (4) Push the Link arm in the direction of the arrow, and turn the LT roller holder ASSY to remove the Boss.
- (5) Slide the LT roller holder ASSY in the direction of the arrow to remove it from the Shaft, and remove the LT roller holder ASSY.

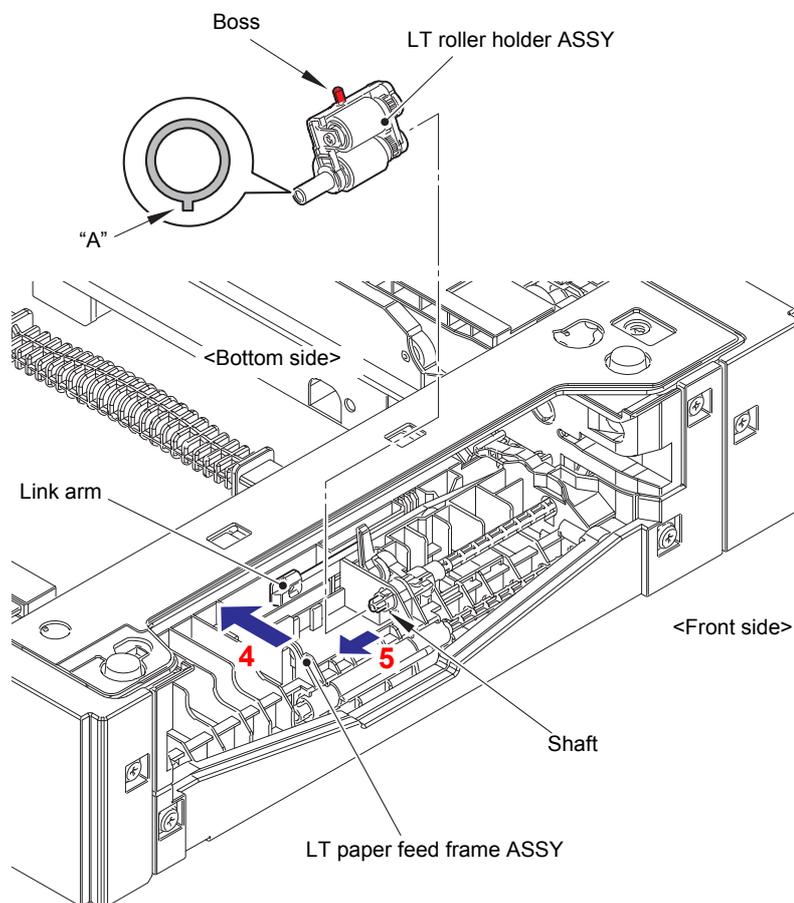


Fig. 7-55

Assembling Note:

When attaching the LT roller holder ASSY, engage "A" on the shaft of the LT roller holder ASSY with the hole on the LT paper feed frame ASSY, and insert the shaft into the hole.

- (6) After replacing the PF kit 2, reset the counter.
(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

■ **LT-340CL**

- (1) Release each Hook of the Separation pad ASSY from the Paper tray.
- (2) Push both side arms on the Separation pad ASSY inwards to remove the Pins, and remove the Separation pad ASSY from the Paper tray.
- (3) Remove the Separation pad spring from the Separation pad ASSY.

