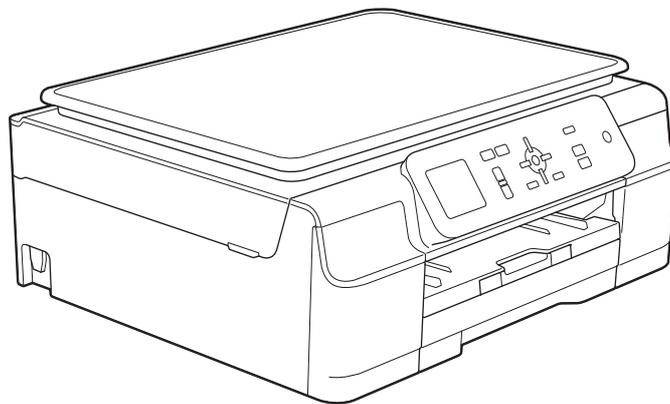**brother**

Brother Inkjet DCP/MFC

SERVICE MANUAL

**MODELS: DCP-J100/J105/J132W/J152W
DCP-J172W/T300/T500W/T700W
MFC-J200/J245/T800W**

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

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The table below shows the functional comparison between the models covered by this manual.

	DCP-J100	DCP-J105	DCP-J132W	DCP-J152W	DCP-J172W
LCD	1-Line			1.8 inch	
Touch Panel	---	---	---	---	√
ADF	---	---	---	---	---
Wireless LAN	---	√	√	√	√
Ink Cartridge	√	√	√	√	√
Ink Tank	---	---	---	---	---

	DCP-T300	DCP-T500W	DCP-T700W	MFC-J200	MFC-J245	MFC-T800W
LCD	1-Line					
Touch Panel	---	---	---	---	---	---
ADF	---	---	√	√	√	√
Wireless LAN	---	√	√	√	---	√
Ink Cartridge	---	---	---	√	√	---
Ink Tank	√	√	√	---	---	√

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REGULATION

■ **Standard telephone and FCC notices (MFC models only)**

These notices are in effect on models sold and used in the United States only. **When programming emergency numbers or making test calls to emergency numbers:**

- Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
- Perform these activities in the off-peak hours, such as early morning or late evening.

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the backside of this equipment is a label that contains, among other information, a product identifier in the format US: AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

You may safely connect this equipment to the telephone line by means of a standard modular jack, USOC RJ11C.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g.,06 is a REN of 0.6). For earlier products, the REN is separately shown on the label.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures. That could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, call your telephone company or a qualified installer.

◼ Federal Communications Commission (FCC) Declaration of Conformity (USA only)

Responsible Party: Brother International Corporation
200 Crossing Boulevard
Bridgewater, NJ 08807-0911 USA
TEL: (908) 704-1700

declares, that the products

Product name: DCP-J100/J105/J132W/J152W/172W/T300/T500W/T700W
MFC-J200/J245/T800W

comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- (Wireless network only)
  This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

◼ IMPORTANT

- Changes or modifications not expressly approved by Brother Industries, Ltd. could void the user's authority to operate the equipment.
- A specific shielded interface cable should be used to ensure compliance with the limits for a Class B digital device.

◼ RF Exposure Notice (USA or Canada only) (Wireless models only)

- This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

■ **Wireless connection (Mexico only) (Wireless models only)**

• The operation of this eqipment is subject to the following two conditions:
(1) it is possible that this equipment or device may not cause harmful interference, and (2) this equipment or device must accept any interference, including interference that may cause undesired operation.

■ **Industry Canada Compliance Statement (Canada only)**

Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes:
(1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

■ **EQUIPMENT ATTACHMENT LIMITATIONS (Canada only) (MFC models only)**

NOTICE

This product meets the applicable Industry Canada technical specifications.

Le présent materiel est conforme aux specifications techniques applicables d'Industrie Canada.

NOTICE

The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five.

L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

■ **For use in the USA or Canada only**

These machines are made for use in the USA and Canada only. We cannot recommend using them overseas because it may violate the Telecommunications Regulations (MFC models only) of that country and the power requirements of your machine may not be compatible with the power available in foreign countries. Using USA or Canada models overseas is at your own risk and may void your warranty.

■ **LAN connection (Network models only)**

IMPORTANT

DO NOT connect this product to a LAN connection that is subject to over-voltages.

■ Declaration of Conformity (Europe only)

We, Brother Industries Ltd, 15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561 Japan, declare that this product is in conformity with the essential requirements of all relevant directives and regulations applied within the European Community.

The Declaration of Conformity (DoC) can be downloaded from our website.
Visit http://solutions.brother.com/ and:

-> select "Europe".

-> select your country

-> select your model

-> select "Manuals" and your language, then click "Search"

-> select Declaration of Conformity

-> click download.

Your Declaration will be downloaded as a PDF file.

■ Declaration of Conformity for R&TTE (Radio and Telecommunications) Directive 1999/5/EC (Europe only) (Applicable to models with telecommunications and/or radio interfaces)

We, Brother Industries Ltd, 15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561 Japan, declare that this product is in conformity with the the provisions of the R&TTE Directive 1999/5/EC.
A copy of the Declaration of Conformity can be downloaded by following the instructions in the Declaration of Conformity (Europe only) section.

■ CE marking for devices with Wireless LAN (Models with Wireless LAN functions only)

This product supports Wireless LAN.

■ Radio interference

This product complies with EN55022 (CISPR Publication 22)/Class B. When connecting the machine to a computer, ensure that you use a USB cable which does not exceed 2 metres in length.

■ Recycling information in accordance with the WEEE and Battery Directives.

Product mark   Battery mark

European Union only

The product/battery is marked with one of the above recycling symbols. It indicates that at the end of the life of the product/battery, you should dispose of it separately at an appropriate collection point and not place it in the normal domestic waste stream.

■ International ENERGY STAR® Qualification Statement

The purpose of the International ENERGY STAR® Program is to promote the development and popularization of energy-efficient equipment.

As an ENERGY STAR® Partner, Brother Industries, Ltd. has determined that this product meets the ENERGY STAR® specifications for energy efficiency.

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 product functionality.

NOTE

Notes tell you how you should respond to a situation that may arise or give tips about how the operation works with other features.

🚫 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 and liquids must not be used.

⚡ Electrical Hazard icons alert you to possible electrical shocks.

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

Bold

Bold typeface identifies specific keys on the machineÅfs control panel or on the computer screen.

Italics

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

Courier New

Text in Courier New font identifies messages on the LCD of the machine.

Follow all warnings and instructions marked on the machine.

■ To use the machine safely

⚠ ⚠ 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 power cord from the AC power outlet, as well as any telephone (RJ-11) (MFC models only) or Ethernet (RJ-45) (Network models only) cables from the machine.
DO NOT push objects of any kind into this machine through slots or openings in the cabinet, as they may touch dangerous voltage points or short out parts.

⚠
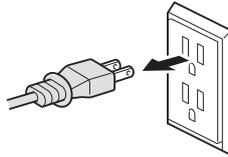
DO NOT handle the plug with wet hands.

⚠ ⚠

Always make sure the plug is fully inserted.

⚠

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

⚠ ⚠

DO NOT continue using the machine if it has been dropped or the cabinet has been damaged. Instead, unplug the machine from the power outlet.

⚠ ⚠

DO NOT drop any metallic hardware or any type of liquid on the power plug of the product. 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 AC power outlet.

DO NOT connect the machine to a DC power source or inverter. If you are not sure what kind of power source you have, contact a qualified electrician.

Power Cord Safety:

- 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 allow anything to rest on the power cord.
- DO NOT place this machine where people can walk 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 or handle the cord if the cord has become worn or frayed. If unplugging your machine, DO NOT touch the damaged/frayed part.
- Brother strongly recommends that you DO NOT use any type of extension cord.
- DO NOT use any cable, not included with this product, that does not meet the applicable cable specifications described in the Quick Setup Guide. It may cause a fire or injuries. Installation must be performed properly according to the Quick Setup Guide.

DO NOT use this product during an electrical storm.

(MFC models only)
Never touch telephone wires or terminals that are not insulated unless the telephone line has been unplugged at the wall jack. Never install telephone wiring during a lightning storm. Never install a telephone wall jack in a wet location.

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 that contains alcohol or ammonia to clean the inside or outside of the machine. Doing this may cause a risk of fire or electrical shock.

⚠️🔥

DO NOT use this machine in the vicinity of combustible dust.

■ **CAUTION**

DO NOT sit or stand on the machine or use it for any purpose beyond its intended purpose.

If the machine becomes hot, releases smoke, or generates any strong smells, immediately unplug the machine from the AC power outlet.

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

DO NOT put your hands on the edge of the machine. Doing this may cause injury to your fingers by pinching them.

DO NOT put any foreign objects into the ink tank. Doing this may cause the product to malfunction.

To prevent injuries, be careful not to put your fingers in the areas shown in the illustrations.
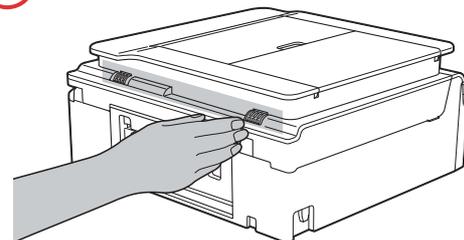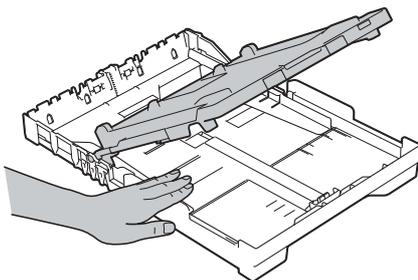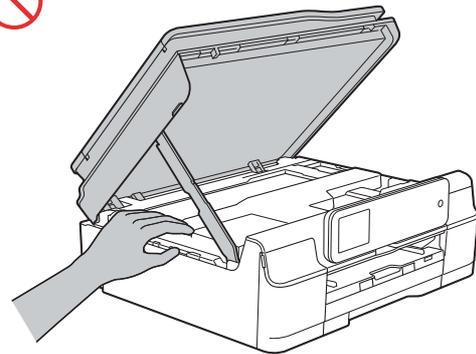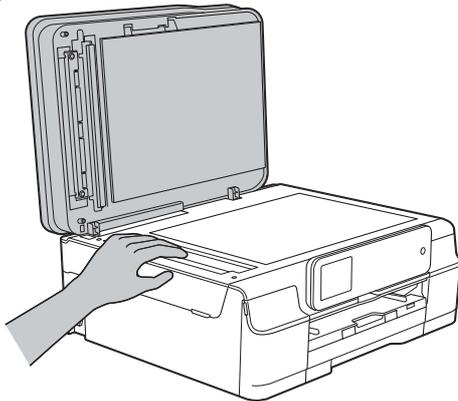
*This Illustration is MFC-J870DW.

DO NOT carry the machine by holding the scanner cover, the Jam Clear Cover, or the control panel. Doing this may cause the machine to slip out of your hands and may result in injury. Carry the machine by sliding your hands as shown below.
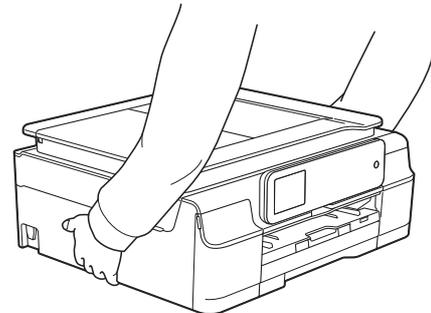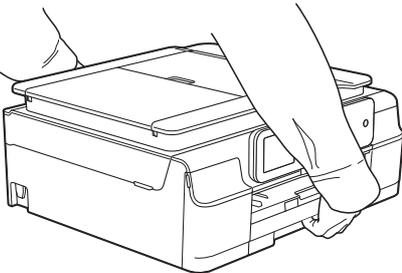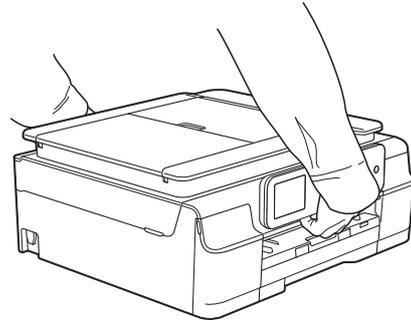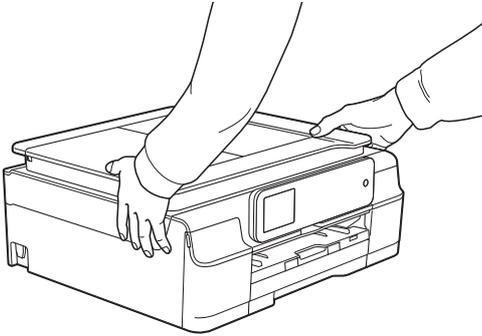
*This Illustration is MFC-J870DW.

Do not remove the serial number and instruction labels that are affixed to the machine.

If the ink contacts your skin or gets into your eye or mouth, please 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 immediately. If left as is, it may cause redness or mild inflammation of the eye. In case of any abnormality, consult with your doctor.
- If the ink gets into your mouth, spit it out, rinse your mouth, and consult your doctor immediately.

- Be careful not to get the ink in your eye or mouth when refilling the ink tank.
- Keep the ink bottle out of the reach of children.
- Avoid swallowing ink.
- DO NOT shake the ink bottle. The ink may leak out if the bottle is shaken or twirled.
- DO NOT store the ink bottle in a place subject to temperature changes.
- DO NOT expose the ink bottle to direct sunlight.
- DO NOT drop or damage the ink bottle.
- If any ink remains in the ink bottle, install the cap tightly and store the ink bottle on a level surface in a cool, dark place.

■ **IMPORTANT**

- Disruption of power can wipe out information in the machine's memory.
- DO NOT put objects on top of the machine.
- (MFC models only)
  DO NOT place anything in front of the machine that will block received faxes. DO NOT place anything in the path of received faxes.
- If the machine does not operate normally when the operating instructions are followed, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage or exposure to electromagnetic waves and will often require extensive work by a qualified technician to restore the machine to normal operation.
- A distinct change in the machine's performance may indicate a need for service.
- DO NOT connect your product to an AC power outlet controlled by wall switches, automatic timers or to the same circuit as a large appliance, such as an air conditioner, copier, shredder, or other equipment that requires a significant amount of electricity to operate. Operating this product in conjunction with the other product(s) could create an overvoltage, tripping your circuit breaker or blowing your fuse; or might disrupt the power supply. Disruption of the power supply may delete information from the product's memory and repeated cycling of the power supply can damage the product.

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Precautions on Troubleshooting and Disassembling/Assembling

This section describes the troubleshooting procedures that the service personnel needs to follow if an error or malfunction occurs in this 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.

■ Precautions

Be sure to observe the following to prevent any secondary troubles from happening during troubleshooting.

(1) AC power codes 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 this chapter.

(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 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 5 to 10 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. Never unplug the Power cord during the Head lock operation.
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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CHAPTER 1 SPECIFICATIONS

This chapter lists the specifications of each model, which enables you to make a comparison of different models.

1   GENERAL

1.1   General

Model	All models
Print Head	Mini13 LOW BK/C/M/Y: 210/70/70/70 nozzle
Minimum Droplet Size	BK: 3 pl CMY: 1.5 pl
Scanning Method	CIS
CPU Speed	288 MHz
Backup Clock	Yes (Up to 1 hour)

1.2   Media Specification

Model		DCP-J100 / DCP-J105 / DCP-J132W / DCP-J152W DCP-J172W / DCP-T300 / DCP-T500W	DCP-T700W / MFC-J200 MFC-J245 / MFC-T800W
Media Sizes	Standard Tray	A4, LTR, LGL*1, EXE, A5, A6, Photo (102 x 152 mm/4 x 6"), Indexcard (127 x 203 mm/5 x 8"), Photo-2 L (127 x 178 mm/5 x 7"), C5 Envelope, Com-10, DL Envelope, Monarch	
	Photo Tray	N/A	
	Duplex Print	N/A	
	ADF (width/length)	N/A	148/148 mm to 215.9/355.6 mm (5.8/5.8" to 8.5/14.0")
	Scanner Glass (width/length)	up to 215.9/297 mm (up to 8.5/11.7")	
Media Weights	Standard Tray	64-220 g/m^2 (17-58 lb.)	
	Photo Tray	N/A	
	Duplex Print	N/A	
	ADF	N/A	64-90 g/m^2 (17-24 lb.)
Media Types	Standard Tray	Plain, Inkjet, Glossy (cast/resin), Transparency*2	
	Photo Tray	N/A	
	Duplex Print	N/A	
	ADF	N/A	Plain

*1 LGL is only for US/SGP/GULF and IDN.
*2 DCP-T300/T500W/T700W/MFC-T800W is not available.

1.3 Paper Handling

Model		DCP-J100 / DCP-J105 / DCP-J132W / DCP-J152W DCP-J172W / DCP-T300 / DCP-T500W	DCP-T700W / MFC-J200 MFC-J245 / MFC-T800W
Paper Input (sheets)	Standard Tray	100 (80 g/m^2)	
	Photo Tray	N/A	
	ADF	N/A	20 (80 g/m^2)
Output Paper Capacity (sheets)		50 (80 g/m^2)	

1.4 LCD Panel

Model		DCP-J100 / DCP-J105 DCP-J132W	DCP-J152W	DCP-J172W	DCP-T300 / DCP-T500W DCP-T700W / MFC-J200 MFC-J245 / MFC-T800W
LCD	Type & Size	1-Line	1.8 inch TFT		1-Line
	Touch-Panel	N/A		Yes	N/A

1.5 Memory

Model	All models
Memory Capacity (physical: Mbytes)	64 MB
Memory Backup (with Flash memory)	N/A

1.6 Interface

Model	DCP-J100	DCP-J105 / DCP-J132W DCP-J152W / DCP-J172W	DCP-T300	DCP-T500W DCP-T700W MFC-J200	MFC-J245	MFC-T800W
Host Interface	Hi-Speed USB 2.0					
LAN	N/A					
Wireless LAN	N/A	Yes	N/A	Yes	N/A	Yes
PictBridge	N/A					
USB Memory	N/A					
Acceptable Media Cards (Type & Size)/Media Card	N/A					

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1.7 Others

Model		DCP-J100 DCP-J105	DCP-J132W	DCP-J152W	DCP-J172W	DCP-T300	DCP-T500W	DCP-T700W
Operating Environment Temperature (Best Print Quality)		10-35 (20-33) degrees centigrade						
Operating Environment Humidity (Best Print Quality)		20-80 (20-80) %						
Power Consumption (Operating/ Standby/ Sleep mode/ Off)	U.S.A	16/2.5/0.7/0.2 W	N/A	16/2.5/0.7/0.2 W	N/A	16/2.5/0.7/0.2 W		
	Europe	16/2.5/0.7/0.2 W	16/2.5/0.7/0.2 W	16/3/0.7/0.2 W	16/3.5/0.7/0.2 W	16/2.5/0.7/0.2 W		
	Asia/ Oceania	16/2.5/0.7/0.2 W	N/A	16/3/0.7/0.2 W	16/3.5/0.7/0.2 W	16/2.5/0.7/0.2 W		
	China	16/3/1.1/0.4 W	N/A			16/3/1.1/0.4 W		
Machine Noise (Operating)		50 dBA (Maximum)						
Machine Dimensions		W435 x D374 x H161 mm	W410 x D374 x H161 mm			W435 x D374 x H161 mm		W435 x D374 x H180 mm
Machine Weight	U.S.A	6.8 kg (15.0 lb)	N/A	7.0 kg (15.4 lb)	N/A	7.0 kg (15.4 lb)		8.3 kg (18.3 lb)
	Europe	7.0 kg (15.4 lb)	6.9 kg (15.2 lb)	6.9 kg (15.2 lb)		7.1 kg (15.7 lb)		8.3 kg (18.3 lb)
	Asia/ Oceania	7.0 kg (15.4 lb)	N/A	6.9 kg (15.2 lb)		7.1 kg (15.7 lb)		8.3 kg (18.3 lb)
	China	7.1 kg (15.7 lb)	N/A			7.1 kg (15.7 lb)		8.3 kg (18.3 lb)

Model		MFC-J200	MFC-J245	MFC-T800W
Operating Environment Temperature (Best Print Quality)		10-35 (20-33) degrees centigrade		
Operating Environment Humidity (Best Print Quality)		20-80 (20-80) %		
Power Consumption (Operating/ Standby/ Sleep mode/ Off)	U.S.A	16/3/1.1/0.2 W		
	Europe	16/3/1.1/0.2 W		
	Asia/ Oceania	16/3/1.1/0.2 W		
	China	16/3.5/1.5/0.4 W	N/A	16/3.5/1.5/0.4 W
Machine Noise (Operating)		50 dBA (Maximum)		
Machine Dimensions		W435 x D374 x H180 mm	W410 x D374 x H180 mm	W435 x D374 x H180 mm
Machine Weight	U.S.A	8.2 kg (18.1 lb)	8.0 kg (17.6 lb)	8.3 kg (18.3 lb)
	Europe	8.3 kg (18.3 lb)	8.1 kg (17.9 lb)	8.3 kg (18.3 lb)
	Asia/ Oceania	8.3 kg (18.3 lb)	8.1 kg (17.9 lb)	8.3 kg (18.3 lb)
	China	8.3 kg (18.3 lb)	N/A	8.3 kg (18.3 lb)

2   FAX

Model	DCP-J100 / DCP-J105 / DCP-J132W / DCP-J152W DCP-J172W / DCP-T300 / DCP-T500W / DCP-T700W	MFC-J200 / MFC-J245	MFC-T800W
Modem Speed (bps)	N/A	14,400 (FAX)	
Transmission Speed	N/A	Approx.7 sec (ITU-T Test Chart #1,MMR)	
ITU-T Group	N/A	G3	
COLOR FAX — Document (Send/Receive)	N/A	Yes/Yes (ITU-T color FAX)	N/A
COLOR FAX — Memory (Send/Receive)	N/A	No/No (ITU-T color FAX)	N/A

3   PRINTER

Model	All models
Print Speed ESAT (mono/color) (based on ISO/IEC 24734)	11/6 ipm
Draft Print Speed (mono/color) *time calculated including paper feeding	27/10 ppm
Resolution (horizontal x vertical)	up to 1,200 x 6,000 dpi
Auto Duplex Print	N/A

4   COPY

Model	DCP-J100 / DCP-J105 / DCP-J132W / DCP-J152W DCP-J172W / DCP-T300 / DCP-T500W	DCP-T700W / MFC-J200 / MFC-J245 MFC-T800W
COPY SPEED ESAT (based on ISO/IEC 24735) (mono/color) *This spec is for ADF model only.	N/A	4.8/3.0 ipm (600 x 300 dpi)
COPY SPEED sESAT (based on ISO/IEC 29183) *This spec is for non-ADF model only.	4.4/2.7 ipm	N/A
COPY SPEED FCOT (based on ISO/IEC 24735 Annex D)	72 sec	
Resolution (horizontal x vertical) — Mono	Print: Max. 1,200 x 2,400 dpi Scan: Max. 1,200 x 1,200 dpi	
Resolution (horizontal x vertical) — Color	Print: Max. 1,200 x 2,400 dpi Scan: Max. 1,200 x 1,200 dpi	
Auto Duplex Scanning Copy	N/A	

5   SCANNER

Model	DCP-J100 DCP-J105	DCP-J132W DCP-J152W	DCP-J172W DCP-T300 DCP-T500W	DCP-T700W MFC-J200 MFC-J245 MFC-T800W
Scan speed (Mono/Color) *@100 dpi	A4: 3.37 sec/4.27 sec LTR: 3.17 sec/4.01 sec			
Resolution (horizontal x vertical) — Optical	FB: 1,200 x 2,400 dpi ADF: N/A	FB: 1,200 x 2,400 dpi	FB: 1,200 x 2,400 dpi ADF: N/A	FB: 1,200 x 2,400 dpi ADF: 1,200 x 600 dpi
Resolution (horizontal x vertical) — Interpolated	For XP/Vista/Windows 7/Windows 8, up to 19,200 x 19,200 dpi with Scanner Utility			

6   SOFTWARE

Model	All models
Driver Support OS Version — Windows	XP/XP x 64/Vista/7/8/8.1[1] Server 2003[2]/Server 2003 R2[2]/Server 2008[2]/Server 2008 R2[2]/Server 2012[2]/ Server 2012 R2[1][2]
Driver Support OS Version — Macintosh	Mac OS X v10.6.8, OS X v10.7.x, OS X v10.8.x, 10.9.x[1]

[1] Only for DCP-T300/T500W/T700W and MFC-T800W
[2] Except for DCP-J100/DCP-T300 and MFC-J245

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7 NETWORK

7.1 Network

Model	All models
Internet FAX (Firmware) (versionT37)	N/A

7.2 Wired

Model	All models
Model Name (Ethernet)	N/A
Network Connection (Ethernet)	N/A

7.3 Wireless

Model		DCP-J100	DCP-J105 DCP-J132W DCP-J152W DCP-J172W	DCP-T300	DCP-T500W DCP-T700W MFC-J200	MFC-J245	MFC-T800W
Model Name (Wireless)		N/A	Embedded (NC-310w)	N/A	Embedded (NC-310w)	N/A	Embedded (NC-310w)
Network Connection (Wireless)		N/A	IEEE 802.11 b/g/n (Infrastructure/ Ad-hoc)	N/A	IEEE 802.11 b/g/n (Infrastructure/ Ad-hoc)	N/A	IEEE 802.11 b/g/n (Infrastructure/ Ad-hoc)
Wireless Security		N/A	SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)	N/A	SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)	N/A	SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)
Setup Support Utility	AOSS	N/A	Yes	N/A	Yes	N/A	Yes
	WPS (Wifi Protected Setup)	N/A	Yes	N/A	Yes	N/A	Yes

* This is not supported in Wi-Fi Direct.

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8 SUPPLIES/OPTIONS

Model		DCP-J100 DCP-J105	DCP-J132W DCP-J152W DCP-J172W	DCP-T300 DCP-T500W DCP-T700W	MFC-J200	MFC-J245	MFC-T800W
Ink Cartridge Yield @ ISO/IEC 19752 pattern	Bundled Cartridges	BK: 2,200 CL: 1,000 (pages)	BK: 240 CL: 240 (pages)	N/A	BK: 2,200 CL: 1,000 (pages)	BK: 240 CL: 240 (pages)	N/A
	Supply Standard Cartridges	N/A	BK: 300 CL: 300 (pages)	N/A		BK: 300 CL: 300 (pages)	N/A
	Supply High Yield Cartridges	N/A	BK: 600 CL: 600 (pages)	N/A		BK: 600 CL: 600 (pages)	N/A
	Supply Super High Yield Cartridges	BK: 2,400 CL: 1,300 (pages)	N/A		BK: 2,400 CL: 1,300 (pages)	N/A	N/A
Ink Bottle Yield @ ISO/IEC 19752 pattern	Bundled Bottles	N/A		BK: 5,400 CL: 4,500 (pages)	N/A		BK: 5,400 CL: 4,500 (pages)
	Supply High Yield Bottle	N/A		BK: 6,000 CL: 5,000 (pages)	N/A		BK: 6,000 CL: 5,000 (pages)
Storage Condition of Ink Cartridge		(Temperature) Normal condition: -20 to 40 °C (Humidity) Normal condition: 20 to 80 %					
*Storage condition at the temperature of 40 to 50 °C and the humidity of 80 to 95 %: UP to 5 days							
*Storage condition at the temperature of 40 to 60 °C and the humidity of Non controll condition to: UP to 5 days							

9 SERVICE INFORMATION

Model	DCP-J100 DCP-J105	DCP-J132W DCP-J152W DCP-J172W	DCP-T300 DCP-T500W DCP-T700W	MFC-J200	MFC-J245	MFC-T800W
Monthly Volume	2,500 pages	1,250 pages	2,500 pages	2,500 pages	1,250 pages	2,500 pages
Machine Life	30,000 pages or 5 years	15,000 pages or 5 years	30,000 pages or 5 years	30,000 pages or 5 years	15,000 pages or 5 years	30,000 pages or 5 years
MTBF (Mean Time Between Failures)	4,000 hours					
MTTR (Mean Time To Be Repaired)	30 minutes					

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10 PAPER

10.1 Paper

Paper type and size for each operation

Paper Type	Paper Size		Usage		
			Fax	**Copy**	**Printer**
Cut-Sheet	Letter	8 1/2 x 11 in. (215.9 x 279.4 mm)	Yes	Yes	Yes
	A4	8.3 x 11.7 in. (210 x 297 mm)	Yes	Yes	Yes
	Legal	8 1/2 x 14 in. (215.9 x 355.6 mm)	Yes	Yes	Yes
	Executive	7 1/4 x 10 1/2 in. (184 x 267 mm)	-	Yes	Yes
	A5	5.8 x 8.3 in. (148 x 210 mm)	-	Yes	Yes
	A6	4.1 x 5.8 in. (105 x 148 mm)	-	-	Yes
Cards	Photo	4 x 6 in. (10 x 15 cm)	-	Yes	Yes
	Photo 2 L	5 x 7 in. (13 x 18 cm)	-	-	Yes
	Index Card	5 x 8 in. (127 x 203 mm)	-	-	Yes
Envelopes	C5 Envelope	6.4 x 9 in. (162 x 229 mm)	-	-	Yes
	DL Envelope	4.3 x 8.7 in. (110 x 220 mm)	-	-	Yes
	COM-10	4 1/8 x 9 1/2 in. (105 x 241 mm)	-	-	Yes
	Monarch	3 7/8 x 7 1/2 in. (98 x 191 mm)	-	-	Yes
Transparencies	Letter	8 1/2 x 11 in. (215.9 x 279.4 mm)	-	Yes	Yes
	A4	8.3 x 11.7 in. (210 x 297 mm)	-	Yes	Yes
	Legal	8 1/2 x 14 in. (215.9 x 355.6 mm)	-	Yes	Yes
	A5	5.8 x 8.3 in. (148 x 210 mm)	-	Yes	Yes

Paper weight, thickness and capacity

Paper Type		Weight	Thickness	No. of sheets
Cut-Sheet	Plain Paper	17 to 32 lb (64 to 120 g/m^2)	3 to 6 mil (0.08 to 0.15 mm)	100 [1]
	Inkjet Paper	17 to 53 lb (64 to 200 g/m^2)	3 to 10 mil (0.08 to 0.25 mm)	20
	Glossy Paper	Up to 58 lb (Up to 220 g/m^2)	Up to 10 mil (Up to 0.25 mm)	20 [2]
Cards	Photo (4" x 6")/ (10 x 15 cm)	Up to 58 lb (Up to 220 g/m^2)	Up to 10 mil (Up to 0.25 mm)	20 [2]
	Index Card	Up to 32 lb (Up to 120 g/m^2)	Up to 6 mil (Up to 0.15 mm)	30
Envelopes		20 to 25 lb (80 to 95 g/m^2)	Up to 20 mil (Up to 0.52 mm)	10
Transparencies		-	-	10

[1] Up to 100 sheets of plain paper 20 lb (80 g/m^2).

[2] BP7169 lb (260 g/m^2) paper is especially designed for Brother inkjet machines.

Recommended print media

To get the best print quality, we suggest using Brother paper. (See the table below.)

If Brother paper is not available in your country, we recommend testing various papers before purchasing large quantities.

We recommend using "3M Transparency Film" when you print on transparencies.

Brother paper

Paper Type	Item
Premium Plus Glossy Photo	
– Letter	BP71GLTR
– 4" x 6"	BP71GP20
A4 Plain	BP60PA
A4 Glossy Photo	BP71GA4
A4 Inkjet (Matte)	BP60MA
10 x 15 cm Glossy Photo	BP71GP

Handling and using print media

• Store paper in its original packaging and keep it sealed. Keep the paper flat and away from moisture, direct sunlight and heat.

• Avoid touching the shiny (coated) side of the photo paper.

• Avoid touching either side of the transparency paper because they absorb water and perspiration easily, and this may cause decreased output quality. Transparencies designed for laser printers/copiers may stain your next document. Use only transparencies recommended for inkjet printing.

IMPORTANT

DO NOT use the following kinds of paper:

• Damaged, curled, wrinkled, or irregularly shaped paper
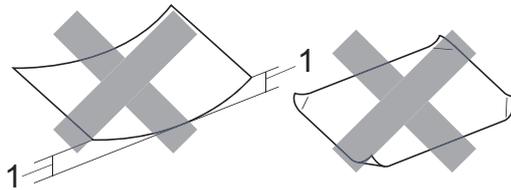
1 0.08 in. (2 mm) or greater curl may cause jams to occer.

• Extremely shiny or highly textured paper

• Paper that cannot be arranged uniformly when stacked

• Paper made with a short grain paper

Paper capacity of the output paper tray cover

Up to 50 sheets of Letter, Legal or A4 20 lb (80 g/m^2) A4 paper.

• Transparencies and photo paper must be picked up from the output paper tray cover one page at a time to avoid smudging.

10.2 Printable Area

The printable area depends on the settings in the application you are using. The figures below show the unprintable areas on cut-sheet paper and envelopes. The machine can print in the shaded areas of cut-sheet paper only when the Borderless print feature is available and turned on.
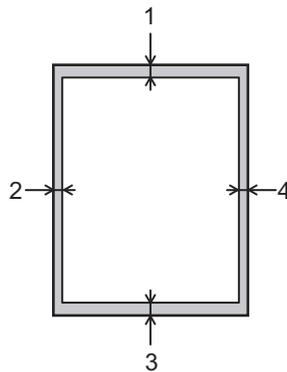
Cut-Sheet Paper   **Envelopes**
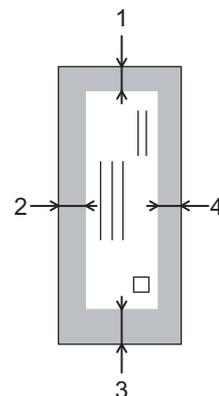
	Top (1)	Left (2)	Bottom (3)	Right (4)
Cut-Sheet	0.12 in. (3 mm)	0.12 in. (3 mm)	0.12 in. (3 mm)	0.12 in. (3 mm)
Envelopes	0.87 in. (22 mm)	0.12 in. (3 mm)	0.87 in. (22 mm)	0.12 in. (3 mm)

NOTE

The Borderless print feature is not available for envelopes and 2-sided printing.

CHAPTER 2   TROUBLESHOOTING

1   INTRODUCTION

This section describes the troubleshooting procedures that the service personnel needs to follow if an error or malfunction occurs in this machine. It is difficult to anticipate all of the possible problems that may occur in future and determine the appropriate troubleshooting procedures so this section covers typical cases and recovery procedures. These cases do not cover everything. However, they can help the service personnel pinpoint malfunctioning parts and serve as a reference during repair.

1.1   Precautions

Precautions on troubleshooting and disassembly/assembly must be observed when disassembling or assembling the machine during troubleshooting.

1.2 Initial Check

Before proceeding with the repair, verify the following:

■ Environmental conditions

(1) The machine is placed on a flat, firm surface.

(2) The machine is used in clean environment with temperature of 10 to 35 degree-C and humidity of 20 to 80%.

(3) The machine is not exposed to direct sunlight, excessive heat, moisture, or dust.

(4) The machine is carried horizontally when it is relocated.

■ Power requirements

(1) The power supply specified on the rating plate on the machine is used. that voltage fluctuations are 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 recording paper is being used.
(Refer to Chapter 1, Section 10 "PAPER")

(2) The recording paper is not dampened.

(3) An oblique paper or acidic paper is not used.

■ Consumables

(1) The Ink cartridges (4 colors) are properly set, or Ink are properly refilled.

■ Head/carriage unit

(1) The purge operation (Maintenance mode 76) is repeated several times.
(Refer to Chapter 5, Section 1.4.26)

■ Others

(1) Low temperature

Since a low temperature environment puts stress on each operation, the motor may not function normally. In this case, increase the room temperature.

■ Cleaning

Use a soft, dry lint-free cloth.

⚠️ **WARNING**

When cleaning the machine, do not use flammable sprays and solvents such as alcohol, benzene, and paint thinners. Also, do not use these materials near the machine.

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2 OVERVIEW

2.1 Cross-section Drawings

2.1.1 Document scanning

Document feed roller 2

Document scanning position actuator

ADF separation pad

Document detection actuator

ADF document support

Document pick-up roller

Document separation roller

Document feed roller 1

CIS unit

2.1.2 Printer part

Control panel

Head/carriage unit

Platen

Paper ejection roller

Registration actuator

Paper pull-in roller

Paper feed roller

Bank ASSY
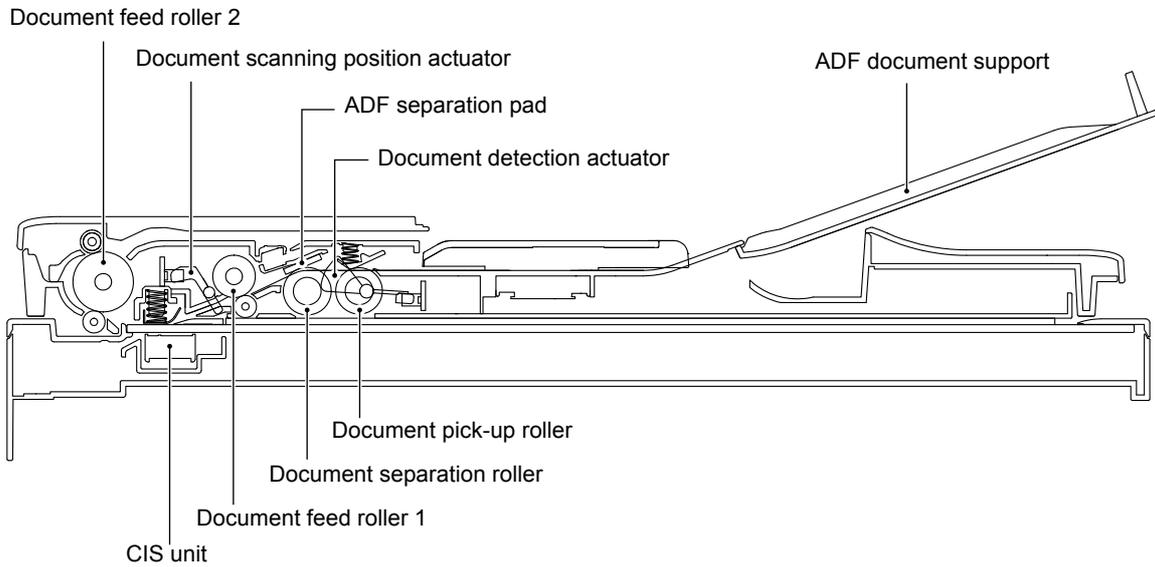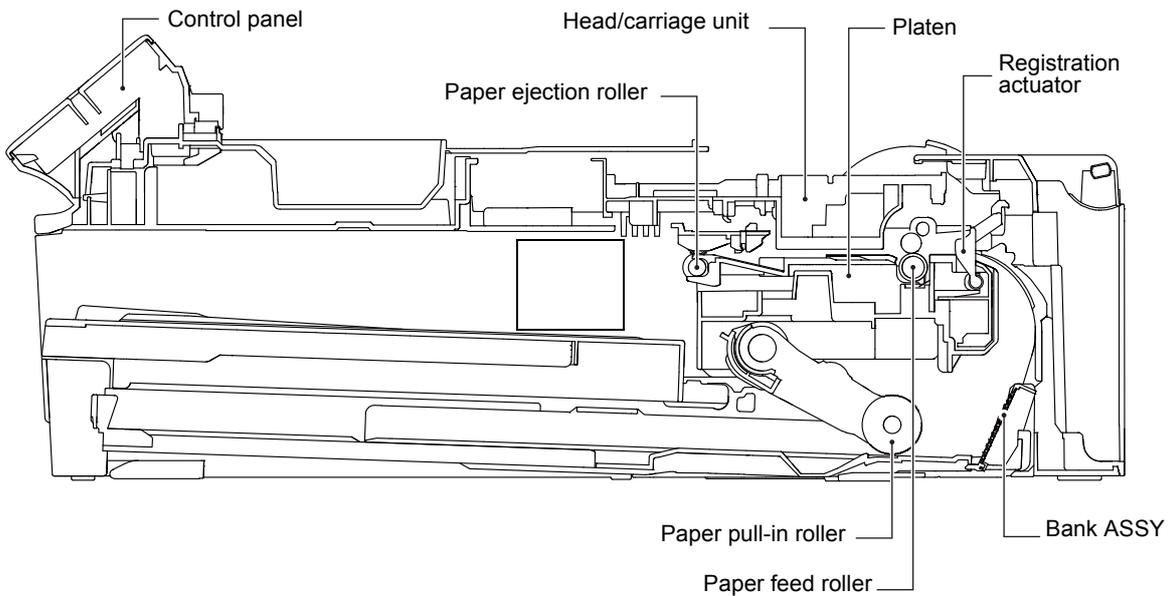
2.2 Document Feeding/Recording Paper Feeding

2.2.1 Document feeding

Document feeding path during ADF scanning

The scanning side is set face-down
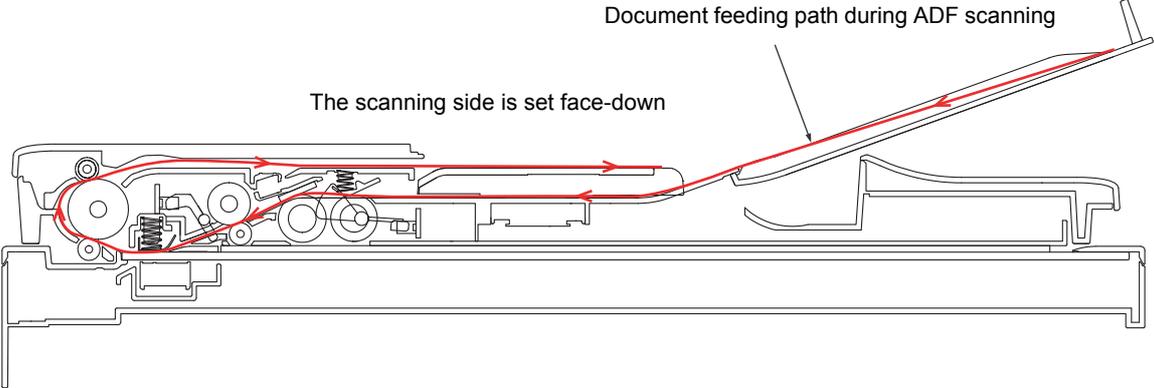
2.2.2 Recording paper feeding path

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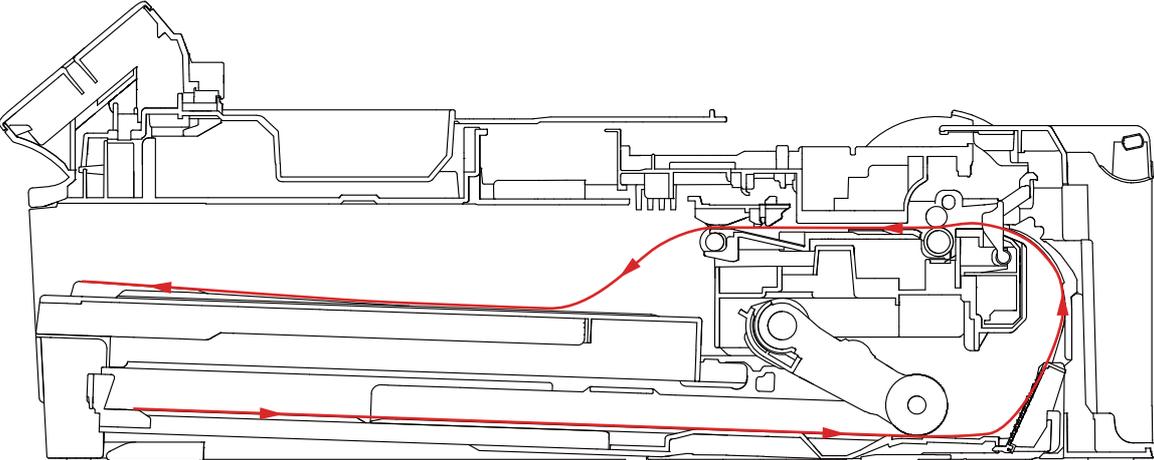
2.3 Function of Each Sensor/Roller

■ Document scanning

Part Name	Function
Document detection actuator	This detects whether documents are loaded on the document tray.
Document pick-up roller	This pulls documents loaded in the document tray.
Document separation roller, ADF separation pad	This separates documents sent through the document pick-up roller into individual sheets.
Document feed roller 1	This feeds a document to the CIS unit.
Document scanning position actuator	This detects the leading edge of document pages, indicating the scanning start position. This detects paper jamming in the ADF.
Document feed roller 2	This ejects the scanned document to ADF document ejection tray.

■ Printing part

Part Name	Function
Paper pull-in roller	This feeds the recording paper from the Paper tray.
Registration actuator	This detects the leading edge of the recording paper and controls the print start position. This detects the trailing edge of the recording paper and determines the recording paper size. This detects paper jamming in the rear.
Paper feed roller	This corrects the inclination of the recording paper when its leading edge hits the Paper feed roller rotating backwards. After the correction, the Paper feed roller rotates and the recording paper is fed to the print start position.
Paper ejection roller	This ejects the printed recording paper to the Paper ejecting tray.

2.4　Block Diagram

2.5 Components

Automatic Document Feeder (ADF) &
Document cover ASSY *1
Document cover ASSY *2

*1 For models with ADF
*2 ADF For models without ADF

Document scanner unit

Harness cover

Control panel ASSY

Scanner cover support

Upper cover

Jam clear cover

Ink refill ASSY

Document scanner sensor

Head/carriage unit

Maintenance unit

Engine unit

MJ upper frame

MJ PCB

PF encoder sensor PCB ASSY

Ink absorber box

MJ lower frame

Registration sensor PCB ASSY

Flushing box

Ink cartridge cover sensor ASSY

PF/Registration sensor harness ASSY

Lower cover

Main PCB ASSY

Power cord holder

Ink cartridge cover

Power supply PCB ASSY

Lower power supply frame

Paper tray ASSY

(mini13_Low_COMPONENTS)

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3 ERROR INDICATION

This machine has self-diagnostic functions. When the machine is not working properly, it diagnoses the error, displays error messages on the LCD according to the symptoms, and helps the service personnel quickly investigate the cause of the problem.

3.1 Error Codes

Error Code	Description	Reference
20	Cannot identify a black Ink cartridge Detected by the Ink cartridge detection sensor and the Ink remaining sensor.	2-19
21	Cannot identify a yellow Ink cartridge Detected by the Ink cartridge detection sensor and the Ink remaining sensor.	2-19
22	Cannot identify a cyan Ink cartridge Detected by the Ink cartridge detection sensor and the Ink remaining sensor.	2-19
23	Cannot identify a magenta Ink cartridge Detected by the Ink cartridge detection sensor and the Ink remaining sensor.	2-19
24	Problem with the Ink cartridge IC chip - Authentication mismatch - An incompatible cartridge was detected - It was detected that a wrong color cartridge is loaded	2-20
25	Unable to communicate with the Ink cartridge IC chip. (Ink cartridge side)	2-20
26	The black Ink cartridge has reached its replacement period. The black Ink has reached its refill period. Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.	2-21
27	The yellow Ink cartridge has reached its replacement period. The yellow Ink has reached its refill period. Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.	2-21
28	The cyan Ink cartridge has reached its replacement period. The cyan Ink has reached its refill period. Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.	2-21
29	The magenta Ink cartridge has reached its replacement period. The magenta Ink has reached its refill period. Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.	2-21
2A	No black Ink cartridge loaded. Detected by the Ink cartridge detection sensor	2-22
2B	No yellow Ink cartridge loaded. Detected by the Ink cartridge detection sensor	2-22

Error Code	Description	Reference
2C	No cyan Ink cartridge loaded. Detected by the Ink cartridge detection sensor	2-22
2D	No magenta Ink cartridge loaded. Detected by the Ink cartridge detection sensor	2-22
2E	Unable to communicate with the Ink cartridge IC chip. (On the main unit side)	2-22
2F	The Ink cartridge cover sensor detected an opened cover.	2-23
30	The Head/carriage unit does not move. Detected by the CR encoder sensor	2-24
31	The Head/carriage unit cannot return to its home position. Detected by the CR encoder sensor	2-25
32	Head capping cannot be done.	2-25
35	Abnormal stopping of the Head/carriage unit Caused by factors other than recording paper jams such as CR encoder strip stains when ink is not discharging	2-26
38	Abnormal stopping of the Head/carriage unit Caused by a recording paper jam when ink is not discharging	2-26
3B	Abnormal stopping of the Head/carriage unit Caused by factors other than recording paper jams such as CR encoder strip stains when ink is discharging	2-27
3C	Abnormal stopping of the Head/carriage unit Caused by recording paper jam when Ink is discharging	2-27
3E	A problem occurred in the Carriage motor, Paper feed motor.	2-28
3F	Carriage motor cannot stop.	2-29
40	Casing internal thermistor problem When the power was turned on, the Casing internal thermistor detected a temperature of -20 degrees centigrade or lower, or 80 degrees centigrade or higher	2-29
42	Head voltage does not turn OFF.	2-30
43	Head thermistor problem When the power was turned on, the Head thermistor detected a temperature of -20 degrees centigrade or lower, or 80 degrees centigrade or higher	2-30
44	The Head driver IC detected an abnormal temperature during operation or stand-by.	2-31
46	Purge count or flushing count overflown.	2-31
48	It was detected that the Head flat cable is not correctly inserted.	2-31
49	Head voltage does not rise.	2-32
4F	Head voltage drops quickly.	2-32
50	Failed to detect that the Purge cam switch is turned ON.	2-33
52	Cannot detect the home position of the Purge cam.	2-33
5A	Abnormal stopping of the Purge cam	2-33
5B	The Maintenance unit pump abnormally stopped during exhaust/ intake.	2-33

Error Code	Description	Reference
5D	Overcurrent protection was activated in the driver IC during Purge cam operation.	2-33
5E	Overcurrent protection was activated in the driver IC during Maintenance unit pump operation.	2-33
75	Head capping does not work normally.	2-34
76	Head uncapping does not work normally.	2-34
7E	Head property information not input	2-34
80	Recording paper size error (during fax/list printing) The Registration sensor and Paper width sensor detected a recording paper smaller than the specified size.	2-35
81	Recording paper size error (during operations other than fax/list printing) Paper width sensor detected a recording paper smaller than the specified size.	2-36
82	Recording paper jam The Paper width sensor could not detect the leading edge of recording papers.	2-37
84	Recording paper jam The Registration sensor stays in Paper-feeding state even after completing Paper ejection.	2-38
89	The Paper width sensor could not detect the home position specified on the Paper feed roller.	2-38
8A	The PF encoder sensor cannot detect the rotation of the Paper feed motor.	2-39
8C	Overcurrent protection was activated in the driver IC during Paper feed motor operation.	2-39
8F	Paper feed motor does not stop. The PF encoder sensor cannot detect the rotation of the Paper feed motor.	2-39
A1	The Document scanner sensor detected that the Document scanner unit is open.	2-40
A2	The Document scanning position sensor detected that the document has a length of 900 mm or longer.	2-40
A3	During document scanning, the Document detection sensor detected that the document is pulled out. Or, the Document scanning position sensor could not detect a document within the specified time.	2-41
A5	A CIS scanning result level abnormality was detected during fax sending. (During the first sending)	2-41
A6	A CIS scanning result level abnormality was detected during fax sending. (After retrying)	2-41
A7	The CIS unit type is different from the CIS type input value.	2-42
A8	Matching of color parameter failed	2-42
AF	CIS positioning problem (home position cannot be found)	2-42
BD	Black level value abnormal during scanning	2-43

Error Code	Description	Reference
DF	Modem communication failed	2-43
E0	Modem does not start normally even after resetting the modem.	2-43
E3	Wireless LAN MAC address unregistered, Wireless LAN PCB initialization failed	2-43
E6	An error occurred in the E2PROM of the Main PCB.	2-44
EC	LCD unit firmware version mismatch detected.	2-44
ED	Touch panel initialization failed	2-44
FE	ROM data acquisition error	2-44

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3.2 Error Messages

First Line	Status	Error Code	Reference
B&W 1-sided Print Only Replace Ink /Refill [XX] Ink	Ink ejection has reached the specified number of times when the Ink remaining sensor detects that the ink replacement / refill period is approaching. Only black printing is possible.	27, 28, 29	2-21
BT Call Sign On (UK only)	The receiving mode cannot be changed since the BT Call sign is ON.		
Cannot Detect	The Ink cartridge cannot be detected properly.	20, 21, 22, 23, 24, 25	2-19, 2-20
Cannot Detect Ink Volume	The ink volume cannot be detected properly.		
Cannot Print Replace Ink /Refill [XX] Ink	Ink ejection has reached the specified number of times when the Ink remaining sensor detects that the ink replacement / refill period is approaching.	26, 27, 28, 29	2-21
Close Ink Cover	An open Ink cover was detected.	2F	2-23
Comm.Error	A problem occurred in fax communication.		Section 4.9
Connection Fail	The receiver fax cannot set Polling.		Section 4.9
Cover is Open.	An open Scanner cover was detected.	A1	2-40
Data Remaining in Memory	Data cannot be processed since the memory is full.		Section 4.10.2
Disconnected	The receiver's fax machine stopped.		Section 4.9.1
Document Jam	The Document scanning sensor detected a document jam inside the ADF.	A2, A3	2-40, 2-41
DR Mode in Use	The receiving mode cannot be changed from manual to other modes since the Distinctive Ring mode is enabled.		Section 4.9
High Temperature	The Casing internal thermistor detected that the room temperature is too high.		

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First Line	Status	Error Code	Reference
Image too Long	The image cannot be corrected because it is too large.		Section 4.7.5
Image too Short	The image cannot be trimmed because it is too small.		Section 4.7.5
Ink Absorber Full /Ink Box Full	The purge count or flushing count reached the upper threshold.	46	2-31
Install Starter Ink	A cartridge without the necessary ink volume for initialization was loaded during initialization.	24	2-20
Low Temperature	The Casing internal thermistor detected that the room temperature is too low.		
No Caller ID	There is no Caller ID information.		Section 4.9.3
No Ink Cartridge	No Ink cartridge loaded.	2A, 2B, 2C, 2D	2-22
No Paper Fed	The Registration sensor detected that there is no recording paper in Paper tray.		Section 4.2.1
No Response/Busy	The receiver is busy or there was no response.		Section 4.9.3
Out of Fax Memory	The amount of accumulated data in the memory through Memory Receive exceeded the limit.		Section 4.10.2
Out of Memory	There is not enough memory.		Section 4.10.2
Paper Jam	The Registration sensor, Paper width sensor, and CR encoder sensor detected a paper jam.	31, 38, 3C, 82, 84, 8A, 8C	2-25, 2-26, 2-27, 2-37, 2-38, 2-39
Touchscreen Init. Failed	After the power was turned on, the screen was touched before Touch panel initialization could be completed.	ED	2-44
Unable to Print	Some problem occurred during printing.	Take action according to the displayed error code.	

First Line	Status	Error Code	Reference
Unable to Scan	Some problem occurred during scanning.	Take action according to the displayed error code.	
Wrong Ink Color	An Ink cartridge was set in a position not matching its specified color.	24	2-20
Wrong Paper	The Registration sensor and Paper width sensor detected unspecified recording paper.	80, 81	2-35, 2-36

3.3 Communications Error

Code 1	Code 2	Cause	Reference
10	07	No paper when document transmission is called.	Section 4.9.3
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	Loop current cannot be detected.	
11	06	Busy tone was detected after dialing or after the incoming call.	
11	07	No response from the receiver during sending.	
11	10	A tone cannot be detected after dialing.	
11	11	No response after sending Fax2 net command.	
13	12	NG response signal was received after sending Fax2 net command.	
16	09	The encryption key is not registered.	
17	07	There is no response from the receiver upon signal receipt.	
20	01	Unable to detect a flag field.	
20	02	Carrier interruption lasted for 200 msec.	
20	03	An interrupt command (continuous "1" for 7 bits or more) was detected.	
20	04	An overrun was detected.	
20	05	A 3-second or more frame was received.	
20	06	A CRC error occurred during answer back.	
20	07	An echo command was received.	
20	08	An invalid command was received.	
20	09	A command was ignored once for document setting or for dumping-out at turn-around transmission.	
20	0A	A T5 timeout error occurred.	
20	0B	CRP was received.	
20	0C	EOR and NULL were received.	
20	0D	No corresponding command was received even though the FIF Command send bit is ON.	
20	0E	EORCommand was received.	
32	01	The remote terminal only supports 2400 bps or 4800 bps V.29 specifications.	
32	02	The remote terminal is not ready to receive polling.	
32	10	The remote terminal does not have a password function, or the password function is turned OFF.	

Code 1	Code 2	Cause	Reference
32	11	The remote terminal is not equipped with a confidential mailbox function, or is not ready for receiving.	
32	12	The remote terminal is not equipped with a relay function or is not yet finished preparing it.	
32	13	There are no confidential mails in the remote terminal.	
32	14	The available memory space of the remote terminal is less than the requirement for reception of the confidential or relay broad-casting instruction.	
32	15	The remote terminal is not equipped with cipher receiving function.	
32	16	The remote terminal is not equipped with SEP function.	
32	17	The remote terminal is not equipped with SUB function.	
32	18	The remote terminal is not equipped with color function.	
40	02	An illegal coding system was requested.	
40	03	An illegal recording width was requested.	
40	05	There was an unauthorized ECM request.	
40	06	Polling was received while preparations has not been completed.	
40	07	There was no document to send when polling was received.	
40	08	There is no data in the box number specified by F Code communications.	
40	10	The country code or manufacturer code does not match.	
40	11	A group number not registered in the relay broadcast was prompted, or the broadcast receiver's total was prompted while exceeding the maximum number of possible broadcasts.	
40	12	Retrieval was performed even though the machine is not on retrieval standby.	
40	13	Polling was received from other manufacturer's products during confidential polling stand-by.	
40	14	There is no common key registration when the common key was used.	
40	15	Red-black receiving was prompted while red-black receiving is disabled.	
40	16	Cipher communication was requested while cipher receiving is disabled.	
40	17	An invalid resolution was selected.	
40	18	Remote retrieval was prompted even though F Code remote retrieval is disabled.	
40	19	Remote registration was prompted even though F Code remote registration is disabled.	
40	20	An invalid full-color mode was requested.	
50	01	The vertical resolution capability was changed after compensating for the background color.	
63	01	The password including the last four digits of the telephone number does not match.	
63	02	The password does not match.	

Code 1	Code 2	Cause	Reference
63	03	The polling ID does not match.	
63	04	The prompted confidential ID and mailbox ID does not match.	
63	05	The relay broadcast ID does not match.	
63	06	The prompted retrieval ID and mailbox retrieval ID does not match.	
63	09	There is no box number specified by F Code communications.	
63	10	An SID frame was not sent during F Code remote bulletin board registration.	
63	11	An PWD frame was not sent during F Code remote confidential retrieval.	
63	12	The PIN prompted by F Code does not match.	
74	XX	DCN was received.	
80	01	Fallback is not possible.	
90	01	A video signal or a command cannot be detected within 6 seconds after CFR sending.	
90	02	A PPS that includes an invalid page count or block count was received.	
A0	03	The error correction sequence was not terminated even at the final transmission speed for fallback.	
A0	11	The receiving buffer is empty. (5-second timeout)	
A0	12	The receiving buffer became full during an operation other than receiving into memory.	
A0	13	A decoding error continued to exceed 500 lines or more.	
A0	14	A decoding error continued to exceed 15 seconds or longer.	
A0	15	Timeout: Transmission of 1 line lasted for 13 seconds or longer.	
A0	16	RTC could not be detected, or the carrier off was detected for 6 seconds.	
A0	17	RTC was detected but a command was not detected for 60 seconds or longer.	
A0	19	No image data to be sent.	
A0	20	Color fax receiving cannot be continued (remaining ink is low).	
A8	01	Receive RTN or PIN or ERR (sending side).	
A9	01	Send RTN or PIN or ERR (receiving side).	
AA	18	Receive buffer full during receiving into memory.	

Code 1	Code 2	Cause	Reference
B0	01	Detect polarity reversion.	Section 4.9.3
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	A PC interface error occurred.	
BF	01	The [Stop] key was pressed and communication was cancelled before fax communication could be established[*1].	
BF	02	The [Stop] key was pressed and communication was cancelled after fax communication was established[*1].	
C0	01	There is no common modulation mode or the polling has failed.	
C0	02	JM cannot perform detection.	
C0	03	CM cannot perform detection.	
C0	04	Unable to perform CJ detection.	
C0	10	V.34 negotiation or training does not end.	
C0	11	A modem error was detected during V.34 negotiation or training.	
C0	20	A modem error was detected during sending of commands.	
C0	21	A modem error was detected during receiving of commands.	
C0	22	The control channel connection timed out.	
C0	30	A modem error was detected during sending of image signals.	
C0	31	A modem error was detected during receiving of image signals.	
E0	01	1300 Hz signal detection failed the counter-communication inspection.	
E0	02	PB signal detection failed the counter-communication inspection.	
E0	03	A command was not detected from RS232C through counter-communication.	

[*1] Fax communication establishment: Fax communication is established when DIS (presentation signal of receiving conditions) is received from the calling station, and when NSS or DCS (communication test signal) is received from the calling station.

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4 TROUBLESHOOTING

4.1 Error Cause and Solutions

■ Error Code 20

Cannot Detect	LCD

Cannot identify a black Ink cartridge
Detected by the Ink cartridge detection sensor and the Ink remaining sensor.

Error Code 21

Cannot Detect	LCD

Cannot identify a yellow Ink cartridge
Detected by the Ink cartridge detection sensor and the Ink remaining sensor.

Error Code 22

Cannot Detect	LCD

Cannot identify a cyan Ink cartridge
Detected by the Ink cartridge detection sensor and the Ink remaining sensor.

Error Code 23

Cannot Detect	LCD

Cannot identify a magenta Ink cartridge
Detected by the Ink cartridge detection sensor and the Ink remaining sensor.

<User Check>

- Check if an incompatible Ink cartridge is loaded.

- Reload the Ink cartridge.

- Replace the Ink cartridge.

- During initialization, check if other cartridges not supplied were not set before the instruction to do so.

Step	Cause	Solution
1	Each Ink cartridge sensor is defective	Replace the Ink refill ASSY.
2	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 24

Cannot Detect / Install StarterInk / Wrong Ink Color	LCD

Problem with the Ink cartridge IC chip

<User Check>

- Check if an incompatible Ink cartridge is loaded.

- Reload the Ink cartridge.

- Replace the Ink cartridge.

- Check if the wrong color Ink cartridge is set.

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

■ Error Code 25

Cannot Detect	LCD

Unable to communicate with the Ink cartridge IC chip. (Ink cartridge side)

<User Check>

- Check if an incompatible Ink cartridge is loaded.

- Reload the Ink cartridge.

- Replace 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 ASSY.

■ Error Code 26

Cannot Print / Replace Ink / Refill Black Ink	LCD

The black Ink cartridge has reached its replacement period.
The black Ink has reached its refill period.
Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.

Error Code 27

B&W 1-sided Print Only / Replace Ink / Refill Yellow Ink	LCD
Cannot Print / Replace Ink	

The yellow Ink cartridge has reached its replacement period.
The yellow Ink has reached its refill period.
Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.

Error Code 28

B&W 1-sided Print Only / Replace Ink / Refill Cyan Ink	LCD
Cannot Print / Replace Ink	

The cyan Ink cartridge has reached its replacement period.
The cyan Ink has reached its refill period.
Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.

Error Code 29

B&W 1-sided Print Only / Replace Ink / Refill Magenta Ink	LCD
Cannot Print / Replace Ink	

The magenta Ink cartridge has reached its replacement period.
The magenta Ink has reached its refill period.
Ink ejection has reached the specified number of times when the Ink remaining sensor determines that there is no remaining ink.

<User Check>

- Replace the Ink cartridge.

- Refill Ink.

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

* There is no ink remaining sensor for DCP Tank model.
  For MFC-T800W, there is only black ink remaining sensor.

■ Error Code 2A

No Ink Cartridge	LCD

No black Ink cartridge loaded.
Detected by the Ink cartridge detection sensor.

Error Code 2B

No Ink Cartridge	LCD

No yellow Ink cartridge loaded.
Detected by the Ink cartridge detection sensor.

Error Code 2C

No Ink Cartridge	LCD

No cyan Ink cartridge loaded.
Detected by the Ink cartridge detection sensor.

Error Code 2D

No Ink Cartridge	LCD

No magenta Ink cartridge loaded.
Detected by the Ink cartridge detection sensor.

<User Check>

- Check if an incompatible Ink cartridge is loaded.

- Reload the Ink cartridge.

- Replace the Ink cartridge.

Step	Cause	Solution
1	Ink cartridge detection sensor defective	Replace the Ink refill ASSY.
2	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 2E

Unable to print 2E	LCD

Unable to communicate with the Ink cartridge IC chip. (On the main unit side)

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

■ **Error Code 2F**

Close Ink Cover	LCD

The Ink cartridge cover sensor detected an opened cover.

<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	Damaged Ink cartridge cover	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 ASSY.

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■ **Error Code 30**

Unable to print 30	LCD

The Head/carriage unit does not move.
Detected by the CR encoder sensor.

<User Check>

- Remove the jammed recording paper from the engine part.

Step	Cause	Solution
1	Foreign materials inside the engine	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip out of place	Reattach the CR encoder strip.
4	CR timing belt out of place	Reattach the CR timing belt.
5	Ink tube not properly attached	Reattach the Ink tube.
6	Head cover not properly attached	Reattach the Head cover.
7	Carriage motor harness connection failure	Reconnect the Carriage motor harness.
8	Carriage flat cable connection failure	Reconnect the Carriage flat cable.
9	Maintenance unit not properly attached	Reattach the Maintenance unit.
10	CR encoder strip defective	Replace the CR encoder strip.
11	CR timing belt defective	Replace the CR timing belt.
12	Carriage motor defective	Replace the Carriage motor ASSY.
13	Carriage PCB defective	Replace the Carriage PCB ASSY.
14	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 31

Paper Jam	LCD

The Head/carriage unit cannot return to its home position.
Detected by the CR encoder sensor.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the engine part.

Step	Cause	Solution
1	Foreign materials inside the engine	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
4	CR guide rail not properly attached	Reattach the CR guide rail.
5	Maintenance unit not properly attached	Reattach the Maintenance unit.
6	CR encoder strip defective	Replace the CR encoder strip.
7	CR encoder sensor defective	Replace the Carriage PCB ASSY.
8	Maintenance unit defective	Replace the Maintenance unit.
9	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 32

Unable to print 32	LCD

Head capping cannot be done.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Platen part and the Maintenance unit part.

Step	Cause	Solution
1	Foreign materials around the Maintenance unit	Remove foreign materials.
2	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
3	Maintenance unit defective	Replace the Maintenance unit.
4	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 35

Unable to print 35	LCD

Abnormal stopping of the Head/carriage unit
Caused by factors other than recording paper jams such as CR encoder strip stains when ink is not discharging.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the engine part.

Step	Cause	Solution
1	CR encoder strip stained	Clean the CR encoder strip.
2	CR encoder strip out of place	Reattach the CR encoder strip.
3	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
4	CR encoder strip defective	Replace the CR encoder strip.
5	CR encoder sensor defective	Replace the Carriage PCB ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 38

Paper Jam	LCD

Abnormal stopping of the Head/carriage unit
Caused by a recording paper jam when ink is not discharging.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Platen part and the Maintenance unit part.

Step	Cause	Solution
1	Foreign materials around the Engine	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip out of place	Reattach the CR encoder strip.
4	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
5	CR encoder strip defective	Replace the CR encoder strip.
6	CR encoder sensor defective	Replace the Carriage PCB ASSY.
7	Main PCB defective	Replace the Main PCB ASSY.

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■ **Error Code 3B**

Unable to print 3B	LCD

Abnormal stopping of the Head/carriage unit
Caused by factors other than recording paper jams such as CR encoder strip stains when ink is discharging.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Engine part.

Step	Cause	Solution
1	CR encoder strip stained	Clean the CR encoder strip.
2	CR encoder strip out of place	Reattach 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 ASSY.

■ **Error Code 3C**

Paper Jam	LCD

Abnormal stopping of the Head/carriage unit
Caused by a recording paper jam when ink is not discharging.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Platen part and the Maintenance unit part.

Step	Cause	Solution
1	Foreign materials around the Engine	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip out of place	Reattach the CR encoder strip.
4	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
5	CR encoder strip defective	Replace the CR encoder strip.
6	CR encoder sensor defective	Replace the Carriage PCB ASSY.
7	Main PCB defective	Replace the Main PCB ASSY.

■ **Error Code 3E**

Unable to print 3E	LCD

A problem occurred in the Carriage motor, Paper feed motor.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Engine part.

Step	Cause	Solution
1	Foreign materials in the Engine unit	Remove foreign materials.
2	Foreign materials in the Maintenance unit	Remove foreign materials.
3	Foreign materials inside the recording paper feeding path gear	Remove foreign materials.
4	Ink supply tubes not properly attached	Reattach the Ink supply tubes.
5	Head/carriage unit not properly attached	Reattach the Head/carriage unit.
6	CR guide rail not properly attached	Reattach the CR guide rail.
7	Maintenance unit not properly attached	Reattach the Maintenance unit.
8	PF encoder sensor defective	Replace the PF encoder sensor PCB ASSY.
9	CR encoder sensor defective	Replace the Carriage PCB ASSY.
10	Maintenance unit defective	Replace the Maintenance unit.
11	Carriage motor defective	Replace the Carriage motor ASSY.
12	Paper feed motor defective	Replace the Paper feed motor.
13	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 3F

Unable to print 3F	LCD

Carriage motor cannot stop.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper from the Engine part.

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 ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 40

Unable to print 40	LCD

Casing internal thermistor problem
When the power was turned on, the casing internal thermistor detected a temperature of -20 degrees centigrade or lower, or 80 degrees centigrade or higher.

Step	Cause	Solution
1	Casing internal thermistor harness connection failure	Reconnect the Casing internal thermistor harness.
2	Casing internal thermistor defective	Replace the Ink refill ASSY.
3	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 42

Unable to print 42	LCD

Head voltage does not turn OFF.

<User Check>

- This may occur when the surrounding temperature is low. Increase the surrounding temperature before use.

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 ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 43

Unable to print 43	LCD

Head thermistor problem
When the power was turned on, the head thermistor detected a temperature of -20 degrees centigrade or lower, or 80 degrees centigrade or higher.

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

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■ Error Code 44

Unable to print 44	LCD

The Head driver IC detected an abnormal temperature during operation or stand-by.

Step	Cause	Solution
1	Insufficient ink inside the head	Perform initial purge.
2	Head property information not input	Input the head property information. (Refer to Chapter 5, Section 1.4.22)
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 ASSY.

■ Error Code 46

Ink Absorber Full	LCD

Purge count or flushing count overflown.

Step	Cause	Solution
1	The Ink absorber box or Flushing box is full	Replace the Ink absorber box or Flushing box and reset the purge count and flushing count.
2	Main PCB defective	Replace the Main PCB ASSY.

For details on how to reset the purge count and flushing count, refer to Chapter 4, Section 1.12.

■ Error Code 48

Unable to print 48	LCD

Head flat cable detected to be not correctly inserted.

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	Main PCB defective	Replace the Main PCB ASSY.

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■ **Error Code 49**

Unable to print 49	LCD

Head voltage does not rise.

Error Code 4F

Unable to print 4F	LCD

Head voltage drops quickly.

<User Check>

- This may occur when the surrounding temperature is low. Increase the surrounding temperature before use.

- Unplug the power cord from the outlet. Plug it again after several seconds and check if the problem has been resolved.

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 ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 50

Unable to print 50	LCD

Failed to detect that the Purge cam switch is turned ON.

Error Code 52

Unable to print 52	LCD

Cannot detect the home position of the Purge cam. (Failed to detect the longest OFF status interval of the maintenance cam)

Step	Cause	Solution
1	Foreign materials in the Maintenance unit part	Remove foreign materials.
2	Purge cam sensor harness connection failure	Reconnect the Purge cam sensor harness.
3	Purge cam sensor defective	Replace the Maintenance unit.
4	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 5A

Unable to print 5A	LCD

Abnormal stopping of the Purge cam.

Error Code 5B

Unable to print 5B	LCD

The Maintenance unit pump abnormally stopped during exhaust/intake.

Error Code 5D

Unable to print 5D	LCD

Overcurrent protection was activated in the driver IC during Purge cam operation.

Error Code 5E

Unable to print 5E	LCD

Overcurrent protection was activated in the driver IC during Maintenance unit pump operation.

