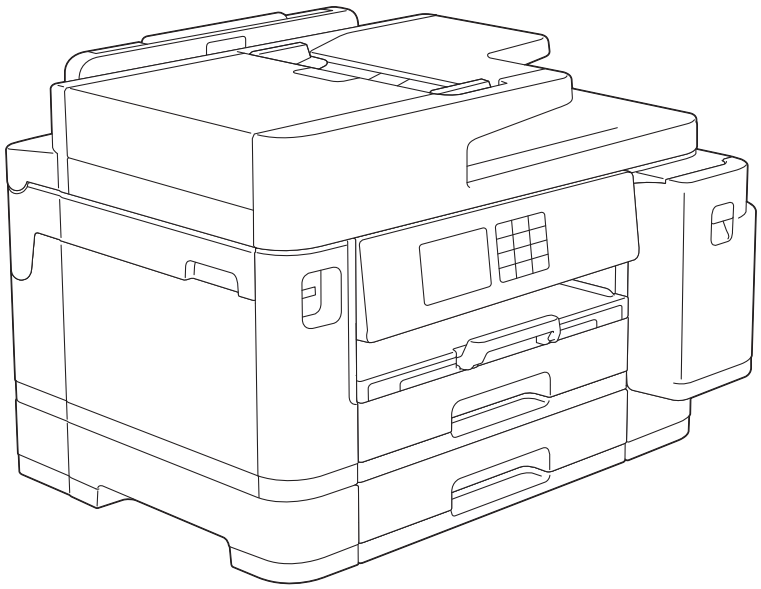
brother

Brother Inkjet MFC

SERVICE MANUAL

MODELS:
MFC-J2340DW/J2740DW/J5340DW(E)/ J5345DW/J5740DW/ J5855DW(XL)/J5955DW



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

October 2021
SM-FAX215
8CH6*
Ver.2

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Preface

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

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

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SAFETY INFORMATION

WARNING

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

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 machine functionality.

NOTE

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


Electrical Hazard icons alert you to possible electrical shock.


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


Prohibition icons indicate actions that must not be performed.


This icon indicates that flammable sprays must not be used.


This icon indicates that organic solvents such as alcohol, or other liquids must not be used.


This icon alerts you to the possibility of being injured by moving parts.


This icon alerts you to the areas that contain moving parts.

Italics

Italicized style emphasizes an important point or refers you to a related topic.

Follow all warnings and instructions marked on the machine.

NOTE

The illustrations in this section show the MFC-J6955DW.

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Choose a Safe Location for the Machine

⚠ WARNING



Choose a location where the temperature remains between 10°C and 35°C, the humidity is between 20% and 80%, and where there is no condensation.

DO NOT allow this product to come into contact with water. This product should not be used around standing water, including a bathtub, sink, or swimming pool; around appliances containing water, including a refrigerator; or in a wet basement.

DO NOT expose the machine to direct sunlight, excessive heat, open flames, corrosive gasses, moisture, or dust. Doing so may create a risk of an electrical shock, short circuit, or fire, causing damage to the machine and/or rendering it inoperable.

DO NOT place the machine near chemicals or in a place where chemicals could be spilled on it. Should chemicals come into contact with the machine, there may be a risk of fire or electrical shock. In particular, organic solvents or liquids such as benzene, paint thinner, polish remover, or deodoriser may melt or dissolve the plastic cover and/or cables, resulting in a risk of fire or electrical shock. These or other chemicals may cause the machine to malfunction or become discoloured.

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⚠ CAUTION

Put your machine on a flat, level, stable surface (such as a desk), that is free from vibration and shocks. Put the machine near a telephone wall jack (models with the fax function only) and a standard AC power outlet or a standard grounded AC power outlet (for some countries).

DO NOT place this machine on an unstable cart, stand, or table, particularly if children are expected to be near the machine. The machine is heavy and may fall, causing injury to you or others and serious damage to the machine. For the machines with scanning functionality, there is an added risk of injury if the scanner glass should break.

Avoid placing the machine in a busy area. If you must place it in a busy area, ensure that the machine is in a safe location where it cannot be accidentally knocked over, which could cause injury to you or others and serious damage to the machine.

Ensure that cables and cords leading to the machine are secured so as not to pose a tripping hazard.

DO NOT place heavy objects on the machine.

DO NOT place any objects around the machine. Such objects block the access to the power outlet in case of emergency. It is important that the machine can be unplugged whenever needed.

IMPORTANT

- DO NOT place the machine next to devices that contain magnets or generate magnetic fields. Doing so may interfere with the operation of the machine, causing print quality problems.
- DO NOT place the machine on any tilted/slanted surface. DO NOT tip the machine after ink cartridges are installed. Doing so may cause ink spillage and internal damage to the machine.
- DO NOT place the machine next to sources of interference, such as speakers or the base units of non-Brother cordless telephones. Doing so may interfere with the operation of the machine's electronic components.
- DO NOT place anything in front of the machine that will block printed pages or received faxes (Models with FAX function only).

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Connect the Machine Safely

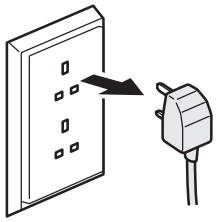
WARNING

ELECTRICAL HAZARDS

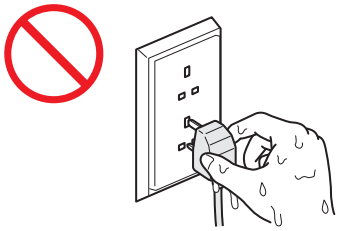
Failure to follow the warnings in this section may create the risk of an electrical shock. In addition, you could create an electrical short, which may create the risk of a fire.

There are high-voltage electrodes inside the machine. Before you access the inside of the machine, including for routine maintenance such as cleaning, make sure you have unplugged the telephone line cord first (Models with the fax function only) and then the power cord from the electrical socket, as well as any telephone/RJ-11 (Models with the fax function only) or Ethernet/RJ-45 cables (Network models only) from the machine.

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



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 machine or handle the cord if the cord has become worn or frayed.

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 socket over a long period, dust accumulates around the plug blades, which may cause a short circuit, resulting in a fire.



DO NOT drop any metal objects or any type of liquid on the power plug of the machine. It may cause an electrical shock or a fire.



If water, other liquids, or metal objects get inside the machine, immediately unplug the machine from the electrical socket.



This machine should be connected to an AC power source within the range indicated on the rating label (You can find the rating label on the machine). DO NOT connect it to a DC power source or inverter.

Use the Machine Safely

WARNING



ELECTRICAL HAZARDS

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



If the machine has been dropped or the casing has been damaged, there may be the possibility of an electrical shock. Unplug the machine from the electrical socket.



DO NOT use the machine during a thunderstorm. There may be a remote risk of an electrical shock from lightning.

FIRE HAZARDS

Failure to follow the warnings in this section may create the risk of a fire.



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 machine. Doing so could cause a fire. Instead, use only a dry, lint-free cloth.

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(Models with Wireless LAN function only)

DO NOT use the machine near any medical electrical equipment. The radio waves emitted from the machine may affect medical electrical equipment and cause a malfunction, which may result in accident or injury.

For users with pacemakers:

This machine generates a weak magnetic field. If you feel anything wrong with the operation of your pacemaker when near the machine, move away from the machine and consult a doctor immediately.



DO NOT place metal objects, such as clips, staples, or jewellery on the machine.

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



DO NOT place a container holding water or liquid on the machine.

The water or liquid in the container may spill into the machine making contact with the electrical parts inside the machine, which may cause a fire or electrical shock.



If the machine becomes unusually hot, releases smoke, generates any strong smells, or if you accidentally spill any liquid on it, immediately unplug the machine from the electrical socket.

Plastic bags are used in the packing of this machine. Plastic bags are not toys. To avoid the danger of suffocation, keep these bags away from babies and children, and dispose of them correctly.



(Models with the fax function 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 socket.

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

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Power Cord Safety:

- This machine is equipped with an earthed plug. This plug will only fit into an earthed electrical socket. This is a safety feature. DO NOT attempt to defeat the purpose of the earthed plug.
- DO NOT allow anything to rest on the power cord.
- DO NOT place this machine where people might step on the cord.
- DO NOT place this machine in a position where the cord is stretched or strained, as it may become worn or frayed.
- DO NOT use the machine if the power cord is frayed or damaged. Doing so may cause an electrical shock or fire.
- DO NOT pull on the middle of the AC power cord; pulling on the middle may cause the cord to separate from the plug. Doing this might cause an electrical shock.
- DO NOT use any undesignated cables (or optional devices). Doing so may cause a fire or injuries. Installation must be performed correctly.
- It is strongly recommended that you DO NOT use any type of extension cord.
- This machine should be positioned so that nothing pinches or constricts the power cord.
- DO NOT use any cable that does not meet the applicable cable specifications. Doing so may cause a fire or injuries.
- If the power cord is provided with this machine, use ONLY the provided cord. Installation must be performed correctly.

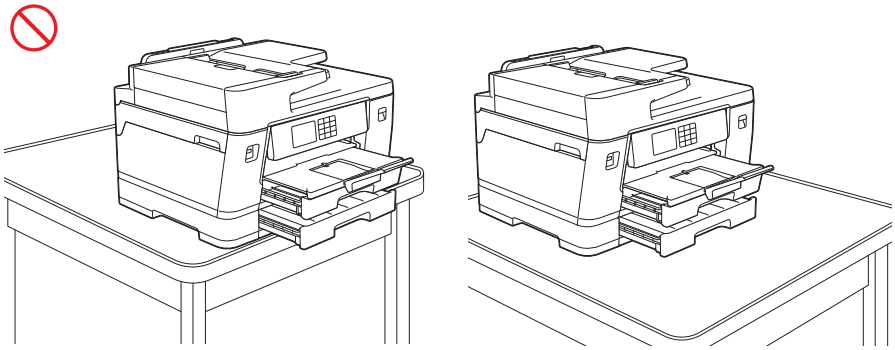
⚠ CAUTION

Wait until pages have exited the machine before picking them up. Failure to do this may cause injury to your fingers by trapping them inside the machine.

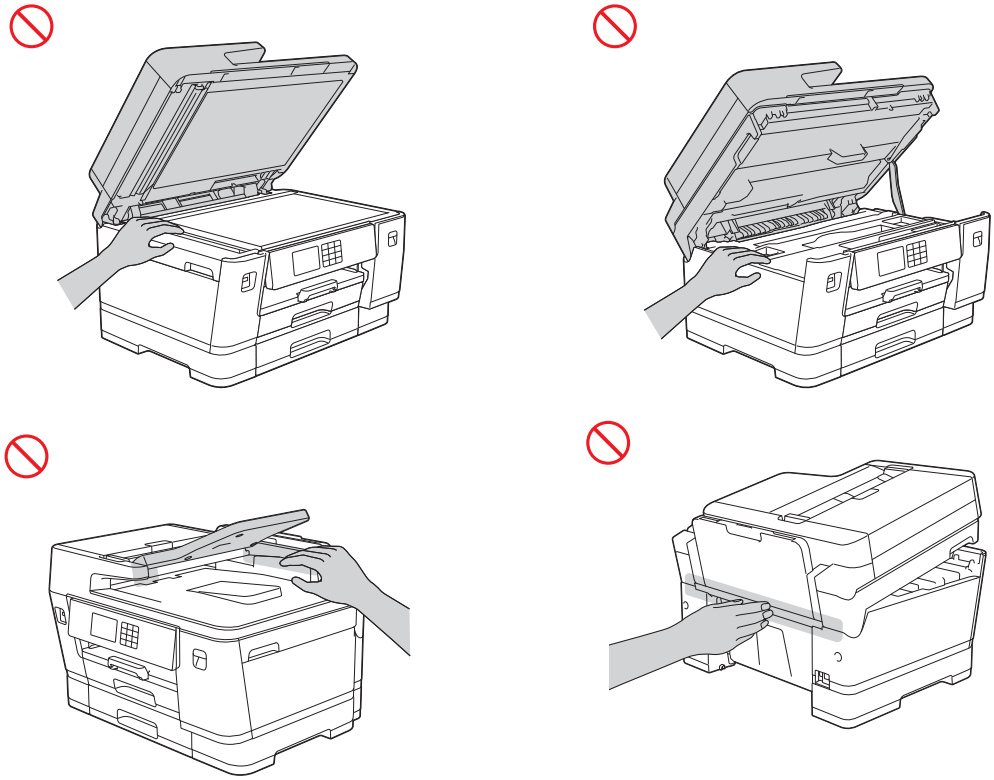
DO NOT put your hand or any foreign objects into the ink insertion slot. Doing this may cause injury.

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If the tray has been extended to hold large paper, position the product so that the tray does not protrude past the edge of the table or desk. If someone hits the tray, the machine could fall and cause injury.

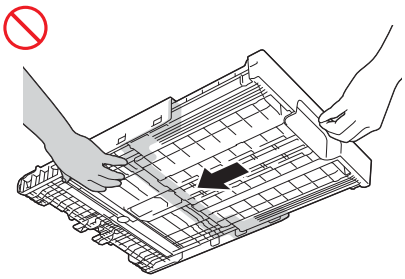


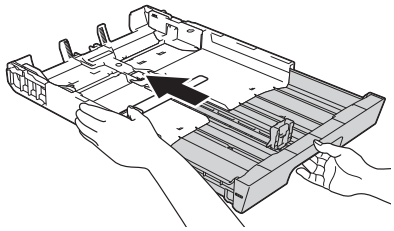
To prevent injuries, be careful not to put your fingers in the areas shown in the illustrations.



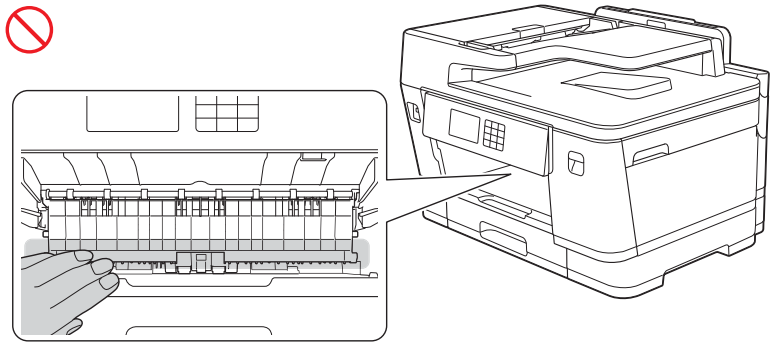
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When changing the tray size from the large paper size to the original size, be careful not to pinch your fingers in the gaps or slots in the bottom of the tray. It may cause injury to you.

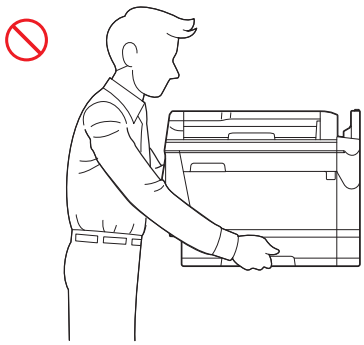


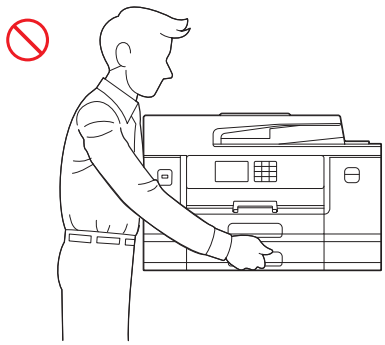


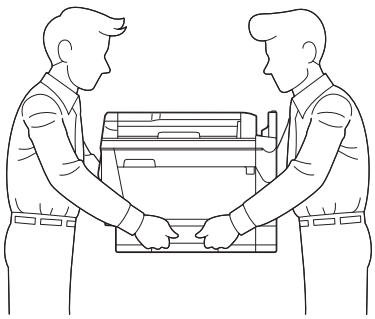
(MFC-J6540DW/MFC-J6555DW/MFC-J6740DW/MFC-J6940DW/MFC-J6955DW)
Be careful not to put your fingers in the areas shown in the illustrations. It may cause injury to you.



(MFC-J5955DW/MFC-J6540DW/MFC-J6555DW/MFC-J6740DW/MFC-J6940DW/MFC-J6955DW)
To prevent possible injuries, at least two people should lift the machine. One person should hold the front of the machine, and one person should hold the back, as shown in the illustration below. Carry the machine by sliding your hands into the handhold indentations located on each side of the machine. Be careful not to trap your fingers when you put the machine down.

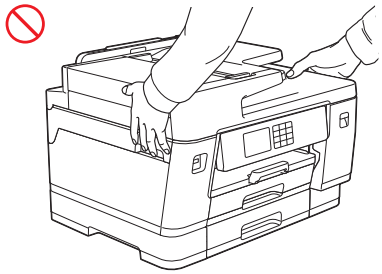


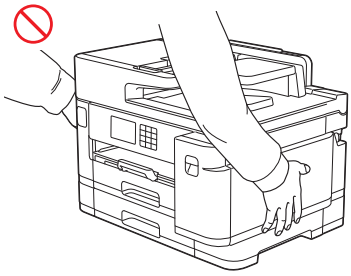




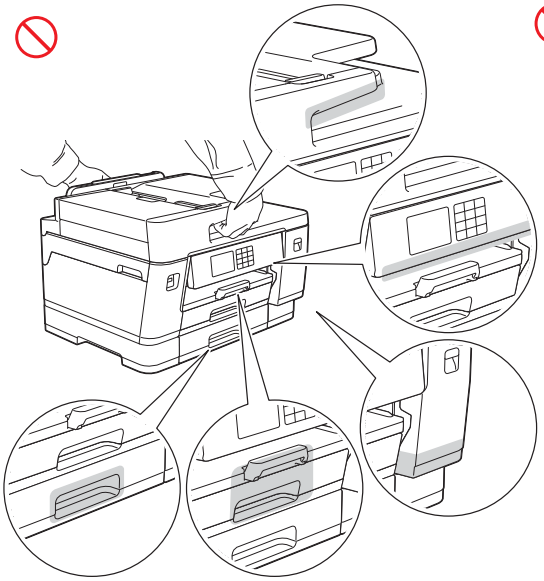
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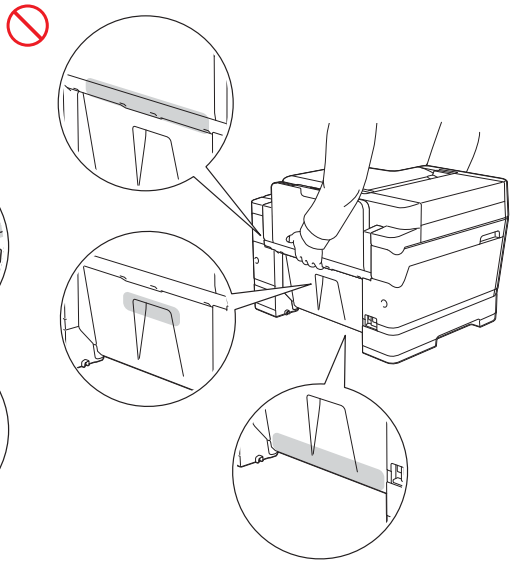
DO NOT carry the machine by holding the areas shown in the illustrations. Doing this may cause the machine to slip out of your hands and may result in injury.





(MFC-J5955DW)

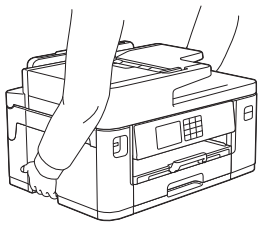




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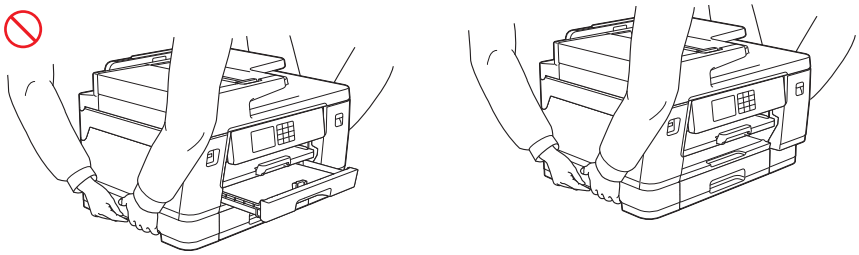
(MFC-J5340DW/MFC-J5855DW)

Carry the machine by sliding your hands into the handhold indentations located on each side of the machine.



* Example for MFC-J5340DW

When carrying the machine, remove the trays if they have been expanded to hold large paper. The weight of the paper could cause the trays to fall and cause injury to you or others.



When multiple devices, including this machine, are connected to a computer using USB cables, you may feel an electric charge when you touch metal parts of the machine.

If the ink contacts your skin or gets into your eye or mouth, follow these steps immediately:

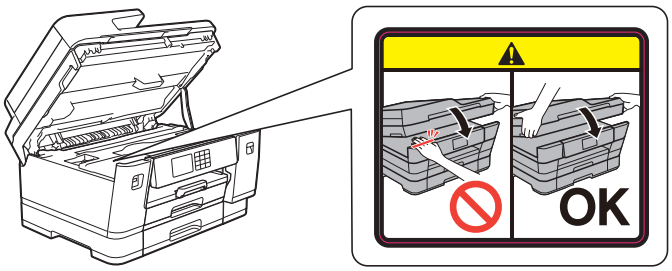
- If your skin comes into contact with the ink, wash your skin with water and soap immediately.
- If the ink gets into your eye, rinse it with water, and consult your doctor immediately. If left as is, it may cause redness or mild inflammation of the eye.
- If the ink gets into your mouth or you swallow it, spit it out, rinse your mouth, and consult your doctor immediately. Failure to seek medical attention could lead to sickness.

- Be careful not to get the ink in your eye when replacing ink cartridges.
- Keep ink cartridges out of the reach of children.
- Avoid swallowing ink.
- DO NOT shake ink cartridges unless specifically instructed to do so. Ink may leak if the cartridge is shaken or twirled.
- DO NOT take apart ink cartridges. The cartridge cannot be used if it is taken apart. The ink may get in your eye or make contact with your skin if you take apart the cartridge.

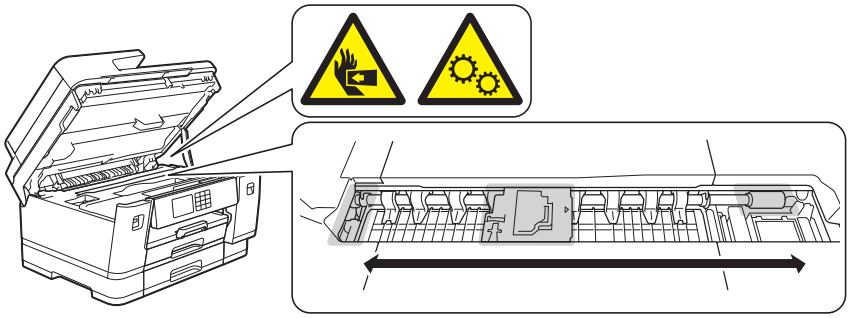
DO NOT run your hand over the edge of the paper. The thin and sharp edges of the paper may cause an injury.

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(MFC-J6540DW/MFC-J6555DW/MFC-J6740DW/MFC-J6940DW/MFC-J6955DW)
DO NOT remove or damage any of the caution or warning labels inside the machine.



Moving parts are located in the gray shaded areas shown in the illustration. Keep your hands away from those areas when the parts are moving, or else injury may result.
DO NOT remove or damage the caution or warning label inside the machine.



IMPORTANT

- DO NOT connect the machine to an electrical socket controlled by wall switches or automatic timers, or to the same circuit as a large appliance or other equipment that requires a significant amount of electricity. It could disrupt the power supply. Disruption of the power supply may also delete information from the machine's memory, and repeated cycling of the power supply can damage the machine.
- DO NOT put objects on top of the machine. Doing so may cause the machine to malfunction.

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Precautions for Troubleshooting and/or Disassembly/Assembly

Be sure to observe the following warnings and precautions to prevent any secondary troubles from happening by mishandling the machine during troubleshooting and/or disassembly/assembly.

■ Precautions

Be sure to observe the following to prevent any secondary troubles from happening during troubleshooting and/or disassembly/assembly.

(1) Power cord must be removed from their outlets before starting any removal of covers and PCBs, adjustments and conductivity test using a tester.

(2) Be careful not to lose screws, washers, or other parts.

(3) Apply grease to the points specified in Chapter 3.

(4) When using soldering irons and other heat-generating tools, take care not to damage the plastic parts such as wires, PCBs, and covers.

(5) When disconnecting the connectors, hold the connector housings. Do not pull the lead wires.

(6) After disconnecting flat cables, check that each cable is not damaged at its end or shortcircuited.

(7) When connecting flat cables, do not insert them at an angle. After insertion, check again that the cables are not at an angle.

(8) When connecting or disconnecting harnesses, hold the connector bodies not the cables. If the connector has a lock, always unlock it.

(9) After repairs, check not only the repaired portion but also that the harnesses are routed properly. Also check that the other related portions function properly.

(10) 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 conductive mat.
Also take care not to touch the conductor sections on the flat cables.

(11) Once the head/carriage unit prints, it will start head locking operation after five seconds from the end of printing. The head locking operation will take five to ten seconds. NEVER unplug the power cord before the machine completes the head locking operation; doing so will make the head/carriage unit unusable and require replacement with a new head/carriage unit. When you receive the machine from the user or when you pack it for sending it back to the user, check the head locking state.

(12) If ink gets on your skin or gets into your eyes or mouth, you need the following treatment.

- If ink gets on your skin, wash it off immediately with soap and water.
- If ink gets into your eyes, flush them immediately and thoroughly with water. If left untreated, the eyes may become bloodshot or mildly inflamed. If you feel any discomfort, consult a doctor immediately.
- If ink gets into your mouth, immediately spit it out and consult a doctor.

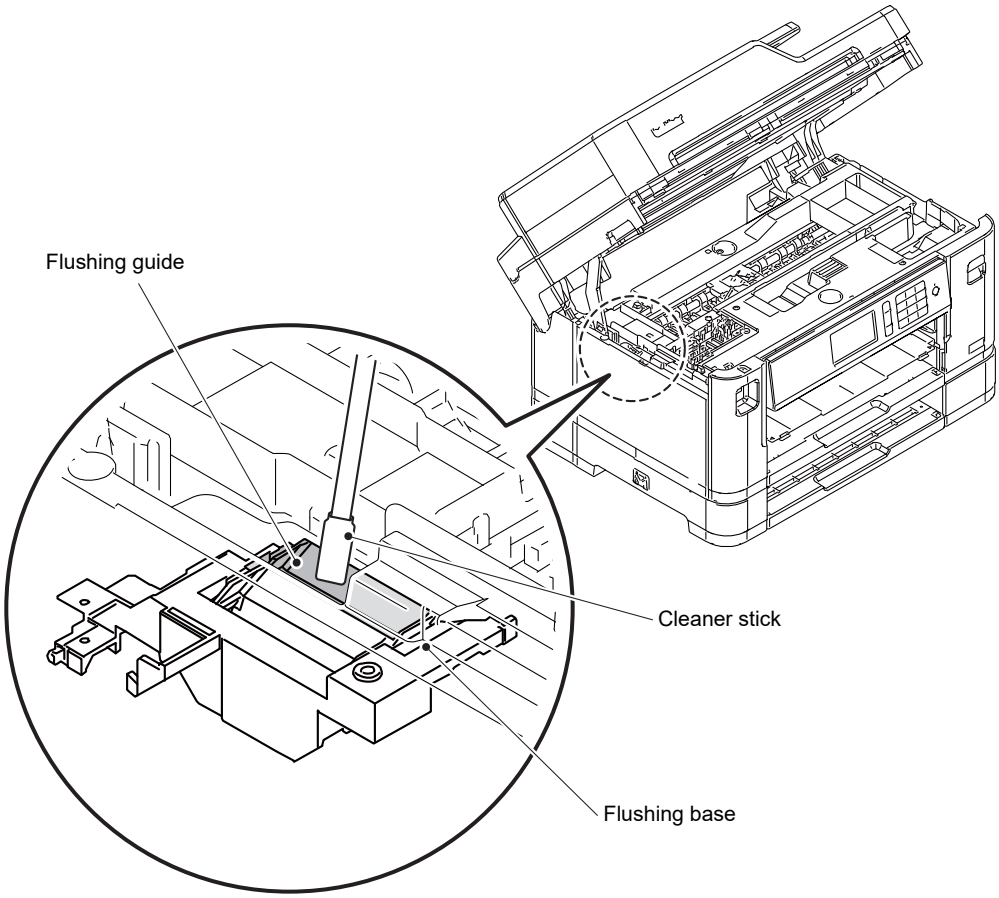
(13) Be sure to observe the warnings.

(14) After completion of reassembly, it is recommended that the dielectric voltage withstand test and continuity test be conducted.

(15) After repairing the defective section, be sure to check again if the repaired section works correctly.

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(16) Before packing the machine for sending it back to the user after repairs, be sure to clean the flushing guide with a cleaner stick as shown below to prevent ink splashing during transportation.



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CHAPTER 1 SPECIFICATIONS

For details on product specifications, refer to the user's guide.
If there is a difference between the product specifications and the user's guide, the user's guide should take precedence over the product specifications.
The product specifications may change without prior notice.

1 GENERAL

Model	MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
Print Head	BHM19 Head BK/C/M/Y:420/420/420/420 nozzles						
Minimum Droplet Size	BK: 4 pl CMY: 2.5 pl						
CPU Speed	576 MHz						
Memory Capacity (physical: Mbytes)	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	512 MB
Back up Clock	Yes						
LAN	Yes						
Wireless LAN (2.4GHz)	Infrastructure Mode: IEEE 802.11 b/g/n Wi-Fi Direct: IEEE 802.11 g/n						
Wireless LAN (5GHz)	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n *ASA/GULF/SAF not support 5 GHz.	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n *ASA/GULF/SAF not support 5 GHz.	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n	Infrastructure Mode: IEEE 802.11 a/n Wi-Fi Direct: IEEE 802.11 a/n

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Model		MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
LCD type		2.7"/6.8 cm/ 67.5 mm TFT	3.5"/8.8 cm/ 87.6 mm TFT	2.7"/6.8 cm/ 67.5 mm TFT	2.7"/6.8 cm/ 67.5 mm TFT	3.5"/8.8 cm/ 87.6 mm TFT	3.5"/8.8 cm/ 87.6 mm TFT	3.5"/8.8 cm/ 87.6 mm TFT
LCD/Touch-Panel		2.7" TP	3.5" TP	2.7" TP	2.7" TP	3.5" TP	3.5" TP	3.5" TP
Auto Duplex Print		Yes (up to A4/LTR)						
Auto Duplex Copy		N/A	Yes	N/A	N/A	Yes	N/A	Yes
Duplex Scanner		N/A	Yes	N/A	N/A	Yes	N/A	Yes
Scanning Method		CIS						
Media Sizes/ADF (width/length)		105/148 mm to 215.9/355.6 mm (4.1/5.8" to 8.5/14.0") *long paper length: 900 mm (35.4")						
Media Sizes/Scanner Glass (width/length)		up to 215.9/297 mm (up to 8.5/11.7")						
Document Scan Size Sensor		N/A						
USB Host (front)	USB Memory	Yes						
USB Host (rear)	USB Host (for External IC Card Reader)	Yes (Shortcut, Secure Function Lock)	Yes (Shortcut, Secure Function Lock)	Yes (Shortcut, Secure Function Lock)	Yes (Shortcut, Secure Function Lock)	Yes (Shortcut, Secure Function Lock)	Yes (Shortcut, Secure Function Lock)	Yes (BSI, Shortcut, Secure Function Lock)
NFC	Card Reader/ NFC Shortcut	N/A	N/A	N/A	N/A	N/A	N/A	Yes (Card Reader)
PCL/PS	Emulation	N/A	N/A	N/A	N/A	N/A	N/A	PCL6 BR-Script3 PDF version1.7 XPS version1.0

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Model		MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
Paper Capacity	Paper Input/Standard Tray	250 sheets (80 g/m^2)						
	Paper Input/Lower tray	N/A	250 sheets (80 g/m^2)	N/A	N/A	250 sheets (80 g/m^2)	N/A	250 sheets (80 g/m^2)
	Paper Input/Manual Feed Slot	1 (Plain: 120 g/m^2: Grossy: t0.25 mm)	N/A	1 (Plain: 120 g/m^2: Grossy: t0.25 mm)	1 (Plain: 120 g/m^2: Grossy: t0.25 mm)	N/A	N/A	N/A
	Paper Input/MP Tray	N/A	100 sheets (80 g/m^2)	N/A	N/A	100 sheets (80 g/m^2)	100 sheets (80 g/m^2)	100 sheets (80 g/m^2)
	Paper Input/3rd Tray	N/A						
	Auto paper low detection	N/A	N/A	N/A	N/A	N/A	N/A	Standard Tray/ Lower Tray
	Paper Input/ADF	50 pages (80 g/m^2)(face up)						
Paper output	Output Paper Capacity (sheets)	100 (Up to A4/LTR) 50 (Over A4/LTR)(80 g/m^2)						
Print	Resolution (horizontal x vertical)	up to 1200x4800 dpi						
	Print Speed ESAT (based on ISO/IEC 24734) Mono/Color	28.0/28.0 ipm	28.0/28.0 ipm	28.0/28.0 ipm	28.0/28.0 ipm	28.0/28.0 ipm	30.0/30.0 ipm	30.0/30.0 ipm
	Draft Print Speed *time calculated including paper feeding Mono/Color	35/32 ppm (Eco mode)						
	Print Speed FPOT (based on ISO/IEC 17629) Color/Mono	approx. 4.6 sec/4.4 sec						
	Print Speed FPOT (from Sleep Mode) Color/Mono	approx. 5.0 sec/5.0 sec						

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2 FAX/COPY/SCANNER

Model		MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
Fax	Modem Speed (bps)	14,400 (FAX)	33,600 (FAX)	14,400 (FAX)	14,400 (FAX)	33,600 (FAX)	33,600 (FAX)	33,600 (FAX)
	Transmission Speed (sec.)	Approx.7sec (ITU-T Test Chart #1,MMR)	Approx.3sec (ITU-T Test Chart #1,MMR)	Approx.7sec (ITU-T Test Chart #1,MMR)	Approx.7sec (ITU-T Test Chart #1,MMR)	Approx.3sec (ITU-T Test Chart #1,MMR)	Approx.3sec (ITU-T Test Chart #1,MMR)	Approx.3sec (ITU-T Test Chart #1,MMR)
	ITU-T Group	G3	Super G3	G3	G3	Super G3	Super G3	Super G3
	FAX Color Type	Mono/Color						
	Internet FAX (ITU T.38)	N/A						
	Handset	N/A						
Copy	Mono/Color	Mono/Color						
	Copy Speed ESAT (based on ISO/IEC 24735) *This spec is for ADF model only Color/Mono	16.0/25.0 ipm						
	Copy Speed FCOT (based on ISO/IEC 24735 Annex D) Color/Mono	10.0/9.5 sec						
Scan	Resolution (horizontal x vertical)/ Optical	FB: 1200x2400 dpi (mono) /1200x1200 dpi (color) ADF: 600x600 dpi						
	Scanning Speed (Mono/Color) Multiple sheets (based on ISO/IEC17991)	25.0 ipm/25.0 ipm						
	Duplex Scanning Speed (Mono/Color) Multiple sheets Multiple sheets (based on ISO/IEC17991)	N/A	30.0 ipm/30.0 ipm	N/A	N/A	30.0 ipm/30.0 ipm	N/A	30.0 ipm/30.0 ipm

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Model		MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
Machine Life (year)		300,000 pages or 7 years						
MTBF (Mean Time Between Failures)		4000 hours						
MTTR (Mean Time To BE Repaired)		30 min.						
Maximum monthly volume	Recommended monthly volume	250 to 2,500 pages	250 to 2,500 pages	250 to 2,500 pages	250 to 2,500 pages	250 to 2,500 pages	250 to 3,500 pages	250 to 3,500 pages
Ink Cartridge	Ink Cartridge Type	Regular Cartridge	Regular Cartridge	Regular Cartridge	Regular Cartridge	Regular Cartridge	Simple Cartridge	Simple Cartridge
Ink yield	(@ISO pattern/ normal) /Supply Standard Cartridges	BK: 550 CL: 550	BK: 550 CL: 550	BK: 550 CL: 550	BK: 550 CL: 550	BK: 550 CL: 550	BK: 3000 CL: 1500	BK: 3000 CL: 1500
	(@ISO pattern/ normal) /Supply High Yield Cartridges	BK: 3000 CL: 1500	BK: 3000 CL: 1500	BK: 3000 CL: 1500	BK: 3000 CL: 1500	BK: 3000 CL: 1500	BK: 6000 CL: 5000	BK: 6000 CL: 5000
Storage Condition of Ink Cartridge		(Temperature) Normal condition: -20 to 40°C (Humidity) Normal condition: 20 to 80% * At the temperature of 40 to 50°C and the humidity of 80 to 95%: Up to 5 days * At the temperature of 40 to 60°C and the humidity of Non control condition: Up to 5 days						

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4 DIMENSIONS/WEIGHT

Model	MFC-J2340DW	MFC-J2740DW	MFC-J5340DW(E)	MFC-J5345DW	MFC-J5740DW	MFC-J5855DW(XL)	MFC-J5955DW
Machine Dimensions	530x398x305 mm 20.9x15.7x12.0 inch	530x398x375 mm 20.9x15.7x14.7 inch	530x398x305 mm 20.9x15.7x12.0 inch	530x398x305 mm 20.9x15.7x12.0 inch	530x398x375 mm 20.9x15.7x14.7 inch	545x436x305 mm 21.5x17.2x12.0 inch	545x436x375 mm 21.5x17.2x14.7 inch
Machine Weight	17.0 kg/37.5 lbs	20.5 kg/45.2 lbs	17.0 kg/37.5 lbs	17.0 kg/37.5 lbs	20.5 kg/45.2 lbs	17.7 kg/39.0 lbs	20.9 kg/46.1 lbs
Operating Environment Temperature (Best Print Quality)	10-35 (20-33) degrees centigrade						
Operating Environment Humidity (Best Print Quality)	20-80%						

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CHAPTER 2 TROUBLESHOOTING

1 INTRODUCTION

This section gives the service personnel some of the troubleshooting procedures to be followed if an error or malfunction occurs with the machine. It is impossible to anticipate all of the possible problems which may occur in future and determine the troubleshooting procedures, so this section covers some sample problems. However, those samples will help service personnel pinpoint and repair other defective elements if he/she analyzes and examines them well.

1.1 Precautions

For precautions in a check based on troubleshooting, see "Precautions for Troubleshooting and/or Disassembly/Assembly". (Refer to page: xxi)

1.2 Initial Check

Prior to proceeding to the troubleshooting procedures, make the following initial checks:

Environmental conditions

(1) The machine is placed on a flat, firm surface.
(2) The machine is used in clean environment with temperature (10 to 35 degree-C) and humidity (20 to 80 %.)
(3) The machine is not exposed to direct sunlight, excessive heat, moisture, or dust.
(4) The machine is transported in level.

Power requirements

(1) The power requirements described in label of the machine is supplied. Its variation is within +/-10% of the rated voltage.
(2) All cables and harnesses are firmly connected.
(3) The fuses are not blown.

Recording paper

(1) A recommended type of paper is being used.
(2) The recording paper is not dampened.

Consumable Parts

(1) Ink cartridge (4 colors) is correctly set.

Head/carriage unit

(1) Repeat purge action (maintenance code 76) for a couple of times. (Refer to Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".)

Others

(1) Low temperature
Motor may not run correctly due to excessive load for each drive in low temperature environment. Warm the room temperature in such case.

Cleaning

(1) Use a soft dry lint-free cloth.

WARNING

DO NOT use flammable solvent such as alcohol, benzine, thinner to clean the body of the machine. DO NOT use near by.



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2 OVERVIEW

2.1 Cross-section Drawings

2.1.1 Document scanning

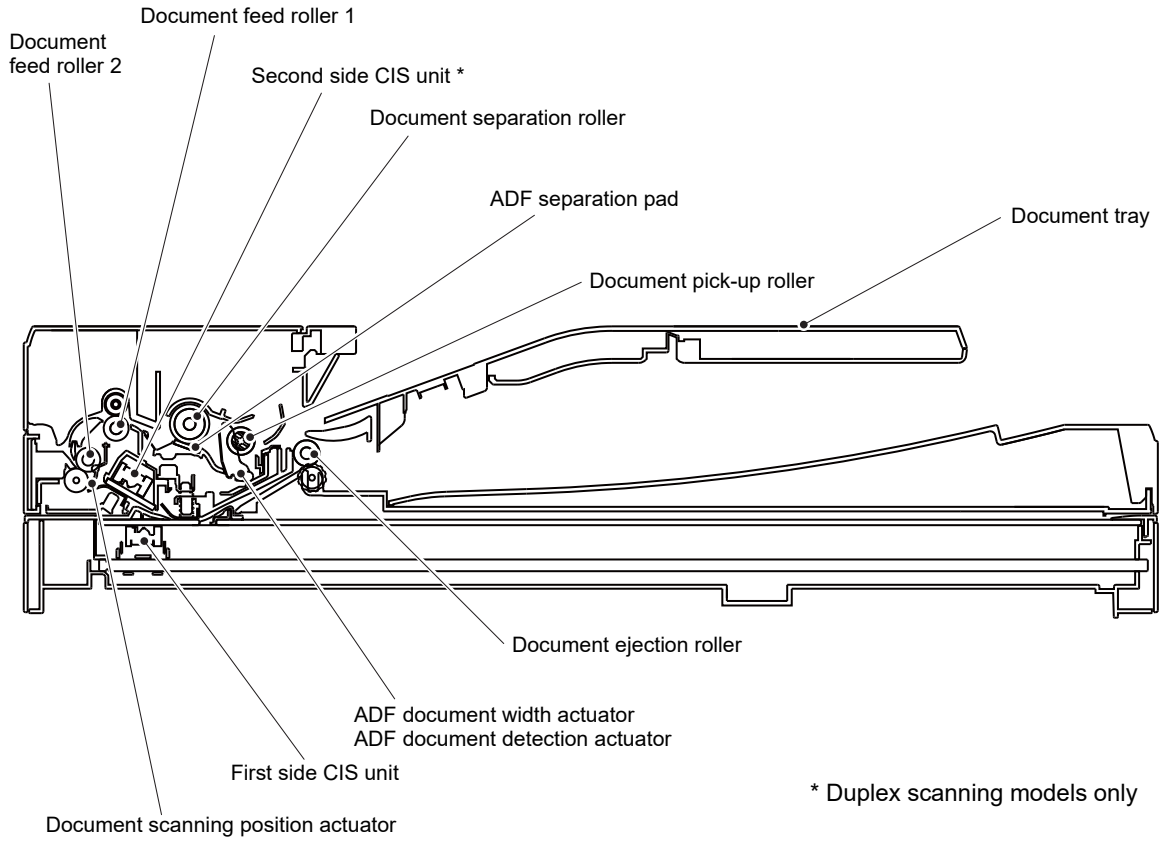


Fig. 2-1

2.1.2 Printer part

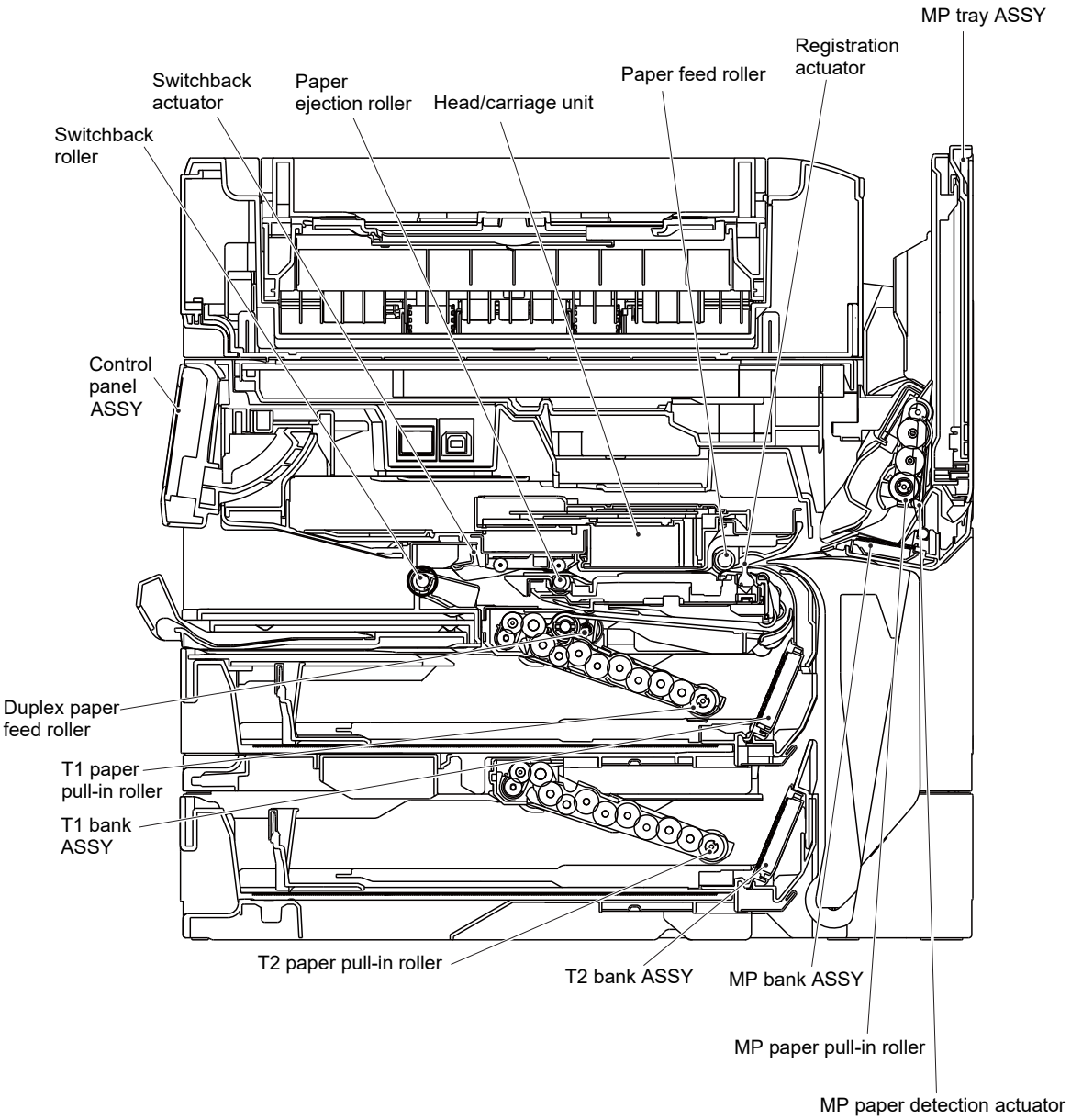


Fig. 2-2

2.2 Document Feeding Path/Recording Paper Feeding Path

2.2.1 Document Feeding Path

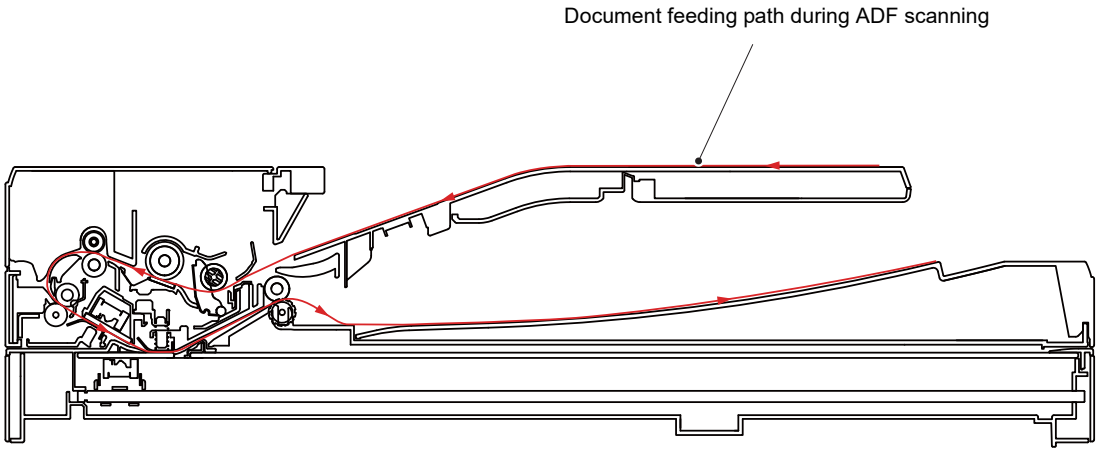


Fig. 2-3

2.2.2 Recording Paper Feeding Path

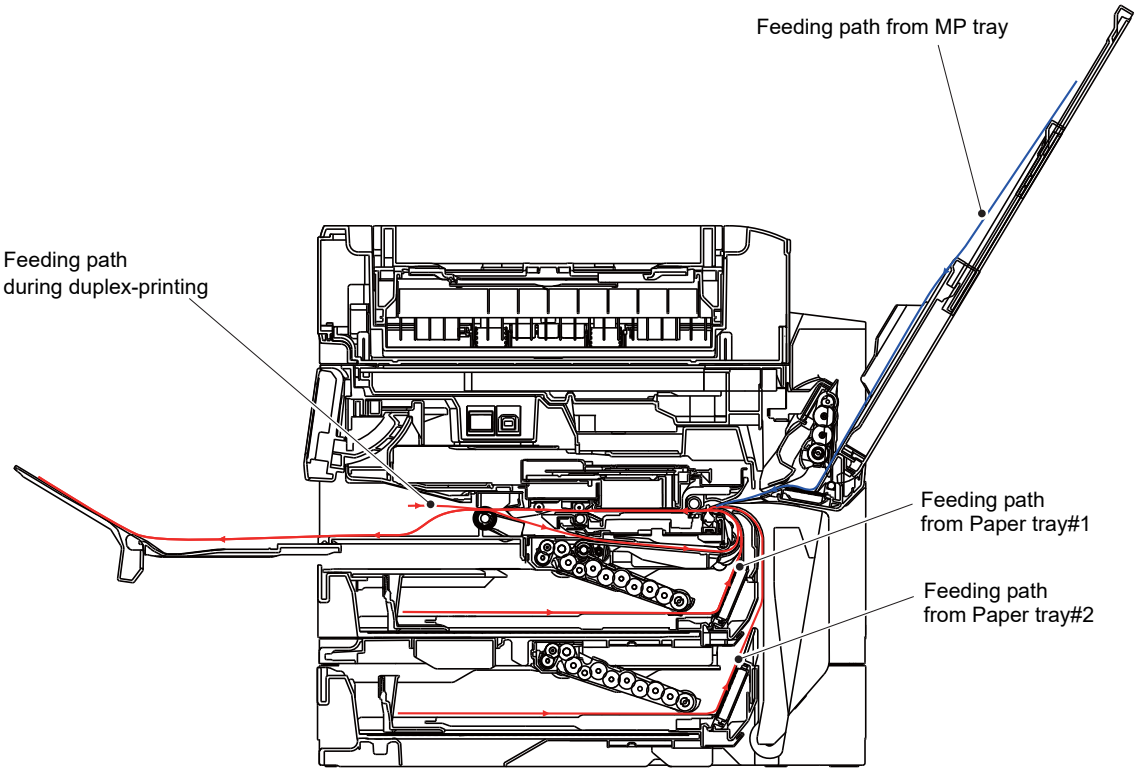


Fig. 2-4

2.3 Parts Names and Functions

■ Document scanning and feeding

Parts Names	Functions
ADF document detection actuator	This detects whether documents are set on the document tray.
Document pick-up roller	This pulls documents loaded in the document tray into the ADF.
Document separation roller ADF separation pad	This separates documents sent by the document pick-up roller in single sheet.
Document feed roller 1, 2	This feeds a document to the CIS unit.
Document scanning position actuator	This detects the leading edge and the ending edge of the document, adjusting the scanning position on the first side and second side. This detects paper jamming in the ADF.
Document ejection roller	This ejects the scanned document to the document ejection tray.

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■ **Printing and paper feeding**

Parts Names	Functions
T1/T2 paper pull-in roller	This feeds the recording paper from the paper tray #1#2 to the paper feed roller. After the registration actuator detects the leading edge of the paper, it pushes the recording paper against the reverse-rotating or stopped paper feed roller, and correct inclination of the paper.
Registration actuator	This detects the leading edge of recording paper, controlling the printing start position. This detect the leading edge/ending edge of recording paper, identifying the recording paper size. This detects paper jamming in the rear.
Paper feed roller	This reverses the rotation or stops when correcting inclination of the paper with the T1/T2 paper pull-in roller and the duplex paper feed roller. It feeds the recording paper to the printing start position after correction.
Paper ejection roller	This feeds printed recording paper to the switchback roller.
Switchback actuator	This detects whether the printed recording papers are ejected. This detects the ending edge of recording paper after printing the first side when duplex-printing, adjusting timing to reverse the switchback roller rotation. This detects paper jamming in the ejector.
Switchback roller	This ejects the recording paper to the output paper tray. During duplex-printing, after feeding some of the recording papers printed in the first side to the switchback roller, its rotation is reversed to feed the recording paper to the duplex-printing path.
Duplex paper feed roller	During duplex-printing, this feeds the recording paper that are fed in the duplex paper path to the paper feed roller. After the registration actuator detects the leading edge of the paper, it pushes the recording paper against the stopping paper feed roller, and corrects inclination of the paper.
MP paper pull-in roller	This feeds the recording paper from the MP tray to the paper feed roller. After the registration actuator detects the leading edge of the paper, it pushes the recording paper against the stopping or reverse-rotating paper feed roller, and corrects inclination of the paper.
MP paper detection actuator	This detects whether the recording paper are set on the MP tray.

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■ Location of sensors

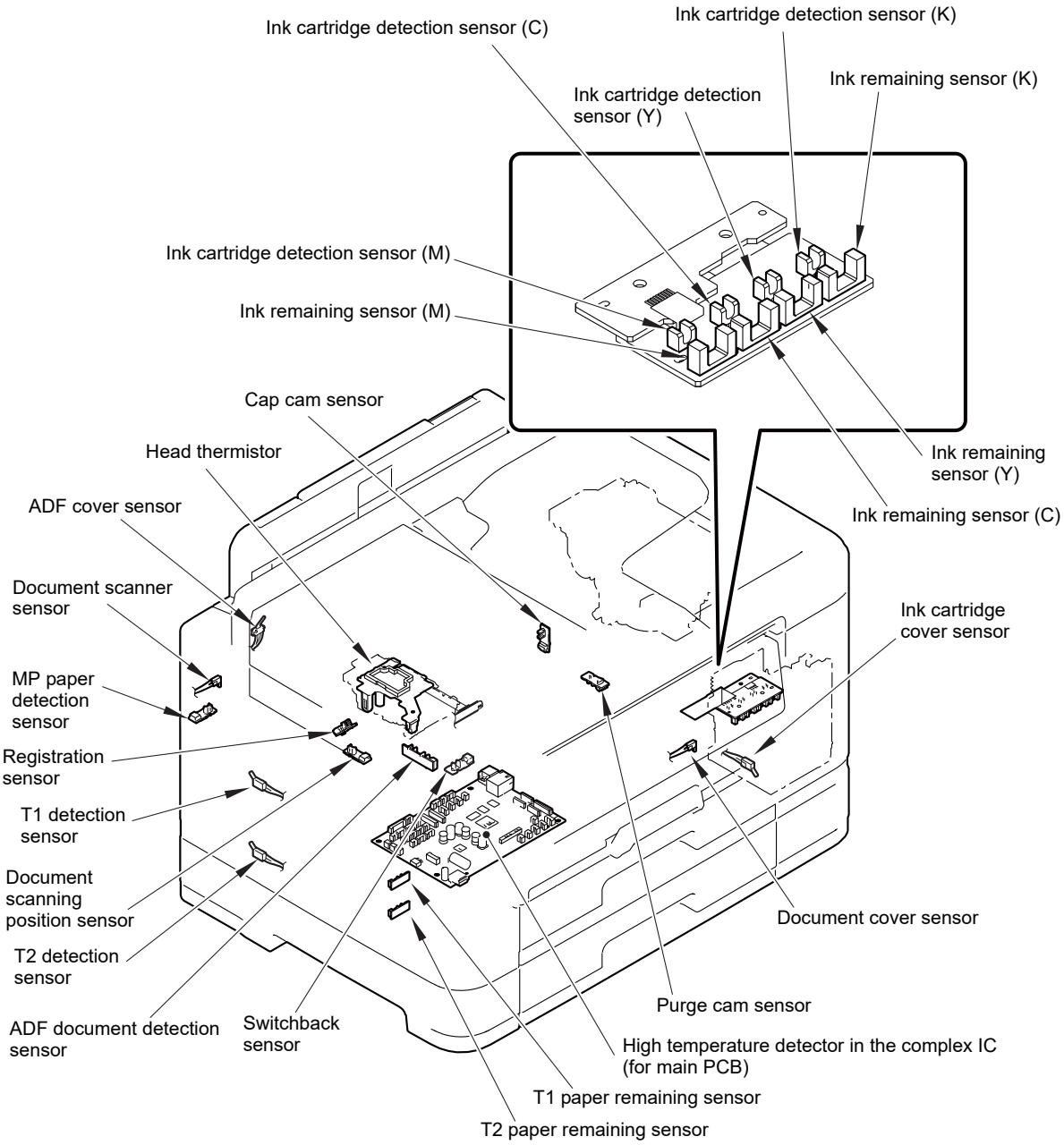


Fig. 2-5

2.4 Block Diagram

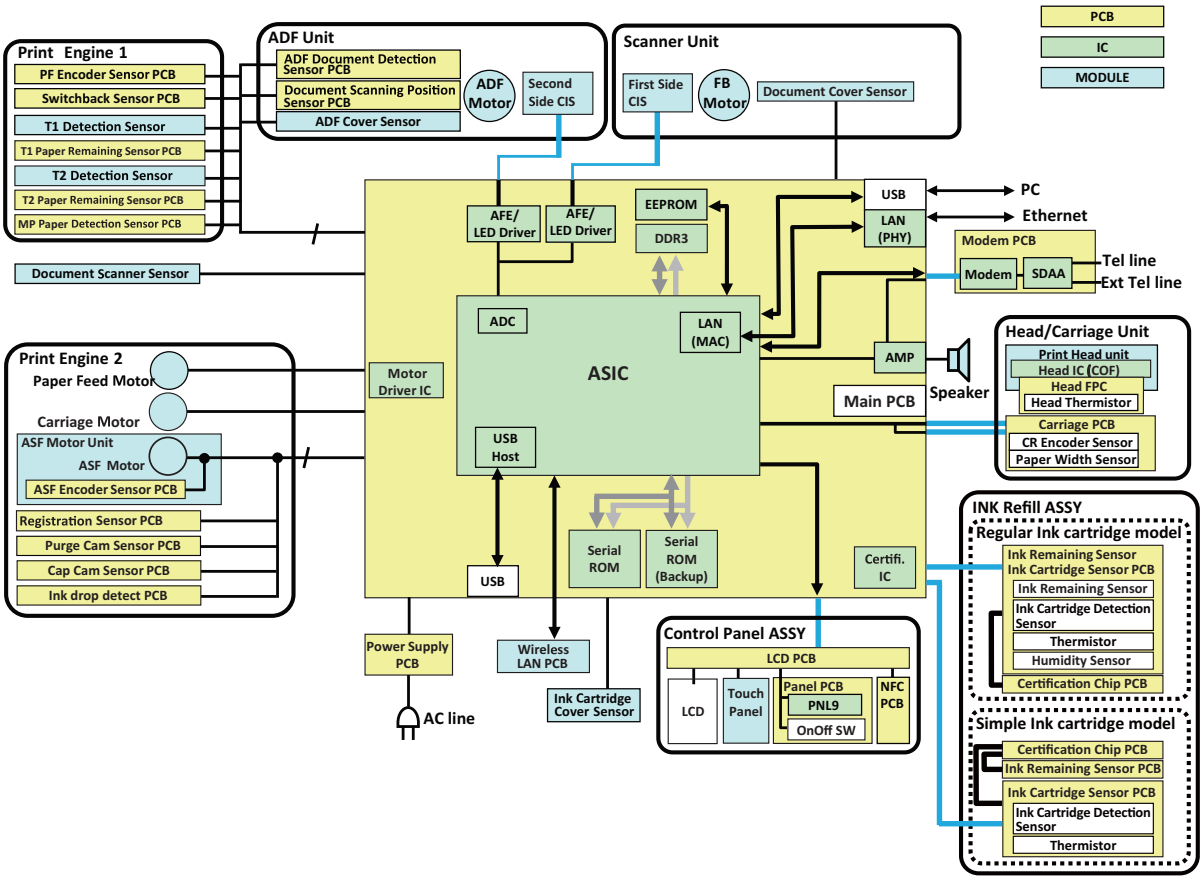


Fig. 2-6

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2.5 Components

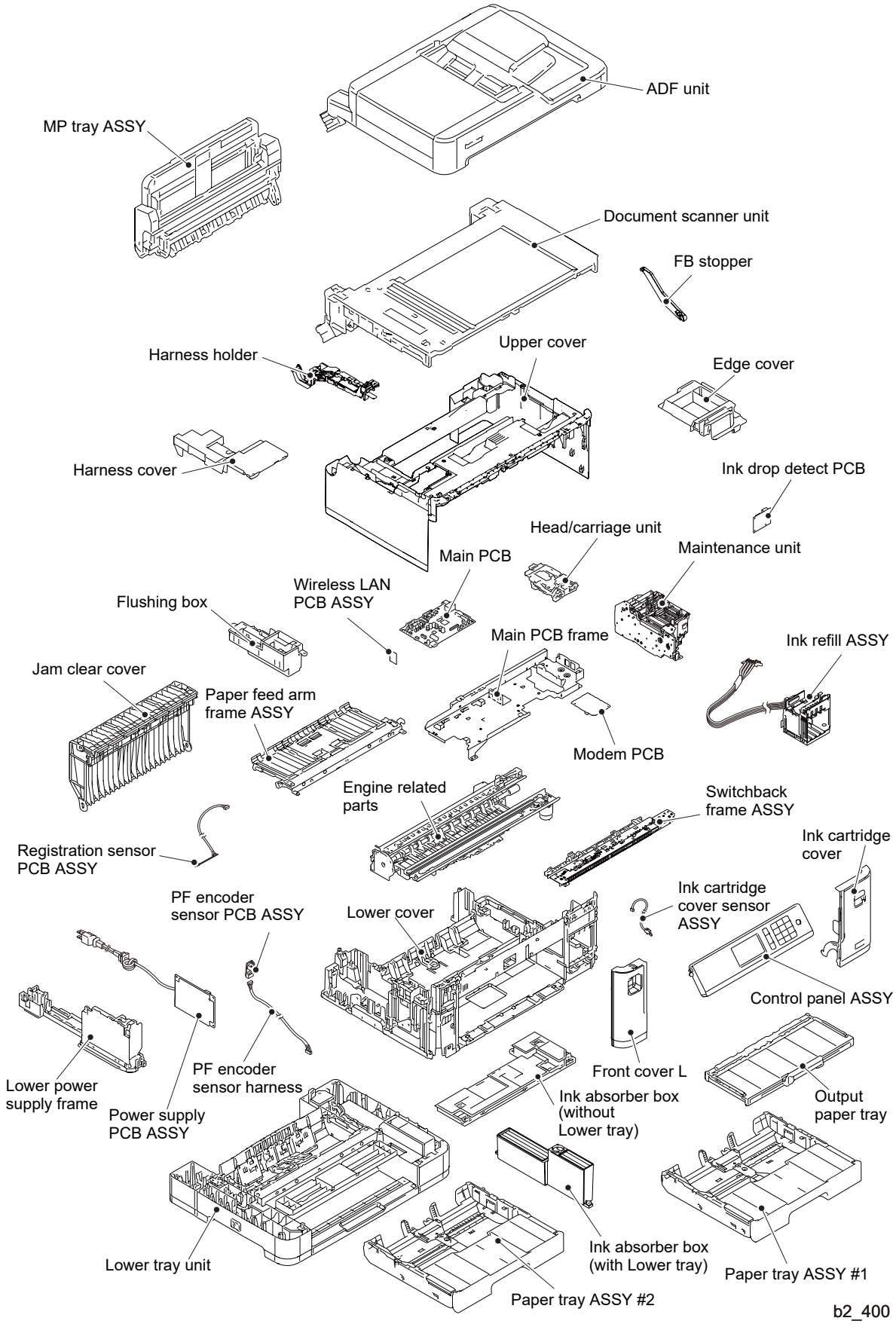


Fig. 2-7

3 ERROR INDICATION

To help the user or the service personnel promptly locate the cause of a problem (if any), the machine incorporates the self-diagnostic functions which display error messages for equipment errors.

3.1 Error Code

Error Code	Contents	Refer to page:
0D00	Paper jam during duplex-printing - The recording papers are fed in reverse on the platen when switchback drive is started, triggering switchback sensor as paper feeding condition.	2-29
0E00	Defective during duplex-printing - Switchback sensor detects paper feed condition at out of specified timing during switchback.	2-29
1300	Defective during duplex-printing - Registration sensor detects paper feed condition at out of specified timing during switchback.	2-30
1500	Paper jam during duplex ejecting - Recording paper is not able to be ejected since it is longer than 840 mm when ejecting the paper. (The registration sensor stays in the paper feeding condition during ejecting.)	2-30
1700	Recording paper size error (duplex-printing/duplex-copying) - Paper width is narrower than 95.5 mm (detection by paper width sensor) - Paper length is longer than 245.9 mm (detection by registration sensor) - Paper length is shorter than 143.5 mm (detection by registration sensor)	2-31
1800	Paper jam during duplex-printing - Registration sensor does not detect paper feed within specified pulse numbers in the second side paper re-feed.	2-31
2000	Cannot identify a black ink cartridge. - The ink cartridge detection sensor and the ink remaining sensor are detecting.	2-32
2001	Cannot identify a yellow ink cartridge. - The ink cartridge detection sensor and the ink remaining sensor are detecting.	2-32
2002	Cannot identify a cyan ink cartridge. - The ink cartridge detection sensor and the ink remaining sensor are detecting.	2-32
2003	Cannot identify a magenta ink cartridge. - The ink cartridge detection sensor and the ink remaining sensor are detecting.	2-32
2100	Black ink cartridge side IC chip relation defective - Detecting setting wrong color	2-32
2101	Yellow ink cartridge side IC chip relation defective - Detecting setting wrong color	2-32
2102	Cyan ink cartridge side IC chip relation defective - Detecting setting wrong color	2-32
2103	Magenta ink cartridge side IC chip relation defective - Detecting setting wrong color	2-32

Error Code	Contents	Refer to page:
2200	Black ink cartridge side IC chip relation defective - It is judged as incompatible ink cartridge is loaded.	2-33
2201	Yellow ink cartridge side IC chip relation defective - It is judged as incompatible ink cartridge is loaded.	2-33
2202	Cyan ink cartridge side IC chip relation defective - It is judged as incompatible ink cartridge is loaded.	2-33
2203	Magenta ink cartridge side IC chip relation defective - It is judged as incompatible ink cartridge is loaded.	2-33
2300	Black ink cartridge side IC chip relation defective - It is judged as optional ink cartridge has been loaded before the initial installation is started.	2-33
2301	Yellow ink cartridge side IC chip relation defective - It is judged as optional ink cartridge has been loaded before the initial installation is started.	2-33
2302	Cyan ink cartridge side IC chip relation defective - It is judged as optional ink cartridge has been loaded before the initial installation is started.	2-33
2303	Magenta ink cartridge side IC chip relation defective - It is judged as optional ink cartridge has been loaded before the initial installation is started.	2-33
2400	Black ink cartridge side IC chip relation defective - Identification no match - Judging as incompatible ink cartridge	2-34
2401	Yellow ink cartridge side IC chip relation defective - Identification no match - Judging as incompatible ink cartridge	2-34
2402	Cyan ink cartridge side IC chip relation defective - Identification no match - Judging as incompatible ink cartridge	2-34
2403	Magenta ink cartridge side IC chip relation defective - Identification no match - Judging as incompatible ink cartridge	2-34
2500	Cannot communicate with black ink cartridge IC chip (ink cartridge side.)	2-34
2501	Cannot communicate with yellow ink cartridge IC chip (ink cartridge side.)	2-34
2502	Cannot communicate with cyan ink cartridge IC chip (ink cartridge side.)	2-34
2503	Cannot communicate with magenta ink cartridge IC chip (ink cartridge side.)	2-34
2600	Black ink cartridge reaches its replacement period. - After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2-35
2601	Yellow ink cartridge reaches its replacement period. - After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2-35
2602	Cyan ink cartridge reaches its replacement period. - After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2-35
2603	Magenta ink cartridge reaches its replacement period. - After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2-35
2700	Black ink cartridge will reach its replacement period. - After judging as no ink by the ink remaining sensor, ink discharged for less than specified times.	2-35

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Error Code	Contents	Refer to page:
2800	The user does not allow the use of non-genuine Black cartridges. The user has selected [No] on the confirmation screen for using a non-genuine cartridge.	2-36
2801	The user does not allow the use of non-genuine Yellow cartridges. The user has selected [No] on the confirmation screen for using a non-genuine cartridge.	2-36
2802	The user does not allow the use of non-genuine Cyan cartridges. The user has selected [No] on the confirmation screen for using a non-genuine cartridge.	2-36
2803	The user does not allow the use of non-genuine Magenta cartridges. The user has selected [No] on the confirmation screen for using a non-genuine cartridge.	2-36
2A00	No black ink cartridge loaded. - Detected by the ink cartridge detection sensor.	2-36
2A01	No yellow ink cartridge loaded. - Detected by the ink cartridge detection sensor.	2-36
2A02	No cyan ink cartridge loaded. - Detected by the ink cartridge detection sensor.	2-36
2A03	No magenta ink cartridge loaded. - Detected by the ink cartridge detection sensor.	2-36
2B00	Black ink cartridge ink remaining counter error	2-37
2B01	Yellow ink cartridge ink remaining counter error	2-37
2B02	Cyan ink cartridge ink remaining counter error	2-37
2B03	Magenta ink cartridge ink remaining counter error	2-37
2E00	Cannot communicate with ink cartridge IC chip (machine body side.)	2-37
2F00	Ink cartridge cover sensor detects opened cover state.	2-37
3000	Carriage does not move. - Detected by the CR encoder sensor.	2-38
3100	Carriage cannot detect origin. - Detected by the CR encoder sensor.	2-39
3200	Head capping is unable.	2-39
3500	Abnormal stop of head/carriage unit being driven - Causes other than paper jam when ink is not discharging	2-40
3800	Abnormal stop of head/carriage unit being driven - Caused by paper jam when ink is not discharging	2-40
3B00	Abnormal stop of head/carriage unit being driven - Causes other than paper jam when ink is discharging	2-40
3C00	Abnormal stop of head/carriage unit being driven - Caused by paper jam when ink is discharging	2-41
3E00	Defective occurs in the ASF motor, carriage motor or paper feed motor.	2-41
3F00	Carriage motor cannot stop.	2-42

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Error Code	Contents	Refer to page:
4000	Casing internal thermistor defective - Casing internal thermistor detects -20 degree-C or less, or 80 degree-C or more when power is ON.	2-42
4200	Head voltage does not turn OFF.	2-42
4300	Head thermistor defective - Head thermistor detects -20 degree-C or less, or 80 degree-C or more when power is ON.	2-43
4400	Head driver IC detects abnormal temperature during operation or stand-by.	2-43
4600	Purge count or flushing count overflown.	2-43
4800	Head flat cable detected to be not correctly inserted.	2-43
4900	Head voltage does not raise.	2-44
4C00	ASIC thermistor error - The ASIC thermistor detected a temperature of -21 degree-C or less, or 125 degree-C or greater, when the machine was turned on.	2-44
4C01	Compound IC thermistor error - The compound IC thermistor detected a temperature of -21 degree-C or less, or 125 degree-C or greater, when the machine was turned on.	2-44
4E00	Head voltage remains ON and does not turn OFF even after 15 minutes have passed.	2-44
4F00	Head voltage drops too quick.	2-45
5000	The purge cam switch is not switching ON/OFF.	2-45
5200	Failed to detect the origin of the purge cam.	2-45
5300	The Ink Discharge Detection Function test exited without completing due to an overvoltage/undervoltage condition or because the voltage failed to rise.	2-45
5A00	Abnormal stop of purge cam being driven	2-46
5B00	Pump of maintenance unit stopped abnormally during exhaustion/ suction.	2-46
5D00	Excessive current protection activated for the head driver IC during purge cam operation.	2-46
5E00	Excessive current protection activated for the head driver IC during pump operation.	2-46
6700	T1 detection sensor detects no paper tray #1 state.	2-46
6701	T2 detection sensor detects no paper tray #2 state.	2-46
6F00	ASF motor cannot stop.	2-47
6F01	ASF encoder sensor cannot detect rotation of the ASF motor.	2-47
7000	Failed to detect ON/OFF of the purge cam.	2-47
7200	Failed to detect the origin of the purge cam.	2-47
7500	Cap cam cannot shift to head capping position.	2-47
7600	Cap cam cannot shift to head uncapping position.	2-47
7A00	Purge cam rotation error (capping CW)	2-47
7D00	Current protection activated for the cap driver IC.	2-47
7E00	Head property information not input.	2-47

Error Code	Contents	Refer to page:
8000	Recording paper size error (during FAX/list printing) (Only the models with single tray) The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.	2-48
8001	Paper tray #1 recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.	2-48
8002	Paper tray #2 recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.	2-48
8004	MP tray recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.	2-48
8101	Recording paper size error (during FAX/list printing) (Only the models with single tray) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-48
8102	Recording paper size error (during PC printing) (Only the models with single tray) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-48
8103	Recording paper size error (during copy printing) (Only the models with single tray) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-48
8104	Paper tray #1 recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-48
8105	Paper tray #2 recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-48
8107	MP tray recording paper size error (during FAX/list printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
8108	Paper tray #1 recording paper size error (during PC printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
8109	Paper tray #2 recording paper size error (during PC printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49

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Error Code	Contents	Refer to page:
810B	MP tray recording paper size error (during PC printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
810C	Paper tray #1 recording paper size error (during copy printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
810D	Paper tray #2 recording paper size error (during copy printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
810F	MP tray recording paper size error (during copy printing) (Only the models with multiple trays) The registration sensor and paper width sensor detect recording paper smaller than the setting size.	2-49
8110	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.	2-51
8111	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray or manual feed slot has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.	2-51
8112	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and inkjet paper has been specified as the paper type in auto tray switching print.	2-51
8113	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray or manual feed slot has been specified as a pickup tray with the highest priority and inkjet paper has been specified as the paper type in auto tray switching print.	2-51
8114	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and Glossy paper has been specified as the paper type in auto tray switching print.	2-51
8115	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray or manual feed slot has been specified as a pickup tray with the highest priority and Glossy paper has been specified as the paper type in auto tray switching print.	2-51
8116	The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #2 has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.	2-51
8120	Recording paper size error (during PC printing/Copy/AirPrint printing) The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.	2-49

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Error Code	Contents	Refer to page:
8200	Paper jam - Paper width sensor cannot detect leading edge or width of recording papers.	2-52
8400	Paper jam - Registration sensor stays in paper feeding state even after completion of paper ejection action.	2-52
8700	Paper jam - Switchback sensor stays in paper feeding state even after completion of paper ejection action.	2-53
8800	Paper jam - Switchback sensor cannot detect paper feeding state even papers are fed during printing.	2-53
8900	Paper width sensor cannot detect origin specified on the paper feed roller.	2-54
8F00	Paper feed motor cannot stop.	2-54
8F01	PF encoder sensor cannot detect rotation of the paper feed motor.	2-54
9400	The subscription cartridge is not available. Black The subscription cartridge has been inserted since the time the machine was not in subscription mode.	2-55
9401	The subscription cartridge is not available. Yellow The subscription cartridge has been inserted since the time the machine was not in subscription mode.	2-55
9402	The subscription cartridge is not available. Cyan The subscription cartridge has been inserted since the time the machine was not in subscription mode.	2-55
9403	The subscription cartridge is not available. Magenta The subscription cartridge has been inserted since the time the machine was not in subscription mode.	2-55
9404	The subscription cartridge is not available. Black A subscription cartridge already used in another printer has been inserted.	2-55
9405	The subscription cartridge is not available. Yellow A subscription cartridge already used in another printer has been inserted.	2-55
9406	The subscription cartridge is not available. Cyan A subscription cartridge already used in another printer has been inserted.	2-55
9407	The subscription cartridge is not available. Magenta A subscription cartridge already used in another printer has been inserted.	2-55
9408	Set the subscription cartridge. Black The subscription cartridge has not been inserted since the time the service started.	2-55
9409	Set the subscription cartridge. Yellow The subscription cartridge has not been inserted since the time the service started.	2-55

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Error Code	Contents	Refer to page:
940A	Set the subscription cartridge. Cyan The subscription cartridge has not been inserted since the time the service started.	2-56
940B	Set the subscription cartridge. Magenta The subscription cartridge has not been inserted since the time the service started.	2-56
940C	Set the subscription cartridge. The subscription cartridge has not been inserted in a state that the service is not started after contract completion.	2-56
9500	Connect the machine to the server. A predetermined number of copies were printed after losing the connection to the server when using the subscription service.	2-57
9501	No printing is available. Instructions were received from the server to stop printing when using the subscription service.	2-57
9600	Subscription cartridge inserted before Subscription service while the machine offline due to network setting problem.	2-57
9601	Subscription cartridge inserted before Subscription service while the machine offline due to DNS setting problem.	2-57
9602	Subscription cartridge inserted before Subscription service while the machine offline due to BOC setting problem.	2-57
9603	Subscription cartridge inserted before Subscription service while the machine offline due to PIN setting problem.	2-57
9604	Subscription cartridge inserted before Subscription service while the machine offline due to reconnect request.	2-57
A000	Time out occurred during data transfer for second side document scanning.	2-58
A100	Document scanner sensor detects that document scanner is open.	2-58
A200	Document scanning position sensor detects length of document 900 mm or more.	2-58
A300	Document detection sensor detects that document is pulled out during document scanning. Or, the document scanning position sensor cannot detect document within specified time.	2-59
A400	ADF cover sensor detects that ADF cover is open.	2-59

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Error Code	Contents	Refer to page:
A500	Level of CIS scan result is detected as abnormal during the first side fax sending. (During the first sending)	2-60
A600	Level of CIS scan result is detected as abnormal during the first side fax sending. (After retrying)	2-60
A700	Type of cis unit and CIS type input value does not match.	2-60
AC00	Level of CIS scan result is detected as abnormal during the second side fax sending. (During the first sending)	2-60
AD00	The required number of pixels of the scanning data is not output, and it does not finish normally.	2-61
AF00	CIS positioning abnormal (Home position cannot be found)	2-61
BC00	Level of CIS scan result is detected as abnormal during the second side fax sending. (After retrying)	2-60
BF00	Document scanning position sensor detects that the document's length does not fit duplex scanning.	2-61
D100	Modem PCB initialization failed.	2-62
D200	SDAA communication failure	2-62
D800	Touch panel initialization failed.	2-62
E200	Wired LAN MAC address not registered.	2-62
E300	Wireless LAN connection error	2-62
E600	Main PCB EEPROM write error	2-62
E900	NFC PCB initialization failed.	2-63
EC00	A USB device out of the specifications is inserted to the USB terminal, and consequently over current flows.	2-63
F000	Flash file system error	2-63
F001	Flash ROM read problem	2-63
FD00	Firmware verification during the self test fails.	2-63
FD01	System resource error	2-63
FE00	ROM data acquisition error	2-63

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3.2 Error Messages

Error Message	State	Error Code	Reference
Black and White Print Only Replace Ink	Ink cartridge reaches its replacement period. After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2600 2601 2602 2603	2-35
Cannot Connect	A predetermined number of copies were printed after losing the connection to the server when using the subscription service.	9500	2-57
	Subscription cartridge inserted before Subscription service while the machine offline.	9600 9601 9602 9603 9604	2-57
Cannot Detect	Cannot identify a ink cartridge.	2000 2001 2002 2003	2-32
	Ink cartridge side IC chip relation defective - Identification no match - Judging as incompatible ink cartridge	2400 2401 2402 2403	2-34
	The user does not allow the use of non-genuine cartridges. The user has selected [No] on the confirmation screen for using a non-genuine cartridge.	2800 2801 2802 2803	2-36
Cannot Detect Ink Volume	A cartridge with an incorrect remaining ink (a cartridge which has been refilled repeatedly) is loaded.	---	4.10.6
Cannot Print	Instructions were received from the server to stop printing when using the subscription service.	9501	2-57
Comm. Error	Poor telephone line quality caused a communication error.	---	4.9.3
Connection Error	Other devices are trying to connect to the Wi-Fi Direct network at the same time.	---	4.5.1
Connection Failed	The machine and the mobile device cannot communicate.	---	4.5.1
Cover is Open	Document scanner sensor detects that document scanner is open.	A100	2-58
	Ink cartridge cover sensor detects opened cover state.	2F00	2-37
Data Remaining in Memory	The memory is full and data cannot be processed.	---	4.10.4
Disconnected	The destination FAX machine stopped.	---	4.9
Document Jam/too Long	Document scanning position sensor detects length of document 900 mm or more.	A200	2-58
	Document detection sensor detects that document is pulled out during document scanning. Or, the document scanning position sensor cannot detect document within specified time.	A300	2-59

Error Message	State	Error Code	Reference
High Temperature	It is detected that the head temperature is higher than the setting.	4300	2-43
	It is detected that the machine temperature is higher than the setting.	4000	2-42
Hub is Unusable	A USB hub or a USB device with a built-in hub has been set.	---	4.10.2
Incorrect Cartridge	A subscription cartridge already used in another printer has been inserted.	9404 9405 9406 9407	2-55
Ink absorber Pad Full	Purge count or flushing count overflown.	4600	2-43
Ink Low	The ink cartridge will reach its replacement period.	2700	2-35
Install Inbox Ink	Ink cartridge side IC chip relation defective - It is judged as optional ink cartridge has been loaded before the initial installation is started.	2300 2301 2302 2303	2-33
Install Subscription Cartridge	The subscription cartridge has not been inserted in a state that the service is not started after contract completion.	940C	2-56

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Error Message	State	Error Code	Reference
Jam Front/Rear Jam Front Jam Rear Jam MP Tray Jam Front/MP Tray Jam Tray2 Paper Jam Repeat Jam (XX) Repetitive Paper Jams	Paper jam during duplex-printing The recording papers are fed in reverse on the platen when switchback drive is started, triggering switchback sensor as paper feeding condition.	0D00	2-29
	Defective during duplex-printing Switchback sensor detects paper feed condition at out of specified timing during switchback.	0E00	2-29
	Defective during duplex-printing Registration sensor detects paper feed condition at out of specified timing during switchback.	1300	2-30
	Paper jam during duplex ejecting Recording paper is not able to be ejected since it is longer than 840 mm when ejecting the paper.	1500	2-30
	Paper jam during duplex-printing Registration sensor does not detect paper feed within specified pulse numbers in the second side paper re-feed.	1800	2-31
	Carriage cannot detect origin. Detected by the CR encoder sensor.	3100	2-39
	Abnormal stop of head/carriage unit being driven Caused by paper jam when ink is not discharging	3800	2-40
	Abnormal stop of head/carriage unit being driven Caused by paper jam when ink is discharging	3C00	2-41
	Paper jam Paper width sensor cannot detect leading edge or width of recording papers.	8200	2-52
	Paper jam Registration sensor stays in paper feeding state even after completion of paper ejection action.	8400	2-52
	Paper jam Switchback sensor stays in paper feeding state even after completion of paper ejection action.	8700	2-53
	Paper jam Switchback sensor cannot detect paper feeding state even papers are fed during printing.	8800	2-53
Low Temperature	It was detected that the head temperature is the specified value or less.	4300	2-43
	It was detected that the machine temperature is the specified value or less.	4000	2-42
Machine Error	The Ink Discharge Detection Function test exited without completing due to an overvoltage/ undervoltage condition or because the voltage failed to rise.	5300	2-45
	SDAA communication failure	D200	2-62
Media is Full	The memory in the media slot is full, or there are 999 or more files.		
No Caller ID	There is no caller ID information.		

Error Message	State	Error Code	Reference
No Cartridge	No ink cartridge loaded. Detected by the ink cartridge detection sensor.	2A00 2A01 2A02 2A03	2-36
	Cannot communicate with ink cartridge IC chip (ink cartridge side.)	2500 2501 2502 2503	2-34
No Device	When configuring the Wi-Fi Direct network, the machine cannot find the mobile device.	---	4.5.1
No File	The external memory in the media drive does not contain a .JPGfile.	---	4.10.3
No Paper Fed Repetitive No Paper Fed	It is detected that there is no recording paper in the valid trays for printing.	---	4.2.1 4.2.2 4.2.3
No Response/Busy	The dialled number does not answer or is busy.	---	4.9.3
Out of Fax Memory Out of Memory	The memory becomes full.	---	4.10.4
Paper size Mismatch Wrong Tray Settings	The size of the paper loaded in the tray does not match the specified print size.	8101 8102 8103 8104 8105 8107 8108 8109 810B 810C 810D 810F 8110 8111 8112 8113 8114 8115 8120	2-48 2-49 2-51
Paper Tray #1 not detected	T1 detection sensor detects no paper tray #1 state.	6700	2-46
Paper Tray #2 not detected	T2 detection sensor detects no paper tray #2 state.	6701	2-46
Replace Cartridge	The subscription cartridge has not been inserted since the time the service started.	9408 9409 940A 940B	2-55 2-56
Replace Ink	Ink cartridge reaches its replacement period. After judging as no ink by the ink remaining sensor, ink discharged for specified times.	2600 2601 2602 2603	2-35

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Error Message	State	Error Code	Reference
The maximum number of devices are already connected using Wi-Fi Direct.	The maximum number of mobile devices are already connected to the Wi-Fi Direct network when the machine is the Group Owner (G/O).	---	4.5.1
Touchscreen Initialization Failed	The touch panel was touched before completing initialization of the touch panel when the power was turned ON.	D800	2-62
Unable to Clean XX Unable to Initialize XX Unable to Print XX	Detects some problem in printing. (Refer to the error code XX.)		
Unable to Scan XX	Detects some problem in scanning. (Refer to the error code XX.)		
Unsupported Cartridge	The subscription cartridge has been inserted since the time the machine was not in subscription mode.	9400 9401 9402 9403	2-55
Unusable Device (Disconnect device from front connector & turn machine off & then on) (Please disconnect USB device.)	A USB device out of the specifications is inserted to the USB terminal, and consequently over current flows.	EC00	2-63
	An unsupported USB device is connected.	---	4.10.8
Wrong Document Size Settings	The size of the document does not match the specified scanning document size.		
Wrong Ink Cartridge	Ink cartridge side IC chip relation defective - It is judged as incompatible ink cartridge is loaded.	2200 2201 2202 2203	2-33
Wrong Ink Color	Ink cartridge side IC chip relation defective - Detecting setting wrong color	2100 2101 2102 2103	2-32

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3.3 Communications Error

Code 1	Code 2	Cause	Refer to page:
10	07	No paper when document transmission is called	4.9.3 "A communications error occurs"
10	08	Wrong fax number sent	
11	01	No dial tone detected before start of dialing	
11	02	Busy tone detected before dialing	
11	03	2nd dial tone not detected	
11	05	No loop current detected	
11	06	Busy tone detected after dialing or called	
11	07	No response from the calling station in sending	
11	10	Unobtainable tone detected after dialing	
11	11	No response after sending Fax2 net command	
13	12	NG response signal is received after sending Fax2 net command	
17	07	No response from the calling station in receiving	
20	01	Unable to detect a flag field	
20	02	Carrier termination lasts for 200 msec	
20	03	Termination command (consecutive "1" of 7 bits or more)	
20	04	Overrun detected	
20	05	A frame for 3 seconds or more received	
20	06	CRC error in answerback	
20	07	Echo command received	
20	08	Invalid command received	
20	09	Command ignored once for document setting or for dumping-out at turn-around transmission	
20	0A	T5 time-out error	
20	0B	CRP received	
20	0C	EOR and NULL received	
20	0D	While command send bit of FIF in ON, no corresponding command is received	
20	0E	EOR Command received	
32	01	Remote terminal only with V.29 capability in 2,400 or 4,800 bps transmission.	
32	02	Remote terminal not ready for polling.	

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Code 1	Code 2	Cause	Refer to page:
32	10	Remote terminal not equipped with password function, or password function switch is OFF.	4.9.3 "A communications error occurs"
32	11	Remote terminal not equipped with or not ready for confidential mailbox function.	
32	12	Remote terminal not equipped with or not ready for relay function.	
32	13	No confidential mail in the remote terminal.	
32	14	The available memory space of the remote terminal is less than that required for reception of the confidential or relay broad-casting instruction.	
32	16	Remote terminal not equipped with SEP function.	
32	17	Remote terminal not equipped with SUB function.	
32	18	Remote terminal not equipped with color function.	
40	02	Illegal coding system requested.	
40	03	Illegal recording width requested.	
40	05	ECM requested although not allowed.	
40	06	Polled while not ready.	
40	07	No document to send when polled.	
40	08	There is no data in the box No. specified by F code communication.	
40	10	Nation code or manufacturer code not coincident.	
40	11	Group number not registered in relay broad-casting commanded, or commanded total broad-casting number exceeds maximum broadcast enabled number.	
40	12	Retrieval while not in retrieval stand-by.	
40	13	Received polling from other maker products during confidential polling stand-by.	
40	17	Invalid resolution selected.	
40	18	Retrieval is commanded although remote retrieval of F code is not available.	
40	19	Remote registration is commanded although remote registration of F code is not available.	
40	20	Invalid full-color mode requested.	
50	01	Vertical resolution capability changed after compensation of background color.	
63	01	Password plus "lower 4 digits of telephone number" not coincident.	

Confidential

Code 1	Code 2	Cause	Refer to page:
63	02	Password not coincident.	4.9.3 "A communications error occurs"
63	03	Polling ID not coincident.	
63	04	Commanded confidential ID and MailBox ID not coincident.	
63	05	Relay broad-casting ID not coincident.	
63	06	Commanded Retrieval ID and MailBox Retrieval ID not coincident.	
63	09	There is no box No. specified by F code communication.	
63	10	SID frame is not sent at the time of remote registration to bulletin board using F code.	
63	11	PWD frame is not sent at the time of remote retrieval of confidential data using F code.	
63	12	Password specified by F code does not match.	
74	XX	DCN received.	
80	01	Fallback impossible.	
90	01	Unable to detect video signals or commands within 6 seconds after CFR is transmitted.	
90	02	Received PPS containing invalid page count or block count.	
A0	03	Error correction sequence not terminated even at the final transmission speed for fallback.	
A0	11	Receiving buffer empty (5 seconds time-out.)	
A0	12	Receive buffer full during operation except receiving into memory.	
A0	13	Decoding error continued on 500 lines or more.	
A0	14	Decoding error continued for 15 seconds or more.	
A0	15	Timeout: 13 seconds or more for one-line transmission.	
A0	16	RTC not detected and carrier off detected for 6 seconds.	
A0	17	RTC detected but command not detected for 60 seconds or more.	
A0	19	No image data to be sent.	
A0	20	Continue Color FAX receiving impossible (ink remaining low.)	
A8	01	Receive RTN or PIN or ERR (sending side.)	
A9	01	Send RTN or PIN or ERR (receiving side.)	

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Code 1	Code 2	Cause	Refer to page:
AA	18	Receive buffer full during receiving into memory.	4.9.3 "A communications error occurs"
B0	02	Unable to receive the next-page data.	
B0	03	Unable to receive polling even during turn-around transmission due to call reservation.	
B0	04	PC interface error	
BF	01	Communication canceled by depressing stop key before confirming FAX communication.	
BF	02	Communication canceled by depressing stop key after confirming FAX communication.	
C0	01	No common modulation mode or polling failed.	
C0	02	Unable to detect JM.	
C0	03	Unable to detect CM.	
C0	04	Unable to detect CJ.	
C0	10	V. 34 negotiation or training not finished.	
C0	11	Modem error detected during V. 34 negotiation or training.	
C0	20	Modem error detected during sending of commands.	
C0	21	Modem error detected during receiving of commands.	
C0	22	Control channel connection time-out.	
C0	30	Modem error detected during sending of image signals.	
C0	31	Modem error detected during receiving of image signals.	
E0	01	Failed to detect 1,300 Hz signal in burn-in operation.	
E0	02	Failed to detect PB signals in burn-in operation.	
E0	03	Command not detected from RS232C in burn-in.	

Confidential

4 TROUBLESHOOTING

4.1 Error Cause and Solutions

■ Error Code 0D00
Paper jam during duplex-printing
- The recording papers are fed in reverse on the platen when switchback drive is started, triggering switchback sensor as paper feeding condition.

< User Check >
- Remove the jammed paper.
- Check whether the recording paper being used is within the specification.
- Check that recording paper are not curled, wrinkled or wet.
- Check that recording paper is loaded correctly in the tray.
- Check that Output paper tray is set correctly (not inserted halfway).

Step	Cause	Solution
1	Foreign materials in the duplex print paper path	Remove foreign materials.
2	Switchback outer paper guide not mounted in place	Set the switchback outer paper guide into place.
3	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
4	Switchback sensor defective	Replace the switchback sensor PCB.
5	Main PCB defective	Replace the main PCB.

■ Error Code 0E00
Defective during duplex-printing
- Switchback sensor detects paper feed condition at out of specified timing during switchback.

< User Check >
- Check whether the recording paper being used is within the specification.
- Check that Output paper tray is set correctly (not inserted halfway).

Step	Cause	Solution
1	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
2	Switchback sensor defective	Replace the switchback sensor PCB.
3	Main PCB defective	Replace the main PCB.

■ Error Code 1300

Defective during duplex-printing

- Registration sensor detects paper feed condition at out of specified timing during switchback.

< User Check >

- Check that recording paper is not loaded in the MP tray and/or manual feed slot.
- Check whether the recording paper being used is within the specification.
- Check that Output paper tray is set correctly (not inserted halfway).

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
2	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
3	Registration sensor defective	Replace the registration sensor PCB.
4	Main PCB defective	Replace the main PCB.

■ Error Code 1500

Paper jam during duplex ejecting

- Recording paper is not able to be ejected since it is longer than 840 mm when ejecting the paper. (The registration sensor stays in the paper feeding condition during ejecting.)

< User Check >

- Remove the jammed paper.
- Check whether the recording paper being used is within the specification.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
3	Main PCB defective	Replace the main PCB.

■ Error Code 1700

Recording paper size error (duplex-printing/duplex-copying)

- Paper width is narrower than 95.5 mm (detection by paper width sensor)
- Paper length is longer than 245.9 mm (detection by registration sensor)
- Paper length is shorter than 143.5 mm (detection by registration sensor)

< User Check >

- Check whether the recording paper being used is within the specification.
- Check that dark recording paper is not used.

Step	Cause	Solution
1	CR encoder strip stained	Clean the CR encoder strip.
2	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
3	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
4	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
5	CR encoder strip defective	Replace the CR encoder strip.
6	PF encoder disk defective	Replace the PF encoder disk.
7	Registration sensor defective	Replace the registration sensor PCB.
8	Paper width sensor defective	Replace the carriage PCB ASSY.
9	Paper feed motor defective	Replace the paper feed motor.
10	Main PCB defective	Replace the main PCB.

■ Error Code 1800

Paper jam during duplex-printing

- Registration sensor does not detect paper feed within specified pulse numbers in the second side paper re-feed.

< User Check >

- Remove the jammed paper.
- Check whether the recording paper being used is within the specification.
- Check that recording paper are not curled, wrinkled or wet.
- Check that Output paper tray is set correctly (not inserted halfway).

Step	Cause	Solution
1	Foreign materials in the duplex print paper path	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
3	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
4	Registration sensor defective	Replace the registration sensor PCB.
5	Switchback roller defective	Replace the switchback roller.
6	Drive frame ASSY defective	Replace the maintenance unit.
7	Main PCB defective	Replace the main PCB.

■ Error Code 2000
Cannot identify a black ink cartridge.
- The ink cartridge detection sensor and the ink remaining sensor are detecting.

Error Code 2001
Cannot identify a yellow ink cartridge.
- The ink cartridge detection sensor and the ink remaining sensor are detecting.

Error Code 2002
Cannot identify a cyan ink cartridge.
- The ink cartridge detection sensor and the ink remaining sensor are detecting.

Error Code 2003
Cannot identify a magenta ink cartridge.
- The ink cartridge detection sensor and the ink remaining sensor are detecting.

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.

Step	Cause	Solution
1	Each ink cartridge sensor or ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2100
Black ink cartridge side IC chip relation defective
- Detecting setting wrong color

Error Code 2101
Yellow ink cartridge side IC chip relation defective
- Detecting setting wrong color

Error Code 2102
Cyan ink cartridge side IC chip relation defective
- Detecting setting wrong color

Error Code 2103
Magenta ink cartridge side IC chip relation defective
- Detecting setting wrong color

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.
- Set ink cartridge at position for correct color.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2200
Black ink cartridge side IC chip relation defective
- It is judged as incompatible ink cartridge is loaded.

Error Code 2201
Yellow ink cartridge side IC chip relation defective
- It is judged as incompatible ink cartridge is loaded.

Error Code 2202
Cyan ink cartridge side IC chip relation defective
- It is judged as incompatible ink cartridge is loaded.

Error Code 2203
Magenta ink cartridge side IC chip relation defective
- It is judged as incompatible ink cartridge is loaded.

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2300
Black ink cartridge side IC chip relation defective
- It is judged as optional ink cartridge has been loaded before the initial installation is started.

Error Code 2301
Yellow ink cartridge side IC chip relation defective
- It is judged as optional ink cartridge has been loaded before the initial installation is started.

Error Code 2302
Cyan ink cartridge side IC chip relation defective
- It is judged as optional ink cartridge has been loaded before the initial installation is started.

Error Code 2303
Magenta ink cartridge side IC chip relation defective
- It is judged as optional ink cartridge has been loaded before the initial installation is started.

< User Check >
- Check if optional ink cartridge or incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace with the starter ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2400
Black ink cartridge side IC chip relation defective
- Identification no match or judging as incompatible ink cartridge

Error Code 2401
Yellow ink cartridge side IC chip relation defective
- Identification no match or judging as incompatible ink cartridge

Error Code 2402
Cyan ink cartridge side IC chip relation defective
- Identification no match or judging as incompatible ink cartridge

Error Code 2403
Magenta ink cartridge side IC chip relation defective
- Identification no match or judging as incompatible ink cartridge

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2500
Cannot communicate with black ink cartridge IC chip (ink cartridge side.)

Error Code 2501
Cannot communicate with yellow ink cartridge IC chip (ink cartridge side.)

Error Code 2502
Cannot communicate with cyan ink cartridge IC chip (ink cartridge side.)

Error Code 2503
Cannot communicate with magenta ink cartridge IC chip (ink cartridge side.)

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.

Step	Cause	Solution
1	Ink sensor flat cable connection failure	Reconnect the ink sensor flat cable.
2	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
3	Main PCB defective	Replace the main PCB.

■ Error Code 2600

Black ink cartridge reaches its replacement period.

- After judging as no ink by the ink remaining sensor, ink discharged for specified times.

Error Code 2601

Yellow ink cartridge reaches its replacement period.

- After judging as no ink by the ink remaining sensor, ink discharged for specified times.

Error Code 2602

Cyan ink cartridge reaches its replacement period.

- After judging as no ink by the ink remaining sensor, ink discharged for specified times.

Error Code 2603

Magenta ink cartridge reaches its replacement period.

- After judging as no ink by the ink remaining sensor, ink discharged for specified times.

Error Code 2700

Black ink cartridge will reach its replacement period.

- After judging as no ink by the ink remaining sensor, ink discharged for less than specified times.

< User Check >

- Replace the ink cartridge.

Step	Cause	Solution
1	Ink remaining sensor defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2800
The user does not allow the use of non-genuine Black cartridges.
The user has selected [No] on the confirmation screen for using a non-genuine cartridge.

Error Code 2801
The user does not allow the use of non-genuine Yellow cartridges.
The user has selected [No] on the confirmation screen for using a non-genuine cartridge.

Error Code 2802
The user does not allow the use of non-genuine Cyan cartridges.
The user has selected [No] on the confirmation screen for using a non-genuine cartridge.

Error Code 2803
The user does not allow the use of non-genuine Magenta cartridges.
The user has selected [No] on the confirmation screen for using a non-genuine cartridge.

< User Check >
- Check if incompatible ink cartridge is loaded.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2A00
No black ink cartridge loaded.
- Detected by the ink cartridge detection sensor.

Error Code 2A01
No yellow ink cartridge loaded.
- Detected by the ink cartridge detection sensor.

Error Code 2A02
No cyan ink cartridge loaded.
- Detected by the ink cartridge detection sensor.

Error Code 2A03
No magenta ink cartridge loaded.
- Detected by the ink cartridge detection sensor.

< User Check >
- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge detection sensor or ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2B00
Black ink cartridge ink remaining counter error

Error Code 2B01
Yellow ink cartridge ink remaining counter error

Error Code 2B02
Cyan ink cartridge ink remaining counter error

Error Code 2B03
Magenta ink cartridge ink remaining counter error

< User Check >
- Check if incompatible ink cartridge is loaded.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 2E00
Cannot communicate with ink cartridge IC chip (machine body side.)

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

■ Error Code 2F00
Ink cartridge cover sensor detects opened cover state.

< User Check >
- Close the ink cartridge cover.

Step	Cause	Solution
1	Ink cartridge cover sensor harness connection failure	Reconnect the ink cartridge cover sensor harness.
2	Ink cartridge cover defective	Replace the ink cartridge cover.
3	Ink cartridge cover sensor defective	Replace the ink cartridge cover sensor ASSY.
4	Main PCB defective	Replace the main PCB.

■ Error Code 3000

Carriage does not move.

- Detected by the CR encoder sensor.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials in the engine unit	Remove foreign materials.
2	CR encoder strip out of place	Set the CR encoder strip into place.
3	CR timing belt out of place	Set the CR timing belt into place.
4	Head cover out of place	Set the head cover into place.
5	Carriage motor harness connection failure	Reconnect the carriage motor harness.
6	Carriage flat cable connection failure	Reconnect the carriage flat cable.
7	CR encoder strip stained	Clean the CR encoder strip.
8	CR encoder strip defective	Replace the CR encoder strip.
9	CR encoder sensor defective	Replace the carriage PCB ASSY.
10	Carriage motor defective	Replace the carriage motor.
11	Main PCB defective	Replace the main PCB.

■ Error Code 3100

Carriage cannot detect origin.

- Detected by the CR encoder sensor.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials around the maintenance unit	Remove foreign materials.
2	Foreign materials around the flushing box	Remove foreign materials.
3	Switching lever guide out of place	Set the switching lever guide into place.
4	CR encoder strip stained	Clean the CR encoder strip.
5	Flushing box not mounted in place	Set the flushing box into place.
6	CR guide rail not mounted in place	Set the CR guide rail into place.
7	Platen not mounted in place	Set the platen into place.
8	Maintenance unit not mounted in place	Set the maintenance unit into place.
9	Head/carriage unit not mounted in place	Set the head/carriage unit into place.
10	CR encoder strip defective	Replace the CR encoder strip.
11	CR encoder sensor defective	Replace the carriage PCB ASSY.
12	Switching lever guide defective Maintenance unit defective	Replace the maintenance unit.
13	Main PCB defective	Replace the main PCB.

■ Error Code 3200

Head capping is unable.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials around the maintenance unit	Remove foreign materials.
2	Switching lever guide out of place	Set the switching lever guide into place.
3	CR encoder strip defective	Replace the CR encoder strip.
4	Switching lever guide defective Maintenance unit defective	Replace the maintenance unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code 3500

Abnormal stop of head/carriage unit being driven.

- Causes other than paper jam when ink is not discharging.

Step	Cause	Solution
1	Foreign materials in the engine unit	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	Switching lever guide out of place	Set the switching lever guide into place.
4	CR encoder strip defective	Replace the CR encoder strip.
5	CR encoder sensor defective	Replace the carriage PCB ASSY.
6	Maintenance unit defective	Replace the maintenance unit.
7	Main PCB defective	Replace the main PCB.

■ Error Code 3800

Abnormal stop of head/carriage unit being driven.

- Caused by paper jam when ink is not discharging.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials in the engine unit	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	Switching lever guide out of place	Set the switching lever guide into place.
4	CR encoder strip defective	Replace the CR encoder strip.
5	CR encoder sensor defective	Replace the carriage PCB ASSY.
6	Maintenance unit defective	Replace the maintenance unit.
7	Main PCB defective	Replace the main PCB.

■ Error Code 3B00

Abnormal stop of head/carriage unit being driven.

- Causes other than paper jam when ink is discharging.

Step	Cause	Solution
1	Foreign materials in the engine unit	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip defective	Replace the CR encoder strip.
4	CR encoder sensor defective	Replace the carriage PCB ASSY.
5	Main PCB defective	Replace the main PCB.

■ Error Code 3C00

Abnormal stop of head/carriage unit being driven.

- Caused by paper jam when ink is discharging.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials in the engine unit	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip defective	Replace the CR encoder strip.
4	CR encoder sensor defective	Replace the carriage PCB ASSY.
5	Main PCB defective	Replace the main PCB.

■ Error Code 3E00

Defective occurs in the ASF motor, carriage motor or paper feed motor.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Foreign materials in the maintenance unit	Remove foreign materials.
3	Foreign materials around paper feed roller belt	Remove foreign materials.
4	Foreign materials around paper ejection roller belt	Remove foreign materials.
5	Foreign materials in the engine unit	Remove foreign materials.
6	Maintenance unit not mounted in place	Set the maintenance unit into place.
7	Flushing box not mounted in place	Set the flushing box into place.
8	CR guide rail not mounted in place	Set the CR guide rail into place.
9	Platen not mounted in place	Set the platen into place.
10	Head/carriage unit not mounted in place	Set the head/carriage unit into place.
11	CR encoder strip defective	Replace the CR encoder strip.
12	PF encoder disk defective	Replace the PF encoder disk.
13	PF encoder sensor defective	Replace the PF encoder sensor.
14	CR encoder sensor defective	Replace the carriage PCB ASSY.
15	Carriage motor defective	Replace the carriage motor.
16	Paper feed motor defective	Replace the paper feed motor.
17	ASF motor defective	Replace the maintenance unit.
18	Main PCB defective	Replace the main PCB.

■ Error Code 3F00
Carriage motor cannot stop.

Step	Cause	Solution
1	Carriage motor harness connection failure	Reconnect the carriage motor harness.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip defective	Replace the CR encoder strip.
4	CR encoder sensor defective	Replace the carriage PCB ASSY.
5	Carriage motor defective	Replace the carriage motor.
6	Main PCB defective	Replace the main PCB.

■ Error Code 4000
Casing internal thermistor defective
- Casing internal thermistor detects -20 degree-C or less, or 80 degree-C or more when power is ON.

Step	Cause	Solution
1	Casing internal thermistor defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 4200
Head voltage does not turn OFF.

< User Check >
- They may occur due to lower surrounding temperature. Use in warmer surrounding temperature.

Step	Cause	Solution
1	Head flat cable connection failure	Reconnect the head flat cable.
2	Carriage flat cable connection failure	Reconnect the carriage flat cable.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Head defective	Replace the head/carriage unit.
5	Power supply PCB defective	Replace the power supply PCB.
6	Main PCB defective	Replace the main PCB.

■ Error Code 4300

Head thermistor defective

- Head thermistor detects -20 degree-C or less, or 80 degree-C or more when power is ON.

Step	Cause	Solution
1	Carriage flat cable connection failure	Reconnect the carriage flat cable.
2	Head thermistor defective	Replace the head/carriage unit.
3	Main PCB defective	Replace the main PCB.

■ Error Code 4400

Head driver IC detects abnormal temperature during operation or stand-by.

Step	Cause	Solution
1	Carriage flat cable connection failure	Reconnect the carriage flat cable.
2	Head property information not input	Input the head property information (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
3	Head thermistor defective Head defective	Replace the head/carriage unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code 4600

Purge count or flushing count overflown.

Step	Cause	Solution
1	Ink absorber box or flushing box full.	Replace ink absorber box or flushing box, resetting purge counter or flushing counter.
2	Main PCB defective	Replace the main PCB.

■ Error Code 4800

Head flat cable detected to be not correctly inserted.

Step	Cause	Solution
1	Carriage flat cable connection failure	Reconnect the carriage flat cable.
2	Head flat cable connection failure	Reconnect the head flat cable.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Head defective	Replace the head/carriage unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code 4900
Head voltage does not raise.

< User Check >
- They may occur due to lower surrounding temperature. Use in warmer surrounding temperature.

Step	Cause	Solution
1	Head flat cable connection failure	Reconnect the head flat cable.
2	Carriage flat cable connection failure	Reconnect the carriage flat cable.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Head defective	Replace the head/carriage unit.
5	Power supply PCB defective	Replace the power supply PCB.
6	Main PCB defective	Replace the main PCB.

■ Error Code 4C00
ASIC thermistor error.
- The ASIC thermistor detected a temperature of -21 degree-C or less, or 125 degree-C or greater, when the machine was turned on.

Error Code 4C01
Compound IC thermistor error.
- The compound IC thermistor detected a temperature of -21 degree-C or less, or 125 degree-C or greater, when the machine was turned on.

Step	Cause	Solution
1	Head flat cable connection failure	Reconnect the head flat cable.
2	Carriage flat cable connection failure	Reconnect the carriage flat cable.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Head defective	Replace the head/carriage unit.
5	Power supply PCB defective	Replace the power supply PCB.
6	Main PCB defective	Replace the main PCB.

■ Error Code 4E00
Head voltage remains ON and does not turn OFF even after 15 minutes have passed.

Step	Cause	Solution
1	Carriage PCB defective	Replace the carriage PCB ASSY.
2	Head defective	Replace the head/carriage unit.
3	Main PCB defective	Replace the main PCB.

■ Error Code 4F00
Head voltage drops too quick.

< User Check >
- They may occur due to lower surrounding temperature. Use in warmer surrounding temperature.

Step	Cause	Solution
1	Head flat cable connection failure	Reconnect the head flat cable.
2	Carriage flat cable connection failure	Reconnect the carriage flat cable.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Head defective	Replace the head/carriage unit.
5	Power supply PCB defective	Replace the power supply PCB.
6	Main PCB defective	Replace the main PCB.

■ Error Code 5000
The purge cam switch is not switching ON/OFF.

Error Code 5200
Failed to detect the origin of the purge cam.

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	Purge cam switch harness connection failure	Reconnect the purge cam switch harness.
3	Maintenance unit defective	Replace the maintenance unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code 5300
The Ink Discharge Detection Function test exited without completing due to an overvoltage/undervoltage condition or because the voltage failed to rise.

Step	Cause	Solution
1	Ink drop detect PCB flat cable connection failure	Reconnect the Ink drop detect PCB flat cable.
2	Ink drop detect PCB harness connection failure	Reconnect the Ink drop detect PCB harness.
3	Ink drop detect PCB defective	Replace the Ink drop detect PCB ASSY.
4	Maintenance unit defective	Replace the maintenance unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code 5A00
Abnormal stop of purge cam being driven

Error Code 5B00
Pump of maintenance unit stopped abnormally during exhaustion/suction.

Error Code 5D00
Excessive current protection activated for the head driver IC during purge cam operation.

Error Code 5E00
Excessive current protection activated for the head driver IC during pump operation.

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	Ink supply tubes bent	Replace the ink refill ASSY.
3	Maintenance unit defective	Replace the maintenance unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code 6700
T1 detection sensor detects no paper tray #1 state.

< User Check >
- Set paper tray #1.

Step	Cause	Solution
1	T1 detection actuator caught on the surrounding parts	Set the T1 detection actuator into place.
2	T1 detection sensor harness connection failure	Reconnect the T1 detection sensor harness.
3	Paper tray #1 defective	Replace the paper tray ASSY #1.
4	Main PCB defective	Replace the main PCB.

■ Error Code 6701
T2 detection sensor detects no paper tray #2 state.

< User Check >
- Set paper tray #2.

Step	Cause	Solution
1	T2 detection actuator caught on the surrounding parts	Set the T2 detection actuator into place.
2	T2 detection sensor harness connection failure	Reconnect the T2 detection sensor harness.
3	Paper tray #2 defective	Replace the paper tray ASSY #2.
4	Main PCB defective	Replace the main PCB.

■ Error Code 6F00
ASF motor cannot stop.

Error Code 6F01
ASF encoder sensor cannot detect rotation of the ASF motor.

Step	Cause	Solution
1	ASF encoder sensor harness connection failure	Reconnect the ASF encoder sensor harness.
2	ASF motor harness connection failure	Reconnect the ASF motor harness.
3	Maintenance unit defective	Replace the maintenance unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code 7000
Failed to detect ON/OFF of the purge cam.

Error Code 7200
Failed to detect the origin of the purge cam.

Error Code 7500
Cap cam cannot shift to head capping position.

Error Code 7600
Cap cam cannot shift to head uncapping position.

Error Code 7A00
Purge cam rotation error (capping CW)

Error Code 7D00
Current protection activated for the cap driver IC.

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	Purge cam sensor harness connection failure	Reconnect the purge cam sensor harness.
3	ASF motor harness connection failure	Reconnect the ASF motor harness.
4	Maintenance unit defective	Replace the maintenance unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code 7E00
Head property information not input.

Step	Cause	Solution
1	Head property information not input	Input the head property information (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
2	Main PCB defective	Replace the main PCB.

■ Error Code 8000

Recording paper size error (during FAX/list printing) (Only the models with single tray)
The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.

Error Code 8001

Paper tray #1 recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.

Error Code 8002

Paper tray #2 recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.

Error Code 8004

MP tray recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.

Error Code 8101

Recording paper size error (during FAX/list printing) (Only the models with single tray)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8102

Recording paper size error (during PC printing) (Only the models with single tray)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8103

Recording paper size error (during copy printing) (Only the models with single tray)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8104

Paper tray #1 recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8105

Paper tray #2 recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8107
MP tray recording paper size error (during FAX/list printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8108
Paper tray #1 recording paper size error (during PC printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8109
Paper tray #2 recording paper size error (during PC printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 810B
MP tray recording paper size error (during PC printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 810C
Paper tray #1 recording paper size error (during copy printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 810D
Paper tray #2 recording paper size error (during copy printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 810F
MP tray recording paper size error (during copy printing) (Only the models with multiple trays)
The registration sensor and paper width sensor detect recording paper smaller than the setting size.

Error Code 8120
Recording paper size error (during PC printing/Copy/AirPrint printing)
The registration sensor and paper width sensor detect that the size of the loaded recording paper does not match the recording paper size setting.

< User Check >
- Check that the recording paper of the specified size is used.
- Check that recording paper is loaded in correct direction in the tray.
- Check that dark recording paper is not used.
- Clean the platen.

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
2	CR encoder strip stained	Clean the CR encoder strip.
3	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
4	CR encoder strip defective	Replace the CR encoder strip.
5	PF encoder disk defective	Replace the PF encoder disk.
6	Paper width sensor defective	Replace the carriage PCB ASSY.
7	PF encoder sensor defective	Replace the PF encoder sensor PCB.
8	Registration sensor defective	Replace the registration sensor PCB.
9	Carriage motor defective	Replace the carriage motor.
10	Paper feed motor defective	Replace the paper feed motor.
11	Maintenance unit defective	Replace the maintenance unit.
12	Main PCB defective	Replace the main PCB.

■ Error Code 8110

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.

Error Code 8111

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.

Error Code 8112

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and inkjet paper has been specified as the paper type in auto tray switching print.

Error Code 8113

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray has been specified as a pickup tray with the highest priority and inkjet paper has been specified as the paper type in auto tray switching print.

Error Code 8114

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #1 has been specified as a pickup tray with the highest priority and Glossy paper has been specified as the paper type in auto tray switching print.

Error Code 8115

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the MP tray has been specified as a pickup tray with the highest priority and Glossy paper has been specified as the paper type in auto tray switching print.

Error Code 8116

The paper size and paper type of each tray set during print setting are different from before printing. This error occurs when the paper tray #2 has been specified as a pickup tray with the highest priority and plain paper has been specified as the paper type in auto tray switching print.

< User Check >

- Check that the paper size in the tray is the same as the paper size in the print setting.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

■ Error Code 8200

Paper jam.

- Paper width sensor cannot detect leading edge or width of recording papers.

< User Check >

- Check whether the recording paper being used is within the specification.
- Check that dark recording paper is not used.
- Clean the platen.
- Remove the jammed paper in jam clear cover part.

Step	Cause	Solution
1	Foreign materials in the feeding path	Remove foreign materials.
2	Paper feeding path parts out of place	Set the paper feeding path parts into place.
3	Paper feed roller stained	Clean the paper feed roller.
4	Paper width sensor defective	Replace the carriage PCB ASSY.
5	Paper feed roller defective	Replace the paper feed roller.
6	Main PCB defective	Replace the main PCB.

■ Error Code 8400

Paper jam.

- Registration sensor stays in paper feeding state even after completion of paper ejection action.

< User Check >

- Remove the jammed paper in platen part.