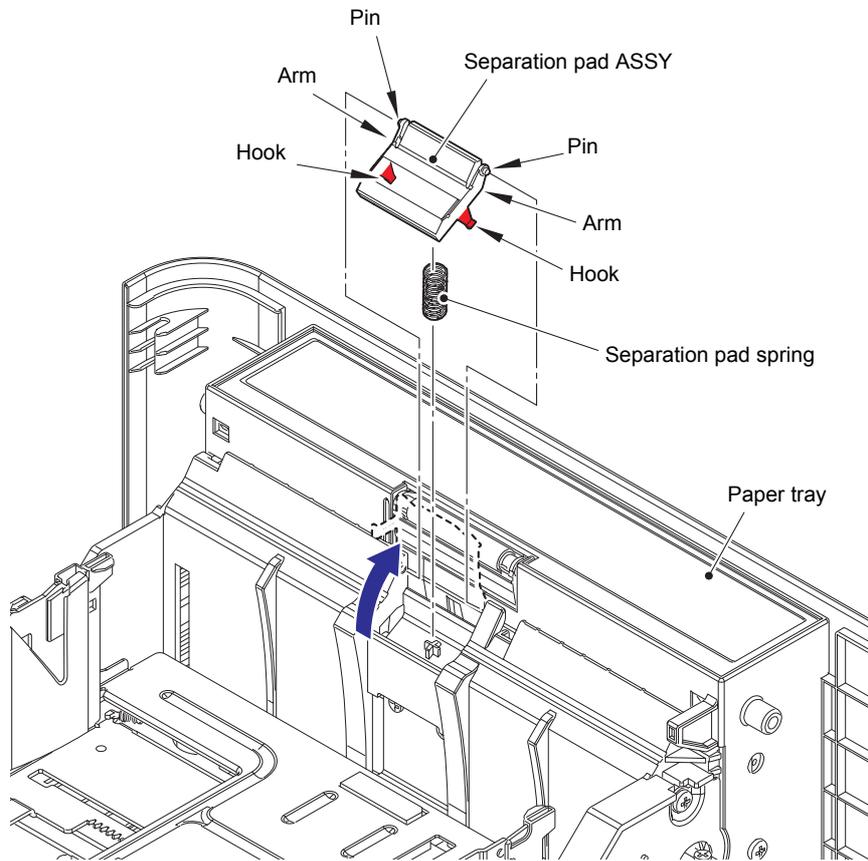


Fig. 7-56

- (4) Release the Hook and slide the Separation roller ASSY in the direction of the arrow.
- (5) Turn the Separation roller ASSY in the direction of the arrow 5a. Remove the Separation roller ASSY from the Paper feed drive shaft in the direction of the arrow 5b.

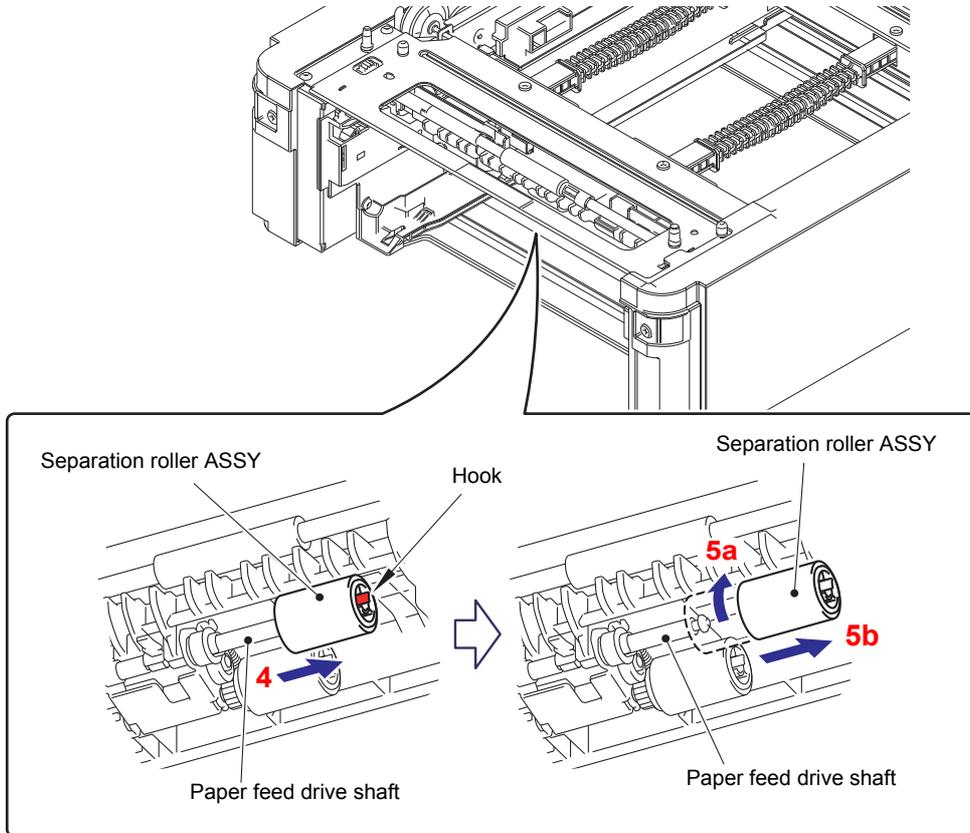


Fig. 7-57

Assembling Note:

- When assembling the Separation roller ASSY, assemble it by sliding it in the direction of the arrow b as rotating the Separation roller ASSY in the direction of the arrow a.