Step	Cause	Solution
1	Foreign materials in the Maintenance unit part	Remove foreign materials.
2	Maintenance unit defective	Replace the Maintenance unit.
3	Main PCB defective	Replace the Main PCB ASSY.

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■ **Error Code 75**

Unable to print 75	LCD

Head capping does not work normally.

Error Code 76

Unable to print 76	LCD

Head uncapping does not work normally.

\<User Check\>

- Remove the jammed recording paper from the Platen part and the Maintenance unit part.

Step	Cause	Solution
1	Foreign materials inside the Maintenance unit	Remove foreign materials.
2	Foreign materials inside the Engine unit	Remove foreign materials.
3	Carriage motor defective	Replace the Carriage motor ASSY.
4	Maintenance unit defective	Replace the Maintenance unit.
5	Main PCB defective	Replace the Main PCB ASSY.

■ **Error Code 7E**

Unable to print 7E	LCD

Head property information not input.

Step	Cause	Solution
1	Head property information not input	Input the head property information. (Refer to Chapter 5, Section 1.4.22)
2	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 80

Wrong Paper	LCD

Recording paper size error. (During fax/list printing)
The Registration sensor and Paper width sensor detected a recording paper smaller than the specified size.

<User Check>

- Check if the recording paper used is according to specifications.

- Check if dark recording paper is not used.

- Clean the Platen.

Step	Cause	Solution
1	Registration actuator caught in the surrounding parts	Reattach the Registration actuator.
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 Chapter 3, Section 1)
4	CR encoder strip defective	Replace the CR encoder strip.
5	PF encoder disk defective	Replace the PF encoder disk.
6	Registration sensor defective	Replace the Registration sensor PCB ASSY.
7	Paper width sensor defective	Replace the Carriage PCB ASSY.
8	Carriage motor defective	Replace the Carriage motor ASSY.
9	Paper feed motor defective	Replace the Paper feed motor.
10	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 81

Wrong Paper	LCD

Recording paper size error. (Other than fax/list printing)
Paper width sensor detected a recording paper smaller than the specified size.

<User Check>

- Check if the recording paper used is according to specifications.

- Check if dark recording paper is not used.

- Clean the Platen.

Step	Cause	Solution
1	CR encoder strip stained	Clean the CR encoder strip.
2	CR encoder strip defective	Replace the CR encoder strip.
3	Paper width sensor defective	Replace the Carriage PCB ASSY.
4	Carriage motor defective	Replace the Carriage motor ASSY.
5	Main PCB defective	Replace the Main PCB ASSY.

Confidential

■ **Error Code 82**

Paper Jam	LCD

Recording paper jam.
The Paper width sensor could not detect the leading edge of recording papers.

<User Check>

- Release the release lever in the inner part of the Paper tray and remove the jammed recording paper.

- Check if the recording paper used is according to specifications.

- Check if dark recording paper is not used.

- Clean the Platen.

- Check if the Paper tray is loaded correctly into the machine.

- Check if the Jam clear cover is properly closed.

- Clean the Paper pull-in roller.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	Paper feeding path parts out of place	Reattach the paper feeding path parts.
3	Paper feed roller stained	Clean the Paper feed roller.
4	Paper feed motor harness connection failure	Reconnect the Paper feed motor harness.
5	Paper pull-in roller worn out	Replace the Paper pull-in roller.
6	Paper feed roller defective	Replace the Paper feed roller.
7	Paper feed motor defective	Replace the Paper feed motor.
8	Paper width sensor defective	Replace the Carriage PCB ASSY.
9	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code 84

Paper Jam	LCD

Recording paper jam.
The Registration sensor stays in paper-feeding state even after completing paper ejection.

<User Check>

- Release the release lever at the back of the Paper tray and remove the jammed recording paper in Platen part.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	Registration actuator caught in the surrounding parts	Reattach the Registration actuator.
3	Registration sensor defective	Replace the Registration sensor PCB ASSY.
4	Paper feed roller defective	Replace the Paper feed roller.
5	Paper feed motor defective	Replace the Paper feed motor.
6	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code 89

Unable to print 89	LCD

The Paper width sensor could not detect the home position specified on the Paper feed roller.

Step	Cause	Solution
1	PF encoder disk stained	Clean the PF encoder disk and Flushing guide. (Refer to Chapter 3, Section 1)
2	PF home position detection lever stained	Clean the PF home position detection lever and Flushing guide. (Refer to Chapter 3, Section 1)
3	PF encoder disk defective	Replace the PF encoder disk.
4	PF home position detection lever out of place	Set the PF home position detection lever into place.
5	Paper width sensor defective	Replace the Carriage PCB ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

PF home position detection lever

(2_001L)

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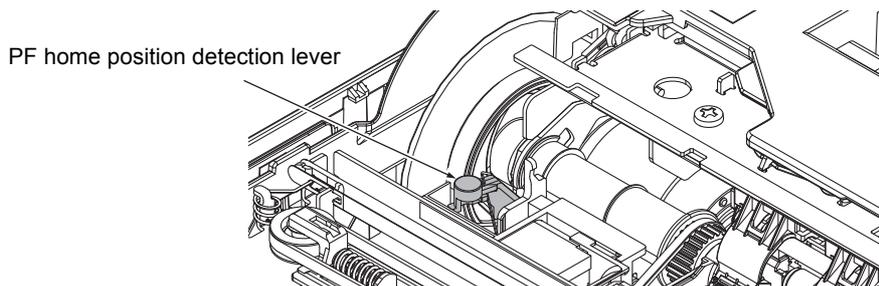
■ **Error Code 8A**

Paper Jam	LCD

The PF encoder sensor cannot detect the rotation of the Paper feed motor.

Error Code 8C

Paper Jam	LCD

Overcurrent protection was activated in the driver IC during Paper feed motor operation.

Error Code 8F

Unable to print 8F	LCD

Paper feed motor does not stop.
The PF encoder sensor cannot detect the rotation of the Paper feed motor.

<User Check>
- Release the release lever at the back of the Paper tray and remove the jammed
  recording paper in Jam clear cover part, Platen part and front part.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	Paper feed motor harness connection failure	Reconnect the Paper feed motor harness.
3	PF encoder sensor harness connection defective	Reconnect the PF encoder sensor harness.
4	PF encoder disk defective	Replace the PF encoder disk.
5	PF encoder sensor defective	Replace the PF encoder sensor PCB ASSY.
6	Paper feed motor defective	Replace the Paper feed motor.
7	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code A1

Cover is Open	LCD

The Document scanner sensor detected that the Document scanner unit is open.

<User Check>

- Close the Document scanner unit.

Step	Cause	Solution
1	Document scanner actuator out of place	Reattach the Document scanner actuator.
2	Document scanner sensor harness connection failure	Reconnect the Document scanner sensor harness.
3	Document scanner sensor defective	Replace the Document scanner sensor ASSY.
4	The boss which pushes the Document scanner actuator of the Document scanner unit is damaged	Replace the Document scanner unit.
5	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code A2

DOCUMENT JAM	LCD

The Document scanning position sensor detected that the document has a length of 900 mm or longer.

<User Check>

- Check if the document scanned is longer than the specified limit.

- Remove the jammed document.

Step	Cause	Solution
1	Document caught in the Document scanning position actuator	Reattach the Document scanning position actuator.
2	Document scanning position sensor defective	Replace the Document scanning position sensor PCB.
3	ADF motor defective	Replace the ADF unit.
4	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code A3

DOCUMENT JAM	LCD

During document scanning, the Document detection sensor detected that the document is pulled out. Or, the Document scanning position sensor could not detect a document within the specified time.

<User Check>
- Remove the jammed document.

Step	Cause	Solution
1	Foreign materials in the document feeding path	Remove foreign materials.
2	Document caught in the Document detection actuator	Reattach the Document detection actuator.
3	Document scanning position sensor harness connection failure	Reconnect the Document scanning position sensor harness.
4	Document pick-up roller worn out	Replace the Document separate roller ASSY.
5	Document scanning position sensor defective	Replace the Document scanning position sensor PCB.
6	ADF motor defective	Replace the ADF unit.
7	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code A5

Unable to Scan A5	LCD

Level of CIS scan result is detected as abnormal during fax sending. (During the first sending)

Error Code A6

Unable to Scan A6	LCD

Level of CIS scan result is detected as abnormal during fax sending. (After retrying)

Step	Cause	Solution
1	White level data failure	Acquire white level data. (Refer to Chapter 5, Section 1.4.15)
2	CIS unit defective	Replace the CIS unit.
3	White reference film stained	Clean the white reference film of the Document scanner unit.
4	Scratched or damaged white reference film	Replace the Document scanner unit.
5	Main PCB defective	Replace the Main PCB ASSY.

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■ Error Code A7

Unable to Scan A7	LCD

The CIS unit type is different from the CIS type input value.

Step	Cause	Solution
1	CIS type data incompatible	Automatically set the CIS type. (Refer to Chapter 5, Section 1.4.18)
2	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code A8

Unable to Scan A8	LCD

Matching of color parameter failed.

<User Check>

- Turn the power OFF and ON by unplugging and plugging the power cord.

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

■ Error Code AF

Unable to Scan AF	LCD

CIS positioning problem. (Home position cannot be found)

Step	Cause	Solution
1	Failure in automatic setting of the CIS type	Specify the setting of the CIS type manually. (Refer to Chapter 5, Section 1.4.18)
2	Scanner motor harness connection failure	Reconnect the Scanner motor harness.
3	CIS flat cable connection failure	Reconnect the CIS flat cable.
4	Scanner belt out of place	Reattach the Scanner belt.
5	CIS flat cable defective	Replace the CIS flat cable.
6	CIS unit defective	Replace the CIS unit.
7	Document scanner unit defective	Replace the Document scanner unit.
8	Main PCB defective	Replace the Main PCB ASSY.

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■ **Error Code BD**

Unable to Scan BD	LCD

Black level value abnormal during scanning.

Step	Cause	Solution
1	Black level data failure	Acquire white level data. (Refer to Chapter 5, Section 1.4.15)
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the Main PCB ASSY.

■ **Error Code DF**

Unable to print DF	LCD

Modem communication failed.

Error Code E0

Unable to print E0	LCD

Modem does not start normally even after resetting the modem.

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

■ **Error Code E3**

Unable to print E3	LCD

Wireless LAN MAC address unregistered, Wireless LAN PCB initialization failed.

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

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■ Error Code E6

Unable to print E6	LCD

An error occurred in the E2PROM of the Main PCB.

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

■ Error Code EC

Unable to print EC	LCD

LCD unit firmware version mismatch detected.

Step	Cause	Solution
1	LCD PCB harness connection failure	Reconnect the LCD PCB harness.
2	LCD PCB defective	Replace the Control panel ASSY.
3	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code ED

Touchscreen Init. Failed	LCD

Touch panel initialization failed.

Step	Cause	Solution
1	Touch panel PCB defective	Replace the Control panel ASSY.
2	Main PCB defective	Replace the Main PCB ASSY.

■ Error Code FE

Unable to print FE	LCD

ROM data acquisition error.

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

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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 Recording paper is not fed from paper tray

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.

- Check if the number of recording paper loaded in the paper tray is within specified volume.

- Try reversing the recording paper in the Paper tray, or rotating direction of the paper for 180 degrees.

- Check if the recording paper's thickness is within specifications.

- Shuffle recording papers thoroughly and then reload them in the Paper tray.

- Clean the Paper pull-in roller.

Step	Cause	Solution
1	Paper pull-in roller not mounted in place	Reattach the Paper pull-in roller.
2	CR encoder strip stained	Clean the CR encoder strip.
3	PF encoder disk stained	Clean the PF encoder disk.
4	Paper feed motor harness connection failure	Reconnect the Paper feed motor harness.
5	Maintenance unit not properly attach	Reattach the Maintenance unit.
6	Paper pull-in roller worn out	Replace the Paper pull-in roller.
7	CR encoder strip defective	Replace the CR encoder strip.
8	PF encoder disk defective	Replace the PF encoder disk.
9	Paper feed motor defective	Replace the Paper feed motor.
10	Maintenance unit defective	Replace the Maintenance unit.
11	Main PCB defective	Replace the Main PCB ASSY.

4.2.2 Two or more sheets of paper fed at a time

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.
- Check if the number of recording paper loaded in the Paper tray is within specified volume.
- Try reversing the recording paper in the Paper tray, or rotating direction of the paper for 180 degrees.
- Check if the recording paper's thickness is within specifications.
- Shuffle recording papers thoroughly and then reload them in the Paper tray.

Step	Cause	Solution
1	Bank ASSY worn out	Replace the Paper tray.
2	Base pad worn out	Replace the Base pad.

4.2.3 Recording paper feeding at an angle

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.
- Adjust the paper tray guide to match the recording paper size.
- Check if the recording paper's thickness is within specifications.
- Check if too much recording paper is loaded in the Paper tray.
- Clean the Paper pull-in roller.

Step	Cause	Solution
1	Paper pull-in roller not mounted in place	Reattach the Paper pull-in roller.
2	Paper feeding path parts out of place	Set the paper feeding path parts into place.
3	Main PCB defective	Replace the Main PCB ASSY.

4.2.4 Recording paper is wrinkling

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.
- Try reversing the recording paper in the Paper tray, or rotating direction of the paper for 180 degrees.
- Adjust the paper guide to match the recording paper size.
- Check if the recording paper's thickness is within specifications.
- Check if the recording paper is not damp.

Step	Cause	Solution
1	Feeding path parts are out of place	Reattach the feeding path parts.

4.2.5 Recording paper jam

■ Paper tray jam

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.

- Adjust the paper guide to match the recording paper size.

- Check if the recording paper loaded is smaller than the specified size.

- Check if the recording paper's thickness is within specifications.

- Check if too much recording paper is loaded in the Paper tray.

- Clean the Paper feed roller.

- Check that the Jam clear cover is securely closed.

- Check if there is no curling or bending in the recording paper.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	Jam clear cover not mounted in place	Reattach the Jam clear cover.
3	CR guide rail not properly attached	Reattach the CR guide rail.
4	Platen not mounted in place	Reattach the Platen ASSY.
5	Paper feeding path parts out of place	Set the paper feeding path parts into place.
6	Jam clear cover defective	Replace the Jam clear cover.
7	Paper tray defective	Replace the Paper tray.
8	Paper width sensor defective	Replace the Carriage PCB.
9	Platen defective	Replace the Platen ASSY.
10	Paper feed motor defective	Replace the Paper feed motor.
11	Registration sensor defective	Replace the Registration sensor PCB ASSY.
12	Main PCB defective	Replace the Main PCB ASSY.

■ Paper jam near the Platen

<User Check>

- Check if the recording paper is loaded correctly in the Paper tray.

- Adjust the paper guide to match the recording paper size.

- Check if the recording paper loaded is smaller than the specified size.

- Check if the recording paper's thickness is within specifications.

- Clean the related rollers.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	CR encoder strip out of place	Reattach the CR encoder strip.
4	Registration actuator caught in the surrounding parts	Reattach the Registration actuator.
5	CR guide rail not properly attached	Reattach the CR guide rail.
6	Platen not mounted in place	Reattach the Platen ASSY.
7	Paper feeding path parts out of place	Reattach the paper feeding path parts.
8	CR encoder strip defective	Replace the CR encoder strip.
9	Paper feed roller defective	Replace the Paper feed roller.
10	Platen defective	Replace the Platen ASSY.
11	Paper feed roller defective	Replace the Paper feed roller.
12	Registration sensor defective	Replace the Registration sensor PCB ASSY.
13	Main PCB defective	Replace the Main PCB ASSY.

■ Paper jam near the Paper ejecting tray

<User Check>

- Check that the number of recording paper on the Paper ejecting tray is within the maximum ejecting paper volume.

- Clean the Switchback roller.

Step	Cause	Solution
1	Foreign materials in the recording paper feeding path	Remove foreign materials.
2	Paper feeding path parts out of place	Reattach the paper feeding path parts.
3	Paper ejection roller belt out of place	Reattach the Paper ejection roller belt.
4	Paper ejection roller defective	Replace the Paper ejection roller.
5	Main PCB defective	Replace the Main PCB ASSY.

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4.3 Print-image Problems

4.3.1 Defective images
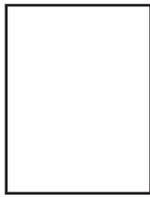
Completely blank

All single color

Random color
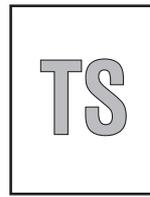
The entire image is light

The entire image is dark
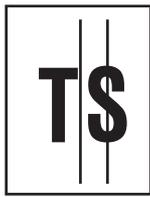
Vertical stripes
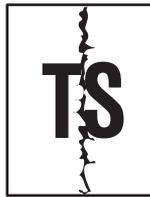
White vertical streak
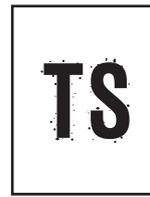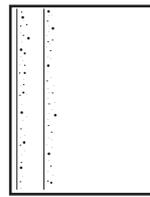
Ink splash

Print edges not aligned

Random missing dots
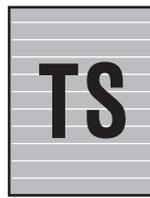
White horizontal streaks
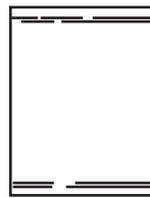
Stain on the leading/trailing edge of the recording paper

Overlapping lines over the whole page
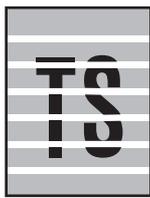
Separated lines over the whole page
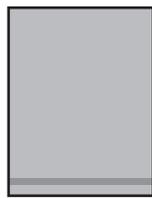
Overlapping lines at the trailing edge of the recording paper

Separated lines at the trailing edge of the recording paper

Characters have shadows (ghost)
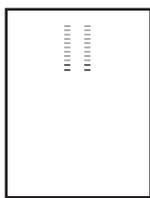
Traces of Paper pull-in roller
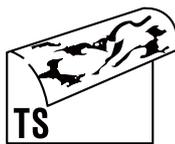
Recording paper stained

4.3.2 Troubleshooting by print-image defect

Problems related to image defects can also be resolved by the end users 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.

■ **Completely blank**

<User Check>

- Check if there is an ample amount ink volume.

- Carry out head cleaning.

- Replace it with a new Ink cartridge.

- Refill Ink.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to the diagram below)
2	The head property value is incorrect	Enter the Head property value. (Refer to Chapter 5, Section 1.4.22)
3	Head flat cable connection failure	Reconnect the Head flat cable.
4	Carriage flat cable connection failure	Reconnect the Carriage flat cable.
5	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "Purge Operation (Maintenance mode 76)"
6	Ink supply tubes bent	Replace the Ink refill unit.
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 ASSY.

Cleaner stick

(Front)

Maintenance unit

(cleaning_L)

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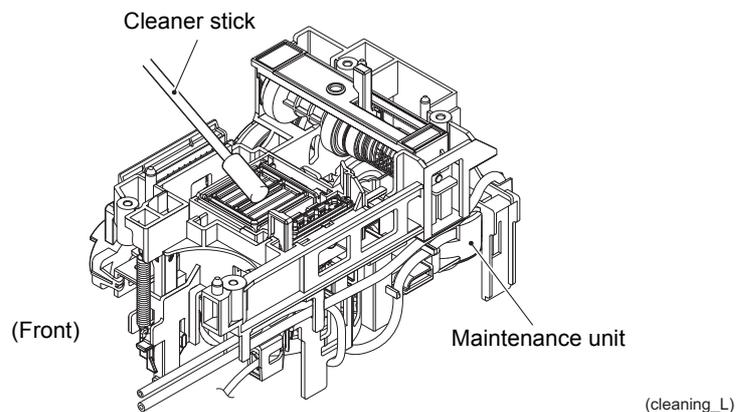
■ **All single color**

<User Check>

- Check that Ink cartridge is loaded correctly.

- Check that Ink is refilled 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 ASSY.

■ **Random color**

<User Check>

- Check that Ink cartridge is loaded correctly.

- Check that Ink is refilled correctly.

- Carry out head cleaning.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	The head property value is incorrect	Enter the head property value. (Refer to Chapter 5, Section 1.4.22)
3	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
4	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "Purge Operation (Maintenance mode 76)"
5	Carriage PCB defective	Replace the Carriage PCB ASSY.
6	Head defective	Replace the Head/carriage unit.
7	Head wiper defective	Replace the Maintenance unit.
8	Main PCB defective	Replace the Main PCB ASSY.

■ **The entire image is light**

<User Check>
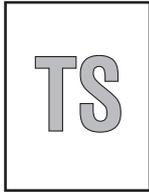
- Check if the recording paper used is according to specifications.

- Check whether the paper type setting is correct.

- Carry out head cleaning.

- Replace the Ink cartridge.

- Refill Ink.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	The head property value is incorrect or head calibration has not been performed	Enter the head property value. (Refer to Chapter 5, Section 1.4.22)
3	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
4	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "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 ASSY.

■ **The entire image is dark**

<User Check>

- Check whether the paper type setting is correct.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	The head property value is incorrect or head calibration has not been performed	Enter the head property value. (Refer to Chapter 5, Section 1.4.22)
3	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
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 ASSY.

■ Vertical stripes

<User Check>
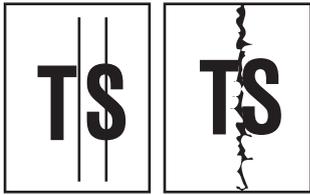
- Check if the recording paper used is according to specifications.
- Clean each roller by printing several blank sheets.
- Clean the Platen.

Step	Cause	Solution
1	Foreign materials inside the CR guide rail	Remove foreign materials.
2	Recording paper feeding path contaminated	Clean the recording paper feeding path.
3	CR encoder strip stained	Clean the CR encoder strip.
4	Carriage flat cable connection failure	Reconnect the Carriage flat cable.
5	Ink supply tube not properly attached	Reattach the Ink supply tube.
6	CR encoder strip defective	Replace the CR encoder strip.

■ White vertical streak

<User Check>

- Carry out head cleaning.

Step	Cause	Solution
1	Foreign materials inside the CR guide rail	Remove foreign materials.
2	CR encoder strip stained	Clean the CR encoder strip.
3	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "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.

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■ **Ink splash**

<User Check>

- Replace the Ink cartridge.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	The head property value is incorrect	Enter the head property value. (Refer to Chapter 5, Section 1.4.22)
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 ASSY.

■ **Print edges not aligned**

<User Check>
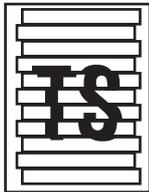
- Check if the recording paper used is according to specifications.
- Perform the printing position adjustment.

Step	Cause	Solution
1	Vertical print lines not aligned	Adjust vertical print line alignment. (Refer to Chapter 5, Section 1.4.20)
2	Head inclination is not adjusted	Adjust the head inclination. (Refer to Chapter 4, Section 2.4)
3	CR encoder strip stained	Clean the CR encoder strip.
4	CR encoder strip defective	Replace the CR encoder strip.
5	Head defective	Replace the Head/carriage unit.
6	Main PCB defective	Replace the Main PCB ASSY.

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■ **Random missing dots**

<User Check>

- Carry out head cleaning.

- Replace the Ink cartridge.

- Refill Ink.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "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 ASSY.

■ **White horizontal streaks**

<User Check>

- Check if it is not in draft mode.

- Replace the Ink cartridge.

- Refill Ink.

- Carry out head cleaning.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17) Adjust the AMS06. (Refer to Chapter 5, Section 1.4.32)
3	Head inclination is not adjusted	Adjust the head inclination. (Refer to Chapter 4, Section 2.4)
4	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
5	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "Purge Operation (Maintenance mode 76)"
6	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
7	PF encoder disk defective	Replace the PF encoder disk.
8	Carriage PCB defective	Replace the Carriage PCB ASSY.
9	Maintenance unit defective	Replace the Maintenance unit.
10	Head defective	Replace the Head/carriage unit.
11	Main PCB defective	Replace the Main PCB ASSY.

■ **Stain on the leading/trailing edge of the recording paper**

\<User Check\>

- Check if the recording paper used is according to specifications.
- Check if the recording paper used is not folded.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17)
3	Head defective	Replace the Head/carriage unit.

■ **Overlapping lines over the whole page**

Step	Cause	Solution
1	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17) Adjust the AMS06. (Refer to Chapter 5, Section 1.4.32)
2	Head inclination is not adjusted	Adjust the head inclination. (Refer to Chapter 4, Section 2.4)
3	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
4	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
5	PF encoder disk defective	Replace the PF encoder disk.
6	Head defective	Replace the Head/carriage unit.
7	Main PCB defective	Replace the Main PCB ASSY.

■ **Separated lines over the whole page**

<User Check>

- Carry out head cleaning.

Step	Cause	Solution
1	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17) Adjust the AMS06. (Refer to Chapter 5, Section 1.4.32)
2	Head inclination is not adjusted	Adjust the head inclination. (Refer to Chapter 4, Section 2.4)
3	Head calibration not performed	Perform head calibration. (Refer to Chapter 5, Section 1.4.2)
4	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
5	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "Purge Operation (Maintenance mode 76)"
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 ASSY.

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

Step	Cause	Solution
1	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17) Adjust the AMS06. (Refer to Chapter 5, Section 1.4.32)
2	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
3	PF encoder disk defective	Replace the PF encoder disk.
4	Main PCB defective	Replace the Main PCB ASSY.

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

\<User Check\>

- Carry out head cleaning.

Step	Cause	Solution
1	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17) Adjust the AMS06. (Refer to Chapter 5, Section 1.4.32)
2	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
3	Non-discharge of ink from head	Carry out the recommended purge procedures. Refer to "Recommended purge procedures" in "Chapter 5, Section 1.4.26 "Purge Operation (Maintenance mode 76)"
4	PF encoder disk defective	Replace the PF encoder disk.
5	Main PCB defective	Replace the Main PCB ASSY.

■ **Characters have shadows (ghost)**

\<User Check\>
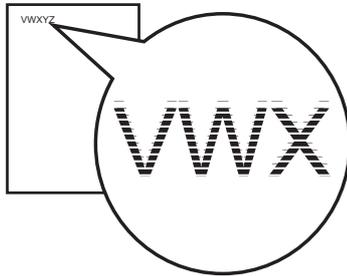
- Carry out head cleaning.

- Perform the printing position adjustment.

Step	Cause	Solution
1	Vertical print lines not aligned	Adjust vertical print line alignment. (Refer to Chapter 5, Section 1.4.20)
2	Paper feeding correction not aligned	Perform paper feeding correction. (Refer to Chapter 5, Section 1.4.17)
3	PF encoder disk stained	Clean the PF encoder disk and flushing guide. (Refer to Chapter 3, Section 1)
4	CR encoder strip stained	Clean the CR encoder strip.
5	Platen or CR guide rail not mounted in place	Reattach the Platen or CR guide rail.
6	PF encoder disk defective	Replace the PF encoder disk.
7	CR encoder strip defective	Replace the CR encoder strip.
8	Head defective	Replace the Head/carriage unit.
9	Main PCB defective	Replace the Main PCB ASSY.

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■ **Traces of Paper pull-in roller**

<User Check>
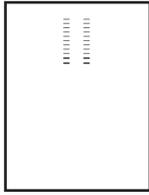
- Check if the recording paper used is according to specifications.
- Clean the Paper pull-in roller.

Step	Cause	Solution
1	Paper pull-in roller defective	Replace the Paper pull-in roller.

■ **Recording paper stained**

<User Check>
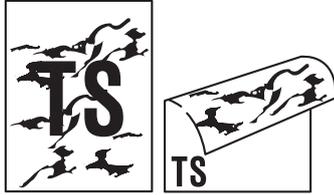
- Check whether the recording paper being used is not folded.
- Check if the recording paper used is according to specifications.
- Check if the recording paper is loaded correctly in the Paper tray.
- Clean each roller by printing several blank sheets.
- Clean the Platen.
- Check if any paper fragments or other foreign materials remain inside the machine.

Step	Cause	Solution
1	Maintenance unit stained	Clean the Maintenance unit. (Refer to Section 4.3.2 in this chapter)
2	Foreign materials in the reverse side of the head	Remove foreign materials.
3	Paper feed roller stained	Replace the Paper feed roller.
4	Paper ejection roller stained	Replace the Paper feed roller.

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4.4 Software-related Problems

Software-related problems, such as not being able to print from the PC, can be resolved by end users by following the User Check items, regardless of whether test printing or printer settings printing can be done through machine operation. 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 when 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 ASSY.

4.5 Network Problems

4.5.1 Cannot print through a network connection

<User Check>

- Reset network settings. (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 ASSY.

4.6 Control Panel Problems

4.6.1 No display on the LCD

Step	Cause	Solution
1	Panel harness connection failure	Reconnect the Panel harness.
2	LCD flat cable connection failure	Reconnect the LCD flat cable.
3	Panel PCB defective	Replace the Panel PCB. (1-Line LCD model)
4	LCD unit defective	Replace the Control panel ASSY and LCD unit.
5	Power cord defective	Replace the Power supply PCB ASSY. (US/CAN) Replace the Power cord. (Outside US/CAN)
6	Power supply PCB defective	Replace the Power supply PCB ASSY.
7	Main PCB defective	Replace the Main PCB ASSY.

4.6.2 LED does not light up

Step	Cause	Solution
1	Panel harness connection failure	Reconnect the Panel harness.
2	Panel PCB defective	Replace the Panel PCB. (1-Line LCD model)
3	Control panel ASSY defective	Replace the Control panel ASSY.
4	Power cord defective	Replace the Power supply PCB ASSY. (US/CAN) Replace the Power cord. (Outside US/CAN)
5	Power supply PCB defective	Replace the Power supply PCB ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

4.6.3 The control panel does not work

Step	Cause	Solution
1	Panel harness connection failure	Reconnect the Panel harness.
2	Rubber key not properly attached	Reattach the Rubber key. (1-Line LCD model)
3	Rubber key defective	Replace the Rubber key. (1-Line LCD model)
4	Panel PCB defective	Replace the Panel PCB ASSY. (1-Line LCD model)
5	Control panel ASSY defective	Replace the Control panel ASSY.
6	Main PCB defective	Replace the Main PCB ASSY.

4.6.4 Touch panel inoperative (only for models with a touch panel)

Step	Cause	Solution
1	Touch panel unadjusted	Adjust the Touch panel. (Refer to Chapter 5, Section 1.4.28)
2	Panel harness connection failure	Reconnect the Panel harness.
3	Control panel ASSY defective	Replace the Control panel ASSY.
4	Main PCB defective	Replace the Main PCB ASSY.

4.7 Document Feeding Problems

4.7.1 Document cannot be fed

<User Check>

- Check if the document is loaded correctly all the way inside the ADF document support and if "ADF READY" is displayed on the LCD.

- Check if the amount of document inside the ADF document support is not fewer than the specified amount.

Step	Cause	Solution
1	Foreign materials near the document pick-up roller	Remove foreign materials.
2	Document pick-up roller stained	Clean the Document pick-up roller.
3	Document detection actuator out of place	Set the Document detection actuator into place.
4	ADF motor harness connection failure	Reconnect the ADF motor harness.
5	Document detection sensor harness connection failure	Reconnect the Document detection sensor harness.
6	Document pick-up roller worn out	Replace the Document separate roller ASSY.
7	Document detection sensor defective	Replace the Document detection sensor PCB.
8	ADF motor defective	Replace the ADF unit.
9	Main PCB defective	Replace the Main PCB ASSY.

4.7.2 Document double feeding

<User Check>

- Check if the document used is thinner than the specified thickness.

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

4.7.3 Document jam

■ **Document jam near the ADF slot**

<User Check>

- Check if the document is loaded correctly all the way inside the ADF document support.

- Adjust the document guide to match the document size.

- Check if the document loaded is smaller than the specified size.

- Check if the document loaded is not thicker than the specified thickness.

- Check if there is no curling or bending in the document.

- Check if the amount of document inside the ADF document support is not fewer than the specified amount.

Step	Cause	Solution
1	Foreign materials near the ADF slot	Remove foreign materials.
2	Upper document chute not properly attached	Reattach the Upper document chute.
3	ADF separation pad holder ASSY not properly attached	Reattach the ADF separation pad holder ASSY.
4	Document detection actuator out of place	Set the Document detection actuator into place.
5	Document detection sensor defective	Replace the Document detection sensor PCB ASSY.
6	ADF separation pad holder ASSY defective	Replace the ADF separation pad holder ASSY.
7	ADF drive unit defective	Replace the ADF drive unit.
8	Main PCB defective	Replace the Main PCB ASSY.

■ Document jam inside the ADF

<User Check>

- Check if the document is loaded correctly all the way inside the ADF document support.

- Adjust the document guide to match the document size.

- Check if the document loaded is smaller than the specified size.

- Check if the document loaded is not thicker than the specified thickness.

Step	Cause	Solution
1	Foreign materials inside ADF	Remove foreign materials.
2	ADF harness jam between the ADF unit and the Document scanner unit	Reroute the ADF harness.
3	Document pressure bar not properly attached	Reattach the Document pressure bar.
4	Upper document chute not properly attached	Reattach the Upper document chute.
5	Document scanning position actuator out of place	Set the Document scanning position actuator into place.
6	Document feed roller 1 and 2 not properly attached	Reattach Document feed roller 1 and 2.
7	Document scanning position sensor defective	Replace the Document scanning position sensor PCB.
8	Scratched or damaged ADF internal parts	Replace the ADF unit.
9	Main PCB defective	Replace the Main PCB ASSY.

■ Document jam near the ADF ejection part

<User Check>

- Close the ADF cover securely.

Step	Cause	Solution
1	Foreign materials in the ADF ejection part	Remove foreign materials.
2	ADF cover ASSY not properly attached	Reattach the ADF cover ASSY.
3	Eject film out of place, jammed	Reattach the eject film.
4	Upper document chute not properly attached	Reattach the Upper document chute.
5	Document feed roller 2 not properly attached	Reattach Document feed roller 2.s
6	Scratched, damaged, or worn ADF cover ASSY	Replace the ADF cover ASSY.
7	Scratched, damaged, or worn ADF ejection parts	Replace the ADF unit.
8	Main PCB defective	Replace the Main PCB ASSY.

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4.7.4 Wrinkles on documents

\<User Check\>

- Check if the Document guide is correctly set to the document size.

- Check if documents are not curled.

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

4.7.5 Document size not correctly detected

\<User Check\>

- Check if documents are within the specified size.

Step	Cause	Solution
1	Document caught in the document scanning position actuator	Set the Document scanning position actuator into place.
2	Document scanning position sensor defective	Replace the Document scanning position sensor PCB ASSY.
3	ADF motor defective	Replace the ADF unit.
4	Main PCB defective	Replace the Main PCB ASSY.

4.8 Scanned-image Problems

4.8.1 Defective images
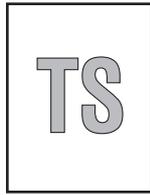
The entire image is light

Scanning position failure

Images are dark

Completely blank
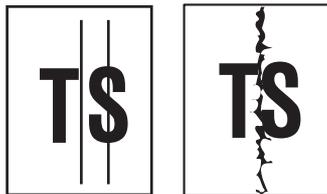
Vertical streaks

White vertical streaks
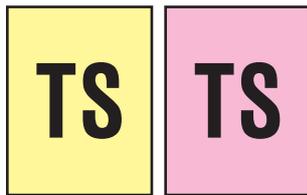
Shades in the entire image

Entire image is distorted

4.8.2 Scanned-image Problems

■ The entire image is light

<User Check>
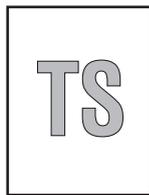
- Check if the contrast is set to "Light".

- Clean the 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	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the Main PCB ASSY.

■ **Scanning position failure**

<User Check>
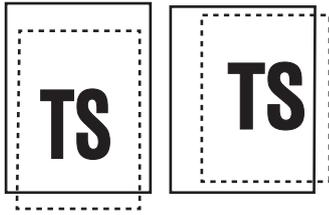
- Check if the Document guide is correctly set to the document size.

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

(1) ADF

Step	Cause	Solution
1	Scanning start position out of alignment	Adjust the scanning start position. (Refer to Chapter 5, Section 1.4.14)
2	Document caught in the document scanning position actuator	Set the Document scanning position actuator into place.

(2) Document scanner unit

Step	Cause	Solution
1	Scanning start position out of alignment	Adjust the scanning start position. (Refer to Chapter 5, Section 1.4.14)
2	CIS unit defective	Replace the CIS unit.

■ **Images are dark**

<User Check>

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

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55. (Refer to Chapter 5, Section 1.4.15)
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the Main PCB ASSY.

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■ Completely blank

<User Check>

- Check if documents are not reversed.

- Make sure that the document is loaded in the ADF document support.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55. (Refer to Chapter 5, Section 1.4.15)
2	CIS flat cable connection failure	Reconnect the CIS flat cable.
3	Damaged CIS flat cable	Replace the CIS flat cable.
4	CIS unit defective	Replace the CIS unit.
5	Main PCB defective	Replace the Main PCB ASSY.

■ Vertical streaks
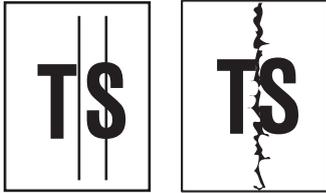
<User Check>

- Clean the Document cover glass or ADF glass.

- Clean the Document pressure bar.

Step	Cause	Solution
1	Foreign materials are attached to the glass surface inside the document scanner unit	Remove foreign materials.
2	Foreign materials are attached to the CIS unit lens surface	Remove foreign materials.
3	CIS unit defective	Replace the CIS unit.

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■ **White vertical streaks**

<User Check>

- Clean the Document cover glass or ADF glass.

Step	Cause	Solution
1	CIS unit defective	Replace the CIS unit.
2	White reference film stained	Clean the white reference film of the Document scanner unit.
3	Scratched or damaged white reference film	Replace the Document scanner unit.

■ **Shades in the entire image**

<User Check>

- Clean the Document cover glass or ADF glass.

- Clean the Document pressure bar.

Step	Cause	Solution
1	White level correction data failure	Carry out maintenance 55. (Refer to Chapter 5, Section 1.4.15)
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the Main PCB ASSY.

■ **Entire image is distorted**

Step	Cause	Solution
1	CIS type mismatches	Carry out maintenance 59. (Refer to Chapter 5, Section 1.4.18)

4.9 Fax Problems

4.9.1 Fax sending cannot be performed

<User Check>

- Check if the telephone line cord is inserted correctly into the socket.
- Check if the dialing function setting (tone/pulse) is correct.
- Check if the telephone line cord is disconnected from the EXT terminal.

Step	Cause	Solution
1	MJ PCB harness connection failure	Check the MJ PCB harness connection and reconnect if necessary.
2	Control panel ASSY defective	Replace the Control panel ASSY.
3	MJ PCB defective	Replace the MJ PCB ASSY.
4	CIS unit defective	Replace the CIS unit.
5	Main PCB defective	Replace the Main PCB ASSY.

4.9.2 Cannot receive fax

<User Check>

- Check if the telephone line cord is inserted correctly into the socket.
- Check if the receiving mode setting is correct.
- Check if the telephone line cord is disconnected from the EXT terminal.

Step	Cause	Solution
1	MJ PCB harness connection failure	Check the MJ PCB harness connection and reconnect if necessary.
2	MJ PCB defective	Replace the MJ PCB ASSY.
3	Main PCB defective	Replace the Main PCB ASSY.

4.9.3 A communications error occurs

<User Check>

- Change the special line support of the function menu or the Assurance Mode, then check if the error has been resolved.
- Check that there is no source of noise around the machine.

Step	Cause	Solution
1	MJ PCB harness connection failure	Check the MJ PCB harness connection and reconnect if necessary.
2	MJ PCB defective	Replace the MJ PCB ASSY.
3	Main PCB defective	Replace the Main PCB ASSY.

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 harness connection failure	Reconnect the Panel harness.
2	Control panel ASSY defective	Replace the Control panel ASSY.
3	Power cord defective	Replace the Power supply PCB ASSY. (US/CAN) Replace the Power cord. (Outside US/CAN)
4	Power supply PCB defective	Replace the Power supply PCB ASSY.
5	Main PCB defective	Replace the Main PCB ASSY.

4.10.2 Internal memory errors

<User Check>

- Delete saved print and fax data.
- Disconnect and reconnect the Power cord.

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

4.10.3 Security function lock related problems

<User Check>

- Have the administrator release the security lock.

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

4.10.4 Ink cartridge / tank related problems

<User Check>

- Check if an incompatible ink cartridge is loaded.

- Reload the Ink cartridge.

- During initialization, check if the Ink cartridge is not set before the instruction to do so.

Step	Cause	Solution
1	Ink sensor flat cable connection failure	Reconnect the Ink sensor flat cable.
2	Each Ink cartridge sensor, Ink remaining sensor, Ink cartridge detection sensor, or IC chip PCB defective	Replace the Ink refill ASSY.
3	Main PCB defective	Replace the Main PCB ASSY.

CHAPTER 3   DISASSEMBLY AND ASSEMBLY

1   PRECAUTIONS BEFORE PROCEEDING

To prevent the creation of secondary problems by mishandling, observe the following warnings and precautions during disassembly/assembly work.

> ⚠️ **WARNING**
>
> Before replacing parts or units, <u>unplug the power cord</u> and <u>telephone line</u>. Do not uses witches but unplug the power cord itself.
>
> In particular, when having access to the power supply inside the machine, make sure that the power cord is unplugged from the electrical outlet; when having access to the main PCB ASSY or modem PCB, make sure that both the power cord and telephone line are unplugged from the electrical outlet.

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

(2)   Apply grease to the points specified in this chapter.

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

(4)   Static electricity charged in your body may damage electronic parts.

   When transporting PCBs, be sure to wrap them in conductive sheets. When replacing the PCBs and components including PCBs, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on flat cables or wire harnesses.

(5)   After disconnecting flat cables, check that each cable is not damaged at its end or short-circuited.

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

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

(8)   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.

(9)   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 5 to 10 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.

(10) 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.

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

- After completing all repairs, make sure to clean the flushing guide using a cleaner stick (as shown in the illustration below) before returning the machine to the user to prevent ink from spilling during transportation.

Flushing guide

Cleaner stick

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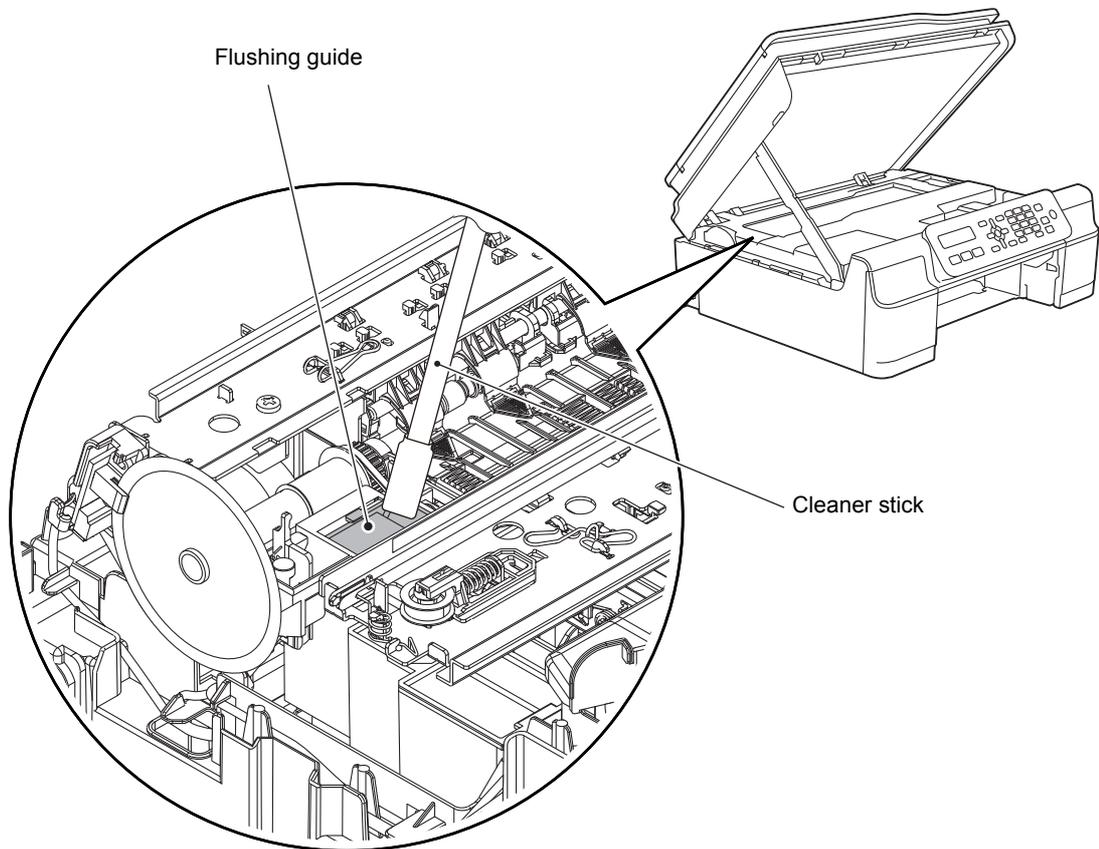
2   PACKING

<For Ink Cartridge Model>
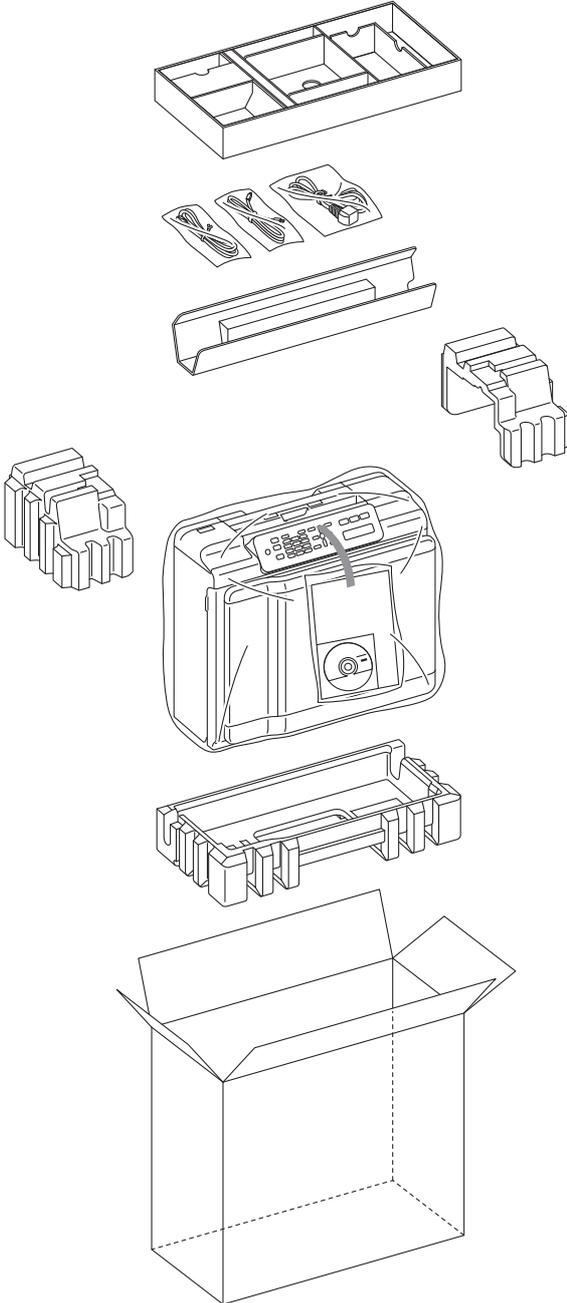
(3_002L)

<For Ink Tank Model>
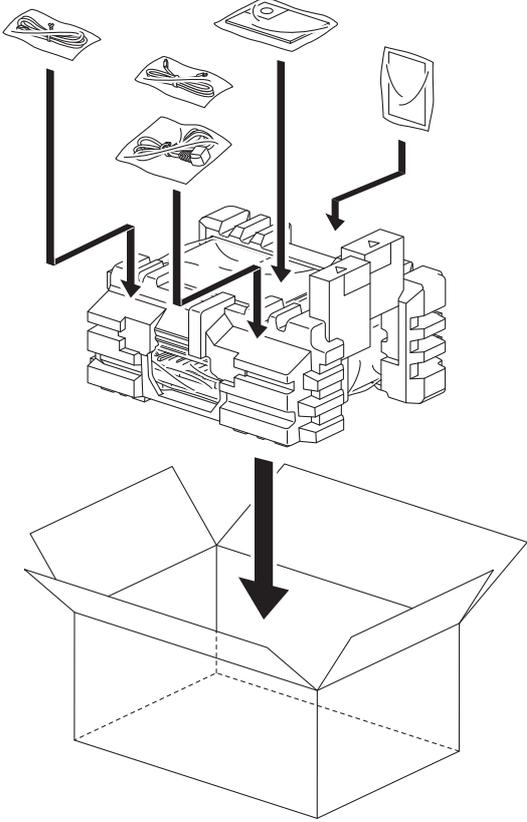
(3_002L-1)

3   SCREW CATALOGUE

TAPTITE BIND B
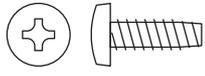
TAPTITE BIND B M4x12	
TAPTITE BIND B M2.6x8	

TAPTITE CUP B

TAPTITE CUP B M3x10	
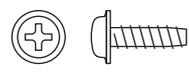
TAPTITE CUP S

TAPTITE CUP S M3x6	
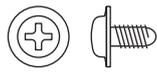
SCREW BIND

SCREW BIND M3x6	
SCREW BIND M2x10	
SCREW BIND M2.6x8	
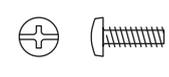
SCREW PAN

SCREW PAN (WASHER) M4x8 DB	
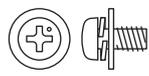
4   SCREW TORQUE LIST

Note Check the shape of screw with SCREW CATALOGUE in the previous page.

Location of Screw	Screw Type	Q'ty	Tightening Torque N • m (kgf • cm)
ADF FG wire*1/Document scanner FG wire (Together with ADF FG wire)	TAPTITE CUP S M3x6	1	0.35±0.05 (3.5±0.5)
Document scanner bottom cover	TAPTITE CUP B M3x10	6	0.40±0.05 (4±0.5)
ADF top cover rear	TAPTITE CUP B M3x10	1	0.50±0.10 (5±1)
Upper document chute	TAPTITE CUP B M3x10	2	0.50±0.10 (5±1)
ADF back cover	TAPTITE CUP B M3x10	1	0.50±0.10 (5±1)
Panel front cover	TAPTITE CUP B M3x10	3	0.40±0.10 (4±1)
FG wire*2	TAPTITE CUP S M3x6	1	0.35±0.05 (3.5±0.5)
Upper cover	TAPTITE BIND B M4x12	4	0.85±0.05 (8.5±0.5)
	TAPTITE CUP B M3x10	1	0.50±0.10 (5±1)
Main PCB shield	TAPTITE CUP S M3x6	2	0.35±0.05 (3.5±0.5)
Main PCB ASSY	TAPTITE CUP S M3x6	1	0.35±0.05 (3.5±0.5)
Main PCB frame	TAPTITE CUP S M3x6	1	0.35±0.05 (3.5±0.5)
MJ upper frame*3	TAPTITE CUP B M3x10	2	0.40±0.10 (4±1)
MJ PCB ASSY*3	TAPTITE CUP S M3x6	2	0.35±0.05 (3.5±0.5)
Power supply unit	TAPTITE CUP B M3x10	1	0.40±0.10 (4±1)
	TAPTITE CUP S M3x6	1	0.35±0.05 (3.5±0.5)
Power cord FG wire*4	SCREW PAN (WASHER) M4x8 DB	1	0.45±0.05 (4.5±0.5)
Power supply PCB	TAPTITE CUP S M3x6	3	0.45±0.05 (4.5±0.5)
PF encoder sensor PCB ASSY	SCREW BIND M2x10	1	0.15±0.05 (1.5±0.5)
CR frame	TAPTITE CUP B M3x10	2	0.60±0.10 (6±1)
Carriage motor	SCREW BIND M3x6	2	0.75±0.10 (7.5±1)
CR guide rail	TAPTITE CUP B M3x10	2	0.60±0.10 (6±1)
	SCREW BIND M3x6	2	0.63±0.07 (6.3±0.7)
Paper feed motor	SCREW BIND M2.6x4	2	0.44±0.06 (4.4±0.6)
Side frame L	TAPTITE CUP B M3x10	4	0.50±0.10 (5±1)
Registration sensor PCB ASSY	TAPTITE BIND B M2.6x8	1	0.35±0.05 (3.5±0.5)

*1 For models with ADF   *2 Touch panel models
*3 MFC model only   *4 200V model only

5 LUBRICATION

Refer to the following table when applying the specified lubricant to lubrication points.

Lubricant Type (Manufacturer)	Lubrication Point		Lubrication Amount per Point
FLOIL BG1319 (Kanto Kasei)	Head/carriage unit	2	1 mm diameter ball
FLOIL BG-10KS (Kanto Kasei)	Platen	3	1 mm diameter ball
	Paper ejection roller ASSY	1	1 mm diameter ball
	Paper pull-in roller holder ASSY	2	1 mm diameter ball

■ **Head/carriage unit**
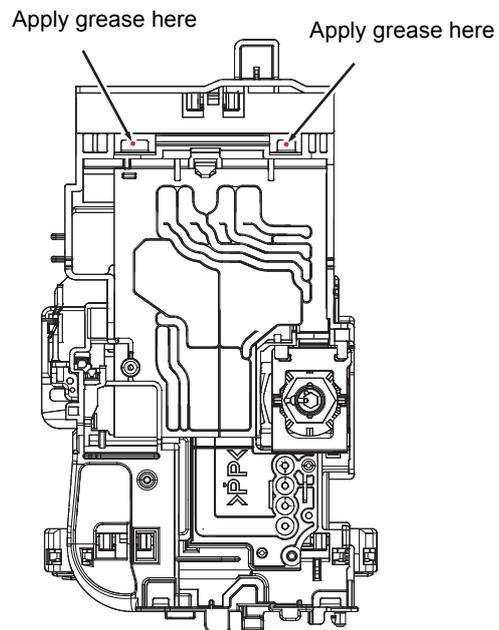
Apply grease here   Apply grease here

(3_080L)

Confidential

■ Platen

Apply grease here

Apply grease here (bottom)

Apply grease here

(3_081L)

■ Paper ejection roller ASSY

Apply grease here

(3_082L)

■ Paper pull-in roller holder ASSY

Apply grease here

(3_083L)

Confidential
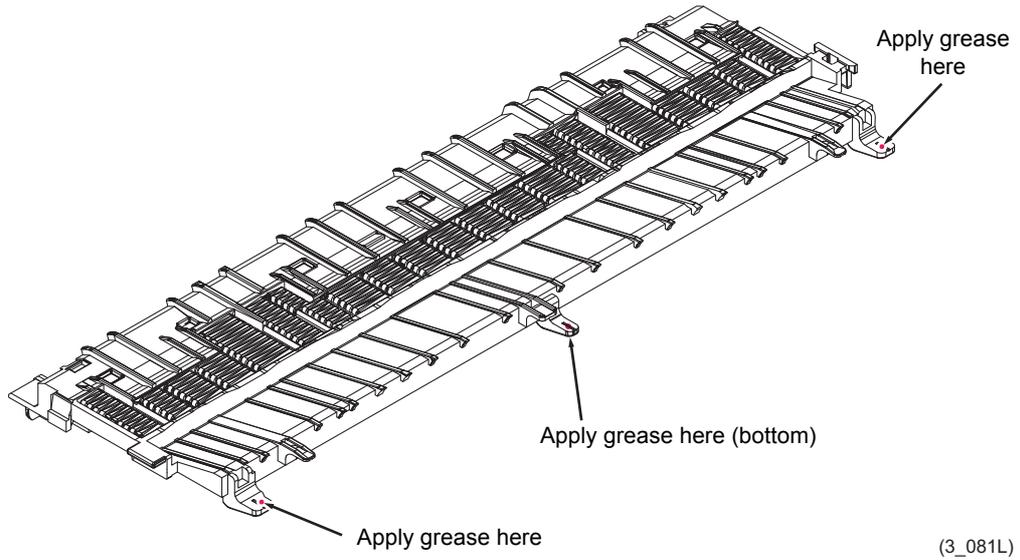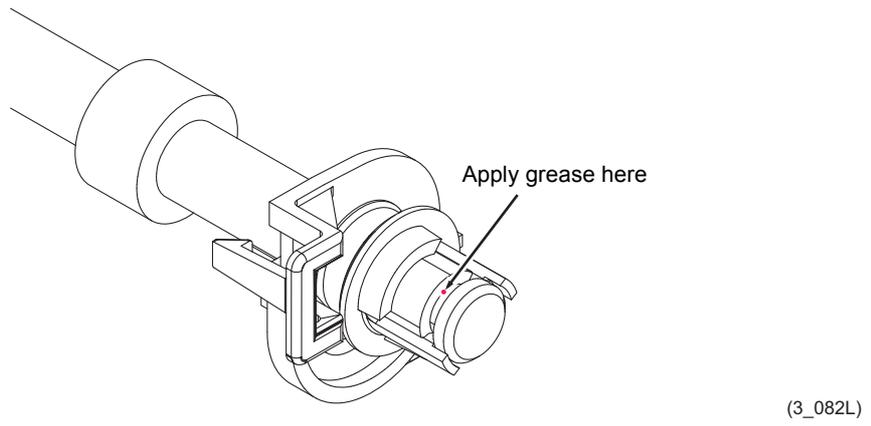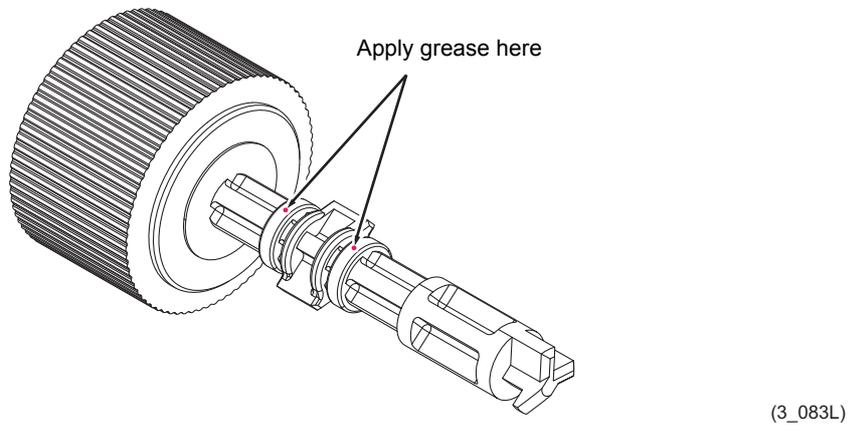
6 OVERVIEW OF GEARS

■ **ADF drive gear**
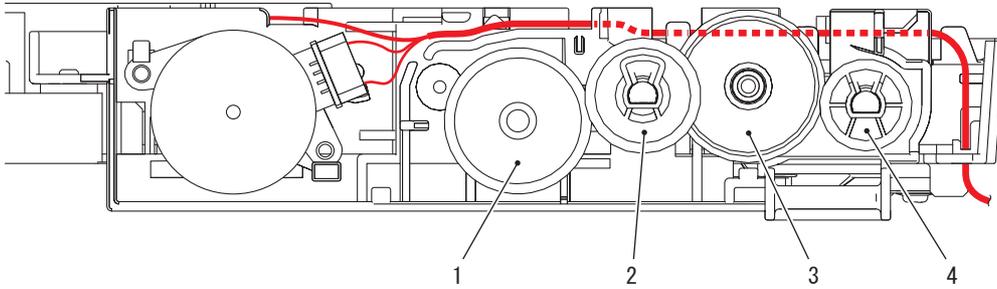
(3_009)

1	LEG777	Separation roller gear (external)
2	LEG779	Document feed roller 1 gear
3	LEG780	Idle gear 63
4	LEG781	Document feed roller 2 gears

7 ROUTING OF HARNESSES / FLAT CABLES / INK SUPPLY TUBES

1 Upper cover: Document scanner motor harness, ADF motor harness[1], Document scanner FG wire, ADF FG wire[1], Document detection sensor harness[1], Document scanning position sensor harness[1]

*1 For models with ADF

Cable guide

Cable guide

Have the ADF motor harness*1, Document scanner motor harness, and ADF FG Wire*1 pass through the outside of the Cable guide.

Have the Document detection sensor harness*1 and Document scanning position sensor harness*1 pass through the inside of the Cable guide.

ADF FG wire*1

Cable guide

Document detection sensor harness*1

Document scanning position sensor harness*1

Cable guide

ADF motor harness*1

Cable guide

Document scanner FG wire

Document scanner motor harness

When installing the ADF FG Wire*1, align it horizontally as shown in the illustration.

(3_005L)

Confidential

2 CIS flat cable

Cable guide

Flat core

CIS flat cable

Cable guide

(3_006L)

Confidential

3   ADF unit reverse side (only for models with ADF unit): Document detection sensor harness

Cable guide

Document detection sensor harness

Cable guide

(Rear)

Document detection actuator

ADF unit (bottom)

(3_071)
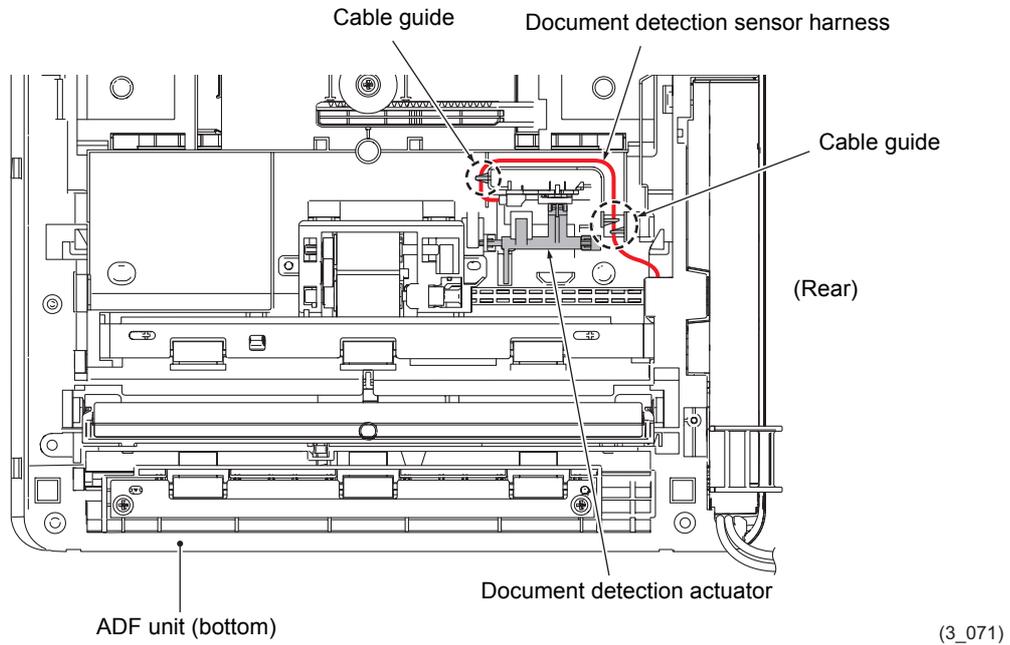
4   ADF unit top (only for models with ADF unit): ADF harness ASSY (ADF motor harness and ADF FG wire, Document detection sensor harness, Document scanning position sensor harness)

Document scanning position actuator

(Rear)

ADF unit

Cable guide

Document scanning position sensor PCB ASSY

Document detection sensor harness

ADF FG wire

Document scanning position sensor harness

ADF motor harness

ADF harness ASSY

(3_073)

Confidential
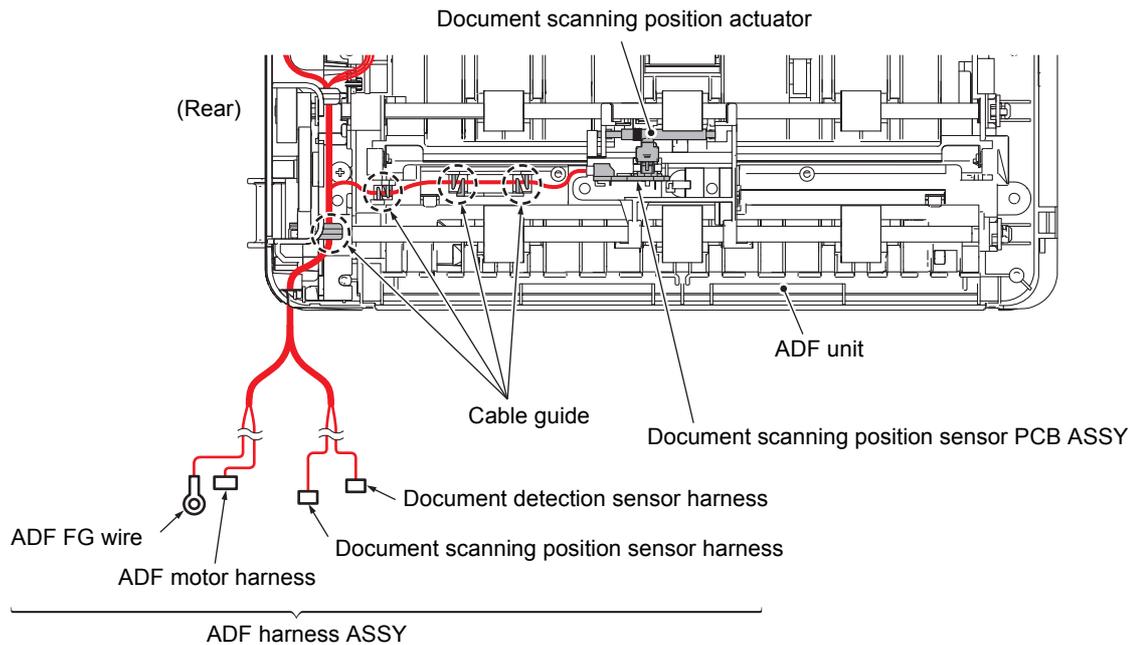
5 Lower cover upper left side: PF/Registration sensor harness ASSY, Power supply harness, Carriage motor harness, Paper feed motor harness

PF/registration sensor harness ASSY

Carriage motor harness

Carriage motor harness

Paper feed motor harness

PF/registration sensor harness ASSY

Main PCB ASSY

"z" part

"y" part

"x" part

Power supply harness

Power supply harness

Paper feed motor harness
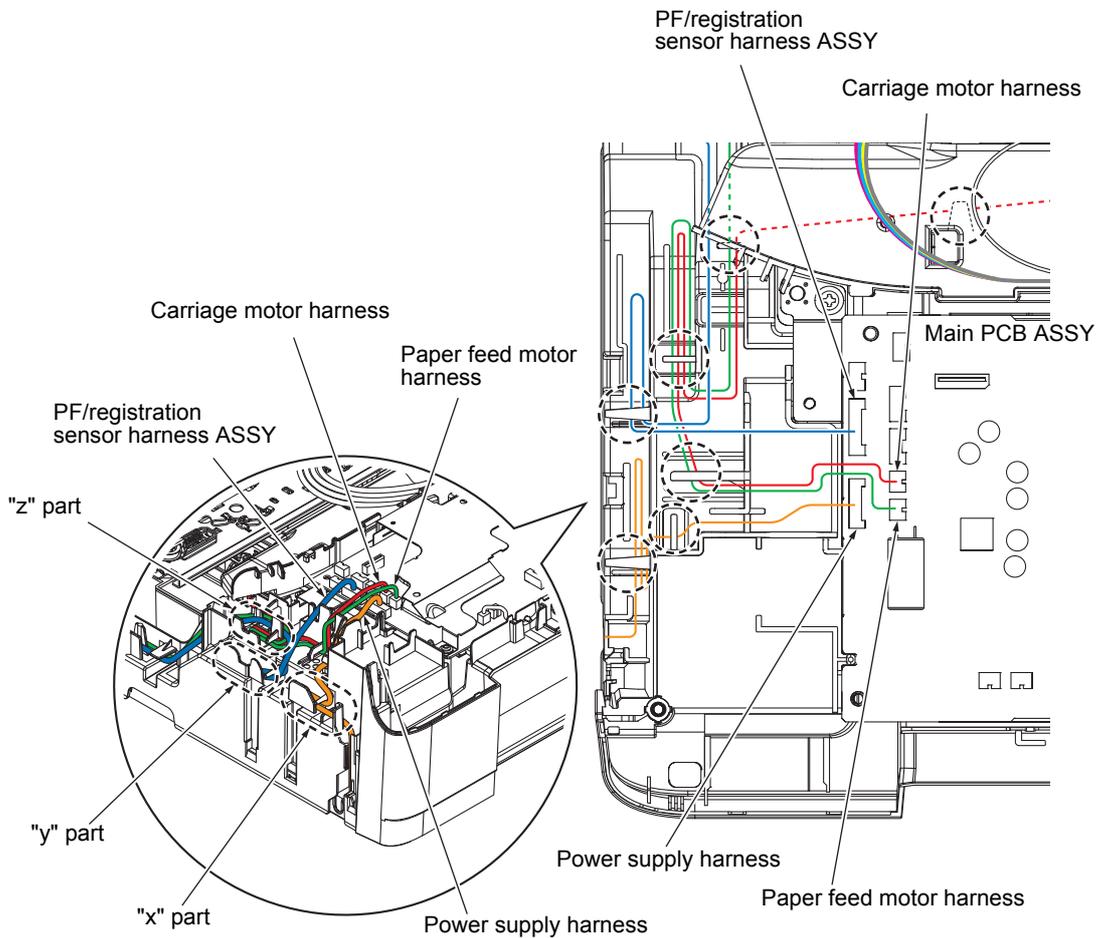
(3_007L)

Note • Bend the Power supply harness in "x" as shown above.

• Bend the PF/Registration sensor harness ASSY in "y" as shown above.

• Bend the Carriage motor harness and Paper feed motor harness in "z" as shown above.

Confidential

[100V]

[200V]

Power supply shield

Lower power
supply frame

Power supply harness

Power supply PCB

Power cord

PS PCB insulator

(3_084L)

[200V]

Ferrite core

Ferrite core

Power cord

Cable guide

Cable guide

FG wire

Power supply PCB

Power supply harness

Power supply shield

(3_085L)

Confidential

Bent part

Flat core

Carriage flat cable

Lower cover

Tube/Cable guide

Boss

Tube support wire

Cable guide

Tube support plate

Tube/Cable guide

Cable guide

(Rear)

(3_008L)

Tube/Cable guide

Cable guide

(Front)

Confidential

Lower cover

Sponge

Tube clamp (1)

Tube clamp (2)

Black

Yellow

Cyan

Magenta

Black

Tube guide

(Rear)

Tube support plate   Tube support wire elbow   Yellow

Cyan

Magenta

(3_009L)

Note Bind the ink supply tubes with the two tube clamps. Bind magenta, cyan, and yellow together from the bottom with tube clamp (1). Bind black, yellow, and cyan from the top with tube clamp (2).
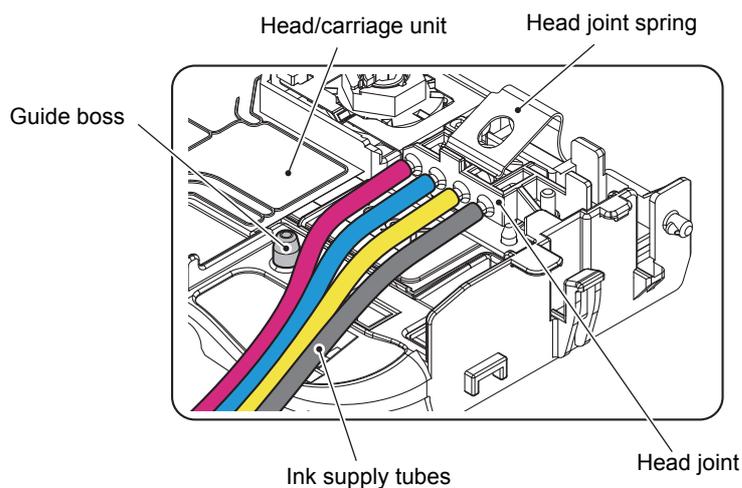
Head/carriage unit   Head joint spring

Guide boss

Ink supply tubes   Head joint

(3_010L)

Note Make sure that all of the four Ink supply tubes are routed in front of the guide boss as shown above.