Step	Cause	Solution
1	Foreign materials in the feeding path	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Set the registration actuator into place.
3	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
4	Paper feed roller, paper ejection roller or switchback roller stained	Clean the related rollers.
5	Paper feed roller, paper ejection roller or switchback roller defective	Replace related rollers.
6	PF encoder sensor defective	Replace the PF encoder sensor PCB.
7	Maintenance unit defective	Replace the maintenance unit.
8	Main PCB defective	Replace the main PCB.

■ Error Code 8700

Paper jam.

- Switchback sensor stays in paper feeding state even after completion of paper ejection action.

< User Check >

- Remove the jammed paper in front part.
- The paper tray is not set correctly.

Step	Cause	Solution
1	Foreign materials in the feeding path	Remove foreign materials.
2	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
3	Switchback outer paper guide not mounted in place	Set the switchback outer paper guide into place.
4	Paper feed roller or Switchback roller stained	Clean the paper feed roller or switchback roller.
5	Paper feed roller or switchback roller defective	Replace the paper feed roller or switchback roller.
6	PF encoder sensor defective	Replace the PF encoder sensor PCB.
7	Maintenance unit defective	Replace the maintenance unit.
8	Main PCB defective	Replace the main PCB.

■ Error Code 8800

Paper jam.

- Switchback sensor cannot detect paper feeding state even papers are fed during printing.

< User Check >

- Remove the jammed paper in platen part and front part.

Step	Cause	Solution
1	Foreign materials in the feeding path	Remove foreign materials.
2	Switchback actuator caught on the surrounding parts	Set the switchback frame ASSY into place.
3	Switchback sensor harness connection failure	Reconnect the switchback sensor harness.
4	Paper feed roller or paper ejection roller stained	Clean the paper feed roller or paper ejection roller.
5	Paper feed roller or paper ejection roller defective	Replace the paper feed roller or paper ejection roller.
6	PF encoder sensor defective	Replace the PF encoder sensor PCB.
7	Maintenance unit defective	Replace the maintenance unit.
8	Main PCB defective	Replace the main PCB.

■ Error Code 8900

Paper width sensor cannot detect origin specified on the paper feed roller.

Step	Cause	Solution
1	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
2	PF home position detection lever out of place	Set the PF home position detection lever into place.
3	Paper width sensor or carriage PCB defective	Replace the carriage PCB ASSY.
4	Main PCB defective	Replace the main PCB.

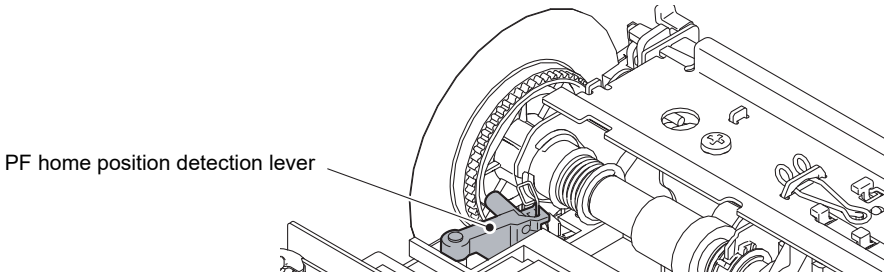


Fig. 2-8

■ Error Code 8F00

Paper feed motor cannot stop.

Step	Cause	Solution
1	Paper feed roller belt out of place	Set the paper feed roller belt into place.
2	PF encoder sensor defective	Replace the PF encoder sensor.
3	PF encoder disk defective	Replace the PF encoder disk.
4	Paper feed motor defective	Replace the paper feed motor.
5	Main PCB defective	Replace the main PCB.

■ Error Code 8F01

PF encoder sensor cannot detect rotation of the paper feed motor.

Step	Cause	Solution
1	PF encoder sensor harness connection failure	Reconnect the PF encoder sensor harness.
2	PF motor harness connection failure	Reconnect the PF motor harness.
3	PF encoder sensor defective	Replace the PF encoder sensor PCB.
4	PF encoder disk defective	Replace the PF encoder disk.
5	Paper feed motor defective	Replace the paper feed motor.
6	Main PCB defective	Replace the main PCB.

■ Error Code 9400

The subscription cartridge is not available. Black
The subscription cartridge has been inserted since the time the machine was not in subscription mode.

Error Code 9401
The subscription cartridge is not available. Yellow
The subscription cartridge has been inserted since the time the machine was not in subscription mode.

Error Code 9402
The subscription cartridge is not available. Cyan
The subscription cartridge has been inserted since the time the machine was not in subscription mode.

Error Code 9403
The subscription cartridge is not available. Magenta
The subscription cartridge has been inserted since the time the machine was not in subscription mode.

Error Code 9404
The subscription cartridge is not available. Black
A subscription cartridge already used in another printer has been inserted.

Error Code 9405
The subscription cartridge is not available. Yellow
A subscription cartridge already used in another printer has been inserted.

Error Code 9406
The subscription cartridge is not available. Cyan
A subscription cartridge already used in another printer has been inserted.

Error Code 9407
The subscription cartridge is not available. Magenta
A subscription cartridge already used in another printer has been inserted.

Error Code 9408
Set the subscription cartridge. Black
The subscription cartridge has not been inserted since the time the service started.

Error Code 9409
Set the subscription cartridge. Yellow
The subscription cartridge has not been inserted since the time the service started.

Error Code 940A
Set the subscription cartridge. Cyan
The subscription cartridge has not been inserted since the time the service started.

Error Code 940B
Set the subscription cartridge. Magenta
The subscription cartridge has not been inserted since the time the service started.

Error Code 940C
Set the subscription cartridge.
The subscription cartridge has not been inserted in a state that the service is not started after contract completion.

< User Check >

- Check if incompatible ink cartridge is loaded.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge IC chip PCB defective	Replace the ink refill ASSY.
2	Main PCB defective	Replace the main PCB.

■ Error Code 9500

Connect the machine to the server.
A predetermined number of copies were printed after losing the connection to the server when using the subscription service.

Error Code 9501
No printing is available.
Instructions were received from the server to stop printing when using the subscription service.

Error Code 9600
Subscription cartridge inserted before Subscription service while the machine offline due to network setting problem.

Error Code 9601
Subscription cartridge inserted before Subscription service while the machine offline due to DNS setting problem.

Error Code 9602
Subscription cartridge inserted before Subscription service while the machine offline due to BOC setting problem.

Error Code 9603
Subscription cartridge inserted before Subscription service while the machine offline due to PIN setting problem.

Error Code 9604
Subscription cartridge inserted before Subscription service while the machine offline due to reconnect request.

< User Check >

- Check that the network connection is correct.
- Check that contract-type services are valid.

■ Error Code A000

Time out occurred during data transfer for second side document scanning.

Step	Cause	Solution
1	Second side CIS flat cable connection failure	Reconnect the second side CIS flat cable.
2	Second side CIS unit defective	Replace the second side CIS unit.
3	Main PCB defective	Replace the main PCB.

■ Error Code A100

Document scanner sensor detects that document scanner is open.

< User Check >

- Close the document scanner.

Step	Cause	Solution
1	Document scanner sensor harness connection failure	Reconnect the document scanner sensor harness.
2	Document scanner unit boss broken	Replace the document scanner unit.
3	Main PCB defective	Replace the main PCB.

■ Error Code A200

Document scanning position sensor detects length of document 900 mm or more.

< User Check >

- Check whether the scanned document is longer than the specified limit.
- Remove the jammed document.

Step	Cause	Solution
1	Document scanning position actuator caught on the surrounding parts	Set the document scanning position actuator into place.
2	Document scanning position sensor defective	Replace the document scanning position sensor PCB.
3	ADF motor defective Document feed roller worn out	Replace the ADF unit.
4	Main PCB defective	Replace the main PCB.

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■ Error Code A300

Document detection sensor detects that document is pulled out during document scanning. Or, the document scanning position sensor cannot detect document within specified time.

< User Check >

- Remove the jammed document.

Step	Cause	Solution
1	Foreign materials in the document feeding path	Remove foreign materials.
2	Document detection actuator caught on the surrounding parts	Set the document detection actuator into place.
3	Document scanning position actuator out of place	Set the document scanning position actuator into place.
4	Document scanning position sensor harness connection failure	Reconnect the document scanning position sensor harness.
5	Document scanning position sensor defective	Replace the document scanning position sensor PCB.
6	Document pick-up roller worn out	Replace the document separation roller ASSY.
7	ADF motor defective	Replace the ADF unit.
8	Main PCB defective	Replace the main PCB.

■ Error Code A400

ADF cover sensor detects that ADF cover is open.

< User Check >

- Close the ADF cover.

Step	Cause	Solution
1	ADF cover sensor harness connection failure	Reconnect the ADF cover sensor harness.
2	ADF cover boss broken	Replace the ADF cover.
3	ADF cover sensor defective	Replace the ADF unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code A500
Level of CIS scan result is detected as abnormal during the first side fax sending. (During the first sending)

Error Code A600
Level of CIS scan result is detected as abnormal during the first side fax sending. (After retrying)

Step	Cause	Solution
1	White level data failure	Acquire white/black level data. (refer to Chapter 5, Section 1.3.14 "Acquisition of White/Black Level Data (Maintenance mode 55)")
2	White reference film of document scanner unit stained	Clean the white reference film of document scanner unit.
3	First side CIS unit defective	Replace the first side CIS unit.
4	White reference film of document scanner unit damaged, broken	Replace the document scanner unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code A700
Type of CIS unit and CIS type input value does not match.

Step	Cause	Solution
1	First side or second side CIS type input value error	Automatically identify the first side or second side CIS type input value. (refer to Chapter 5, Section 1.3.17 "Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)")
2	Main PCB defective	Replace the main PCB.

■ Error Code AC00
Level of CIS scan result is detected as abnormal during the second side fax sending. (During the first sending)

Error Code BC00
Level of CIS scan result is detected as abnormal during the second side fax sending. (After retrying)

Step	Cause	Solution
1	White level data failure	Acquire white/black level data. (refer to Chapter 5, Section 1.3.14 "Acquisition of White/Black Level Data (Maintenance mode 55)")
2	White reference film of document pressure bar of ADF stained	Clean the white reference film of document pressure bar of ADF.
3	Second side CIS unit defective	Replace the second side CIS unit.
4	White reference film of document pressure bar of ADF damaged, broken	Replace the ADF unit.
5	Main PCB defective	Replace the main PCB.

■ Error Code AD00

The required number of pixels of the scanning data is not output, and it does not finish normally.

Step	Cause	Solution
1	White level data failure	Carry out maintenance 55 to obtain white/black level data.
2	First side or second side CIS flat cable connection failure	Reconnect the first side or second side CIS flat cable.
3	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
4	Main PCB defective	Replace the main PCB.

■ Error Code AF00

CIS positioning abnormal (Home position cannot be found)

Step	Cause	Solution
1	Scanner belt out of place	Set the scanner belt into place.
2	Scanner motor harness connection failure	Reconnect the scanner motor harness.
3	First side CIS flat cable connection failure	Reconnect the first side CIS flat cable.
4	Black reference film stained	Clean document cover glass at black reference film.
5	First side CIS flat cable defective	Replace the first side CIS flat cable.
6	First side CIS unit defective	Replace the first side CIS unit.
7	Scanner motor defective	Replace the document scanner unit.
8	Main PCB defective	Replace the main PCB.

■ Error Code BF00

Document scanning position sensor detects that the document's length does not fit duplex scanning.

< User Check >

- Check whether the document scanned is longer than the specified limit.
- Remove the jammed document.

Step	Cause	Solution
1	Document scanning position actuator caught on the surrounding parts	Set the document scanning position actuator into place.
2	Document scanning position sensor defective	Replace the document scanning position sensor PCB.
3	Document feed roller worn out	Replace the ADF unit.
4	Main PCB defective	Replace the main PCB.

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■ Error Code D100
Modem PCB initialization failed.

Error Code D200
SDAA communication failure

Step	Cause	Solution
1	Modem PCB harness connection failure	Reconnect the modem PCB harness.
2	Modem PCB defective	Replace the modem PCB.
3	Main PCB defective	Replace the main PCB.

■ Error Code D800
Touch panel initialization failed.

Step	Cause	Solution
1	Touch panel defective	Replace the touch panel.
2	Main PCB defective	Replace the main PCB.

■ Error Code E200
Wired LAN MAC address not registered.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

■ Error Code E300
Wireless LAN connection error

Step	Cause	Solution
1	Wireless LAN PCB connection failure	Reconnect the wireless LAN PCB.
2	Wireless LAN PCB defective	Replace the wireless LAN PCB.
3	Main PCB defective	Replace the main PCB.

■ Error Code E600
Main PCB EEPROM write error

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

■ Error Code E900
NFC PCB initialization failed.

Step	Cause	Solution
1	NFC PCB harness connection failure	Reconnect the NFC PCB harness.
2	NFC PCB defective	Replace the NFC PCB.
3	LCD PCB defective	Replace the LCD PCB.
4	Main PCB defective	Replace the main PCB.

■ Error Code EC00
A USB device out of the specifications is inserted to the USB terminal, and consequently over current flows.

< User Check >

- Remove the inserted USB device.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

■ Error Code F000
Flash file system error

Error Code F001
Flash ROM read problem

Error Code FD00
Firmware verification during the self test fails.

Error Code FD01
System resource error

Error Code FE00
ROM data acquisition error

< User Check >

- Turn the power OFF and ON.

Step	Cause	Solution
1	Program malfunctioning	Re-load the firmware.
2	Main PCB defective	Replace the main PCB.

4.2 Recording Paper Feeding Problems

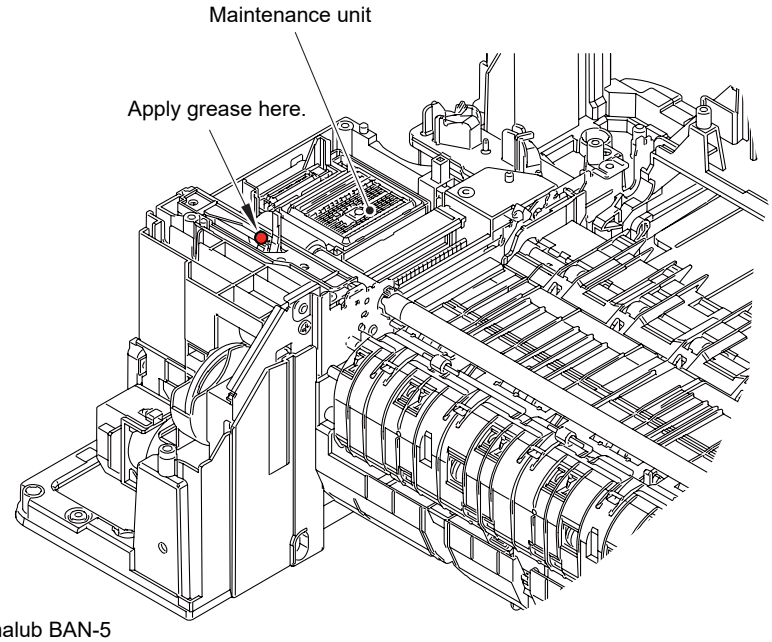
Problems related to paper feeding are end user recoverable if following the User Check items.
If the same problem occurs, follow each procedure in the order of the number described in the Step column in the tables below.

4.2.1 Paper is not fed from paper tray

< User Check >

- Check that setting of tray selection is not fixed to MP Tray or Manual feed slot.
- Check that recording paper is loaded correctly in the paper tray.
- Check that the paper smaller than the specified size is not loaded.
- Adjust the paper guide to match the recording paper size.
- Try reversing the recording paper in the paper tray, or rotating direction of the paper for 180 degrees.
- Check thickness of recording paper is within tolerance of each type.
- Check that the number of recording paper loaded in the paper tray is within specified volume.
- Clean the paper pull-in roller.

Step	Cause	Solution
1	Paper pull-in roller not mounted in place	Set the paper pull-in roller into place.
2	CR encoder strip stained	Clean the CR encoder strip.
3	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
4	Bank ASSY out of place	Set the bank ASSY into place.
5	The grease of the switching lever guide of the maintenance unit is not enough	Apply the grease for the switching lever guide of the maintenance unit. (refer to Fig. 2-9 (2-65))
6	ASF motor harness connection failure	Reconnect the ASF motor harness.
7	Registration actuator out of place	Set the registration actuator into place.
8	Paper feeding path parts out of place	Set the feeding path parts into place.
9	Paper pull-in roller worn out	Replace the T1 Paper pull-in roller L/R or T2 Paper pull-in roller L/R.
10	CR encoder strip defective	Replace the CR encoder strip.
11	CR encoder sensor defective	Replace the carriage PCB ASSY.
12	PF encoder disk defective	Replace the PF encoder disk.
13	Registration sensor defective	Replace the registration sensor PCB ASSY.
14	Paper feed motor defective	Replace the paper feed motor.
15	ASF motor/Switching lever guide defective	Replace the maintenance unit.
16	Main PCB defective	Replace the main PCB.



Lubricant type: Permalub BAN-5

Lubricant amount: 3.0 mm diameter ball

Fig. 2-9

4.2.2 Paper is not fed from manual feed slot

< User Check >

- Check that recording paper is loaded correctly in the manual feed slot.
- Check thickness of recording paper is within tolerance of each type.
- Check only a single recording paper enters.

Step	Cause	Solution
1	Paper feed motor harness connection failure	Reconnect the paper feed motor harness.
2	Registration actuator out of place	Set the registration actuator into place.
3	Paper feeding path parts out of place	Set the paper feeding path parts into place.
4	Registration sensor defective	Replace the registration sensor PCB ASSY.
5	Paper feed motor defective	Replace the paper feed motor.
6	Manual paper tray ASSY defective	Replace the Manual paper tray ASSY.
7	Main PCB defective	Replace the main PCB.

4.2.3 Paper is not fed from MP tray

< User Check >

- Check that recording paper is loaded correctly in the MP tray.
- Check thickness of recording paper is within tolerance of each type.
- Check that setting of tray selection is not fix to the paper tray.
- Check that the paper smaller than the specified size is not loaded.
- Adjust the paper guide to match the recording paper size.
- Try reversing the recording paper in the MP tray, or rotating direction of the paper for 180 degrees.
- Check that the number of recording paper loaded in the MP tray is within specified volume.
- Clean the MP paper pull-in roller.
- Check that there is no foreign material in the MP tray.

Step	Cause	Solution
1	Paper feed motor harness connection failure	Reconnect the paper feed motor harness.
2	MP paper detection sensor harness connection failure	Reconnect the MP paper detection sensor harness.
3	MP paper detection actuator out of place	Set the MP paper detection actuator into place.
4	MP paper detection sensor defective	Replace the MP paper detection sensor PCB ASSY.
5	Paper feeding path parts out of place	Set the paper feeding path parts into place.
6	Paper feed motor defective	Replace the paper feed motor.
7	ASF motor defective	Replace the maintenance unit.
8	MP drive gear broken MP paper pull-in roller worn out	Replace the MP tray ASSY.
9	Main PCB defective	Replace the main PCB.

4.2.4 Two or more sheets of paper are fed from the paper tray.

< User Check >

- Check that recording paper is loaded correctly in the paper tray.
- Check that the number of recording paper loaded in paper tray is within specified volume.
- Try reversing the recording paper in paper tray, or rotating direction of the paper for 180 degrees.
- Check thickness of recording paper is within tolerance of each type.
- Shuffle recording papers thoroughly and then reload them in the paper tray.

Step	Cause	Solution
1	Bank ASSY worn out	Replace the bank ASSY.
2	Base pad worn out	Replace the base pad.
3	Paper pull-in roller defective	Replace the T1 Paper pull-in roller L/R or T2 Paper pull-in roller L/R.
4	Paper tray defective	Replace the paper tray ASSY.

4.2.5 Two or more sheets of paper are fed from the MP tray.

< User Check >

- Check that recording paper is loaded correctly in the MP tray.
- Check that the number of recording paper loaded in the MP tray is within specified volume.
- Try reversing the recording paper in the MP tray, or rotating direction of the paper for 180 degrees.
- Check thickness of recording paper is within tolerance of each type.
- Shuffle recording papers thoroughly and then reload them in the MP tray.

Step	Cause	Solution
1	Base pad worn out Bank ASSY worn out Friction pad worn out	Replace the MP tray ASSY.

4.2.6 Paper feeding at an angle

< User Check >

- Check that recording paper is loaded correctly in the tray.
- Adjust the paper guide to match the recording paper size.
- Check thickness of recording paper is within tolerance of each type.
- Check if too much paper is loaded in the paper tray.
- Clean the paper pull-in roller.

Step	Cause	Solution
1	Bank ASSY out of place	Set the bank ASSY into place.
2	Paper feeding path parts out of place	Set the paper feeding path parts into place.
3	Main PCB defective	Replace the main PCB.

4.2.7 Recording paper jam

■ Paper jam around the paper tray

< User Check >

- Check that recording paper is loaded correctly in the paper tray.
- Check that the paper tray is inserted all the way to the back end.
- Adjust the paper guide to match the recording paper size.
- Check that the paper smaller than the specified size is not loaded.
- Check thickness of recording paper is within tolerance of each type.
- Check that the number of recording paper loaded in the paper tray is within specified volume.
- Check that the jam clear cover is securely closed.
- Clean the related rollers.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Bank ASSY out of place	Set the bank ASSY into place.
3	Platen foam drift	Set the platen foam into place.
4	Jam clear cover not mounted in place	Set the jam clear cover into place.
5	CR guide rail not mounted in place	Set the CR guide rail into place.
6	Platen ASSY not mounted in place	Set the platen ASSY into place.
7	Platen spring not mounted in place	Set the platen spring into place.
8	Jam clear cover damaged, broken	Replace the jam clear cover.
9	Platen ASSY damaged, broken	Replace the platen ASSY.
10	Registration sensor defective	Replace the registration sensor PCB ASSY.
11	Paper tray defective	Replace the paper tray ASSY.
12	Main PCB defective	Replace the main PCB.

■ Paper jam around MP tray/manual feed slot

< User Check >

- Check that recording paper is loaded correctly in the MP tray/manual feed slot.
- Adjust the paper guide to match the recording paper size.
- Check that the paper smaller than the specified size is not loaded.
- Check thickness of recording paper is within tolerance of each type.
- Check that the number of recording paper loaded in the MP tray/manual feed slot is within specified volume.
- Clean the related rollers.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Platen foam drift	Set the platen foam into place.
3	CR guide rail not mounted in place	Set the CR guide rail into place.
4	Platen ASSY not mounted in place	Set the platen ASSY into place.
5	Platen spring not mounted in place	Set the platen spring into place.
6	Platen ASSY damaged, broken	Replace the platen ASSY.
7	Registration sensor defective	Replace the registration sensor PCB ASSY.
8	MP paper detection sensor defective	Replace the MP paper detection sensor PCB ASSY.
9	MP tray/Manual paper tray ASSY defective	Replace the MP tray ASSY/Manual paper tray ASSY.
10	Main PCB defective	Replace the main PCB.

■ Paper jam around the platen

< User Check >

- Check that recording paper is loaded correctly in the tray.
- Adjust the paper guide to match the recording paper size.
- Check that the paper smaller than the specified size is not loaded.
- Check thickness of recording paper is within tolerance of each type.
- Clean the related rollers.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	PF encoder disk stained	Replace the PF encoder disk.
4	CR encoder strip out of place	Set the CR encoder strip into place.
5	Platen foam drift	Set the platen foam into place.
6	Bank ASSY out of place	Set the bank ASSY into place.
7	Head/carriage unit head unlocked	Set the head lock in lock position.
8	Switchback inner paper guide not mounted in place	Set the switchback inner paper guide into place.
9	Switchback outer paper guide not mounted in place	Set the switchback outer paper guide into place.
10	Switchback roller belt out of place	Set the switchback roller belt into place.
11	Paper ejection roller belt out of place	Set the paper ejection roller belt into place.
12	CR guide rail not mounted in place	Set the CR guide rail into place.
13	Corrugate plate not mounted in place	Set the corrugate plate into place.
14	Platen ASSY not mounted in place	Set the platen ASSY into place.
15	Platen spring not mounted in place	Set the platen spring into place.
16	CR encoder strip defective	Replace the CR encoder strip.
17	PF encoder disk defective	Replace the PF encoder disk.
18	PF encoder sensor defective	Replace the PF encoder sensor PCB ASSY.
19	DX paper guide ASSY not mounted in place	Set the DX paper guide ASSY into place.
20	Platen ASSY damaged, broken	Replace the platen ASSY.
21	Registration sensor PCB defective	Replace the registration sensor PCB ASSY.
22	Paper width sensor defective	Replace the carriage PCB ASSY.
23	Main PCB defective	Replace the main PCB.

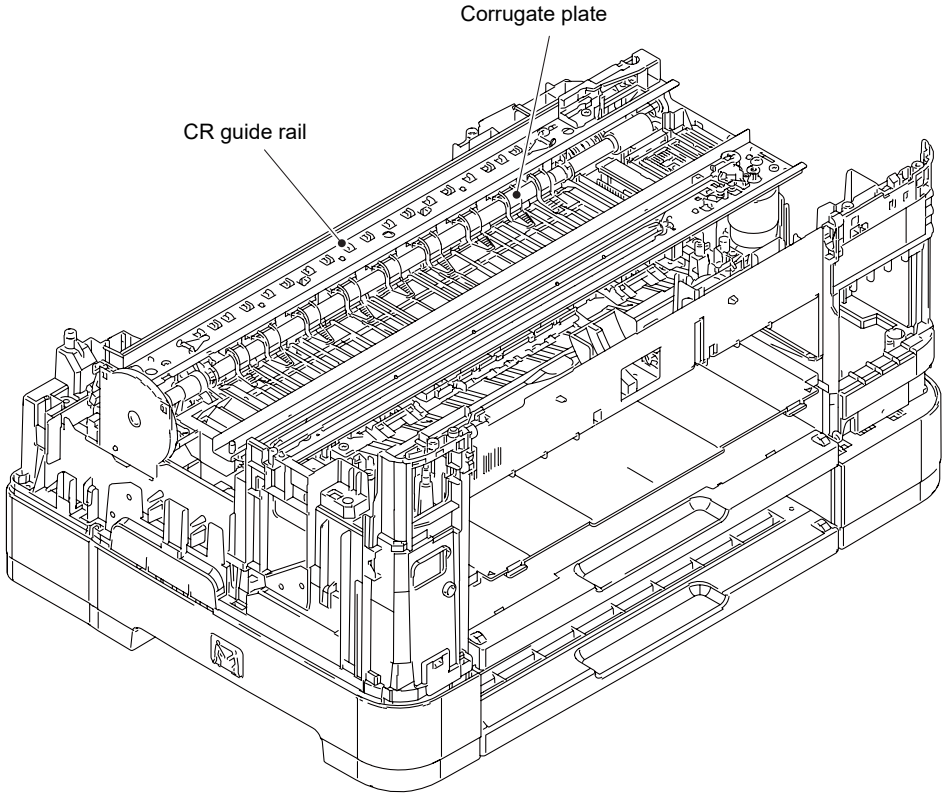


Fig. 2-10

■ Paper jam around paper ejection parts

< User Check >

- Clean the related rollers.
- Check that the number of recording paper on the output paper tray is within the maximum ejecting paper volume.
- Check that the output paper tray is pulled out in accordance with the recording paper size.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Switchback inner paper guide not mounted in place	Set the switchback inner paper guide into place.
3	Switchback outer paper guide not mounted in place	Set the switchback outer paper guide into place.
4	Switchback sensor defective	Replace the switchback sensor PCB.
5	Paper ejection roller belt out of place	Set the paper ejection roller belt into place.
6	Main PCB defective	Replace the main PCB.

■ **Paper jam during duplex printing**

< User Check >

- Adjust the paper guide to match the recording paper size.
- Check that the paper smaller than the specified size is not loaded.
- Check thickness of recording paper is within tolerance of each type.
- Clean the related rollers.
- Check that Output paper tray is set correctly (not inserted halfway).

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Switchback inner paper guide not mounted in place	Set the switchback inner paper guide into place.
3	Switchback outer paper guide not mounted in place	Set the switchback outer paper guide into place.
4	Switchback roller belt out of place	Set the switchback roller belt into place.
5	Paper ejection roller belt out of place	Set the paper ejection roller belt into place.
6	DX paper guide ASSY not mounted in place	Set the DX paper guide ASSY into place.
7	DX roller holder not mounted in place	Set the DX roller holder into place.
8	Main PCB defective	Replace the main PCB.

4.2.8 Prints only single side of the paper when duplex-printing

< User Check >

- Set the driver settings to duplex-printing.
- Check if the recording papers are not overlapping each other. Shuffle the papers thoroughly in the case of overlapping.

Step	Cause	Solution
1	Switching lever guide defective	Replace the maintenance unit.
2	Main PCB defective	Replace the main PCB.

4.2.9 “No Paper Fed” is displayed

< User Check >

- Load recording paper in the target paper tray.

Step	Cause	Solution
1	Paper remaining sensor harness connection failure	Reconnect the paper remaining sensor harness.
2	Paper remaining actuator caught on the surrounding parts	Set the paper remaining actuator into place.
3	Main PCB defective	Replace the main PCB.

4.3 Print-image Problems

4.3.1 Defective images

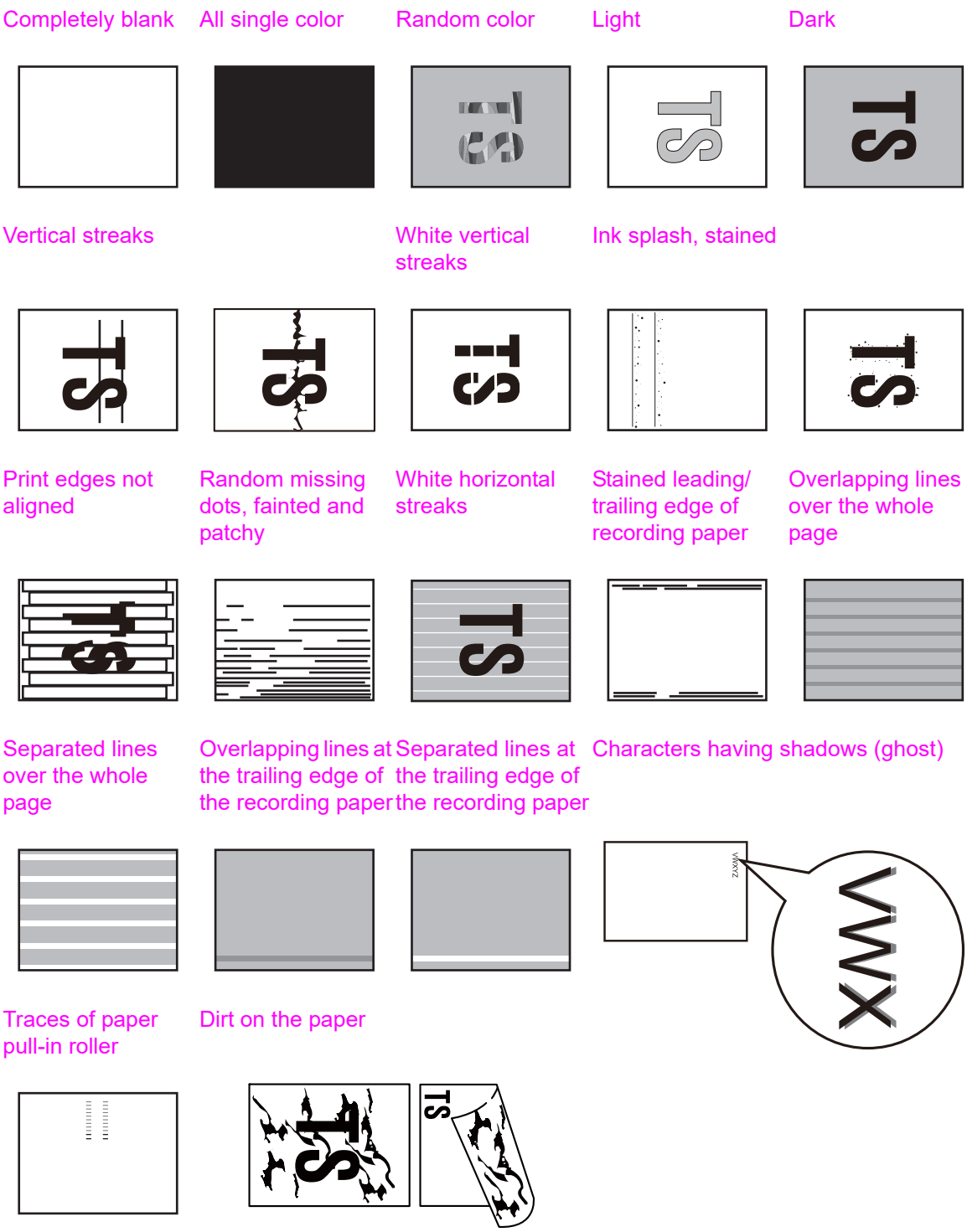


Fig. 2-11

Confidential

4.3.2 Print-image problems

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

■ Completely blank



< User Check >

- Check if there is enough remaining ink.
- Carry out head cleaning.
- Replace the ink cartridge.

Step	Cause	Solution
1	Wrong head property information	Input the head property information. (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
2	Head flat cable connection failure	Reconnect the head flat cable.
3	Carriage flat cable connection failure	Reconnect the carriage flat cable.
4	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)")
5	Ink supply tubes bent	Replace the ink refill ASSY.
6	Carriage PCB defective	Replace the carriage PCB ASSY.
7	Maintenance unit defective	Replace the maintenance unit.
8	Head defective	Replace the head/carriage unit.
9	Main PCB defective	Replace the main PCB.

■ All single color

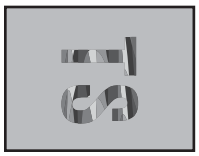


< User Check >

- Check that ink cartridge is loaded correctly.

Step	Cause	Solution
1	Carriage PCB defective	Replace the carriage PCB ASSY.
2	Head defective	Replace the head/carriage unit.
3	Main PCB defective	Replace the main PCB.

■ Random color



< User Check >

- Check that ink cartridge is loaded correctly.
- Carry out head cleaning.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Wrong head property information	Input the head property information. (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/ Restoration of Head Calibration Data (Maintenance mode 68)")
3	Head calibration uncompleted	Write the head calibration data. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
4	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
5	Carriage PCB defective	Replace the carriage PCB ASSY.
6	Head defective	Replace the head/carriage unit.
7	Maintenance unit defective	Replace the maintenance unit.
8	Main PCB defective	Replace the main PCB.

<Cleaning of the maintenance unit>

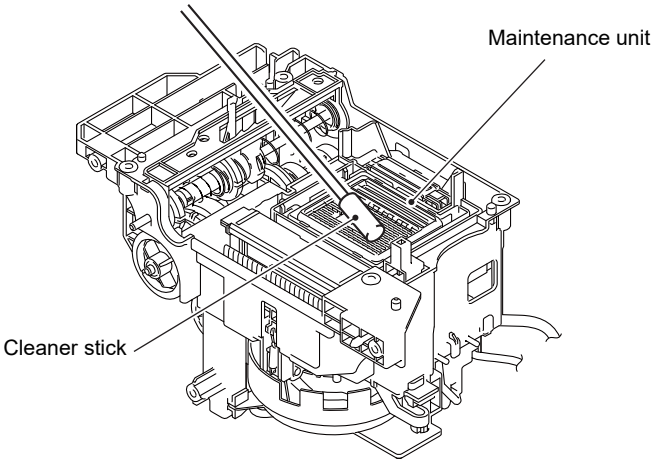
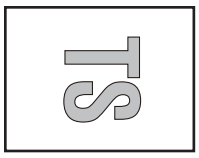


Fig. 2-12

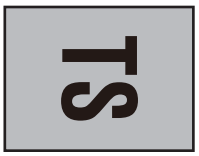
■ **Light**



< User Check >
- Check whether the recording paper being used is within the specification.
- Check whether the paper type setting is correct.
- Carry out head cleaning.
- Replace the ink cartridge.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Wrong head property information	Input the head property information. (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
3	Head calibration uncompleted	Write the head calibration data. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
4	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
5	Carriage PCB defective	Replace the carriage PCB ASSY.
6	Maintenance unit defective	Replace the maintenance unit.
7	Head defective	Replace the head/carriage unit.
8	Main PCB defective	Replace the main PCB.

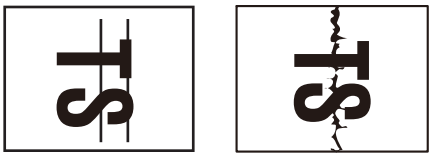
■ **Dark**



< User Check >
- Check whether the paper type setting is correct.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Wrong head property information	Input the head property information. (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
3	Head calibration uncompleted	Write the head calibration data. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
4	Carriage PCB defective	Replace the carriage PCB ASSY.
5	Maintenance unit defective	Replace the maintenance unit.
6	Head defective	Replace the head/carriage unit.
7	Main PCB defective	Replace the main PCB.

■ Vertical streaks



< User Check >

- Check whether the recording paper being used is within the specification.
- Clean the related rollers by printing blank paper.
- Clean the platen.

Step	Cause	Solution
1	Foreign materials in the CR guide rail	Remove foreign materials.
2	Recording paper path contaminated	Clean the recording paper path.
3	CR encoder strip stained	Clean the CR encoder strip.
4	Carriage flat cable not mounted in place	Set the carriage flat cable into place.
5	Ink supply tubes not mounted in place	Set the ink supply tubes into place.
6	CR encoder strip defective	Replace the CR encoder strip.

■ White vertical streaks

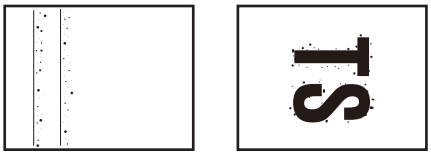


< User Check >

- Carry out head cleaning.

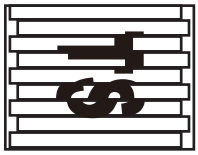
Step	Cause	Solution
1	Foreign materials in the CR guide rail	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
4	CR encoder strip defective	Replace the CR encoder strip.
5	Carriage motor defective	Replace the carriage motor ASSY.
6	Head defective	Replace the head/carriage unit.

■ Ink splash, stained



Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Platen stained	Clean the platen.
3	Wrong head property information	Input the head property information (refer to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)")
4	Carriage PCB defective	Replace the carriage PCB ASSY.
5	Maintenance unit defective	Replace the maintenance unit.
6	Head defective	Replace the head/carriage unit.
7	Main PCB defective	Replace the main PCB.

■ Print edges not aligned



< User Check >

- Check whether the recording paper being used is within the specification.
- Perform the printing position adjustment.

Step	Cause	Solution
1	Vertical print lines not aligned	Adjust vertical print line alignment. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
2	Head inclination is not correctly adjusted.	Adjust the head inclination. (refer to Chapter 4, Section 2.4 "Adjust head inclination")
3	CR encoder strip stained	Clean the CR encoder strip.
4	CR encoder strip defective	Replace the CR encoder strip.
5	Carriage PCB defective	Replace the carriage PCB ASSY.
6	Head defective	Replace the head/carriage unit.
7	Main PCB defective	Replace the main PCB.

■ Random missing dots, fainted and patchy

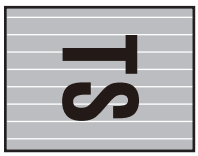


< User Check >

- Carry out head cleaning.
- Replace the ink cartridge.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Maintenance unit defective	Replace the maintenance unit.
5	Head defective	Replace the head/carriage unit.
6	Main PCB defective	Replace the main PCB.

■ White horizontal streaks



< User Check >

- Carry out head cleaning.
- Replace the ink cartridge.

Step	Cause	Solution
1	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
2	Head inclination is not correctly adjusted.	Adjust the head inclination. (refer to Chapter 4, Section 2.4 "Adjust head inclination")
3	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
4	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
5	Ink refill unit not mounted in place	Set the ink refill unit into place while pressing it to the engine unit side.
6	PF encoder disk defective	Replace the PF encoder disk.
7	Carriage PCB defective	Replace the carriage PCB ASSY.
8	Maintenance unit defective	Replace the maintenance unit.
9	Head defective	Replace the head/carriage unit.
10	Main PCB defective	Replace the main PCB.

■ **Stained leading/trailing edge of recording paper**

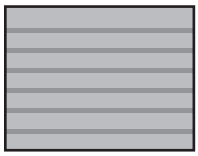


< User Check >

- Check whether the recording paper being used is within the specification.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
3	Platen defective	Replace the platen.
4	Head defective	Replace the head/carriage unit.

■ **Overlapping lines over the whole page**



< User Check >

- Carry out head cleaning.

Step	Cause	Solution
1	Head inclination is not correctly adjusted.	Adjust the head inclination. (refer to Chapter 4, Section 2.4 "Adjust head inclination")
2	Head calibration uncompleted	Write the head calibration data. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
3	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
4	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
5	Ink refill unit not mounted in place	Set the ink refill unit into place while pressing it to the engine unit side.
6	PF encoder disk defective	Replace the PF encoder disk.
7	Head defective	Replace the head/carriage unit.
8	Main PCB defective	Replace the main PCB.

■ **Separated lines over the whole page**



< User Check >

- Carry out head cleaning.

Step	Cause	Solution
1	Head inclination is not correctly adjusted.	Adjust the head inclination. (refer to Chapter 4, Section 2.4 "Adjust head inclination")
2	Head calibration uncompleted	Write the head calibration data. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
3	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
4	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
5	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
6	Ink refill unit not mounted in place	Set the ink refill unit into place while pressing it to the engine unit side.
7	PF encoder disk defective	Replace the PF encoder disk.
8	Head defective	Replace the head/carriage unit.
9	Main PCB defective	Replace the main PCB.

■ **Overlapping lines at the trailing edge of the recording paper**



< User Check >

- Carry out head cleaning.

Step	Cause	Solution
1	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
2	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
3	PF encoder disk defective	Replace the PF encoder disk.
4	Main PCB defective	Replace the main PCB.

■ **Separated lines at the trailing edge of the recording paper**

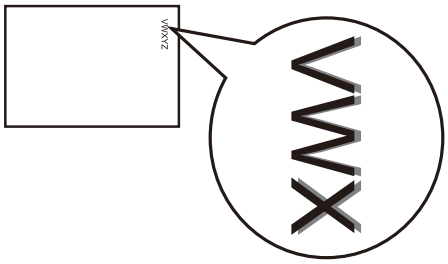


< User Check >

- Carry out head cleaning.

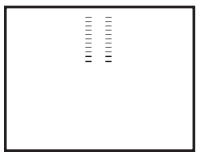
Step	Cause	Solution
1	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
2	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
3	Non-discharge of ink from head	Perform the recommended purge procedures. (refer to the recommended procedures in Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76)".
4	PF encoder disk defective	Replace the PF encoder disk.
5	Main PCB defective	Replace the main PCB.

■ **Characters having shadows (ghost)**



Step	Cause	Solution
1	Paper feeding correction not updated	Update paper feed correction. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
2	Vertical print lines not aligned	Adjust vertical print line alignment. (refer to Chapter 4, Section 1.12 "Adjustment of software correction for paper feeding/head calibration/inclination/corrugation/ruled lines (User menu)")
3	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (refer to "Precautions for Troubleshooting and/or Disassembly/Assembly")
4	CR encoder strip stained	Clean the CR encoder strip.
5	PF encoder disk defective	Replace the PF encoder disk.
6	CR encoder strip defective	Replace the CR encoder strip.
7	Head defective	Replace the head/carriage unit.
8	Main PCB defective	Replace the main PCB.

■ Traces of paper pull-in roller

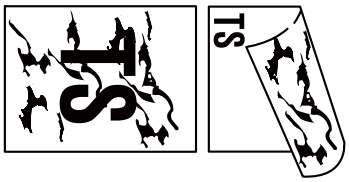


< User Check >

- Check whether the recording paper being used is within the specification.
- Clean the paper pull-in roller.
- Clean the MP paper pull-in roller.

Step	Cause	Solution
1	Paper pull-in roller defective	Replace the T1 Paper pull-in roller L/R or T2 Paper pull-in roller L/R.
2	MP paper pull-in roller defective	Replace the MP tray ASSY.

■ Dirt on the paper



< User Check >

- Check whether the recording paper being used is not folded.
- Check whether the recording paper being used is within the specification.
- Clean the related rollers by printing blank paper.
- Clean the platen.

Step	Cause	Solution
1	Maintenance unit stained	Clean the maintenance unit. (refer to Fig. 2-12 (2-75))
2	Paper feed roller stained	Replace the paper feed roller.
3	Paper ejection roller stained	Replace the paper ejection roller.
4	Switchback roller stained	Replace the switchback roller.
5	Foreign materials in the reverse side of the head	Remove foreign materials.

4.4 Software-related 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, follow each procedure in the order of the number described in the Step column in the tables below.

4.4.1 Cannot print data

< User Check >

- Check if USB cable or LAN cable is not broken.
- Check if the correct product is selected if the interface switching device is in use.
- Check the driver settings.
- Reset to the factory default (refer to the user's guide.)

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

4.5 Network Problems

4.5.1 Cannot make a print through network connection

< User Check >

- Check items in the network setting guide.
- Carry out network reset (refer to the user's guide.)

Step	Cause	Solution
1	Wireless LAN PCB connector connection failure	Reconnect the wireless LAN PCB ASSY.
2	Wireless LAN PCB defective	Replace the wireless LAN PCB ASSY.
3	Main PCB defective	Replace the main PCB.

4.6 Control Panel Problems

4.6.1 No display on LCD/Incorrect display on LCD

Step	Cause	Solution
1	Panel flat cable connection failure	Reconnect the panel flat cable.
2	LCD flat cable connection failure	Reconnect the LCD flat cable.
3	Breakage of panel flat cable	Replace the panel flat cable.
4	LCD PCB defective	Replace the LCD PCB.
5	LCD defective	Replace the LCD ASSY.
6	Control panel ASSY defective	Replace the control panel ASSY.
7	AC cord ASSY or power supply PCB defective	Replace the AC cord ASSY or power supply PCB ASSY.
8	Main PCB defective	Replace the main PCB.

4.6.2 No display on LED

Step	Cause	Solution
1	Panel flat cable connection failure	Reconnect the panel flat cable.
2	Breakage of panel flat cable	Replace the panel flat cable.
3	Panel PCB defective	Replace the panel PCB ASSY.
4	LCD PCB defective	Replace the LCD PCB.
5	Control panel ASSY defective	Replace the control panel ASSY.
6	AC cord ASSY or power supply PCB defective	Replace the AC cord ASSY or power supply PCB ASSY.
7	Main PCB defective	Replace the main PCB.

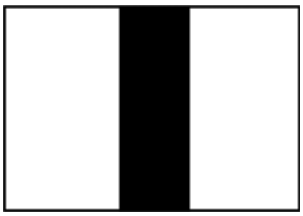
4.6.3 The control panel does not work

Step	Cause	Solution
1	Panel flat cable connection failure	Reconnect the panel flat cable.
2	Panel PCB defective	Replace the panel PCB ASSY.
3	LCD PCB defective	Replace the LCD PCB.
4	Key defective	Replace the control panel ASSY.
5	Main PCB defective	Replace the main PCB.

4.6.4 Touch panel inoperative

Step	Cause	Solution
1	Panel flat cable connection failure	Reconnect the panel flat cable.
2	Touch panel flat cable connection failure	Reconnect the touch panel flat cable.
3	Adjustment slippage of the touch panel	Perform the touch panel adjustment. (refer to Chapter 5, Section 1.3.27 "Adjustment of Touch Panel (Maintenance mode 78)")
4	LCD PCB defective	Replace the LCD PCB.
5	Touch panel defective	Replace the touch panel.
6	Control panel ASSY defective	Replace the control panel ASSY.
7	Main PCB defective	Replace the main PCB.

4.6.5 LCD is in the recovery mode



< User Check >

- Connect the PC to the machine using a USB cable and update the firmware using the firmware update tool.

Step	Cause	Solution
1	The machine is turned OFF while the firmware is being updated	Refer to Chapter 4, Section 1.3 "Install the firmware (Maintenance mode 28)", switch the machine to the firmware loading mode and load the firmware having an extension upd.
2	Main PCB defective	Replace the main PCB.

4.7 Document Feeding Problems

4.7.1 Document can not be fed

< User Check >

- Check that document is loaded all the way to the end correctly in the document tray.
- Check that the number of documents loaded in the document tray is within specified volume.

Step	Cause	Solution
1	Foreign materials in adjacent area of the document pick-up roller	Remove foreign materials.
2	Document pick-up roller stained	Clean the document pick-up roller.
3	Document detection actuator not mounted in place	Set the document detection actuator into place.
4	ADF motor harness connection failure	Reconnect the ADF motor harness.
5	ADF document detection sensor harness connection failure	Reconnect the ADF document detection sensor harness.
6	Document pick-up roller worn out	Replace the document separation roller ASSY.
7	ADF document detection sensor defective	Replace the ADF document detection sensor/ ADF document width sensor PCB.
8	ADF motor defective Document feed gear, document separation roller gear broken	Replace the ADF unit.
9	Main PCB defective	Replace the main PCB.

4.7.2 Document double feeding

< User Check >

- Check whether a document thinner than the specified one is used..

Step	Cause	Solution
1	ADF separation pad worn out	Replace the ADF separation pad holder ASSY.

4.7.3 Document jam

■ Document jam in adjacent area of ADF cover or in paper ejector part

< User Check >

- Check that document is loaded correctly in the document tray.
- Adjust the document guide to match the document size.
- Check that the document shorter than the specified size is not loaded.
- Check that thickness of the document is 64 to 120 g/m^2.
- Check that the number of documents loaded in the document tray is within specified volume.
- Close the ADF cover securely.

Step	Cause	Solution
1	Foreign materials in adjacent area of ADF cover	Remove foreign materials.
2	ADF cover sensor harness connection failure	Reconnect the ADF cover sensor harness.
3	ADF cover ASSY not mounted in place	Set the ADF cover ASSY into place.
4	Lower doc chute ASSY not mounted in place	Set the lower doc chute ASSY into place.
5	ADF separation pad holder ASSY not mounted in place	Set the ADF separation pad holder ASSY into place.
6	ADF separation pad spring not mounted in place	Set the ADF separation pad spring into place.
7	Document scanning position actuator not mounted in place	Set the document scanning position actuator into place.
8	ADF cover ASSY damaged, broken	Replace the ADF cover ASSY.
9	ADF separation pad holder ASSY defective	Replace the ADF separation pad holder ASSY.
10	Lower doc chute ASSY damaged, broken ADF separation pad spring defective Ejection film damaged, broken	Replace the ADF unit.
11	Main PCB defective	Replace the main PCB.

■ Document jam inside ADF

< User Check >

- Check that document is loaded correctly in the document tray.
- Adjust the document guide to match the document size.
- Check that the document shorter than the specified size is not loaded.
- Check that thickness of the document is 64 to 120 g/m^2.

Step	Cause	Solution
1	Foreign materials inside ADF	Remove foreign materials.
2	Document pressure bar not mounted in place	Set the document pressure bar into place.
3	Lower doc chute ASSY not mounted in place	Set the lower doc chute ASSY into place.
4	Document scanning position sensor harness connection failure	Reconnect the document scanning position sensor harness.
5	Document scanning position actuator not mounted in place	Set the document scanning position actuator into place.
6	Second side CIS glass not mounted in place	Set the second side CIS glass into place.
7	Document scanning position sensor defective	Replace the document scanning position sensor PCB ASSY.
8	The ADF hinges are deformed, and the document cover cannot be closed properly.	Replace the ADF hinge.
9	Feeding path in ADF unit damaged, broken	Replace the ADF unit.
10	Feeding path inside document scanner unit damaged, broken	Replace the document scanner unit.
11	Main PCB defective	Replace the main PCB.

4.7.4 Wrinkles on documents

< User Check >

- Check that the document guide is correctly set to the document size.
- Check that documents are not curled.
- Check that document is loaded all the way to the end correctly in the document tray.
- Check that the number of documents loaded in the document tray is within specified volume.

Step	Cause	Solution
1	Document separation roller worn out	Replace the document separation roller ASSY.
2	Each paper feed roller worn out	Replace the ADF unit.

4.7.5 Document size not correctly detected

< User Check >

- Check that documents are within specified size.

Step	Cause	Solution
1	Document scanning position actuator caught on the surrounding parts	Set the document scanning position actuator into place.
2	Document scanning position sensor defective	Replace the document scanning position sensor PCB ASSY.
3	Main PCB defective	Replace the main PCB.

4.8 Scanned-image Problems

4.8.1 Defective images

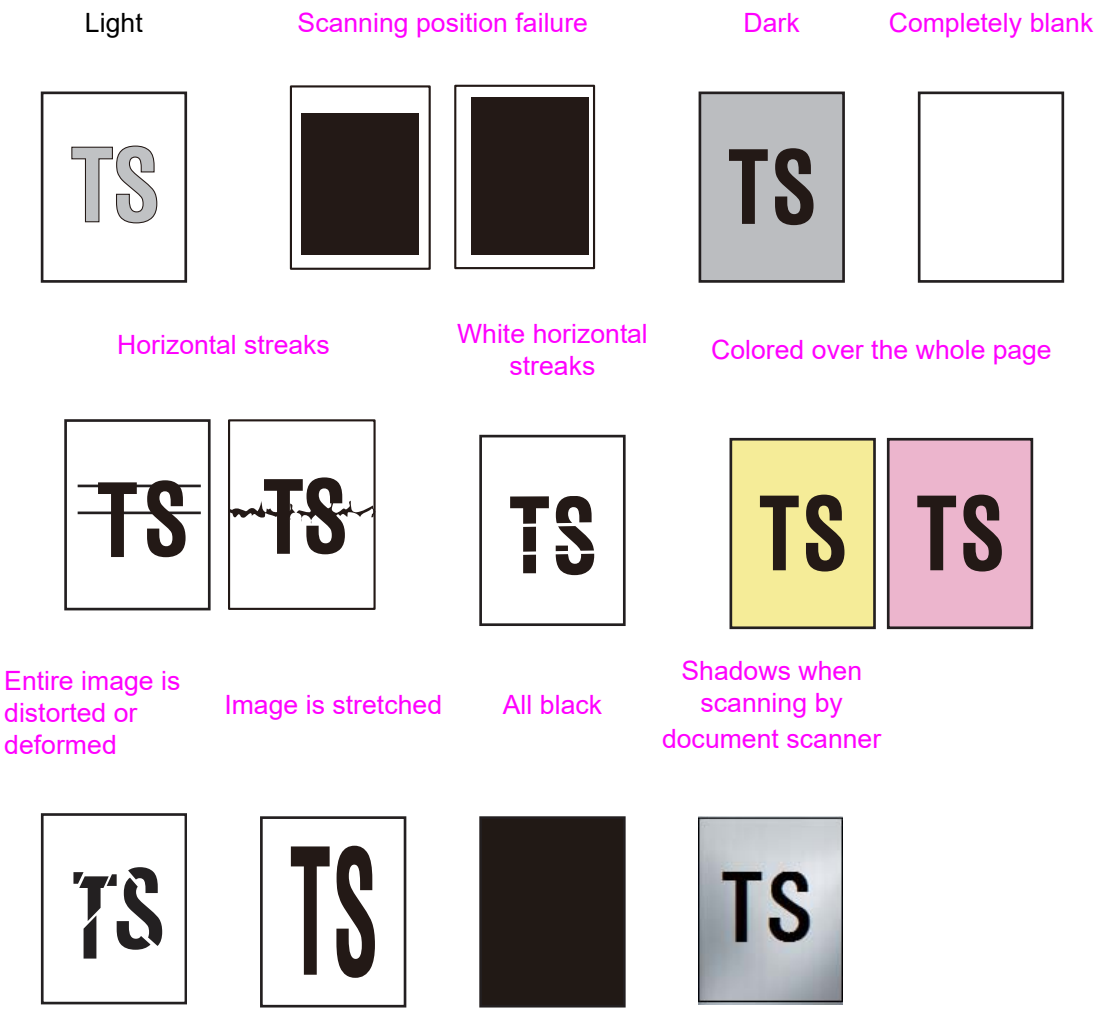
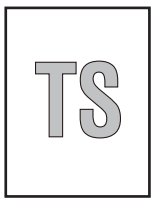


Fig. 2-13

4.8.2 Troubleshooting from image defect

■ Light



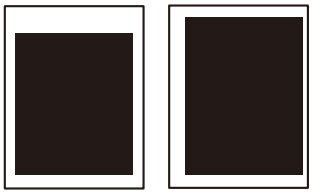
< User Check >

- Check if the contrast is set to "Light."
- Clean document cover glass or ADF glass.
- Clean the document pressure bar.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55.
2	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
3	Main PCB defective	Replace the main PCB.

Confidential

■ **Scanning position failure**



< User Check >

- Check that the document is placed correctly on the document cover.

(1) ADF

Step	Cause	Solution
1	Scanning start position out of alignment	Carry out maintenance 54 to adjust the scanning start position.
2	Document scanning position actuator caught on the surrounding parts	Set the document scanning position actuator into place.
3	Second side CIS unit defective	Replace the second side CIS unit.

(2) Document scanner unit

Step	Cause	Solution
1	Scanning start position out of alignment	Carry out maintenance 54 to adjust the scanning start position.
2	First side CIS unit defective	Replace the first side CIS unit.

■ **Dark**

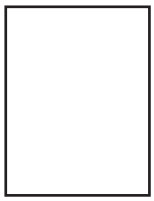


< User Check >

- Check if the contrast is set to "Dark."

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55.
2	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
3	Main PCB defective	Replace the main PCB.

■ **Completely blank**

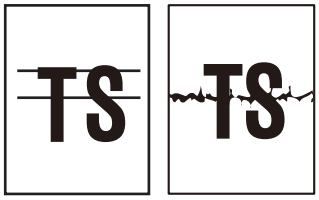


< User Check >

- Check that documents are not reversed.
- Check that they are set in the ADF unit securely.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55.
2	First side or second side CIS flat cable connection failure	Reconnect the first side or second side CIS flat cable.
3	First side or second side CIS flat cable defective	Replace the first side or second side CIS flat cable.
4	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
5	Main PCB defective	Replace the main PCB.

■ **Horizontal streaks**



< User Check >

- Clean the document cover glass or second side CIS glass.
- Clean the document pressure bar.

Step	Cause	Solution
1	Foreign materials on CIS lens	Remove foreign materials.
2	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
3	White reference film of document pressure bar of ADF cover damaged, broken (in the case of problem in second side)	Replace the ADF unit.
4	White reference film of document scanner unit damaged, broken (in the case of problem in first side)	Replace the document scanner unit.

■ White horizontal streaks

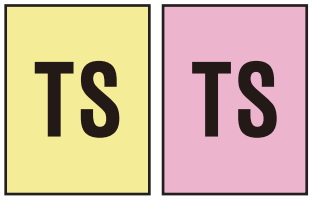


< User Check >

- Clean the document cover glass or second side CIS glass.
- Clean the document pressure bar.

Step	Cause	Solution
1	White reference film of document scanner unit stained (in the case of problem in first side)	Clean the white reference film of document scanner unit.
2	White reference film of document pressure bar of ADF stained (in the case of problem in second side)	Clean the white reference film of document pressure bar of ADF.
3	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
4	White reference film of document scanner unit damaged, broken (in the case of problem in first side)	Replace the document scanner unit.
5	White reference film of document pressure bar of ADF damaged, broken (in the case of problem in second side)	Replace the ADF unit.

■ Colored over the whole page



< User Check >

- Clean the document cover glass or second side CIS glass.
- Clean the document pressure bar.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance mode 55.
2	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
3	Main PCB defective	Replace the main PCB.

■ Entire image is distorted or deformed



Step	Cause	Solution
1	CIS type mismatches	Carry out maintenance mode 59 to rewrite firmware.
2	Ink refill ASSY defective	Replace the ink refill ASSY.

■ **Image is stretched**



(1) ADF

Step	Cause	Solution
1	ADF motor defective	Replace the ADF unit.

(2) Document scanner unit

Step	Cause	Solution
1	FB motor defective	Replace the document scanner unit.

■ **All black**



< User Check >

- Install the latest firmware.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55.
2	First side or second side CIS flat cable connection failure	Reconnect the first side or second side CIS flat cable.
3	First side or second side CIS flat cable defective	Replace the first side or second side CIS flat cable.
4	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
5	Main PCB defective	Replace the main PCB.

■ **Shadows when scanning by document scanner**



< User Check >

- Check that the document cover is firmly closed.
- Clean the document cover glass.

Step	Cause	Solution
1	The ADF hinges are deformed, and the document cover cannot be closed properly.	Replace the ADF hinge.
2	First side CIS unit defective	Replace the first side CIS unit.
3	Dirt on the document cover glass	Replace the document scanner unit.
4	Main PCB defective	Replace the main PCB.

4.9 Fax Problems

4.9.1 No faxes can be sent

< User Check >

- Check that the line cord is inserted correctly into the socket.
- Check that the dialing function setting (tone/pulse) is correct.
- Check that the phone cord is not connected to EXT terminal.

Step	Cause	Solution
1	Modem PCB harness connection failure	Reconnect the modem PCB harness.
2	Control panel ASSY defective	Replace the control panel ASSY.
3	Modem PCB defective	Replace the modem PCB ASSY.
4	First side or second side CIS unit defective	Replace the first side or second side CIS unit.
5	Main PCB defective	Replace the main PCB.

4.9.2 No faxes can be received

< User Check >

- Check that the line cord is inserted correctly into the socket.
- Check if the receiving mode setting is correct.
- Check that the phone cord is not connected to EXT terminal.

Step	Cause	Solution
1	Modem PCB harness connection failure	Reconnect the modem PCB harness.
2	Modem PCB defective	Replace the modem PCB ASSY.
3	Main PCB defective	Replace the main PCB.

4.9.3 A communications error occurs

< User Check >

- Change the “compatibility” of the function menu to see if the error is cleared.
- Check that there is no noise source around this machine body.

Step	Cause	Solution
1	Modem PCB harness connection failure	Reconnect the modem PCB harness.
2	Modem PCB defective	Replace the modem PCB ASSY.
3	Main PCB defective	Replace the main PCB.

4.10 Other Problems

4.10.1 The machine cannot be powered ON

< User Check >

- Insert the power cord securely.

Step	Cause	Solution
1	Panel flat cable connection failure	Reconnect the panel flat cable.
2	LCD flat cable connection failure	Reconnect the LCD flat cable.
3	LCD defective	Replace the LCD.
4	LCD PCB defective	Replace the LCD PCB ASSY.
5	Panel PCB defective	Replace the panel PCB ASSY.
6	Control panel ASSY defective	Replace the control panel ASSY.
7	AC cord ASSY or power supply PCB defective	Replace the AC cord ASSY or power supply PCB ASSY.
8	Main PCB defective	Replace the main PCB.

4.10.2 USB flash memory does not function

< User Check >

- Check if the USB flash memory is inserted correctly.
- Check that USB flash memory is compatible.
- Check that data form is compatible.
- Format the USB flash memory.
- Load the latest firmware.
- Disconnect and insert again the power cord.

Step	Cause	Solution
1	Front cover L not mounted in place	Set the front cover L into place in the case the USB flash memory won't be inserted smoothly.
2	Main PCB defective	Replace the main PCB.

4.10.3 Data of USB flash memory does not read

< User Check >

- Check that USB flash memory is compatible.
- Check that data form is compatible.
- Format the USB flash memory.
- Load the latest firmware.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

4.10.4 Internal memory errors

< User Check >

- Delete saved print data and fax data.
- Disconnect and insert again the power cord.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

4.10.5 Security Function Lock related problems

< User Check >

- Ask administrator to release security function lock.
- Delete the personal information to unlock the security function lock.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

4.10.6 Ink cartridge related problems

< User Check >

- Check if incompatible ink cartridge is loaded.
- Reload the ink cartridge.
- Check if ink cartridge has been already set before instruction for ink cartridge setting during initial installation.

Step	Cause	Solution
1	Ink sensor flat cable connection failure	Reconnect the ink sensor flat cable.
2	Each ink cartridge sensor defective	Replace the ink refill ASSY.
3	Main PCB defective	Replace the main PCB.

4.10.7 Noise comes from machine

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Foreign materials around the maintenance unit	Remove foreign materials.
3	CR encoder strip stained	Clean the CR encoder strip.
4	PF encoder disk stained	Clean the PF encoder disk.
5	Looseness of the CR timing belt	Re-hook the CR timing belt properly.
6	Looseness of the switchback roller belt	Re-hook the switchback roller belt properly.
7	Looseness of the paper feed roller belt	Re-hook the paper feed roller belt properly.
8	Looseness of the paper ejection roller belt	Re-hook the paper ejection roller belt properly.
9	Looseness of the CIS drive belt	Re-hook the CIS drive belt properly.
10	Paper feed motor not mounted in place	Set the paper feed motor into place.
11	Carriage motor not mounted in place	Set the carriage motor into place.
12	CR encoder strip defective	Replace the CR encoder strip.
13	PF encoder disk defective	Replace the PF encoder disk.
14	Maintenance unit defective	Replace the maintenance unit.
15	ADF unit defective	Replace the ADF unit.
16	Document scanner unit defective	Replace the document scanner unit.

4.10.8 “Unusable Device” is displayed

< User Check >

- Disconnect the unsupported USB device.

Step	Cause	Solution
1	Main PCB defective	Replace the main PCB.

CHAPTER 3 DISASSEMBLY AND ASSEMBLY

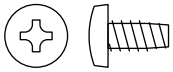
1 PRECAUTIONS BEFORE PROCEEDING

See "Precautions for Troubleshooting and/or Disassembly/Assembly" at the end of SAFETY INFORMATION. (Refer to page: xxi)

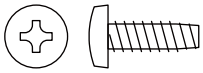
Some illustrations may use similar models and may differ from the actual model.

2 SCREW CATALOGUE

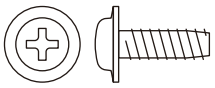
TAPTITE BIND B

TAPTITE BIND B M3x10	
TAPTITE BIND B M4x8	

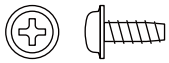
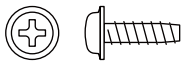
TAPTITE BIND P

TAPTITE BIND P M4x12	

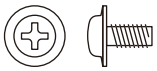
TAPTITE CUP B

TAPTITE CUP B M2.6x10	
TAPTITE CUP B M4x12	

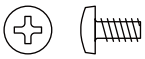
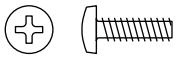
TAPTITE CUP P

TAPTITE CUP P M3x8	
TAPTITE CUP P M3x10	

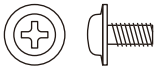
TAPTITE CUP S

TAPTITE CUP S M3x6	

SCREW BIND

SCREW BIND M2x12	
SCREW BIND M3x6	
SCREW BIND M3x10	

SCREW CUP

SCREW CUP M3x6	

SCREW PAN (S/P WASHER)

SCREW PAN (S/P WASHER) M3x6	
SCREW PAN (S/P WASHER) M3.5x6	

3 SCREW TORQUE LIST

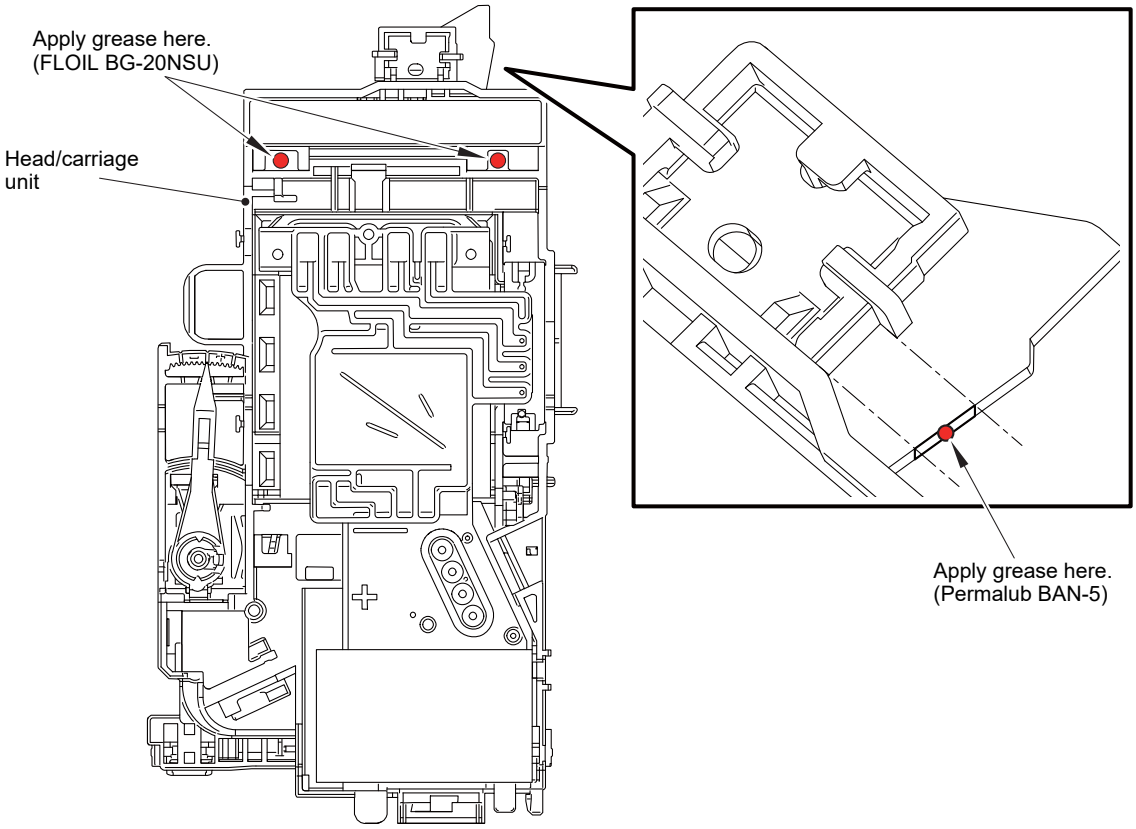
Location of screw	Screw type	Q'ty	Tightening N•m (kgf•cm)
MP tray ASSY	TAPTITE CUP B M4x12	2	0.70±0.10 (7±1)
FB FG wire	SCREW BIND M3x6	1	0.35±0.05 (3.5±0.5)
ADF FG wire			
Document scanner unit	TAPTITE BIND P M4x12	2	0.85±0.05 (8.5±0.5)
ADF unit	TAPTITE BIND B M4x8	2	0.80±0.10 (8±1)
FB hinge	TAPTITE BIND P M3x10	2	0.6±0.05 (6±0.5)
ADF front cover	TAPTITE CUP P M3x10	4	0.6±0.05 (6±0.5)
ADF cover base	TAPTITE CUP P M3x10	4	0.6±0.05 (6±0.5)
ADF separation pad holder ASSY	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
ADF unit	TAPTITE CUP B M2.6x10	6	0.30±0.05 (3±0.5)
Document chute	TAPTITE CUP P M3x10	6	0.6±0.05 (6±0.5)
Document cover top ASSY	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Document cover base	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
ADF hinge	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Lower doc chute ASSY	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Document scanner unit	TAPTITE CUP B M2.6x10	5	0.30±0.05 (3±0.5)
Document cover sensor	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Front cover L	TAPTITE BIND P M4x12	1	0.85±0.05 (8.5±0.5)
Upper cover	TAPTITE BIND P M4x12	5	0.85±0.05 (8.5±0.5)
Main PCB harness hold	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
FG wire	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Tilt cover (screwed to Tilt holder and Lower cover)	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Tilt cover (screwed to Lower cover)	TAPTITE CUP P M3x10	1	0.65±0.05 (6.5±0.5)
Tilt hook	TAPTITE CUP P M3x8	2	0.4±0.05 (4±0.5)
Panel lower cover	TAPTITE CUP B M2.6x10	2	0.30±0.05 (3.0±0.5)
Ink drop detect PCB unit	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Ink drop detect unit holder	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Ink drop detect PCB shield	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Ink drop detect PCB ASSY	SCREW CUP M3x6	3	0.35±0.05 (3.5±0.5)
Main PCB shield	SCREW CUP M3x6	2	0.35±0.05 (3.5±0.5)
Tray FG wire (T1)	SCREW BIND M3x6	1	0.35±0.05 (3.5±0.5)
Tray FG wire (LT)	SCREW BIND M3x6	1	0.35±0.05 (3.5±0.5)
Main PCB	SCREW CUP M3x6	2	0.35±0.05 (3.5±0.5)
Upper modem frame	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Modem PCB	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Ink ABS upper box ASSY	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Main PCB frame	SCREW CUP M3x6	3	0.35±0.05 (3.5±0.5)
	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Lower side cover	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)

Location of screw	Screw type	Q'ty	Tightening N•m (kgf•cm)
Main PCB earth frame R2 (screwed to Gear holder bracket)	SCREW CUP M3x6	1	0.35±0.05 (3.5±0.5)
Main PCB earth frame R2 (screwed to Ink drop detect PCB frame and Switchback frame ASSY)	SCREW CUP M3x6	1	0.45±0.05 (4.5±0.5)
CR frame ASSY	TAPTITE CUP P M3x10	2	0.75±0.05 (7.5±0.5)
CR guide rail	TAPTITE CUP P M3x10	2	0.75±0.05 (7.5±0.5)
Maintenance unit	TAPTITE BIND P M4x12	1	0.85±0.05 (8.5±0.5)
	SCREW BIND M3x6	2	0.60±0.10 (6±1)
Lower tray unit	TAPTITE BIND P M4x12	1	0.85±0.05 (8.5±0.5)
Ink absorber box (with Lower tray)	TAPTITE CUP P M3x10	2	0.65±0.05 (6.5±0.5)
Ink absorber box (without Lower tray)		3	0.6±0.05 (6±0.5)
Tube support plate	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Main PCB earth frame L	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Main PCB earth frame	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Switchback frame ASSY	SCREW BIND M3x6	2	0.70±0.10 (7±1)
CR frame ASSY	TAPTITE CUP P M3x10	1	0.65±0.1 (6.5±1)
	TAPTITE CUP S M3x6	1	0.65±0.10 (6.5±1)
Motor plate	SCREW BIND M3x6	2	0.75±0.10 (7.5±1)
Carriage motor	SCREW BIND M3x6	2	0.75±0.10 (7.5±1)
Lower tray unit	TAPTITE BIND P M4x12	3	0.85±0.05 (8.5±0.5)
Bank chute LT	TAPTITE BIND B M3x10	2	0.50±0.05 (5±0.5)
Power supply unit	TAPTITE CUP P M3x10	1	0.35±0.05 (3.5±0.5)
Power supply PCB ASSY	SCREW CUP M3x6	3	0.40±0.10 (4±1)
AC cord FG wire (Case of 200V)	SCREW PAN (S/P WASHER) M3.5x6	1	0.45±0.05 (4.5±0.5)
Encoder cover	SCREW BIND M3x6	2	0.60±0.10 (6±1)
Encoder sensor holder	SCREW BIND M2x12	2	0.15±0.05 (1.5±0.5)
CR guide rail	SCREW BIND M3x6	2	0.60±0.10 (6±1)
Paper feed motor plate	SCREW PAN (S/P WASHER) M3x6	1	0.30±0.10 (3±1)
	SCREW PAN (S/P WASHER) M3x6 (Screws to be tightened after the PF roller belt is mounted.)	1	0.60±0.10 (6±1)
Frame base ASSY	TAPTITE CUP P M3x10	4	0.6±0.05 (6±0.5)
Flushing box	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Paper feed arm frame ASSY	TAPTITE CUP P M3x10	2	0.6±0.05 (6±0.5)
Tray FG wire (T1)	TAPTITE CUP P M3x10	1	0.6±0.05 (6±0.5)
Lower cover frame	TAPTITE CUP P M3x10	3	0.6±0.05 (6±0.5)

4 LUBRICATION

Lubricant type (manufacturer)	Lubrication points		Lubricant amount
FLOIL BG-20NSU (Kanto Kasei)	Head/carriage unit	2	1.0 mm diameter ball
Permalub BAN-5 (Nippeco)		1	1.5 mm diameter ball
FLOIL BG-20NSU (Kanto Kasei)	CR guide rail and CR frame (top face)	56	2.0 mm diameter ball
	CR frame (inner side of the rear upright edge and inner side of the front upright edge)	66	2.0 mm diameter ball
	CR frame (bottom face)	2	1.0 mm diameter ball
FLOIL BG-10KS (Kanto Kasei)	Paper ejection roller	4	1.0 mm diameter ball
Permalub BAN-5 (Nippeco)	Paper feed roller	2 x Twice	2.0 mm diameter ball
		1	2.0 mm diameter ball
FLOIL BG-10KS (Kanto Kasei)	Paper pull-in roller holder	2	2.0 mm diameter ball
FLOIL BG-10KS (Kanto Kasei)	Platen	6	1.0 mm diameter ball

■ Head/carriage unit

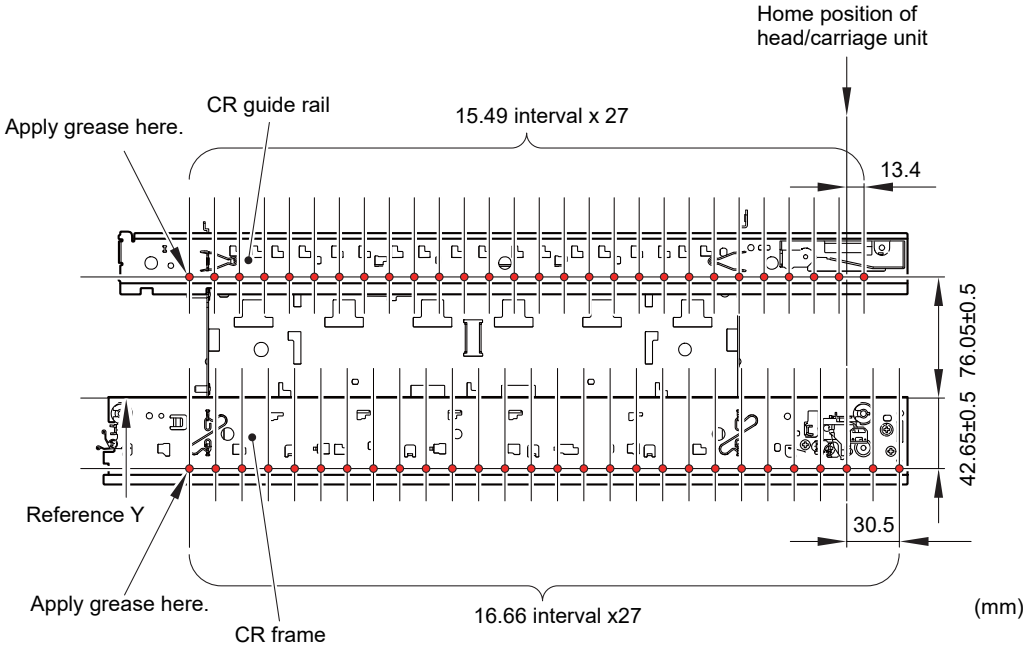


■ CR guide rail and CR frame (top face)

Apply a 2 mm diameter ball of grease (FLOIL BG-20NSU) to each of the 56 lubrication points below.

Lubrication procedure

(1) Move the head/carriage unit to the left end of its travel.
(2) Before applying grease, wipe dust or dirt off the lubrication area with an alcohol soaked cloth.
(3) Move the head/carriage unit from the left to the right ends of its travel to spread the applied grease on the CR guide rail and CR frame.

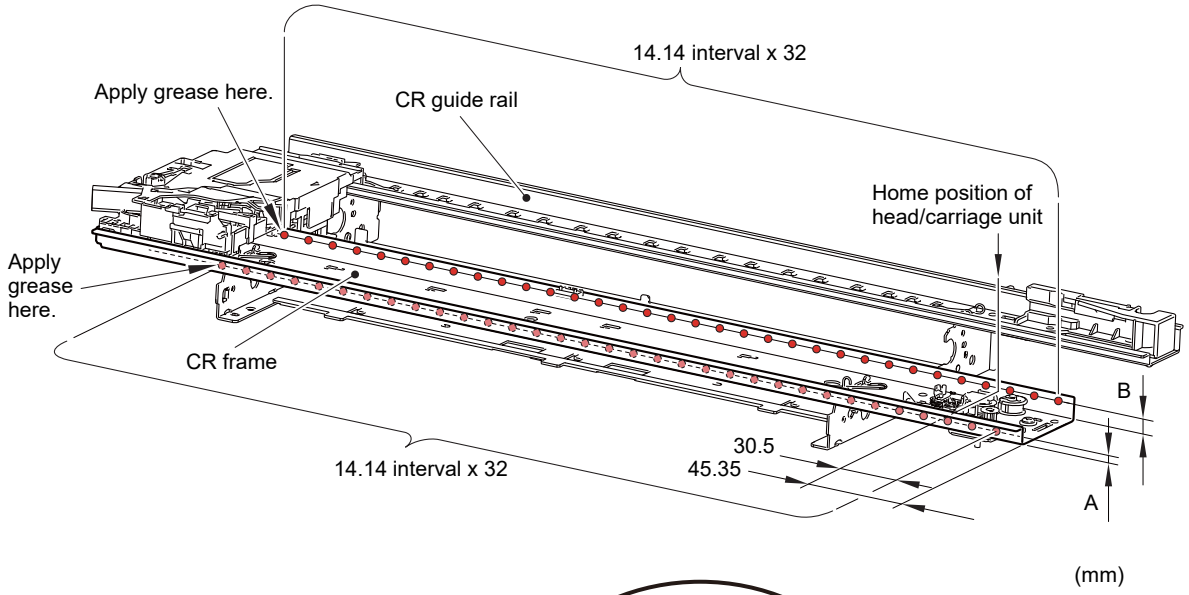


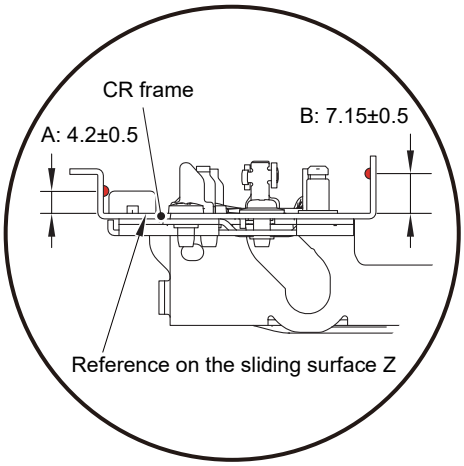
■ CR frame (inner sides of the front and rear upright edges)

Apply a 2 mm diameter ball of grease (FLOIL BG-20NSU) to each of the 66 lubrication points below.

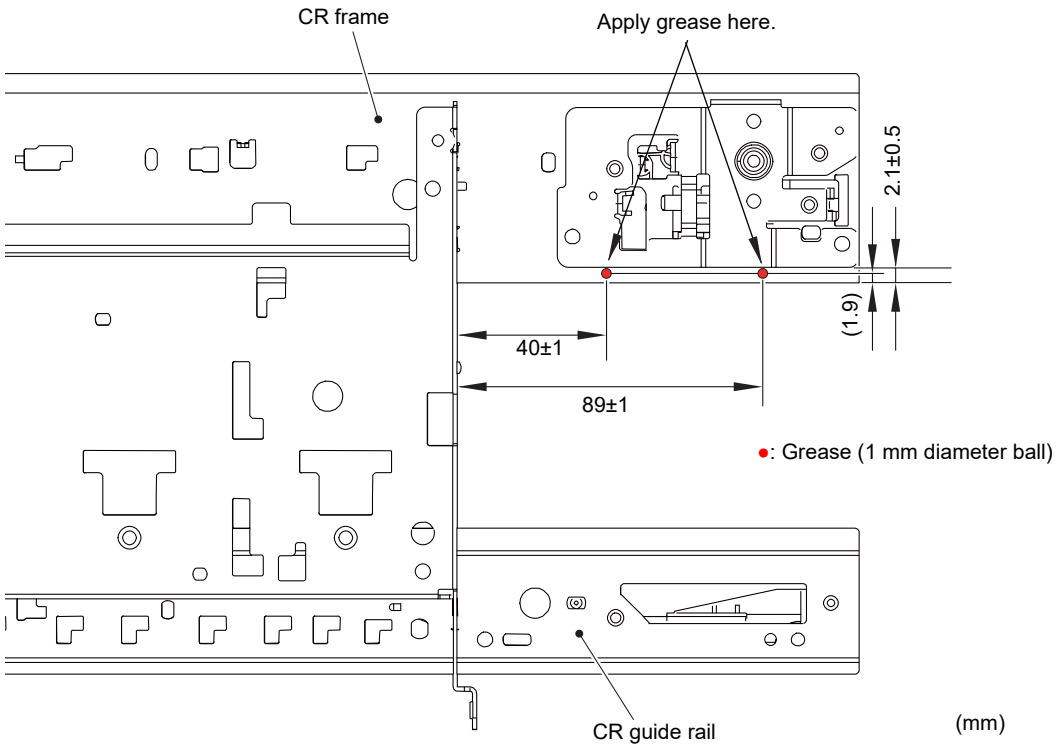
Lubrication procedure

(1) Move the head/carriage unit to the left end of its travel.
(2) Before applying grease, wipe dust or dirt off the lubrication area with an alcohol soaked cloth.
(3) Move the head/carriage unit from the left to the right ends of its travel to spread the applied grease on the CR guide rail and CR frame.

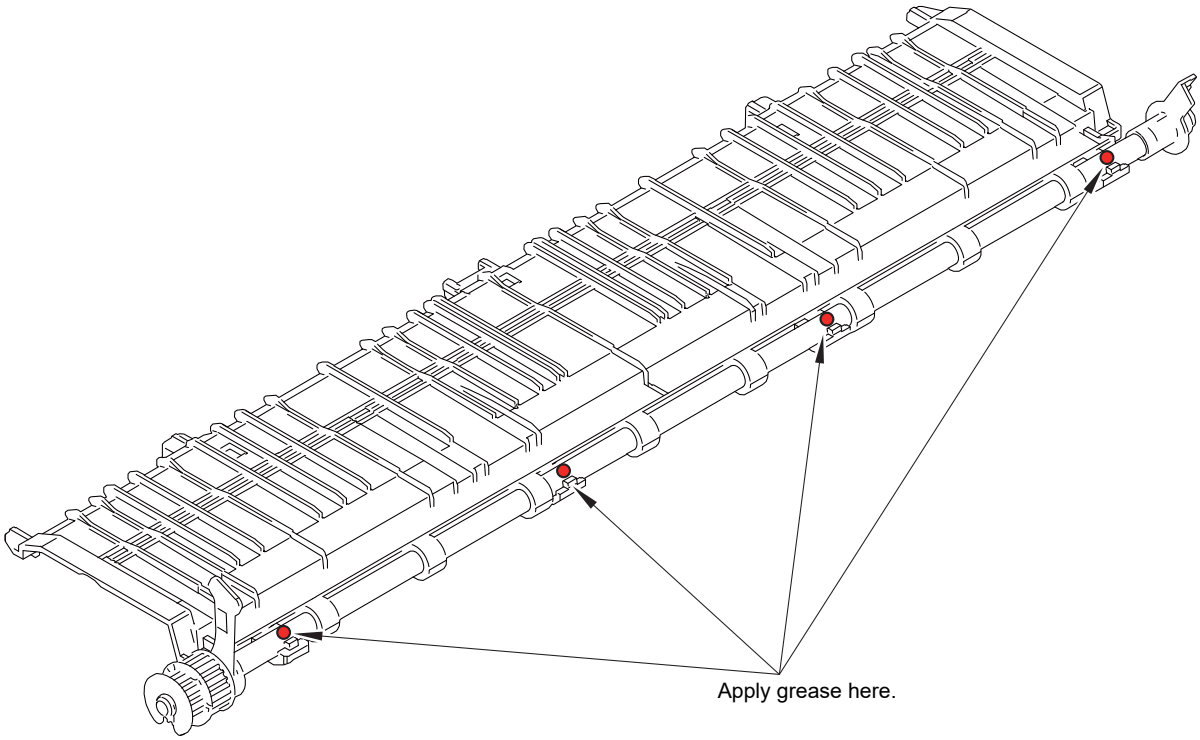




■ CR frame (bottom face)



■ Paper ejection roller

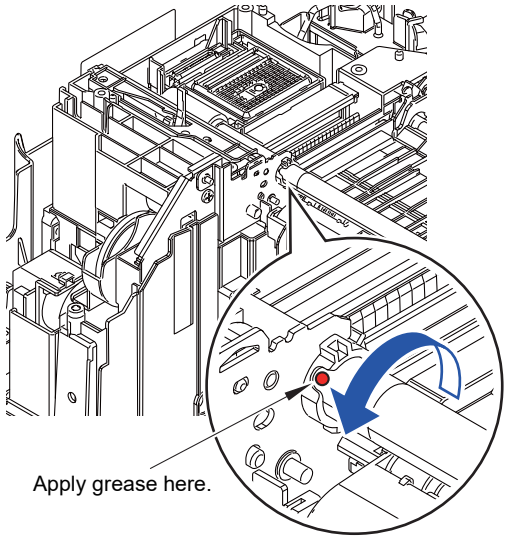


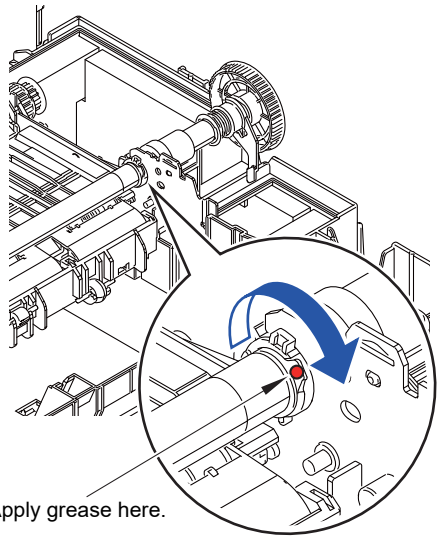
■ Paper feed roller

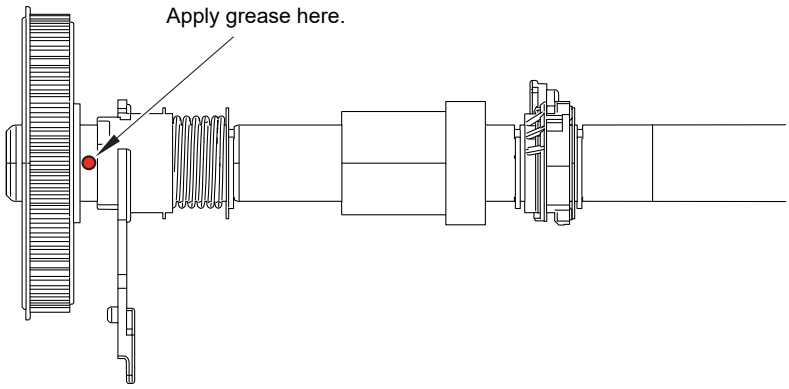
Apply grease to the positions shown in the figure below twice while rotating the roller.

Lubrication procedure

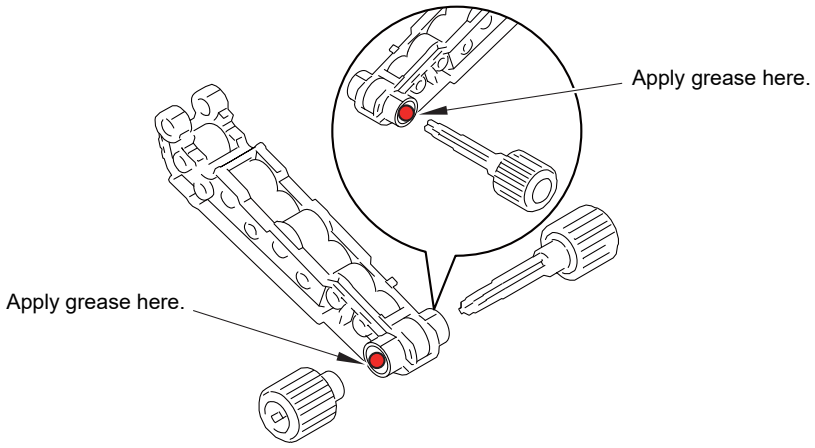
(1) Apply grease to the points shown in the figure below.
(2) Rotate the paper feed roller by 360 degrees in the direction of the arrow, and then apply grease to the same positions again.
(3) After applying grease, rotate the paper feed roller by 360 degrees again.



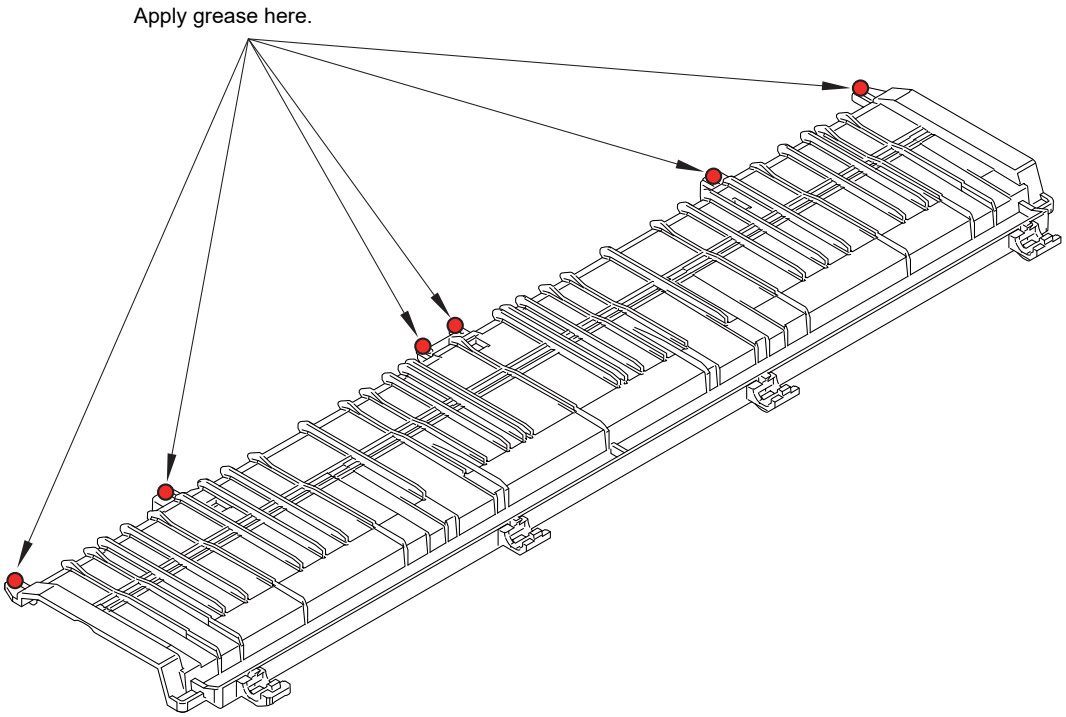




■ **Paper pull-in roller holder**



■ **Platen**

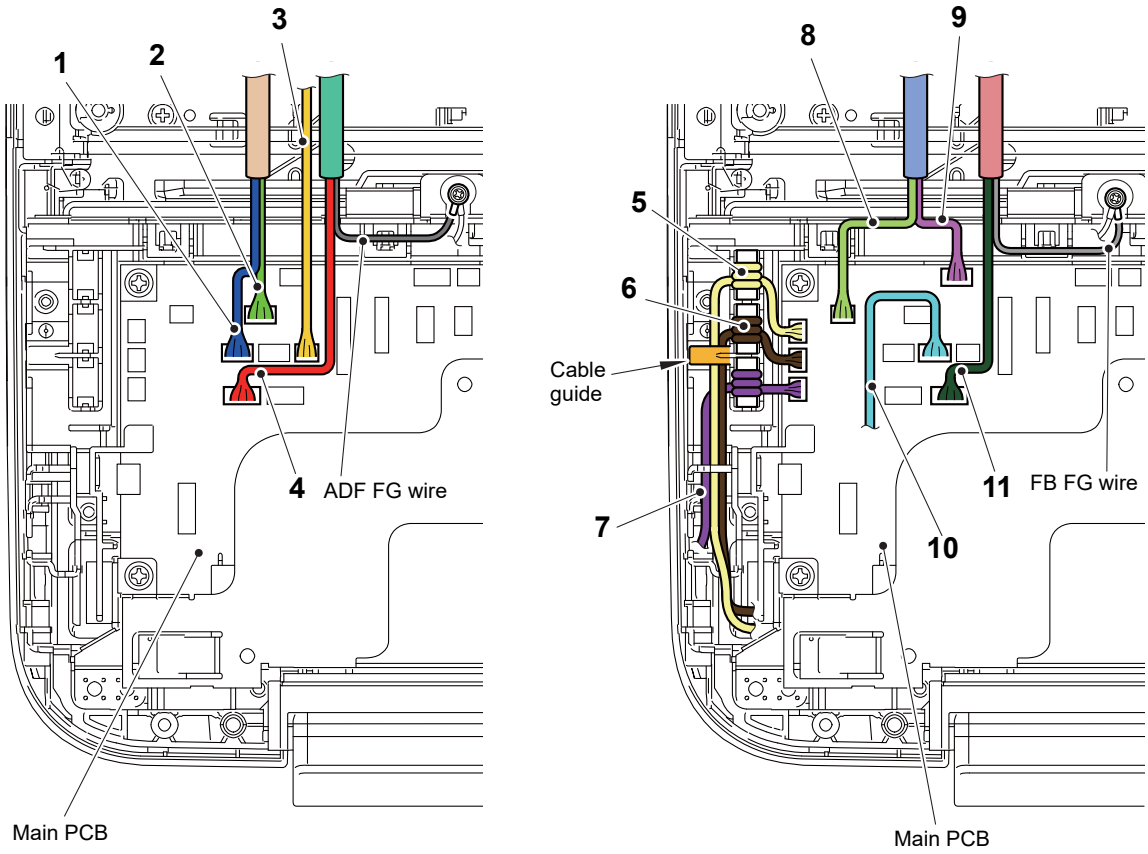


5 OVERVIEW OF GEARS

There is no overview of gears.

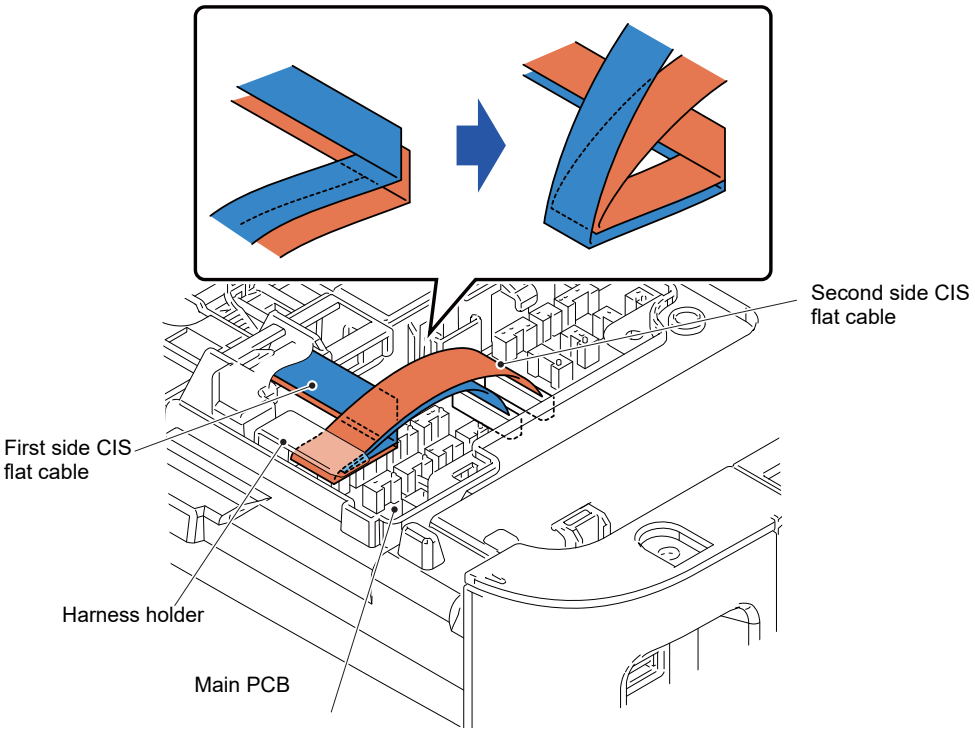
6 ROUTING OF HARNESSES AND INK SUPPLY TUBES

1 Main PCB

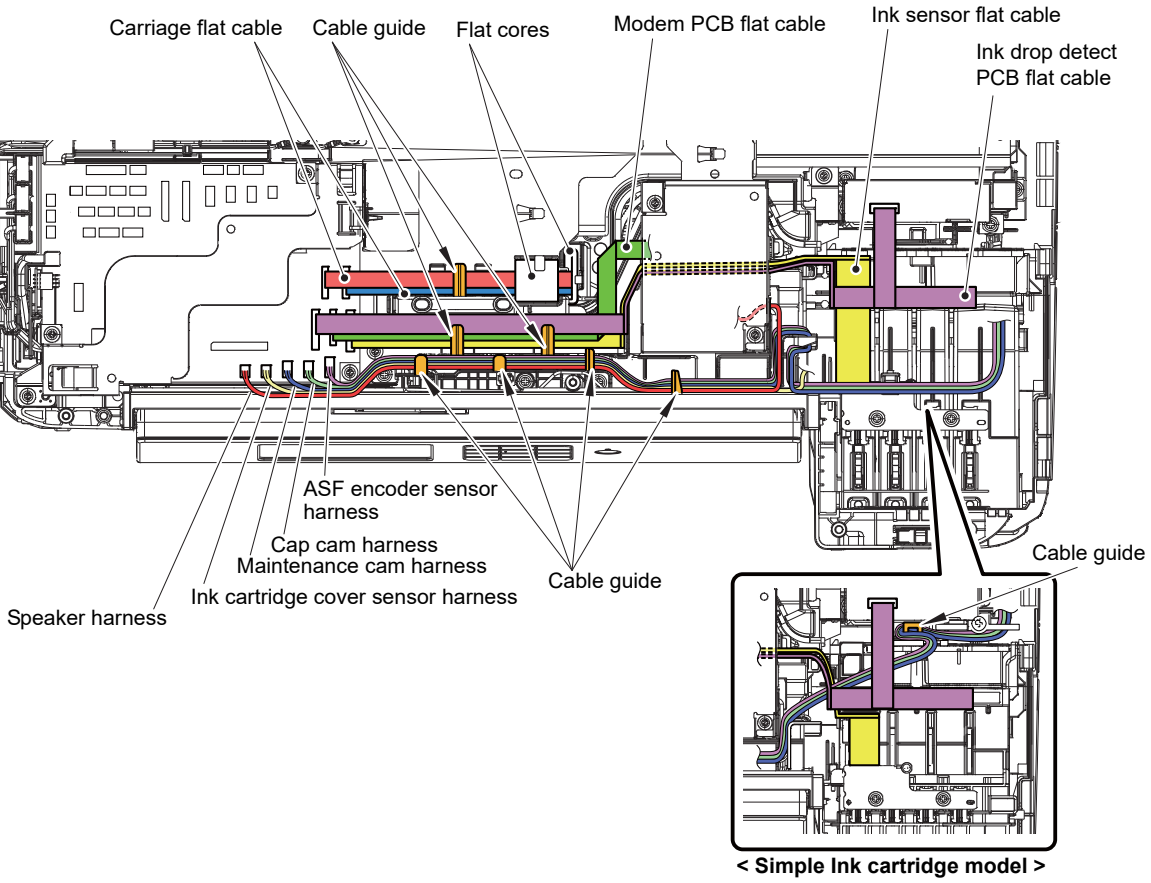


No.	Harness name
1	ADF document detection sensor harness
2	Document scanning position sensor harness ASSY
3	ADF cover sensor harness
4	ADF motor harness
5	Carriage motor harness
6	ASF motor harness
7	PF motor harness
8	Document cover sensor harness
9	MP paper detection sensor harness
10	Document scanner sensor harness
11	FB motor harness

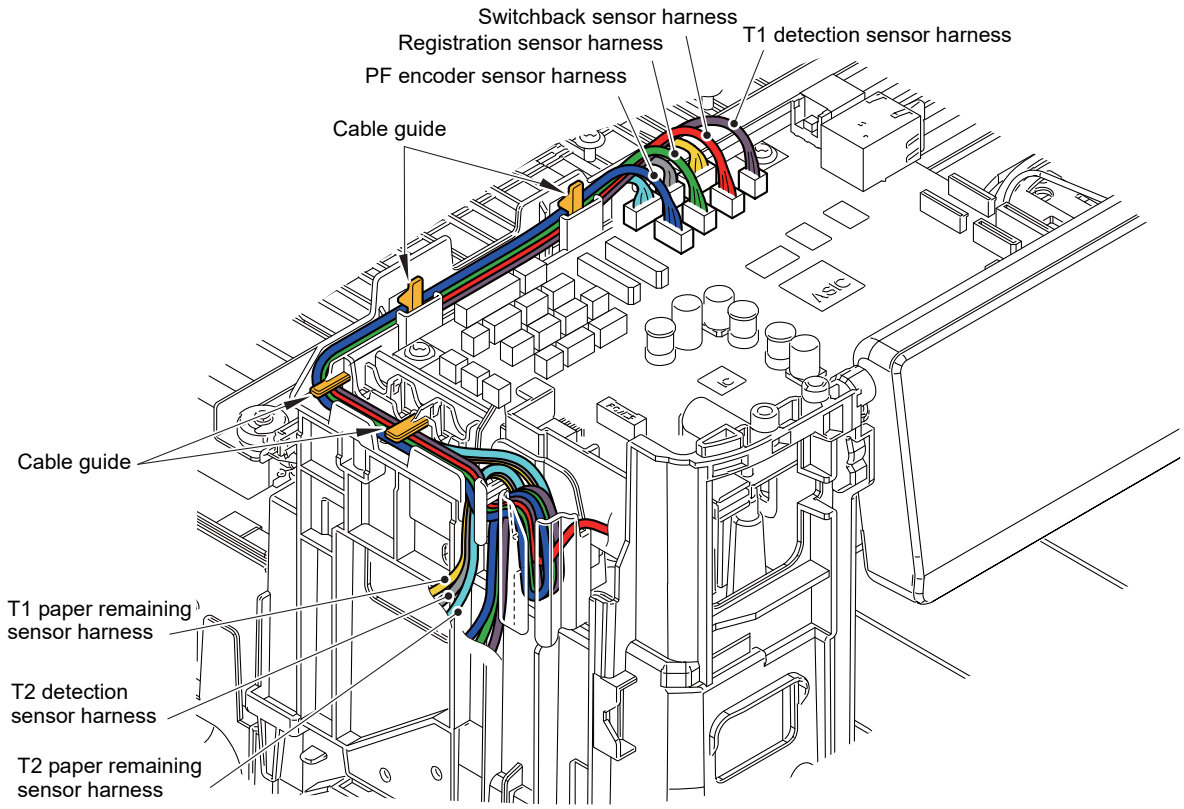
2 Main PCB



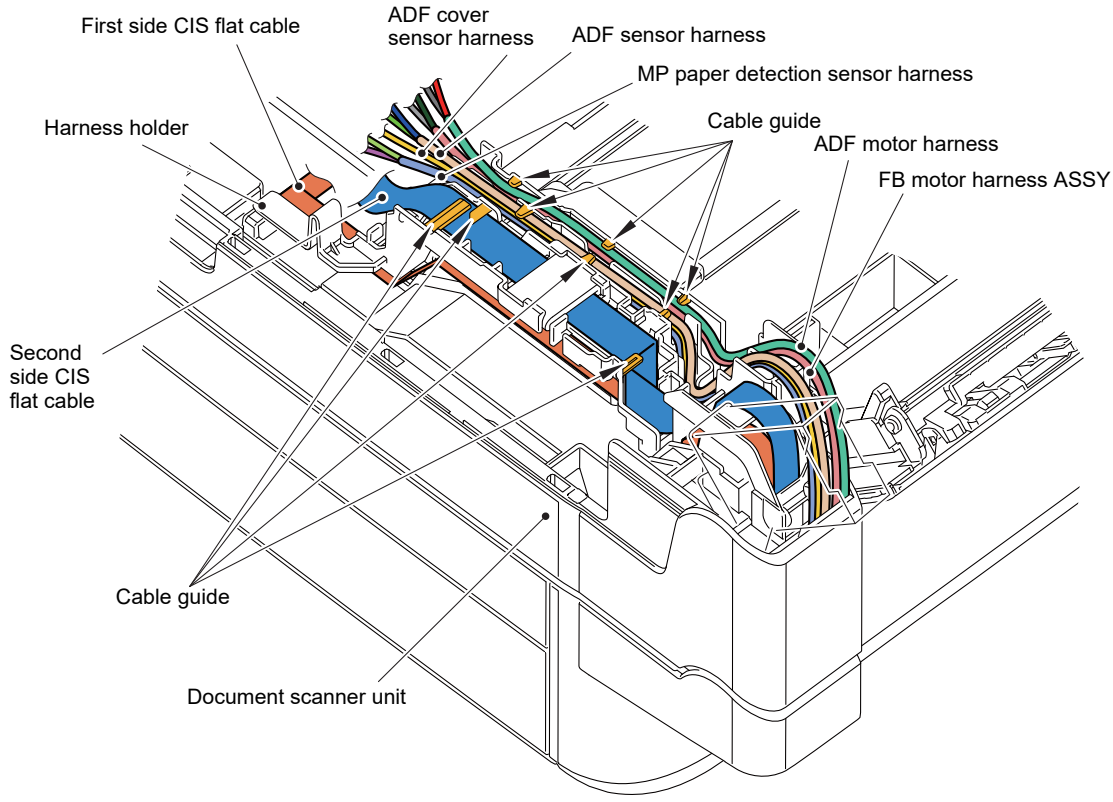
3 Main PCB/Modem PCB



4 Main PCB

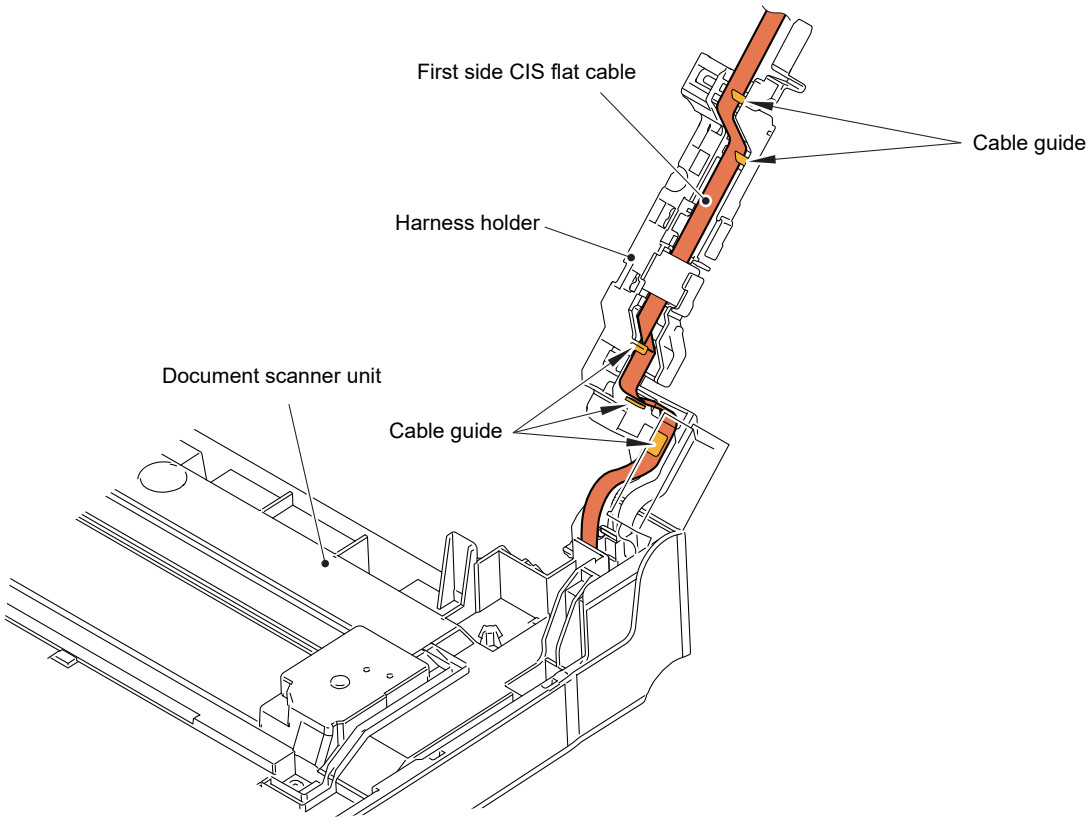


5 ADF unit/Document scanner unit

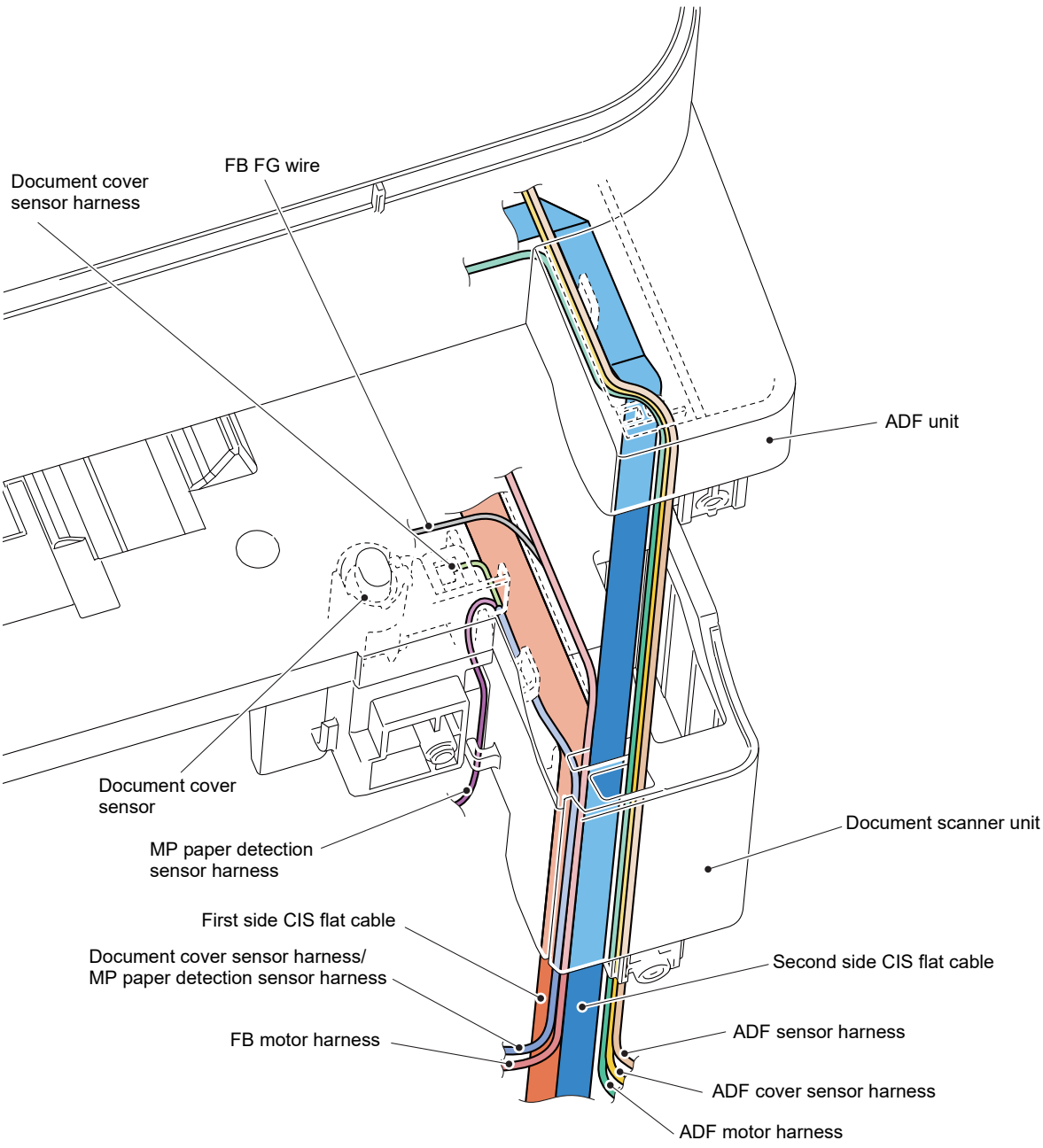


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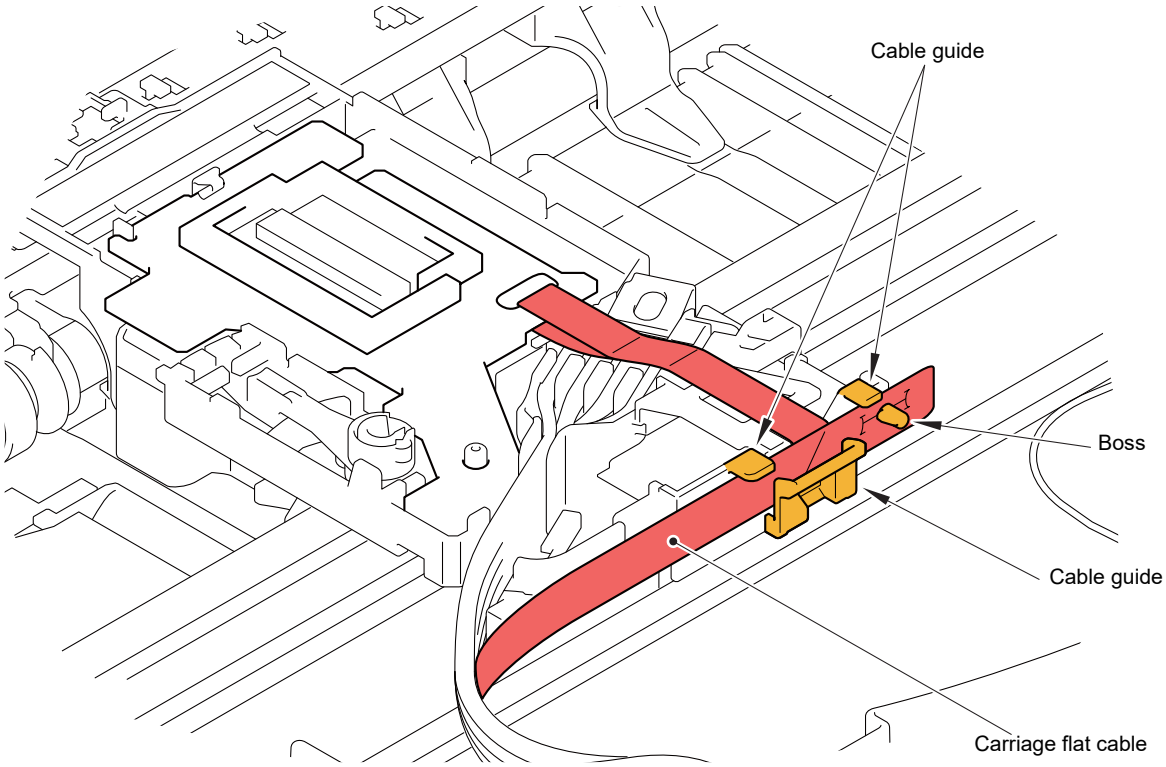
6 First side CIS flat cable