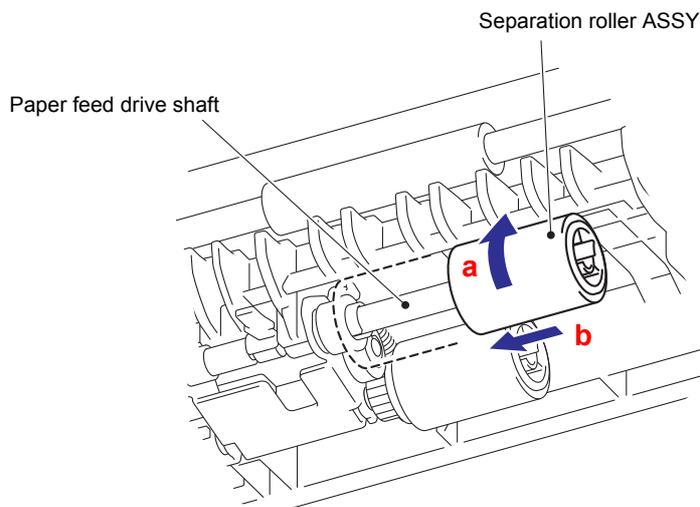


Fig. 7-58

- (6) Release the Hook and remove the Separation roller ASSY from the Paper feed drive shaft.

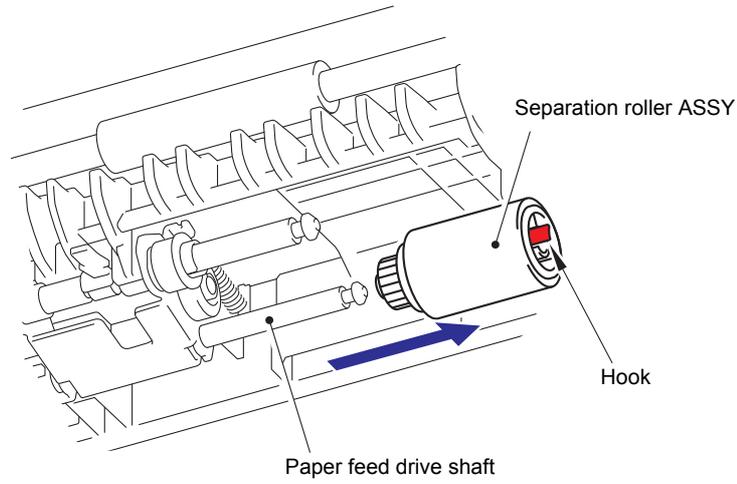


Fig. 7-59

- (7) After replacing the PF kit 2, reset the counter.
(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

2.6 PF kit MP

- (1) Press "A" to release the Hook and remove the MP upper frame cover from the MP upper cover ASSY.

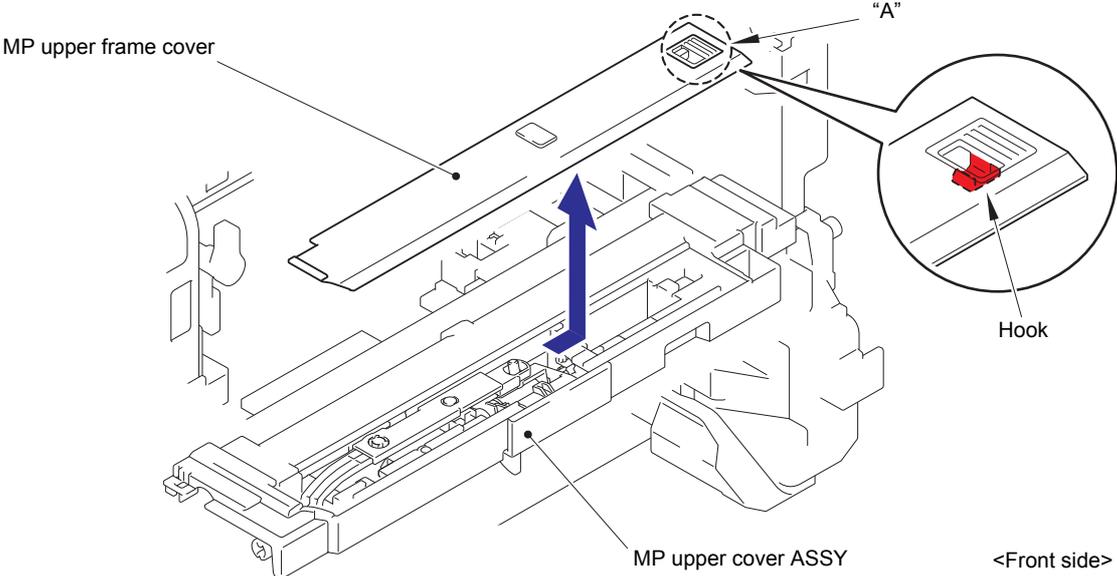


Fig. 7-60

- (2) Remove the MP lift arm B from the MP upper cover ASSY.