9 Lower cover upper right side: Purge cam switch harness, Carriage motor harness, Speaker harness, Ink cartridge cover sensor harness

Ink cartridge
cover sensor harness

Purge cam switch harness

Carriage motor harness

"x" part
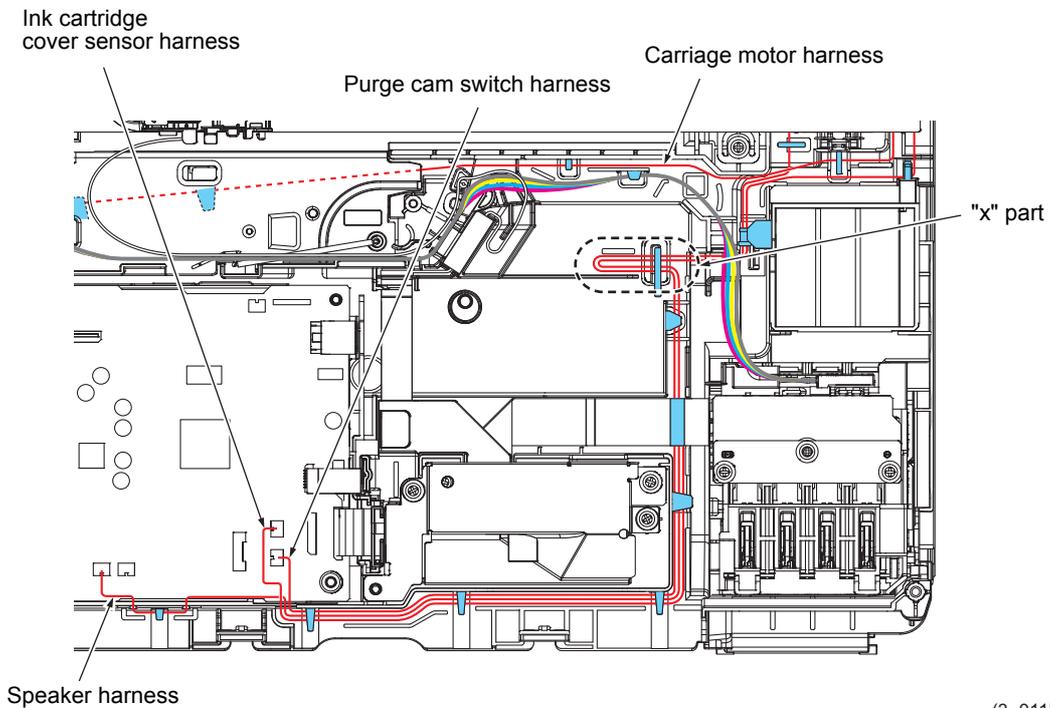
Speaker harness

(3_011L)

Note Bend the Purge cam switch harness and Speaker harness in "x" as shown above.

Confidential

10 Lower cover right side: Purge cam switch harness, Carriage motor harness, Speaker harness, Ink cartridge cover sensor harness

Carriage motor

Speaker harness

Purge cam switch harness

Ferrite core of
Carriage motor harness

(Right)

Carriage motor harness

Lower cover

Ink cartridge cover sensor harness

(Ink cartridge cover sensor ASSY)

(3_012L)

11　Lower cover left rear side: PF/Registration sensor harness ASSY (PF encoder sensor harness and Registration sensor harness), Paper feed motor harness

CR guide rail

PF encoder sensor PCB ASSY

PF encoder disk

[Part A]

PF/Registration sensor harness ASSY

Paper feed motor harness

PF encoder sensor harness

Registration sensor harness

PF/Registration sensor harness ASSY

[Part A]

Paper feed motor

Registration sensor harness

Ferrite core

Paper feed motor harness

(3_013L)

Cable guide

Registration sensor harness

Registration sensor holder

Registration sensor harness

Registration sensor PCB

(3_014L)

Carriage motor harness

Ink cartridge cover sensor harness

Ink supply tubes

PF/Registration
sensor harness

Power supply
harness

Paper feed motor harness

Purge cam switch harness

Speaker harness

(3_015L)

Confidential

8 DISASSEMBLY FLOW

■ Disassembly flowchart

Disassembly/reassembly time (seconds)

```
9.1 Paper tray          9.6 ADF               9.8 Ink cartridge      9.28 Paper pull-in
ASSY                    document support      cover                  roller
5/5                     5/5                   5/5                    20/20

9.29 Base pad on
Paper tray ASSY
10/10
```

```
9.4 Document                                    9.2 Jam clear cover    9.7 Control panel
scanner unit / ADF                              5/5                    ASSY
unit*1 Document                                                        15/15
cover ASSY*2          *1 For models with ADF
60/60                 *2 For models without ADF
```

```
9.6 ADF top cover    9.6 ADF top cover                              9.8 Upper cover       9.9 Document          9.7 Front center
front                rear                                           30/25                 scanner sensor        cover
10/5                 15/10                                                                15/15                 20/10
                                              9.5 CIS unit /
                                              CIS flat cable
                                              70/90
```

```
9.6 ADF cover        9.6 ADF back                                   9.10 Wireless LAN     9.17 CR encoder       9.7 Panel PCB
ASSY                 cover                                          PCB ASSY *3           strip                 ASSY
15/10                15/15                                          5/5                   10/20                 10/10
                                              9.6 ADF top cover
                                              center                *3 For Wireless
                                              15/10                 LAN model
```

```
9.6 ADF separation   9.6 Document                                   9.11 Main PCB         9.17 Encoder strip    9.7 Rubber key
pad holder ASSY      separate roller ASSY                           ASSY                  guard film            5/30
5/10                 20/20                                          45/115                10/20
                                              9.6 Document detection
                                              sensor PCB ASSY                                                   9.7 LCD unit
                                              15/20                                                             20/20
```

```
                     9.6 Document                                   9.12 MJ PCB ASSY                    A       9.7 Printed
                     scanning position                              60/60                                       panel cover
                     sensor PCB ASSY                                                                            20/20
                     10/10
```

```
                                                                    9.16 Ink absorber
                                                                    box
                                                                    5/5
```

```
                                                             B             9.16 Ink absorber felt
                                                                           (For Ink refill ASSY)
                                                                           5/5
```

```
                     9.3 Head/carriage
              B      unit / Head joint            A
                     rubber
                     80/80
```

```
9.20 Flushing base /    9.19 Carriage motor       9.3 CR timing belt    9.13 Power supply
Flushing box            ASSY                      10/20                 PCB ASSY
5/5                     10/10                                           45/60

9.21 Paper feed         9.25 Paper ejection       9.14 Carriage PCB     9.18 PF encoder
motor                   roller ASSY               ASSY                  disk / PF encoder
60/70                   60/55                     30/50                 sensor PCB ASSY
                                                                        10/15

9.23 Paper feed         9.26 Registration         9.15 Ink refill ASSY  9.27 Ink cartridge
roller                  sensor PCB ASSY           60/60                 cover sensor
25/25                   45/40                                           ASSY
                                                                        45/60
9.24 Platen ASSY                                          B
10/10
```

```
                        9.22 Maintenance
                        unit / Ink absorber felt
                        (For Maintenance
                        unit)
                        15/20
```

Confidential

9 DISASSEMBLY PROCEDURE

9.1 Preparations

[1] Transferring Received FAX Data

When the product needs to be repaired, received FAX data if left in the unit for repair are lost when the Power cord is unplugged from the electrical outlet.

To prevent data loss, you can transfer remaining fax files inside the unit to another fax machine or PC. The service personnel must instruct the user on the phone to follow the procedure below and guide the user on how to transfer data.

Note The number of fax data files that can be transferred at a time is 99. To transfer more than 100 fax data files, the user needs to perform the procedure below as many times as necessary.

Tip If there are both color and monochrome files to be transferred, the monochrome data will be transferred first. If the receiving machine does not support color data, the sending machine will not be able to transfer color data and will receive an error.

Transferring fax data to another fax machine

■ Operating Procedure

(1) Press the [Stop/Exit] key to close the error message (if displayed).

(2) Press the [Menu] key.

(3) Press [▲] or [▼] to choose "Service". Press [OK] key.

(4) Press [▲] or [▼] to choose "Data Transfer". Press [OK] key.

(5) Press [▲] or [▼] to choose "Fax Transfer". Press [OK] key.

(6) If a fax number entry screen appears, there are fax messages in the memory. Enter the fax number to which the fax messages would be forwarded.

(7) Press the [Black Start] key.

<u>Transferring faxes to a PC</u>

■ **Operating Procedure**

The following procedure is done on the fax machine and your PC.

(1) Press the [Stop/Exit] key to close the error message (if displayed).

(2) Press [▲] or [▼] to choose "Fax". Press [OK] key.

(3) Press [▲] or [▼] to choose "Set up Receive". Press [OK] key.

(4) Press [▲] or [▼] to choose "Memory Receive". Press [OK] key.

(5) Press [▲] or [▼] to choose "PC Fax Receive". Press [OK] key.

(6) The LCD shows the message "Run PC-Fax on your computer". Press [OK] key.

(7) <Windows XP, Windows Vista and Windows 7>
From your PC's Start Menu, select [All Programs] → [Brother] →
[(Model Name) MFC-XXXX] → [PC-FAX Receiving] → [Receive].

<Windows 8>
From your PC's Brother Utilities, click the drop-down list and select your model name
(if not already selected), click [PC-FAX Receive] in the left navigation bar, and then
click [Receive].

(8) Press [OK].

(9) Press [Stop/Exit].

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

Perform the following steps before disassembly.

(1) Disconnect the following:

- Power cord (for 200V models)
- Telephone line cord
- USB interface cable (when connected)
- External telephone line modular jack (when connected) (When not connected, remove the EXT cap.)

(2) Remove the Paper tray ASSY.
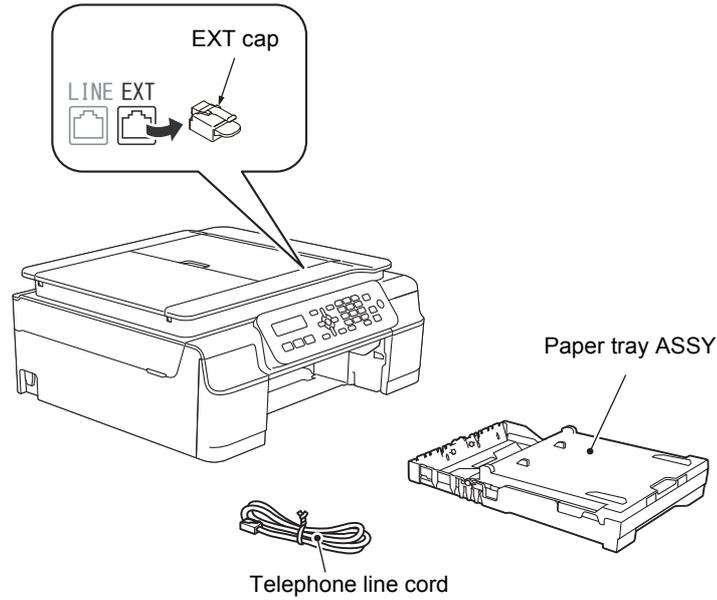
(3_016L)

(3) <Ink Cartridge Model only>
     Remove the Ink cartridge and attach the Protective part.
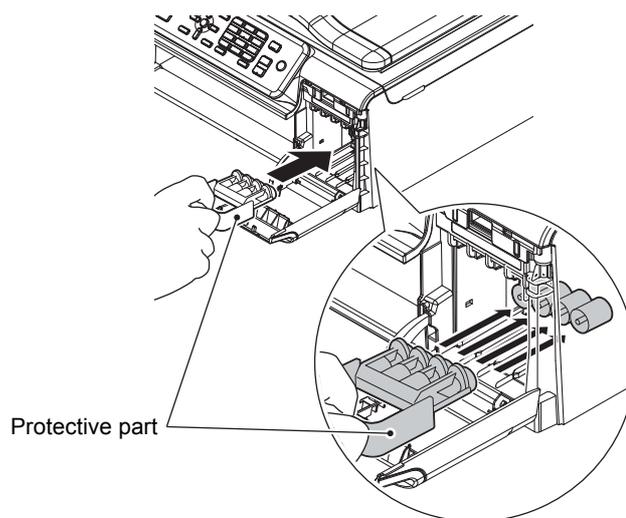
(3_017L)

9.2 Jam Clear Cover

(1) Open the Jam clear cover.

(2) Lightly push the right edge of the Jam clear cover (viewed from the rear) inwards using a flathead screwdriver, release the boss, then release the Jam clear cover.

(Rear)

Jam clear cover

Boss
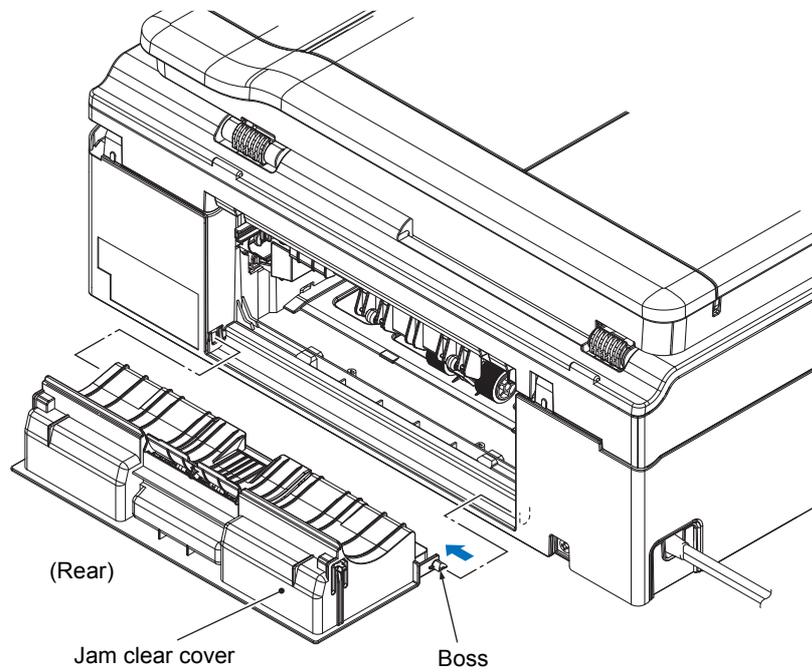
(3_018L)

Confidential

9.3 Head Joint Rubber / CR Timing Belt / Head/Carriage Unit

During disassembly, leave the Head/carriage unit attached to the machine except when removing the Ink refill ASSY or Engine unit (including the Maintenance unit).

\<Ink Cartridge Model only\>
When removing the Head/carriage unit, Ink refill ASSY or Engine unit, you need to remove beforehand all four Ink cartridges and set the Protective part instead (refer to page 3-25). Insert the Protective part firmly until it hooks on to the right side to prevent ink from leaking from the Ink supply tube and staining the machine.

Note • When replacing the Head/carriage unit, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on the flat cables.

• During the removal or installation job for the Head/carriage unit, take care not to contaminate the CR encoder strip or PF encoder disk with ink or grease.

(1) Plug the Power cord into an electrical outlet.

(2) Enter Maintenance mode, then enter [6], [3], [Mono Start], and [*] in that order; the Head/carriage unit automatically moves to the position shown in the figure.

(3) Open the Document scanner unit until it locks.

Document scanner unit

Head/carriage unit

Scanner cover support
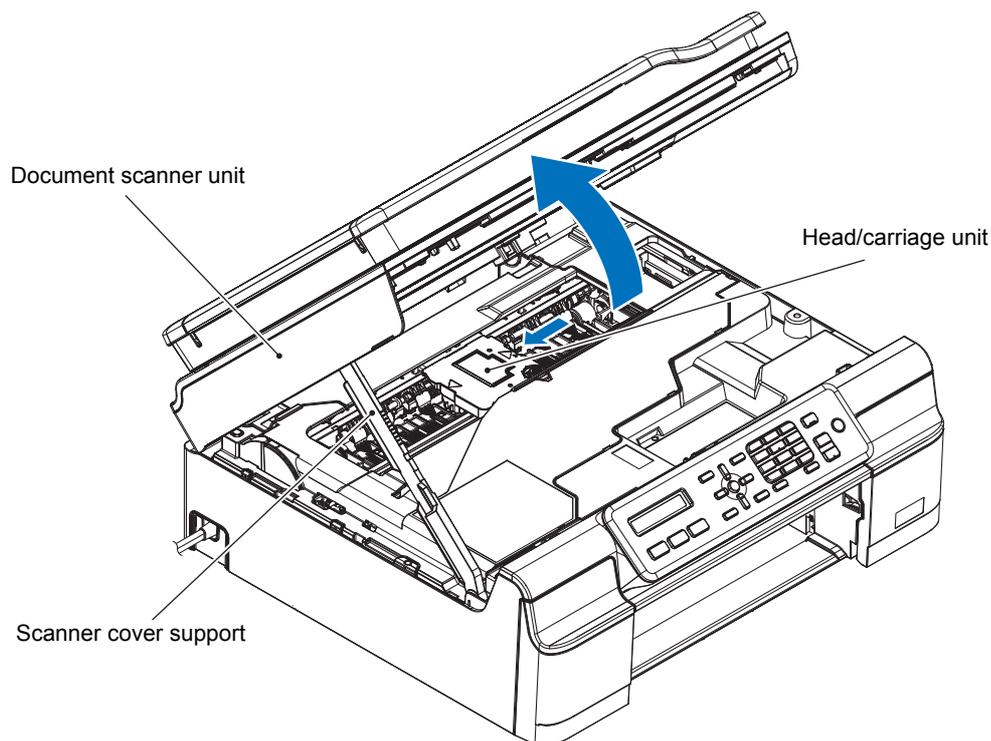
(3_019L)

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Note After step (2), perform the following steps below if the Head/carriage unit does not move.

1) After performing steps (4) to (7), rotate the Pull-in feed roller gear towards you until it clicks and the Head lock is released.

2) Manually move the Head/carriage unit to the position indicated in the figure.

Pull-in feed roller gear

Head/carriage unit
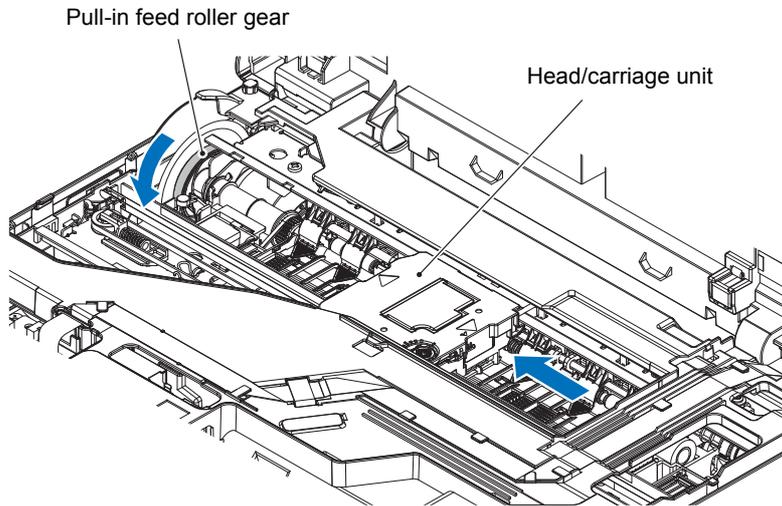
(3_020L)

(4) Unplug the Power cord from the electrical outlet.

(5) Support the Document scanner unit by hand, pull the hook at the rear end of the Scanner cover damper to the front, and remove the damper from the Document scanner unit.

Note When the Jam clear cover is not removed in 9.2, open it first.

Scanner cover damper

Hook

Document scanner unit

Scanner cover support
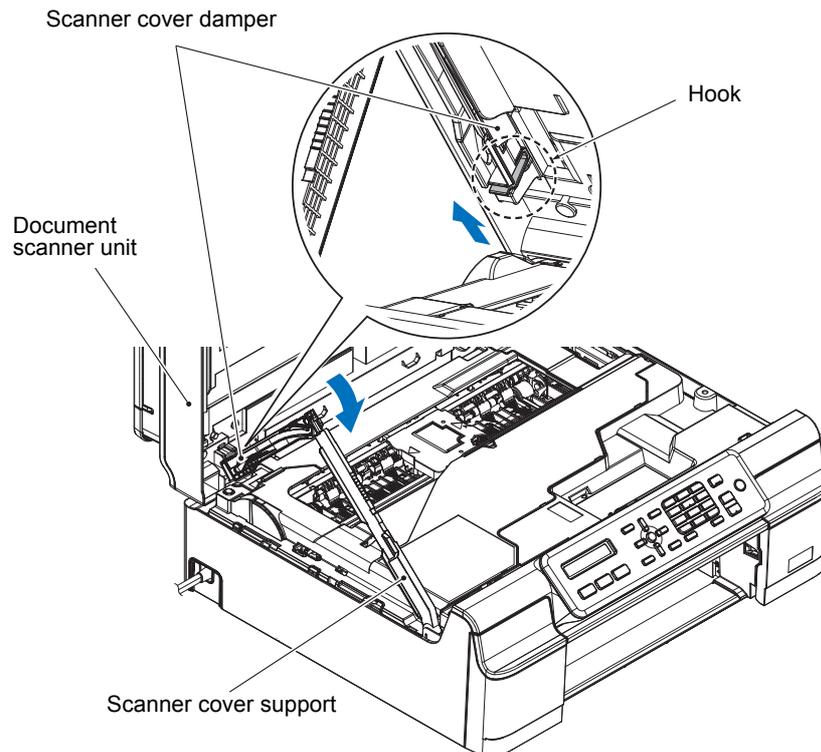
(3_021L)

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(6) Turn the Scanner cover support upright and pull it out upward.

Document scanner unit

Scanner cover support
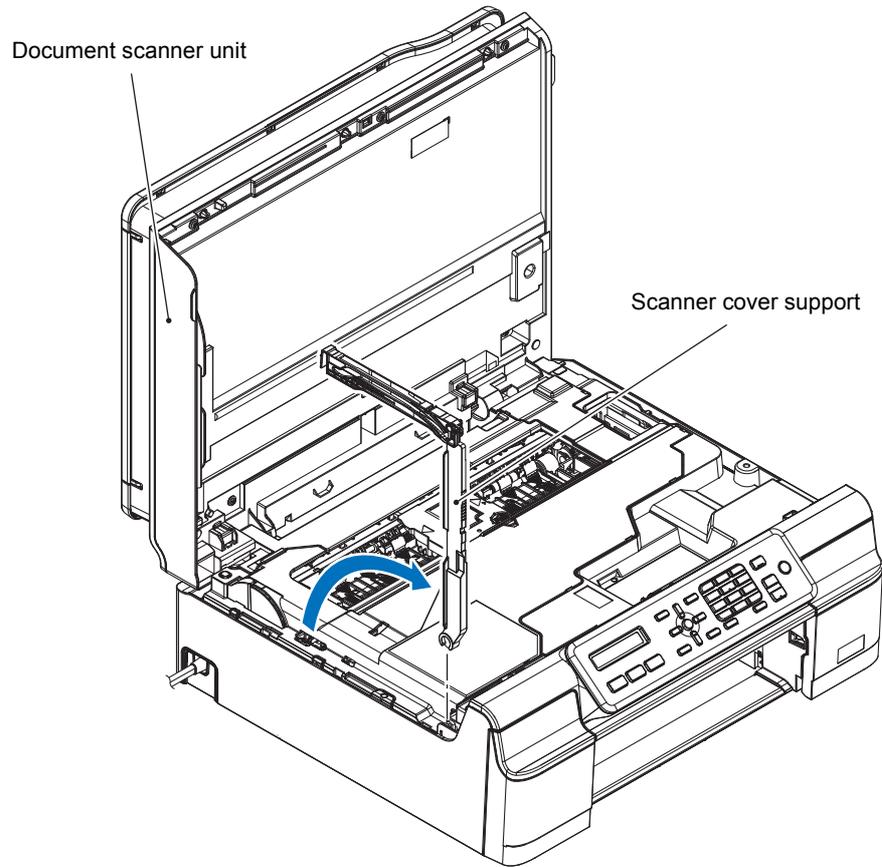
(3_022L)

Confidential

(7) Release hook ① and ② of the Harness cover then release hook ③ by lightly inserting a flathead screwdriver. Next, release tab ④ , then while moving it to the left, release hook ⑤ .

Note Follow the order illustrated below when removing the Harness cover. Not doing so may damage the Upper cover hooks.
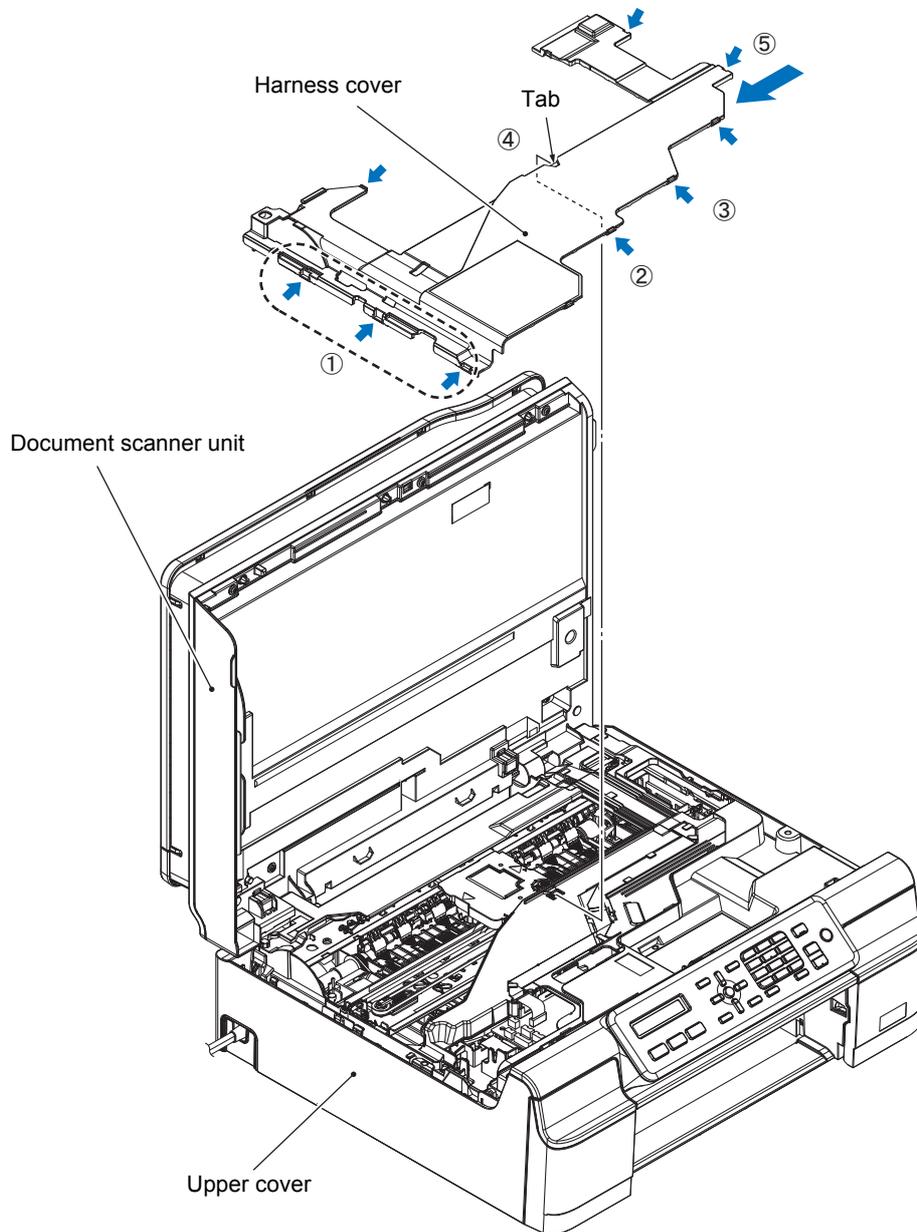
(3_023L)

Confidential

(8) Move the Head/carriage unit to the left end of its travel by hand (to a position where the entire Head/carriage unit can be seen).

Head/carriage unit
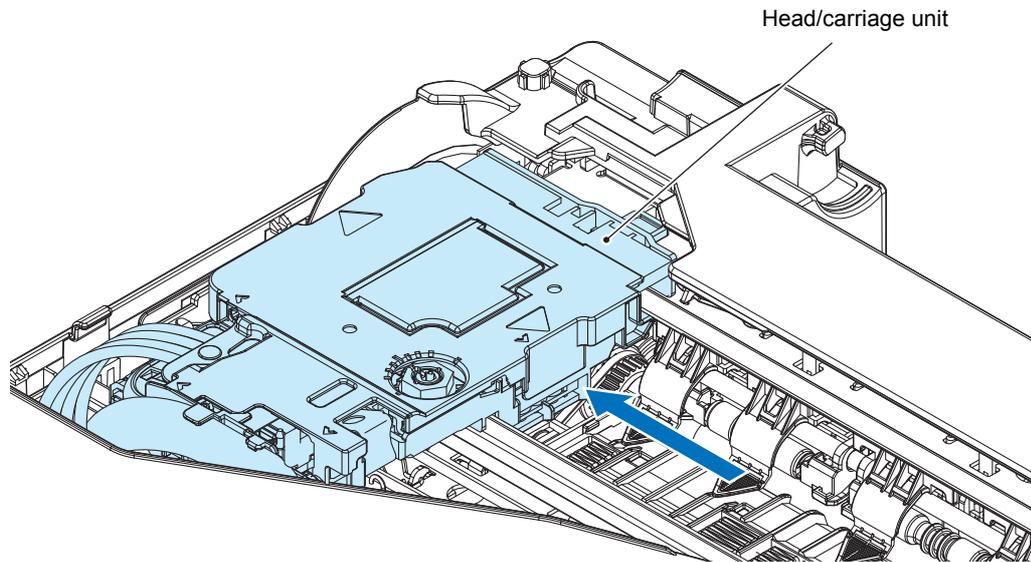
(3_024L)

(9) Release the four latches with the ▲ mark on the Head cover, and then remove the Head cover.

Head cover

Tab

Latch

Latch

Latch
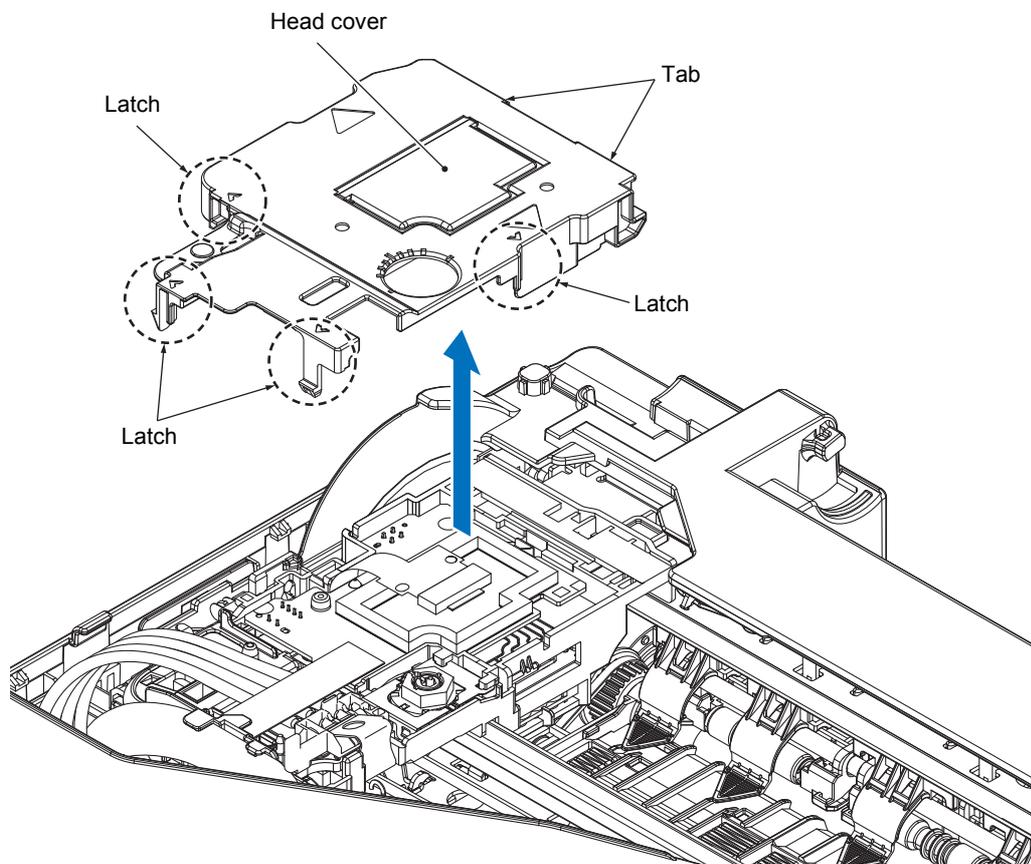
(3_025L)

Confidential

(10) Unlock the connector on the Carriage PCB and disconnect the Head flat cable.

Note After disconnecting the flat cable, check that each cable is not damaged at its end or short-circuited. When connecting the flat cable, do not insert it at an angle. Lock the connector, after confirming that the cable is not at an angle.

(11) Release the spring lock and slightly raise the Carriage PCB. Next, remove the Carriage flat cable from the Cable guide of the Head/carriage unit (refer to the illustration in page 3-39) and release the boss from the opening in the film (refer to the illustration below).

(12) Take the Carriage PCB ASSY out of the Head/carriage unit and put it on the Upper cover in front of the Head/carriage unit.
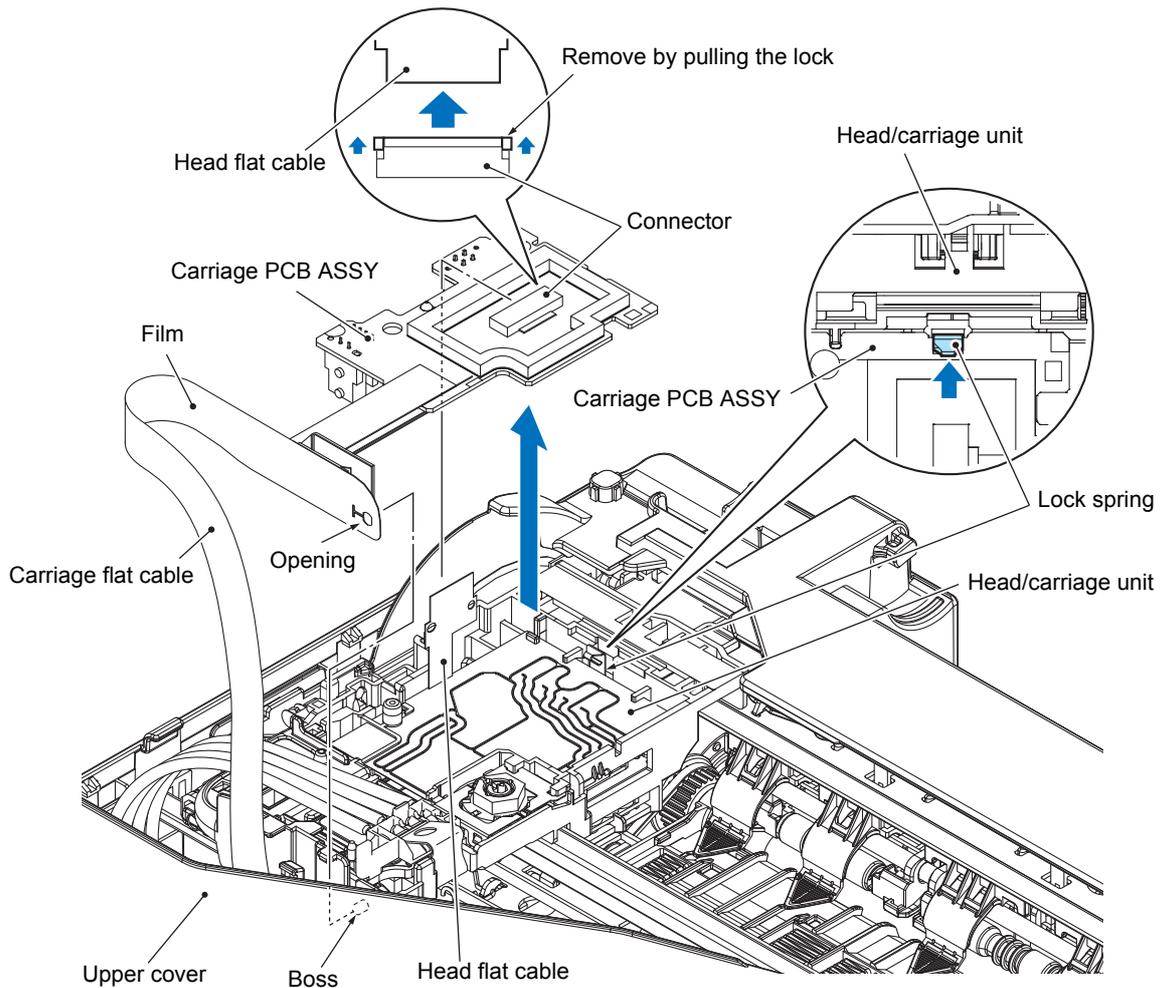
(3_026L)

(13) Pull out the Head joint spring to the right.

(14) Pull the Head joint up and off the Head/carriage unit. Immediately, wrap the Head joint in a clean, lint-free 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.

Note Wipe off the ink remaining on the section where the Head joint was mounted with a clean, lint-free cloth.

(15) Remove the Head joint rubber (that is a part of the Head/carriage unit but may come off with the Head joint) and put it on a clean vinyl sheet while taking care not to contaminate it.
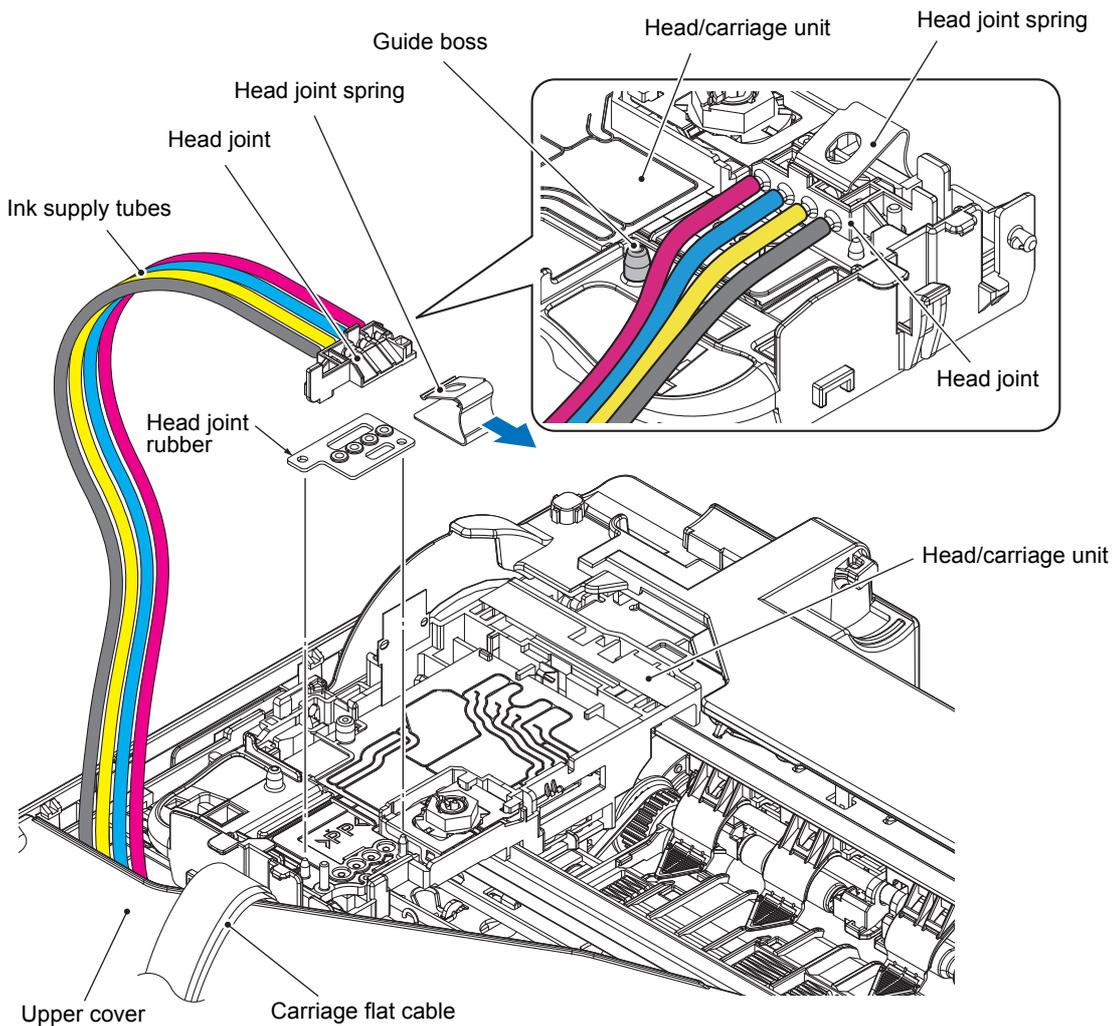
(3_027L)

Assembling Note Make sure that all of the four Ink supply tubes are routed in front of the guide boss as shown above.

(16) Move the Head/carriage unit slightly to the right as shown below.

(17) While pressing the Idle pulley holder to the right, remove the CR timing belt from the Carriage motor pulley and the Idle pulley.

Note When removing the CR timing belt, do not touch the CR encoder strip or the lubrication area on the Engine unit with your hands or with the CR timing belt.
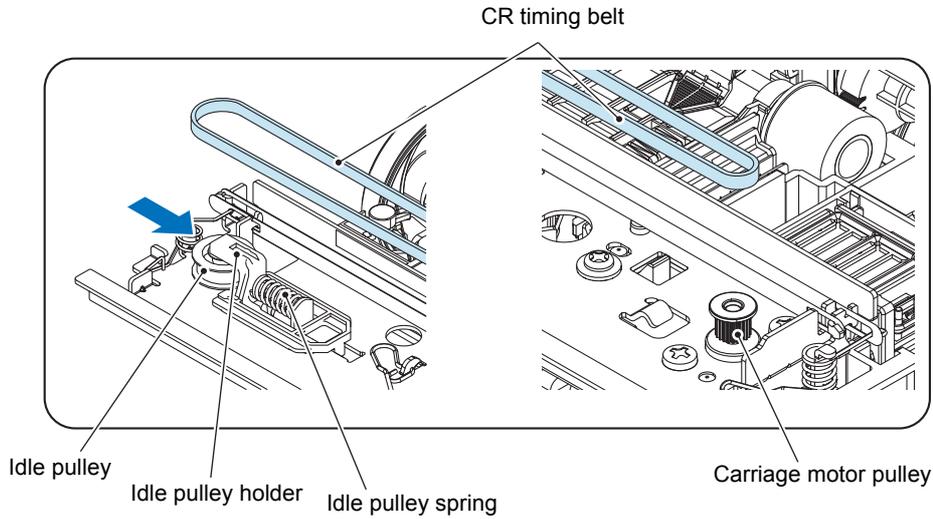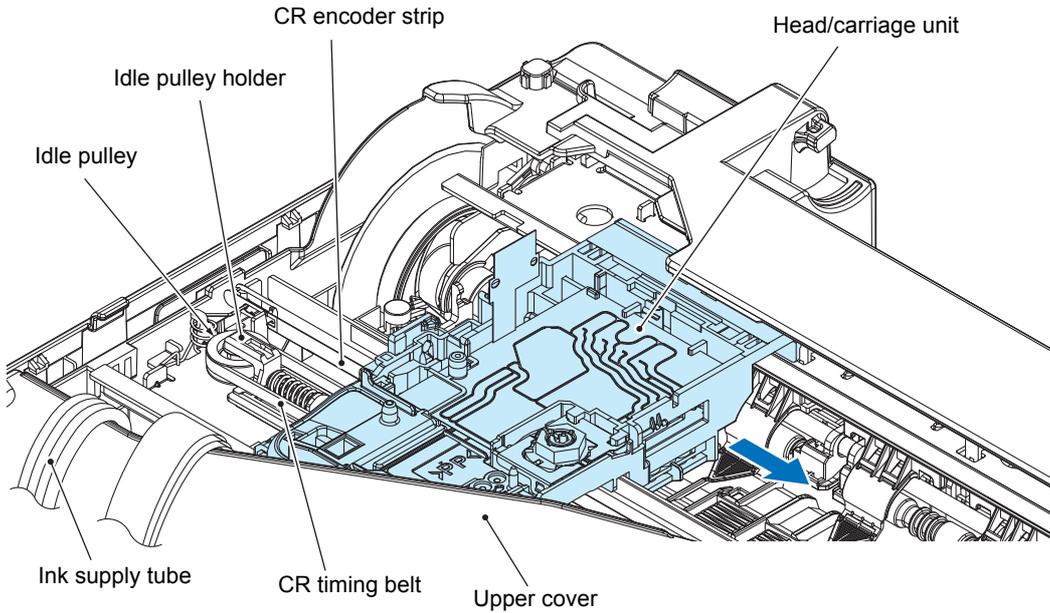
(3_028L)

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

(19) Move the Head/carriage unit to the left side until it meets the (two) CR guide rail notches.

(20) Remove the Encoder lock by turning it 90 degrees.

Notches

CR guide rail

Head/carriage unit

Encoder lock

Hook

CR timing belt

Encoder lock
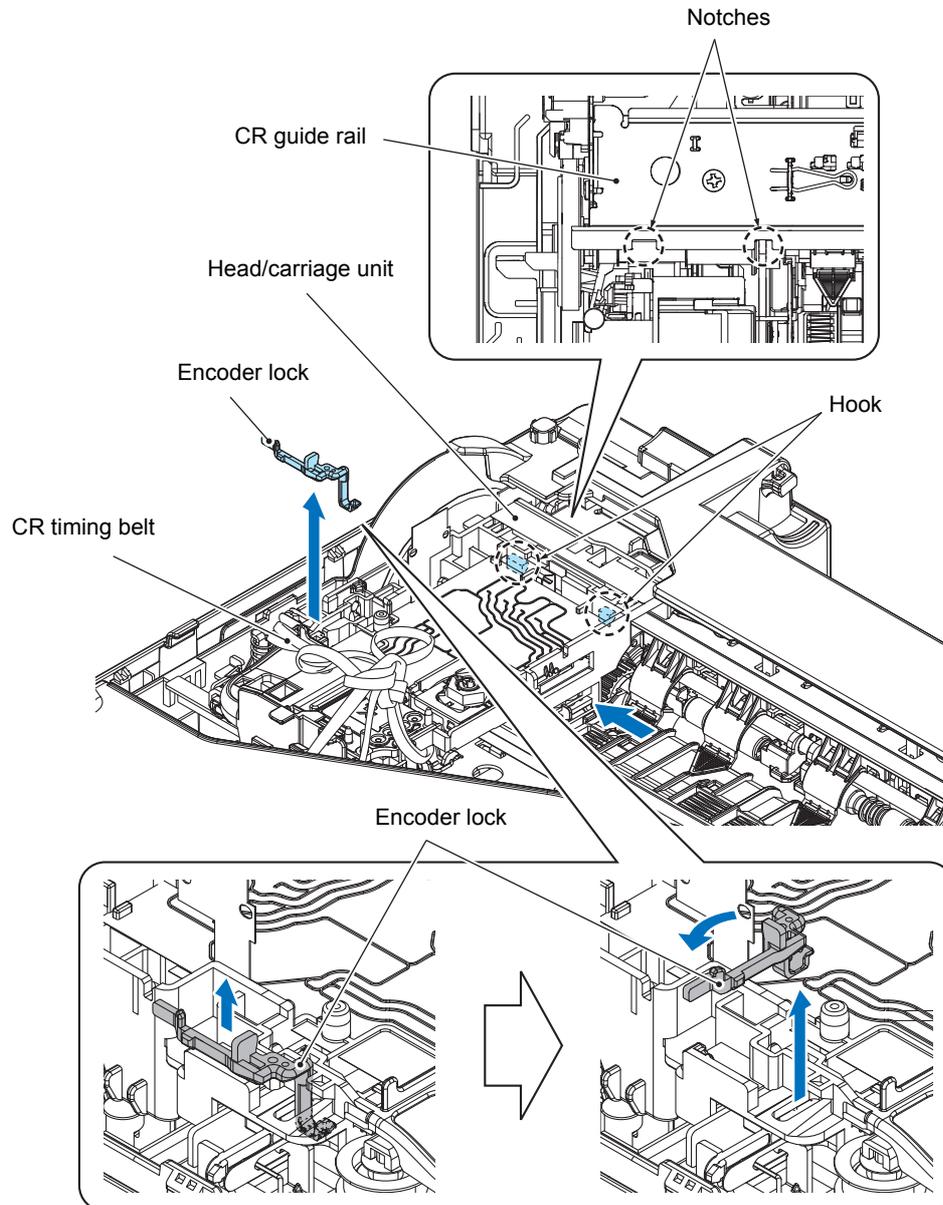
(3_029L)

Confidential

(21) Slightly lift the rear end of the Head/carriage unit and detach it from the (two) CR guide rail notches. Next, detach the front end from the CR frame to completely remove the Head/carriage unit.

Note Do not touch the head nozzles (the printing ends) or ink supply ports (to which Ink supply tubes are connected) of the print head. Doing so will not only stain your hands with ink but also damage the nozzles and supply ports. If you accidentally touch them, perform head cleaning.

Head/carriage unit

Notches

CR guide rail

CR timing belt

CR frame

(3_030L)
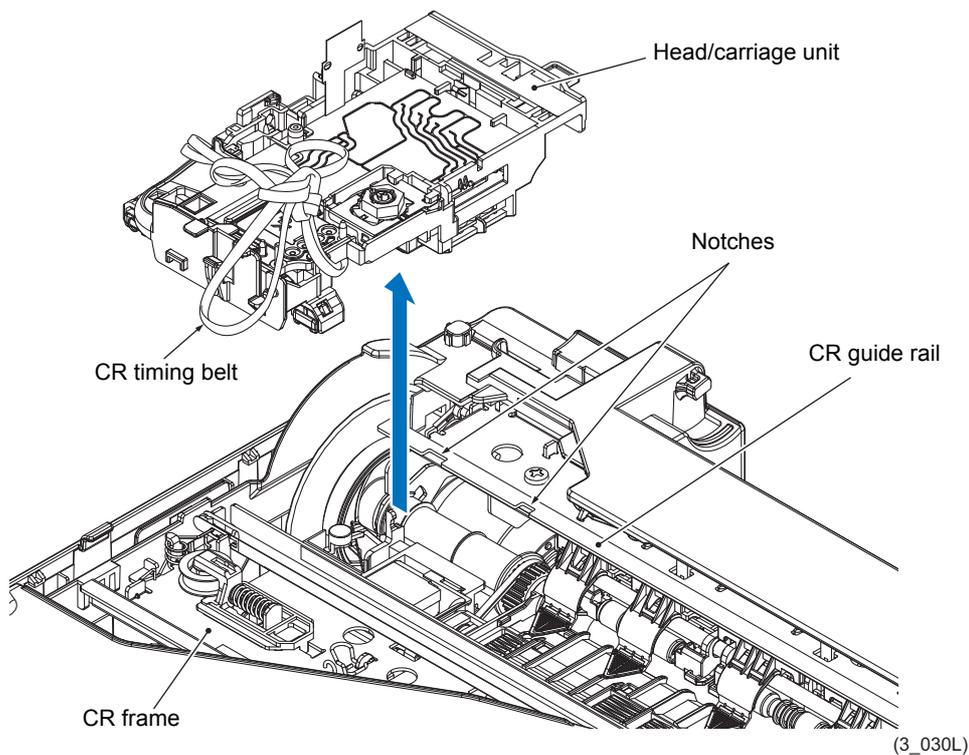
(22) Remove the CR timing belt from the Head/carriage unit.

Note When storing a removed Head/carriage unit for a long period, put it correctly inside the Head casing as shown below. Storing the Head/carriage unit outside the Head casing for a long period will dry the print nozzles and ink supply ports and will deteriorate the performance of the head.

Latch

Head casing (upper)

Joint cap

Head joint rubber

Head/carriage unit

Head casing (lower)
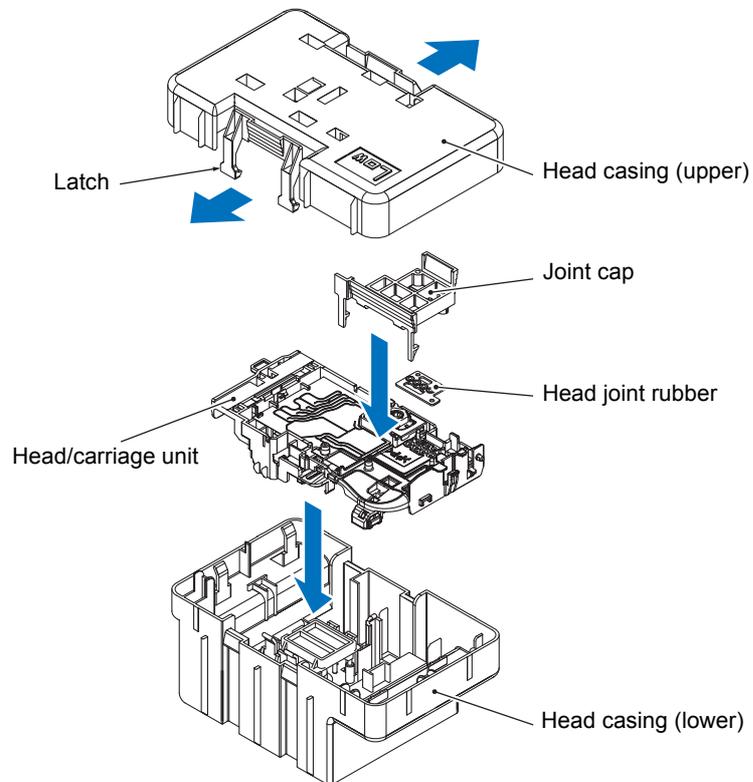
(3_031L)

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 5 of this chapter.

2) Insert the CR timing belt into the Head/carriage unit with the belt teeth positioned on the inside. Confirm that the belt is fitted under the latches.

Bottom view

Latch

CR timing belt
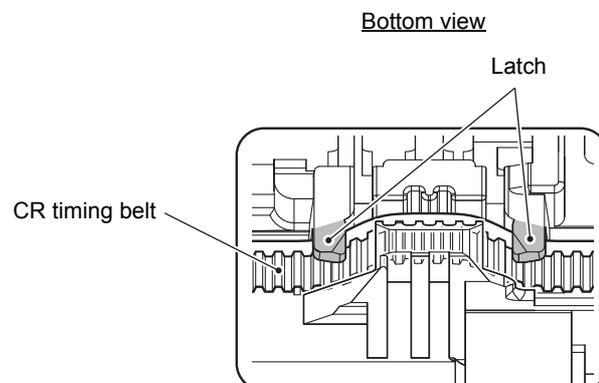
(3_032L)

3) First fit the front end of the Head/carriage unit over the CR frame and then set the rear end onto the CR guide rail.

Make sure that the two points (see figure below) on the front side of the Head/carriage unit bottom are firmly hooked to the front end of the CR frame and that the bosses of the bottom rear side are properly fitted into the two notches of the CR guide rail (refer to).

Bottom view
Bottom rear side bosses

Head/carriage unit

Hook   Hook

(3_033L)
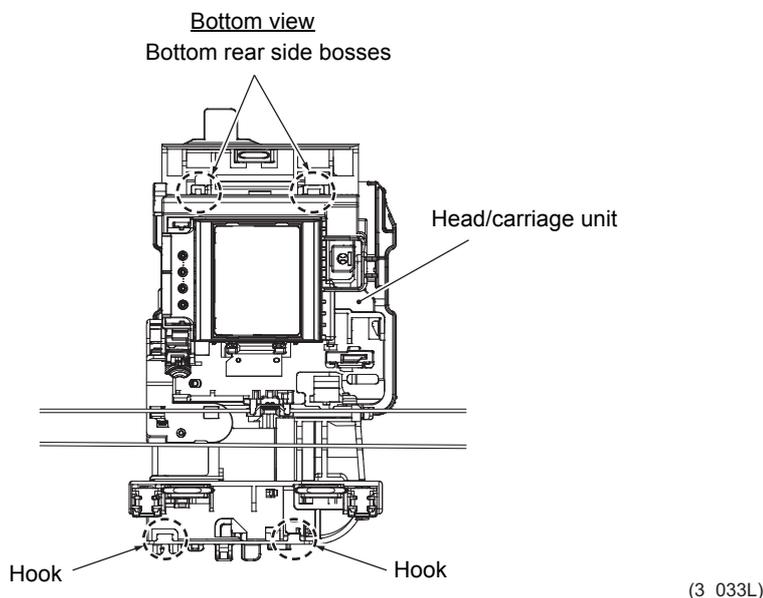
4) Attach the encoder lock. Make sure that the encoder lock latch is under the encoder.

Encoder lock

Encoder

(3_034L)
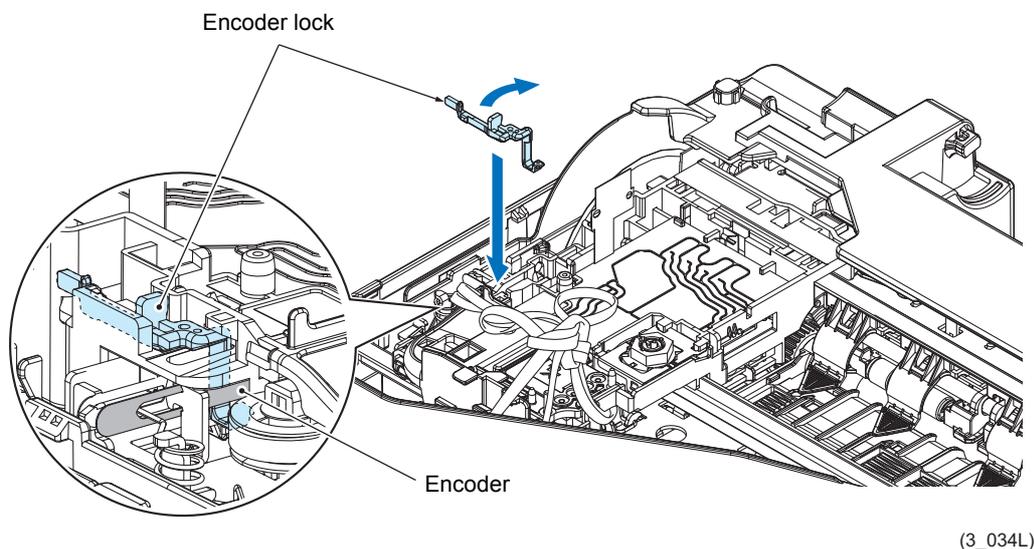
5) Slide the Head/carriage unit by hand to check if it moves smoothly.

6) Release the bound CR timing belt and attach it to the Idle pulley on the left edge first. Then, while pressing the Idle pulley holder to the right, attach the belt to the Carriage motor pulley on the right edge. (Refer to)

7) Slide the Head/carriage unit by hand to check that it smoothly moves to the right and left ends of its travel.

Confidential

8) Set the Head joint rubber on top of the Head/carriage unit and fix the Head joint in place using the Head joint spring. (Refer to page 3-33)

9) Mount the Carriage PCB ASSY on the Head/carriage unit, route the Carriage flat cables through the Cable guide, fit the opening provided in the film over the boss on the Head/carriage unit, and insert the film inside the hook as shown below.

10) Fix the Carriage PCB ASSY with the lock spring.

11) Connect the Head flat cable on top of the Carriage PCB and lock the connector.
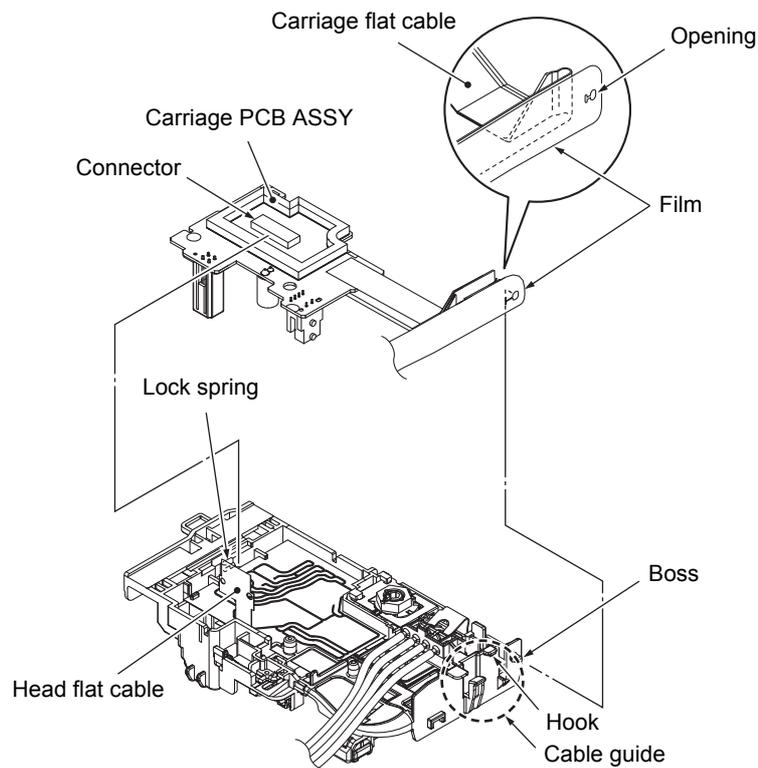
(3_035L)

12) Attach the Head cover.

13) When mounting a new Head/carriage unit, apply lubricant on the sliding surface (CR guide rail and CR frame) on top of the Engine unit, as specified in Section 5 of this chapter.

14) Check if the CR encoder strip and PF encoder disk are free of grease and ink. If they are stained with grease or ink, replace them.

15) Slide the Head/carriage unit by hand to check if it moves smoothly to the right and left ends of its travel. At the same time, check if the Ink supply tubes and Carriage flat cables are not twisted.

16) If a new Head/carriage unit is mounted, make adjustments specified in Chapter 4, Section 2.

Confidential

9.4 Document Scanner Unit / ADF Unit (Models with ADF) / Document Cover ASSY (Models without ADF)

Note When the Jam clear cover is not removed in 9.2, open it first.

(1) Unplug the CIS flat cable from the Main PCB ASSY. Next, extend the lock arm of the Upper cover towards you, take out the Flat core and remove it from the CIS flat cable.

Note After disconnecting the flat cable, check that each cable is not damaged at its end or short-circuited. Insert the flat cable straightly. After it is inserted, confirm that the cable is not skewed.

(2) Remove the CIS flat cable from the Cable guide.

(3) Remove the TAPTITE CUP S M3x6 screws, and disconnect the Document scanner FG wire and ADF FG wire[1].

*1 For models with ADF

Document scanner unit

CIS flat cable

TAPTITE CUP S M3x6 *1

Flat core

Upper cover

ADF motor harness*1

Document scanner motor harness

Document detection sensor harness*1

Document scanner FG wire

Cable guide

ADF FG wire*1

Main PCB ASSY.

Document scanning position sensor harness*1 Lock arm
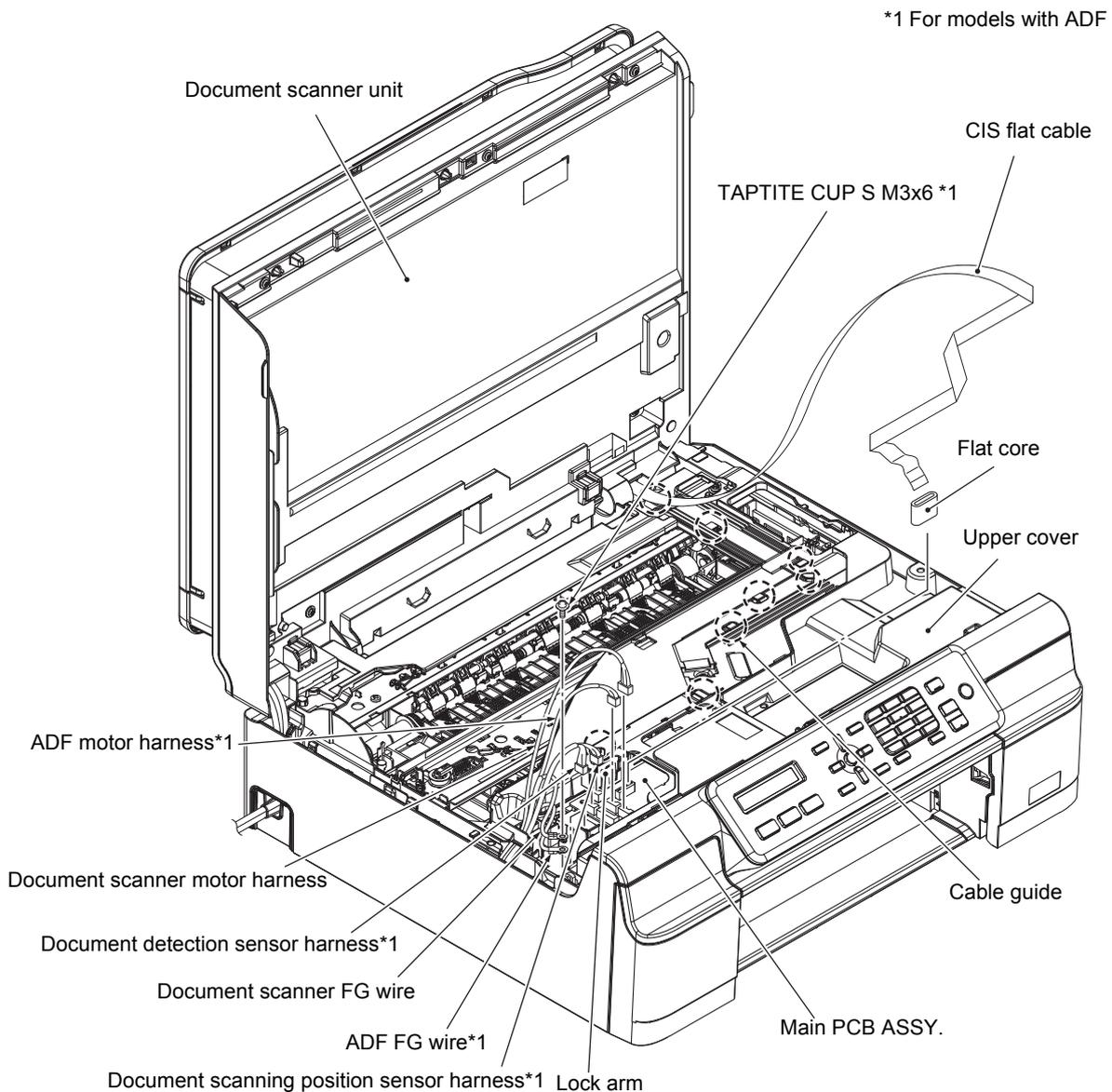
(3_036L)

(4) Unplug the following harnesses from the Main PCB ASSY:
- ADF motor harness (4-wire) [*1]
- Document scanning position sensor harness (3-wire)[*1]
- Document detection sensor harness (3-wire)[*1]
- Document scanner motor harness (4-wire)

Document detection sensor harness

ADF FG wire & Document scanner FG wire

Document scanning position sensor harness

CIS flat cable

ADF motor harness

Document scanner motor harness
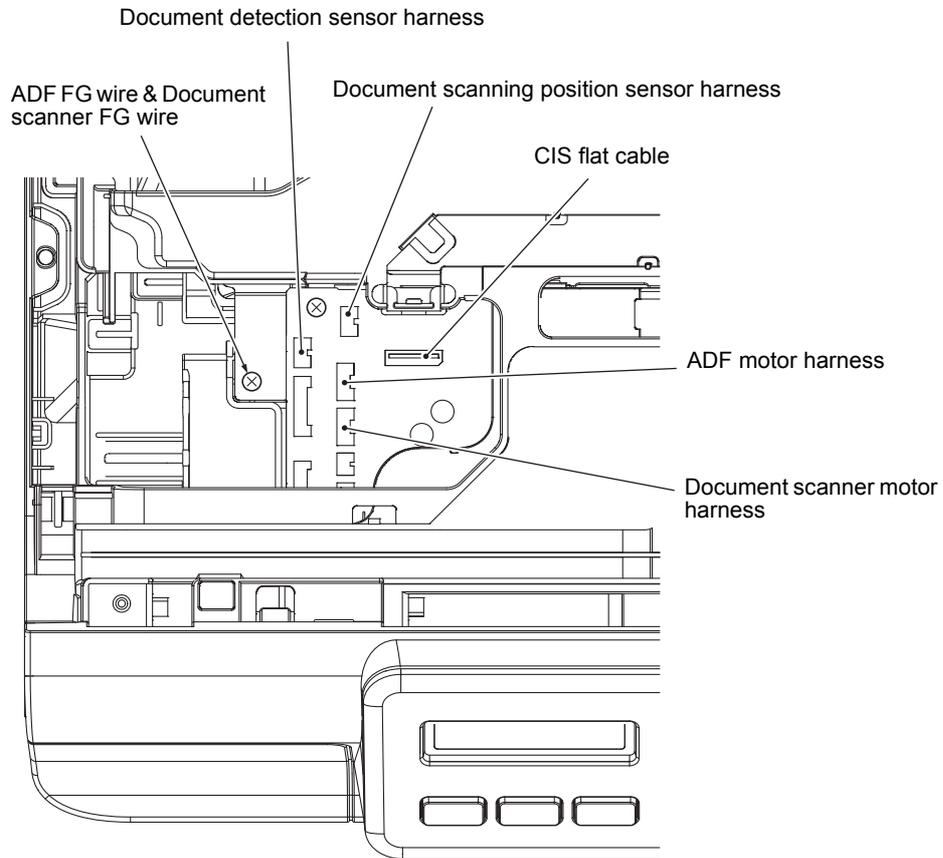
(3_091L)

(5) **<Models with ADF>** Remove the Document detection sensor harness[1], Document scanning position sensor harness[1], and ADF motor harness[1] from the Upper cover leftmost end.

(6) Remove the Document scanner motor harness, ADF FG wire[1], and Document scanner FG wire.

[1] For models with ADF
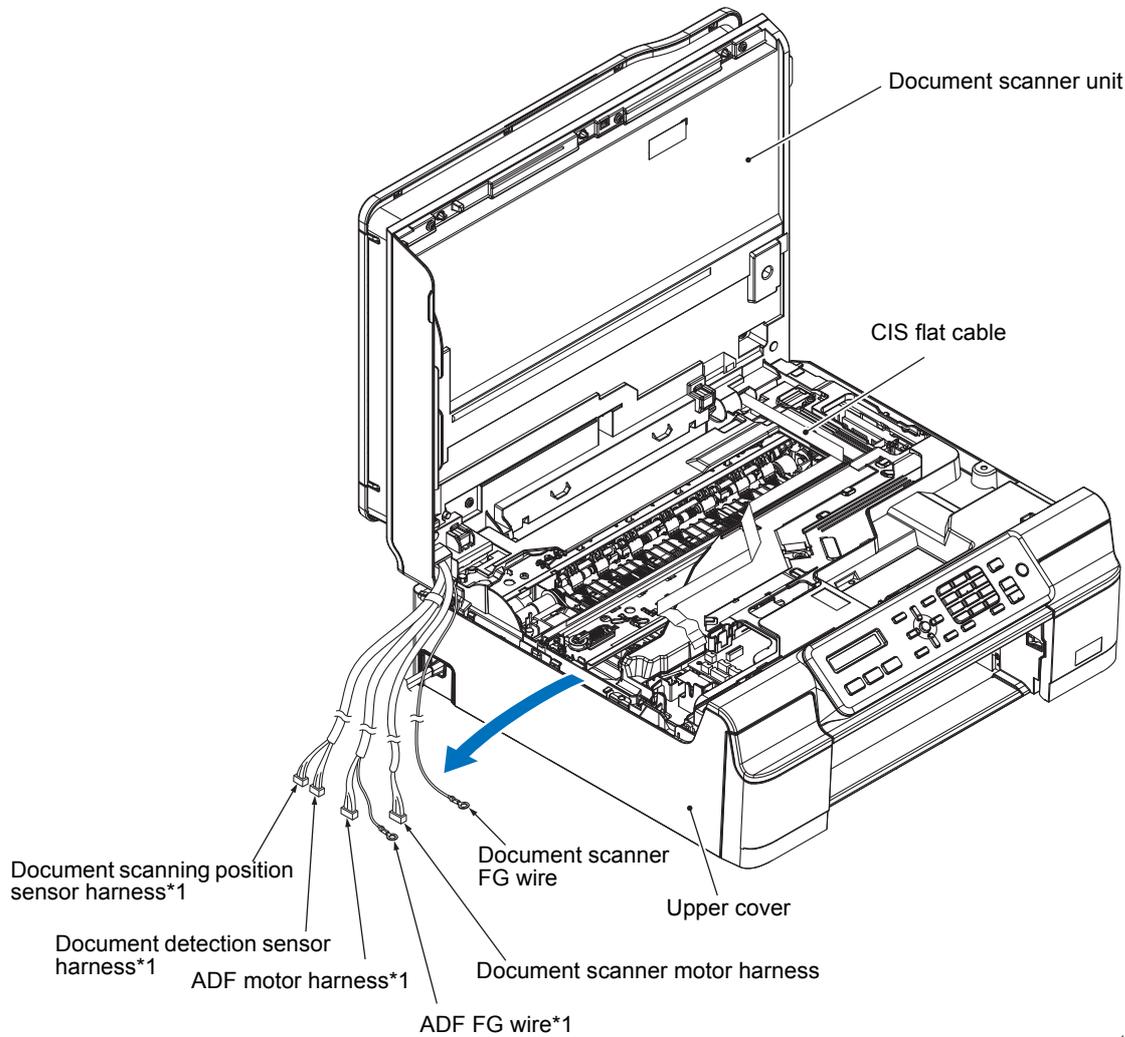
(3_037L)

Assembling Note Route the Document scanning position sensor harness and Document detection sensor harness, and then route the Document scanner FG wire, Document scanner motor harness, ADF motor harness[1], and ADF FG wire[1]. (Refer to the figure in Section 7-1 of this chapter)

(7) Open the Document scanner unit at around 90 degrees then pull it backwards.