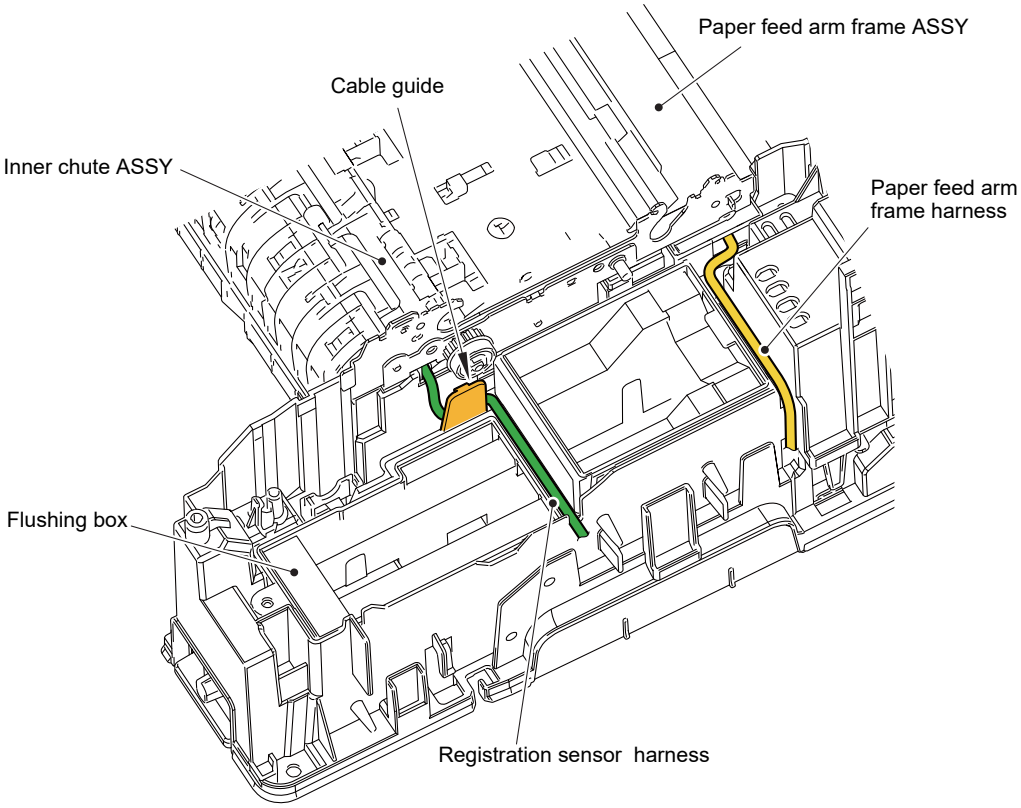
7 ADF unit/Document scanner unit



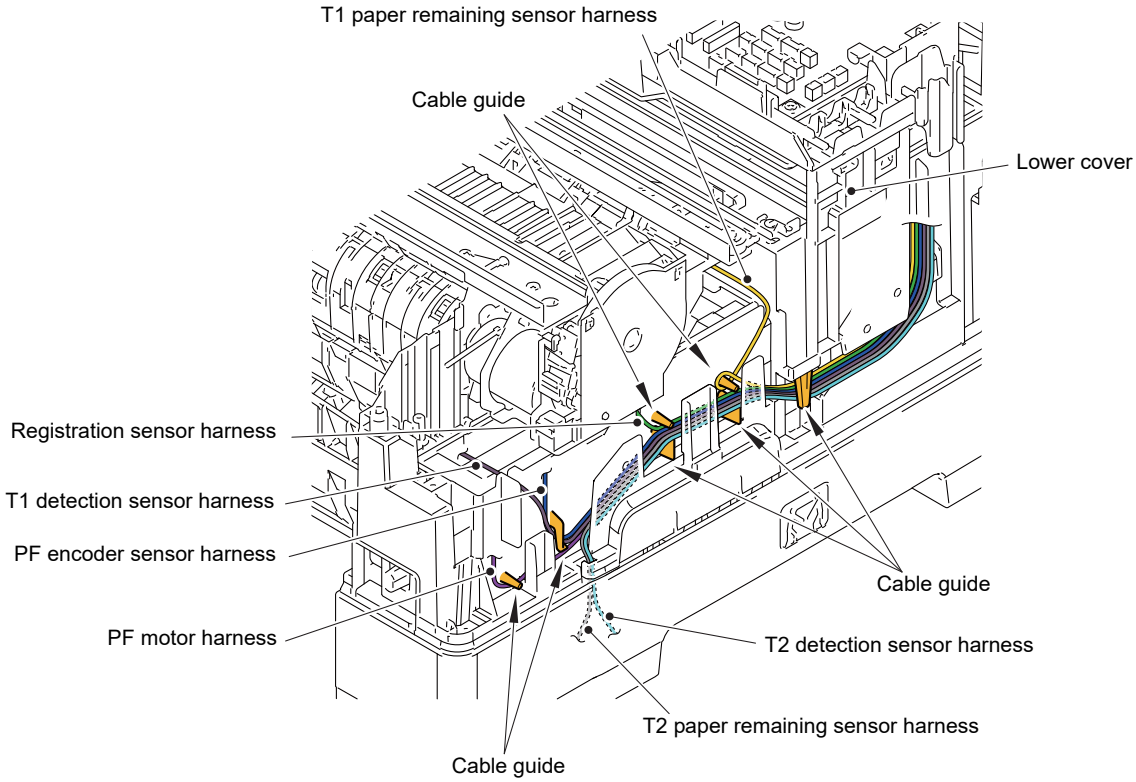
8 Head/carriage unit



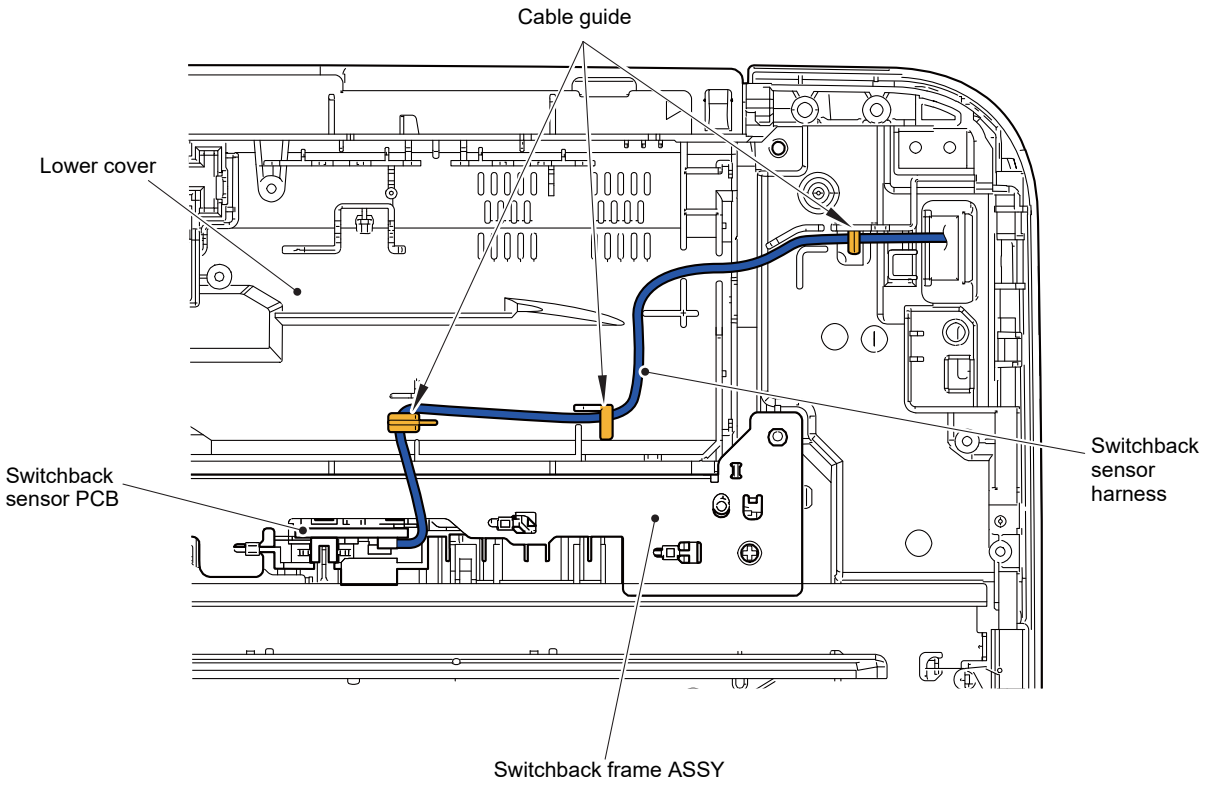
9 Paper feed arm frame ASSY



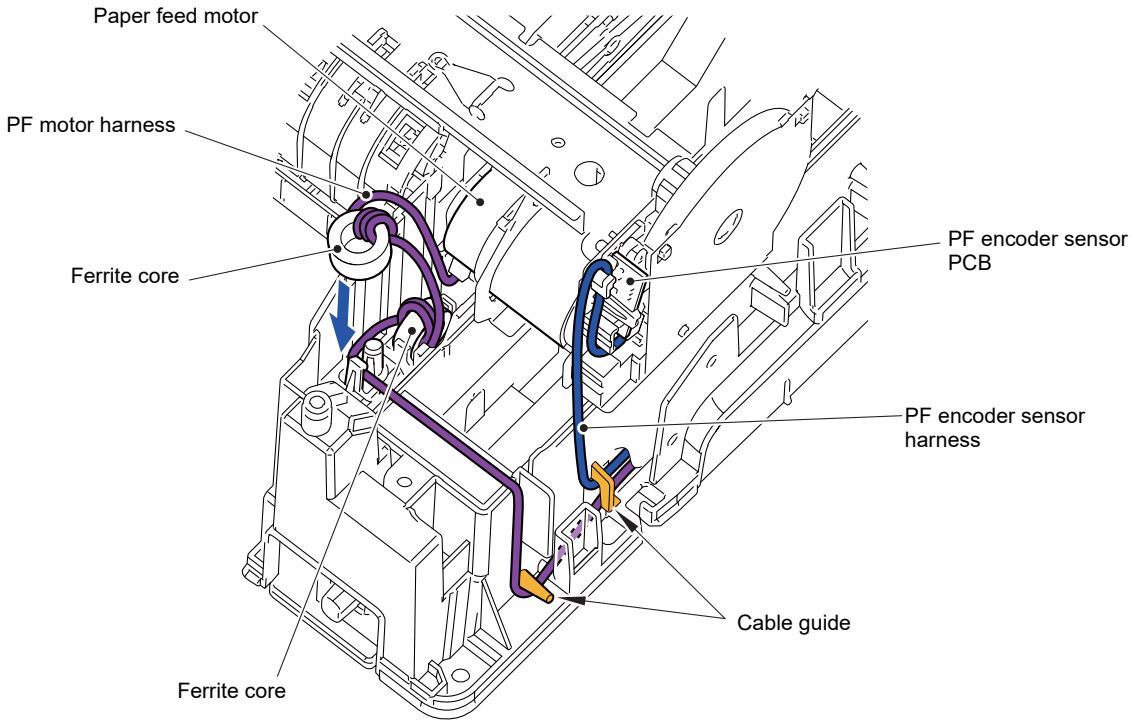
10 Lower cover



11 Switchback sensor PCB

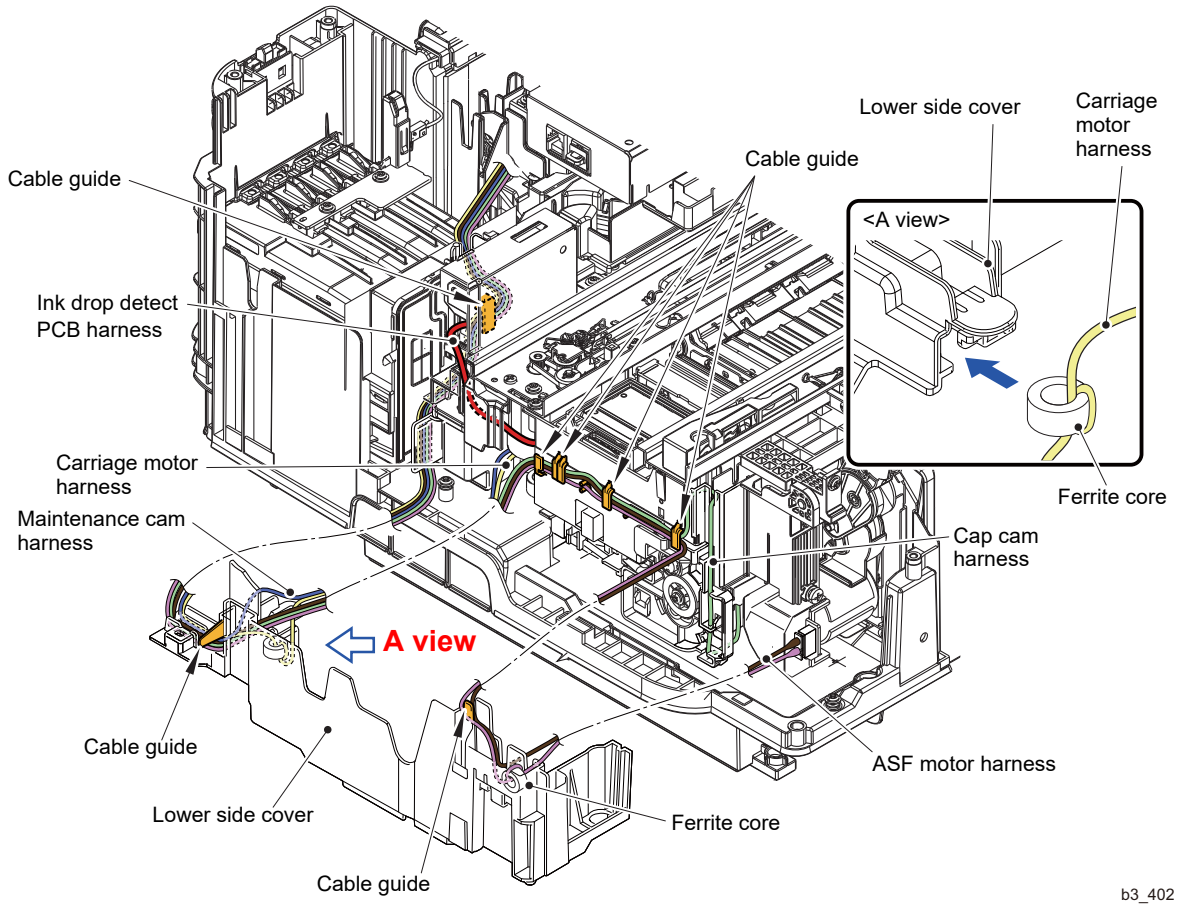


12 Paper feed motor

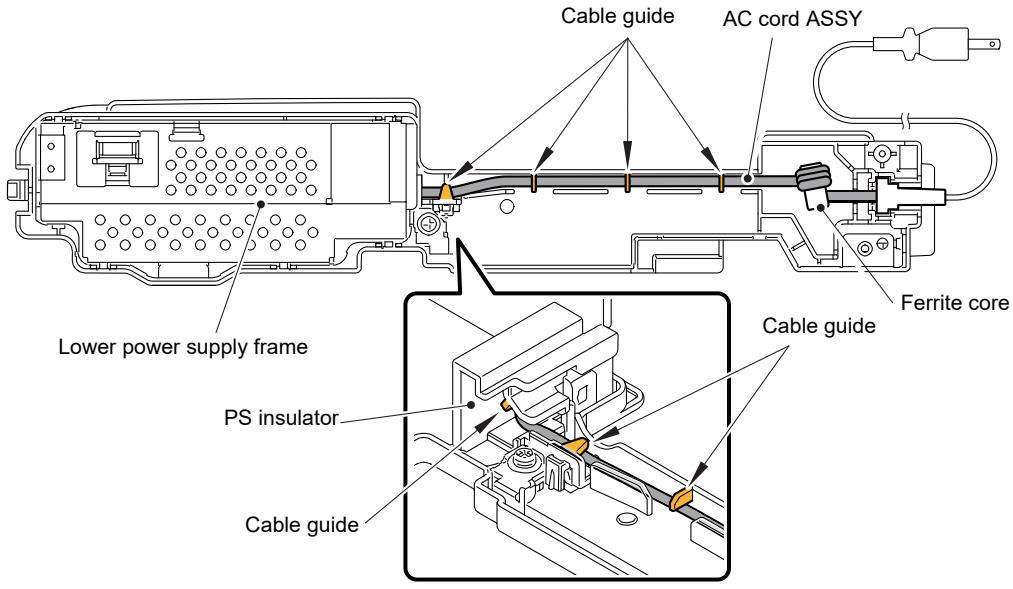


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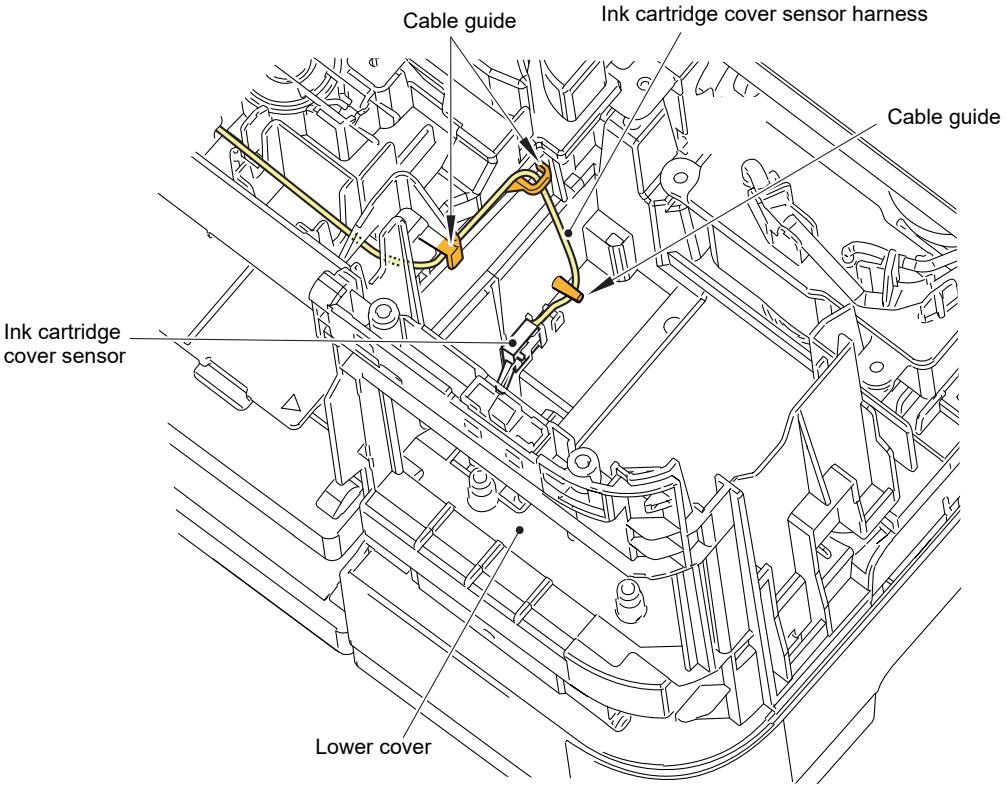
13 Lower side cover



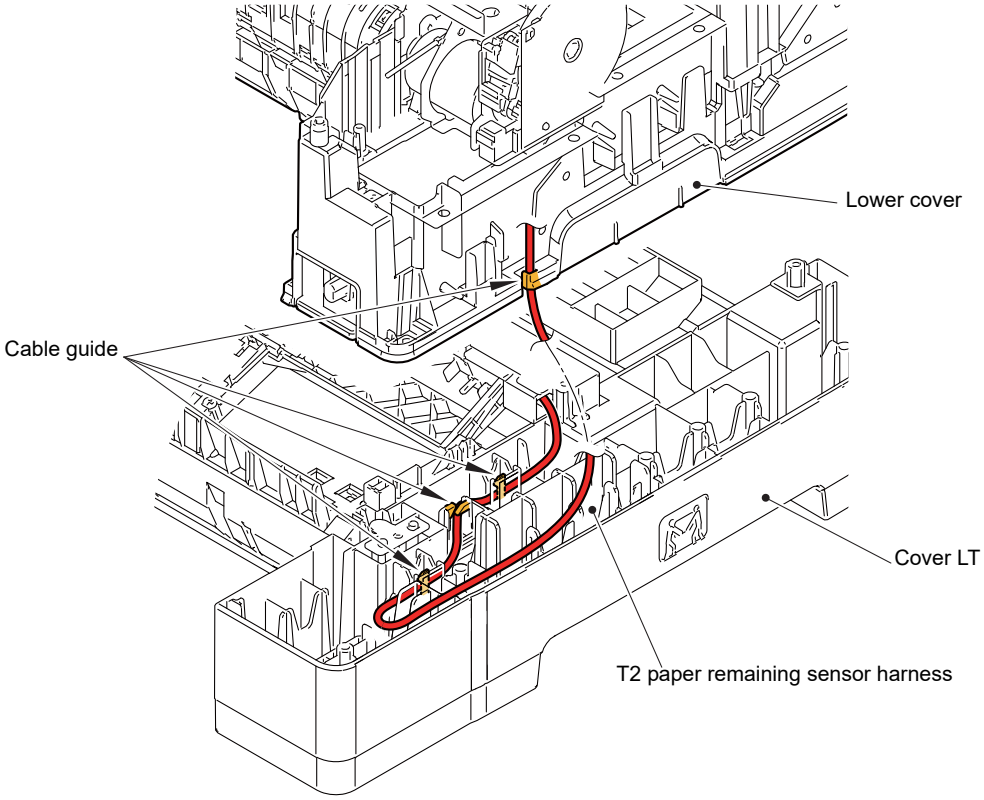
14 Power supply PCB ASSY



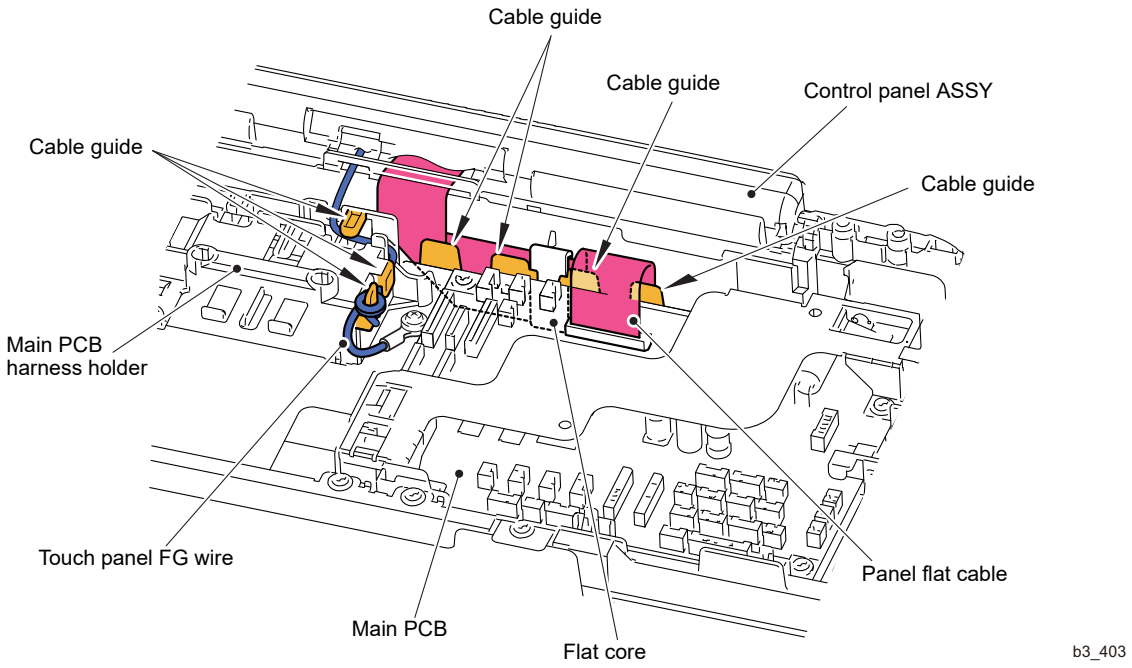
15 Ink cartridge cover sensor



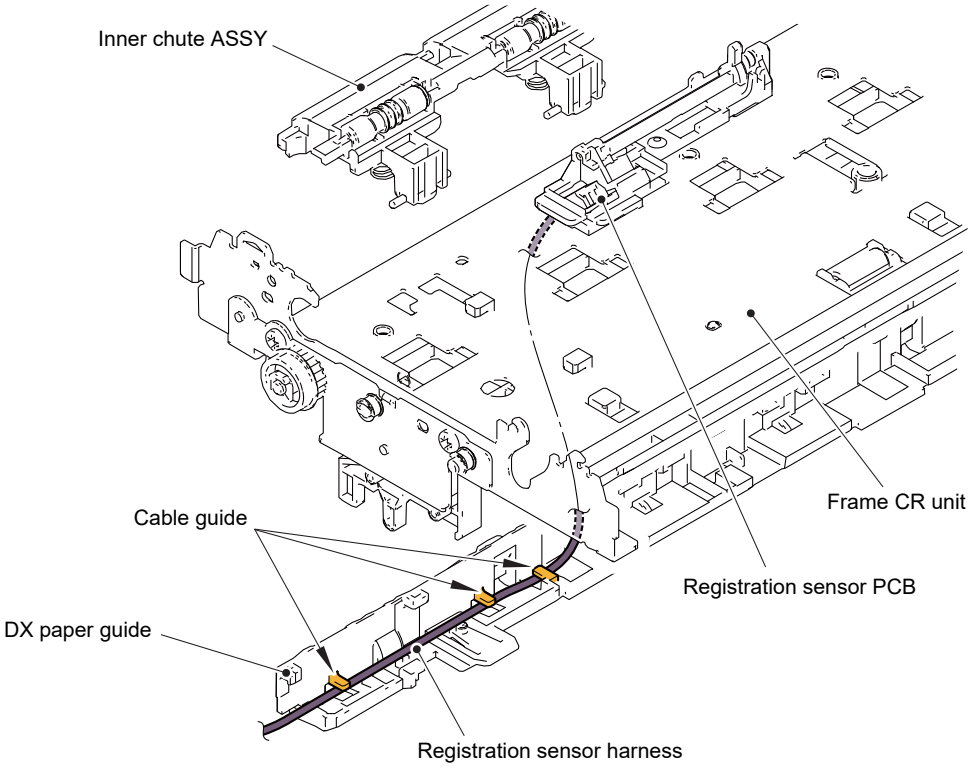
16 Lower tray



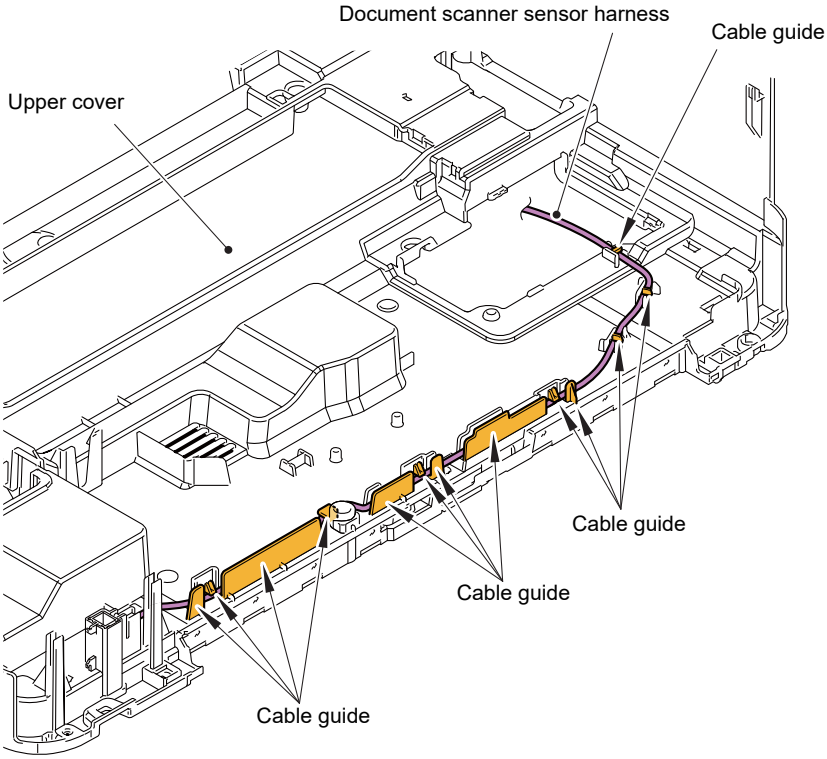
17 Control panel ASSY



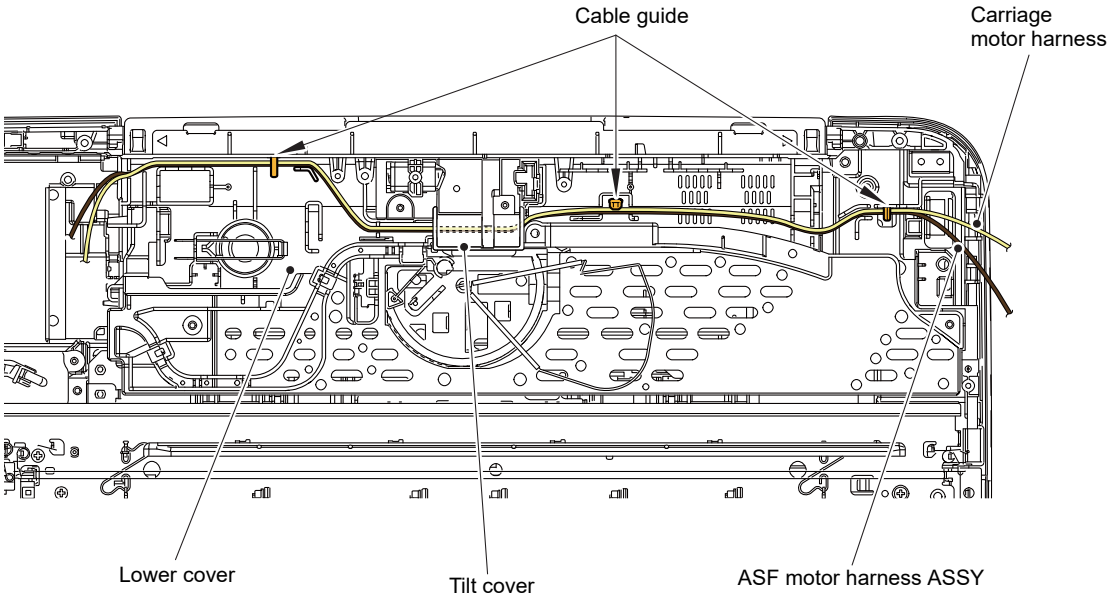
18 Registration sensor harness



19 Upper cover



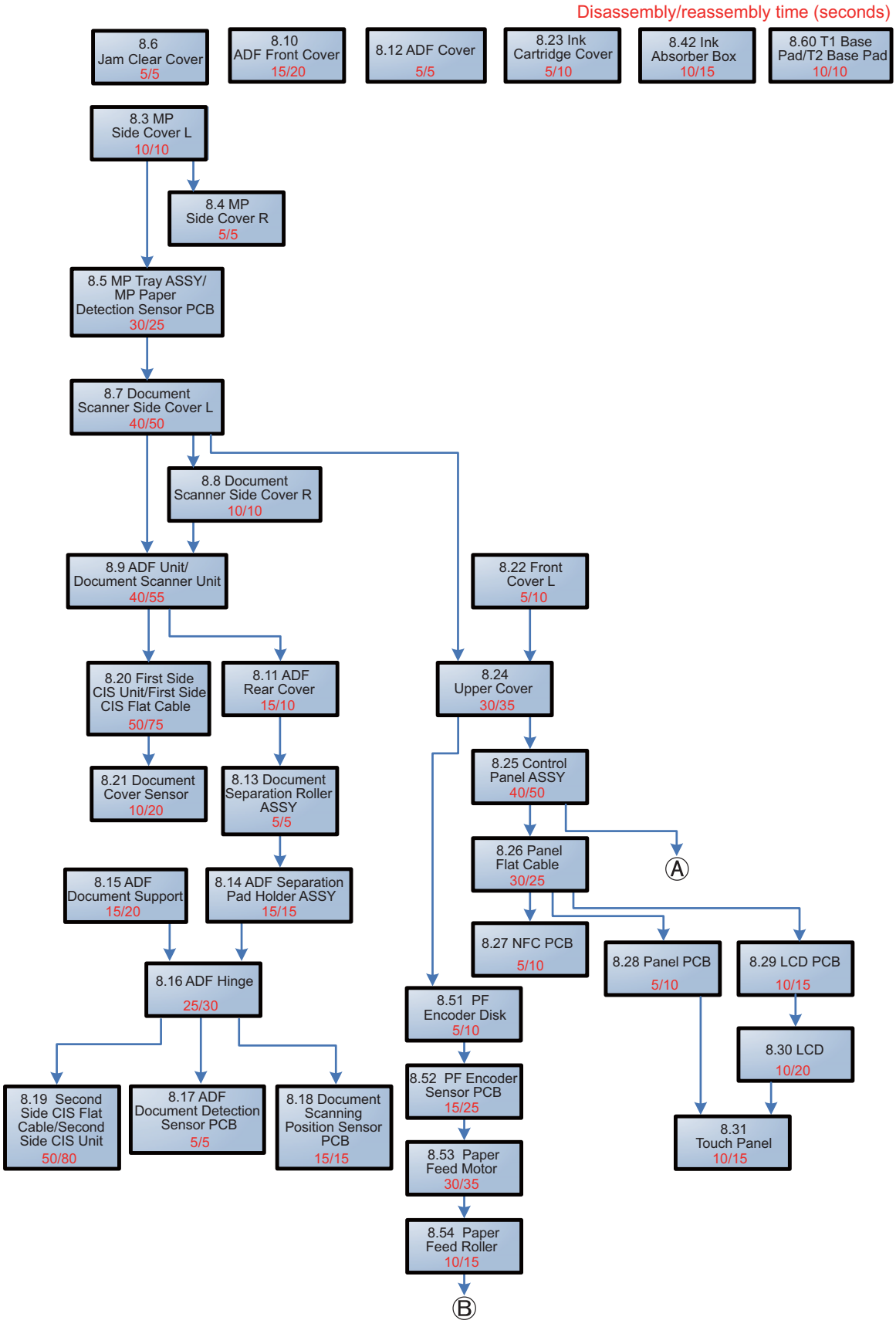
20 Carriage motor harness/ASF motor harness ASSY



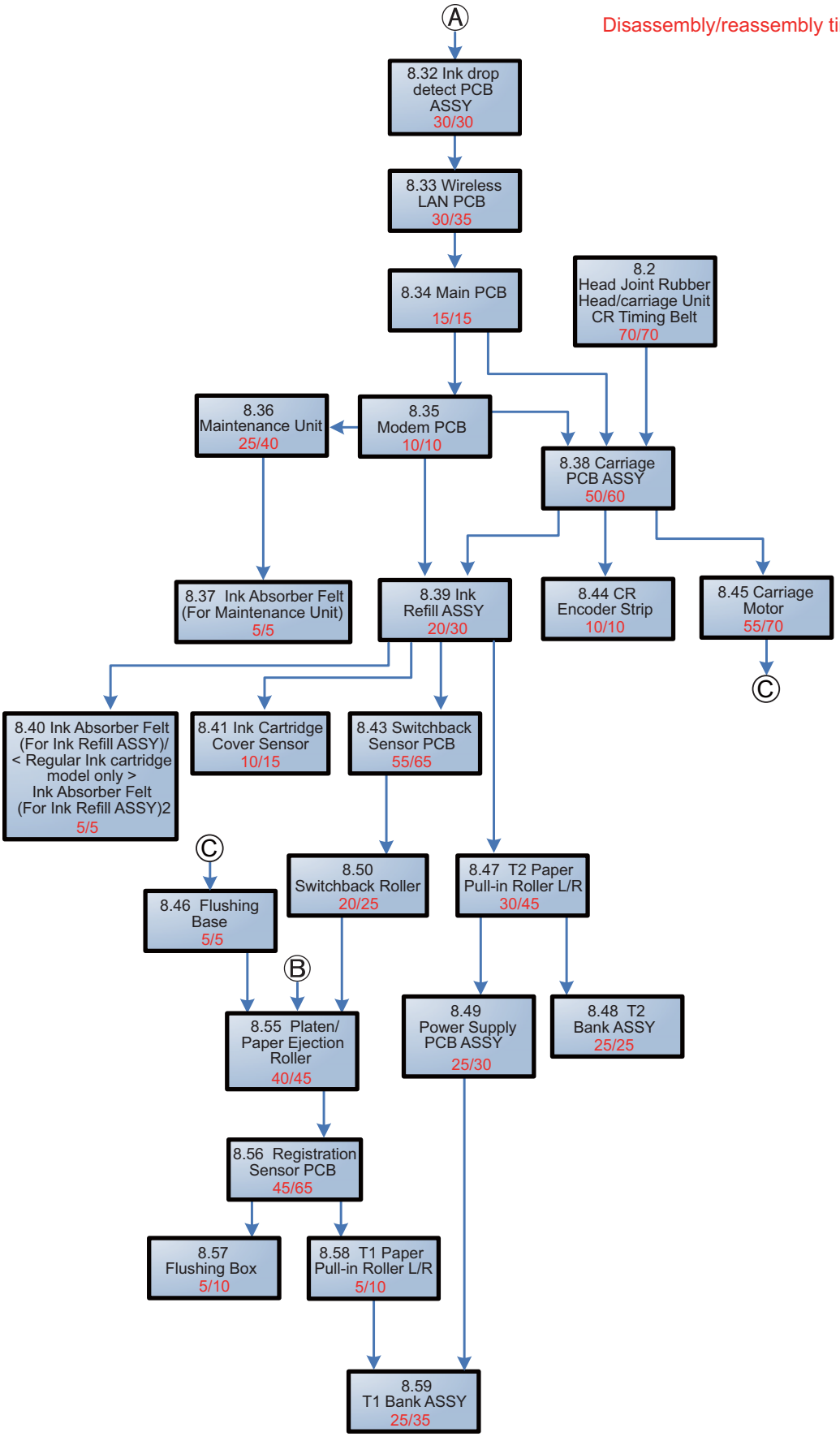
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7 DISASSEMBLY FLOW

■ Disassembly flowchart



Disassembly/reassembly time (seconds)



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8 DISASSEMBLY PROCEDURE

8.1 Preparation

[1] Transferring Received FAX Data

When the machine at the user site requires to be repaired, unplugging the power cord from the electrical outlet for sending the machine for repair will lose received FAX data if left in the machine.

To prevent such data loss, the service personnel should instruct end users (e.g., by telephone) to transfer data in the machine to another fax machine or PC using the procedure below.

Note: The number of files that can be transferred at a time is 99. To transfer 100 files or more, carry out the following procedure more than one time.

Tip: If there are both color and monochrome data in a file to be transferred, the monochrome data will be transferred first. If the receiver machine does not support the color function, the sender machine cannot transfer color data, resulting in an error.

Transferring faxes to another fax machine

■ **Operating Procedure**

(1) Press the **X** key to interrupt the error (if displayed) temporarily.

(2) Press . Press **ALL settings**.

(3) Press **Service**.

(4) Press **Data Transfer**.

(5) Press **Fax Transfer**.

If a fax number entry screen appears, there are faxes in the machine's memory. Then enter the fax number to which faxes should be forwarded.

(6) Press the **Fax Start** key.

Transferring faxes to a PC

■ **Operating Procedure**

The following procedure uses the fax machine and your PC.

(1) Press the **X** key to interrupt the error (if displayed) temporarily.

(2) Start  Brother Utilities.

(3) Select your model name.

(4) Click **PC FAX** in the navigation bar, and then click **Receive**.

(5) Read and confirm the instructions on your computer.

[2] Backing up Machine Information and Head Calibration Data (when the main PCB is to be replaced)

Before starting repair, the service personnel should back up the following machine information, user setting information and head calibration data into a USB flash memory.

- Machine information (Preset values, count values, error information, machine specifications data, etc.)
- User setting information (telephone directory, password, station ID, transfer information, telephone area code, user settings, etc.)
- Other data (Received fax data, ICM/OGM data, etc.)

Note that the following information cannot be backed up.

- MAC address
- Call and caller ID records
- Activity report
- Fax data to be sent (by delayed-timer, redialing, and polling)

■ Operating Procedure

Back up the machine information, user setting information and other information, referring to Chapter 5, Section 1.3.11 "Backup of Machine Information (Maintenance mode 46)." and Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68).".

[3] Disconnecting Cables, Removing Accessories, and Setting the Protective Part

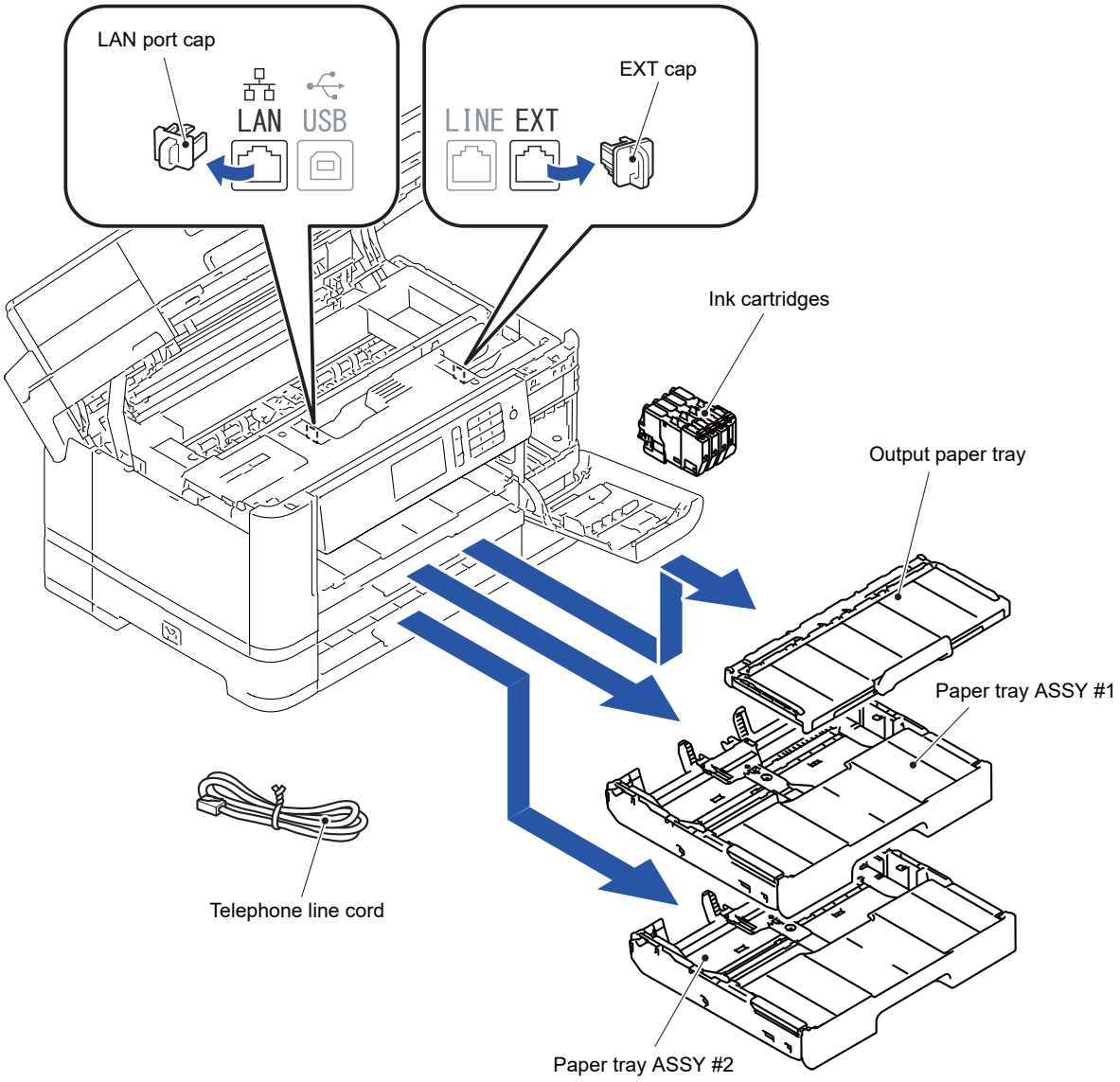
Before starting disassembly, perform the following procedure.

(1) Disconnect the following:

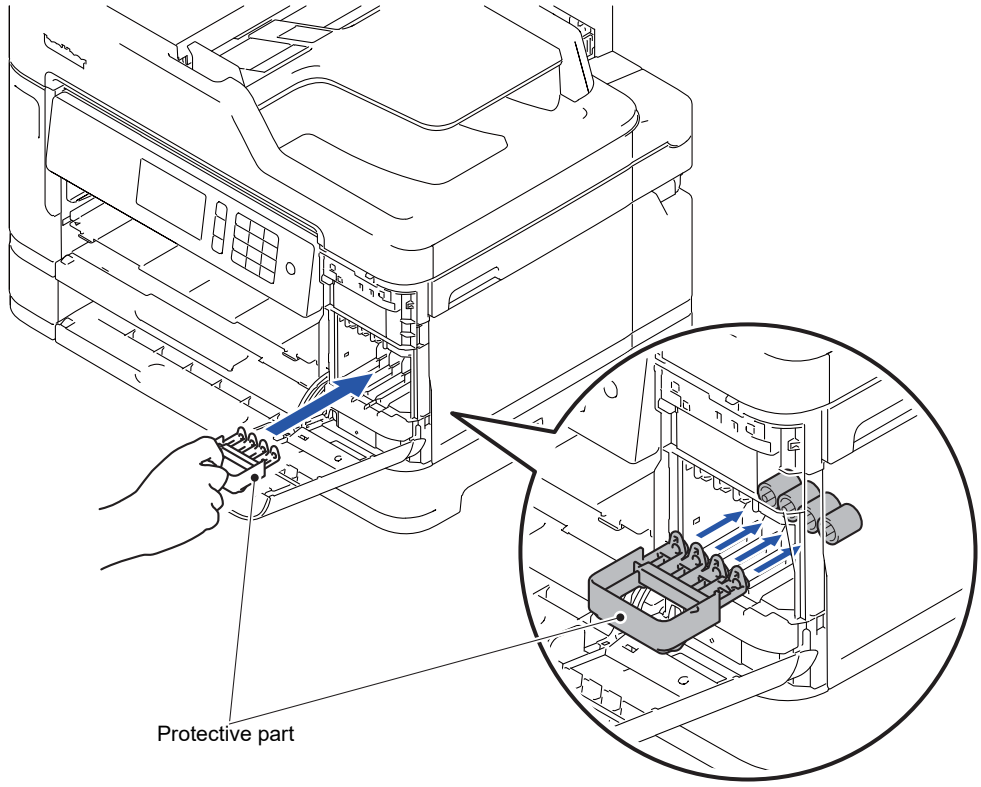
- Telephone line cord, if connected
- USB cable, if connected
- LAN cable, if connected
- USB flash memory, if connected

(2) Remove the following:

- Output paper tray
- Paper tray ASSY #1
- Paper tray ASSY #2
- Ink cartridges
- LAN port cap
- EXT cap



(3) < Regular Ink cartridge model only >
Set the Protective part.



8.2 Head Joint Rubber/Head/carriage Unit/CR Timing Belt

(1) Plug the Power cord into an electrical outlet.
(2) Press the power switch to turn on the power.

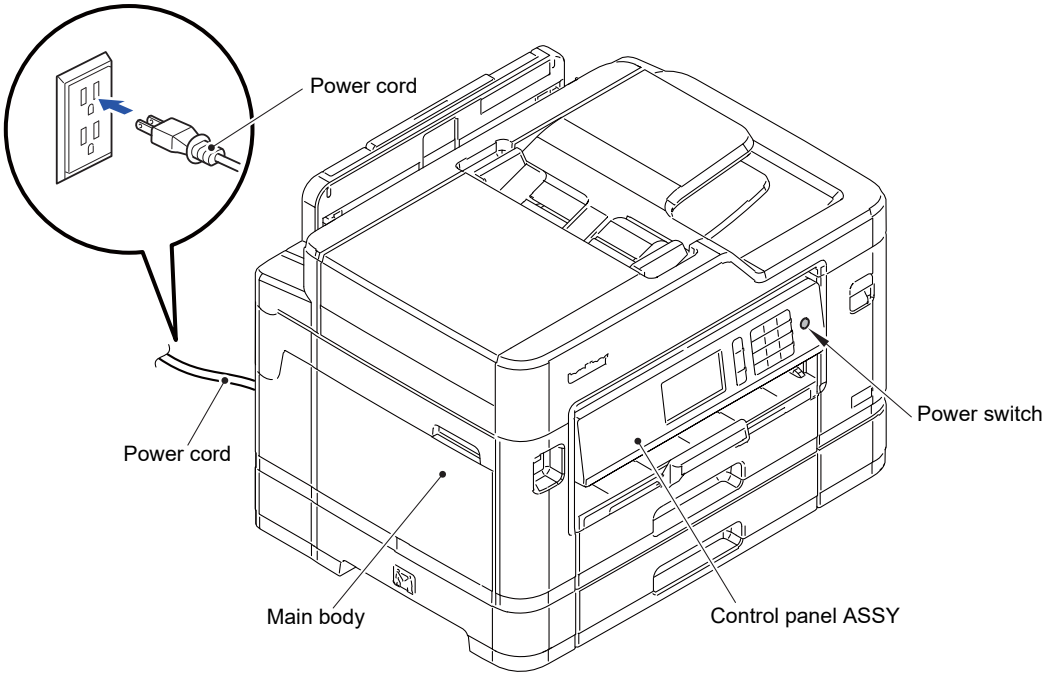


Fig. 3-1

(3) Open the Document scanner unit.
(4) Hold down the **Stop** key, and the Head/carriage unit automatically moves to the position shown in the figure.
(5) Pull out the Power cord from the electrical outlet.

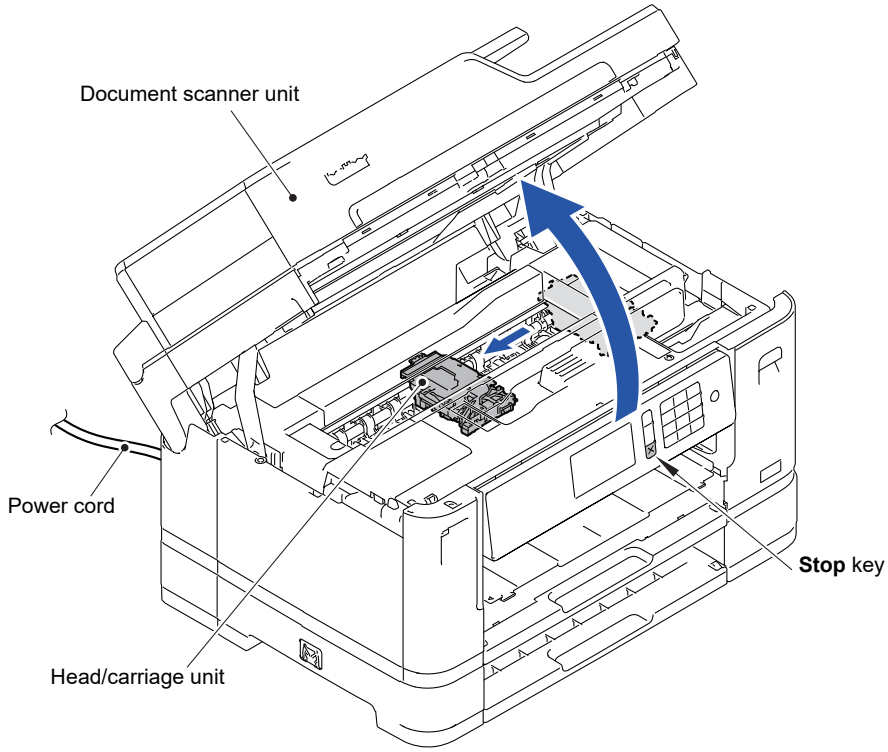


Fig. 3-2

(6) Release the six Hooks and remove the Harness cover from the Upper cover.

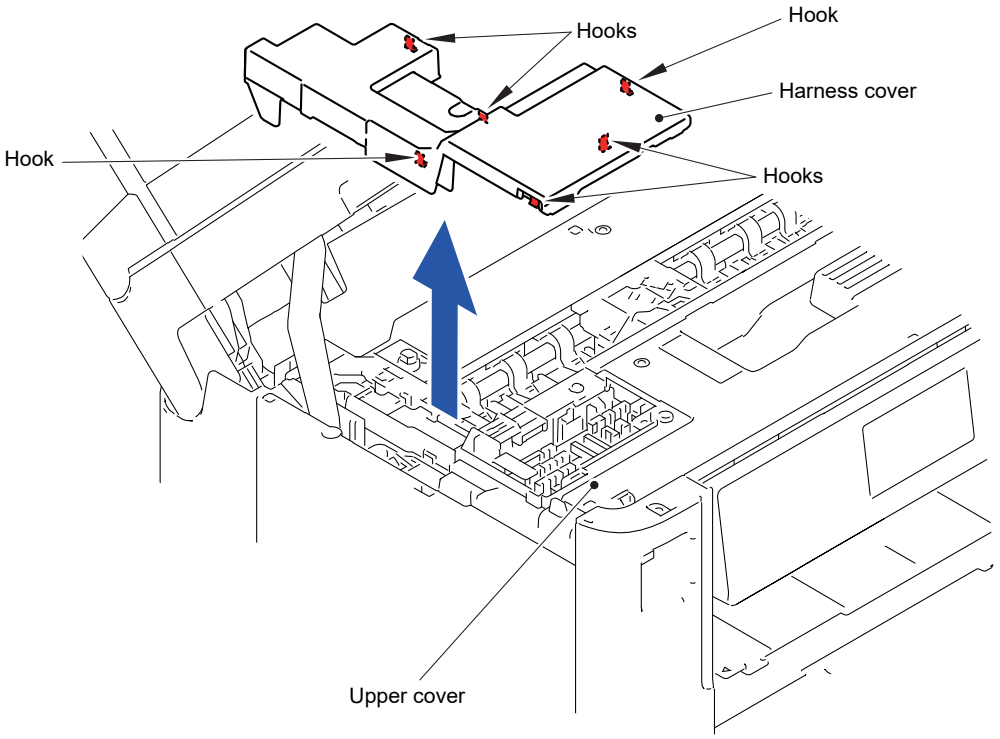


Fig. 3-3

(7) Release the four Hooks and remove the Edge cover from the Upper cover.

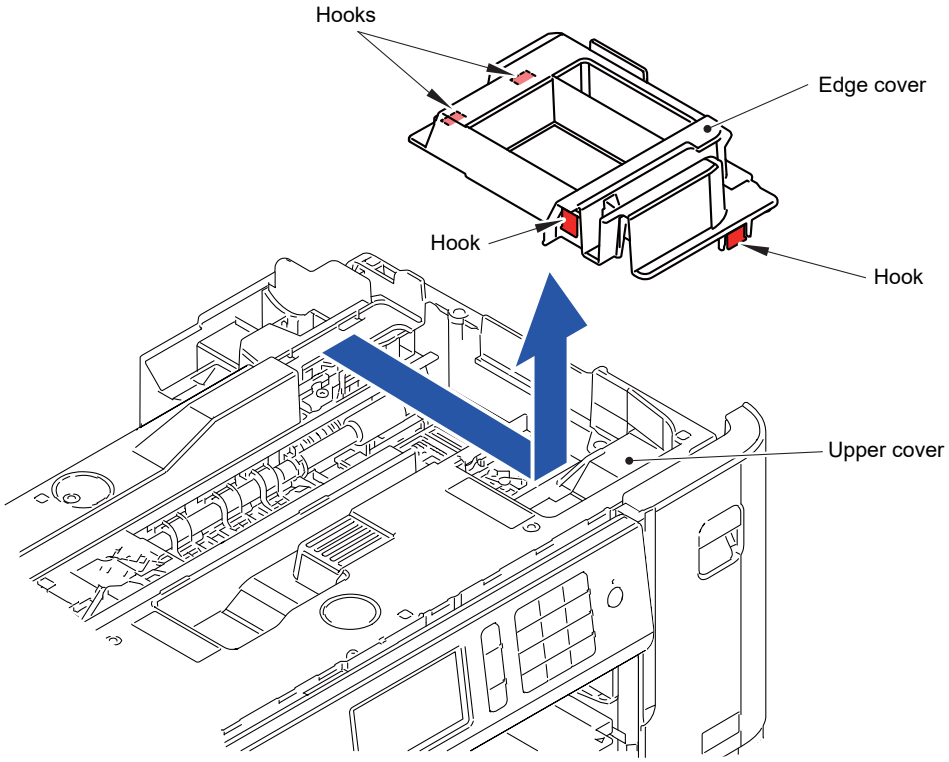


Fig. 3-4

(8) Manually slide the Head/carriage unit to the position shown in the figure.

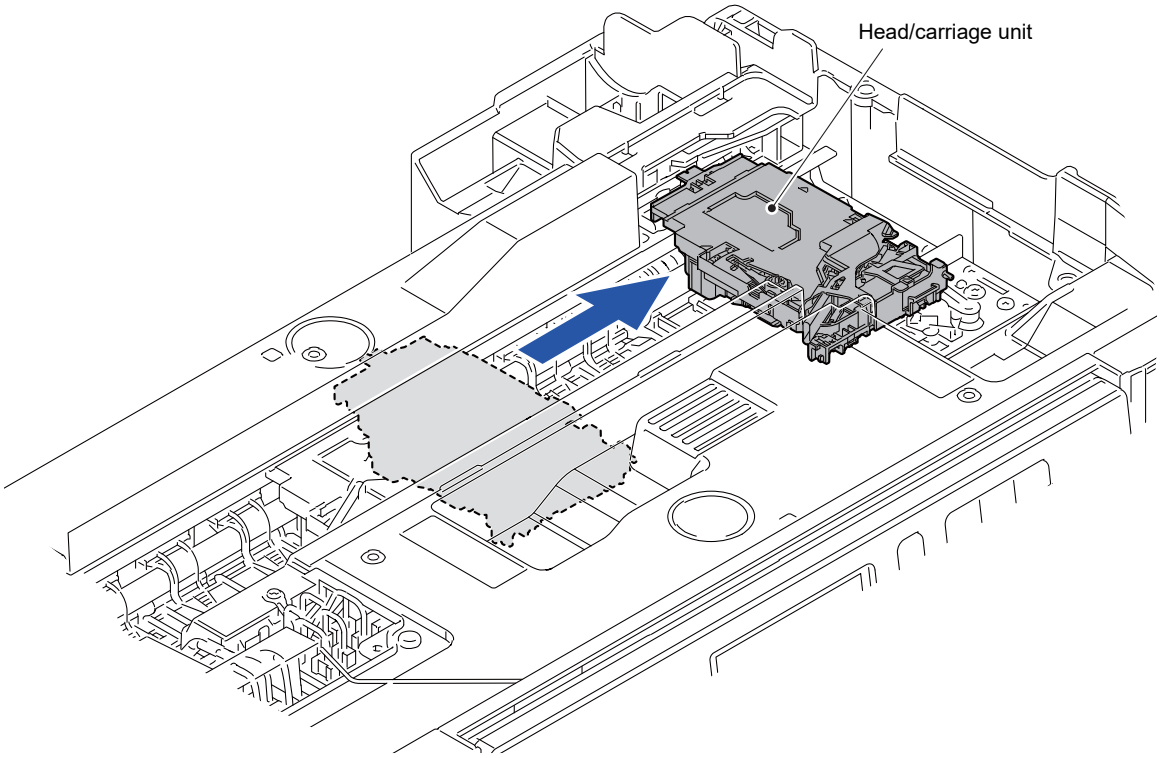


Fig. 3-5

(9) Release the seven Hooks and remove the Head cover from the Head/carriage unit.

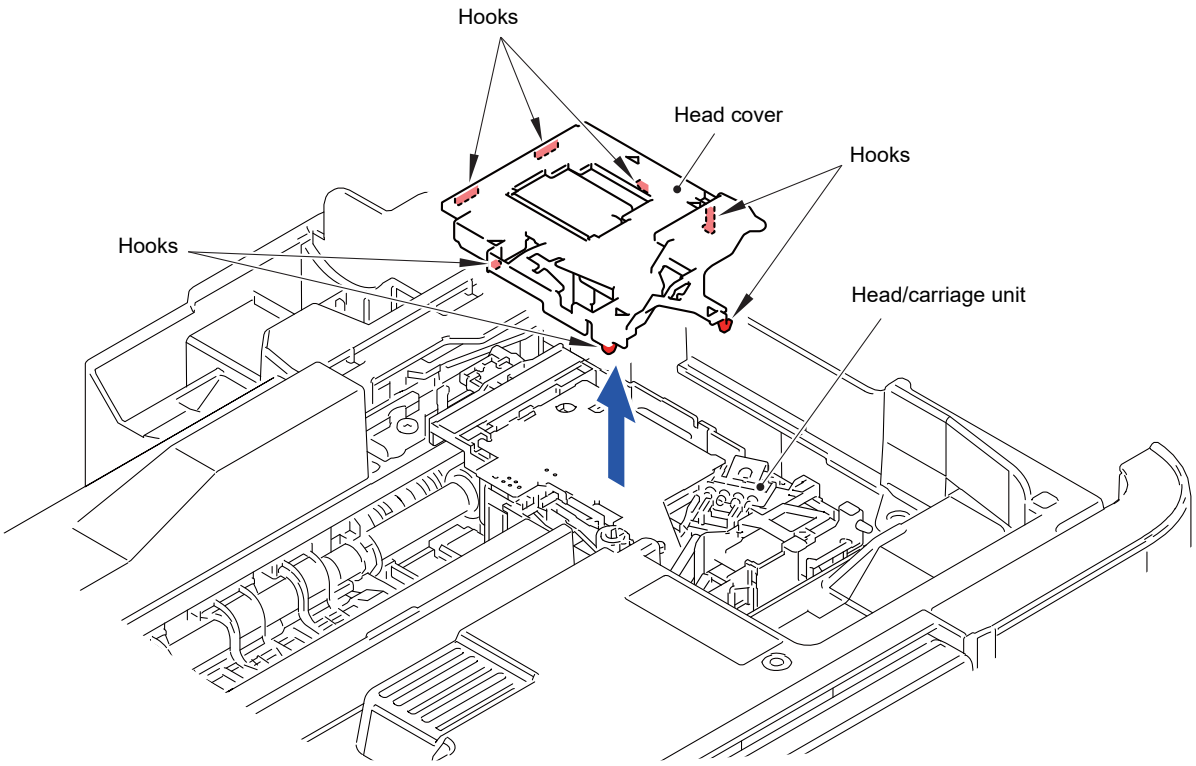


Fig. 3-6

(10) Release the Lock of the connector and disconnect the Flat cable from the Carriage PCB ASSY.

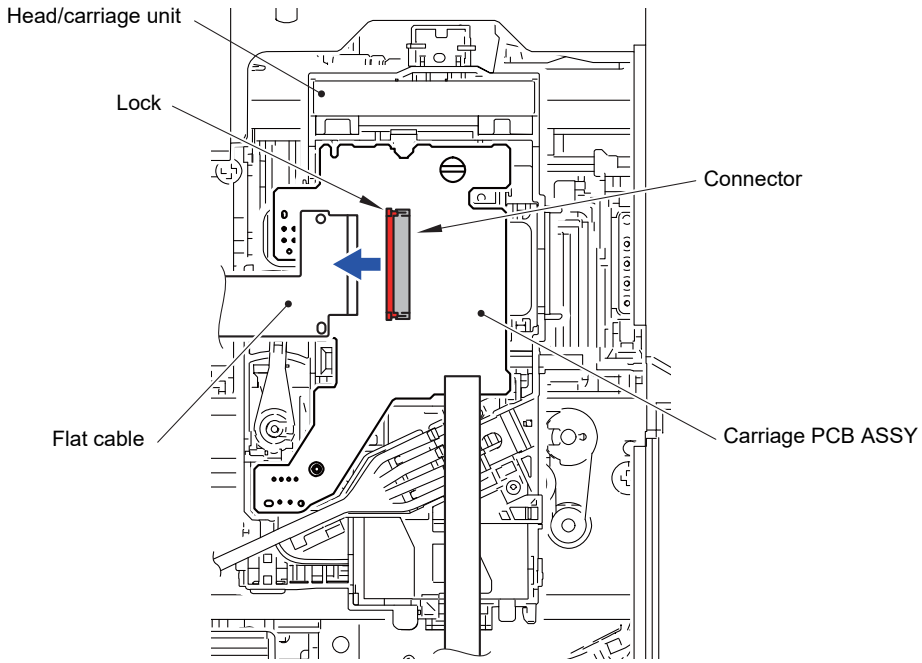


Fig. 3-7

(11) Release the Lock spring which secures the Carriage PCB ASSY.

(12) Remove the Carriage PCB ASSY from the Head/carriage unit. Release the Hook of the Tube binder and disconnect the Flat cable of the Carriage PCB ASSY from the Boss of the Head/carriage unit.

Note: The Carriage PCB ASSY is not removed completely. Put the Carriage PCB ASSY out of the way and perform work.

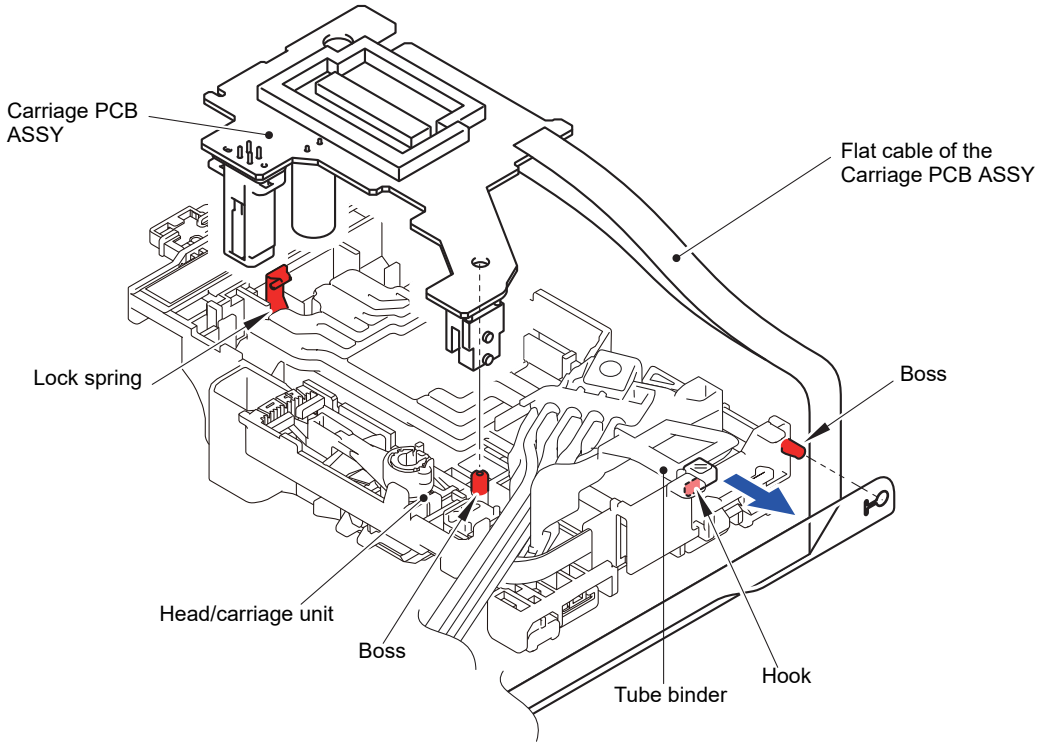


Fig. 3-8

(13)Remove the Head joint spring from the Head/carriage unit.

Note: It can be easily removed if you press the section “A” by inserting a thin screwdriver, etc. from the spring hole.

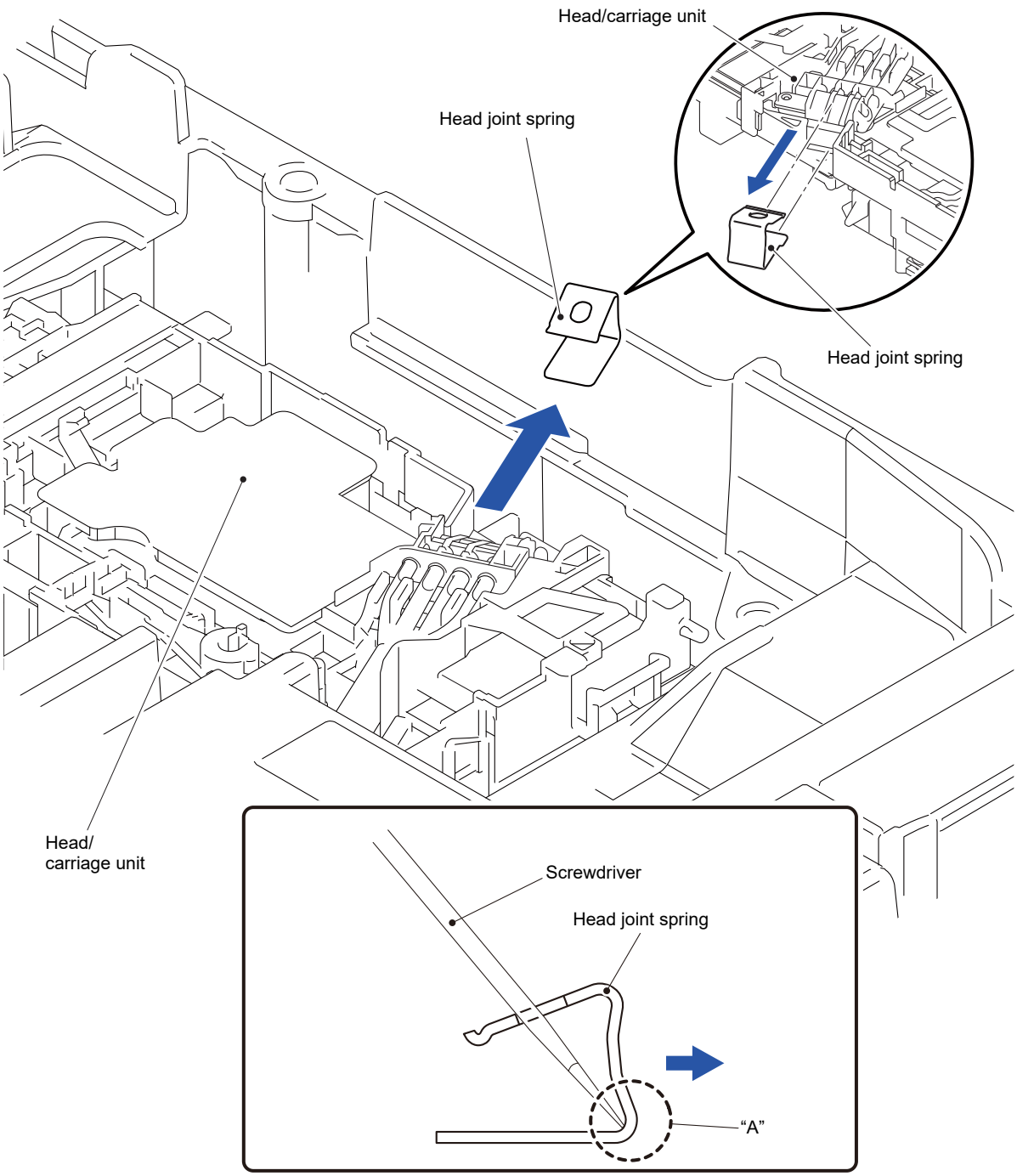


Fig. 3-9

(14)Release the two Hooks and remove the Tube binder from the Head/carriage unit.

Note: After removal of the Head joint, immediately wrap the Head joint in a clean, lintfree cloth and keep it higher than the Ink refill ASSY to prevent ink remaining in the Ink supply tubes from leaking and the machine from getting stained with leaked ink.

Assembling Note: Pass the section “A” of the Tube binder beneath the CR encoder strip to prevent it from coming into contact with the CR encoder strip.

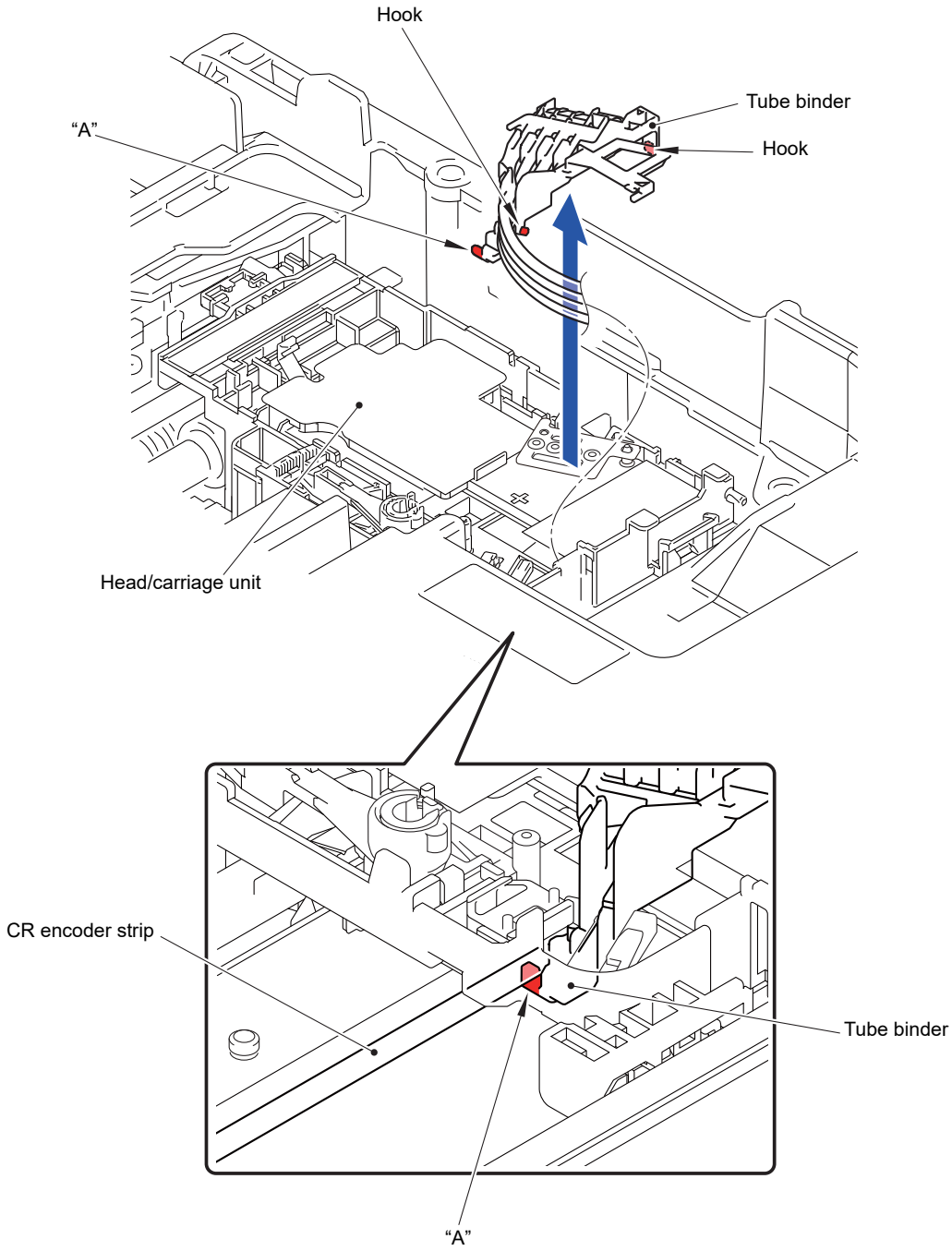


Fig. 3-10

(15)Remove the Head joint rubber from the Head/carriage unit.

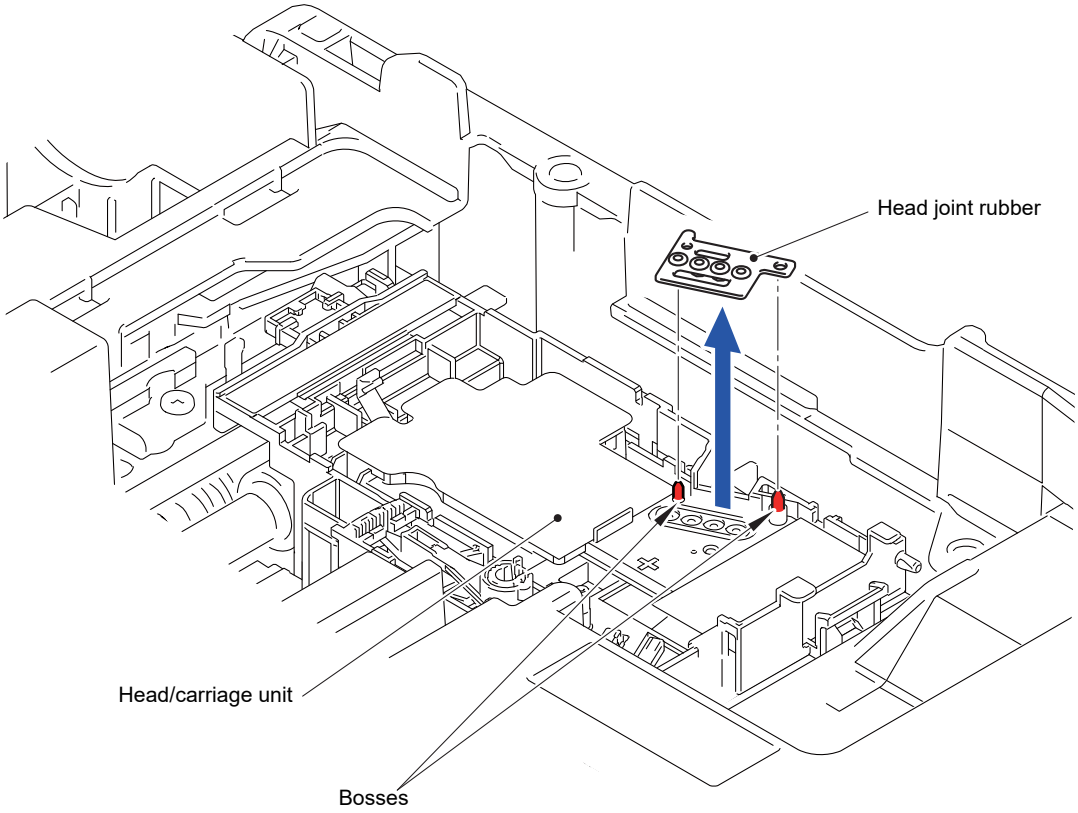


Fig. 3-11

(16)Remove the Plastic retaining ring from the Idle pulley.

(17)Remove the Idle pulley from the CR frame ASSY.

Note: Be careful not to lose the Washer which easily comes off from the Idle pulley.

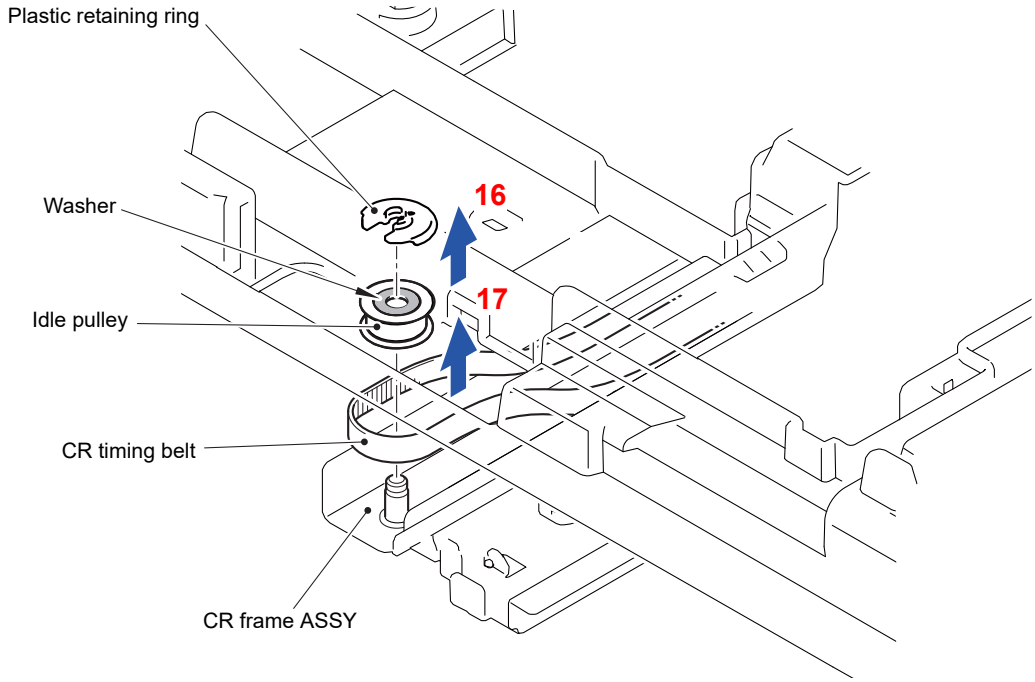


Fig. 3-12

(18)Remove the CR timing belt from the CR motor pulley.

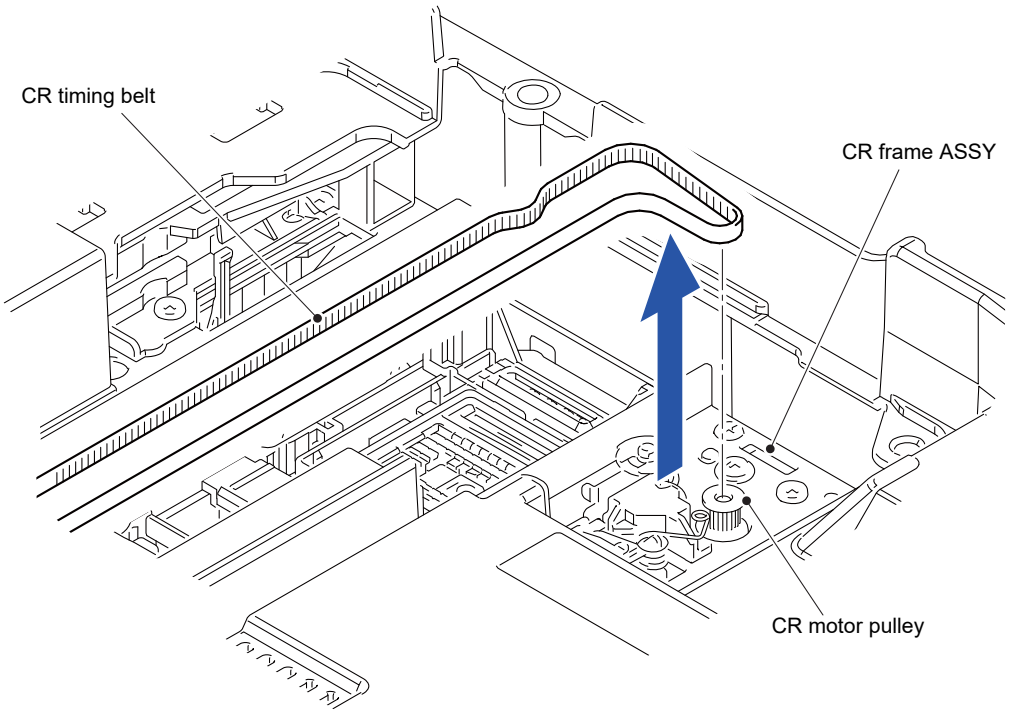


Fig. 3-13

(19)As shown below, loosely tie the CR timing belt in a bundle on the Head/carriage unit.

(20)Move the two Locks in the direction of the arrow.

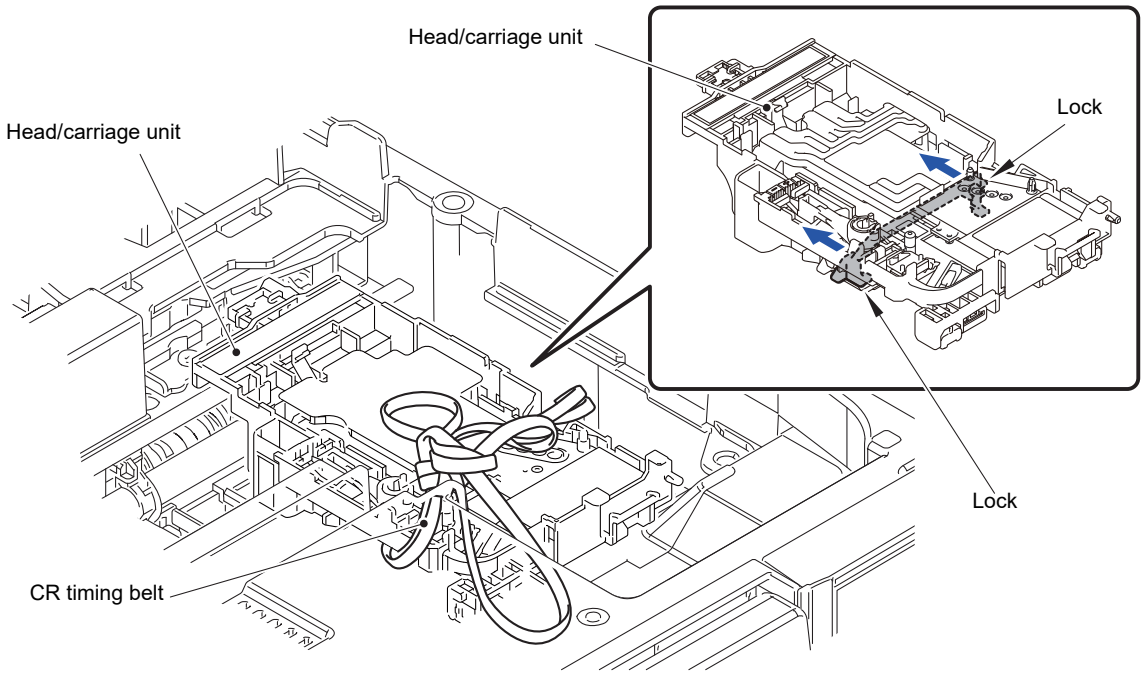


Fig. 3-14

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(21)Slide the Head/carriage unit in the arrow direction (until the two hooks of the Head/carriage unit are aligned with the cutouts of the CR guide rail).

Note: Sliding the Flat cable of the Carriage PCB ASSY and Ink supply tube to the left together with the Head/carriage unit may prevent the Head/carriage unit from getting caught with the Support wire.

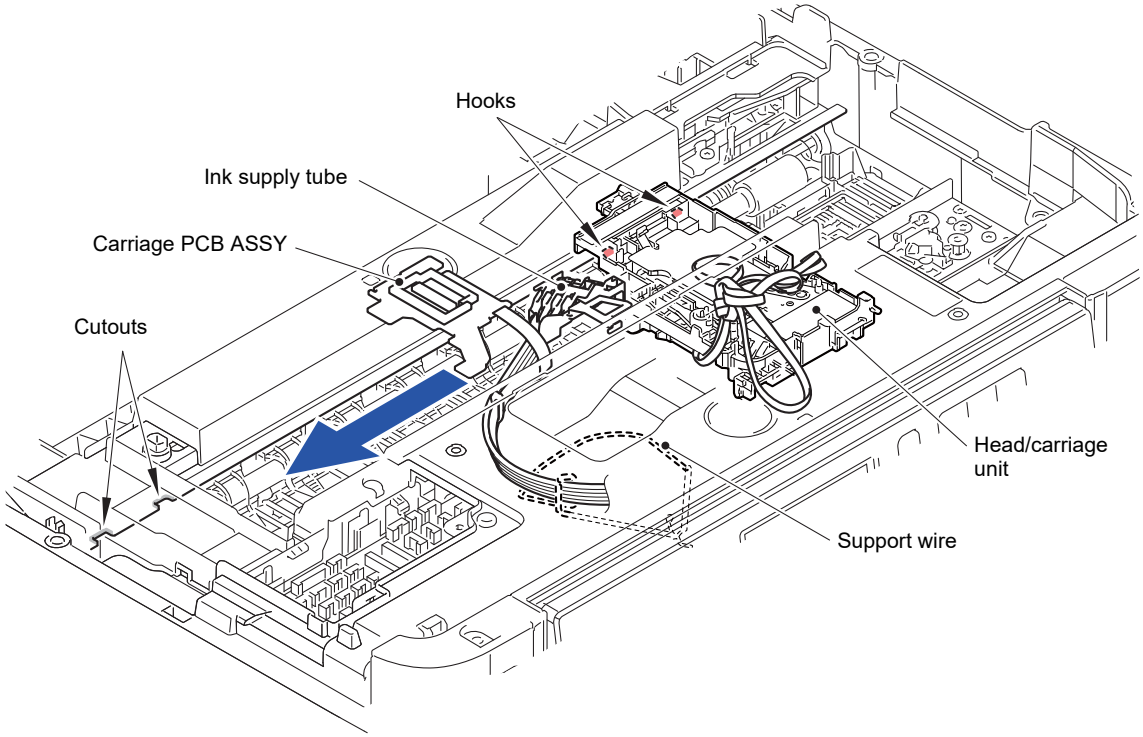


Fig. 3-15

(22)Lift the Head/carriage unit from the cutouts of the CR guide rail as high as it can be removed.

Note: The Head/carriage unit cannot be lifted too much because there is the Upper cover.

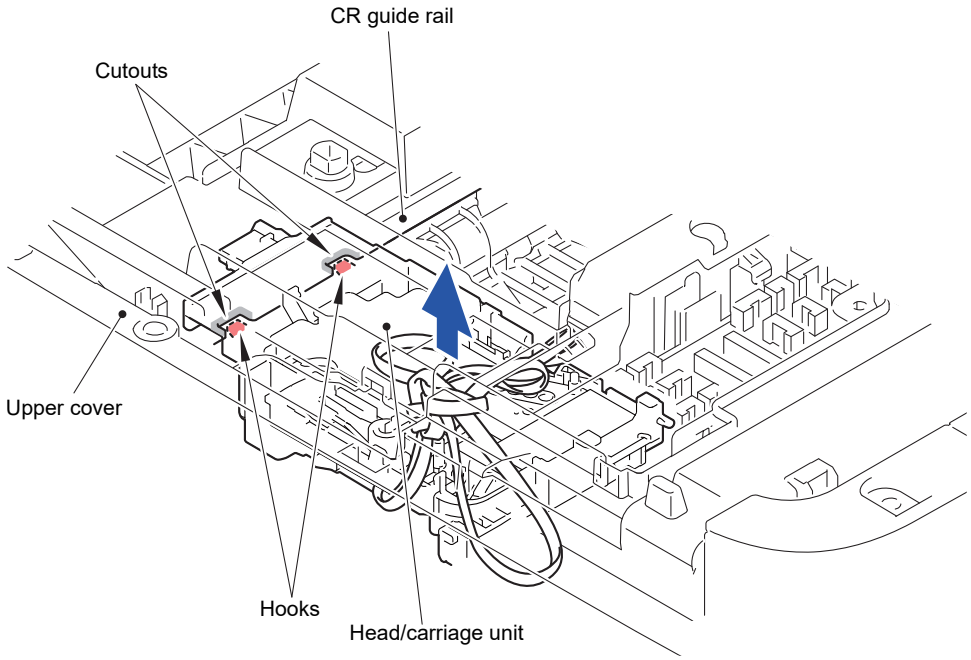


Fig. 3-16

(23)Move the Head/carriage unit to the position shown in the figure and remove it from the opening of the Upper cover.

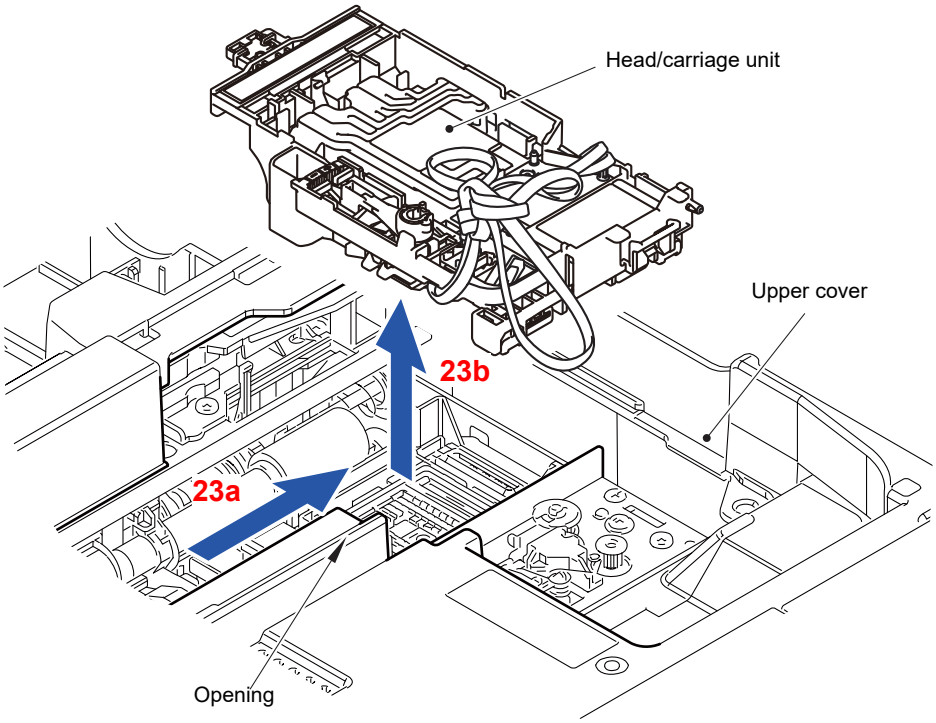


Fig. 3-17

(24)Close the Document scanner unit.

(25)Remove the CR timing belt from the Head/carriage unit.

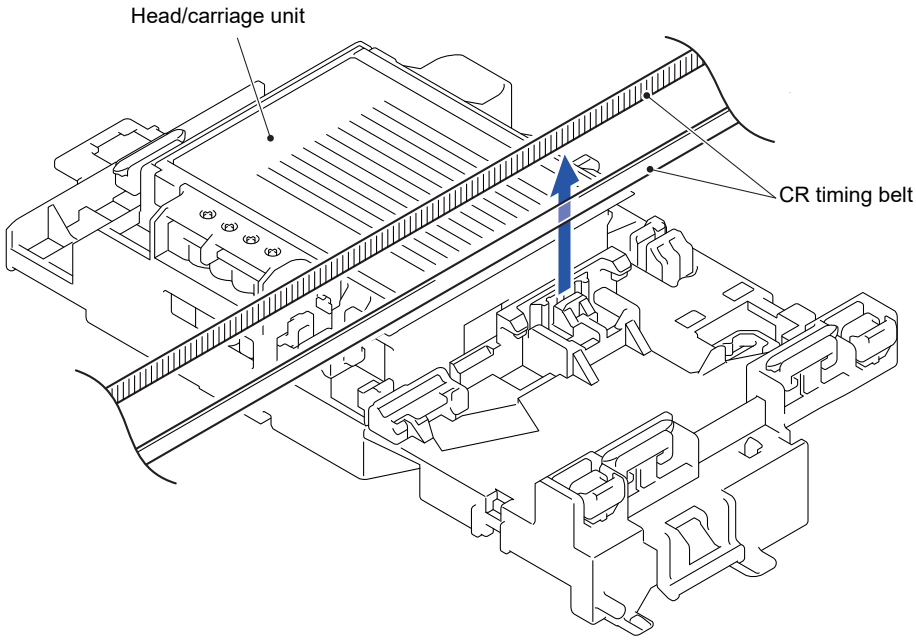


Fig. 3-18

Note: When storing the removed Head/carriage unit for a long period, store the unit in a Head casing as shown below. Leaving it out of the casing causes the head nozzles and ink supply ports to dry up so that the Head/carriage unit can no longer provide the original performance.

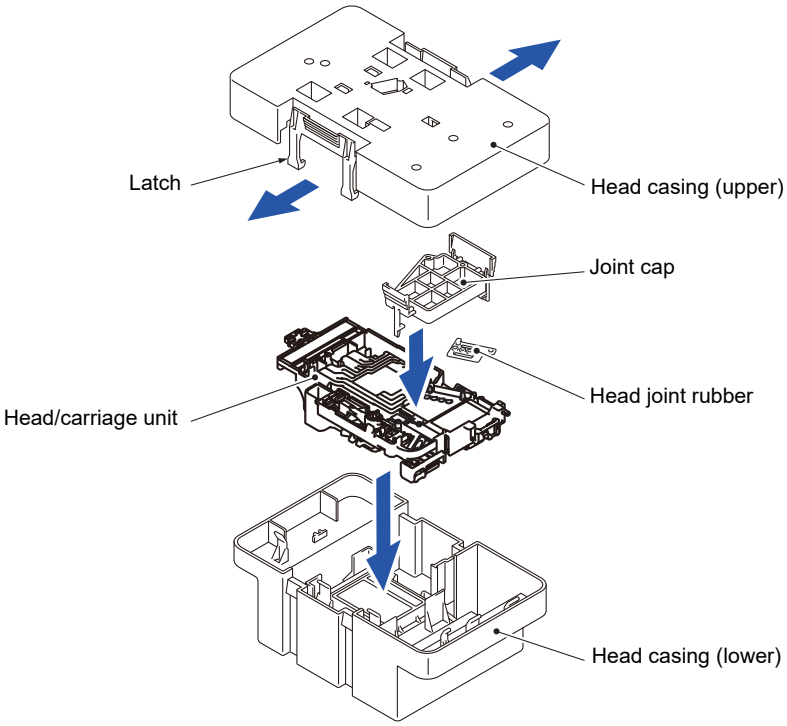


Fig. 3-19

Assembling Note: Mount the Head/carriage unit, using the following steps.

1) When mounting a new Head/carriage unit, apply lubricant to the unit, as specified in Section 4 "LUBRICATION" of this chapter.
2) When mounting the CR timing belt, insert it into the Head/carriage unit so that the toothed side faces inwards as shown below and make sure that the upper and lower edges of the belt are fitted in the Latches.

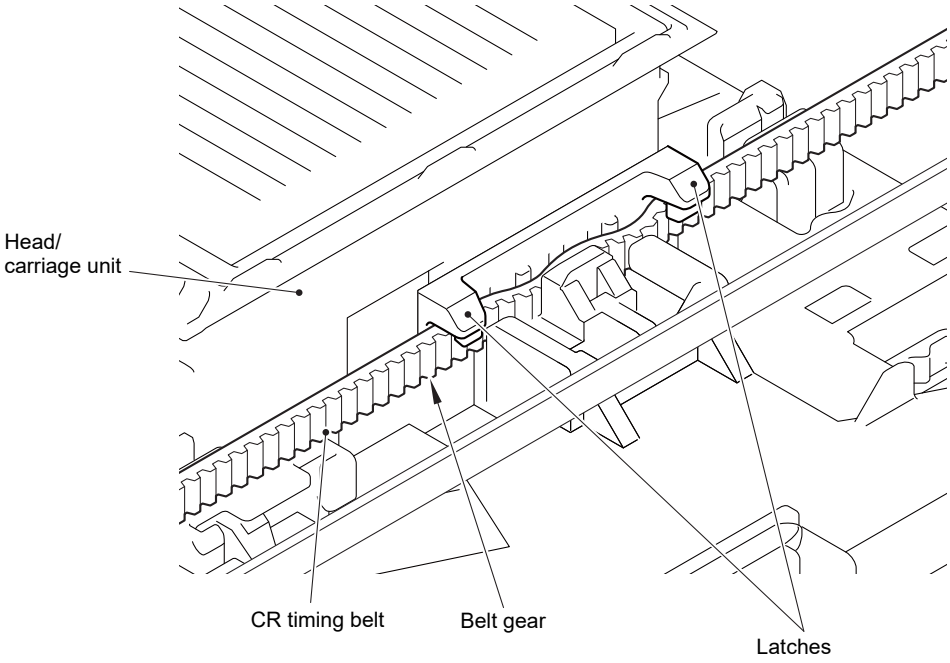


Fig. 3-20

8.3 MP Side Cover L

(1) Open the Paper support ASSY.

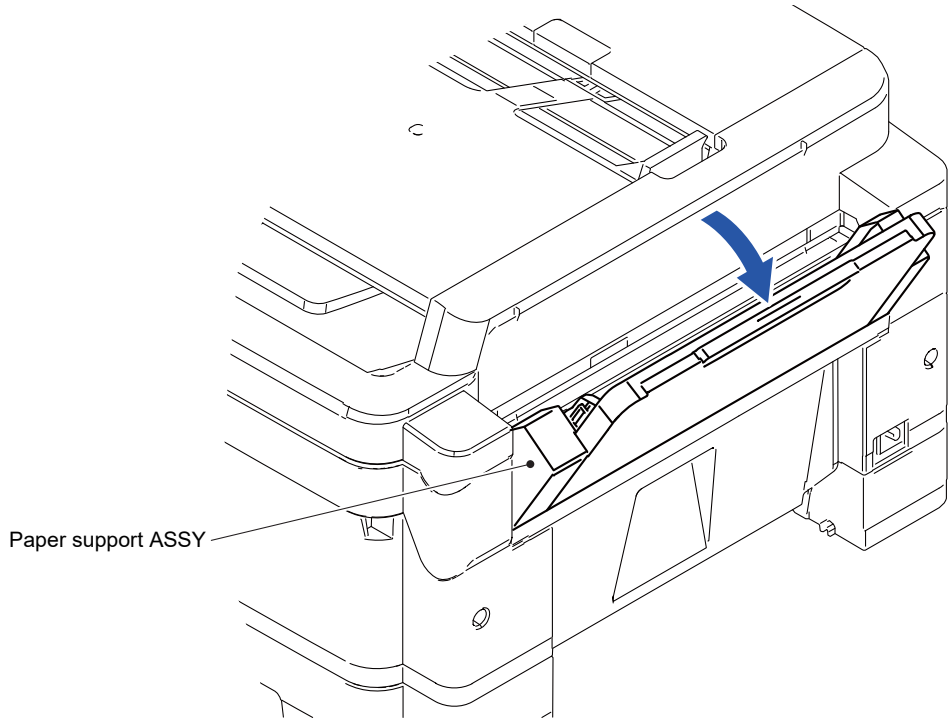


Fig. 3-21

(2) Release the two Hooks and remove the Paper support ASSY from the Main body.

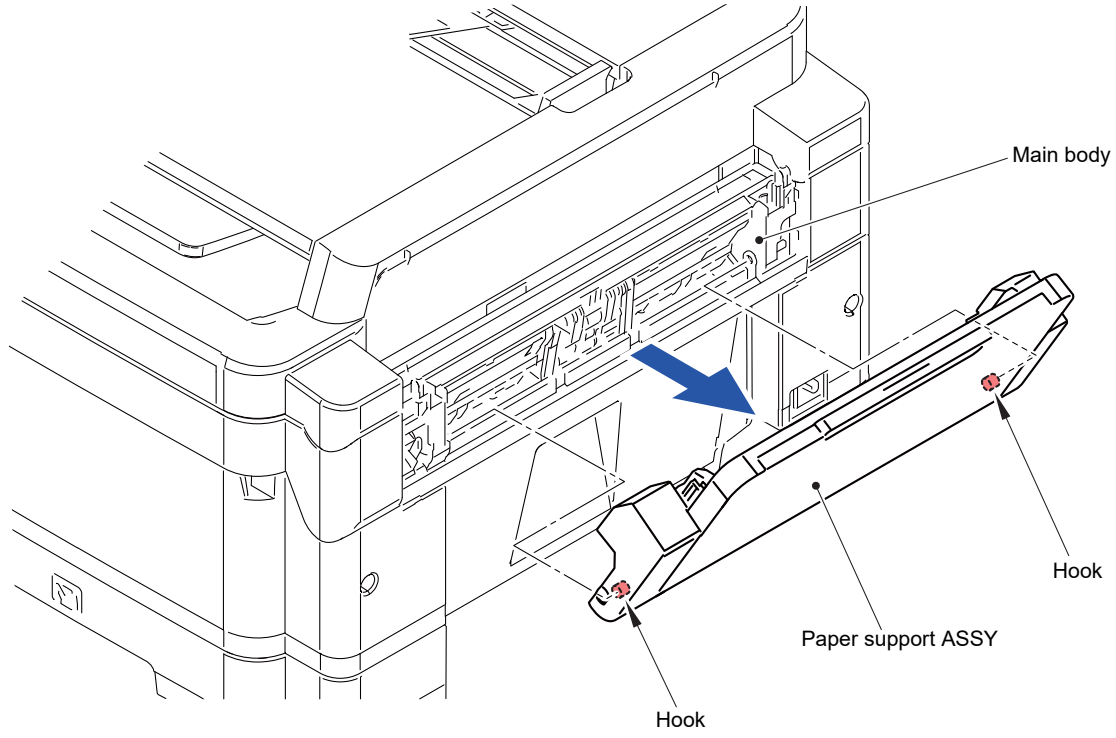


Fig. 3-22

(3) Release the three Hooks and remove the MP side cover L from the Paper support ASSY.

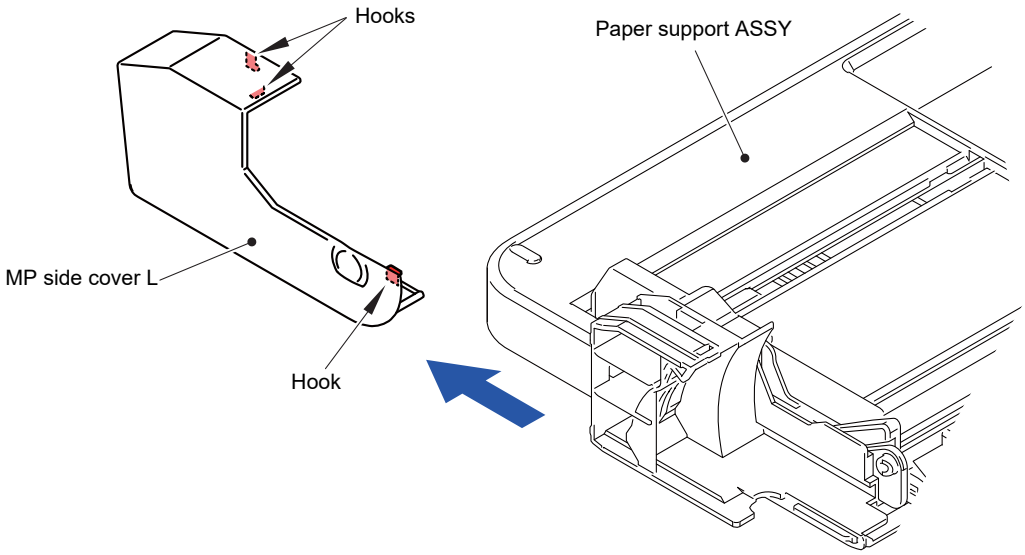


Fig. 3-23

8.4 MP Side Cover R

(1) Release the three Hooks and remove the MP side cover R from the Paper support ASSY.

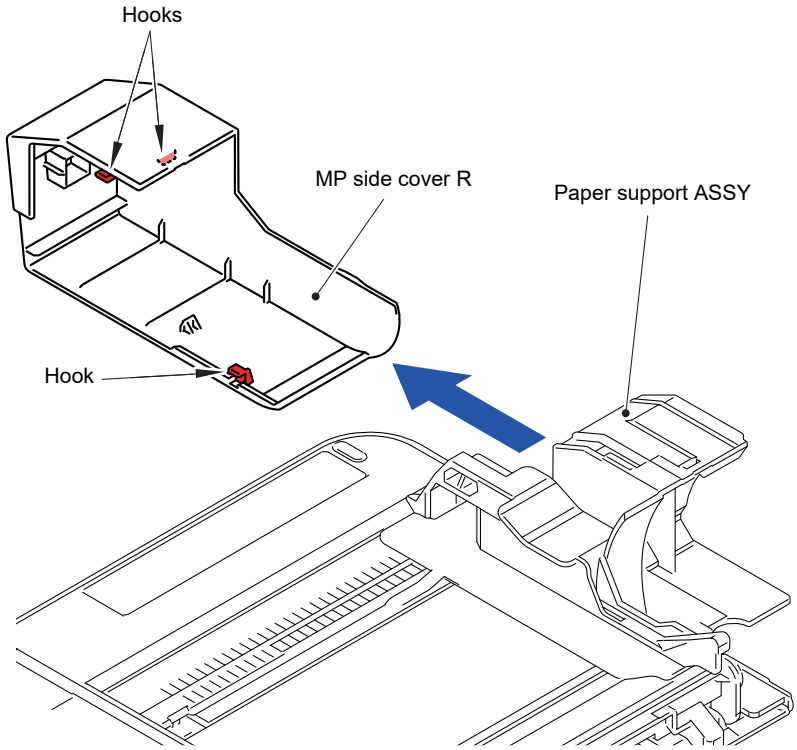


Fig. 3-24

8.5 MP Tray ASSY/MP Paper Detection Sensor PCB

(1) Remove the MP drive shaft from the MP drive gear holder 3.

Note: Be careful not to lose the MP drive gear which easily comes off from the MP drive gear holder 3.

Assembling Note: When mounting the MP drive shaft, insert it into the MP drive gear and MP drive gear holder 3.

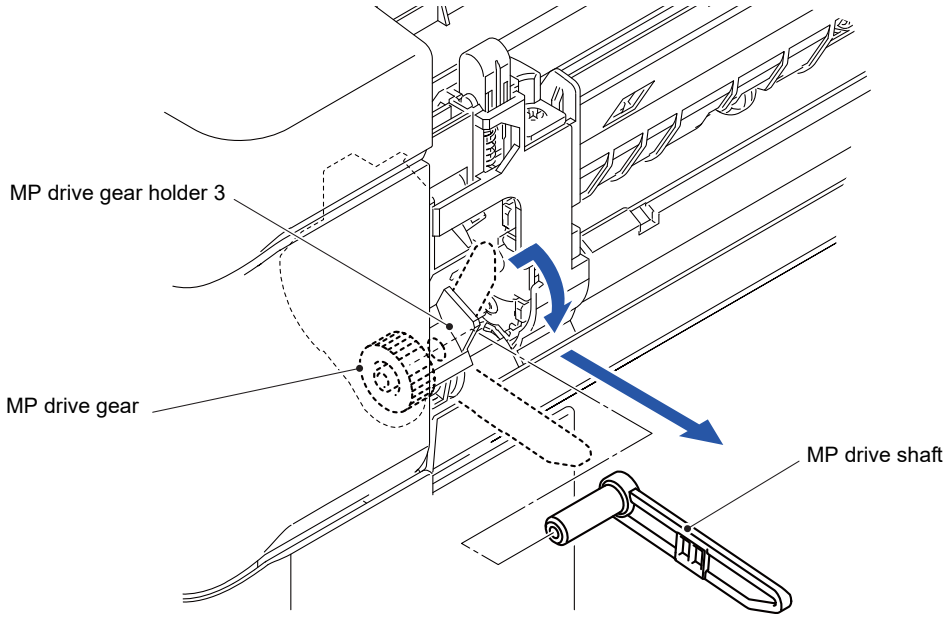


Fig. 3-25

(2) Remove the two screws (TAPTITE CUP B M4x12).

(3) Release the two Pins and remove the MP tray ASSY from the Main body.

Note: A harness is connected to the MP tray ASSY from the Main body, and therefore be careful not to pull the MP tray ASSY too much when you remove it.

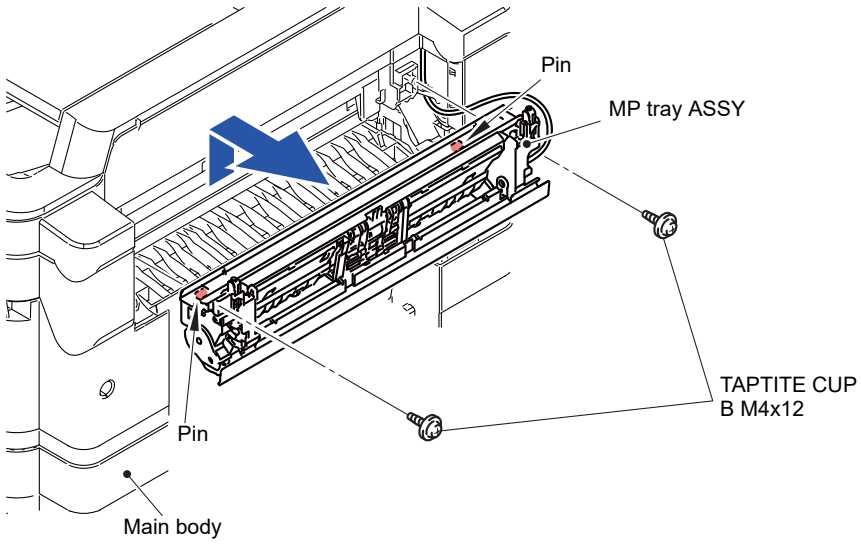


Fig. 3-26

(4) While holding down the Paper actuator MP, release the one Hook and remove the MP sensor holder.

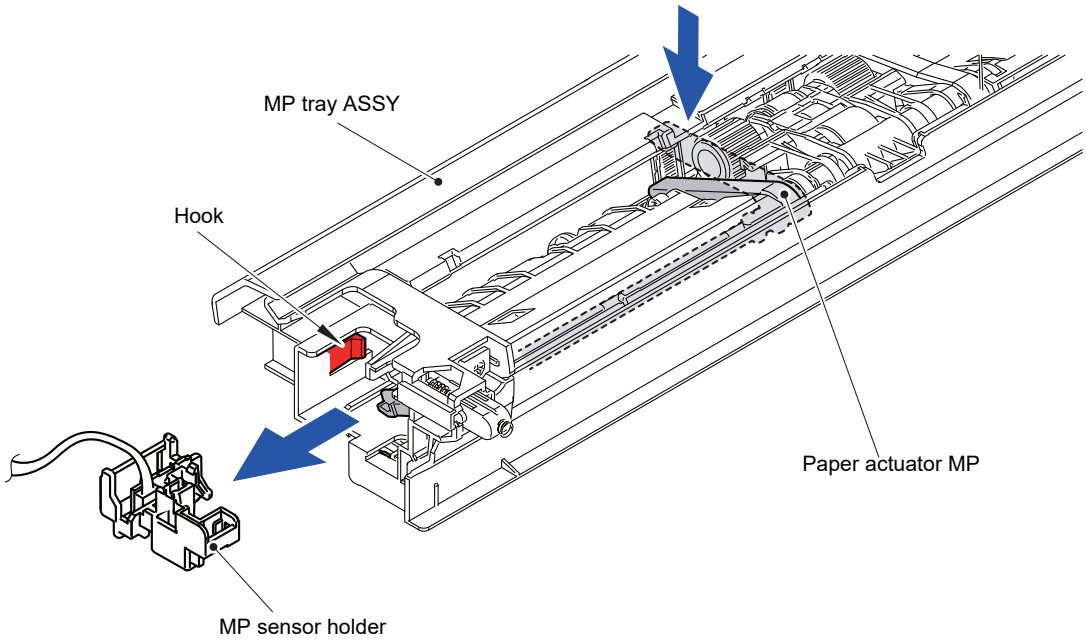


Fig. 3-27

(5) Release the two Hooks and remove the MP paper detection sensor PCB from the MP sensor holder.
(6) Disconnect the Connector from the MP paper detection sensor PCB.