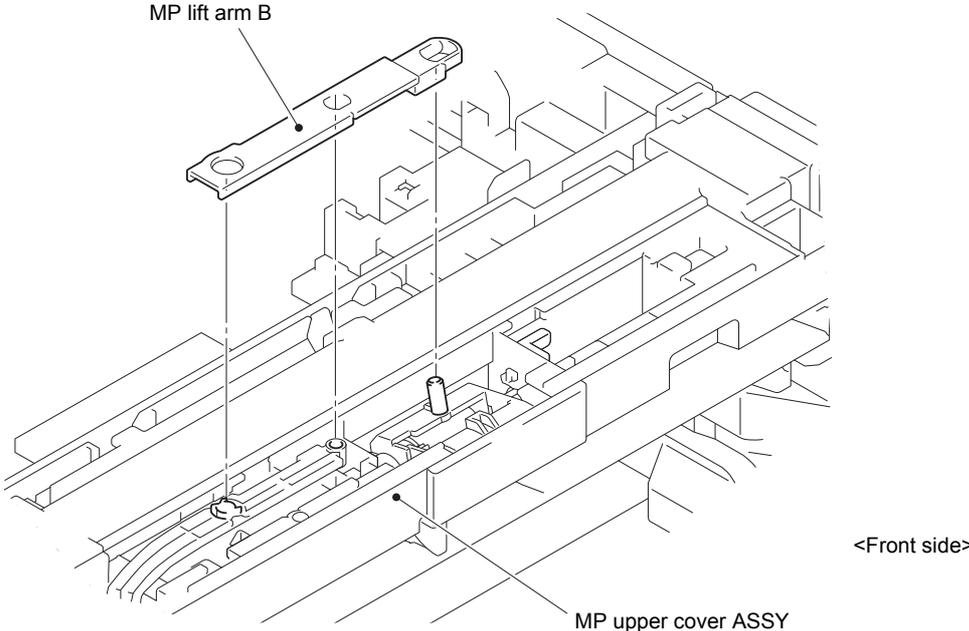


Fig. 7-61

- (3) Release the Hook 1 and rotate the MP holder bushing in the direction of the arrow.
- (4) Release the Hook 2 and remove the MP holder bushing from the MP upper cover ASSY.

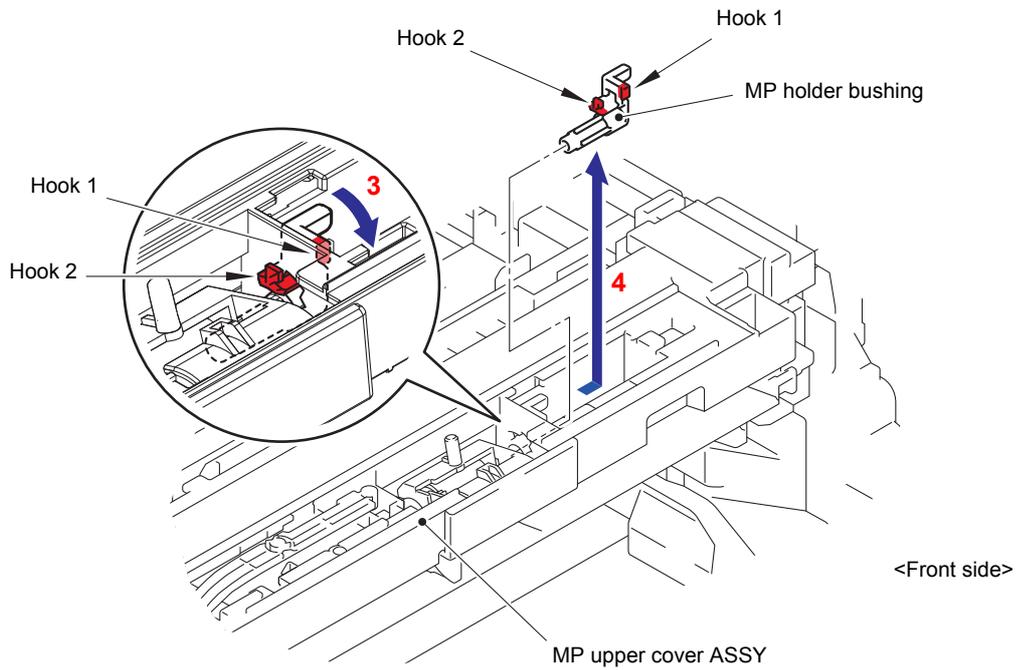


Fig. 7-62

- (5) Remove the MP roller holder ASSY from the MP upper cover ASSY.