*1 For models with ADF
*2 For models without ADF

ADF unit*1
Document cover ASSY*2

Document scanner unit

CIS flat cable

Document scanning
position sensor
harness*1

Document scanner
FG wire

Document scanner
motor harness

Document detection
sensor harness*1

ADF FG wire*1

ADF motor harness*1

(3_038L)
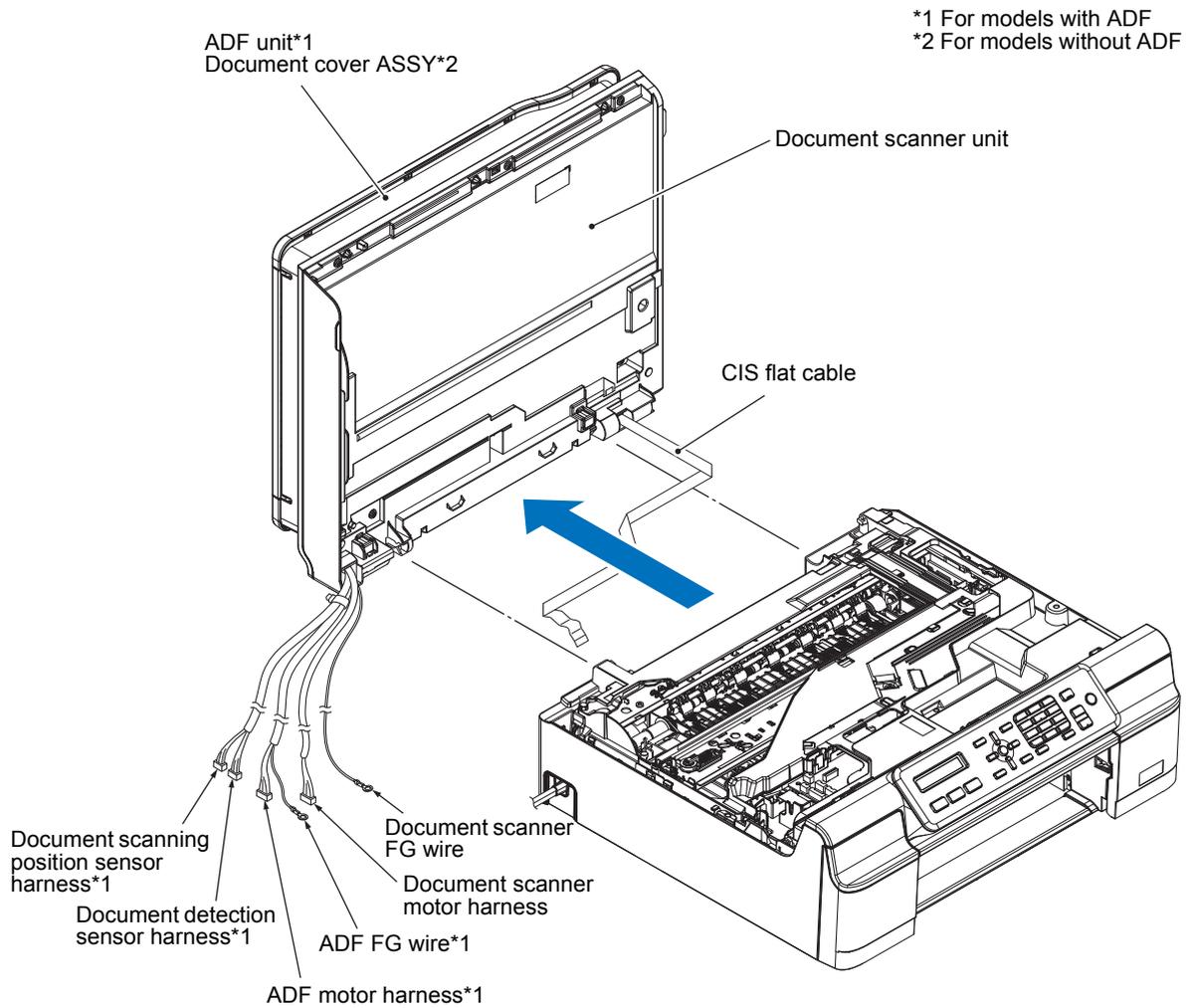
(8) Open the ADF unit[*1] or Document cover ASSY[*2] at around 90 degrees, release the two latches, then pull it backwards.

Assembling Note When mounting the ADF unit onto the Document scanner unit, insert a 2 to 3 cm thick magazine or paper bundle in between to ensure the movement of harnesses. Do not place objects that can scratch or stain the Document cover glass.

(9) Turn the ADF hinge slightly and remove it from the ADF unit[*1] or from the Document cover ASSY[*2].

*1 For models with ADF
*2 For models without ADF

ADF unit*1
Document cover ASSY*2

ADF hinge

ADF hinge

Latch

Document scanner unit

(3_054)
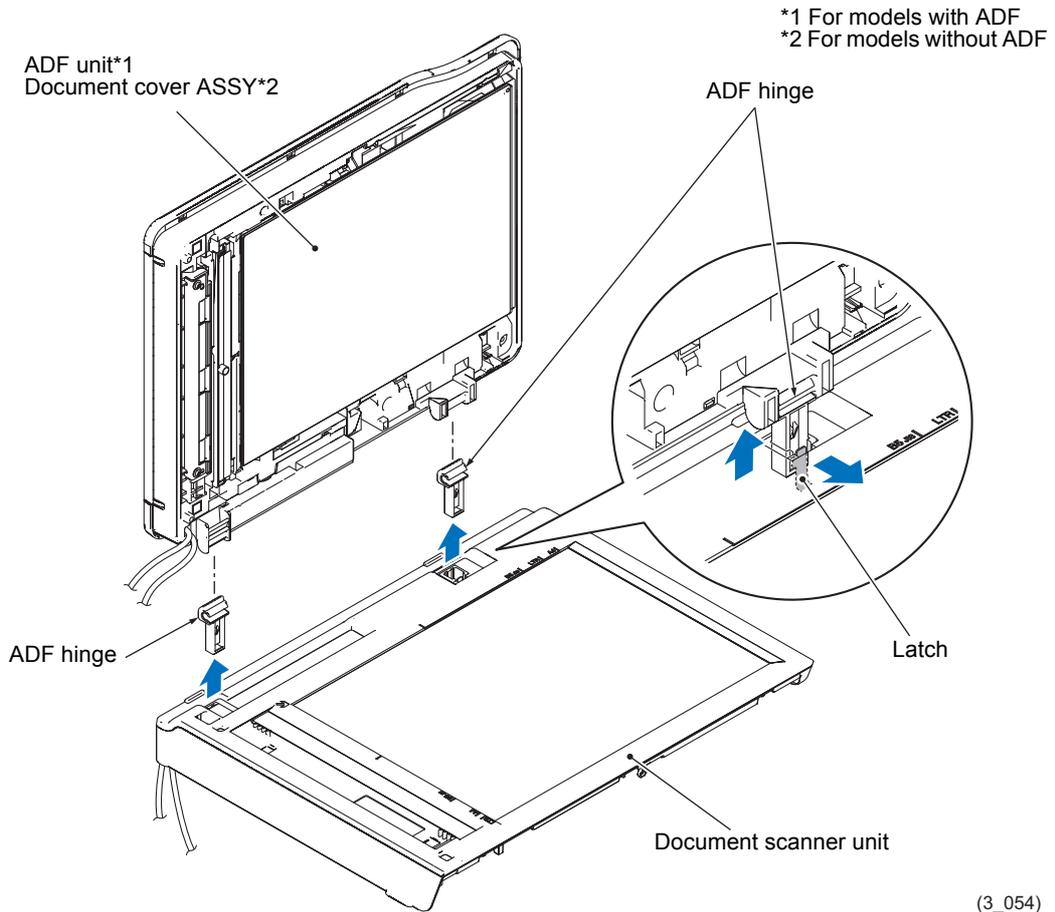
9.5 CIS Unit / CIS Flat Cable

Note When replacing the CIS unit, do it in a clean, dust-free environment.

(1) Reverse the Document scanner unit.

(2) Remove the six screws of the TAPTITE CUP B M3x10.

Document scanner FG wire

Document scanner motor harness

CIS flat cable

TAPTITE CUP B M3x10

Document scanner unit
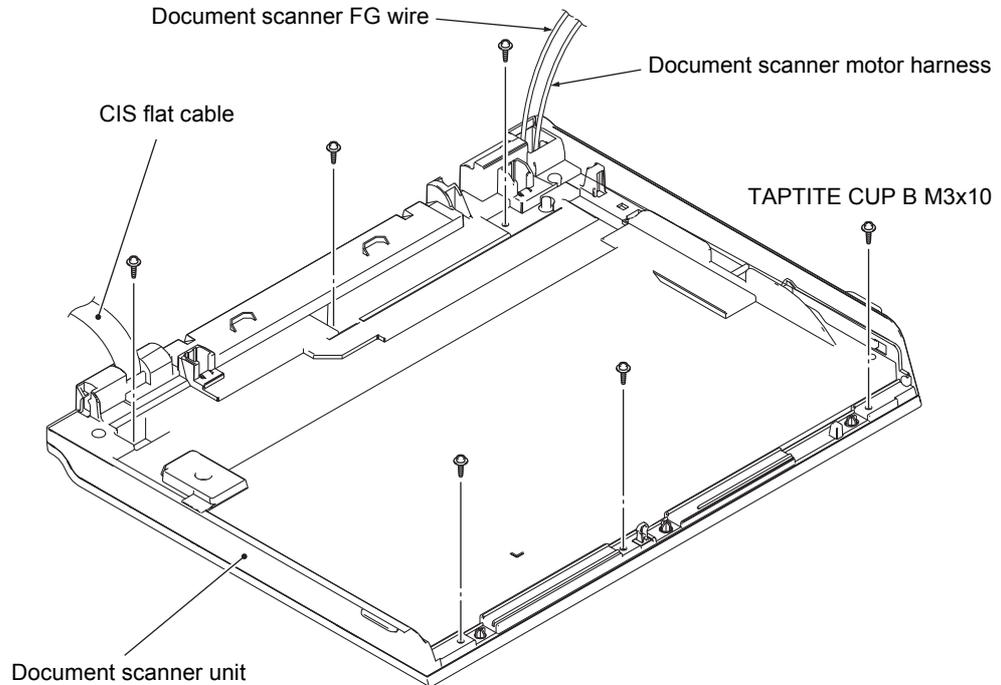
(3_055)

Assembling Note When mounting the Document scanner top cover, tighten the screws in the following order.

(Front)

(Left)

(Right)

(Rear)
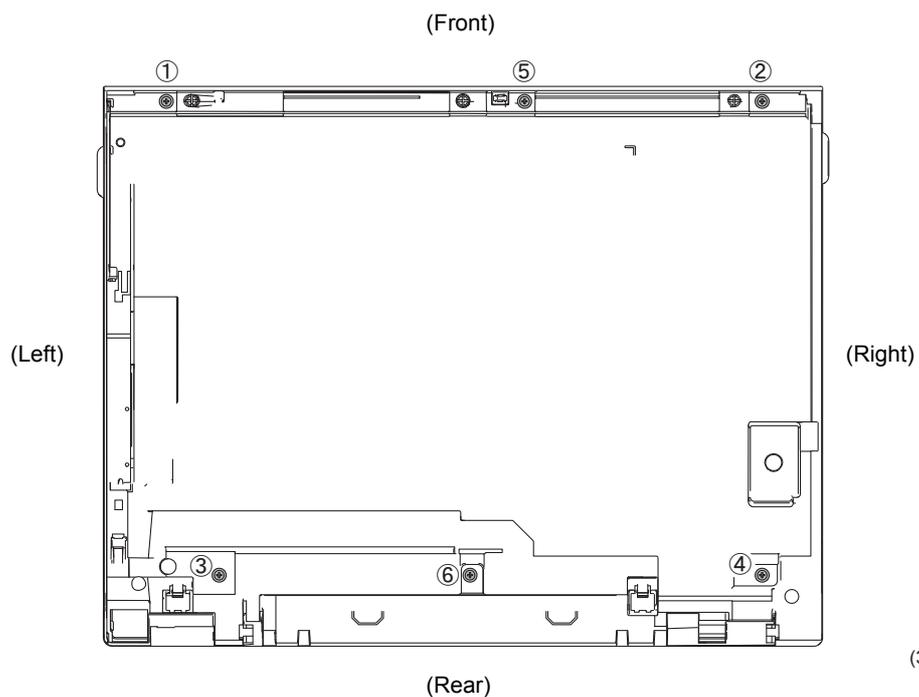
(3_056)

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

(4) Remove the Document scanner top cover.

(5) Remove the CIS roller holder F and CIS roller holder R.

Document scanner top cover

CIS roller holder R

Document scanner bottom cover

(Right)

(Front)

CIS roller holder F

Document
scanner FG wire

Document scanner motor harness
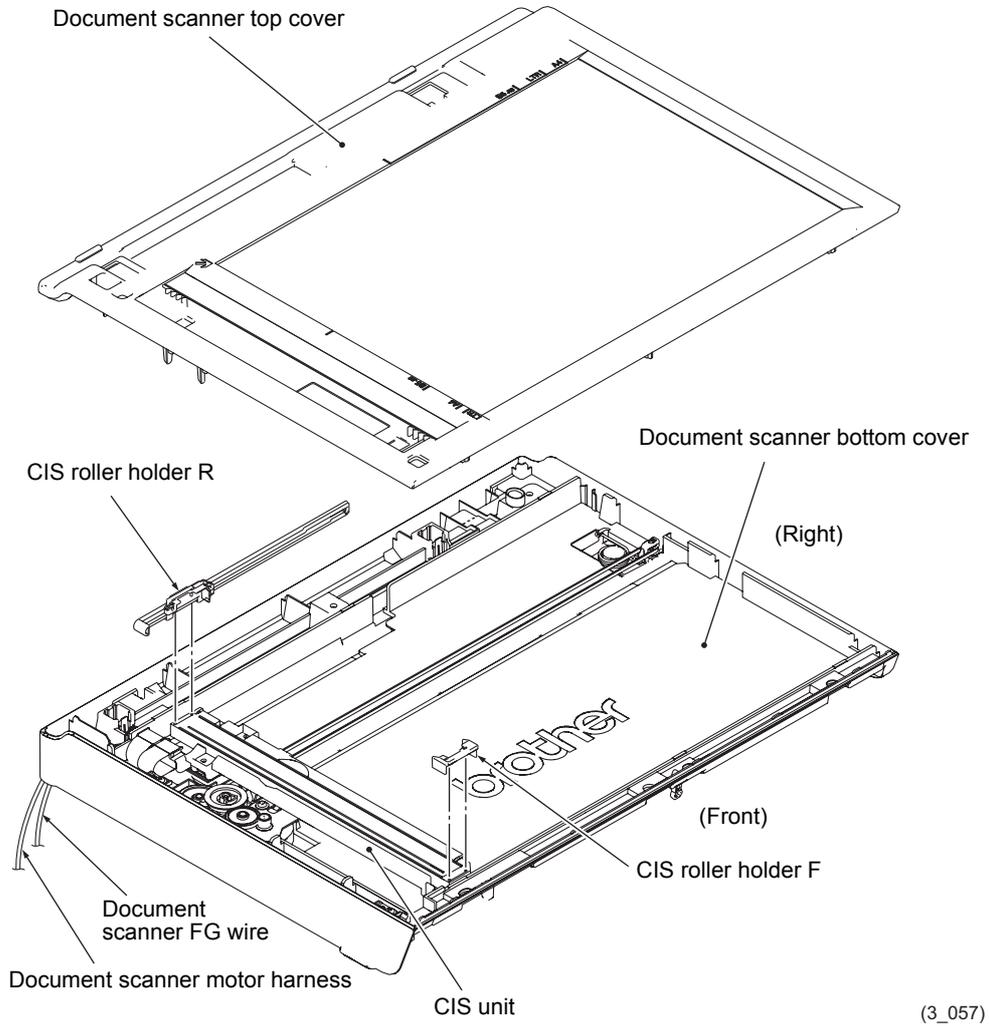
CIS unit

(3_057)

Assembling Note When attaching the CIS roller holder R, fit the projection into the lower side of the CIS unit.

Projection

CIS unit

CIS roller holder R

(3_058)

Confidential
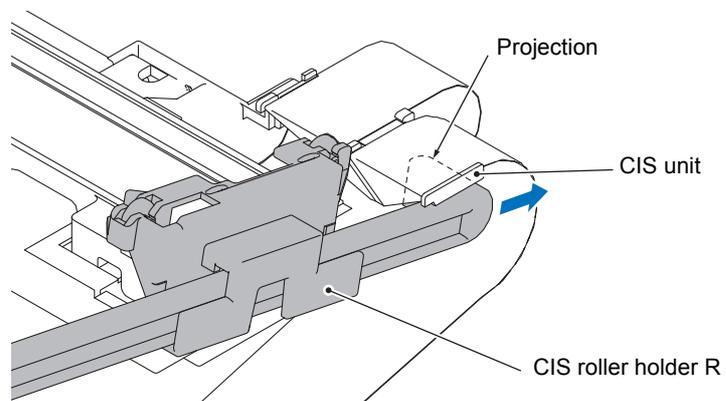
(6) Turn the CIS unit 90 degrees clockwise, pull it slightly towards you, pull out the two bosses from the CIS carriage, and remove the unit upwards.

(7) Unplug the CIS flat cable from the CIS unit.

(8) Peel off the double-sided tape of the reverse side of the CIS flat cable from the CIS carriage.

(9) Remove the CIS flat cable from the Document scanner bottom cover.

Note Once removed, the double-sided tape will become unusable and will have to be replaced by a new tape.

(3_059)

Confidential
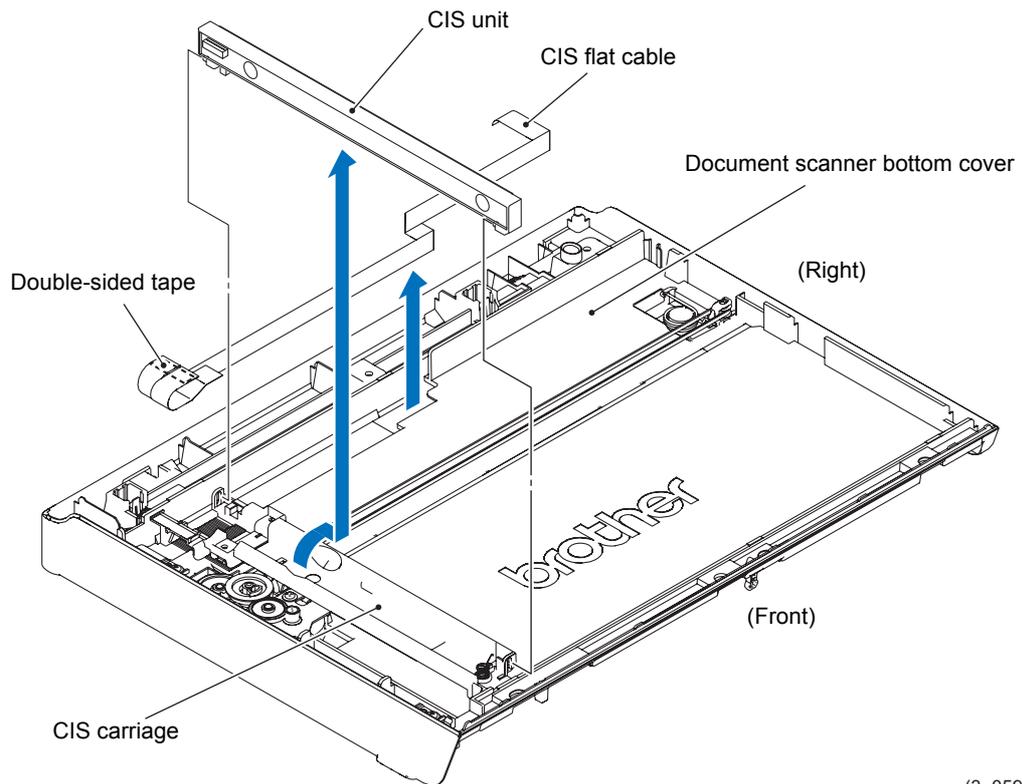
Assembling Note

- Assemble new CIS flat cable following the steps below.

   1) Fold CIS flat cable and affix the double-sided tape as shown below.

Note Make sure that no dust or smudge remains on the surface of the CIS flat cable.

Folding Instruction   (Unit: mm)

Do not allow your fingers to touch the
pasting portions to the CIS carriage.

—— Mountain fold
- - - - Valley fold

CIS unit side

UL notation
printing surface

Double-sided tape (affixed on
the reverse side)
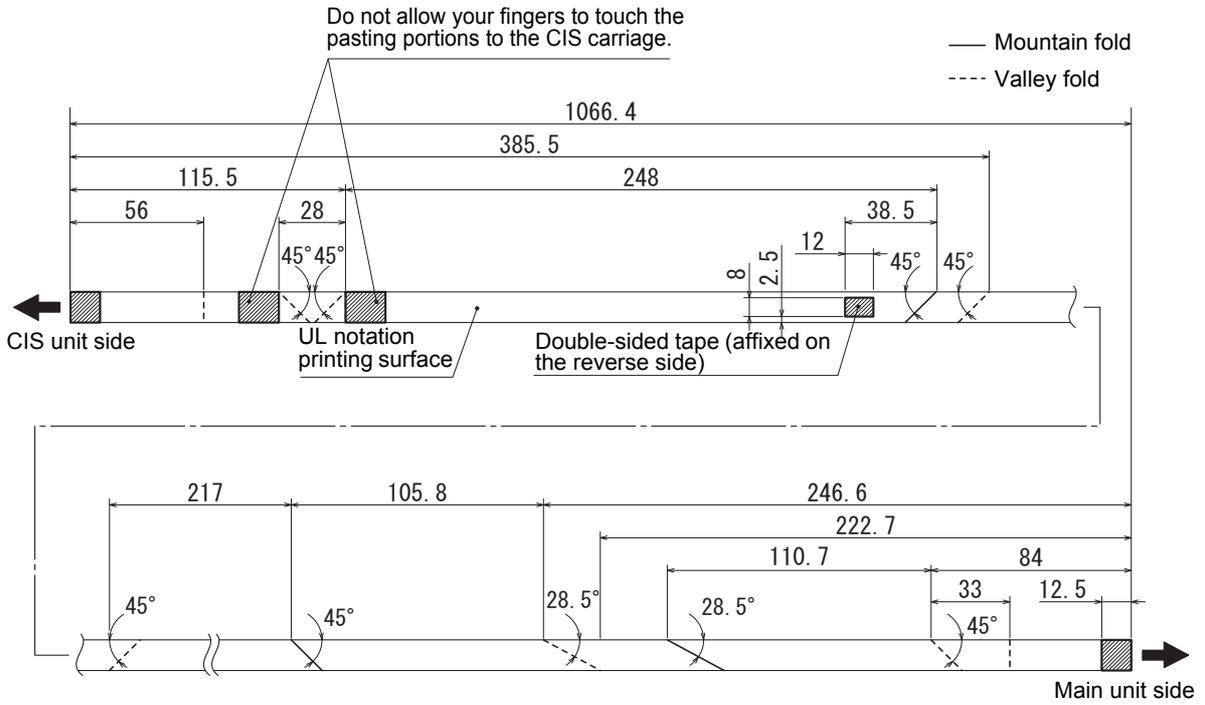
Main unit side

Double-sided tape position

CIS unit side

UL notation printing surface

Double-sided tape

UL notation
printing surface

Main unit side

(3_060)

Confidential
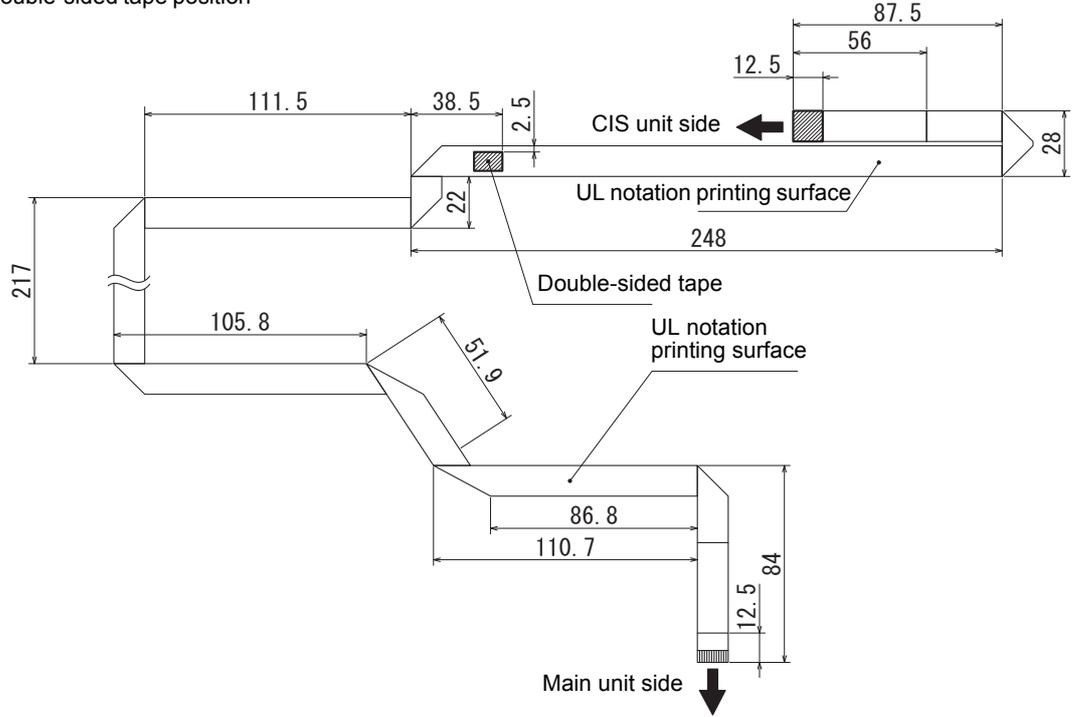
2) Connect the CIS flat cable to the CIS unit, and route it around the cable guide as shown below.

[Main unit side] Install the CIS flat cable in the following order and adjust the bend of the cable in the location marked by the dotted circle.

CIS flat cable

① Double-sided tape

② Double-sided

Document scanner bottom cover

③ Double-sided tape

CIS flat cable

Double-sided tape

CIS flat cable

[CIS side] Align the fold of the CIS flat cable and attach it to the CIS carriage without any bending.

CIS carriage
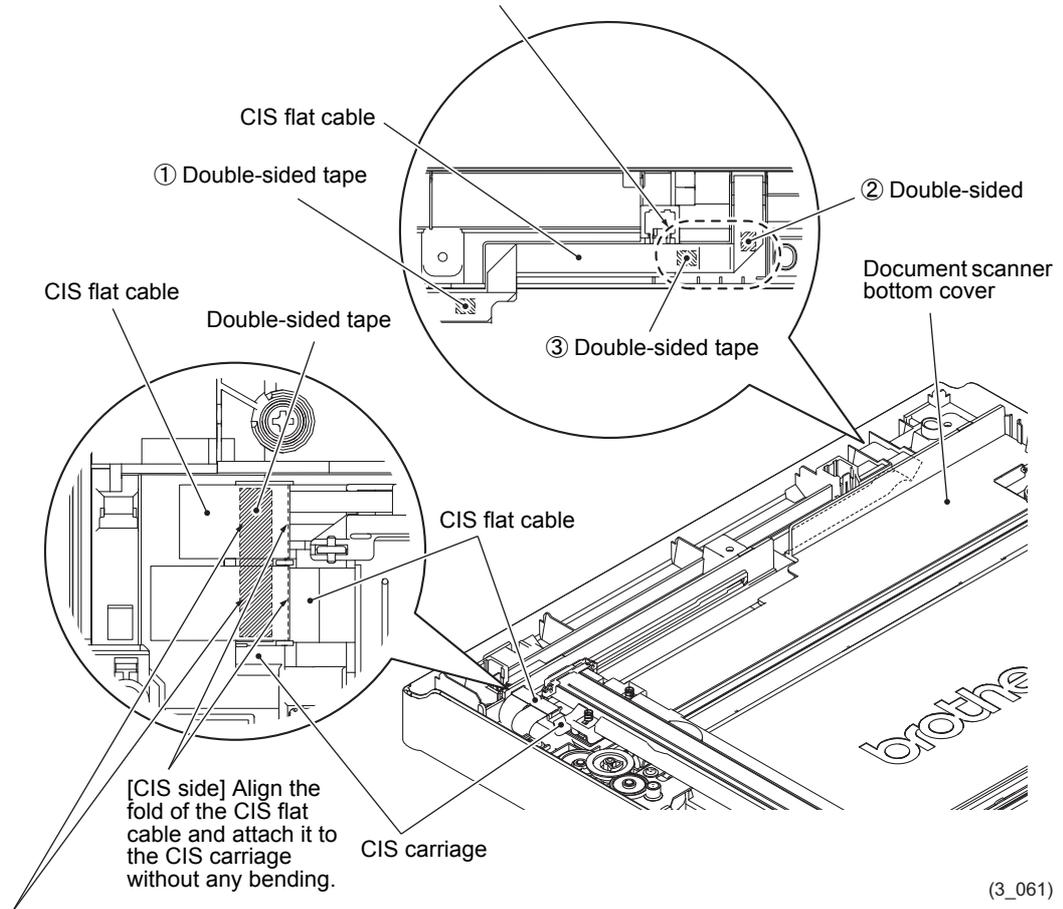
CIS carriage

The pasting portions to the CIS carriage have low adherence property. Firmly press on it three times or more.

(3_061)

9.6 Component on the ADF Unit (For ADF Models Only)

(1) Turn the ADF unit upside down.

(2) Using the tip of a flathead screwdriver, release the latches by lightly pressing the three latches of the document sponge ASSY inwards.

(3) Release the two hooks of the Document sponge ASSY and remove it from the ADF unit.
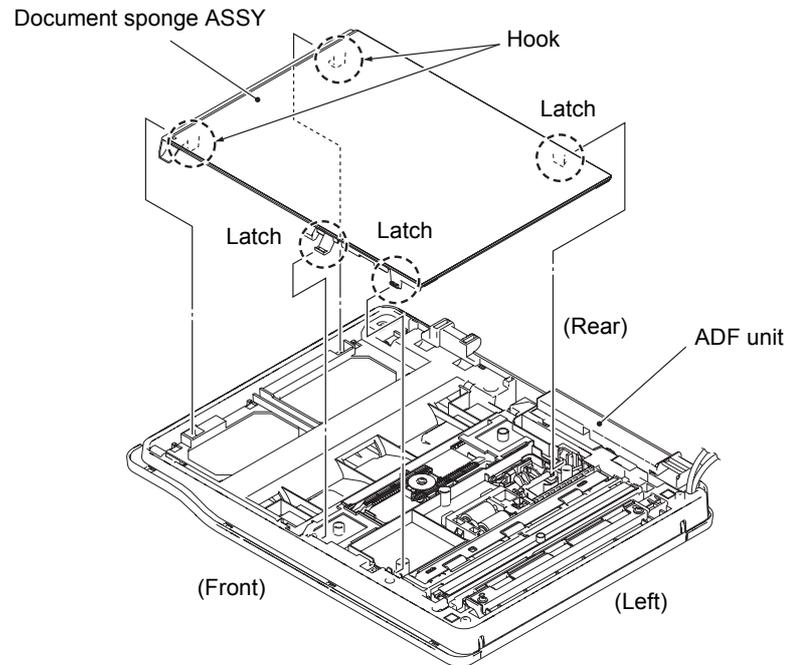
(3_062)

<u>ADF top cover center</u>

(4) Release three hooks and remove the ADF top cover center from the ADF unit.

(3_063)

Confidential
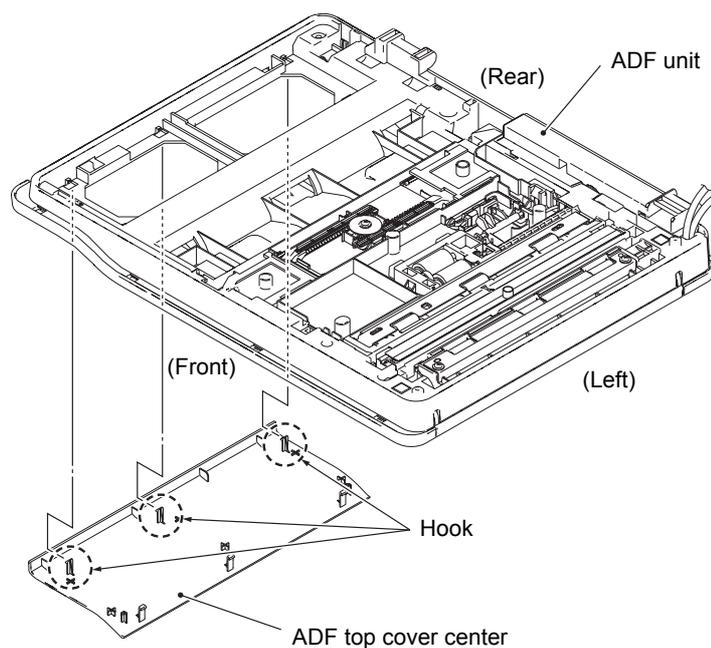
ADF top cover front / ADF document support

(5) Using a flathead screwdriver release four hooks of the ADF top cover front and remove it from the ADF unit.

(Front)

Hook

ADF top cover front

Hook

ADF unit
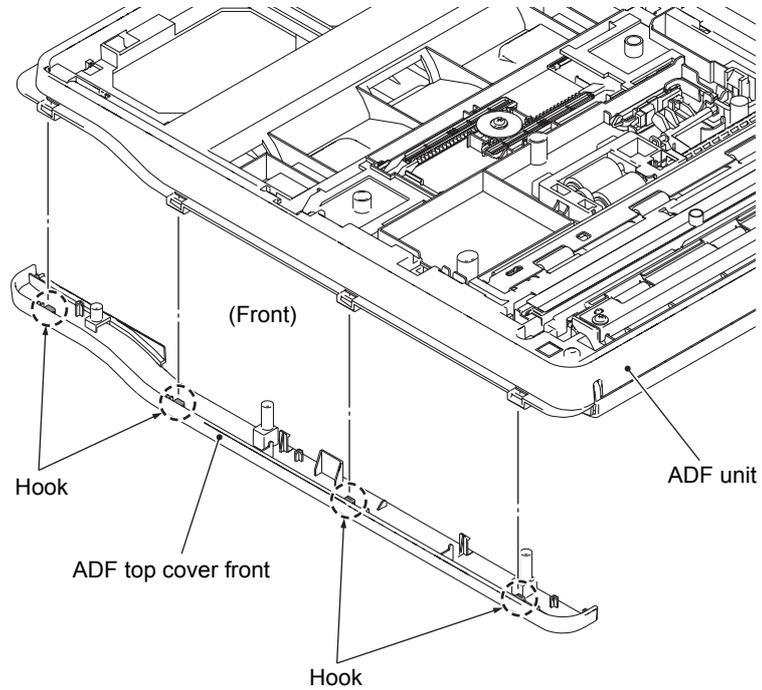
(3_064)

(6) Remove the ADF document support.

(Rear)

ADF unit

(Front)

(Left)

Boss

Boss

ADF document support
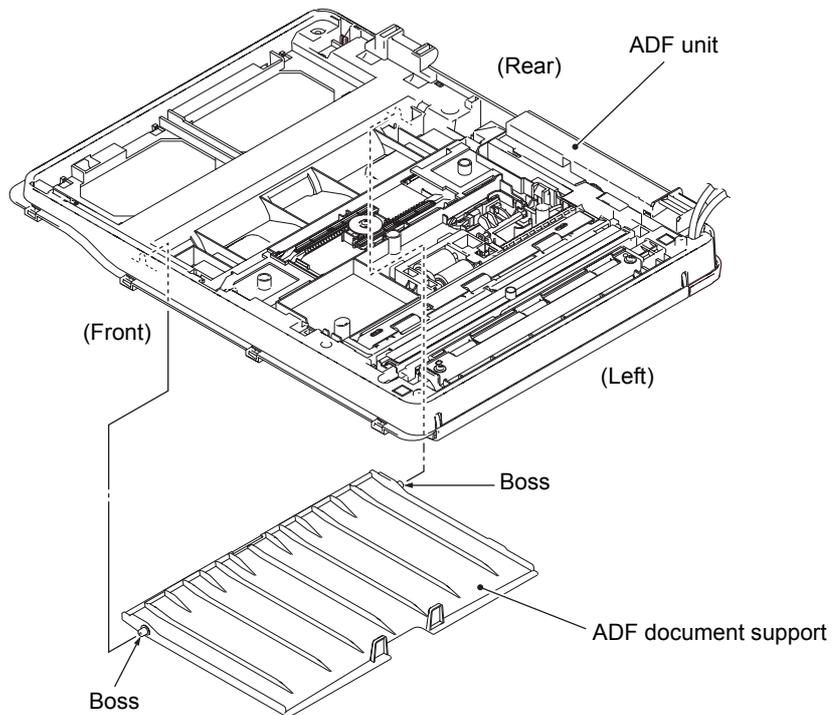
(3_065)

ADF top cover rear

(7) Remove the screw of the TAPTITE CUP B M3x10, unlatch the 5 latches, and release the hook to remove the ADF top cover rear.
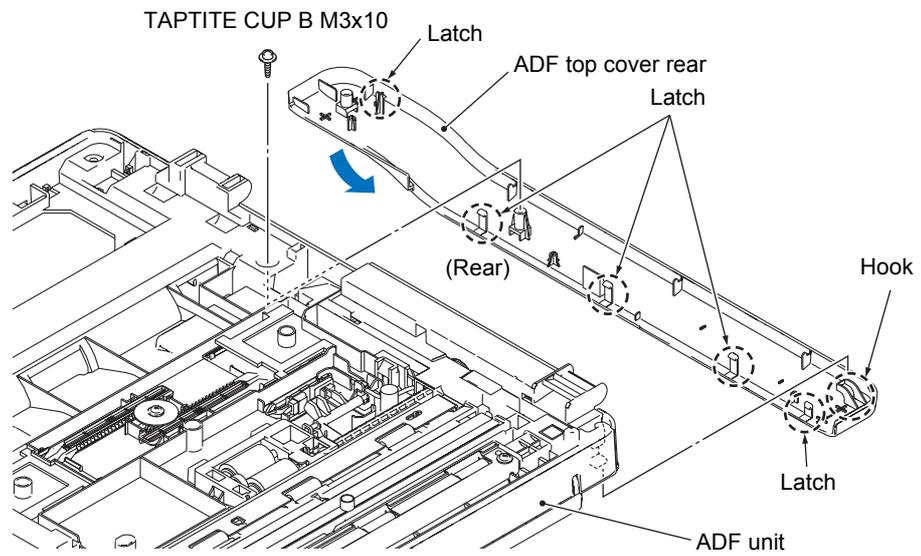
(3_066)

Assembling Note When mounting the ADF top cover rear, fit the hook first before pushing the cover in place.

ADF cover ASSY

(8) Turn the ADF unit right side up.

(9) Remove the two screws of the TAPTITE CUP B M3x10 and remove the Upper document chute from the ADF unit.
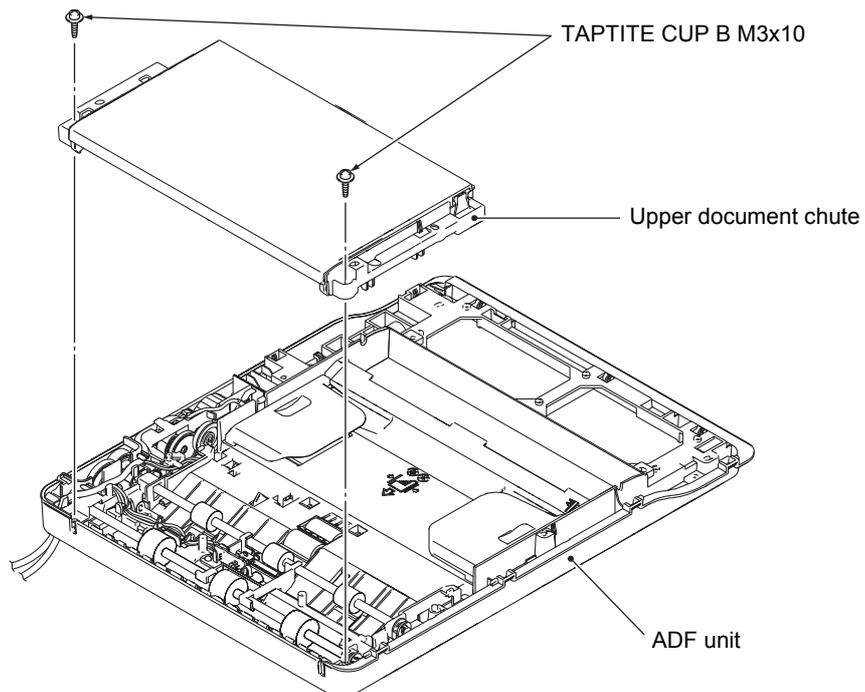
(3_067)

(10) Remove the ADF cover ASSY.

ADF cover ASSY

Upper document chute
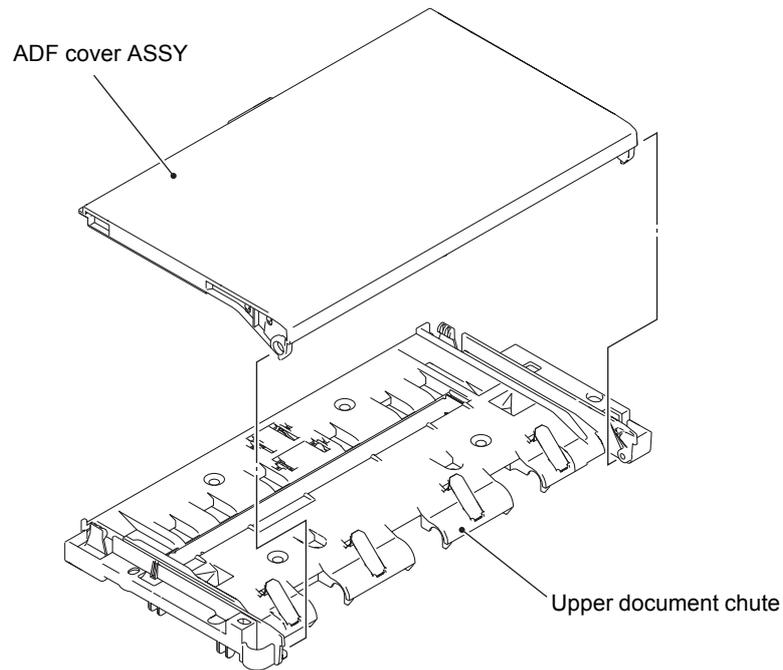
(3_068)

ADF separation pad holder ASSY

(11) Remove the ADF separation pad holder and its spring.

Note Be careful not to let the spring to fly out.

ADF separation pad holder

ADF cover ASSY
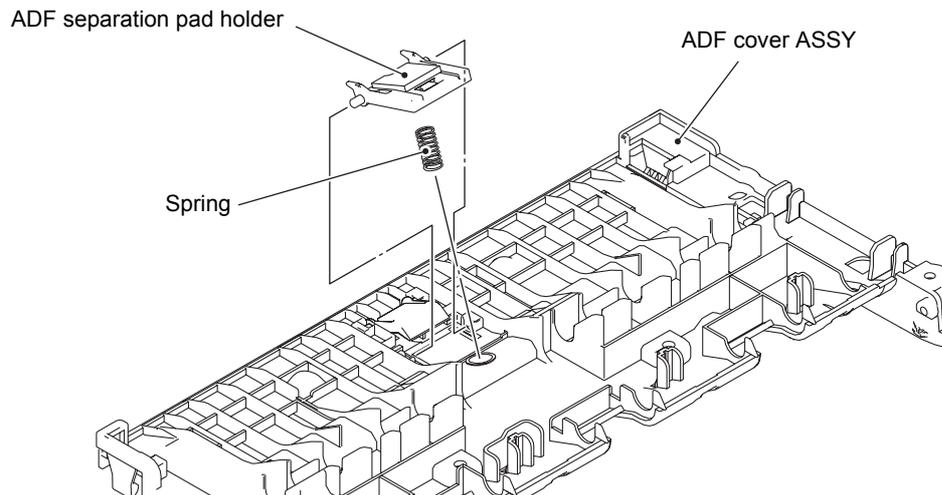
Spring

(3_086L)

Assembling Note Insert the spring first into the opening then attach the ADF separation pad holder.

Confidential

Document detection sensor PCB ASSY

(12) Turn the ADF unit upside down.

(13) Push the lock arm towards you, remove the rear end of the Document detection sensor PCB from the lock arm, and take out the Document detection sensor PCB ASSY. Disconnect the Document detection sensor harness from the Document detection sensor PCB.
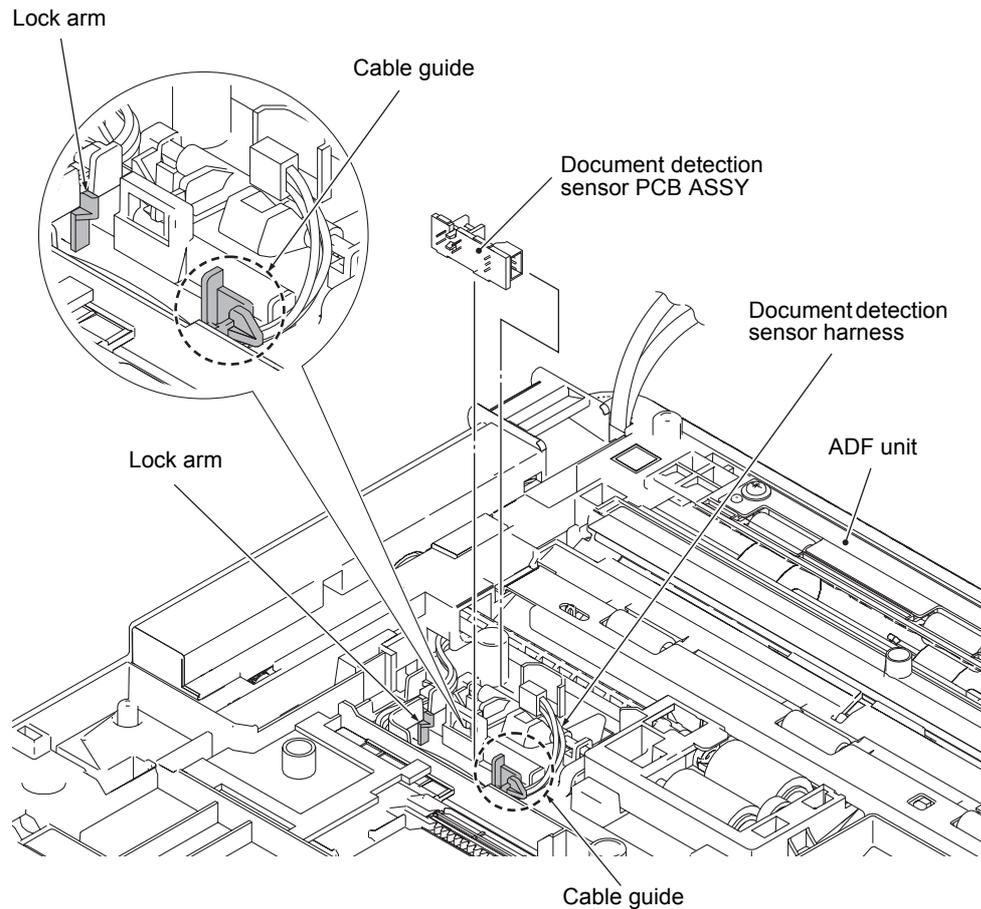
(3_087L)

Assembling Note

• Press down the Document detection actuator and install the Document detection sensor PCB.

Document scanning position sensor PCB ASSY

(14) Turn the ADF unit downside up.

(15) Push the lock arm towards you, remove the front end of the Document scanning position sensor PCB ASSY from the lock arm, and take out the Document scanning position sensor PCB ASSY. Disconnect the Document scanning position sensor harness from the PCB.

Document scanning position sensor PCB ASSY

(Rear)

ADF harness ASSY

Document scanning position sensor harness (red)

ADF unit

Lock arm
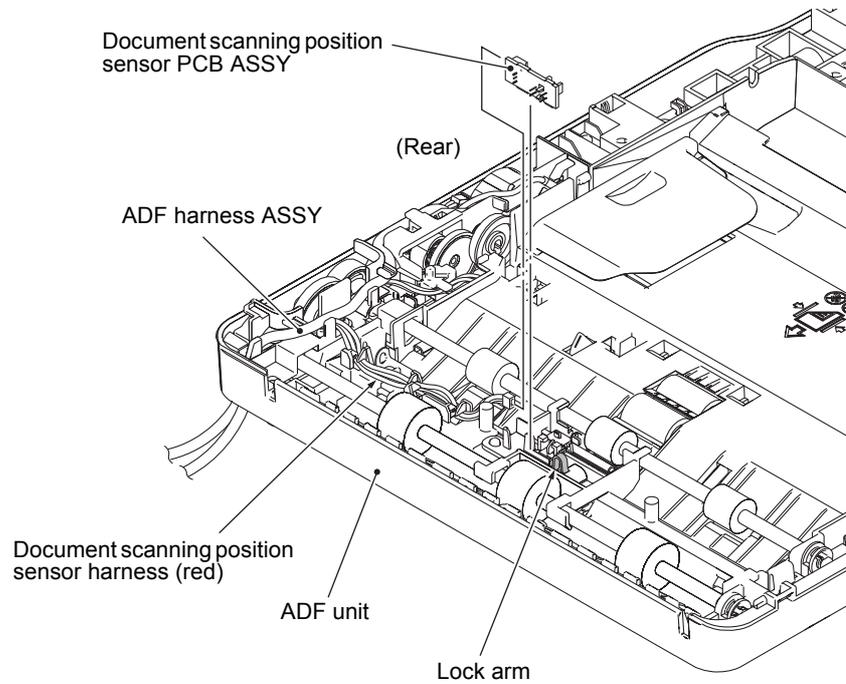
(3_072)

ADF back cover / Document separate roller ASSY

(16) Remove the screw from the TAPTITE CUP B M3x10, release the boss, and release the five hooks to remove the ADF back cover.

TAPTITE CUP B M3x10

Hook

ADF unit

ADF back cover

Hook

Boss

Hook

Hook

(Left)

(Front)
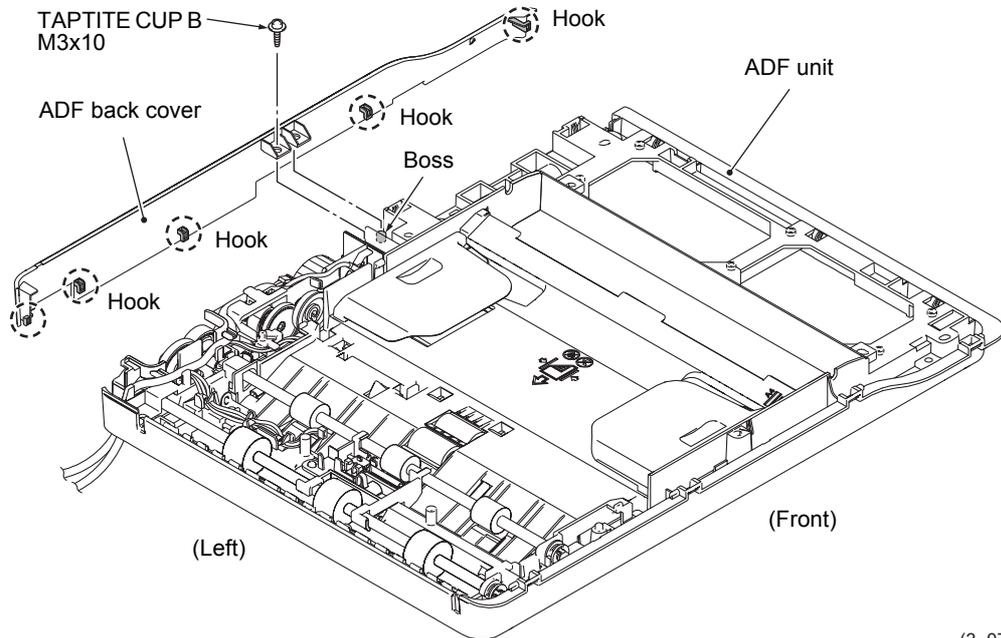
(3_074)

(17) Open the latch from the outside and remove the Document feed roller 1 gear. Release the latch at the back of the ADF unit and pull out the Document separation roller gear (outside) by turning it.

(18) Release the latch and Document feed roller 2 gear.

(19) Remove all bearings from Document feed roller 1 and 2.

ADF unit

Latch

(Rear)

Latch

Bearing

(Left)

Latch

Document feed roller 1 gear

Latch

Document separation roller gear (outside)

Document feed roller 2 gear

Document separation roller gear (outside)
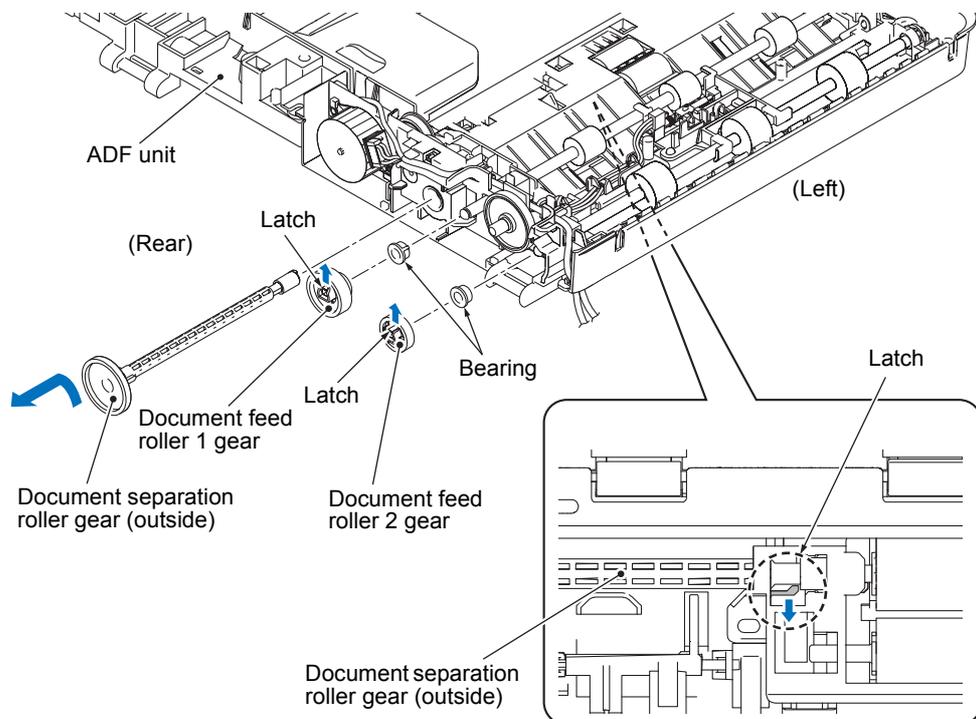
(3_075)

Assembling Note Attach the gears as shown in Section 6 in this chapter.

(20) Remove the Document scanning position sensor holder ASSY from Document feed roller 1 and 2.

(21) Remove Document feed roller 1 and 2 by pulling them away from bearings then remove it from the ADF unit.

(22) Remove the three pinch rollers from the ADF unit.

(3_077)
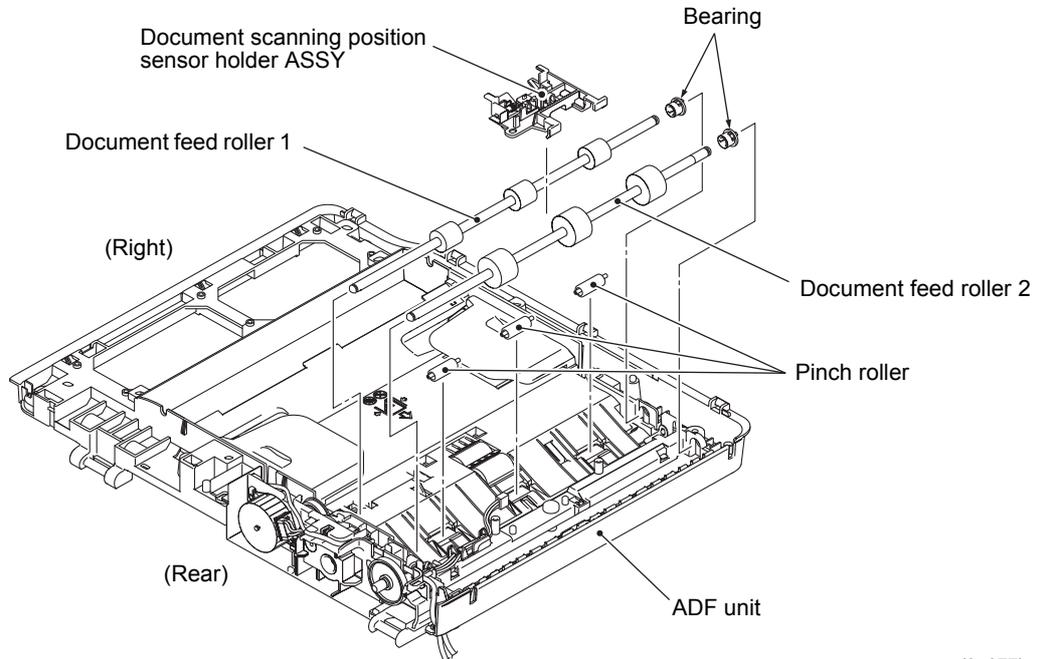
(23) Turn the ADF unit upside down then press the ADF unit hook. Remove the LF1 support plate by sliding it to the rear.

(24) Release the 2 tabs of the Document separate roller ASSY and remove it from the ADF unit.

(3_121)
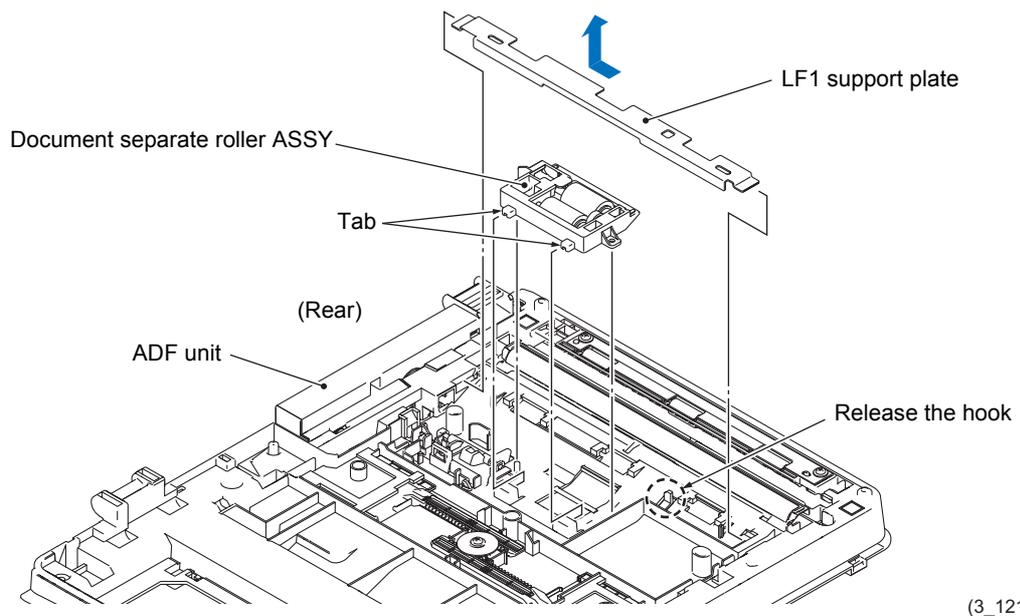
Assembling Note Before installing the Document separate roller ASSY to the ADF unit, refer to Section 5 in this chapter and apply the specified lubricant to all roller shafts.

Confidential

9.7 Control Panel ASSY / Front Center Cover / Panel PCB ASSY / Printed Panel Cover / Rubber Key / LCD Unit ASSY

(1) Open the Ink cartridge cover.

(2) Remove the three screws of the TAPTITE CUP B M3x10.

(3) Release the hook on the left side of the Control panel ASSY through the opening on the bottom side of the Lower cover by using a flathead screwdriver, release the two hooks on the lower side, and two hooks on the right side, and then pull out the Control panel ASSY upwards.

Note The Control panel ASSY is connected to the machine by harnesses. Do not attempt to pull it away from the main unit.

(3_039L)
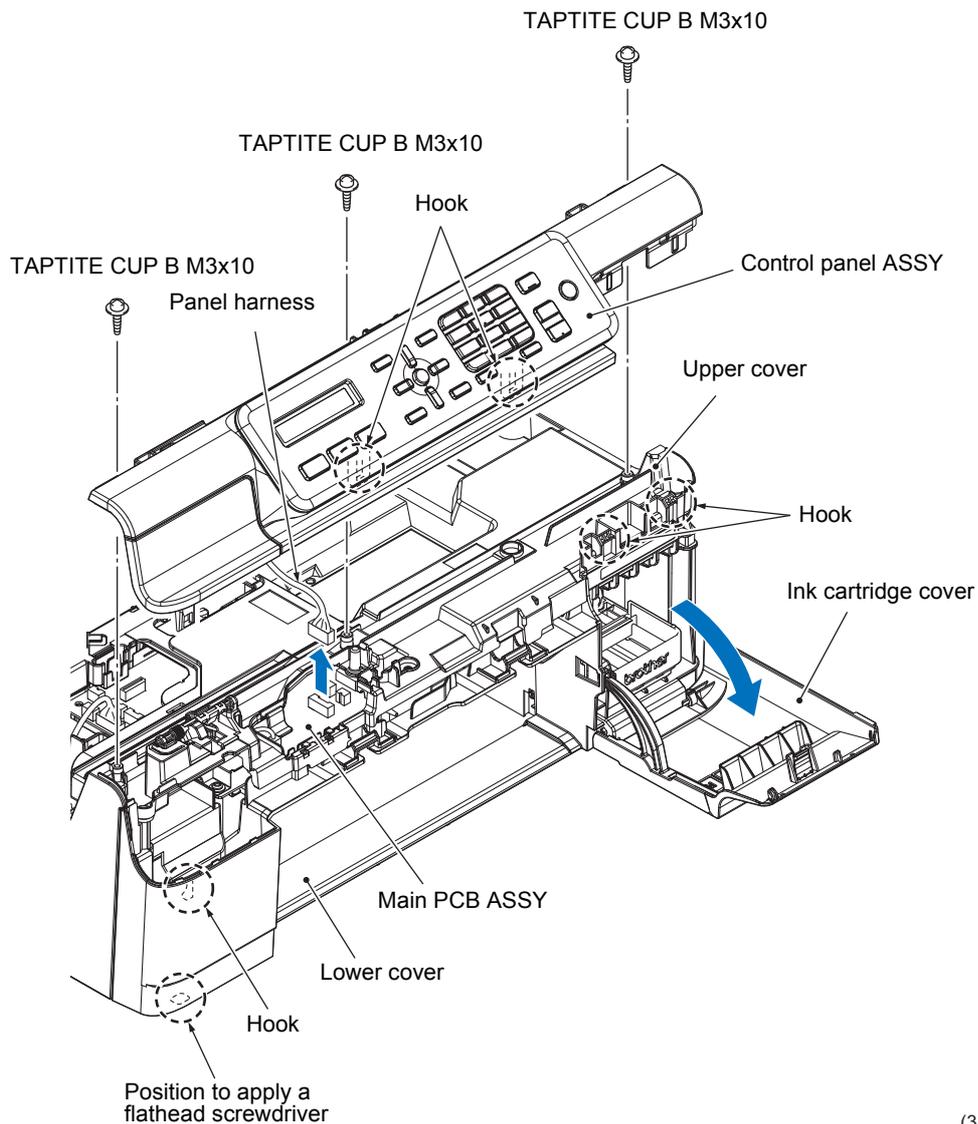
Assembling Note After installing the control panel ASSY in the upper cover, confirm that there is no gap between the front ends of the control panel ASSY and the upper cover.

<Rubber Key Model>

(4) Unplug the panel harness from the Main PCB ASSY.

(5) Release the three latches and two hooks of the Control panel base, and remove the Front center cover.

Front center cover

Latch

Latch

Hook

Latch

Control panel base

Hook

(3_040L)
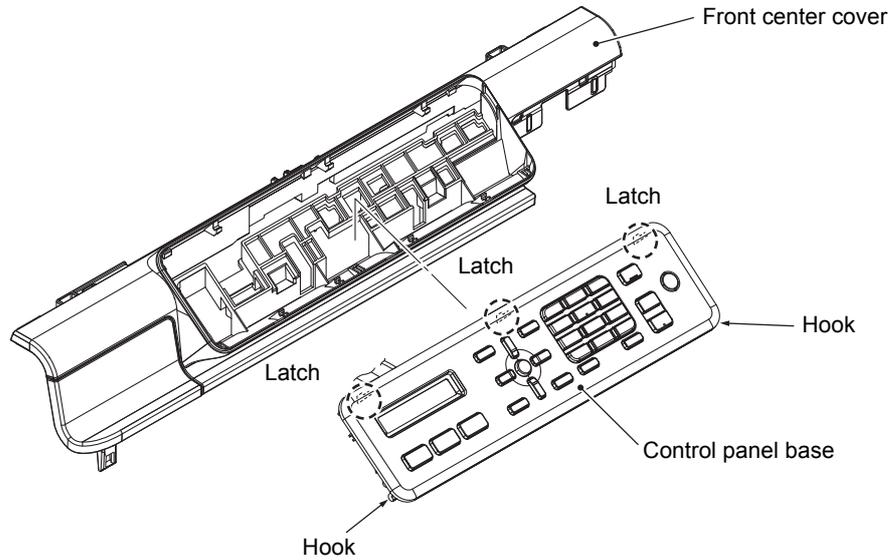
(6) Release the two latches and two hooks of the Printed panel cover, and remove the Panel PCB ASSY.

Note The Panel PCB ASSY is connected to the Printed panel cover by harnesses. Do not attempt to pull it away from the Control panel.

(7) Unlock the LCD flat cable connector, and disconnect it.

Note After disconnecting the LCD flat cable, check if the cable is not damaged at its end or short-circuited. Insert the LCD flat cable straightly. After it is inserted, confirm that the cable is not skewed.

(8) Remove the Rubber key from the Printed panel cover.

LCD flat cable

Remove by pulling the lock

LCD flat cable

Printed panel cover

Hook

Hook

Latch

Connector

Hook

Latch

Rubber key

Panel PCB ASSY

(3_041L)

Confidential
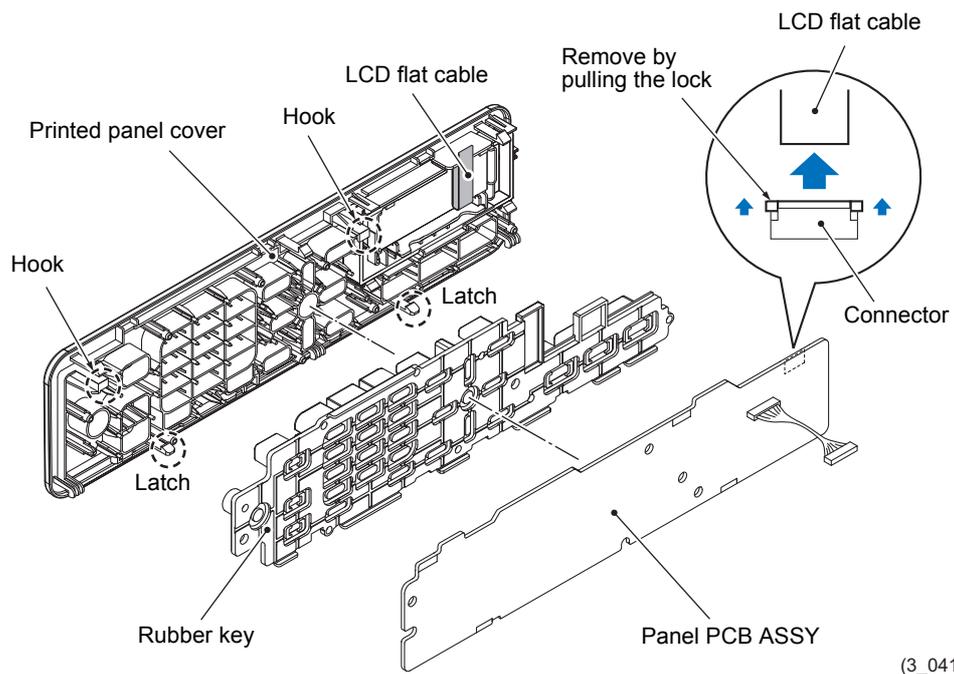
(9) Release the two latches and two hooks, and remove the LCD unit ASSY from the LCD holder.

(10) Release the four latches, and remove the LCD holder from the Printed panel cover.

Printed panel cover

Latch

Latch

Latch

Hook

Hook

Latch

Latch

LCD holder

Latch

LCD unit ASSY
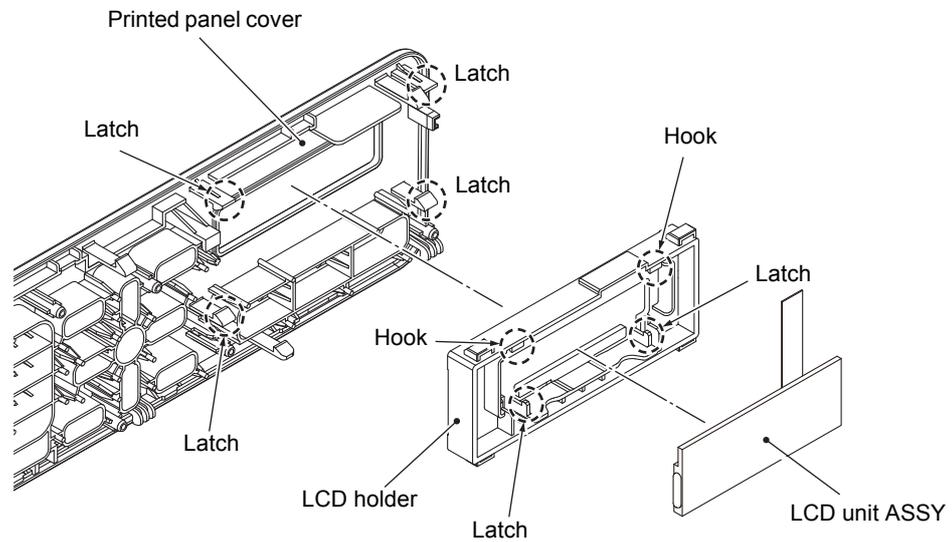
(3_042L)

Confidential

<Touch panel models>

(4) Release the connector lock and unplug the LCD flat cable from the main PCB ASSY.

Note After disconnecting the LCD flat cable, check if the cable is not damaged at its end or shortcircuited. When connecting LCD flat cables, do not insert them at an angle. After insertion, check again that the cables are not at an angle.

(5) Remove the screw of the TAPTITE CUP S M3x6 and remove the FG wire from the cable guide.