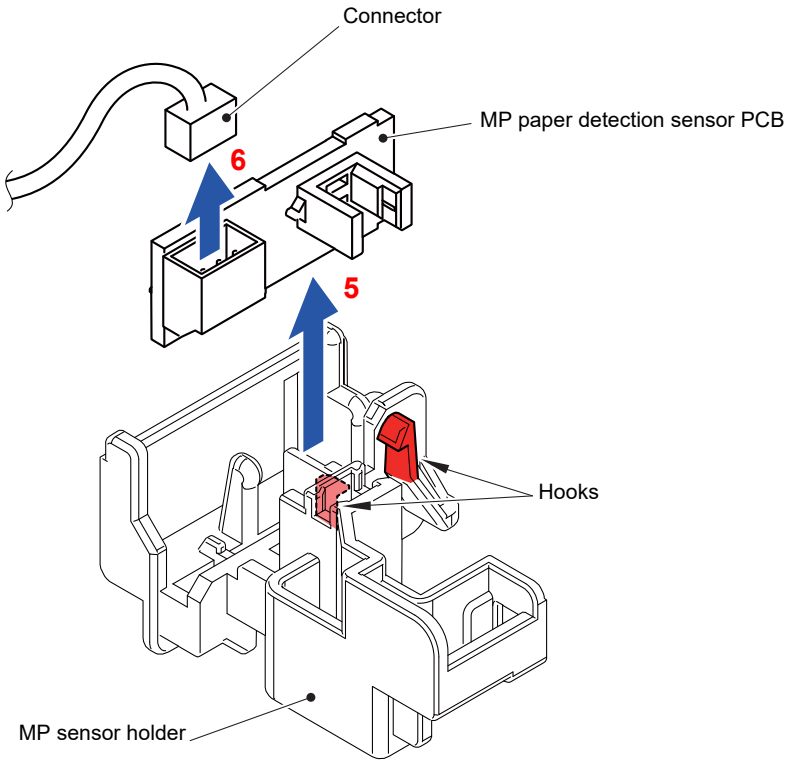


Fig. 3-28

8.6 Jam Clear Cover

(1) Open the Jam clear cover.

(2) Release the two Pins and remove the Jam clear cover from the Main body.

Note: When replacing the Jam clear cover, be sure to remove the serial number label attached on the old cover and attach it to the new cover.

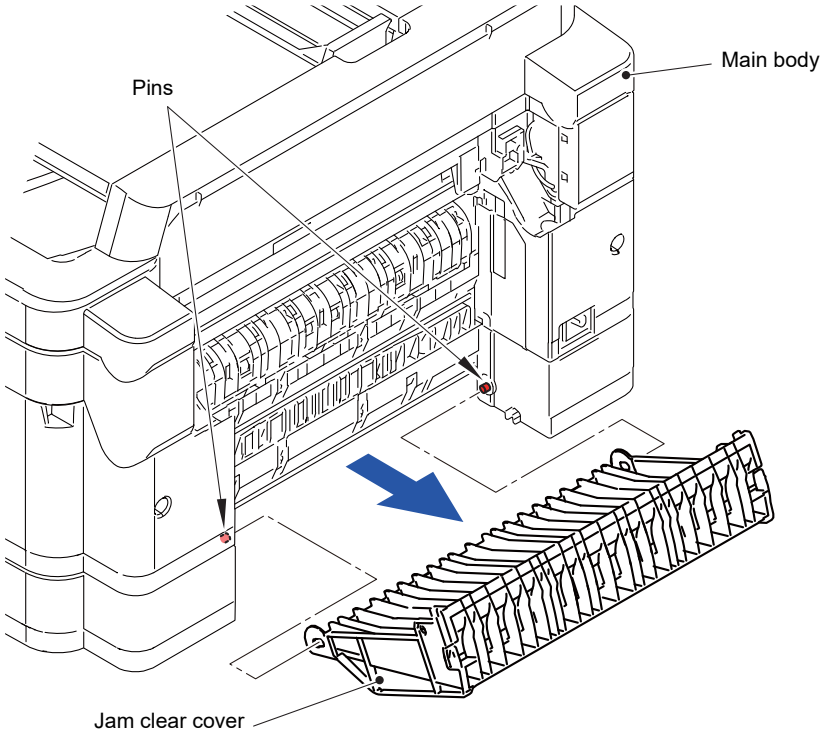
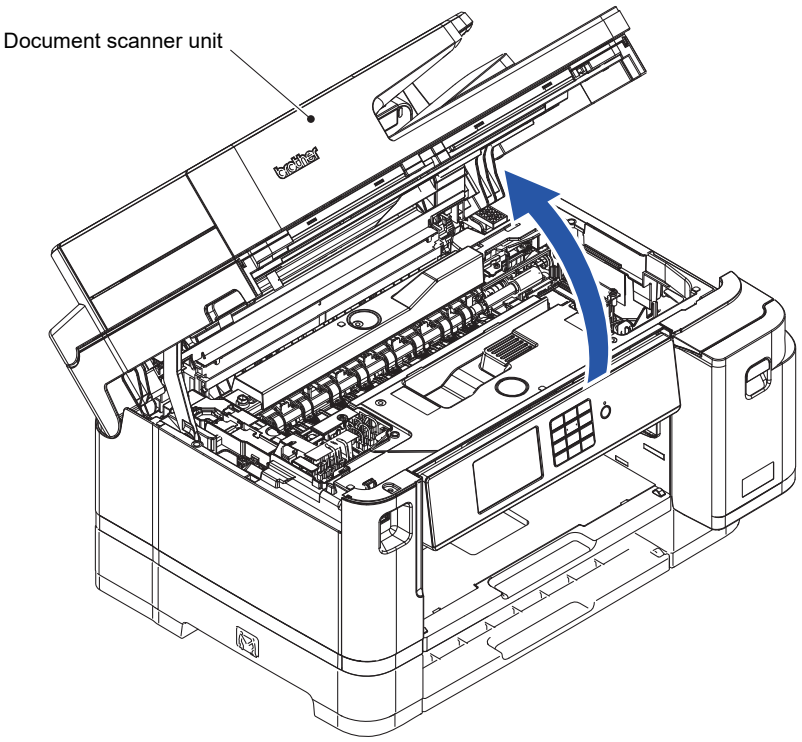


Fig. 3-29

8.7 Document Scanner Side Cover L

(1) Open the Document scanner unit half way.



b3_410

Fig. 3-30

(2) Disconnect the seven Connectors from the Main PCB.

(3) Disconnect the two Flat cables from the Main PCB.

(4) Remove the screw (SCREW BIND M3x6) and remove the ADF FG wire and FB FG wire from the Main PCB frame.

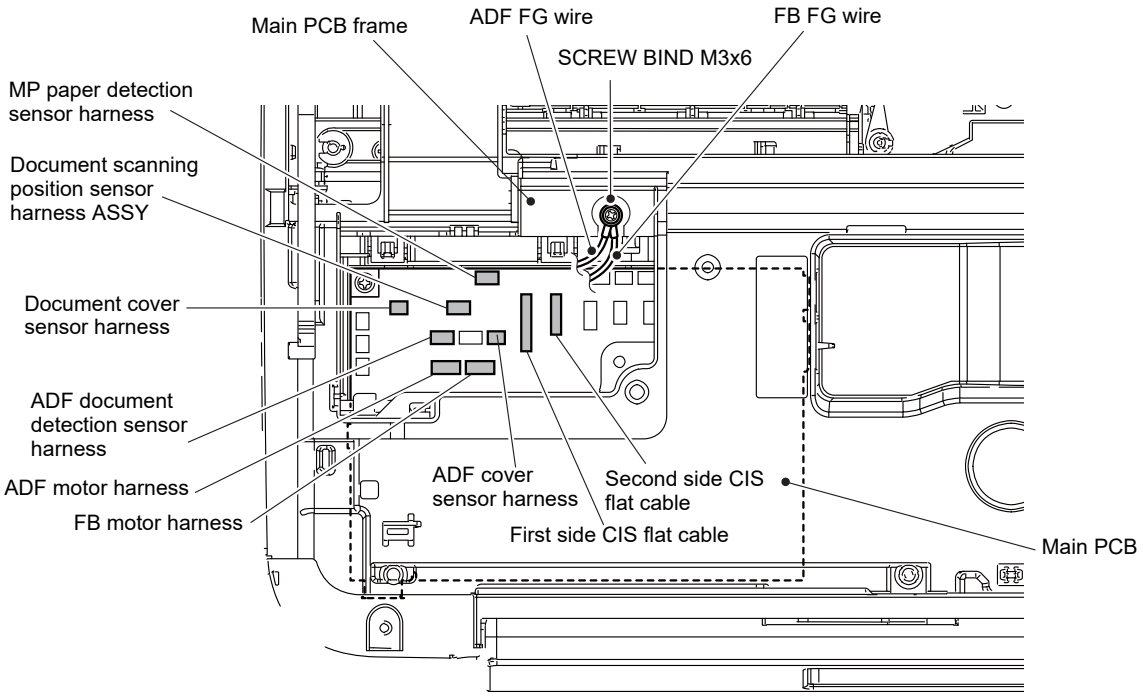


Fig. 3-31

(5) Lift the Harness holder and secure the Hook of the Harness holder to the slot on the Document scanner unit.

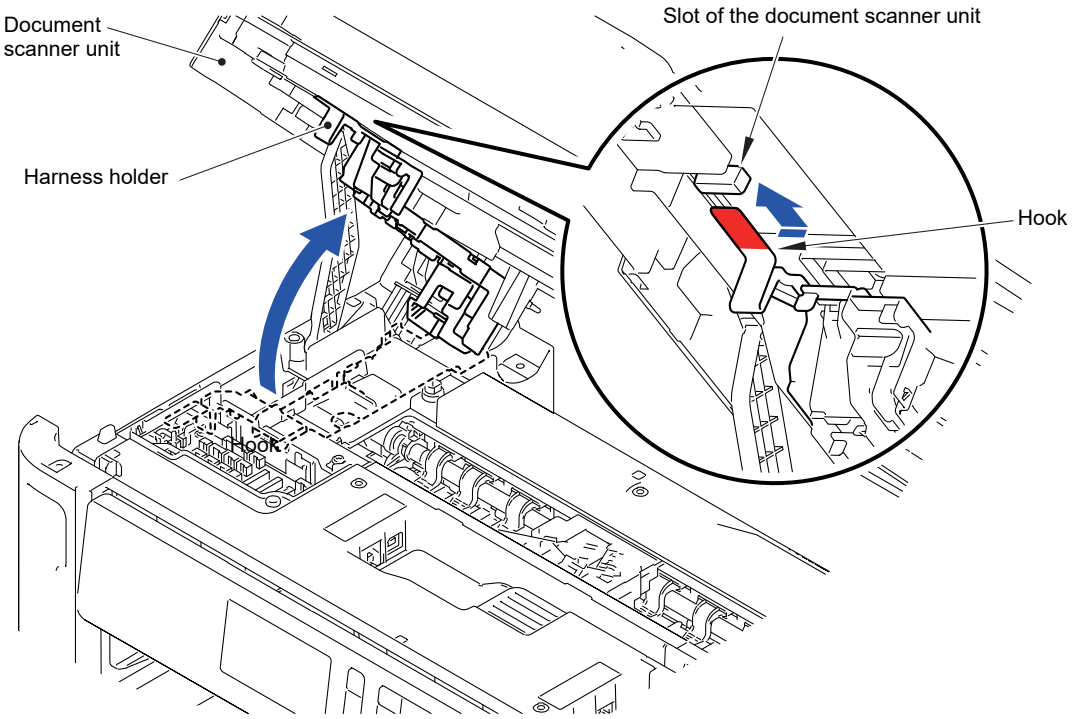


Fig. 3-32

(6) Remove the two screws (TAPTITE BIND P M4x12) from the Main body.

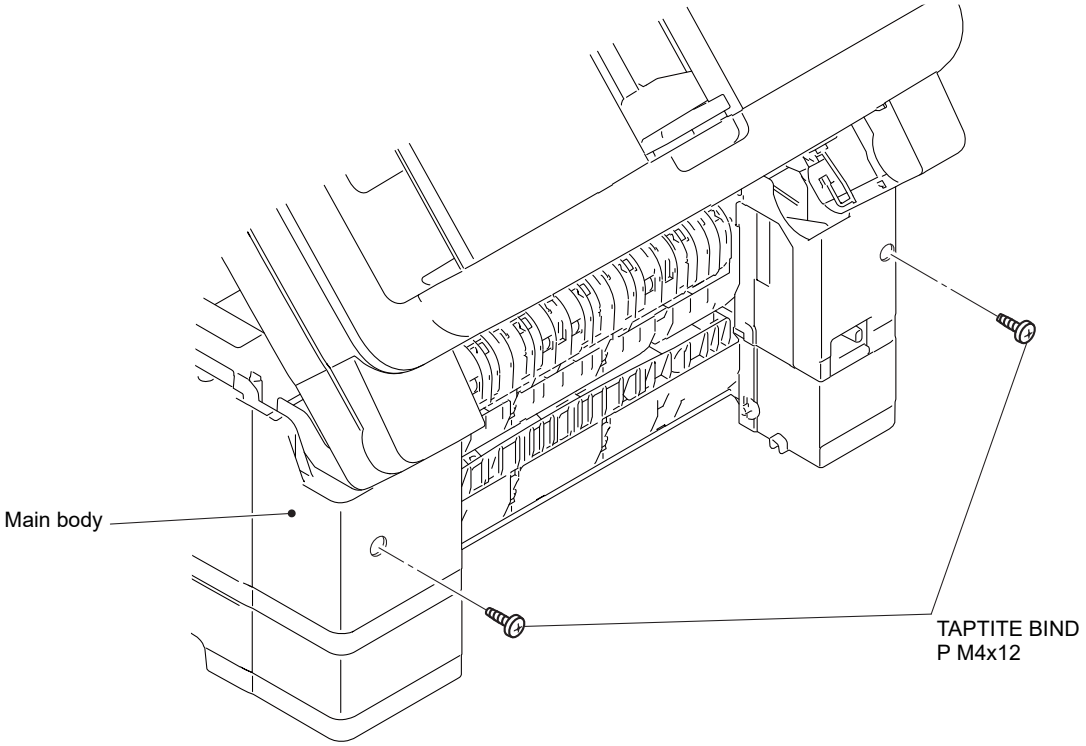


Fig. 3-33

(7) Slightly close the Document scanner unit.

(8) Bend the section A of the Document scanner unit and release the Pin of the FB stopper from the Document scanner unit.

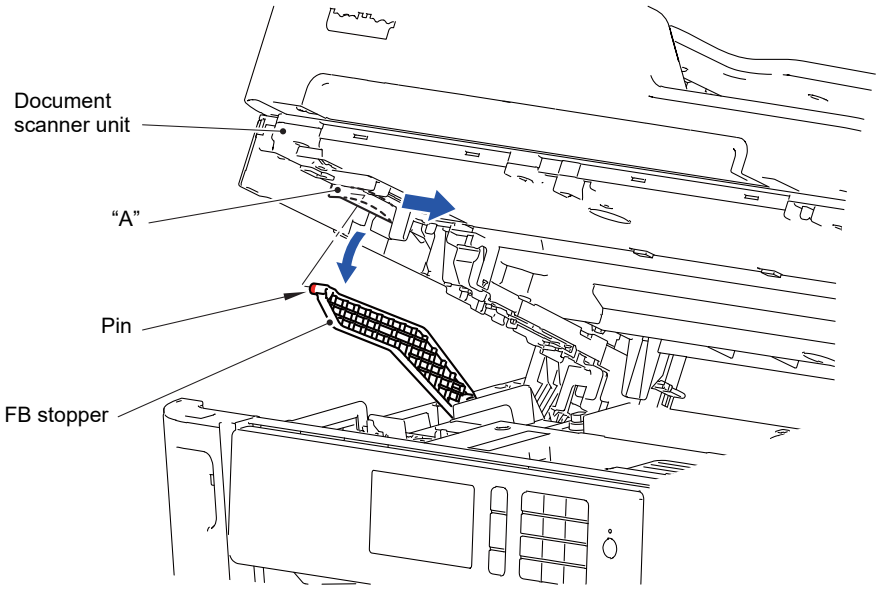


Fig. 3-34

(9) Lift and remove the Document scanner unit from the Main body.

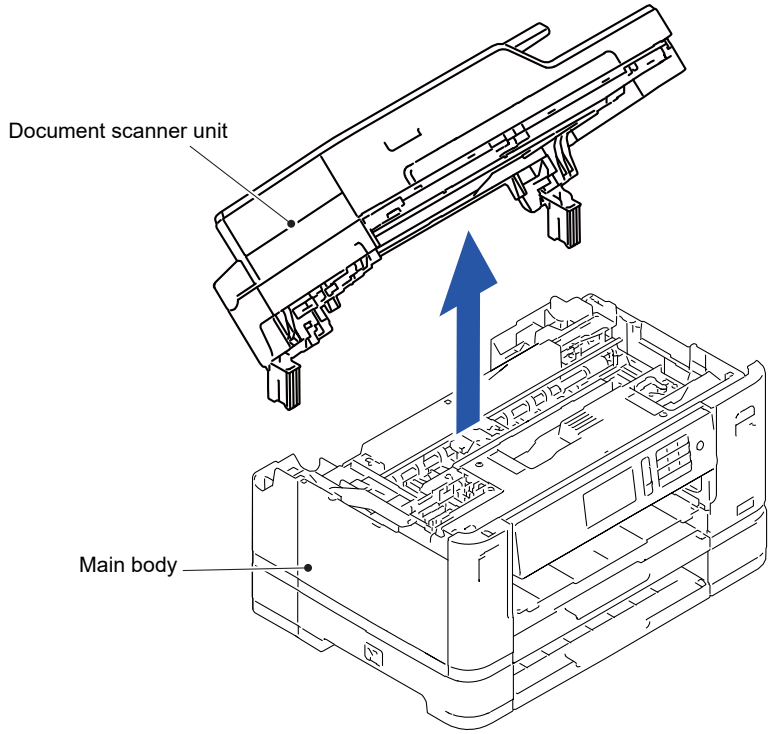


Fig. 3-35

(10) Insert a flat screwdriver into the cutout and release the section “A” and section “B”.

(11) Slide the Document scanner side cover L in the direction of the arrow and release the nine Hooks.

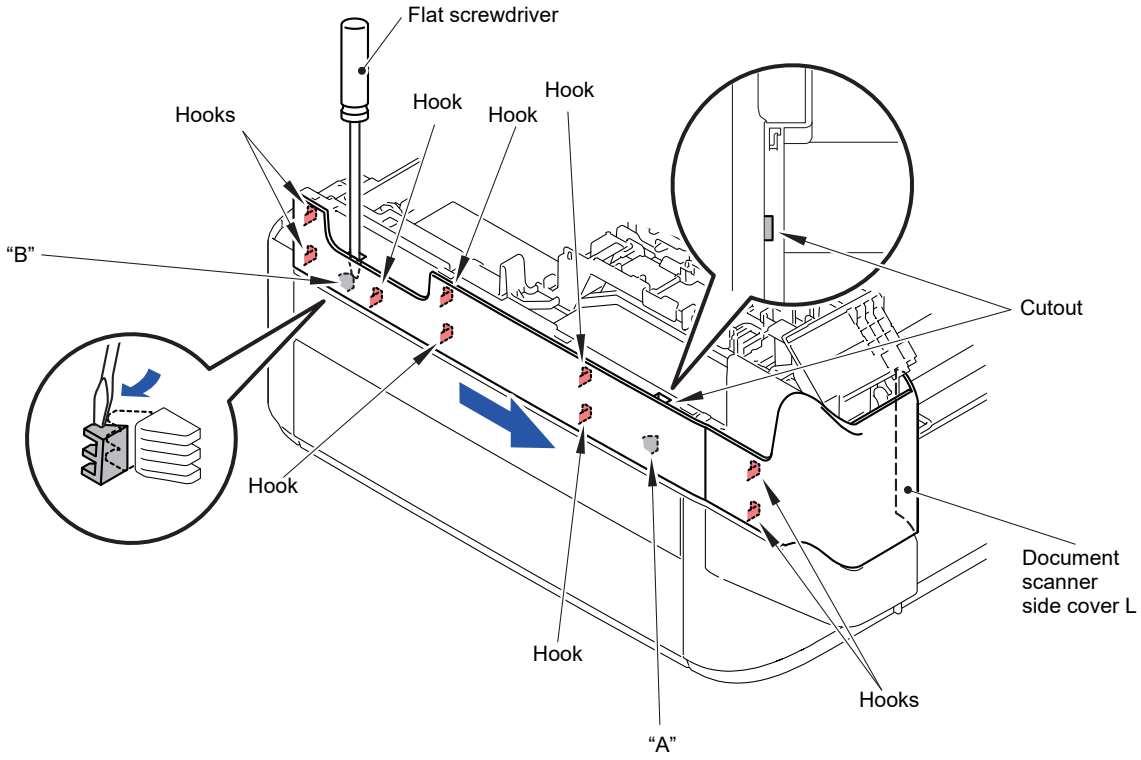


Fig. 3-36

(12) Release the two Hooks and remove the Document scanner side cover L from the Document scanner unit.

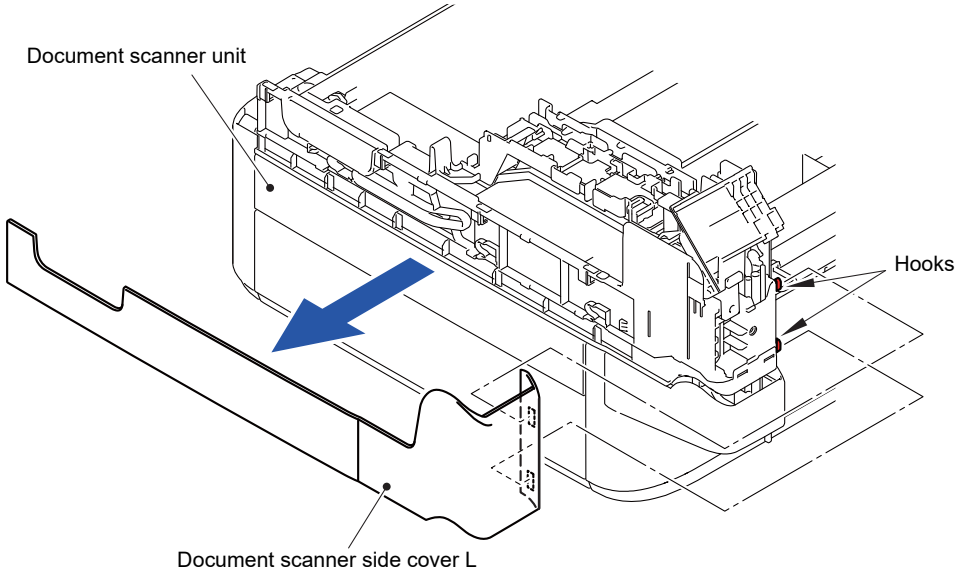


Fig. 3-37

Routing of harnesses: See Section 7. 5 in this chapter.

8.8 Document Scanner Side Cover R

(1) Insert a flat screwdriver into the cutout and release the section “A” and section “B”.
(2) Slide the Document scanner side cover R in the direction of the arrow and release the nine Hooks.

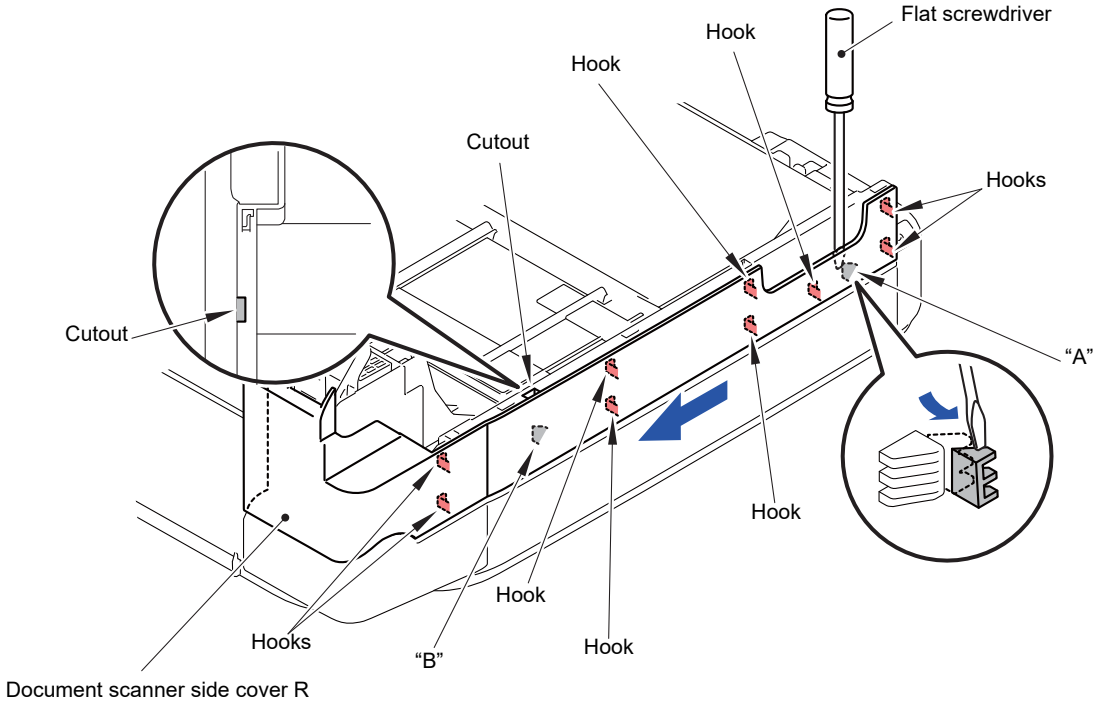


Fig. 3-38

(3) Release the two Hooks and remove the Document scanner side cover R from the Document scanner unit.

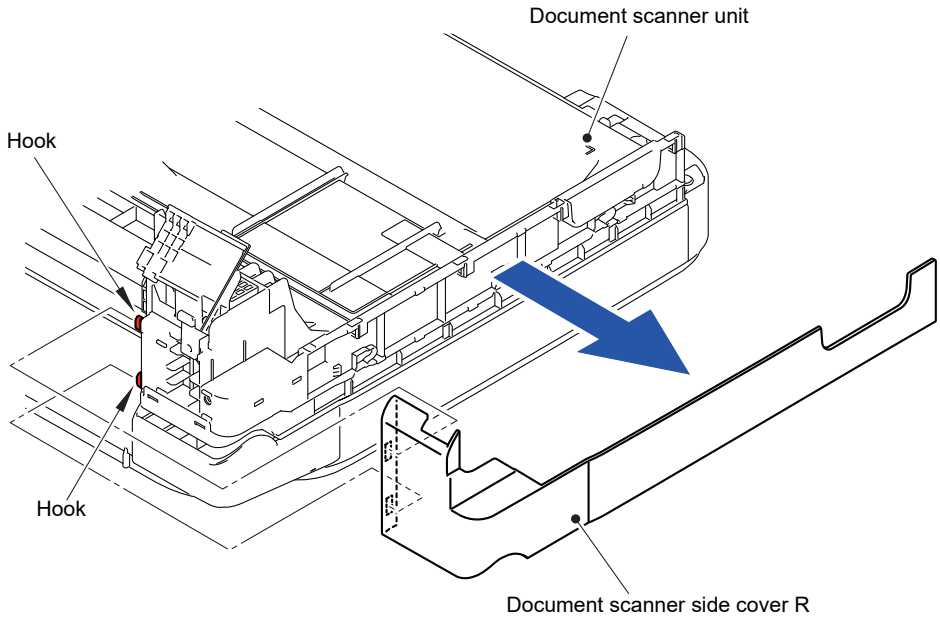


Fig. 3-39

8.9 ADF Unit/Document Scanner Unit

(1) Remove all the Harnesses of the ADF unit from the Scanner harness holder.

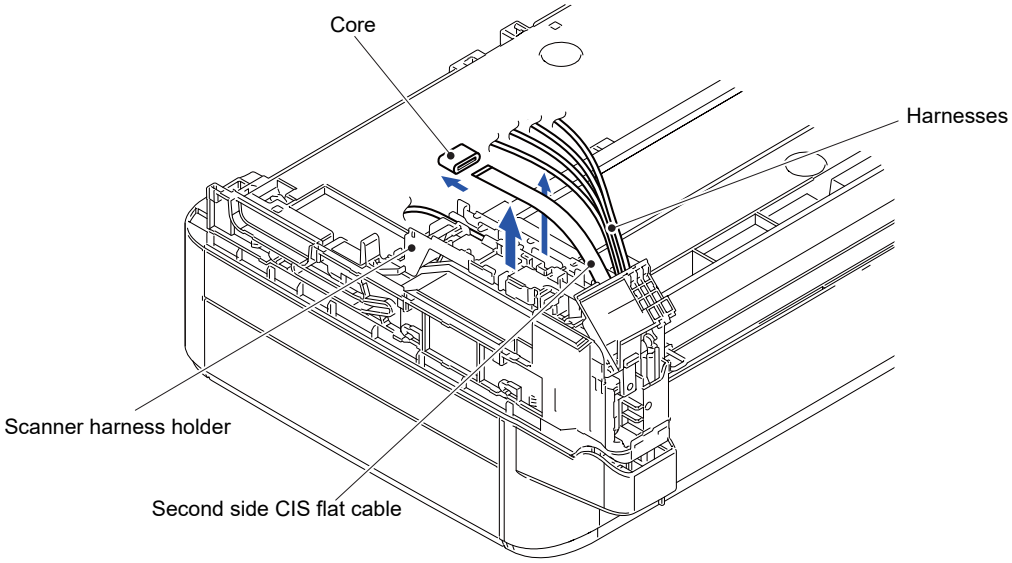


Fig. 3-40

(2) Turn the Document scanner unit right side up.

(3) Remove the two screws (TAPTITE BIND B M4x8) from the Document scanner unit.

(4) While pushing the Lock lever of the Document scanner unit, open the ADF unit.

Note: If you lift the ADF unit in the step (5) without fully opened, it is dangerous because the ADF hinges are unexpectedly and abruptly opened with a strong force.

(5) Remove the ADF unit from the Document scanner unit.

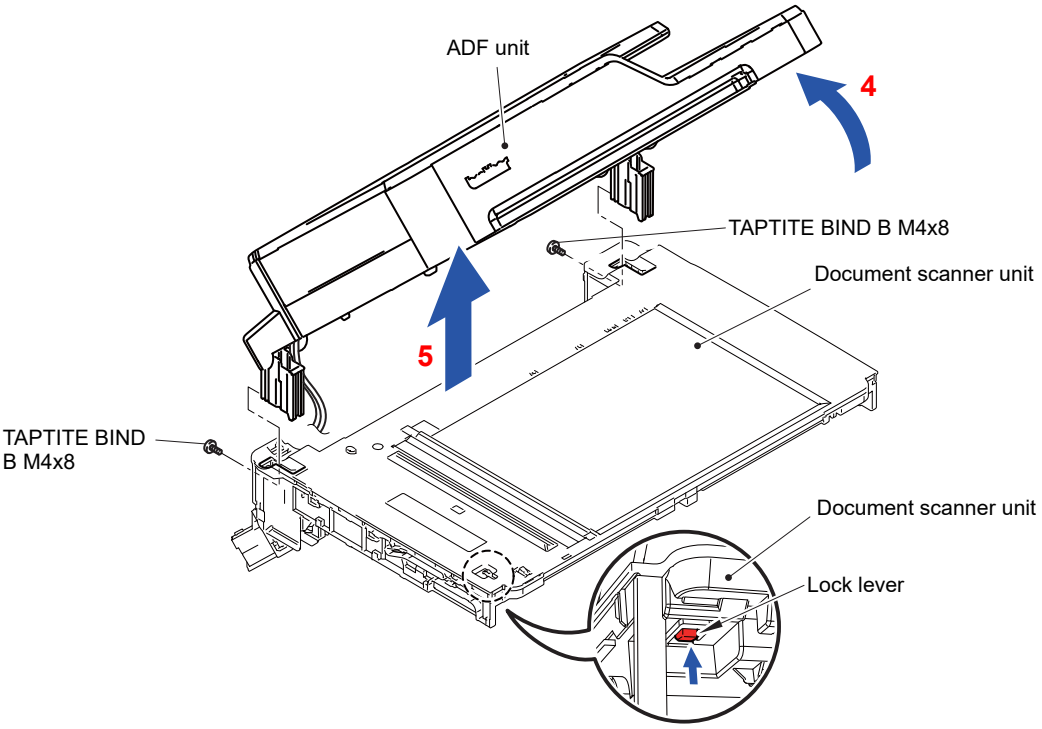


Fig. 3-41

(6) Remove the screw (TAPTITE CUP P M3x10) each from the left and right FB hinges to remove them from the Document scanner unit.

8.10 ADF Front Cover

(1) Turn the ADF unit upside down.
(2) Remove the four screws (TAPTITE CUP P M3x10) from the ADF front cover.
(3) Release the seven Hooks and two Bosses and remove the ADF front cover from the ADF unit.

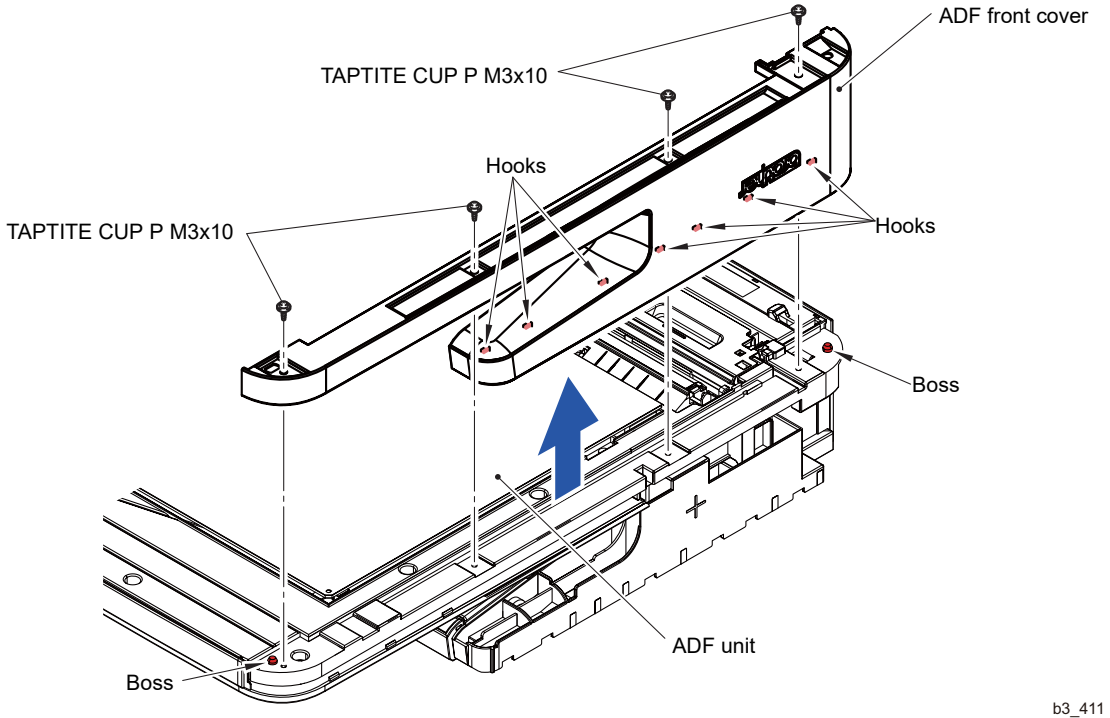


Fig. 3-42

8.11 ADF Rear Cover

(1) Turn the ADF unit right side up.
(2) Open the ADF cover ASSY.
(3) Release the eight Hooks and remove the ADF rear cover from the ADF unit.

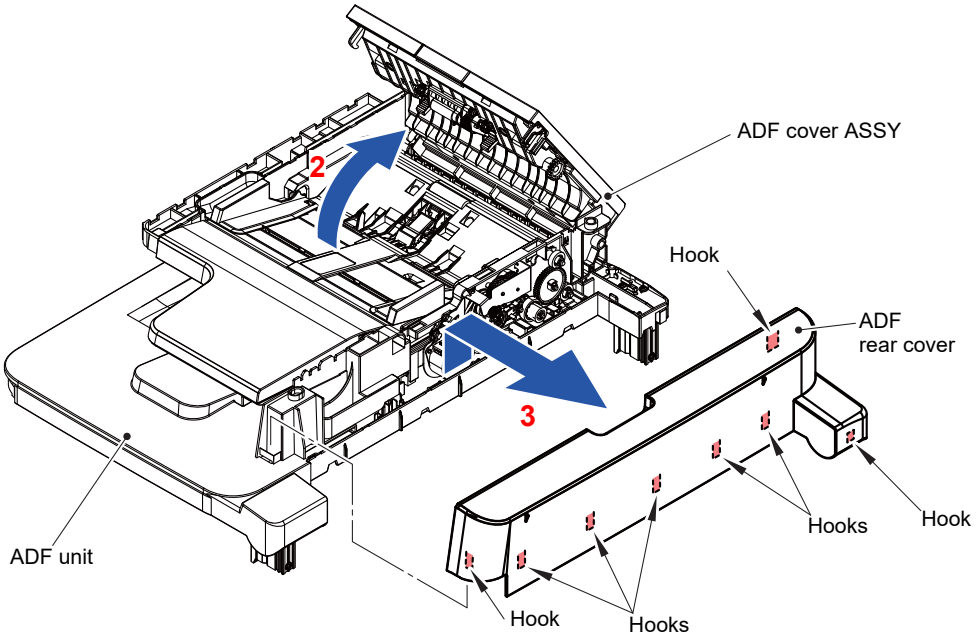


Fig. 3-43

8.12 ADF Cover

(1) Release the two Pins and remove the ADF cover from the ADF unit.

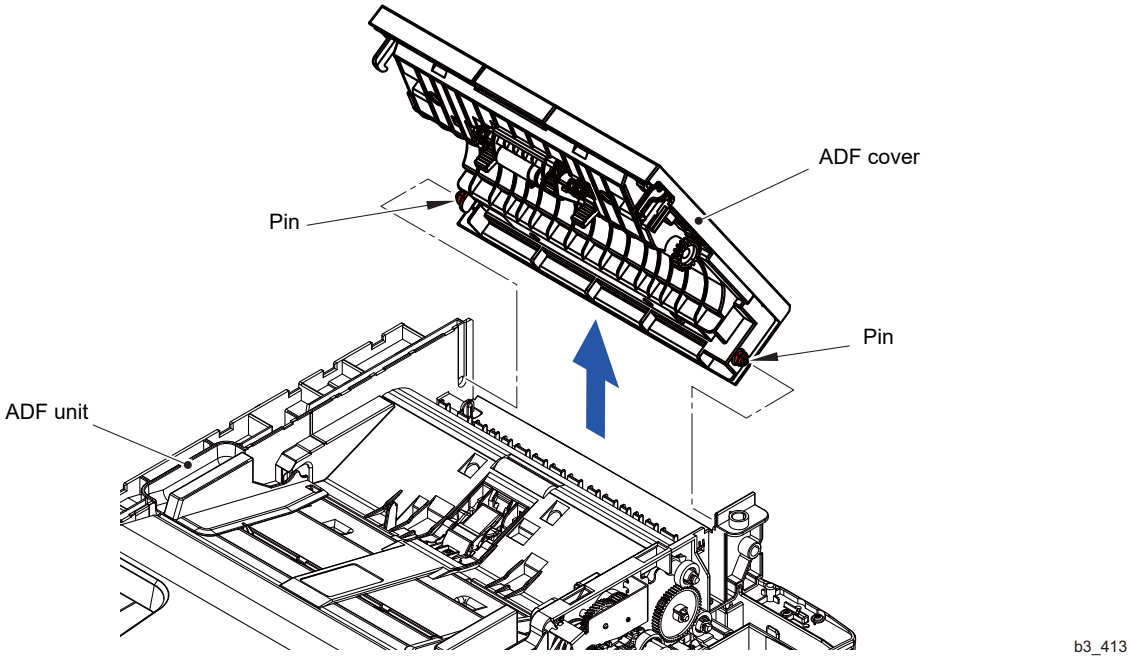


Fig. 3-44

8.13 Document Separation Roller ASSY

(1) Remove the four screws (TAPTITE CUP P M3x10).
Release the two Hooks and remove the ADF cover base from the ADF cover top to upward.

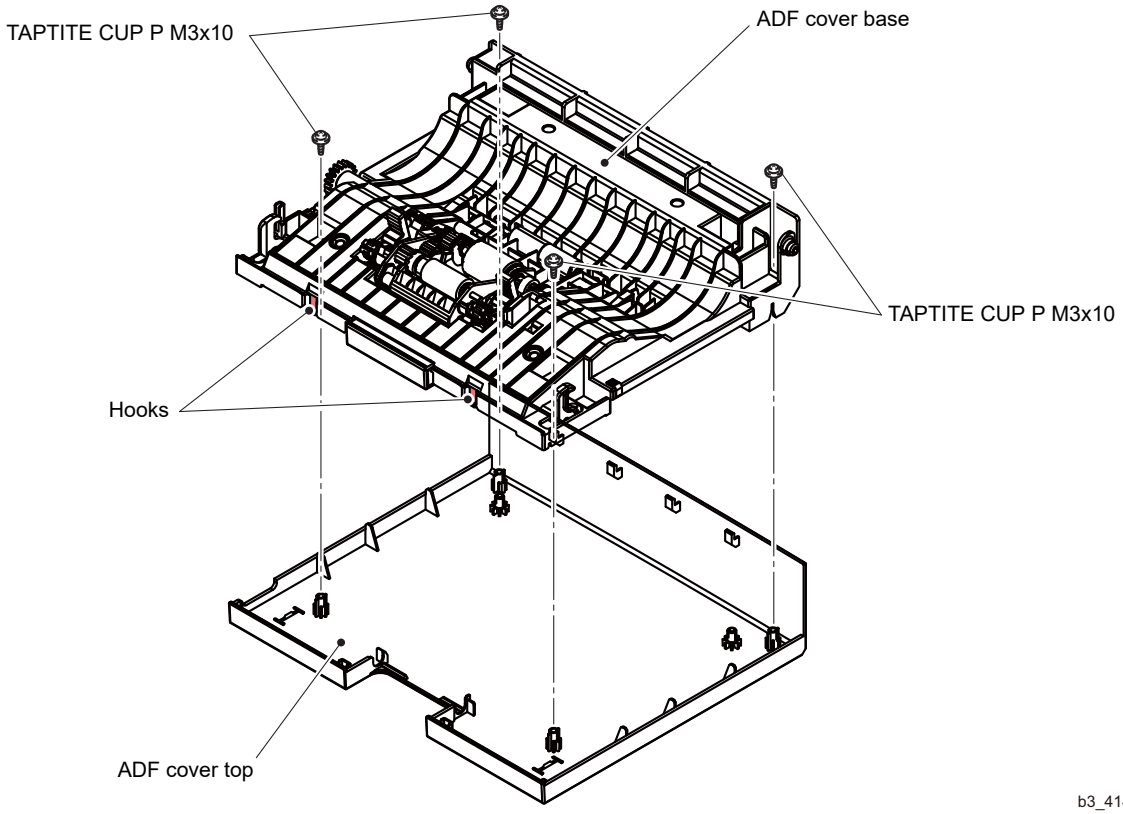


Fig. 3-45

(2) Release one hook and remove the gear shaft to the outside.
Lift the hook and remove the Document separation roller ASSY from the ADF cover base.

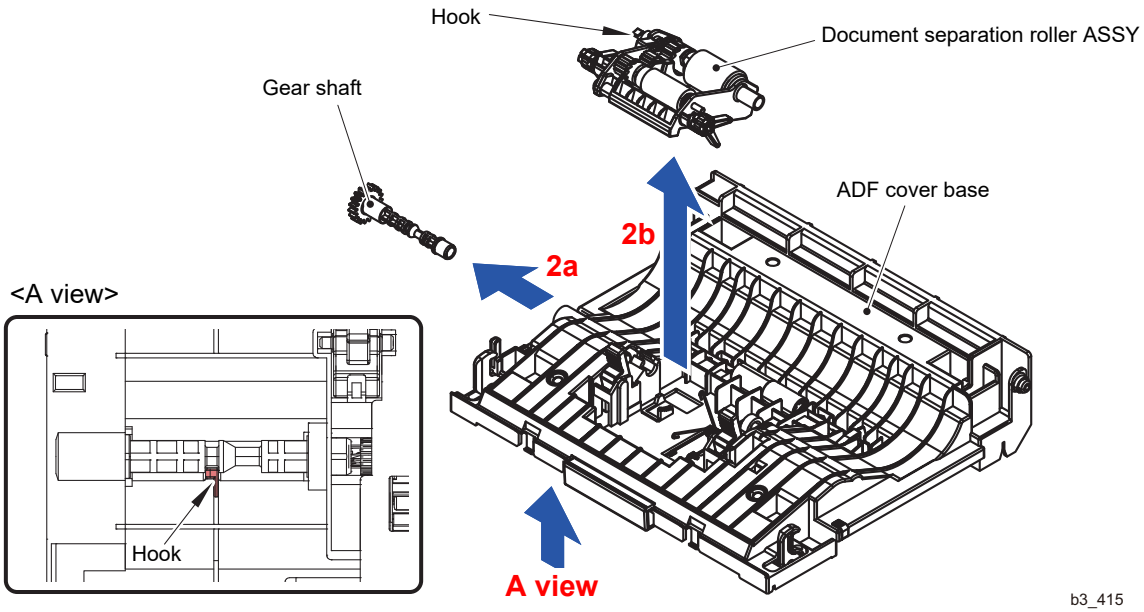


Fig. 3-46

8.14 ADF Separation Pad Holder ASSY

(1) Remove the screw (TAPTITE CUP P M3x10) from the ADF separation pad holder ASSY.

(2) Release the two hooks and remove the ADF separation pad holder ASSY and separate bank from the ADF unit.

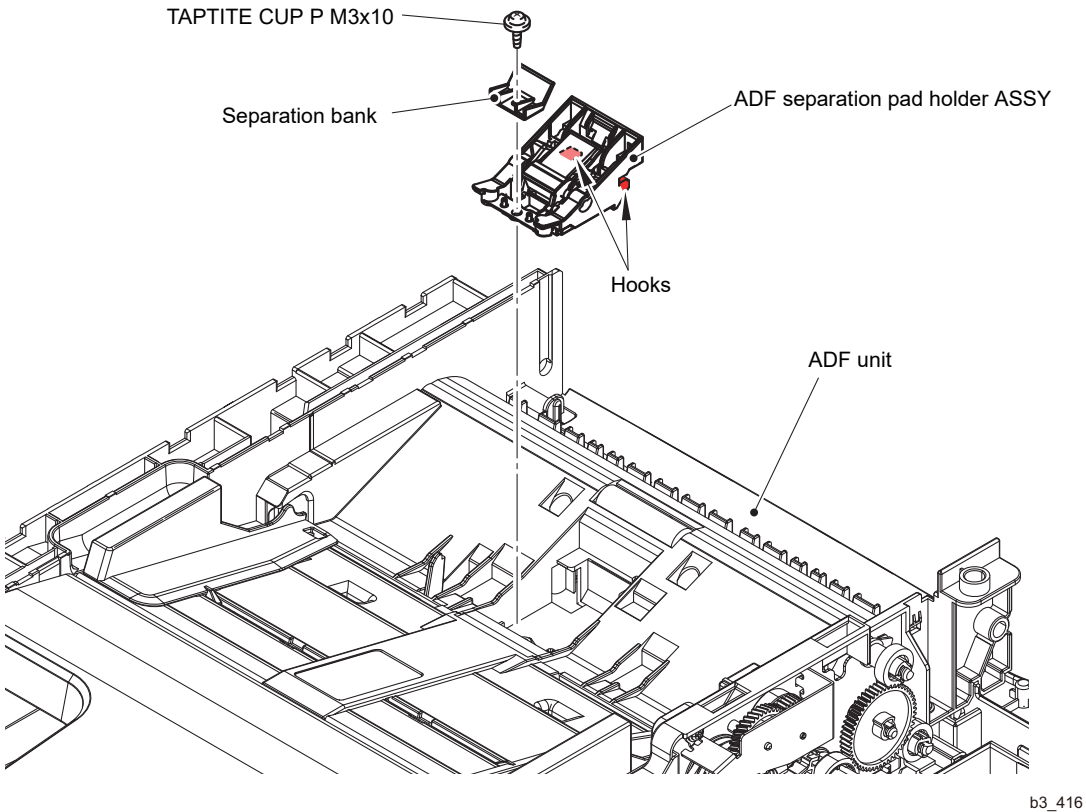


Fig. 3-47

8.15 ADF Document Support

(1) Release the two Bushings.
(2) Remove the ADF document support from the ADF unit.

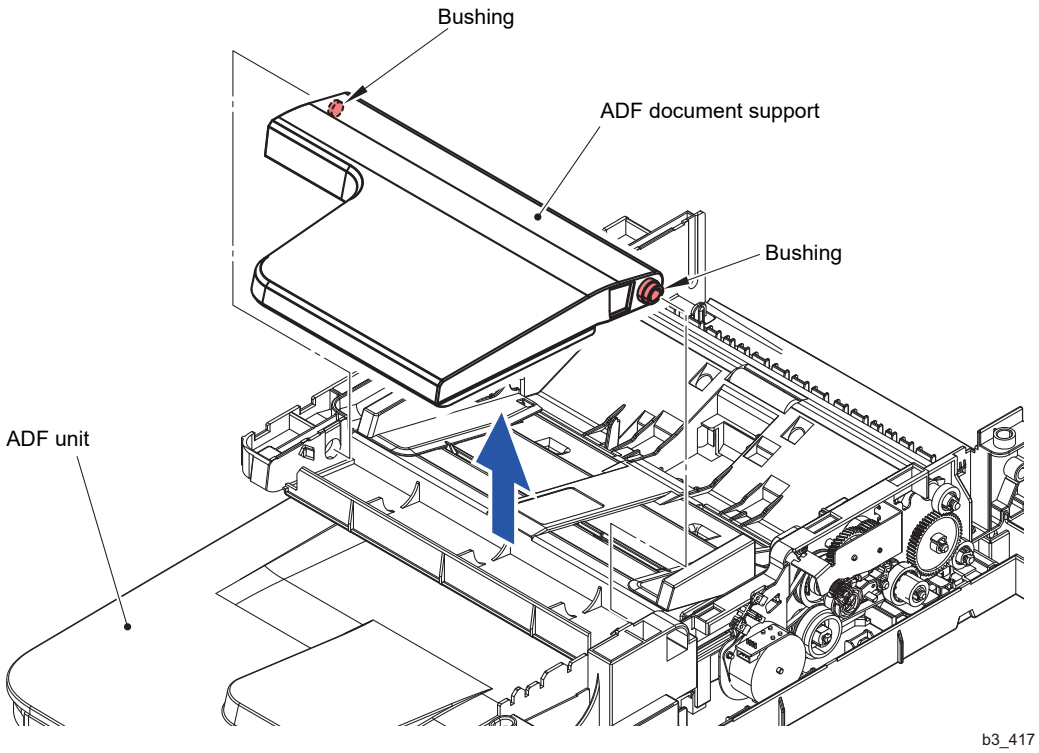


Fig. 3-48

8.16 ADF Hinge

(1) Turn the ADF unit upside down.
(2) Remove the five screws (TAPTITE CUP B M2.6x10) from the ADF unit. Turn over the Document sponge and remove the screw (TAPTITE CUP B M2.6x10) from the ADF unit.

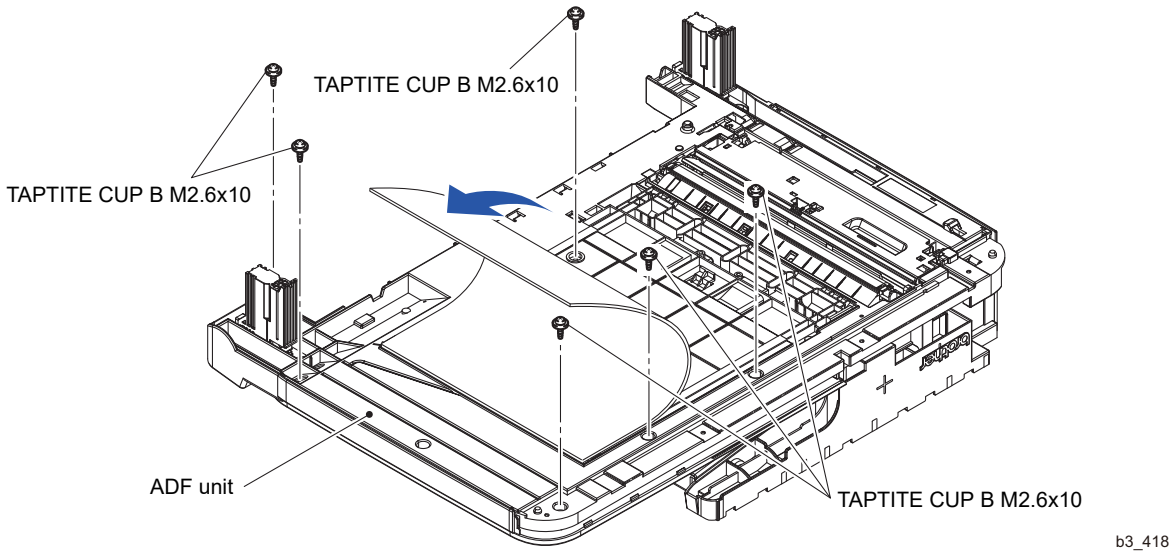


Fig. 3-49

(3) Turn the ADF unit right side up.

(4) Remove the six screws (TAPTITE CUP P M3x10) and remove the Document chute.
Remove the two screws (TAPTITE CUP P M3x10) and remove the Document cover top ASSY from the ADF unit.

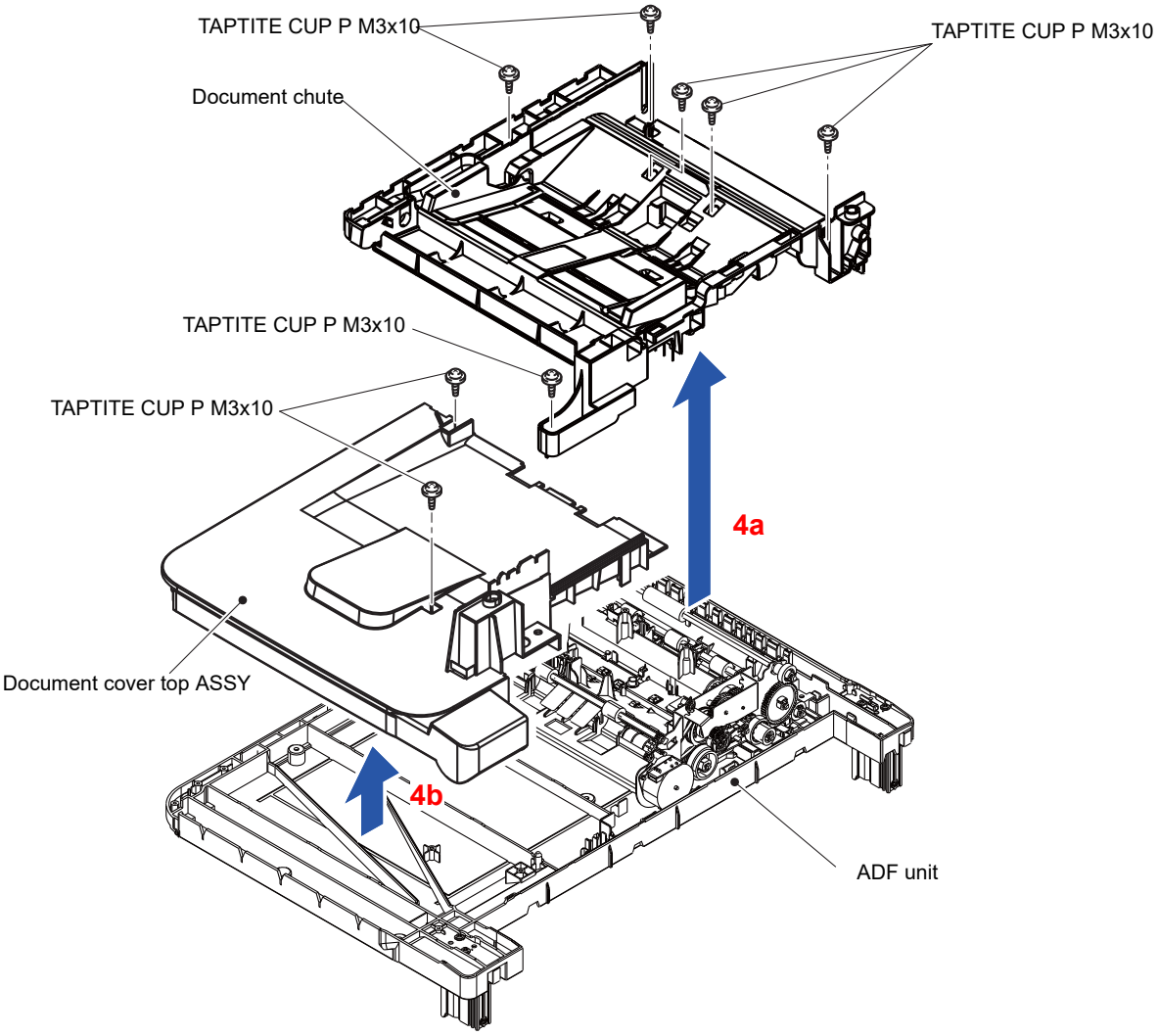


Fig. 3-50

(5) Remove the two screws (TAPTITE BIND B M3x10) from the Document cover base.

Assembling Note: Be sure to mount the ADF FG wire.

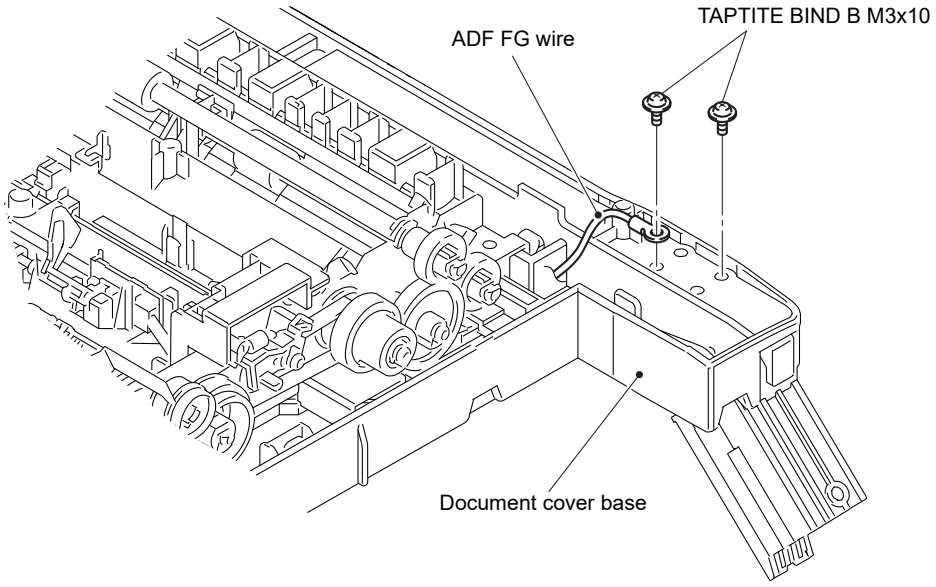


Fig. 3-51

(6) Turn the ADF unit upside down.

(7) Remove the screw (TAPTITE CUP P M3x10) and remove the ADF hinge from the Document cover base.

Note: The Hinge support plate easily come off. If the Hinge support plate comes off, mount it as shown in the figure below.

(8) Place the ADF unit facing up and remove the right side as well using the steps (5) to (7).

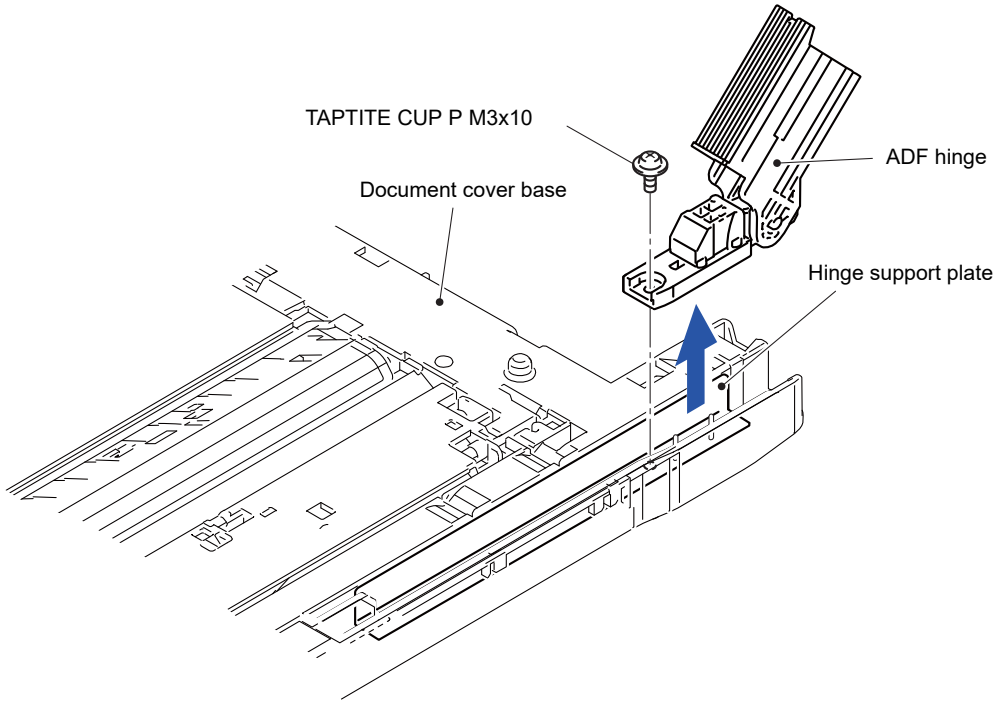


Fig. 3-52

8.17 ADF Document Detection Sensor PCB

(1) Turn the ADF unit right side up.
(2) Push the Lock arm in the direction of the arrow 2a and remove the ADF document detection sensor PCB from the Lower doc chute ASSY.
(3) Disconnect the Connector from the ADF document detection sensor PCB.

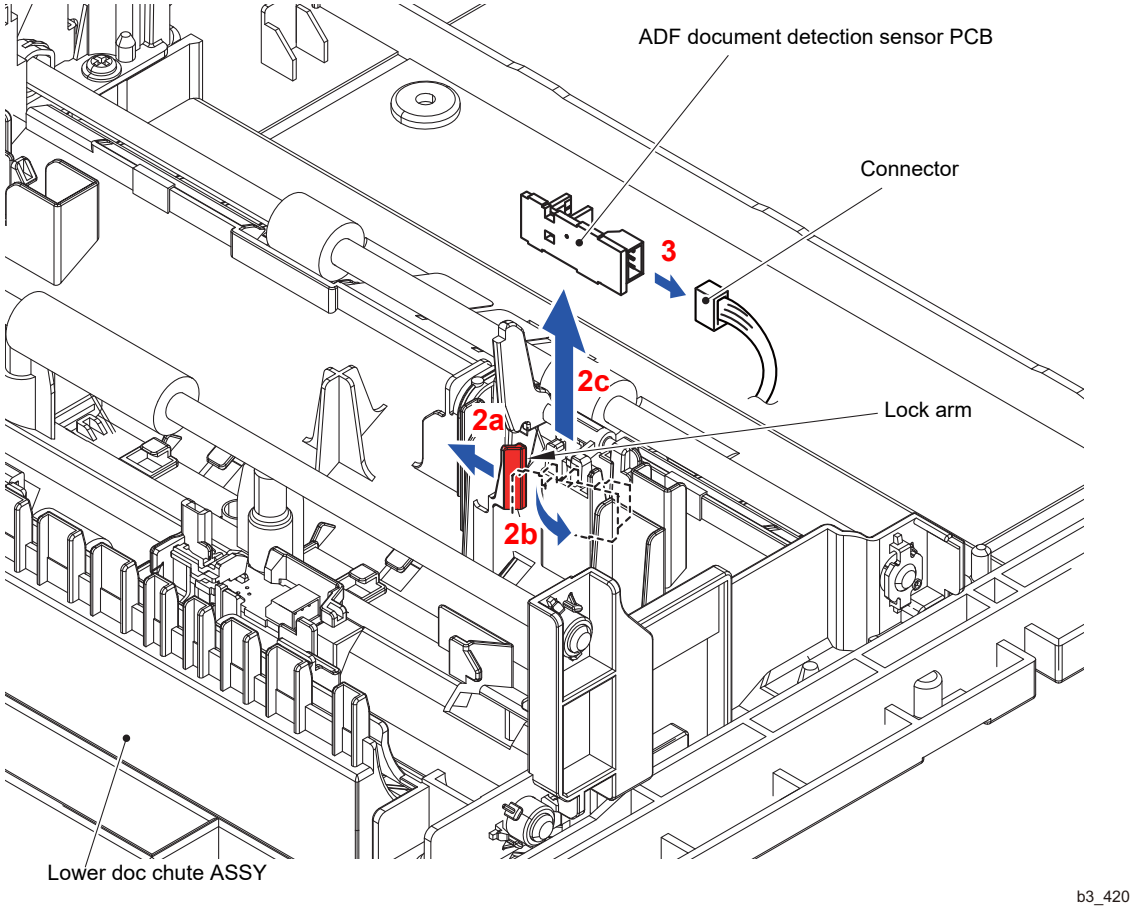


Fig. 3-53

8.18 Document Scanning Position Sensor PCB

(1) Turn the Bushing of the Document feed roller 1 in the direction of the arrow 1a to unlock it.
(2) Remove the Document feed roller 1 from the Lower doc chute ASSY.

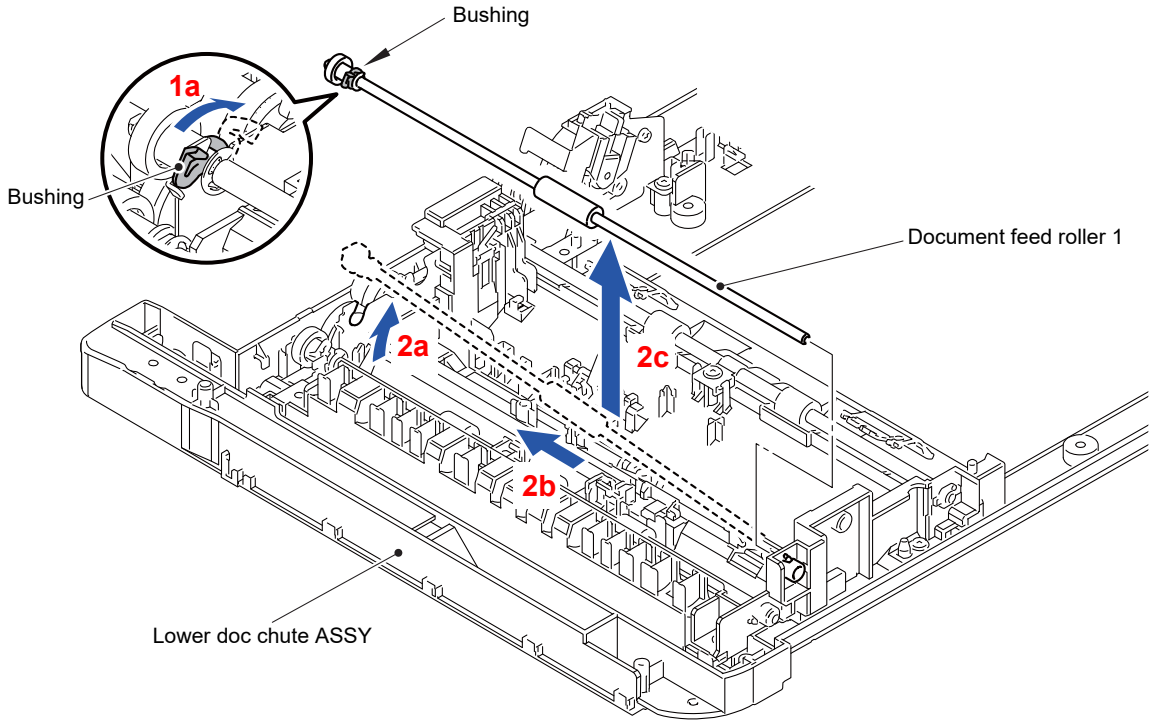


Fig. 3-54

(3) Keep the Actuator R at the position shown in the figure.
(4) Push the Lock arm in the direction of the arrow 4a and release the Hook. Remove the Document scanning position sensor PCB from the Lower doc chute ASSY.
(5) Disconnect the Connector from the Document scanning position sensor PCB.

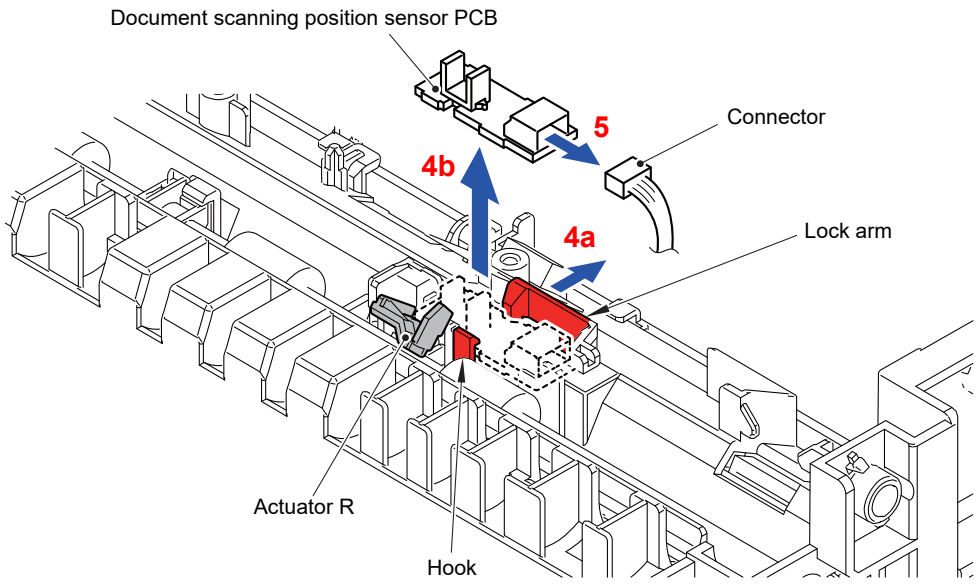


Fig. 3-55

8.19 Second Side CIS Flat Cable/Second Side CIS Unit

(1) Remove the two screws (TAPTITE CUP P M3x10) from the Lower doc chute ASSY.

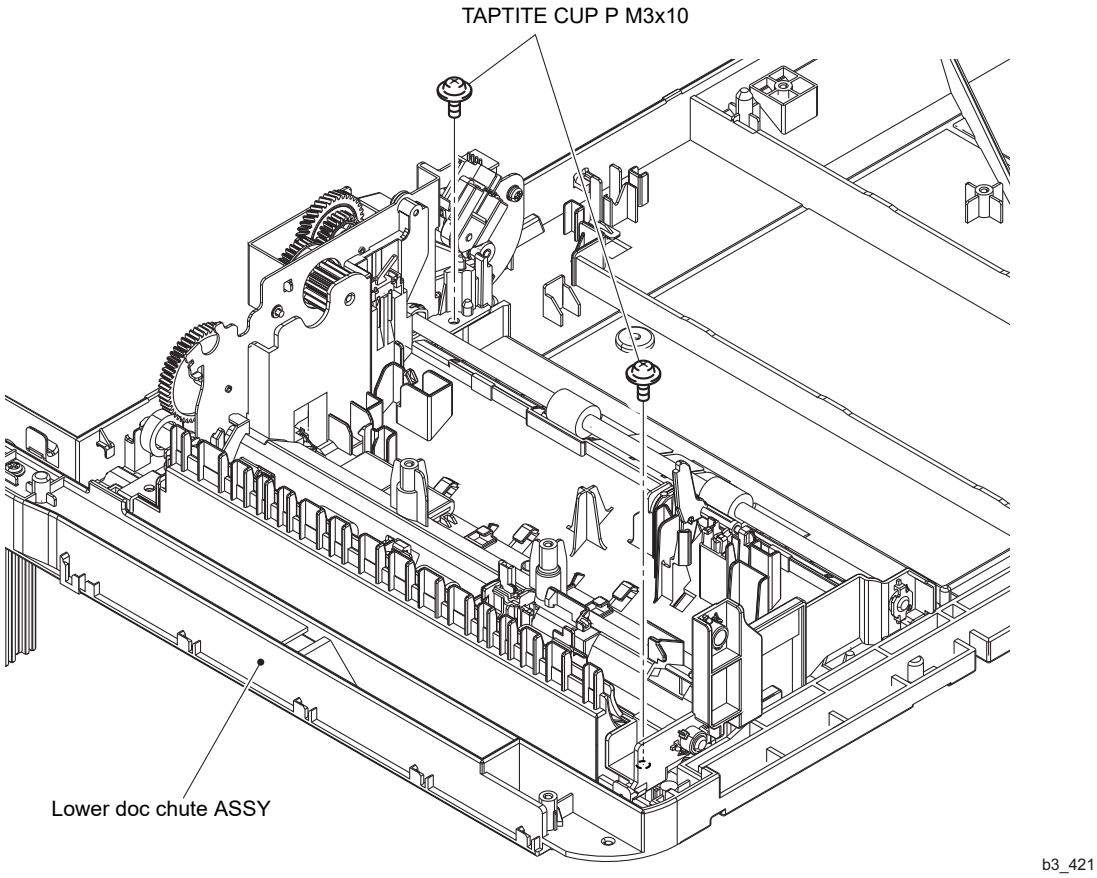


Fig. 3-56

(2) Disconnect the Second side CIS flat cable from the Second side CIS unit.

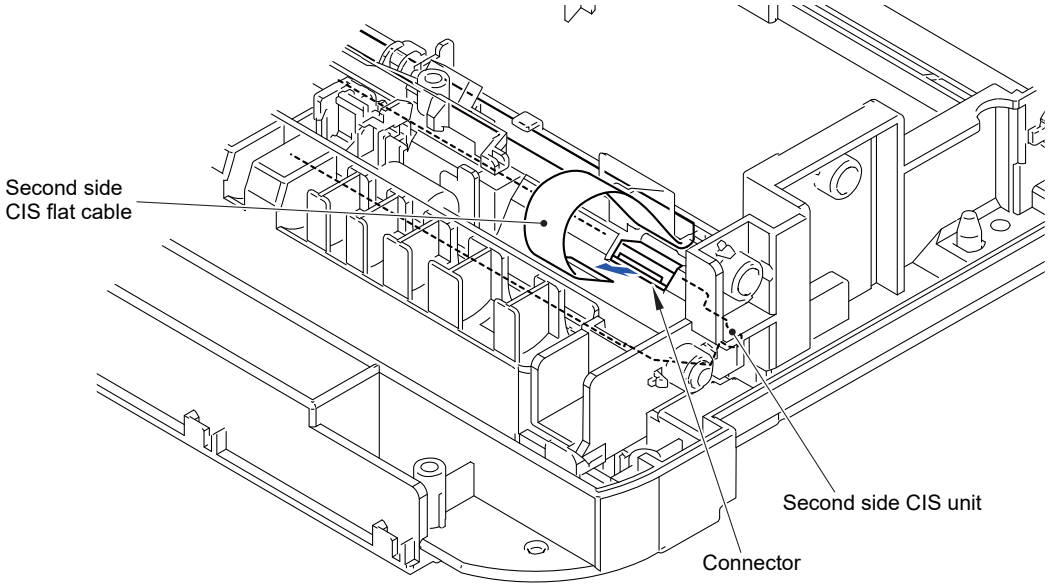


Fig. 3-57

(3) Release the four Hooks and lift the Lower doc chute ASSY slightly.
(4) Remove the two Double-sided adhesive tapes and pull out the Second side CIS flat cable from two Flat cores, the Lower doc chute ASSY and Document cover base ASSY.

Note: Skip this step when you replace the Second side CIS unit only without replacing the Second side CIS flat cable.

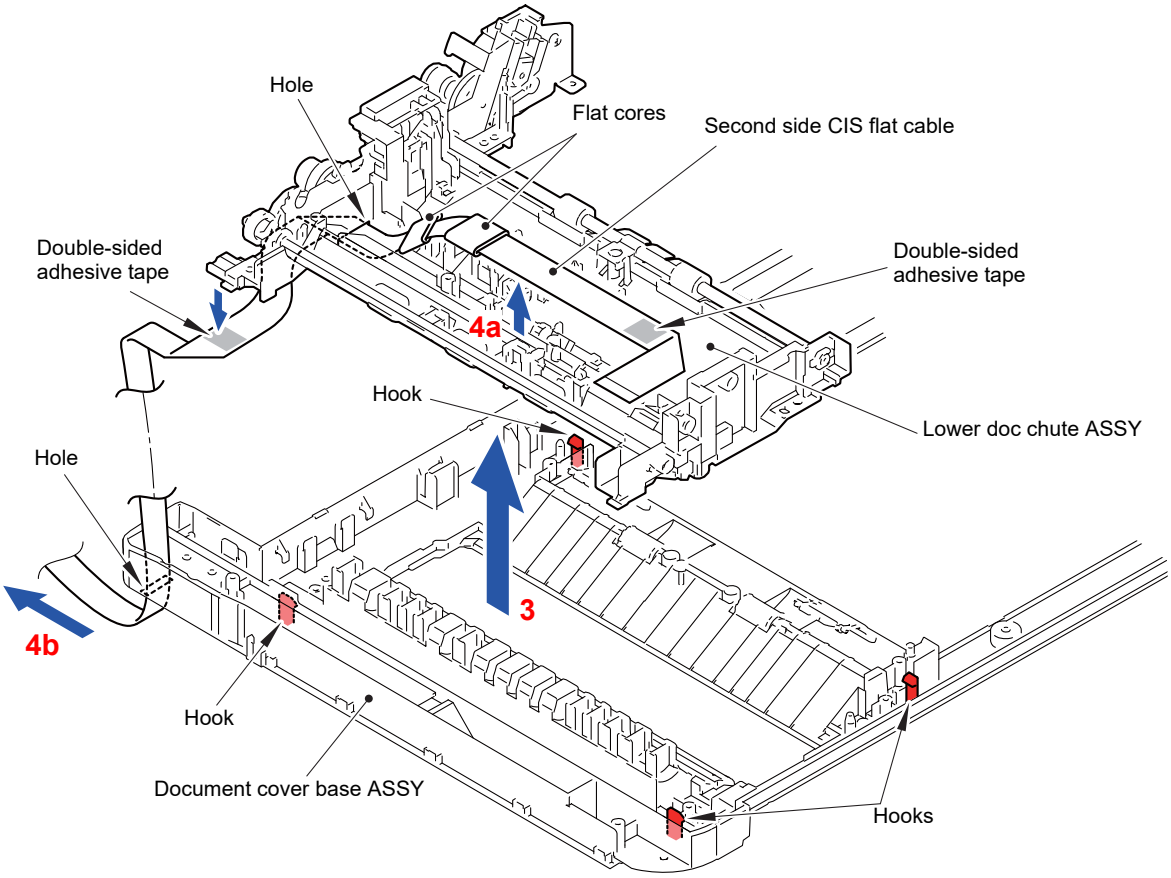


Fig. 3-58

Assembling Note: Assemble a new Second side CIS flat cable by bending the Second side CIS flat cable and affixing the Double-sided adhesive tape as shown in the figure below.

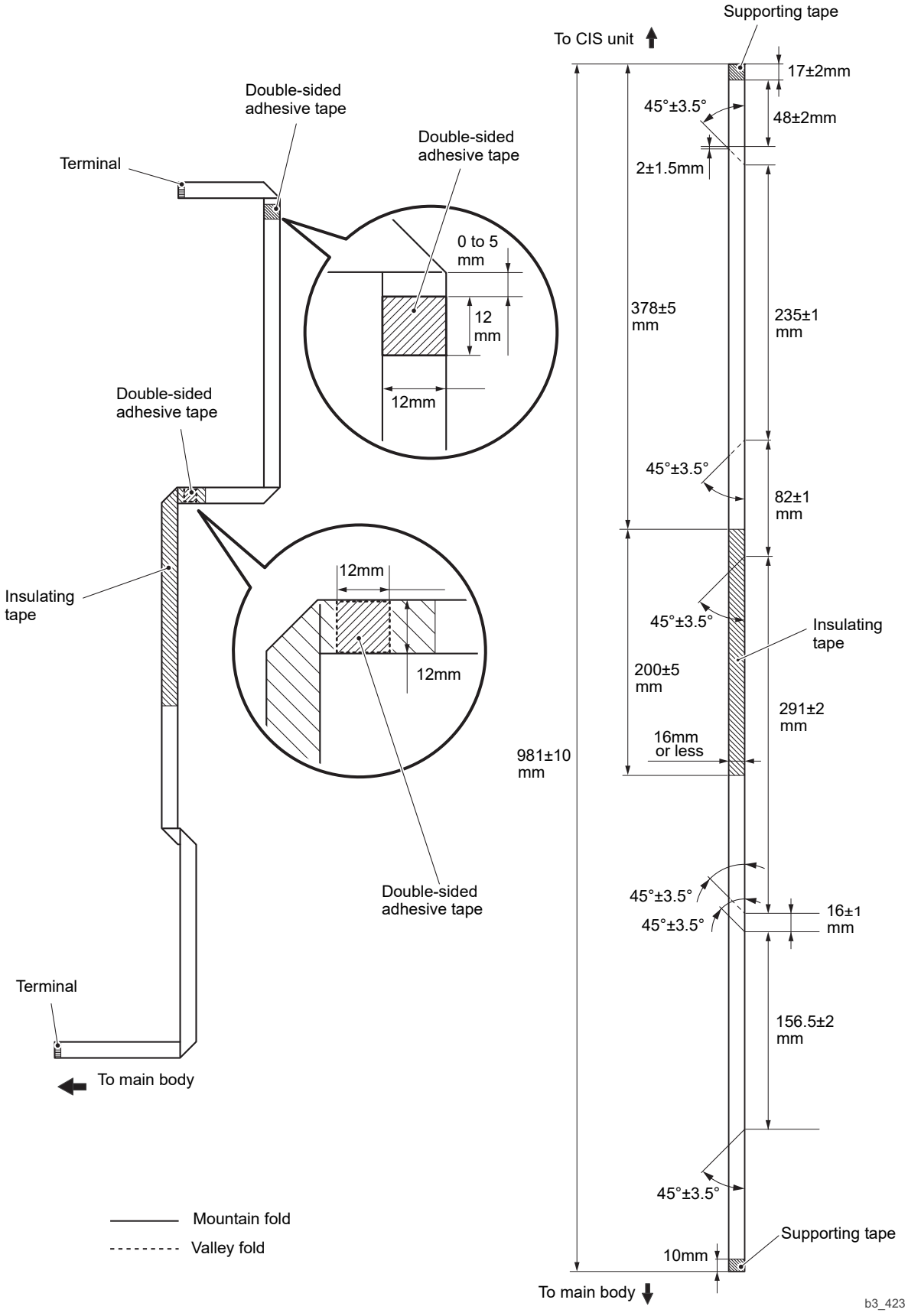


Fig. 3-59

(5) Place the Lower doc chute ASSY and Document cover base ASSY as shown in the figure.

Note: Perform this step without cutting the Cable tie.

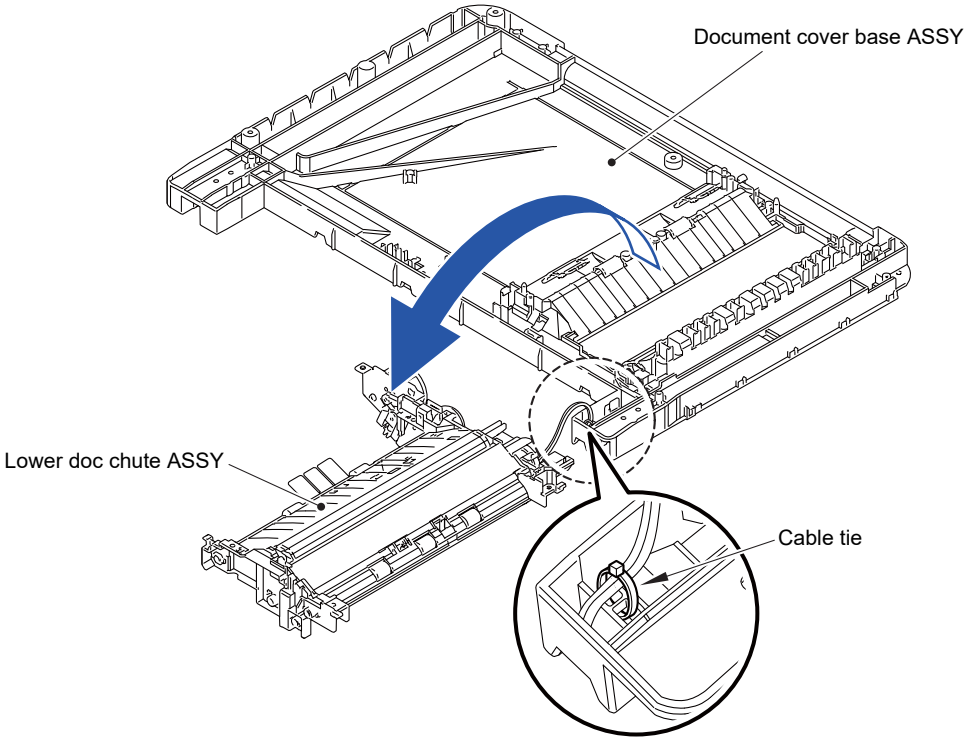


Fig. 3-60

(6) While pressing the section “A” in the direction of the arrow 6a, slide the Cover glass in the direction of the arrow 6b.

(7) Remove the Cover glass from the Lower doc chute ASSY in the order of the arrow 7a and arrow 7b.

Assembling Note: When mounting the Cover glass, mount it as the red mark comes to the position shown in the figure.

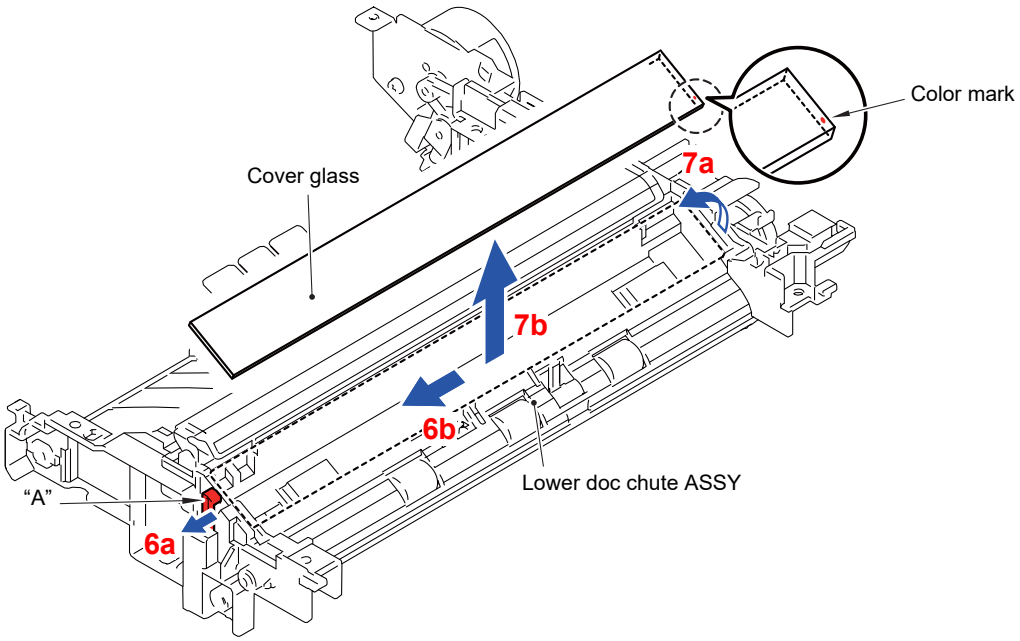


Fig. 3-61

(8) Remove the Second side CIS unit from the Lower doc chute ASSY.
(9) Remove the CIS spacer from the Second side CIS unit.

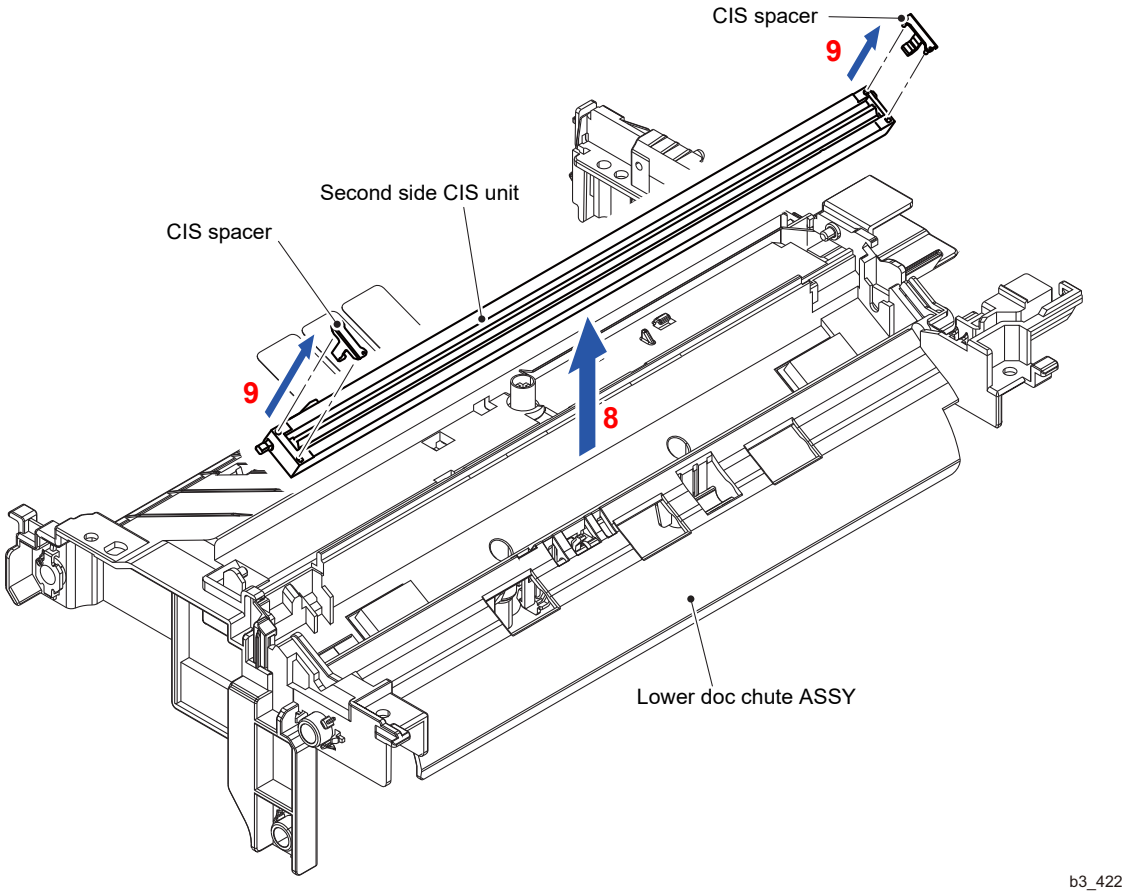


Fig. 3-62

Routing of harnesses: See Section 7. 7 in this chapter.

8.20 First Side CIS Unit/First Side CIS Flat Cable

(1) Turn the Document scanner unit upside down.
(2) Release the Hook of the Harness holder from the slot of the Document scanner unit and turn it up.
(3) Release the wiring of the Harness holder.
(4) Remove the Harness holder from the Document scanner unit.
(5) Remove the five screws (TAPTITE CUP B M2.6x10).

Assembling Note: When tightening the screw (TAPTITE CUP B M2.6x10), tighten them in the order shown in the figure.

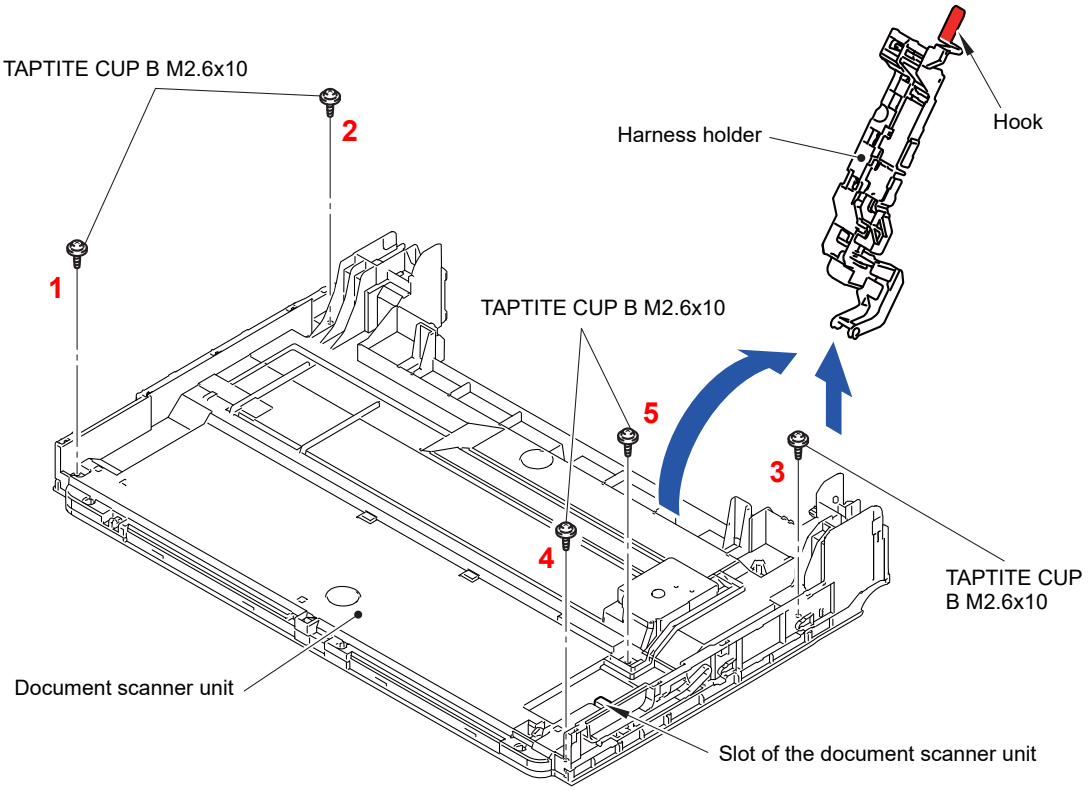


Fig. 3-63

(6) Turn the Document scanner unit right side up.

(7) Release the four Hooks and lift the rear of the Scanner top cover ASSY as shown in the figure.

(8) Release the four front Hooks.

(9) While holding down the Lock lever, remove the Scanner top cover ASSY from the Scanner base.

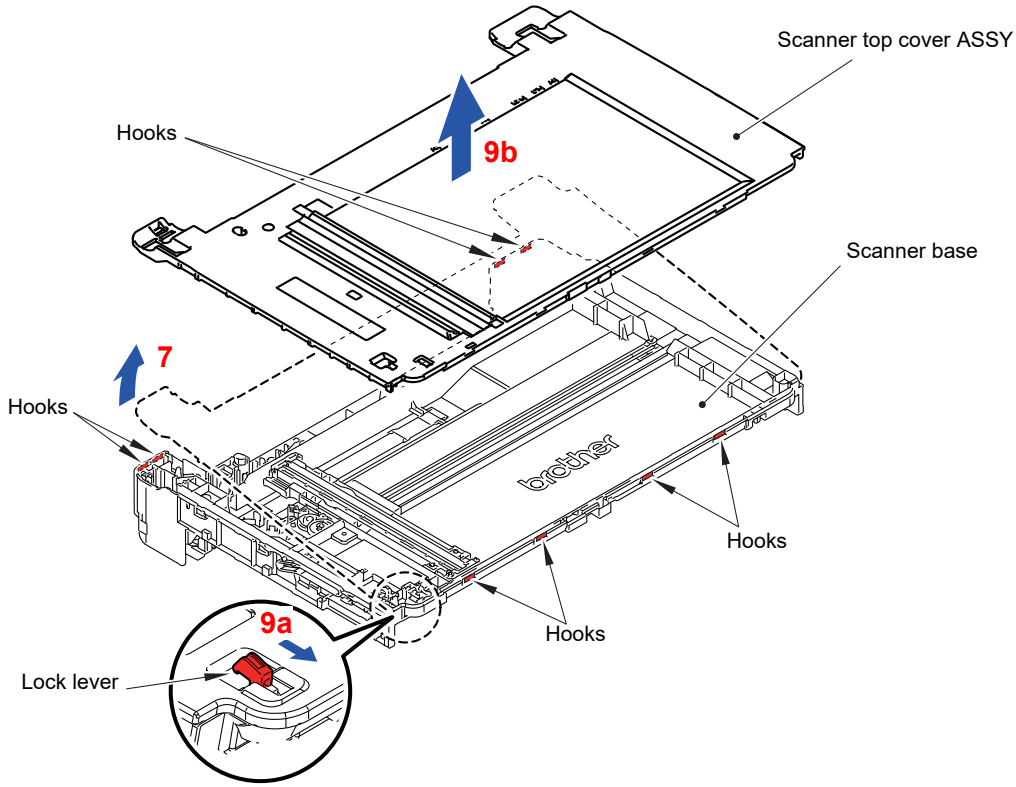


Fig. 3-64

Note: Be careful not to lose the Lock lever. If the Lock lever comes off, mount it as shown in the figure.

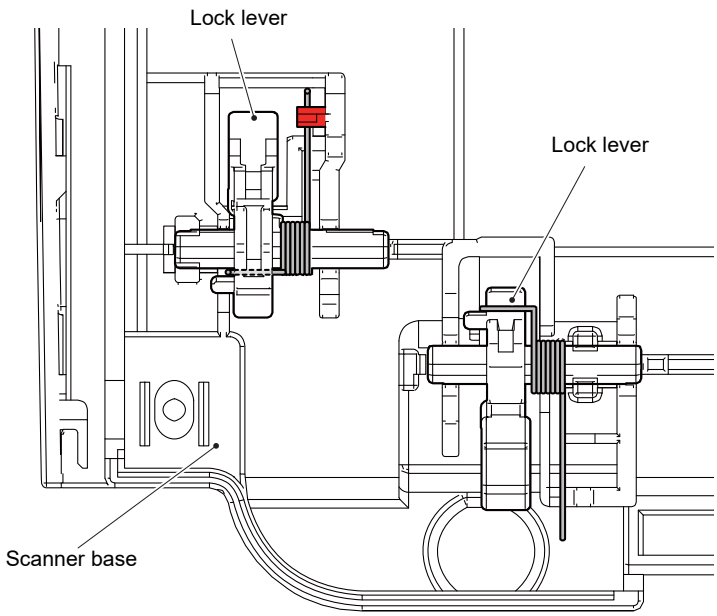


Fig. 3-65

(10)Remove the two CIS roller holder from the First side CIS unit.

(11)Disconnect the First side CIS flat cable from the First side CIS unit and remove the First side CIS unit from the CIS holder.

(12)Pull out the First side CIS flat cable from the CIS holder.

Note: When removing the First side CIS unit, be careful not to lose the CIS spring.

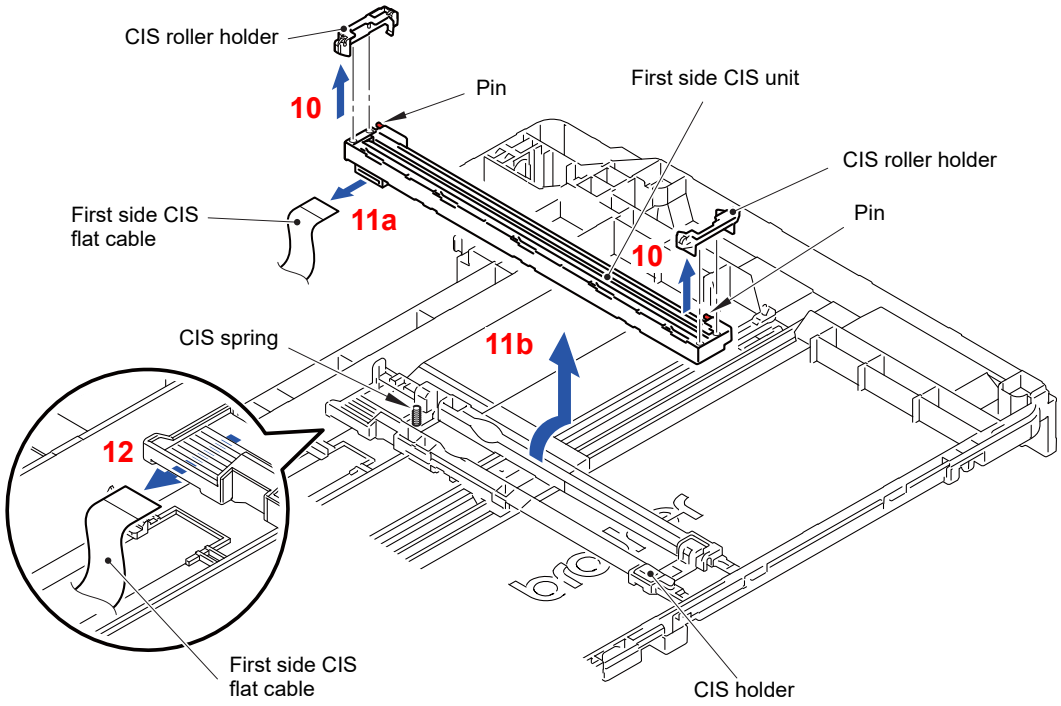


Fig. 3-66

(13)Peel off the First side CIS flat cable which is secured at two locations with the Double-sided adhesive tape from the Scanner base.

(14)Pull out the First side CIS flat cable from the Hole of the Scanner base ASSY.

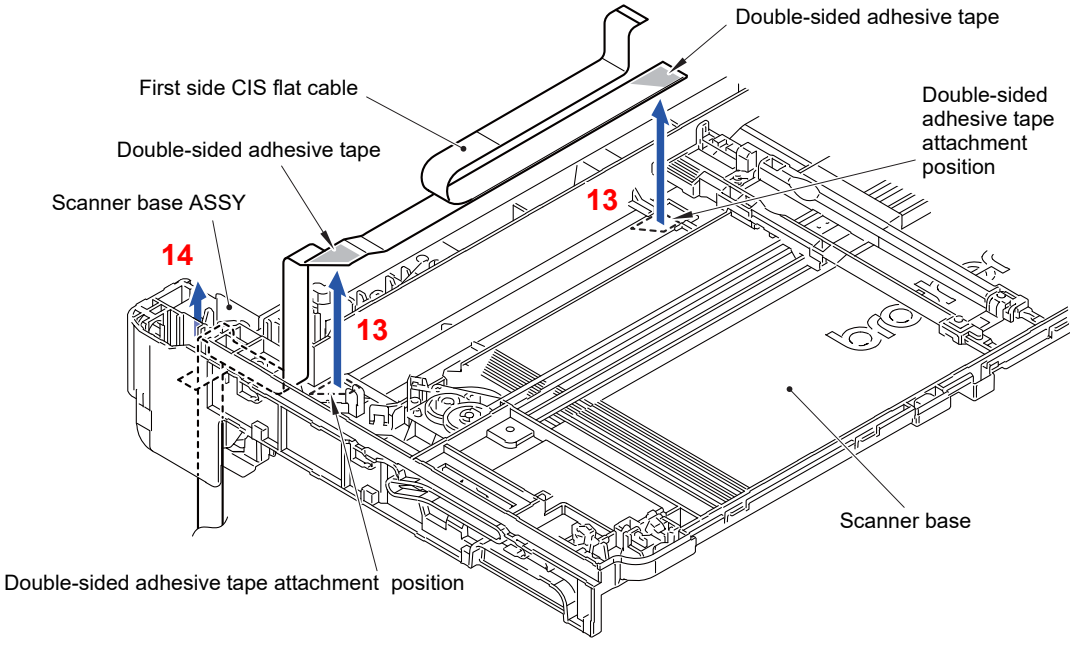


Fig. 3-67

(15)Peel off the First side CIS flat cable which is secured with Double-sided adhesive tape.

(16)Peel off the FFC film which is secured with Double-sided adhesive tape from the First side CIS flat cable.

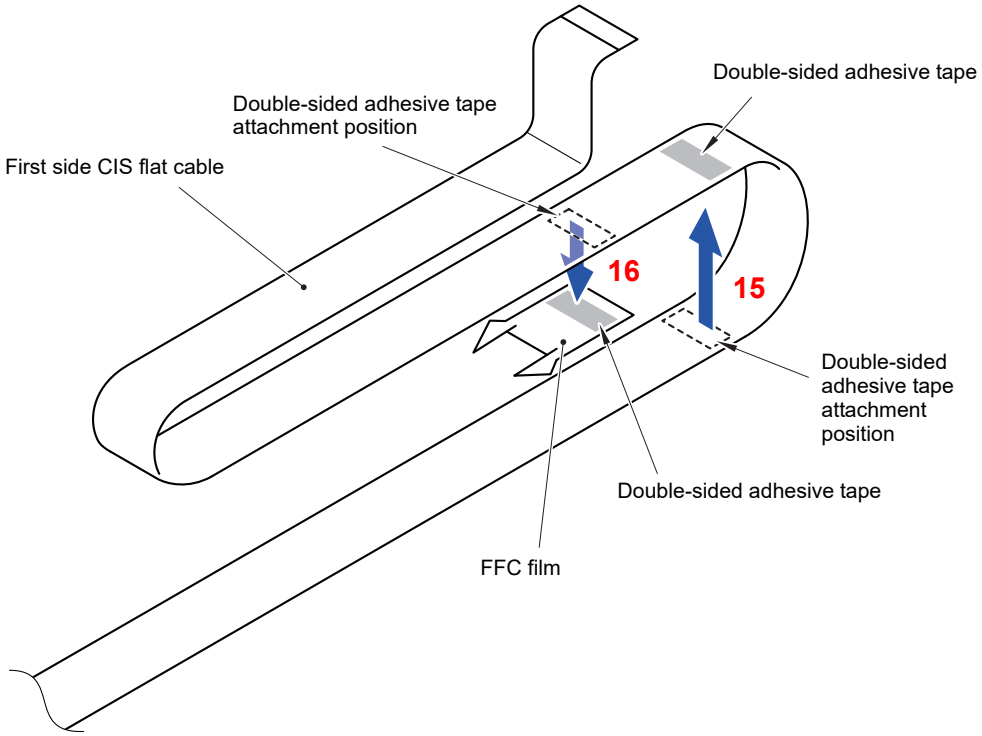


Fig. 3-68

Assembling Note: Assemble a new First side CIS flat cable by bending the First side CIS flat cable and affixing the Double-sided adhesive tape as shown in the figure below.

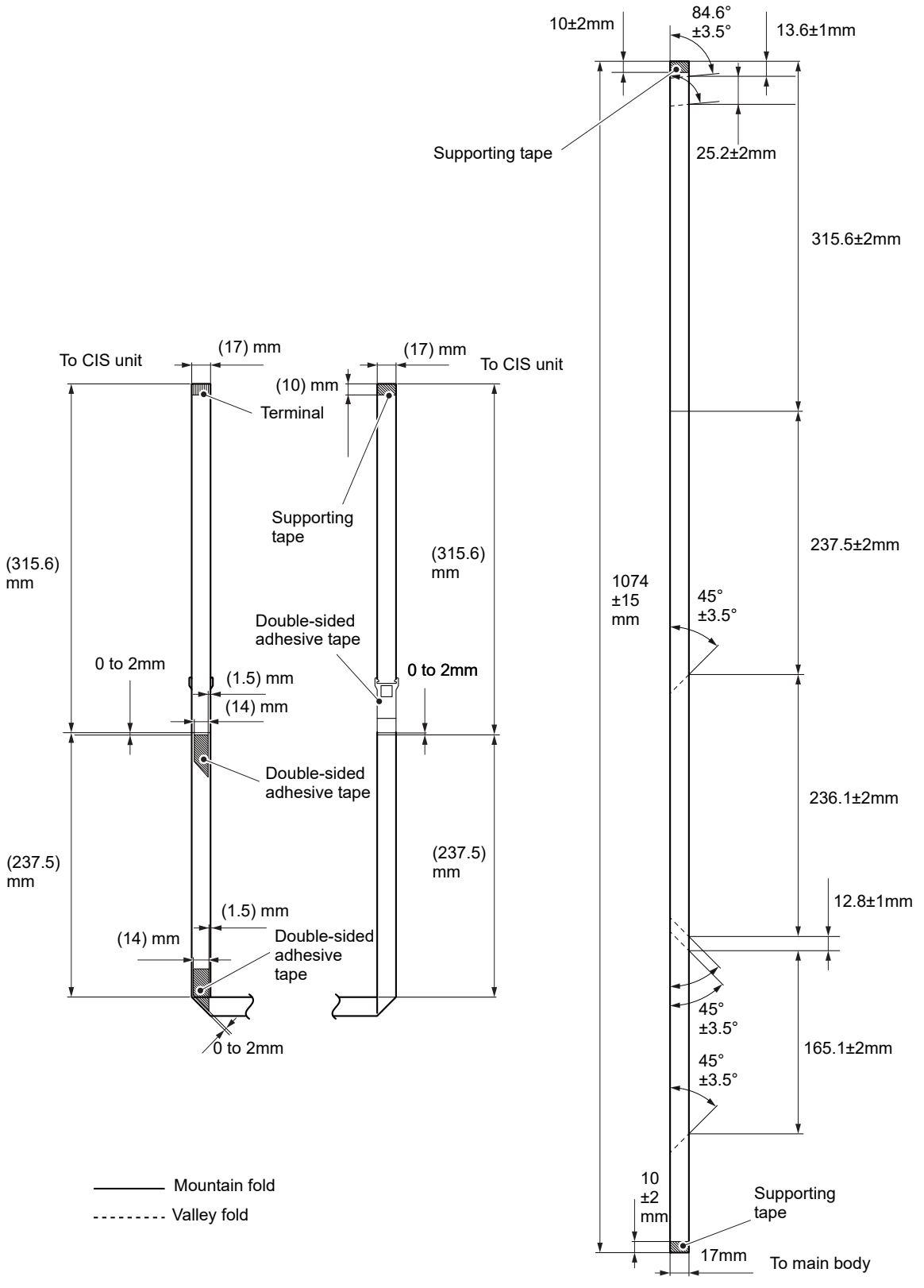


Fig. 3-69

Routing of harnesses: See Section 7. 7 in this chapter.

8.21 Document Cover Sensor

(1) Release the wiring of the Document MP sensor harness unit.
(2) Remove the screw (TAPTITE CUP P M3x10) and remove the Document cover sensor from the Scanner base.

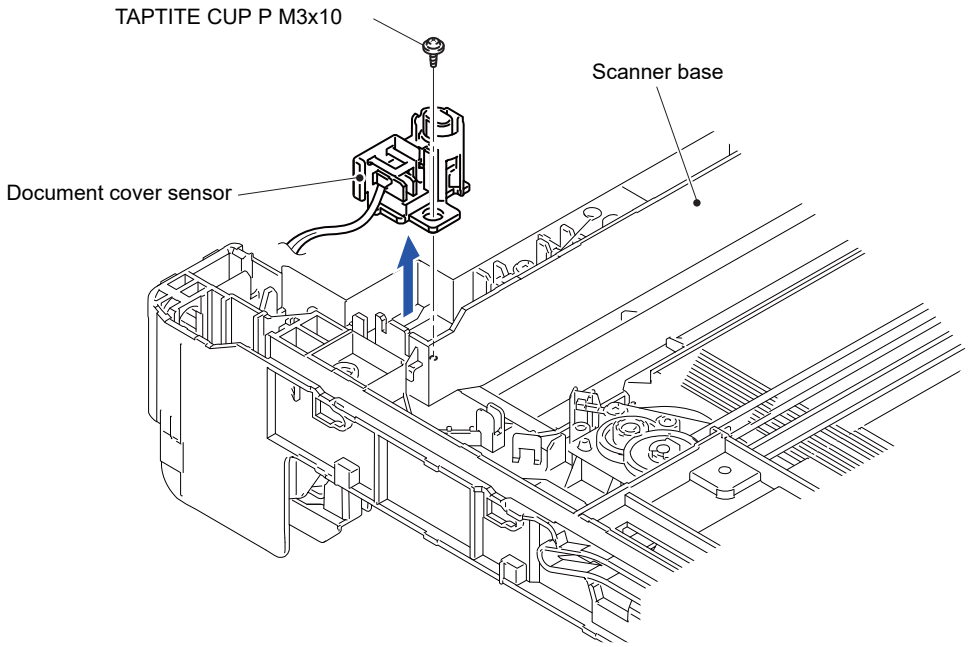


Fig. 3-70

Routing of harnesses: See Section 7. 7 in this chapter.

8.22 Front Cover L

(1) Remove the screw (TAPTITE BIND P M4x12).
(2) Release the seven Hooks and remove the Front cover L from the Lower cover.

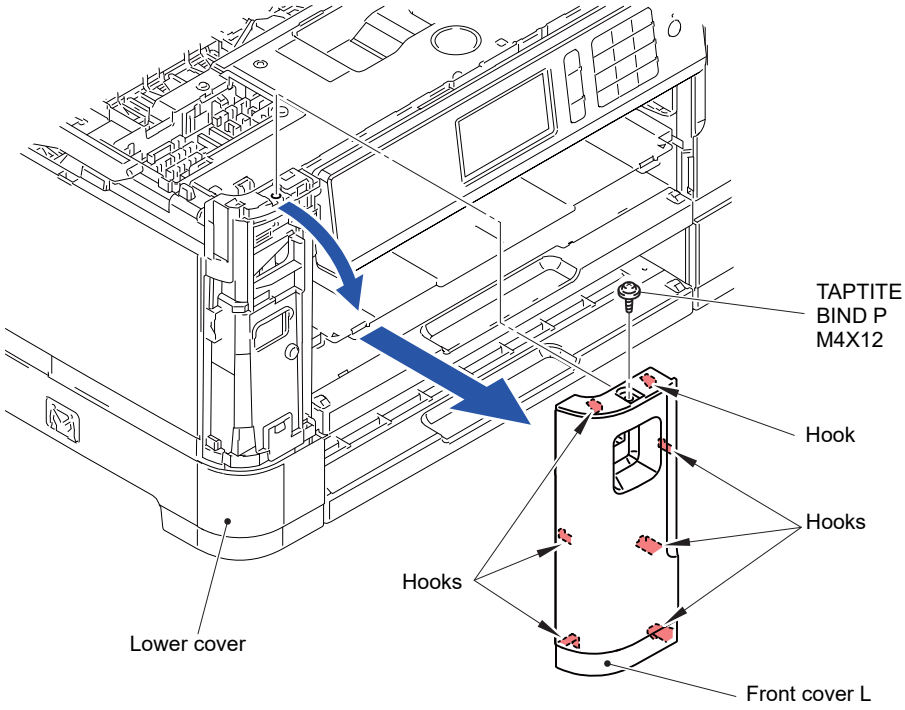


Fig. 3-71

8.23 Ink Cartridge Cover

(1) Open the Ink cartridge cover.

(2) Release the two Pins and remove the Ink cartridge cover from the Main body.

Note: When replacing the Ink cartridge cover, be sure to remove the serial number label attached inside the old cover and attach it to the new cover.

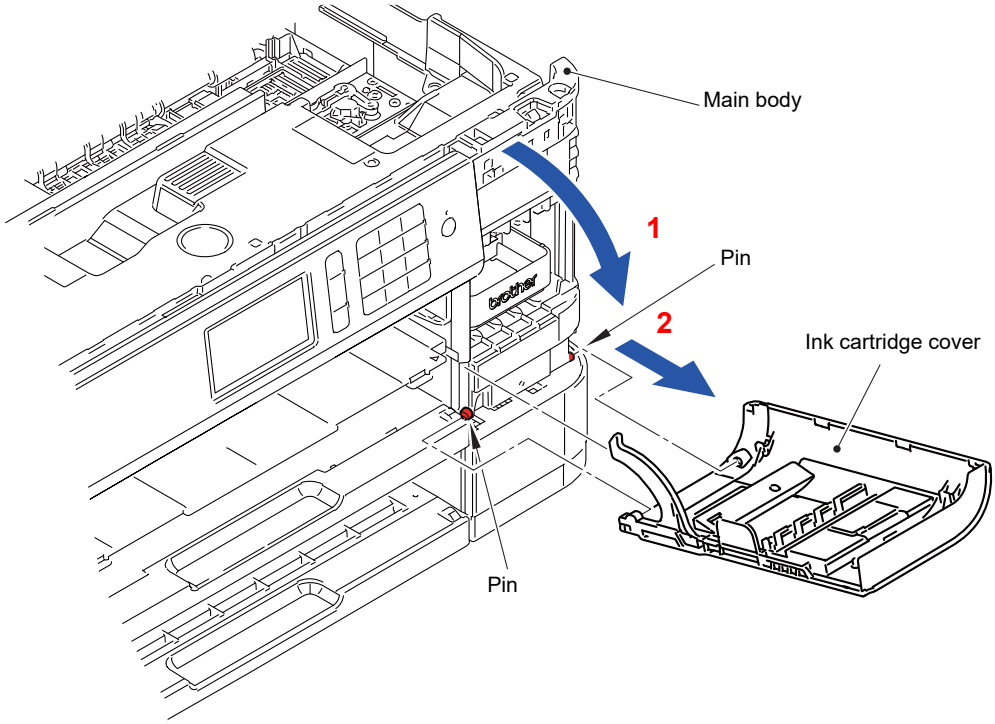


Fig. 3-72

8.24 Upper Cover

(1) Remove the FB stopper from the Upper cover in the order of the arrow 1a and 1b.