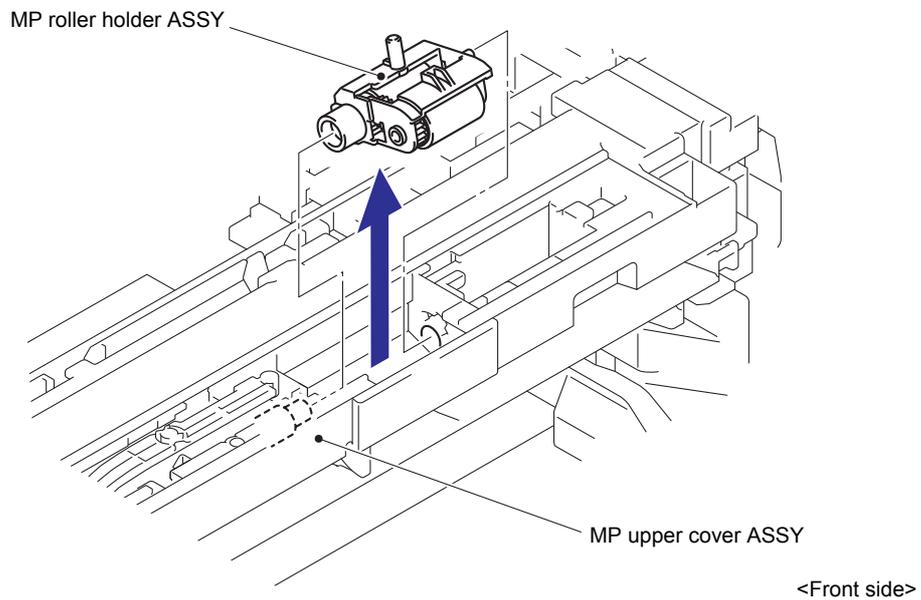


Fig. 7-63

- (6) Turn the MP separation pad ASSY upright to remove it from the MP upper cover ASSY.

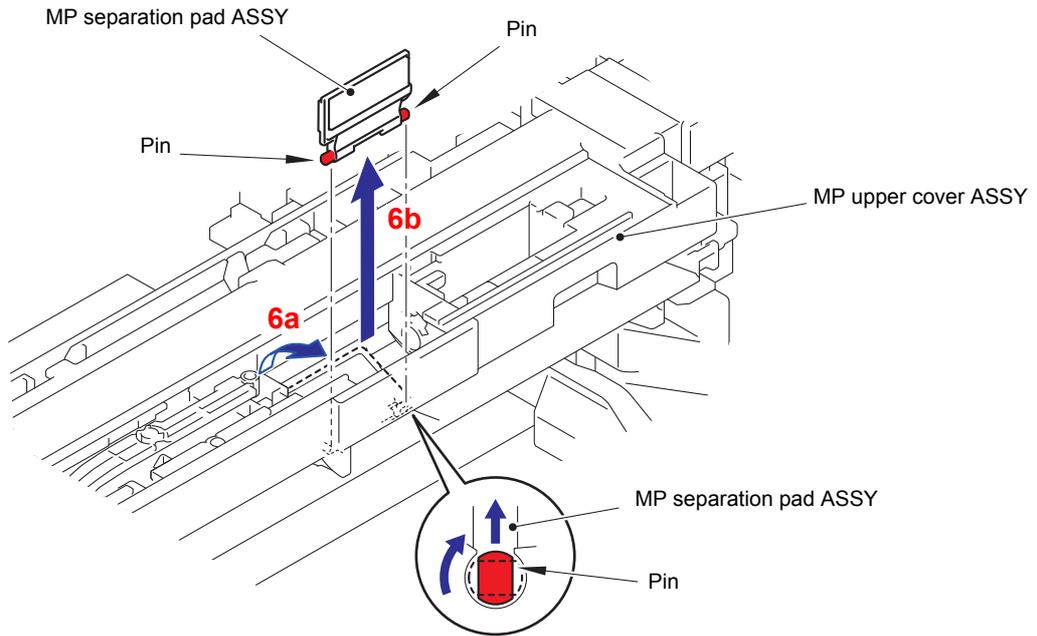


Fig. 7-64

- (7) Remove the MP separation pad spring from the two Pins of MP upper cover ASSY.