FG wire   TAPTITE CUP S M3x6
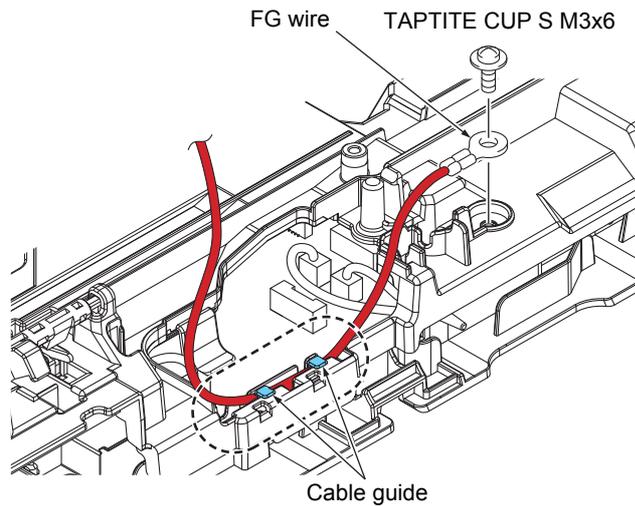
Cable guide   (3_088L)

Assembling Note Route the FG wire along the cable guide (marked by the dotted circle) as shown above.

(6) Remove the two screws of the TAPTITE CUP B M3x10, release the 2 bosses, and remove the bottom panel cover.

(7) Release two bosses and remove the control panel ASSY.

Front center cover

Boss

Boss

Boss

TAPTITE CUP S
M3x10

Control panel ASSY

Bottom panel cover

TAPTITE CUP S M3x10

Boss
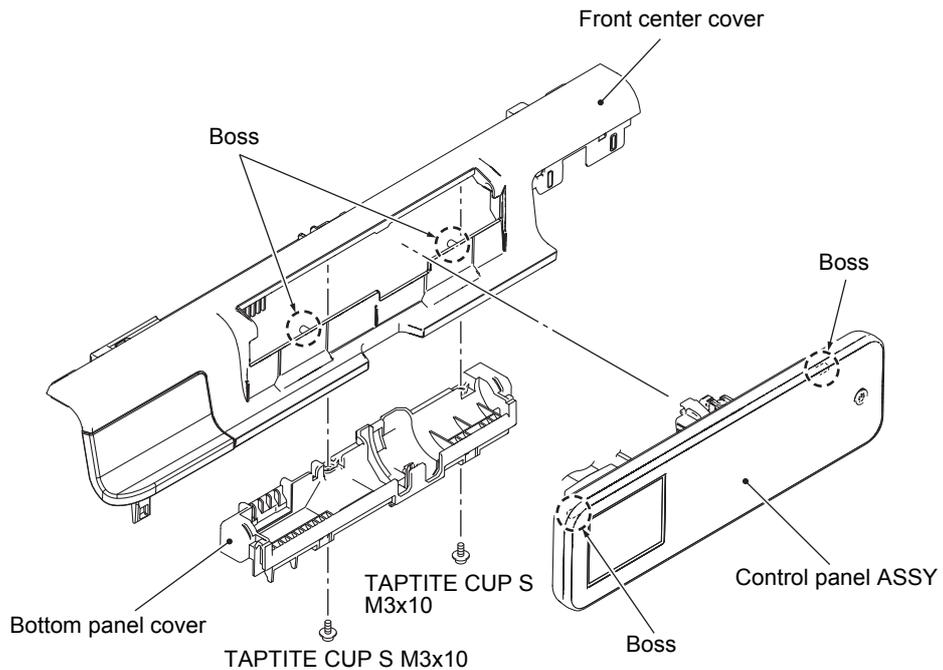
(3_089L)

9.8 Upper Cover / Ink Cartridge Cover

(1) From the Upper cover, remove the four screws of the TAPTITE BIND B M4x12 and the screw of the TAPTITE CUP B M3x10.

(2) Disconnect the Document scanner sensor connector.

(3) Hold the Upper cover on both ends and lift it up diagonally.

Note When lifting the Upper cover up, do not insert your hand inside the aperture on top of the Platen. Doing so might stain or damage the CR encoder strip inside.

(4) Slightly lift the front end of the Lower cover and fully open the Ink cartridge cover. Remove the Cover arm from the Lower cover by bending it to the left, then remove it downwards from the left and right boss of the Lower cover.

TAPTITE CUP B M3x10

Upper cover

TAPTITE BIND B M4x12

TAPTITE BIND B M4x12

TAPTITE BIND B M4x12

Document scanner sensor connector

Boss

Ink cartridge cover

Cover arm

Lower cover

(3_043L)
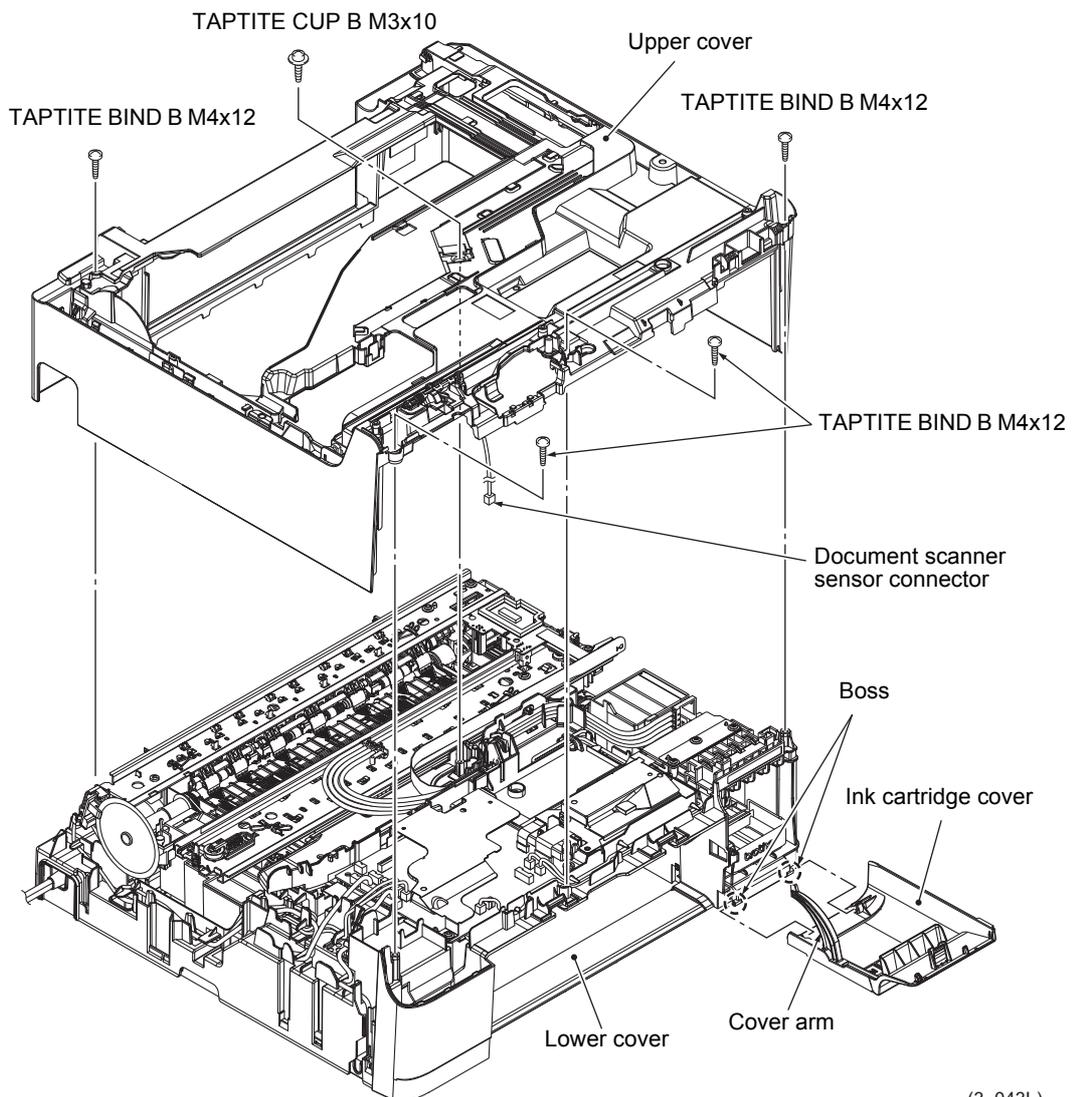
Assembling Note

- Take note of the following when attaching the Upper cover.

    - Make sure that the Ink cartridge cover is open.
    - Check if the Head/carriage unit is in the head capping position (home position). This is to prevent the Ink supply tubes from being sandwiched between the Upper cover and Lower cover.
    (Be careful not to let the Ink supply tubes and the Carriage flat cables be sandwiched between the Upper and Lower covers when the Head/carriage unit is removed in Section 9.3 in this chapter.)
    - Be careful not to deform the PF encoder disk.

- Fit the hook on the inside of the Upper cover to the groove on the Lower cover.

- When attaching the Ink cartridge cover, lift the left and right boss up from the bottom while the cover is fully open and fit it to the Lower cover. Set it on the slit on the Lower cover while pushing the Cover arm downward. (Refer to the illustration on the previous page.)

9.9   Document Scanner Sensor ASSY

(1) Press the lock arm, and remove the Document scanner actuator by sliding it to the left.

(2) Release the latch using a flathead screwdriver to remove the Document scanner sensor ASSY.
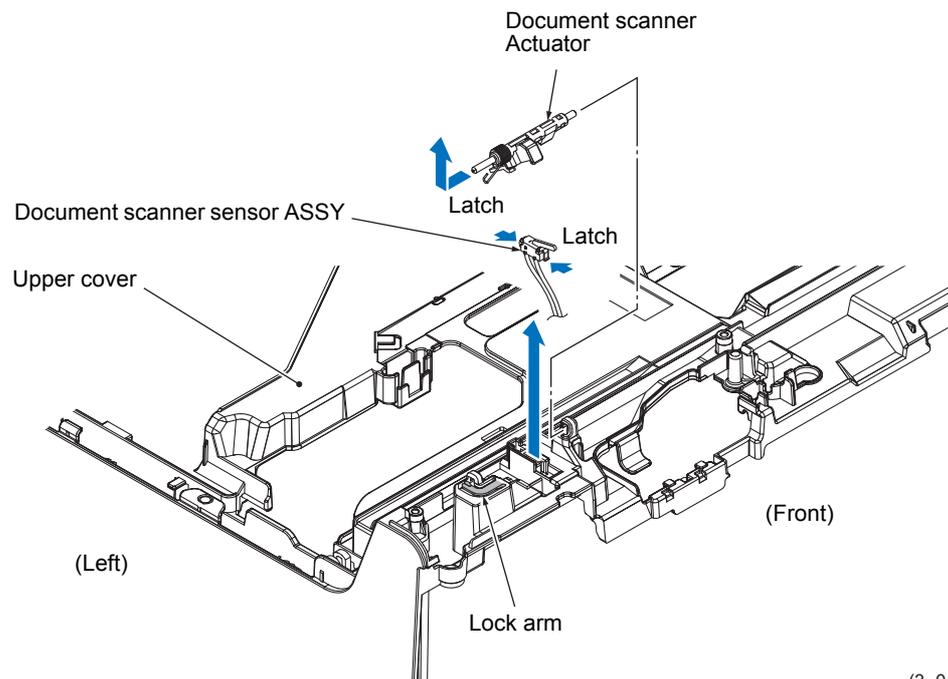
(3_044L)

Confidential

9.10 Wireless LAN PCB ASSY (Only for the Models with Wireless LAN)

(1) Take out the Wireless LAN PCB ASSY from the Main PCB ASSY.

(2) Remove the Gasket from the Wireless LAN PCB ASSY.

Note When removing the Wireless LAN PCB ASSY, do not hold the tape on the top of the ASSY.

Gasket

Wireless LAN PCB ASSY

Main PCB ASSY

Lower cover
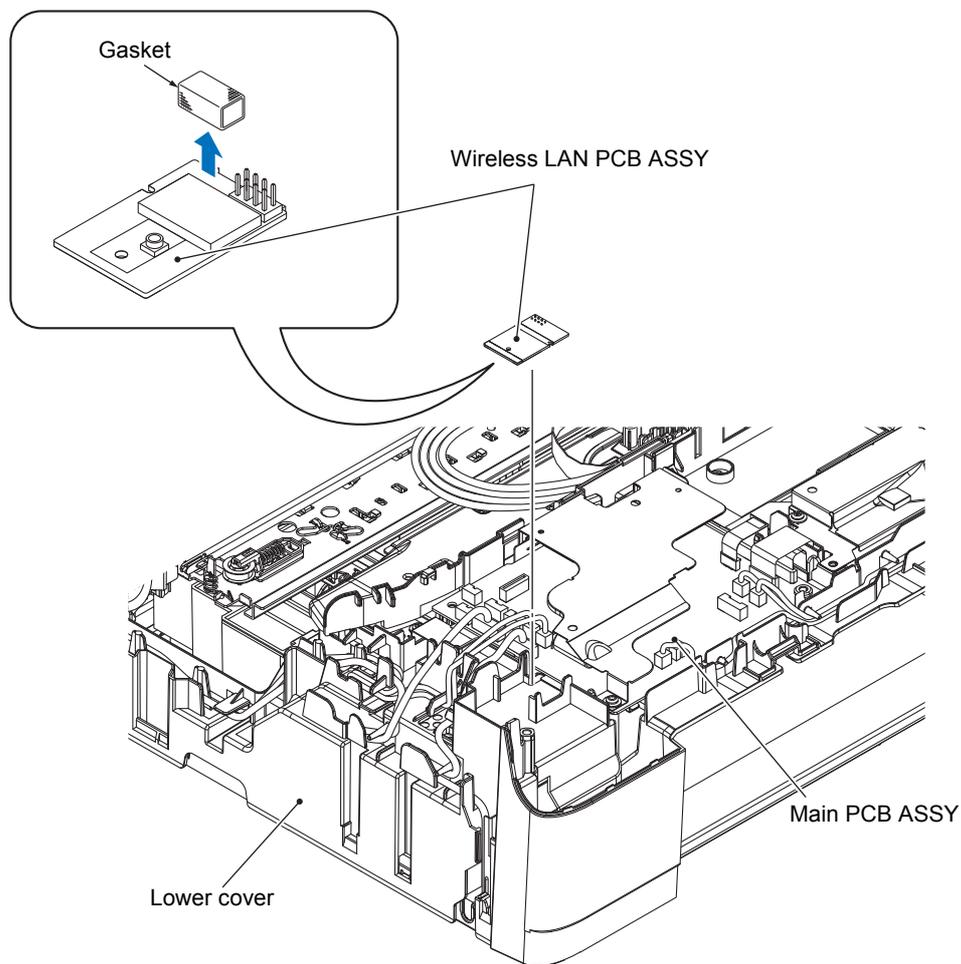
(3_045L)

Assembling Note Make sure to attach the Gasket to the Wireless LAN PCB ASSY.

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9.11 Main PCB ASSY

Note
- If you replace the Main PCB ASSY, you need to replace the Ink absorber box and Flushing box, and the reset the purge and flushing counters.

- Before starting work involving the Main PCB ASSY, make sure that the Power cord and telephone line is unplugged from their outlets. There is a danger of electric shock while working if you leave the Power cord or telephone line plugged.

- Before removing the Main PCB ASSY, disconnect the harnesses and flat cables first, then remove the screws. Also, before reinstalling the Main PCB ASSY, tighten the screws first, then connect the harnesses and flat cables. Follow this sequence while making sure that harnesses and flat cables are not damaged by the screws and the screwdriver.

(1) Disconnect the following harnesses and flat cables from the Main PCB ASSY.

Note
- Make sure that the Main PCB ASSY is screwed in place while connecting and disconnecting harnesses and flat cables.

- <u>After disconnecting the flat cables, check that each cable is not damaged at its end or short-circuited. Insert the flat cable straightly. After it is inserted, confirm that the cable is not skewed.</u>
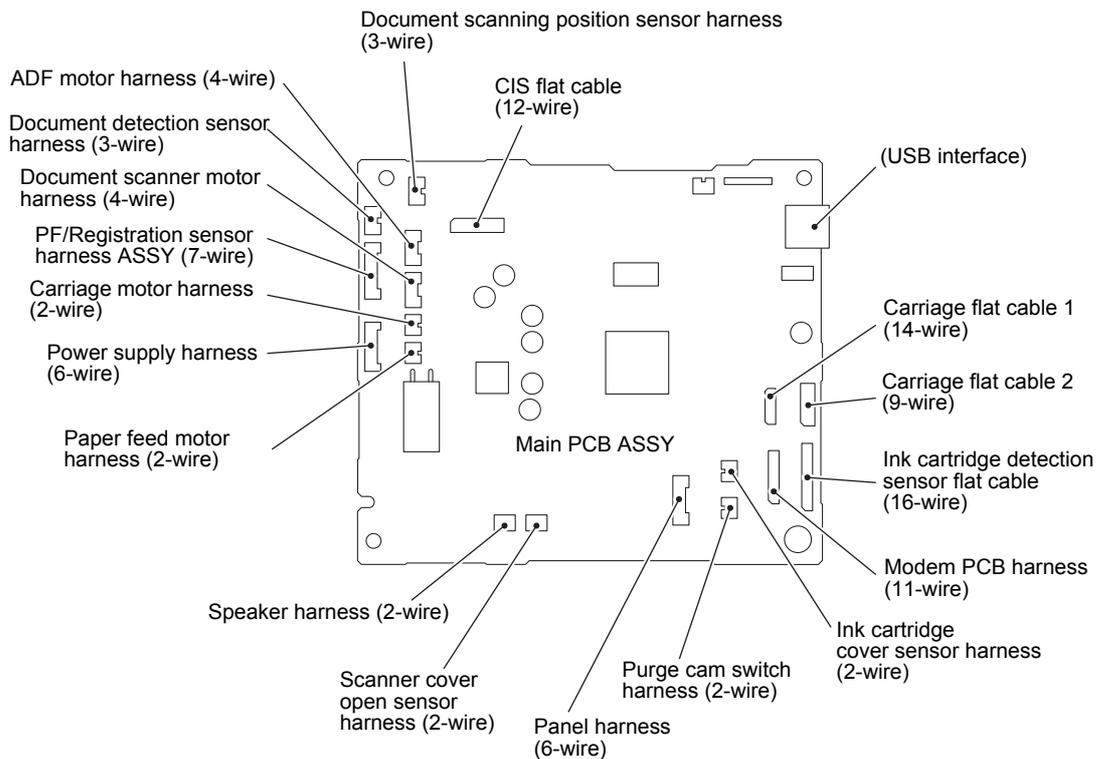
(3_046L)

(2) Remove the two screws of the TAPTITE CUP S M3x6 and remove the Main PCB shield.

(3) Remove the screw of the TAPTITE CUP S M3x6 and remove the Main PCB ASSY.

(4) Remove the USB ground plate.

TAPTITE CUP S M3x6

Main PCB shield

TAPTITE CUP S M3x6

USB ground plate

Main PCB ASSY
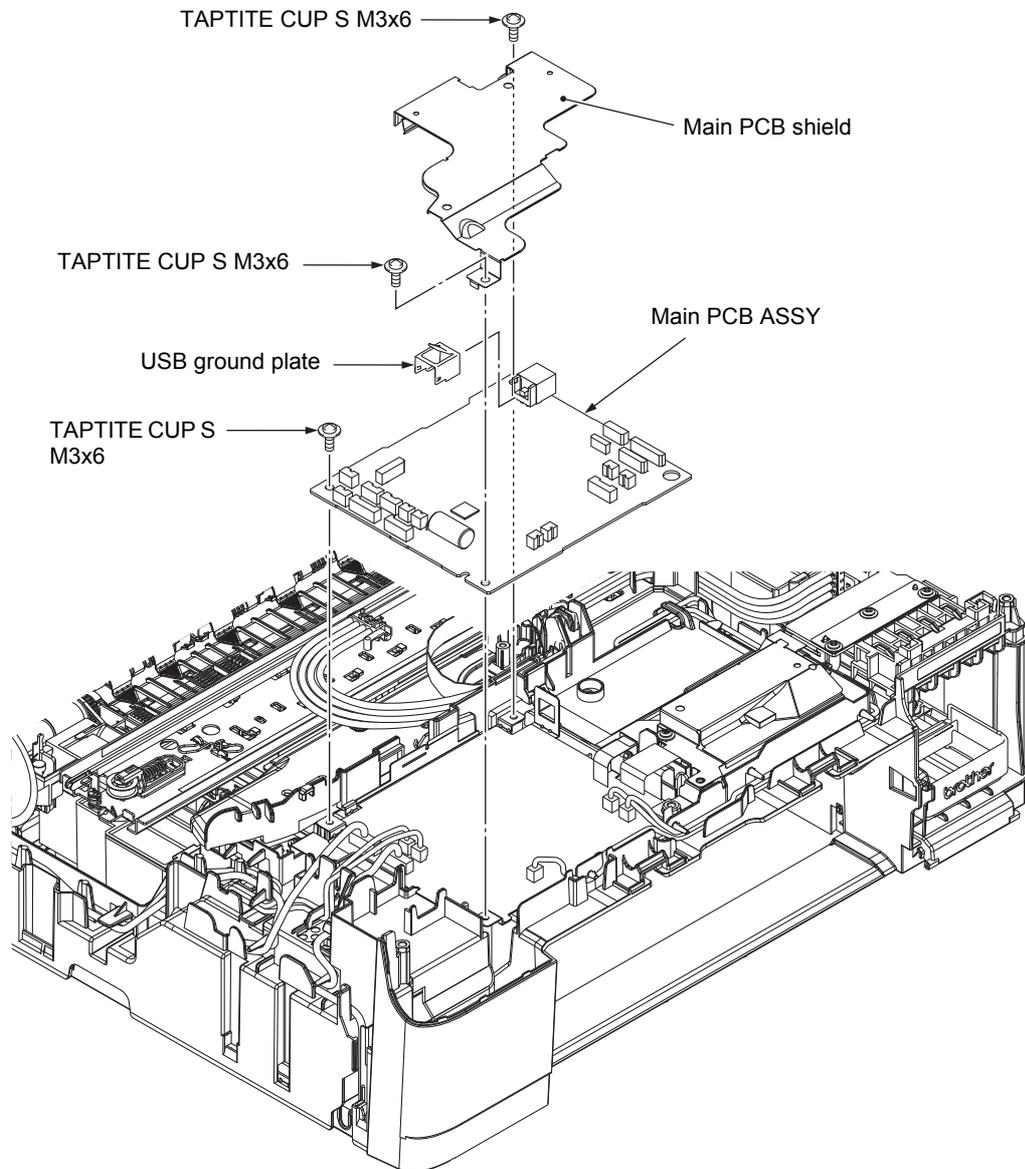
TAPTITE CUP S M3x6

(3_047L)

Assembling Note When the Main PCB ASSY is replaced, make adjustments by following Chapter 4 "1 IF YOU REPLACE THE MAIN PCB ASSY".

9.12 MJ PCB ASSY

(1) Remove the two screws of the TAPTITE CUP B M3x10 and the screw of the TAPTITE CUP S M3x6, and then remove the MJ upper frame.

(2) Remove the MJ PCB ASSY and the MJ lower frame from the Lower cover.

(3) Remove the two screws of the TAPTITE CUP S M3x6 and remove the MJ PCB ASSY from the MJ Lower frame.

TAPTITE CUP B M3x10

TAPTITE CUP S M3x6

TAPTITE CUP S M3x6

MJ upper frame

MJ PCB ASSY

MJ lower frame
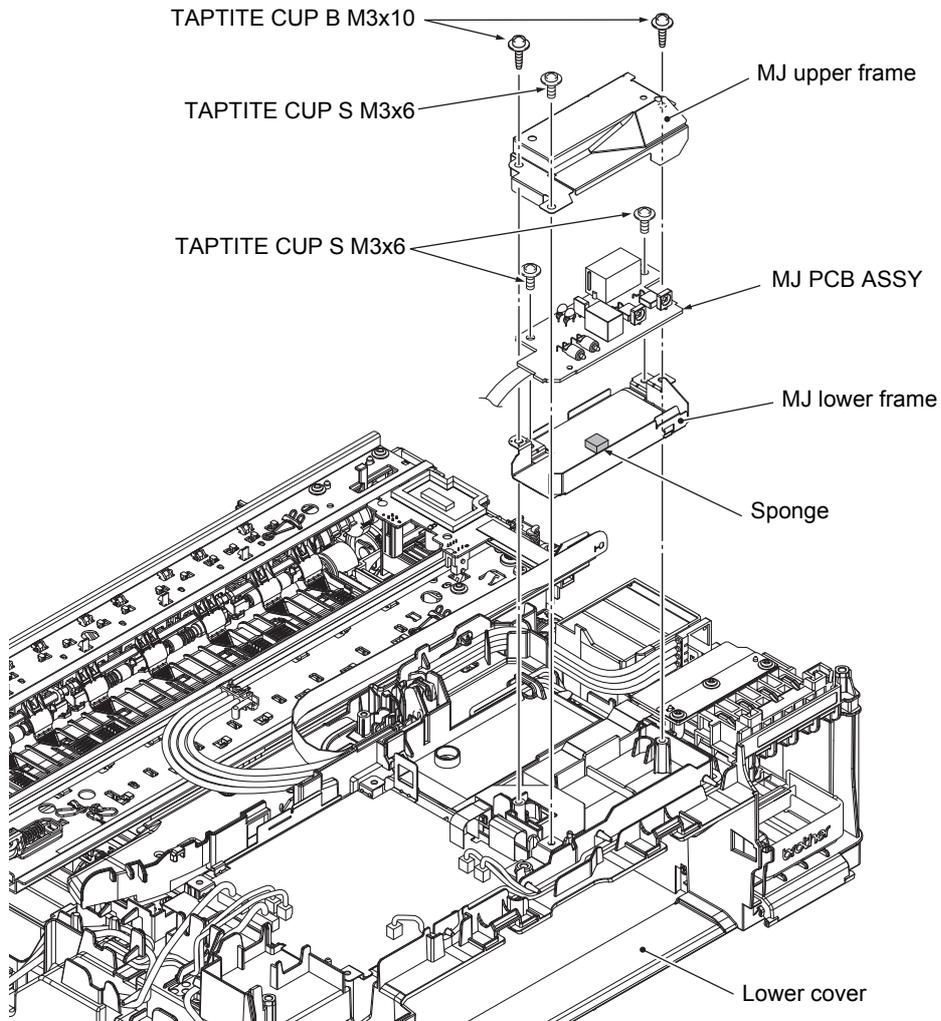
Sponge

Lower cover

(3_048L)

Assembling Note When installing the MJ PCB, make sure that the sponge is attached.

9.13 Power Supply PCB ASSY

(1) Remove the screw of the TAPTITE CUP B M3x10 and the screw of the TAPTITE CUP S M3x6.

(2) Remove the Power harness from the Lower cover.

(3) As shown below, press the top of the Power supply unit's lock "x" to release it from the latch "y" of the Lower cover, and then remove the Power supply unit from the bottom side of the Lower cover.
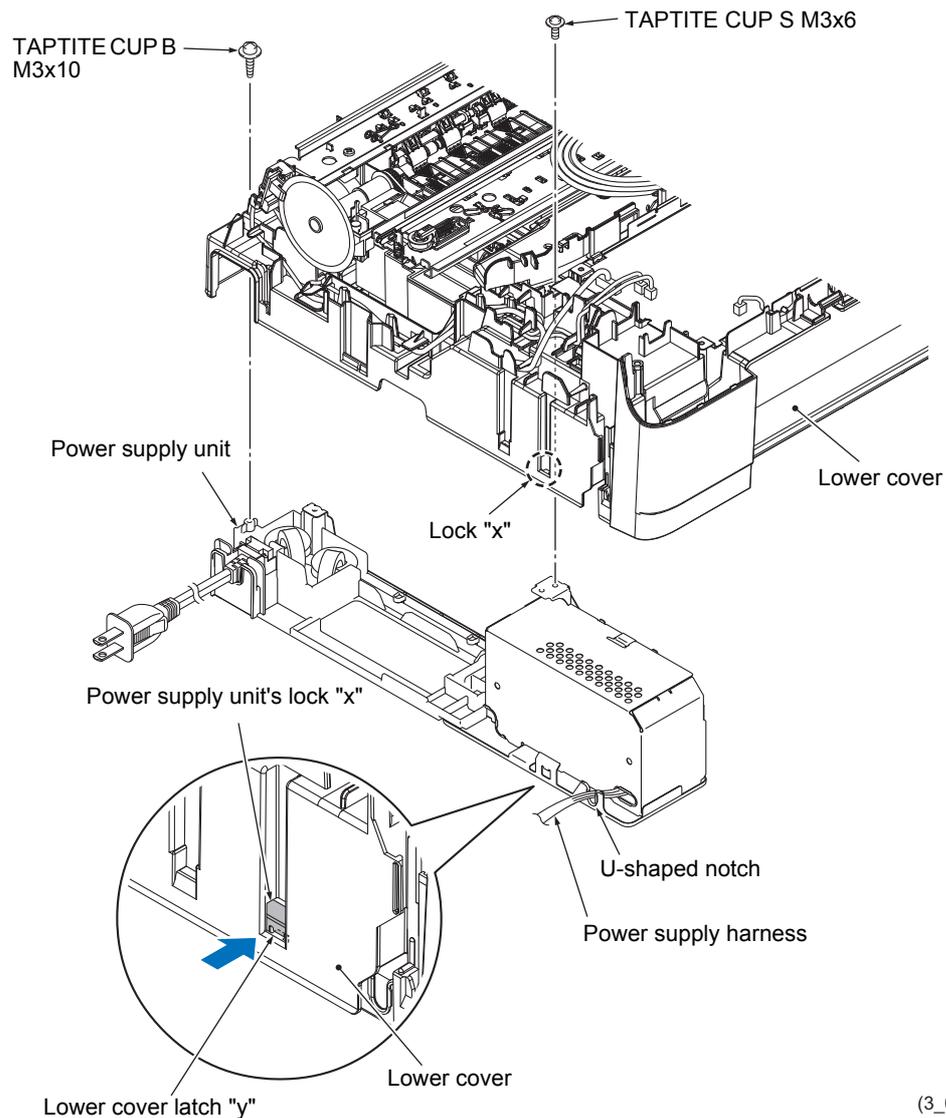
(3_049L)

Assembling Note

• Before installing the Power supply unit in the Lower cover, route the Power supply harness towards the U-shaped notch on the Lower power supply frame (refer to the illustration above).

• After installing the Power supply unit in the Lower cover, make sure that the Power supply unit's lock "x" is fitted into the latch "y" of the Lower cover.

• After installing the Power supply unit, route the Power supply harnesses as shown in the figure in Section 7-5 of this chapter to each Cable guide.

(4) <200V only> Remove the one screw of the SCREW PAN (WASHER) M4x8 DB from the Power cord holder.

(5) Remove the Power cord from the Cable guide.

(6) Remove the Power supply shield from the Lower power supply frame lock and the two stopper parts then pull it towards you.

(7) Disconnect the Power supply harness from the Power supply PCB.

(8) Remove the PS PCB insulator from the Lower power supply frame.

(9) Remove the three screws of the TAPTITE CUP S M3x6 and remove the Power supply PCB from the Lower power supply frame.
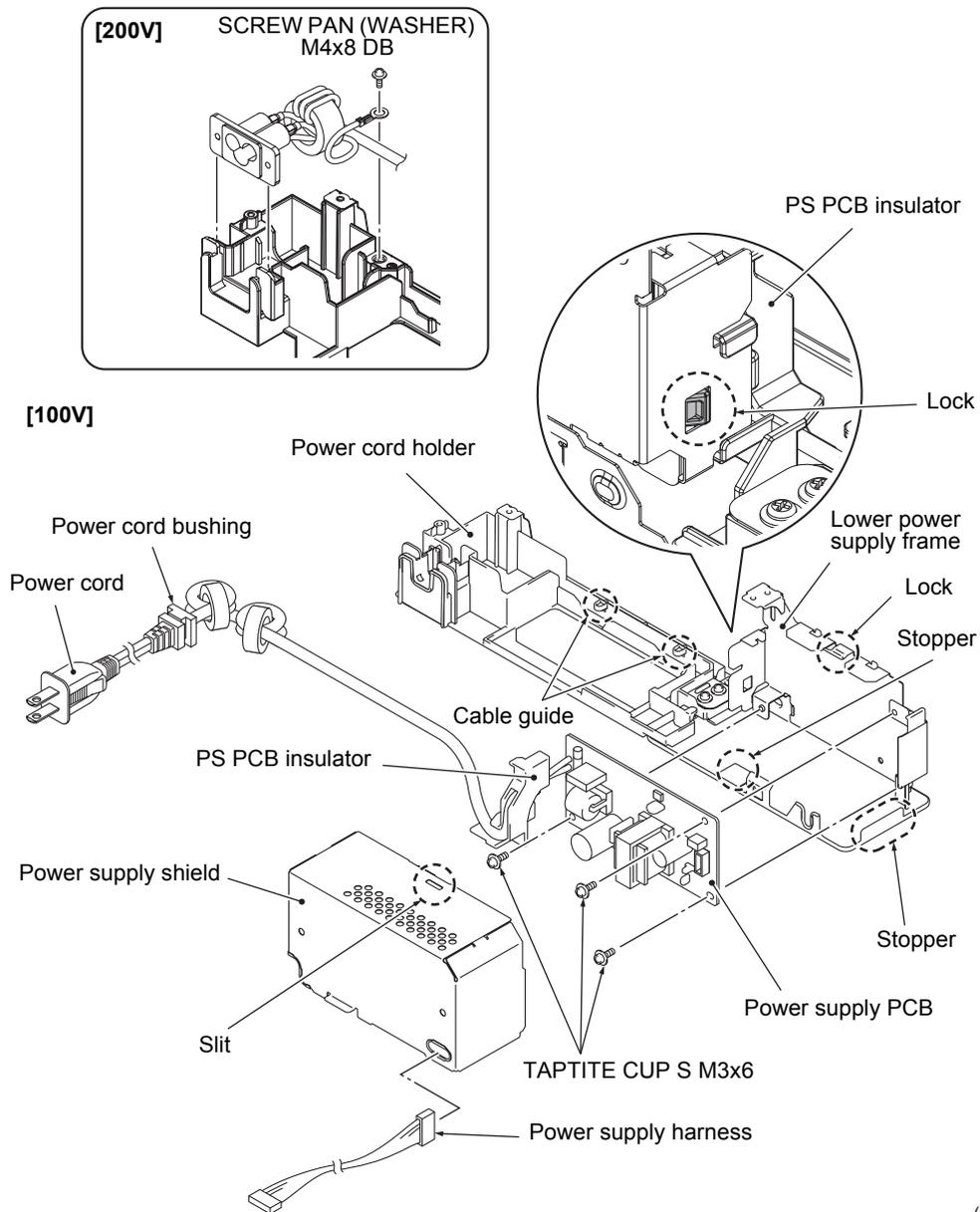
(3_090L)

Assembling Note When installing the Power supply shield, insert the part that bends to the outside of the left end under the stopper of the Lower power supply frame, insert the front end into the Lower power supply frame rib, and fix the top slits in place by locking the Lower power supply frame.

Power supply shield

Lock

(Left)

Lower power supply frame

Power supply shield

Lower power supply frame stopper

Power supply harness

Lower power supply frame front rib
(Put the front end of the Power supply shield into the inside of the front rib of the Lower power supply frame)
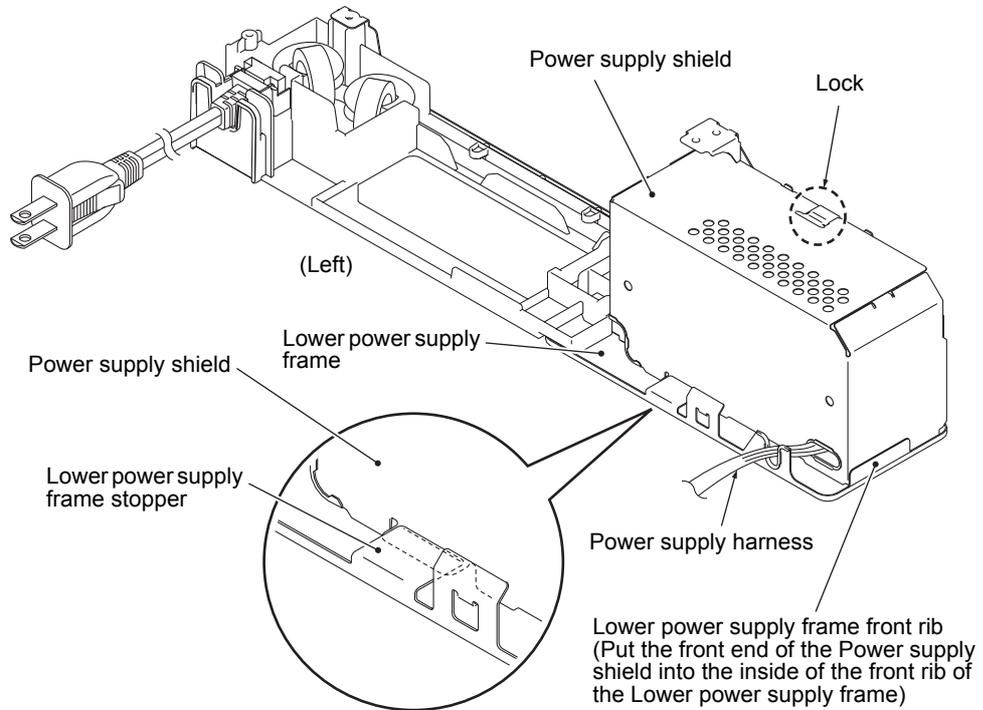
(3_091)

9.14 Carriage PCB ASSY

Tip When the Head/carriage unit has not been removed, refer to "9.3 Head Joint Rubber / CR Timing Belt / Head/Carriage Unit" in this chapter to remove the Carriage PCB ASSY from the Head/carriage unit.

(1) Remove the MJ PCB flat cable spacer.

(2) Remove the Carriage flat cable from the Lower cover together with the Flat core.

Carriage PCB ASSY

Carriage flat cable

MJ PCB flat cable spacer

Flat core

Lower cover
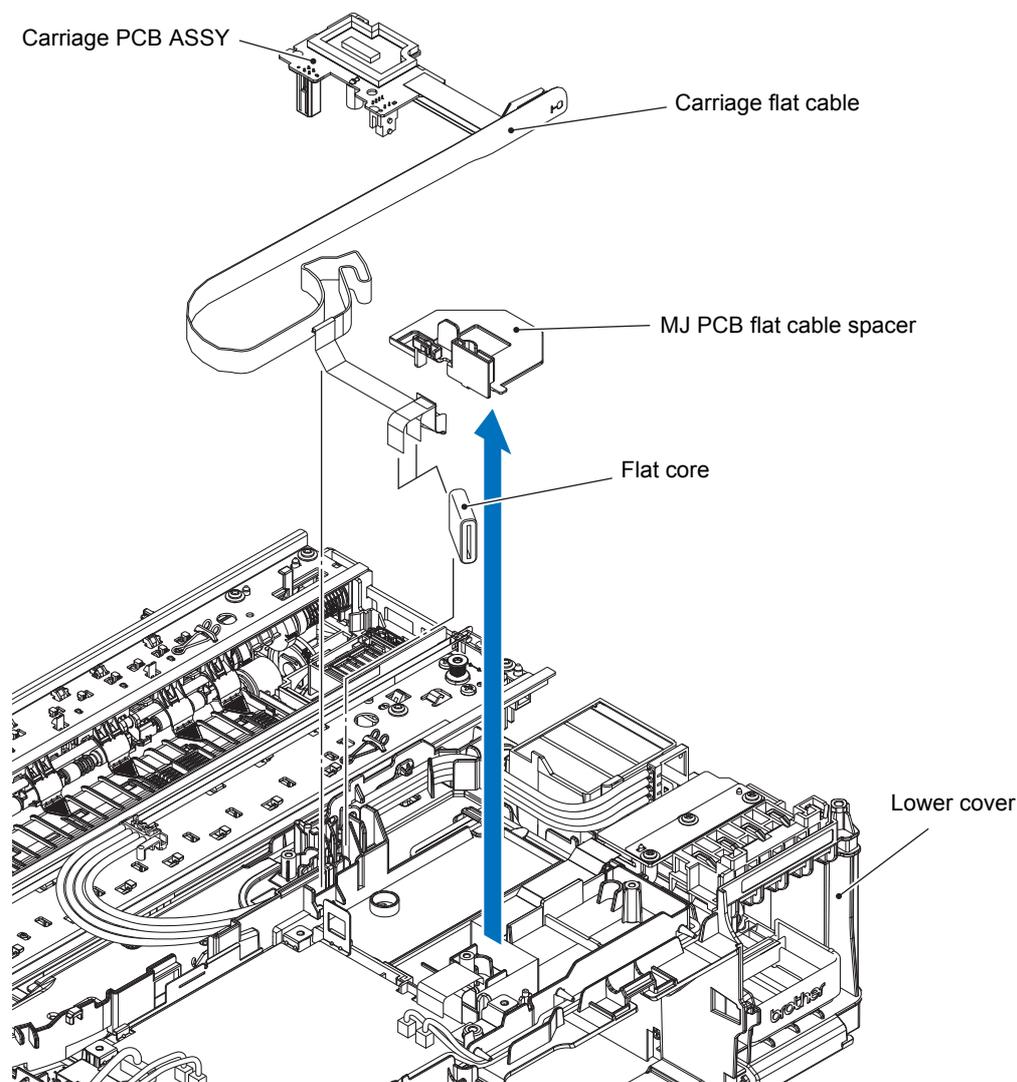
(3_050L)

Note When replacing the Carriage PCB ASSY, remove the Flat core from the old cable and attach it to the new cable.

Assembling Note When attaching the Carriage PCB ASSY, route the Carriage flat cable as shown in the figure of Section 7-5 in this chapter.

Remove by pulling the lock

Head flat cable

Head/carriage unit

Carriage PCB ASSY

Carriage PCB ASSY

Film

Carriage PCB ASSY

Lock spring

Carriage flat cable

Opening

Head/carriage unit

Upper cover   Boss   Head flat cable
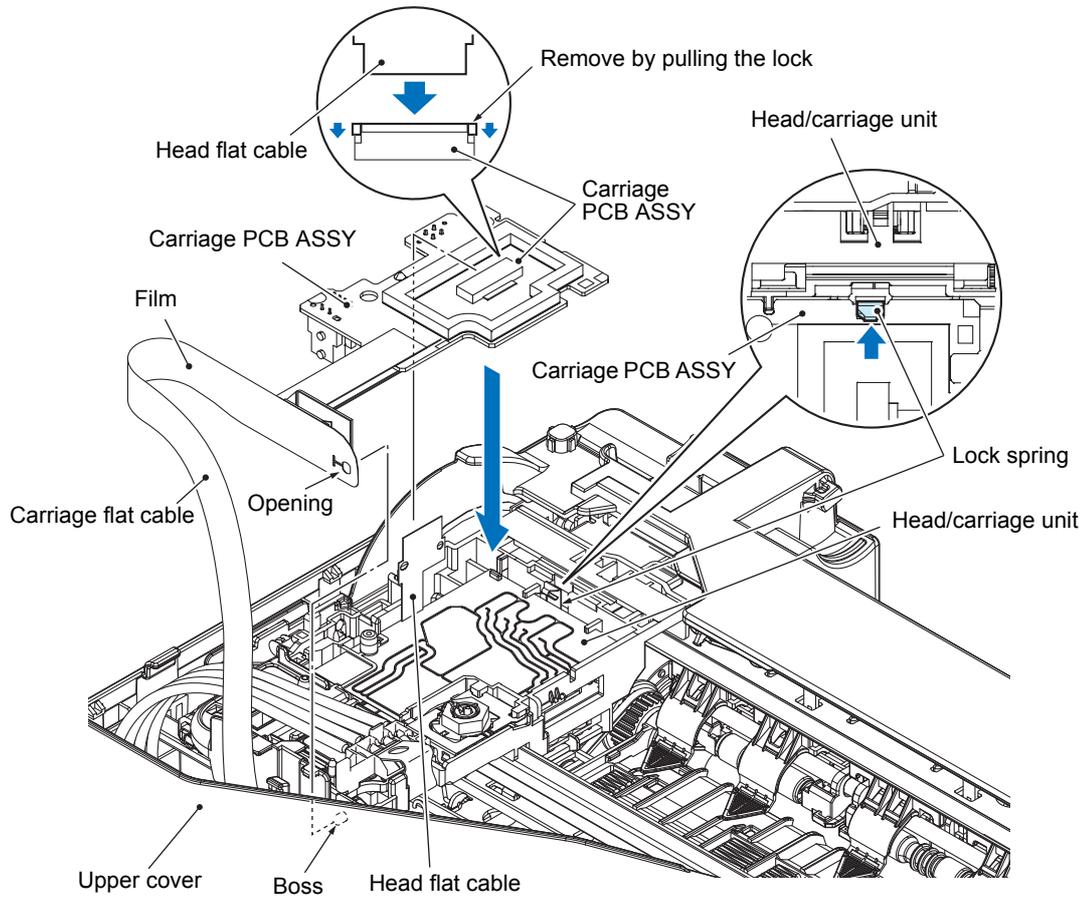
(3_051L)

9.15 Ink refill ASSY

Tip When the Head/carriage unit has not been removed, refer to "9.3 Head Joint Rubber / CR Timing Belt / Head/Carriage Unit" in this chapter to remove the Ink supply tubes from the Head/carriage unit.

(1) <For Ink tank models only>
    If the Ink refill ASSY contains ink, use a Ink extraction syringe to extract the ink.

Ink extraction syringe

Ink refill ASSY
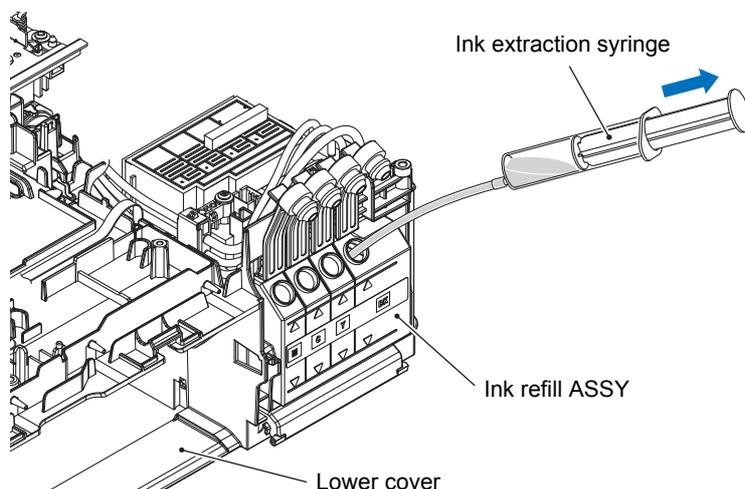
Lower cover

(3_131L)

(2) Remove the Ink supply tubes (4 tubes) from the tube guide on top of the Tube support plate, take out the sponge, and remove it from the Tube support wire.

(3) Take out the Ink absorber box from the Lower cover.

Tip When the Main PCB ASSY has not been removed, disconnect the Ink sensor flat cable from the Main PCB ASSY.

(4) Remove the Ink sensor flat cable from the Lower cover.

(5) <For Ink tank models only>
    Slightly slide the Ink refill ASSY to the rear with the Ink refill cap opened, and remove the four Ink refill caps from the Ink refill ASSY.

Ink refill caps

Ink refill ASSY

Lower cover
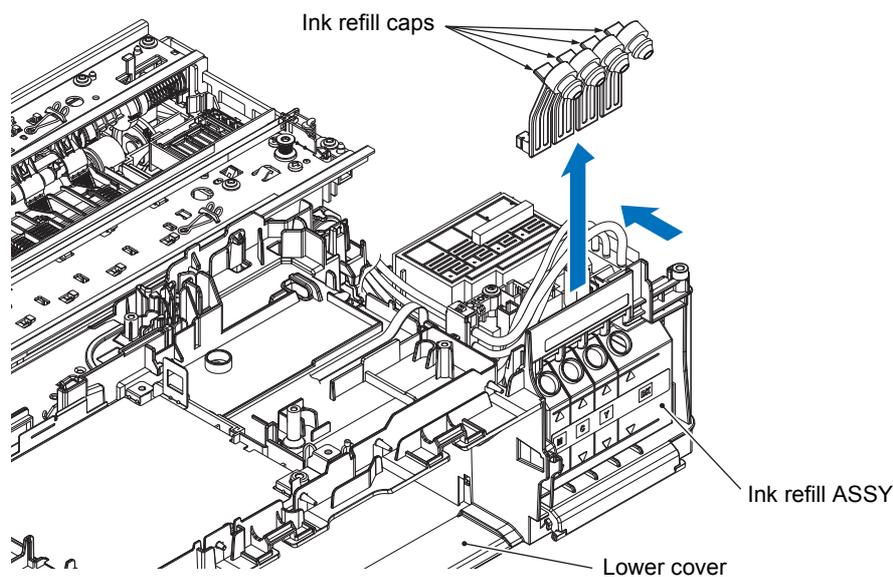
(3_132L)

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(6) Take out the Ink refill ASSY.

Ink supply tubes　Head joint

Ink cartridge detection sensor PCB

Ink refill ASSY

Black
Yellow
Cyan
Magenta

Ink sensor flat cable

Ink absorber box

Ink remaining sensor flat cable guide

Lower cover　Sponge

Tube clamp (1)
Tube clamp (2)

Black
Yellow
Cyan
Magenta

Tube guide

Tube support plate　Tube support wire elbow
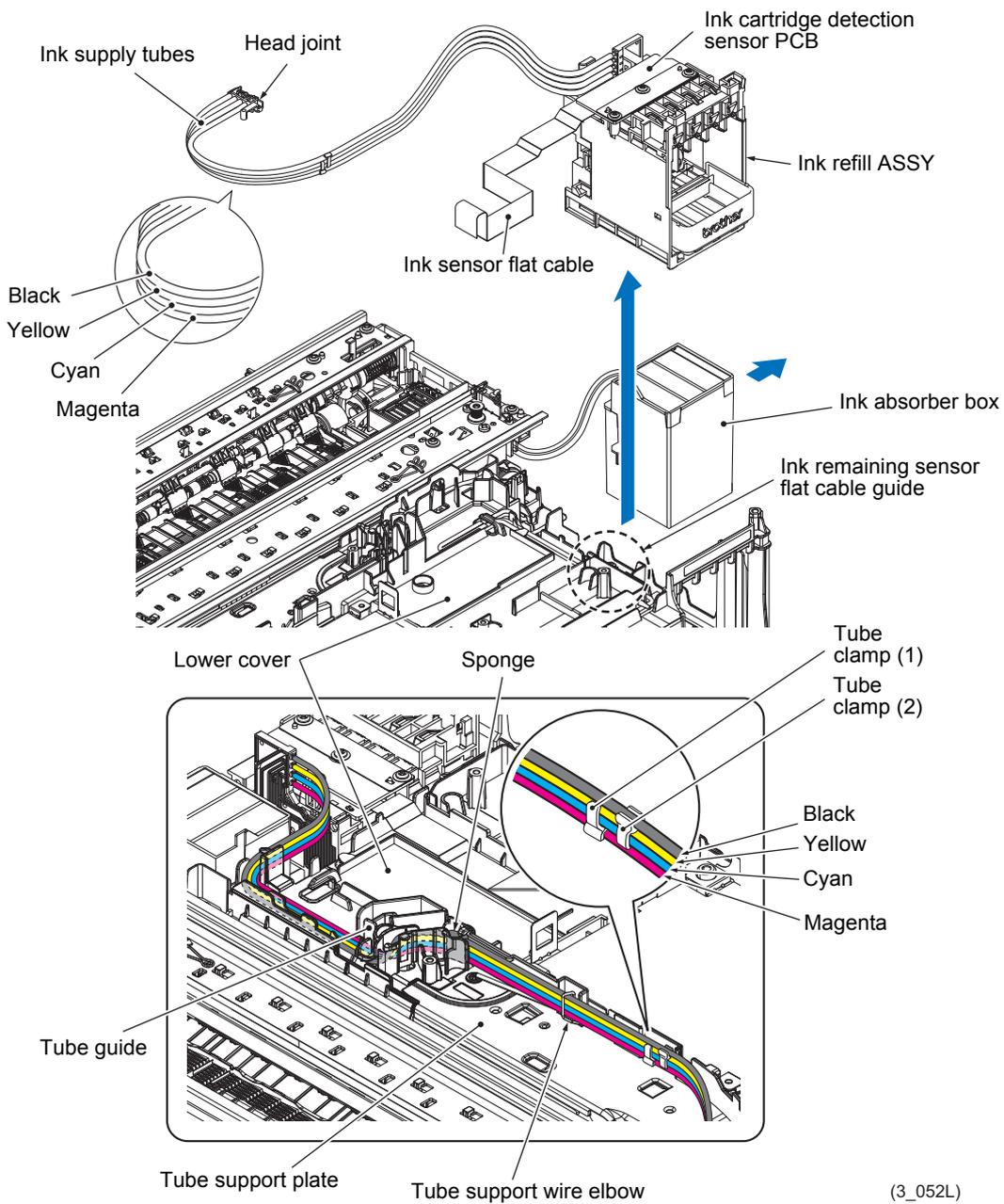
(3_052L)

Note • Do not remove the Protective part. Doing so in this state will make the ink inside the ink tubes flow out.

• The Ink absorber felt (for the Ink refill ASSY) attached to the bottom of the Ink refill ASSY may get stained with ink. If there is a significant stain, replace the Ink absorber felt.

Assembling Note

• When attaching the tube clamps to the Ink supply tubes, view the machine from the front, attach the right tube clamp (1) to magenta, bind cyan and yellow, attach the left tube clamp (2) to black, and bind yellow and cyan (refer to the illustration on the previous page).

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- Attach the tube clamp by aligning it to the dented part of the Tube support plate shown in the illustration in the previous page.

- After installing the Ink refill ASSY, route the Ink supply tubes to the tube guide based on the color order described in the previous page without overlapping. Next, set it into the sponge and route it to the Tube support wire elbow.

- Attach the Head joint to the Head/carriage unit using the joint spring as shown below. Make sure that all of the four Ink supply tubes are routed in front of the guide boss.
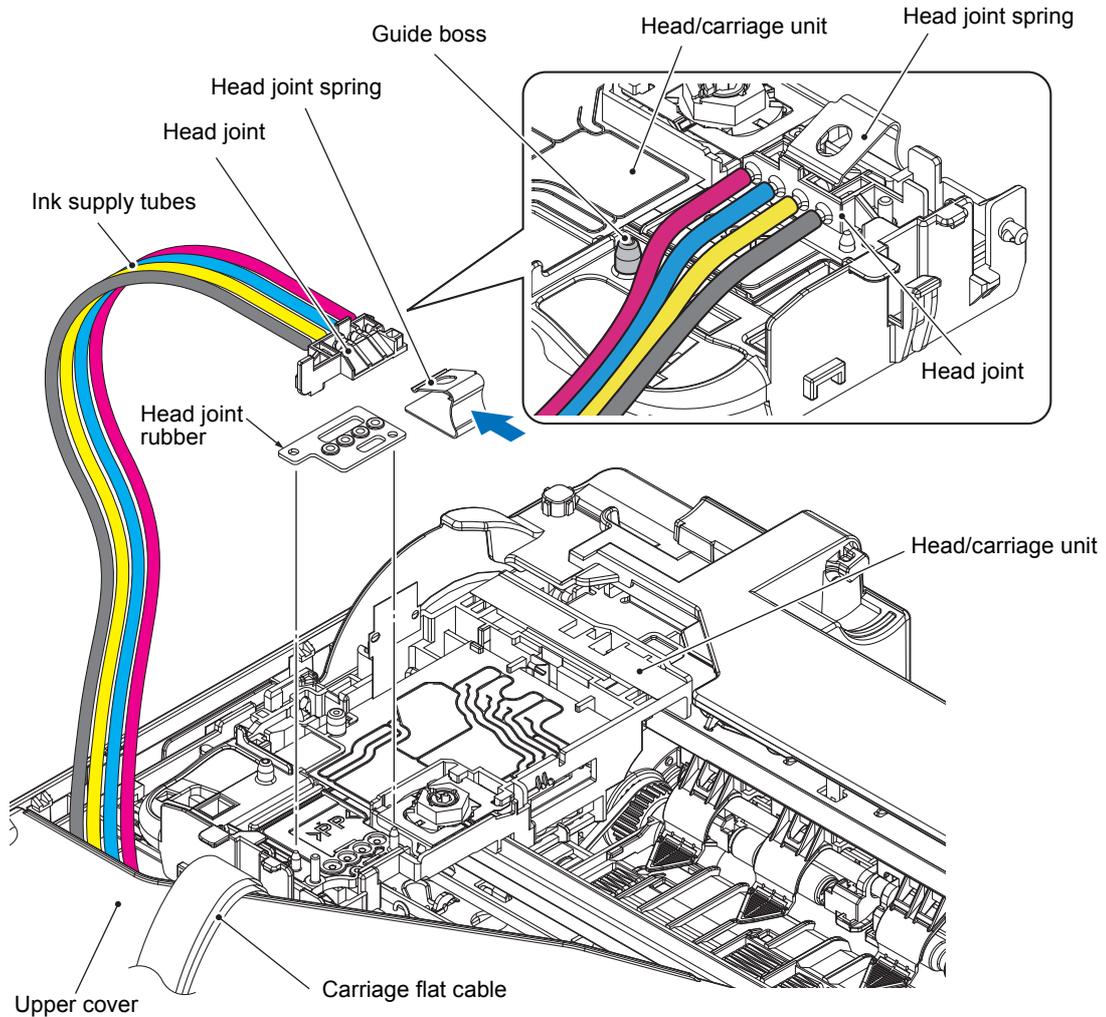
(3_053L)

9.16 Ink Absorber Box / Ink Absorber Felt (For Ink Refill ASSY)

Note Do not remove the Ink absorber box unless it needs to be replaced.

(1) Pull out the main Drain tube and Air vent tube from the Ink absorber box.

Note • Pinch the end of the main Drain tube with a clip in order to prevent drained ink from leaking and the machine from getting stained with leaked ink.

• Do not place a pulled out tube on top of the Main PCB ASSY. If the PCB gets stained with ink, wipe it off with a clean, dry cloth.

(2) Remove the Ink absorber box from the Lower cover and install the new one immediately.

Note If the Ink absorber box and/or surrounding parts get stained with ink, wipe it off with a waste cloth.

View from the right

Air vent tube   Maintenance unit

Ink absorber box

Do not connect the Main drain tube at an angle. Connect it firmly all the way inside.

Main drain tube

Ink absorber felt (for the Ink refill ASSY)

Lower cover

(3_054L)
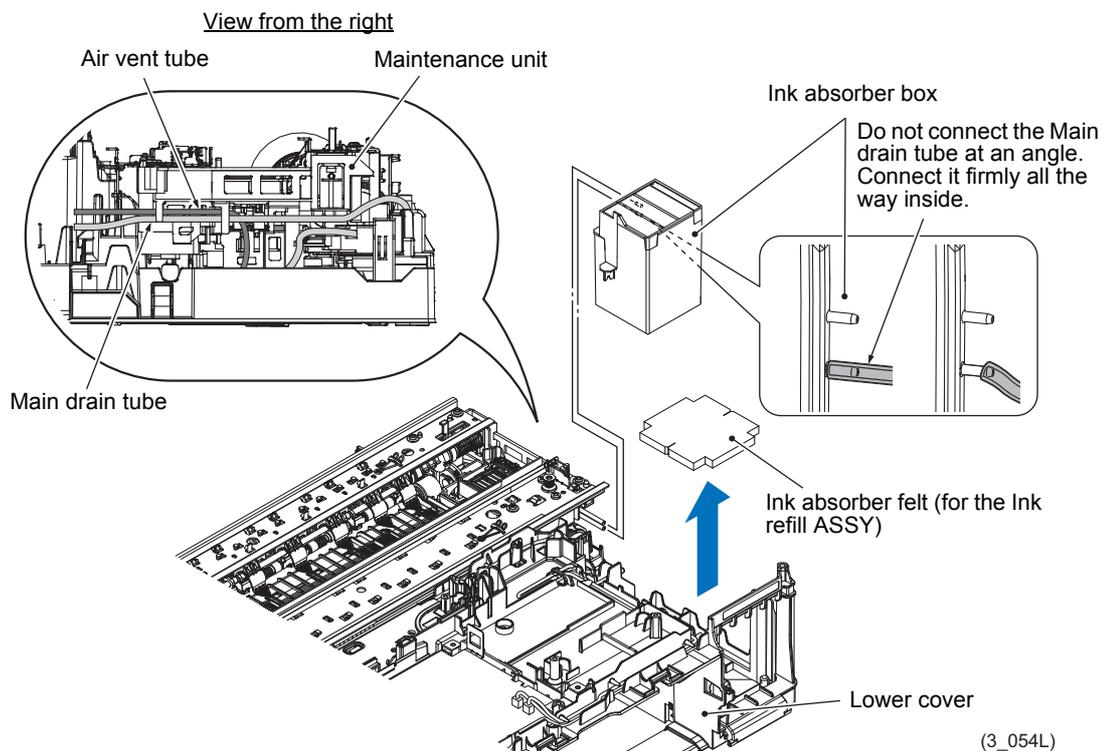
(3) Take the Ink absorber felt (for the Ink refill ASSY) out of the Lower cover.

Assembling Note

• When connecting the main Drain tube and Air vent tube to the Ink absorber box, connect the Air vent tube to the upper port and the main Drain tube to the lower port of the box. Connecting them the other way around will cause a large amount of ink to overflow during purging.

• Be careful not to connect the main Drain tube and Air vent tube to the Ink absorber box at an angle. Doing so will cause the tube to get disconnected and leak ink. After connecting the tubes, make sure that no ink is leaking.

• When the Ink absorber box is replaced (without replacing the Main PCB ASSY), follow the procedure in Chapter 4, Section 1.12 to reset the purge count.
It is also recommended to replace the Flushing box and reset the flushing count as necessary since the flushing count may also be approaching the upper limit.

9.17 CR Encoder Strip / Encoder Strip Guard Film

CR encoder strip

(1) On the left end of the CR frame, press the rear end of the Encoder strip spring inward and release the left and right end of the CR encoder strip from the hook.

(2) Rotate the CR encoder strip in the direction of the arrow shown below. Remove it after aligning the left end square opening with the boss-shape of the strip support.

Note Be careful not to damage the CR encoder strip. If the strip is stained or damaged, replace it with a new one.

(3) Detach the Encoder strip spring.

Pointing upward

CR encoder strip

Encoder stop spring

CR frame

Strip support

(3_055L)
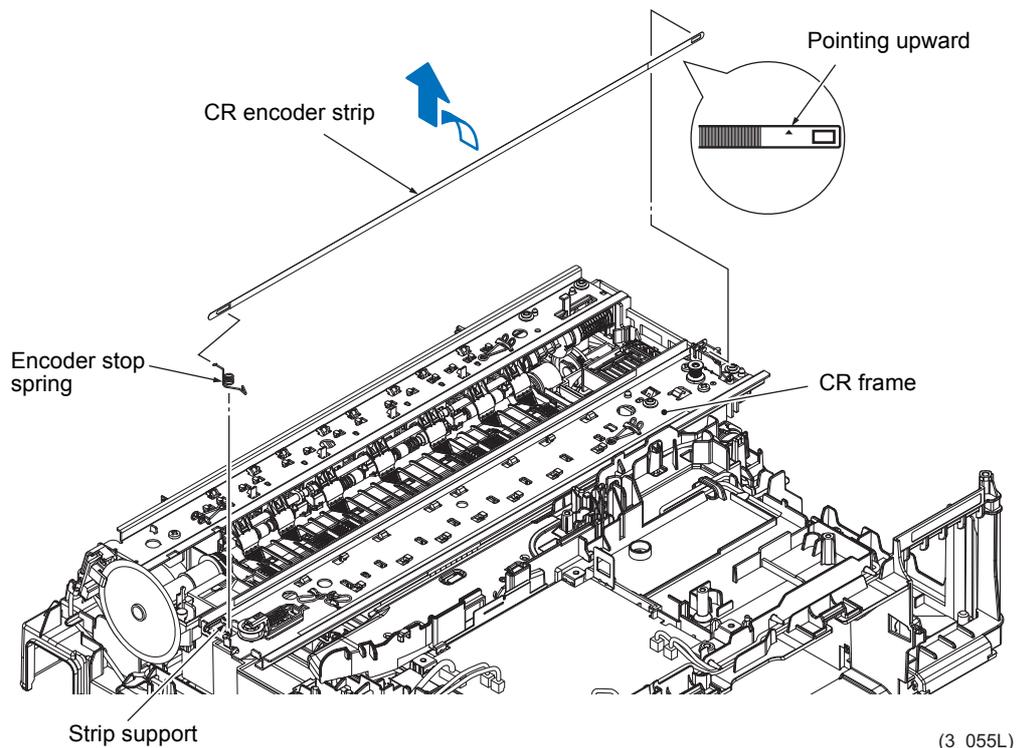
Assembling Note Attach the CR encoder strip with the end with the ▲ mark on the right (Carriage motor side) and the ▲ mark facing upward. (Refer to the illustration above)

Encoder strip guard film

(4) On the right end of the CR frame, press the rear end of the Guard film spring inward and release the left and right end of the Encoder strip guard film from the hook.

(5) Rotate the Encoder strip guard film in the direction of the arrow shown below. Remove it after aligning the right end square opening with the boss-shape of the strip support.

(6) Detach the Guard film spring.

Encoder strip guard film

Guard film spring

Strip support

CR frame

Strip support

(3_056L)
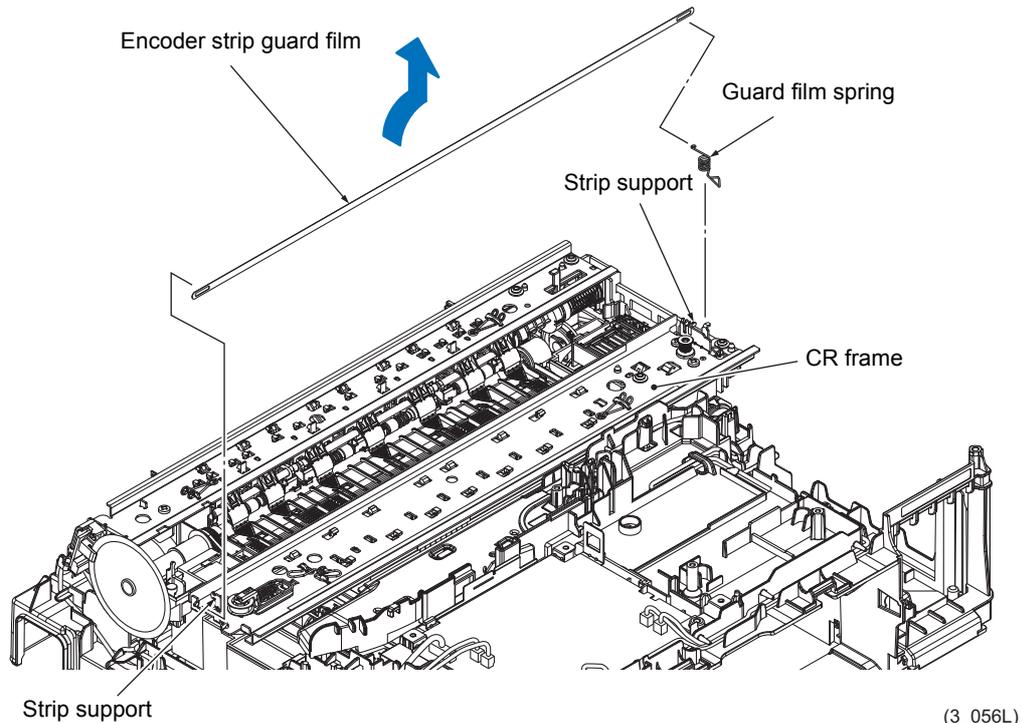
9.18 PF Encoder Disk / PF Encoder Sensor PCB ASSY

(1) If the PF encoder disk needs to be replaced, peel it off from the PF roller gear L.

Note • Once removed, the PF encoder disk will become unusable and will have to be replaced with a new one.

• Remove any adhesive remaining left on the PF roller gear L.

(2) Remove the PF/Registration sensor harness ASSY wiring.

(3) Remove the screw of the SCREW BIND M2x10 then remove the PF encoder sensor PCB ASSY.

Paper feed roller gear L

Encoder PCB support

PF encoder sensor PCB ASSY

SCREW BIND M2x10

PF encoder disk

PF/Registration sensor harness ASSY

PF encoder sensor harness
(a part of the PF/Registration sensor harness ASSY)

(3_057L)
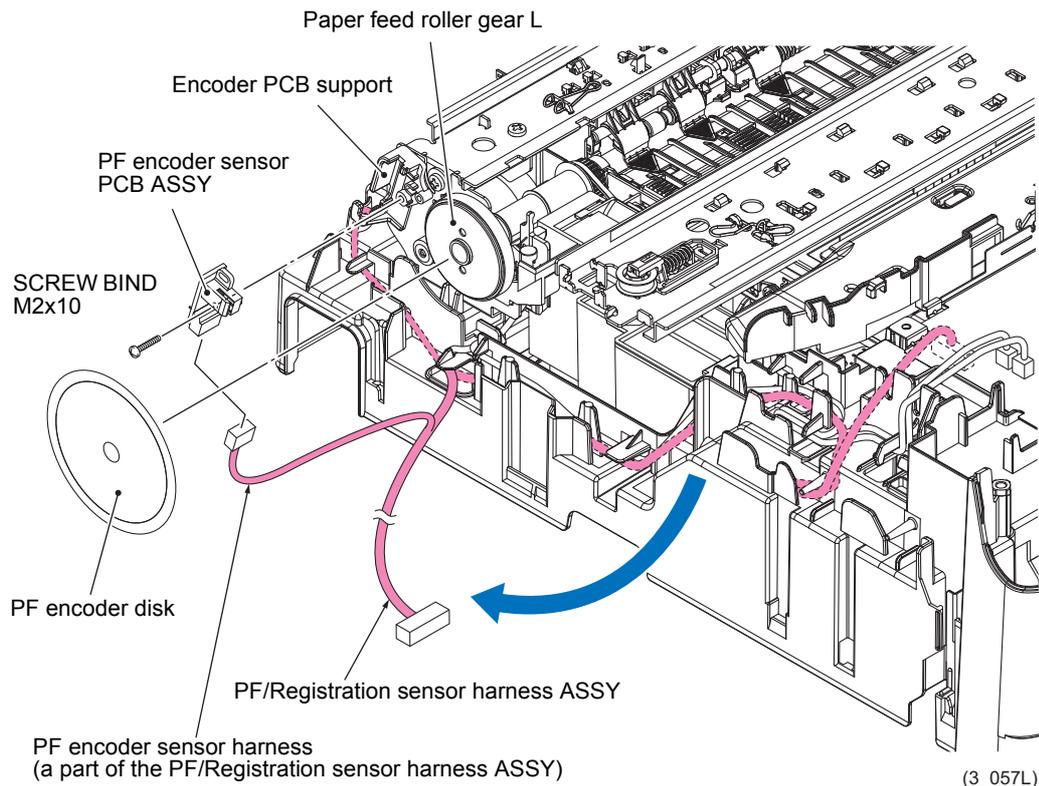
Assembling Note It is more convenient to use a spatula when attaching the PF encoder disk to the Paper feed roller gear L. Wear clean gloves to protect the disk surface from dust or fingerprints.

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9.19 Carriage Motor ASSY

(1) Remove the boss through the opening on the Tube support plate by using a flathead screwdriver, and then remove the Tube support plate from the Lower cover, sliding it to the left.

(2) Remove the Carriage motor harness wiring.