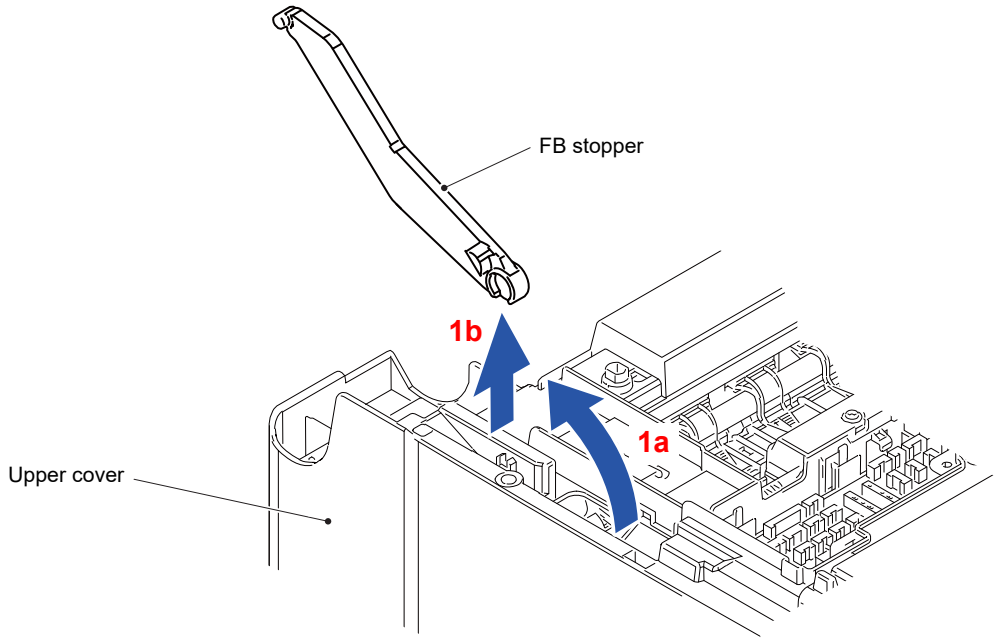


Fig. 3-73

(2) Disconnect the Connector of the Document scanner sensor harness from the Main PCB.

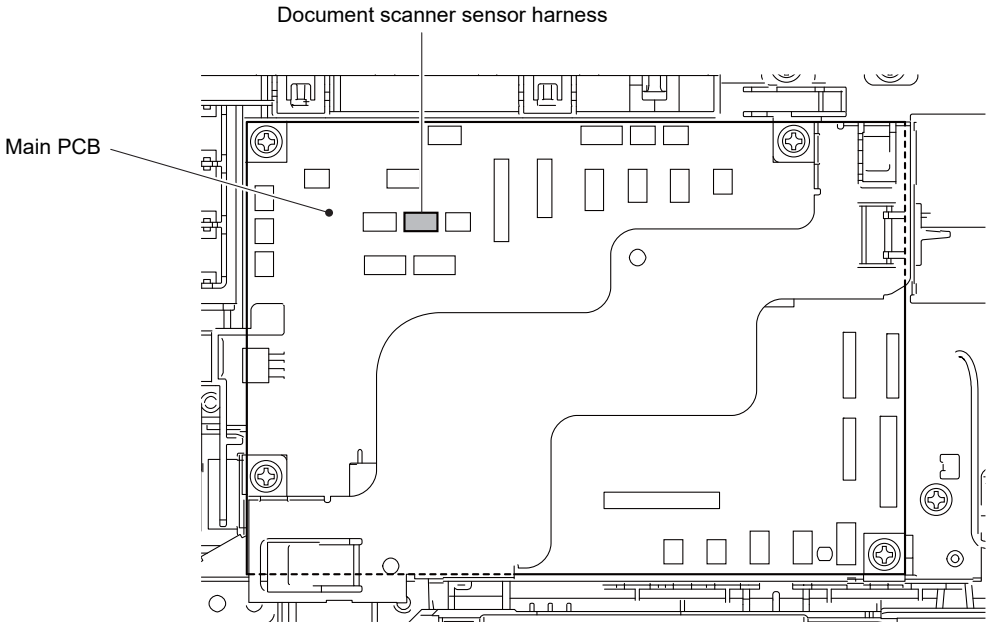


Fig. 3-74

(3) Remove the five screws (TAPTITE BIND P M4x12) and remove the Upper cover from the Lower cover.

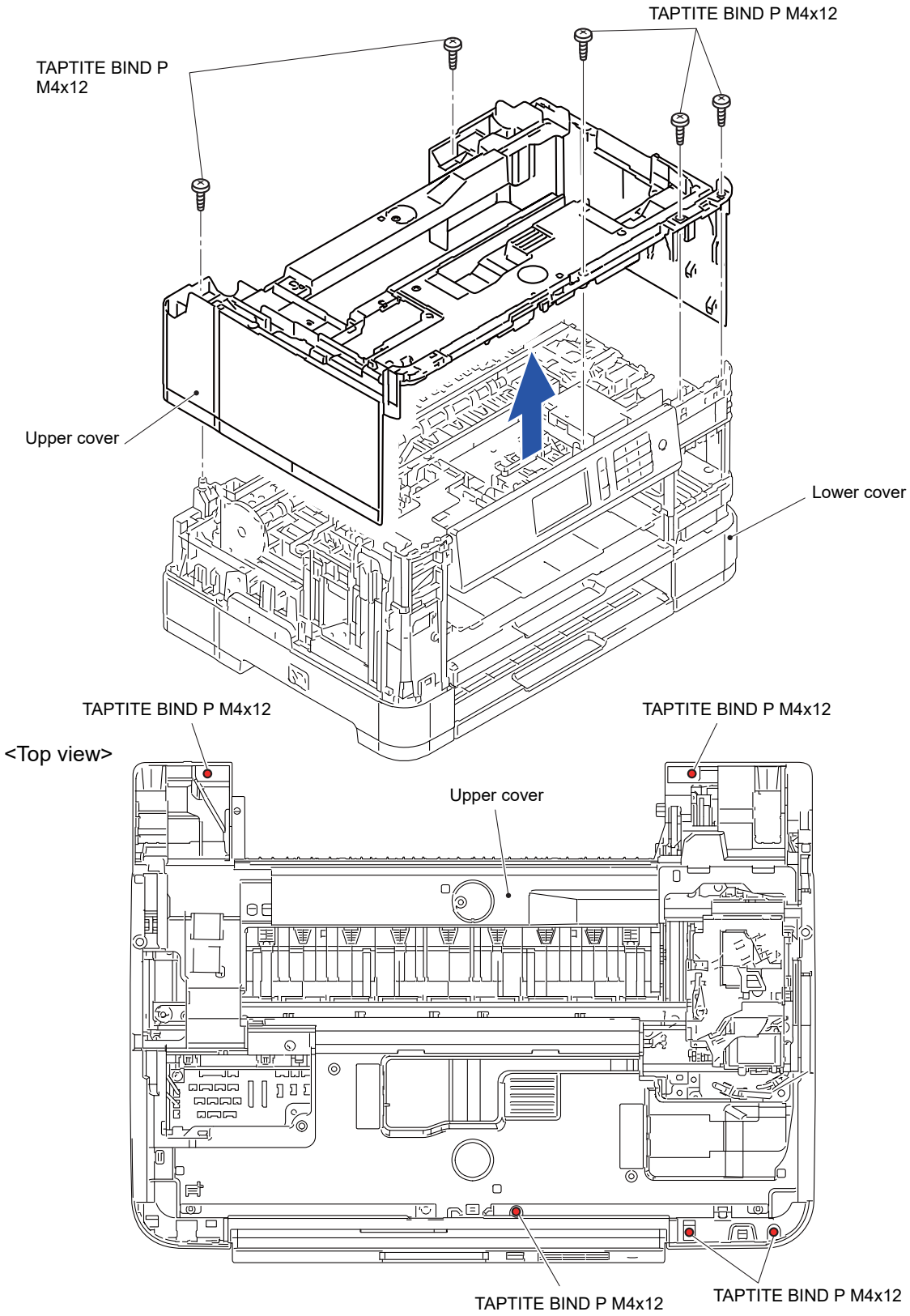


Fig. 3-75

Assembling Note: When assembling the Upper cover, assemble the Upper cover and Front cover L first and then tighten the screws in the order as shown in the figure below.

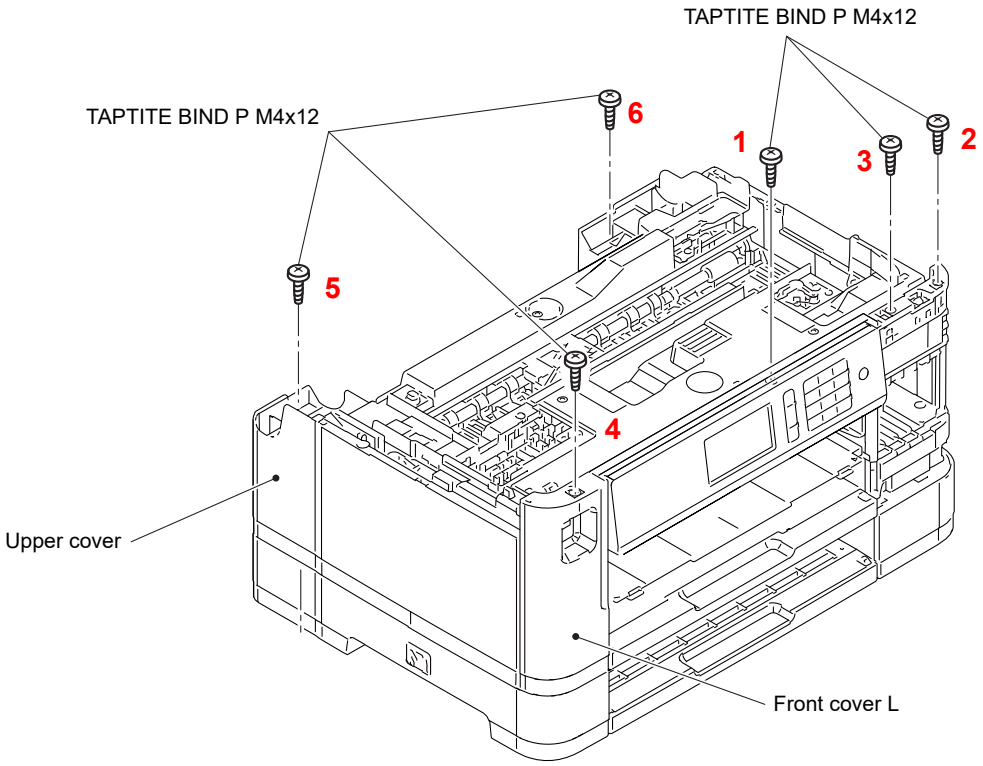


Fig. 3-76

(4) Turn the Upper cover upside down.

(5) Release the wiring of the Document scanner sensor.

(6) Release the two Hooks and remove the Document scanner sensor from the Upper cover.

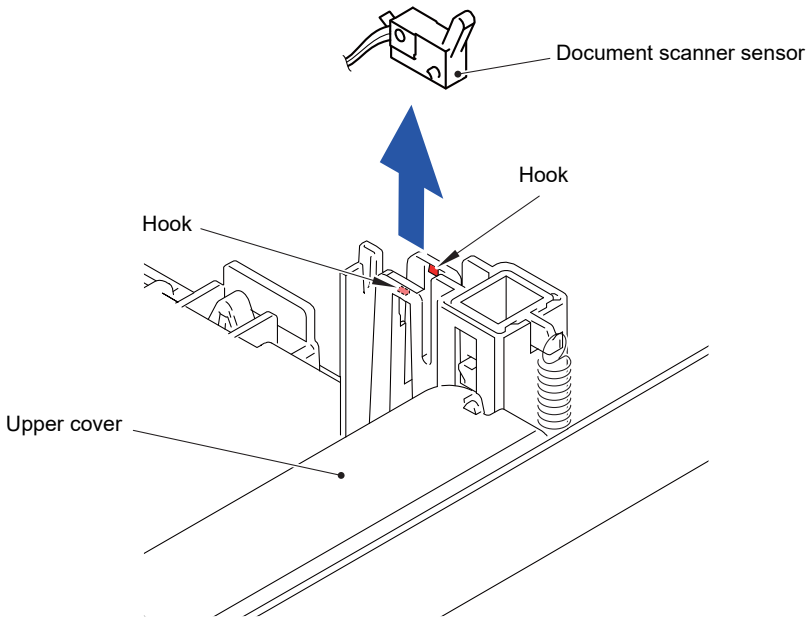


Fig. 3-77

(7) Remove the FB open sensor spring from the Hook of the FB open sensor actuator and the Hook of the Upper cover.

(8) Release the Hook and remove the FB open sensor actuator from the Upper cover.

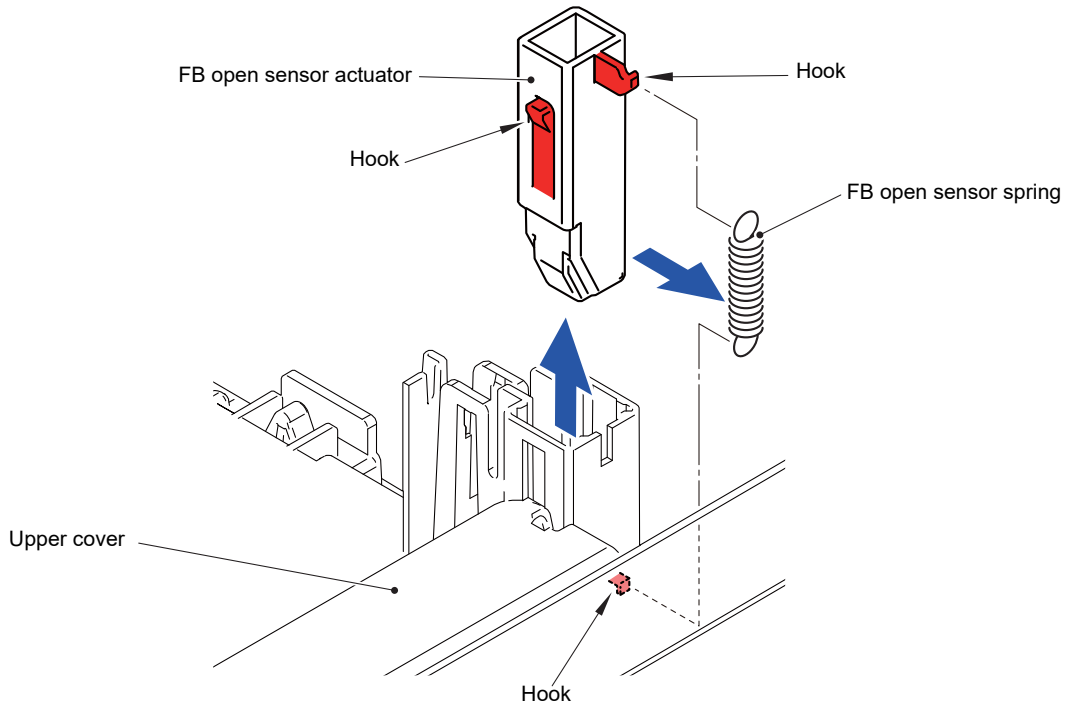


Fig. 3-78

Routing of harnesses: See Section 7. 19 in this chapter.

8.25 Control Panel ASSY

(1) Release the Lock of the connector and disconnect the Panel flat cable from the Main PCB.
(2) Disconnect the four Flat cables from the Main PCB.
(3) Disconnect the five Connectors from the Main PCB.

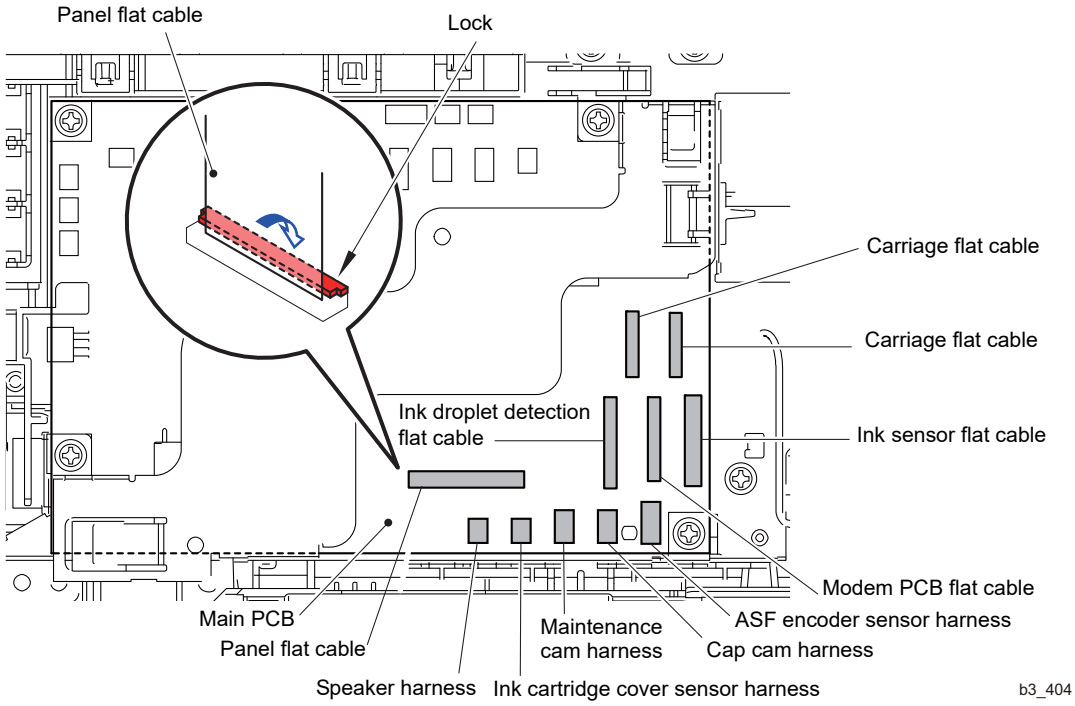


Fig. 3-79

(4) Release all the wiring attached to the Main PCB harness hold.
(5) Remove the screw (SCREW CUP M3x6) and remove the FG wire from the Main PCB frame base.
(6) Remove the two screws (TAPTITE CUP P M3x10) and while releasing two Hooks, remove the Main PCB harness hold from the Main PCB frame base.

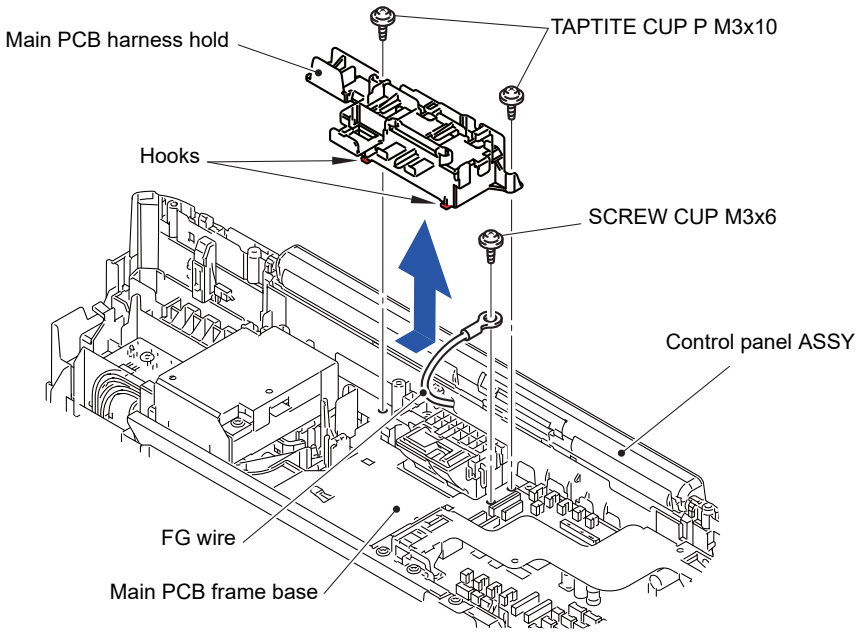


Fig. 3-80

(7) Remove the Flat core from the Lower cover and pull out the Panel flat cable from the Flat core.

(8) Remove the two screws (TAPTITE CUP P M3x10).

(9) Release the Hook and remove the Tilt cover from the Lower cover.

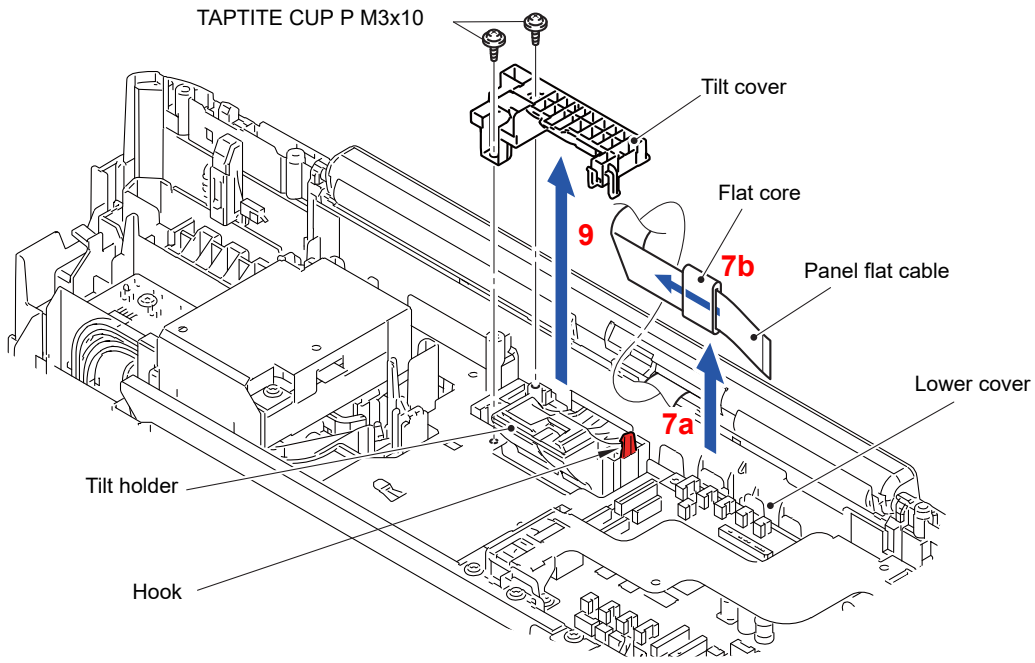


Fig. 3-81

(10) Tilt the Control panel ASSY in the direction of the arrow.

(11) Push the Tilt ratch in the direction of the arrow until clicks.

Note: Since grease is applied to the Tilt ratch, be careful not to get smeared with the grease when pushing the Tilt ratch in.

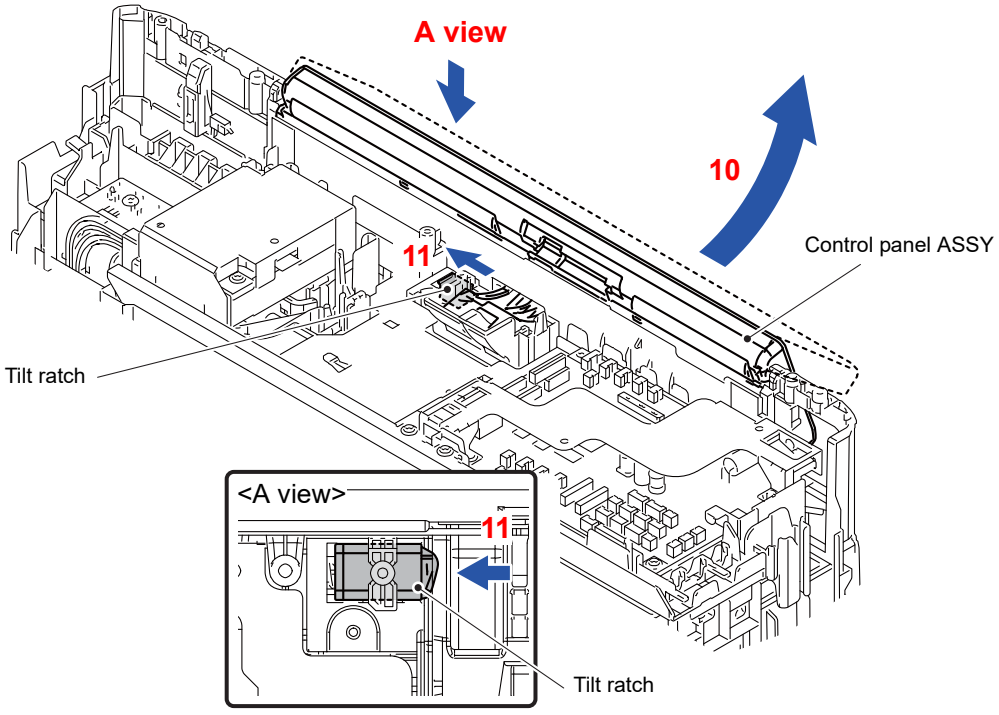


Fig. 3-82

(12)Release the two Pins on the left-side of the Control panel ASSY in the direction of the arrow.

(13)Release the two Pins on the right-side of the Control panel ASSY from the Lower cover.

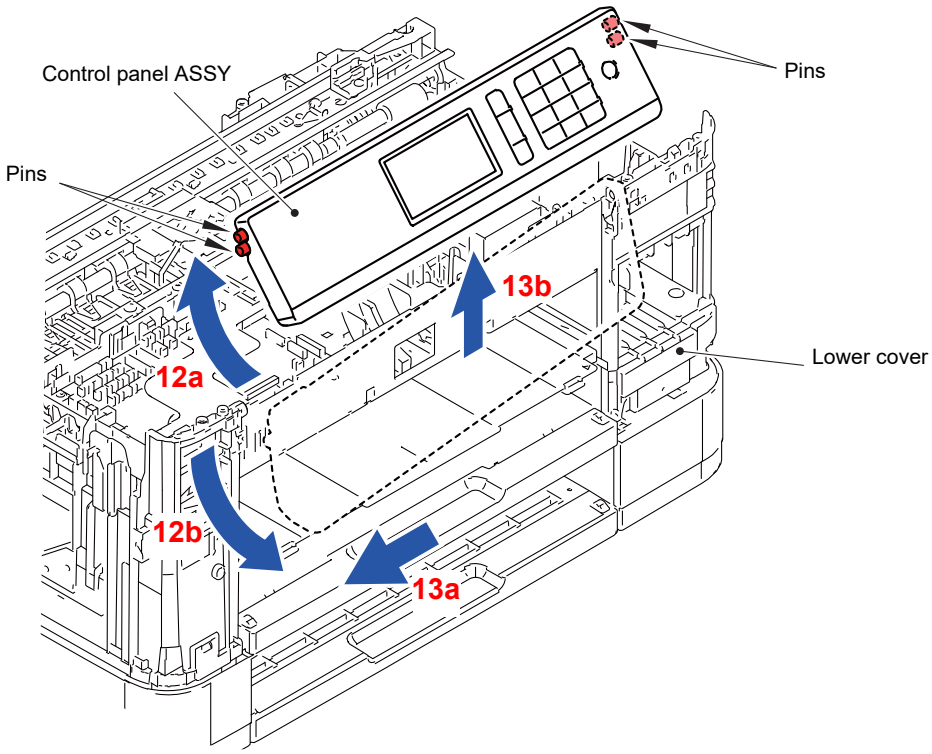


Fig. 3-83

Routing of harnesses: See Section 7. 3 and Section 7. 17 in this chapter.

8.26 Panel Flat Cable

(1) Remove the two screws (TAPTITE CUP B M2.6x10).

(2) Release the fourteen Hooks and remove the Panel lower cover from the Panel upper cover.

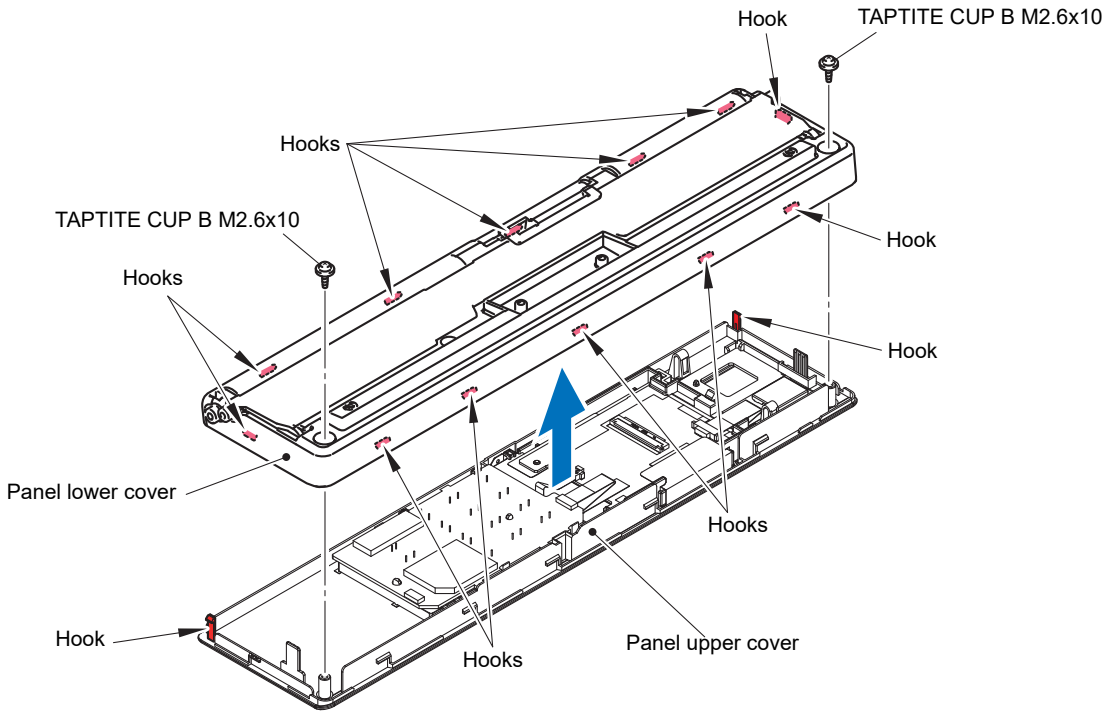


Fig. 3-84

(3) Release the Lock of the Connector.

(4) Disconnect the Panel flat cable from the LCD PCB.

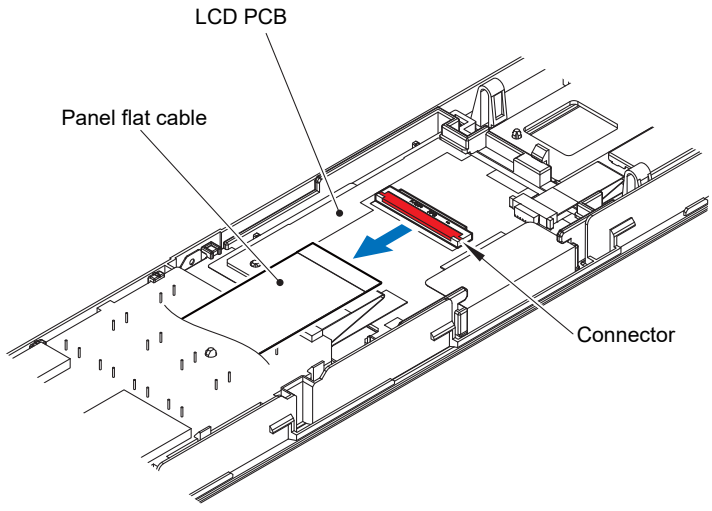


Fig. 3-85

Assembling Note: See the figure below for the Panel flat cable folding position.

< 3.5 inch LCD model >

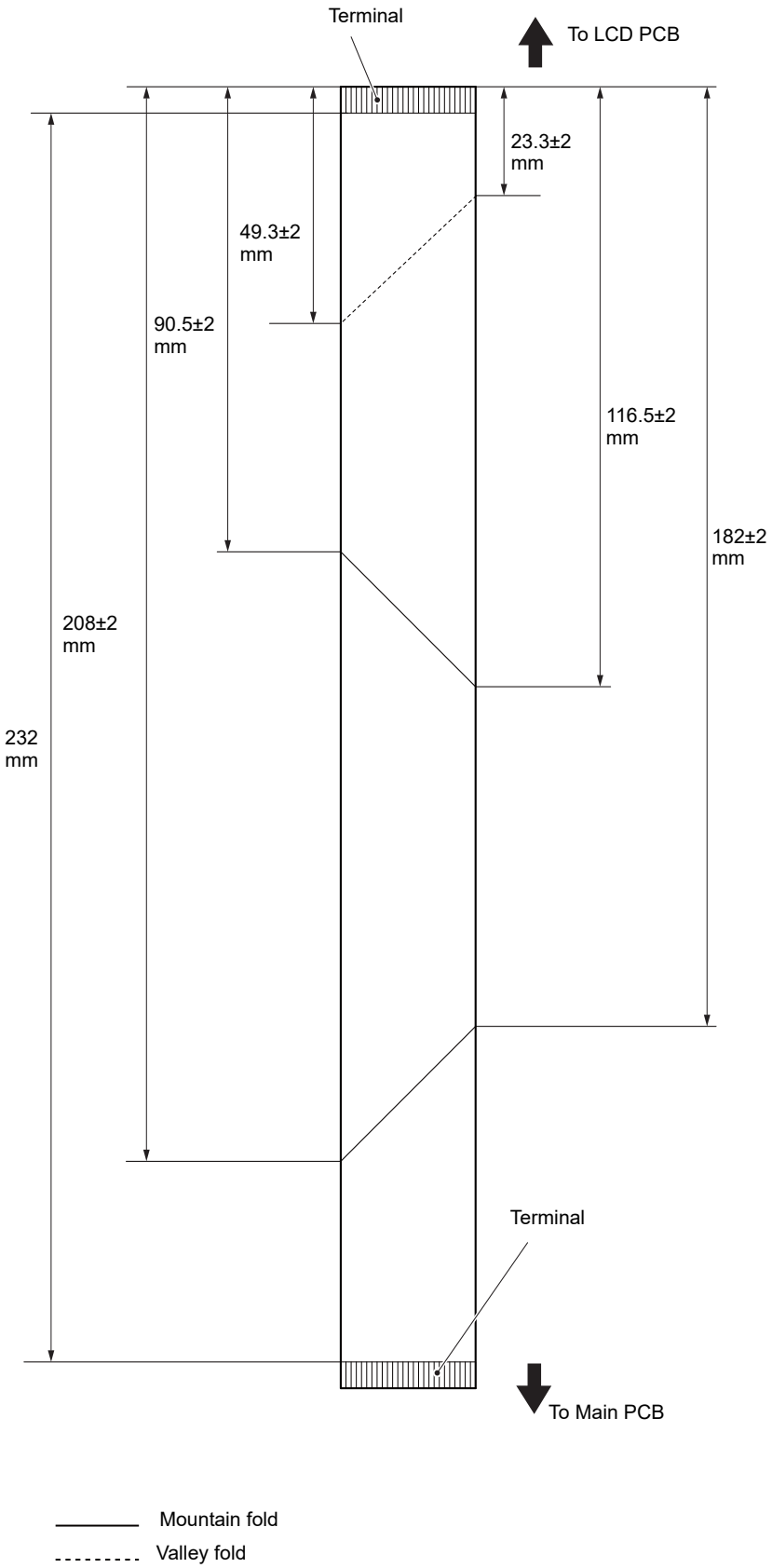


Fig. 3-86

< 2.7 inch LCD model >

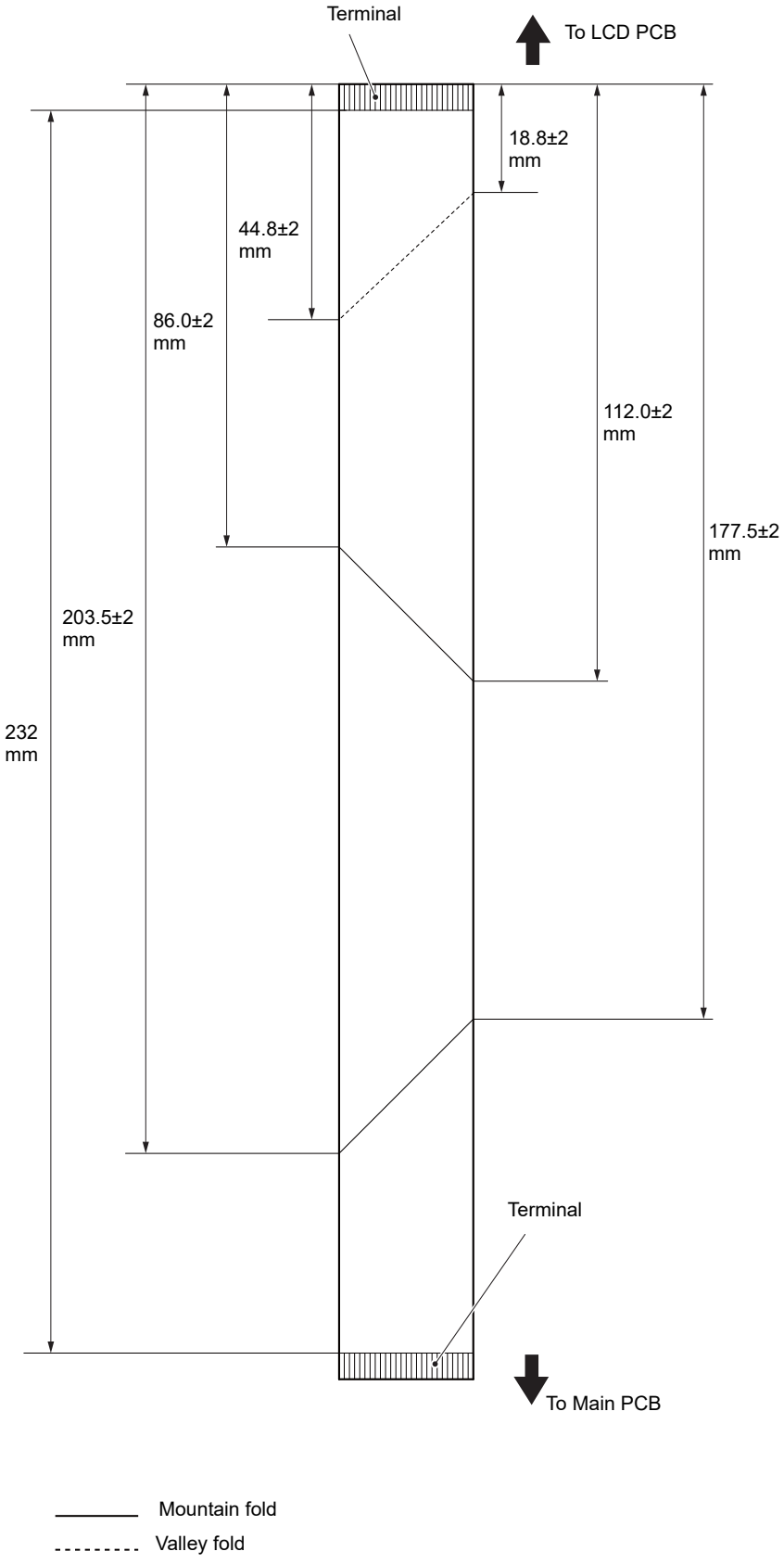
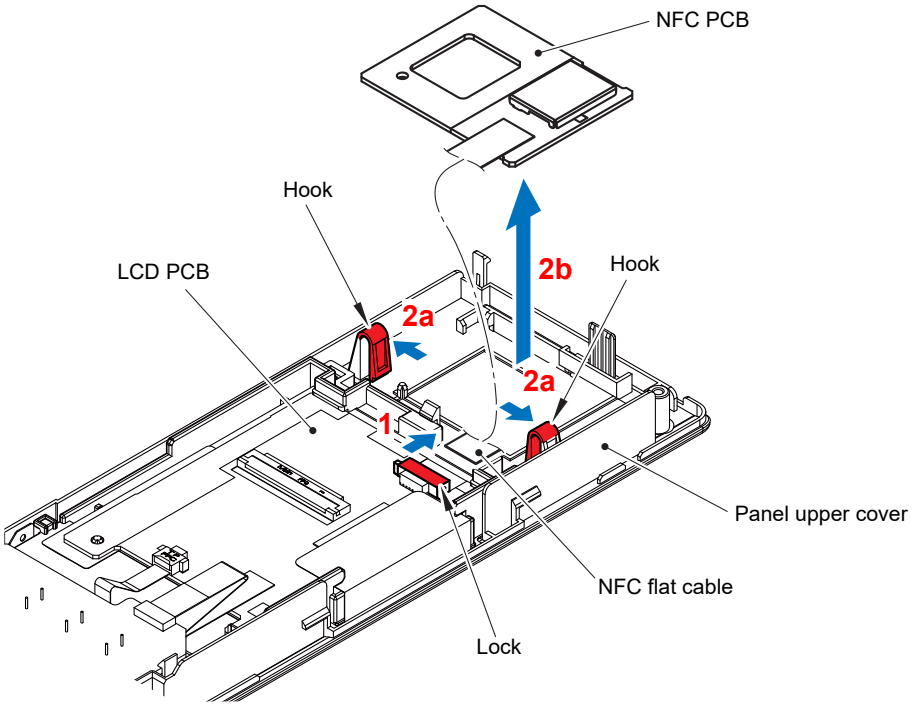


Fig. 3-87

8.27 NFC PCB

(1) Release the Lock and disconnect the NFC flat cable from the LCD PCB.
(2) While holding down the two Hooks in the direction of the arrow 2a, remove the NFC PCB from the Panel upper cover.

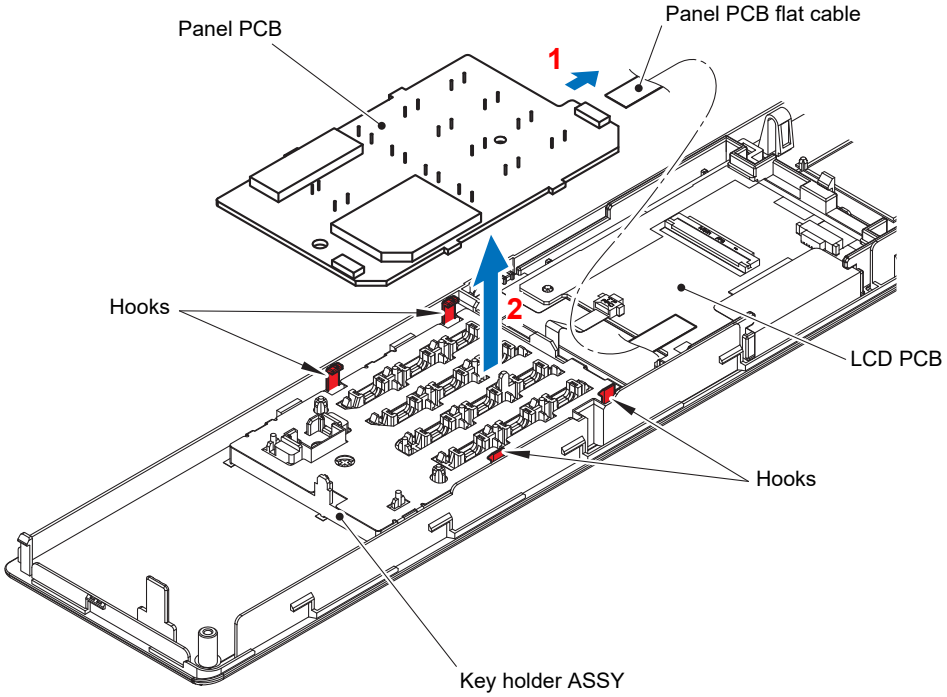


b3_316

Fig. 3-88

8.28 Panel PCB

(1) Disconnect the Panel PCB flat cable from the Connector of the Panel PCB.
(2) Release the four Hooks and remove the Panel PCB from the Key holder ASSY.



b3_317

Fig. 3-89

8.29 LCD PCB

< 3.5 inch LCD model >

(1) Disconnect the two Flat cables from the LCD PCB.
(2) Remove the LCD PCB from the LCD holder.

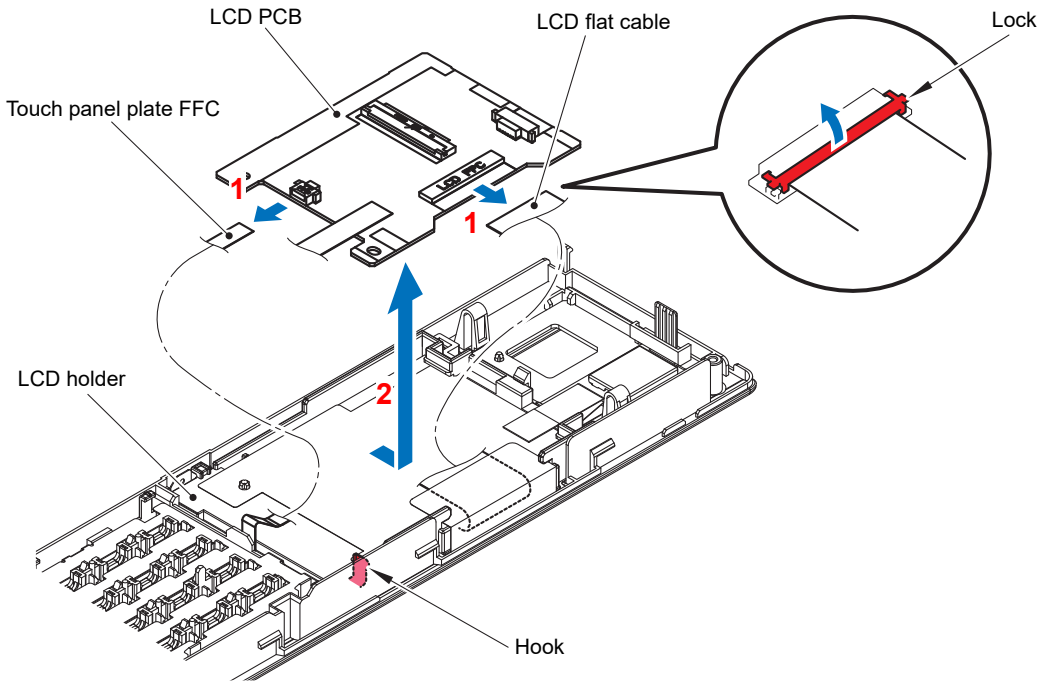


Fig. 3-90

< 2.7 inch LCD model >

(1) Disconnect the two Flat cables from the LCD PCB.
(2) Release the Hook and remove the LCD PCB from Panel upper cover.

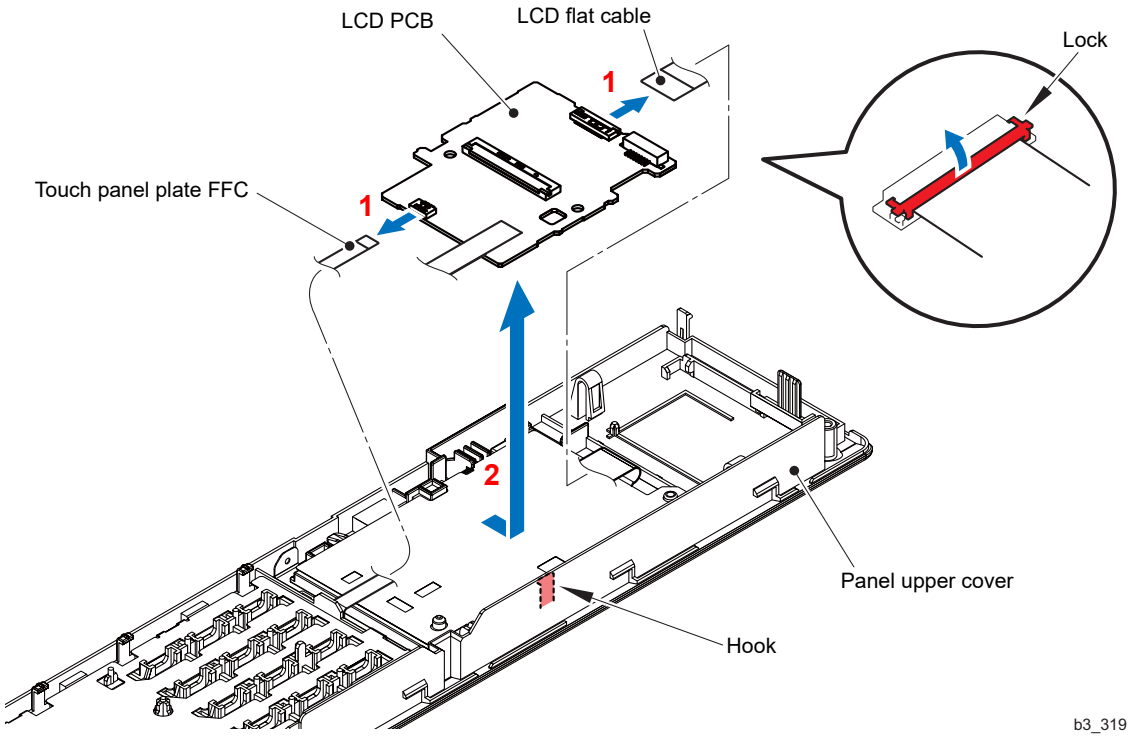


Fig. 3-91

8.30 LCD

< 3.5 inch LCD model >

(1) Release the three Hooks and remove the LCD holder and LCD back film from the Panel upper cover.

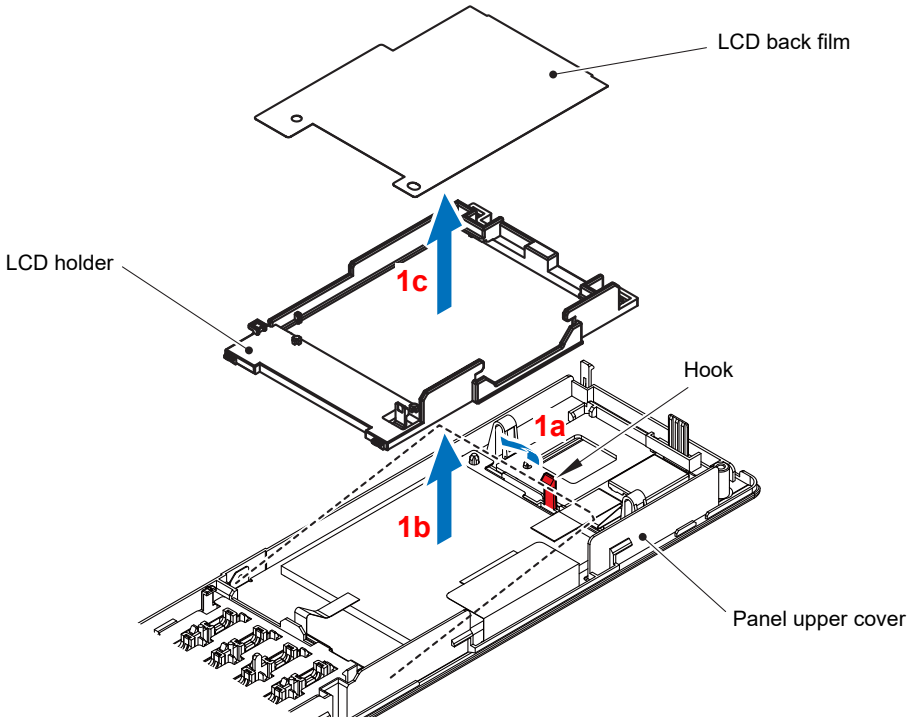


Fig. 3-92

(2) Remove the LCD from the Panel upper cover.

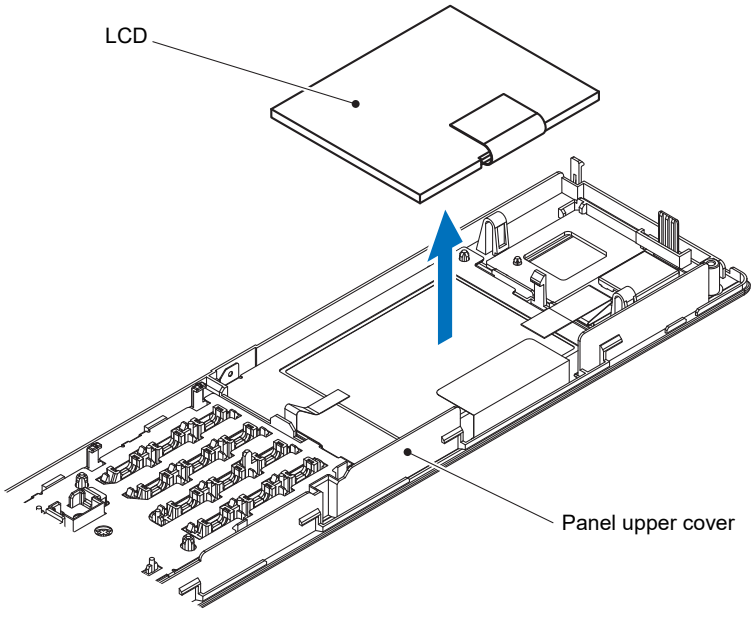


Fig. 3-93

< 2.7 inch LCD model >

(1) Release the seven Hooks and remove the Antistatic plate from the Key holder ASSY.

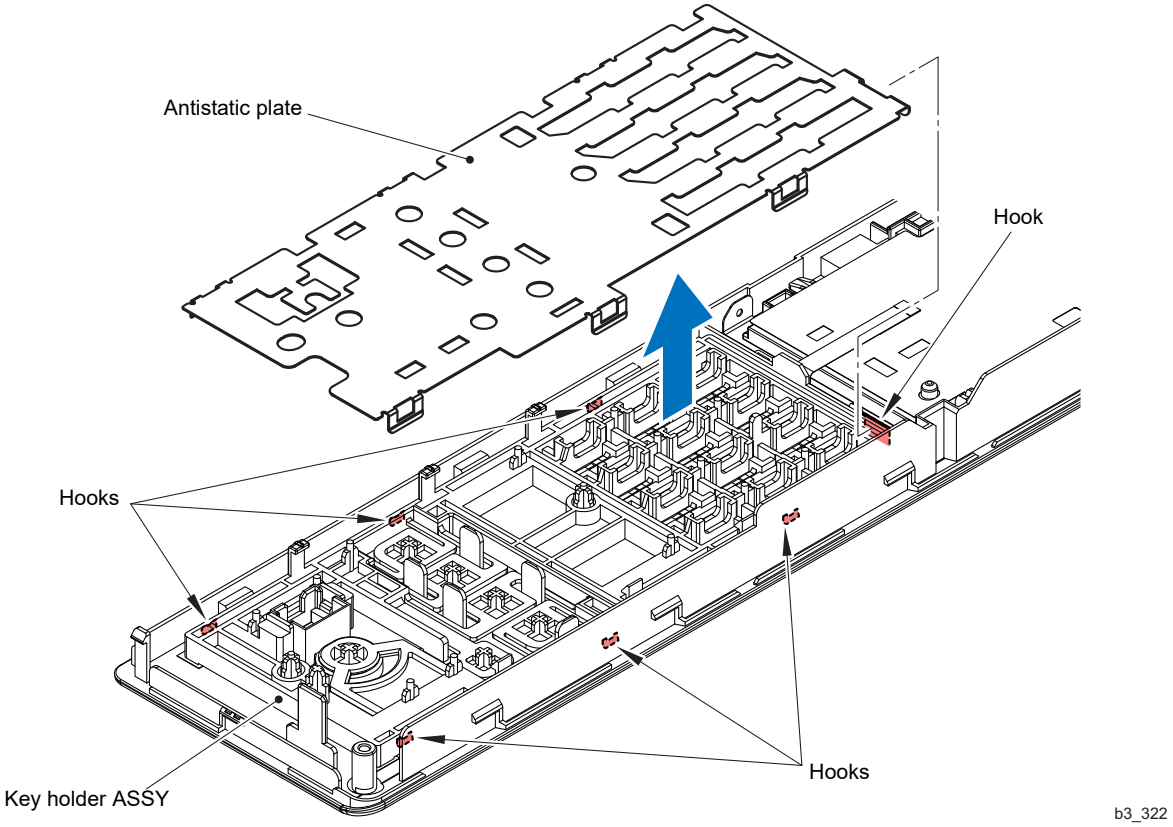


Fig. 3-94

(2) Remove the LCD back film from the LCD holder.

(3) Release the Hook and remove the LCD holder from the Panel upper cover.

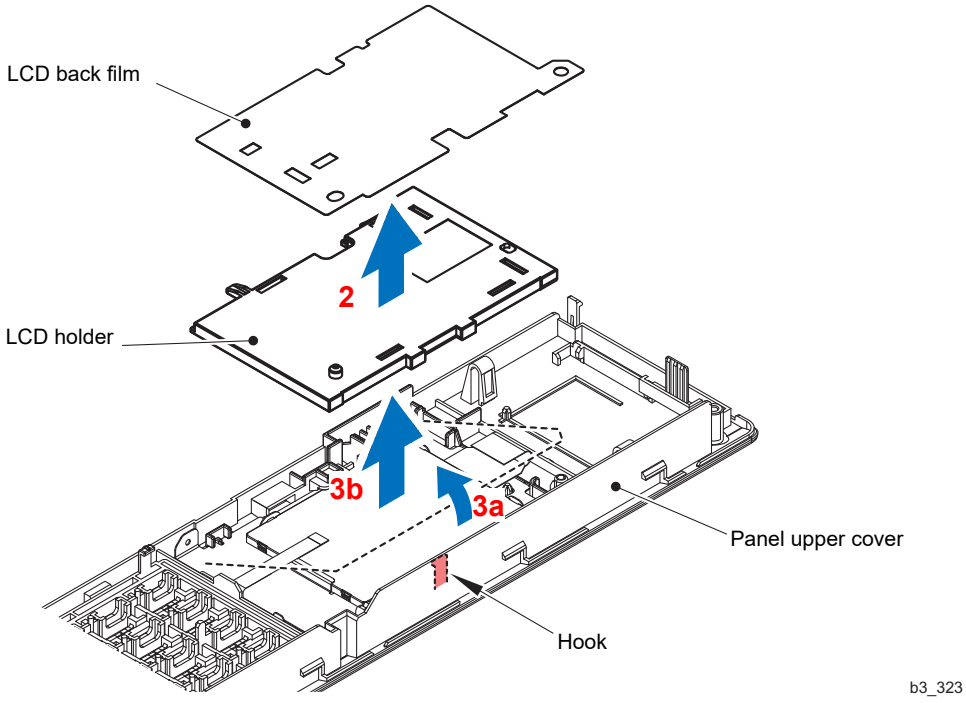


Fig. 3-95

(4) Release the six Hooks and remove the Touch panel plate from the Panel upper cover.

(5) Release the Hook and remove the LCD from the Touch panel plate.

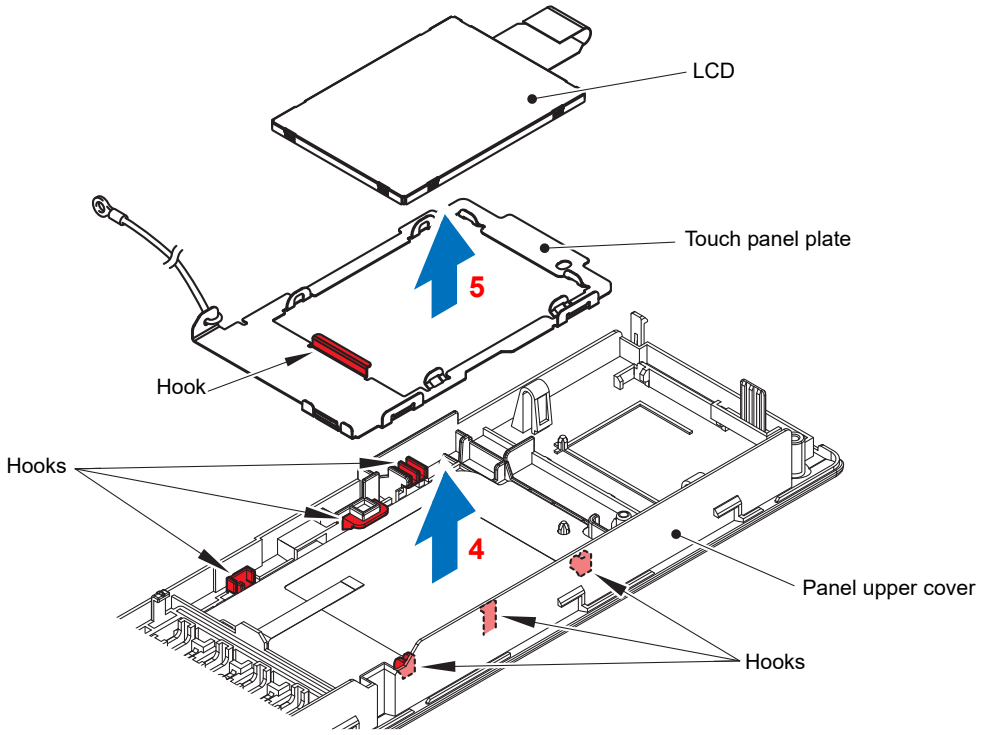


Fig. 3-96

8.31 Touch Panel

< 3.5 inch LCD model >

(1) Release the five Hooks and remove the Antistatic plate from the Key holder ASSY.

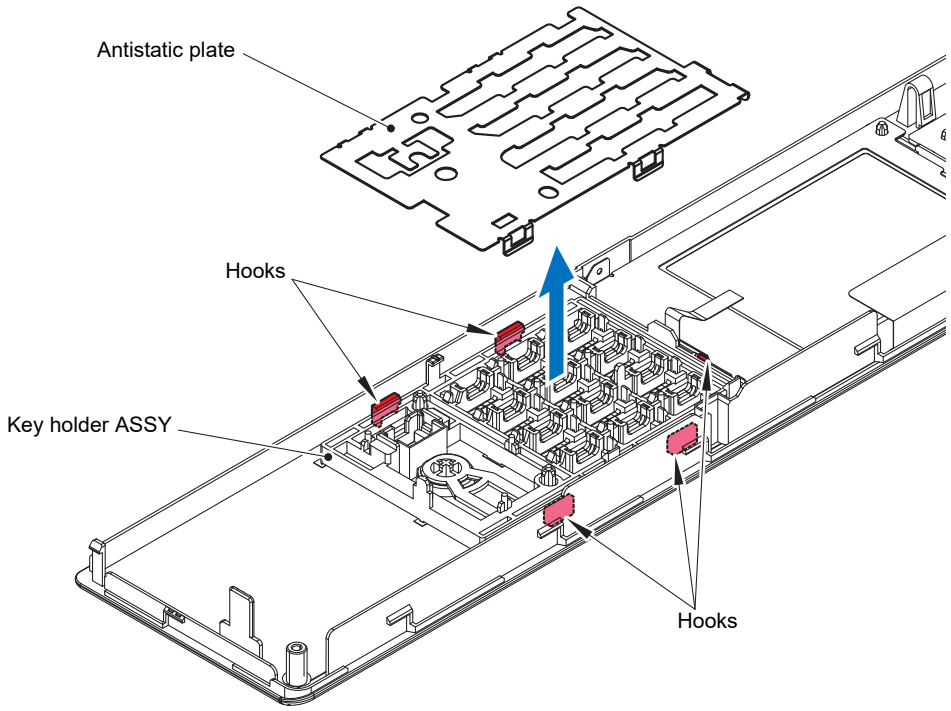


Fig. 3-97

(2) Remove the Touch panel plate from the Panel upper cover.

(3) Remove the Touch panel and Insulation film from the Panel upper cover.

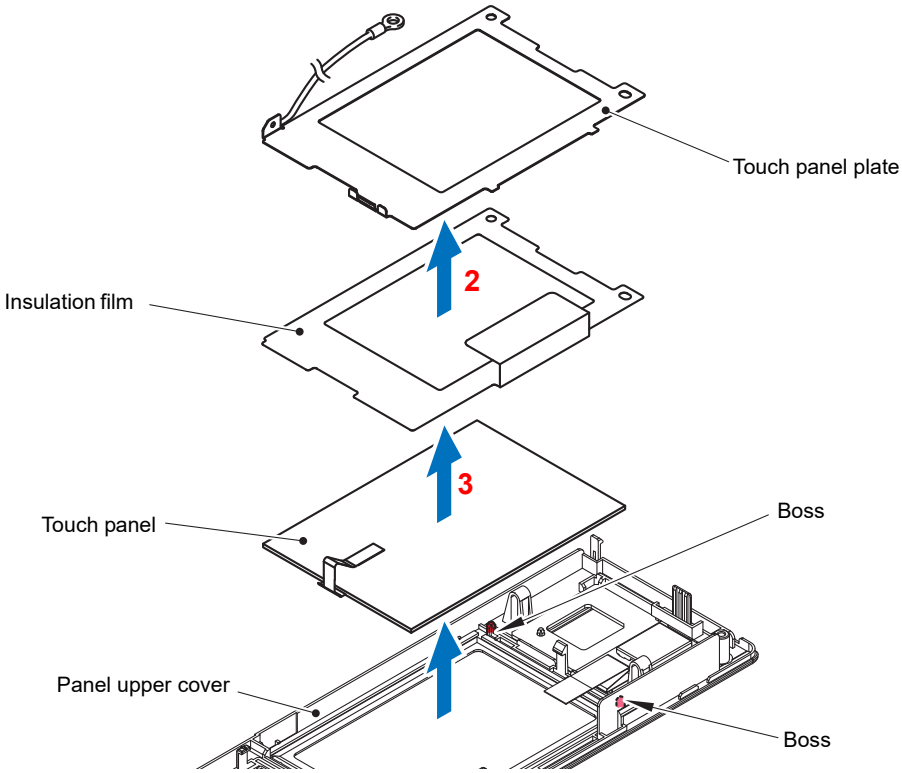


Fig. 3-98

< 2.7 inch LCD model >

(1) Remove the LCD film.
(2) Remove the Touch panel from the Panel upper cover.

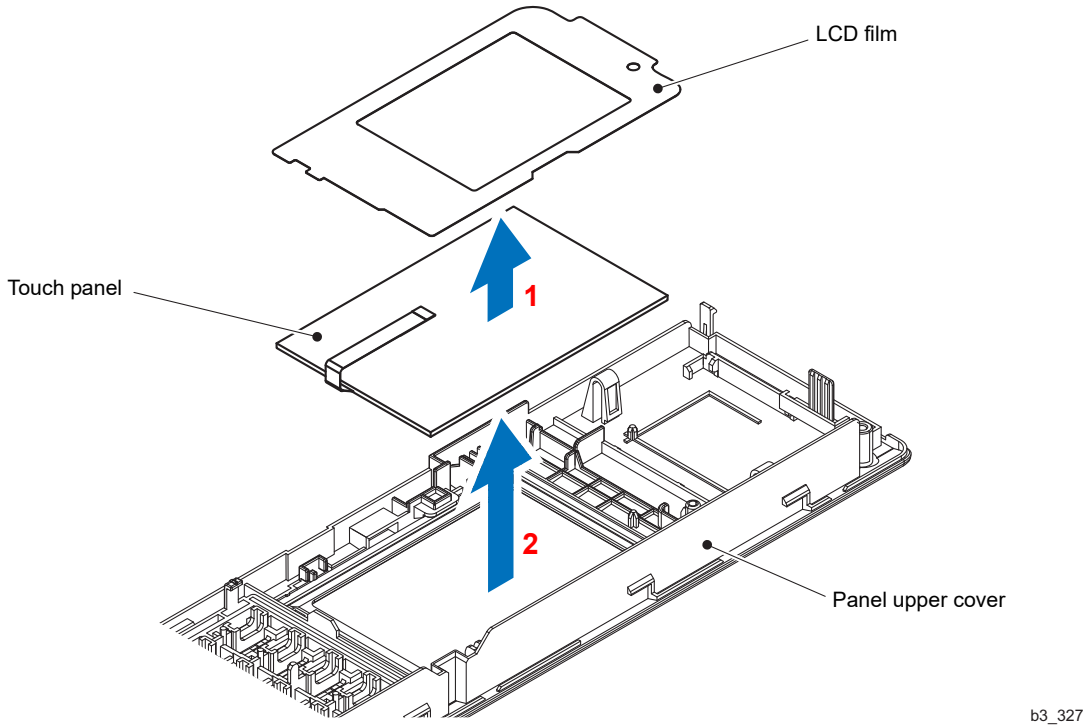


Fig. 3-99

8.32 Ink drop detect PCB ASSY

(1) Disconnect the Ink drop detect PCB flat cable from the Ink drop detect PCB ASSY.
(2) Disconnect the Ink drop detect PCB harness from the Ink drop detect PCB ASSY.
(3) Remove the screws (SCREW CUP M3x6 and TAPTITE CUP P M3x10) and remove the Ink drop detect PCB unit.

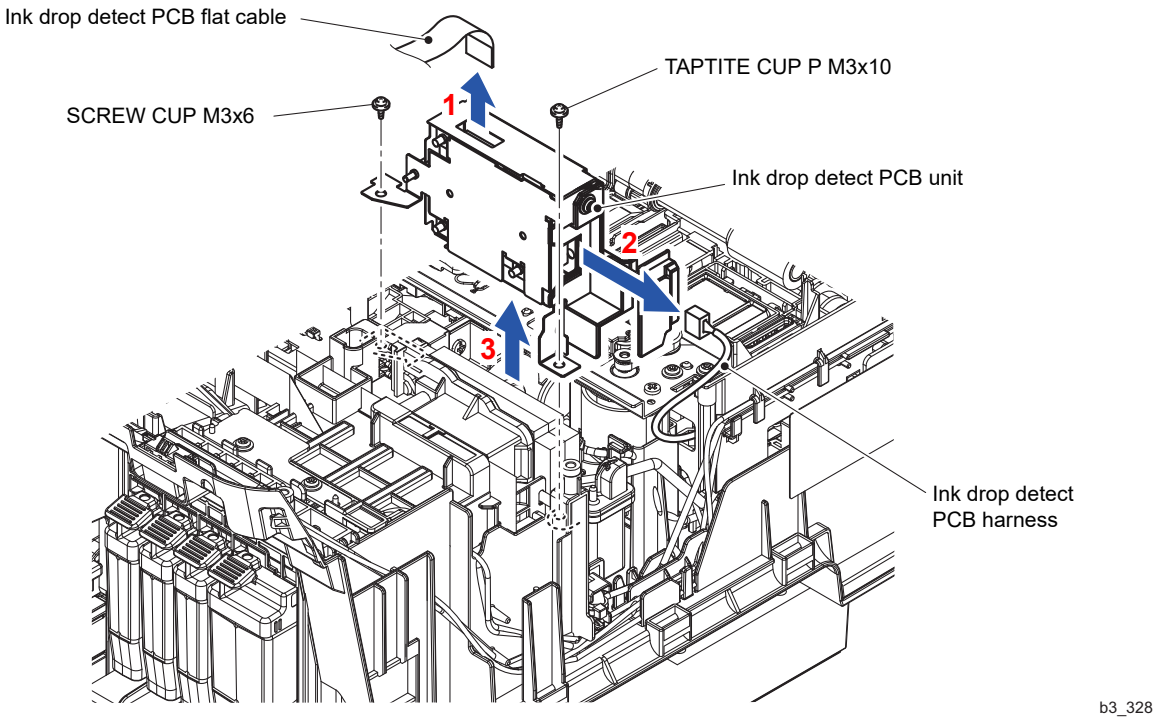


Fig. 3-100

(4) Remove the screw (SCREW CUP M3x6) and remove the Ink drop detect unit holder.
(5) Remove the screw (SCREW CUP M3x6) and remove the Ink drop detect PCB shield.
(6) Remove the three screws (SCREW CUP M3x6) and remove the Ink drop detect PCB ASSY.

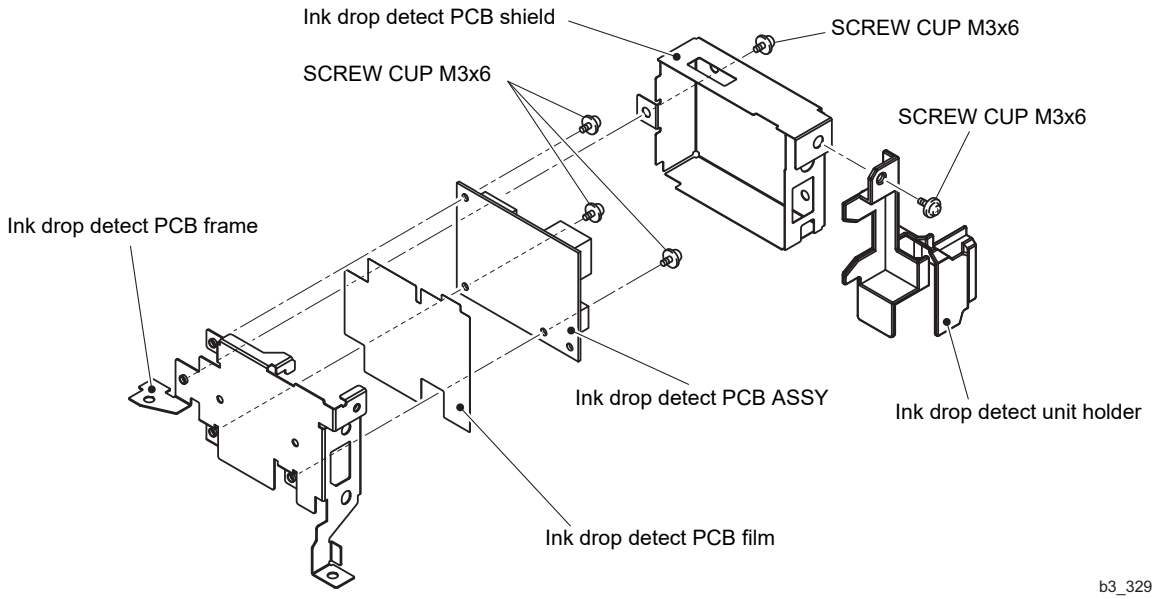


Fig. 3-101

8.33 Wireless LAN PCB

(1) Remove the two screws (SCREW CUP M3x6) and remove the Main PCB shield from the Main PCB.

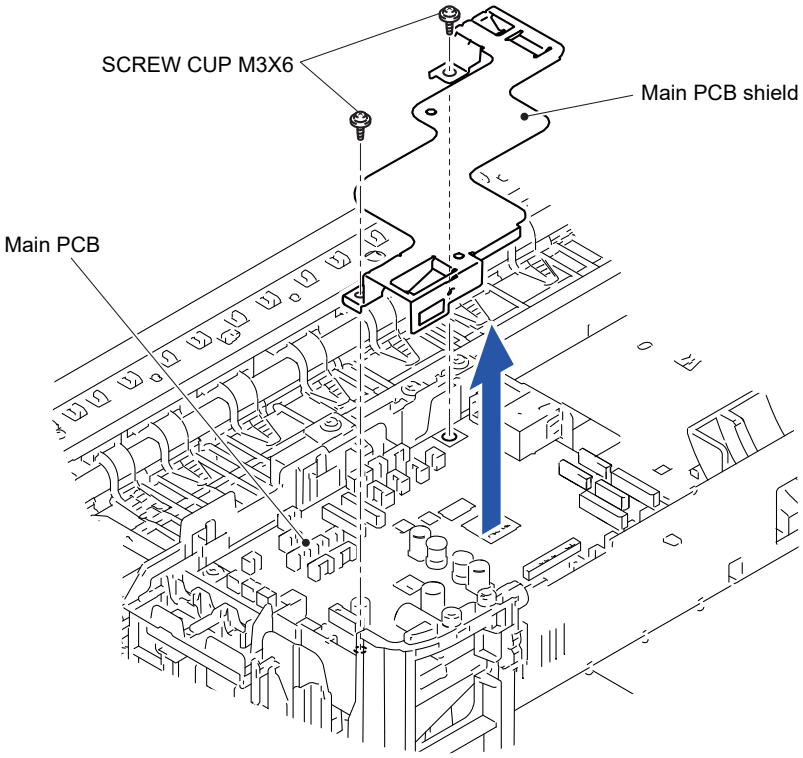


Fig. 3-102

(2) Disconnect all the Connectors of the harness attached to the Main PCB harness hold L from the Main PCB.

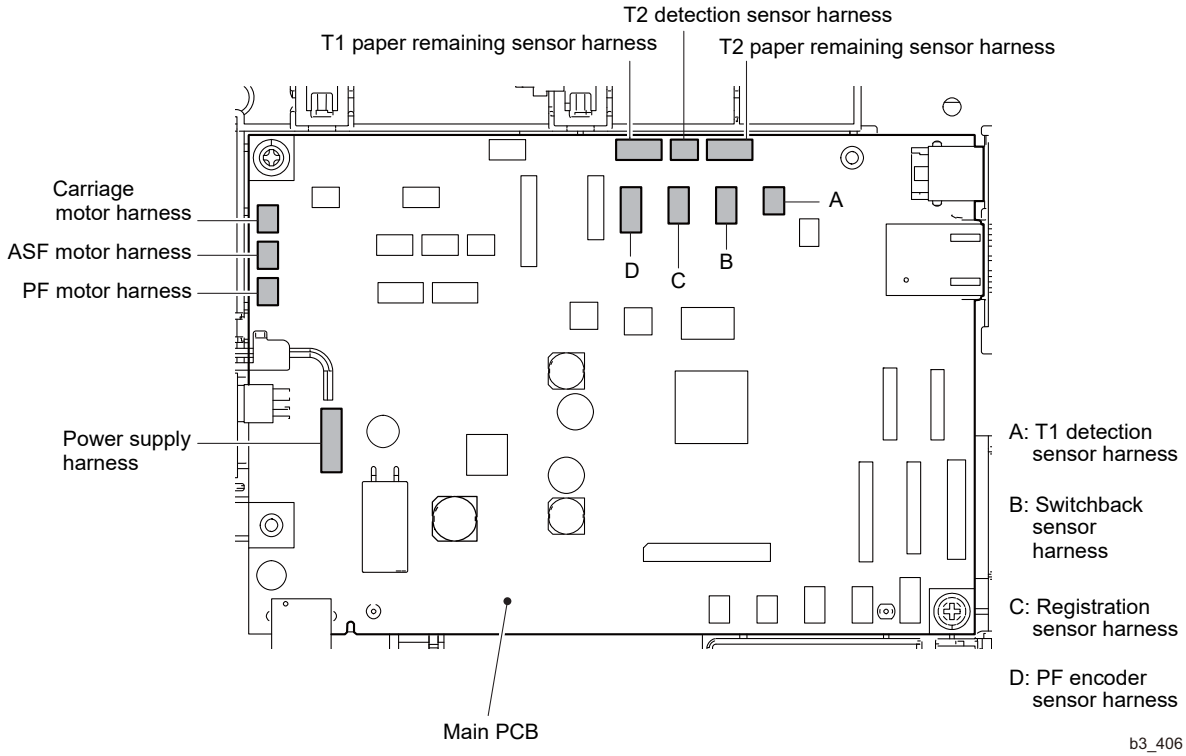


Fig. 3-103

(3) Remove the screw (SCREW BIND M3x6) and remove the Tray FG wire (T1).
(4) Remove the screw (SCREW BIND M3x6) and remove the Tray FG wire (LT).
(5) Release all the wiring attached to the Main PCB harness hold L.
(6) Release the two Hooks and remove the Main PCB harness hold L from the Lower cover.

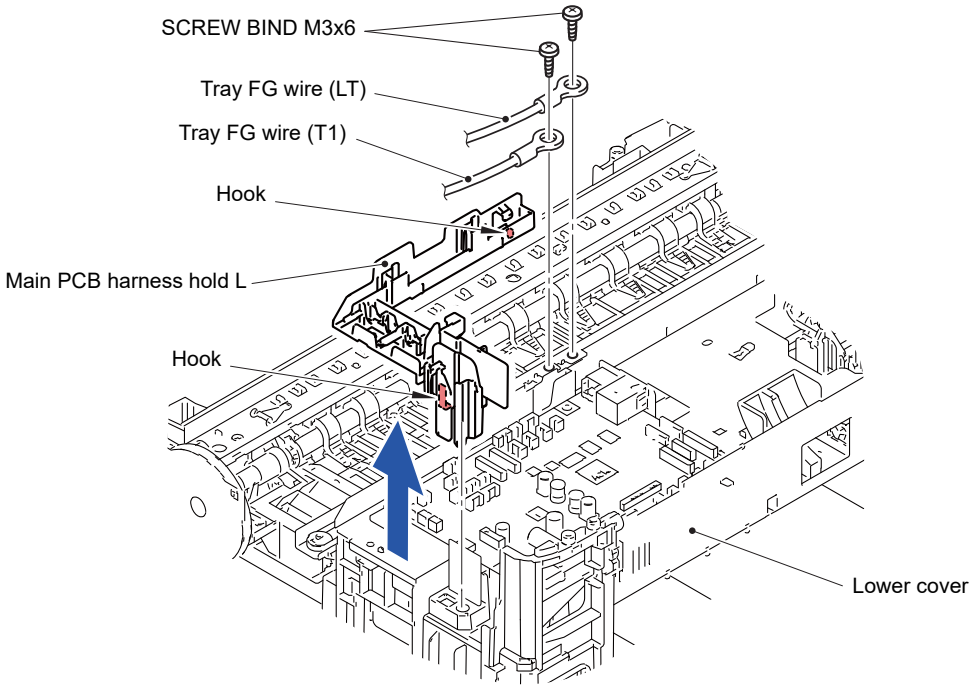


Fig. 3-104

(7) Disconnect the Wireless LAN PCB from the Connector (CN15) of the Main PCB.

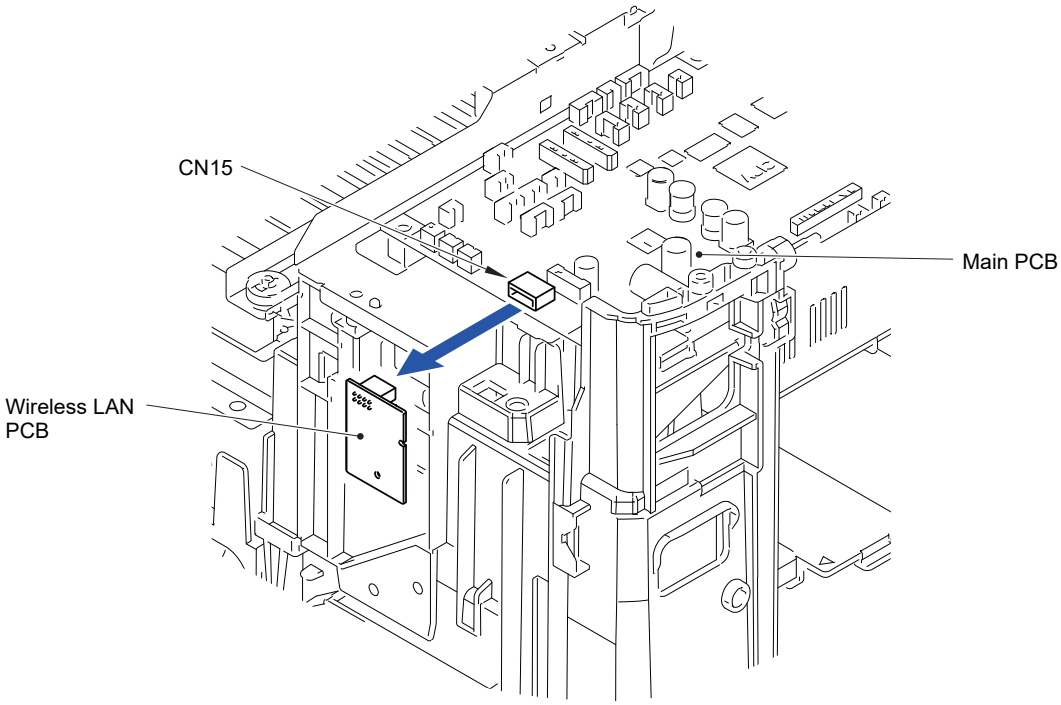


Fig. 3-105

Routing of harnesses: See Section 7. 4 in this chapter.

8.34 Main PCB

(1) Remove the two screws (SCREW CUP M3x6) and remove the Main PCB from the Main PCB frame.

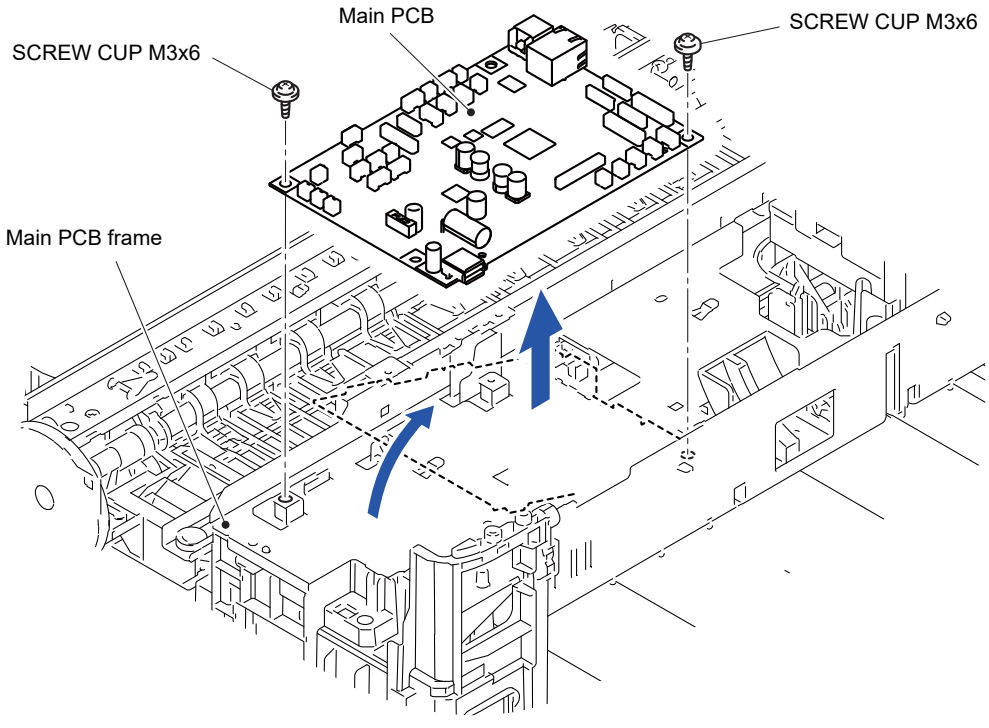


Fig. 3-106

8.35 Modem PCB

(1) Remove the screw (SCREW CUP M3x6) and remove the Upper modem frame from the Modem PCB.

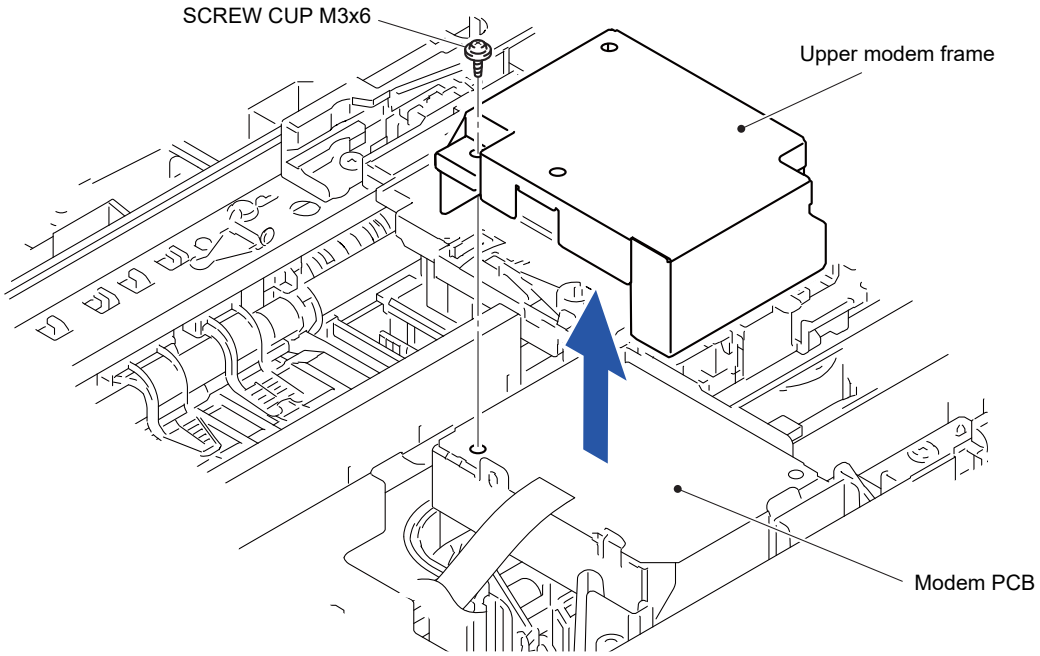


Fig. 3-107

(2) Remove the screw (SCREW CUP M3x6) and remove the Modem PCB from the Modem PCB frame.

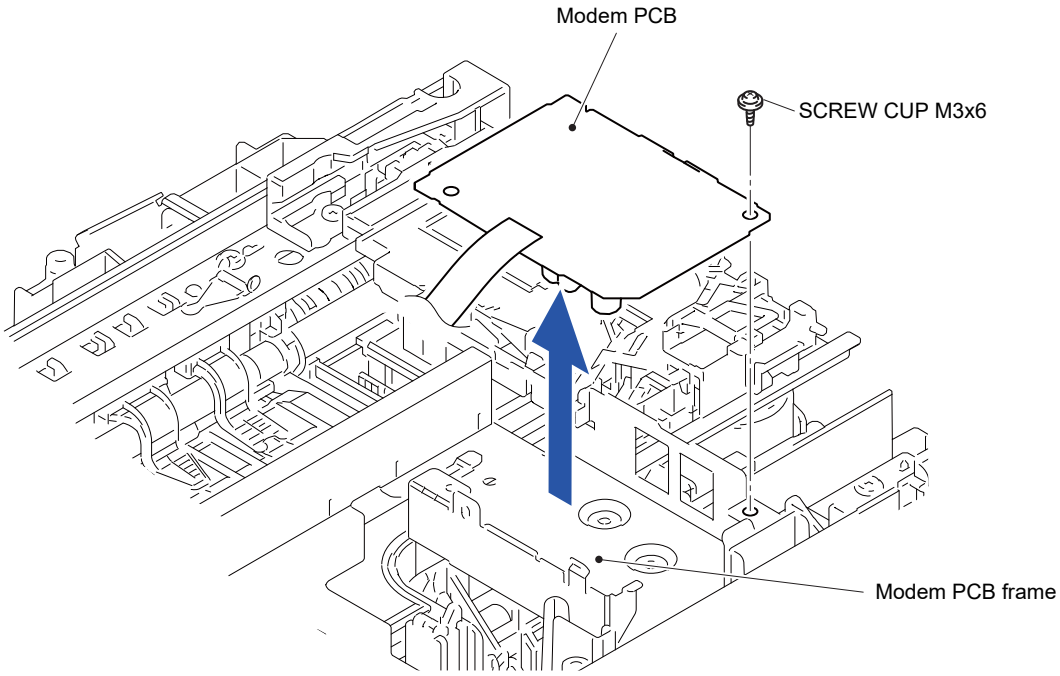


Fig. 3-108

8.36 Maintenance Unit

(1) Remove the Air vent tube and Drain tube from the Ink ABS upper box ASSY.

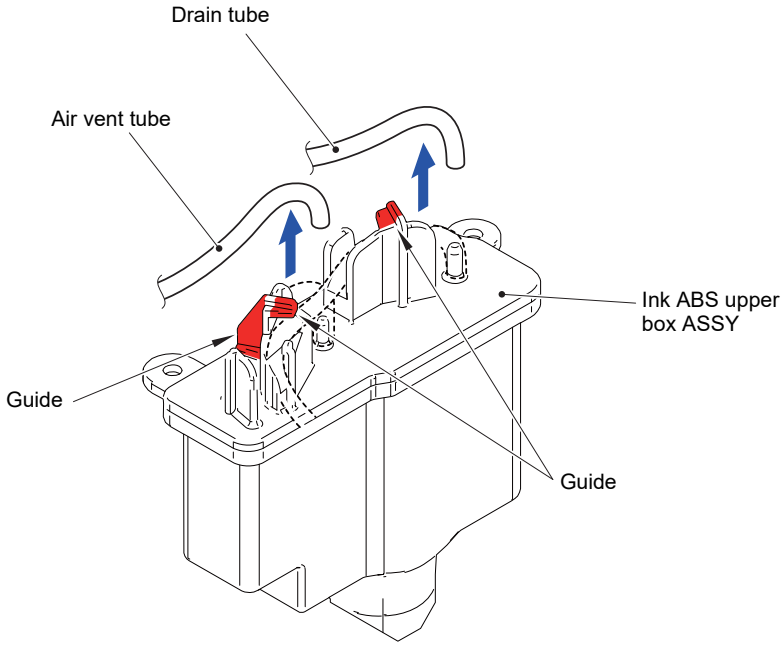


Fig. 3-109

(2) Remove the two screws (TAPTITE CUP P M3x10) and remove the Ink ABS upper box ASSY from the Lower cover.

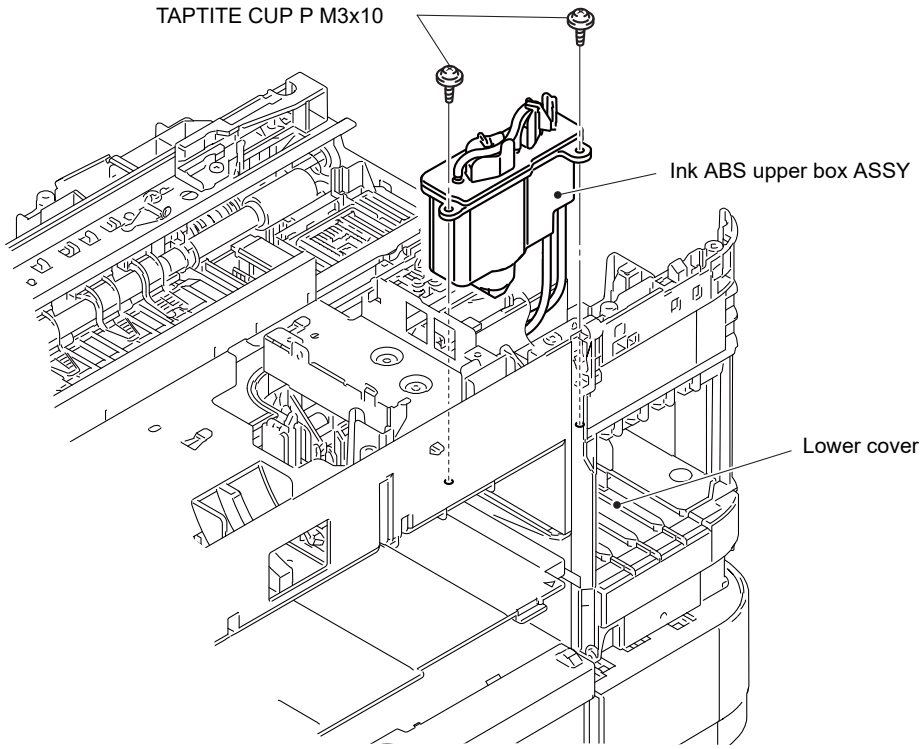


Fig. 3-110

(3) Remove the three screws (SCREW CUP M3x6) and two screws (TAPTITE CUP P M3x10) and remove the Main PCB frame from the Main body.

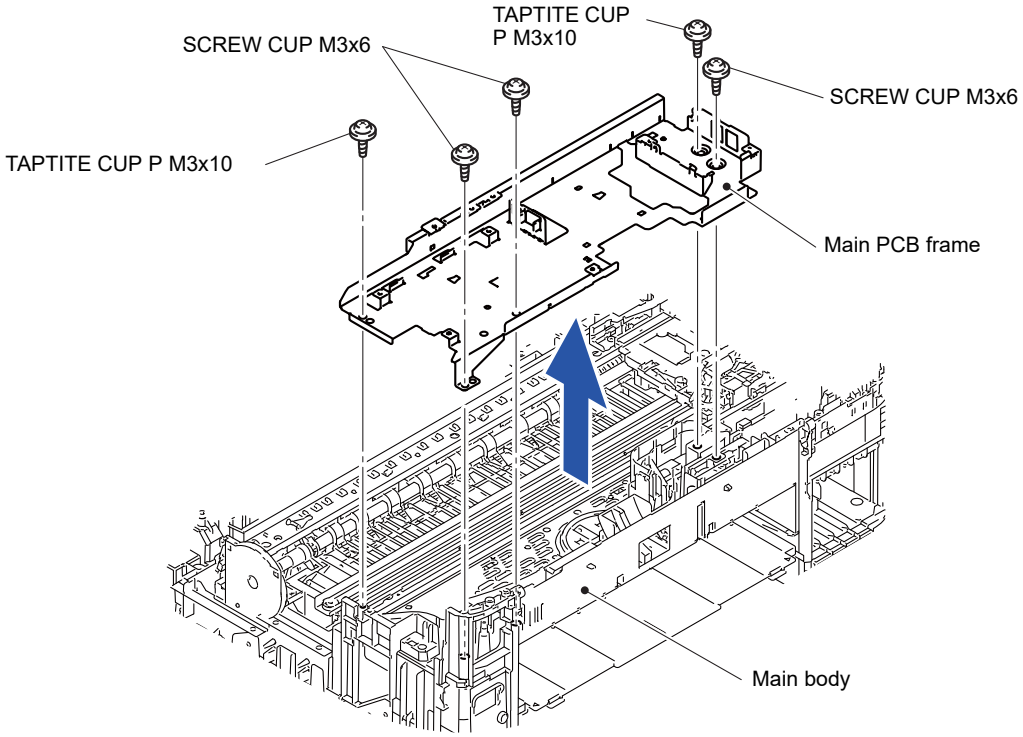


Fig. 3-111

(4) Release all the wiring attached to the Lower side cover.
(5) Remove the Ferrite core of the ASF motor harness from the Lower side cover.
(6) Remove the two screws (TAPTITE CUP P M3x10) and remove the Lower side cover from the Main body.

Note: When removing the Lower side cover, be careful not to pull it too much.

(7) Remove the Ferrite core of the Carriage motor harness from the Lower side cover.

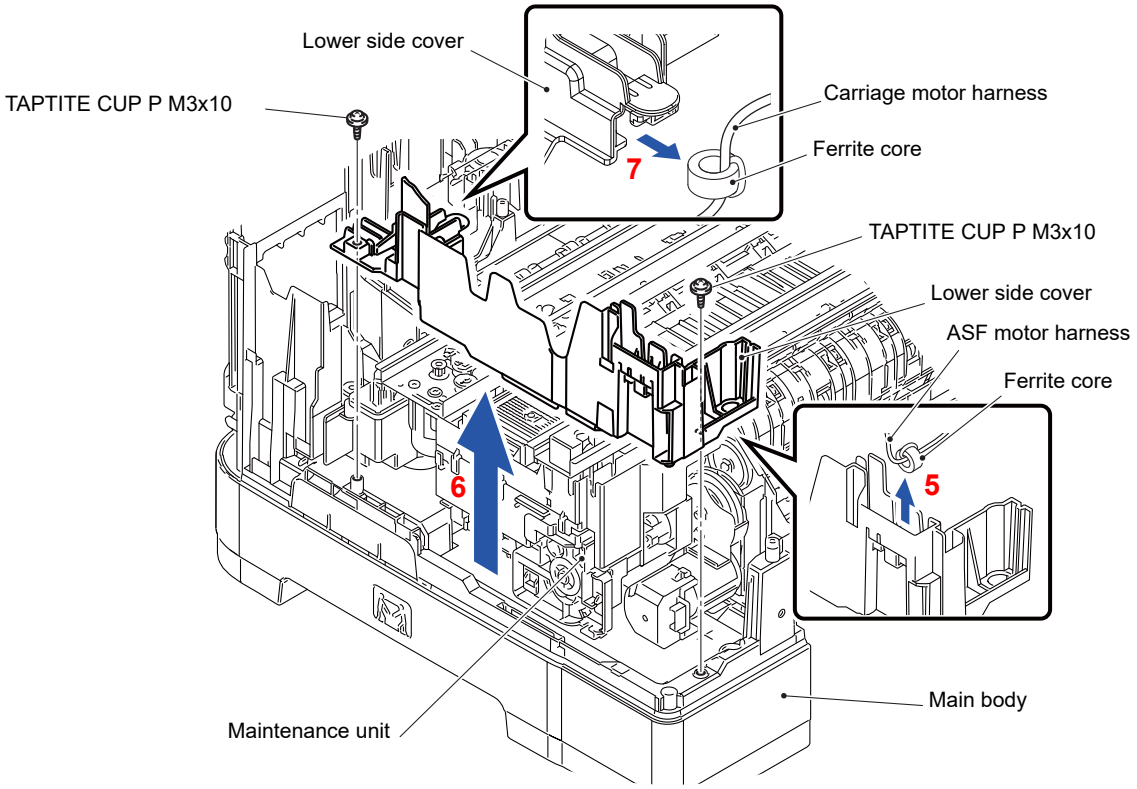


Fig. 3-112

(8) Remove the two screws (SCREW CUP M3x6) and remove the Main PCB earth frame R2 from the Switchback frame ASSY.

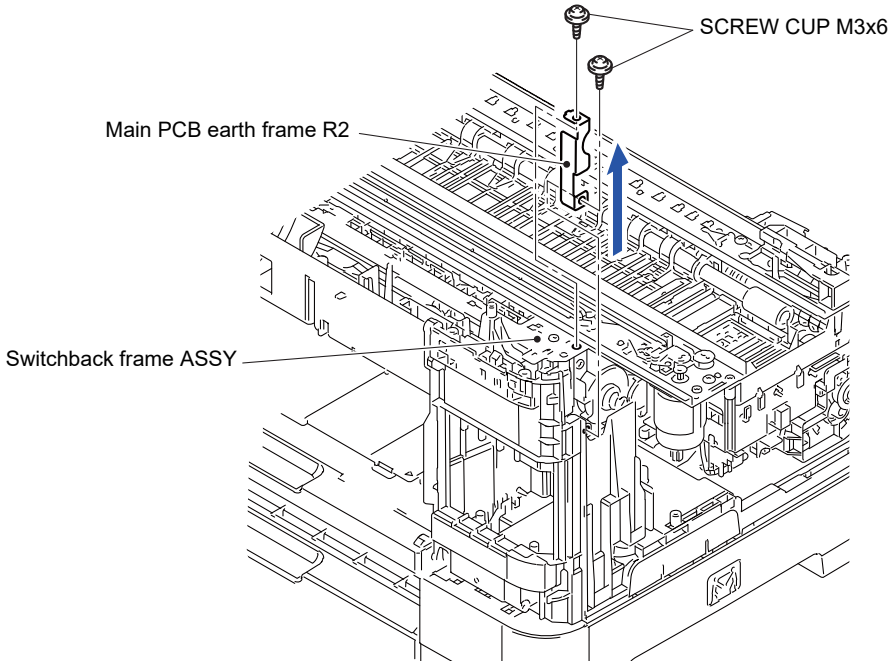


Fig. 3-113

(9) Remove the two screws (TAPTITE CUP P M3x10) from the CR frame ASSY.

Assembling Note: When assembling the two screws (TAPTITE CUP P M3x10), temporarily remove the screw in step (3) of "8.45. Carriage Motor" first. Then, assemble the two screws in the order as shown in the figure, and lastly reassemble the temporarily removed screw.

(10) Remove the two screws (TAPTITE CUP P M3x10) from the CR guide rail.

Assembling Note: When assembling the two screws (TAPTITE CUP P M3x10), assemble them in the order as shown in the figure.

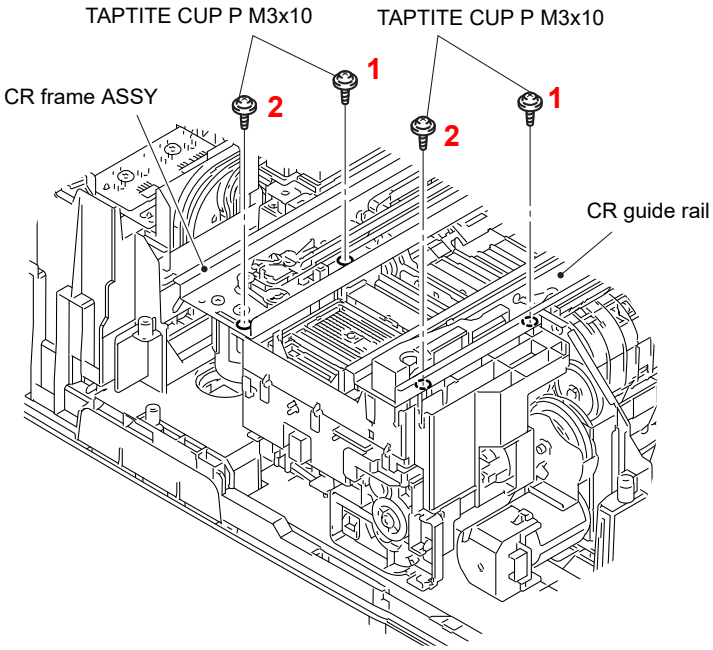


Fig. 3-114

(11) Remove the screw (TAPTITE BIND P M4x12) and the two screws (SCREW BIND M3x6) from the Maintenance unit.

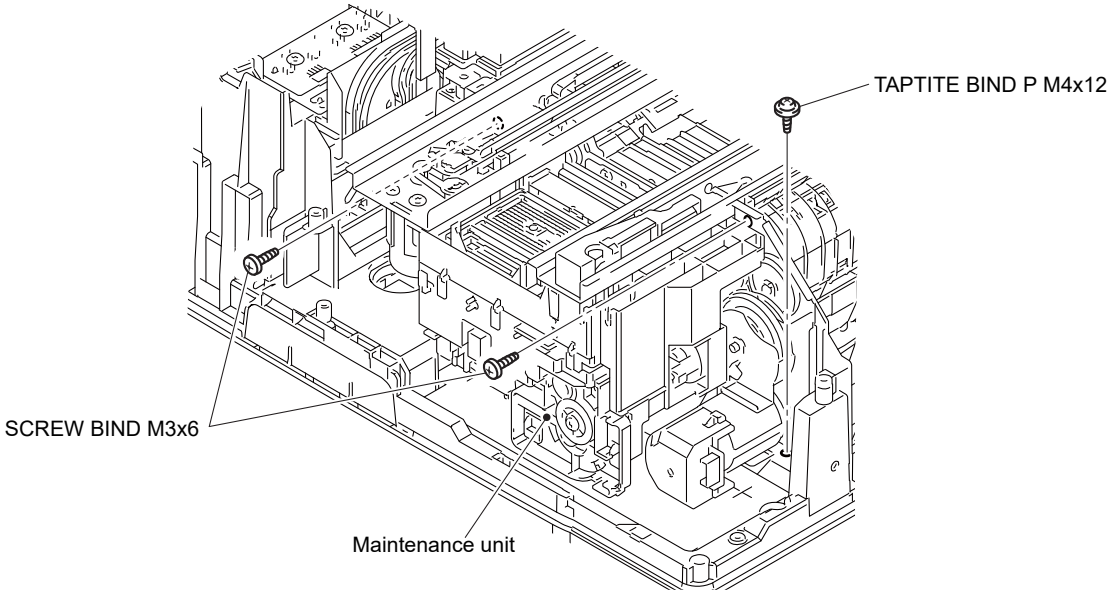


Fig. 3-115

(12)Remove the two screws (SCREW BIND M3x10 and TAPTITE CUP P M3x10) from the Paper feed arm frame ASSY.

(13)Slide the section “A” of the Shaft slide ASSY in the arrow direction to move the shaft.

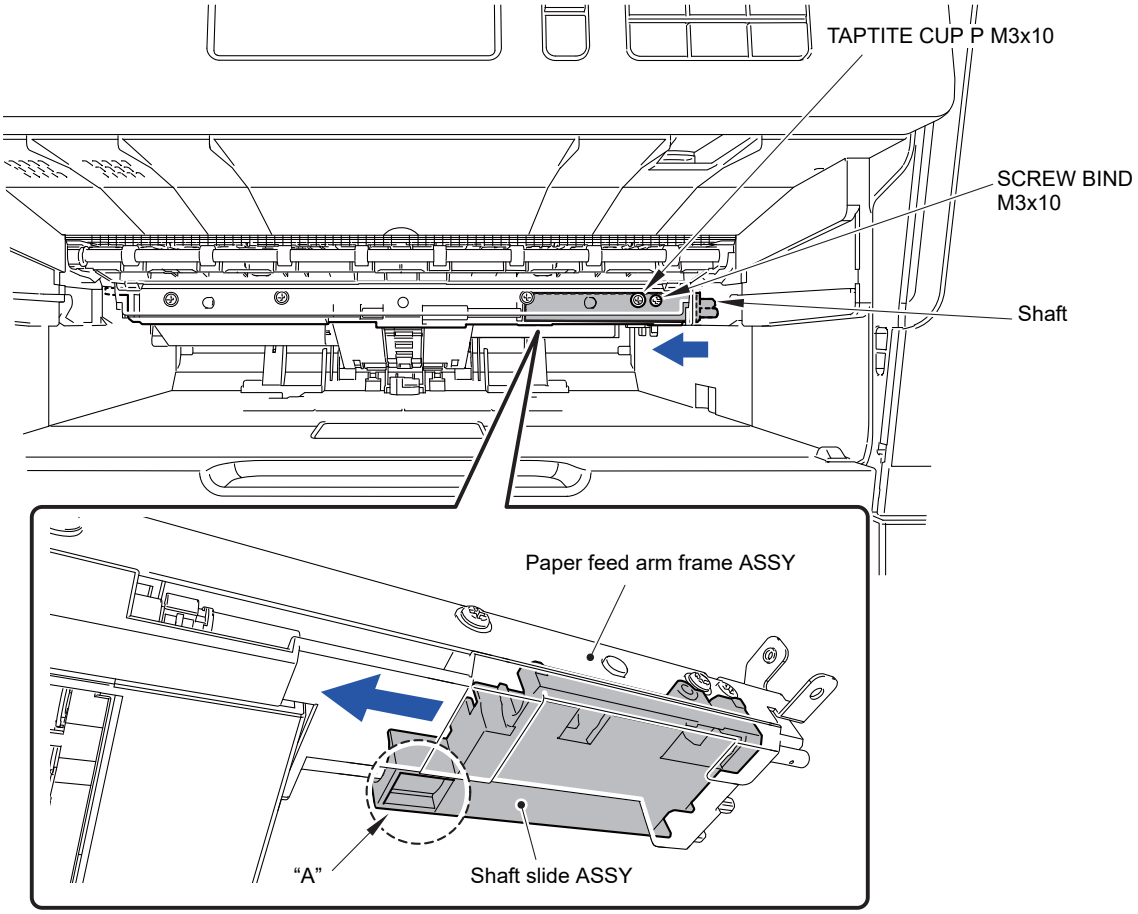


Fig. 3-116

(14)< Model with Lower tray only >

Remove the screw (TAPTITE BIND P M4x12) from the Lower cover and lift the Maintenance unit and Lower cover slightly.

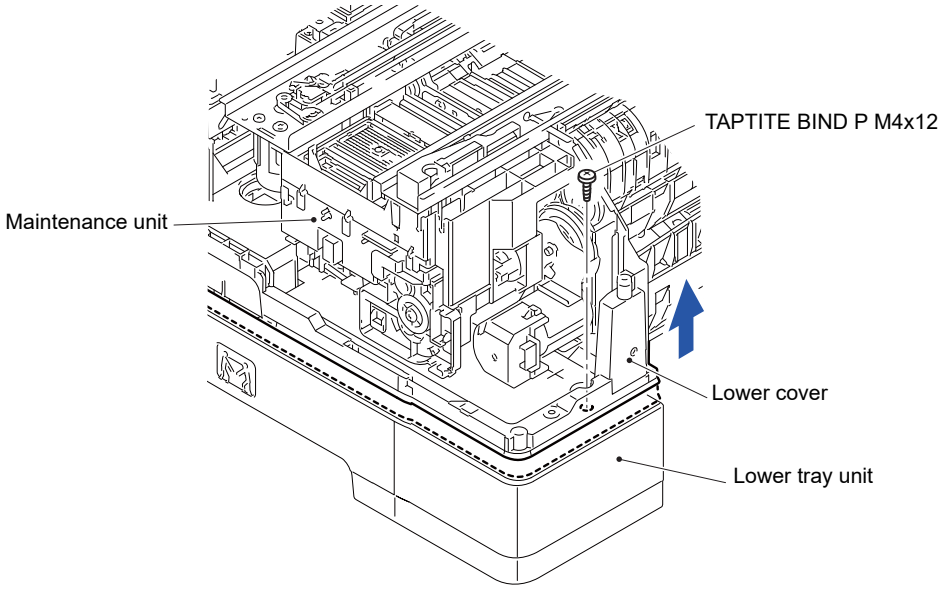


Fig. 3-117

(15)Release the Hook and push down the lever of the ASF drive frame in the arrow direction. Slide the Maintenance unit in the arrow direction and remove it from the Lower cover.

Note: Be careful not to damage the lever of the ASF drive frame of the Maintenance unit when removing it.

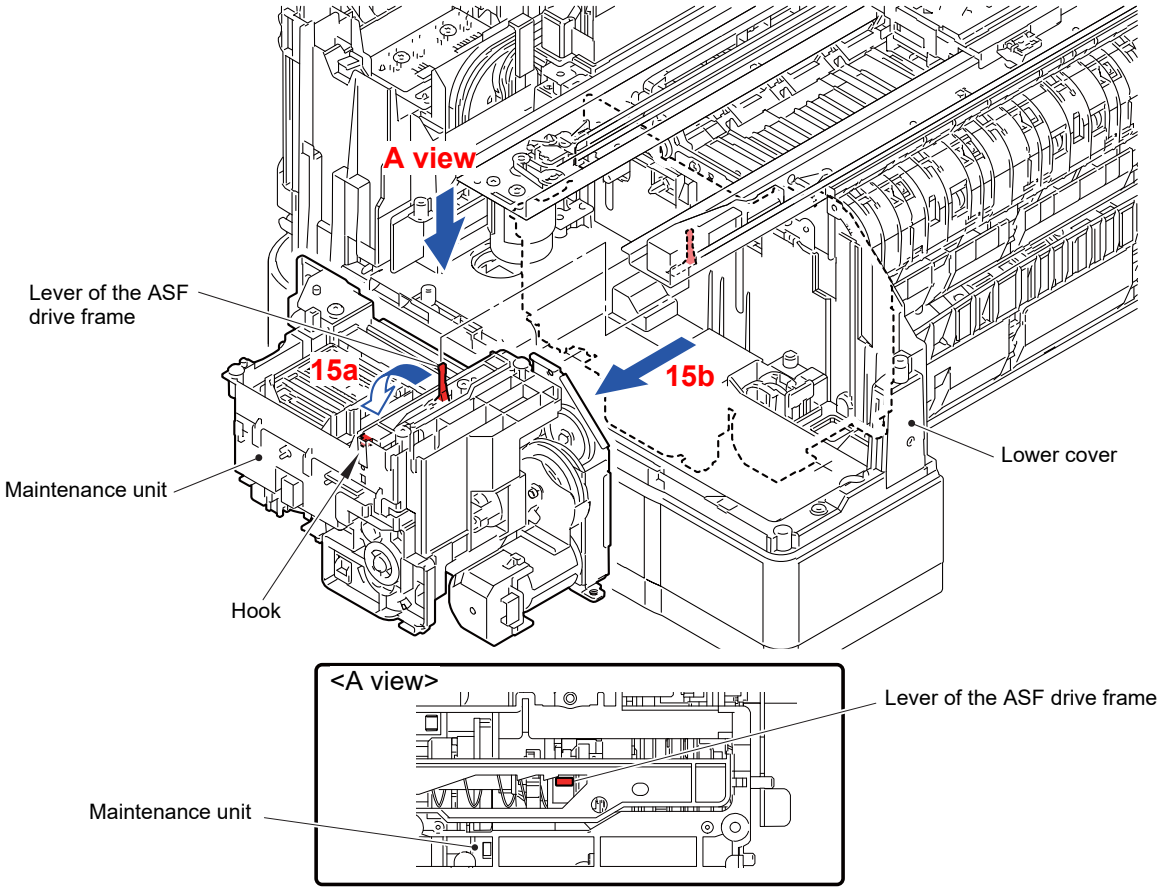


Fig. 3-118

Assembling Note:

- Check that the lever of the ASF drive frame is located at the position shown in the figure.
- Fit the Bosses of the Maintenance unit into the CR frame ASSY and CR guide rail properly.
- Turn the ASF gear and check that the shaft of the Paper feed arm frame ASSY turns.