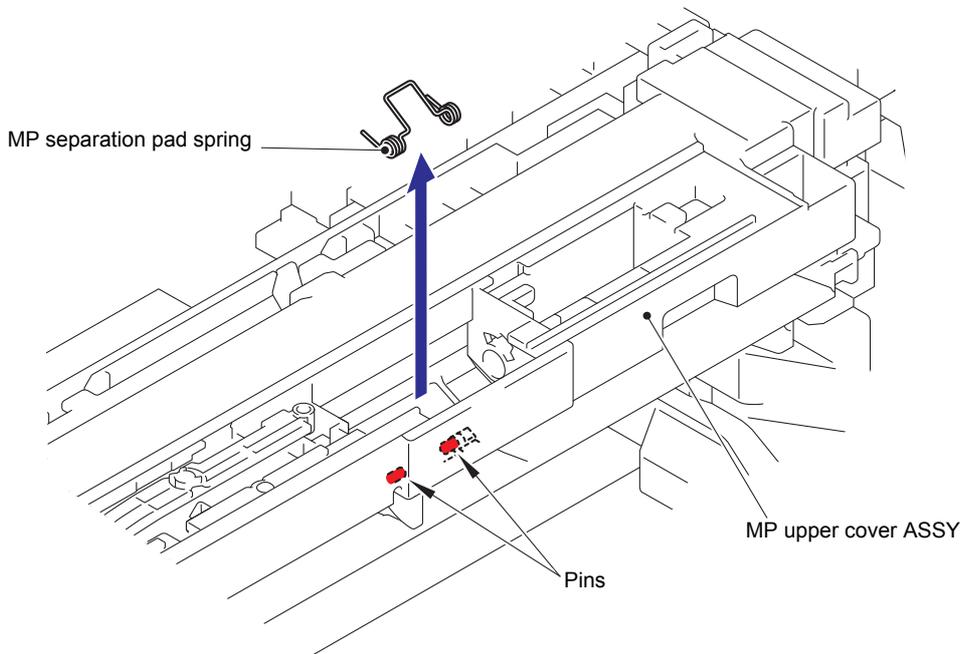


Fig. 7-65

- (8) After replacing the PF kit MP, reset the counter.
(Refer to "1.3.35 Reset counters for consumable parts (Function code 88)" in Chapter 5.)