Opening
Boss
Tube support plate
Carriage motor harness
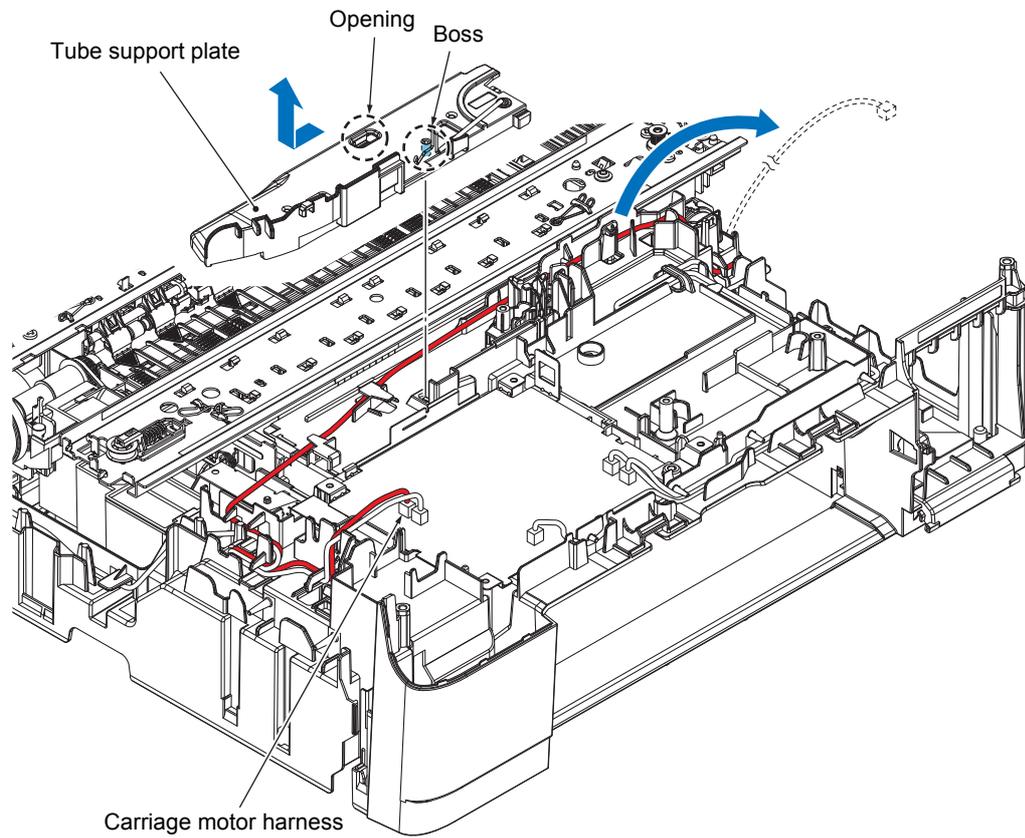
(3_058L)

(3) Remove the two CR frame springs and two screws of the TAPTITE CUP B M3x10, and remove the CR frame.

CR frame spring R

TAPTITE CUP B M3x10

CR frame

CR frame spring L

Release lever L
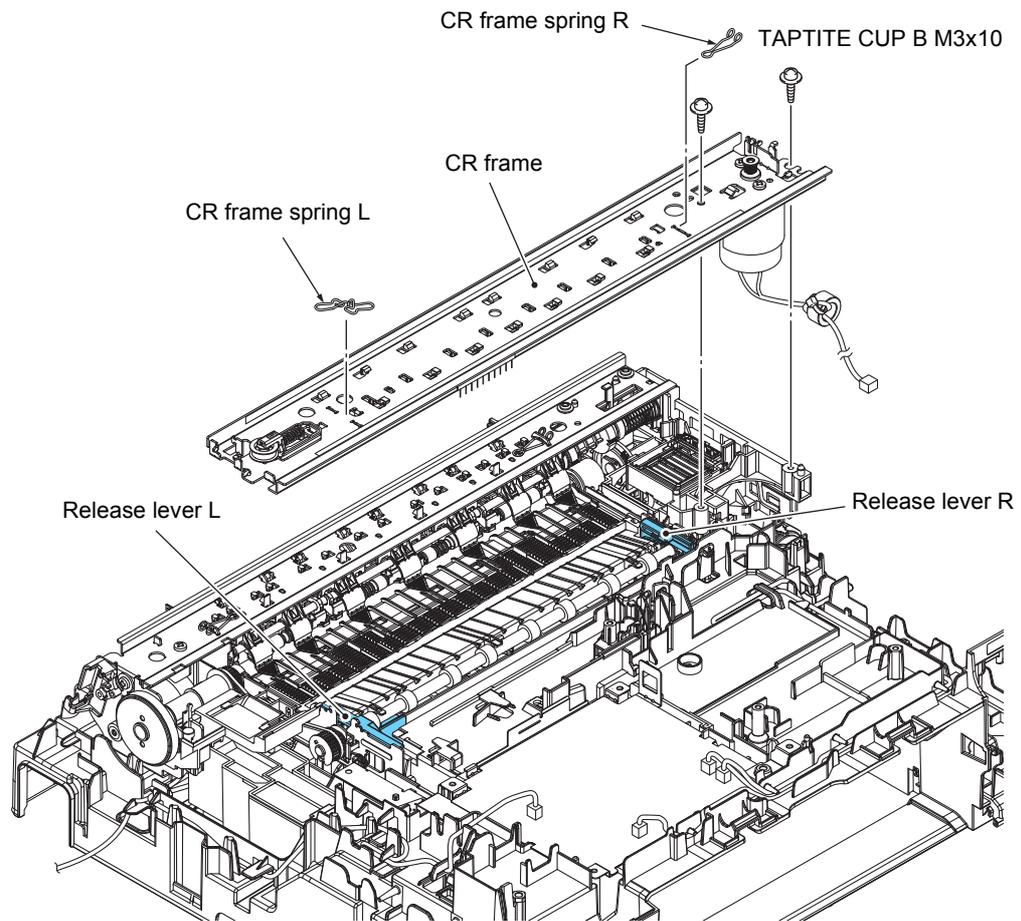
Release lever R

(3_059L)

Assembling Note Make sure that the Release levers L/R are on your side.

(4) Remove the two screws of the SCREW BIND M3x6 from the CR frame, and remove the Carriage motor and Motor bracket from the CR frame.

SCREW BIND M3x6

CR frame

Motor bracket

Carriage motor
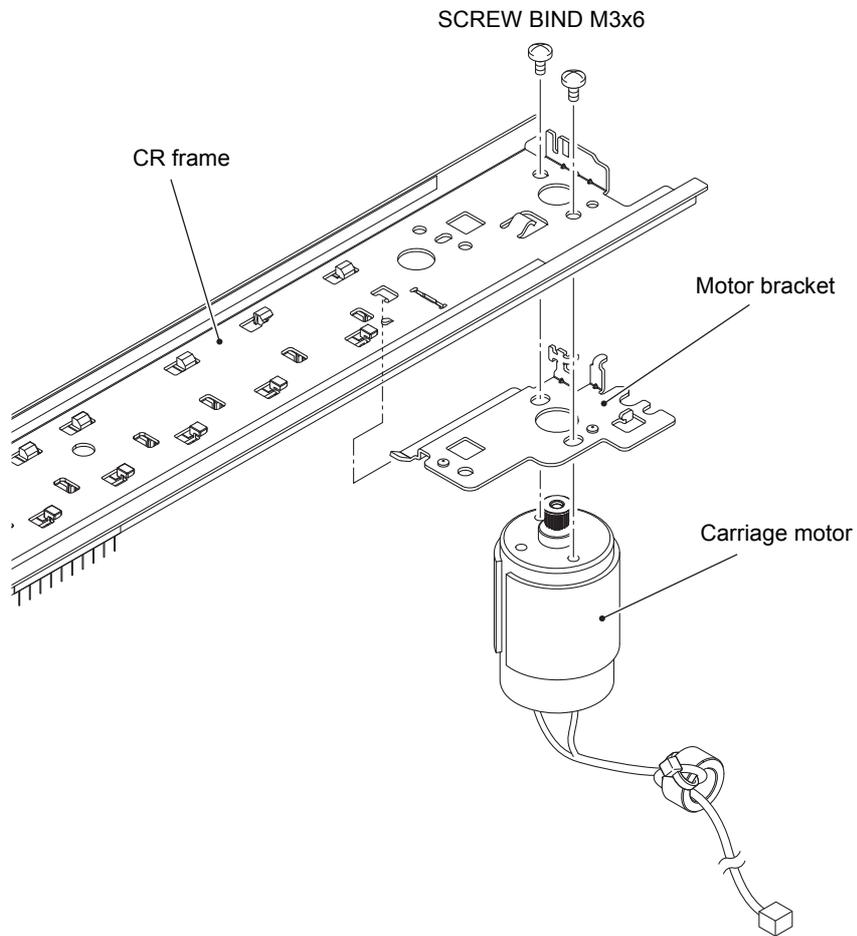
(3_060L)

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9.20 Flushing Base / Flushing Box

(1) Remove the Flushing base.

(2) Release the hook, lift up the front end of the Flushing box, and remove the Flushing box.

Flushing base

Flushing box

Hook

(3_061L)
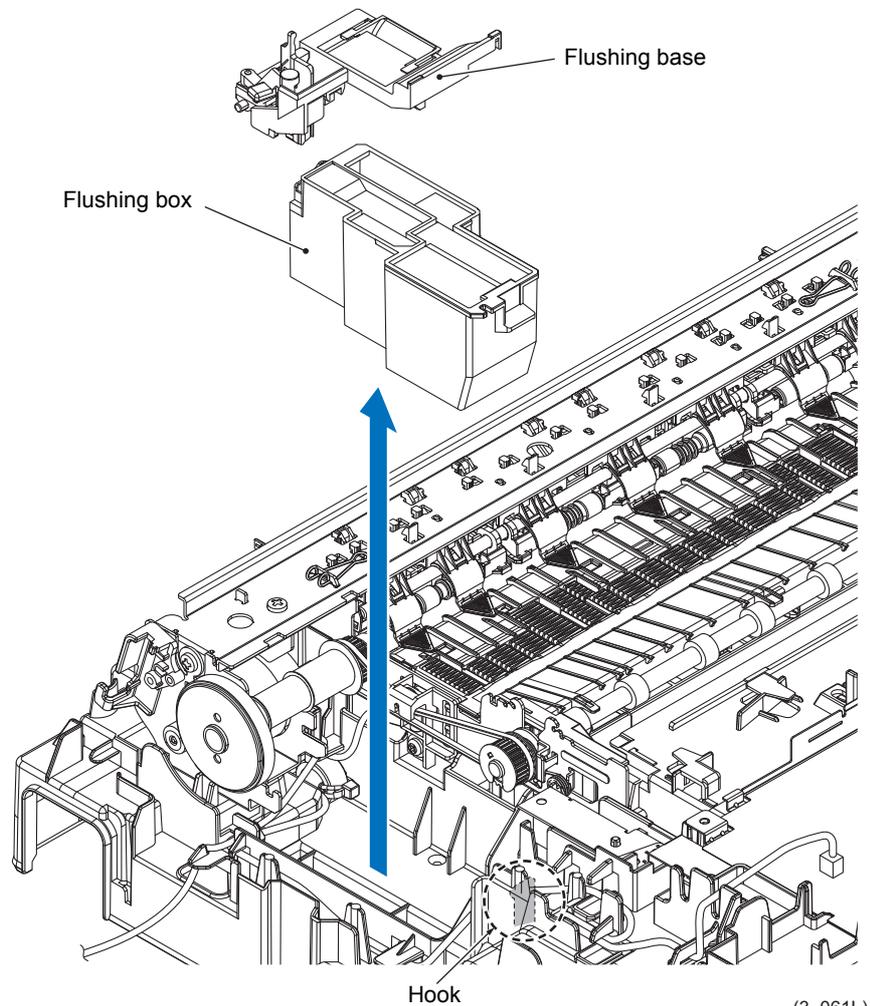
Assembling Note When the Flushing box is replaced (without replacement of the Main PCB ASSY), reset the flushing count as described in Chapter 4 "1.12 Reset Purge and Flushing Counts (Maintenance mode 80)".
It is also recommended that the Ink absorber box be replaced and the purge count be reset as necessary since the purge count may approach the upper limit.

9.21 Paper Feed Motor

(1) Remove the two screws of the TAPTITE CUP B M3x10 and two screws of the SCREW BIND M3x6, remove the two CR guide rail springs, and then remove the CR guide rail.

CR guide rail spring

TAPTITE CUP B M3x10

CR guide rail spring

CR guide rail

SCREW BIND M3x6

SCREW BIND M3x6
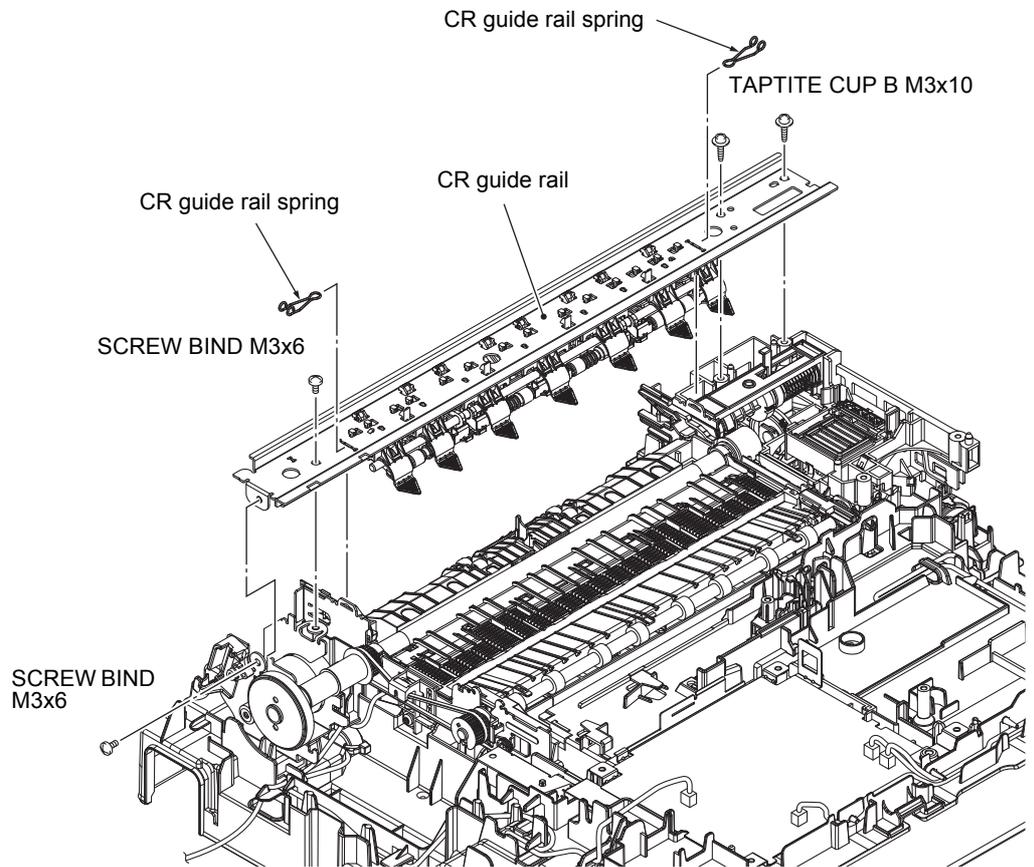
(3_062L)

(2) Release the wiring of the Paper feed motor harness.

(3) Turn the Paper feed motor frame ASSY 45 degrees in the direction of the arrow and pull it straight up.

It may not be pulled straight up depending upon the position of the black bushing. Rotate the bushing to the proper position and pull it out.

Paper feed motor frame ASSY

Paper feed motor harness

Bushing
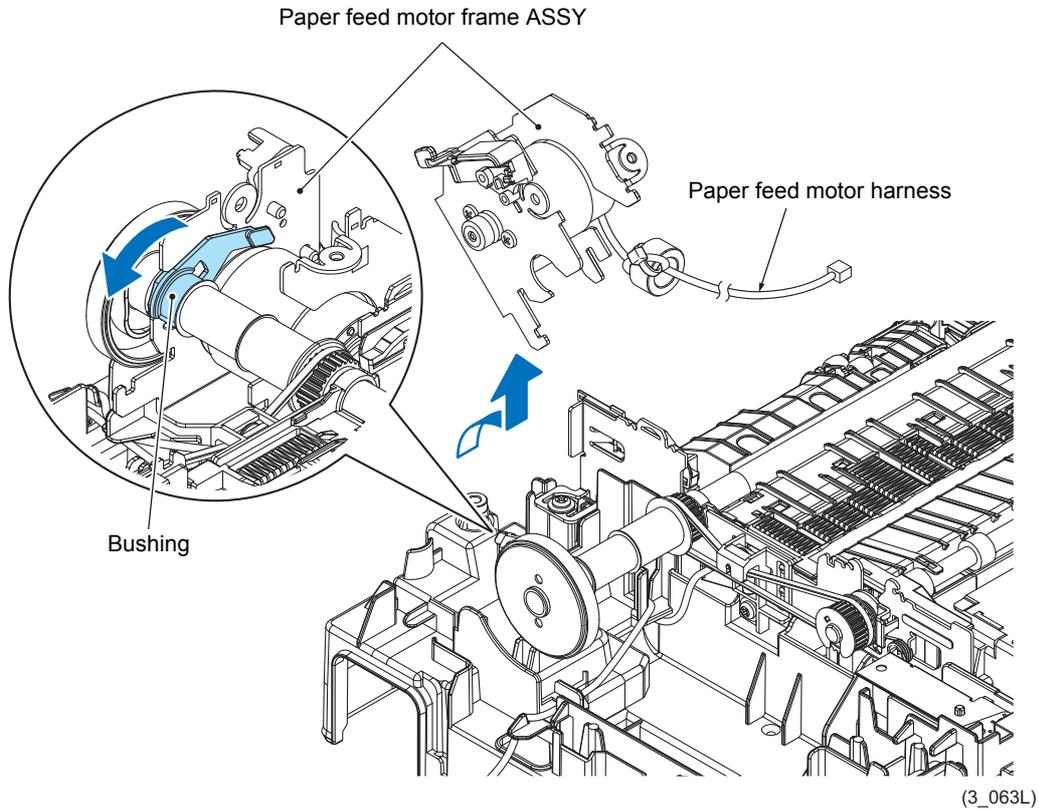
(3_063L)

(4) Remove the two screws of the SCREW BIND M2.6x4 and remove the Paper feed motor from the Paper feed motor frame.

Paper feed motor

Paper feed motor frame

SCREW BIND M2.6x4
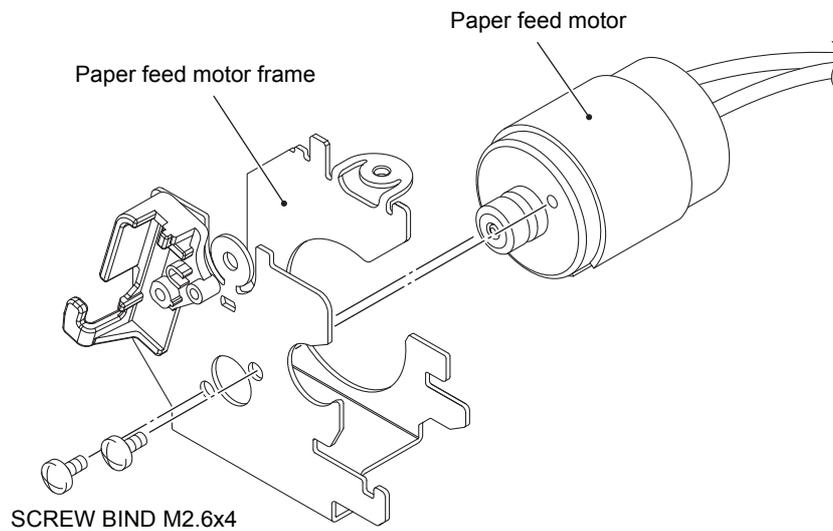
(3_064L)

Confidential

9.22 Maintenance Unit

(1) Remove the Purge cam sensor harness wiring.

Purge cam sensor harness
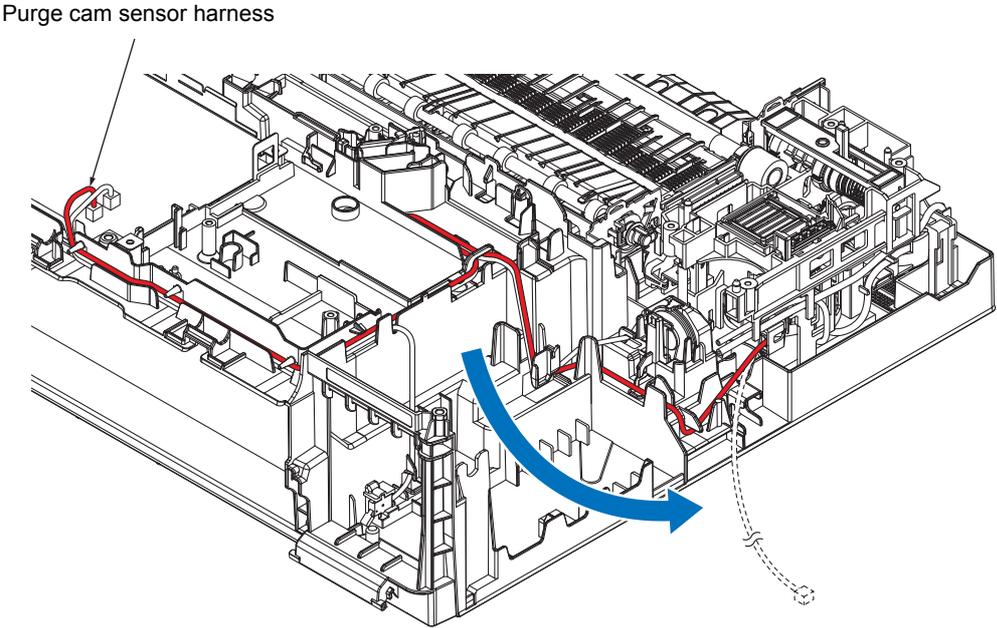
(3_065L)

(2) Remove the Maintenance unit.

(3) Remove the Ink absorber felt (for the Maintenance unit).

Maintenance unit

Ink absorber felt
(for the Maintenance unit)

(Rear)
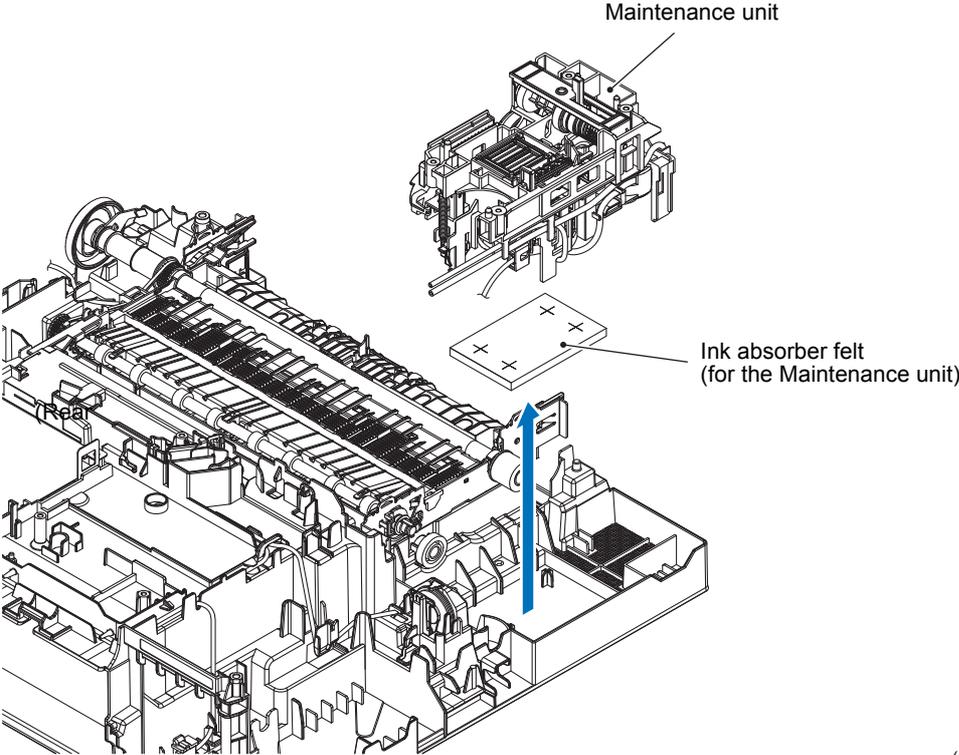
(3_066L)

9.23 Paper Feed Roller

(1) Remove the Paper ejection roller belt.

Assembling Note Route the Paper ejection roller belt through the tension block in advance.

Tension block

Paper ejection roller belt

(3_067L)
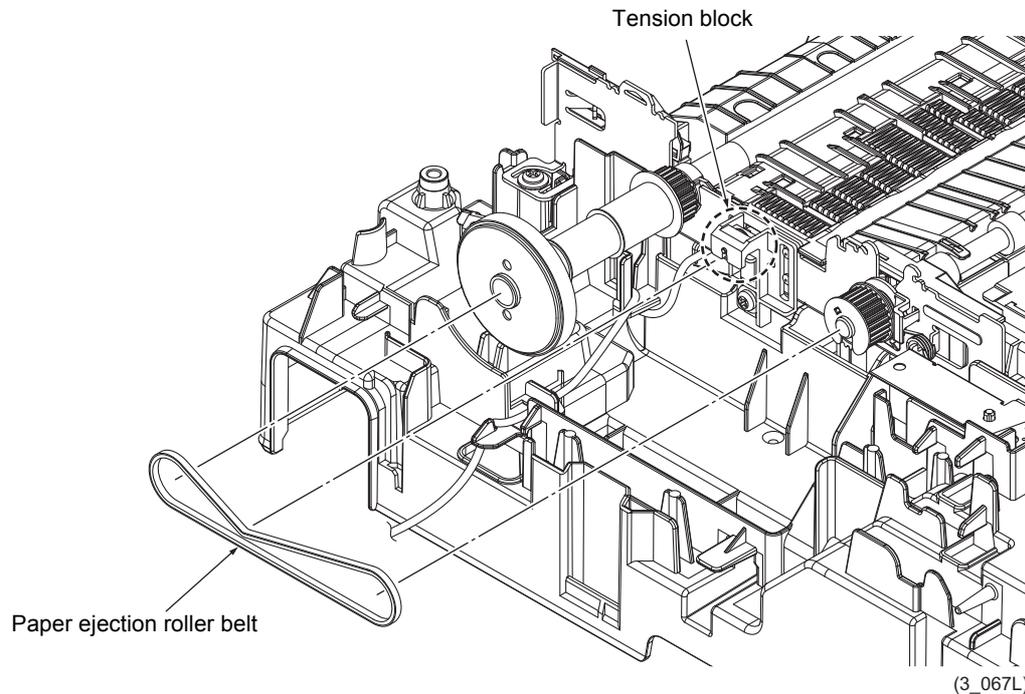
(2) Push the Release levers backward.

(3) Remove the right and left bearings from the bosses by using a flathead screwdriver, and turn it in the direction of the arrow.

(4) Remove the Paper feed roller.

Paper feed roller

Boss

Release lever

Release lever

Boss

(3_068L)

Confidential
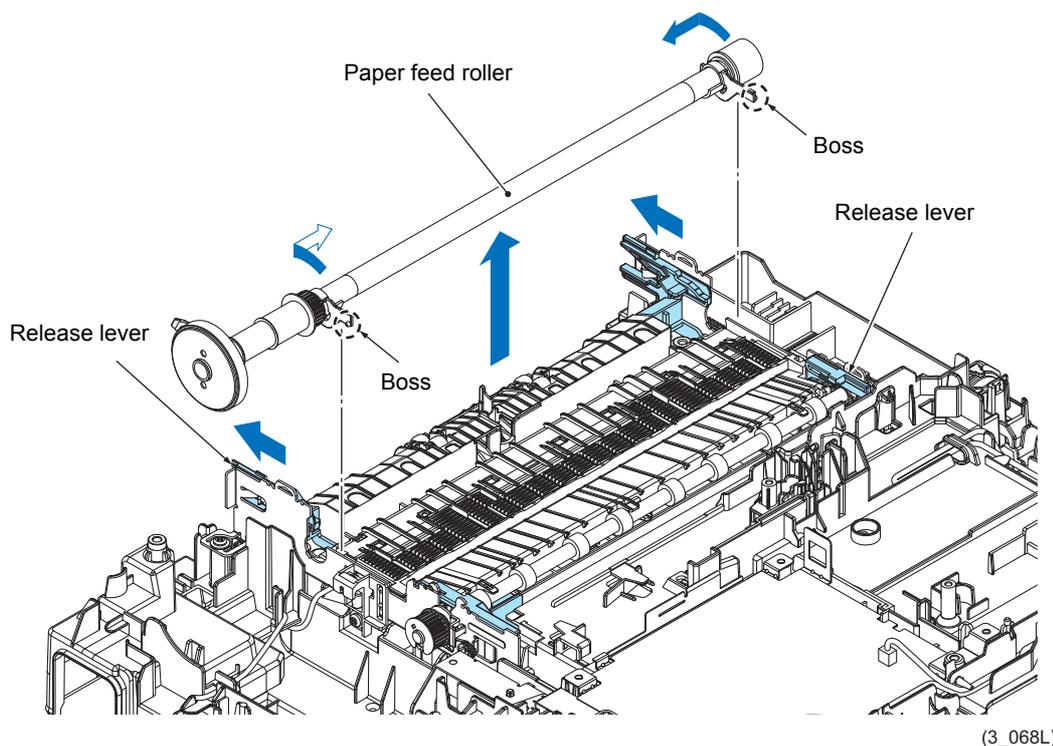
9.24 Platen ASSY

(1) Raise the rear end of the Platen ASSY, and then remove it.

Platen

(3_069L)
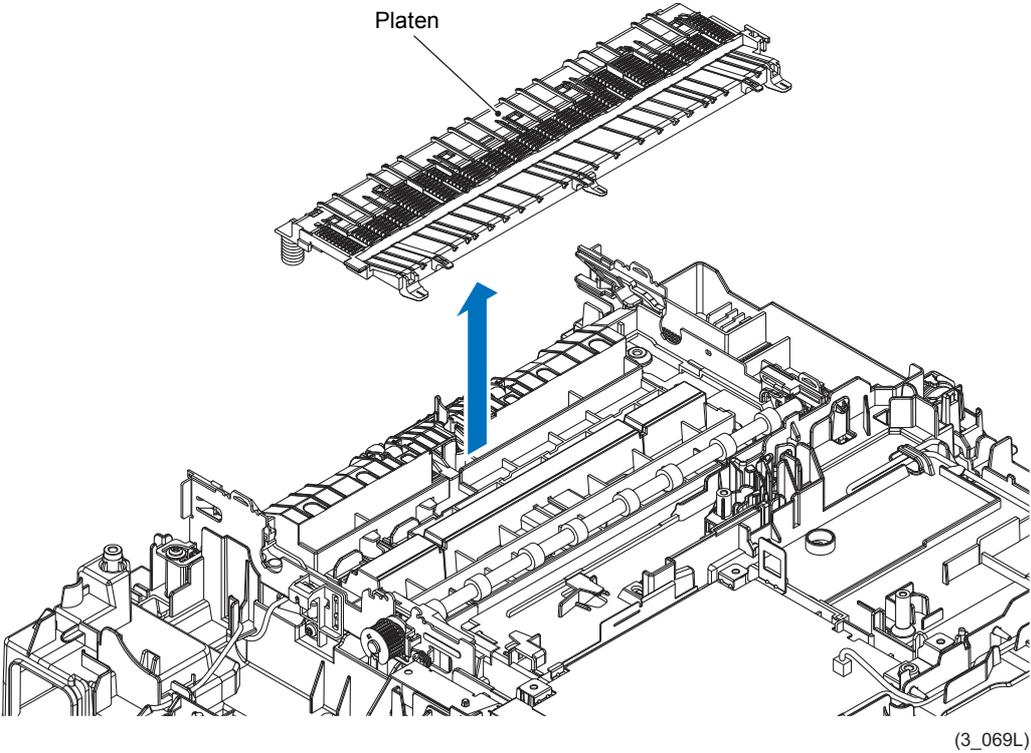
Assembling Note Make sure that the Platen springs are not folded or turned down.

(3_079L)

(2) Remove the two Platen springs from the Platen.

Platen spring

Platen

Platen spring

(3_070L)
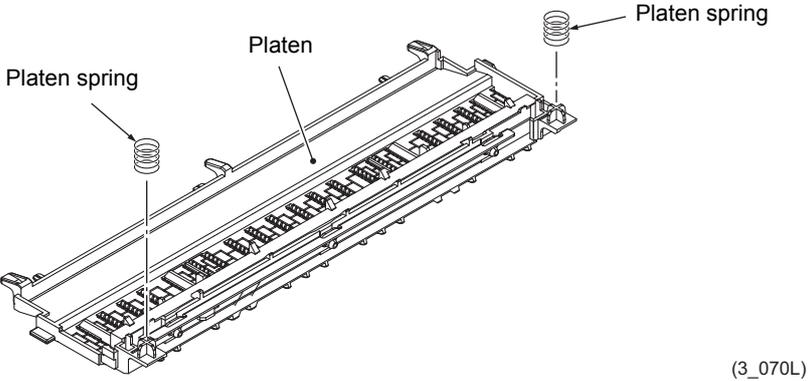
9.25 Paper Ejection Roller ASSY

(1) Remove the Paper ejection roller support springs L/R.

(2) Release the two latches, and remove the Stopper rings.

(3) Release the hook, and then remove the bearing R.

(4) Release the hook of the bearing L, and then remove the Release lever and Paper ejection roller ASSY.
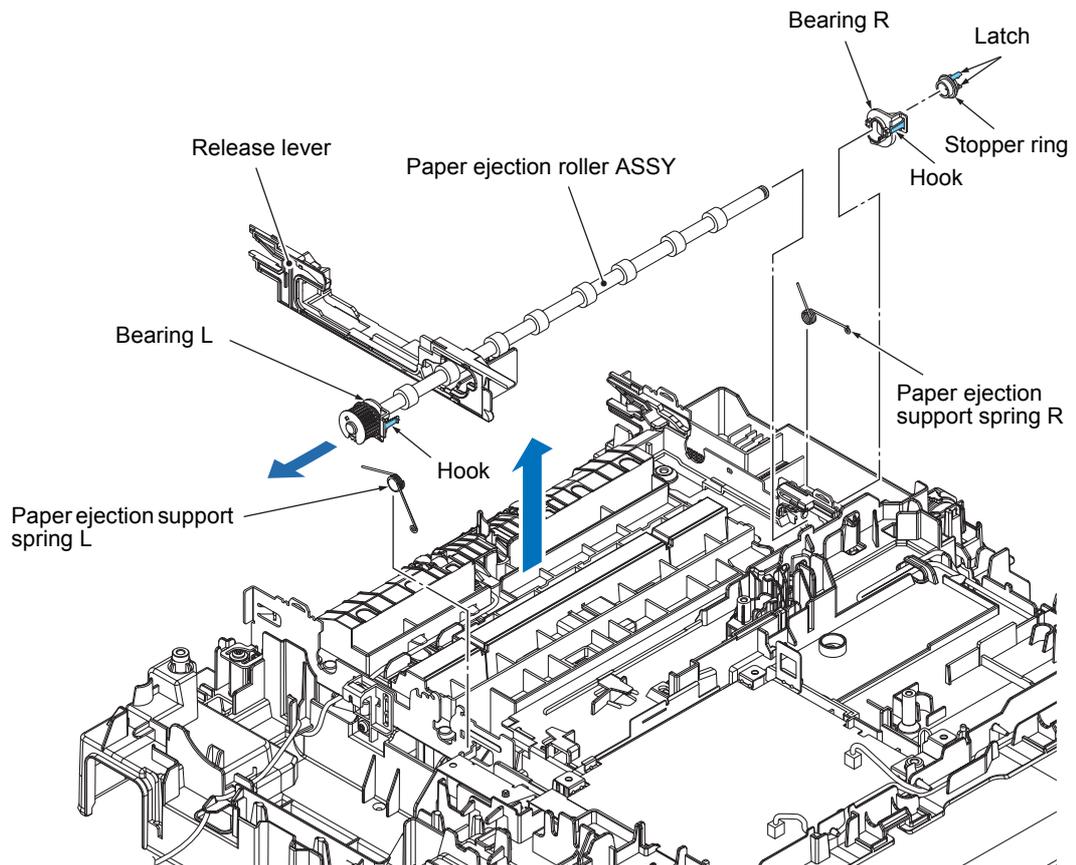
(3_071L)

9.26 Registration Sensor PCB ASSY

(1) Remove the four screws of the TAPTITE CUP B M3x10 and remove the Side frame L.
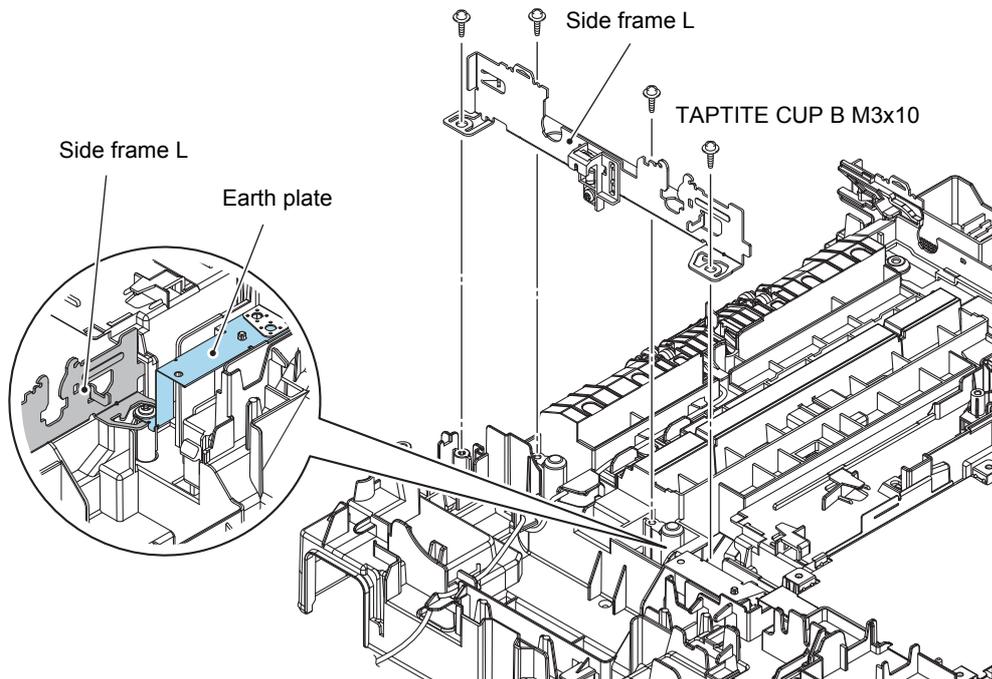
(3_072L)

Assembling Note Attach the Side frame L under the Earth plate.

(2) Remove the Registration sensor harness wiring.

(3) Remove the screws of the TAPTITE CUP B M2.6x8, and remove the Registration sensor PCB ASSY.
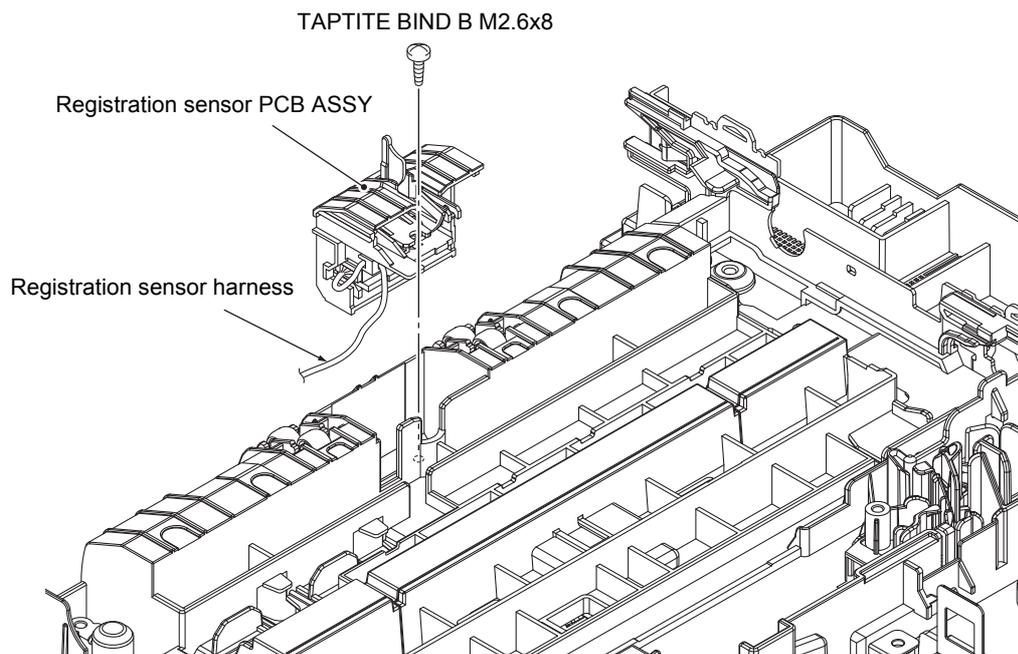
(3_073L)

(4) Open the Registration sensor holder support arm, release the hook, and then remove the Registration sensor PCB ASSY.

(5) Remove the Registration sensor harness.

Registration sensor holder

Support arm

Registration sensor
PCB ASSY

Hook

Registration sensor harness
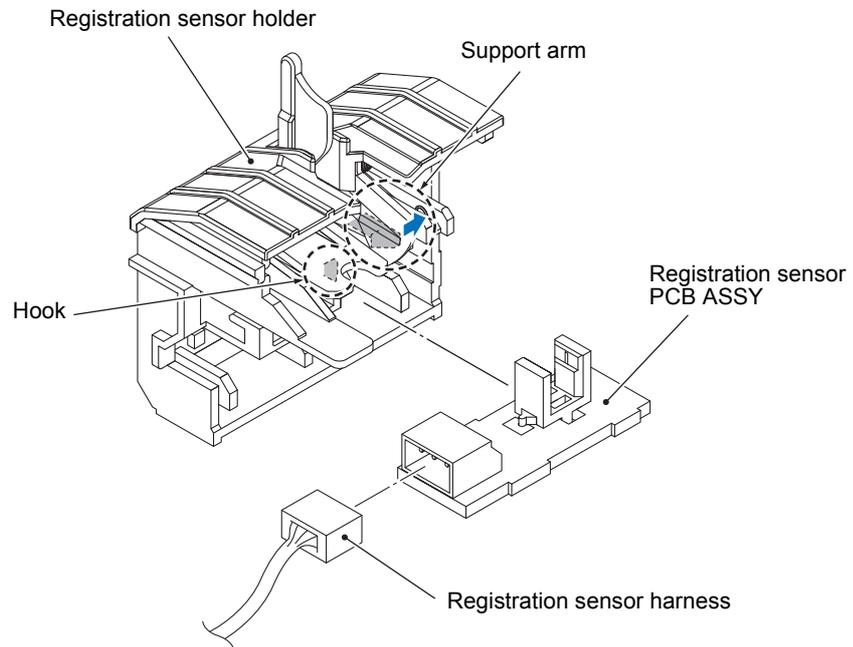
(3_074L)

9.27 Ink Cartridge Cover Sensor ASSY

(1) Release the wiring of the Ink cartridge cover sensor ASSY.

(2) Release the latch using a flathead screwdriver and take out the Ink cartridge cover sensor ASSY from the front right side of the Lower cover.

Lower cover

Latch

Latch

Ink cartridge cover
sensor ASSY
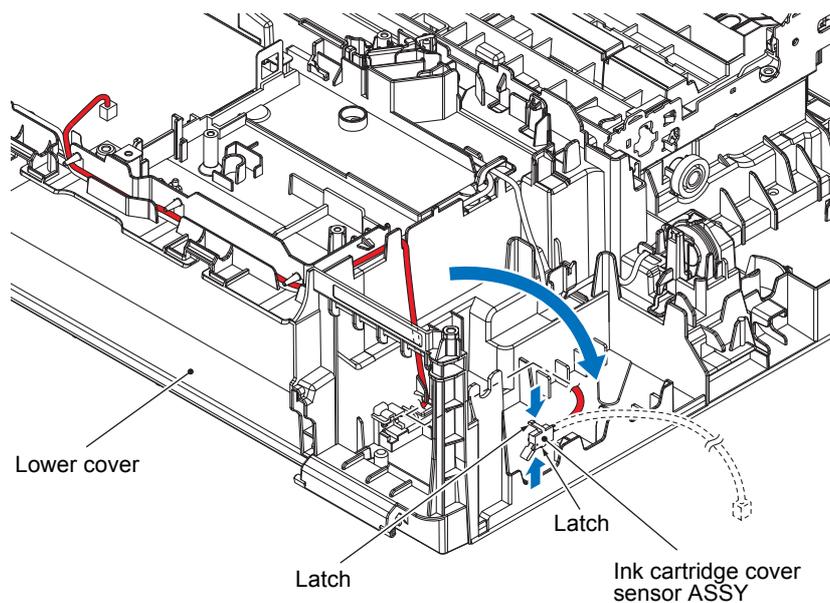
(3_075L)

9.28 Paper Pull-in Roller

(1) Remove the two screws of the TAPTITE CUP B M3x10 and take the Lower plate out from the bottom of the Lower cover.

Lower cover (bottom)

Lower plate

TAPTITE CUP B M3x10

TAPTITE CUP B M3x10

(3_076L)
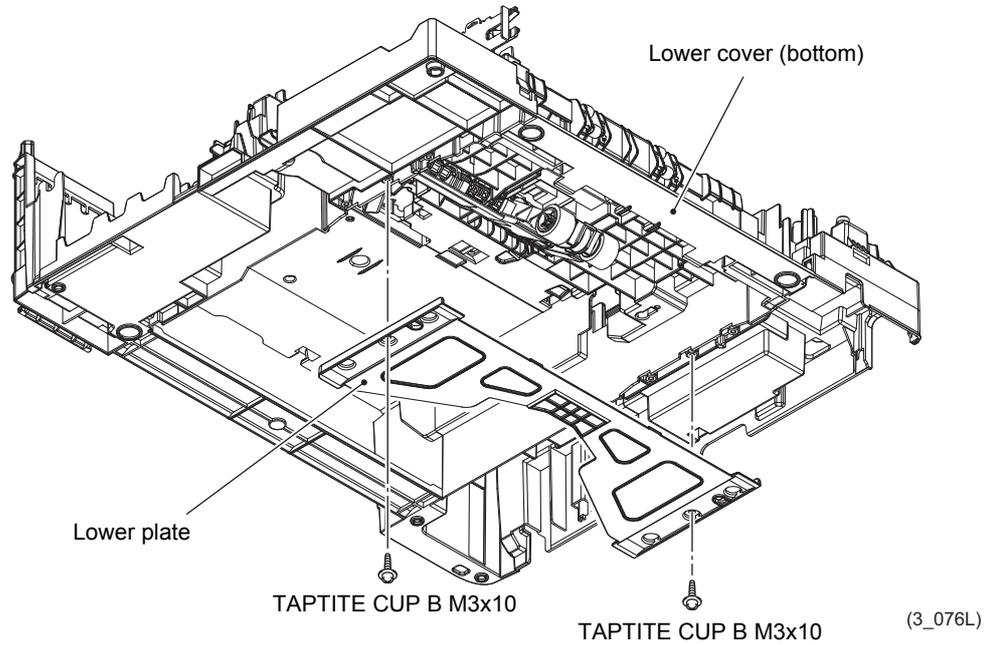
(2) Put the latch outward, and pull the Paper pull-in roller R out.

(3) Pull it out, rotating the Paper pull-in roller L.

Latch

Paper pull-in roller R

Paper pull-in roller L

Paper pull-in roller holder ASSY

(3_077L)

Confidential
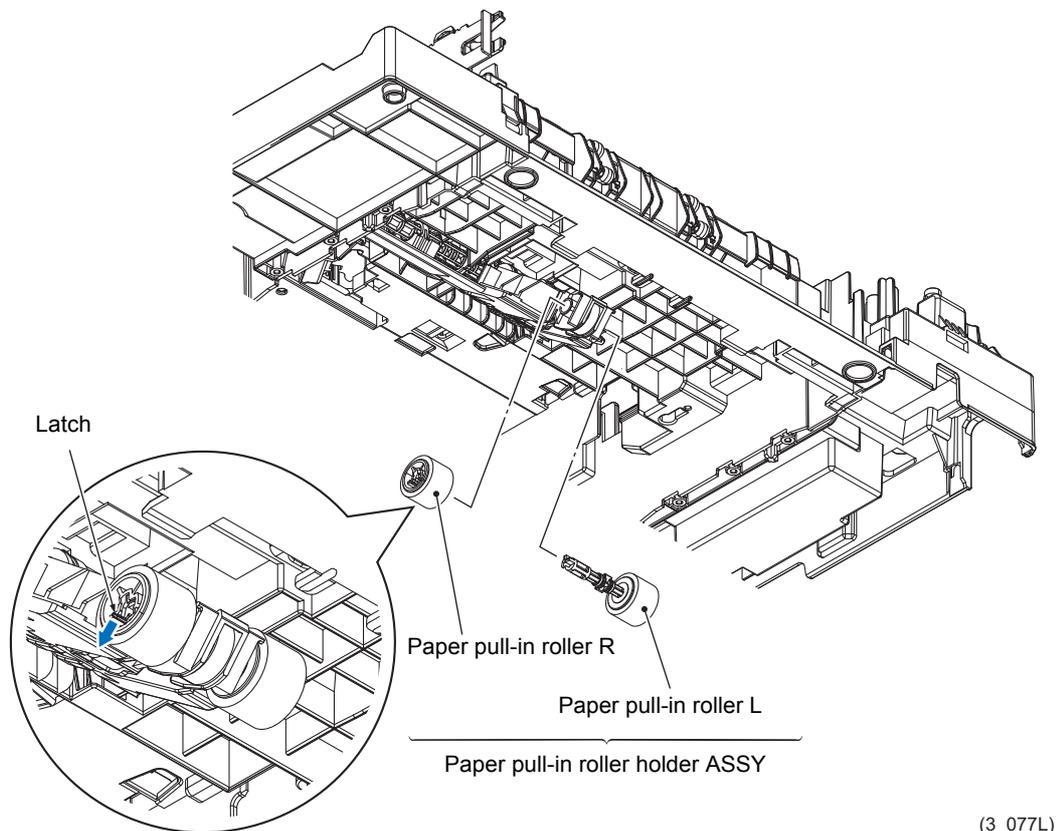
9.29 Base Pad on Paper Tray ASSY

(1) When there is a need to replace the Base pad, peel it off from the bottom of the Paper tray.

Note Once removed, the Base pad will become unusable and will need to be replaced with a new one.

Base pad

Depression

Base pad

Paper tray

Base pad

Align the Base pad edge with the front end of the depression (this line) at the bottom of the Paper tray.
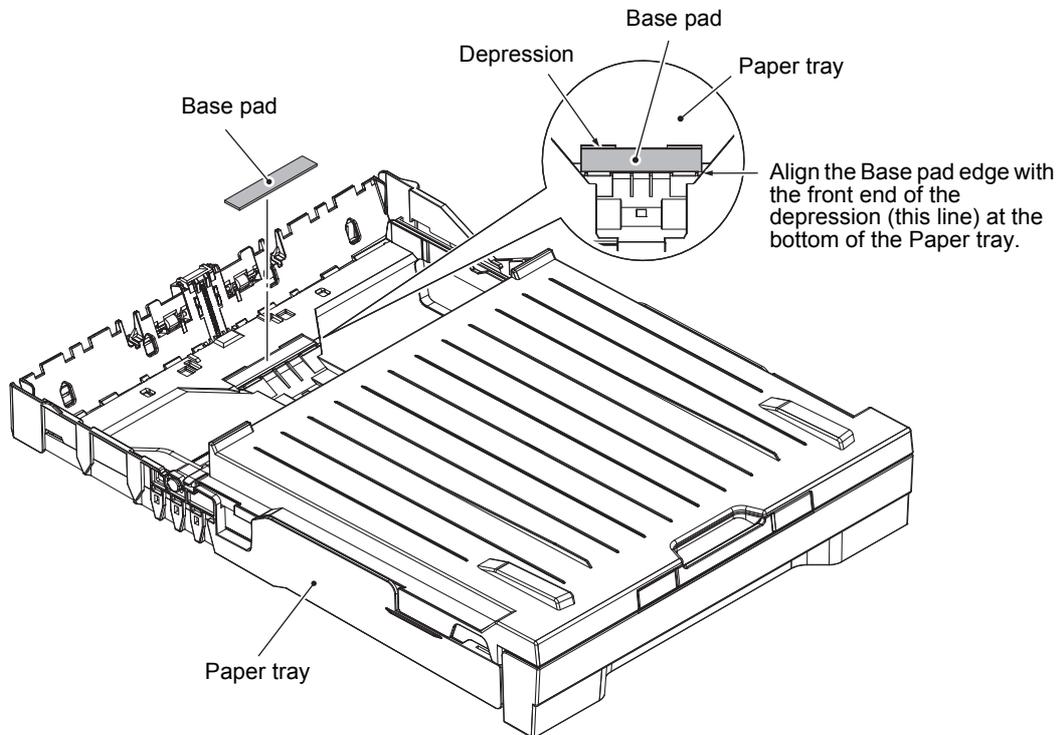
Paper tray

(3_078L)

Assembling Note When attaching a new Base pad to the Paper tray, align the front end of the pad with the front end of the depression, and the left and right position with the center of the depression, as shown above.

CHAPTER 4   ADJUSTMENTS AND UPDATING OF SETTINGS, REQUIRED AFTER PARTS REPLACEMENT

1   IF YOU REPLACE THE MAIN PCB ASSY

\<Operations>

1.1 Customize Destinations (Maintenance mode 74)

1.2 Automatically Set the CIS Type (Maintenance mode 59)

1.3 Install the Firmware

1.4 EEPROM Parameter Initialization (Maintenance mode 01)

1.5 Set the Serial Number (Maintenance mode 80)

1.6 Update the Head Property Data (Maintenance mode 68)

1.7 Adjust the Touch Panel (Maintenance mode 78) (only for models with a touch panel)

1.8 Acquire Black and White Level Data (Maintenance mode 55)

1.9 Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

1.10 Update the Paper Feeding Correction Values (Maintenance mode 58)

1.11 Margin Adjustment in Borderless Printing (Maintenance Mode 66)

1.12 Reset Purge and Flushing Counts (Maintenance mode 80)

1.13 Creating of Head Calibration Data and Writing it into Flash ROM (Maintenance mode 02)

1.14 Check Scanning and Printing

\<Requirements>

(1) USB cable: 1 piece

(2) Create a temporary folder in the PC's C drive (Windows$^{®}$ XP or later).

(3) Service setting tool (brusbsn.zip)

Make a copy of the Service setting tool in the temporary folder in the C drive. Decompress the file and execute "brusbsn.exe" by double-clicking on it.

(4) Download utility (FILEDG32.EXE)

Make a copy of the download utility in the temporary folder in the C drive.

(5) Maintenance driver (MaintenanceDriver.zip)

Make a copy of the maintenance driver in the temporary folder in the C drive. Extract the copied file and install it. Refer to "APPENDIX 3. INSTALLING THE MAINTENANCE DRIVER" for details on the installation.

(6) Firmware

LZXXXX_$.pjl (For installing firmware using a PC with external memory)
LZXXXX_$.upd (For installing firmware using a PC)

(7) Data files of print patterns

(8) Stylus for Touch panel

(9) Color test chart CTC-001

Confidential

1.1 Customize Destinations (Maintenance mode 74)

Refer to Chapter 5 "1.4.24 Customize Code Destinations (Maintenance mode 74)" in this chapter for details on the execution.

After execution, install the firmware in Step 1.3 when "PLS UPDATE PROG" is displayed on the LCD.

1.2 Automatically Set the CIS Type (Maintenance mode 59)

Refer to Chapter 5 "1.4.18 Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)" in this chapter for details on the execution.

After execution, install the firmware in Step 1.3 when "PLS UPDATE PROG" is displayed on the LCD.

1.3 Install the Firmware

This procedure is not necessary, if the message "PLS UPDATE PROG" does not appear on the LCD after "1.1 Customize destinations" and "1.2 Automatically set the CIS type". When "PLS UPDATE PROG" is displayed on the LCD, install the firmware.

(1) Turn on the machine. Switch the machine 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., lz00001_a.pjl) onto the Brother Maintenance USB Printer driver icon in the [filedg32] window.

Note Run the firmware file after extracting it. The file extension is ".exe", which means it's a self-extracting file. Double-clicking the file decompresses it.

After approx. 2 to 3 minutes, the loading operation is complete and the machine automatically reboots and returns to standby.

(5) Displaying the installed Firmware Version (refer to Chapter 5, Section 2.1)

Confirm the firmware version through the Function Menu. Confirm successful installation based on the LCD display.

Note If file writing failed, turn the machine off then turn it on again. The machine will make a continuous beeping sound. Since the machine automatically goes to firmware write mode, repeat the write procedure mentioned above using the firmware with the extension .upd.

If the firmware write mode does not start automatically, run it to write the firmware with the .upd extension by following the steps below.

Electrostatic panel model

1) While holding down the power key, plug the power cord into an electrical outlet. When the [Home] key lights, release the power key and immediately press the power key once to display the following pattern.

2) Within three seconds after the above pattern appears, hold down the power key for approximately two seconds to display the following pattern.

3) Within three seconds after the above pattern appears, press the power key once to display the following pattern.
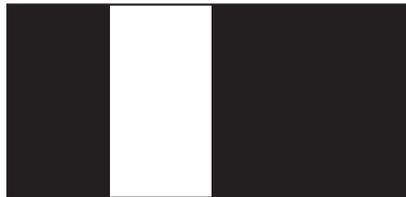
4) Within three seconds after the above pattern appears, press the power key twice to display the following pattern.

5) Within three seconds after the above pattern appears, press the power key 3 times to display the following pattern.

Confidential

Non-touch panel color LCD model

1) While holding down the power key, plug the power cord into an electrical outlet. When the following "A" pattern appears on the LCD, release the power key and immediately press the power key once to display the following "B" pattern.

A   B

2) Within three seconds after the above pattern appears, hold down the power key for approximately two seconds to display the following pattern.

3) Within three seconds after the above pattern appears, press the power key once to display the following pattern.

4) Within three seconds after the above pattern appears, press the power key twice to display the following pattern.

5) Within three seconds after the above pattern appears, press the power key three times to display the following pattern.

Confidential

1-line LCD models

1) While holding down the power key, plug the power cord into an electrical outlet. When the following "A" pattern appears on the LCD, release the power key and immediately press the power key once to display the following "B" pattern.

2) Within three seconds after the above pattern appears, hold down the power key for approximately two seconds to display the following pattern.
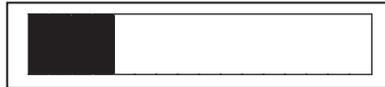
3) Within three seconds after the above pattern appears, press the power key once to display the following pattern.
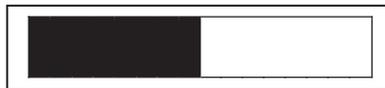
4) Within three seconds after the above pattern appears, press the power key twice to display the following pattern.

5) Within three seconds after the above pattern appears, press the power key three times to display the following pattern.

Then the following pattern appears indicating that the machine is waiting for download.
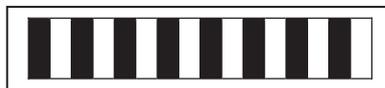
1.4 EEPROM Parameter Initialization (Maintenance mode 01)

Refer to Chapter 5 "1.4.1 EEPROM Parameter Initialization (Maintenance mode 01, 91)" for details on the execution.

1.5 Set the Serial Number (Maintenance mode 80)

Set the serial number, referring to Chapter 5 "1.4.29 Display of the Equipment's Log (Maintenance mode 80)".

The serial number can also be set with the service setting tool (BrUsbSn.exe).

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) On the PC, run the service setting tool (BrUsbSn.exe) to display the following window.
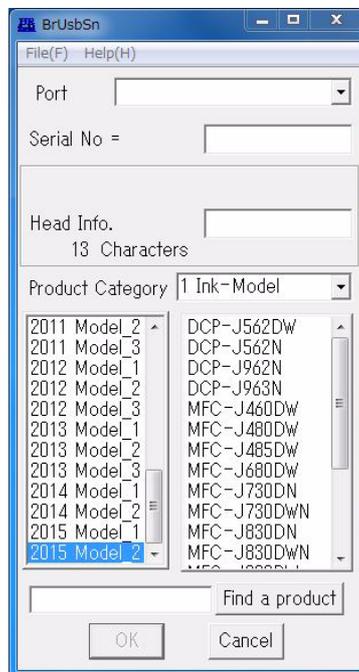
(4) In Product Category, select [1. Ink-Model].

(5) Select [2013 Model_3] for Ink Cartridge Model or [2015 Model_1] for Ink Tank Model.

(6) 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] → [Settings] → [Printers].
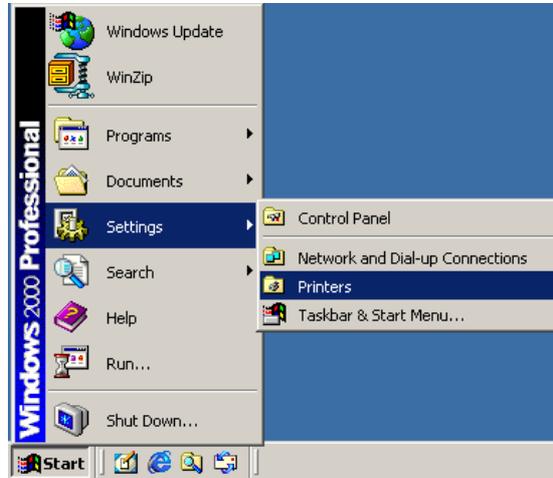
The [Printers] window appears as shown below.

2) Right-click the Brother Maintenance USB Printer driver icon.
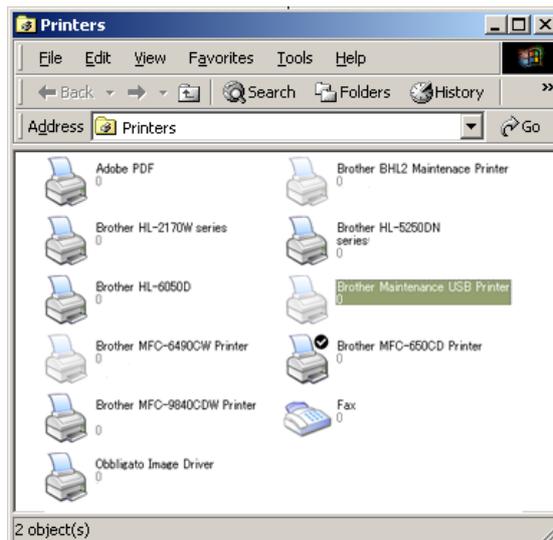
3) Click [Properties].

The [Brother Maintenance USB Printer Properties] window appears as shown below.

4) Click the [Ports] tab.
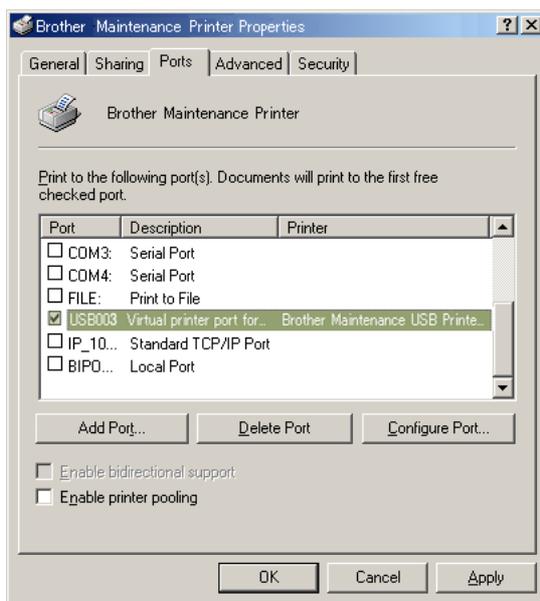
In this example, the port number assigned to the Brother Maintenance USB Printer is USB003.

(7) 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.

(8) Click the [OK] key.

(9) Wait for the confirmation screen of the serial number entered to appear, then click [Yes].

(10) Use Maintenance mode 80 to display the serial number and check that the entered data is correct.

1.6   Update the Head Property Data (Maintenance mode 68)

Update the head property data, referring to Chapter 5, Section 1.4.22.

1.7   Adjust the Touch Panel (Maintenance mode 78) (only for models with a touch panel)

Refer to Chapter 5 "1.4.28 Adjust the Touch Panel (Maintenance mode 78)" for details on the execution.

1.8 Acquire Black and White Level Data (Maintenance mode 55)

Refer to Chapter 5 "1.4.15 Acquisition of White/Black Level Data and CIS Scanner Area Setting (Maintenance mode 55)" for details on the execution.

1.9 Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

Refer to Chapter 5 "1.4.20 Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)" for details on how to adjust software correction for inclination/corrugation/ruled lines.

1.10 Update the Paper Feeding Correction Values (Maintenance mode 58)

Refer to Chapter 5 "1.4.17 Updating of Paper Feeding Correction Value (Maintenance mode 58)" for details on the execution.

1.11 Margin Adjustment in Borderless Printing (Maintenance Mode 66)

Refer to Chapter 5 "1.4.21 Margin Adjustment in Borderless Printing (Maintenance mode 66)" for details on the execution.

1.12 Reset Purge and Flushing Counts (Maintenance mode 80)

Replace the Ink absorber box and Flushing box and reset the purge and flushing counts by following the steps below.

(1) Switch the machine to the maintenance mode.

(2) Enter the [8] and [0].

(3) Press the [▼] key several times until the purge (or flushing count) appears on the LCD.

(4) Enter the [2] → [7] → [8] → [3] in this order to reset the purge (or flushing) count.

(5) When the count is reset, the machine automatically returns to the initial stage of the maintenance mode.

When the purge or flushing count approaches 9,050 or Black: 396,479,328 Color: 201,873,385, respectively, the "MACHINE ERROR 46" appears and further purge or flushing operations are prohibited. Replace the ink absorber box and flushing box, and then reset their counts using the procedure above.

1.13 Creating of Head Calibration Data and Writing it into Flash ROM (Maintenance mode 02)

Refer to Chapter 5 "1.4.2 Creating of Head Calibration Data and Writing it into Flash ROM (Maintenance mode 02)" for details on the execution.

1.14 Check Scanning and Printing

For the final check after the replacement, confirm that the paper feeding correction value is updated again, the vertical print lines, software correction for inclination, corrugation, and ruled lines are adjusted, the adjustment test pattern of borderless printing is printed out, and that you have a copy of the color test chart.

Update the paper feeding correction values

Refer to Chapter 5 "1.4.17 Updating of Paper Feeding Correction Value (Maintenance mode 58)", when checking the test pattern.

Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/ Ruled Lines

Refer to Chapter 5 "1.4.20 Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)", when checking the test pattern.

Margin adjustment in borderless printing

Refer to Chapter 5 "1.4.21 Margin Adjustment in Borderless Printing (Maintenance mode 66)", when checking the test pattern.

Copy the color test chart

(1) Set the printed color test chart CTC-001 facing down on the Document cover.

(2) Press the [Copy] key, set the copy quality mode to "Normal" and press the [Color Start] key to make a copy.

   Note Check that the document does not skew.

(3) Check for no problem on the copied color test chart; If a problem occurs, make the adjustment procedure again.

2   IF YOU REPLACE THE HEAD/CARRIAGE UNIT

<Operations>

2.1 Update the Head Property Data (Maintenance mode 68)

2.2 Supply Head Ink (Maintenance mode 76)

2.3 Check Head Nozzles (Maintenance mode 09)

2.4 Adjust the Head/carriage Unit Inclination

2.5 Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

2.6 Update the Paper Feeding Correction Values (Maintenance mode 58)

2.7 Margin Adjustment in Borderless Printing (Maintenance mode 66)

2.8 Write Head Calibration Data (Maintenance mode 02)

2.9 Check Printing

2.10 Obtain machine information (instruction to the end user)

<Requirements>

(1) USB cable: 1 piece

(2) Create a temporary folder in the PC's C drive (Windows$^{®}$ XP or later).

(3) Service setting tool (brusbsn.zip)

Make a copy of the Service setting tool in the temporary folder in the C drive. Decompress the file and execute "brusbsn.exe" by double-clicking on it.

(4) Download utility (FILEDG32.EXE)

Make a copy of the download utility in the temporary folder in the C drive.

(5) Maintenance driver (MaintenanceDriver.zip)

Make a copy of the maintenance driver in the folder created in the C drive. Extract the copied file and install it. Refer to "APPENDIX 3. INSTALLING THE MAINTENANCE DRIVER" for details on the installation.

(6) Data files of print patterns

2.1 Update the Head Property Data (Maintenance mode 68)

Refer to "1.6 Update the Head Property Data (Maintenance mode 68)" in this chapter for details on the execution.

2.2 Supply Head Ink (Maintenance mode 76)

(1) Open the Ink cartridge cover. Install a comparatively new ink cartridge that has enough remaining ink to Ink refill ASSY or refill enough ink. Close the Ink cartridge cover.

(2) Carry out a purge operation (with maintenance code 76) using the steps below.

1) In the initial stage of the maintenance mode, enter the [7] then [6].

The printer displays "CLEANING ALL" on the LCD.

2) Enter [4] then the [Mono Start] key to perform the initial purge.

Perform a purge operation and supply new ink to the ink supply tube and the print head.

2.3 Check Head Nozzles (Maintenance mode 09)

Refer to Chapter 5 "1.4.5 Printout of Test Pattern (Maintenance mode 09)" in this chapter for details on the execution.

2.4 Adjust the Head/carriage Unit Inclination

Before starting the procedure below, make sure to set the recording paper in the paper tray for printing check patterns.

(1) Perform Chapter 5 "1.4.19 Move of the Head/Carriage Unit to the Adjustment Position (Maintenance mode 63)" to move the Head/carriage unit to an adjusted position.

(2) Open the document scanner unit.

(3) Using a spanner and an Allen wrench, place the Head/carriage unit in the center with the external and internal inclination adjuster knob as shown in the diagram below.

Note Perform the adjustment by moving the Head/carriage unit to the left edge which is the adjusted position. If you adjust it to another location, the CR frame may be subjected to strain.

Inclination adjuster knob (internal)

Center position

Inclination adjuster knob (external)

(head_position_2L)
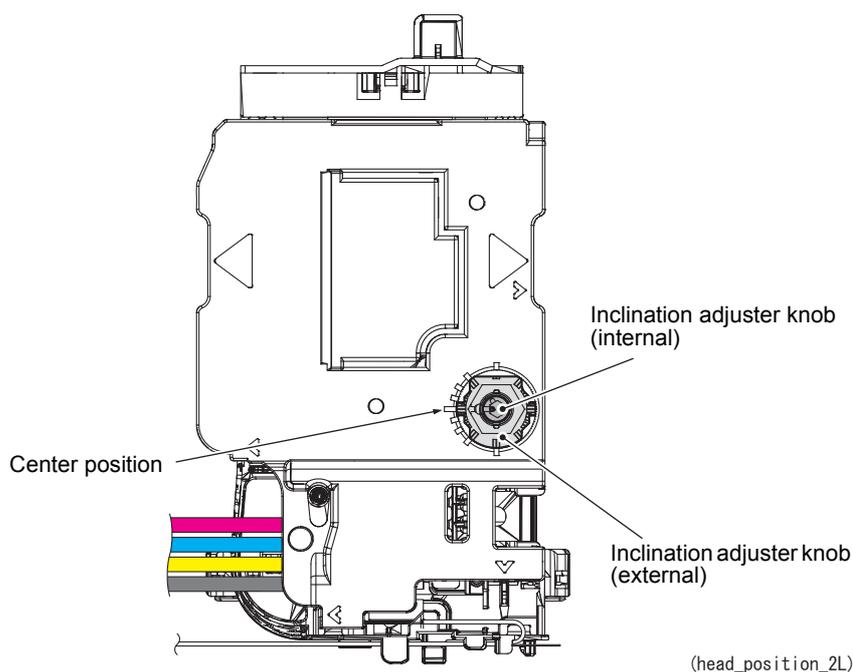
(4) Close the Document scanner unit.

(5) Save incline_BHmini13_low.prn to your PC.

(6) Print the test patterns on an A4 or Letter size paper by opening [Filedrgs] on your PC and dragging & dropping the above file onto the Brother Maintenance USB Printer driver icon.

(7) Adjust the Head/carriage unit inclination by following the steps below.
When the block number with the least uneven printing in the configuration block (top) is "0"

1) Check the block number with the least uneven printing within the configuration block (bottom). Using a spanner, turn the external inclination adjuster knob according to the checked number.
For example, when +2 block print unevenness is the smallest, turn the external inclination adjuster knob two notch clockwise. If the smallest number is -2 block, turn the external inclination adjuster knob two notch counter-clockwise.