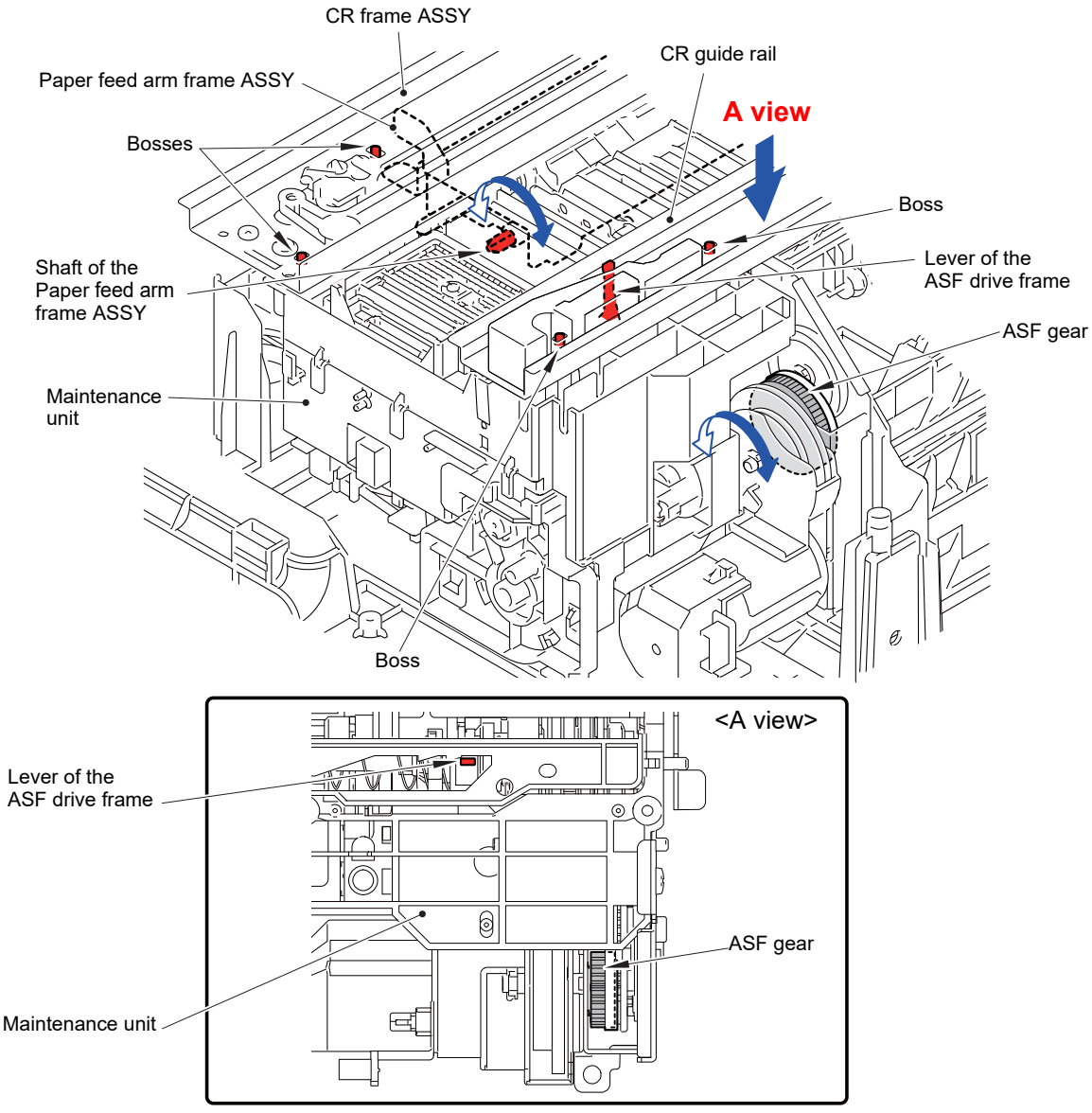


Fig. 3-119

Routing of harnesses: See Section 7. 13 and Section 7. 20 in this chapter.

8.37 Ink Absorber Felt (For Maintenance Unit)

(1) Remove the Ink absorber felt (For maintenance unit) from the Lower cover.

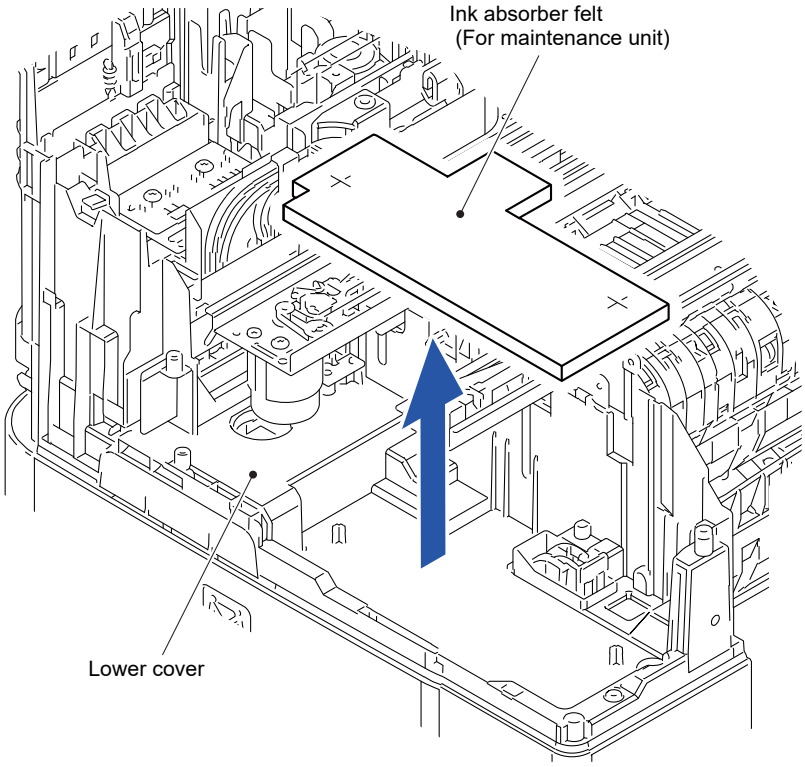


Fig. 3-120

8.38 Carriage PCB ASSY

(1) Release the Hook and remove the Flat core from the Tube support plate.
(2) Pull out the Flat cable of the Carriage PCB ASSY from the Flat core.

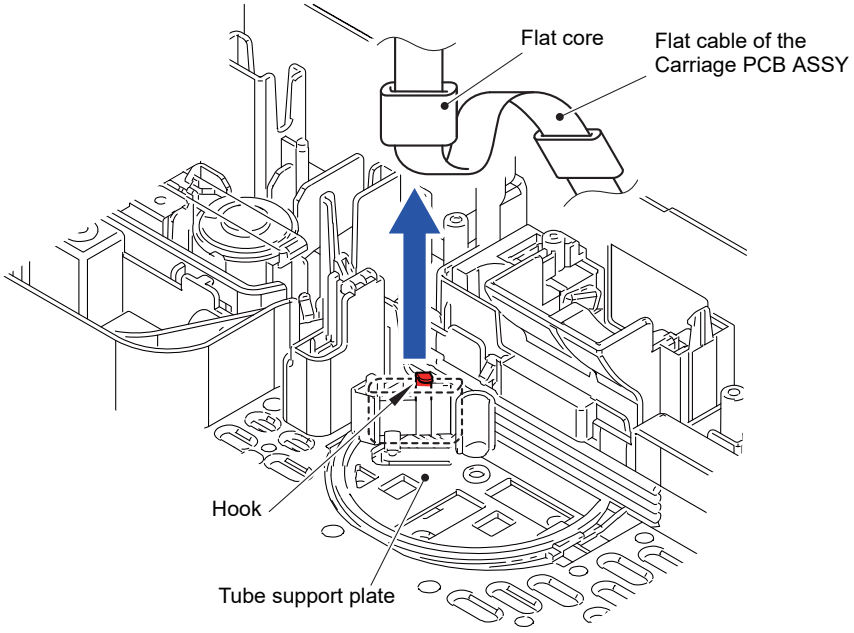


Fig. 3-121

(3) Release the wiring of the Flat cable of the Carriage PCB ASSY and pull it out from the Tube clamp.

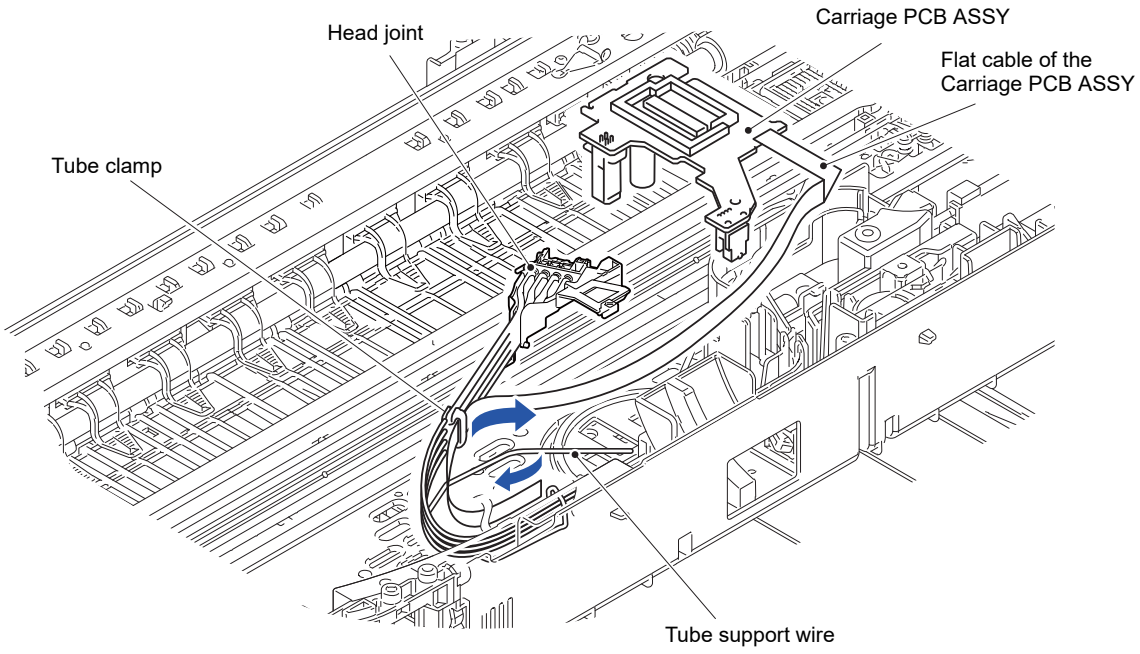


Fig. 3-122

Note: When assembling the Flat cable of the Carriage PCB ASSY, be careful about the front side and reverse side of the Flat cable.

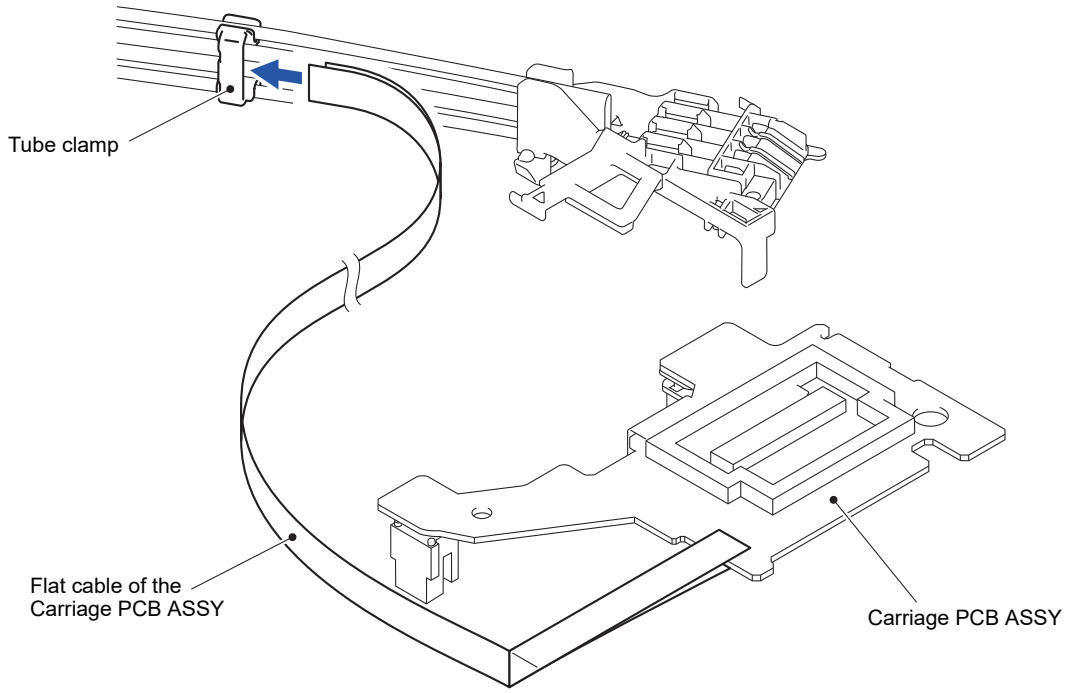


Fig. 3-123

Routing of harnesses: See Section 7. 3 and Section 7. 8 in this chapter.

8.39 Ink Refill ASSY

(1) Remove the Ink supply tube from the Support wire.
(2) Remove the Ink supply tube from the Tube support plate.
(3) Release the wiring of the Ink sensor flat cable from the Lower cover.
(4) Remove the Ink refill ASSY from the Lower cover.

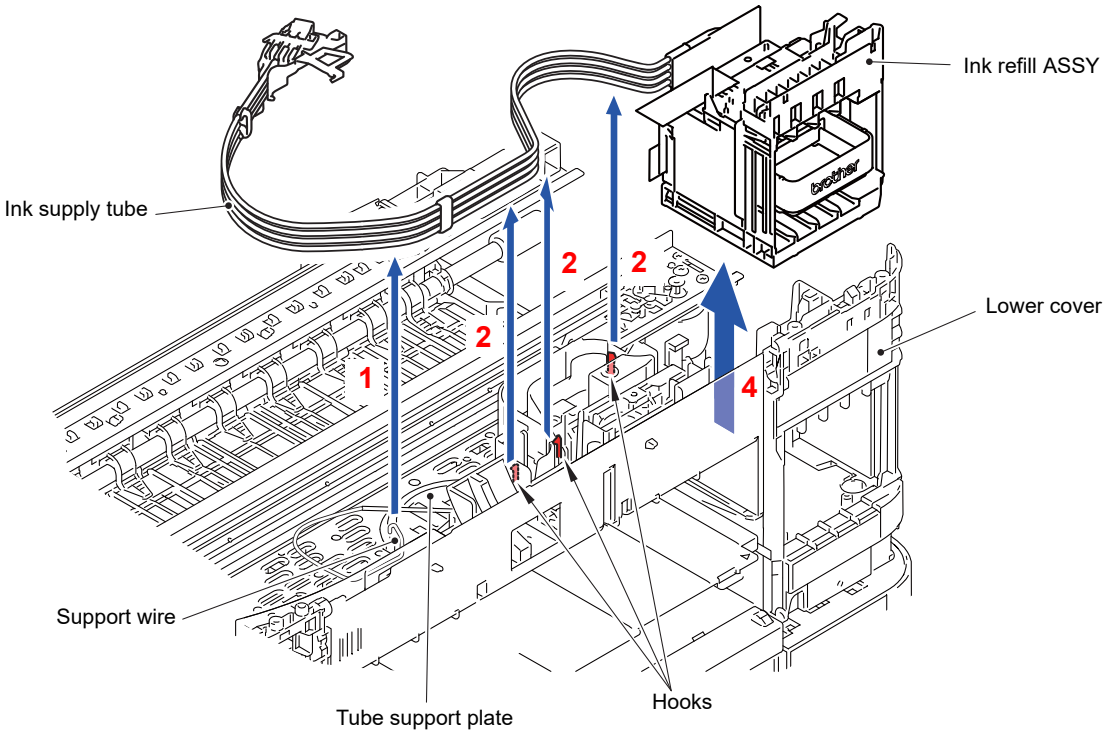


Fig. 3-124

Routing of harnesses: See Section 7. 3 in this chapter.

8.40 Ink Absorber Felt (For Ink Refill ASSY)/ < Regular Ink cartridge model only > Ink Absorber Felt (For Ink Refill ASSY)2

(1) Remove the Ink absorber felt (For ink refill ASSY) from the Lower cover.

(2) < Regular Ink cartridge model only >
Remove the Ink absorber felt (For ink refill ASSY)2 from the Lower cover.

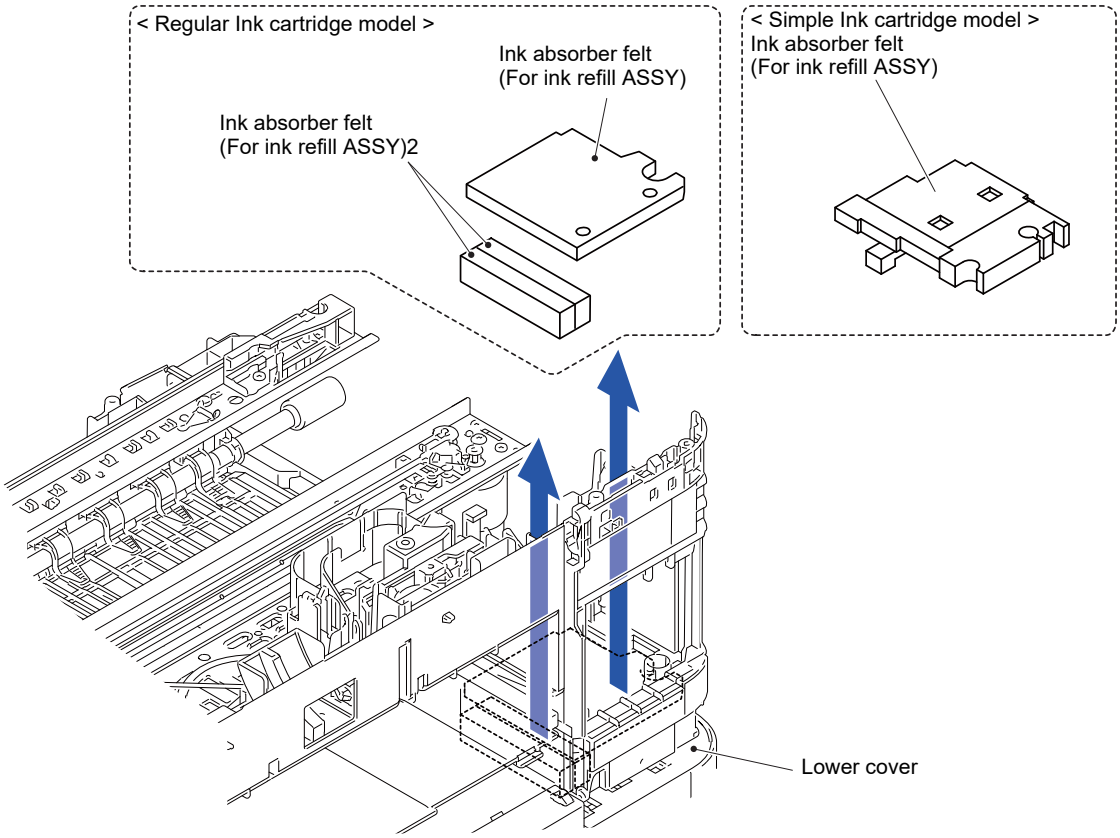


Fig. 3-125

8.41 Ink Cartridge Cover Sensor

(1) Release the wiring of the Ink cartridge cover sensor.
(2) Release the Hook and remove the Ink cartridge cover sensor from the Lower cover.

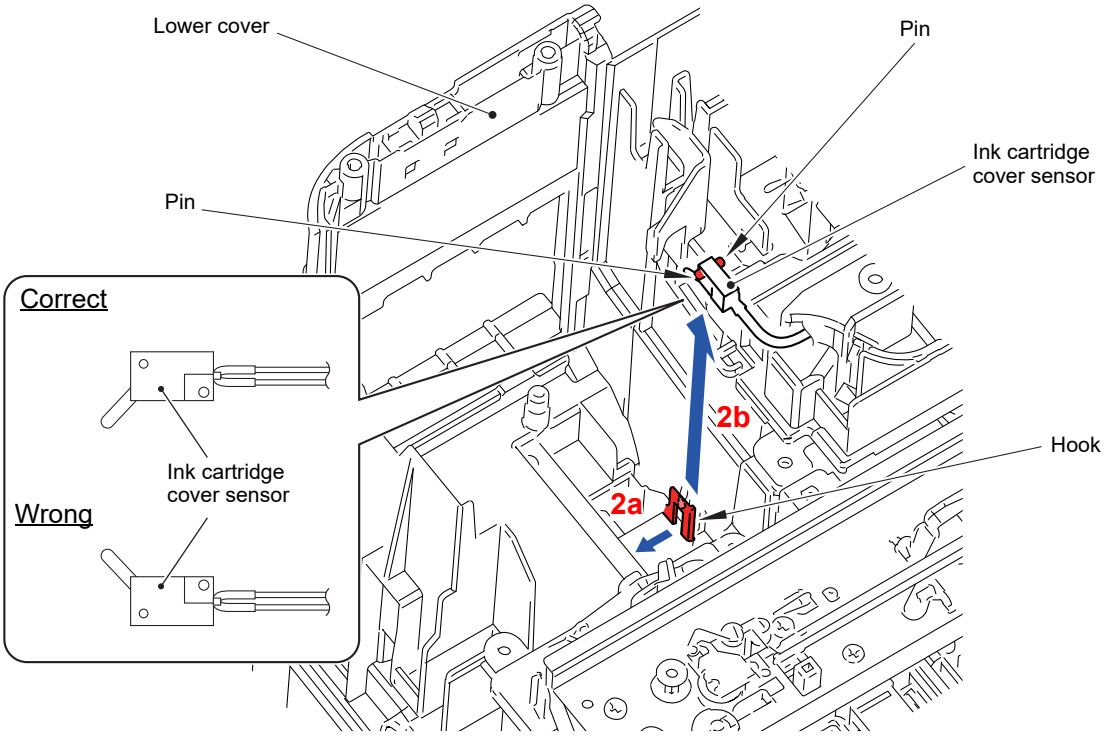


Fig. 3-126

Assembling Note: When mounting the Ink cartridge cover sensor, be careful about the top and bottom orientation.

Routing of harnesses: See Section 7. 15 in this chapter.

8.42 Ink Absorber Box

(1) Turn the main body upright as shown in the figure.

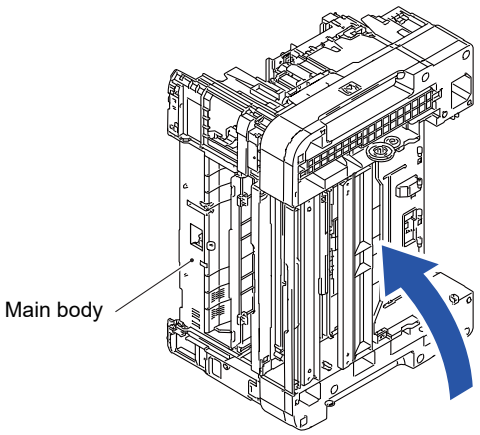


Fig. 3-127

(2) [Model with Lower tray]
Remove the two screws (TAPTITE CUP P M3x10) and remove the Ink absorber box from the Main body.

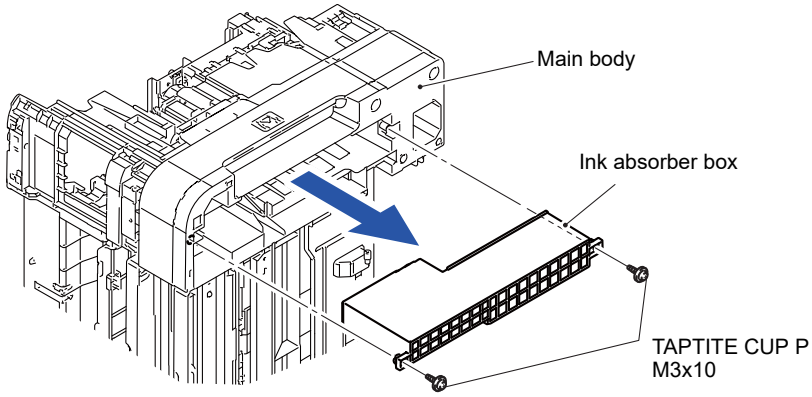


Fig. 3-128

[Model without Lower tray]
Remove the three screws (TAPTITE CUP P M3x10) and remove the Ink absorber box from the Main body.

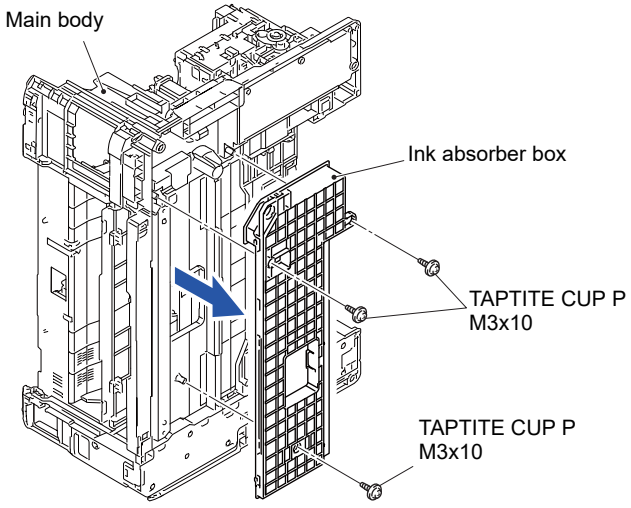


Fig. 3-129

8.43 Switchback Sensor PCB

(1) Remove the two screws (TAPTITE CUP P M3x10) and remove the Tube support plate from the Main body.

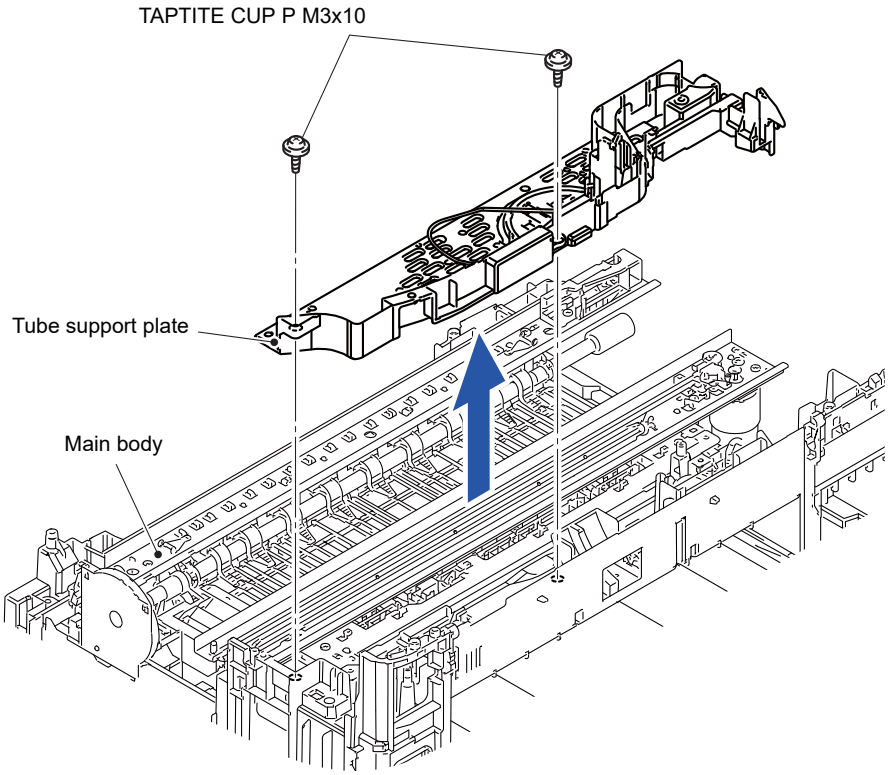


Fig. 3-130

(2) Release the wiring of the Switchback sensor harness.

(3) Remove the screw (TAPTITE CUP P M3x10) and remove the Main PCB earth frame L from the Switchback frame ASSY.

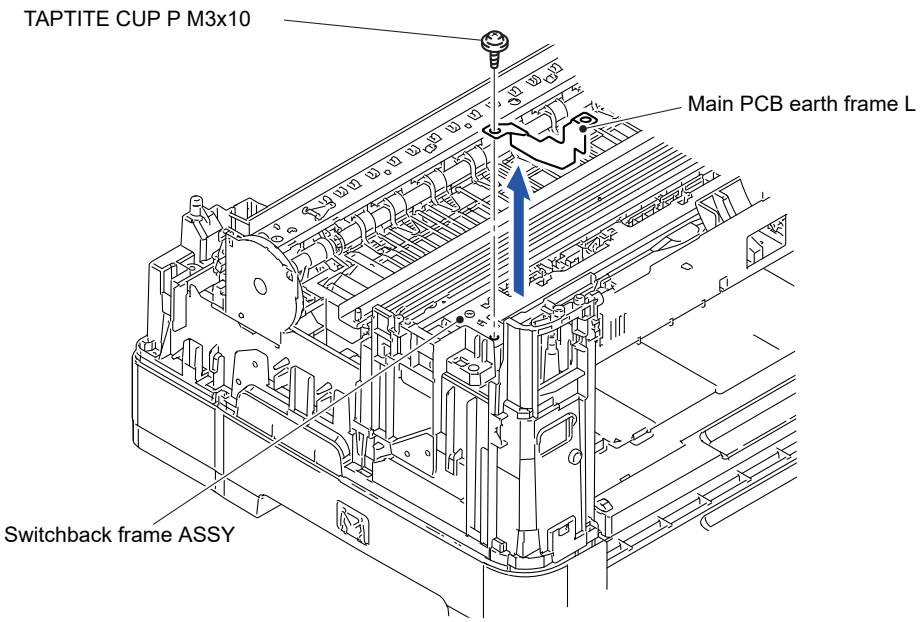


Fig. 3-131

(4) Remove the screw (TAPTITE CUP P M3x10) and remove the Main PCB earth frame from the Switchback frame ASSY.

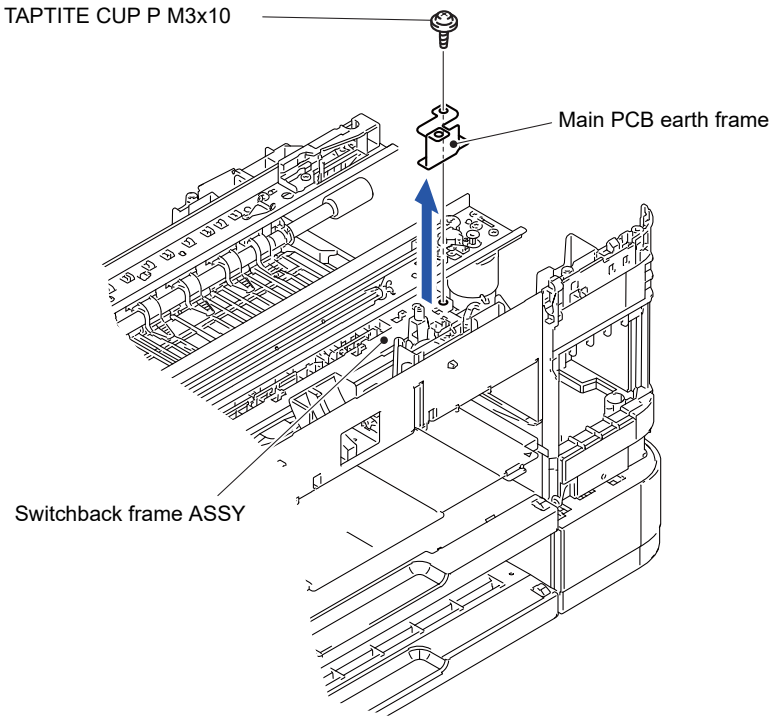


Fig. 3-132

(5) Remove the two screws (SCREW BIND M3x6) and remove the Switchback frame ASSY from the Main body.

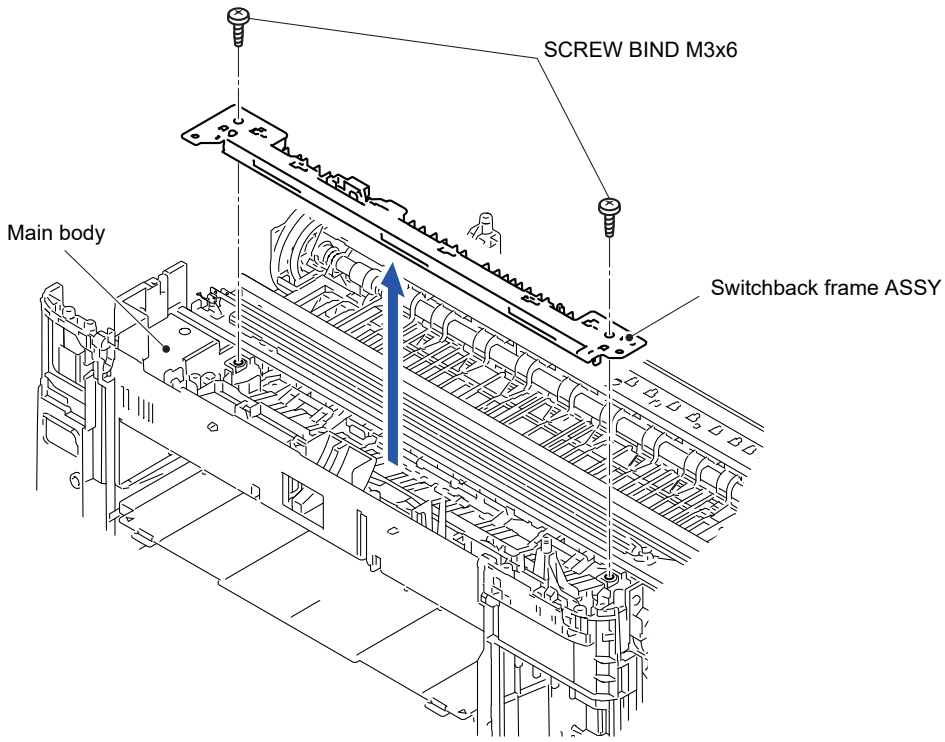


Fig. 3-133

Note: When placing the Switchback frame ASSY, be sure to place it as shown in the figure below.

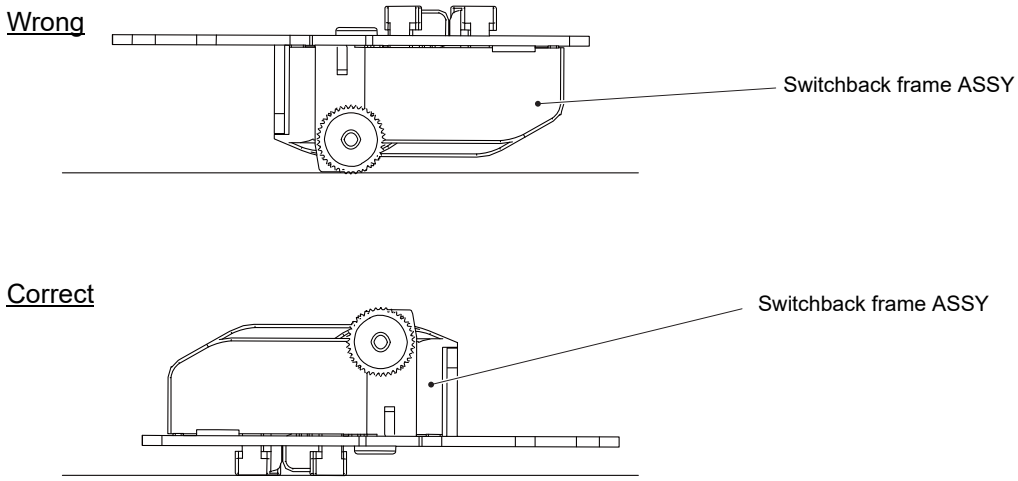


Fig. 3-134

Assembling Note:

- When assembling the Switchback frame ASSY, tighten the two screws as the Switchback frame ASSY is pushed into the rear side.
- Verify that the Switchback frame ASSY is not rattled.

(6) While the Boss of the SB star wheel holder is released, slide the SB frame in the direction of the arrow to remove it.

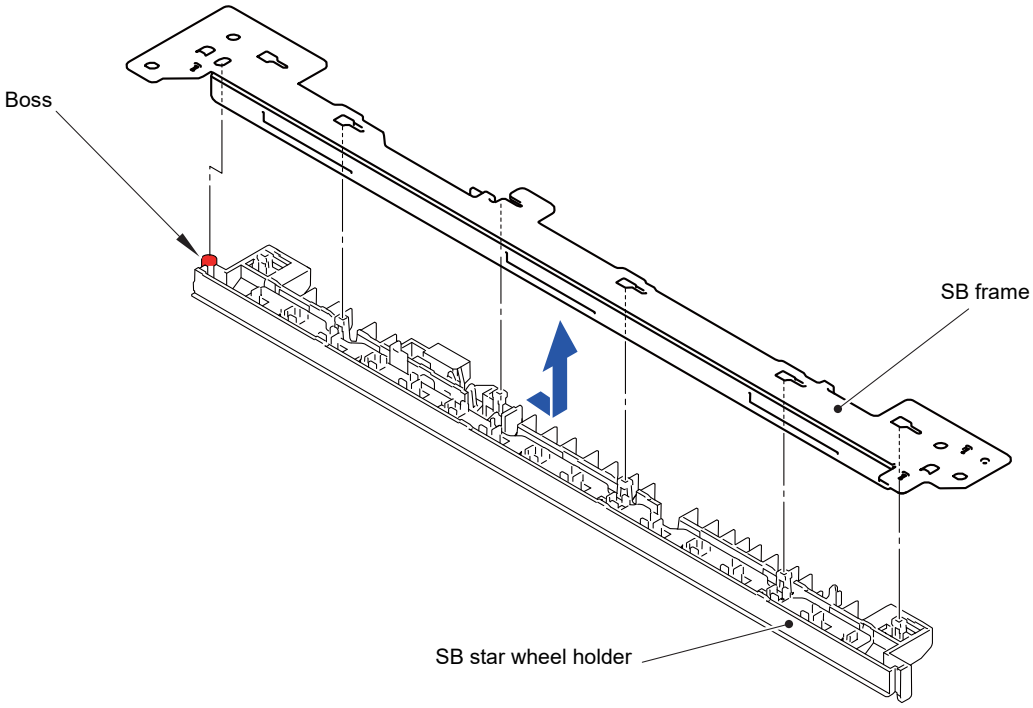


Fig. 3-135

(7) Release the two Hooks and remove the Switchback sensor PCB from the Main body.

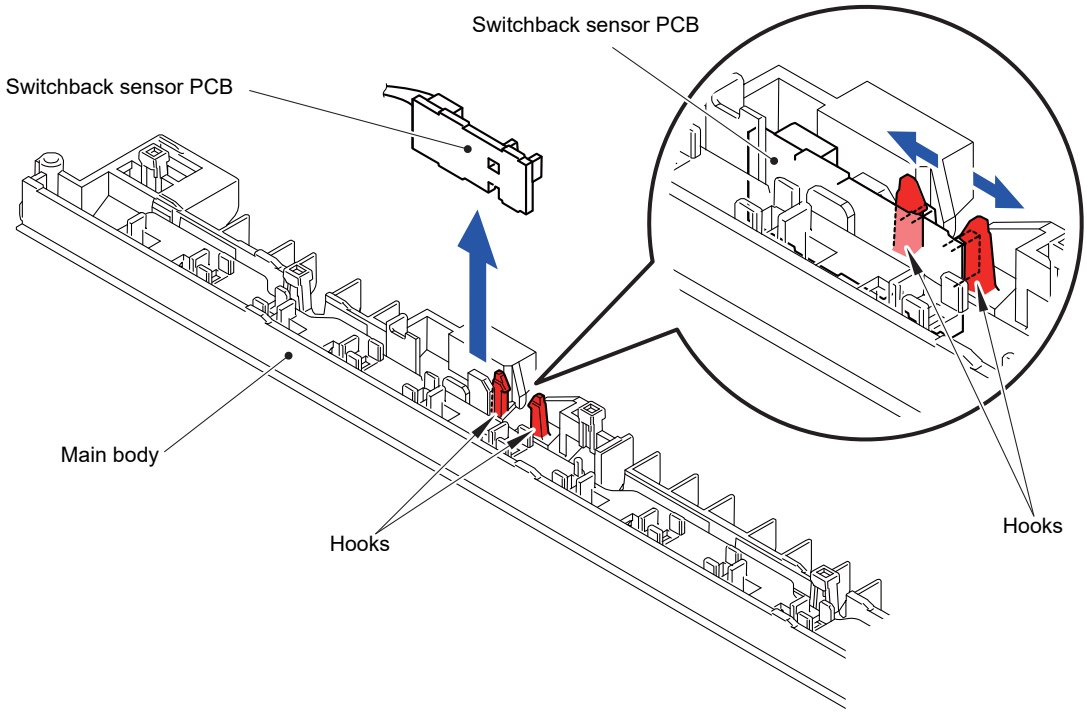


Fig. 3-136

Routing of harnesses: See Section 7. 11 in this chapter.

8.44 CR Encoder Strip

(1) Remove the CR encoder strip from the Encoder spring.
(2) Remove the CR encoder strip from the CR frame ASSY.

Note: Take care not to scratch the CR encoder strip. If it is stained or scratched, replace it with a new one.

Assembling Note: When mounting the CR encoder strip, be sure to mount it in a way that the ▲-marked point comes to the right side (carriage motor side) and the ▲ mark points up.

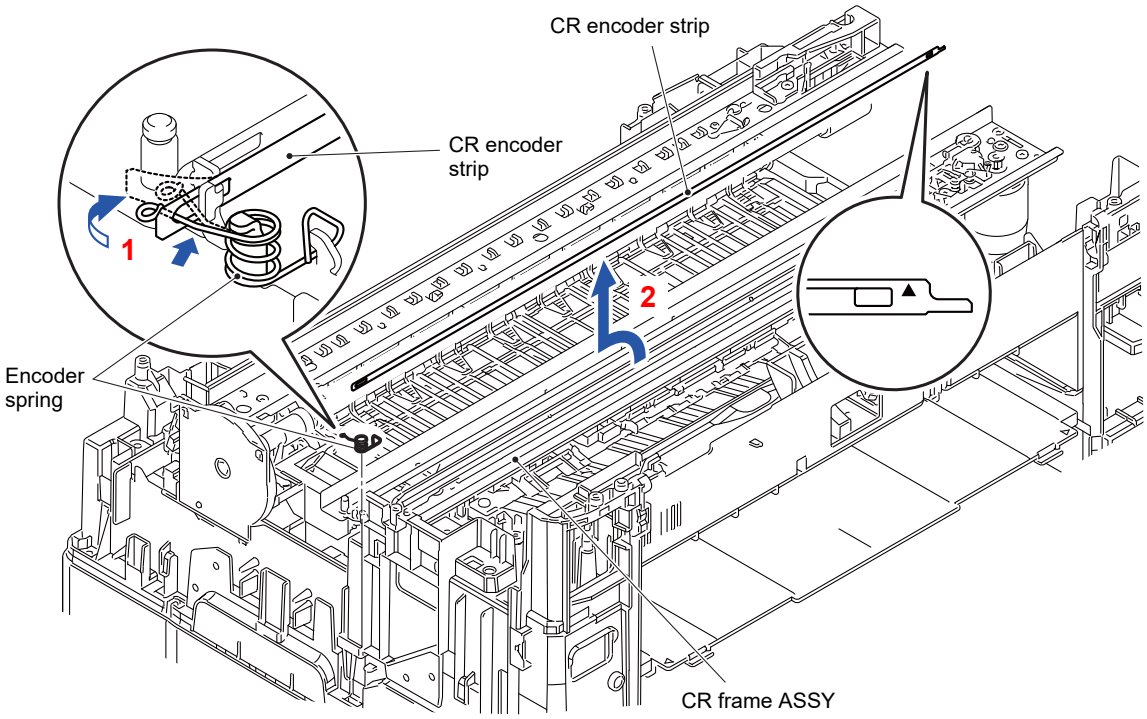


Fig. 3-137

8.45 Carriage Motor

(1) Release the Boss and five Hooks, and remove the Tube protector from the CR frame ASSY.

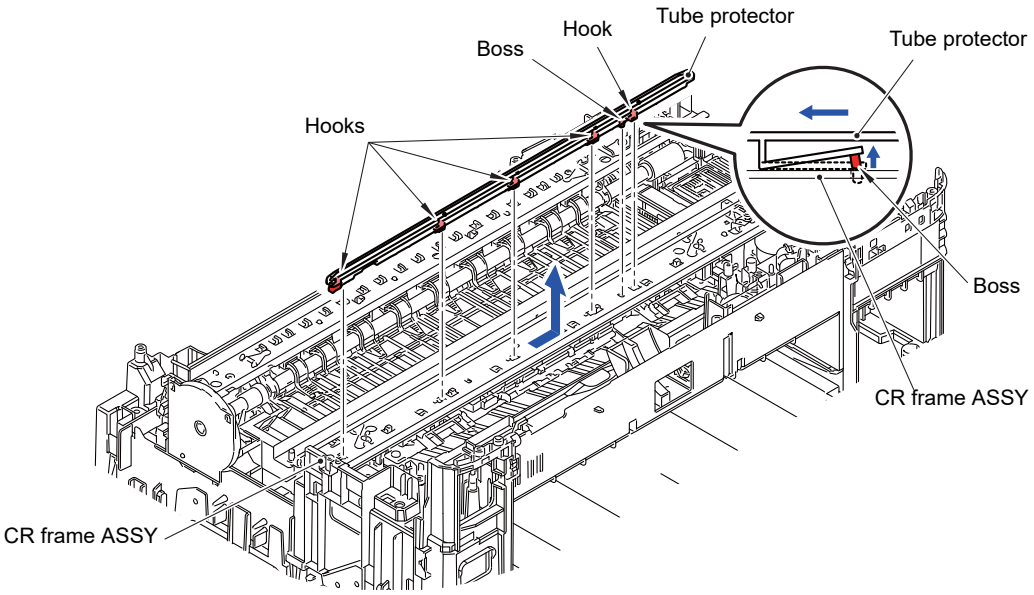


Fig. 3-138

(2) Release the wiring of the Carriage motor harness.
(3) Remove the screw (TAPTITE CUP P M3x10) from the CR frame ASSY.
(4) Remove the two CR frame springs from the CR frame ASSY.
(5) Remove the CR frame ASSY from the Main body.

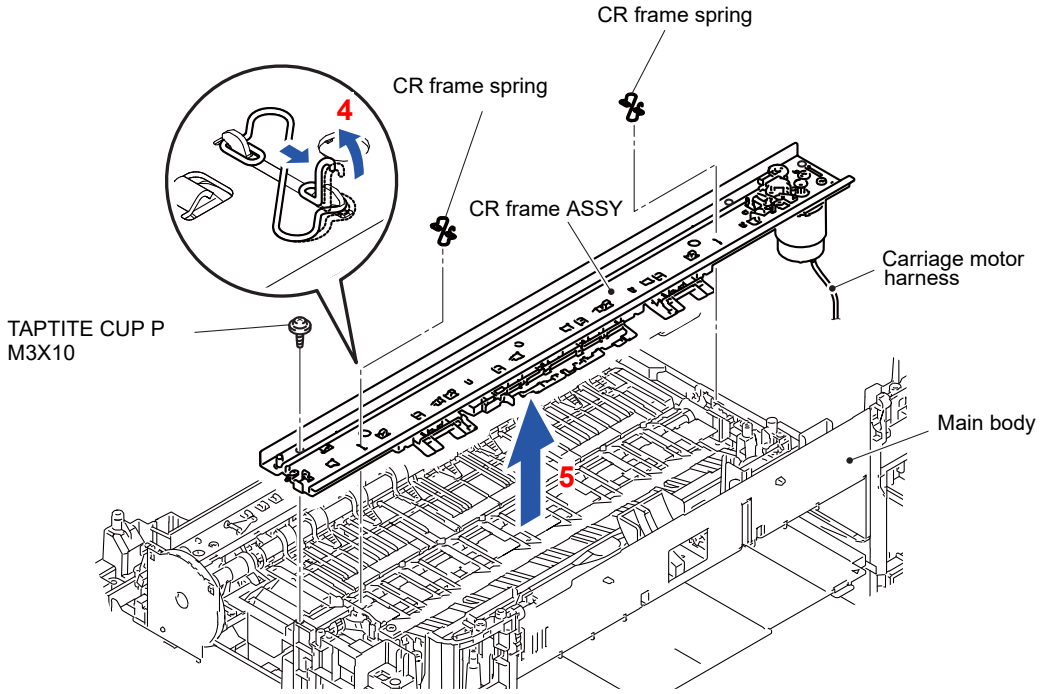


Fig. 3-139

(6) Remove the Guard film from the Guard film spring.

(7) Remove the Guard film from the CR frame ASSY.

Note: When performing this procedure, place the unit in a way that the section “A” of the Carriage motor harness will not be damaged.

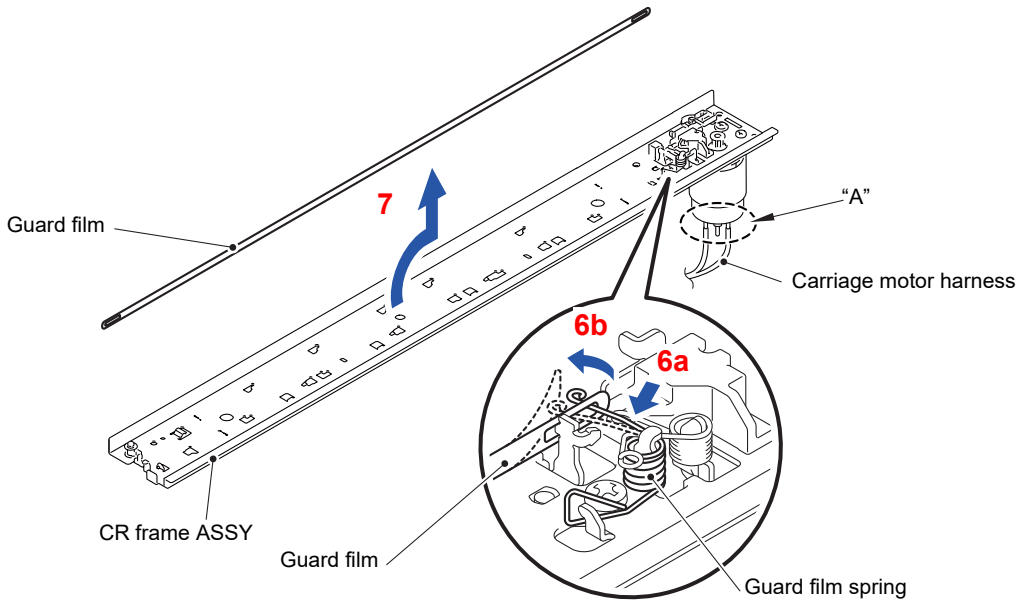


Fig. 3-140

(8) Remove the screw (TAPTITE CUP S M3x6) from the CR frame ASSY.

Assembling Note: Tighten the screw (TAPTITE CUP S M3x6) temporarily and then perform the following procedures before mounting the Upper cover.

1) Mount the Head/carriage unit and CR timing belt to the CR frame ASSY.
2) Tighten the screw (TAPTITE CUP S M3x6) firmly.

(9) Remove the Belt tension spring from the CR frame ASSY.

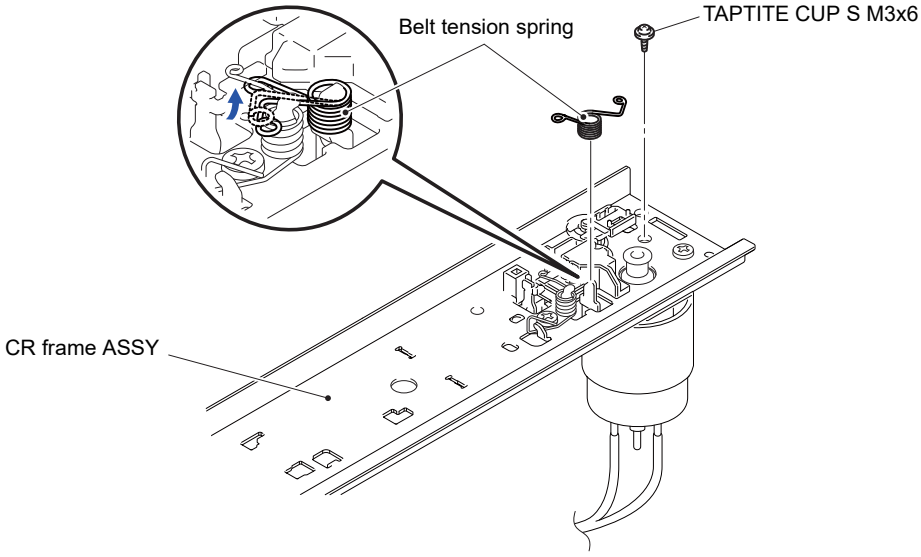


Fig. 3-141

(10) Remove the two screws (SCREW BIND M3x6) and remove the Motor plate from the CR frame ASSY.

(11) Remove the two screws (SCREW BIND M3x6) and remove the Carriage motor from the Motor plate.

Assembling Note: Assemble the carriage motor in a way that the print section comes to the position shown in the figure.

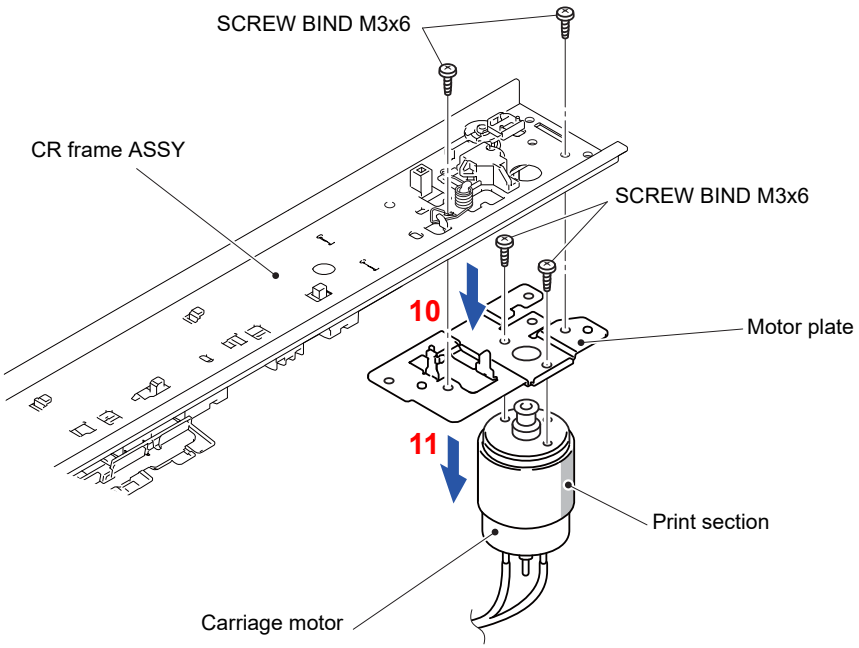


Fig. 3-142

Routing of harnesses: See Section 7. 13 and Section 7. 20 in this chapter.

8.46 Flushing Base

(1) Remove the Flushing base from the PF motor frame.

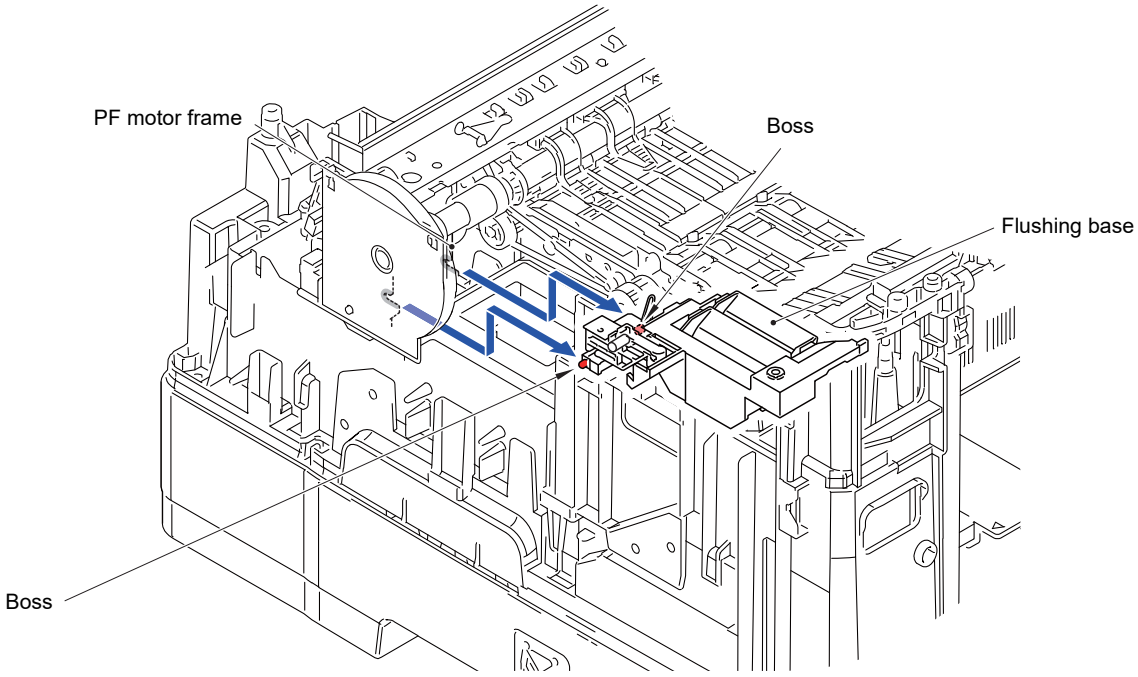


Fig. 3-143

Assembling Note: Assemble not to put the section “A” of the Flushing base over the Switchback roller belt.

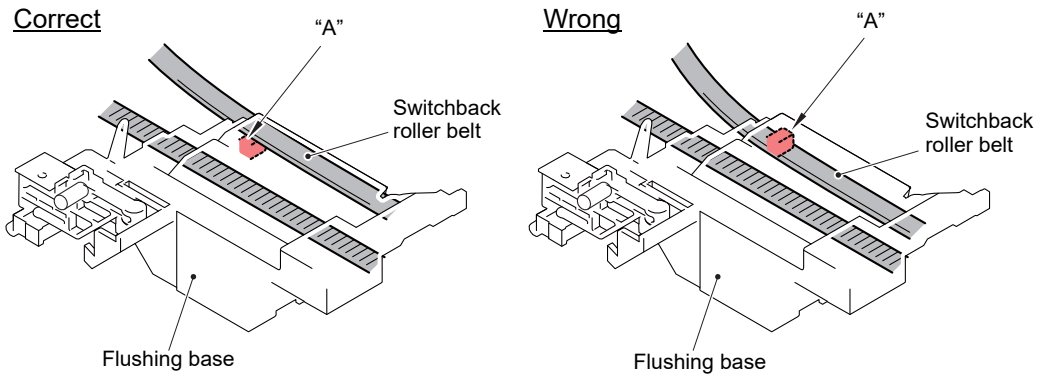


Fig. 3-144

8.47 T2 Paper Pull-in Roller L/R

(1) Release the wiring of the LT frame ASSY.
(2) Remove the three screws (TAPTITE BIND P M4x12) and remove the Main body from the Lower tray unit.

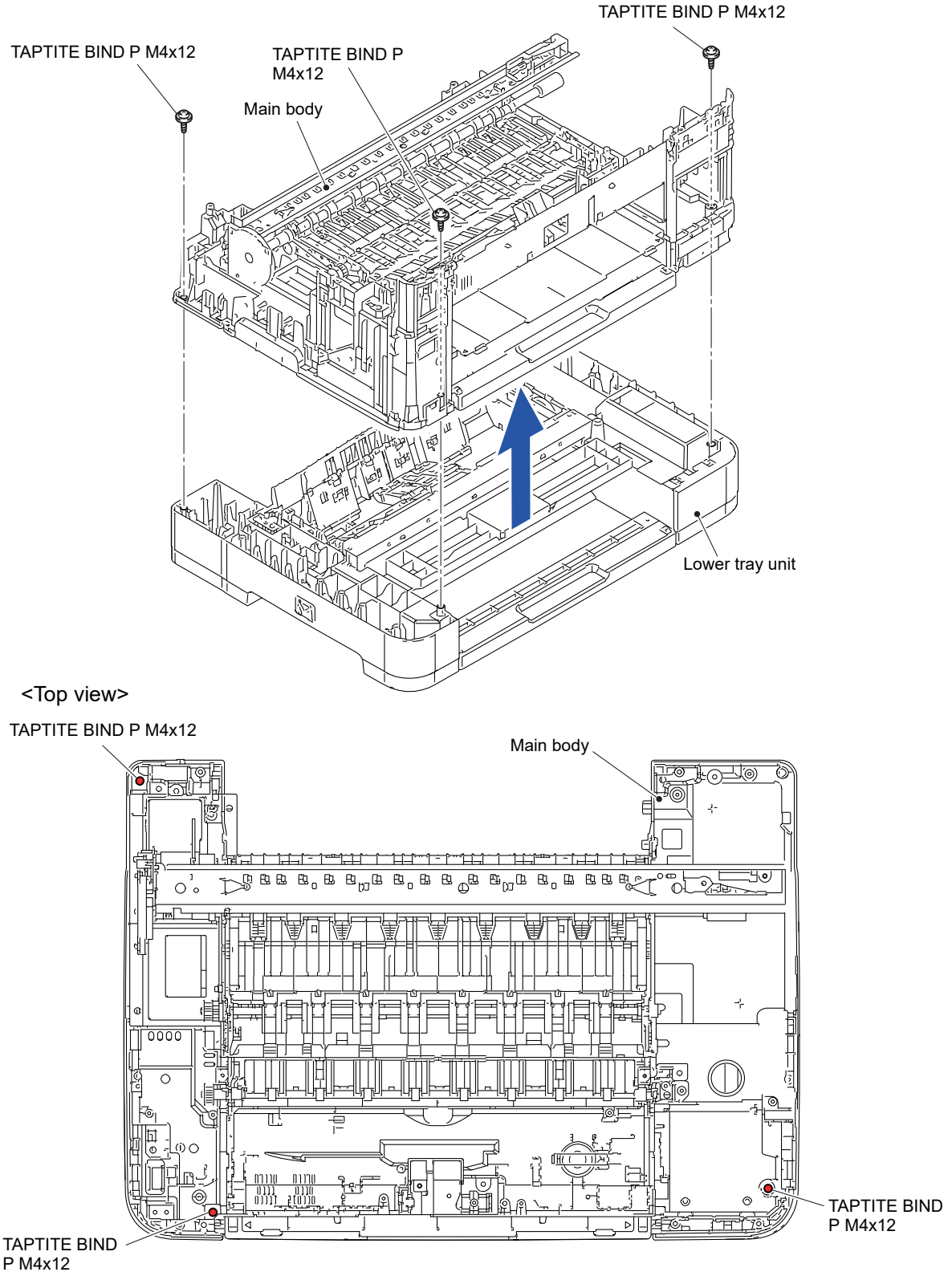


Fig. 3-145

(3) Release the two hooks and push down the Paper pull-in roller holder.

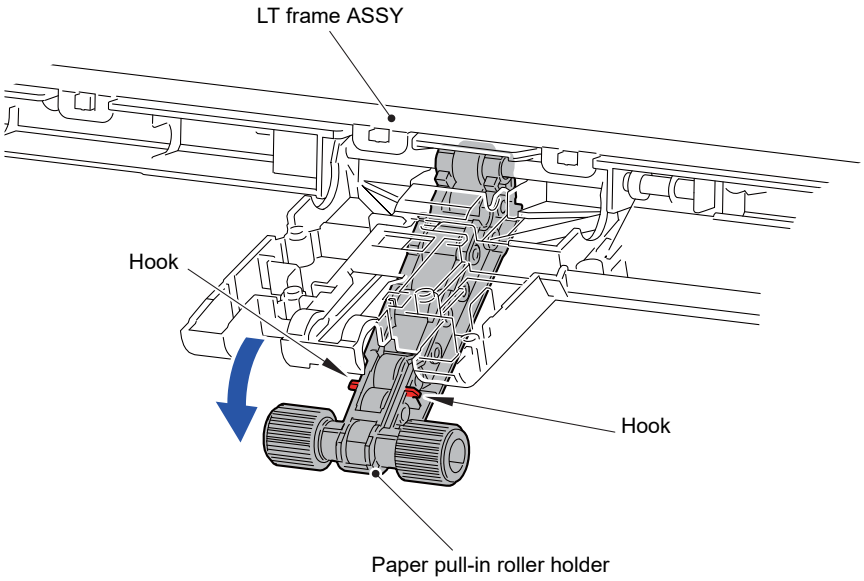


Fig. 3-146

(4) Open the latch to the outer side and remove the T2 paper pull-in roller L/R from the Paper pull-in roller holder.

Assembling Note: When assembling the T2 paper pull-in roller L/R, make sure to engage the hook with the latch.

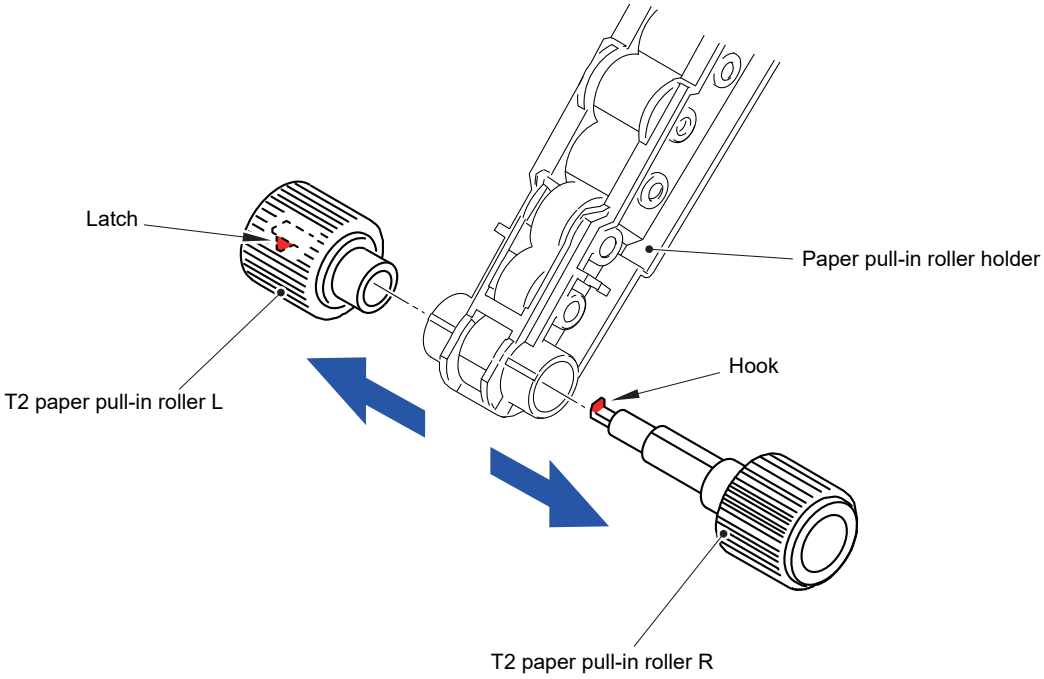


Fig. 3-147

8.48 T2 Bank ASSY

(1) Remove the two screws (TAPTITE BIND B M3x10) and remove the Bank chute LT from the Lower tray unit.

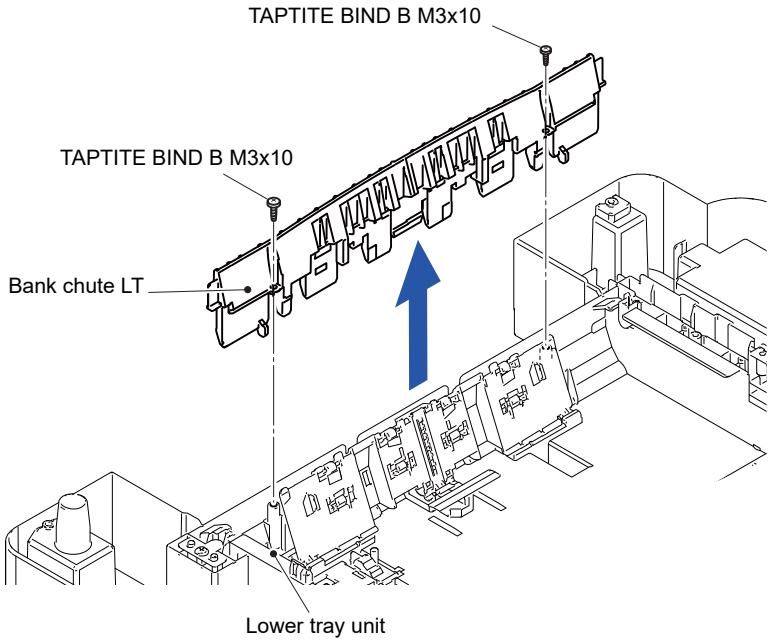


Fig. 3-148

(2) Release the three Hooks and remove the T2 bank ASSY from the Lower tray unit.

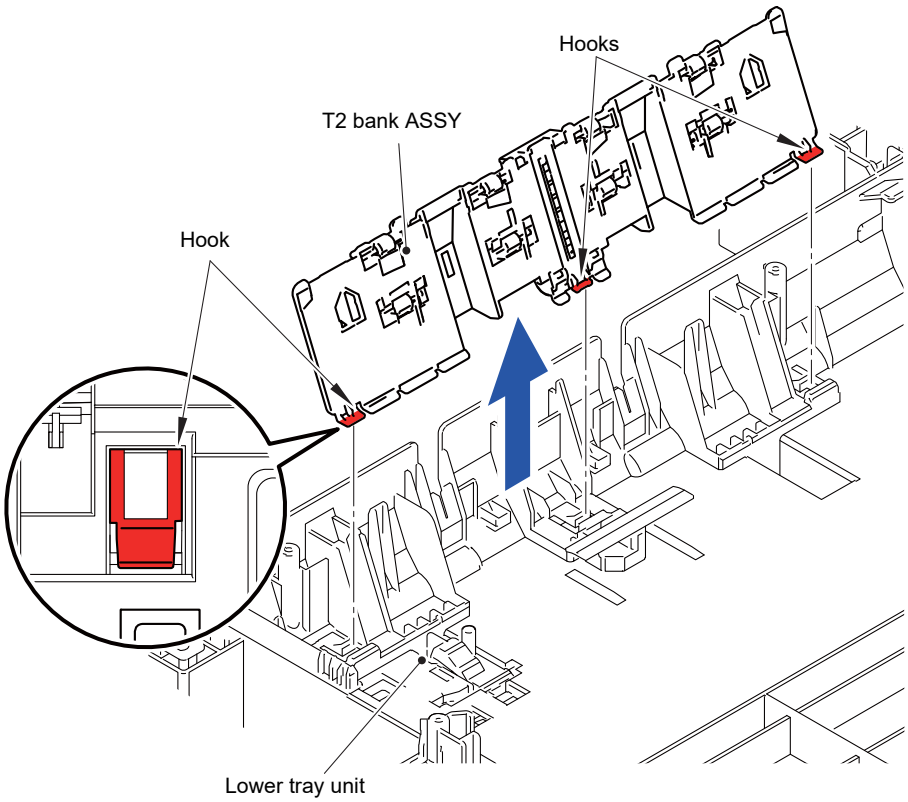


Fig. 3-149

8.49 Power Supply PCB ASSY

(1) Remove the screw (TAPTITE CUP P M3x10) from the Lower cover.
(2) Release the Hook and remove the Power supply unit from the Lower cover.

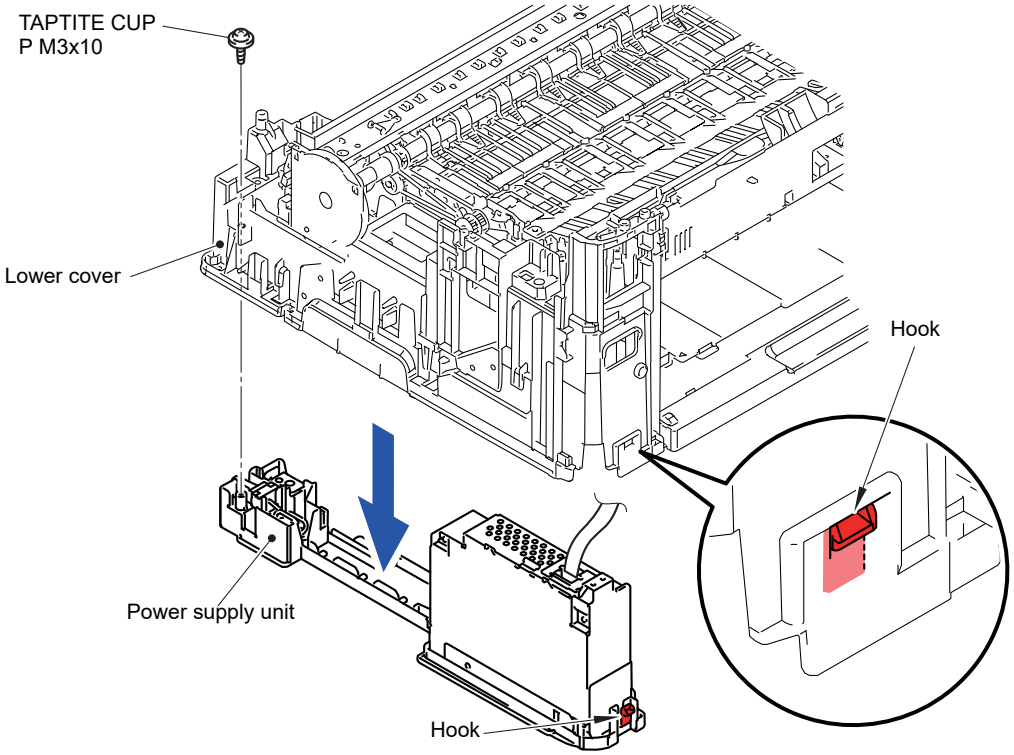


Fig. 3-150

(3) Release the two Hooks and remove the Power supply shield from the Power supply unit.

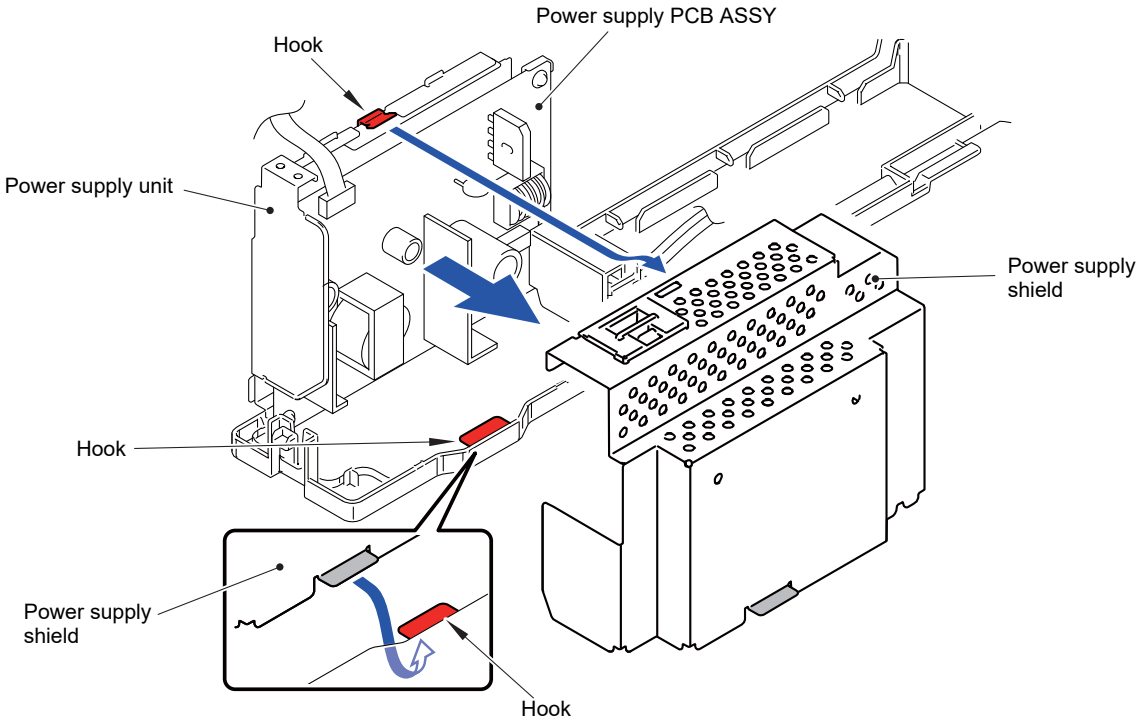


Fig. 3-151

(4) Remove the screw (SCREW PAN (S/P WASHER) M3.5x6) and remove the AC cord FG wire. (Case of 200 V)

Assembling Note: After connecting the AC cord FG wire, be sure to check that there is no looseness of the wire.

(5) Remove the Power cord and Ferrite core from the Enclosure base.

Assembling Note: When handling the Power cord, be sure to check the sheath is not damaged.

(6) Remove the Protect holder L/R from the Power supply unit.

(7) Remove the three screws (SCREW CUP M3x6) and remove the Power supply PCB ASSY from the Power supply unit.

Assembling Note: Two insulation sheets must be interleaved without damage between the Power supply PCB ASSY and Power supply unit.

(8) Disconnect the Power supply harness from the Power supply PCB ASSY.

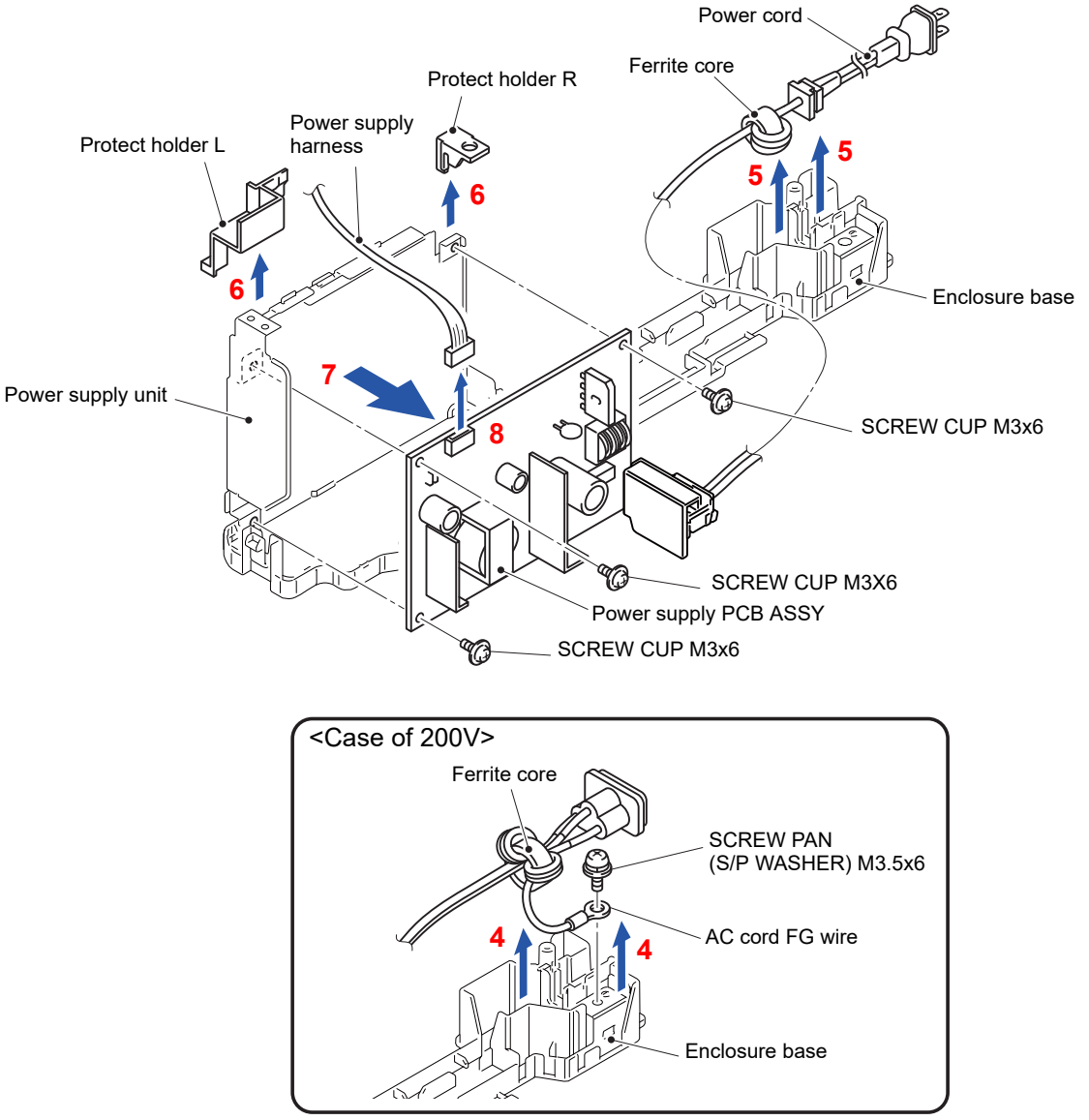


Fig. 3-152

Routing of harnesses: See Section 7. 14 in this chapter.

8.50 Switchback Roller

(1) Remove the Belt stopper ring from the Paper ejection roller.
(2) Remove the SB roller belt from the Switchback roller and Paper ejection roller.
(3) Remove the Switchback roller and Switchback outer paper guide from the SB side frame.

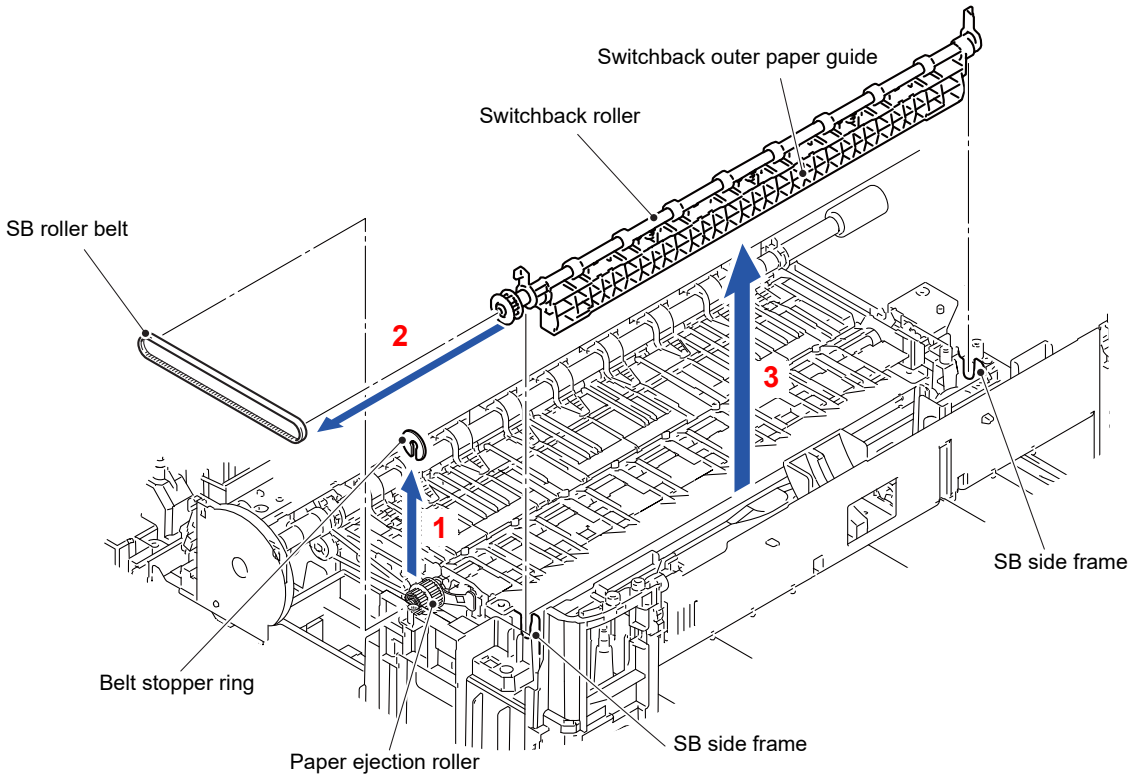


Fig. 3-153

(4) Remove the SB bushing R from the Switchback outer paper guide.
(5) Remove the Switchback roller from the Switchback outer paper guide.

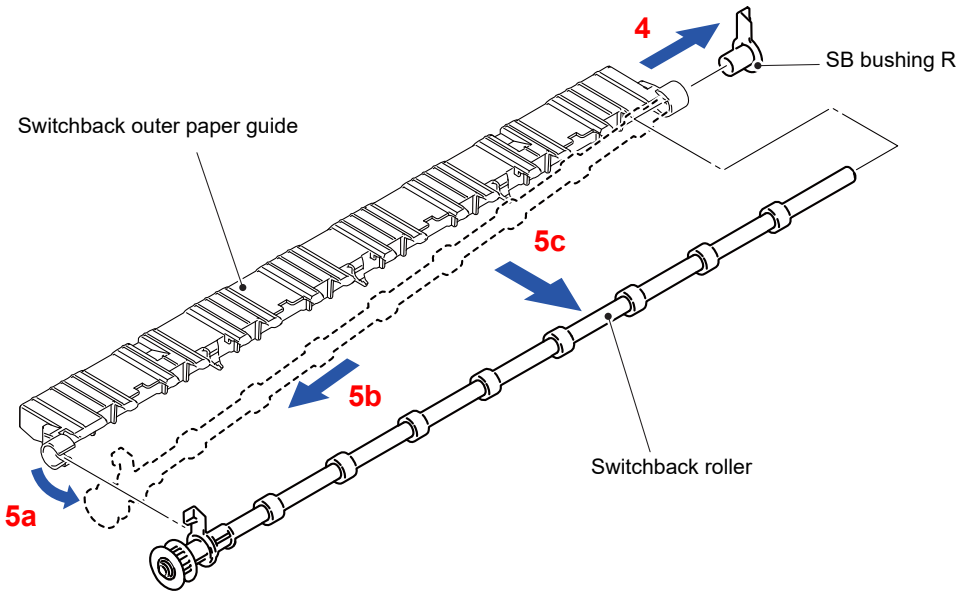


Fig. 3-154

8.51 PF Encoder Disk

(1) Remove the Encoder cover 2 from the Encoder cover.
(2) Peel off the PF encoder disk from the PF roller pulley.

Note: Once removed, the PF encoder disk should be replaced with a new one.

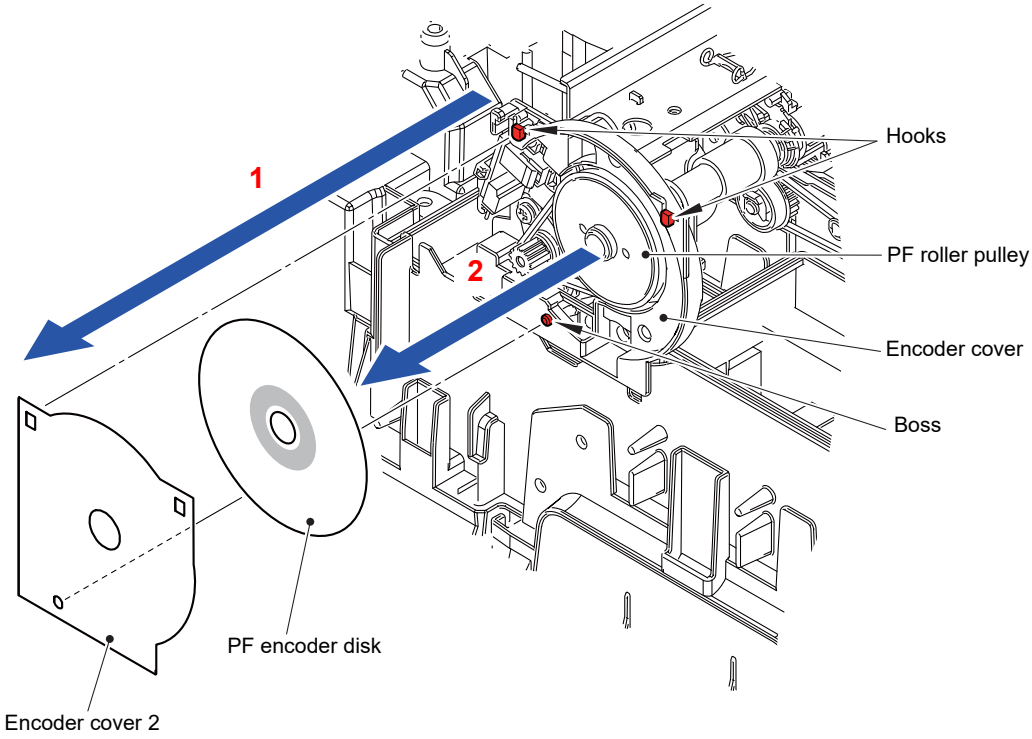


Fig. 3-155

8.52 PF Encoder Sensor PCB

(1) Remove the two screws (SCREW BIND M3x6) and remove the Encoder cover from the PF motor frame.

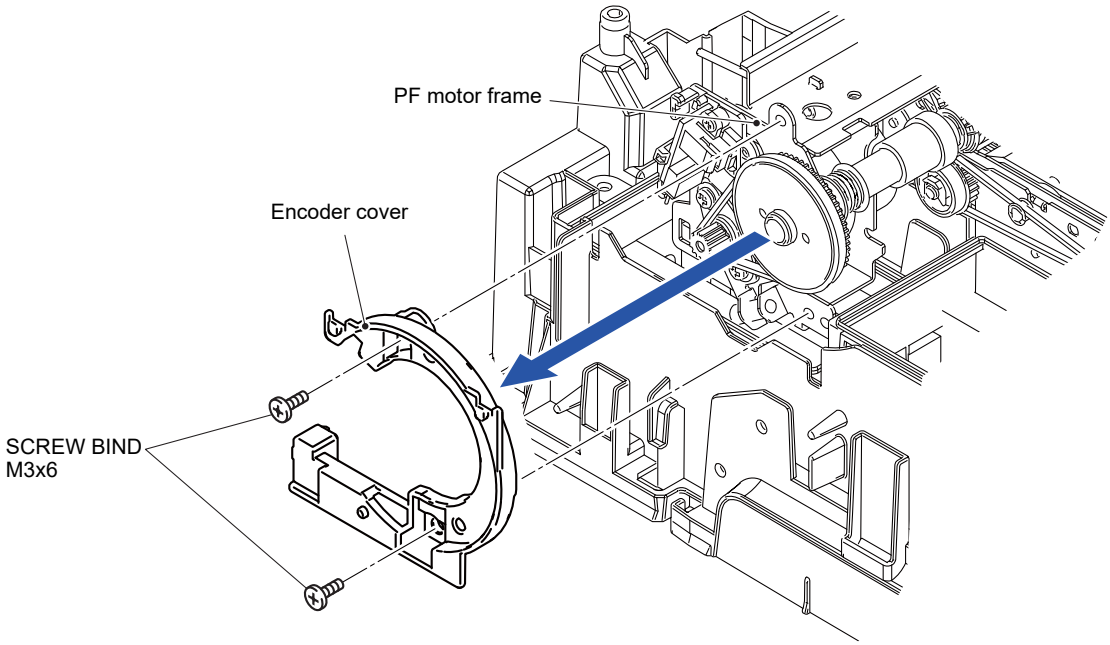


Fig. 3-156

(2) Release the wiring of the PF encoder sensor harness.

(3) Remove the two screws (SCREW BIND M2x12) and remove the Encoder sensor holder from the PF motor frame.

(4) Release the Hook and remove the PF encoder sensor PCB from the Encoder sensor holder.

(5) Disconnect the PF encoder sensor harness from the PF encoder sensor PCB.

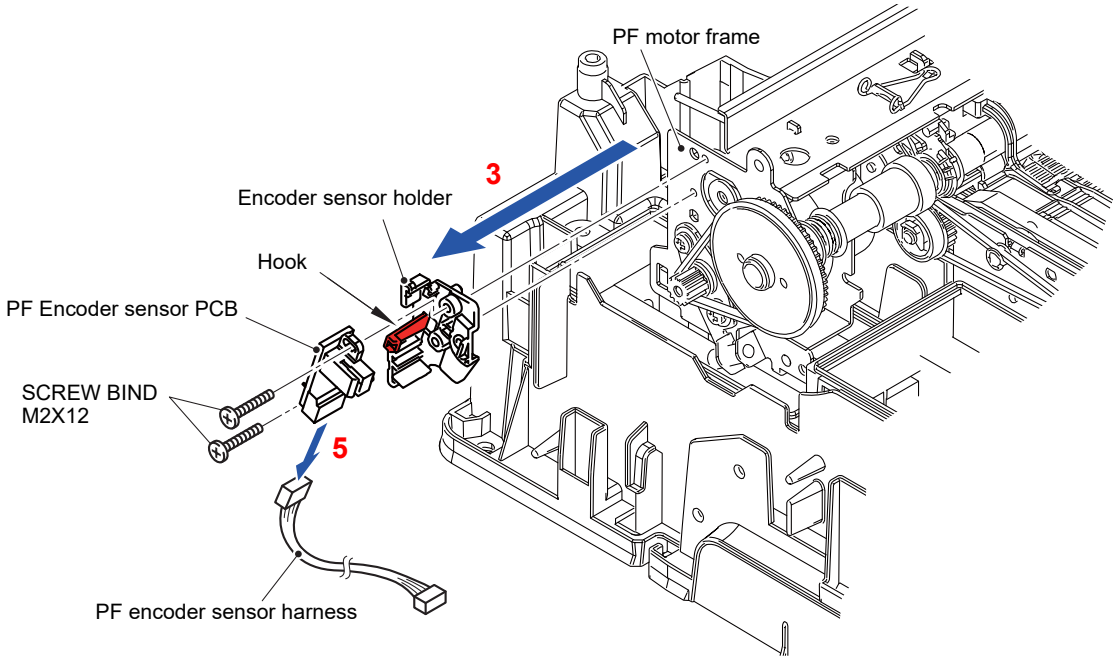


Fig. 3-157

Assembling Note: Mount the PF encoder sensor PCB as shown in the figure below.

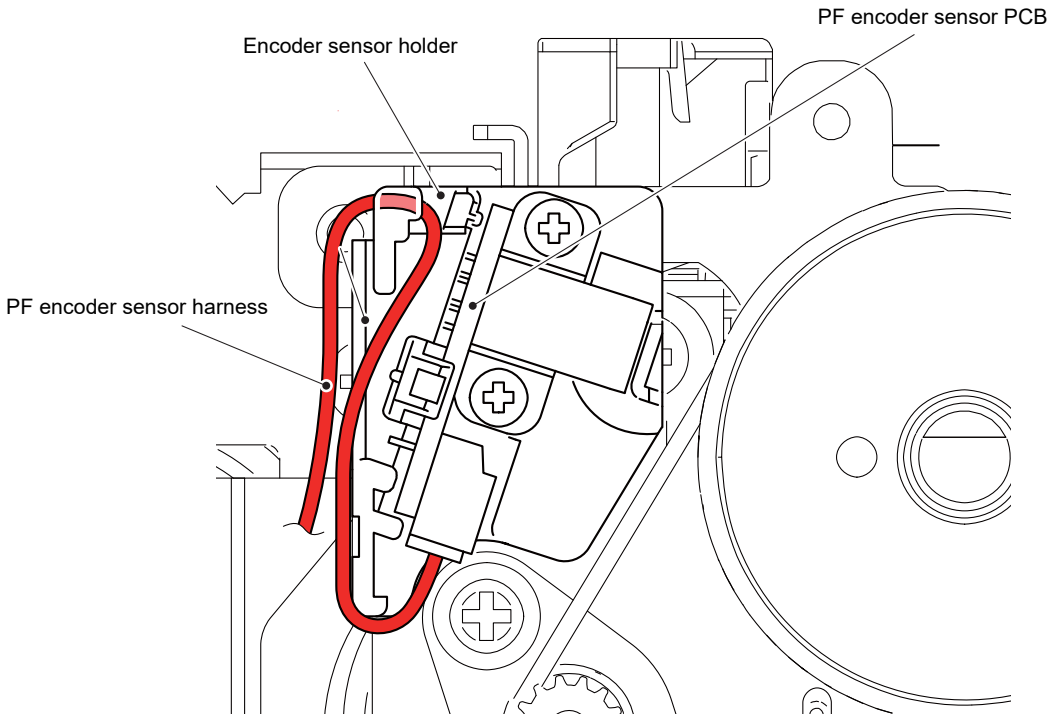


Fig. 3-158

Routing of harnesses: See Section 7. 10 and Section 7. 12 in this chapter.

8.53 Paper Feed Motor

(1) Remove the two screws (SCREW BIND M3x6) from the CR guide rail.
(2) Remove the two CR guide rail springs.
(3) Remove the CR guide rail from the Main body.

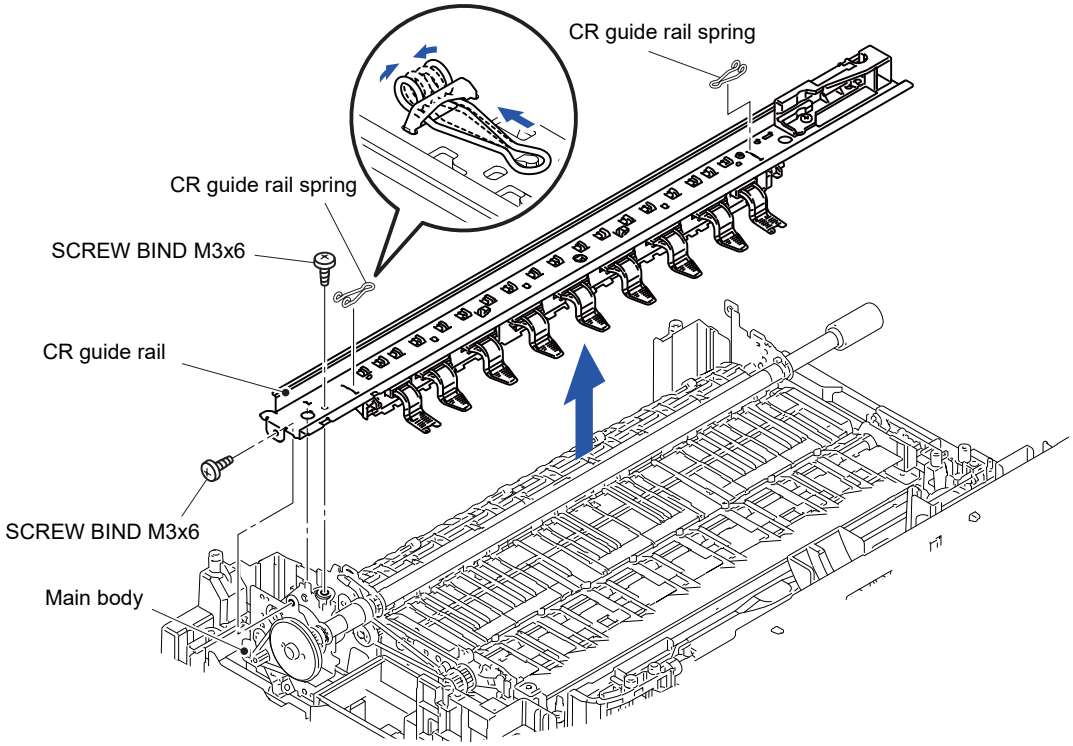


Fig. 3-159

Note: Do not place the removed CR guide rail with the Recording paper holder down.

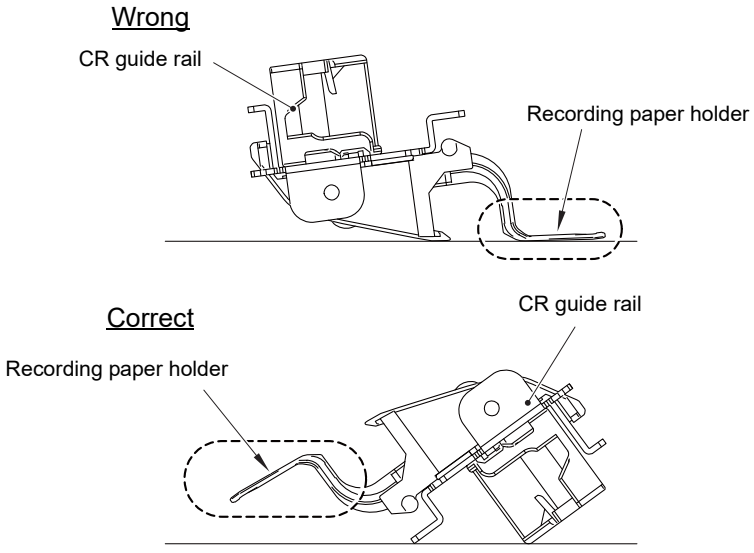


Fig. 3-160

(4) Remove the PF roller belt from the PF roller pulley and Paper feed motor.

(5) Remove the PF belt spring.

Assembling Note: When mounting the PF roller belt and PF belt spring, remove the screw A first, and then assemble the PF belt spring and PF roller belt in this order. After that, tighten the screw A.

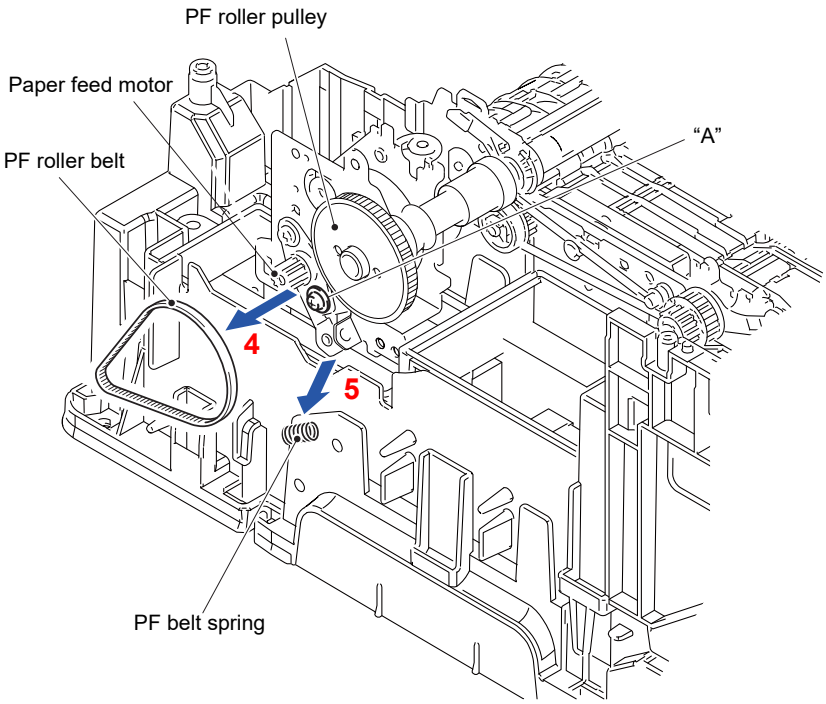


Fig. 3-161

(6) Release the wiring of the PF motor harness.

(7) Turn the Bushing in the direction of the arrow to unlock it.

(8) Remove the Paper feed motor frame ASSY from the Paper feed roller.

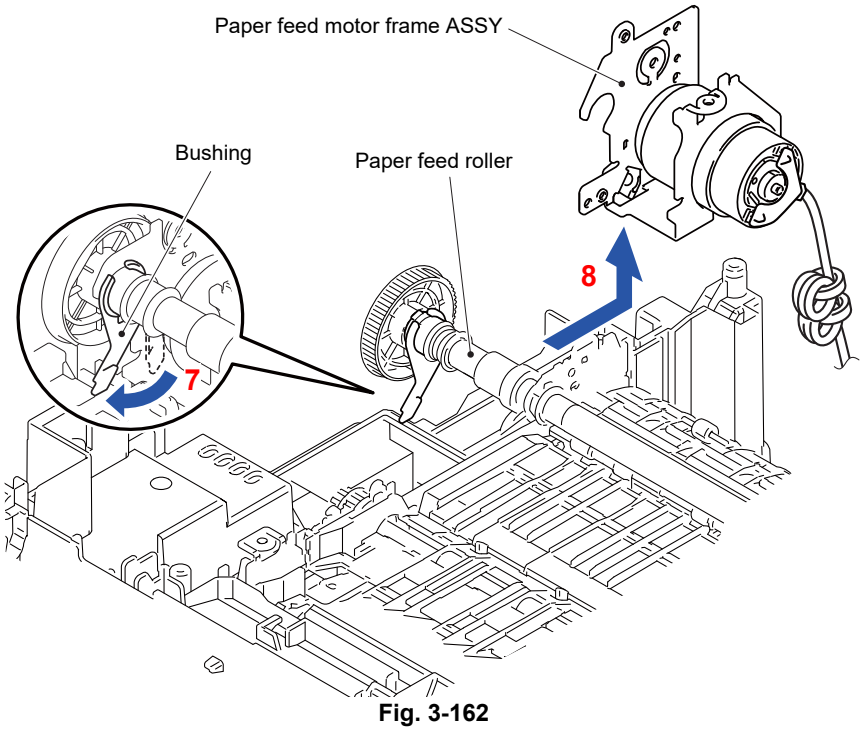


Fig. 3-162

(9) Remove the two screws (SCREW PAN (S/P WASHER) M3x6) and remove the Paper feed motor from the Paper feed motor frame ASSY.

Note: When removing the Paper feed motor, be careful not to lose the Paper feed motor sleeve.

(10) Disconnect the PF motor harness from the Paper feed motor.

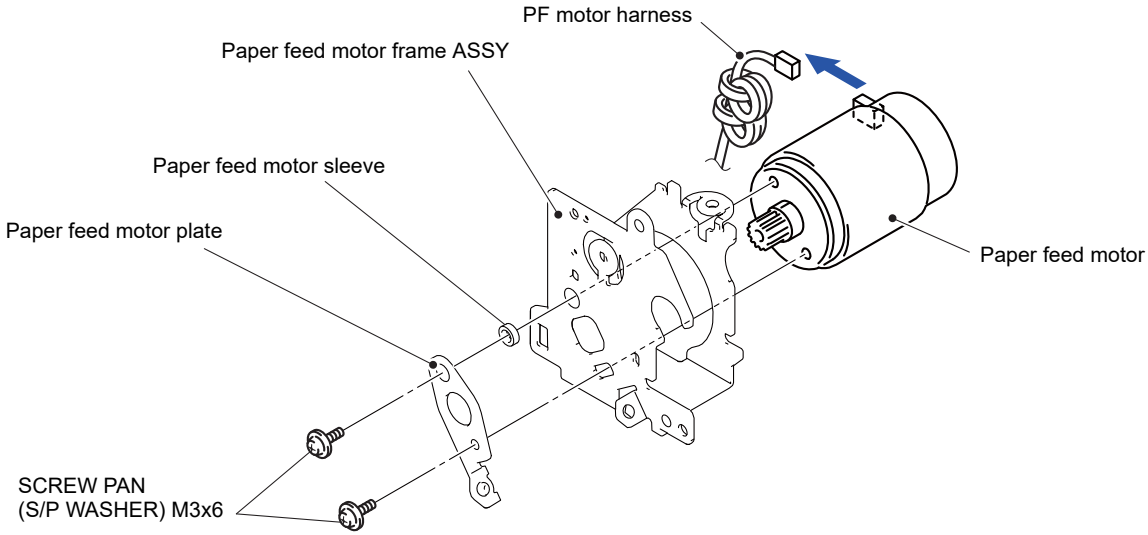


Fig. 3-163

Routing of harnesses: See Section 7. 10 and Section 7. 12 in this chapter.

8.54 Paper Feed Roller

(1) Turn the PF bushing L2 in the direction of the arrow to unlock it.

(2) Turn the PF bushing R in the direction of the arrow to unlock it.

(3) Remove the Paper feed roller from the Main body.

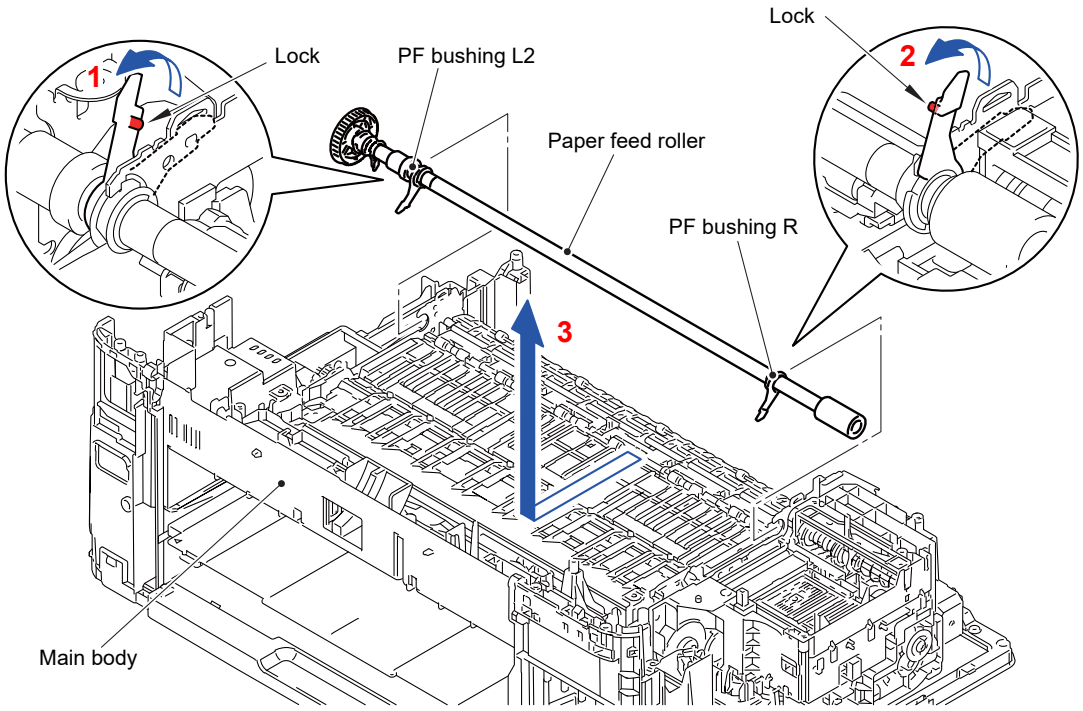


Fig. 3-164

8.55 Platen/Paper Ejection Roller

(1) Remove the Idle pulley and remove the Paper ejection roller belt from the Idle gear pulley and Paper ejection roller.

Note: Be careful not to lose the Idle pulley.

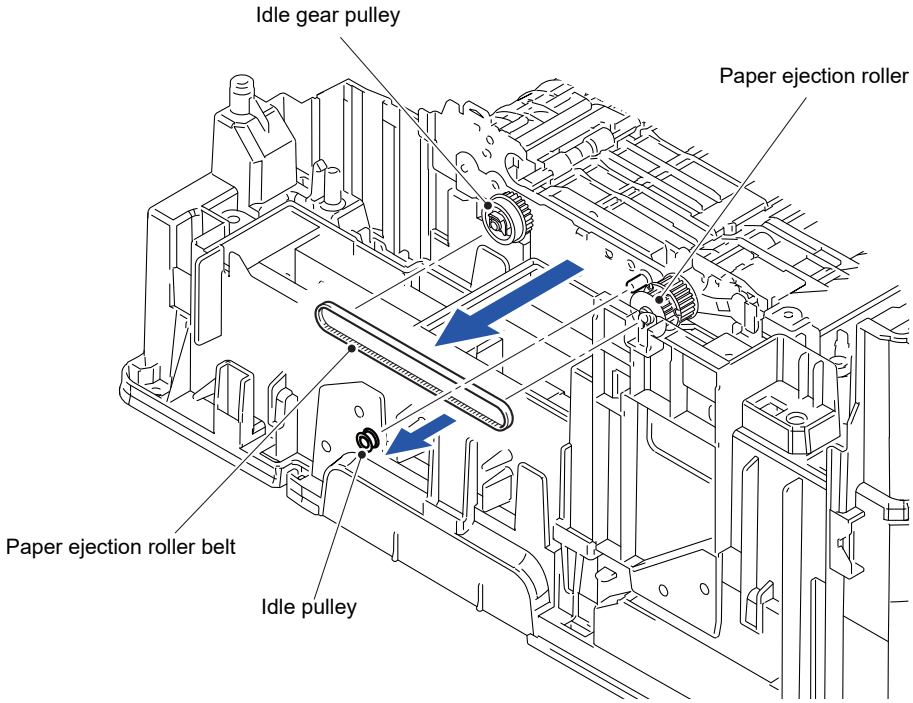


Fig. 3-165

(2) Remove the Switchback inner paper guide from the Main body.

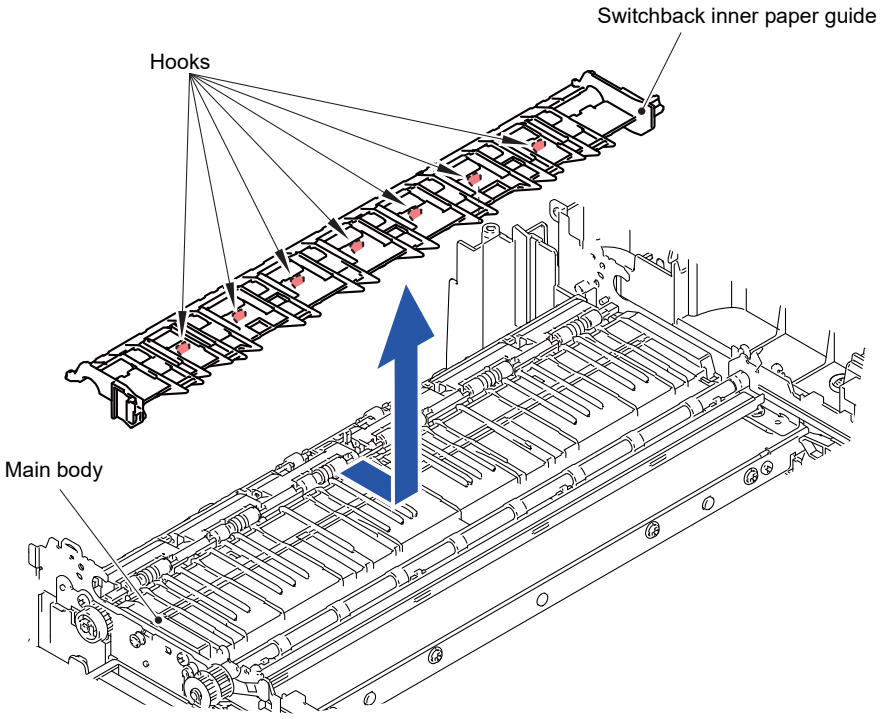


Fig. 3-166

(3) Remove the SB side frame from the Main body.

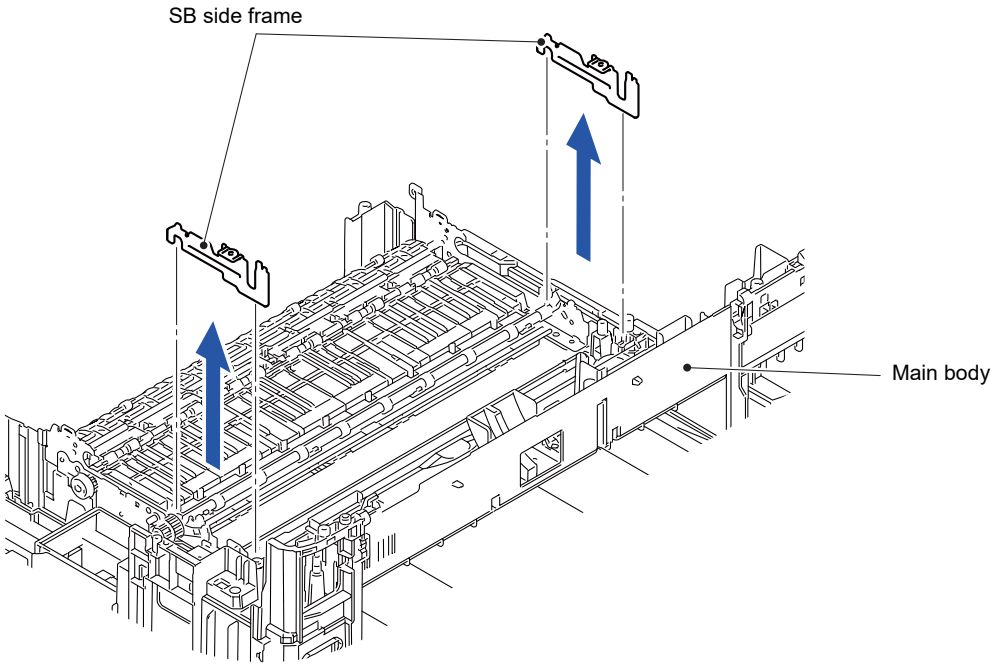


Fig. 3-167

(4) Hold the section “A” and remove the Paper ejection roller and Platen.

Assembling Note: Mount the Paper ejection roller with its bushing lever tilted forward as shown below.