APPENDIX 1 SERIAL NUMBERING SYSTEM

Serial number labels on the printer

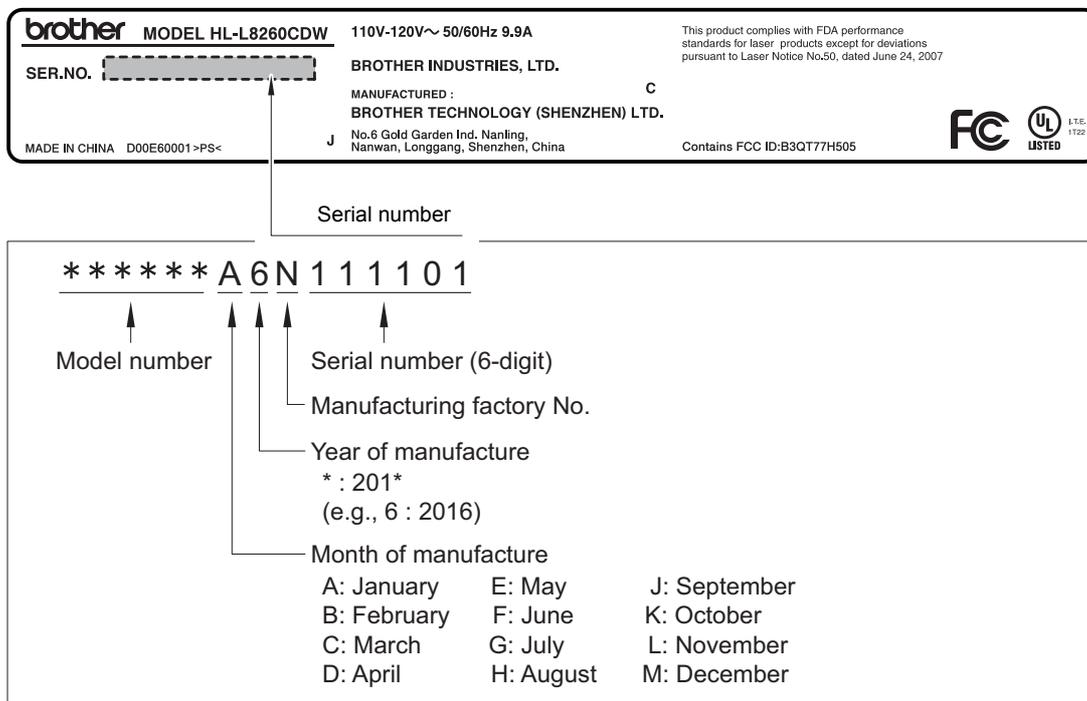


Fig. App 1-1

<Location>

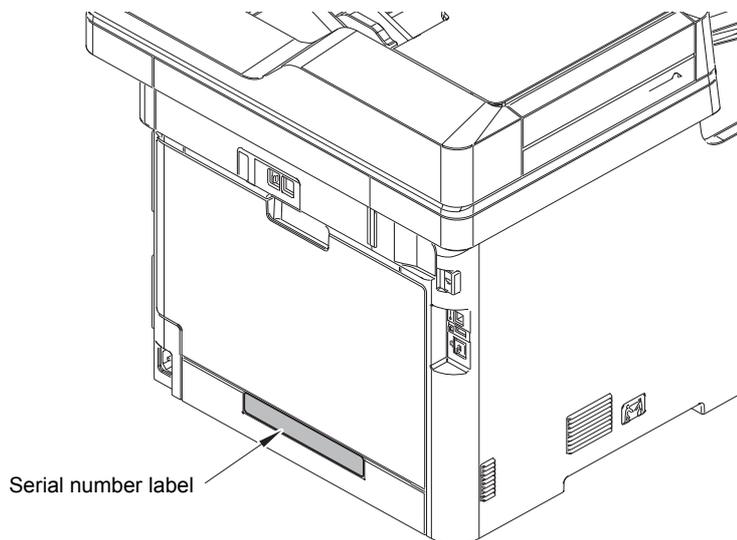


Fig. App 1-2

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>

- (1) Press the [Settings]  key while the machine is in the ready state.

Note:

If your machine displays the [All Settings]  menu on the LCD, start operating from step (2).

- (2) Press the [ALL Settings] key on the LCD.
- (3) press the [Initial Setup] key on the LCD.
- (4) Press the [Reset] key on the LCD.
- (5) Press the [Factory Reset] key on the LCD.
- (6) “Machine will reboot after resetting. Press [OK] for 2 seconds to confirm.” appears on the LCD. Press and hold the [OK] key for two seconds or longer to delete the user setting information and return the machine to the ready state.

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 XP

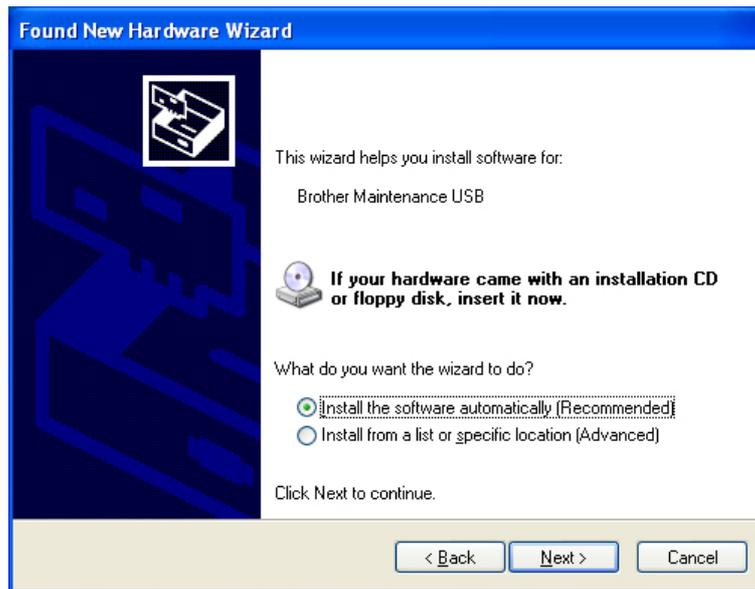
- (1) Check that the power switch of the machine is turned OFF. Disconnect the USB cable that connects the machine with your computer.
- (2) Turn ON your computer.
- (3) Turn ON the power switch of the machine.
- (4) Enter the maintenance mode.
(Refer to “1.1 How to Enter Maintenance Mode” in Chapter 5.)
- (5) Connect the machine to your computer using a USB cable.
The following window appears.



- (6) The following screen appears, indicating the detection of new hardware device by the system. Select “No, not this time.” And click [Next].