Head/carriage unit

Head cover

Inclination adjuster knob (external)

(head_position_1L)
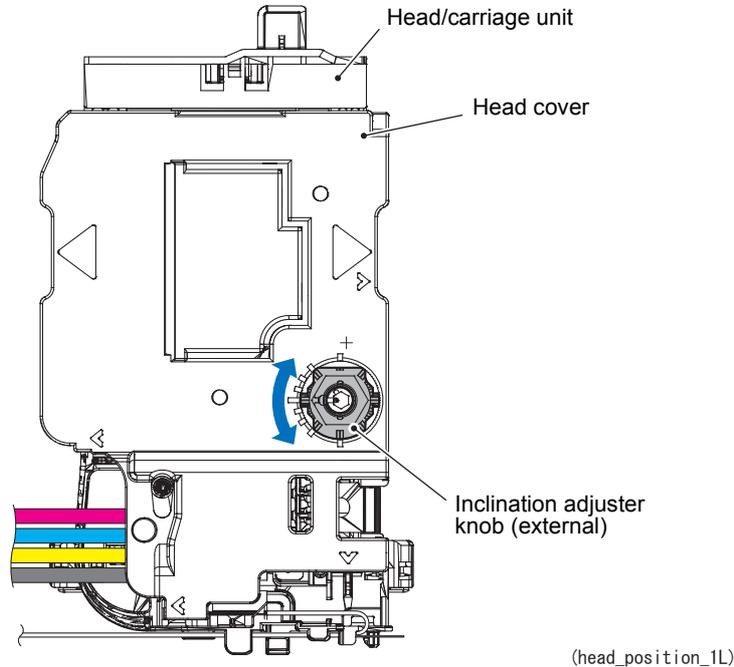
2) After making adjustments, proceed to Step (8).
<u>When the block number with the least uneven printing in the configuration block (top) is not "0"</u>

1) Check the block number with the least uneven printing within the configuration block (top). Using an Allen wrench, turn the internal inclination adjuster knob according to the checked number.
For example, when +1Right block print unevenness is the smallest, turn the internal inclination adjuster knob 90 degrees clockwise. If the smallest number is Left-1 block, turn the inclination adjuster knob 90 degrees counter-clockwise.
2) Close the document scanner unit and print the test pattern for inclination adjustment again in the same manner as Step (6).
3) Perform Chapter 5 "1.4.19 Move of the Head/Carriage Unit to the Adjustment Position (Maintenance mode 63)" to move the Head/carriage unit to an adjusted position. Open the document scanner unit.
4) Check the block number with the least uneven printing within the configuration block (bottom). Using a spanner, turn the external inclination adjuster knob according to the checked number.
For example, when +2 block print unevenness is the smallest, turn the external inclination adjuster knob two notch clockwise. If the smallest number is -2 block, turn the external inclination adjuster knob two notch counter-clockwise.

(8) Close the document scanner unit after adjustments.
The Head/carriage unit will return to its home position.

(9) Print the test pattern in step (6) again and confirm that the block number with the least uneven printing in the top and bottom configuration block is "0".
When the block number with the least uneven printing is not "0", repeat the adjustment from step (1).

Confidential

Head/carriage Unit Inclination Adjustment Test Pattern

2.5 Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

Refer to Chapter 5 "1.4.20 Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)" for details on how to adjust software correction for inclination/corrugation/ruled lines.

2.6 Update the Paper Feeding Correction Values (Maintenance mode 58)

Refer to Chapter 5 "1.4.17 Updating of Paper Feeding Correction Value (Maintenance mode 58)" for details on the execution.

2.7 Margin Adjustment in Borderless Printing (Maintenance mode 66)

Refer to Chapter 5 "1.4.21 Margin Adjustment in Borderless Printing (Maintenance mode 66)" for details on the execution.

2.8 Write Head Calibration Data (Maintenance mode 02)

Refer to Chapter 5 "1.4.2 Creating of Head Calibration Data and Writing it into Flash ROM (Maintenance mode 02)" for details on the execution.

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2.9　Check Printing

In "1.14 Check Scanning and Printing" of this chapter, refer to "Update the Paper Feeding Correction Values", "Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines", and "Margin Adjustment in Borderless Printing" for details on the execution.

2.10　Obtain machine information (instruction to the end user)

Users who had their machine repaired must retrieve the head calibration data from their PCs.

If the Printer Driver Settings in [Advanced] → [Other print options] → "Automatically Retrieve Printer's Color Data" of [Retrieve Printer's Color Data] is ON (default), the data is obtained automatically.

If "Automatically Retrieve Printer's Color Data" is OFF, instruct the user to obtain machine information by performing the following the steps below.

<Windows®>

(1) <Operating systems other than Windows 8>

On the user computer, click [Start] → [Settings] → [Printers] to display the Printers window.

Right-click the Brother Printer driver icon and click on Properties from the pull-down menu. After clicking Properties, the Properties dialog will open. Click on [Print Settings].

<Windows 8>

On the user computer, click [Settings] → [Control Panel] → [Devices and Printers]. From the printer driver's pull-down menu, Click [Print Settings].

(2) Click [Advanced] → [Other print options] → [Retrieve Printer's Color Data].

(3) Confirm that the [Use Printer's Color Data] check box is selected.

(4) Click [Retrieve Printer's Color Data].

(5) Wait for the dialog to appear then click [OK].

<Macintosh>

(1) Select the connected machine from the machine list of the user's PC.

(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 then click [OK].

*For a detailed explanation on how to acquire printer information, refer to the Brother Solution Center FAQ.

Confidential

3 IF YOU REPLACE THE DOCUMENT SCANNER UNIT OR CIS UNIT

<Operations>

3.1 Set the CIS Type (Maintenance mode 59)

3.2 Acquire Black and White Level Data (Maintenance mode 55)

3.3 Check Scanning

<Requirements>

(1) USB cable: 1 piece

(2) Create a temporary folder in the PC's C drive (Windows® XP or later).

(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)

Make a copy of the maintenance driver in the temporary folder in the C drive. Extract the copied file and install it. Refer to "APPENDIX 3. INSTALLING THE MAINTENANCE DRIVER" for details on the installation.

(5) Color test chart CTC-001

3.1 Set the CIS Type (Maintenance mode 59)

Refer to Chapter 5 "1.4.18 Checking of CIS Travel and Specifying of CIS Type (Maintenance mode 59)" for details on the execution.

After execution, install the firmware in Section 1.3 when "PLS UPDATE PROG" is displayed on the LCD.

3.2 Acquire Black and White Level Data (Maintenance mode 55)

Refer to Chapter 5 "1.4.15 Acquisition of White/Black Level Data and CIS Scanner Area Setting (Maintenance mode 55)" for details on the execution.

3.3 Check Scanning

To make a final check after replacement, check a copy of an color test chart.

Refer to "1.14 Check Scanning and Printing" in this chapter on how to copy the color test chart.

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4   IF YOU REPLACE THE CONTROL PANEL ASSY

\<Operations\>

4.1 Adjust the Touch Panel (Maintenance mode 78) (only for models with a touch panel)

4.2 Operational Check of the LCD (Maintenance mode 12)

4.3 Check the Operation of the Control Panel Keys (Maintenance mode 13)

\<Requirements\>

(1)   Stylus for Touch panel

4.1   Adjust the Touch Panel (Maintenance mode 78) (only for models with a touch panel)

Refer to Chapter 5 "1.4.28 Adjust the Touch Panel (Maintenance mode 78)" for details on the execution.

4.2   Operational Check of the LCD (Maintenance mode 12)

Refer to Chapter 5 "1.4.7 Check LCD operation (Maintenance mode 12)" for details on the execution.

4.3   Check the Operation of the Control Panel Keys (Maintenance mode 13)

Refer to Chapter 5 "1.4.8 Operational Check of Keys on Control Panel (Maintenance mode 13)" for details on the execution.

5   IF YOU REPLACE THE INK ABSORBER BOX OR FLUSHING BOX

<Operations>

5.1 Reset Purge and Flushing Counts (Maintenance mode 80)

<Requirements>

None

5.1   Reset Purge and Flushing Counts (Maintenance mode 80)

Refer to "1.12 Reset Purge and Flushing Counts (Maintenance mode 80)" in this chapter for details on the execution.

6 IF YOU REPLACE THE RECORDING PAPER FEEDING RELATED PARTS OR MAINTENANCE UNIT

The paper feeding related parts to be adjusted after replacement are listed below.

- Paper feed roller
- Paper ejection roller
- Carriage PCB ASSY
- Flushing box
- Platen ASSY
- CR encoder strip
- PF encoder disk
- PF encoder sensor PCB ASSY

- Inner chute ASSY
- Registration sensor PCB ASSY
- Carriage motor ASSY
- Paper feed motor
- Flushing base
- Maintenance unit
- CR timing belt

<Operations>

6.1 Check Head Nozzles (Maintenance mode 09)

6.2 Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

6.3 Update the Paper Feeding Correction Values (Maintenance mode 58)

6.4 Margin Adjustment in Borderless Printing (Maintenance mode 66)

6.5 Check Printing

<Requirements>

(1) USB cable: 1 piece

(2) Create a temporary folder in the PC's C drive (Windows XP or later).

(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)

Make a copy of the maintenance driver in the temporary folder in the C drive. Extract the copied file and install it. Refer to "APPENDIX 3. INSTALLING THE MAINTENANCE DRIVER" for details on the installation.

(5) Data files of print patterns

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6.1   Check Head Nozzles (Maintenance mode 09)

Refer to Chapter 5 "1.4.5 Printout of Test Pattern (Maintenance mode 09)" for details on the execution.

6.2   Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)

Refer to Chapter 5 "1.4.20 Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines (Maintenance mode 65)" for details on how to adjust software correction for inclination/corrugation/ruled lines.

6.3   Update the Paper Feeding Correction Values (Maintenance mode 58)

Refer to Chapter 5 "1.4.17 Updating of Paper Feeding Correction Value (Maintenance mode 58)" for details on the execution.

6.4   Margin Adjustment in Borderless Printing (Maintenance mode 66)

Refer to Chapter 5 "1.4.21 Margin Adjustment in Borderless Printing (Maintenance mode 66)" for details on the execution.

6.5   Check Printing

In "1.14 Check Scanning and Printing" of this chapter refer to "Update the Paper Feeding Correction Values", "Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines", and "Margin Adjustment in Borderless Printing" for details on the execution.

Confidential

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 Exclusive to Service Personnel

<u>Touch panel model</u>

<Operating Procedure>

(1) When the machine is on standby, hold down [Home] for approx. five seconds. The following screen will be displayed on the LCD.

```
1. Serial No
                      123451234512345
2. ROM Version
0001                  OV 1302060850:DD82
3. Print Page
                              000003
```

(2) Hold down the blank area at the bottom of the LCD for approx. two sec. The following screen will be displayed on the LCD.

```
| 1  | 2 | 3 | 4 | Stop | Mono Start  |
| 5  | 6 | 7 | 8 | *    | Color Start |
| << | 9 | 0 |   | #    | >>          |
```

(3) Press the keys [*], [2], [8], [6], and [4] 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 shown on the following page, use the numerical keys to directly input the maintenance mode you want to use.

Note • Pressing [9] twice in the initial stage of the maintenance mode switches the machine to standby.

• Pressing [Stop] or [X] 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.

Non-touch panel model

<Operating Procedure>

(1) When the machine is on standby, press the [Menu] and [Mono Start] keys in order. Next, press the [▲] key 4 times. The LCD will display "■■ MAINTENANCE ■■■", and the machine will enter maintenance mode.

(2) To select one of the maintenance mode functions, specify the maintenance mode you want to use.

Note • Entering [9] twice in the initial stage of the maintenance mode switches the machine to standby.

• Pressing the [Stop] 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 next page. (Maintenance mode 10, 11, 12, 17, 37, 52, 53, 54, 58, 65, 66, 75, 76, 77, 78, 80, 82, 87, 88, 91)

Touch panel model

<Operating Procedure>

(1) When the machine is on standby, hold down [Home] for approx. five seconds. The following screen will be displayed on the LCD.

```
1. Serial No
                        123451234512345
2. ROM Version
0001                 0V 1302060850:DD82
3. Print Page
                                 000003


```

(2) Hold down the blank area at the bottom of the LCD for approx. two sec. The following screen will be displayed on the LCD.

1	2	3	4	Stop	Mono Start
5	6	7	8	*	Color Start
<<	9	0		#	>>

(3) Press [*], [0], and [#] 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 procedure midway and return the machine to standby, press [Stop] or [X].

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<u>Non-touch panel model</u>

<Operating Procedure>

(1) When the machine is on standby, press [Menu], [Mono Start], and [Menu] in order. The LCD will display "0■■ MAINTENANCE ■" and the machine will enter end-user accessible maintenance mode.

(2) To select one of the maintenance mode functions, directly specify the maintenance mode you want to use.

(3) When each of the maintenance mode functions is completed, the machine automatically returns to standby.

Note   To stop the procedure midway and return the machine to standby, press [Stop].

1.2   Operations of the Keys in the Maintenance Mode

The operations of the keys used in the maintenance mode are different depending on the panel specifications on the model.

1.2.1   Entering ten keys, [◄] or [►] in the maintenance mode with models without these keys

Press [▲] or [▼] to display desired letters on the LCD, and press [OK] to enter.

1.3 List of Maintenance-mode Functions

Maintenance Mode	Function	Reference Section (Page)
01	EEPROM Parameter Initialization	1.4.1 (5-6)
02	Creating of Head Calibration Data and Writing it into Flash ROM	1.4.2 (5-7)
05	Printout of Scanning Compensation White/Black Level Data	1.4.3 (5-10)
08	ADF Performance Test	1.4.4 (5-13)
09	Printout of Test Pattern	1.4.5 (5-13)
10	Worker Switch (WSW) Setting	1.4.6 (5-15)
11	Printout of Worker Switch (WSW) Data	1.4.6 (5-15)
12	Operational Check of LCD	1.4.7 (5-19)
13	Operational Check of Keys on Control Panel	1.4.8 (5-21)
17 *	EEPROM Dump Transfer	1.4.9 (5-22)
32	Sensor Operational Check	1.4.10 (5-23)
37 *	Printout of Dial Log.	1.4.11 (5-25)
52	Setting of Country/Language	1.4.12 (5-25)
53	Transfer of Received FAX Data and/or Equipment's Log	1.4.13 (5-26)
54	Fine Adjustment of Scanning Position	1.4.14 (5-28)
55	Acquisition of White/Black Level Data and CIS Scanner Area Setting	1.4.15 (5-29)
57	Cartridge IC Communication Check	1.4.16 (5-30)
58	Updating of Paper Feeding Correction Value	1.4.17 (5-31)
59	Checking of CIS Travel and Specifying of CIS Type	1.4.18 (5-35)
63	Move of the Head/carriage unit to the Adjustment Position	1.4.19 (5-36)
65	Adjustment of the Vertical Print Lines/Software Correction for Inclination/Corrugation/Ruled Lines	1.4.20 (5-37)
66	Margin Adjustment in Borderless Printing	1.4.21 (5-40)
68	Updating of Head Property Data	1.4.22 (5-43)
69	Traveling Speed Check of Head/carriage unit	1.4.23 (5-44)
74	Customize Code Destinations	1.4.24 (5-45)
75	Moving the Head/carriage unit to the Center	1.4.25 (5-48)
76	Purge Operation	1.4.26 (5-49)
77	Print of the Maintenance Information	1.4.27 (5-52)
78	Adjustment of Touch Panel	1.4.28 (5-54)
80	Display of the Equipment's Log	1.4.29 (5-55)
82	Equipment Error Code Indication	1.4.30 (5-58)
87	Output of Transmission Log to the Telephone Line	1.4.31 (5-58)
88	Assurance Mode Switch Setting (AMS)	1.4.32 (5-59)
91	EEPROM Parameter Initialization	1.4.1 (5-6)
99	Exit from the Maintenance Mode	

Shaded maintenance mode functions are available to end users.
* Exclusive to the end user-accessible maintenance mode.

1.4 Detailed Description of Maintenance-mode Functions

1.4.1 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. Entering Maintenance mode 91 does not initialize some areas, as listed below.

Maintenance code Data item	01	91
Maintenance-mode functions User switches Firmware switches Remote activation code Assurance mode switch settings	All of these will be initialized.	These will be initialized.
Activity report Station ID data Outside line number Telephone function registration Speed dialing Group dialing Memory contents		These will not be initialized.
EEPROM customizing code (4-digit)	These will not be initialized. Note that the first digit of the 4-digit code will be initialized to "0". If the code is 1001, for example, it will be initialized to "0001".	

<Operating Procedure>

(1) Enter [0] and [1] in this order in the initial stage of the maintenance mode. (Or enter [9] and [1] according to your need.) "SELECT 01?" (or "SELECT 91?") appears on the LCD.

(2) Press the [Mono Start].

"PARAMETER INIT" appears on the LCD.

(3) Upon completion of parameter initialization, the machine returns to the initial stage of the maintenance mode.

1.4.2 Creating of Head Calibration Data and Writing it into Flash ROM (Maintenance mode 02)

<Function>

This procedure scans the Print Pattern for Creating Head Calibration Data placed on the document cover glass, creates the head calibration data using the scanning result, and writes it into the flash ROM on the main PCB.

<Operating Procedure>

Note • Before proceeding to the procedure given below, use "1.4.5 Printout of Test Pattern (Maintenance mode 09)" in this chapter to check that there is no pin missing.

• Before proceeding to the procedure given below, use "1.4.32 Assurance Mode Switch Setting (AMS) (Maintenance mode 88)" in this chapter to check that the uneven printing correction for upper and lower ends of the nozzle is set to ON (Selector 1 on AMS05 is "0").

• Before proceeding to the procedure given below, use 1.4.15 Acquisition of White/Black Level Data and CIS Scanner Area Setting (Maintenance mode 55) in this chapter to enable the machine to make high precision printing.

• Make sure that both the document scanner unit and document cover are closed.

• For higher precision of uneven printing correction, it is recommended to use the recording paper specified below to print the pattern for creating head calibration data.

US: Xerox 4200DP 20 lb., Brother BP60PL

EU, AP and others: Xerox Business 80 g/m^2, Brother BP60PA

(1) Save a copy of "head_calib_BHmini13_Low.prn" in the arbitrary folder.

(2) Enter maintenance mode, and connect your PC to the machine using a USB cable. On your PC, launch Filedg32, select the maintenance driver, and drag and drop the above-mentioned prn file to print.

Note If the document gets stained or crinkled, print it again.

(3) Set the print pattern for creating head calibration data on the document cover glass. Set the pattern so that the ▲ mark on the upper left of the document fits on the left rear of the document cover.

Note If the Document cover glass gets stained, clean it.

(4) Enter [0] and [2] in the initial stage of the maintenance mode. The machine displays "Set Sheet on FB?" on the LCD.

Note Pressing [Stop] or [X] returns the machine to the initial stage of the maintenance mode without creating head calibration data.

(5) Press [Mono Start].

The machine displays the "Scanning" on the LCD and starts scanning the print pattern for creating head calibration data placed on the scanner glass.

(6) Upon completion of scanning, the machine displays the "Write Head Calib" on the LCD, creates the head calibration data, and writes it into the flash ROM on the main PCB.

Upon completion of writing, the machine displays "Complete". Press [Stop] or [X] to return to the initial stage of the maintenance mode.

Note If an error occurs, the machine beeps and displays "Error No **". Press [Stop] or [X] to return to the initial stage of the maintenance mode and then recover the machine from the error state, following the table given below. Then go back to step (4).

Error code	Error Contents	Do the following
01	Failed to detect the external frame	• Clean the document cover glass.
02	Internal image inclined	• Reset the print pattern so that the ▲ mark is aligned with the left rear of the document cover without tilt.
03	Failed to detect position	• Check that there is no pin missing. • Go back to step (2) and print out the print pattern for creating head calibration data again.
04	Failed to write head calibration data	• Clean the document cover glass. • Reset the print pattern so that the ▲ mark is aligned with the left rear of the document cover without tilt. • Check that there is no pin missing. • Restart the machine and perform the procedure from the beginning again. • Replace the main PCB.
05	The uneven printing correction function for upper and lower ends of the nozzle is disabled with Maintenance 88	• Set selector 1 on AMS05 for uneven printing correction for upper and lower ends of the nozzle to "0" (Correction ON) in "1.4.32 Assurance Mode Switch Setting (AMS) (Maintenance mode 88)" of this chapter.
06	Cannot get data due to memory full	• Delete fax data and other data stored in the memory. • Replace the main PCB ASSY.
07	The document scanner unit is open	• Close the document scanner unit. • Reconnect the document scanner sensor harness. • Replace the document scanner sensor. • Replace the document scanner if the boss that presses the document scanner sensor is broken. • Replace the main PCB ASSY.
09	Scanning errors other than the above	• Use "1.4.15 Acquisition of White/ Black Level Data and CIS Scanner Area Setting (Maintenance mode 55)" in this chapter.

Fit this mark
on the left rear of
the document cover.
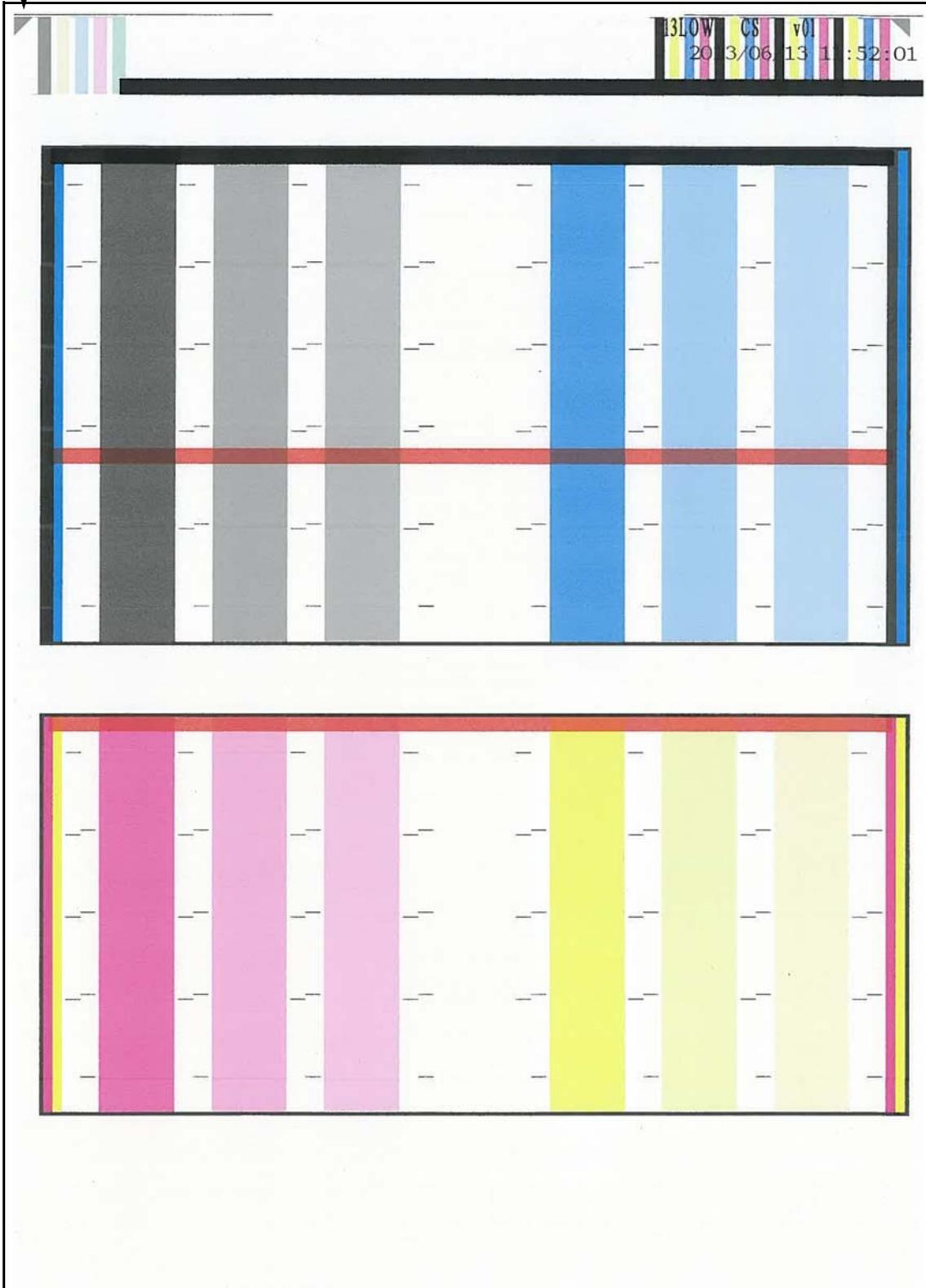
Print Pattern for Creating Head Calibration Data

1.4.3 Printout of Scanning Compensation White/Black Level Data (Maintenance mode 05)

<Function>

This function prints out the light and dark level data for scanning compensation.

<Operating Procedure>

Note Perform this procedure after carrying out document scanning operation at least once, not immediately after powering on the machine. Do not start this procedure without carrying out document scanning operation. This is because at the start of scanning operation, the machine initializes light and dark level data and takes in the scanning compensation reference data.

The print result differs depending upon whether color or monochrome scanning is performed preceding this procedure. Check the light and dark level data to be output before performing this procedure.

(1) For monochrome scanning, make a monochrome copy; for color scanning, make a color copy.

(2) Enter [0] and [5] in the initial stage of the maintenance mode.

The machine displays "DUMP 0 : GRA 1: ALL" on the LCD.

(3) To print only the light and dark data graph for each color, LED data, AFE parameters and background color compensation data, enter [0]. To print all data, enter [1].

If no error has occurred in the machine, the machine displays "PRINTING" on the LCD and starts printing.

If any error has occurred in the machine, "ME STATE STOP" appears on the LCD.

Note If no recording paper is loaded in the paper tray, printing will be canceled.

(4) Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

■ **Output Data (Common to Monochrome and Color)**

    a) Light and dark data graph [*1]

       (If monochrome scanning is performed preceding execution of maintenance 05, only G data is valid and RB data is indefinite.)

    b) LED PWM DATA (Color) 1 Byte indefinite for monochrome scanning

    c) LED PWM DATA (Mono) 1 Byte

    d) LED pulse data (G) 2 Byte

    e) LED pulse data (B) 2 Byte indefinite for monochrome scanning

    f) LED pulse data (R) 2 Byte indefinite for monochrome scanning

    g) LED pulse data (Mono) 2 Byte

    h) Background color compensation data (SCAN1) 1 Byte

    i) Black level data [*2]

    j) White level data (R) [*2] indefinite for monochrome scanning

    k) White level data (G) [*2]

    l) White level data (B) [*2] indefinite for monochrome scanning

         [*1]: Because of differences in CIS resolution, light and dark data graph, one to three pages, will be printed.

         [*2]: The number of displayed bytes will differ, depending on the CIS manufacturer.

a)

b) ———————————— 41563a68 : 00
c) ———————————— 41563a69 : 01
d) ———————————— 41563a5e : ----
e) ———————————— 41563a60 : ----
f) ———————————— 41563a62 : ----
g) ———————————— 41563a5c : 1055
h) ———————————— 41563a6e : f9

i) ～ l)

```
43dd0000 : 57 57 57 57 57 56 57 56 57 56 57 56 57 56 57 57
43dd0020 : 57 56 56 56 57 57 56 56 56 56 57 57 56 56 57 56
43dd0040 : 57 56 57 56 56 56 56 56 56 56 56 57 56 56 57 56
43dd0060 : 56 56 57 56 56 56 56 57 56 56 56 56 56 56 56 56
43dd0080 : 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd00a0 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd00c0 : 57 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd00e0 : 56 56 56 56 56 56 56 56 56 56 57 56 56 56 56 56
43dd0100 : 56 56 56 56 56 56 56 56 57 57 56 56 56 56 56 56
43dd0120 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd0140 : 56 56 56 56 56 57 56 56 56 56 56 56 56 56 56 56
43dd0160 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd0180 : 56 56 56 56 56 56 56 56 56 56 56 57 56 57 56 56
43dd01a0 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd01c0 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd01e0 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd0200 : 56 56 56 56 56 57 56 56 56 56 56 56 56 56 56 56
43dd0220 : 56 56 56 56 57 56 56 56 56 57 56 57 56 56 56 56
43dd0240 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd0260 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd0280 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd02a0 : 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56
43dd02c0 : 56 56 56 56 56 56 56 56 56 56 56 56 56 56 56 57
43dd02e0 : 56 56 56 56 56 56 57 56 57 56 56 56 56 56 56 56
43dd0300 : 56 57 56 56 56 56 56 56 56 56 56 57 56 56 56 56
43dd0320 : 56 57 57 56 57 56 57 57 56 57 57 57 57 57 57 57
43dd0340 : 57 57 57 57 58 5f 5d 5d 5d 5d 5d 5d 5d 5c 5d
```

```
43dd03a0 : 5c 5c 5c 5c 5c 5c
43dd03c0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd03e0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0400 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0420 : 5c 5b 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0440 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0460 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0480 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5d
43dd04a0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd04c0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5d 5c 5c 5c 5c 5c
43dd04e0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0500 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0520 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0540 : 5c 5c 5c 5c 5d 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0560 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5d 5d 5c 5c 5c
43dd0580 : 5c 5c 5c 5c 5c 5b 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd05a0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd05c0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd05e0 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0600 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0620 : 5c 5c 5c 5c 5c 5c 5c 5b 5c 5c 5c 5c 5c 5c 5c 5c
43dd0640 : 5c 5c 5c 5c 5c 5b 5c 5c 5c 5c 5c 5c 5c 5b 5c 5c
43dd0660 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
43dd0680 : 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c 5c
```

Scanning Compensation Data List

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1.4.4 ADF Performance Test (Maintenance mode 08) (For ADF Models Only)

<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 LCD continues to display "■■ MAINTENANCE ■■■".

(2) Enter [0] and [8] 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 [Stop] or [X] 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.

1.4.5 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 "1.4.26 Purge Operation (Maintenance mode 76)" in this chapter to perform head cleaning.

<Operating Procedure>

(1) Enter [0] and [9] in the initial stage of the maintenance mode.

The machine displays "PRINTING" on the LCD and prints out a test pattern.

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.

S/N:E72314E3F001571

Test Pattern

Confidential
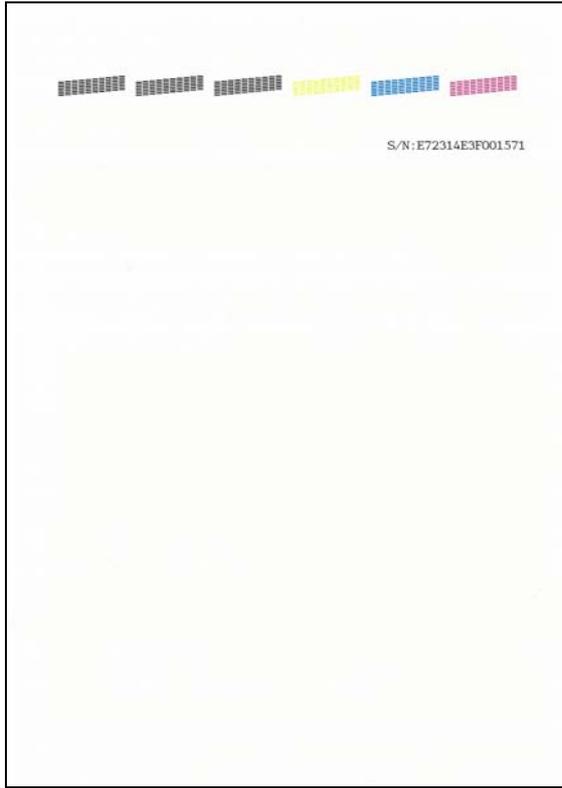
1.4.6 Worker Switch (WSW) Setting and Printout (Maintenance modes 10, 11)

[1] Worker Switch Setting (Maintenance mode 10)

<Function>

The worker switch functions (listed below) 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.

List of Worker Switches

WSW No.	Function
WSW01	Dial pulse setting
WSW02	Tone signal setting
WSW03	PABX mode setting
WSW04	TRANSFER facility setting
WSW05	1st dial tone and busy tone detection
WSW06	[Redial/Pause] key setting and 2nd dial tone detection
WSW07	Dial tone setting 1
WSW08	Dial tone setting 2
WSW09	Protocol definition 1
WSW10	Protocol definition 2
WSW11	Busy tone setting
WSW12	Signal detection condition setting
WSW13	Modem setting
WSW14	AUTO ANS facility setting
WSW15	REDIAL facility setting
WSW16	Function setting 1
WSW17	Function setting 2
WSW18	Function setting 3
WSW19	Transmission speed setting
WSW20	Overseas communications mode setting
WSW21	Telephone Answering Machine (TAD) setting 1
WSW22	Error Correction Mode (ECM) and call waiting caller ID
WSW23	Communications setting
WSW24	Telephone Answering Machine (TAD) setting 2
WSW25	Telephone Answering Machine (TAD) setting 3
WSW26	Function setting 4
WSW27	Function setting 5
WSW28	Function setting 6
WSW29	Function setting 7
WSW30	Function setting 8
WSW31	Function setting 9
WSW32	Function setting 10
WSW33	Function setting 11
WSW34	Function setting 12
WSW35	Function setting 13
WSW36	Function setting 14

WSW No.	Function
WSW37	Function setting 15
WSW38	V.34 transmission setting
WSW39	V.34 transmission speed
WSW40	V.34 modem settings
WSW41	ON-duration of the scanning light source
WSW42	Internet mail settings
WSW43	Function setting 16
WSW44	Speeding up scanning-1
WSW45	Speeding up scanning-2
WSW46	PC power state monitor setting and parallel port setting
WSW47	Switching between USB2.0 High-Speed/USB 1.1 Full-Speed
WSW48	USB setup latency
WSW49	End-of-copying beep
WSW50	SDAA settings
WSW51	Function setting 17
WSW52	Function setting 18
WSW53	Function setting 19
WSW54	Function setting 20
WSW55	Execution interval switching of developing bias voltage correction
WSW56	Function setting 21
WSW57	Function setting 22
WSW58	Function setting 23
WSW59	Function setting 24
WSW60	Function setting 25
WSW61	Scanning light intensity stability judgment 1
WSW62	Scanning light intensity stability judgment 2
WSW63	Function setting 26

* For details about the worker switches, refer to the document separately issued.

<Operating Procedure>

(1) Enter [1] and [0] in the initial stage of the maintenance mode.

The machine displays "WSW00" on the LCD.

(2) Enter a double-digit worker switch number to be modified.

The following appears on the LCD.

```
         Selector No. 1 Selector No. 8
              ↓             ↓
     WSWXX =0 0 0 0 0 0 0 0
```

(3) Enter the [◄] or [►] to move the cursor to the selector position to be modified.
Enter the [1] or [0] to change the setting.

(4) When finished making change, press [SET] or [OK].

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 switch inputs are finished, press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

Note • To cancel the setting and return to the initial stage of the maintenance mode, press [Stop] or [X].

• If there is a pause of more than one minute after a single-digit number is entered for double-digit firmware 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) Enter [1] and [1] 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.

```
                                    ┌─────────────────────┐
                                    │  CONFIGURATION LIST │
                                    └─────────────────────┘

                                         MODEL : 8CA-R15-001
                                         TIME  : 13/04/2012 10:31
                                         REV.  : U1204090950VER.U
                                         PCI   : 5.00
                                         SUM   : BCFA
                                         SER.# : U63310234567890
```

```
WSW01 = 00010000
  1-2. DIAL FORMAT                                    : NORMAL
  3-4. BREAK TIME                                     : 67 MS
  5-6. INTERDIGIT PAUSE                               : 800 MS
  7.   DP/PB CHANGE IN USER SW                        : YES
  8.   DP/PB FIXING SELECTION                         : PB
WSW02 = 01011100
  1-2. ON TIME                                        : 80 MS
  3-4. OFF TIME                                       : 80 MS
  5-8. LINE BEEP ATTENUATOR                           : 12 DB
WSW03 = 10110000
  1.   PARA. CNG DETECTION1                           : B
  2-4. PBX DT DETECTION TIME                          : 800 MS
  5.   PARA. CNG DETECTION2                           : A
  6-7. DT DETECTION OF PBX                            : 3.5 SEC WAITING
  8.   NOT USED
WSW04 = 10010001
  1-4. NOT USED
  5.   ADDITIONAL DELAY OF CML ON-OGM                 : 0 SEC
  6-8. FLASHING TIME                                  : 100 MS
WSW05 = 00000110
  1-3. DIAL TONE DETECTION                            : 3.5 SEC WAITING
  4.   REMOTE ID DETECTION TIMEOUT                    : 2 SEC
  5-6. BUSY TONE DETECTION (CALLING)                  : AFTER DIALING
  7.   BUSY TONE DETECTION (CALLED)                   : OFF
  8.   NOT USED
WSW06 = 00101100
  1-3. PAUSE KEY                                      : 3.5 SEC WAITING
  4-6. 2ND DT DETECTION TIME                          : 800 MS
  7.   2ND DT DETECTION CYCLE                         : 1 CYCLE
  8.   2ND DT INTERRUPT DETECTION TIME                : 30 MS
WSW07 = 01011000
  1-2. FREQUENCY RANGE                                : INITIAL DATA
  3.   NOT USED
  4-6. 2ND DT DETECTION LEVEL                         : -39 DBM
  7.   1ST DT INTERRUPT DETECTION TIME                : 30 MS
  8.   NOT USED
WSW08 = 01100111
  1-3. 1ST DT DETECTION TIME                          : 800 MS
  4-5. 1ST/2ND DT TIME OUT                            : 10 SEC
  6-8. 1ST DT DETECTION LEVEL                         : -42 DBM
WSW09 = 00000000
  1.   ECM FRAME                                      : 256 OCTET
  2.   NON STANDARD FACILITIES                        : ON
  3-4. TIMES OF FALL BACK                             : 4
  5.   T5 TIMER                                       : 300 SEC
  6.   T1 TIMER                                       : 35 SEC
  7-8. CALLING TIMEOUT                                : 60 SEC
WSW10 = 00010100
  1.   NOT USED
  2.   TIMING OF LAST DIGIT-MODEM CHANGE              : 100 MS
  3.   TIMING OF CML ON CNG TRANSMISSION              : 2 SEC
  4.   TIMING OF CML ON CED TRANSMISSION              : 2 SEC
  5-6. TRAINING RETRIES                               : 2
  7.   CODING METHOD MR                               : ON
  8.   CODING METHOD MMR                              : ON
WSW11 = 01100000
  1-2. FREQUENCY RANGE                                : INITIAL DATA
  3-8. ON/OFF TIME                                    : 250 - 750 / 250 - 750 MS
```

```
  2.   ECM RX                                         : ON
  3.   CALL WAITING CALLER ID                         : OFF
  4-8. NOT USED
WSW23 = 00001111
  1.   FIX TCF CHECK                                  : TOP
  2-3. TCF ERROR LIMIT                                : 0%
  4-5. RTN CRITERION                                  : 14%
  6-7. NOT USED
  8.   ATTENUATOR LIMIT                               : NO
  5.   MOVING TO PHASE-C BY RTC                       : YES
  6-8. IGNORE CI COUNT                                : OFF
WSW48 = 00000110
  1-2. NOT USED
  3-5. ENTRY NUMBER OF NETWORK PC SCANNER             : AUTO
  6-8. NOT USED
  6.   CNG DETECTION RESULT ACT REPORT )              : OFF
  7-8. ENABLE REVERSE POLARITY INT DELAY TIME         : 500 MSEC
WSW61 = 00000000
  1-8. NOT USED
WSW62 = 00000000
  1-8. NOT USED
```

Configuration List

5-18   *Confidential*

1.4.7 Check LCD operation (Maintenance mode 12)

<Function>

This function checks whether the LCD on the control panel works normally.

<Operating Procedure>

(1) Enter [1] and [2] in the initial stage of the maintenance mode.

(2) <u>For the color LCD (touch panel models)</u>

Each time you press [Home], the LCD cycles through the screens as shown below.
Pressing [Return] returns the LCD display to the immediately preceding screen.
When Screen 12 displays, pressing [Home] switches to Screen 1.

<u>For the color LCD models (non-touch panel models)</u>

Each time you press [▼], the LCD cycles through the screens as shown below.
Pressing [▲] returns the LCD display to the immediately preceding screen.
When Screen 13 displays, pressing [▼] switches to Screen 1.

<u>For 1-line LCD models</u>

Each time you press [Black Start], the LCD cycles through the screens as shown below.
When Screen 3 displays, pressing [Black Start] switches to Screen 1.

(3) Regardless of the display status, pressing [Stop] or [X] returns the machine to the initial stage of the maintenance mode.

Color LCD models (touch panel models)	
<Screen 1> Completely blank	<Screen 7> Red stepwise
<Screen 2> All black	<Screen 8> Green stepwise
<Screen 3> All red	<Screen 9> Blue stepwise
<Screen 4> All green	<Screen 10> White stepwise
<Screen 5> All blue	<Screen 11> Image data
<Screen 6> All gray	<Screen 12> Stroke detection
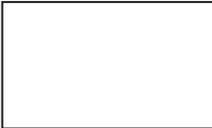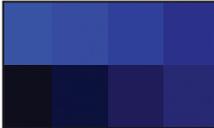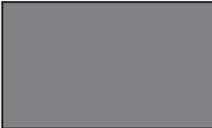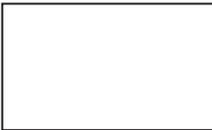
Color LCD models (non-touch panel models)	
\<Screen 1\> Completely blank	**\<Screen 8\>** Red stepwise
\<Screen 2\> All black	**\<Screen 9\>** Green stepwise
\<Screen 3\> All gray	**\<Screen 10\>** Blue stepwise
\<Screen 4\> All red	**\<Screen 11\>** Stroke detection
\<Screen 5\> All green	**\<Screen 12\>** All gray
\<Screen 6\> All blue	**\<Screen 13\>** Image data
\<Screen 7\> White stepwise	
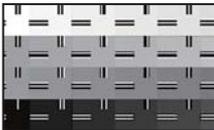
1-line LCD models
\<Screen 1\>
\<Screen 2\>
\<Screen 3\>

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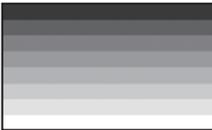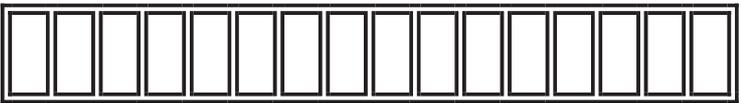
1.4.8 Operational Check of Keys on Control Panel (Maintenance mode 13)

\<Function\>

This function checks the keys on the control panel for normal operation.

\<Operating Procedure\>

(1) Enter [1] and [3] in this order in the initial stage of the maintenance mode.

The machine displays "00" 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 decimal notation. 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 [Stop] or [X], and then press the correct keys. (Mistakenly pressing [X] returns the machine to the initial stage of the maintenance mode.)

(3) After the last number key is pressed in the correct entry procedure, the machine returns to the initial stage of the maintenance mode.

To cancel the setting and return to the initial stage of the maintenance mode, press [Stop] or [X].

DCP-J100/J105/J132W/T300/T500W/T700W
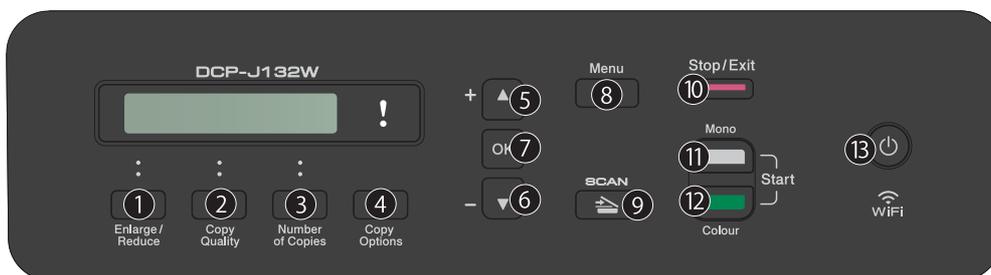
DCP-J152W
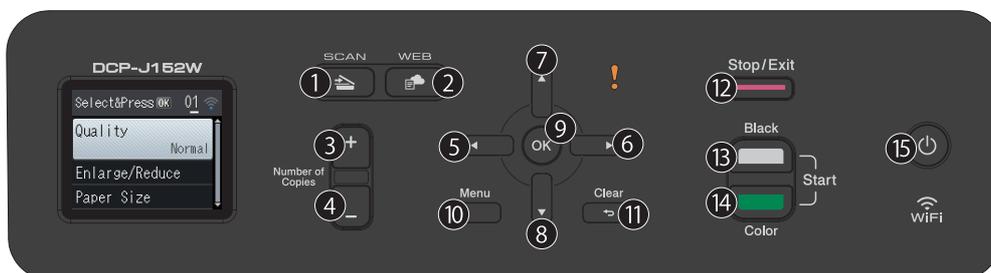
DCP-J172W
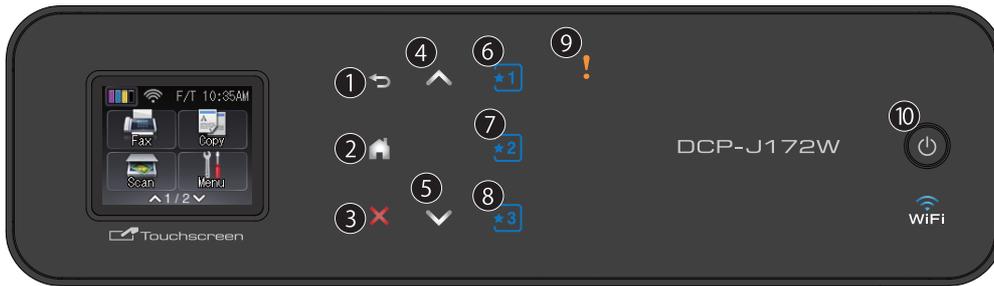
MFC-J200/J245/T800W

1.4.9 EEPROM Dump Transfer (Maintenance mode 17) (for Fax Models Only)

<Function>

The EEPROM dump function transfers the EEPROM settings made in the machine to another machine as fax data.

<Operating Procedure>

(1) Let the end user make a call to the destination machine to which he/she should transfer the EEPROM settings as fax data.

(2) If the line is connected, instruct the end user to:

1) Switch his/her machine to the end user-accessible maintenance mode.

2) Enter [1] and [7].

3) Enter [1].

Fax transmission begins.

1.4.10 Sensor Operational Check (Maintenance mode 32)

<Function>

This function checks whether sensors work normally.

<Operating Procedure>

(1) Enter [3] and [2] 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.

```
              ┌─────────────────────────┐
         ┌───→│        1,100 Hz         │───┐
         │    │   Low → Medium → High   │   │
         │    └─────────────────────────┘   ↓
   OFF   │                                  OFF
         │    ┌─────────────────────────┐   │
         └────│         400 Hz          │←──┘
              │   High ← Medium ← Low    │
              └─────────────────────────┘
```
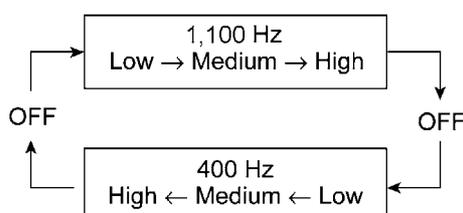
Note To stop tones from the speaker, press [SET] or [Menu].

If the sensing statuses are as defined below, the LCD shows the 1st sensor group "DFDRCVRSCCP1****".

(2) Press [Mono Start] 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.

Items shown on the LCD	Sensors	Sensing status (display/no display)
DF*1	Document detection sensor	No document/Document present
DR*1	Document scanning position sensor	No document/Document present
CV	Document scanner sensor	Cover closed/Cover opened
RS	Registration sensor	No recording paper/Recording paper present
CC	Ink cartridge cover sensor	Cover closed/Cover opened
P1	Purge cam sensor	Origin/Out of origin
IK*2	Black ink cartridge detection sensor	Cartridge present/No cartridge
IY*3	Yellow ink cartridge detection sensor	Cartridge present/No cartridge
IC*3	Cyan ink cartridge detection sensor	Cartridge present/No cartridge
IM*3	Magenta ink cartridge detection sensor	Cartridge present/No cartridge
EK	Black ink remaining sensor	Ink present/No ink
EY	Yellow ink remaining sensor	Ink present/No ink
EC	Cyan ink remaining sensor	Ink present/No ink
EM	Magenta ink remaining sensor	Ink present/No ink
VT	Head thermistor	Normal temperature/Abnormal temperature
T1	High temperature detector in the complex IC (for main PCB)	Normal temperature/Abnormal temperature

*1 For ADF models only
*2 For Ink Cartridge models and MFC-T800W only
*3 For Ink Cartridge models only

Confidential

(3) Change the detecting conditions, and then check that the indication on the LCD changes according to the sensor states. For example, insert paper through the Registration sensor, open the Ink cartridge cover or remove the ink cartridges.

(4) Press [Stop] or [X] to stop this operation and return the machine to the initial stage of the maintenance mode.
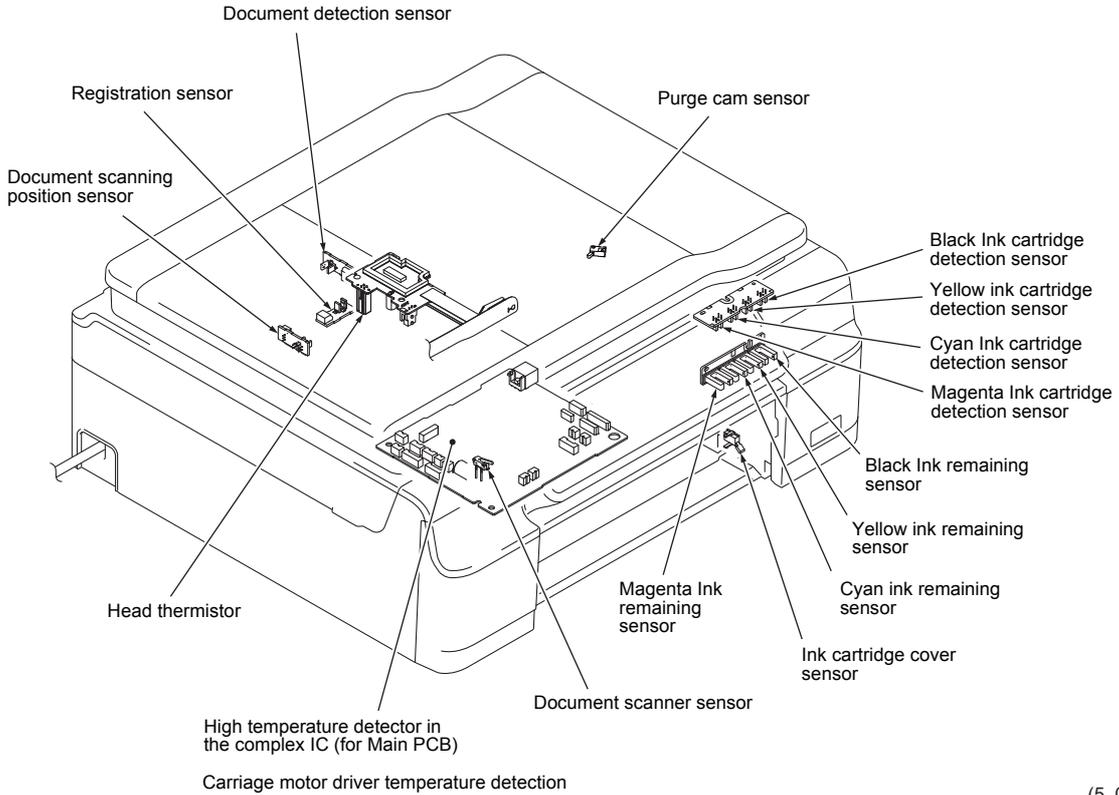
Locations of Sensors

(5_002L)

Confidential

1.4.11 Printout of Dial Log (Maintenance mode 37) (for Fax Models Only)

<Function>

This function outputs a list of telephone numbers dialed.

<Operating Procedure>

(1) Enter [3] and [7] in the initial stage of the end user-accessible maintenance mode.

The machine displays "PRINTING" on the LCD and prints out a list of dial log.

1.4.12 Setting of Country/Language (Maintenance mode 52)

<Function>

Machines have been customized for their destination countries with the corresponding EEPROM customizing codes list (refer to 1.4.24 Customize Code Destinations (Maintenance mode 74) in this chapter). However, some customizing codes are shared by two or more destination countries, so the machines customized by these codes require further specification of individual destination countries or languages.

Note This function applies to "France and surrounding areas", "Pan-Nordic", "Oceania", "Iberia" and "Gulf/Turkey" only.

<Operating Procedure>

(1) Enter [5] and [2] in the initial stage of the maintenance mode.

The machine will display "Set Country" on the LCD, and the name of the country that is set will appear in the local language.

(2) Touch panel model
Press the country name of the user on the LCD.
The selected country appears on the confirmation screen in the local language.

Non-touch panel models
Select the country name of the user with [▲] or [▼], and press [OK].
The selected country appears on the confirmation screen in the local language.

(3) If the choice is correct, press "Yes".

The machine stores the setting, customizes the EEPROM, and returns to the initial stage of the maintenance mode.

1.4.13 Transfer of Received FAX Data and/or Equipment's Log (Maintenance mode 53) (for Fax Models Only)

<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.

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.

• 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) Enter [5] and [3] in the initial stage of the maintenance mode.

The machine displays "FAX TRANSFER" on the LCD.

• To check the number of received files, enter [1].
The machine displays "1.NO. OF JOBS" on the LCD.
Press [SET] or [OK] key to display the number of received files, as in "NO. OF JOBS: 10."

• To transfer the activity report only, enter [2].
The machine displays "2.ACTIVITY" on the LCD.

• To transfer received files, enter [3].
(The activity report is also added and transferred.)
The machine displays "3.DOCUMENTS" on the LCD. Note that if there is no received file, "NO DOCUMENTS" appears.

• To transfer the communication list for the latest communication, enter [4].
The machine displays "4.COM.LIST (NEW)" on the LCD.

• To transfer the communication list for the last three errors, enter [5].
The machine displays "5.COM.LIST (ERR3)" on the LCD.

• To transfer the maintenance information (List of Maintenance mode 77), enter [6].
The machine displays "6.MNT77LIST" on the LCD.

• To transfer user setting information, enter [7].
The machine displays "7.USER SETTINGS" on the LCD.

• To transfer the caller ID history, enter [8].
The machine displays "8.CALLER ID HIST" on the LCD.

• To transfer the outgoing call history, enter [9].
The machine displays "9.OUTGOING CALL" on the LCD.

• To transfer the radio wave condition list, enter [0].
The machine displays "0.WLAN DATA" on the LCD.

(2) With the machine displaying either "2.ACTIVITY", "3.DOCUMENTS", "4.COM.LIST (NEW)", "5.COM.LIST (ERR3)", "6.MNT77LIST", "7.USER SETTINGS", "8.CALLER ID HIST", "9.OUTGOING CALL" or "0.WLAN DATA", press [SET] or [OK].

The machine displays "ENTER NO&OK" on the LCD.

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(3) Enter the telephone number of the receiver machine and press [SET] or [OK] again.

(4) The machine displays the "ACCEPTED" for approx. two seconds and starts dialing to transfer data.

Note • 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

```
=== FAX TRANSFER COVER PAGE ===

NO. OF JOBS   :001          ←    JOB number for identification
TOTAL PAGE[S] :001          ←    Total number of pages to be transferred
NAME          :BROTHER      ←    Station ID registered in the sender FAX
FAX           :052 824 2330 ←    FAX number of the sender
TEL           :             ←    Telephone number of the sender equipment
TIME          :06/06/2010 22:21 ← Transfer start date

8CA-S13                     ←    Model code
B1203261602                 ←    Boot ROM info
P1212121212                 ←    ROM info of program administration department
U1204221449 VER.0           ←    ROM info
G12234567890                ←    Serial number
```

End page sample

```
=== FAX TRANSFER END PAGE ===

NO. OF JOBS   :001              ←    JOB number for identification
TOTAL PAGE[S] :001              ←    Total number of pages to be transferred
NAME          :BROTHER          ←    Station ID registered in the sender FAX
FAX           :052 824 2330     ←    FAX number of the sender
TEL           :                 ←    Telephone number of the sender equipment

MACHINE STATUS 1    AF:0906062216 ←
MACHINE STATUS 2    43:0906062216 ←
MACHINE STATUS 3    48:0906022216 ←
MACHINE STATUS 4    AF:0906062017 ←
MACHINE STATUS 5    43:0906062017 ←    Error code
MACHINE STATUS 6    48:0906062017 ←
MACHINE STATUS 7    AF:0906061756 ←
MACHINE STATUS 8    43:0906061756 ←
MACHINE STATUS 9    48:0906061756 ←
```

Confidential

1.4.14 Fine Adjustment of Scanning Position (Maintenance mode 54)

<Function>

This function adjusts the scanning start and end positions of ADF.

<Operating Procedure>

(1) Enter [5] and [4] in the initial stage of the maintenance mode.

The machine displays "SCAN ADJ SELECT" on the LCD.

(2) To adjust the right and left edges, enter [0]. The machine displays "RL EDGE **" on the LCD.

To adjust the top edge, enter [1]. The machine displays "TOP EDGE **" on the LCD.

To adjust the bottom edge, enter [2]. The machine displays "BOTM EDGE **" on the LCD.

(3) Enter the correction value (in units of 0.1 mm) multiplied by 10.

To increase the value by 10 (1.0 mm), press [▲]; to decrease it, press [▼].

To increase the value by 1 (0.1 mm), press [►]; to decrease it, press [◄].

Note Pressing [Stop] or [X] returns the machine to the initial stage of the maintenance mode without making changes of the correction value.

(4) When finished making the change, press [SET] or [OK].

The machine displays "Accepted" on the LCD and returns to the initial stage of the maintenance mode.
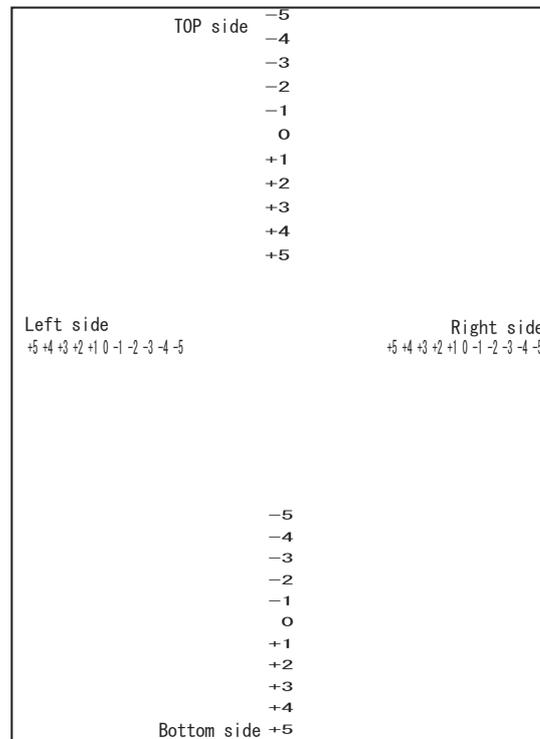
```
                          TOP side    −5
                                      −4
                                      −3
                                      −2
                                      −1
                                       0
                                      +1
                                      +2
                                      +3
                                      +4
                                      +5


      Left side                               Right side
      +5 +4 +3 +2 +1 0 −1 −2 −3 −4 −5          +5 +4 +3 +2 +1 0 −1 −2 −3 −4 −5




                                      −5
                                      −4
                                      −3
                                      −2
                                      −1
                                       0
                                      +1
                                      +2
                                      +3
                                      +4
                       Bottom side +5
```

1.4.15 Acquisition of White/Black Level Data and CIS Scanner Area Setting (Maintenance mode 55)

<Function>

This function allows the machine to obtain white/black level data for the CIS scanner and save the CIS scanner area and a correction value for it together into the EEPROM on the Main PCB.

<Operating Procedure>

(1) Enter [5] twice in the initial stage of the maintenance mode.

If any error has occurred in the machine, the "ME STATE STOP" appears on the LCD.

If no error has occurred in the machine, the machine automatically goes to step (2).

(2) The machine displays "SCANNER AREA SET" on the LCD and obtains white/black level data.

(3) After a few seconds, the machine saves the white/black level data and scanning width correction value into the EEPROM and returns to the initial stage of the maintenance mode.

If any error is detected during this operation, the machine displays "SCANNER ERROR" on the LCD.

1.4.16 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) Enter [5] and [7] in the initial stage of the maintenance mode.
The machine displays "IC_ACT ALL" on the LCD.

To check whether the cartridge is applicable, enter [1].
The machine displays "IC ACT ALL" on the LCD.

To check cartridge color information, enter [2].
The machine displays "IC COL ALL" on the LCD.

To check the destination of the cartridge, enter [3].
The machine displays "IC AREA ALL" on the LCD.

To check the cartridge size, enter [4].
The machine displays "IC SIZE ALL" on the LCD.

To check the data version of the cartridge, enter [5].
The machine displays "IC VER BLACK" on the LCD.