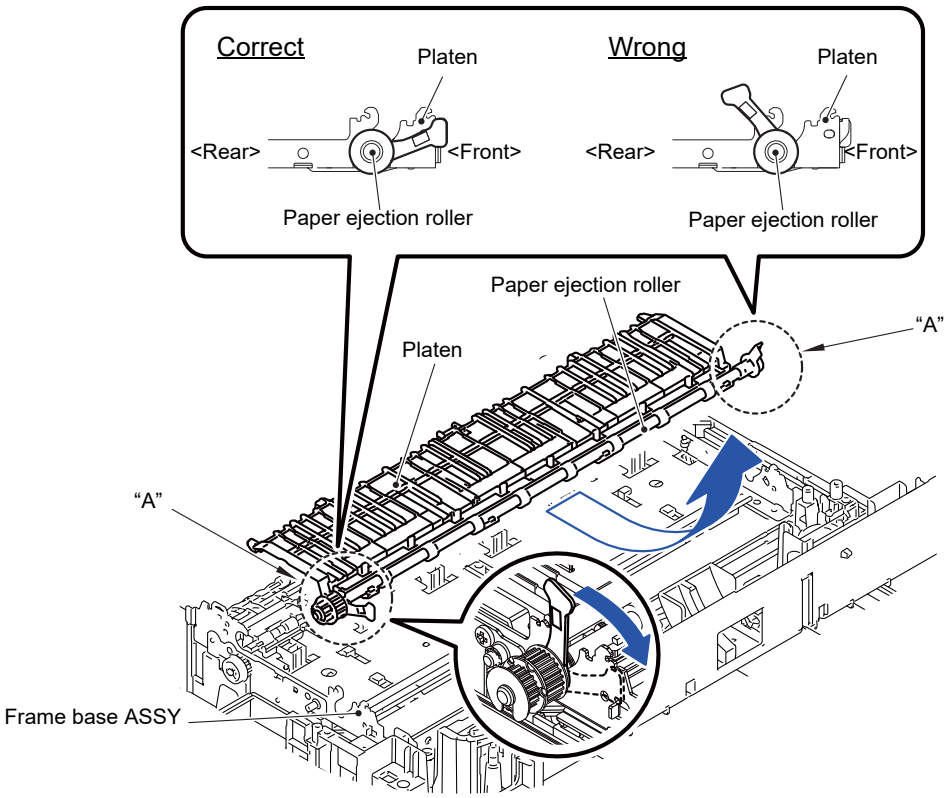


Fig. 3-168

Assembling Note: Platen springs should not be bent or turned over.



Fig. 3-169

(5) Release the four Hooks and remove the Paper ejection roller from the Platen.

(6) Remove the Platen springs and Platen foam from the Platen.

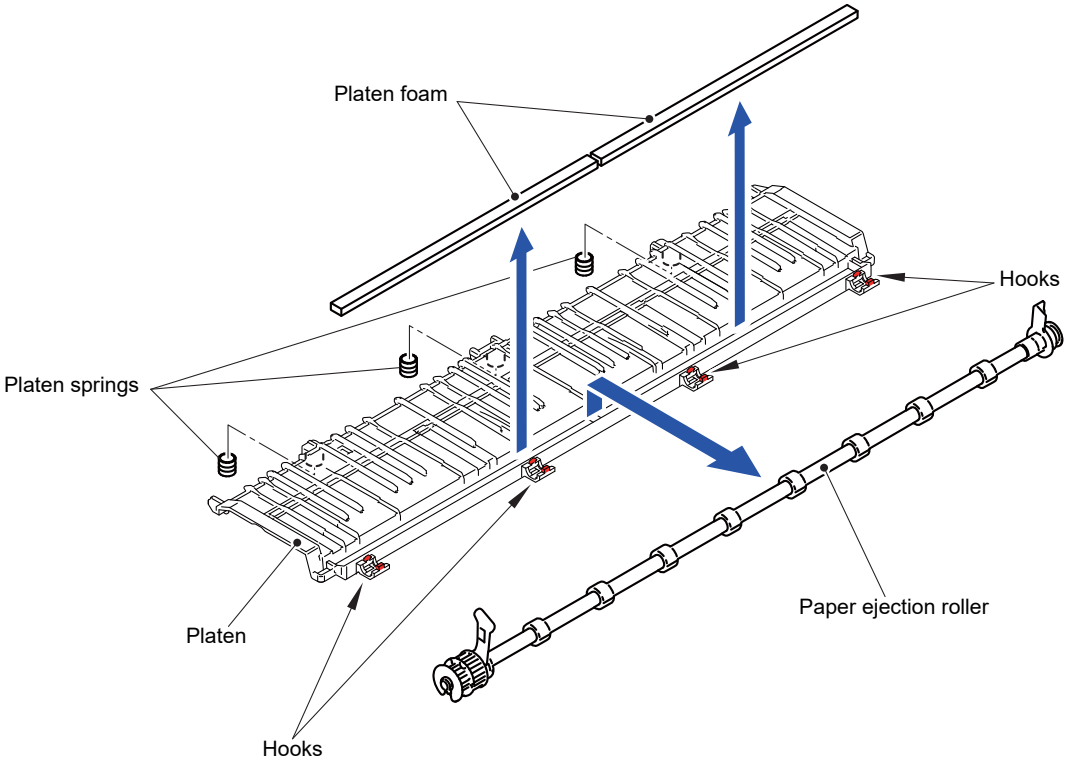


Fig. 3-170

8.56 Registration Sensor PCB

(1) Release the wiring of the Registration sensor harness.
(2) Remove the four screws (TAPTITE CUP P M3x10) and remove the Frame base ASSY from the Lower cover.

Assembling Note: When tightening the four screws (TAPTITE CUP P M3x10), tighten them in the order shown in the figure.

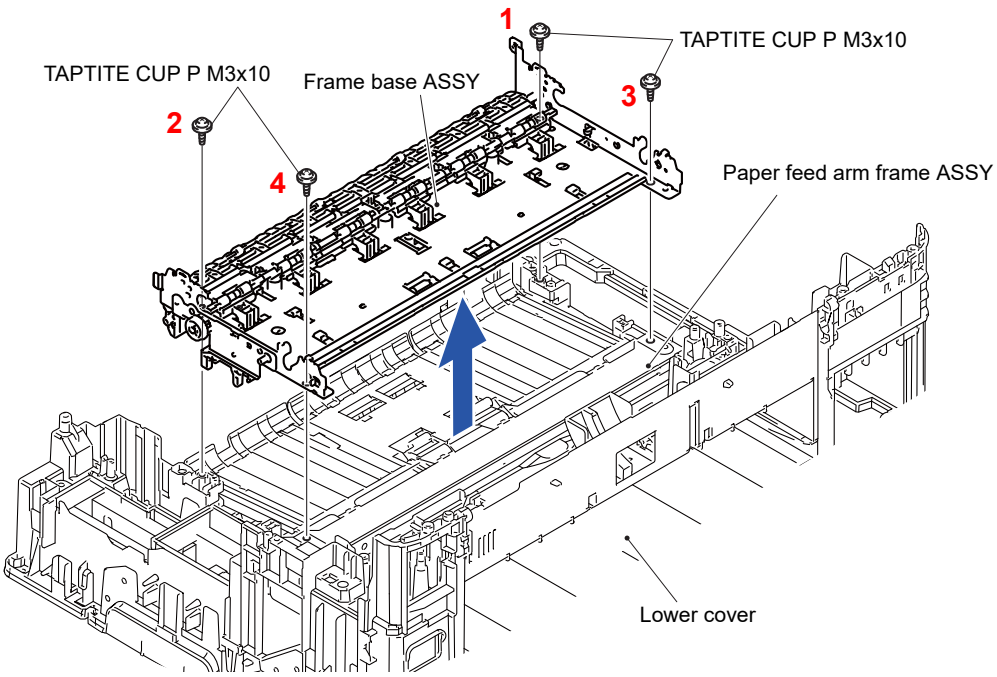


Fig. 3-171

(3) Release the two Hooks A and two Bosses and remove the DX paper guide from the Frame base ASSY.
(4) Release the wiring of the Registration sensor harness.

Assembling Note: When assembling the DX paper guide, be sure there is no looseness of the Harness.
Also, the two Hooks B at the right and left sides must be inserted properly.

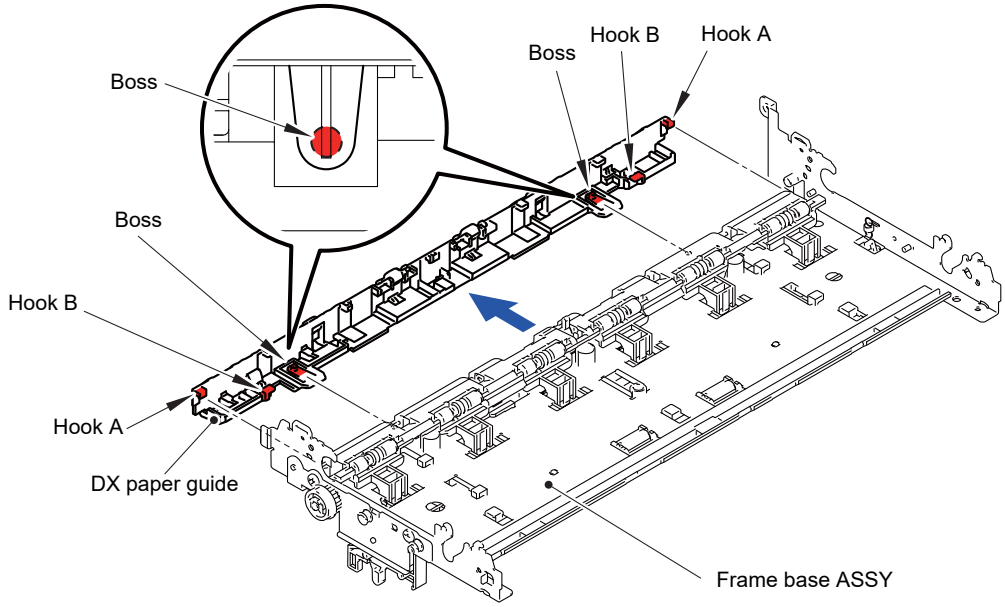


Fig. 3-172

(5) Slide the PF release guide in the direction of the arrow 5a, and release the Pressure roller holder from the Frame base ASSY.

Note: When releasing the Pressure roller holder, be careful not to lose any Spring.

Assembling Note: When assembling the Pressure roller holder, assemble it as fitting the Springs to the Bosses.

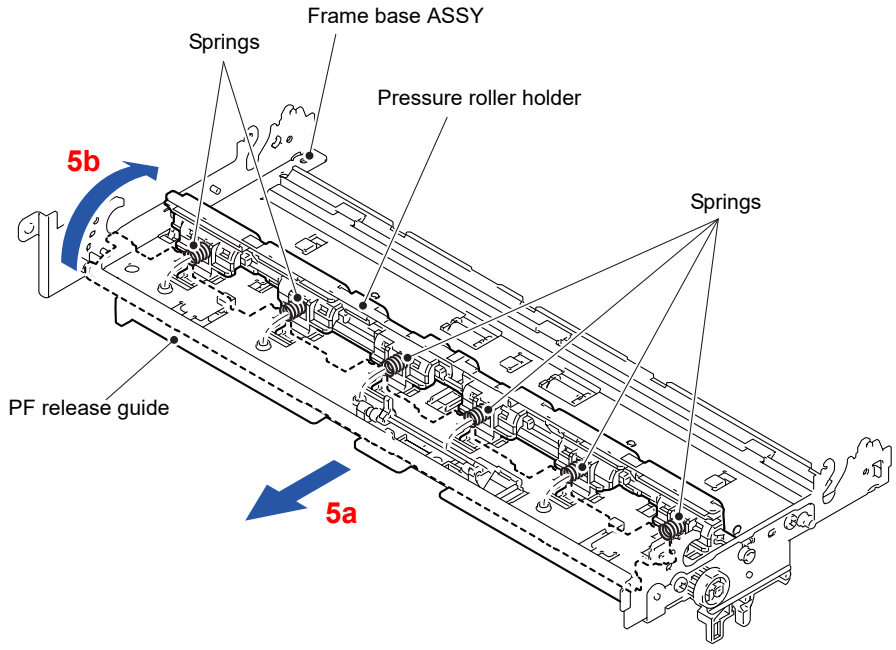


Fig. 3-173

(6) While sliding the Registration sensor holder ASSY in the direction of the arrow 6a, release the Boss and then remove the Registration sensor holder ASSY from the Frame base ASSY.

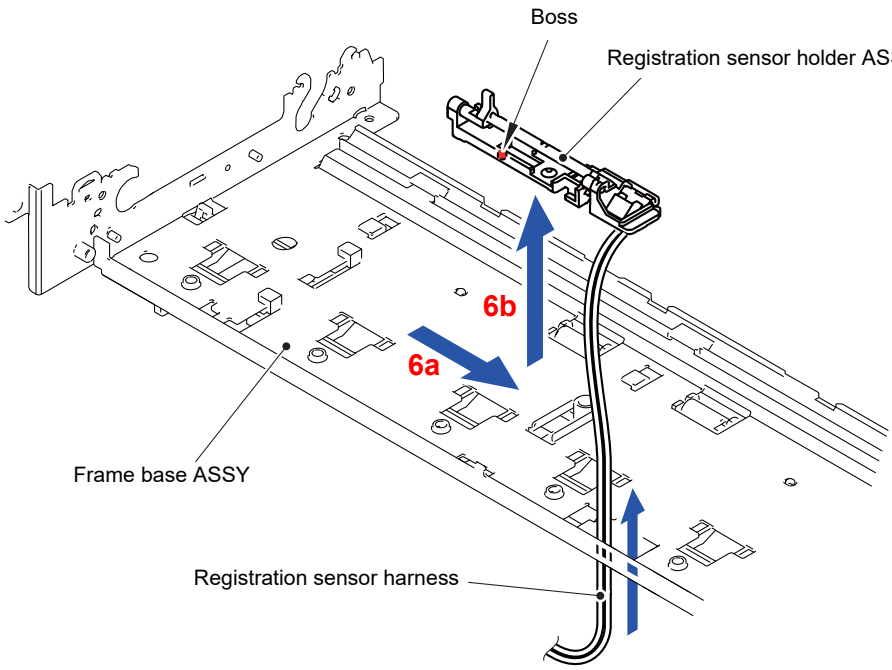


Fig. 3-174

(7) Release the Boss at one side and remove the Registration actuator and Registration actuator spring from the Registration sensor holder.

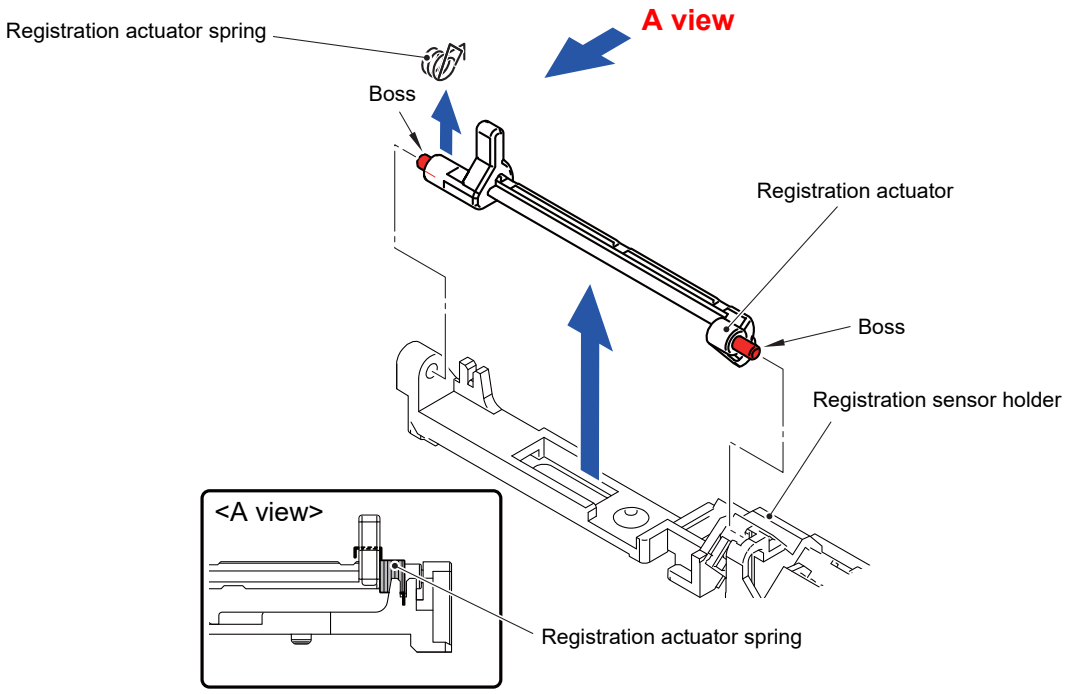


Fig. 3-175

(8) Remove the Registration sensor PCB from the Registration sensor holder.

(9) Disconnect the Registration sensor harness from the Registration sensor PCB.

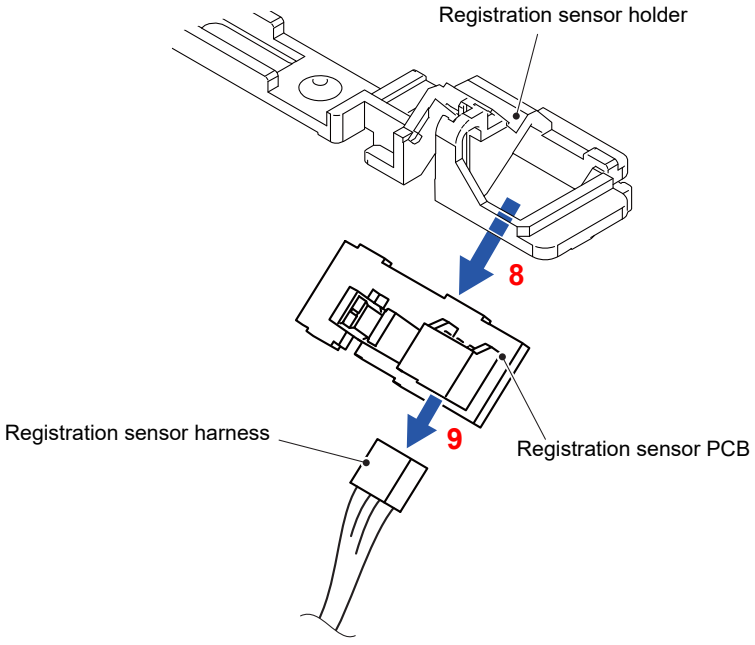


Fig. 3-176

Routing of harnesses: See Section 7. 9 and Section 7. 18 in this chapter.

8.57 Flushing Box

(1) Remove the two screws (TAPTITE CUP P M3x10) and remove the Flushing box from the Lower cover.

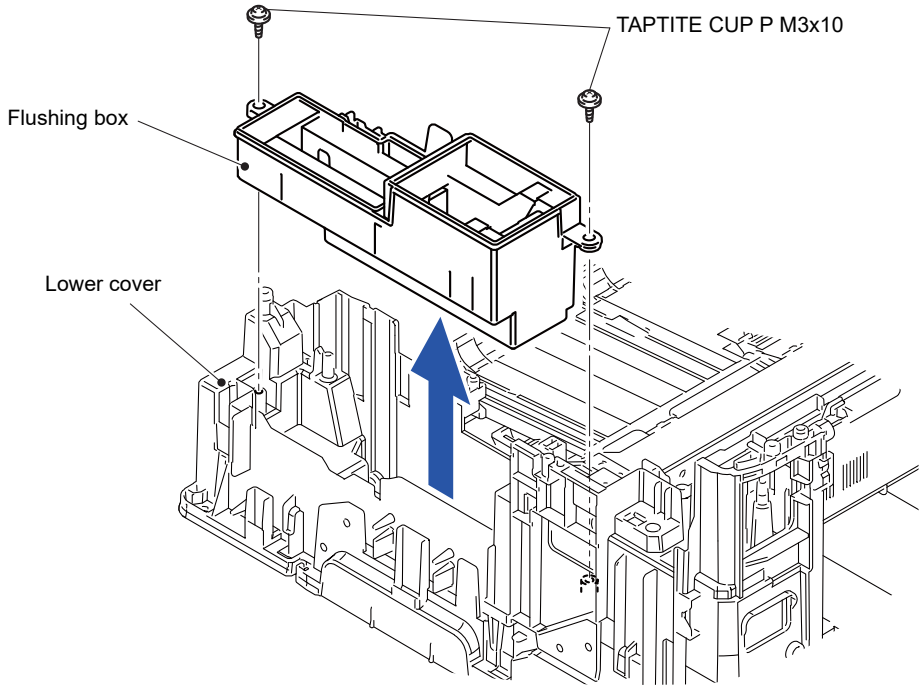


Fig. 3-177

8.58 T1 Paper Pull-in Roller L/R

(1) Release the two hooks and push down the Paper pull-in roller holder.

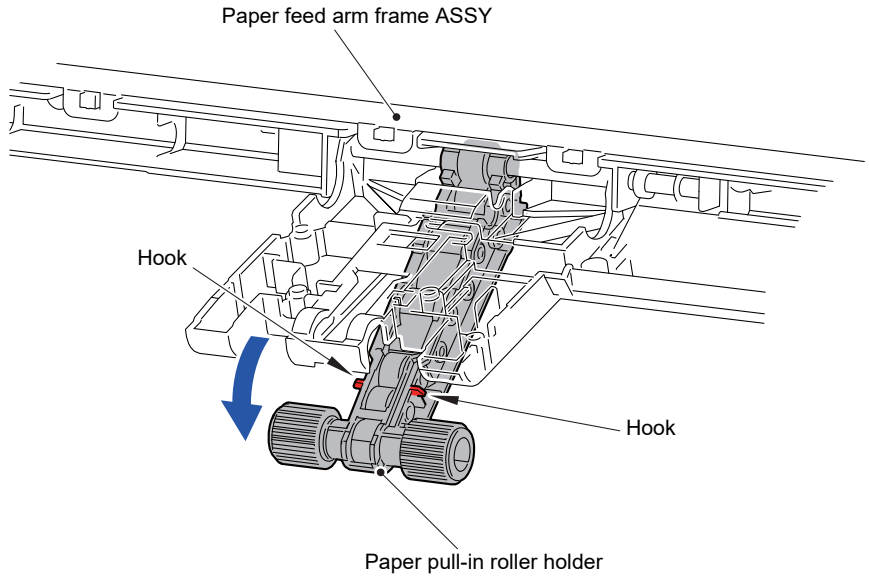


Fig. 3-178

(2) Open the latch to the outer side and remove the T1 paper pull-in roller L/R from the Paper pull-in roller holder.

Assembling Note: When assembling the T1 paper pull-in roller L/R, make sure to engage the hook with the latch.

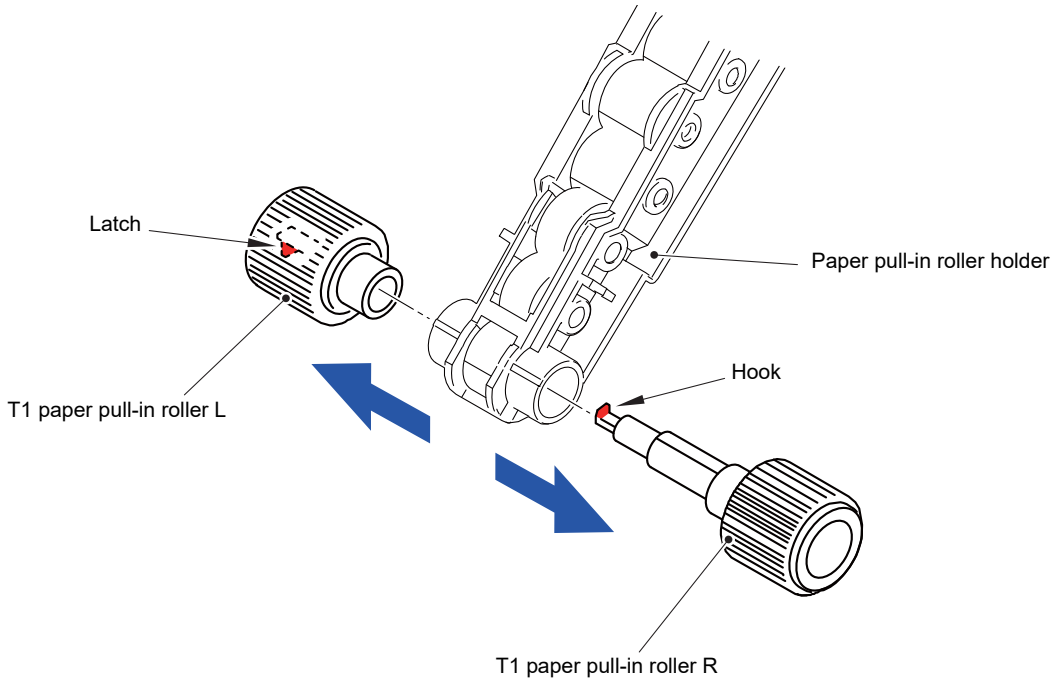


Fig. 3-179

8.59 T1 Bank ASSY

(1) Remove the Tray lock cam and Tray lock spring from the Lower cover.
(2) Remove the Tray lock cam and Tray lock spring on the other side in the same way.

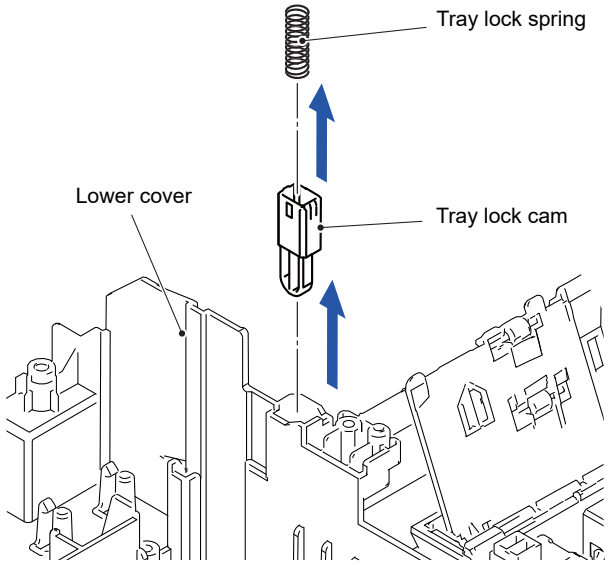


Fig. 3-180

(3) Turn the Main body upside down.
(4) Remove the screw (TAPTITE CUP P M3x10) and remove the Tray FG wire (T1).
(5) Remove the three screws (TAPTITE CUP P M3x10) and remove the Lower cover frame from the Lower cover.

Assembling Note: When tightening the four screws (TAPTITE CUP P M3x10), tighten them in the order shown in the figure.

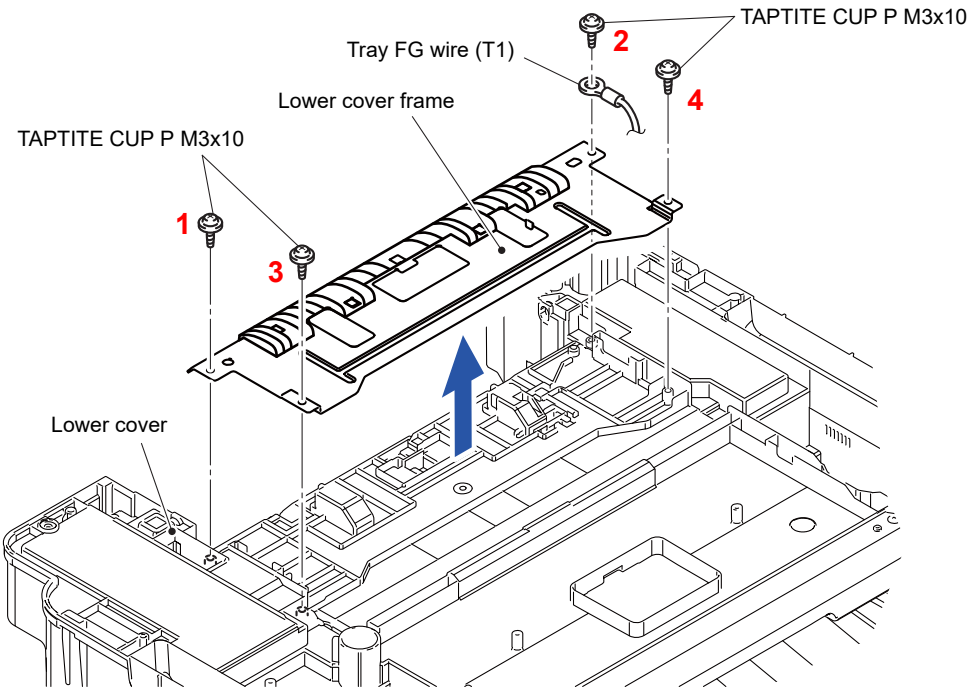


Fig. 3-181

(6) Turn the Main body right side up.

(7) Release the three Hooks and remove the T1 bank ASSY from the Lower cover.

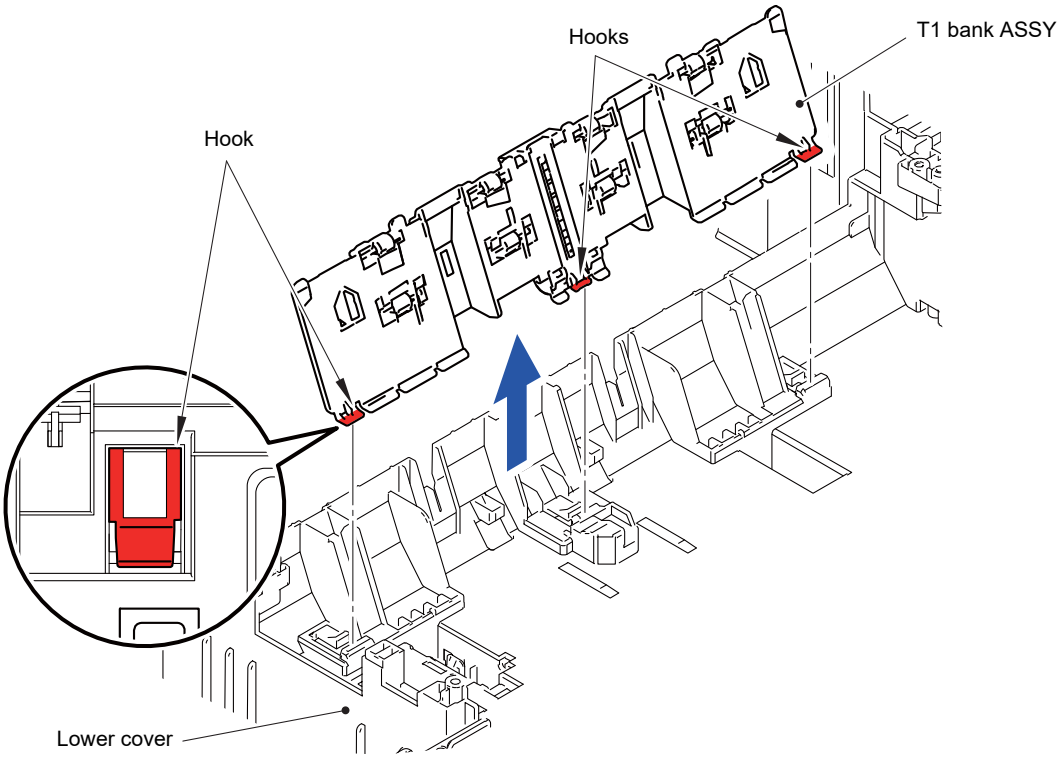


Fig. 3-182

8.60 T1 Base Pad / T2 Base Pad

(1) Peel off the T1 base pad from the Paper tray ASSY #1.

Note: Once the T1 base pad is peeled off, it cannot be used again so that the pad needs to be replaced with a new one.

(2) With the same procedure, peel off the T2 base pad from the Paper tray ASSY #2.

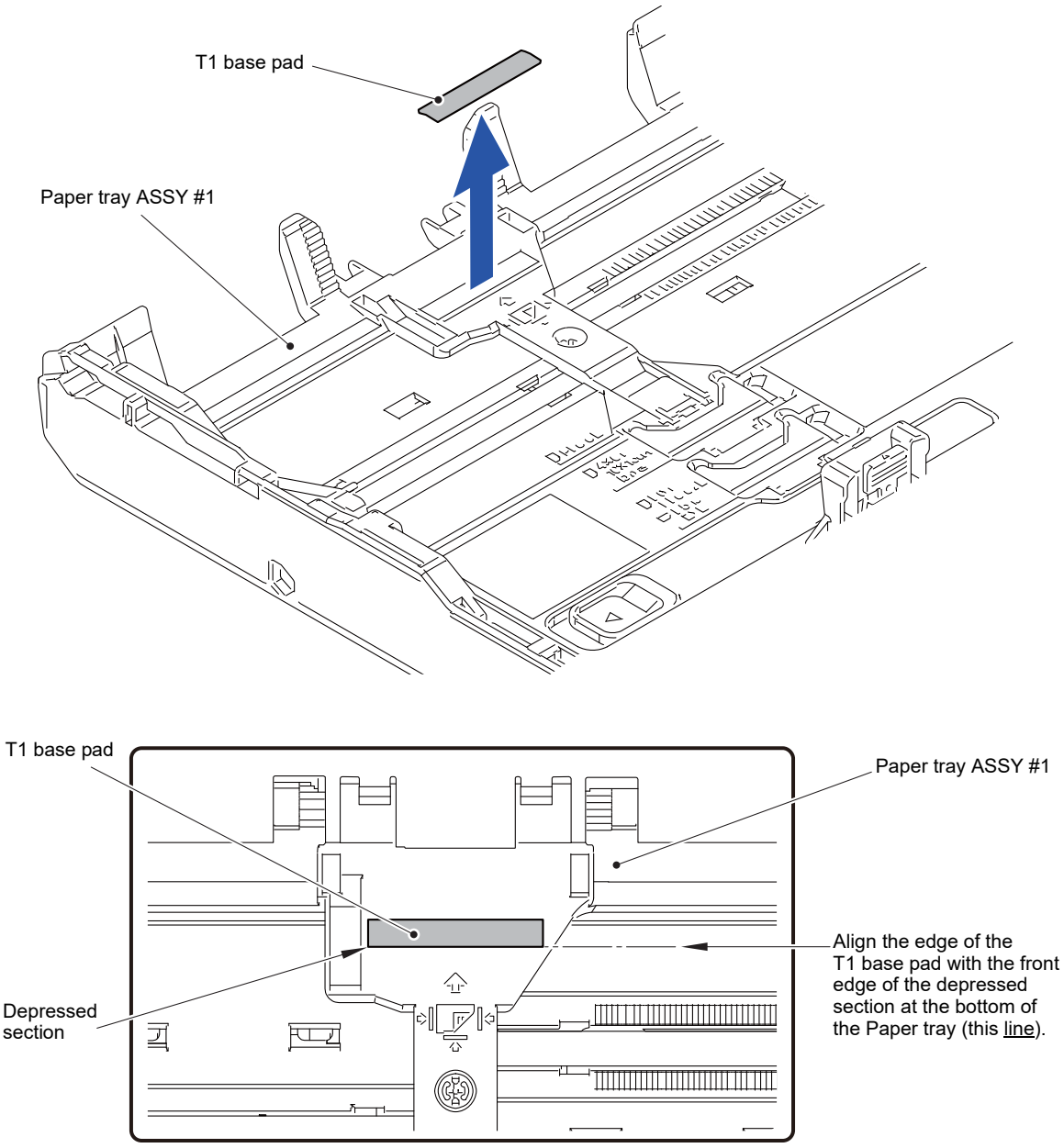


Fig. 3-183

Assembling Note: When attaching a new T1 base pad to the Paper tray ASSY #1, align the front edge of the pad with that of the Depressed section on the Paper tray ASSY #1 and center the pad widthways as shown above.

CHAPTER 4 ADJUSTMENTS AND UPDATING OF SETTINGS, REQUIRED AFTER PARTS REPLACEMENT

Ensure that the firmware is updated to the latest version after part replacement.
Use of an older firmware version may cause errors or malfunction of the machine/software.

1 IF YOU REPLACE THE MAIN PCB

If the machine information has not been backed up in a USB flash memory before the start of repair, it is necessary to replace the ink absorber box and flushing box and then reset their counts.

Notes:

Always observe the following operation orders for the settings.

The settings cannot be completed properly when the setting operations are not performed in the correct order or any of the operations is omitted.

The settings cannot be completed properly when:
-the machine is turned off, even though it is not instructed, during the setting operations; or
-the machine is rebooted, even though it is not instructed, during setting operations, for the maintenance function, etc.

When a used main PCB or machine is recycled and is employed for repair due to special circumstances, perform Function code 01 to delete personal information and confirm that the information has been deleted.

<Operations>

1.1 Customize destinations (Maintenance mode 74)
1.2 Set the CIS type (Maintenance mode 59)
1.3 Install the firmware (Maintenance mode 28)
1.4 Set the serial number (Maintenance mode 80)
1.5 Initialize the EEPROM parameters (Maintenance mode 01)
1.6 Restore the head calibration data (Maintenance mode 68)
1.7 Updating of head property information (Maintenance mode 68)
1.8 Restore machine information (Maintenance mode 46)
1.9 Adjust the touch panel (Maintenance mode 78)
1.10 Acquire white/black level data (Maintenance mode 55)
1.11 Initialize the Engine Adjustment Value (Maintenance mode 97)
1.12 Adjustment of software correction for paper feeding/head calibration/inclination/ corrugation/ruled lines (User menu)
1.13 Adjustment of margins in borderless printing (Maintenance mode 66)
1.14 Reset purge and flushing counts
1.15 < Paper remaining sensor model only > Disable inter-machine variation calibration for paper remaining sensor (Maintenance mode 88 <Selector 1 on AMS04>)
1.16 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)
1.17 Check scanning and printing

< Requirements>

(1) USB cable (one piece)

(2) PC (Windows® XP or later)
Create a temporary folder in the C drive.

(3) Memory access tool (MemoryAccessTool.exe)

(4) Service setting tool (brusbsn.zip)
Make a copy of the service setting tool in the temporary folder in the C drive.
Extract the copied file and run "brusbsn.exe" by double-clicking.

(5) Download utility (FILEDG32.EXE)
Make a copy of the download utility in the temporary folder in the C drive.

(6) Maintenance driver (MaintenanceDriver.zip), if not installed
Make a copy of the maintenance driver in the temporary folder in the C drive.
Extract the copied file and install it, referring to APPENDIX 3 "INSTALLING THE MAINTENANCE PRINTER DRIVER."

(7) Firmware
D00XXX_$.djf (For installing firmware using a USB flash memory or PC)
D00XXX_$.upd (For installing firmware using a PC)

(8) USB flash memory

(9) Stylus

(10) Data files of print patterns

(11) Color test chart CTC-001

1.1 Customize destinations (Maintenance mode 74)

Customize destinations, referring to Chapter 5, Section 1.3.23 "Customizing Destinations (Maintenance mode 74)."
If "PLS UPDATE PROG" appears on the LCD, install the firmware using the procedure in Section 1.3.

1.2 Set the CIS type (Maintenance mode 59)

Set the CIS type, referring to Chapter 5, Section 1.3.17 "Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)."

If "PLS UPDATE PROG" appears on the LCD, install the firmware using the procedure in Section 1.3.

1.3 Install the firmware (Maintenance mode 28)

This procedure is not required unless "PLS UPDATE PROG" appears on the LCD in Section 1.1 or 1.2. If the message appears, install the latest firmware, referring to Chapter 5, Section 1.3.7 "Updating of Firmware Using a USB flash memory (Maintenance mode 28)."

It is also possible to install the firmware using a PC according to the following procedure.

(1) Turn the machine on and switch it to the maintenance mode.

(2) Connect the machine to your PC using a USB cable.

(3) On the PC, run "filedg32.exe."

(4) Drag and drop the firmware (e.g., D00XXX_A.djf) onto the Brother Maintenance USB Printer driver icon in the filedg32 window.
After approx. 2 to 3 minutes, the loading operation is complete and the machine automatically reboots and returns to standby.

(5) On the machine, display the version of the installed firmware on the LCD to check that the firmware installation has been successfully finished, referring to Chapter 5, Section 2.1 "Displaying the Firmware Version."

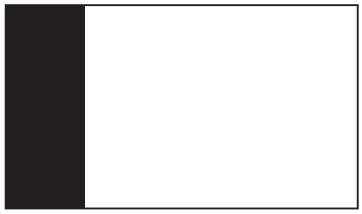
Note: If loading operation ends abnormally, turn the machine OFF and ON. Wait for the machine to emit a long beep and automatically enter the firmware loading mode, and then perform the loading procedure above again with the firmware having an extension upd.

If the machine does not automatically enter the firmware loading mode, perform the following procedure for switching to that mode and then load the firmware having an extension upd.

1) While holding down , plug the power cord into an electrical outlet. When the LED power indicator lights, release and immediately press once to display the following pattern.



2) Within three seconds after the above pattern appears, hold down for approximately two seconds to display the following pattern.



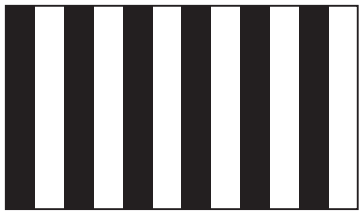
3) Within three seconds after the above pattern appears, press once to display the following pattern.



4) Within three seconds after the above pattern appears, press two times to display the following pattern.



5) Within three seconds after the above pattern appears, press three times to display the following pattern.



1.4 Set the serial number (Maintenance mode 80)

Set the serial number, referring to Chapter 5, Section 1.3.28 "Display of the Equipment's Log (Maintenance mode 80)."

The serial number can also be set with the service setting tool (BrUsbSn.exe) that enables the head property information to be updated ("1.7 Updating of head property information (Maintenance mode 68)") at the same time.

The serial number setting procedure is given below.

(1) Turn the machine on and switch it to the maintenance mode.

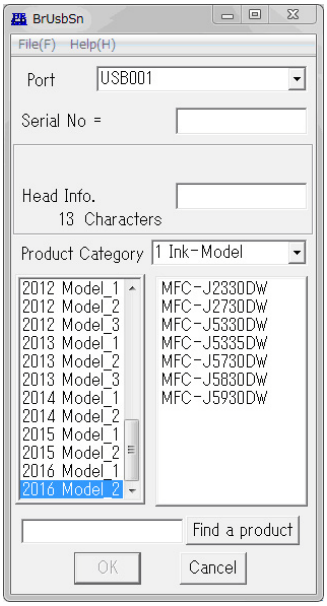
(2) Connect the machine to your PC using a USB cable.

(3) Double-click the memory access tool (MemoryAccessTool.exe) to display "Maintenance Exception Tool" window.

(4) After checking that the printer is set to "Brother Maintenance USB Printer" on the window, click **Execute**.

Tip: Running the memory access tool enables you to write the setting information. When the main power of the product is turned off, it will disable you to write the information. Run the memory access tool again.

(5) On the PC, run the service setting tool (BrUsbSn.exe) to display the following window.



(6) In **Product Category**, select **1. Ink-Model**.

(7) Select **2021 Model_3**.

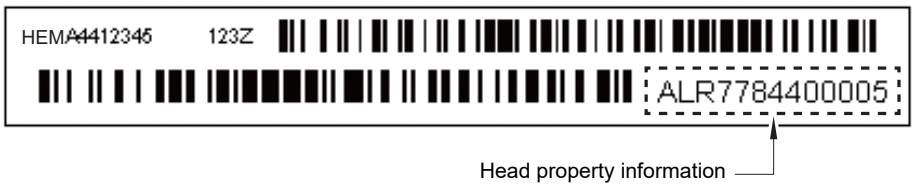
(8) In **Port** on the BrUsbSn screen, select the port number assigned to the Brother Maintenance USB Printer.

If the port number is unknown, follow steps 1) through 4) below.

1) Click **Start** | **Devices and Printers**.
2) Right-click the Brother Maintenance USB Printer driver icon.
3) Click **Properties**.
4) Click the **Ports** tab.

(9) In the **Serial No.** box on the BrUsbSn screen, type the 15-digit serial number which is printed on the serial number label attached to the machine.

(10) In the **Head Info.** box, type the 13-digit head property information. The head property information is printed on the bar code label attached to the head/carriage unit.



(11) Click the **OK**.

(12) Wait for the confirmation screen of the entered serial number and head property information to appear, then click **Yes**.

(13) Use Maintenance mode 80 to display the serial number and head property information and check that the entered data is correct.

1.5 Initialize the EEPROM parameters (Maintenance mode 01)

Initialize the EEPROM parameters, referring to Chapter 5, Section 1.3.1 "EEPROM Parameter Initialization (Maintenance mode 01, 91)."

1.6 Restore the head calibration data (Maintenance mode 68)

Restore head calibration data that has been backed up in a USB flash memory, referring to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)."

1.7 Updating of head property information (Maintenance mode 68)

Update the head property information, referring to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)."

The head property information can also be updated with the service setting tool (BrUsbSn.exe). For details, refer to “1.4 Set the serial number (Maintenance mode 80)”.

1.8 Restore machine information (Maintenance mode 46)

Restore the machine information and user setting information that have been backed up in a USB flash memory, referring to Chapter 5, Section 1.3.11 "Backup of Machine Information (Maintenance mode 46)."

If the machine information is successfully restored, it is not necessary to perform operations given in Sections 1.9 to 1.15.

If the machine has failed to restore the machine information from the USB flash memory, replace the ink absorber box and flushing box and then reset their counts using the procedure given in Section 1.14.

1.9 Adjust the touch panel (Maintenance mode 78)

Adjust the touch panel, referring to Chapter 5, Section 1.3.27 "Adjustment of Touch Panel (Maintenance mode 78)."

1.10 Acquire white/black level data (Maintenance mode 55)

Acquire white/black level data, referring to Chapter 5, Section 1.3.14 "Acquisition of White/Black Level Data (Maintenance mode 55)."

1.11 Initialize the Engine Adjustment Value (Maintenance mode 97)

Execute the operation, referring to Chapter 5, Section 1.3.34 "Initialization of Engine Adjustment Value (Maintenance mode 97)."

1.12 Adjustment of software correction for paper feeding/head calibration/ inclination/corrugation/ruled lines (User menu)

(1) Press . Press **Maintenance**.
(2) Press **Improve Print Quality**. Press **Alignment**.
(3) Perform auto adjustment according to the instructions on the LCD.

1.13 Adjustment of margins in borderless printing (Maintenance mode 66)

Refer to Chapter 5, Section 1.3.20 "Adjustment of Margins in Borderless Printing (Maintenance mode 66)."

1.14 Reset purge and flushing counts

(1) Switch the machine to the maintenance mode.

(2) Press the **8** and **0** keys in this order.

(3) Press the ▼ key several times until the “PURGE COUNT” (or “FLUSHING”) appears on the LCD.

(4) Press the ► key once to display “PURGE: *****” (or “FLSBK: *****” and then press the ▼ key once to display “FLSCL: *****”) on the LCD.

(5) Press the **2**, **7**, **8** and **3** keys in this order to reset the purge (or flushing) count.

Once the purge or flushing count reaches the upper limit value*, a message, “Unable to Print 46” is displayed, and the purge operation and flushing operation are prohibited, respectively.

If this occurs, it is required to replace the ink absorber box or the flushing box with new ones, and reset the purge count or the flushing count in the steps described above.

* Upper limit value of Purge/Flushing count

	Purge count	Flushing count	
		BK	CL
Model without lower tray	11,296	2,148,213,324	
Model with lower tray	16,081		

Note: Even if you reset the purge count, it will not become 0, since the ink in the intermediate absorber box is taken into consideration.

1.15 < Paper remaining sensor model only > Disable inter-machine variation calibration for paper remaining sensor (Maintenance mode 88 <Selector 1 on AMS04>)

Refer to Chapter 5, Section 1.3.32 "Assurance Mode Switch Setting (Maintenance mode 88)"<Selector 1 on AMS04>.

1.16 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

Refer to Chapter 5, Section 1.3.30 "Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)."

1.17 Check scanning and printing

To make a final check after replacement of the main PCB, print test patterns for updating of paper feeding correction values, adjustment of software correction for inclination/corrugation/ruled lines, adjustment of margins in borderless printing, and then check a copy of a color test chart CTC-001.

Adjustment of software correction for paper feeding/head calibration/inclination/ corrugation/ruled lines

(1) Press . Press **Maintenance**.
(2) Press **Improve Print Quality**. Press **Alignment**.
(3) Perform auto adjustment according to the instructions on the LCD.

Adjustment of margins in borderless printing

Check the test patterns, referring to Chapter 5, Section 1.3.20 "Adjustment of Margins in Borderless Printing (Maintenance mode 66)."

Making a copy of a color test chart CTC-001

(1) Set the printed color test chart CTC-001 on the document cover glass with its printed face down.
(2) Proceed **Copy** > **Options** > **Quality** and set to "Normal" on the home screen, press the **Color Start** key to copy the document.
(3) Check the copied color test chart CTC-001 for problems. If any problem is found, perform the adjustment procedure again.
(4) Duplex scanning models: Turn over the printed color test chart CTC-001, and set into the ADF. Copy it with duplex-printing and check whether the color test chart CTC-001 printed on the second side has any problem.

2 IF YOU REPLACE THE HEAD/CARRIAGE UNIT

<Operations>

2.1 Update the head property information (Maintenance mode 68)

2.2 Perform ink supply purge (Maintenance mode 76)

2.3 Check head nozzles (Maintenance mode 09)

2.4 Adjust head inclination

2.5 Adjustment of software correction for paper feeding/head calibration/inclination/ corrugation/ruled lines (User menu)

2.6 Adjustment of margins in borderless printing (Maintenance mode 66)

2.7 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

2.8 Check printing

2.9 Obtain machine information at the user site (Instruction to the end user)

<Requirements>

(1) USB cable (one piece)

(2) PC (Windows® XP or later)
Create a temporary folder in the C drive.

(3) Memory access tool (MemoryAccessTool.exe)

(4) Service setting tool (brusbsn.zip)
Make a copy of the service setting tool in the temporary folder in the C drive.
Extract the copied file and run "brusbsn.exe" by double-clicking.

(5) Download utility (FILEDG32.EXE)
Make a copy of the download utility in the temporary folder in the C drive.

(6) Maintenance driver (MaintenanceDriver.zip), if not installed
Make a copy of the maintenance driver in the temporary folder in the C drive.
Extract the copied file and install it, referring to APPENDIX 3 "INSTALLING THE MAINTENANCE PRINTER DRIVER."

(7) USB flash memory

(8) Data files of print patterns

2.1 Update the head property information (Maintenance mode 68)

Update the head property information, referring to Chapter 5, Section 1.3.21 "Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)."

The head property information can also be updated with the service setting tool (BrUsbSn.exe).

The head property information updating procedure is given below.

(1) Turn the machine on and switch it to the maintenance mode.

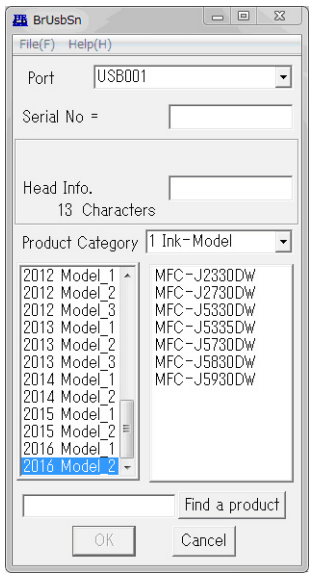
(2) Connect the machine to your PC using a USB cable.

(3) Double-click the memory access tool (MemoryAccessTool.exe) to display "Maintenance Exception Tool" window.

(4) After checking that the printer is set to "Brother Maintenance USB Printer" on the window, click **Execute**.

Tip: Running the memory access tool enables you to write the setting information. When the main power of the product is turned off, it will disable you to write the information. Run the memory access tool again.

(5) On the PC, run the service setting tool (BrUsbSn.exe)to display the following window.



(6) In **Product Category**, select **1. Ink-Model**.

(7) Select **2021 Model_3**.

(8) In **Port** on the BrUsbSn screen, select the port number assigned to the Brother Maintenance USB Printer.

If the port number is unknown, follow steps 1) through 4) below.

1) Click **Start** | **Devices and Printers**.

2) Right-click the Brother Maintenance USB Printer driver icon.

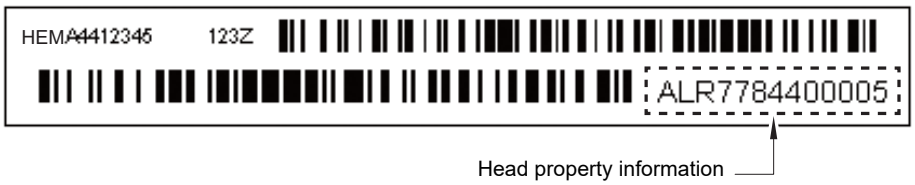
3) Click **Properties**.

4) Click the **Ports** tab.

(9) In the **Head Info.** box, type the 13-digit head property information. The head property information is printed on the bar code label attached to the head/carriage unit.

(10)Click the **OK**.

(11) Wait for the confirmation screen of the entered serial number and head property information to appear, then click **Yes.**



(12) Use Maintenance mode 80 to display the head property information and check that the entered data is correct.

2.2 Perform ink supply purge (Maintenance mode 76)

(1) Open the ink cartridge cover, set comparatively-new ink cartridges (having sufficient ink) into the ink refill ASSY, and close the ink cartridge cover.

(2) Carry out a purge operation (with maintenance code 76) using the steps below.

1) Press the **7** and **6** keys in this order.
The machine displays "CLEANING ALL" on the LCD and enters the purge mode.

2) Press the **4** and **Mono Start** keys in this order to start an initial purge.
The machine starts an initial purge that refills the ink supply tubes and the print head with fresh ink.

2.3 Check head nozzles (Maintenance mode 09)

To check that the head/carriage unit normally sprays ink droplets from all head nozzles, print out a nozzle test pattern with Maintenance mode 09 with the following steps.

(1) Press the **0**, **9** and **Mono Start** keys in this order to print out a nozzle test pattern.

(2) If dot missing or any other print quality problem is found, use Maintenance mode 76 to perform an appropriate purge operation (refer to Chapter 5, Section 1.3.25 "Purge Operation (Maintenance mode 76).")

2.4 Adjust head inclination

(1) Press . Press **Maintenance**.

(2) Press **Improve Print Quality**. Press **Alignment**.

(3) Press **Manual**.

(4) Press **Advanced alignment**.

(5) Perform Manual adjustment according to the instructions on the LCD.

(6) Re-print the adjustment patterns. If the sum of the selected values for Pattern C and Pattern D is between 8 and 12 inclusive, then the correction steps have been completed. If the sum of the selected values is 7 or smaller, or 13 or larger, then adjust the inclination of the head/carriage unit.

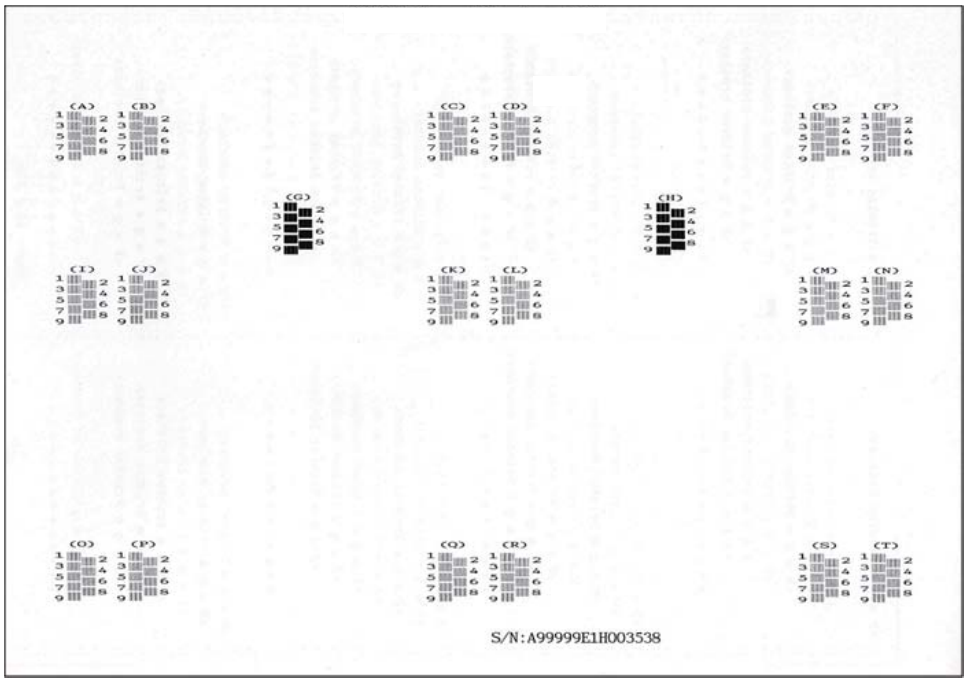


Fig. 4-1

■ Head inclination adjustment procedure

1) Switch the machine to the maintenance mode and press the **6**, **3**, **Mono Start**, and ***** keys in this order to move the head/carriage unit to the adjustment position.
2) If the sum of the selected values is 7 or smaller, turn the external ring to the positive side by 5 scale marks. If the external ring cannot turn exceeding 3 to 4 scale marks, turn the external ring to the +7 position.

   If the external ring cannot turn exceeding 2 scale marks, turn the internal ring to the +1 position and then turn the external ring to the center (0 position).

   If the sum of the selected values is 13 or larger, turn the external ring to the negative side by 5 scale marks. If the external ring cannot turn exceeding 3 to 4 scale marks, turn the external ring to the -7 position.

   If the external ring cannot turn exceeding 2 scale marks, turn the internal ring to the -1 position and then turn the external ring to the center (0 position).

   If the internal ring is already set in the +1 or -1 position and cannot be turned further, then replace the head/carriage unit.

Note: When turning the internal ring, hold down the head/carriage unit. Failure to do so may cause missing block.

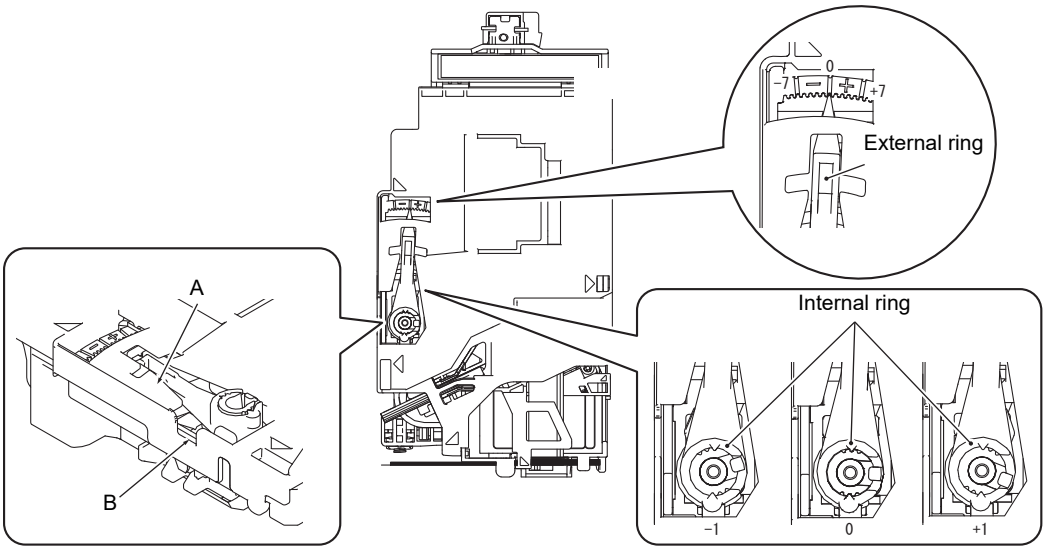


Fig. 4-2

■ Turning the rings

External ring

Apply the tip of a flat screwdriver to the groove at section "A". While pressing down the external ring with the screwdriver, turn it to the + or - position.

Internal ring

Insert the tip of a flat screwdriver under the external ring from section "B" and remove the external ring upwards. Put the external ring on the internal ring inside out and use it as a wrench to turn the internal ring to the + or - position.

3) Go back to step (2), print out a test pattern again, and check the C and D patterns. Repeat this procedure until the sum of block number that shows the most indistinct horizontal lines comes to between 8 and 12, inclusive.

2.5 Adjustment of software correction for paper feeding/head calibration/ inclination/corrugation/ruled lines (User menu)

(1) Press . Press **Maintenance**.

(2) Press **Improve Print Quality**. Press **Alignment**.

(3) Perform auto adjustment according to the instructions on the LCD.

2.6 Adjustment of margins in borderless printing (Maintenance mode 66)

Refer to Chapter 5, Section 1.3.20 "Adjustment of Margins in Borderless Printing (Maintenance mode 66)."

2.7 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

Refer to Chapter 5, Section 1.3.30 "Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)."

2.8 Check printing

Under "1.17 Check scanning and printing" in this chapter, refer to and take steps for "Updating of paper feeding correction values", "Adjustment of software correction for inclination/corrugation/ruled lines" and "Adjustment of margins in borderless printing".

2.9 Obtain machine information at the user site (Instruction to the end user)

When the user receives the repaired machine, he/she needs to retrieve the head calibration data and save it into his/her PC at the user site. The service personnel should contact the user to instruct him/her to perform the following procedure.

< Windows® >

(1) On the user computer, click **Start** | **Devices and Printers** to display the Printers window.
(2) Right-click the Brother Printer driver icon to display the pull-down menu.
(3) Click **Properties** | **Print Settings** | **Advanced** | **Other print options** | **Retrieve Printer's Color Data**.
(4) Check that the **Use Printer's Color Data** check box is selected.
(5) Click **Retrieve Printer's Color Data**.
(6) Wait for the dialog to appear and click **OK**.

< Macintosh >

(1) On the user Mac, display the printer list and select the repaired machine.
(2) Select **Open Print Queue** | **Printer Setup** | **Utility** | **Open Printer Utility**.
(3) From the menu bar, select **Control** | **Retrieve Printer's Color Data**.
(4) Wait for the dialog to appear and click **OK**.

* For detailed instructions on how to obtain machine information, refer to the FAQ at the Brother Solution Center.

3 IF YOU REPLACE THE DOCUMENT SCANNER UNIT, ADF UNIT OR CIS UNIT

<Operations>

3.1 Set the CIS type (Maintenance mode 59) (Not required after replacement of the ADF unit on simplex scanning models)

3.2 Acquire white/black level data (Maintenance mode 55) (Not required after replacement of the ADF unit on simplex scanning models)

3.3 Check scanning

<Requirements>

(1) USB cable (one piece)

(2) PC (Windows® XP or later)
Create a temporary folder in the C drive.

(3) Download utility (FILEDG32.EXE)
Make a copy of the download utility in the temporary folder in the C drive.

(4) Maintenance driver (MaintenanceDriver.zip), if not installed
Make a copy of the maintenance driver in the temporary folder in the C drive.
Extract the copied file and install it, referring to APPENDIX 3 "INSTALLING THE MAINTENANCE PRINTER DRIVER."

(5) Firmware
D00XXX_$.djf (For installing firmware using a USB flash memory or PC)
D00XXX_$.upd (For installing firmware using a PC)

(6) USB flash memory

(7) Color test chart CTC-001

3.1 Set the CIS type (Maintenance mode 59) (Not required after replacement of the ADF unit on simplex scanning models)

Set the CIS type, referring to Chapter 5, Section 1.3.17 "Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)."

If "PLS UPDATE PROG" appears on the LCD, install the firmware using the procedure in Chapter 5, Section 1.3.7 "Updating of Firmware Using a USB flash memory (Maintenance mode 28)."

3.2 Acquire white/black level data (Maintenance mode 55) (Not required after replacement of the ADF unit on simplex scanning models)

Acquire white/black level data, referring to Chapter 5, Section 1.3.14 "Acquisition of White/Black Level Data (Maintenance mode 55)."

3.3 Check scanning

To make a final check after replacement, check a copy of a color test chart CTC-001.

Check scanning, referring to "Making a copy of a color test chart CTC-001" in “1.17 Check scanning and printing”.

4 IF YOU REPLACE THE CONTROL PANEL ASSY

<Operations>

4.1 Adjust the touch panel (Maintenance mode 78)

4.2 Check LCD operation (Maintenance mode 12)

4.3 Check the operation of the control panel keys (Maintenance mode 13)

<Requirements>

(1) Stylus

4.1 Adjust the touch panel (Maintenance mode 78)

Adjust the touch panel, referring to Chapter 5, Section 1.3.27 "Adjustment of Touch Panel (Maintenance mode 78)."

4.2 Check LCD operation (Maintenance mode 12)

Check the LCD operation, referring to Chapter 5, Section 1.3.5 "Operational Check of LCD (Maintenance mode 12)."

4.3 Check the operation of the control panel keys (Maintenance mode 13)

Check the operation of the control panel keys, referring to Chapter 5, Section 1.3.6 "Operational Check of Keys on Control Panel (Maintenance mode 13)."

5 IF YOU REPLACE THE INK ABSORBER BOX OR FLUSHING BOX

<Operations>

5.1 Reset purge or flushing counts

<Requirements> None

5.1 Reset purge or flushing counts

Reset purge or flushing counts, referring to “1.14 Reset purge and flushing counts”.

6 IF YOU REPLACE THE PAPER FEEDING RELATED PARTS AND MAINTENANCE UNIT

The paper feeding related parts to be adjusted after replacement are listed below.

- Paper feed roller
- Paper ejection roller
- Switchback roller
- Carriage motor
- Paper feed motor
- CR encoder strip
- PF encoder disk
- PF encoder sensor PCB
- CR timing belt
- Registration sensor PCB
- Carriage PCB ASSY
- Platen
- Flushing box
- Flushing base
- Maintenance unit

<Operations>

6.1 Check head nozzles (Maintenance mode 09)

6.2 Adjustment of software correction for paper feeding/head calibration/inclination/ corrugation/ruled lines (User menu)

6.3 Adjustment of margins in borderless printing (Maintenance mode 66)

6.4 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

6.5 Check printing

<Requirements>

(1) USB cable (one piece)

(2) PC (Windows® XP or later)
Create a temporary folder in the C drive.

(3) Download utility (FILEDG32.EXE)
Make a copy of the download utility in the temporary folder in the C drive.

(4) Maintenance driver (MaintenanceDriver.zip), if not installed
Make a copy of the maintenance driver in the temporary folder in the C drive.
Extract the copied file and install it, referring to APPENDIX 3 "INSTALLING THE MAINTENANCE PRINTER DRIVER."

(5) USB flash memory

(6) Data files of print patterns

6.1 Check head nozzles (Maintenance mode 09)

Check head nozzles, referring to “2.3 Check head nozzles (Maintenance mode 09)”.

6.2 Adjustment of software correction for paper feeding/head calibration/ inclination/corrugation/ruled lines (User menu)

(1) Press . Press **Maintenance**.
(2) Press **Improve Print Quality**. Press **Alignment**.
(3) Perform auto adjustment according to the instructions on the LCD.

6.3 Adjustment of margins in borderless printing (Maintenance mode 66)

Refer to Chapter 5, Section 1.3.20 "Adjustment of Margins in Borderless Printing (Maintenance mode 66)."

6.4 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

Refer to Chapter 5, Section 1.3.30 "Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)."

6.5 Check printing

Under “1.17 Check scanning and printing” in this chapter, refer to and take steps for "Updating of paper feeding correction values", "Adjustment of software correction for inclination/corrugation/ruled lines" and "Adjustment of margins in borderless printing".

7 IF YOU REPLACE THE INK DROP DETECT PCB ASSY

<Operations>

7.1 Check head nozzles (Maintenance mode 09)

7.2 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

<Requirements>

None

7.1 Check head nozzles (Maintenance mode 09)

Check head nozzles, referring to “2.3 Check head nozzles (Maintenance mode 09)”

7.2 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

Refer to Chapter 5, Section 1.3.30 "Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)."

CHAPTER 5 SERVICE FUNCTIONS

1 MAINTENANCE MODE

The maintenance mode is exclusively designed for the purpose of checks, settings and adjustments of the machine and can be triggered by the keys on the control panel.

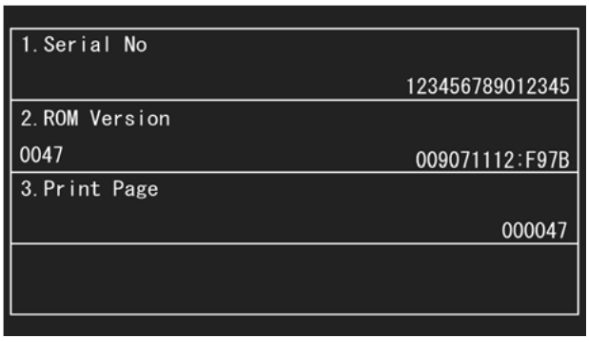
In the maintenance mode, you can perform operational checks of sensors, perform a print test, display the log information or error codes, and configure worker switches (WSW).

1.1 Entry to the Maintenance Mode

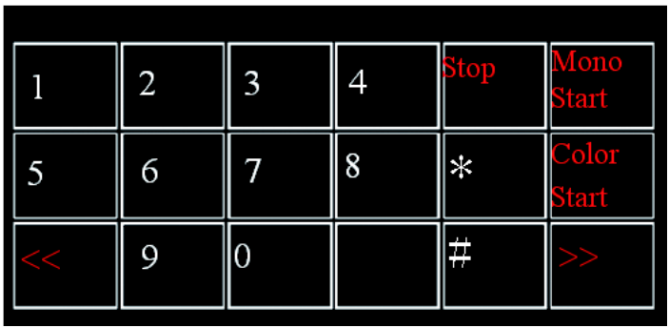
1.1.1 How to Enter the Maintenance Mode for Service Personnel

< Operating Procedure >

(1) When the machine is on standby, hold down the **Home** key for approx. 5 seconds to display the following screen on the LCD.



(2) Press the blank area at the bottom of the LCD to display the following screen.



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(3) Press the *****, **2**, **8**, **6** and **4** keys on the LCD in this order. The machine displays the following screen on the LCD and enters the maintenance mode.



(4) To select one of the maintenance mode functions listed on the 5-4 page, enter the corresponding 2-digit code using the numerical keys.

Notes: - Pressing the **9** key twice in the initial stage of the maintenance mode switches the machine to standby.

- Pressing the **X** key after entering only one digit returns the machine to the initial stage of the maintenance mode.
- If an invalid maintenance code is entered, the machine returns to the initial stage of the maintenance mode.

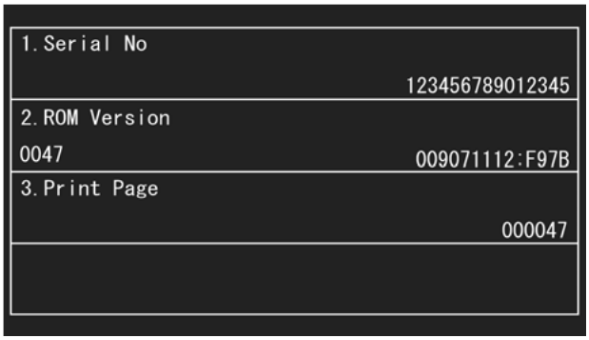
1.1.2 How to Enter the End User-accessible Maintenance Mode

Basically, the maintenance-mode functions should be accessed by service personnel only. However, you can allow end users to access some of these under the guidance of service personnel (e.g., by telephone).

The user-accessible functions are ***shaded*** in the table given on the 5-4 page. (Maintenance mode 10, 11, 12, 28, 37, 45, 46, 53, 54, 56, 66, 75, 76, 77, 80, 82, 87, 88, 91)

< Operating Procedure >

(1) When the machine is on standby, hold down the **Home** key for approx. 5 seconds to display the following screen on the LCD.



(2) Press the blank area at the bottom of the LCD to display the following screen.



(3) Press the *****, **0** and **#** keys on the LCD in this order. The machine becomes ready to accept entry from the keys. Enter the desired maintenance code.

(4) When each of the maintenance mode functions is completed, the machine automatically returns to standby.

Note: To stop the above procedure in midway and switch to standby, press the **X** key.

1.2 List of Maintenance-mode Functions

Maintenance Mode	Function	Reference Section (Page)
01	EEPROM Parameter Initialization	1.3.1 (5-5)
08	ADF Performance Test	1.3.2 (5-6)
09	Printout of Test Pattern	1.3.3 (5-7)
10	Worker Switch (WSW) Setting	1.3.4 (5-8)
11	Printout of Worker Switch (WSW) Data	1.3.4 (5-8)
12	Operational Check of LCD	1.3.5 (5-10)
13	Operational Check of Keys on Control Panel	1.3.6 (5-11)
28	Updating of Firmware Using a USB flash memory	1.3.7 (5-12)
32	Sensor Operational Check	1.3.8 (5-13)
37 *	Printout of Dial Log	1.3.9 (5-15)
45	PCL/PS function setting (MFC-J5955DW only)	1.3.10 (5-16)
46	Backup of Machine Information	1.3.11 (5-17)
53	Transfer of Received FAX Data and/or Equipment's Log	1.3.12 (5-19)
54	Fine Adjustment of Scanning Position	1.3.13 (5-21)
55	Acquisition of White/Black Level Data	1.3.14 (5-22)
56	Periodic Purge Time Setting (Simple Ink cartridge model only)	1.3.15 (5-22)
57	Cartridge IC Communication Check	1.3.16 (5-23)
59	Checking of CIS Travel and Setting of CIS Type	1.3.17 (5-24)
61	Printout of PRN/JPEG Files in USB Flash Memory	1.3.18 (5-25)
63	Move of the Head/Carriage Unit to the Adjustment Position	1.3.19 (5-26)
66	Adjustment of Margins in Borderless Printing	1.3.20 (5-27)
68	Updating of Head Property Information and Backup/Restoration of Head Calibration Data	1.3.21 (5-29)
69	Traveling Speed Check of Head/Carriage Unit	1.3.22 (5-31)
74	Customizing Destinations	1.3.23 (5-31)
75	Move of the Head/Carriage Unit to the Center	1.3.24 (5-34)
76	Purge Operation	1.3.25 (5-35)
77	Print of the Maintenance Information	1.3.26 (5-39)
78	Adjustment of Touch Panel	1.3.27 (5-45)
80	Display of the Equipment's Log	1.3.28 (5-46)
82	Equipment Error Code Indication	1.3.29 (5-60)
83	Confirmation of Ink Discharge Detection Function	1.3.30 (5-61)
87	Output of Transmission Log to the Telephone Line	1.3.31 (5-62)
88	Assurance Mode Switch Setting (AMS)	1.3.32 (5-63)
89	Printout of Block Pattern	1.3.33 (5-71)
91	EEPROM Parameter Initialization	1.3.1 (5-5)
97	Initialization of Engine Adjustment Value	1.3.34 (5-71)
99	Exit from the Maintenance Mode	

Shaded maintenance mode functions are available to end users.
* Exclusive to the end user-accessible maintenance mode.

1.3 Detailed Description of Maintenance-mode Functions

1.3.1 EEPROM Parameter Initialization (Maintenance mode 01, 91)

< Function >

This function initializes the parameters, user switches and worker switches settings registered in the EEPROM, to the initial values. Entering Maintenance mode 01 initializes almost all of the EEPROM areas, but entering Maintenance mode 91 does not initialize some areas, as listed below.

<table>
<tr><th>Data item \ Maintenance mode</th><th>01</th><th>91</th></tr>
<tr><td>Maintenance-mode functions
User switches
Worker switches (Regular Ink cartridge model)
Remote activation code
Assurance mode switch settings
Outside line number</td><td rowspan="2">All of these will be initialized.</td><td>These will be initialized.</td></tr>
<tr><td>Maintenance-mode functions
Worker switches (Simple Ink cartridge model)
Activity report
Station ID data
Telephone function registration
Speed dialing
Group dialing
Call transfer data</td><td>These will <u>not</u> be initialized.</td></tr>
<tr><td>EEPROM customizing code (4-digit)</td><td colspan="2">This will <u>not</u> be initialized.</td></tr>
</table>

< Operating Procedure >

(1) Press the **0** and **1** keys in this order to display "SELECT 01?" on the LCD (or press the **9** and **1** keys in this order according to your need to display "SELECT 91?") in the initial stage of the maintenance mode.

(2) Press the **Mono Start** key.
The "PARAMETER INIT" appears on the LCD.

(3) Upon completion of parameter initialization, the machine returns to the initial stage of the maintenance mode.

1.3.2 ADF Performance Test (Maintenance mode 08)

< Function >

The function counts the documents fed by the automatic document feeder (ADF) and displays the count on the LCD for checking the ADF performance.

< Operating Procedure >

(1) Set documents on the ADF unit.
The "Doc. Ready" appears on the LCD.

(2) Press the **0** and **8** keys in this order in the initial stage of the maintenance mode.
The machine feeds the documents in and out while counting them and displaying "ADF CHECK P.**" on the LCD. (** shows the current count).

(3) Press the **X** key to return the machine to the initial stage of the maintenance mode.

Note: If no document is set on the ADF, the machine displays "NO DOCUMENT" on the LCD and returns to the initial stage of the maintenance mode.

1.3.3 Printout of Test Pattern (Maintenance mode 09)

< Function >

This function prints out a test pattern (Print Quality Check sheet) to allow the service personnel to check the print quality, together with the serial number.
If any print quality problem is found, use “1.3.25 Purge Operation (Maintenance mode 76)” to perform head cleaning.

< Operating Procedure >

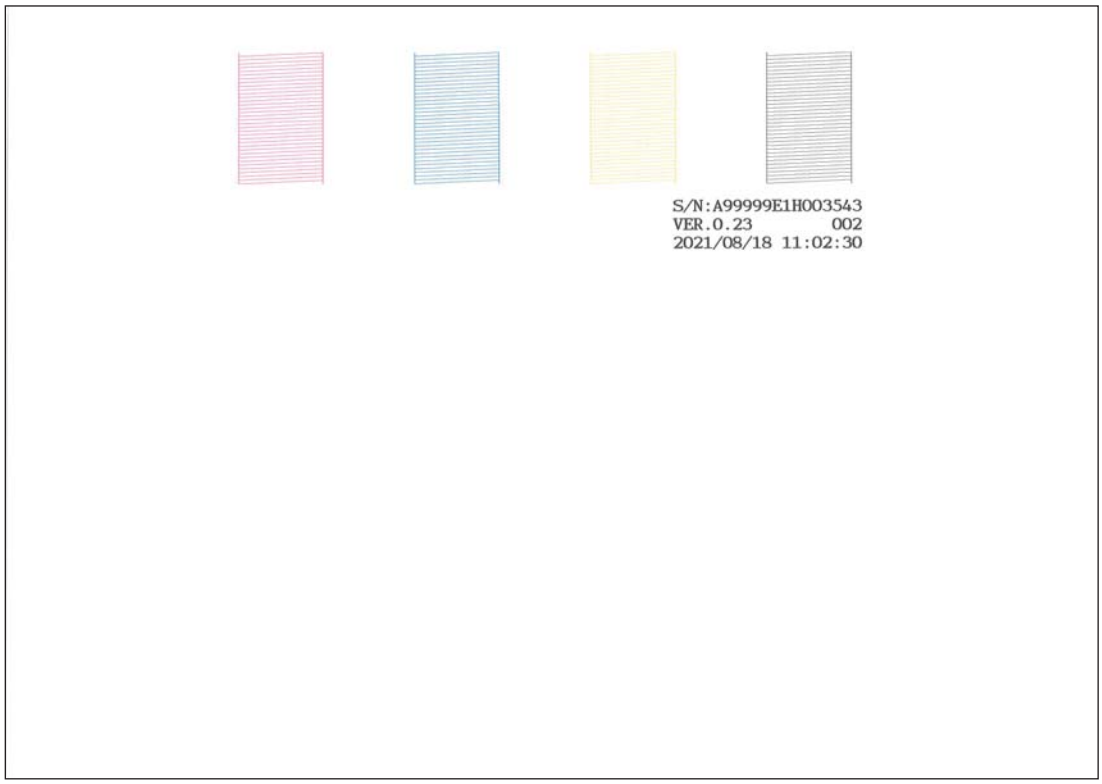
(1) Press the **0** and **9** keys in this order in the initial stage of the maintenance mode.

(2) Press the **Mono Start** key. The machine displays "PRINTING" on the LCD and prints out a test pattern.
If no recording paper is loaded in the paper tray, an error is displayed.

(3) Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

Note: When recording paper runs out during printing, load recording paper in the paper tray and open/close the document scanner, and printing resumes.

■ Test Pattern



1.3.4 Worker Switch Setting and Printout (Maintenance modes 10 and 11)

[1] Worker switch setting (Maintenance mode 10)

< Function >

The worker switch functions customize the machine to meet various needs. They can be activated with the procedures using the control panel keys.
The worker switches have been configured at the factory in conformity to the communications standards and codes of each country. Do not disturb them unless necessary.

* For details about the worker switches, refer to the document separately issued.

< Operating Procedure >

(1) Press the **1** and **0** keys in this order in the initial stage of the maintenance mode.
The machine displays the "WSW00" on the LCD.

(2) Enter a worker switch number to be modified.
The following appears on the LCD:

```
              Selector 1    Selector 8
                   ↓             ↓
WSWXX = 0 0 0 0 0 0 0 0
```

(3) Press the ◄ or ► key to move the cursor to the selector position to be modified.
Press the **0** or **1** key to change the setting.

(4) Press the **SET** key. This operation saves the newly entered selector values onto the EEPROM and readies the machine for accepting a worker switch number ("WSW00").

(5) When all the switches are entered, press the **X** key to return the machine to the initial stage of the maintenance mode.

Notes: - To cancel the setting and return to the initial stage of the maintenance mode, press the **X** key.
- If there is a pause of more than one minute after a single-digit number is entered for double-digit worker switch numbers, the machine automatically returns to the initial stage of the maintenance mode.

[2] Printout of worker switch data (Maintenance mode 11)

< Function >

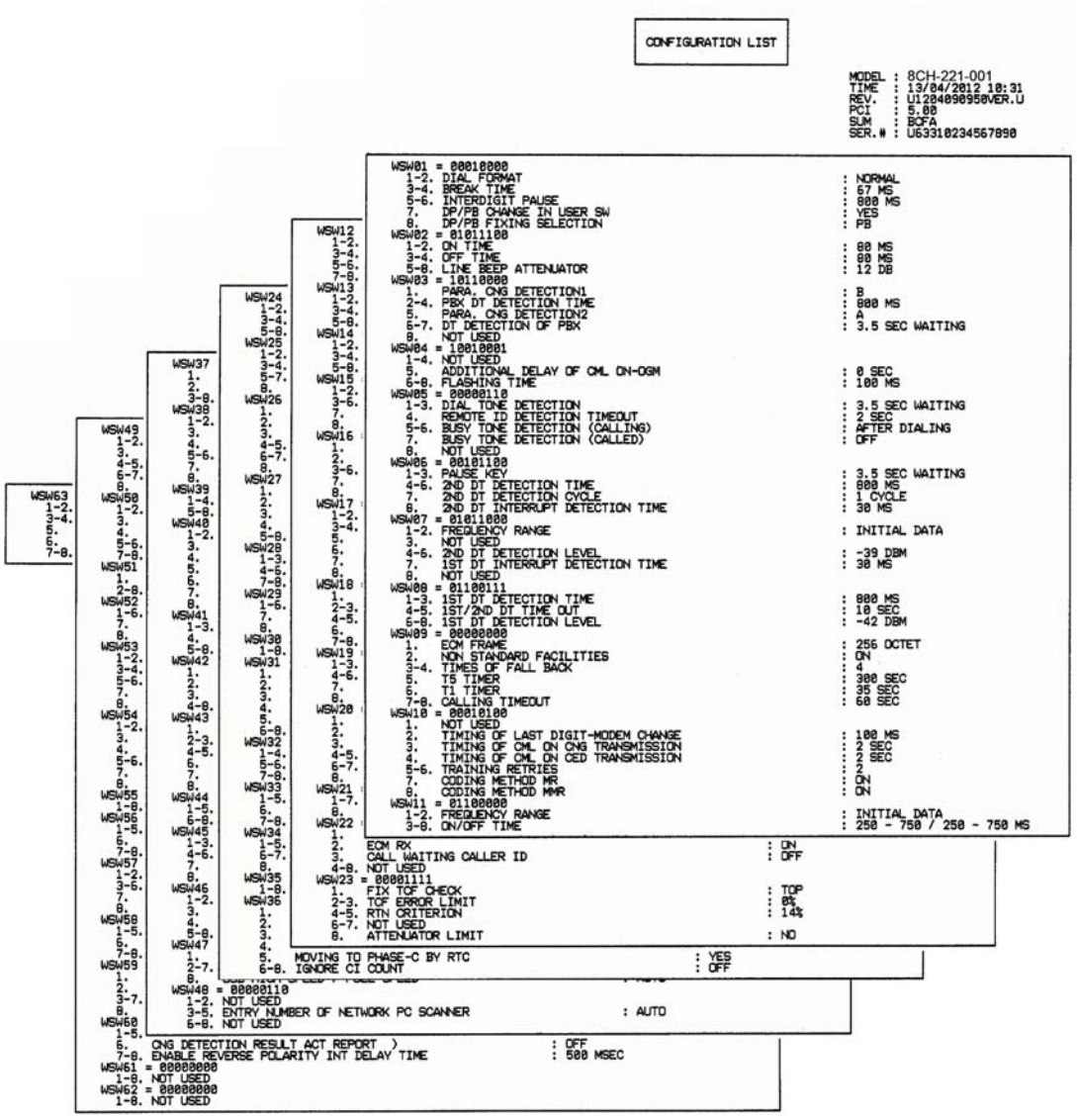
This function prints out the setting items of the worker switches and their contents specified.

< Operating Procedure >

(1) Press the **1** key twice in the initial stage of the maintenance mode.
The machine shows "PRINTING" on the LCD and prints out the configuration list as shown below.
If no recording paper is loaded in the paper tray, printing will be canceled.

(2) Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

Note: When recording paper runs out during printing, load recording paper in the paper tray and open/close the document scanner, and printing resumes.



1.3.5 Operational Check of LCD (Maintenance mode 12)

< Function >

This function checks whether the LCD on the control panel works normally.

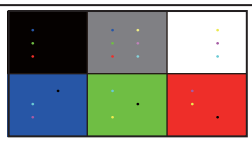
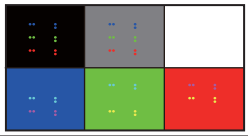
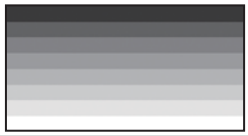
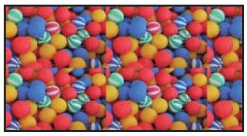
< Operating Procedure >

(1) Press the **1** and **2** keys in this order in the initial stage of the maintenance mode. A screen such as that shown in the following table will be displayed on the LCD.

(2) Press the **Power** key to switch between the screens shown in the "A" column and those shown in the "B" column.
Each time you press the **Home** or ▼ key, the LCD cycles through the screens in each column.
Pressing the **Home** or ▼ key while displaying Screen B-8 goes back to Screen B-1.
Pressing the **Back** or ▲ key goes back to the immediately preceding screen.

Note: You cannot switch to screens in the "B" column while displaying Screen A-7, even if you press the **Power** key.

(3) Press the **Stop** key while displaying Screen A-7 or Screen B-1 through B-8 to return the machine to the initial stage of the maintenance mode.

< Screen A-1 > Completely blank		< Screen B-1 > Bright point/flashing	
< Screen A-2 > All black		< Screen B-2 > Bright point	
< Screen A-3 > All gray		< Screen B-3 > White stepwise	
< Screen A-4 > All red		< Screen B-4 > Red stepwise	
< Screen A-5 > All green		< Screen B-5 > Green stepwise	
< Screen A-6 > All blue		< Screen B-6 > Blue stepwise	
< Screen A-7 > Image data		< Screen B-7 > Color bar	
		< Screen B-8 > All White with red frame	

1.3.6 Operational Check of Keys on Control Panel (Maintenance mode 13)

< Function >

This function checks the keys on the control panel for normal operation.

< Operating Procedure >

(1) Press the **1** and **3** keys in this order in the initial stage of the maintenance mode. The "00" appears on the LCD.

(2) Press the keys on the control panel in the order designated in the illustration shown below.
Each time a key is pressed, the LCD shows the corresponding number in 2 digits. Check that the number assigned to the pressed key matches the number shown on the LCD.
If a key is pressed out of order, "INVALID OPERATE" appears on the LCD. Press the **X** key and then press the correct key.

(3) After the last number key is pressed in the correct entry procedure, the machine makes a beep and return to the initial stage of the maintenance mode.
To terminate this operation halfway through the procedure and return to the initial stage of the maintenance mode, press the **X** key.



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1.3.7 Updating of Firmware Using a USB flash memory (Maintenance mode 28)

< Function >

This function updates firmware stored in the flash ROM on the main PCB using a USB flash memory. It enables updating of firmware without connecting the machine to a PC.

TIP: For instructions on how to update firmware when the main PCB has been replaced or for operations using a PC, refer to Chapter 4, Section 1.3 "Install the firmware (Maintenance mode 28)."

< Operating Procedure >

(1) Switch your PC ON and insert a USB flash memory.

(2) Create a folder named "BROTHER" in the top layer of the USB flash memory's directory and copy the firmware file having the extension ".djf" into that folder.

Note: Before copying, check that the firmware file name having the extension ".djf" matches your machine. The number of files having the extension ".djf" in the "BROTHER" folder should be 100 or less.

Tip: If a firmware file not matching the machine is used, the firmware cannot be updated, but note that you can superficially continue the operation until step (5) below without any error.

(3) Remove the USB flash memory from the PC and insert it into the machine in the initial stage of the maintenance mode.

(4) On the machine, press the **2** and **8** keys in this order.

The file name "********.djf" appears on the LCD.

(5) Press the ▲ or ▼ key to select the target firmware file.

(6) Press the **Mono Start** key.
"Program Updating" appears on the LCD.

Note: Never remove the USB flash memory from the machine when updating is in progress.

(7) Updating will complete in a few minutes, and the machine automatically restarts and returns to the standby state.
Remove the USB flash memory from the machine and store it in a safe place.

Note: If any of the error messages listed below appears, press the **X** key, and the machine returns to the initial stage of the maintenance mode.

Error Message	Cause
Card is used	The USB flash memory is being used by another operation.
Insert Card	No USB flash memory is inserted.
No file	No file with the djf extension. / No "BROTHER" folder exists.
Card Error	USB flash memory defective

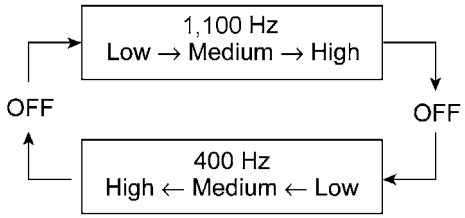
1.3.8 Sensor Operational Check (Maintenance mode 32)

< Function >

This function checks whether sensors work normally.

< Operating Procedure >

(1) Press the **3** and **2** keys in this order in the initial stage of the maintenance mode. The machine sounds 1,100 Hz and 400 Hz tones cyclically through the following volumes for testing the speaker:



Note: To stop beeping, press the **SET** key.

The LCD shows the 1st sensor group "DFDRCVRSCCPGCPAC."

(2) Press the **Mono Start** key to switch to the next sensor group.
If asterisks (**) appear on the LCD, it means that the corresponding sensor does not exist on the model.

Given below is the relationship between the LCD indication, sensor name and sensor status.

LCD	Sensors	Sensing status (display/no display)
DF	ADF document detection sensor	No document/Document present
DR	Document scanning position sensor	No document/Document present
CV	Document scanner sensor	Document scanner closed/Document scanner opened
RS	Registration sensor	No recording paper/Recording paper present
CC	Ink cartridge cover sensor	Cover closed/Cover opened
PG	Purge cam sensor	Out of origin/Origin
CP	Cap cam sensor	Out of origin/Origin
AC	ADF cover sensor	Cover closed/Cover opened
IK	Ink cartridge detection sensor (K)	Cartridge present/No cartridge*
IY	Ink cartridge detection sensor (Y)	Cartridge present/No cartridge*
IC	Ink cartridge detection sensor (C)	Cartridge present/No cartridge*
IM	Ink cartridge detection sensor (M)	Cartridge present/No cartridge*
EK	Ink remaining sensor (K)	Ink present/No ink
EY	Ink remaining sensor (Y)	Ink present/No ink
EC	Ink remaining sensor (C)	Ink present/No ink
EM	Ink remaining sensor (M)	Ink present/No ink
ST	T1 detection sensor	Paper tray #1 present/No paper tray #1
LT	T2 detection sensor	Paper tray #2 present/No paper tray #2
MP	MP paper detection sensor	No recording paper/Recording paper present
SB	Switchback sensor	No recording paper/Recording paper present

LCD	Sensors	Sensing status (display/no display)
FC	Document cover sensor	Document cover closed/Document cover opened
VT	Head thermistor	Normal temperature/Abnormal temperature
T1	High temperature detector in the complex IC (for main PCB)	Normal temperature/Abnormal temperature
T2	High temperature detector in the motor drive IC (for main PCB)	Normal temperature/Abnormal temperature
Q1	T1 paper remaining sensor	No recording paper/Recording paper present
Q2	T2 paper remaining sensor	No recording paper/Recording paper present

* Among the Regular Ink cartridge models, supply super high yield cartridges for any destinations other than China are not displayed on the LCD even if they are inserted correctly, but they are displayed on the LCD when inserted further.

(3) Change the detecting conditions (e.g., insert paper through the registration sensor, open the ink cartridge cover or document scanner, or remove the ink cartridges), and then check that the indication on the LCD changes according to the sensor states.

(4) Press the **X** key to stop this operation and return the machine to the initial stage of the maintenance mode.

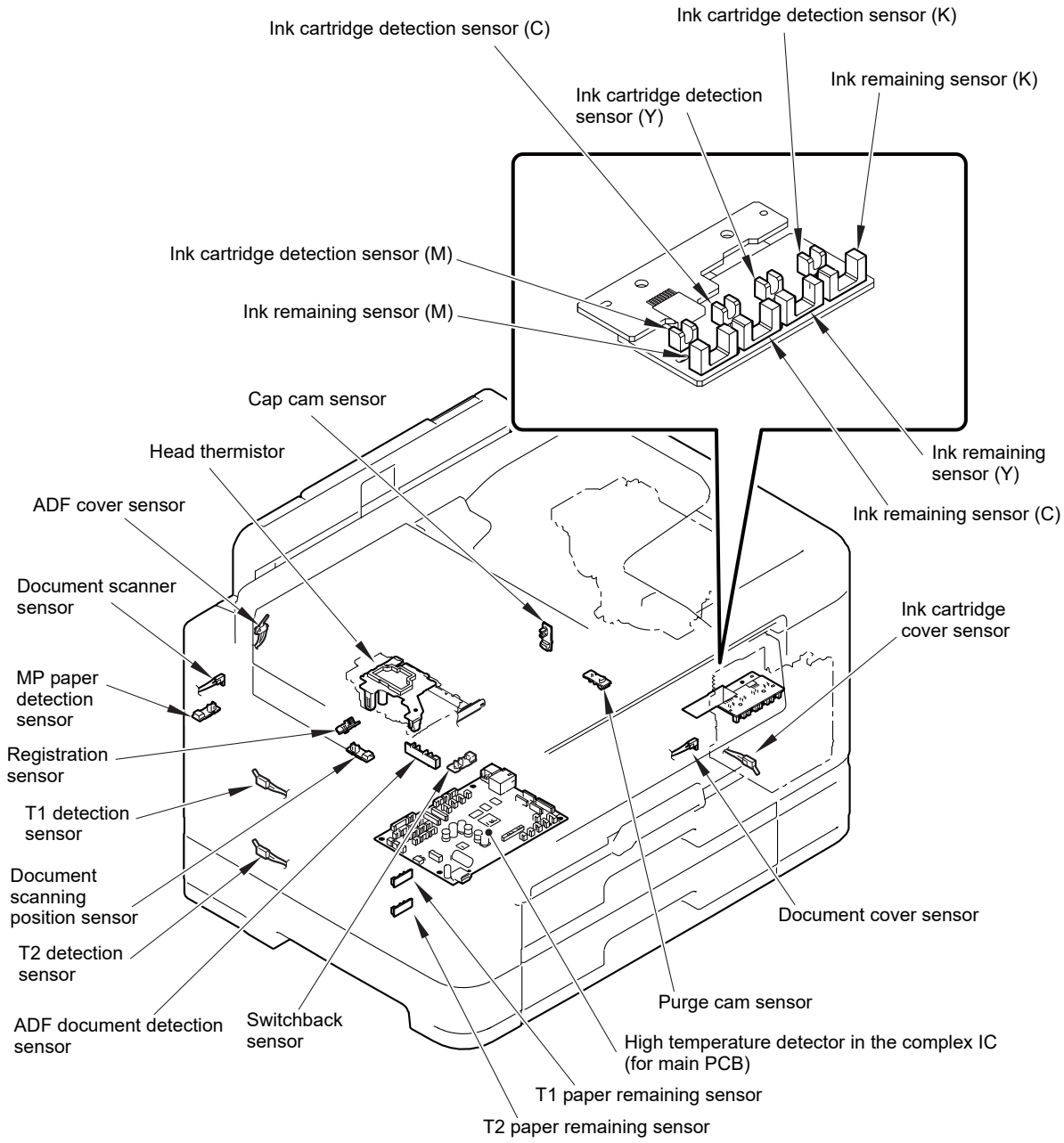


Fig. 5-1

1.3.9 Printout of Dial Log (Maintenance mode 37)

< Function >

This function outputs a list of telephone numbers dialed.

< Operating Procedure >

(1) In the initial stage of the end user-accessible maintenance mode, press the **3** and **7** keys in this order.
The machine displays "PRINTING" on the LCD and prints out a list of dial log.

Note: When recording paper runs out during printing, load recording paper in the paper tray and open/close the document scanner, and printing resumes.

1.3.10 PCL/PS function setting (Maintenance mode 45)

< Function >

This function is used to change the settings of the PCL/PS functions summarized in the table below.

< Operating Procedure >

(1) Press the **4** and **5** keys in this order in the initial stage of the maintenance mode. "JB-Can Time" is displayed on the LCD.

(2) Press the ▲ or ▼ key to select the function you want to set and press the **SET** key.

(3) For fixed parameters (On/Off, etc.), press the ▲ or ▼ key, or change the parameter using the numeric keys. And press the **SET** key.
For parameters requiring numerical value entry, directly input a numeric value from the ten-key pad and press the **SET** key.

(4) Press the **X** key to return the machine to the initial state of the maintenance mode.

■ Function setting

LCD	Detail description	Set value	Initial
Resolution	Setting for the print resolution, which is effective for the print from the computer only. When the resolution is set on the computer, the setting becomes effective and this setting is ignored.	300 (Cannot be changed)	300
JB-Can Time	Setting for the time until the host time-out at the Job Cancel.	0 to 255 (seconds)	4 (seconds)
Sleep Time	Setting for the time until shift to the Sleep Time. Change the setting of the Function Menu.	0 to 99 (minutes)	5 (minutes)
Emulation	Setting for the print language. Change the setting of the Function Menu. When the data includes the ENTER LANGUAGE, the setting becomes effective. And this setting is ignored.	Driver (MFC-J5930DW only)/ Auto/PCL/PS	Driver or Auto
Media Type	Setting for the recording paper type. Effective for the print from the computer. When set the type of the paper on the computer, the setting becomes effective. And this setting is ignored.	Plain/Glossy/Inkjet/ BP71 (MFC-J5945DW only)	Plain
Paper Size	Setting for the drawing size. Does not set the Paper Size of the Menu, set the drawing size of the PC-Print. When set the size of the paper on the computer, the setting becomes effective. And this setting is ignored. "Letter" is the default for the U.S.A. and Canada and "A4" is the default for other countries.	Letter/Legal/A4/ Executive/B5/ JISB5/A5/B6/A6/ Monarch/C5/ COM10/DL/Post Card/Folio/Mexican Legal/India Legal/ A3/JISB4/16k 195x270/Ledger	Letter or A4
Orientation	Setting for the print direction. Effective for the print from the computer.	Portrait/Landscape	Portrait
Auto FF	Setting for the ON/OFF of the Auto Form Feed. Effective for the print from the computer.	On/Off	Off
Auto FF Time	Setting for the TimeOut, when the Auto Form Feed is ON.	1 to 99 (seconds)	5 (seconds)
Color Adapt	Setting for auto detection of Color/Mono, which is effective when Render Mode is Color or Auto Color.	On/Off	On
Quality	Setting for the print quality.	Normal/Fine	Normal
Auto LF	Setting for the auto line feed.	On/Off	Off
Auto CR	Setting for the auto return and CR addition to the LF code.	On/Off	Off
Auto WRAP	Setting for the auto CRLF at the print width.	On/Off	Off
Auto Skip	Setting for the skip and blank-space addition at the back-end/tip of the paper.	On/Off	On
Lines	Setting for the number of the lines in the PCL.	5 to 128 (lines)	60 (lines)
Error Print	Setting for the ErrorPrint of the BR-Script3.	On/Off	On

1.3.11 Backup of Machine Information (Maintenance mode 46)

< Function >

This procedure backs up the machine information and user setting information into a USB flash memory and restores it when necessary.

- Machine information (Preset values, count values, error information, machine specifications data, etc.)
- User setting information (Telephone directory, password, station ID, transfer information, telephone area code, user settings, etc.)
- Initial setting of administrator password (The firmware needs to be updated to the latest version.)
- Other data (Received fax data, ICM/OGM data, etc.)

Note that the following information cannot be backed up.

- Serial number of the machine
- MAC address
- Call and caller ID records
- Activity report
- Fax data to be sent (by delayed-timer, redialing, and polling)
- Head calibration data

Notes: - The user can use the backup and restoration (given on the 5-18 page) procedures, except "Import all" in the restoration procedure.

- A USB flash memory for backup should have a free space larger than the RAM size of the machine.
- When performing this procedure for any other machine with the same USB flash memory, delete the data previously stored in the USB flash memory.

< Operating Procedure >

Backup Procedure

(1) On the PC, create a "BROTHER" folder in a USB flash memory to be used for saving backup data.

(2) Insert the USB flash memory into the slot of the machine in the initial stage of the maintenance mode.

Note: If the USB flash memory inserted already contains backup data of the same model, the existing data will be overwritten with new data.

(3) Press the **4** and **6** keys in this order.
The "Export to Card" appears on the LCD.

(4) Press the **Mono Start** key.
The "********.msd" appears on the LCD. The "********" is unique to each model.

(5) Press the **Mono Start** key.
The "Export to Card" appears again on the LCD.

(6) Press the **Mono Start** key.
The "Please wait" appears on the LCD.

Notes: - Never remove the USB flash memory from the machine when exporting is in progress.

- If this procedure has been started with the user-access, the machine returns to the standby state after showing the "Please wait" on the LCD.

(7) Once the machine has returned to the initial stage of the maintenance mode, remove the USB flash memory and keep it in a safe place.

Note: If any of the error messages listed below appears, press the **X** key, and the machine returns to the initial stage of the maintenance mode.

Error Message	Cause
Card is used	The USB flash memory is being used by another operation.
Insert Card	No USB flash memory is inserted.
No file	File name is invalid or no "BROTHER" folder exists
Machine ID Error	Mismatch of serial numbers between the machine and the backup data (which is detected only in data restoration).
Write Error	Insufficient free space in USB flash memory.

Restoration Procedure

(1) Insert the USB flash memory containing the backup data into the slot of the machine in the initial stage of the maintenance mode.

Note: If the serial number in the backup data stored in the USB flash memory does not match that of the machine, data restoration cannot be performed.

(2) Press the **4** and **6** keys in this order.

The "Export to Card" appears on the LCD.

(3) Press the ▲ or ▼key until the desired restoration procedure, any of the following, appears.

"Import from Card" for restoring only user setting information
"Import all" for restoring all backup data including machine information

(4) Press the **Mono Start** key.
The "********.msd" appears on the LCD. The "********" is unique to each model.

(5) Press the **Mono Start** key.
The "Import from Card" or "Import all" appears on the LCD again.

(6) Press the **Mono Start** key.
The "Please wait" appears on the LCD.

Note: Never remove the USB flash memory from the machine when importing is in progress.

(7) Once the machine has returned to the initial stage of the maintenance mode, remove the USB flash memory and keep it in a safe place.

Note: If any of the error messages shown in "Backup Procedure" appears, press the **X** key to return the machine to the initial stage of the maintenance mode.

1.3.12 Transfer of Received FAX Data and/or Equipment's Log (Maintenance mode 53)

< Function >

This function transfers received FAX data to another machine. It is useful when the machine cannot print received data due to the printing mechanism defective.

This function also transfers the activity report, the communications list, and the equipment' log of the machine as fax data.

Notes: - Before carrying out maintenance code 53, update the firmware to the latest version.

- The number of files that can be transferred at a time is 99. To transfer 100 files or more, carry out the following procedure more than one time.
- If there are both color and monochrome data in a file to be transferred, the monochrome data will be transferred first. If the receiver machine does not support the color function, the sender machine cannot transfer color data, resulting in an error.

< Operating Procedure >

(1) Press the **5** and **3** keys in this order in the initial stage of the maintenance mode. The "FAX TRANSFER" appears on the LCD.

- To check the number of received files, press the **1** key.
  The "1.No. Of Jobs" appears on the LCD.
  Press the **SET** key to display the number of received files, just as "No. Of Jobs: 10."
- To transfer the activity report only, press the **2** key.
  The "2.Activity" appears.
- To transfer received files (together with the activity report), press the **3** key.
  The "3.Documents" appears. Note that if there is no received file, the "No Documents" appears in step (2).
- To transfer the communication list for the latest communication, press the **4** key.
  The "4.Com.List (New)" appears.
- To transfer the communication list for the last three errors, press the **5** key.
  The "5.Com.List (Err3)" appears.
- To transfer the maintenance information (List of Maintenance mode 77), press the **6** key.
  The "6.MNT77 LIST" appears.
- To transfer the user setting information, press the **7** key.
  The "7.USER SETTINGS" appears.
- To transfer the caller ID history, press the **8** key.
  The "8.CALLER ID HIST" appears.
- To transfer the outgoing call history, press the **9** key.
  The "9.OUTGOING CALL" appears.
- To transfer the radio wave condition list, press the **0** key.
  The "0.WLAN DATA" appears.

(2) With one of "2.ACTIVITY," "3.DOCUMENTS," "4.COM.LIST (NEW)," "5.COM.LIST (ERR3)," "6.MNT77LIST," "7.USER SETTINGS," "8.CALLER ID HIST," "9.OUTGOING CALL" and "0.WLAN DATA" being displayed, press the **SET** key.
The "ENTER NO&OK" appears on the LCD.

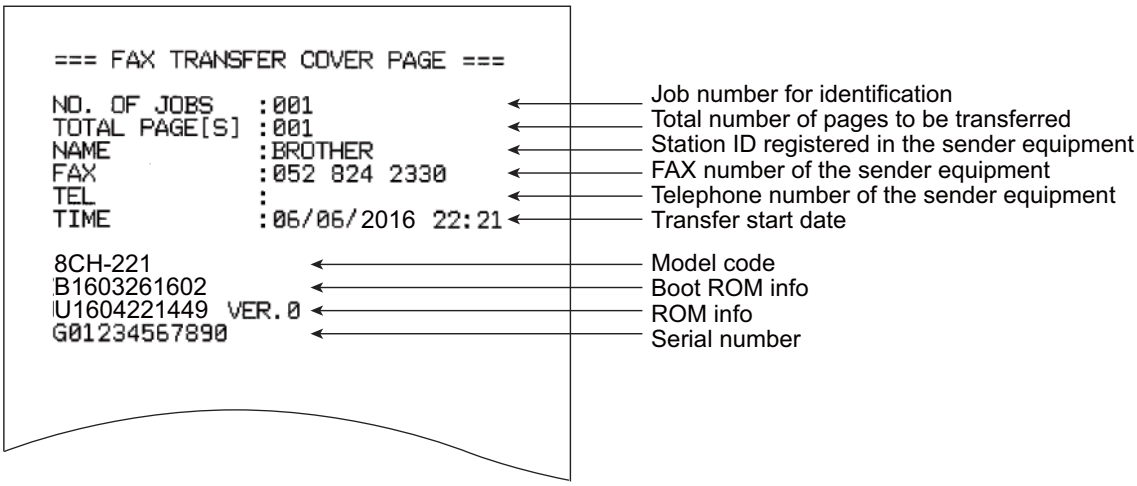
(3) Enter the telephone number of the receiver machine and press the **SET** key again.

(4) The machine displays the "ACCEPTED" for approx. two seconds and starts dialing to transfer data.

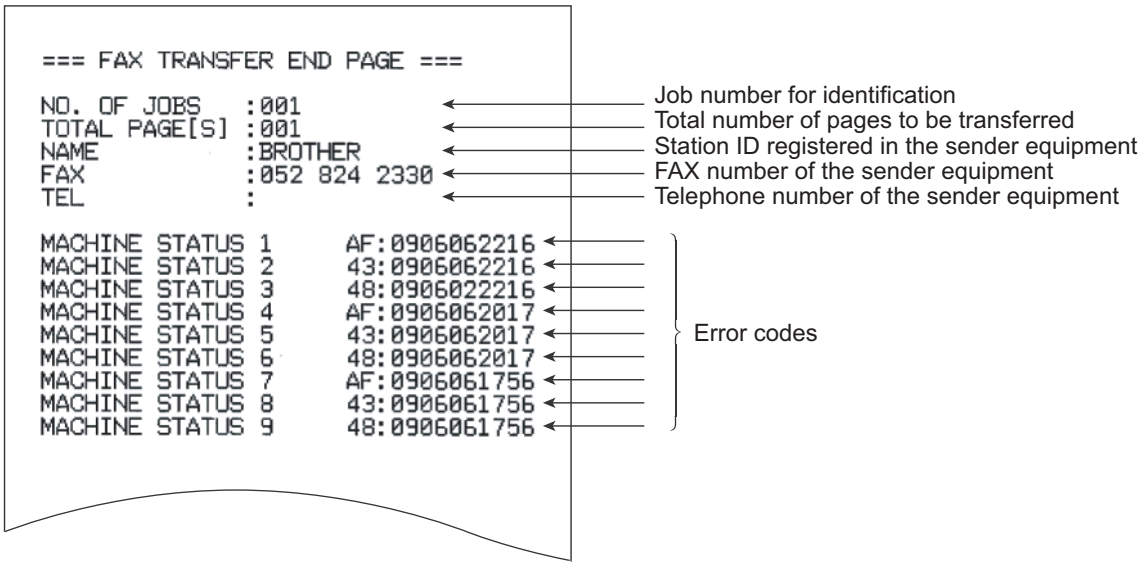
Notes: - Be sure to type the telephone number with the numerical keys. No auto-dial numbers stored in memory can be used in this procedure.

- No station ID will be attached. A cover page and end page as shown below will be automatically attached, instead.

Cover page sample



End page sample



1.3.13 Fine Adjustment of Scanning Position (Maintenance mode 54)

< Function >

This function adjusts the scanning start and end positions of the ADF and FB.

< Operating Procedure >

(1) Press the **5** and **4** keys in this order in the initial stage of the maintenance mode. The “SCAN START ADJ” appears on the LCD and then the “0: ADF 1: FB” appears.

(2) To adjust the ADF, press the **0** key. The "0:MAIN 1:TP 2:HP" appears on the LCD. To adjust the FB, press the **1** key. The "0:MAIN 1:SUB" appears on the LCD. Go to step (5).

(3) To adjust the right and left edges, press the **0** key. To adjust the top edge, press the **1** key. To adjust the bottom edge, press the **2** key.

Duplex scanning models: The "0: FRONT 1: BACK" appears on the LCD.

Simplex scanning models: The current setting of the selected adjustment value appears on the LCD. Go to step (6).

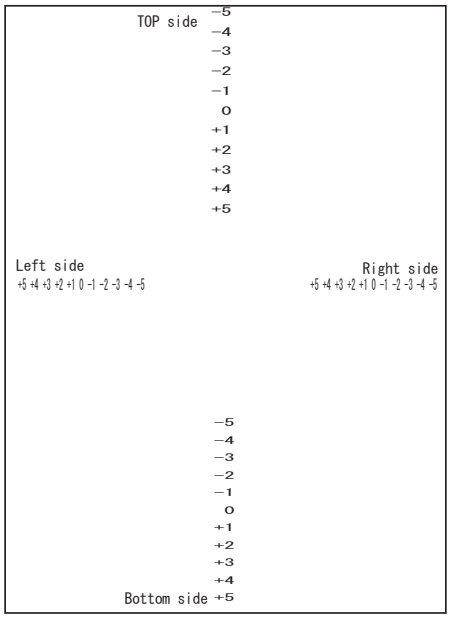
(4) To adjust the first side scanning position, press the **0** key. To adjust the second side scanning position, press the **1** key.
The current setting of the selected adjustment value appears on the LCD. Go to step (6).

(5) To adjust the right and left edges, press the **0** key. To adjust the top and bottom edges, press the **1** key.
The current setting of the selected adjustment value appears on the LCD.

(6) Enter the correction value (in units of 0.1 mm) multiplied by 10.
To increase the value by 1 (+1: +0.1 mm), press the ▲ key; to decrease it, press the ▼key.
To increase the value by 10 (+10: +1.0 mm), press the ► key; to decrease it, press the ◄ key.

Notes: - Pressing the **CLR** key resets the setting value to 0.
- Pressing the **X** key returns the machine to the initial stage of the maintenance mode without making changes of the correction value.

(7) Upon completion of adjustment, press the **SET** key. The machine displays the "Accepted" on the LCD and returns to the initial stage of the maintenance mode.



Confidential

1.3.14 Acquisition of White/Black Level Data (Maintenance mode 55)

< Function >

This procedure allows the machine to obtain white/black level data for the CIS scanner and save it into the EEPROM on the Main PCB.

< Operating Procedure >

(1) Press the **5** key twice in the initial stage of the maintenance mode.
If any error has occurred in the machine, the "ME AF STOP" appears on the LCD.
If no error has occurred in the machine, the machine automatically goes to step (2).

(2) The machine displays the "Press START" on the LCD. Press the **Mono Start** key.

(3) The machine displays the "SCANNER AREA SET" on the LCD and obtains white/black level data.

(4) After a few seconds, the machine saves the white/black level data into the EEPROM and returns to the initial stage of the maintenance mode.

1.3.15 Periodic Purge Time Setting (Simple Ink cartridge model only) (Maintenance mode 56)

< Function >

This function is used to set periodic purge time.

< Operating Procedure >

(1) Press the **5** and **6** keys in this order in the initial stage of the maintenance mode.
The "SELECT 56?" appears on the LCD.

(2) Press the **Mono Start** key.
The "PurgeTime **" appears on the LCD. ("**" indicates the periodic purge time currently set.)

(3) Press the **2**, **8**, **6**, and **4** keys in this order to enter the time input mode.

(4) Set the desired time in the range from 00 to 23 (00:00 to 23:00) by using the corresponding numeric keys (**0** to **9** keys).

(5) Press the **SET** key. The newly entered periodic purge time will be saved and the machine will return to the initial stage of the maintenance mode.

1.3.16 Cartridge IC Communication Check (Maintenance mode 57)

< Function >

This function checks the applicable cartridge, color information, destination, size and data version in the IC chip built in an ink cartridge.

< Operating Procedure >

(1) Press the **5** and **7** keys in this order in the initial stage of the maintenance mode.
The "IC_ACT ALL" appears on the LCD.

To check whether the cartridge is applicable, press the **1** key.
The "IC_ACT ALL" appears on the LCD.

To check the color information of the cartridge, press the **2** key.
The "IC_COL ALL" appears on the LCD.

To check the destination of the cartridge, press the **3** key.
The "IC_AREA ALL" appears on the LCD.

To check the cartridge size, press the **4** key.
The "IC_SIZE ALL" appears on the LCD.

To check the data version of the cartridge, press the **5** key.
The "IC_VER BLACK" appears on the LCD.

(2) Select the slot number of the cartridge to be checked, using the ◄ or ► key.

ALL: all colors (except MAIN)
BLACK: black
MAGENTA: magenta
CYAN: cyan
YELLOW: yellow
MAIN: IC chip in the machine

Note: The color displayed on the LCD indicates not the cartridge color but the cartridge slot color position.

(3) Press the **Mono Start** key.
If checking is successfully completed, the LCD shows "OK."
If any error is detected, the LCD shows the corresponding error code as shown below. Press the **X** key to return the machine to the initial stage of the maintenance mode.

Display	Causes
NG0 to NG99	Failure of IC integrated in the machine
NG100 to NG199	No response from the IC - Ink cartridge not loaded - No IC in the ink cartridge - IC contact defective
NG200 to NG299	Wrong response result from the IC
NG300 to NG399	Succeeded in verifying IC, but the information judged as mismatching - Loading mistake

1.3.17 Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)

< Function >

This procedure allows you to check the movement of the CIS unit integrated in the document scanner unit.
The CIS unit travels to the three positions – the ADF scanning position, FB scanning start and end positions.
It also allows you to specify the CIS type into the EEPROM on the main PCB. If you replace the main PCB, you need to specify the CIS type according to the procedure given below.

< Operating Procedure >

Check the movement of the CIS unit

(1) Press the **5** and **9** keys in this order in the initial stage of the maintenance mode. The machine displays the "1:MO 2:CO 3:CHG?" on the LCD.

(2) Press the **1** key.
Duplex scanning models: The "1:FB 2:ADF 3:BTH" appears on the LCD. Press the **1** key.
Simplex scanning models: Go to step (3).

(3) The "1:30 2:60 3:12?" appears on the LCD. Press the **1** key. Press the **SET** key repeatedly until the “1: ADF 2: FRT 3: MV” appears on the LCD.

(4) Press the **1** key and then press the **SET** key to move to the ADF scanning position.
Press the **2** key and then press the **SET** key to move to the FB scanning start position.
Press the **3** key and then press the **SET** key to move to the FB scanning end position.

(5) To return the machine to the initial stage of the maintenance mode, press the **X** key.