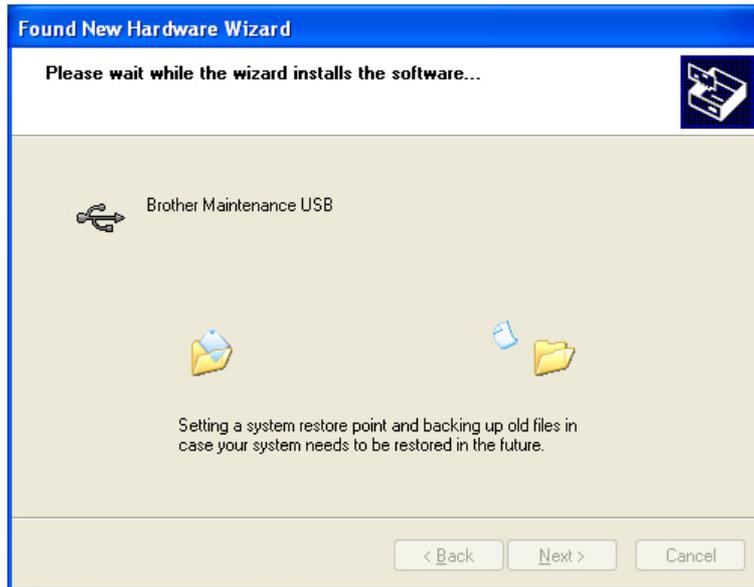


(7) Select "Install the software automatically (Recommended)" and click [Next].



(8) Alert warning message of WHQL appears. Click [Continue Anyway] to proceed.





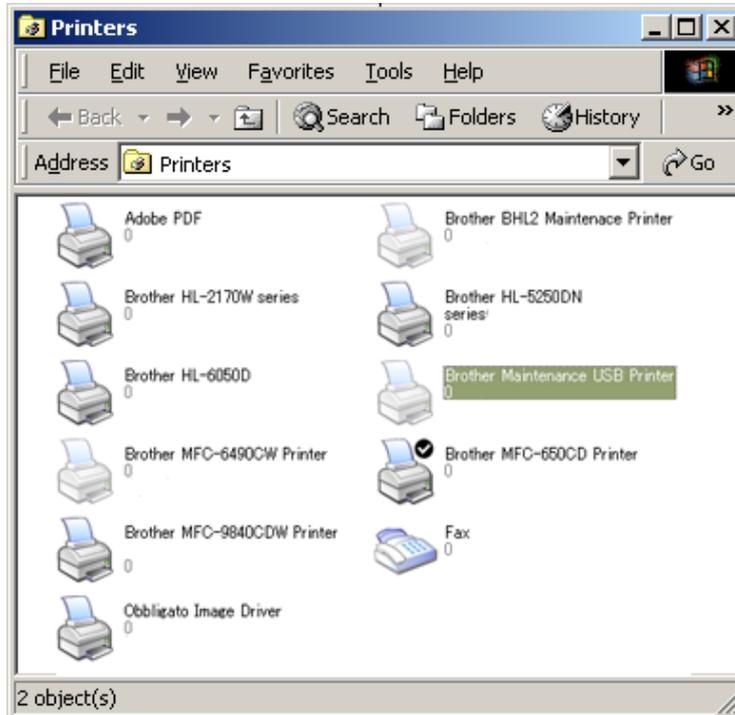
(9) Repeat steps (6) to (8) three times. Installation is completed.

(10) If the Brother Maintenance USB Printer driver is successfully installed, the following message screen appears. Click [Finish] to return.



Note:

In order to check whether the printer driver is successfully installed, click [Start], [Settings], [Printers] to select the Printers window. Then, check that the Brother Maintenance USB Printer icon is shown.

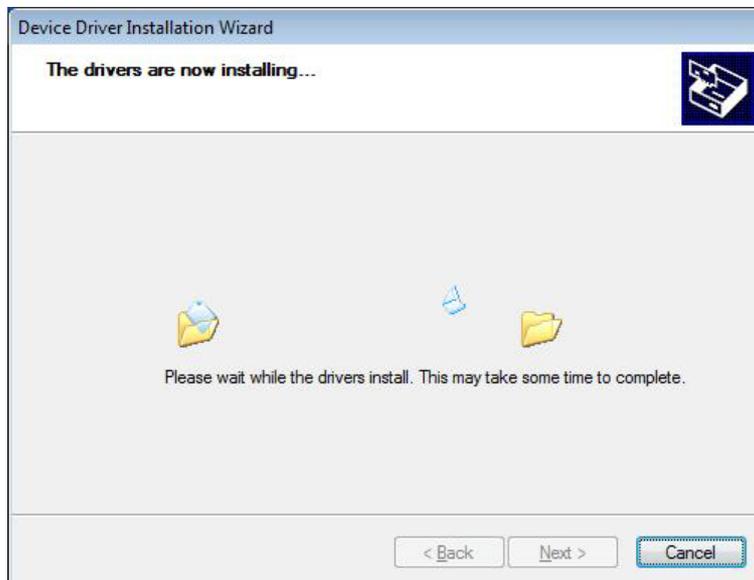


■ **Windows Vista/Windows 7/Windows 8/Windows 8.1/Windows 10**

- (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] button.



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 "1.1 How to Enter Maintenance Mode" in Chapter 5.)
- (7) Connect the machine to your computer using a USB cable and the installation will be performed automatically.