(2) Select the slot number of the cartridge to be checked, using [◀] or [▶].

```
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].

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 [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

Error Message	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. • Cartridge defective
NG300 to NG399	Succeeded in verifying IC, but the information judged as mismatching • Loading mistake

1.4.17 Updating of Paper Feeding Correction Value (Maintenance mode 58)

\<Function\>

To match the paper feeding amount with the head nozzle pitch, the machine optimizes the rotations of the paper feed roller and paper ejection roller, using the correction values stored in the EEPROM on the main PCB.

If you replace the Head/carriage unit or main PCB or remove the engine-related parts, you need to update the paper feeding correction values according to the procedure given below.

\<Operating Procedure\>

For printout of test patterns

(1) On your PC, when using A4-sized paper, save copies of "pfadj1_A4_BHmini13_Low.prn" and "pfadj2_A4_BHmini13_Low.prn".
When using letter-sized paper, save copies of "pfadj1_LTR_BHmini13_Low.prn" and "pfadj2_LTR_BHmini13_Low.prn".

(2) Print the test patterns by opening [Filedrgs] on your PC and dragging & dropping the above adjustment files in the order of pfadj1 and pfadj2 onto the Brother Maintenance USB Printer driver icon.

For adjustment of all paper feeding correction values

(1) Enter [5] and [8] in the initial stage of the maintenance mode.

The machine displays "Select 58?" on the LCD.

(2) Press the [Mono Start].

The machine displays "1.ALL" on the LCD.

(3) Enter [1].

The machine displays "PF_ONLY NO. +0" on the LCD.

(4) On the pfadj1 pattern (refer to), check the blocks of PF0 row. Select the block that is the least uneven print and enter the block number. For example, if the number of the least uneven block is +4, enter [4] with the "PF_ ONLY NO. +0" being displayed on the LCD. If the number is -4, press [▼] to display the "PF_ONLY NO. -0" and enter [4]. Then press the [SET] or [OK]. The machine displays "PF1 NO. +0" on the LCD.

(5) On the pfadj1 pattern (refer to), check the blocks of PF1 to PF6 rows. First, on the PF1 row, enter the number of the block that is the least uneven print and enter the block number. Then press [SET] or [OK].

(6) In the same way, enter the number of the least uneven block for rows PF2 through PF6, and then press the [SET] or [OK]. The machine displays "EXT1 NO. +0" on the LCD.

(7) On pfadj1 and 2 patterns (refer to), check the blocks of EX rows. In the same way as in step (4), enter the number of the least uneven block for rows EX1 and EX2, and then press the [SET] or [OK]. The machine displays "1.ALL" on the LCD.

(8) Press the [Stop] or the [X] to return the machine to the initial stage of the maintenance mode.

For the paper feed roller diameter adjustment

(1) Enter [5] and [8] in the initial stage of the maintenance mode.

The machine displays "Select 58?" on the LCD.

(2) Press [Mono Start].

The machine displays "1.ALL" on the LCD.

(3) Enter [▶].

The machine displays "1.PF 2.EXT" on the LCD.

(4) Enter [1].

The machine displays "PF1 NO. +0" on the LCD.

(5) On the pfadj1 pattern (refer to page 5-34), check the blocks of PF1 row. In the same way as in step (4) of the adjustment of all paper feeding correction values, enter the number of the block that is the least uneven print and then press [SET] or [OK].

(6) In the same way, check the blocks of PF2 through PF6 rows. Enter the number of the block that is the least uneven print and press [SET] or [OK]. The machine displays "1.PF 2.EXT" on the LCD.

Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

For the paper ejection roller diameter adjustment

(1) Enter [5] and [8] in the initial stage of the maintenance mode.

The machine displays "Select 58?" on the LCD.

(2) Press [Mono Start].

The machine displays "1.ALL" on the LCD.

(3) Enter [▶].

The machine displays "1.PF 2.EXT" on the LCD.

(4) Enter [2].

The machine displays "EXT1 NO. +0" on the LCD.

(5) On pfadj1 and 2 patterns (refer to page 5-34), check the blocks of EX rows. In the same way as in step (4) of the adjustment of all paper feeding correction values, enter the number of the block that is the least uneven print and then press [SET] or [OK]. The machine displays "1.PF 2.EXT" on the LCD.

Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

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For the paper feed roller alone adjustment

(1) Enter [5] and [8] in the initial stage of the maintenance mode.

The machine displays "Select 58?" on the LCD.

(2) Press [Mono Start].

The machine displays "1.ALL" on the LCD.

(3) Enter [▶] twice.

The machine displays "1.PF_ONLY" on the LCD.

(4) Enter [1].

The machine displays "PF_ONLY NO. +0" on the LCD.

(5) On the pfadj1 pattern (refer to), check the blocks of PF0 row. In the same way as in step (4) of the adjustment of all paper feeding correction values, enter the number of the block that is the least uneven print, and then press [SET] or [OK].

Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

For initialization of adjustment values

(1) Enter [5] and [8] in the initial stage of the maintenance mode.

The machine displays "Select 58?" on the LCD.

(2) Press [Mono Start].

The machine displays "1.ALL" on the LCD.

(3) Enter [8], [9], [5], and [4].

All paper feeding correction values are initialized, and the machine displays "1.ALL" on the LCD.

(4) Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.
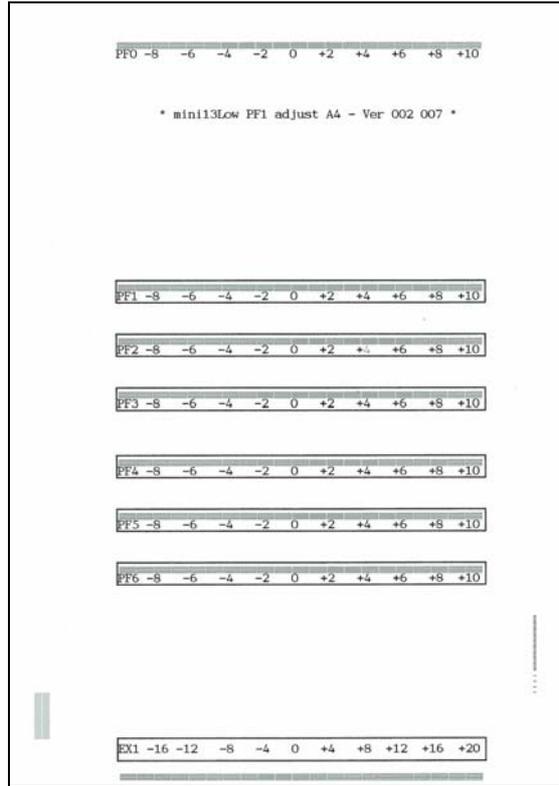
pfadj1 Pattern
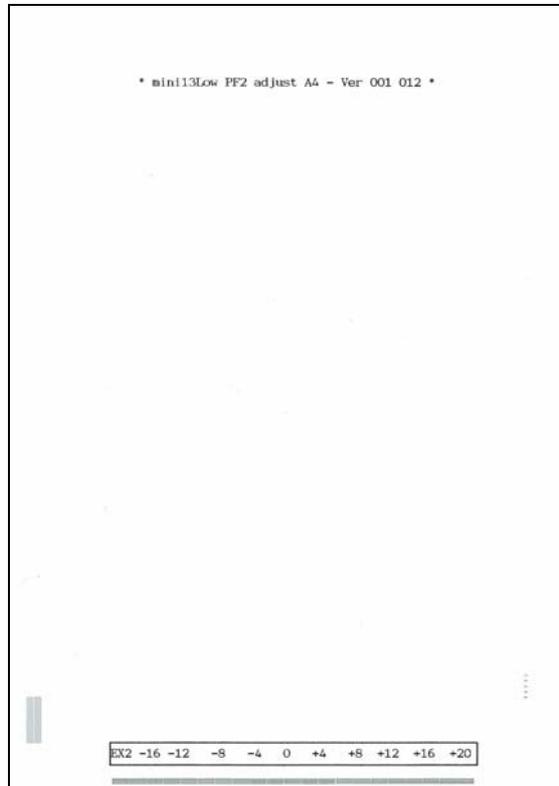
pfadj2 Pattern

1.4.18 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 white reference film position, scanning start and end positions.

It also allows you to specify the CIS type into the EEPROM parameter 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) Enter [5] and [9] in the initial stage of the maintenance mode.
    The machine displays "1:MO 2:CO 3:CHG?" on the LCD.

(2) Enter [1]. The machine displays "RESO TYPE SET *" on the LCD.

(3) Press [SET] or [OK]. "LED PWM : **" appears on the LCD.

(4) Press [SET] or [OK]. "G PULSE : ****" appears on the LCD.

(5) Press [SET] or [OK]. The machine displays "1:WHT 2:FRT 3:MV" on the LCD.
    Enter [1], and press [SET] or [OK] to move the CIS unit to the white reference film.
    Enter [2], and press [SET] or [OK] to move to the scanning start position.
    Enter [3], and press [SET] or [OK] to move to the scanning end position.

(6) Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

Specify the CIS type

(1) Enter [5] and [9] in the initial stage of the maintenance mode.
    The machine displays "1:MO 2:CO 3:CHG?" on the LCD.

(2) Press [3].
    The machine displays "1:AUTO 2:MANUAL" on the LCD.

(3) Press [1].
    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, "CIS M:* /S:0 →?" will be displayed on the LCD. * is the automatically set CIS type. For ?, enter the CIS type (0 or 1 or 2) with any other reserved parameters. After entering the value, "Please DL ROM" will appear on the LCD. Install the latest firmware.

Note If a failure in the automatic setting of the CIS type results in machine error AF, press [2] in step (3) and specify the CIS type manually.

1.4.19 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) Enter [6] and [3] in the initial stage of the maintenance mode.

The machine displays "SELECT 63?" on the LCD.

(2) Press [Mono Start].

The machine displays "START 63?" on the LCD.

(3) Enter [*].

The machine moves the Head/carriage unit to the adjustment position and displays "HEAD ADJ" on the LCD.

(4) When finished making the change, press [Stop] or [X].

The Head/carriage unit returns to the home position and locks itself, then the machine returns to the initial stage of the maintenance mode.

1.4.20 Adjustment of Vertical Print Lines/Software Correction for Inclination/Corrugation/ Ruled Lines (Maintenance mode 65)

<Function>

This procedure aligns vertical lines printed when the Head/carriage unit travels from left to right.
If the Head/carriage unit, main PCB, or engine-related parts are replaced, you need to make the adjustment given below.

<Operating Procedure>

Adjustment of vertical print lines (same as C1 to C3 and E1 to E4 of ruled line adjustment)

(1) Enter [6] and [5] in the initial stage of the maintenance mode. The machine displays "MAINTENACE 65" on the LCD.
(2) Enter the [1]. The machine displays "PRINTING" on the LCD and prints out a vertical print line pattern.
Upon completion of printing, "A NO. (1-9)" appears on the LCD.
(3) Check the (A) row, find which number block shows most indistinct vertical lines, and then enter that block number.
The machine displays "B NO.(1-9)" on the LCD.
(4) Check the (B) row, find which number block shows most indistinct vertical lines, and then enter that block number.
The machine displays "C NO.(1-9)" on the LCD.
(5) Check the (C) row, find which number block shows the most indistinct vertical lines, and then enter that block number.
The machine displays "D NO.(1-9)" on the LCD.
(6) Check the (D) row, find which number block shows the most indistinct vertical lines, and then enter that block number.
The machine displays "E NO.(1-9)" on the LCD.
(7) Check the (E) row, find which number block shows most indistinct vertical lines, and then enter that block number.
Vertical print line values are written to the machine, and the machine returns to the initial stage of the maintenance mode.

Note If block numbers 1 or 9 are entered even once during adjustment, the machine shows "PRINTING" on the LCD and prints the vertical alignment check pattern again. Go back to step (3) and make adjustments again.

Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines

(1) Save "Corrugate_BHmini13_Low.prn" into your PC.
(2) Print the test patterns by opening [Filedrgs] on your PC and dragging & dropping the above file onto the Brother Maintenance USB Printer driver icon.
(3) Enter [6] and [5] in the initial stage of the maintenance mode.
The machine displays "MAINTENACE 65" on the LCD.
(4) Enter [2].
"A1 No.(1-9) 5" is displayed.
(5) Check the A1 that has been printed, find which number block shows the most indistinct vertical lines, and then enter that block number. Then press [SET] or [OK].
The machine displays "A2 No.(1-9) 5" on the LCD.
(6) Wait for the block number to appear on the LCD for confirmation in the same way. For each of the printed (A2) to (A13), (B), (C1) to (C3), (D1) to (D6), and (E1) to (E4), enter the number of the block that shows the most indistinct vertical lines.

(7) After (E4) is entered, the "OK? 1.YES 2.NO" appears on the LCD.
Press the [1] to save individual adjustment values and return the machine to the initial stage of the maintenance mode.

Resetting set values

• To reset the corrugation values (A1) through (A13)

(1) Enter [6] and [5] in the initial stage of the maintenance mode. The machine displays "MAINTENACE 65" on the LCD.

(2) Enter [8], [6], [5], and [4]. The machine displays "INIT ADJ_L_WAVE?" on the LCD.

(3) Press [SET] or [OK]. Reset the corrugation values, and return to the initial stage of the maintenance mode.

(4) When the power is turned OFF, the reset values are written to the EEPROM.

• To reset the ruled lines adjustment values (C1) through (C3)

(1) Enter [6] and [5] in the initial stage of the maintenance mode. The machine displays "MAINTENACE 65" on the LCD.

(2) Enter [8], [6], [5], and [4]. The machine displays "INIT ADJ_L_WAVE?" on the LCD.

(3) Press [►]. The machine displays "INIT ADJ_L_ LINE?" on the LCD.

(4) Press [SET] or [OK]. Reset the adjustment of ruled lies, and return to the initial stage of the maintenance mode.

(5) When the power is turned OFF, the reset values are written to the EEPROM.

• To reset the software correction for inclination values (E1) through (E4)

(1) Enter [6] and [5] in the initial stage of the maintenance mode. The machine displays "MAINTENACE 65" on the LCD.

(2) Enter [8], [6], [5], and [4]. The machine displays "INIT ADJ_L_WAVE?" on the LCD.

(3) Press [►] twice. The machine displays "INIT ADJ_L_ GRAD?" on the LCD.

(4) Press [SET] or [OK]. Reset the software correction for inclination, and return to the initial stage of the maintenance mode.

(5) When the power is turned OFF, the reset values are written to the EEPROM.
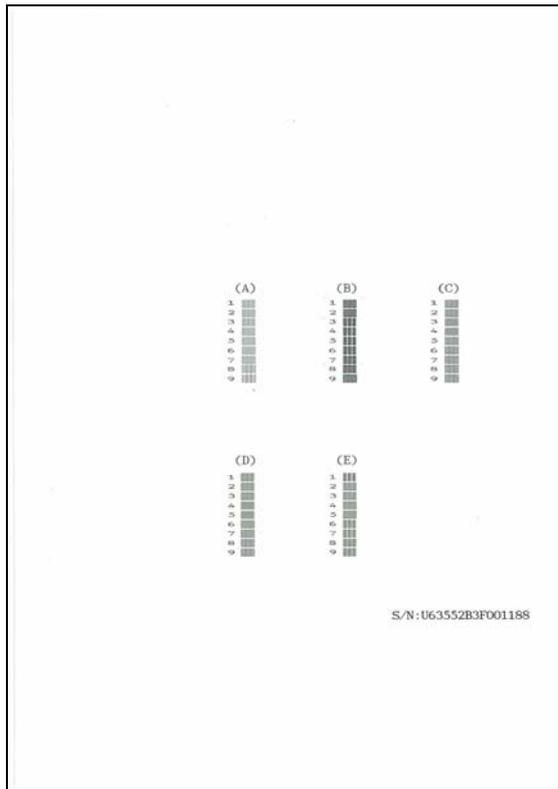
Vertical Lines Check Pattern
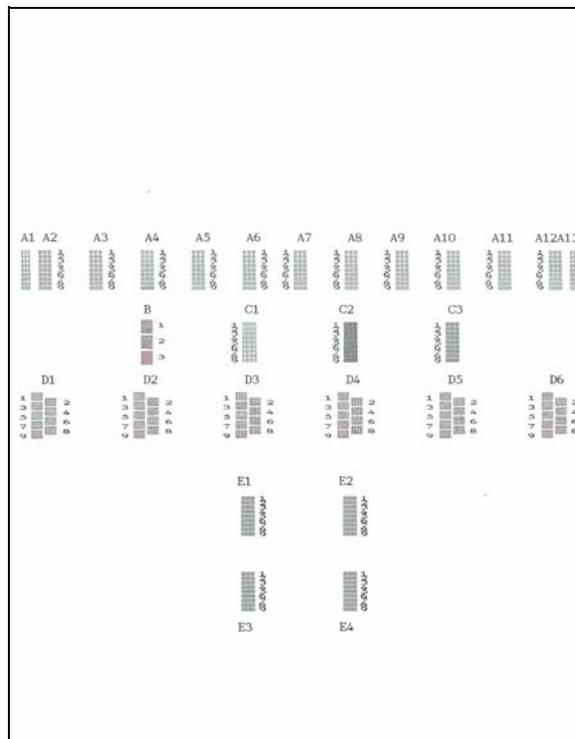
Adjustment of Software Correction for Inclination/Corrugation/Ruled Lines Check Pattern

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1.4.21 Margin Adjustment in Borderless Printing (Maintenance mode 66)

<Function>

This function 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.

<Operating Procedure>

Before starting the procedure below, be sure to set letter or A4 size paper in the paper tray for printing check patterns.

Printing the left, right and bottom margin check pattern

(1) Switch the machine to the maintenance mode.

(2) On your PC, save a copy of "mediaadj_BHmini13_Low.prn".

(3) Print the test patterns by opening [Filedrgs] on your PC and dragging & dropping the above file onto the Brother Maintenance USB Printer driver icon.

Adjusting the left and right margins

(1) Measure the left and right margins on the printed check pattern 1.
The upper row of the left and right margins is for printing in 600 dpi, the lower row for printing in 1,200 dpi.

(Example)

	Upper row (in 600 dpi)	Lower row (in 1,200 dpi)
Left margin	2.8 mm	2.9 mm
Right margin	3.1 mm	3.2 mm

If the left and right margins are within the range from 2.9 to 3.1 mm, adjustment is unnecessary. If outside the specified range, proceed to (2).

(2) If either the left or right margins is outside the specified range, enter [6] twice.
The machine displays "SELECT 66?" on the LCD.

(3) Press the [Mono start].
The machine displays "MEDIA SENSOR ADJ" on the LCD.

(4) Enter [*].
"LEFT1:30" is displayed.

(5) Adjust the 600 dpi left margin. Enter the measured margin value (in units of 0.1 mm) multiplied by 10.
In the example on step (1) above, the measured margin value of the left margin is 2.8 mm, so enter [2] and [8], and then press [SET] or [OK].
The machine displays "RIGHT 1 :30" on the LCD.

(6) Next, adjust the 600 dpi right margin. Enter the measured margin value (in units of 0.1 mm) multiplied by 10.
In the example on step (1) above, the measured margin value of the left margin is 3.1 mm, so enter [3] and [1], and then press [SET] or [OK].
The machine displays "LEFT2 :30" on the LCD.

(7) Next, adjust the 1,200 dpi left margin. Enter the measured margin value (in units of 0.1 mm) multiplied by 10.

In the example on step (1) above, the measured margin value of the left margin is 2.9 mm, so enter [2] and [9], and then press [SET] or [OK] .

The machine displays "RIGHT2 :30" on the LCD.

(8) Next, adjust the 1,200 dpi right margin. Enter the measured margin value (in units of 0.1 mm) multiplied by 10.

In the example on step (1) above, the measured margin value of the right margin is 3.2 mm, so enter [3] and [2], and then press [SET] or [OK].

Return to the initial stage of the maintenance mode.

(9) Print the margin check pattern again, using the procedure step (3) of "Printing the left, right and bottom margin check pattern".

(10) Measure the left and right margins on the printed pattern.

If the left and right margins are within the range from 2.9 to 3.1 mm, the adjustment is completed.

Adjusting the bottom margin

(1) Measure the bottom margin on the printed check pattern 1.
(Example) Bottom margin: 3.2 mm
If it is within the range from 0.0 to 5.0 mm, no adjustment is required. If not, go to step (2).

(2) If the bottom margin is out of the specified range, enter [6] and [6].
The "Select 66?" appears on the LCD.

(3) Press the [Mono Start].
The "MEDIA SENSOR ADJ" appears on the LCD.

(4) Press the [#] key to display "BOTTOM :30."

(5) To adjust the bottom margin, enter the measured bottom margin value (in units of 0.1 mm) multiplied by 10.
In this example, the bottom margin measured in step (1) is 3.2 mm, so enter [3], [2], and [SET] or [OK].
The machine returns to the initial stage of the maintenance mode.

(6) Using the procedure step (3) of "Printing the left, right and bottom margin check pattern", print the margin check pattern again.

(7) Measure the bottom margin on the printed pattern.
If it is within the range from 0.0 to 5.0 mm, the adjustment is completed.

Note To reset the correction values newly entered in the above procedure, enter the [6], [6], [Mono Start], [8], [9], [5] and [4] keys in this order in the initial stage of the maintenance mode. The machine shows "PARAMETER INIT" on the LCD and returns to the initial stage of the maintenance mode.
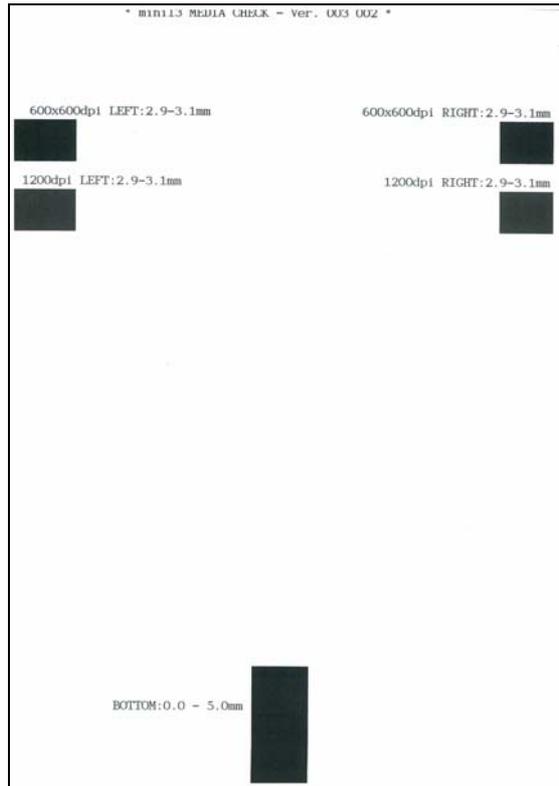
Margin Check Pattern

1.4.22 Updating of Head Property Data (Maintenance mode 68)

<Function>

To maintain print quality, the machine optimizes the drive conditions of individual Head/carriage units according to their property data.

Head property data is stored in the EEPROM on the main PCB and its property code is printed on the head property labels attached to the Head/carriage unit.

If you replace the Head/carriage unit, you need to enter its property code printed on the new head property label (pasted on the spare part), following the procedure below using maintenance code 68.

<Operating Procedure>

(1) Enter [6] and [8] in the initial stage of the maintenance mode.

(2) Enter [2], [5], [8], and [0].

The current property data stored in the EEPROM appears on the LCD and the machine is ready for entry.

(3) Check the head property label pasted on the Head/carriage unit, and enter the property code.

The code to be entered is 10 digits excluding the heading "ALR".

Tip In the standby state, open the scanner cover, and then hold down [Stop] or [X] five seconds or longer; the Head/carriage unit moves to the center. Check the head property label from the opening.

(4) After entering the 10 digits, press [SET] or [OK].

The machine displays "INPUT ACCEPTED" on the LCD and writes the entered head property code into the EEPROM.

It then returns to the initial stage of the maintenance mode.

Note If the entered data contains any checksum error, the machine shows "Input Error" and becomes ready to accept entry. Go back to step (3) and re-enter.

1.4.23 Traveling Speed Check of Head/Carriage Unit (Maintenance mode 69)

<Function>

This function checks whether the traveling speed of the Head/carriage unit is within the specified range.

<Operating Procedure>

(1) Enter [6] and [9] 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, "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 [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

1.4.24 Customize Code Destinations (Maintenance mode 74)

<Function>

This function customizes the machine according to settings of the language, functions, and worker switches.

<Operating Procedure>

(1) Enter [7] and [4] in the initial stage of the maintenance mode.

The machine displays "Select 74?" on the LCD.

(2) Press [Mono Start].

The machine displays current settings on the LCD.

(3) Enter the desired customizing code.

(4) Press [Mono Start].

This saves the new setting and returns the machine to the initial stage of the maintenance mode.

If the destination code is changed, "PLS UPDATE PROG" appears on the LCD. Load the latest firmware (refer to Chapter 4, Section 1.3).

(5) Pressing [Stop] 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

	US	Mexico	Brazil	Argentina	Chile
DCP-J100	-	0001	0042	-	0036
DCP-J105	-	0101	0142	0136	0136
DCP-J132W	-	-	-	-	-
DCP-J152W	0001	-	-	0036	0036
DCP-J172W	-	-	-	-	-
DCP-T300	-	0001	0042	0036	0036
DCP-T500W	-	0001	0042	0036	0036
DCP-T700W	-	0101	0142	-	0136
MFC-J200	-	0001	0042	0036	0036
MFC-J245	0001	-	-	-	-
MFC-T800W	-	0001	-	-	-

	Germany	UK	France (France/Belgium/ Holland/Others)	Iberia (Spain/ Portugal)	Italy
DCP-J100	-	-	-	-	-
DCP-J105	-	-	-	-	-
DCP-J132W	0004	0004	0055 (0005/0008/ 0009/0004)	0065 (0015/0018)	0016
DCP-J152W	0004	0004	0055 (0005/0008/ 0009/0004)	0065 (0015/0018)	0016
DCP-J172W	-	-	0055 (0005/0008/ 0009/0004)	-	-
DCP-T300	-	-	-	-	-
DCP-T500W	-	-	-	-	-
DCP-T700W	-	-	-	-	-
MFC-J200	-	-	-	-	-
MFC-J245	0003	-	0005	0065 (0015/0018)	0016
MFC-T800W	-	-	-	-	-

	Switzerland	Pan Nordic (Denmark/Finland/ Norway/Sweden)	CEE General	Poland
DCP-J100	-	-	0054	-
DCP-J105	-	-	0154	-
DCP-J132W	0004	0057(0007)	0054	-
DCP-J152W	0004	0057(0007)	0054	-
DCP-J172W	0004	-	-	-
DCP-T300	-	-	0054	-
DCP-T500W	-	-	0054	-
DCP-T700W	-	-	0154	-
MFC-J200	-	-	0054	0039
MFC-J245	-	-	-	-
MFC-T800W	-	-	-	-

	Israel	Russia	Baltic	North Africa	Oceania (Australia/ New Zealand)	Singapore/ Gulf
DCP-J100	-	0048	-	-	-	-
DCP-J105	-	0148	-	-	-	-
DCP-J132W	-	-	-	-	-	-
DCP-J152W	-	-	-	-	0004	0040
DCP-J172W	-	-	-	-	0004	-
DCP-T300	-	0048	0054	0005	-	-
DCP-T500W	-	0048	0054	0005	-	-
DCP-T700W	-	0148	-	-	-	-
MFC-J200	-	0048	-	-	-	-
MFC-J245	0004	-	-	-	0056 (0006/0027)	0040
MFC-T800W	-	-	-	-	-	-

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	ASIA	Malaysia	Philippines	India	Indonesia	Thailand
DCP-J100	0040	-	-	0040	0029	-
DCP-J105	0140	-	-	0140	0129	-
DCP-J132W	-	-	-	-	-	-
DCP-J152W	-	-	-	-	-	-
DCP-J172W	-	-	-	-	-	-
DCP-T300	-	0040	0040	0040	0040	-
DCP-T500W	-	0040	0040	0040	0040	-
DCP-T700W	-	0140	0140	0140	0140	-
MFC-J200	0040	-	-	-	0029	-
MFC-J245	-	-	-	-	-	-
MFC-T800W	0040	-	0040	-	-	0040

	Korea	S. Africa	Taiwan	Turkey	Gulf/Turkey (Turkey/ Gulf)	CHN
DCP-J100	0040	-	0023	-	-	0020
DCP-J105	0140	0124	0023	0154	-	0020
DCP-J132W	-	-	-	-	-	-
DCP-J152W	-	-	-	-	-	-
DCP-J172W	-	-	-	-	-	-
DCP-T300	0040	-	0023	-	0074 (0025/0041)	0020
DCP-T500W	0040	-	0023	-	0074 (0025/0041)	0020
DCP-T700W	0140	-	0123	-	0174 (0125/0141)	0120
MFC-J200	0044	0024	0023	0054	-	0020
MFC-J245	-	-	-	-	-	-
MFC-T800W	0044	-	0023	-	0074 (0025/0041)	0020

This code list is as of February 2015. Ask Brother for the EEPROM Customizing Codes List if you use it.

1.4.25 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 of its travel, allowing you to easily remove the paper particles and dust accumulated.

<Operating Procedure>

(1) Enter [7] and [5] in the initial stage of the maintenance mode.

The machine displays "PLS OPEN COVER" on the LCD.

The Head/carriage unit moves to the center of its travel.

(2) Open the document scanner unit.

The machine displays "PLS CLOSE COVER" on the LCD.

(3) Remove the paper particles and dust accumulated.

(4) Close the document scanner unit.

The Head/carriage unit returns to the home position, then the machine returns to the initial stage of the maintenance mode.

Tip In standby state, holding down [Stop] or [X] continuously for at least five seconds with the document scanner unit open can also move the Head/carriage unit in the same manner as above.

1.4.26 Purge Operation (Maintenance mode 76)

<Function>

The machine can carry out several types of purge operations--normal purge, periodical reset purge, power purge, initial purge, user reset purge, and engine setup purge. This function allows you to select the desired purge type and carry it out.

<Operating Procedure>

(1) Enter [7] and [6] in the initial stage of the maintenance mode.

The machine displays "CLEANING ALL" on the LCD.

(2) Press [◄] or [►] to display the target color for purge on the LCD.

"CLEANING ALL": Purge for all four color inks

"CLEANING BLACK": Purge for black ink

"CLEANING MAGENTA"/"CLEANING CYAN"/"CLEANING YELLOW": Any color choice performs purge for all three color inks.

(3) Enter the purge code according to the table on the next page.

(4) Press [Mono Start].

Upon completion of purging, the machine automatically returns to the initial stage of the maintenance mode.

Note • Before performing a purge operation, confirm that the ink cartridge that has enough remaining has been installed or if there is enough remaining ink into the ink tank.

• 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.

• When the purge or flushing count reaches the upper limit, "Unable to Print 46" appears on the LCD, 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) Enter [8] and [0] in the initial stage of the maintenance mode to call up the machine's log information.
(Maintenance code 80. Refer to Section 1.4.29.)

2) Press [Mono Start] several times until the purge or flushing count appears on the LCD.

3) Enter [2], [7], [8], and [3] to reset the purge or flushing count. The machine automatically returns to the initial stage of the maintenance mode.

Purge types and purge codes

Purge Types	Contents	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
Small reset purge (SRP)	Purge to be performed periodically. The cycle varies due to the ambient temperature	9
Ink replacement purge	Not to be performed by service personnel	0

Ink usage and purge counts

Purge Types	Ink Usage (ml)			Purge Counts		
	All Colors	Black Only	Colors Only	All Colors	Black Only	Colors Only
Normal purge (NP)	Black 0.24 Color 0.384	Black 0.24 Color 0	Black 0 Color 0.384	30	11	18
Periodical reset purge (RP)	Black 0.359 Color 1.289	Black 0.359 Color 0.231	Black 0.207 Color 1.289	74	26	67
Power purge (PP)	Black 0.513 Color 1.508	Black 0.513 Color 0.231	Black 0.207 Color 1.508	92	34	77
Initial purge (uIP)	Black 3.61 Color 10.031	-	-	621	-	-
User reset purge (RP3)	Black 0.489 Color 1.481	Black 0.489 Color 0.231	Black 0.207 Color 1.481	89	32	76
Engine setup purge (eIP)	Black 3.487 Color 7.676	-	-	502	-	-
Periodic expelling purge (RP2)	Black 0.207 Color 0.231	-	-	19	-	-
Periodic suction purge (SP)	Black 0.110 Color 0.192	-	-	14	-	-
Small reset purge (SRP)	Black 0.317 Color 0.423	Black 0.317 Color 0.231	Black 0.207 Color 0.423	33	24	28
Ink replacement purge	Black 4.015 Color 6.635	-	-	478	-	-

The ink usage for COLOR is the total value of three colors.
Even if black ink purge is selected, color ink is consumed in some modes. Also, even if color ink purge is selected, black ink is consumed in some modes.

< Recommended purge procedures >

When a print failure occurs due to the non-discharge of ink, make a recovery from the non-discharge 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 (Non-touch panel model with numerical keys: Press **#** and **4** keys simultaneously) (CPP).
If about a half of the blocks are missing (pattern 3 in the figure below), perform Maintenance 76-F (Non-touch panel model with numerical keys: Press **#** and **6** keys simultaneously) (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.
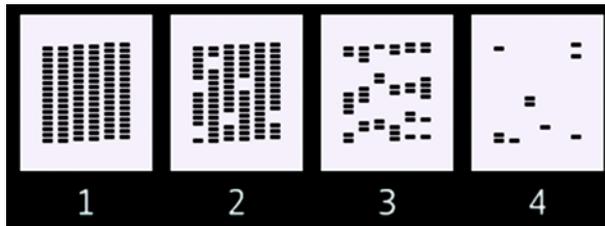
(5) Repeat the step (4) three times until there is no more missing block in the test pattern.

(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.

1.4.27 Print of the Maintenance Information (Maintenance mode 77)

<Function>

The machine prints out its log information.

<Operating Procedure>

(1) Enter [7] and [7] in the initial stage of the maintenance mode.
The machine starts printing out the maintenance information.

(2) Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

```
① RTC          2013/01/17 10:12 OK        ⑥ MAIN FIRM      0U 1301070942:02B9 50A6
② 16:13 10:12 OK                          ⑦ BOOT LOADER       1212211442:2FD2
③ MODEL       8CA-S79-001                 ⑧ S/N            E71961234567890
④ COUNTRY      0247                        ⑨ HEAD           ALR777530000C/00/1-1-1
⑤ SWITCH       14                          ⑩ CISF/ENGINE/LCD  01/85/00
⑪ PICTBRIDGE                   BROTHER/MFC-J890DN/4.0/BR000118/1.0
⑫ DOT COUNT(BK/YL/CY/MZ)       0000000000000/0000000000000/0000000000000/0000000000000
⑬ SENSOR DOT(BK/YL/CY/MZ)      0000000000/0000000000/0000000000/0000000000
⑭ PLATEN DOT(BK/YL/CY/MZ)      0000000000/0000000000/0000000000/0000000000
⑮ LIFE COUNT(BK/YL/CY/MZ)      0000000000000/0000000000000/0000000000000/0000000000000
⑯ CLEANING DOT(BK/YL/CY/MZ)    0000000000/0000000000/0000000000/0000000000
⑰ INK CHANGE(BK/YL/CY/MZ)      00001/00001/00001/00001 00000/00000/00000/00000
⑱ INK CHANGE MISS(BK/YL/CY/MZ) 00001/00001/00001/00001
⑲ INK CHANGE DOT(BK/YL/CY/MZ)          0000000000000/0000000000000/0000000000000/0000000000000
⑳ INK CHANGE SENSOR DOT(BK/YL/CY/MZ)   0000000000/0000000000/0000000000/0000000000
㉑ INK CHANGE CLEANING DOT(BK/YL/CY/MZ) 0000000000/0000000000/0000000000/0000000000
㉒ INK INVALID DOT(BK/YL/CY/MZ)         0000000000/0000000000/0000000000/0000000000
㉓ TOTAL PAGE/LM PAGE//PRINT 0000000003/00003//00000
㉔ TOTAL SIZE//A3//OTHERS(BK/CL) 00002/00001//00000/00000//00002/00001
㉕ PAGE COUNT(PC//COPY//FAX&LIST(BK/CL/ALL)) 00000/00000/00000//00000/00000/00000//00000/00000/00000
      (MEDIA//TEST PRINT) 00000//00003
㉖ PAPER SIZE(A3/A4/4x6/L)  00000-00000-00000/00003-00000-00000/00000-00000-00000/00000-00000-00000
㉗ DUPLEX PAGE/JAM/CLEANING  0000000000/00000/000
㉘ DUPLEX PAGE COUNT(COPY(CL/BK)//PC) 00000/00000//00000
㉙ DUPLEX PAPER SIZE(A3/A4/4x6) 00000/00000/00000-00000-00000
㉚ LABEL PAGE/LABEL JAM    00000/00000
㉛ BYPASS PAGE/BYPASS JAM  00000/00000
㉜ CIS COLOR PARAM(FB)     MAIN:01 SUB:00
㉝ ADF/FB PAGE/ADF JAM/FAX/SCANNER 0000000000/0000000000/0000000000/00000/00000
㉞ HP ERR/ERR LOG          00/00:00:00:00:00:00:00:00:00:00:00:00:00:00
㉟ PURGE/SENSOR PURGE//WIPE//FLUSH(BK)/FLUSH(CL) 01962/00000//00002//0000100582/0001362203
㊱ PURGE KIND(BK):AUTO/MANU  eIP:000/001 uIP:000/002  RP:003/000 SRP:000/000  SP:000/000 RP2:000/000
            CP:000/000  NP:000/001 RP3:000/000  PP:000/000 QPP:000/000
㊲ PURGE KIND(CL):AUTO/MANU  eIP:000/001 uIP:000/002  RP:002/000 SRP:000/000  SP:000/000 RP2:000/000
            CP:000/000  NP:000/001 RP3:000/000  PP:000/000 QPP:000/000 tFL:00005
㊳ POWER ON TIME(HOUR)     0000000131        ㊴ POWER ON COUNT    0000000048
㊵ MAC ERR(1st-3rd)        A1:1301161735:24/24:1401010009:23/24:1401010000:23
   MAC ERR(4th-6th)        23:1401010000:23/22:1401010000:23/21:1401010000:23
   MAC ERR(7th-9th)        20:1401010000:23/24:1401010000:23/23:1401010000:23
㊶ COM ERROR 1/2/3         00000000:        /00000000:        /00000000:
㊷ INITIAL PURGE LOG       FF/0000/00/03/00/00/00/0000/00
                          0000/0000/0000/0000/0000/0000/0000/0000/0000/0000
㊸ BACKUP DATA VERSION     a                  PAIR BOX VERSION  U
㊹ SENSOR STATUS           DF:1    DR:1    CV:1    RS:1    CC:1    P1:1
                          IK:1    IY:1    IC:1    IM:1    EK:1    EY:1    EC:1    EM:1
                          OR:1    CD:1
                          VT:1    T1:1    T2:1
㊺ INK CARTRIDGE STATE     K:1    Y:1    C:1    M:1    K?:0    Y?:0    C?:0    M?:0
㊻ EXECUTED MAINTEN        44 FC 00 40 00 00 07 15 6C 3C 80 80 18
㊼ EXECUTED SP_MAINTEN     00 00 02 00 00 00 00 00 00 00 00 00 00     035E
㊽ CLCDDRV ERR             T:00 E:9053 0400 0000 0000 0000 R:0000 0000 0000 0000 0000
㊾ RESET HISTORY           006/0000000121
㊿ SETUP DATE              00000000
```

1	Real-time clock (RTC) check result *4	26	Printed page count for paper size and paper type *1
2	RTC backup check result *4 OK: Backup completed, NG: Backup failed	27	Total page count for duplex printing/Jam count in duplex printing/Roller cleaning count *7
3	Model code	28	Total page count in duplex printing *7
4	Country code	29	Duplex printed page count for recording paper size and type *7
5	Checksum of WSW, PSW, USW, and FSW *4	30	Total printed label count/Label jam count *7
6	Version of main firmware	31	Total print count in printing via manual feed slot/ Paper jam count *7
7	Version of boot firmware *4	32	CIS type (currently in use, parameters saved in firmware)
8	Serial number	33	ADF scanning count/FB scanning count/ADF jam count/ FAX scanning count/Scanner count
9	Head property information/Head voltage adjustment value/Existence of mismatched calibration data in head calibration data calibration ratio	34	Home positioning error code of the CIS unit/ Home positioning detection log data *4
10	CIS type/Engine type/LCD type	35	Purge count/Sensor purge count *7/ Wipe count/Black flushing count/Color flushing count/ Flushing count error detection count
12	Ink drop count after replacement of ink cartridge or refill of ink	36	Purge count Automatic/manual (black) *2
13	Ink drop count after detection of "Ink Low"	37	Purge count Automatic/manual (color) *2
14	Ink drop count for droplets jetted out onto the platen *4	38	Total power-ON time
15	Total ink drop count from a new head including flushing	39	Power-ON count
16	Ink drop count via cleaning cycle after replacement of ink cartridge or refill of ink	40	Machine error history Error code: Date of occurrence: Machine temperature degree-C at the time of occurrence
17	Ink cartridge change or ink refill count high-yield, standard yield	41	Communications error history (Error code: Date of occurrence)
18	Ink cartridge detection failure count (Cannot Detect display count)	42	Initial purge log *4 (FF: Normal end)
19	Ink drop count after previous ink cartridge replacement or ink refill	43	Machine information backup file version *4
20	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge or refill of ink	44	Sensor status *3
21	Ink drop count due to cleaning after previous ink cartridge replacement or ink refill	45	Ink cartridge type loaded in each slot *5 Remaining ink (0: Normal, 1: Error)
22	Ink drop count at ink remaining failure	46	Executed maintenance codes *4
23	Total printed page count/Printed page count for previous month/Printed paper jam count	47	Executed special maintenance codes *4
24	Printed page count for paper size	48	LCD error *4
25	Page count in by printing method	49	Reset count*6/Power-ON duration at the time of last reset (Total power-ON hours)
		50	Operation start date of the product (Current date when the user operates the product first after unpacking)

*1: The paper type is printed in the order, from left, of "Plain paper - Inkjet paper - Glossy paper".
*2: For details about the purge type, refer to maintenance mode 76.
*3: For details about sensors, refer to maintenance mode 32.
*4: Not required for servicing.
*5: 0: No ink cartridge loaded
    1: High-yield ink cartridge
    2: Standard-yield ink cartridge
    *: Unidentifiable ink cartridge
*6: Excluding the resets triggered by the following
    Maintenance codes 01 and 91
    Maintenance code 80 (Resetting the purge and flushing counts)
*7: Not used

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1.4.28 Adjust the Touch Panel (Maintenance mode 78)

<Function>

This function adjusts the detection area on the touch panel.

<Operating Procedure>

(1) Enter [7] and [8] 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 on the LCD if the adjustment is normally completed. After approx. three seconds, the machine returns to the initial stage of the maintenance mode.

Note • Do not use tools other than a stylus 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 [Stop] or [X], the machine returns to the initial stage of the maintenance mode.

• If the touch panel is improperly pressed or a wrong point is pressed, "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 "ERROR" appears on the LCD, check the panel flat cable for a connection failure, breakage, or short-circuit. If "ERROR" continues to be displayed without any of such problems, replace the control panel ASSY.
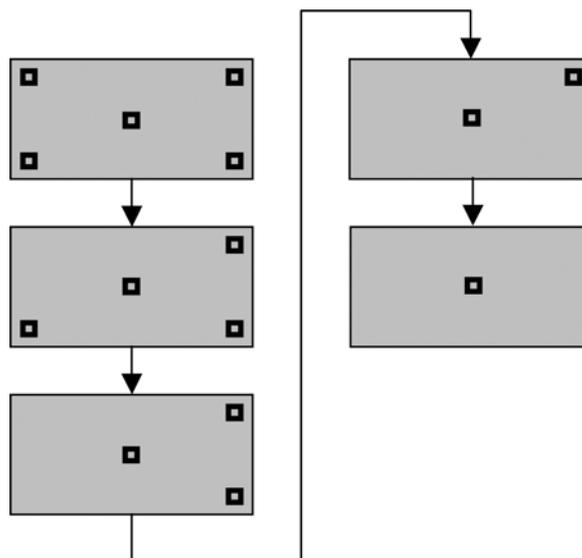
1.4.29 Display of the Equipment's Log (Maintenance mode 80)

<Function>

This function displays the log information on the LCD.

<Operating Procedure>

(1) Enter [8] and [0] in the initial stage of the maintenance mode.

The machine displays "00:00 22:36 OK" on the LCD.

(2) Press [▼] to call up the following log information items, one by one.

To return to the previous item, press [▲].

(3) Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

Log information items

Items shown on the LCD	Description
00:00 22:36 OK	Not shown on DCP models. RTC backup check, OK: Backup completed, NG: Backup failed *2
8CA-S11-001	Model code
COUNTRY:0001	Country code
SWITCH:82	Checksum of WSW, PSW, USW, and FSW *2
MAIN:0A307211213	Main firmware version and ROM production date & time
3415 5314	Main firmware checksum/ROM1 checksum
B0306101054:34CD	Boot ROM production date & time and checksum *2
S/N:	Serial number *1
ALR777FFFFFF8	Head property information
HEAD_CALIB:1-1-1	Whether head calibration data exists (1: Available, 0: Unavailable)
CISF:00	CIS type
ENGINE:00	Engine type *2
DK:0000000000000	Ink drop count after replacement of ink cartridge or refill of ink *3
SEN K:0000000001	Ink drop count after detection of "Ink Low" *3
PLA K:0000000001	Ink drop count for droplets jetted out onto the platen *3
LK:0000000000001	Total ink dot count *3
CLNK:0000000001	Cleaning ink drop count after replacement of ink cartridge or refill of ink *3
INK_CH BK:00001	Ink cartridge change or ink refill count high-yield *3
INK_CH2 BK:00001	Ink cartridge change count standard-yield *3
CHGMISS_BK:00001	Ink cartridge detection failure count *3
INK CHG DOT	Ink drop count after previous ink cartridge replacement or ink refill *3
INK CHG SEN DOT	Ink drop count after detection of "Ink Low" at the previous replacement of ink cartridge or refill of ink *3
INK CHG CLEAN	Ink drop count due to cleaning after previous ink cartridge replacement or ink refill *3
INV K:0000000001	Ink drop count at ink remaining failure *3
PAGE:0000000002	Total printed page count *4
LM PAGE:00001	Printed page count for previous month
JAM:00001	Paper jam count
PC:00001	Total PC print page count *5
COPY:00002	Total number of copies *5
FAX:00001	Total number of fax pages *5

Items shown on the LCD	Description
MEDIA:00001	Memory card/PictBridge print page count *7
TEST PRINT:0000	Total number of test prints
A3P:00001	Total page count for paper sizes and types *6
DX P:0000000001	Total page count in duplex printing *7
DX JAM:00001	Paper jam count during duplex printing *7
DX CLEAN:001	Roller cleaning count in duplex printing *7
DX PC:00001	Total PC print page count in duplex printing *7
DX CLC0PY:00001	Color copy page count in duplex printing *7
DX MNCOPY:00001	Monochrome copy printing page count in duplex printing *7
DX A3P:00001	Printed page count in duplex printing for paper size and paper type *7
CD PAGE:00000	Label print count *7
CD JAM:00000	Label printing jam count *7
BYPASS PAGE:00001	Total print count in printing via manual feed slot *7
BYPASS JAM:00001	Paper jam count during printing via manual feed slot *7
PURGE:00001	Purge count *12
SEN PURGE:00001	Sensor purge count *7
eIP_BK:001/001	Purge count for purge types (black) *8
eIP_CL:001/001	Purge count for purge types (color) *8
WIPE:00001	Wipe count
FLSBK:0000000001	Flushing count (black) *12
FLSCL:0000000001	Flushing count (color) *12
FLSHLOG:000	Flushing count error detection count
POWER:0000000353	Total power-ON time
PWCNT:0000000353	Power-ON count
MACHINE ERR_1:50	Machine error history (Last 9 errors) *9
COLFB M:00 S:01	CIS type (M: currently in use S: parameters saved in firmware)
ADF_JAM:00000	Document jam count during ADF scanning
FB:0000000006	Scanning page count in the document cover/ADF/FAX/SCANNER *10
HP_ERR_CODE:XX	CIS home positioning error in the document scanner unit *2
HP_LOG1:XXXXXXXX	CIS home positioning detection log data in the document scanner unit *2
COMERR1:BF010000	Communications error history (Last 3 errors) *9
BACKUP VER:a	Machine information backup file version *2
RESET COUNT:001	Reset count *11
SET UP:20120629	Operation start date of the product (Current date when the user operates the product first after unpacking)

*1 The serial number of the machine can be changed with the following procedure.

    1) Press [SET] or [OK] to display the serial number on the LCD, then press [9], [4], [7] and [5] in this order. The cursor appears on the LCD display at the uppermost digit of the current serial number, indicating that the machine switches to the edit mode.

    2) Enter the uppermost digit of the desired serial number. The cursor moves to the next lower digit. In the same way, enter the remaining 15 digits.

<Entry of alphabet letters on the models with numerical keys>

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 [SET] or [OK] to save the serial number and return the machine to the initial stage of the maintenance mode.

*2 Not required for servicing.

*3 With each item being displayed, pressing [SET] or [OK] cycles through black yellow cyan magenta.

*4 With each item being displayed, pressing [SET] or [OK] cycles through Total printed page count → Total printed monochrome page count → Total printed color page count A3/Ledger printed monochrome page count A3/Ledger printed color page count → Printed monochrome page count except A3/Ledger → Printed color page count except A3/Ledger.

*5 With the item being displayed, pressing [SET] or [OK] cycles through total monochrome color.

*6 With the item being displayed, pressing [SET] or [OK] cycles through A3 plain paper → A3 inkjet paper → A3 glossy paper → A4 plain paper → A4 inkjet paper → A4 glossy paper → 4x6/ postcard plain paper → 4x6/postcard inkjet paper → 4x6/postcard glossy paper → Photo L plain paper → Photo L inkjet paper → Photo L glossy paper.

*7 Not used.

*8 With the item being displayed, pressing [OK] switches the purge types, one by one.
 For details about the purge type, refer to Maintenance mode 76.

*9 With the item being displayed, pressing [SET] or [OK] switches back to the last errors, one by one. With an error code being displayed, pressing the [▶] key toggles between the date when the error occurred and the ambient temperature only in the case of a machine error.

*10 With the item being displayed, pressing [SET] or [OK] cycles through Flat-bed scanning → ADF front-side scanning → FAX scanning Scanner scanning.

*11 With the item being displayed, pressing [SET] or [OK] switches to the Power-ON duration at the time of last reset.

*12 Reset the purge count and flushing count by pressing [2] → [7] → [8] → [3] for each state shown.

1.4.30 Equipment Error Code Indication (Maintenance mode 82)

<Function>

This function displays an error code of the last error on the LCD.

<Operating Procedure>

(1) Enter [8] and [2] in the initial stage of the maintenance mode.

The machine displays "MACHINE ERR XX" on the LCD.

Tip If two or more errors have occurred, press [Mono Start] to cycle through the error codes.

(2) Press [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

1.4.31 Output of Transmission Log to the Telephone Line (Maintenance mode 87) (For fax models only)

<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) When the machine is on standby, press [Menu], [Mono Start], and [Menu] in order.

(3) Press [8] and [7] in this order.

The machine displays "SENDING P.01" on the LCD and transmits the error list.

Upon completion of error list transmission, the machine returns to the standby state.

1.4.32 Assurance Mode Switch Setting (AMS) (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 six assurance mode switches (AMS01 through AMS06). These assurance mode switches are firmware switches just as the WSWs described in Section 1.4.6.

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 AMS06 are described on the following pages.

<Operating Procedure>

(1) Enter [8] and [8] 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) Using the numerical keys, enter the desired double-digit number from the assurance mode switch numbers (01 through 06).

   The following appears on the LCD:

```
        Selector No. 1 Selector No. 8
              ↓              ↓
     AMSXX =0 0 0 0 0 0 0 0
```

(3) Use [◄] or [►] to move the underline cursor to the selector position to be modified.

(4) Enter the desired number (0 or 1) using [0] and [1].

(5) Press [SET] or [OK]. 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 [Stop] or [X] to return the machine to the initial stage of the maintenance mode.

Note • To cancel this operation and return to the initial stage of the maintenance mode during the above procedure, press [Stop] or [X].

   • 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 automatically returns to the initial stage of the maintenance mode.

   • Initializing the EEPROM with Maintenance code 01 or 91 initializes the assurance mode 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	Not used	

3 4	Protection of platen from no-paper printing to prevent stains (Functional restriction on the paper width sensor)	No. 3 4
		  0 0 : Automatically select depending upon the print resolution (Default)
		  0 1 : Detect the leading edge plus left and right edges of paper
		  1 0 : Detect only the leading edge of paper
		  1 1 : Do not detect paper

5	Assurance print 1 Printing with black and cyan inks in monochrome copy	0: Disable (default) 1: Enable
6	Assurance print 2 (Printing with black and cyan inks in monochrome FAX reception and in list output)	0: Disable (default) 1: Enable

7 8	Workaround for false paper 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 : Do not detect the leading edge or width of paper

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● **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 increases the throughput rather than disabling it.

● **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 memory card, copying, and printing via PictBridge.

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.

● **Selectors 5 and 6: Assurance print 1 and 2**

Enabling assurance print 1 causes the machine to mix black ink (pigment-based) and a little of cyan ink (dye-based) to use in "monochrome copy."

Enabling assurance print 2 causes the machine to mix black ink (pigment-based) and a little of cyan ink (dye-based) to use in "monochrome FAX reception" and "list output".

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 logo printed recording paper is used, for example, the paper width sensor might misdetect the paper present state as "no paper loaded" due to the logo'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 pulling rollers against paper in the paper tray.

Selecting the "Fast" print quality disables the registration time offset even if it is enabled with selector 1.

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 this mode, 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 a list	Yes
Printout of Test Pattern	No

● **Selector 8: Improvement of paper feeding reliability**

Setting this selector to "1" improves the paper feeding reliability, sacrificing the print speed.

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AMS03 (Maintenance Assurance 1)

Selector No.	Function	Setting and Specifications
1	Protection of head caps from drying	0: Disable (default)　　1: Enable
2 3	Auto capping start time	No. 2　3 　　0　0：　30 seconds default 　　0　1：　5 seconds 　　1　0：　15 seconds 　　1　1：　300 seconds
4	Purge more powerful than normal purge	0: Disable (default)　　1: Enable
5 6	Not used	
7	Automatic purging interval programmed for matching the ambient temperature (for color ink)	0: Enable (default)　　1: Disable
8	Automatic purging interval programmed for matching the ambient temperature (for black ink)	0: Enable (default)　　1: Disable

● **Selector 1: Protection of head caps from drying**

If the protection function is enabled with this selector, the Head/carriage unit automatically returns to the home position (head capping position) for flushing each time the machine prints the specified number of pages in order to protect the inside of the head caps from drying up. This function is useful in a dry environment or for heavy duty print per printing cycle.

● **Selectors 2 and 3: Auto capping start time**

If data transfer from the PC stops midway through printing for some reason in the PC, the Head/carriage unit automatically returns to the home position (head capping position) after the specified auto capping start time (default: 30 seconds) to prevent the head surface from drying up. At the restart of printing after the auto capping operation, print image unevenness could occur. At the restart of printing after the auto capping operation, print image unevenness could occur. To avoid it, increase the auto capping start time with these selectors.

● **Selector 4: Purge more powerful than normal purge**

Setting this selector to "1" automatically selects a purge more powerful than the normal purge from the first if the purge is initiated immediately after printing.

● **Selectors 7 and 8: Automatic purging interval programmed for matching the ambient temperature**

The "automatic purging interval programmed for matching the ambient temperature" is enabled by default. If the machine is set in an excessively hot or cold place, therefore, the automatic purging interval becomes short, resulting in increased ink waste.

Disabling this interval enables the one programmed for the ordinary temperature. In the first printing after a long no-print period, however, the print quality may lower.

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AMS04 (Maintenance Assurance 2)

Selector No.	Function	Setting and Specifications
1 2	Not used	
3	Black ink print mode	0: Disable (default)　　　　1: Enable
4	Automatic purging for color ink	0: Enable (default)　　　　1: Disable
5	Not used	
6 7	Periodical purging interval	No. 6　7 　　0　0 :　Prescribed purge intervals default 　　0　1 :　30 days black, 60 days color 　　1　0 :　30 days black, no purge color 　　1　1 :　No purge black and color
8	Automatic purging for black ink	0: Enable (default)　　　　1: Disable

● **Selector 3: Black ink print mode**

If any color ink runs out, printing is no longer possible by default. Setting this selector to "1" allows the machine to function as a monochrome printer, making it possible to print with black ink only even in a "Replace Ink" state as listed below.

Printing FAX message received	Monochrome printing only possible
Print from PC	No printing possible
Copy	Monochrome printing only possible. The [Mono] key is enabled, but the [Color] key is disabled.
Print a list	Monochrome printing only possible
Purge operation	Purge operation possible for black ink only, not possible for all-color or any specific color

Tip Difference between selector 3 on AMS04 and selector 8 on WSW49 (For details, refer to the "Worker Switches (WSW)" document separately issued.)

Both selector 3 on AMS04 and selector 8 on WSW49 specify the similar black ink print mode that applies if any color ink runs out. The difference is that the former allows the machine to print all data received as a monochrome printer with black ink only; the latter to ignore the "Replace Ink" state, receive both color and black data, and print it, resulting in a printout missing color components.

● **Selectors 4 and 8: Automatic purging for color ink and for black ink**

The machine periodically performs an automatic purge by default. The automatic purge, however, wastes ink when no printing has occurred. To avoid it, disable the automatic purge with these selectors. In the first printing after a long no-print period, disabling it may lower the print quality.

Setting selector 4 or 8 to "1" disables the setting made by selectors 6 and 7.

● **Selectors 6 and 7: Periodical purging intervals**

These selectors allow you to select the periodical purge interval to reduce ink consumption.

Setting these selectors "0, 0" (Prescribed purge intervals) performs purging at the intervals.

Setting these selectors to "1, 0" (30 days (black), no purge (color)) disables the setting made by selector 4.

Setting these selectors to "1, 1" (No purge (black and color)) disables the settings made by selectors 4 and 8.

AMS05 (Printing Assurance 3)

Selector No.	Function	Setting and Specifications
1	Uneven printing correction ON/OFF switching for upper and lower ends of the nozzle	0: ON (default) 1: OFF
2 | 4	Not used	
5	Jam reduction paper feed mode	0: Disable (default) 1: Enable
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 ON/OFF switching 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.

● **Selector 5: Jam reduction paper feed mode**

Setting this selector to "1" lowers the paper feeding speed when the recording paper passes along the star wheels for reduction of jams.

● **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.

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Assurance Mode Switch 06 (Printing Assurance 4)

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 streaks 1 0 : Improve white streaks 1 1 : Improve black streaks more
3 4	Improvement of white and black streaks at the center from the top of the paper during normal and high-speed printing on plain paper	No. 3 4 0 0 : Disable (default) 0 1 : Improve black streaks 1 0 : Improve white streaks 1 1 : Improve black streaks more
5 6	Improvement of white and black streaks during glossy paper printing	No. 5 6 0 0 : Disable (default) 0 1 : Improve black streaks 1 0 : Improve white streaks 1 1 : Improve black streaks more
7 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 steaks on the bottom edge of paper during normal and high-speed printing on plain paper.

● **Selectors 3 and 4: Improvement of white and black streaks at the center from the top of the paper during normal and high-speed printing on plain paper**

Setting these selectors enables improvement of the white and black steaks that appear from the top to the center of paper during normal and high-speed printing.

● **Selectors 5 and 6: Improvement of white and black streaks during glossy paper printing**

Setting these selectors enables improvement of the white and black vertical steaks on paper during glossy paper printing.

2 OTHER SERVICE FUNCTIONS

2.1 Displaying the Firmware Version

Touch panel model

When the machine is on standby, hold down [Home] for approx. five seconds.
The following screen will be displayed on the LCD.

```
1. Serial No
                    123451234512345
2. ROM Version

0001              OV 1302060850:DD82
3. Print Page

                           000003


```

The firmware version displays in the "2. ROM Version" area.

Non-touch panel model with numerical keys

When the machine is on standby, press [*] and [#] at the same time.
The firmware version appears on the LCD.

Non-touch panel model without numerical keys

When the machine is on standby, press [▲] and [Stop] at the same time.
The firmware version appears on the LCD.

2.2 Moving the Head/Carriage Unit

Hold down [Stop] or [X] with the document scanner unit opened for five seconds or
more.
The Head/carriage unit moves to the center of its travel.

2.3 Retrieving the Equipment Log Information

<Function>

This procedure retrieves the log information from the machine to the connected PC as electronic data.

<Operating Procedure>

(1) Turn on your PC.

(2) Create an arbitrary folder in the C: directory and save the readback tool (rb2k03.exe) and PJL command file (brmainten_77.pjl) in that folder.

   Note: The rb2k03.exe file is available only in Windows$^®$ XP.

(3) Switch the machine to the maintenance mode. (Refer to Section 1.1 in this chapter)

(4) Connect the machine to your PC using a USB cable.

(5) On the PC, start Command Prompt and change to the directory where the readback tool is located.

   (In the example below, a "SendPJL" folder is created in the "C:" directory and the readback tool is saved in that folder.)
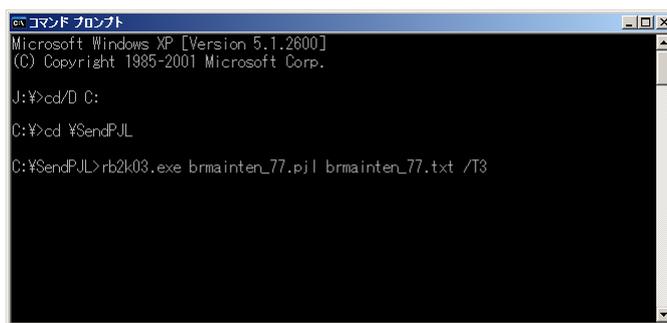
(6) In Command Prompt, type "rb2k03.exe brmainten_77.pjl brmainten_77.txt /T3" and press the Enter key. (Be sure to enter a space to the points marked with an asterisk "*" shown below. rb2k03.exe*brmainten_77.pjl*brmainten_77.txt*/T3 Otherwise, an error occurs.)

   brmainten_77.txt is created in the arbitrary folder.

(7) In Excel, open the created header/footer and delete header/footer added by the PJL stipulation.

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CHAPTER 6   CIRCUIT DIAGRAMS AND WIRING DIAGRAMS

■ **MJ PCB**

U.S.A., Canadian models

■ MJ PCB
European, Oceanian, Asian models

■ Power supply PCB, 100 V series

*:Not mounting

■ Power supply PCB, 200 V series

*:Not mounting

■ Wiring diagrams

Main PCB (center)

CARRIAGE PCB ASSY / **CN9 HEAD1**

CARRIAGE PCB ASSY	CN9 HEAD1
CR_THM 1	14 CR_THM
MEDIA_CNT 2	13 MEDIACNT
VSS1 3	12 VSS1
FIRE(+) 4	11 FIRE_B+
FIRE(-) 5	10 FIRE_B-
VSS1 6	9 VSS1
SIN(+) 7	8 SIN_B+
SIN(-) 8	7 SIN_B-
VSS1 9	6 VSS1
CLK(+) 10	5 CLK_B+
CLK(-) 11	4 CLK_B-
VSS1 12	3 VSS1
MEDIA_CNT 13	2 MEDIA
VTEMP 14	1 VTEMP

Head

CN6 HEAD2

CARRIAGE PCB ASSY	CN6 HEAD2
VDD1 1	9 VDD1
SLP3.3V 2	8 SLP3.3V
VDD3 3	7 VDD2
VDD2 4	6 VDD2
VSS2 5	5 VSS2
VSS2 6	4 VSS2
VSS2 7	3 VSS2
ENC1 8	2 ENC1
ENC2 9	1 ENC2

CN18 USB FUNCTION (Device) — **USB (Device)**

CN18 USB FUNCTION (Device)
FG 6
FG 5
GND 4
DP 3
DN 2
PC5V 1

CN17 PF-CNT — **PF ENCODER PCB**

CN17 PF-CNT	PF ENCODER PCB
ENC2 7	4 ENC2
SEN3.3V 6	3 SLP3.3V
S0V 5	2 S0V
ENC1 4	1 ENC1
LED_PWR 3	**REGISTRATION SENSOR PCB**
S0V 2	3 LED_PWR
SEN_RESI 1	2 S0V
	1 RESI

CN4 SCANNER OPEN — **DOCUMENT SCANNER SENSOR**

CN4 SCANNER OPEN
FB 2
S0V 1

CN22 ADFRSEN — **DOCUMENT SCANNING POSITION SENSOR PCB**

CN22 ADFRSEN	DOCUMENT SCANNING POSITION SENSOR PCB
VDD 3	3 LED_PWR
GND 2	2 S0V
RSEN 1	1 RSEN

CN23 ADFFSEN — **DOCUMENT DETECTION SENSOR PCB**

CN23 ADFFSEN	DOCUMENT DETECTION SENSOR PCB
VDD 3	3 LED_PWR
GND 2	2 S0V
FSEN 1	1 FSEN

CN7 REFILL SENSOR / **IC CARTRIDGE IC CHIP PCB ASSY**

CN7 REFILL SENSOR	IC CARTRIDGE IC CHIP PCB ASSY
16 THM_OUT	1 THM / CTG_THM 1
15 CTG_Y	2 YCTG / CTG_Y 2
14 CTG_K	3 KCTG / CTG_K 3
13 LEDPWR	4 LEDPWR_CTG / LEDPWR 4
12 CTG_C	5 S0V / CTG_C 5
11 CTG_M	6 CCTG / CTG_M 6
10 EMP_K	7 MCTG / EMP_K 7
9 EMP_Y	8 LEDCNT_CTG / EMP_Y 8
8 EMP_M	EMP_M 9
7 EMP_C	EMP_C 10
6 Rx	6 CEMP / S0V 11
5 Tx_Y	5 S0V / DI_Y 12
4 Tx_K	4 MEMP / DI_K 13
3 Tx_C	3LEDPWR_EMP / DI_C 14
2 Tx_M	2YEMP / DI_M 15
1 S0V	1KEMP / DO 16

INK CARTRIDGE PCB ASSY

| THM 1 |
| YCTG 2 |
| KCTG 3 |
| LEDPWR_CTG 4 |
| S0V 5 |
| CCTG 6 |
| MCTG 7 |
| LEDCNT_CTG 8 |

INK REMAINING SENSOR PCB ASSY

| CEMP 1 |
| S0V 2 |
| MEMP 3 |
| LEDPWR_EMP 4 |
| YEMP 5 |
| KEMP 6 |

CN11 WLAN — **WIRELESS LAN PCB**

CN11 WLAN	WIRELESS LAN PCB
WLAN_CMD 8	8 SDIO_DATA2
WLAN_D2 7	7 SDIO_CMD
WLAN_CLK 6	6 SDIO_DATA3
WLAN_D3 5	5 SDIO_CLK
WLAN_D1 4	4 SDIO_DATA0
WLAN_D0 3	3 SDIO_DATA1
+3.3V 2	2 +3.3V
S0V 1	1 GND

CN8 MODEM — **MJ PCB ASSY**

CN8 MODEM	MJ PCB ASSY
+3.3V 11	11 +3.3V
CSN 10	10 CSN
SDI 9	9 SPI_DI
SDO 8	8 SPI_DO
SCK 7	7 SPI_CLK
IRQ 6	6 IRQ
Rin 5	5 Rin
GND 4	4 GND
RESETn 3	3 RESETn
MDM_MONITOR 2	2 SPOUT
+31V 1	1 +31V

CN14 POWER — **POWER SUPPLY PCB ASSY**

CN14 POWER	POWER SUPPLY PCB ASSY
6 P0V	GND 1
5 P0V	GND 2
4 PSDOWN	PSDOWN 3
3 PSOFF	PSOFF 4
2 +31V	+31V 5
1 +31V	+31V 6

CNS SP — **SPEAKER**

CNS SP
2 VOUT2
1 VOUT1

CN13 CR-MOTOR — **CARRISGE MOTOR**

CN13 CR-MOTOR
2 CR_M-
1 CR_M+

CN15 FB-MOTOR — **SCANNER MOTOR**

CN15 FB-MOTOR
4 OUT_B-
3 OUT_B+
2 OUT_A-
1 OUT_A+

CN16 ADF-MOTOR — **ADF MOTOR**

CN16 ADF-MOTOR
4 OUT_A+
3 OUT_A-
2 OUT_B-
1 OUT_B+

CN1 PURGE CAM — **PURGE CAM SENSOR**

CN1 PURGE CAM
2 CAM
1 S0V

CN10 FRONT(INK) COVER — **INK COVER SENSOR**

CN10 FRONT(INK) COVER
2 F_COVER
1 S0V

CN21 CIS — **CIS UNIT**

CN21 CIS
12 R0V
11 Red_LED
10 Green_LED
9 Blue_LED
8 LED_Anode
7 CIS_CLK
6 CIS_TG
5 CIS_Vref
4 R3.3V
3 R0V
2 CIS_MODE
1 Vout

CN12 PF-MOTOR — **PF MOTOR**

CN12 PF-MOTOR
2 PF_M -
1 PF_M +

CN16 PANEL — **LCD PCB**

CN16 PANEL	LCD PCB
34 TOUCH_AD1	TOUCH_AD1 34
33 TOUCH_AD0	TOUCH_AD0 33
32 GND	GND 32
31 CAL1	TOUCH_CAL1 31
30 CAL0	TOUCH_CLA0 30
29 TOUCH_OUT3	TOUCH_OUT3 29
28 TOUCH_OUT2	TOUCH_OUT2 28
27 TOUCH_OUT1	TOUCH_OUT1 27
26 TOUCH_OUT0	TOUCH_OUT0 26
25 GND	GND 25
24 INTERRUPT	INTERRUPT 24
23 +5V	LEDPOWER_5V 23
22 I2C_SCL	I2C_SCL 22
21 I2C_SDA	I2C_SDA 21
20 ONOFF_KEY	ONOFF_KEY 20
19 GND	GND 19
18 FMARK	FMARK 18
17 +3.3V	VDD(3.3V) 17
16 RESET	TFT_RESET 16
15 RD	TFT_RD 15
14 WR	TFT_WD 14
13 CS	TFT_CS 13
12 RS	TFT_RS 12
11 GND	GND 11
10 D10	TFT_D10 10
9 D11	TFT_D11 9
8 D12	TFT_D12 8
7 D13	TFT_D13 7
6 D14	TFT_D14 6
5 D15	TFT_D15 5
4 D16	TFT_D16 4
3 D17	TFT_D17 3
2 LED-	LED-(LCD LED PWM) 2
1 +31V	LED(+31V) 1

LCD PCB (right) — **COLOR LCD**

LCD PCB	COLOR LCD
DO7 21	21 DO7
DO6 20	20 DO6
DO5 19	19 DO5
DO4 18	18 DO4
DO3 17	17 DO3
DO2 16	16 DO2
DO1 15	15 DO1
DO0 14	14 DO0
GND 13	13 GND
TE 12	12 TE
VDDI 11	11 VDDI
VDDI 10	10 VDDI
GND 9	9 GND
RESET 8	8 RESET
CS 7	7 CS
DC 6	6 DC
GND 5	5 WR
WR 4	4 WR
RD 3	3 RD
LED+ 2	2 LED+
LED- 1	1 LED-

TOUCHPANEL

XL 4	4 Y+
YD 3	3 X-
XR 2	2 Y-
YU 1	1 X+

PANEL PCB

+31V 8	8 +31V
I2C_SCL 7	7 +3.3V
GND 6	6 S0V
ONOFF_KEY 5	5 +5V
INTERRUPT 4	4 INTERRUPT
+3.3V 3	3 ISC_SCL
+5V 2	2 I2C_SDA
I2C_SDA 1	1 ONOFF_LEY

CN2 1LINE PANEL — **PANEL PCB**

CN2 1LINE PANEL	PANEL PCB
ONOFF_KEY 6	6 ON/OFF_KEY
SDIN 5	5 SDOUT
S0V 4	4 S0V
CLK 3	3 CLK
+5V 2	2 +5V
SDOUT 1	1 SDIN

CHAPTER 7   PERIODICAL MAINTENANCE

1   PERIODICAL REPLACEMENT PARTS

There are no parts to be replaced periodically.
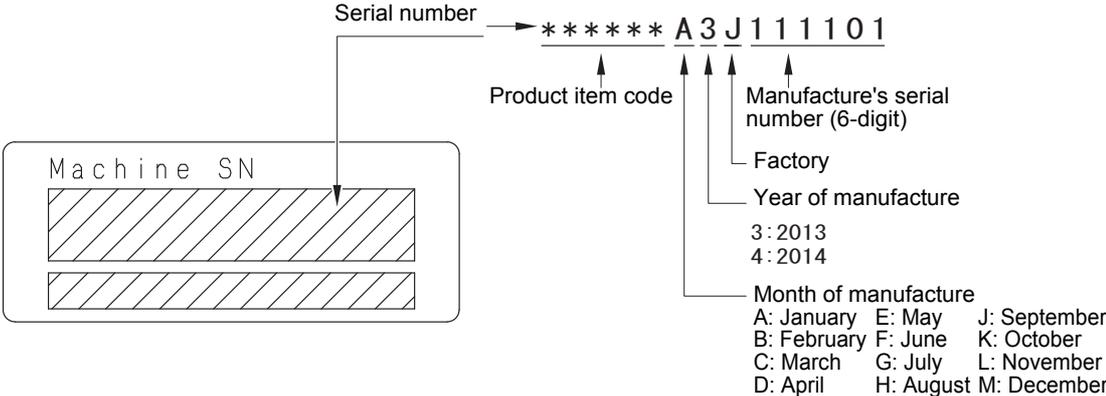
APPENDIX 1. SERIAL NUMBERING SYSTEM

This appendix shows the location of labels put on some parts and describes the coding information for serial number and head property data.
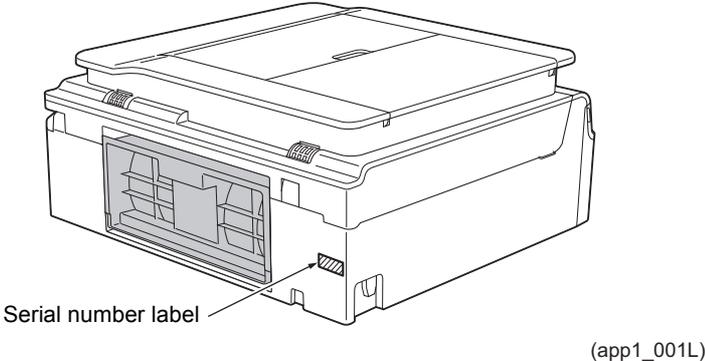
<Reading Labels>

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 data.

(1) Serial number label for the machine itself

Serial number → ＊＊＊＊＊＊ A 3 J 1 1 1 1 0 1

Product item code

Manufacture's serial number (6-digit)

Factory

Year of manufacture

3：2013
4：2014

Month of manufacture
A: January E: May   J: September
B: February F: June   K: October
C: March   G: July   L: November
D: April   H: August   M: December

Machine SN

Location

Serial number label

(app1_001L)

(2) Head property label

The Head/carriage unit property code is printed on the head property label. The head property label is attached to the Head/carriage unit.
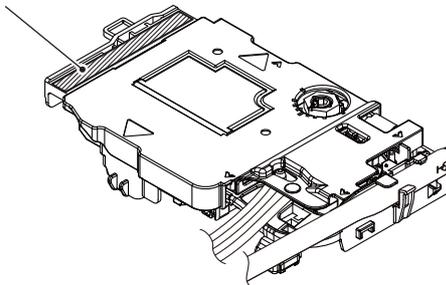
HEDA4412345   123Z |barcode|

|barcode| ALR7784400005

Head property code

■ **Head property label on top of the Head/carriage unit**

<u>Location</u>

Head property label

(app1_002L)

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APPENDIX 2. DELETION OF USER SETTING INFORMATION

This appendix provides instructions on how to delete user setting information recorded in the machine.

A2.1 DELETION OF USER SETTING INFORMATION

The user setting information of this device is stored in the EEPROM of the main PCB. You can delete all of the following information by following the steps below.

- User's name and telephone number
- Address book
- Group dialing
- Dial record (stored for redialing)
- Receiver info for fax transfer (transfer setting is also canceled.)
- Data stored in the memory (received data and voice messages are also deleted.)
- Fax preview
- Fax data not yet transferred in PC-Fax receiving (fax data already transferred to the PC is not 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
- Password assigned by the secure function lock (only for models with secure function lock)
- Favorite copy settings (only for models with Touch panel)
- Network settings (e-mail addresses, sever settings, account settings, etc.)

■ **Initial settings**

<Touch panel model>

(1) Press .

(2) Press [All Settings].

(3) Swipe up or down, or press [▲] or [▼] to display [Initial Setup].

(4) Press [Initial Setup].

(5) Swipe up or down, or press [▲] or [▼] to display [Reset].

(6) Press [Reset].

(7) Press the [Reset All Settings].

(8) Press [Yes] to confirm.

(9) Press [Yes] for 2 seconds to reboot the machine.

<Rubber key panel model>

(1) Press Menu.

(2) Press [▲] or [▼] to choose [Initial Setup]. Press OK.

(3) Press [▲] or [▼] to choose [Reset]. Press OK.

(4) Press [▲] or [1] or [▼] to choose [All Settings]. Press OK.

(5) Press [▲] or [1] to choose [Reset].

(6) Press [▲] or [1] to reboot the machine.

APPENDIX 3. INSTALLING THE MAINTENANCE 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 proceeding to the procedure given below, make sure that the Brother Maintenance USB Printer driver is stored in your PC.

Windows 2000/Windows XP

(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) Turn on the power switch of the machine.

(4) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(5) Connect the machine to your PC using a USB cable.

The following window appears.

(6) The following screen appears, indicating the detection of new hardware device by the system. Select "No, not this time." And click [Next].

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(7) Select "Install the software automatically (Recommended)" and click [Next].

(8) Alert warning message of WHQL appears. Click [Continue Anyway] to proceed.

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(9) Repeat steps (6) to (8) three times. Installation is completed.

(10)If the Brother Maintenance USB Printer driver is successfully installed, the following message screen appears. Click [Finish] to return.

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NOTE: In order to check whether the printer driver is successfully installed, click [Start], [Settings], [Printers] to select the Printers window. Then, check that the Brother Maintenance USB Printer icon is shown.
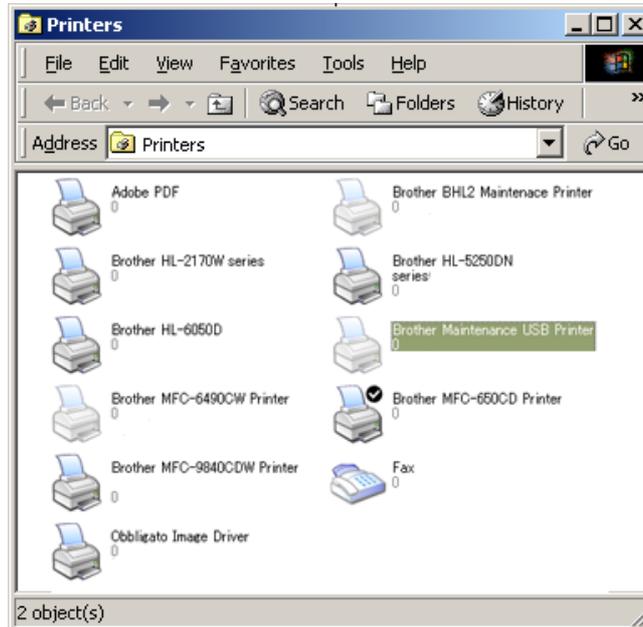
Windows Vista/Windows 7/Windows 8

(1) Check that the power cord of the machine is unplugged from the electrical outlet. Disconnect the USB cable that connects the machine with your PC.

(2) Turn on your PC.

(3) Click Setup.exe inside the Brother Maintenance USB Printer folder that was saved in a temporary folder. The following screen appears. Click the [Next] button.

The following screen is displayed during installation.
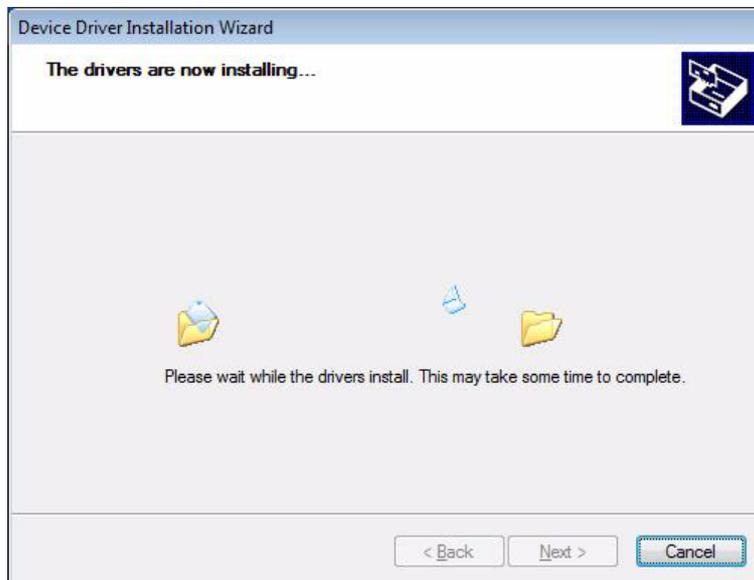
(4) Wait for the following screen to appear and click [Finish].

(5) Plug the 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.

Windows Vista/Windows 7
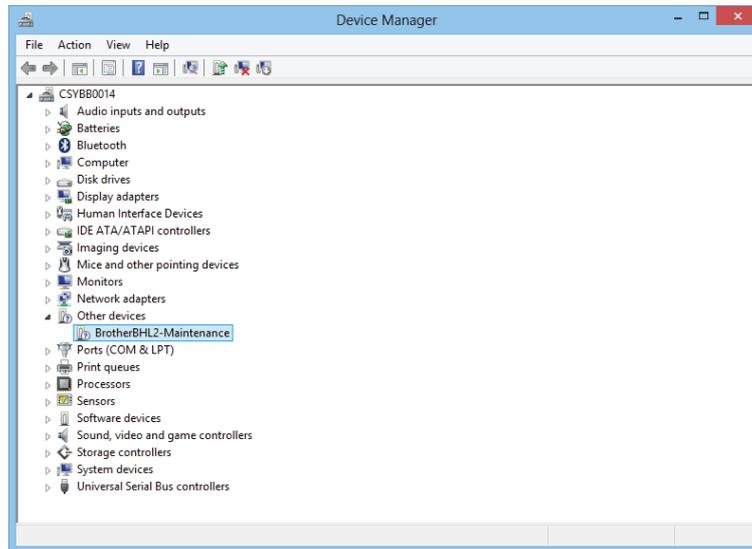
The following window is displayed during installation.

If the following window appears, the installation is completed.
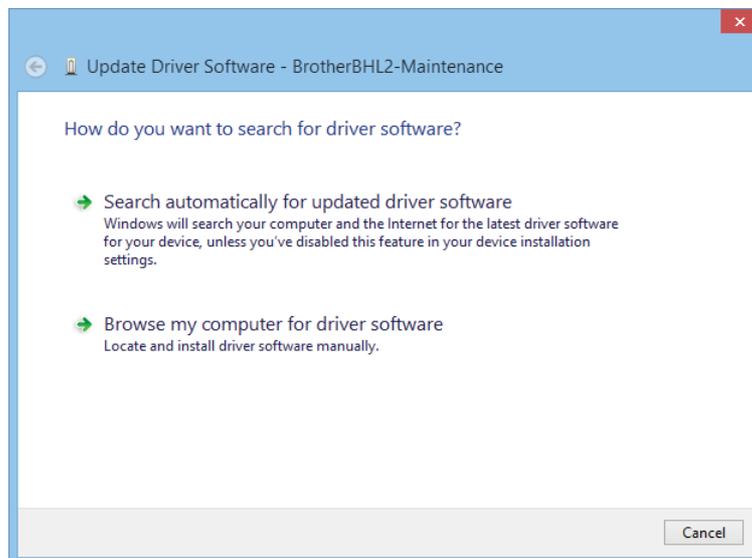
Windows 8

Open "Device Manager" from [Settings] → [Control Panel].

Select "Update Driver Software" from the pull-down menu of "Brother BHL2-Maintenance" in "Other devices".

When the following screen appears, click "Search automatically for updated driver software".

Select "Brother Maintenance USB Printer" and click [Next].

When the following screen appears, click [Close] to close the screen.