Specify the CIS type

(1) Press the **5** and **9** keys in this order in the initial stage of the maintenance mode. The machine displays the "1:MO 2:CO 3:CHG?" on the LCD.

(2) Press the **3** key.
Duplex scanning models: The "1:FB 2:ADF?" appears on the LCD.
To specify the type of the first side CIS, press the **1** key; to specify that of the second side CIS, press the **2** key.

Simplex scanning models: Go to step (3).

(3) The "1:AUTO 2:MANUAL?" appears on the LCD.

(4) Press the **1** key.
The machine automatically sets the CIS type and returns to the initial stage of the maintenance mode.
If the completion of automatic setting of the CIS type results in mismatch between the built-in CIS unit and the firmware setting, the "PLS UPDATE PROG" appears on the LCD. If this happens, load the latest firmware.

Note: If a failure in the automatic setting of the CIS type results in machine error AF00, press the **2** key in step (3) and specify the CIS type manually. When “CIS TYPE*→” is displayed on the LCD (where * indicates the automatically set CIS type), enter the CIS type (0 or 1).

1.3.18 Printout of PRN/JPEG Files in USB Flash Memory (Maintenance mode 61)

< Function >

This procedure prints PRN files and JPEG files stored in a USB flash memory.

The following four print modes are available.

- Printing the specified file *once*
- Printing the specified file *repeatedly*
- Printing all PRN/JPEG files *once*
- Printing all PRN/JPEG files *repeatedly*

File requirements

File with PRN or JPG (or prn or jpg) extension in root folder or "BROTHER" folder.

Note: Un-displayable characters in filenames will be replaced with different characters. Only the first 16 characters of filenames are displayed.

< Operating Procedure >

Note: Before carrying out maintenance mode 61, update the firmware to the latest version.

(1) Insert a USB flash memory.

(2) Press the **6** and **1** keys in this order in the initial stage of the maintenance mode. The "MAINTENANCE 61" appears on the LCD.

(3) To print a PRN file(s), press the **#** key; to print a JPEG file(s), press the ***** key. Files of the selected type appear on the LCD.

(4) To print the specified file once, select the target file with the ▲/▼keys and press the **4** key.

To print the specified file repeatedly, select the target file with the ▲/▼keys and press the **6** key.

To print all files of the selected type once, press the **7** key.

To print all files of the selected type repeatedly, press the **9** key.

(5) The "1.A4 2.LETTER" appears on the LCD.

(6) Pressing the **1** key or the **2** key, in accordance with the size of the recording paper, starts printing. Upon completion of printing, the machine returns to the initial stage of the maintenance mode. Pressing the **X** key during repeated printing returns the machine to the state showing the "MAINTENANCE 61" on the LCD.

Notes: - This function is not available when Error Code A*** or B*** occurs.

- When recording paper runs out during printing, the maintenance mode goes back to the initial state, therefore, be sure to load recording paper in the paper tray before executing printing.

1.3.19 Move of the Head/Carriage Unit to the Adjustment Position (Maintenance mode 63)

< Function >

This function moves the head/carriage unit to the adjustment position.

< Operating Procedure >

(1) Press the **6** and **3** keys in this order in the initial stage of the maintenance mode.
The "SELECT 63?" appears on the LCD.

(2) Press the **Mono Start** key.
The "START 63" appears on the LCD.

(3) Press the ***** key.
The head/carriage unit moves to the adjustment position and the "HEAD ADJ" appears on the LCD.

(4) After completion of adjustment jobs, press the **X** key.

(5) The head/carriage unit returns to the home position and locks itself, then the machine returns to the initial stage of the maintenance mode.

1.3.20 Adjustment of Margins in Borderless Printing (Maintenance mode 66)

< Function >

This procedure adjusts the left, right and bottom margins for borderless printing. Print out a margin check pattern, measure each margin, and enter the measured margin values.
If the head/carriage unit or main PCB is replaced or the engine and its related components are disassembled, you need to make the adjustment given below.

< Operating Procedure >

(1) On your PC, when using A4-sized paper, save a copy of "Media_Adj_MB19_A4.prn" to a USB flash memory. When using letter-sized paper, save a copy of "Media_Adj_MB19_A4.prn".

(2) Use “1.3.18 Printout of PRN/JPEG Files in USB Flash Memory (Maintenance mode 61)” to print test patterns.

Tip: The test patterns can also be printed by opening "Filedrgs" on your PC and dragging & dropping the above adjustment file onto the Brother Maintenance USB Printer driver icon.

(3) Measure the left, right, and bottom margins on the printed pattern.
If each margin is within the range of 2.9 to 3.1 mm, no adjustment is required.

(4) Press the **6** key two times in the initial stage of the maintenance mode.
Wait for the “SELECT 66?” to appear and then press the **Mono Start** key.
The "*.MEDIA #.REGI" appears on the LCD.

(5) Press the ***** key to display the "LEFT 1 :30."
Enter the measured upper left margin value "A" multiplied by 10. If the measured left margin is 2.8 mm, for example, press the **2**, **8**, and **SET** keys.
The "RIGHT1 :10" appears on the LCD.

(6) Enter the measured upper right margin value "B" multiplied by 10. If the measured right margin is 3.0 mm, for example, press the **3**, **0**, and **SET** keys.
The "LEFT 2 :30" appears on the LCD.

(7) Enter the measured lower left margin value "C" multiplied by 10. If the measured left margin is 2.9 mm, for example, press the **2**, **9**, and **SET** keys.
The "RIGHT 2 :10" appears on the LCD.

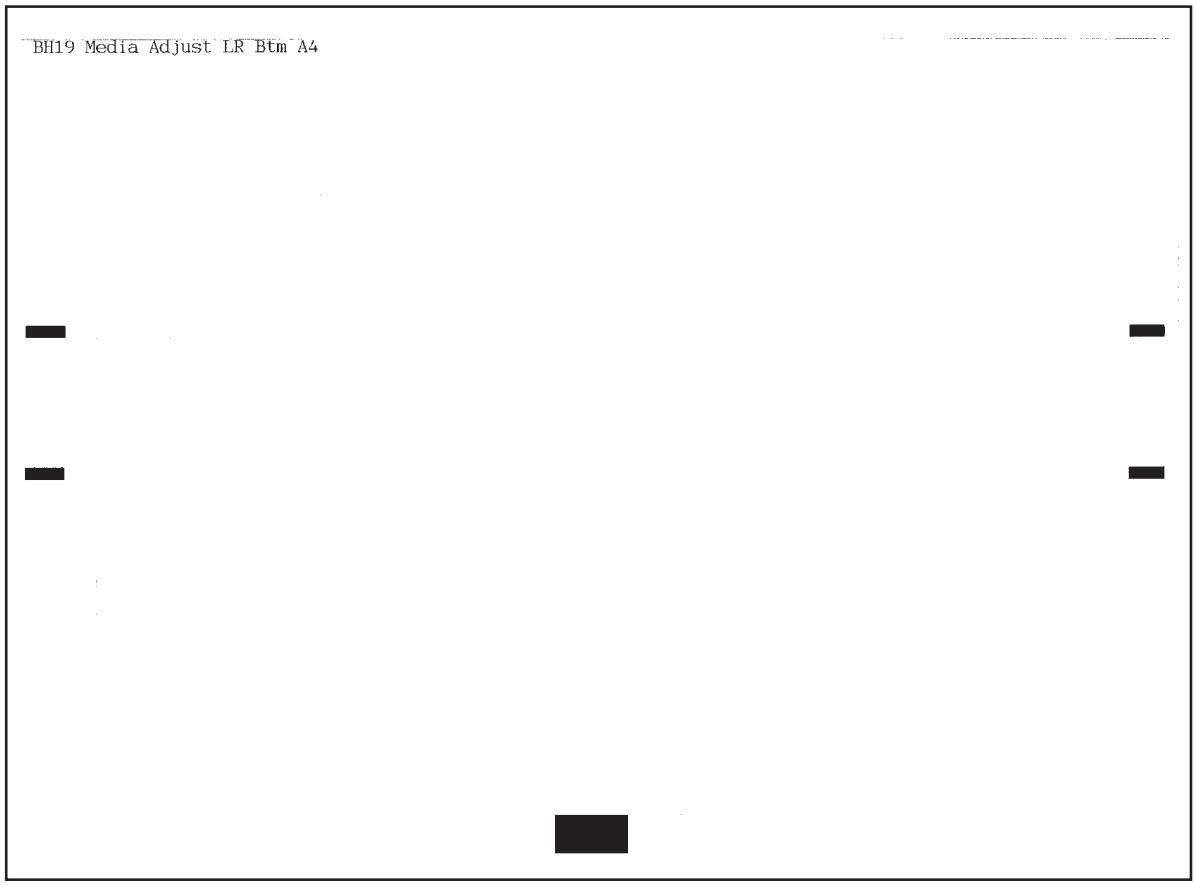
(8) Enter the measured lower right margin value "D" multiplied by 10. If the measured right margin is 3.1 mm, for example, press the **3**, **1**, and **SET** keys.
The machine saves the left and right margin values and returns to the initial stage of the maintenance mode.

(9) Press the **6** key two times in the initial stage of the maintenance mode.
Wait for the “SELECT 66?” to appear and then press the **Mono Start** key.
The "*.MEDIA #.REGI" appears on the LCD.

(10) Press the **#** key to display the "BOTTOM :30."
Enter the measured bottom margin value "E" multiplied by 10. If the measured bottom margin is 3.5 mm, for example, press the **3**, **5**, and **SET** keys.
The machine saves the bottom margin value and returns to the initial stage of the maintenance mode.

(11) Go back to step (2) and print the margin check pattern again. If each margin is within the range of 2.9 to 3.1 mm, the adjustment is completed.

■ **Margin Check Pattern**



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1.3.21 Updating of Head Property Information and Backup/Restoration of Head Calibration Data (Maintenance mode 68)

< Function >

Maintenance mode 68 provides two types of procedures--one for updating the head property information and the other for backing up the head calibration data and restoring it.

Updating the head property information

To keep the print quality, the machine optimizes the drive conditions of individual head/carriage units according to the head property information.
The property data is stored in the EEPROM on the main PCB and its property information is printed on the property labels attached to the head/carriage unit.
If you replace the head/carriage unit, you need to enter its property information printed on the head property label (pasted on the new spare part).

Backing up the head calibration data and restoring it

This procedure backs up the head calibration data into a USB flash memory and restores it to the machine.

< Operating Procedure >

Head Property Information Updating Procedure

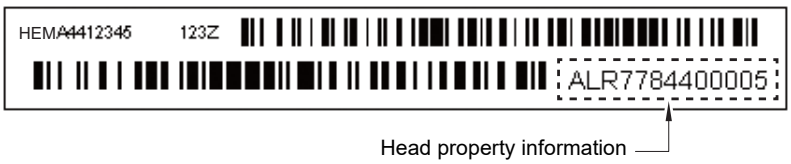
(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **2**, **5**, **8**, and **0** keys in this order.

The current property information stored in the EEPROM appears on the LCD and the machine is ready for entry.

(3) Check the head property label pasted on a new head/carriage unit and enter the property information.

The code to be entered is 10 digits excluding the heading "ALR".



(4) After entry of 10-digit code, press the **SET** key.
The machine displays the "INPUT ACCEPTED" on the LCD, writes the entered head property information into the EEPROM, and then returns to the initial stage of the maintenance mode.

Note: If the entered data contains any checksum error, the machine shows the "INPUT ERROR" and becomes ready to accept entry. Go back to step (3).

Head Calibration Data Backup/Restoration Procedures

Backup procedure

(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **0**, **6**, **2**, and **6** keys in this order.
The "HeadCalib->Media" appears on the LCD.

(3) Insert a USB flash memory into the memory slot.

(4) Press the **SET** or **Mono Start** key.
The machine displays "Now Saving" on the LCD and starts the backup operation.
Upon completion of the backup operation, the machine displays "Head Calib.data" on the LCD and returns to the initial stage of the maintenance mode.

Restoration procedure

(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **0**, **6**, **2**, and **6** keys in this order.
The "HeadCalib->Media" appears on the LCD.

(3) Use the ► or ◄ key to display "Media->HeadCalib" on the LCD.

(4) Insert the USB flash memory holding the head calibration data into the memory slot.

(5) Press the **SET** or **Mono Start** key.
The machine displays "Now Loading" on the LCD and starts the restoration operation.
Upon completion of the restoration operation, the machine displays "Complete" on the LCD and returns to the initial stage of the maintenance mode.

Notes: - If the USB flash memory inserted in step (5) holds no head calibration data, the "Can’t Open File" appears on the LCD.

- This procedure should be performed with the USB cable disconnected. If it is performed with the USB cable being connected, disconnect it.

1.3.22 Traveling Speed Check of Head/Carriage Unit (Maintenance mode 69)

< Function >

This procedure checks whether the traveling speed of the head/carriage unit is within the specified range.

< Operating Procedure >

(1) Press the **6** and **9** keys in this order in the initial stage of the maintenance mode. The machine shows "CR AGING" on the LCD and starts checking the traveling speed of the head/carriage unit.
In each of travel speeds of 43.3, 26.7 and 21.7 inches/second (ips), the machine checks whether the maximum and minimum traveling speeds of the head/carriage unit are within the specified range.

- If the maximum and minimum speeds in all of the three traveling speeds are within the specified range, the "430 270 210" appears on the LCD.
- If any one is out of the range, the machine shows some message, e.g., "430 270 21X" on the LCD. This sample message indicates that the speed variation is within the allowable range when the head/carriage unit travels at 43.3 and 26.7 inches/second; however, it is out of the range at 21.7 inches/second.

(2) Press the **X** key to return the machine to the initial stage of the maintenance mode.

1.3.23 Customizing Destinations (Maintenance mode 74)

< Function >

This procedure customizes the machine according to settings of the language, functions, and worker switches.

< Operating Procedure >

(1) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode. The "Select 74?" appears on the LCD.

(2) Press the **Mono Start** key to display the current settings on the LCD.

(3) Enter the desired customizing code.

(4) Press the **Mono Start** key to save the new setting and return the machine to the initial stage of the maintenance mode.
If the destination is changed, the "PARAMETER INIT" appears on the LCD. Then, if "PLS UPDATE PROG" and "Please DL ROM" is also displayed on the LCD, load the latest firmware. (refer to Chapter 4, Section 1.3 "Install the firmware (Maintenance mode 28).").

(5) Pressing the **X** key during the above procedure returns the machine to the initial stage of the maintenance mode without saving the customizing code.

Note: If no keys are pressed for at least one minute with any display state, the machine automatically returns to the initial stage of the maintenance mode.

< EEPROM Customizing Codes List >

	MFC-J2340DW	MFC-J2740DW	MFC-J5340DW	MFC-J5340DWE	MFC-J5345DW
U.S.A/Canada	---	---	0001	---	---
Argentina	---	---	0031	---	---
Brazil	---	---	---	---	---
UK	---	---	0087 (0004)	0387 (0304)	0287 (0204)
Switzerland	---	---	0087 (0010)	---	---
UK/Switzerland	---	---	---	---	---
CEE-General	0154	---	---	---	---
EU-Regional (Germany/UK/France/ Norway/Belgium/ Holland/Switzerland/ Finland/Denmark/ Spain/Italy/Portugal/ Sweden)	---	---	0087 (0003/0004/ 0005/0007/ 0008/0009/ 0010/0012/ 0013/0015/ 0016/0018/ 0026)	0387 (0303/0304/ 0305/0307/ 0308/0309/ 0310/0312/ 0313/0315/ 0316/0318/ 0326)	0287 (0203/0204/ 0205/0207/ 0208/0209/ 0210/0212/ 0213/0215/ 0216/0218/ 0226)
EU-Regional (Germany/UK/France/ Norway/Belgium/ Holland/Switzerland/ Finland/Denmark/ Spain/Italy/ Portugal/ Sweden/Russia/ CEE-General)	---	---	---	---	---
Oceania (Australia/ New Zealand)	---	---	0056 (0006/0027)	---	---
ASA	0140	0140	---	---	---
Gulf/Turkey (Gulf/ Turkey)	0174 (0141/0125)	---	---	---	---
Korea	---	0144	---	---	---
South Africa	0124	---	---	---	---
Taiwan	0123	---	---	---	---
China	0120	---	---	---	---

	MFC-J5740DW	MFC-J5855DW	MFC-J5855DW XL	MFC-J5955DW
U.S.A/Canada	---	0001	0101	0001
Argentina	---	---	---	---
Brazil	---	0042	---	---
UK	0087 (0004)	---	---	---
Switzerland	0087 (0010)	---	---	---
UK/Switzerland	---	---	---	0099 (0004/0010)
CEE-General	---	---	---	---
EU-Regional (Germany/UK/France/ Norway/Belgium/ Holland/Switzerland/ Finland/Denmark/ Spain/Italy/Portugal/ Sweden)	0087 (0003/0004/0005/ 0007/0008/0009/ 0010/0012/0013/ 0015/0016/0018/ 0026)	---	---	---
EU-Regional (Germany/UK/France/ Norway/Belgium/ Holland/Switzerland/ Finland/Denmark/ Spain/Italy/ Portugal/ Sweden/Russia/ CEE-General)	---	---	---	0099 (0003/0004/0005/ 0007/0008/0009/ 0010/0012/0013/ 0015/0016/0018/ 0026/0048/0054)
Oceania (Australia/ New Zealand)	0056 (0006/0027)	---	0156 (0106/0127)	0056 (0006/0027)
ASA	---	---	---	---
Gulf/Turkey (Gulf/ Turkey)	---	---	---	---
Korea	---	---	---	---
South Africa	---	---	---	---
Taiwan	---	---	---	---
China	---	---	---	---

The above information is as of January 2024. Please confirm the latest firmware information which is available from your local Brother Customer Service.

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1.3.24 Move of the Head/Carriage Unit to the Center (Maintenance mode 75)

< Function >

This function is used to remove paper particles and dust accumulated between the maintenance unit and head/carriage unit. Using this function moves the head/carriage unit to the center, allowing you to easily remove the paper particles and dust accumulated.

< Operating Procedure >

(1) Press the **7** and **5** keys in this order in the initial stage of the maintenance mode.
The "PLS OPEN COVER" appears on the LCD.
The head/carriage unit moves to the center.

(2) Open the scanner cover.
The "PLS CLOSE COVER" appears on the LCD.

(3) Remove the paper particles and dust accumulated.

(4) Close the scanner cover.
The head/carriage unit moves back to the home position and the machine returns to the initial stage of the maintenance mode.

1.3.25 Purge Operation (Maintenance mode 76)

< Function >

This function allows you to select the desired purge type from several types of purge operations and carry it out.

< Operating Procedure >

(1) Press the **7** and **6** keys in this order in the initial stage of the maintenance mode. The LCD displays “CLEANING” and then “NORMAL_P ALL”.

(2) Enter the purge code according to the table on the 5-36 page.

(3) Press the ◄ or ► key to display the target color for purge on the LCD.

"***** ALL": Purge for all four color inks
"***** BLACK": Purge for black ink
"***** MAGENTA" / "***** CYAN" / "***** YELLOW": Any color choice performs purge for all three color inks.

(4) Press the **Mono Start** key. The LCD displays "CLEANING".
Upon completion of purging, the machine automatically returns to the initial stage of the maintenance mode.

Notes: - Before performing a purge operation, be sure to check that ink cartridges with the sufficient amount of ink remaining are mounted.

- This machine counts all purge operations and flushing operations performed since produced in order to prevent the ink absorber box and flushing box from overflowing with drained and flushed ink, respectively. If purges for all four color inks are carried out at the same time, the purge count is not always equal to the total of black and color ink purge counts.

- When the purge or flushing count reaches the upper limit, the "Unable to Print 46" appears, and further purge or flushing operations are prohibited. Replace the ink absorber box or flushing box and then reset the corresponding count using the procedure given below.

■ Resetting purge or flushing count

1) Press the **8** and **0** keys in this order in the initial stage of the maintenance mode to call up the machine's log information. (Refer to “1.3.28 Display of the Equipment's Log (Maintenance mode 80)”in this chapter.)

2) Press the ▼ key several times until "PURGE COUNT" (or "FLUSHING COUNT") appears on the LCD.

3) Press the ► key once to display "PURGE:*****" (or "FLSBK:*****"; press the ▼ key once to display "FLSCL:*****) on the LCD.

4) Press the **2**, **7**, **8**, and **3** keys in this order to reset the purge or flushing count. The machine automatically returns to the initial stage of the maintenance mode.

Note: Even if you reset the purge count, it will not become 0, since the ink in the intermediate absorber box is taken into consideration.

Purge types and purge codes

Purge Types	Description	Purge Codes (to be entered with Maintenance mode 76)
Normal purge (NP)	Purge to be performed by user purge.	1
Periodical reset purge (RP)	Purge to be performed periodically. The cycle varies due to the ambient temperature.	2
Power purge (PP)	Purge to be performed by user purge.	3
Initial purge (uIP)	Purge to be performed automatically immediately after the user purchases the machine.	4
User reset purge (RP3)	Purge to be performed by user purge.	5
Engine setup purge (eIP)	Purge to be performed for refilling the tubes with ink.	6
Periodic expelling purge (RP2)	Purge to be performed periodically. The cycle varies due to the ambient temperature.	7
Periodic suction purge (SP)	Purge to be performed periodically. The cycle varies due to the ambient temperature.	8
Engine inspection strong purge (CPP)	Purge to be performed at engine inspection.	D
Power reset purge (QPP)	Purge to be performed by user purge.	F
Special purge(SPP)	Purge performed by special cleaning	* 1
More powerful reset purge 2 (MPP2)	Purge to be performed by user purge.	* 7

Ink usage and purge counts

[Regular Ink cartridge model]

		Ink Usage (ml)			Purge Counts		
		ALL	BLACK only	COLOR only	ALL	BLACK only	COLOR only
Normal purge (NP)	BK CL	0.411 2.055	0.411 0.045	0.015 2.055	75	19	56
Periodical reset purge (RP)	BK CL	0.405 1.832	0.405 0.666	0.222 1.832	70	46	61
Power purge (PP)	BK CL	0.691 2.895	0.691 0.885	0.295 2.895	125	69	106
Initial purge (uIP)	BK CL	5.931 19.25	---	---	1072	---	---
User reset purge (RP3)	BK CL	0.504 2.334	0.504 0.324	0.108 2.334	92	36	73
Engine setup purge (eIP)	BK CL	5.931 19.25	---	---	1072	---	---
Periodic expelling purge (RP2)	BK CL	0.093 0.279	---	---	17	---	---
Periodic suction purge (SP)	BK CL	0.198 1.211	0.198 0.045	0.015 1.211	33	9	25
Engine inspection strong purge (CPP)	BK CL	1.38251 5.38416	---	---	231	---	---
Power reset purge (QPP)	BK CL	0.682 2.627	0.682 0.045	0.682 0.015	115	32	83
Special purge (SPP)	BK CL	5.479 16.755	5.479 12.435	4.145 16.755	248 717	248 550	184 717
More powerful reset purge 2 (MPP2)	BK CL	1.287 4.661	1.287 1.485	0.495 4.661	235	123	197

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[Simple Ink cartridge model]

		Ink Usage (ml)			Purge Counts		
		ALL	BLACK only	COLOR only	ALL	BLACK only	COLOR only
Normal purge (NP)	BK CL	0.411 2.055	0.411 0.045	0.015 2.055	75	19	56
Periodical reset purge (RP)	BK CL	0.405 1.832	0.405 0.666	0.222 1.832	70	46	61
Power purge (PP)	BK CL	0.691 2.895	0.691 0.885	0.295 2.895	125	69	106
Initial purge (uIP)	BK CL	7.324 23.43	---	---	1319	---	---
User reset purge (RP3)	BK CL	0.504 2.334	0.504 0.324	0.108 2.334	92	36	73
Engine setup purge (eIP)	BK CL	7.324 23.43	---	---	1319	---	---
Periodic expelling purge (RP2)	BK CL	0.093 0.279	---	---	17	---	---
Periodic suction purge (SP)	BK CL	0.198 1.211	0.198 0.045	0.015 1.211	33	9	25
Engine inspection strong purge (CPP)	BK CL	1.38251 5.38416	---	---	231	---	---
Power reset purge (QPP)	BK CL	0.682 2.627	0.682 0.045	0.682 0.015	115	32	83
Special purge (SPP)	BK CL	6.872 20.934	6.872 16.614	5.538 20.934	309 902	309 735	245 902
More powerful reset purge 2 (MPP2)	BK CL	1.287 4.661	1.287 1.485	0.495 4.661	235	123	197

The ink usage of COLOR are total values of three colors.
There is a mode in which color ink is consumed even though the black ink purge is selected. Likewise, there is a mode in which black ink is consumed even though the color ink purge is selected.

< Recommended purge procedures >

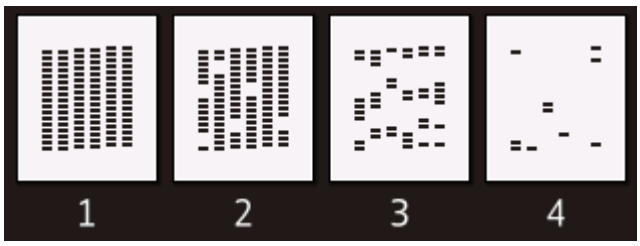
When a print failure occurs due to the non-discharge of ink, make a recovery from the nondischarge in accordance with the recommended procedures below.

(1) Open the document scanner unit and check if there is ink in the ink supply tubes from the opening of the upper cover.
If there is ink, go on to the step (3).
If there is no ink, go on to the step (2).

(2) Perform Maintenance 76-4 (uIP).
Check if there is ink in the ink supply tubes again.
If there is ink, go on to the step (3).
If there is no ink, replace the maintenance unit and ink refill ASSY.

(3) Perform Maintenance 76-3 (PP).

(4) Print the test pattern by performing Maintenance 09.
If a lot of blocks are missing in the test pattern (pattern 4 in the figure below), perform Maintenance 76-D (CPP).
If about a half of the blocks are missing (pattern 3 in the figure below), perform Maintenance 76-F (QPP).
If few blocks are missing (pattern 2 in the figure below), perform Maintenance 76-1 (NP).
If no blocks are missing (pattern 1 in the figure below), end the operation.



(5) Repeat the step (4) three times until there is no more missing block in the test pattern.

(6) If blocks are still missing in the test pattern, leave the machine for 8 hours (if possible), and perform the step (4) again.

(7) If blocks are still more missing in the test pattern, replace the head/carriage unit.

(8) Perform Maintenance 76-4 (uIP).

(9) Repeat the step (4) three times until there is no more missing block in the test pattern.

1.3.26 Print of the Maintenance Information (Maintenance mode 77)

< Function >

The machine prints out its log information or saves it into a USB flash memory.

< Operating Procedure >

Printing

(1) Press the **7** key twice in the initial stage of the maintenance mode.
The machine prints out the maintenance information.

(2) Upon completion of the printing, the machine returns to the initial stage of the maintenance mode.

Saving into a USB flash memory

(1) Insert a USB flash memory into the memory slot in the initial stage of the maintenance mode.
The "****Active" or "?" appears on the LCD (where "****" is the name of the inserted USB flash memory).

(2) Press the **7** key twice to display "Print out" on the LCD.

(3) Press the ▲ or ▼ key to select "Save Data."

(4) Press the **Mono Start** key.
The LCD shows "******" (where "******" is "Model name + Lower 9 digits of the machine's serial number").

(5) Upon completion of the saving, the machine returns to the initial stage of the maintenance mode.

Note: Be sure to load recording paper in the paper tray before executing printing.

```
MAINTENANCE                                                                    Print Date: 2021/07/09 18:45
--------------------------------------------------------------------------------------------------------
①Model = 8CH-681-001   Serial No. = A99999E1H003538   Country = 0247  SW ChkSum = B3
②Main Rom: Ver.0.37 U2107060837  Rom ChkSum: EE7C   Rom1 ChkSum: 530F
③Boot Rom: B2103231936           Boot ChkSum: 9D16  RTC Check: 2021/07/09 18:45 OK  RTC Backup: OK
④Sub1 Rom: U2106291908 AF4E
⑤Head Barcode: ALR7783200071     Head Vol: 00       Head Profile: 1  Head Ratio: 1  Head Drop: 1
⑥CISF     00                     QA: 00AD          ⑦LCD Maker: 01

  <Dot Count(CY/MZ/YL/BK)>
 ⑧Life Count                0000055332537/0000055339972/0000055325448/0000015557208
 ⑨User Life Count           0000701476908/0000701484343/0000701469819/0000770212298
 ⑩User Paper Count          0000001075037/0000001082471/0000001067948/0000008144658
 ⑪Dot Count                 0000700707546/0000700714981/0000700700457/0000756744791
 ⑫Sensor Dot Count          0000000000/0000000000/0000000000/0000000000
 ⑬Subtank Remain Count      0409136792/0409135603/0409137926/0549745312
 ⑭Cleaning Dot Count        0700178667/0700178667/0700178667/0751834670
  <Ink Cartridge(CY/MZ/YL/BK)> ⑮Product Date:210505/210505/210505/210505
 ⑯Change Count Type1   000/000/000/000            Change Count Type2   000/000/000/000
 ⑰Change Miss   000/000/000/000                   Ink Low  000/ 000/ 000/ 000
 ⑱Pre Dot Count             0000000000000/0000000000000/0000000000000/0000000000000
 ⑲Pre Sensor Dot Count      0000000000/0000000000/0000000000/0000000000
 ⑳Pre Cleaning Dot Count    0000000000/0000000000/0000000000/0000000000
 ㉑Invalid Dot Count         0000000000/0000000000/0000000000/0000000000
㉒<Page Count(Total/Color/Mono)>   Total: 00000011/000006/000005  A3: 000000/000000/000000㉓Long:
 ㉔PC-Print: 000000/000000/000000   Copy: 000000/000000/000000   FAX: 000000/000000/000000   000000/
 ㉕Media:    000000/000000/000000   List: 000005/000000/000005  WCDL: 000000/000000/000000   000000/
 ㉖AirPrint: 000000/000000/000000 iPrint: 000000/000000/000000   GCP: 000000/000000/000000   000000
 ㉗PinCheck: 000002 CR_A:000000 FEED_A:000000 ALL_A:000003 OtherFunc: 000001/000001/000000
㉘<Duplex Page Count(Total/Color/Mono)>  Total:00000000/000000/000000
 ㉙PC-Print: 000000/000000/000000  Copy: 000000/000000/000000  OtherFunc:000000/000000/000000
  <Page Count[Size](Plain/Inkjet/Glossy)>
 ㉚A4_Letter: 000011/000000/000000  A3_Ledger: 000000/000000/000000  Envelope: 000000
 ㉛4x6_A5: 000000/000000/000000  Hagaki: 000000/000000/000000  Lban: 000000/000000/000000
 ㉜Long(Narrow_Long): 000000/000000/000000  Long(Narrow_SuperLong): 000000/000000/000000
   Long(Wide_Long): 000000/000000/000000  Long(Wide_SuperLong): 000000/000000/000000
  <Duplex Page Count[Size](Plain/Inkjet/Glossy)>
 ㉝A4_Letter: 000000  A3_Ledger: 000000  A5: 000000  Hagaki: 000000/000000/000000
  <Other Page Count> NGC: 00000000(----/-)㉞Borderless: 000003/000000/000000
 ㉟Dark Page(CY/MZ/YL/BK): 000000/000000/000000/000003     Last Month Total Page: 000004
 ㊱Tray1: 000014  Tray2: 000000  CDLabel: 000000  MFS: 000000  MPTray: 000001  Tray3: 000000
㊲<Cart Page Count(CY/MZ/YL/BK)> Cur:00006 /00006 /00006 /00011  Pre:00000 /00000 /00000 /00000
  <Average Coverage>(CY/MZ/YL/BK)
 ㊳Total:      4.06% /  4.07% /  4.05% /  4.69%    Current:   4.06% /  4.07% /  4.05% /  4.69%
 ㊴Previous:   0.00% /  0.00% /  0.00% /  0.00%    Latest:    0.00% /  0.00% /  0.00% /  0.00%
㊵<JAM Count>     Total: 000000  DX_Back_Side: 000000  Media(Err/PrePri/Check): 00000/00000/00000
 ㊶Tray1: 000000  Tray2: 000000  CDLabel: 000000  MFS: 000000  MPTray: 000000  Tray3: 000000
 ㊷  Ins: 000000  Feed: 000000  CR: 000000  ME_XX: 000/000/000:000/005/000/000:000/000/001/001/000
  <Pick Miss Count>
 ㊸Tray1: 000004  Tray2: 000000  CDLabel: 000000  MFS: 000000  MPTray: 000001  Tray3: 000000
㊹<Roll Clean>     Tray1: 000       Tray2: 000  MPTray: 000      Tray3: 000
㊺<Paper Piece Remove> 000   <Job Cancel Count> 000001
㊻<Scan Count> ADF JAM SX: 0000000000              ADF JAM DX: 0000000000
 ㊼ADF: 0000000020  ADFDX: 0000000000  FB: 0000000005  FAX: 0000000000  SCANNER: 0000000005
 ㊽HP ERR/ERR LOG  00/00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
㊾<Purge Count>    Purge: 08791        Wipe: 00084       Flush(BK/CL): 0010365421/0145312489
㊿<User Life Flush(CY/MZ/YL/BK)> 0000005581/0000005581/0000005581/0000005956
(51)<User Life Purge(CY/MZ/YL/BK)> AUTO:00000/00000/00000/00000   MANU:00000/00000/00000/00000
(52)Purge Kind(BK): AUTO/MANU
   eIP:000/001  uIP:000/003  RP:000/000   SRP:000/000  SP:001/000   RP2:000/000  CP:000/000
   NP:000/014   RP3:000/012  PP:000/000   QPP:000/000  MPP:000/000  REP:000/001  SPP:000/000
   MP2:000/000  QMP:000/000  KEP:000/000  SEP:000/000  REM:000/001  HPP:000/000  QAP:000/000
   ARP:000/000  STR:000/001  QSR:000/001
(53)Purge Kind(CL): AUTO/MANU
   eIP:000/001  uIP:000/003  RP:000/000   SRP:000/000  SP:001/000   RP2:000/000  CP:000/000
   NP:000/017   RP3:000/011  PP:000/000   QPP:000/000  MPP:000/000  REP:000/001  SPP:000/000
   MP2:000/002  QMP:000/000  KEP:000/000  SEP:000/000  REM:000/001  HPP:000/000  QAP:000/000
   ARP:000/000  STR:000/001  QSR:000/001
(54)Purge Kind(Other)
   tFL:00004    hFL:00000    RVP:00000
(55)<Discharge Detect> Total:00010 Comp:00000 AC:00000 DC:00000 NoiseOver:00000 CapVolErr:00007
 (56)DchgPin(C/M/Y/K):905/905/905/905(57)ErrPin(C/M/Y/K):000/000/000/000(58)Auto:(59)Damage:0
 (60)IPDchgPin(C/M/Y/K):420/420/420/420
(61)Initial Purge Log    FF/0505/0F/01/10/7D/01/0505/00/02//00/00/00/00/00/00/00/00/00/00/00/00//00
(62)Initial Purge Time   0068/0069/007E/0093/00A2/00A2/00AD/00B9/0000/010C//04/14/0B/03
(63)Purge History        BK1:1C27 CL1:1C27 BK2:0512 CL2:0512 BK3:0000 CL3:0000
(64)Power ON Time(Hour)  0000000523       Power ON Count   00000008   Power Off Cap Err  000
(65)Power ON Count(Tel)  000
(66)<Machine Error(1-10)(ErrorCode:Time:Temp)>
   5300:2107091340:27  /0000:0000000000:00  /0000:0000000000:00  /0000:0000000000:00
   0000:0000000000:00  /0000:0000000000:00  /0000:0000000000:00  /0000:0000000000:00
   0000:0000000000:00  /0000:0000000000:00
(67)<COM Error 1/2/3>  00000000:0000000000  /00000000:0000000000   /00000000:0000000000
(68)<Backup Data Version>  a
(69)<Sensor Status>
  DF:1  DR:1  CV:1  RS:1  CC:1  PG:1  CP:1  AC:1  IK:1  IY:1  IC:1  IM:1  EK:1  EY:1  EC:1  EM:1
  ST:1  MP:0  SB:1  HF:0  FC:1  VT:1  T1:1  T2:1

(70)Ink State                C:2    M:2    Y:2    K:2   C?:0   M?:0   Y?:0   K?:0
(71)Executed Mainten         41 CC 00 00 80 00 00 01 14 0C B0 50 10
(72)Executed SP_Mainten      00 04 22 48 00 00 10 00 10 00 00 00 00     034C
(73)Reset History   006/0000000044                    Setup Date   20210617
(74)<Adjust Count(Manu/Auto)> ALIGN:[000:000]/[003:002] FEED:[000:000]/[003:002] ALL_A ST:T07 L07 I00
  <Ink Refill Log> 100-70: 000/ 000/ 000/ 000 69-40: 000/ 000/ 000/ 000 39-1: 000/ 000/ 000/ 000
  Low: 000/ 000/ 000/ 000 Emp: 000/ 000/ 000/ 000 <User Input Log> 000/ 000/ 000
  <Ink Cover Open(Short/Long)> 00000/ 00000  <Remain Ask> ON: 000 OFF: 000/ 000/ 000/ 000/ 000
(75)<CoverageRange>
  CV:-                                  MZ:-
  YL:-                                  BK:-
(76)<Function Info> 0000000000 0000000000
(77)<SIMPLE CARTRIDGE(CY/MZ/YL/BK)> CUR CART SET CNT:000/000/000/000 INFLOW NG CNT:000/000/000/000
(78)INKCHG SBT REMAIN:0000000000/0000000000/0000000000/0000000000          INFLOW CHECK:0/0/0/0
(79)INKCHG CTG REMAIN:0001812500000/0001812500000/0001812500000/0003481250000    INFLOW NG:0/0/0/0
(80)<CTG (C/M/Y/K)> N_USED:00 F:000000000000 L:000000000000 GEN:001/001/001/001 NOGEN:000/000/000/000
  ID:c70351a264004c3801002100/e70e549464004c3801002100/678c199a64004c3801002100/
  57883482e4084e3801002100 INFO:40011f0100010000/4001200100010000/40011e0100010000/40011d0100010000
(81)<Service Info> 0
```


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1	Model code, Serial number, Country code, Checksum of WSW, PSW, USW, and FSW[*1]	22	Total printed page count, A3 paper printed page count[*2]
2	Version of main firmware, Production date & time, Checksum, ROM1 checksum[*1]	23	Printed page count: Long paper
3	Version of boot firmware[*1], Checksum[*1], Real-time clock (RTC) check result[*1], RTC backup check result[*1] (OK: Backup completed, NG: Backup failed)	24	Printed page count: PC print, Copy, FAX
4	Sub firmware version, production date & time and checksum	25	Printed page count: Media, List, Web Connect
5	Head property information/Head voltage correction value/Head calibration data – calibration ratio – Presence of variation calibration data (1: Exist, 0: Not exist)	26	Printed page count: AirPrint, iPrint, Google Cloud Print
6	First side CIS type	27	Printed page count: Test pattern, User line alignment, User feeding amount adjustment, Other
7	LCD type	28	Total printed page count in duplex printing
8	Total ink drop count from a new head (including flushing)	29	Printed page count in duplex printing: PC print, Copy, Other
9	Total ink drop count from the time the user operated the machine for the first time	30	Printed page count per recording paper size: A4 and LTR, A3[*2] and LGR[*2], Envelope
10	Ink drop count ejected on the paper surface out of the User Life Count	31	Printed page count per recording paper size: 4x6 and A5, Hagaki[*2], Photo-L
11	Ink drop count after replacement of ink cartridge	32	Printed page count per recording paper size: Narrow Long, Narrow Super Long, Wide Long, Wide Super Long
12	Ink drop count after detection of "Ink Low"	33	Printed page count per recording paper size in duplex printing: A4 and LTR, A3[*2] and LGR[*2], A5, Hagaki[*2]
13	Ink remaining of Sub-tank at present	34	(Simple Ink cartridge model only) Number of borderless printing (plain paper/inkjet paper/glossy paper)
14	Ink drop count by cleaning after replacement of ink cartridge	35	High-level ink usage page count (count of pages that exceed a specified level of ink usage), Total printed page count in the previous month
15	Cartridge manufacture date	36	Printed page count per tray: Paper tray #1, Paper tray #2[*2], Label[*2], Manual feed slot, MP tray, Paper tray #3[*2]
16	Ink cartridge change count[*8]	37	Printed page count of the present cartridge, Printed page count of the previous cartridge
17	Ink cartridge detection failure count (Cannot Detect display count), "Ink Low" count	38	Average coverage of all cartridges
18	Ink drop count at the previous replacement of ink cartridge	39	Average coverage of the present cartridge, Average coverage of the previous cartridge, Average coverage of the latest cartridge
19	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge	40	Recording paper jam count: Total count, when printing the second side in duplex printing (India model only) Paper jam count detected by paper width sensor/Pre-print detection count[*1]/Printed page count with jam detection by paper width sensor effective[*1]
20	Ink drop count by cleaning at the previous replacement of ink cartridge	41	Recording paper jam count per tray: Paper tray #1, Paper tray #2[*2], Label[*2], Manual feed slot, MP tray, Paper tray #3[*2]
21	Ink drop count at ink remaining failure	42	Recording paper jam count during paper pull-in, feeding, and carriage: (Error codes) Paper pull-in: 1800, 8200, 8B00; feeding: 1300, 1500, 8400; carriage: 3100, 3800, 3C00 (Simple ink cartridge model only) Number of errors: ME18/ME82/ME83:ME15/ME84/ ME87/ME88:ME31/ME35/ME38/ME3B/ME3C

43	Paper pull-in failure count: Paper tray #1, Paper tray #2[*2], Label[*2], Manual feed slot, MP tray, Paper tray #3[*2]	63	Last three purge logs[*7]
44	Roller cleaning count: Paper tray #1, Paper tray #2[*2], MP tray, Paper tray #3[*2]	64	Total power-ON time, Power-ON count, Capacitor failure detection count
45	Paper piece removal count[*2], Job cancel count	65	Power-ON count by phone line detection
46	ADF jam count: Simplex, Duplex[*2]	66	Machine error history (Error code: Date of occurrence: Machine temperature degree-C at the time of occurrence)
47	Scanning count: ADF, ADF duplex[*2], FB, FAX, Scanner	67	Communications error history (Error code: Date of occurrence)
48	Home positioning error code of the CIS unit/Home positioning detection log data[*1]	68	Machine information backup file version[*1]
49	Purge count: Purge, Sensor purge, Wipe, Black flushing, Color flushing, Flushing count error detection count	69	Sensor status (0: OFF 1: ON)[*4]
50	Total ink flushing count from the time the user operated the machine for the first time	70	Ink cartridge type loaded in each slot[*5] Ink remaining state (0: OK 1: NG)
51	Total ink purge count from the time the user operated the machine for the first time	71	Executed maintenance modes[*1]
52	Purge count (black)[*3]	72	Executed special maintenance modes[*1]
53	Purge count (color)[*3]	73	Reset count[*6]/Total Power-ON time at the time of last reset, Operation start date of the machine (Current date when the user operates the machine first after unpacking)
54	Purge count (Other)[*3]	74	User line alignment: Start count, completion count User feeding amount adjustment: Start count, completion count[*1]
55	Ink droplet detection counter Total: Total count Comp: Completion count	75	(Simple ink cartridge model only) printed page count of each coverage for each color
56	Dropped nozzles numbers (Failure=9**)	76	(Simple ink cartridge model only) SSW (SolutionSW) on/off information[*1]
57	Failed nozzles numbers	77	(Simple ink cartridge model only) Number of insertion for currently loaded cartridge, number of ink flow failure at cartridge replacement[*1]
58	Auto nozzle check function (Disable=2/Enable=1/ Disable setting =0)	78	(Simple ink cartridge model only) Ink remaining of Sub-tank at replacement[*1], ink flow state (1:ON 0: OFF)[*1]
59	Auto nozzle check function (Disable=2/Enable=1/ Disable setting =0)	79	(Simple ink cartridge model only) Ink remaining of Cartridge IC at replacement[*1], ink flow failure state (1:ON 0: OFF)[*1]
60	OK nozzles numbers of ink droplet detection after printing the first nozzle check after initial purge (900 when droplet detection failed + failure reason code)	80	Usage history of non-genuine cartridges other(00:Not used 80:Used)
61	Initial purge log[*1] (FF: normal end)	81	Subscription information
62	Initial purge execution time[*1]		

*1: Not required for servicing.

*2: Not used.

*3: For details about the purge type, refer to Maintenance mode 76 (refer to “1.3.25 Purge Operation (Maintenance mode 76)”).

*4: For details about sensors, refer to Maintenance mode 32 (refer to “1.3.8 Sensor Operational Check (Maintenance mode 32)”).

*5: 0: No ink cartridge loaded
1: Refer to Type 1 in the table shown in *8.
2: Refer to Type 2 in the table shown in *8.
*: Unidentifiable ink cartridge
?: Ink cartridge with the incorrect amount of ink remaining

*6: Excluding the resets triggered by the following.
Maintenance modes 01 and 91
Maintenance mode 80 (Resetting the purge and flushing counts)

*7: Noted in the following order: previous purge (black, color), purge prior to that (black, color), and purge prior to that (black, color). Each 4-digit value is noted in hexadecimal notation. Convert each to a 16-digit binary value and consult the table below ("How to read the purge logs") for its meaning. Each 16-digit value consists of the following components:

< Regular Ink cartridge model >	< Simple Ink cartridge model >
- First 2 digits: Purge execution trigger	- First 2 digits: Not used
- Next 6 digits: Purge execution type	- Next 6 digits: Purge execution type
- Next 4 digits: Cause of purge execution	- Next 4 digits: Cause of purge execution
- Last 4 digits: Not required for servicing	- Next 4 digits: Purge execution trigger

< How to read the purge logs >

Purge execution trigger (Regular Ink cartridge model)		Purge execution type		Cause of purge execution		Purge execution trigger (Simple Ink cartridge model)	
00	User-execution	000000	No purge execution	0000	None (user-execution)	0000	None applies
01	Before printing	000001	NP	0001	Initial installation	0001	Selection from test print
10	Automatically executed	000010	RP	0010	Periodic purge		
		000011	PP	0011	Ink replacement	0010	Selection from User mode
		000100	CP	0100	12th ink replacement		
		000101	uIP	0101	Purge to eliminate paper dust	0011	Selection from Maintenance mode of machine
		000110	MPP				
		000111	TPP (Regular Ink cartridge model) QAP (Simple Ink cartridge model)	0110	30th power ON/OFF		
				0111	Machine error/power off	0100	Selection from Maintenance tab on PC
				1000	M-misdirection purge		
				1001	Purge before printing after dry		
						0101	Before printing
		001000	Suction without ink	1010	Low PV user purge	0110	Periodic purge, HBP purge
		001001	SPP	1011	20th purge for ME5X7X		
		001010	MNT Initialization	1100	No PV user purge before printing		
		001011	WIPE				
		001100	REM				
		001101	Suction without ink				
		001110	Periodic flush				
		001111	MPP2				
		010000	QMPP				
		010001	Flush to retain moisture				
		010010	HPP				
		010011	Reset exhaustion				
		010100	eIP				
		010101	RP3				
		010110	ARP				
		010111	QPP				
		011000	Continuous exhaustion				
		011001	CPP				
		011010	UncapCap				
		011011	Wait				
		011100	SP				
		011101	RP2				
		011110	SRP				
		100000	REP				
		100100	Air cleaning				
		100101	Black sedimentation suction purge				
		100110	LRP				

*8: Refer to the table below.

	Models for China	Other
Type 1	N/A	Supply super high yield cartridges
Type 2	All cartridges	Bundled or supply high yield cartridges

1.3.27 Adjustment of Touch Panel (Maintenance mode 78)

< Function >

This function adjusts the detection area on the touch panel.

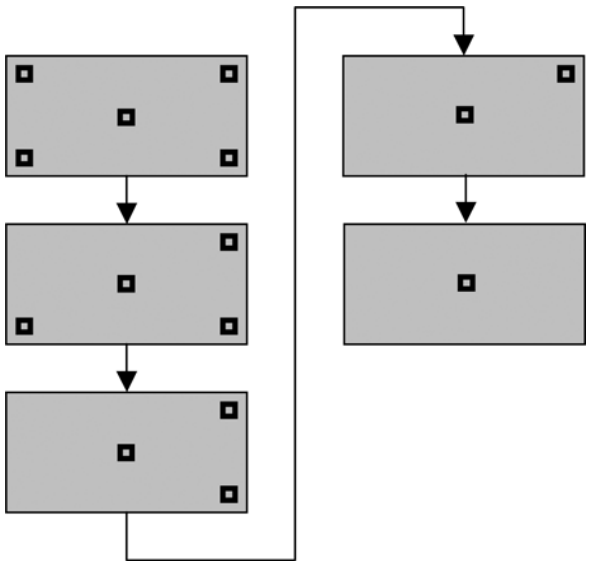
Note: The adjustment procedure requires a stylus with a thin tip.
A commercially available stylus designed for electronic dictionaries or personal digital assistance (PDA) can be used. If you do not have it on hand, order the "TOUCH PEN" from the Brother's parts list.

< Operating Procedure >

(1) Press the **7** and **8** keys in this order in the initial stage of the maintenance mode. The adjustment screens shown below appear on the LCD.

(2) Touch the symbols on the touch panel with a stylus in the order of top-left, bottom-left, bottom-right, top-right, and the center. After a symbol touched disappears, touch the next one.
After the fifth symbol (center) is pressed, the "OK" appears if the adjustment is normally completed. After approx. three seconds, the machine returns to the initial stage of the maintenance mode.

Notes: - Do not use tools other than a pen designed for touch panels. Especially, never use a pointed one, e.g., a screwdriver. Using such a tool damages the touch panel.
- Do not touch the touch panel with fingers. The contact area of a finger is too large to adjust the touch panel precisely.
- If no keys are pressed for one minute in the above procedure or you press the **X** key, the machine stops the procedure and returns to the initial stage of the maintenance mode.
- If the touch panel is improperly pressed or a wrong point is pressed, the "ERROR" appears on the LCD. After approx. three seconds, the screen returns to the state in step (2). Start pressing the five symbols again from the first one (top-left).
- If the "ERROR" appears on the LCD, check the panel flat cable for a contact failure, breakage, or short-circuit. If the "ERROR" continues to be displayed without any of such problems, replace the touch panel.



1.3.28 Display of the Equipment's Log (Maintenance mode 80)

< Function >

This function displays the log information on the LCD.

< Operating Procedure >

(1) Press the **8** and **0** keys in this order in the initial stage of the maintenance mode.

The "ERROR CODE" appears on the LCD.

(2) Press the ▼ key to call up the following log information items, one by one.
To return to the previous item, press the ▲ key.

Press the ► key while the item is displayed to go to the supplemental information in the item.

Press the ◄ key while the item is displayed to return to the information of the upper level.

(3) Press the **X** key to return the machine to the initial stage of the maintenance mode.

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Log information item

	LCD	[►]	[►]	[►]	Description
[▼]	ERROR CODE	MACERR_01:8C00 ⋮ MACERR_10:8C00	DATE:1610071324 ⋮ DATE:1609201234	TEMP:24 ⋮ TEMP:24	Machine error history (Error code, Date of occurrence, Machine temperature degree-C at the time of occurrence) (Last 10 errors)
		COMERR1:BF010000 ⋮ COMERR3:BF010000	DATE:1609012345 ⋮ DATE:1609012343	--- ⋮ ---	Communications error history (Error code, Date of occurrence) (Last 3 errors)
[▼]	DEVICE INFO	8CH-221-001	---	---	Model code
		COUNTRY:3001	---	---	Country code
		SWITCH:82	---	---	Checksum of WSW, PSW, USW, and FSW *1
		U1607211213 0A	---	---	Main firmware version and production date & time
		3415 5314	---	---	Main firmware checksum/ROM1 checksum*1
		B1606101054:34CD	---	---	Boot firmware version and checksum *1
		S/N	654321234567890	---	Serial number*2
		ALR777FFFFFF8	---	---	Head property information
		HEAD_CALIB:1-1-1	---	---	Head calibration data - Calibration ratio - Presence of variation calibration data (1:Exist, 0: Not exist)
		CISF:00 CISA:00	---	---	CIS type, CISF: First side CIS, CISA: Second side CIS
		BACKUP VER:a	---	---	Machine information backup file version *1
		SETUP:20160101	---	---	Operation start date of the machine (Current date when the user operates the machine first after unpacking)
[▼]	DOT COUNT	DK:0000000000001	---	---	Ink drop count after replacement of ink cartridge (Black)
		DY:0000000000001	---	---	Ink drop count after replacement of ink cartridge (Yellow)
		DC:0000000000001	---	---	Ink drop count after replacement of ink cartridge (Cyan)
		DM:0000000000001	---	---	Ink drop count after replacement of ink cartridge (Magenta)
		SEN K:0000000001	---	---	Ink drop count after detection of "Ink Low" (Black)
		SEN Y:0000000001	---	---	Ink drop count after detection of "Ink Low" (Yellow)
		SEN C:0000000001	---	---	Ink drop count after detection of "Ink Low" (Cyan)
		SEN M:0000000001	---	---	Ink drop count after detection of "Ink Low" (Magenta)

	LCD	[►]	[►]	[►]	Description
[▼]	DOT COUNT	ULK:0000000000001	---	---	Total ink drop count from the time the user operated the machine for the first time (Black)
		ULY:0000000000001	---	---	Total ink drop count from the time the user operated the machine for the first time (Yellow)
		ULC:0000000000001	---	---	Total ink drop count from the time the user operated the machine for the first time (Cyan)
		ULM:0000000000001	---	---	Total ink drop count from the time the user operated the machine for the first time (Magenta)
		UPK:0000000000001	---	---	Ink drop count ejected on the paper surface out of the User Life Count (Black)
		UPY:0000000000001	---	---	Ink drop count ejected on the paper surface out of the User Life Count (Yellow)
		UPC:0000000000001	---	---	Ink drop count ejected on the paper surface out of the User Life Count (Cyan)
		UPM:0000000000001	---	---	Ink drop count ejected on the paper surface out of the User Life Count (Magenta)
		PLA K:0000000001	---	---	Ink drop count for droplets jetted out onto the platen (Black) *1
		PLA Y:0000000001	---	---	Ink drop count for droplets jetted out onto the platen (Yellow) *1
		PLA C:0000000001	---	---	Ink drop count for droplets jetted out onto the platen (Cyan) *1
		PLA M:0000000001	---	---	Ink drop count for droplets jetted out onto the platen (Magenta) *1
		LK:0000000000001	---	---	Total ink drop count from a new head (Black)
		LY:0000000000001	---	---	Total ink drop count from a new head (Yellow)
		LC:0000000000001	---	---	Total ink drop count from a new head (Cyan)
		LM:0000000000001	---	---	Total ink drop count from a new head (Magenta)
		CLN K:0000000001	---	---	Ink drop count by cleaning after replacement of ink cartridge (Black)
		CLN Y:0000000001	---	---	Ink drop count by cleaning after replacement of ink cartridge (Yellow)
		CLN C:0000000001	---	---	Ink drop count by cleaning after replacement of ink cartridge (Cyan)
		CLN M:0000000001	---	---	Ink drop count by cleaning after replacement of ink cartridge (Magenta)
		INV K:0000000001	---	---	Ink drop count at ink remaining failure (Black)
		INV Y:0000000001	---	---	Ink drop count at ink remaining failure (Yellow)
		INV C:0000000001	---	---	Ink drop count at ink remaining failure (Cyan)
		INV M:0000000001	---	---	Ink drop count at ink remaining failure (Magenta)

	LCD	[▶]	[▶]	[▶]	Description
[▼]	DOT COUNT	INK CHG DOT	K:0000000001	---	Ink drop count at the previous replacement of ink cartridge (Black)
			Y:0000000001	---	Ink drop count at the previous replacement of ink cartridge (Yellow)
			C:0000000001	---	Ink drop count at the previous replacement of ink cartridge (Cyan)
			M:0000000001	---	Ink drop count at the previous replacement of ink cartridge (Magenta)
		INK CHG SEN DOT	K:0000000001	---	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge (Black)
			Y:0000000001	---	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge (Yellow)
			C:0000000001	---	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge (Cyan)
			M:0000000001	---	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge (Magenta)
		INK CHG CLEAN	K:0000000001	---	Ink drop count by cleaning at the previous replacement of ink cartridge (Black)
			Y:0000000001	---	Ink drop count by cleaning at the previous replacement of ink cartridge (Yellow)
			C:0000000001	---	Ink drop count by cleaning at the previous replacement of ink cartridge (Cyan)
			M:0000000001	---	Ink drop count by cleaning at the previous replacement of ink cartridge (Magenta)
[▼]	INK CHG COUNT	INKCH K:001	---	---	Ink cartridge change count (Type 1[*8]) (Black)
		INKCH Y:001	---	---	Ink cartridge change count (Type 1[*8]) (Yellow)
		INKCH C:001	---	---	Ink cartridge change count (Type 1[*8]) (Cyan)
		INKCH M:001	---	---	Ink cartridge change count (Type 1[*8]) (Magenta)
		INKCH2 K:001	---	---	Ink cartridge change count (Type 2[*8]) (Black)
		INKCH2 Y:001	---	---	Ink cartridge change count (Type 2[*8]) (Yellow)
		INKCH2 C:001	---	---	Ink cartridge change count (Type 2[*8]) (Cyan)
		INKCH2 M:001	---	---	Ink cartridge change count (Type 2[*8]) (Magenta)
		CHGMISS K:001	---	---	Ink cartridge detection failure count (Black)
		CHGMISS Y:001	---	---	Ink cartridge detection failure count (Yellow)
		CHGMISS C:001	---	---	Ink cartridge detection failure count (Cyan)
		CHGMISS M:001	---	---	Ink cartridge detection failure count (Magenta)

	LCD	[▶]	[▶]	[▶]	Description
[▼]	PAGE COUNT	PAGE:16777215	---	---	Total printed page count
		PG MN:00000001	---	---	Total monochrome printed page count
		PG CL:00000001	---	---	Total color printed page count
		A3:000002	---	---	Total A3 paper printed page count
		A3 MN:000001	---	---	A3 paper monochrome printed page count
		A3 CL:000001	---	---	A3 paper color printed page count
		Long:000002	---	---	LongPaper Total Page
		Long MN:000001	---	---	LongPaper Mono Page
		Long CL:000001	---	---	LongPaper Color Page
		PC:000001	---	---	Total PC printed page count
		PC MN:000001	---	---	Monochrome PC printed page count
		PC CL:000001	---	---	Color PC printed page count
		COPY:000002	---	---	Total Copy printed page count
		COPY MN:000001	---	---	Monochrome copy printed page count
		COPY CL:000001	---	---	Color copy printed page count
		FAX:000002	---	---	Total Fax printed page count
		FAX MN:000001	---	---	Monochrome Fax printed page count
		FAX CL:000001	---	---	Color Fax printed page count
		LIST:000002	---	---	Total list printed page count
		LIST MN:000001	---	---	Monochrome list printed page count
		LIST CL:000001	---	---	Color list printed page count
		MEDIA:000002	---	---	Total USB flash memory printed page count
		MEDIA MN:000001	---	---	Monochrome USB flash memory printed page count
		MEDIA CL:000001	---	---	Color USB flash memory printed page count
		WCDL:000002	---	---	Total Web Connect printed page count
		WCDL MN:000001	---	---	Monochrome Web Connect printed page count
		WCDL CL:000001	---	---	Color Web Connect printed page count
		AIR:000002	---	---	Total AirPrint printed page count
		AIR MN:000001	---	---	Monochrome AirPrint printed page count
		AIR CL:000001	---	---	Color AirPrint printed page count
		IPRINT:000002	---	---	Total iPrint printed page count
		IPRINT MN:000001	---	---	Monochrome iPrint printed page count
		IPRINT CL:000001	---	---	Color iPrint printed page count
		GCP:000002	---	---	Total Google Cloud Print printed page count
		GCP MN:000001	---	---	Monochrome Google Cloud Print printed page count
		GCP CL:000001	---	---	Color Google Cloud Print printed page count
		QLTY_CHK:000001	---	---	Test pattern printed page count
		ALIGNMENT:000001	---	---	User line alignment printed page count
		FEED_ADJ:000001	---	---	User feeding amount adjustment printed page count
		OTHER:000002	---	---	Total other printed page count
		OTHER MN:000001	---	---	Monochrome other printed page count
		OTHER CL:000001	---	---	Color other printed page count
		NGC:00000000	---	---	Non-genuine cartridge

	LCD	[▶]	[▶]	[▶]	Description
[▼]	DX PAGE COUNT	TTL:16777215	---	---	Total printed page count in duplex printing
		MN:00000001	---	---	Monochrome printed page count in duplex printing
		CL:00000001	---	---	Color printed page count in duplex printing
		PC:000001	---	---	Total PC printed page count in duplex printing
		PC MN:000001	---	---	Monochrome PC printed page count in duplex printing
		PC CL:000001	---	---	Color PC printed page count in duplex printing
		COPY:000001	---	---	Total copy printed page count in duplex printing
		COPY MN:000001	---	---	Monochrome copy printed page count in duplex printing
		COPY CL:000001	---	---	Color copy printed page count in duplex printing
		OTHER:000001	---	---	Total other printed page count in duplex printing
		OTHER MN:000001	---	---	Monochrome other printed page count in duplex printing
		OTHER CL:000001	---	---	Color other printed page count in duplex printing
[▼]	SIZE_ TYPE PAGE	A4LTR_P:000000	---	---	A4/LTR size plain paper printed page count
		A4LTR_I:000000	---	---	A4/LTR size inkjet paper printed page count
		A4LTR_G:000000	---	---	A4/LTR size Glossy paper printed page count
		A3LDG_P:000001	---	---	A3/LGR size plain paper printed page count
		A3LDG_I:000001	---	---	A3/LGR size inkjet paper printed page count
		A3LDG_G:000001	---	---	A3/LGR size Glossy paper printed page count
		4*6_P:000001	---	---	4X6 size plain paper printed page count
		4*6_I:000001	---	---	4X6 size inkjet paper printed page count
		4*6_G:000001	---	---	4X6 size Glossy paper printed page count
		HGK_P:000001	---	---	Hagaki size plain paper printed page count*5
		HGK_I:000001	---	---	Hagaki size inkjet paper printed page count*5
		HGK_G:000001	---	---	Hagaki size Glossy paper printed page count*5
		LBAN_P:000001	---	---	Photo L size plain paper printed page count
		LBAN_I:000001	---	---	Photo L size inkjet paper printed page count
		LBAN_G:000001	---	---	Photo L size Glossy paper printed page count
		EVP:000001	---	---	Envelopes printed page count
		LONGNL_P:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 431.8 mm and 900 mm or less) plain paper printed page count
		LONGNL_I:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 431.8 mm and 900 mm or less) Inkjet paper printed page count
		LONGNL_G:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 431.8 mm and 900 mm or less) Glossy paper printed page count
		LONGNSL_P:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 900 mm) plain paper printed page count
		LONGNSL_I:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 900 mm) Inkjet paper printed page count
		LONGNSL_G:000001	---	---	LongPaper size (width: 210 mm or less, length: longer than 900 mm) Glossy paper printed page count
		LONGWL_P:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 431.8 mm and 900 mm or less) Plain paper printed page count
		LONGWL_I:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 431.8 mm and 900 mm or less) Inkjet paper printed page count

	LCD	[▶]	[▶]	[▶]	Description
[▼]	SIZE_ TYPE PAGE	LONGWL_G:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 431.8 mm and 900 mm or less) Glossy paper printed page count
		LONGWSL_P:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 900 mm) plain paper printed page count
		LONGWSL_I:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 900 mm) Inkjet paper printed page count
		LONGWSL_G:000001	---	---	LongPaper size (width: 210 mm or more, length: longer than 900 mm) Glossy paper printed page count
[▼]	SIZE_TYPE DXPAGE	A4LT_P DX:000000	---	---	A4/LTR size plain paper printed page count in duplex printing
		A3LG_P DX:000000	---	---	A3/LGR size plain paper printed page count in duplex printing
		A5_P DX:000000	---	---	A5/JISB6 size plain paper printed page count in duplex printing
		HGK_P DX:000001	---	---	Hagaki size plain paper printed page count in duplex printing*5
		HGK_I DX:000001	---	---	Hagaki size inkjet paper printed page count in duplex printing*5
		HGK_G DX:000001	---	---	Hagaki size Glossy paper printed page count in duplex printing*5
[▼]	DARK PAGE	K:000001	---	---	High-level ink usage page count (count of pages that exceed a specified level of ink usage) (Black)
		Y:000001	---	---	High-level ink usage page count (count of pages that exceed a specified level of ink usage) (Yellow)
		C:000001	---	---	High-level ink usage page count (count of pages that exceed a specified level of ink usage) (Cyan)
		M:000001	---	---	High-level ink usage page count (count of pages that exceed a specified level of ink usage) (Magenta)
[▼]	CURINK PAGE	BK:000001	---	---	Printed page count of the present cartridge (Black)
		YL:000003	---	---	Printed page count of the present cartridge (Yellow)
		CY:000003	---	---	Printed page count of the present cartridge (Cyan)
		MZ:000003	---	---	Printed page count of the present cartridge (Magenta)
[▼]	PREINK PAGE	BK:000003	---	---	Printed page count of the previous cartridge (Black)
		YL:000003	---	---	Printed page count of the previous cartridge (Yellow)
		CY:000003	---	---	Printed page count of the previous cartridge (Cyan)
		MZ:000003	---	---	Printed page count of the previous cartridge (Magenta)
[▼]	TRAY PAGE	TRAY1:000002	---	---	Paper tray #1 printed page count
		TRAY2:000002	---	---	Paper tray #2 printed page count
		MFS:000001	---	---	Manual feed slot printed page count
		MPTRAY:000001	---	---	MP tray printed page count

	LCD	[▶]	[▶]	[▶]	Description
[▼]	TRAY JAM	TTL:000000	---	---	Recording paper total jam count
		DX BACK:000000	---	---	Recording paper jam count: when printing the second side in duplex printing
		TRAY1:000000	---	---	Recording paper jam count: Paper tray #1
		TRAY2:000000	---	---	Recording paper jam count: Paper tray #2
		MFS:000010	---	---	Recording paper jam count: Manual feed slot
		MPTRAY:000010	---	---	Recording paper jam count: MP tray
[▼]	ROLLER CLEANING	TRAY1:001	---	---	Paper tray #1 roller cleaning count
		TRAY2:001	---	---	Paper tray #2 roller cleaning count
		MPTRAY:001	---	---	MP tray roller cleaning count
[▼]	PICKMISS	TRAY1:000000	---	---	Paper tray #1 paper pull-in failure count
		TRAY2:000000	---	---	Paper tray #2 paper pull-in failure count
		MFS:000001	---	---	Manual feed slot paper pull-in failure count
		MPTRAY:000001	---	---	MP tray paper pull-in failure count
[▼]	PURGE COUNT	PURGE:00001	---	---	Purge count *3
		SEN PURGE:00001	---	---	Sensor purge count
		eIP_BK:001/001	---	---	Engine setup purge (Black) count (Auto/Manual)
		uIP_BK:001/001	---	---	Initial purge (Black) count (Auto/Manual)
		RP_BK:001/001	---	---	Periodical reset purge (Black) count (Auto/Manual)
		SRP_BK:001/001	---	---	Small reset purge (Black) count (Auto/Manual)
		SP_BK:001/001	---	---	Periodic suction purge (Black) count (Auto/Manual)
		RP2_BK:001/001	---	---	Periodic expelling purge (Black) count (Auto/Manual)
		CP_BK:001/001	---	---	Ink replacement purge (Black) count (Auto/Manual)
		NP_BK:001/001	---	---	Normal purge (Black) count (Auto/Manual)
		RP3_BK:001/001	---	---	User reset purge (Black) count (Auto/Manual)
		PP_BK:001/001	---	---	Power purge (Black) count (Auto/Manual)
		QPP_BK:001/001	---	---	Power reset purge (Black) count (Auto/Manual)
		MPP_BK:001/001	---	---	More powerful reset purge (Black) count (Auto/Manual)
		REP_BK:001/001	---	---	Ink replacement purge (Black) count (Auto/Manual)
		MPP2_BK:000/000	---	---	More powerful reset purge 2 (Black) count (Auto/Manual)
		QMPP_BK:000/000	---	---	Super strong recovery purge (Black) count (Auto/Manual)
		BKEP_BK:000/000	---	---	Thickened ink purge (Black) count (Auto/Manual)
		LRP_BK:000/000	---	---	Periodic reset purge for low PV (Black) count (Auto/Manual) *6
		SEP_BK:000/000	---	---	Sediment ejection purge (Black) count (Auto/Manual) *7
		QAP_BK:000/000	---	---	QA additional purge (Black) count (Auto/Manual) *7
		ARP_BK:000/000	---	---	Small purge after initial ink replacement (Black) count (Auto/Manual) *7
		STR_BK:000/000	---	---	Sub-tank removal purge (Black) count (Auto/Manual) *7
		QSR_BK:000/000	---	---	QA inspection Sub-tank removal purge (Black) count (Auto/Manual) *7
		eIP_CL:001/001	---	---	Engine setup purge (Color) count (Auto/Manual)
		uIP_CL:001/001	---	---	Initial purge (Color) count (Auto/Manual)

	LCD	[▶]	[▶]	[▶]	Description
[▼]	PURGE COUNT	RP_CL:001/001	---	---	Periodical reset purge (Color) count (Auto/Manual)
		SRP_CL:001/001	---	---	Small reset purge (Color) count (Auto/Manual)
		SP_CL:001/001	---	---	Periodic suction purge (Color) count (Auto/Manual)
		RP2_CL:001/001	---	---	Periodic expelling purge (Color) count (Auto/Manual)
		CP_CL:001/001	---	---	Ink replacement purge (Color) count (Auto/Manual)
		NP_CL:001/001	---	---	Normal purge (Color) count (Auto/Manual)
		RP3_CL:001/001	---	---	User reset purge (Color) count (Auto/Manual)
		PP_CL:001/001	---	---	Power purge (Color) count (Auto/Manual)
		QPP_CL:001/001	---	---	Power reset purge (Color) count (Auto/Manual)
		MPP_CL:001/001	---	---	More powerful reset purge (Color) count (Auto/ Manual)
		REP_CL:001/001	---	---	Ink replacement purge (Color) count (Auto/Manual)
		MPP2_CL:000/000	---	---	More powerful reset purge 2 (Color) count (Auto/ Manual)
		QMPP_CL:000/000	---	---	Super strong recovery purge (Color) count (Auto/ Manual)
		BKEP_CL:000/000	---	---	Thickened ink purge (Color) count (Auto/Manual)
		LRP_CL:000/000	---	---	Periodic reset purge for low PV (Color) count (Auto/ Manual) *6
		SEP_CL:000/000	---	---	Sediment ejection purge (Color) count (Auto/ Manual) *7
		QAP_CL:000/000	---	---	Additional QA purge (Color) count (Auto/Manual) *7
		ARP_CL:000/000	---	---	Small purge after initial ink replacement (Color) count (Auto/Manual) *7
		STR_CL:000/000	---	---	Sub-tank removal purge (Color) count (Auto/Manual) *7
		QSR_CL:000/000	---	---	QA inspection sub-tank removal purge (Color) count (Auto/Manual) *7
[▼]	PURGE COUNT_ OTHER	t_FLS:00001	---	---	Periodic flushing execution count
		hFL:00000	---	---	After-printing moisturizing flushing count
		RVP:00000	---	---	Re-dispersion purge
[▼]	DISCHARGE DETECT	TOTAL:00001	---	---	Total trials count
		COMP:00001	---	---	Completion count
		AC_LEAK:00001	---	---	AC leaks count
		DC_LEAK:00001	---	---	DC leaks count
		NOISE_OVER:00001	---	---	Large noise count
		CAPVOL_ERR:00001	---	---	CAP voltage abnormality occurred count
		DCHGPIN_BK:000	---	---	Ink drop pin count (BK)
		DCHGPIN_YL:000	---	---	Ink drop pin count (YL)
		DCHGPIN_CY:000	---	---	Ink drop pin count (CY)
		DCHGPIN_MZ:000	---	---	Ink drop pin count (MZ)
		ERRPIN_BK:000	---	---	Error pin count (BK)
		ERRPIN_YL:000	---	---	Error pin count (YL)
		ERRPIN_CY:000	---	---	Error pin count (CY)
		ERRPIN_MZ:000	---	---	Error pin count (MZ)
		NZL_AUTO_CHK:0	---	---	Automatic nozzle check function state
		DAMAGE:0	---	---	Failure detection count

	LCD	[►]	[►]	[►]	Description
[▼]	DISCHARGE DETECT	IPDCHGPIN_BK:000	---	---	OK pin count for ejection detection after printing the first Pincheck after IP(BK)
		IPDCHGPIN_YL:000	---	---	OK pin count for ejection detection after printing the first Pincheck after IP(YL)
		IPDCHGPIN_CY:000	---	---	OK pin count for ejection detection after printing the first Pincheck after IP(CY)
		IPDCHGPIN_MZ:000	---	---	OK pin count for ejection detection after printing the first Pincheck after IP(MZ)
[▼]	FLUSHING	FLSBK:0000000001	---	---	Flushing count (Black) *3
		FLSCL:0000000001	---	---	Flushing count (Color) *3
		FLUSHLOG:001	---	---	Flushing count error detection count
[▼]	PURGE HIST	BK1:0000	---	---	Type of purge performed last time (Black)
		CL1:0000	---	---	Type of purge performed last time (Color)
		BK2:0000	---	---	Type of purge performed before the last purge (Black)
		CL2:0000	---	---	Type of purge performed before the last purge (Color)
		BK3:0000	---	---	Type of purge performed before the last two purges (Black)
		CL3:0000	---	---	Type of purge performed before the last two purges (Color)
[▼]	SCAN COUNT	FB:00000000006	---	---	FB scanning count
		ADF:0000000006	---	---	ADF scanning count
		ADFDX:0000000021	---	---	ADF duplex scanning count
		FAX:0000000021	---	---	FAX scanning count
		SCAN:0000000021	---	---	Scanner count
		JAMSX:0000000006	---	---	ADF document jam count (Simplex)
		JAMDX:0000000000	---	---	ADF document jam count (Duplex)
[▼]	HP ERR	HP_ERR_CODE:XX	---	---	CIS home position error code *1
		HP_LOG1:XXXXXXXX	---	---	CIS home position detection log data (0 to 3 Byte) *1
		HP_LOG2:XXXXXXXX	---	---	CIS home position detection log data (4 to 7 Byte) *1
		HP_LOG3:XXXXXXXX	---	---	CIS home position detection log data (8 to 11 Byte) *1
		HP_LOG4:XXXXXXXX	---	---	CIS home position detection log data (12 to 15 Byte) *1
[▼]	INK LOW	BK:001	---	---	"Ink Low" count (Black)
		YL:001	---	---	"Ink Low" count (Yellow)
		CY:001	---	---	"Ink Low" count (Cyan)
		MZ:001	---	---	"Ink Low" count (Magenta)
[▼]	CVRGACC	BK:1.06%	---	---	Average coverage of all cartridges (Black)
		YL:1.06%	---	---	Average coverage of all cartridges (Yellow)
		CY:1.06%	---	---	Average coverage of all cartridges (Cyan)
		MZ1.06%	---	---	Average coverage of all cartridges (Magenta)
[▼]	CVRGUSI_ CUR	BK:1.06%	---	---	Average coverage of the present cartridge (Black)
		YL:1.06%	---	---	Average coverage of the present cartridge (Yellow)
		CY:1.06%	---	---	Average coverage of the present cartridge (Cyan)
		MZ1.06%	---	---	Average coverage of the present cartridge (Magenta)

	LCD	[▶]	[▶]	[▶]	Description
[▼]	CVRGUSI_ PRE	BK:1.06%	---	---	Average coverage of the previous cartridge (Black)
		YL:1.06%	---	---	Average coverage of the previous cartridge (Yellow)
		CY:1.06%	---	---	Average coverage of the previous cartridge (Cyan)
		MZ1.06%	---	---	Average coverage of the previous cartridge (Magenta)
[▼]	OTHER COUNT	JBCAN:000000	---	---	Job cancel count
		PP REMOVE:001	---	---	Paper piece removal count
		LSTMONTH:000000	---	---	Total printed page count in the previous month
		WIPE_CL:00001	---	---	Wipe count
		POWER:0000000353	---	---	Total power-ON time
		PWCNT:00000353	---	---	Power-ON count
		PWROFF CAP:255	---	---	Capacitor failure detection count
		RESET COUNT:001	POWER: 0000000353	---	Reset count*4, Total Power-On time at the time of last reset
		ALIGNMENT_M1:002	---	---	Manual line alignment try count
		ALIGNMENT_M2:001	---	---	Manual line alignment completion count
		ALIGNMENT_A1:002	---	---	Auto line alignment try count
		ALIGNMENT_A2:001	---	---	Auto line alignment completion count
		FEEDADJ_M1:002	---	---	Manual feeding amount adjustment try count
		FEEDADJ_M2:001	---	---	Manual feeding amount adjustment completion count
		FEEDADJ_A1:002	---	---	Auto feeding amount adjustment try count
		FEEDADJ_A2:001	---	---	Auto feeding amount adjustment completion count
[▼]	CART PRODUCT	BK:170127	---	---	Manufacture date of ink cartridge (Black)
		YL:170127	---	---	Manufacture date of ink cartridge (Yellow)
		CY:170127	---	---	Manufacture date of ink cartridge (Cyan)
		MZ:170127	---	---	Manufacture date of ink cartridge (Magenta)
[▼]	INKREFILL_ LOG	Not used.			
[▼]	INKCVR_ OPEN				
[▼]	INKREMAIN_ ASK				

	LCD	[►]	[►]	[►]	Description
[▼]	COVEAGE_ RANGE*7	LOW_BK:-	---	---	Printed page count of low coverage (0-1%) (Black)
		LOW_YL:-	---	---	Printed page count of low coverage (0-1%) (Yellow)
		LOW_CY:-	---	---	Printed page count of low coverage (0-1%) (Cyan)
		LOW_MZ:-	---	---	Printed page count of low coverage (0-1%) (Magenta)
[▼]	COVEAGE_ RANGE*7	MID_BK:-	---	---	Printed page count of middle coverage (1-10%) (Black)
		MID_YL:-	---	---	Printed page count of middle coverage (1-10%) (Yellow)
		MID_CY:-	---	---	Printed page count of middle coverage (1-10%) (Cyan)
		MID_MZ:-	---	---	Printed page count of middle coverage (1-10%) (Magenta)
		HIGH_BK:-	---	---	Printed page count of high coverage (more than 10%) (Black)
		HIGH_YL:-	---	---	Printed page count of high coverage (more than 10%) (Yellow)
[▼]	COVEAGE_ RANGE*7	HIGH_CY:-	---	---	Printed page count of high coverage (more than 10%) (Cyan)
		HIGH_MZ:-	---	---	Printed page count of high coverage (more than 10%) (Magenta)
[▼]	FUNCTION_ INFO *1	FUNC1:0000000000	---	---	Solution SW information (No. 1 to 40)
		FUNC2:0000000000	---	---	Solution SW information (No. 41 to 80)
		FUNC3:0000000000	---	---	Solution SW information (No. 81 to 120)
		FUNC4:0000000000	---	---	Solution SW information (No. 121 to 160)
		FUNC5:0000000000	---	---	Solution SW information (No. 161 to 200)
		FUNC6:0000000000	---	---	Solution SW information (No. 201 to 240)

	LCD	[▶]	[▶]	[▶]	Description
[▼]	SIMPLE_ CARTRIDGE *7	CUR_CART_ SET_CNT	K:000	---	Number of insertion for currently loaded cartridge (Black)
			Y:000	---	Number of insertion for currently loaded cartridge (Yellow)
			C:000	---	Number of insertion for currently loaded cartridge (Cyan)
			M:000	---	Number of insertion for currently loaded cartridge (Magenta)
		INFLOW_NG_ CNT *1	K:000	---	Number of ink flow failure at cartridge replacement (Black)
			Y:000	---	Number of ink flow failure at cartridge replacement (Yellow)
			C:000	---	Number of ink flow failure at cartridge replacement (Cyan)
			M:000	---	Number of ink flow failure at cartridge replacement (Magenta)
		INKCHG_SBT_ REM *1	K:0000000000	---	Ink remaining of Sub-tank at replacement (Black)
			Y:0000000000	---	Ink remaining of Sub-tank at replacement (Yellow)
			C:0000000000	---	Ink remaining of Sub-tank at replacement (Cyan)
			M:0000000000	---	Ink remaining of Sub-tank at replacement (Magenta)
		INKCHG_CTG_ REM *1	K:0000000000000	---	Ink remaining of Cartridge IC at replacement (Black)
			Y:0000000000000	---	Ink remaining of Cartridge IC at replacement (Yellow)
			C:0000000000000	---	Ink remaining of Cartridge IC at replacement (Cyan)
			M:0000000000000	---	Ink remaining of Cartridge IC at replacement (Magenta)
		INFLOW_ CHECK *1	K:0	---	Ink flow state (Black) (1: ON 0: OFF)
			Y:0	---	Ink flow state (Yellow) (1: ON 0: OFF)
			C:0	---	Ink flow state (Cyan) (1: ON 0: OFF)
			M:0	---	Ink flow state (Magenta) (1: ON 0: OFF)
		INFLOW_NG *1	K:0	---	Ink flow failure state (Black) (1: ON 0: OFF)
			Y:0	---	Ink flow failure state (Yellow) (1: ON 0: OFF)
			C:0	---	Ink flow failure state (Cyan) (1:ON 0:OFF)
			M:0	---	Ink flow failure state (Magenta) (1:ON 0:OFF)

*1: Not required for servicing.

*2: The serial number of the machine can be changed with the following procedure.

1) While the serial number is displayed, press the **9**, **4**, **7** and **5** keys in this order. The uppermost digit of the current serial number starts blinking, indicating that the machine switches to the edit mode.
2) Enter the uppermost digit of the desired serial number with numerical keys. Press the ► key to move the cursor to the second digit. In the same way, enter the remaining 14 digits.

   Entry of alphabet letters

   To enter an alphabet letter, press the corresponding numerical key repeatedly until the target alphabet letter appears.

Numerical keys	Letters supported
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 to save the serial number and press the **X** key to return the machine to the initial stage of the maintenance mode.

*3: With the purge count or flushing count displayed, press the **2**, **7**, **8** and **3** keys in this order to reset the count.

Note: Even if you reset the purge count, it will not become 0, since the ink in the intermediate absorber box is taken into consideration.

*4: Resetting shown below are out of target.

Maintenance mode 01, 91

Purge count and flushing count at maintenance mode 80.

*5: Not used.

*6: for Regular Ink cartridge model

*7: for Simple Ink cartridge model

*8: See *8 for Maintenance 77.

1.3.29 Equipment Error Code Indication (Maintenance mode 82)

< Function >

This function displays all the error codes of the machine errors that are currently occurring on the LCD.

< Operating Procedure >

(1) Press the **8** and **2** keys in this order in the initial stage of the maintenance mode. The LCD shows the "MACHINE ERR XXXX."

If no error has occurred, “MACHINE ERR 0000” is displayed on the LCD.

Tip: If two or more errors have occurred, press the **Mono Start** key to cycle through the error codes.

(2) Press the **X** key to stop this operation and return the machine to the initial stage of the maintenance mode.

1.3.30 Confirmation of Ink Discharge Detection Function (Maintenance Mode 83)

< Function >

This function verifies that the ink discharge detection mechanism is operating properly.

< Operating Procedure >

(1) Press the **8** and then the **3** key, followed by the ▲ key, in the initial stage of maintenance mode.

(2) "10.DCHG" appears on the LCD.
(If you press the wrong key and end up on a different display, press the **Stop** key to return to the initial stage of maintenance mode and repeat the procedure.)
Press the **Mono Start** or **SET** key to test the ink discharge detection mechanism.

(3) Once the test is complete, "DCHG RESULT" appears on the LCD.

(4) Press the ▲ key, "**RESULT** ****" (where "****" is a 4-digit numerical value) appears on the LCD.

(5) Press the **Stop** key to return to the initial stage of maintenance mode.

Results from the ink discharge detection test have the following meanings:

State	RESULT	Description	Solution
Normal completion	8000	Discharge detection was executed for all nozzles (normal operation).	N/A
Cover open	0001	The test exited without completing because the document scanner unit or ink cover was opened.	Close the document scanner unit and ink cover, then try again from the first procedure.
Excessive noise	0002	The test exited without completing due to a large amount of noise.	Try again from the first procedure. / Try again at least 15 minutes later.
Overvoltage	0004	The test exited without completing due to an overvoltage condition.	Follow the troubleshooting on the Error Code 5300.
Undervoltage	0008	The test exited without completing due to an undervoltage condition.	Follow the troubleshooting on the Error Code 5300.
No voltage	0010	The test exited without completing because the voltage failed to rise.	Follow the troubleshooting on the Error Code 5300.
AC leak	0020	The test exited without completing due to an AC leak.	Wipe off the ink that adheres near the periphery of the rubber cap of the Maintenance unit by using a cleaner stick.
DC leak	0040	The test exited without completing due to a DC leak.	Wipe off the ink that adheres near the periphery of the rubber cap of the Maintenance unit by using a cleaner stick.
No discharge	1000	The function determined that no nozzles are discharging ink.	Follow the troubleshooting on the Error Code 5300.

1.3.31 Output of Transmission Log to the Telephone Line (Maintenance mode 87)

< Function >

This function outputs the transmission log to the telephone line. It allows the service personnel to receive the transmission log of the user's machine at a remote location and use it for analyzing FAX transmission problems arising in the user's machine.

< Operating Procedure >

- At the service site

(1) Call the user's machine at a remote location from your machine.

- At the user site, have the user perform the following.

(2) With the machine on standby, hold down the **Home** key to switch the LCD screen.

(3) Press the blank frame at the bottom of the LCD.

(4) Press the *****, **0**, **#**, **8**, and **7** keys in this order.
The user's machine displays the "SENDING P.01" on the LCD and outputs the transmission log (error list).

(5) Upon completion of error list transmission, the machine returns to the standby state.

- At the service site

(6) Upon start of error list transmission, press the **Start** key. "Send or Receive?/1.Send 2.Receive" is displayed on the LCD screen.

(7) Press the **2** key to start the receipt of the error list.

1.3.32 Assurance Mode Switch Setting (Maintenance mode 88)

< Function >

When the machine does not function normally because the usage environments or operating conditions are not usual, the assurance mode switches provide workarounds to make the machine usable by changing the machine settings to untypical ones.

The machine incorporates seven assurance mode switches (AMS01 through AMS07) that are firmware switches just as the ones described in "1.3.4 Worker Switch Setting and Printout (Maintenance modes 10 and 11)" in this chapter.

The user is allowed to access the assurance mode switches under the guidance of service personnel (e.g., by telephone).

The details about AMS01 through AMS07 are described on the 5-64 page and after.

< Operating Procedure >

(1) Press the **8** key twice in the initial stage of the maintenance mode.
The machine displays "AMS00" on the LCD and becomes ready to accept an assurance mode switch number.

(2) Enter the desired number from the assurance mode switch numbers (01 through 07).
The following appears on the LCD:

Selector 1 Selector 8
↓ ↓
AMSXX = 0 0 0 0 0 0 0 0

(3) Use the ◄ or ► key to make the selector you want to change blink.

(4) Enter the desired number (0 or 1)using the **0** and **1** keys.

(5) Press the **SET** key. This operation saves the newly entered selector values onto the EEPROM and readies the machine for accepting an assurance mode switch number.

(6) Repeat steps (2) through (5) until the modification for the desired assurance mode switches is completed.

(7) Press the **X** key to return the machine to the initial stage of the maintenance mode.

Notes: - To cancel this operation and return the machine to the initial stage of the maintenance mode during the above procedure, press the **X** key.

- If there is a pause of more than one minute after a single-digit number is entered for double-digit assurance mode switch numbers, the machine will automatically return to the initial stage of the maintenance mode.

- Initializing the EEPROM with Maintenance mode 01 or 91 initializes the AMS switch settings.

AMS01 (Printing assurance 1)

Selector No.	Function	Setting and Specifications
1	Prevention of stains on back side of leading edge of paper in borderless printing	0: Disable (default) 1: Enable
2	(Simple Ink cartridge model only) Head scratch prevention disabled	0: Scratch prevention enabled (default) 1: Disabled
3 4	Protection of platen from no-paper printing to prevent stains (Functional restriction on the paper width sensor)	No. 3 4 0 0 : Determine the sensor function depending upon the print resolution selected (default) 0 1 : Detect the leading edge plus right and left edges of paper 1 0 : Detect the leading edge of paper 1 1 : No paper detection
5	Assurance print 1 (Printing with black, cyan inks in monochrome copy)	0: Disable (default) 1: Enable
6	Assurance print 2 (Printing with black, cyan inks in monochrome FAX reception and in list output)	0: Disable (default) 1: Enable
7 8	Workaround for false jam detection (Functional restriction on the paper width sensor)	No. 7 8 0 0 : Detect both the leading edge and width of paper (default) 0 1 : Detect both the leading edge and width of paper 1 0 : Detect only the leading edge of paper 1 1 : No detection

- Selector 1: Prevention of stains on back side of leading edge of paper in borderless printing

Setting this selector to "1" reduces the protruding amount of the leading edge of recording paper to the platen groove to minimize stains that could be caused by ink mist on the back side of the leading edge. Enabling this function reduces the throughput than disabling it.

- Selector 2: Head scratch prevention disabled

Disable functionality for stopping the head/carriage unit when the head comes into contact with the recording paper in order to keep the head from rubbing against the paper.

- **Selectors 3 and 4: Protection of platen from no-paper printing to prevent stains (Functional restriction on the paper width sensor)**

  The setting made by these selectors applies to such printing that is assumed to be at a high resolution, that is, printing from a PC or USB flash memory, copying.

  If these selectors are set to "0, 0," the machine automatically determines the functions of the paper width sensor depending upon the print resolution selected. Therefore, in low resolution printing, e.g. when the "Fast" print quality is selected, the paper width sensor is automatically disabled. On the contrary, in high resolution printing, e.g. when the "Highest" print quality is selected, the sensor is automatically enabled.

  Setting these selectors to "1, 1" disables the paper width sensor to save the sensing time for higher throughput.

- **Selectors 5 and 6: Assurance print 1 and 2**

  Enabling assurance print 1 or 2 causes the machine to mix black ink and a little of cyan ink to use in monochrome copy or in monochrome FAX reception and list output, respectively.

  If black ink is not jetted out normally, cyan ink can be substituted for black ink in printing. This ensures that in list printing (in which data once printed will be deleted) the data will be preserved as a printout.

- **Selectors 7 and 8: Workaround for false jam detection (Functional restriction on the paper width sensor)**

  The setting made by these selectors applies to the FAX, list, index printing and test printing.

  When colored recording paper is used, for example, the paper width sensor might misdetect the paper present state as "no paper loaded" due to the recording paper’s color. Limiting the paper width sensor functions with these selectors avoids detecting such a false paper jam.

AMS02 (Printing assurance 2)

Selector No.	Function	Setting and Specifications
1 | 5	Not used.	
6	Registration time offset to slipping in plain paper feeding	0: Disable (default) 1: Enable
7	Unidirectional print for higher print quality	0: Disable (default) 1: Enable
8	Improvement of paper feeding reliability	0: Disable (default) 1: Enable

- Selector 6: Registration time offset to slipping in plain paper feeding

Enabling the registration time offset with this selector increases the registration time (during which the paper feed roller rotates in the reverse direction), avoiding the occurrence of a paper feeding timeout error even if the paper cannot reach the registration sensor actuator within the predetermined registration time due to slipping of the paper pull-in rollers against paper in the paper tray.

Selecting the "Fast" print quality disables the registration time offset even if it is enabled with this selector.

Note: Selecting the "Glossy paper" automatically enables the registration time offset.

- Selector 7: Unidirectional print for higher print quality

The machine prints bidirectionally by default. To get higher print quality, set this selector to "1" to switch to the unidirectional print mode in which printing is performed only when the head/carriage unit travels from left to right. Note that the unidirectional print mode sacrifices the print speed.

Print object	Unidirectional print
Print FAX message received	Yes
Copy	Yes
Print from PC	No
Print from USB flash memory	Yes
Print USB flash memory index	Yes
Print a list	Yes
Print a test pattern	No

- Selector 8: Improvement of paper feeding reliability

Setting this selector to "1" improves the paper feeding reliability, sacrificing the print speed.

AMS03 (Printing assurance 3)

Selector No.	Function	Setting and Specifications
1 | 4	Not used.	
5 6	Measure for black streaks at trailing edge of recording paper	No. 5 6 0 0 : Machine correction value (default) 0 1 : 1/2 of machine correction value 0 0 : 2/3 of machine correction value 1 0 : No correction
7 8	Not used.	

- Selectors 5 and 6: Measure for black streaks at trailing edge of recording paper

When the trailing edge of the recording paper goes through the paper feed roller, black streaks may appear on the printed paper in the case of high-density printing, because the paper is stretched around the paper ejection roller.

While the feed amount is corrected based on printing density, the level of stretch differs by material of the recording paper. Therefore, black streaks at the trailing edge of the paper should be improved by switching the feed correction value for the paper.

AMS04 (Maintenance assurance 1)

Selector No.	Function	Setting and Specifications
1	(Simple Ink cartridge model only) Disabling inter-machine variation calibration for paper remaining sensor	0: Calibration ON (default) 1: Calibration OFF
2	LED display setting in Sleep Mode	0: Blinking (default) 1: OFF
3	Not used.	
4	Automatic purging for color ink	0: Enable (default)1: Disable
5	Not used.	
6	Periodic purge	0: Enable (default)1: Disable
7	Not used.	
8	Automatic purging for black ink	0: Enable (default)1: Disable

- Selector 1: Disabling inter-machine variation calibration for paper remaining sensor

This selector disables inter-machine variation calibration control of the paper remaining sensors for all trays. When calibration is turned OFF, Middle to Near sensor calibration is disabled. Consequently, when the paper amount is Near, the sensor value is immediately reflected. (operation is equivalent to that of Regular Ink cartridge model equipped with ink remaining sensor.)

- **Selector 2: LED display setting in Sleep Mode**

  You can select either OFF or blinking as the state of the power LED in the Sleep Mode.

- **Selectors 4 and 8: Automatic purging for color ink and for black ink**

  The machine performs an automatic purge when it loses the clock or periodically. You can disable the automatic purge.
  Setting selector 4 or 8 to "1" disables the setting made by selectors 6.

- **Selector 6: Periodic purge**

  The machine periodically performs a purge by default. The periodic purge, however, wastes ink when no printing has occurred. To avoid it, disable the periodic purge with this selector. In the first printing after a long no-print period, disabling it may lower the print quality.

AMS05 (Printing assurance 4)

Selector No.	Function	Setting and Specifications
1	Uneven printing correction for upper and lower ends of the nozzle	0: ON (default) 1: OFF
2 | 5	Not used.	
6 | 8	Adjustment of print head drive voltage rank	No. 6 7 8 0 0 0: +0 1 0 0: -0 0 0 1: +1 0 1 0: +2 0 1 1: +3 1 0 1: -1 1 1 0: -2 1 1 1: -3

- **Selector 1: Uneven printing correction for upper and lower ends of the nozzle**

  If performing the correction lowers the print quality due to wrong nozzle property data, set this selector to "1" to disable the correction function.

- **Selectors 6 through 8: Adjustment of print head drive voltage rank**

  This selector regulates the print head drive voltage rank for adjusting the ink drop amount.

  If the black section printed on glossy paper is greenish or the printed ink does not dry quickly, increase the print head drive voltage rank to decrease the ink drop amount; if it is reddish, decrease the rank to increase the ink drop amount.

AMS06 (Printing assurance 5)

Selector No.	Function	Setting and Specifications
1 2	Improvement of white and black horizontal streaks on bottom edge of the paper during normal and high-speed printing on plain paper	No. 1 2 0 0 : Disable (default) 0 1 : Improve black horizontal streaks 1 0 : Improve white horizontal streaks 1 1 : Further improve black horizontal streaks
3 4	Improvement of white and black horizontal streaks from leading edge to center of paper during high-speed and normal print on plain paper	No. 3 4 0 0 : Disable (default) 0 1 : Improve black horizontal streaks 1 0 : Improve white horizontal streaks 1 1 : Further improve black horizontal streaks
5 6	Improvement of white and black horizontal streaks during print on glossy paper	No. 5 6 0 0 : Disable (default) 0 1 : Improve black horizontal streaks 1 0 : Improve white horizontal streaks 1 1 : Further improve black horizontal streaks
7	Extension of the lower range of printable temperatures	0: Disable (default) 1: Enable
8	Not used.	

- Selectors 1 and 2: Improvement of white and black horizontal streaks on bottom edge of the paper during normal and high-speed printing on plain paper

Setting these selectors enables improvement of the white and black horizontal streaks on the bottom edge of paper during normal and high-speed printing on plain paper.

- Selectors 3 and 4: Improvement of white and black horizontal streaks from leading edge to center of paper during high-speed and normal print on plain paper

Setting these selectors enables improvement of the white and black horizontal streaks from the leading edge to the center of paper during normal and high-speed printing on plain paper.

- Selectors 5 and 6: Improvement of white and black horizontal streaks during print on glossy paper

Setting these selectors enables improvement of the white and black horizontal streaks during printing on glossy paper.

- Selector 7: Extension of the lower range of printable temperatures

Change the lowest printable temperature from 5 to 0 degree-C.

While switching from "Enable" to "Disable" takes effect without powering OFF and ON the machine, switching from “Disable” to “Enable” requires powering OFF and ON to take effect.

AMS07 (Printing assurance 6)

Selector No.	Function	Setting and Specifications
1 | 4	Not used.	
5	Disable paper remaining sensor	0: Function OFF 1: Function ON
6	Disable T2 detection sensor	0: Function OFF 1: Function ON
7	Disable display of MP tray setting request screen	0: Disable (default) 1: Enable
8	Disable display of wrong setting screen before printing	0: Disable (default) 1: Enable

- **Selector 5: Disable paper remaining sensor**

  When the paper remaining sensor had failure in the state of “no recording paper”, the print operation becomes unavailable. To avoid the stop of the print operation, if “1: Function ON” is selected, the state of all the paper trays is fixed to “Recording paper loaded”, and the print operation can be started.

- **Selector 6: Disable T2 detection sensor**

  In a machine with paper tray #2, "Paper tray #2 not detected" is displayed on the LCD when the paper tray #2 is not set.

  Setting this selector to "1" enables to use the machine without the caution message displayed, even if paper tray #2 is not set.

- **Selector 7: Disable display of MP tray setting request screen**

  Setting this selector to “1” disables display of the setting request screen when the recording paper is loaded into the MP tray.

- **Selector 8: Disable display of wrong setting screen before printing**

  Setting this selector to “1” disables display of the wrong setting screen before printing.

1.3.33 Printout of Block Pattern (Maintenance mode 89)

< Function >

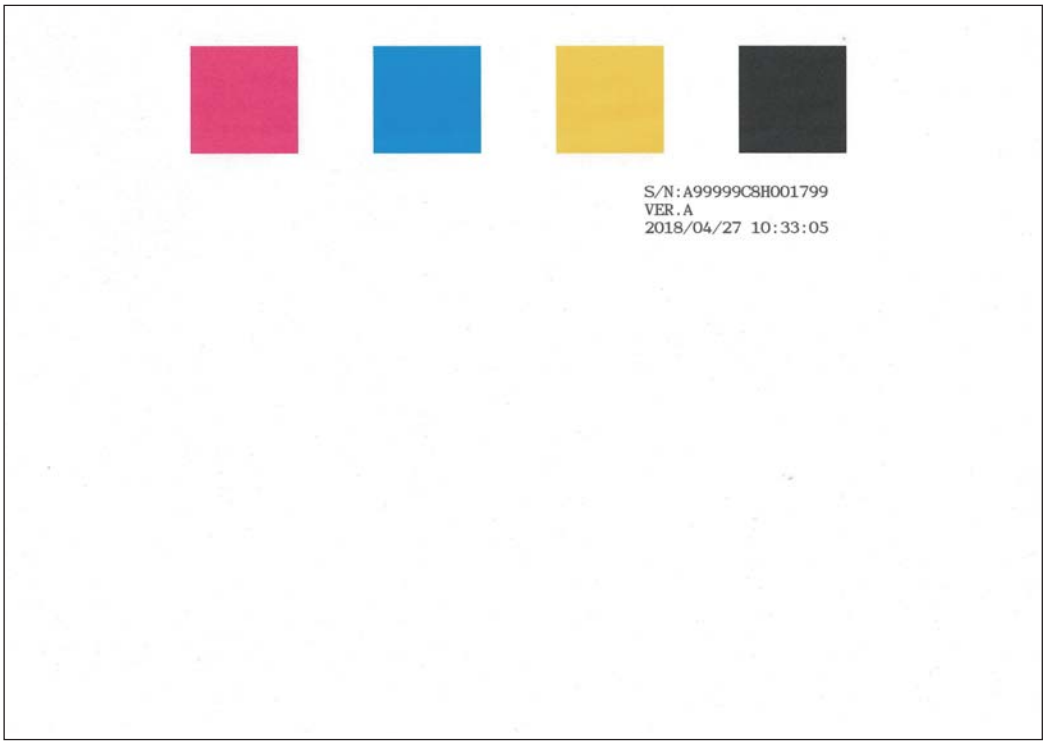
This function is used to print out a block pattern for each color.

< Operating Procedure >

(1) Press the **8** and **9** keys in this order in the initial stage of the maintenance mode.

(2) Press the **1** key.

(3) The machine prints out a block pattern.



1.3.34 Initialization of Engine Adjustment Value (Maintenance mode 97)

< Function >

This function initializes the engine adjustment value.

< Operating Procedure >

Note: - Be sure to update the firmware to the latest version before executing Maintenance mode 97.

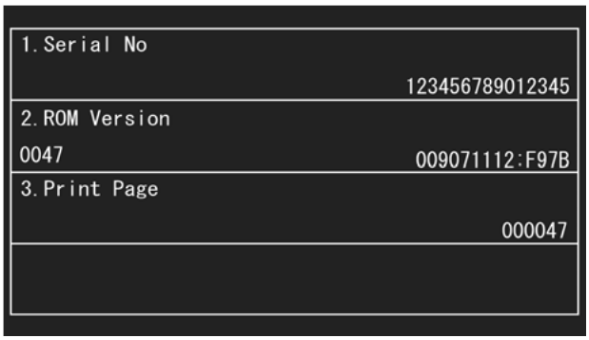
(1) Press the **9** and **7** keys in this order in the initial stage of the maintenance mode.

(2) Press the **2**, **8**, **6**, and **4** keys in this order.
"PARAMETER INIT" is displayed on the LCD, and the engine adjustment value is initialized.
A beep goes off for 1 second, and the machine returns to the initial stage of the maintenance mode.

2 OTHER SERVICE FUNCTIONS

2.1 Displaying the Firmware Version

(1) When the machine is on standby, hold down the **Home** key for approx. 5 seconds to display the following screen on the LCD.



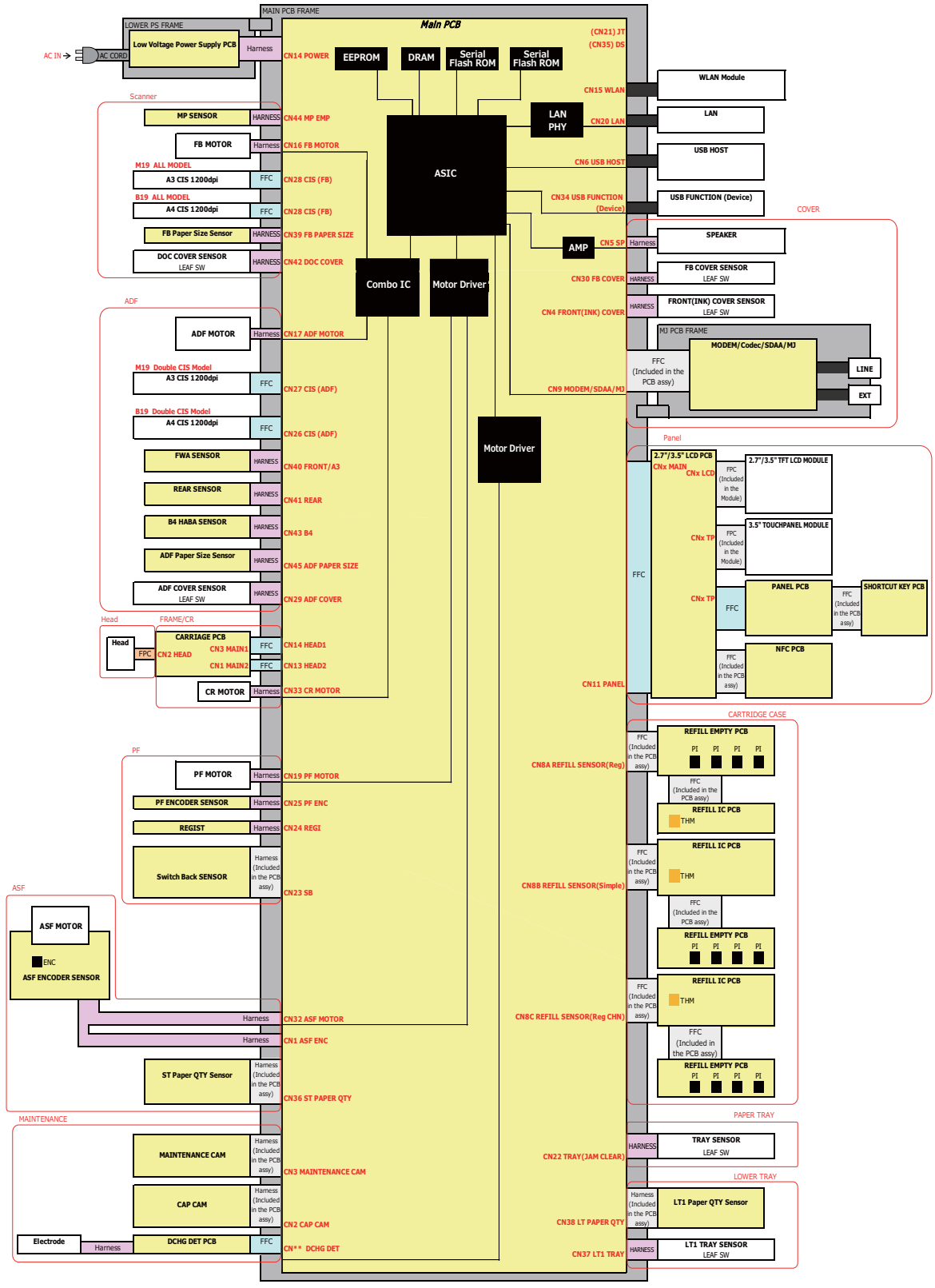
The firmware version displays in the "2. ROM Version" area

2.2 Moving the Head/Carriage Unit

(1) Holding down the **X** key with the document scanner unit opened for more than five seconds moves the head/carriage unit to the center of its travel.

CHAPTER 6 CIRCUIT DIAGRAMS AND WIRING DIAGRAMS

■ Wiring Diagram



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CHAPTER 7 PERIODICAL MAINTENANCE

1 PERIODICAL REPLACEMENT PARTS

There are no parts to be replaced periodically.

APPENDIX 1. SERIAL NUMBERING SYSTEM

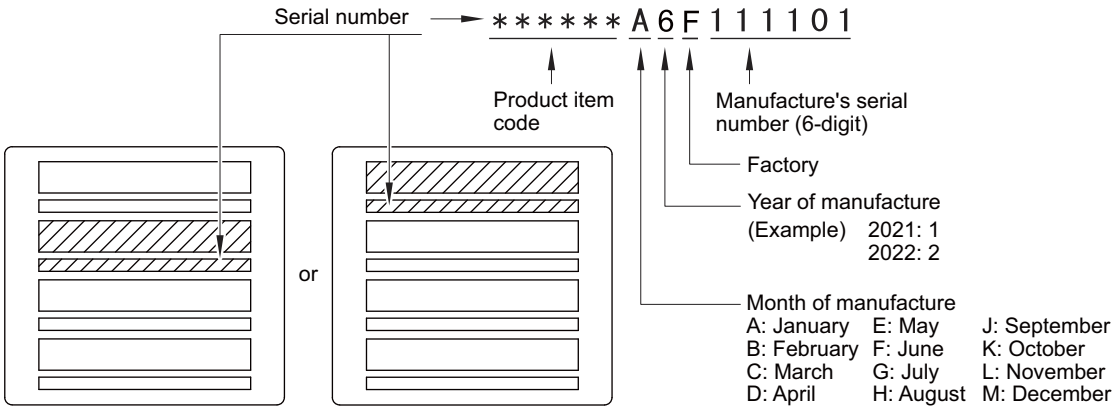
This appendix shows the location of labels put on specific parts and describes the coding information for serial number and head property information.

< Reading Labels >

An individual machine has a "serial number label" for the machine itself and "head property label" for the head/carriage unit.

This section lists the coding information for those serial number and head property information.

(1) Serial number label for the machine itself



Location

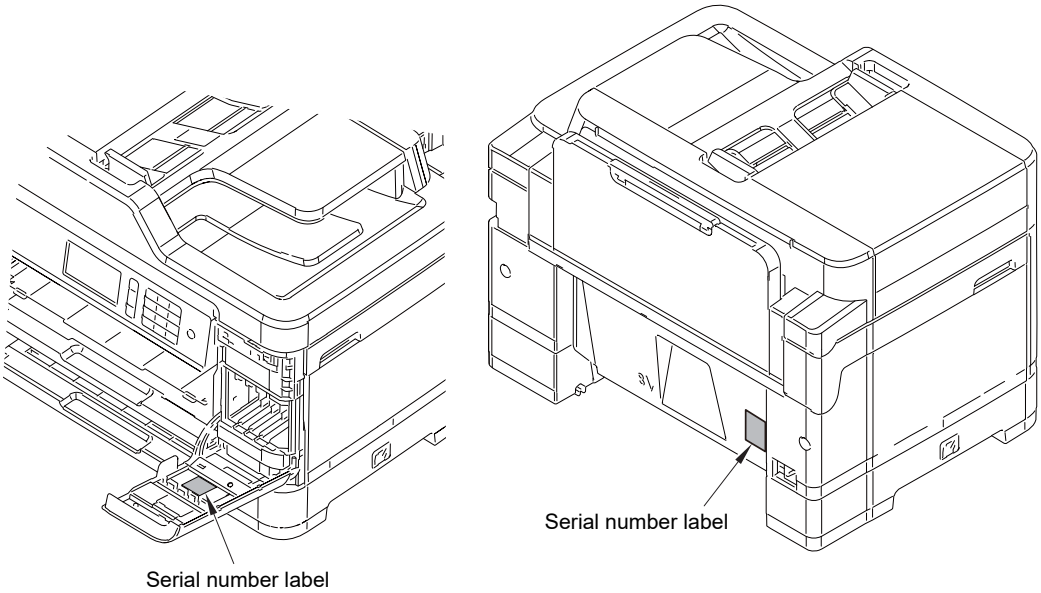


Fig. App 1-1

(2) Head property label

The property information of the head/carriage unit is printed on the head property label attached to the head/carriage unit.

■ **Head property label on the head/carriage unit**



Location

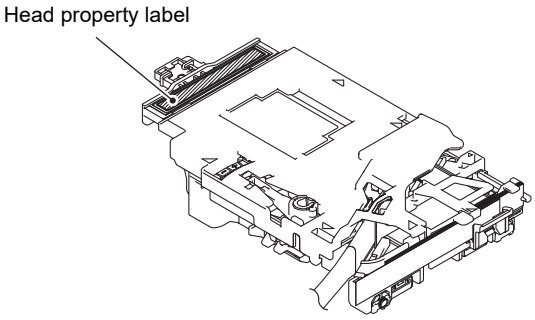


Fig. App 1-2

APPENDIX 2. DELETION OF USER SETTING INFORMATION

The following user setting information in the machine is recorded in the EEPROM on the main PCB. It can be deleted with the operation below.

- User's name and telephone number
- Speed dialing
- Group dialing
- Dial record (stored for redialing)
- Receiver info for fax transfer (The transfer setting will also be canceled.)
- Data stored in the memory (Received data and voice messages will also be deleted.)
- Fax preview
- Fax data not yet transferred in PC-Fax receiving (Fax data already transferred to the PC will not be deleted.)
- Fax data waiting to be sent in polling
- Receiver info for timer faxing
- Receiver info for broadcasting or batch transmission
- Caller ID history
- Activity report
- Favorite copy settings
- Network settings (e-mail addresses, server settings, account settings, etc)

■ **Operating Procedure**

(1) Press .

(2) Press **All Settings** | **Initial Setup** | **Reset** | **All Settings**.

(3) Press **OK** for 2 seconds or more.

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APPENDIX 3. INSTALLING THE MAINTENANCE PRINTER DRIVER

To identify machines connected via USB direct interface, the PC requires the corresponding driver for the virtual USB device. If you connect any number of machines to your PC, the same number of virtual USB devices will be automatically configured on your PC. To prevent many virtual USB devices from being configured, use the unique driver installation procedure described below that enables your PC to identify terminals via one single virtual USB device.

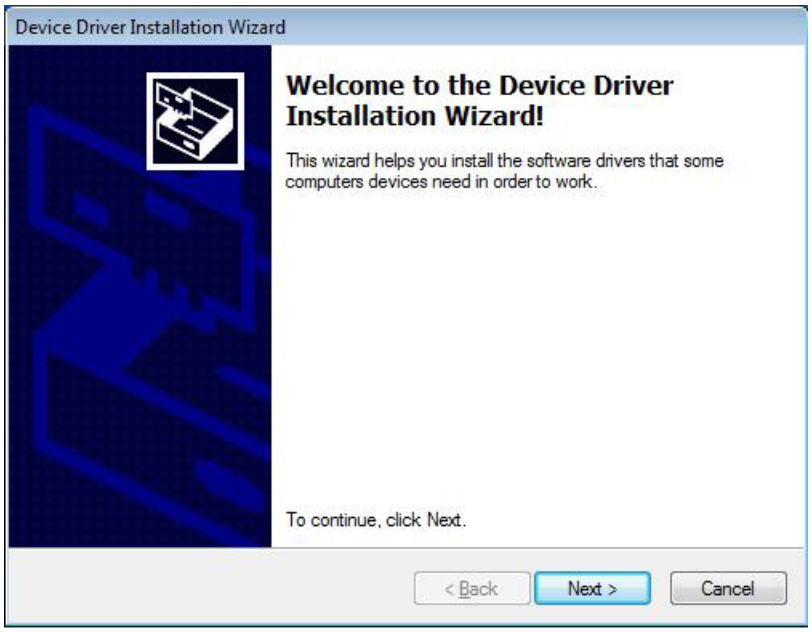
Notes:

- Once this installation procedure is carried out for a PC, no more driver/software installation will be required for that PC to identify machines. If the Brother Maintenance USB Printer driver has been already installed to your PC according to this procedure, skip this section.
- Before starting the following procedure, confirm that the Brother Maintenance USB Printer driver has been copied to a folder in your PC.

(1) Check that the power switch of the machine is turned off. Disconnect the USB cable that connects the machine with your PC.

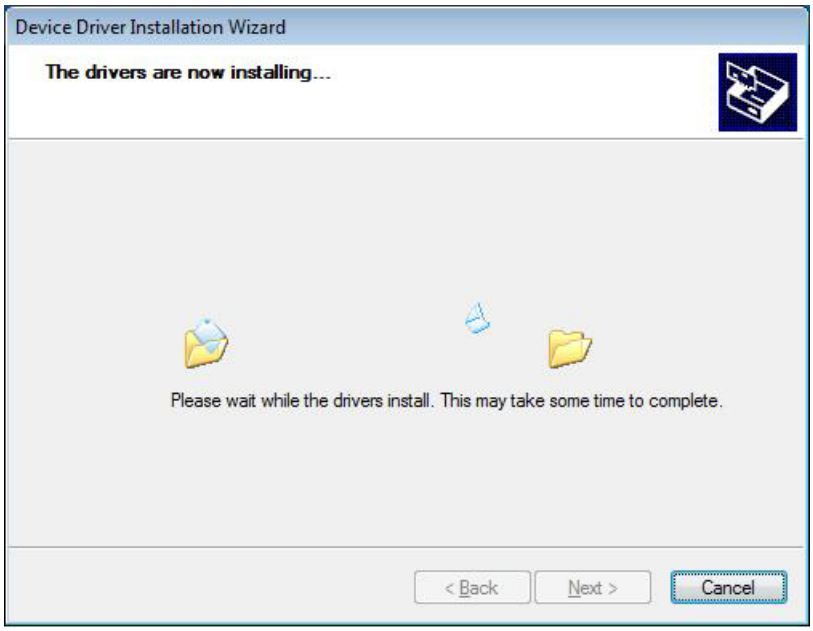
(2) Turn on your PC.

(3) Double-click the Setup.exe in the Brother Maintenance USB Printer held in an arbitrary folder. Wait for the following screen to appear and click **Next**.



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The following screen is displayed during installation.



(4) Wait for the following screen to appear and click **Finish**.



(5) Plug the power cord of the machine into an electrical outlet.

(6) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(7) Connect the machine to your PC using a USB cable to start automatic installation.

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